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Science Abstracts Series A
January – June 1987

Subject Index (M – Z)

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SIX-MONTHLY INDEXES TO PHYSICS ABSTRACTS

Twice a year as part of their subscription to Physics Abstracts, subscribers receive cumulative indexes for the periods January-June and July-December. Each index is in two parts—a Subject Index, and an Author Index which comprises personal and corporate author indexes, and indexes to conferences, book titles, and bibliographies. The List of Journals abstracted by INSPEC is also included with the July-December issue of the Author Index, while the supplement to that List is included with the January-June issue.

Cumulative indexes for earlier years are also available: for details please see the inside back cover.

Subject index

The Subject index provides an alphabetical subject key to the articles included in the abstracts journal. Some general guidance on its use is given below:

1. Look in the index for the name of the specific subject in which you are interested. In most cases this name will be a heading in the index and you will find relevant articles listed under it. The majority of the subject headings fall into the following categories: property, phenomenon, substance or named objects, instrument, device, theory, method, process, application, event.

2. Occasionally you will be directed from the subject heading chosen to a different heading under which the relevant or additional articles are listed.

3. If you do not find the subject heading you first chose, try a more general heading.

4. Each entry under the heading relates to an article appearing in the abstracts journal and gives the serial number of that article in the journal preceded by the last digit of the current year, e.g. 7-12345; i.e. Abstract number 12345 in the abstracts journal for 1987.

The language of the article, if it is not English, is also indicated, e.g. light-pulse wave form monitoring with 500ps resoln. (Japanese) 7-49850.

Each entry starts with a Keyword or Keyphrase considered to be most relevant to the heading. On sorting these Keywords, the qualifying prefixes are usually ignored, (e.g. α-brass, 5-sulphosalicylic, 31 Cygni, n-Ge are sorted under brass, sulphosalicylic, Cygni, respectively).

There are three main Keyword lists: alphabetical A-Z, elementary particles, and chemical symbols (organic substances are written and not given as chemical formula). More than one Keyword list may be present under each subject heading.

For document on, say, 'photoemission of germanium' at least two access points 'photoemission' and 'germanium' are provided. Under the heading 'photoemission' the Keyword will be 'Ge' and under 'germanium' the Keyword will be 'photoemission'.

In a case like this, it is advisable and quicker to use the heading 'photoemission' and go straight to the chemical symbol list for 'Ge'.

Intermetallic compounds are indexed under the appropriate alloy headings. The chemical formula is used as Keyword. However, it is important to realise in searching the chemical symbol list that, at present, alloys and intermetallic compounds are sorted separately. For example FeCo is sorted at the end of the Fe- list e.g. Fe-Al,... Fe-Co,... Fe-Si,... Fe-Si-B,... FeCo,... FeSi and so on in this order.

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The Institution of Electrical Engineers

Physics Abstracts

Science Abstracts Series A

January – June 1987

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CONTENTS

Abbreviations and Acronyms i
Subject index (M – Z) S 1079

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Abbreviations and Acronyms

Abbreviations and acronyms are used in the modifiers in all INSPEC Cumulative Subject Indexes. Individual terms should be readily understood in the context of the subject headings. **Inorganic substances** are usually given by their chemical formulae. Iron and aluminium garnets appear in the formulae lists as MIG and MAG (where M is metal element, e.g. YIG and YAG); $(Pb,La)(Zr,Ti)O_3$ and $Pb(Zr,Ti)O_3$ appear as PLZT and PZT. **Organic substances** including **liquid crystals** are not given as formulae but common abbreviations are used.

1D	one-dimensional
2D	two-dimensional
3D	three-dimensional
A/D	analogue-to-digital
ABS resin	acrylonitrile-butadiene-styrene resin
AC	alternating current
ACSR	aluminium conductor steel reinforced
ACV	air cushion vehicle
ADC	analogue-to-digital conversion
ADM	adaptive delta modulation
ADP	administrative data processing
ADPCM	adaptive differential pulse code modulation
ADS	automatic depressurisation system
AE	acoustic emission
AEC	atomic electron correlation(s)
AES	Auger electron spectra(oscopy)
AF	audio frequency
AFC	automatic frequency control
AFL	abstract family of languages
AFMR	antiferromagnetic resonance
AFR	away from reactor (spent fuel storage)
AGB	asymptotic giant branch
AGC	automatic gain control
AGR	advanced gas-cooled reactor
AGS	alternating gradient synchrotron
AGV	automatic guided vehicle
AI	artificial intelligence
AKR	auroral kilometric radiation
ALARA	as low as reasonably achievable
ALU	arithmetic logic unit
AM	amplitude modulation or air mass number
ANOVA	analysis of variance
ANSI	American National Standards Institute
APACHE	Accelerator for Physics and Chemistry of Heavy Elements
APC	adaptive predictive coding
APCM	adaptive pulse code modulation
APCVD	atmospheric pressure chemical vapour deposition
APD	avalanche photodiode
APFIM	atom probe field in microscopy
APR	acoustic paramagnetic resonance
APRFR	Army Pulsed Radiation Facility Reactor
APS	appearance potential spectra(oscopy)
APW	augmented plane wave
APWR	advanced pressurised water reactor
ARMA	autoregressive moving average
ARPES	angle resolved photoemission spectra (oscopy)
ARQ	automatic repeat request
ARUPS	angular resolved ultraviolet photoelectron spectra
ASCII	American standard code for information interchange
ASIC	application specific integrated circuit
ASK	amplitude shift keying
ATC	air traffic control
ATE	automatic test equipment
ATF	Advanced Toroidal Facility
ATM	automatic teller machine or Axilrod-Teller-Moto
ATR	attenuated total reflection
ATWS	anticipated transients without scram
AVC	automatic volume control
AWGN	additive white Gaussian noise
BARITT	barrier injection transit time
BBD	bucket-brigade device
BBGKY	Bogoliubov-Born-Green-Kirkwood-Yvon
BCC	body centred cubic
BCD	binary-coded decimal
BCH	Bose-Chadhuri-Hocquenghem
BCS	Bardeen-Cooper-Schrieffer
BCT	body centred tetragonal
BEBC	Big European Bubble Chamber
BEDT-TTF	bio(ethylenedithio)-tetrathiofulvalene (-inium)
BEM	boundary element method
BEPC	Beijing Electron Positron Collider
BER	bit error rate
BFL	buffered FET logic
BFO	beat-frequency oscillator
BH	buried heterostructure
BIL	buried injection logic
BIMOS	bipolar/metal-oxide-semiconductor
BIS	bremsstrahlung isochromat spectroscopy
BIST	built in self test
BPSG	borophosphosilicate glass
BPSK	binary phase shift keying
BRD	W Germany
BRET	Breeder Reprocessing Engineering Test
BSG	borosilicate glass
BTSC	Broadcast Television Systems Committee
BVP	boundary value problem
BWIP	Basalt Waste Isolation Project
BWO	backward wave oscillator
BWR	boiling water reactor
BWT	backward wave tube
C-V	capacitance-voltage
C^2	command and control
C^3	command control communications or cleaved coupled cavity

C^3I	command control communications and intelligence
C^3L	complementary constant current logic
CAAB/AM	companded single sideband amplitude modulation
CAD	computer aided design
CADAT	computer aided design and testing
CADD	computer aided draughting and design
CAE	computer aided engineering
CAI	computer assisted instruction
CAL	computer aided learning
CAM	computer aided manufacturing
CANDU	Canadian deuterium uranium
CAR	computer aided retrieval
CARS	coherent antiStokes Raman scattering (spectra)
CATT	controlled avalanche transit transistor
CATV	community antenna television or cable television
CB	citizens' band
CBI	computer based instruction
CBOOA	cyanobenzylidene octyloxyaniline
CBT	computer based training
CCBA	coupled channel Born approximation
CCCS	current controlled current source
CCFL	counter current flow limiting (LOCA phenomenon)
CCD	charge-coupled device
CCIR	International Radio Consultative Committee
CCITT	International Telephone & Telegraph Consultative Committee
CCL	capacitor-coupled logic
CCTF	Cylindrical Core Test Facility
CCTR	Culham Conceptual Tokamak Reactor
CCTV	closed circuit television
CCVS	current controlled voltage source
CD	compact disc
CD-ROM	compact disc ROM
CDFR	Commercial Demonstration Fast Reactor
CDI	collector diffusion isolation
CDLC	cellular data link control
CDM	code division multiplexing
CDMA	code division multiple access
CDW	charge-density wave
CECL	cascode-emitter coupled logic
CEGB	Central Electricity Generating Board
CEM	channel electron multiplier
CEPA	coupled electron pair approximation
CERN	European Council for Nuclear Research
CESR	conduction electron spin resonance
CFAR	constant false alarm rate
CFG	context free grammar
CFL	context free language
CFSK	coherent frequency shift keying
CGTO	contracted Gaussian-type orbital
CHF	coupled Hartree-Fock
CHP	combined heat and power
CI	configuration interaction
CID	charge injection device
CIDEP	chemically induced dynamical electron polarisation
CIDNP	chemically induced dynamical nuclear polarisation
CIEH	charge iterated extended Huckel
CIHY	configuration interaction Hylleras
CIM	computer integrated manufacturing or constituent interchange model
CMI	computer managed instruction
CML	current-mode logic
CMOS	complementary metal oxide semiconductor
CNC	computerised numerical control
CNDO	complete neglect of differential overlap
COM	computer output to microform (fiche or film)
COMFET	conductivity-modulated field effect transistor
COVA	computer code validation
CP	charge, parity
CPA	coherent potential approximation or critical path analysis
CPC	compound parabolic concentrator
CPFSK	continuous phase frequency shift keying
CPM	continuous phase modulation or critical path method
CPSK	coherent phase shift keying
CPT	charge, parity, time
CPU	central processing unit
CRBR	Clinch River Breeder Reactor project
CRDA	control rod drop accident
CRO	cathode ray oscilloscope
CRSR	coherent resonant Stokes rotation
CRT	cathode ray tube
CS	coupled states
CSM	continuous slowing down models
CSMA	carrier sense multiple access
CSMA/CD	carrier sense multiple access with collision detection
CSP	channel substrate planar
CSRS	coherent Stokes-Raman spectra(oscopy)
CSSB/AM	companded single sideband amplitude modulation
CT	computerised tomography
CTD	charge transfer device
CTL	complementary-transistor logic
CTR	controlled thermonuclear reactor
CVD	chemical vapour deposition
CVSDM	continuously variable slope delta modulation
CW	continuous wave
D/A	digital-to-analogue
DAC	digital-to-analogue conversion
DAD	digital audio disc
DAMA	demand assigned multiple access
DASD	direct access storage device
DAT	digital audio tape
DAW	dry active waste
DBMS	database management system
DBR	distributed Bragg reflector

DBS	direct broadcasting by satellite
DC	direct current
DCFL	direct-coupled FET logic
DCLC	drift cyclotron loss cone (instability)
DCT	discrete cosine transform
DCTL	direct-coupled transistor logic
DDC	direct digital control
DDL	diode-diode logic
DDR	E Germany
DECENT	distribution of exact classical energy transfer
DES	data encryption standard
DESY	Deutsches Electron Synchrotron
DF	Dirac-Fock
DFB	distributed feedback
DFE	decision feedback equaliser
DFT	discrete Fourier transform
DH	double heterostructure
DHF	Dirac-Hartree-Fock
DIL	dual-in-line
DIP	dual in-line package
DITE	Divertor in Torus Experiment
DLTS	deep level transient spectra(oscopy)
DM	delta modulation
DMA	direct memory access
DMM	digital multimeter
DMOS	double-diffused metal-oxide-semiconductor
DMSO	dimethylsulphoxide
DNA	digital network architecture or deoxyribonucleic acid
DNMR	double nuclear magnetic resonance
DOBAMBC	p-decyloxybenzylidene p′-amino 2-methyl butyl cinnamate
DoD	Department of Defense (USA)
DOPSK	differential offset phase shift keying
DORIS	Dopple-Ring-Speicher
DOS	disc operating system
DOVETT	double velocity transit time
DP	data processing
DPCM	differential pulse code modulation
DPDA	deterministic pushdown automaton
DPPH	diphenylpicrylhydrazyl
DPSK	differential phase shift keying
DQPSK	differential quadrature phase shift keying
DRAM	dynamic random access memory
DS-SSMA	direct sequence-spread spectrum multiple access
DSAM	Doppler shift attenuation method
DSB	double sideband
DSC	differential scanning calorimetry
DSI	digital speech interpolation
DSP	digital signal processor
DSS	decision support system
DTA	differential thermal analysis
DTL	diode transistor logic
DTPP	Demonstration Tokamak Power Plant
DTU	dual topological unitarisation
DV-Xα	discrete variational Xα method
DVM	digital voltmeter
DWBA	distorted wave Born approximation
DWIA	distorted wave impulse approximation
DWPF	Defence Waste Processing Facility

E1,E2	electric dipole, quadrupole
E^2PROM	electrically erasable programmable read-only-memory
EAROM	electrically alterable read-only-memory
EAS	extensive air shower
EAX	electronic automatic exchange
EB	exponential Born
EBBA	4-ethoxybenzylidene-4′n-butylaniline
EBIC	electron beam induced current(s)
EBR	experimental breeder reactor
EBT	Elmo Bumpy Torus
ECC	emergency core cooling
ECCM	electronic counter-counter measures
ECCS	emergency core cooling system
ECELR	Epithermal Critical Experiment Laboratory Reactor
ECG	electrocardiography (-gram)
ECL	emitter coupled logic
ECM	electronic countermeasures
ECRH	electron cyclotron resonance heating
EDA	ethylene diamine
EDAX	energy dispersive X-ray analysis
EDIF	electronic data interchange format
EDP	electronic data processing
EDTA	ethylene diamine tetra-acetic acid
EDTV	extended definition television
EDW	electron density wave
EDX	energy dispersive X-ray
EEG	electroencephalography (-gram)
EELS	electron energy loss spectra(oscopy)
EEPROM	electrically erasable programmable read-only-memory
EFG	edge-defined film fed growth
EFL	emitter-follower logic or emitter-function logic
EFM	extended Flygare method
EFT	electronic funds transfer
EHD	electrohydrodynamics
EHDTV	enhanced high definition television
EHF	extremely high frequency
EHP	electron-hole potential method
EHT	extra high tension or extended Huckel theory
EHV	extra high voltage
EIRP	equivalent isotropically radiated power
ELDOR	electron electron double resonance
ELF	extremely low frequency
EM	electromagnetic
EMC	electromagnetic compatibility or European Muon Collaboration
EMF	electromotive force
EMG	electromyography (-gram)
EMI	electromagnetic interference
EMP	electromagnetic pulse
EMS	energy management system
ENDOR	electron nuclear double resonance
ENG	electronic newsgathering
EOF	end of file
EOG	electrooculography (-gram)
EPMA	electron probe microanalysis
EPR	electron paramagnetic resonance
EPRI	Electric Power Research Institute

EPROM	erasable programmable read-only-memory
ERG	electroretinography (-gram)
ESA	European Space Agency
ESCA	electron spectroscopy for chemical analysis
ESCAR	Experimental Superconducting Accelerating Ring
ESD	electrostatic discharge or electron stimulated desorption
ESF	engineering safety features
ESP	electrostatic precipitators
ESPRIT	European Strategic Programme for Research in Information Technology
ESS	electronic switching system
EUV	extreme ultraviolet
EW	electronic warfare
EX-OR	exclusive-OR (logic)
EXAFS	extended X-ray absorption fine structure
FAMOS	floating gate avalanche metal-oxide-semiconductor
FBC	fluidised bed combustion
FBR	fast breeder reactor
FCC	face centred cubic
FCI	fuel-cladding interaction
FDM	frequency division multiplex(ing)
FDMA	frequency division multiple access
FDNC	frequency dependent negative conductance
FDNR	frequency dependent negative resistance
FEA	finite element analysis
FECL	feedback ECL
FED	Fusion Engineering Device (USA)
FEDC	Fusion Engineering Device Centre
FEL	free electron laser
FEM	field emission microscopy or finite element method
FER	Fusion Experimental Reactor (Japan)
FET	field effect transistor
FFHR	fusion-fission hybrid reactor
FFT	fast Fourier transform
FFTF	Fast Flux Test Facility
FGD	flue gas desulphurisation
FHNC	Fermi hypernetted chain
FIFO	first in first out
FIM	field ion microscopy
FIMOS	floating gate ionisation injection metal-oxide-semiconductor
FIR	far infrared or finite impulse response
FLIR	forward looking infra-red
FLOPS	floating point operation per second
FM	frequency modulation
FMIT	Fusion Materials Irradiation Test Facility
FMR	ferromagnetic resonance
FMS	flexible manufacturing systems
FMSR	Fast Mixed Spectrum Reactor
FPC	fusion power core
FPLA	field programmable logic array
FPT	finite perturbation theory
FRMR	field reversed mirror reactor

FSDE	fission suppressed direct enrichment (breeder blanket)
FSK	frequency-shift keying
FSGO	floating spherical Gaussian orbitals
FTR	Fast Test Reactor
FWHM	full width half maximum
GAMBIT	gate modulated bipolar transistor
GANIL	Grand Accelerateur National a Ions Lourds
GCFR	gas-cooled fast breeder reactor
GCHWR	gas cooled heavy water moderated reactor
GCM	generator coordinate method
GDR	giant dipole resonance
GETR	General Electric Test Reactor
GHF-NO-CI	generalised Hartree-Fock/natural orbital/configuration interactions
GIAO	gauge-invariant atomic orbitals
GIS	gas insulated switchgear (or system)
GKS	Graphical Kernel System
GMDH	group method of data handling
GMR	giant monopole resonance
GMSK	Gaussian filtered minimum shift keying
GO	Gaussian orbitals
GPED	gas phase electron diffraction
GPIB	general purpose interface bus
GPM	ground potential model
GPS	Global Positioning System
GQR	giant quadrupole resonance
GRIN	graded (gradient) refractive index
GSPC	gas scintillation proportional chamber (or counter)
GTHTGR	gas turbine HTGR
GTO	gate turn-off or Gaussian-type orbitals
GUT	grand unified theory
GVB	generalised valence bond
HAM	hydrogenic atoms in molecules
HBT	heterojunction bipolar transistor or N-(p-hexyloxybenzylidene)-p-toluidene
HCDA	hypothetical core disruptive accident
HCMOS	high speed complementary metal oxide semiconductor
HCP	hexagonal close packed
HDLC	high level data link control
HDTV	high definition television
HEED	high energy electron diffraction
HEMP	high altitude electromagnetic pulse
HEMT	high electron mobility transistor
HEU	highly enriched uranium (93% U235)
HEU/Th	highly enriched U/Th fuel
HEXFET	hexagonal MOSFET
HF	high frequency or Hartree-Fock
HFB	Hartree-Fock-Bogoliubov
HFEF	Hot Fuel Examination Facility
HFET	heterojunction field effect transistor
HFIR	high flux isotope reactor
HFITR	High Field Ignition Test Reactor
HFO	Hartree-Fock-Overhauser
HFS	Hartree-Fock-Slater or hyperfine structure

HGMS	high gradient magnetic separation
HIXE	heavy ion induced X-ray emission
HJBT	heterojunction bipolar transistor
HJFET	heterojunction field effect transistor
HLL	high level language
HLLW	high level liquid waste
HLW	high level waste
HMO	Huckel molecular orbitals
HMOS	high-performance metal-oxide-semiconductor
HMTSeF	hexamethylenetetraselenafulvalene (-inium)
HMTTF	hexamethyltetrathiofulvalene (-inium)
HOAB	heptyloxyazoxybenzene
HOMO	highest occupied molecular orbitals
HPCS	high-pressure core sprays
HREELS	high resolution electron energy loss spectra(oscopy)
HREM	high resolution electron microscopy
HSLA	high strength low alloy (steel)
HT	high tension
HTGR	high temperature gas-cooled reactor
HTGR SC/C	HTGR steam cycle cogeneration
HV	high voltage
HVAC	heating, ventilation and air conditioning
HVDC	high voltage direct current
HVEM	high voltage electron microscopy
HVIC	high voltage integrated circuit
HWLWR	heavy water moderated light water cooled reactor
HWR	heavy water reactor
HZP	Hot Zero Power
I-V	current-voltage
I/O	input/output
I^2 L	integrated injection logic
I^3 L	isoplanar I^2 L
IAEA	International Atomic Energy Agency
IAR	isobaric analogue resonance
IAS	isobaric analogue state
IBA	interacting boson approximation
IBFA	interacting boson-fermion approximation
IBM	interacting boson model
IBPBAC	isobutyl-4-(4′-phenylbenzylidene-amino) cinnamate
IC	integrated circuit
ICDF	intermediate coupling Dirac-Fock
ICF	inertial confinement fusion
ICP	inductively coupled plasma
ICPP	Idaho Chemical Processing Plant
ICRF	ion cyclotron range of frequencies
ICRH	ion cyclotron resonance heating
IDT	interdigital transducer
IEPA	independent electron pair approximation
IETS	inelastic electron tunnelling spectra-(oscopy)
IF	intermediate frequency
IFA	ionisation front accelerator
IFE	intelligent front end
IGES	initial graphics exchange specification
IGFET	insulated gate field effect transistor
IGT	insulated gate transistor
IHEP	Institute of High Energy Physics
IIR	infinite impulse response
IKBS	intelligent knowledge-based system
IKO	Institute v. Kernph Ouder Amsterdam
ILS	instrument landing system
ILW	intermediate level (radioactive) waste
IMPATT	impact avalanche transit time
INDO	intermediate neglect of differential overlap
INDOR	internuclear double resonance
INEPT	insensitive nuclei enhanced by polarisation transfer
ING	intense neutron generator
INO	iterative natural orbital
INS	Information Network System or inertial navigation system
INTELSAT	international telecommunications satellite consortium
INTOR	International Tokamak Reactor
IOC-ω	inclusion of the overlap charges in the omega
IPSE	integrated programming support environment or project support environment
IPSS	international PSS
IR	infrared
IRDO	intermediate retention of differential overlap
IREB	intense relativistic electron beam
IRED	infrared emitting diode
IRS	information retrieval system
ISABELLE	intersecting storage and acceleration
ISDN	integrated services digital network
ISFET	ion-sensitive field effect transistor
ISI	intersymbol interference
ISL	integrated Schottky logic
ISO	International Standards Organization
ISR	intersecting storage ring
ISS	ion scattering spectroscopy
ISX	impurity study experiment
IT	information technology
ITC	ionic themocurrents
ITEP	Institute of Theoretical and Experimental Physics
ITO	indium tin oxide
ITR	Ignition Test Reactor
IU	Indiana University
IVO	improved virtual orbitals
IVP	initial value problem
JAERI	Japan Atomic Energy Research Institute
JCL	job control language
JET	Joint European Torus
JFET	junction field effect transistor
JINR	Joint Institute for Nuclear Research
JIT	just-in-time
JT-60	Japanese Tokamak-60
KBS	knowledge based system
KdV	Korteweg-de Vries

KEK	Japan National Laboratory for High Energy Physics
KKR	Korringa-Kohn-Rostoker
LAMPF	Los Alamos Meson Physics Facility
LAN	local area network
LC	inductance-capacitance
LCAO	linear combination of atomic orbitals
LCBO	linear combinations of (semi-localised) band orbitals
LCD	liquid crystal display/device
LCGO	linear combination of Gaussian orbitals
LCP	Large Coil Program
LCRO	linear combination of Rydberg orbitals
LCTF	Large Coil Test Facility
LD	laser diode
LDD	lightly doped drain
LDPE	low density polyethylene
LEAR	Low Energy Antiproton Ring
LEC	liquid encapsulated Czochralski
LED	light emitting diode
LEED	low energy electron diffraction
LEFD	Large Experimental Fusion Device
LEP	Large Electron Positron (CERN)
LET	linear energy transfer
LEU	low enrichment uranium (10% U235)
LEU/Th	low enrichment U/Th fuel
LF	low frequency
LHRH	lower hybrid resonance heating
LIFO	last in first out
LIM	linear induction motor
LIME	laser induced magnetically enhanced
LLTR	Large Leak Test Rig
LLW	low level (radioactive) waste
LMC	Large Magellanic Cloud
LMFBR	liquid metal fast breeder reactor
LMIS	liquid metal ion source
LMS	least mean square
LMTO	linear combination of muffin tin orbitals
LNG	liquified natural gas
LOCA	loss of coolant accident
LOCE	loss of coolant experiment
LOCOS	local oxidation of silicon
LOF	loss of flow
LOFT	Loss of Flow Test Facility
LOFW	loss of feed water
LOG	linear quadratic Gaussian
LONA	low noise amplifier
LOOSP	loss of onsite power
LP	linear programming
LPC	linear predictive coding
LPCS	low pressure core spray
LPCVD	low pressure chemical vapour deposition
LPE	liquid phase epitaxy
LPFL	low pinchoff-voltage FET logic
LPI	low probability of intercept
LQG	linear quadratic Gaussian
LSA	limited space charge accumulation
LSD	local spin density or loop shut-down
LSI	large-scale integration
LSPB	Large Scale Prototype Breeder
LSSD	level sensitive scan design
LSTF	Large Scale Test Facility
LTE	local thermodynamic equilibrium
LUMO	lowest unoccupied molecular orbitals
LV	low voltage
LWBR	light water breeder reactor
LWHCR	light water high convertor reactor
LWR	light water reactor
M1,M2	magnetic dipole, quadrupole
MAC	multiplexed analogue component
MADO	Mulliken approximation for differential overlap
MAGFET	magnetic field sensitive field effect transistor
MAN	metropolitan area network
MAP	manufacturing automation protocol
MARS	Mirror Advanced Reactor Study
MBBA	4-methoxybenzylidene-4′-n-butylaniline
MBE	molecular beam epitaxy
MBPT	many body perturbation theory
MCD	magnetic circular dichroism
MCFR	magnetic confinement fusion reactor
MCP	microchannel plate
MCPESCF	multiconfiguration paired excitation SCF
MCSCF	multiconfiguration self-consistent field
MCVD	modified chemical vapour deposition
MCXα	multiconfiguration Xα
MCZDO	multi-centre zero differential overlap
MEC	molecular electron correlation(s)
MEDO	multipole expansion of diatomic overlap
MEG	magnetoencephalography (-gram)
MESFET	metal-semiconductor field effect transistor
MEU	Medium Enrichment Uranium (20% U235)
MEU/Th	Medium Enrichment U/Th fuel
MF	medium frequency
MFP	mean free path
MFR	mirror fusion reactor
MFSK	multiple frequency shift keying
MFTF	Mirror Fusion Test Facility
MHD	magnetohydrodynamics
MIC	microwave integrated circuit
MID	magnetically insulated diode
MIDP	microwave induced delayed phosphorescence
MIEHM	modified iterative extended Huckel method
MIM	metal-insulator-metal
MIMD	multiple input multiple data
MIMO	multiple input multiple output
MIND	mass impregnated non-draining
MINDO	modified incomplete neglect of differential overlap
MIPS	million instructions per second
MIS	metal-insulator-semiconductor or management information system

MISFET	metal-insulator-semiconductor field effect transistor
MIT	Massachusetts Institute of Technology
MITATT	mixed tunnelling avalanche transit time
MLB	multilayer board
MLC	multilayer ceramic
MLE	maximum likelihood estimation
MLS	microwave landing system
MLW	medium level (radioactive) waste
MM	millimetre
MMF	magnetomotive force
MMI	man machine interface
MMIC	monolithic microwave integrated circuit
MNOS	metal-nitride-oxide-semiconductor
MO	molecular orbitals
MOCIC	molecular orbital constraint of interaction coordinates
MOCVD	metal-organic chemical vapour deposition
MODFET	modulation doped field effect transistor
MODPOT	modulator potential
MOS	metal-oxide-semiconductor
MOSFET	metal-oxide-semiconductor field effect transistor
MOST	metal-oxide-semiconductor transistor
MOV	metal oxide varistor
MOVPE	metal-organic vapour phase epitaxy
MOX	mixed oxide fuel
MPH	moving plasmoid heater
MPSK	multiple phase shift keying
MPU	microprocessing unit
MQORC	modified quadrature overlapped raised cosine
MQW	multiple quantum well
MRAC	model reference adaptive control
MRD	multiple-reference double excitation
MRINDO	modified Rydberg INDO
MRP	materials requirements planning
MRP II	manufacturing resources planning
MS	management science
MSI	medium scale integration
MSK	minimum shift keying
MSR	molten salt reactor
MSSW	magnetostatic surface wave
MSU	Michigan State University
MSW	magnetostatic waves
MSXα	multiple scattering X alpha
MTBF	mean-time between failures
MTF	modulation transfer function
MTI	moving target indicator
MTL	merged-transistor logic
MTTF	mean time to failure
MTXα	muffin-tin Xα
MUF	material unaccounted for or maximum usable frequency
MWPC	multiwire proportional chamber

NAL	National Accelerator Laboratory
NAND	not-and(logic)
NBETF	Neutral Beam Engineering Test Facility
NBI	neutral beam injection
NBPS	neutral beam power systems
NBS	National Bureau of Standards
NC	numerical control
NCBR	nitrine cooled breeder reactor
NCMET	non-closed shell many electron theory
NDDO	neglect of diatomic differential overlap
NDE	nondestructive evaluation
NDRO	nondestructive readout
NDT	nondestructive testing
NEA	negative electron affinity
NEMO	non-empirical molecular orbitals
NET	Next European Tokamak
NEVE	non-empirical valence-electron
NHS	National Health Service
NIC	negative impedance convertor
NLP	natural language processing
NMOS	N-channel metal-oxide-semiconductor
NMR	nuclear magnetic resonance
NMR-ON	NMR on oriented nuclei
NNNDO	neglect of non-neighbour differential overlap
NOR	not-or(logic)
NPL	National Physical Laboratory
NQR	nuclear quadrupole resonance
NRC	Nuclear Regulatory Committee
NRM	natural remanent magnetisation
NRZ	non-return to zero
NSRR	Nuclear Safety Research Reactor
NSSS	nuclear steam supply system
NTL	nonthreshold logic
NTO	natural transition orbitals
NTSC	National TV Standards Committee
NWPA	Nuclear Waste Policy Act

OA	office automation
OCR	optical character recognition
ODE	ordinary differential equation
ODMR	optical detection of magnetic resonance
OEIC	optoelectronic integrated circuit
OEM	original equipment manufacture
OER	oxygen enhancement ratio
OH	ohmic heating
OHTE	Ohmically Heated Toroidal Experiment
OPHF	orbital polarised Hartree-Fock
OPW	orthogonal plane wave
OQPSK	offset quadrature phase shift keying
OR	operations research
ORELA	Oak Ridge Electron Linear Accelerator
ORNL	Oak Ridge National Laboratory
OS	operating system
OSI	open systems interconnection
OTDR	optical time domain reflectometry
OTEC	ocean thermal energy conversion
OTF	optical transfer function
OTS	Orbital Test Satellite

OTSG	once-through steam generator
OZI	Okubo-Zweig-Iizuha (quark model)
PAA	paraazoxyanisole
PABX	private automatic branch exchange
PAC	perturbed angular correlation
PAHR	post accident heat removal
PAL	phase alternate line or programmable array logic
PAM	pulse amplitude modulation
PAP	paraazoxyphenetole
PBF	power bursts facility
PBFA	Particle Beam Fusion Accelerator
PBL	planetary boundary layer
PBR	pebble bed reactor
PBT	permeable base transistor
PBX	private branch exchange
PC	printed circuit or personal computer or programmable controller
PCAC	partially conserved axial currents
PCB	polychlorinated biphenol or printed circuit boards
PCES	phase change energy storage
PCI	pellet-cladding interaction
PCILOCC	perturbative configuration interaction using localised orbitals for crystal calculation
PCM	pulse code modulation
PCRV	prestressed concrete reactor vessel
PCV	primary containment vessel
PCX	plasma confinement experiment
PD	partial discharge
PDE	partial differential equation
PDF	probability density function
PDX	Poloidal Divertor Experiment
PEC	photoelectrochemical cell
PEM	photoelectromagnetic
PEP	Positron Electron Photon (Stanford)
PES	photoelectron spectra (spectroscopy)
PET	polyethylene terephthalate or positron emission tomography
PETRA	Positron Electron Tandem Ringbeschleuniger Anlage
PF	poloidal field or power factor
PFM	pulse frequency modulation
PFR	Prototype Fast Reactor
PHWR	pressurised heavy water reactor
PID(PI,PD)	proportional+integral+differential (derivative)
PIPECO	photoion photoelectron coincidence
PIUS	process inherent ultimately safe
PIXE	photon induced X-ray emission
PLA	phase locked arrays or programmable logic array
PLBR	Prototype Large Breeder Reactor
PLC	programmable logic control
PLCC	plastic leadless chip carrier
PLD	programmable logic device
PLL	phase locked loops
PLT	Princeton Large Torus
PM	pulse modulation or phase modulation
PMMA	polymethylmethacrylate
PMDR	phosphorescence microwave double resonance
PMOS	P-channel metal-oxide-semiconductor
PMR	proton magnetic resonance
PMS	pre-main-sequence
PN	planetary nebula(e)
PNDO	partial neglect of differential overlap
PNO-CI	pair natural orbital configuration interaction
PNS	Pulsed Neutron Source
POL	pair orthogonalised Lowdin
POPAE	protons on protons and electrons
POPOP	phenyl-oxazolyl-phenyl-oxazolyl-phenyl
PORV	power operated relief valve
POS	point of sale
PPB	parts per billion
PPDP/S	Pariser-Parr-Del Bene-Pople/Segal calculations
PPI	plan position indicator
PPM	pulse position modulation or parts per million
PPP	Pariser-Parr-Pople
PRA	probabilistic risk assessment
PRDDO	partial retention of diatomic differential overlap
PREPP	Process Experimental Pilot Plant
PRF	pulse recurrence (repetition) frequency
PROM	programmable read-only-memory or Pockels readout optical modulator
PS	proton synchrotron (CERN)
PSD	power shut-down or power spectral density
PSDN	packet switched data network
PSG	phosphosilicate glass
PSK	phase shift keying
PSS	packet switching service or Packet SwitchStream
PSTN	public switched telephone network
PSU	power supply unit
PTFE	polytetrafluoroethylene
PTH	plated through hole
PTM	pulse time modulation
PV	photovoltaic
PVC	polyvinyl chloride
PVD	physical vapour deposition
PWA	partial wave analysis
PWB	printed wiring board
PWBA	plane wave Born approximation
PWIA	plane wave impulse approximation
PWM	pulse width modulation
PWR	pressurised water reactor
QA	quality assurance
QAM	quadrature amplitude modulation
QASK	quadrature amplitude shift keying
QC	quality control
QCD	quantum chromodynamics
QDMBPT	quasi-degenerate many-body perturbation theory
QED	quantum electrodynamics
QFSK	quadrature frequency shift keying

QORC	quadrature overlapped raised cosine
QOSRC	quadrature overlapped squared raised cosine
QPM	quark-parton model
QPR	quadrature partial response
QPSK	quaternary phase shift keying
R & D	research and development
RAD	ribbon-against-drop
RAM	random access memory
RBE	relative biological effectiveness
RBMK	light water cooled, graphite moderated reactor
RBS	Rutherford backscattering
RC	resistance-capacitance
RCIC	reactor core isolation cooling
RCNDO	Rydberg CNDO
RCS	rapid cycling synchrotron or reactor coolant systems
RCTL	resistor-capacitor-transistor logic
RDBMS	relational database management system
REA	rod ejection accident
RF	radio frequency
RFI	radio frequency interference
RFPR	reversed field pinch reactor
RFX	Reversed Field (Pinch) Experiment
RG	renormalisation group
RGB	red green blue
RHEED	reflection high energy electron diffraction
RHF	restricted Hartree-Fock
RIA	reactivity initiated accident
RIE	reactive ion etching
RINDO	Rydberg INDO
RISC	reduced instruction set computer
RKKY	Rudermann-Kittel-Kasuya-Yosida
RLC	resistance-inductance-capacitance
RMS	root-mean-square
RNA	ribonucleic acid
RNS	residue number system
ROM	read-only memory
RPA	random phase approximation
RPAE	random phase approximation with exchange
RPM	relaxation potential model or revolutions per minute
RPV	reactor pressure vessel
RTA	rapid thermal annealing
RTG	radioisotope thermoelectric generators
RTL	resistor-transistor logic
RTP	rapid thermal processing
RTTY	radio teletypewriter
S/N	signal-to-noise
SACCI	symmetry adapted cluster configuration interaction
SAINT	self-aligned implantation for N$^+$-layer technology
SAMO	simulated ab initio molecular orbitals
SAMOS	stacked gate avalanche injection metal-oxide-semiconductor
SAN	small area network
SAR	synthetic aperture radar
SARSAT	search and rescue satellite aided tracking
SAW	surface acoustic waves
SAXS	small-angle X-ray scattering
SC	switched capacitor
SCADA	supervisory control and data acquisition
SCC	stress corrosion cracking
SCF	self-consistent field
SCFL	source-coupled FET logic
SCH	separate confinement heterostructure
SCL	space charge limited
SCPC	single channel per carrier
SCPT	self-consistent perturbation theory
SCR	silicon controlled rectifier
SCSI	small computer system interface
SCTF	Slab Core Test Facility
SDFL	Schottky-diode FET logic
SDI	selective dissemination of information or Strategic Defense Initiative
SDLC	synchronous data link control
SDM	space division multiplexing
SDMA	space division multiple access
SDO	shielded diatomic orbitals
SED	stochastic electrodynamics
SEHF	spin extended Hartree-Fock
SEM	scanning electron microscopy
SERS	surface enhanced Raman scattering
SEXAFS	surface extended X-ray absorption fine structure
SFE	solar-flare effect
SFL	substrate fed logic
SGEMP	system generated electromagnetic pulse
SGHWR	steam generating heavy water reactor
SHF	superhigh frequency
SHG	second harmonic generation
SICOS	sidewall base contact structure
SIL	single-in-line
SIMD	single instruction multiple data
SIMOS	stacked-gate injection metal-oxide-semiconductor
SIMOX	separation by implantation of oxygen
SIMS	secondary ion mass spectra(oscopy)
SIN	Swiss Institute of Nuclear Research
SINDO	scaled INDO
SIPOS	semi-insulating polycrystalline silicon
SIS	semiconductor-insulator-semiconductor
SISAM	spectrometer with interference selective amplitude modulation
SISO	single input single output
SIT	static induction transistor
SLC	Stanford Linear Collider
SLIC	subscriber line interface circuit
SLSF	Sodium Loop Safety Facility
SMA	surface mount(ed) assembly
SMATV	satellite master antenna television
SMC	Small Magellanic Cloud or surface mount(ed) component
SMD	surface mount(ed) device
SMES	superconductive magnetic energy storage

SMPS	switched mode power supply
SMQORC	staggered modified quadrature overlapped raised cosine
SMT	surface mount(ed) technology
SN	supernova(e)
SNA	Systems Network Architecture
SNM	special nuclear material
SNR	signal to noise ratio or supernova remnant
SNS	superconducting normal superconducting or Spallation Neutron Source
SOG	strongly orthogonal geminal
SOI	silicon on insulator
SOS	silicon on sapphire
SPA	separated pair approximation
SPC	stored program control
SPCP	single parity check product (code)
SPEAR	Stanford Positron Electron Asymmetric Ring
SPECT	single photon emission computerised tomography
SPHF	spin polarised Hartree-Fock
SPLEED	spin polarised low energy electron diffraction
SPS	Super Proton Synchrotron (CERN)
SQAM	superposed quadrature amplitude modulation
SQL	standard query language
SQPR	staggered quadrature partial response
SQPSK	staggered quadrature phase shift keying
SQUID	superconducting quantum interference device
SRAM	static random access memory
SREMP	source region electromagnetic pulse
SRMCASE	symmetry-restricted-multiconfiguration annihilation of single excitations
SRV	safety release valve
SS-TDMA	satellite switched time division multiple access
SSB	single sideband
SSBW	surface skimming bulk wave
SSC	sudden storm commencement or Superconducting Super Collider
SSCR	spectrum shift controlled reactor
SSFL	Schottky-barrier coupled Schottky-barrier gate FET logic
SSI	small scale integration
SSMA	spread spectrum multiple access
SST	sea surface temperature or supersonic transport
STD	salinity-temperature-depth or subscriber trunk dialling
STEC	solar thermal energy conversion
STEM	scanning transmission electron microscopy
STI	scientific and technical information
STL	Schottky transistor logic
STM	scanning tunnelling microscopy
STO	Slater-type orbitals
STOL	short take-off and landing
STP	Slater-transfer Preuss
SURMAC	surface magnetic confinement
SUSY GUT	supersymmetric grand unified theory
SVC	static VAr compensator
SW	short wave
SWEPP	Stored Waste Examination Pilot Plant
SWR	sodium water reactor or standing wave ratio
SXAPS	soft X-ray appearance potential spectra(oscopy)
TAB	tape automated bonding
TASI	time assignment speech interpolation
TAT	transatlantic telephone cable
TBBA	terephthal-butylaniline
TCNE	tetracyanoethylene
TCNQ	tetracyanoquinodimethane
TCR	temperature coefficient of resistance
TCXO	temperature compensated crystal oscillator
TDHF	time-dependent Hartree-Fock
TDF	Technology Demonstration Facility or transborder data flow
TDM	time division multiplex(ing)
TDMA	time division multiple access
TDMF	time dependent mean field theory
TDPAC	time differential perturbed angular correlation
TDS	thermal desorption spectra(oscopy)
TE	transverse electric
TEA	transversely excited atmosphere
TED	transferred electron device
TEGFET	two-dimensional electron gas field effect transistor
TEM	transverse electromagnetic or transmission electron microscopy
TEXT	Texas Experimental Tokamak
TF	toroidal field
TFCX	Toroidal Fusion Core Experiment
TFT	thin film transistor
TFTR	Tokamak Fusion Test Reactor
TGA	thermogravimetric analysis
TGFB	triglycine fluoroberyllate
TGS	triglycine sulphate
TGSe	triglycine selenate
THF	tremendously high frequency
THORS	Thermal-Hydraulic Out-of-Reactor Safety Facility
THTF	Thermal Hydraulic Test Facility
TIL	two interdigitation level
TJS	transverse junction stripe
TLD	thermoluminescent dosimeter(-ry)
TM	transverse magnetic
TMC	Test Module Coil
TMHR	tandem mirror hybrid reactor
TMI	Three Mile Island
TMMC	tetramethylammonium manganese chloride
TMR	tandem mirror reactor
TMTSeF	tetramethyltetraselenafulvalene (-inium)
TMTTF	tetramethyltetrathiofulvalene(-inium)
TMX-U	Tandem Mirror Experiment-Upgrade
TNS	The Next Step
TOF	time-of-flight

TOP	technical office protocol or transient overpower accident
TPC	time projection chamber
TPD	temperature programmed desorption
TPTF	Two Phase Flow Test Facility
TRAPATT	trapped plasma avalanche triggered transit
TREAT	Transient Reactor Test Facility
TRM	thermoremanent magnetisation
TRRR(TR_3)	time resolved resonant Raman (spectra (-oscopy))
TRU	transuranic (waste)
TSC	thermally stimulated currents
TSD	thermally stimulated desorption
TSEE	thermally stimulated exo-electron emission
TSIC	thermally stimulated ionic currents
TSeF	tetraselenafulvalene(-inium)
TSeT	tetraselenatetracene
TSTA	Tritium Systems Test Facility
TTL	transistor transistor logic
TTMP	transit time magnetic pumping
TTT	tetrathiotetracene
TTY	teletype terminal
TUCA	transient undercooling accident
TUCOP	transient undercooled overpower accident
TV	television
TVRO	TV receive only
TW	travelling wave
TWT	travelling wave tube
UART	universal asynchronous receiver transmitter
UCHF	uncoupled Hartree-Fock
UCN	ultra cold neutrons
UHF	ultra high frequency or unrestricted Hartree-Fock
UHPS	underground hydroelectric pumped storage
UHV	ultra high voltage
UJT	unijunction transistor
UKAEA	United Kingdom Atomic Energy Authority
ULA	Uncommitted logic array
ULF	ultra low frequency
ULSI	ultra-large scale integration
UMD	unitised microwave devices
UPS	ultraviolet photoelectron spectra(oscopy) or uninterruptible power supply
US	ultrasonic
USART	universal synchronous/asynchronous receiver transmitter
UUT	unit under test
UV	ultraviolet
VAD	vapour phase axial deposition
VAN(S)	value added network (services)
VB	valence bond
VCCS	voltage controlled current source
VCO	voltage controlled oscillator
VCR	video cassette recorder
VCVS	voltage controlled voltage source
VDM	vector dominance model
VDT	visual display terminal
VDU	visual display unit
VDW	van der Waals
VFO	variable frequency oscillator
VHF	very high frequency
VHPIC	very high performance integrated circuit
VHSIC	very high speed integrated circuit
VHV	very high voltage
VJFET	vertical junction field effect transistor
VLBI	very long base line interferometry
VLF	very low frequency
VLSI	very large scale integration
VM	virtual machine
VMOS	vertical channel metal-oxide-semiconductor
VOR	VHF omnidirectional range
VPE	vapour phase epitaxy
VRC	visual record computer
VRDDO	variable retention of diatomic differential
VS	virtual storage
VSAT	very small antenna terminals
VSB	vestigial sideband
VSEPR	valence shell electron pair repulsion
VSWR	voltage standing wave ratio
VTOL	vertical take-off and landing
VTR	voltage transformation ratio or video tape recorder
VUV	vacuum ultraviolet
VVER	water moderated water cooled reactors
VVVF	variable voltage variable frequency
WAN	wide area network
WARC	World Administrative Radio Conference
WAXS	wide-angle X-ray scattering
WDF	wave digital filter
WDM	wavelength division multiplex(ing)
WIPP	Waste Isolation Pilot Plant
WKB	Wentzel-Kramers-Brillouin
WORM	write once read many times
WP	word processing
WR	Wolf-Rayet
WSI	wafer scale integration
WWER	water moderated water cooled reactors
XANES	X-ray absorption near edge structure
XLPE	cross-linked polyethylene
XOR	exclusive-OR
XPD	cross-polarisation discrimination
XPS	X-ray photoelectron spectra
XUV	X-ray-ultraviolet
ZEBRA	Zero Energy Breeder Reactor Assembly
ZGS	zero gradient synchrotron
ZPPR	zero power plutonium reactor
ZTP	Z toroidal pinch

Subject Index

M-centre lasers *see colour centre lasers*

M-centres
- KCl:Li, self-induced light polarisation oscills., stochastic field effects *(Russian)* 7—43208
- KI:Li $(F_2^+)_A$ centre, selective two-step photoionisation using 1.06 μm radiation 7—38053
- LiF crystals, four wave mixing effect of F_2^--centres 7—31402
- LiF crystals with F_2^- centres, inactive losses, investig. of mechanism 7—3072
- LiF, F_2 laser active element, optically stable component 7—43116
- LiF, F_3^+ and F_2 colour centres optical study *(Chinese)* 7—37984
- LiF, F_3^+-F_2 mixed centres, laser oscillations at room temp. 7—7714
- LiF:Ne^+(Ar^+), defect and colloid production by ion implantation 7—26746
- MgF_2, colour centres, luminesc. study 7—39172
- MgF_2 cryst., electronic colour centres, UV absorpt. and luminesc. study 7—39174

M-regions *see solar corona*

M-type tubes *see microwave tubes*

MAC system *see television standards*

Mach number
- *see also acoustic wave velocity; shock waves*
- condensed matter cylinder, steady Mach wave dimensions calc. 7—31693
- entropy layer absorption effect on supersonic flow heat transfer of submerged circular cone 7—43975
- flow structure near windward side V-shaped wings with attached shock wave, calcs. 7—20757
- gas flows, slow, viscous, heat conducting, calc. 7—51025
- laser harmonic spectroscopy use as plasma target diagnostic 7—26503
- local interaction theory, aerodynamic calc. 7—43971
- longitudinal flow past plates with blunt trailing edges, wake investig. *(German)* 7—20824
- pulsed supersonic He free-jet expansions, time-of-flight characterisation 7—11457
- transonic Ludwieg tubes, stagnation state, starting process study 7—37489
- turbulent boundary layer, supersonic flow, investig. 7—57877
- wind tunnels with perforated test sections equipped with subsonic nozzles 7—43965
- C plasma, nonuniform, shock wave propag. investig 7—44174

Mach principle *see cosmology; space-time configurations*

machine bearings
- ball bearing rolling ring, surface roughness meas. using vibration analysis 7—54060
- expansion turbine, miniature cryogenic, gas bearing with tangential feed holes, instability onset speed 7—56289
- hydrostatic circular thrust bearings: a study of inertia effects 7—51003
- journal bearings, numerical modelling of thermal effects 7—51004
- vacuum translational-rotary transfer mechanism using bakable self-lubricating bearing 7—56297

machine insulation
- electric generator overheating, early diagnostics using data for release of aerosols in insulation *(Russian)* 7—59787
- generator overheating faults in insulation, detection by gas and capillary chromatography 7—28382
- recrystallised dielectromagnetics for AC machine magnetic circuits 7—22725
- turbogenerator insulation heating monitoring by aerosol detection *(Russian)* 7—13822

machine language generation *see program compilers*

machine testing
- fibre optic sensors and their appls., conf., Cannes, France (Nov. 1985) 7—40999

machine theory
- eddy currents calc. in parallel circular loop moving above conducting slab 7—31213
- eddy currents in conducting slab under moving parallel circular current loop 7—62581

machine tools
- ceramics and coated carbides for matching stainless steels, failure mechanisms 7—3432
- cutting tool materials, mech. props., wear-resist. relations 7—3443
- TiN-coated gear cutting hobs, wear characteristics, mechanical and structural props. 7—53980
- TiN-coated hobs and shaper cutters, wear during gear-cutting operations 7—53981

machine vision *see computer vision*

machine windings
- *see also rotors*
- submerged driving motor for liquid He flow rate meas., IMGC calibration facilities 7—63234

machines, electric *see electric machines*

machining
- *see also cutting; electrolytic machining; electrolytic polishing; electron beam machining; grinding; laser beam machining; spark machining*
- machining centre design improvements to give enhanced stiffness 7—21318
- metal mirrors, precision machining technology *(Japanese)* 7—50793
- quasi-steady state isochoric plane flow meas., noisy data anal. 7—63727
- tool materials, statistical wear model, appl. to machining 7—33804
- X-ray mirror substrates, grazing incidence, precision machining/metrology facility 7—37222
- TiN-coated tool steel, Ca-treated, machinability 7—46659

macro generating programs *see macros*

macromolecular configurations
- 3D reconstruction and display of nerves and molecules using pattern recognition 7—65734
- acetylcholinesterase, immobilised, structure-activity relations, IR-ATR modulation spectroscopy obs. 7—54474
- albumin solution, struct. determ. by FTIR 7—54471
- amorphous polymers, supermol. struct. form. *(Russian)* 7—16451
- amylose triesters, conformations, side group effects 7—20079
- antibody/influenza virus neuraminidase complex, 3D struct. obs. 7—65693
- antigen-antibody complex, 3D struct. at 2.8 Å resolution 7—17942
- aromatic copolyamide, conformational and optical characts., flow birefringence data *(Russian)* 7—44420
- aromatic polyester, hydrodynamic and dynamooptical props. *(Russian)* 7—39077
- azurin, metal coord. sphere, changes rel. to pH, oxidation/reduction and metal substitution 7—65687
- bacteriorhodopsin, location of chem. modified lysine 41 in struct. by neutron diffr. 7—23295
- 6-benzyl-2-thiouracile, conformal study *(French)* 7—58252
- biological macromolecules, struct. deter., giant combination scatter of light 7—8484
- biopolymer conformation determination using NMR, CONFOR graphics program 7—54455
- biopolymers: struct.-functional correls. of hydrate surroundings 7—54448
- butadiene elastomers, soot-filled, struct., IR spectra 7—39127
- butadiene-styrene graft block copolymers, low-mol. cpds. diffusion *(Russian)* 7—36834
- 4-butoxycarbonylmethylurethane chains, nematic phase, induced rigidity study 7—57195
- carboxylated rubber, study of maleic acid residue and vinylic monomer on props. 7—39902
- cellulose acetates, units distrib., NMR spectrosc. obs. *(Russian)* 7—15757
- cellulose fibres, native and regenerated, chain modulus, intramolecular H bonding 7—17575
- charged rod-like macromolecules, static struct. factor calc. 7—25627
- chitin nitrate, sedimentation vel., mol. mass and conform. parameters *(Russian)* 7—10803
- chitozane, sedimentation vel., mol. mass and conform. parameters *(Russian)* 7—10803
- collagen, fibrillar struct., X-ray diffr., zero layer line calc. 7—8483
- comb-like polymers, with mesogenic side fragments, conform. and optical anisotropy *(Russian)* 7—63516
- cytochrome c and b_2 cores in oxidised and reduced states, EXAFS and XANES obs. 7—65683
- dicyclohexyl-18-crown-6, A and C isomers, struct., X-ray diffr. study 7—42799
- dilute solutions, randomly broken chains, small angle neutron, X-ray and light scatt. data 7—10788
- dipeptides in structured regions of globular proteins, maps of preferential conformational state 7—28451
- direct method combination with isomorphous replacement and anomalous dispersion 7—58091
- DNA, conformational state in aq. soln. of glycine, β-alanine and γ-aminobutyric acid, conformational transitions 7—28447
- DNA, conformational state in aq. solns., containing glycine, β-alanine and γ-aminobutyric acid 7—28446
- DNA, superhelical phenomena, math. basis, review 7—34102
- DNA conformation, rel. to economics in the hydration of phosphate groups 7—34109
- DNA double helix, effect of base sequence on fine struct. 7—54454
- DNA fragments, stability, stacking interactions, pseudo-polarisation tensor theory 7—997
- DNA satellite evolution, nonlinear phenomena 7—57193
- DNA structures, stable branched, junction design considerations 7—34101
- DNA-Eco RI endonuclease recognition complex, struct. at 3 Å resolution 7—65698
- DNA-ligand interactions, groove binding, computer simulations 7—54447
- DPPC bilayers, aqueous assemblies, high press. IR studies 7—54501
- dynamic scattering spectrum, direct method of calc. 7—42808
- electron microscopic molecule images reconstitution, correspondence analysis, struct. interpret. tool 7—60138
- enzymes, structure-activity relations, IR-ATR modulation spectroscopy obs. 7—54474
- ethylene-acrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7—53337
- favin, 3D struct.: saccharide binding-cyclic permutation in leguminous lectins 7—65696
- ferritin, Fe core: form., struct. and dissolution, X-ray absorpt. spectroscopy obs. 7—65685
- fibrin assembly, lateral aggregation and the role of the 2 pairs of fibrinopeptides 7—40091
- flexible ring macromolecules, chromatography theory *(Russian)* 7—46906
- gallstone and bezoar, FTIR spectra, protein bands and secondary struct. 7—54473
- Gaussian chains, principle components of radius of gyration 7—36831
- globular protein loops, secondary struct. category 7—65695
- globular proteins, struct. class, prediction from amino acid sequence 7—28450
- glutamine synthetase, novel subunit-subunit interactions in struct., atomic model 7—8480
- glycoprotein, proline-rich, from human parotid saliva, NMR and computer-simulated struct. anals. 7—59922
- haeme enzymes and model compounds, EXAFS study of active intermediates 7—65684
- haemocyanin molecule assembly product, electron microscopic images reconstitution 7—60138

macromolecular configurations continued
α-helical proteins, dynamical struct., vibron solitons description 7−47002
kanamycin nucleotidyltransferase, cumulative effect of intragenic amino-acid replacementson the thermostability of a protein 7−8487
β-lactoglobulin, struct. and similarity to plasma retinal-binding protein 7−34108
liquid crystalline polymer, electric field FT-IR reflectance spectra 7−25688
looped DNA, elastic model 7−5800
macromolecular systems, pressure equation generalisation 7−10784
macromolecules in filled polymers, conform. *(Russian)* 7−20081
melittin in membranes, conformation, Raman spectra obs. 7−23294
methacrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7−53337
myoglobin, sperm whale, equilib. heme orientation, nucl. Overhauser effect 7−13960
myosin helix-coil transitions, possible role in the microscopic mechanism of muscle contraction 7−59923
nuclei acids, three-dimens. struct., two-dimens. NMR anal. 7−13959
nylon-6,6, crystallisation, supercooling, temp. depend. of fold length 7−21072
nylon-6, crystallisation, supercooling, temp. depend. of fold length 7−21072
oligo-DNA duplexes, sequence depend. struct., Raman spectra 7−31199
oligosaccharides, conformal statistics 7−13958
periodic polypeptides, band struct. ab initio HF cryst. orbital calcs. 7−23298
phenol-formaldehyde resins, sequence struct. anal., NMR spectra 7−50177
photosystem I reaction centre, photochemically active subunit, dichroism spectra 7−8514
poly(1,3-propylene phosphate), hypercoiled to extended coil state transition study 7−31194
poly(γ-benzyl L-glutamate), α-helical, conformational and dynamic props., 2D nucl. Overhauser expts. 7−15749
poly(acrylic acid-co-vinylamine), sequence distrib. and ionis. const., C-13 NMR 7−10793
poly(ethylene oxide) chains in dil. aq. soln., dynamic moduli 7−37414
poly(ethylene terephthalate), changes in molecular conformations produced by crystallization and drawing, neutron scatt. anal. 7−10799
poly(N,N′-bis(phenoxyphenyl)-pyromellatitimide), valence electronic struct., UPS spectrum 7−42806
poly(p-phenylene terephthalamide), single cryst. and spherulites, morphology and struct. investig. 7−11949
poly(tetrahydrofurandiyls), conformational anal. 7−10794
poly-1,4-phenylenesulphide, struct., comparative analysis with small mol. model 7−44419
poly-L-lysine, conform., in aq. soln., pH effects, vibr. circular dichroism effects 7−10783
poly-L-lysine, deuterated, Fourier transform vibr. circular dichroism in amide I bands 7−54475
poly-m-phenylenisophthalamide, in dimethyl acetamide, hydrodynamic props., conform. characts. *(Russian)* 7−11894
poly-p-decylstyrene solns., optical and hydrodynamic investig. *(Russian)* 7−13167
poly-p-phenylene sulphide, SO_3-doped, mol. structure, ^{1}H NMR, ^{13}C CP/MAS NMR and IR studies 7−2939
polyacetylene, cis and trans molecules, conformations and dynamics 7−62553
trans-polyacetylene, doped, in soln., IR spectral props., conjugation lengths depend. 7−64655
trans-polyacetylene, Durham-route, conformational defects, resonance Raman scatt. studies 7−62554
polyacrylate radicals trapped in polymeric network, struct. and stability, EPR obs. 7−5801
polyamide acid, supermol. struct. change in thermal imidisation *(Russian)* 7−42809
polyamide acids, dil. soln., structurisation *(Russian)* 7−42810
polyaniline, geometries, bond struct., electrochemistry, MNDO calcs. 7−15750
polyaniline, geometry, MNDO calcs. and NMR studies 7−32314
polybutyl methacrylate, solns., viscosity-mol. wt. rels. and unperturbed dimensions 7−63425
polydiacetylenes, electronic struct., substituent-induced strain effect, MNDO calcs. 7−10427
polydisperse polymer solution, size distrib. fn. determ., light scatt. appl. *(Russian)* 7−5806
polyelectrolyte, absorbed in charged surface, mean spans calcs. 7−44995
polyelectrolyte solutions, small angle X-ray scatt. 7−11886
polyemeraldine, defect states, MNDO calcs. 7−25398
polyenes, optical props., configuration depend. 7−10673
polyimides, dil. soln., structurisation *(Russian)* 7−42810
polymer chain, closed ring, cooperative single-quantum excitations 7−25690
polymer chain adsorption on small particles investig. *(Russian)* 7−36832
polymer chain expansion with excluded vol. interaction 7−42807
polymer chains, internal correlations 7−5797
polymer chains, ring shaped, coil props. 7−57198
polymer fracture, weak chem. bond effect *(Russian)* 7−42811
polymer representation, matching polynomial of a polygraph 7−5796
polymer shapes, universal features 7−5798
polymeric chain, non-crystalline, orientation evaluation using polarised fluoresc. method *(Japanese)* 7−995
polymers, 3D shapes, Brownian dynamics investig. 7−25689
polymers, intrachain conformational energetics, mol. modelling 7−62549
polymers, linear and ring, shapes, Brownian dynamics 7−42804
polymers, molecular ordering, optical microscopy, review 7−11953
polymers, osmotic pressure second virial coeffs. 7−10798
polymers, randomly coiled, endpoint distrib. for neighbor avoiding walks 7−48597
polymethacrylic acid, salt-free solns., chain dimensions, small-angle scatt. 7−11885
polymethacrylic acid, solns., chain dimens., small-angle scatt. obs. 7−16389
polymethacrylic acid, solns., hydration and conform. obs. 7−5802
polymethylene chains, equilib. flexibility, continuum model *(Russian)* 7−5805
polymethylene chains, pretransitional states, disordering mechanisms 7−57196
polymethylenes, melting characts., continuum model *(Russian)* 7−63782

macromolecular configurations continued
polynucleotide chains, conformational studies, low-energy states distrib. 7−28457
polynucleotides, struct. anal. using Raman lines of mononucleotides 7−10600
polyoxyethylene, conformation, vibrational spectra, normal coordinate analysis 7−53317
polypyrene fusenes, subgraph enumeration, transfer-matrix method 7−10377
polystyrene, chain length distrib., meas. and estimated comparison 7−13766
polystyrene, isotactic, intrachain conformational energetics, mol. modelling 7−62549
polystyrene, linear, atactic, chain size determ., rel. to intensity light scatt. 7−16388
polystyrene, linear atactic, solns., chain size determ., rel. to solvent quality 7−11884
polystyrene solns., excimer fluoresc., conc. depend. 7−7743
protein primary structure, universal regularities: preference in bonding and periodicity 7−59928
protein stability and struct., rel. to specific contacts, harmonic system perturbation theory 7−59924
protein structure, knowledge-based prediction and novel mols. design 7−65692
protein structure by FTIR self-deconvolution 7−54476
protein structure determination by FTIR 7−54471
protein structure prediction using databases 7−54456
protein structure-spectra correlations, nonaqueous solvent effects using FTIR and ATR flow cell 7−54472
proteins, conformational change mechanisms 7−54457
proteins, disulphide bonds, S-S dihedral angle, ab initio SCF MO calcs. 7−15504
proteins and lipids, FTIR spectra, water subtraction procedure 7−54834
PVC-poly(1,3-propylene phosphate) membrane, cond. percolation 7−33958
rhodopsin molecules in disc membrane of frog rod outer segments, 3D electron microscopical investigation 7−65690
rhodopsin refolding during Meta II decay, Fourier transform IR difference spectroscopy obs. 7−59926
ribonuclease, FTIR obs. of folding 7−54470
D-ribulose-1,5-bisphosphate carboxylase/oxygenase from Alcaligenes eutrophus H16, struct. obs. 7−65691
ring polymers, dynamics in presence of fixed obstacles 7−36830
ERNA^{Phe}, yeast, conformational dynamics of anticodon loop as sensed by wybutine fluoresc. 7−17940
sickle cell haemoglobin aggregates, polymorphism: struct. basis for limited radial growth 7−65697
smectic liq. cryst. polymer, comb-like macromolecule conformation, determ. from neutron scatt. data 7−26623
stellacyanin, metal coord. sphere, changes rel. to pH, oxidation/reduction and metal substitution 7−65687
structure refinement programs, PROTIN and PROLSQ, addition of symmetry-related contact restraints 7−51572
superoxide dismutase, EXAFS and XANES obs. 7−65681
thermotropic aromatic polyesters, mesogenic and flexible fragments, order parameters *(Russian)* 7−16394
three-dimensional protein struct., amino acid residue changes, mol. evolution *(Japanese)* 7−13955
tyronyl-tRNA synthetase mutant with enhanced catalytic props., struct. obs. 7−65694
variant surface glycoproteins of Trypanosoma brucei, 6 Å resolution X-ray structs. 7−47000
Cu complexes, with polymeric sorbents, ESR investig. *(Russian)* 7−42812
Cu-albumin complex, local struct., EPR and EXAFS obs. 7−65689

macromolecular dynamics
α-helix, solitary excitations, viscous and thermal effects 7−8481
archaebacteria lipid dynamics, nonlinear ESR studies 7−8508
bovine carbonic anhydrase B, rotational diffusion, fluoresc. correl. spectrosc. 7−15755
4-butoxycarbonylmethylurethane chains, nematic phase, induced rigidity study 7−57195
carboxylato-telechelic polyisoprene, mech. props. 7−38096
chain molecules, self-diffusion coefficients, conc. depend. *(Russian)* 7−62555
charged fluids, struct. and dynamics 7−11892
DNA, double helices, electrostatic forces, Monte Carlo simulation 7−42803
DNA structures, stable branched, junction design considerations 7−34101
dynamic scattering spectrum, direct method of calc. 7−42808
epoxide resin-fatty monoepoxyesters, relax. props., struct. *(Russian)* 7−64565
epoxyamine network glassy polymers, mol. motions, impulse NMR obs. *(Russian)* 7−13048
ferritin, first-order phase transition in dynamics 7−59918
flexible polymers, in limited volumes, behavior *(Russian)* 7−25694
freely jointed chains with constraints, first cumulant calcs. 7−15753
gamma-resonance and X-ray investigations of slow motions 7−59927
Gaussian chains, principle components of radius of gyration 7−36831
Gaussian polymer chain, translational diffusion coeff. 7−62551
haeme proteins, ligand binding and electron transfer rates, spin-boson models 7−13952
haemoglobin, haeme pockets, porphyrin dynamics, fluoresc. polarisation meas. 7−62437
haemoglobin, rabbit, EM wave effects, Mossbauer spectra studies 7−13964
haemoglobin, structural and functional aspects of Bohr effect *(Rumanian)* 7−17943
α-helical proteins, dynamical struct., vibron solitons description 7−47002
human albumen, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7−59916
Langevin modes 7−42805
looped DNA, elastic model 7−5800
lysozyme, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7−59916
lysozyme crystals, mol. dynamics, X-ray diffuse scatt. obs. 7−59921
mechanical rupture of a defective chain of atoms 7−996
modelling, hybrid approach 7−10786
myoglobin, haeme pockets, porphyrin dynamics, fluoresc. polarisation meas. 7−62437
myosin heads crosslinked to actin, ATP induced μs rot. motions 7−28443

macromolecular dynamics continued
nylon-6,6, crystallisation, supercooling, temp. depend. of fold length 7−21072
nylon-6, crystallisation, supercooling, temp. depend. of fold length 7−21072
pancreatic trypsin inhibitor, bovine, low freq. motion, inelastic neutron scatt. 7−17937
persistent macromolecule, coil-globule transition, theory *(Russian)* 7−15756
poly(1,3-propylene phosphate), hypercoiled to extended coil state transition study 7−31194
poly(γ-benzyl L-glutamate), α-helical, conformational and dynamic props., 2D nucl. Overhauser expts. 7−15749
poly(γ-benzyl L-glutamate) aggregation with rhodamine B, fluoresc. depolarisation 7−31096
poly(ethylene oxide) chains in dil. aq. soln., dynamic moduli 7−37414
poly-4-hydroxystyrene, dil. soln. props., light scatt. and viscosity meas. 7−39135
polyacetylene, cis and trans molecules, conformations and dynamics 7−62553
polyaniline, geometries, bond struct., electrochemistry, MNDO calcs. 7−15750
1,4-polybutadienes, thermodynamic flexibility, continuum model *(Russian)* 7−10802
polydiacetylene solutions, semidilute, rod-coil transition, aggregation 7−15752
polydialkoxyphosphazenes, mol. mobility, NMR investig. *(Russian)* 7−25693
polyethylene oxide, aq. solns., dynamics, nucl. mag. relax. obs. 7−57194
polymer chain, closed ring, cooperative single-quantum excitations 7−25690
polymer chain adsorption on small particles investig. *(Russian)* 7−36832
polymer chain dynamics, temp. depend. cubic lattice model simulation 7−998
polymer chain statistics excluded volume, variational method anal. 7−42801
polymer chains, dynamics, reptation, model simulation 7−57197
polymer dynamics, Rouse-Zimm model, renormalisation group calcs. 7−25691
polymer interaction with small mol., iterative transfer perturbation method 7−19709
polymer microarchitecture formation, nonlinear diffusion equations 7−4795
polymer networks, welding 7−15754
polymer solutions, entangled polymer dynamics, reptation model 7−58125
polymers, flexible, Kirkwood-Riseman model, preaveraging approximation corrections 7−10787
polymers, imperfect, oscills., freq. distrib. density calcs. 7−42814
polymers, intrachain conformational energetics, mol. modelling 7−62549
polymers, isolated flexible chains, tagged with chromophores, electronic excitation transport 7−15751
polymers, linear and ring, shapes, Brownian dynamics 7−42804
polymers, macromolecular dynamics, hydrostatic press. effects *(Russian)* 7−16690
polymers, solns., molecular translational mobility, flow and thermodynamic swelling effects *(Russian)* 7−16393
polymers, vibrational spectra, vibr. freqs. calcs. 7−42813
polymethacrylic acid, salt-free solns., chain dimensions, small-angle scatt. 7−11885
polymethacrylic acid, solns., chain dimens., small-angle scatt. obs. 7−16389
polymethylene chains, pretransitional states, disordering mechanisms 7−57196
polynucleotides, struct. anal. using Raman lines of mononucleotides 7−10600
polyolefines, oriented, mech. props. and mol. mobilities *(Russian)* 7−63723
polypropenylenes, thermodynamic flexibility, continuum model *(Russian)* 7−10802
polypropylene, macroradical termination, segmented mobility and low-mol. radicals *(Russian)* 7−65312
polystyrene, chain length distrib., meas. and estimated comparison 7−13766
polystyrene, isotactic, intrachain conformational energetics, mol. modelling 7−62549
polystyrene, proton-spin-lattice relaxation times, determ. using NMR relaxation 7−10797
polystyrene, solns., coil-globule transition, theory *(Russian)* 7−15756
polystyrene, solns., static screening length behaviour 7−20078
polystyrene sulphonate, ionomers, in soln., dynamics, neutron spin echo obs. 7−51607
polystyrene-PMMA-toluene mixtures, interaction parameters 7−63424
polyvinyl acetate, slow motions in solid, ^{13}C spin-echo spectrosc. 7−27628
proflavine aromatic polyimides, dynamical behaviour, fluoresc. depolarisation 7−31193
protein dynamics and ligand binding, review 7−13950
protein dynamics and reaction rates, usefulness of simple models 7−13951
proteins, fractons and fractal dimension self-avoiding walk model 7−48590
PVC, mech. props. in β-transition region *(Russian)* 7−63724
PVC-poly(1,3-propylene phosphate) membrane, cond. percolation 7−33958
rigid probe mobility in bulk elastomer, stationary fluorescence depolarisation obs. 7−7744
ring polymers, dynamics in presence of fixed obstacles 7−36830
ring polymers, equilib. statistics and dynamics 7−25692
ERNA^{Phe}, yeast, conformational dynamics of anticodon loop as sensed by wybutine fluoresc. 7−17940
rod-like particle fluid, transport props., mol. dynamics 7−42802
semicrystalline polymer, loop entanglement in constrained liq. region, asymptotic behaviour 7−26666
semiflexible polymers, collapse transition, Monte Carlo simulation 7−10785
serum albumin, human, effect of hydration on mol.-dynamic props. in low temp. region 7−54436
spin-labelled proteins, meas. of rot. mol. motion by time-resolved saturation transfer EPR 7−40089
transport props. by Brownian dynamics 7−10789
trypsin pancreatic inhibitor, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7−59916

macromolecular dynamics continued
tryptophan dynamics in proteins, single-photon laser fluoresc. studies 7−23304
two-polymer aqueous system, phase separation 7−37835
viomycin polypeptide, H exchange rate, NOESY expt. 7−10790
H-bonds in molecular biology, FTIR spectra, strongly anharmonically coupled vibr. 7−47009
H_2O, in biological systems, protein dynamics and NMR relax. time 7−25555

macromolecular energy levels
heme metalloporphyrins, electronic struct. 7−54453
polyaniline, geometries, bond struct., electrochemistry, MNDO calcs. 7−15750

macromolecular spectra
see also spectra of organic molecules and substances
acetyl chymotrypsin in cryosolvent, ^{13}C NMR relax. 7−10792
acetylcholinesterase, immobilised, structure-activity relations, IR-ATR modulation spectroscopy obs. 7−54474
albumin solution, struct. determ. by FTIR 7−54471
alcohol dehydrogenase, liver, Cu substituted, ligand and coenzyme effects, resonance Raman spectra 7−62548
allophycocyanin, energy transfer, bilin transition dipole moment orientation, fluoresc. polarisation and absorpt. 7−40100
bacteria, pathogenic, ultrarapid differentiation and identification using FTIR techniques 7−54835
bacteriorhodopsin in polymer matrices, photochemical activity rel. to hydration 7−8518
biohelical poly A.poly U complex, hydration, IR spectra, piezogravimetry 7−8491
biomacromolecules, aq. solns., 2D NOE spectra, solvent effects 7−36656
biopolymer conformation determination using NMR, CONFOR graphics program 7−54455
bisphenol-A polycarbonate, stressed, reversible mol. orientation, IR studies 7−50428
bovine carbonic anhydrase B, rotational diffusion, fluoresc. correl. spectrosc. 7−15755
butadiene elastomers, soot-filled, struct., IR spectra 7−39127
cellulose acetates, units distrib., NMR spectrosc. obs. *(Russian)* 7−15757
cellulose derivatives, substituents, distrib., ^{13}C NMR obs. 7−31197
chlorophyll in vivo, exciton states and exciton interaction processes, nonlinear transmission effects 7−59931
chlorophyll in vivo, large absorpt. unit reflected in fluoresc. enhancement effect 7−59932
chlorophyll-protein complex II, light-harvesting, long-wavelength fluoresc. emission 7−59933
chlorophylls a and b and aggregates, spectra in nematic liq. crysts. and polyvinyl alcohol films 7−59930
copolyamides, aromatic, multiunit models, PMR spectra *(Russian)* 7−20080
deoxy myoglobin, spectral broadening simulations 7−5799
dilute solutions, randomly broken chains, small angle neutron, X-ray and light scatt. data 7−10788
DNA, UV induced thymine dimers, bound serotonin effect 7−8489
DPPC bilayers, aqueous assemblies, high press. IR studies 7−54501
dynamic scattering spectrum, direct method of calc. 7−42808
enzymes, structure-activity relations, IR-ATR modulation spectroscopy obs. 7−54474
epoxyamine network glassy polymers, mol. motions, impulse NMR obs. *(Russian)* 7−13048
ethylene-acrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7−53337
gallstone and bezoar, FTIR spectra, protein bands and secondary struct. 7−54473
high-melting, heat capacity anal. 7−63754
lipid A, free, multibilayer, phase transition behaviour, FTIR, endotoxic principle of gram-negative bacteria outer barrier 7−54500
liquid crystalline polymer, electric field FT-IR reflectance spectra 7−25688
methacrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7−53337
myoglobin, direct and remote connectivities in phase-sensitive double quantum spectra 7−10791
myoglobin, sperm whale, equilib. heme orientation, nucl. Overhauser effect 7−13960
oligo-DNA duplexes, sequence depend. struct., Raman spectra 7−31199
PET, films, depth-profiling, FTIR photoacoustic spectroscopy 7−25686
phenol-formaldehyde resins, sequence struct. anal., NMR spectra 7−50177
photosystem I reaction centre, photochemically active subunit, dichroism spectra 7−8514
PMMA with low mol. weight additives, polymer destruction by UV and γ radiation by vibr. cross-relaxation 7−42800
poly(2-vinylpyridine), protonated, dil. soln. with trifluoroacetic acid, excimer emission, fluoresc. anal. 7−31196
poly(4-vinylpyridine), protonated, dil. soln. with trifluoroacetic acid, excimer emission, fluoresc. anal. 7−31196
poly(γ-benzyl L-glutamate), α-helical, conformational and dynamic props., 2D nucl. Overhauser expts. 7−15749
poly(γ-benzyl L-glutamate) aggregation with rhodamine B, fluoresc. depolarisation 7−31096
poly(acrylic acid-co-vinylamine), sequence distrib. and ionis. const., C-13 NMR 7−10793
poly(N,N′-bis(phenoxyphenyl)-pyromellatitimide), valence electronic struct., UPS spectrum 7−42806
poly(p-phenylene sulfide), UV photoelectron spectra 7−15748
poly-L-lysine, deuterated, Fourier transform vibr. circular dichroism in amide I bands 7−54475
poly-p-phenylene sulphide, SO_3-doped, mol. structure, ^{1}H NMR, ^{13}C CP/MAS NMR and IR studies 7−2939
poly-p-phenylenevinylene film, opt. and elec. props., band gap 7−46161
polyacetylene, cis and trans molecules, conformations and dynamics, far IR absorption 7−62553
trans-polyacetylene, Durham-route, conformational defects, resonance Raman scatt. studies 7−62554
polyacrylate radicals trapped in polymeric network, struct. and stability, EPR obs. 7−5801
polyamide acids, dil. soln., structurisation *(Russian)* 7−42810
polyaniline, localised mol. excitons, UV absorpt. spectra 7−31192
polydialkoxyphosphazenes, mol. mobility, NMR investig. *(Russian)* 7−25693

macromolecular spectra continued

- polydimethylsiloxane oligomers, FT-IR spectra, Fourier self-deconvolution appl. 7—25687
- polydimethylsiloxanes, crosslinked, network struct. irregularity, PMR line shapes *(Russian)* 7—5803
- polyimides, dil. soln., structurisation *(Russian)* 7—42810
- polymer, gels, zinc phthalocyanin containing, fluoresc., photosynthesis model 7—8515
- polymer blend, intensity spectroscopy and FTIR as tool for struct. and intermol. interactions determ. 7—53338
- polymer chain, closed ring, cooperative single-quantum excitations 7—25690
- polynucleotides, struct. anal. using Raman lines of mononucleotides 7—10600
- polypropylene, isotactic, polymorphic forms, FTIR far-IR obs. 7—53339
- polystyrene, incorporation of stilbene (p-fluorostilbene) during radical polymerisation, NMR investig. 7—39890
- polystyrene solns., excimer fluoresc., conc. depend. 7—7743
- polyvinyl acetate, slow motions in solid, ^{13}C spin-echo spectrosc. 7—27628
- polyvinylidine fluoride, films, depth-profiling, FTIR photoacoustic spectroscopy 7—25686
- proflavine aromatic polyimides, dynamical behaviour, fluoresc. depolarisation 7—31193
- protein in aqueous solution, FTIR spectra, automatic water subtraction procedure 7—54836
- protein structure by FTIR self-deconvolution 7—54476
- protein structure determination by FTIR 7—54471
- protein structure-spectra correlations, nonaqueous solvent effects using FTIR and ATR flow cell 7—54472
- proteins, direct and remote connectivities in phase-sensitive double quantum spectra 7—10791
- proteins, labelled, 2D ^{1}H NMR investig. using half-filters and ^{15}N labelling 7—48808
- proteins and lipids, FTIR spectra, water subtraction procedure 7—54834
- PVC, gels, Brillouin light scatt. 7—42798
- PVC surface, sputtered, AES, electron beam induced dissociation 7—20077
- PVC-oligoesteracrylate, impulse NMR investig. *(Russian)* 7—5804
- ribonuclease, FTIR obs. of folding 7—54470
- semirigid macromolecules, conc. solns., liq.-cryst. order form. *(Russian)* 7—36833
- spherical and rodlike macromolecules binary mixture, photon correlation spectroscopy 7—42909
- thylakoid membrane, light scatt., photo-induced changes, surface charge effect 7—59934
- thylakoid membrane, light scatt., photo-induced changes, temp. treatment effect 7—59935
- thylakoid membranes and functional subunits, organisation, linear dichroism and fluoresc. polarisation obs. 7—59944
- violacein, thin layer chromatography and FTIR analysis 7—54469
- viomycin polypeptide, H exchange rate, NOESY expt. 7—10790
- with polymeric sorbents, ESR investig. *(Russian)* 7—42812
- H-bonds in molecular biology, FTIR spectra, strongly anharmonically coupled vibr. 7—47009
- HI and DI in solid N_2, IR spectra in temp. range 9 to 30 K 7—50127

macromolecules

- *see also DNA; macromolecular configurations; macromolecular dynamics; macromolecular energy levels; macromolecular spectra; polymers; proteins*
- adsorbed on single surface, generating function methods 7—21622
- biological macromolecules, radiation sensitivity, temp. depend. 7—15668
- carboxylated rubber, study of maleic acid residue and vinylic monomer on props. 7—39902
- chemically inhomogeneous mixtures, fractionation efficiency anal. *(Russian)* 7—26928
- chromatography theory of flexible ring macromolecules *(Russian)* 7—46906
- cyclic, scaling theory *(Russian)* 7—10801
- deoxy myoglobin, spectral broadening simulations 7—5799
- diamagnetic molecular system, magneto-chiral birefringence and dichroism at longitudinal elec. saturation 7—42661
- diphilic polyelectrolytes, conc. effect on wetting of Teflon 7—38302
- flexible macromolecules, diffusion in limited vol. *(Russian)* 7—38256
- genetic information encoding, cybernetics and genetic engineering 7—60924
- α-helical proteins, dynamical struct., vibron solitons description 7—47002
- linear, scaling theory *(Russian)* 7—10801
- macromolecular networks theory 7—65677
- molecular replication and the origins of life 7—54446
- nuclei acids, three-dimens. struct., two-dimens. NMR anal. 7—13959
- orientation of macromolecular assemblies, permanent magnet for fields up to 2.6T 7—9852
- polyelectrolyte chain in soln. containing counterions, size study 7—58122
- polymer macromol. soln., interaction effects, spontaneous symm. breaking, replica method calcs. 7—15758
- polymer solutions, dumbbell kinetic theory, structural approach, vector model *(French)* 7—6259
- pressure equation generalisation 7—10784
- ultrafiltration, transfer limiting phenomena 7—54167
- viomycin polypeptide, H exchange rate, NOESY expt. 7—10790

macros

- Lotus 1-2-3 macros for regional acid deposition calculations 7—54408

Madelung constant *see lattice energy*

magamps *see magnetic amplifiers*

Magellanic Clouds

- *see also Large Magellanic Cloud; Small Magellanic Cloud*
- interstellar Na I line strength versus reddening relation, influence on stellar population synthesis 7—9526
- Magellanic Stream, dust content 7—66721
- Magellanic Stream rel. to dwarf galaxy in Phoenix, H I survey 7—24229
- O-type stars, radiation-driven wind theory for mass loss 7—47841
- peculiar emission-line supergiants, IUE and optical obs. of galactic analogues 7—47948
- planetary nebulae, angular diameters from speckle interferometry 7—60756
- planetary nebulae in LMC and SMC, IUE survey 7—48055
- SNR characts. 7—14621
- spatial structure of LMC and SMC, determ. from IR photometry of Cepheid variables 7—14592

Magellanic Clouds continued

- supergiant stars in Magellanic Clouds, CO, 2.3 μm band synthesis and band strengths interpretation 7—66577
- C stars luminosity function, effects of mass loss during asymptotic giant branch stage 7—24127
- H I bridge, young star form. 7—35049

Maggi-Righi-Leduc effect *see thermomagnetic effects*

magnesium

- *see also nuclei with ......*
- AlGaAs-GaAs superlattices, Mg ion implantation, intermixing, radiation damage 7—26782
- Ap stars, search for chromospheric Mg II emission 7—47932
- atom, $3p^2$ ^1S state, autoionis., multiphoton excitation, line shape obs. 7—899
- atom, 3snl excited series, CI HF calcs. 7—36496
- atom, ^{1}P doubly excited autoionisation states, CI calcs. 7—36497
- atom, ^{1}P states, two-electron interaction study 7—15491
- atom, autoionising Rydberg states, reson. ionisation mass spectrometry 7—19785
- atom, config., fine struct. parameters Zeeman sublevel energies 7—36543
- atom, exchange correlation energies, Ξ_a method calcs. 7—56993
- atom, excitation energies, coupled cluster method calcs. 7—49893
- atom, g-Hartree ab initio calcs. 7—15488
- atom, multiphoton ionis. investig. 7—30994
- atom, multiphoton ionisation, DC elec. field effects 7—62337
- atom, spectra struct. and isotope shifts, many-body perturbation theory calcs. 7—50019
- atoms, ultrasoft X-ray emission spectra studies 7—10615
- Auger emission, ion-induced, review 7—59360
- Auger energy, Slater transition state calcs., metallic and atomic states, jellium model 7—38475
- AB Aur, Herbig Ae star, wind rot. modulation, C IV and Mg II UV obs. 7—47870
- bremsstrahlung isochromat spectra, electron-energy losses 7—22377
- cathode erosion and power flow in vac.-arc centrifuge 7—26562
- crystal habit of ultrafine particles, gas phase evaporation growth 7—53514
- defects and radiation damage, computer simulation studies 7—2048
- environmentally assisted cracking at high vel. 7—65213
- grain boundary, transformation matrices for hexagonal and trigonal crystals 7—63541
- graphite fibre reinforced Mg composite 7—3488
- graphite fibre reinforced Mg matrix composites, fabrication, fibre coatings, wetting, adhesion 7—46374
- high purity polycrysts., creep behaviour, recovery, and stress exponent determ. 7—26840
- late-type contact binaries, chromospheric-coronal activity, UV obs. of Mg II lines 7—47994
- late-type main sequence stars, Ca II and Mg II obs. 7—47839
- local density of states region, determ. by core-core-valence Auger transitions 7—39325
- negative metastable ion, shape resons. scaled local density calcs. 7—42464
- open clusters, stellar activity, Mg II obs. *(Spanish)* 7—55742
- particles, electron spin-lattice relax. freezing-in, spin echo obs. 7—2921
- phase diagram determ., HCP to BCC transition, fusion curve calc. 7—52043
- powder production from melts by centrifugal atomisation 7—7924
- TX Psc, C star, UV spectral characts. 7—55675
- quasi-two-dimensional films, electron localisation and interaction effects 7—7411
- recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7—59546
- satellite and hypersatellite lines in K-LL Auger spectrum 7—30999
- segregation, at α-Al_2O_3 surface, atomistic lattice simulation 7—58492
- single stored ion, nonclassical resonance fluorescence radiation obs. 7—42545
- solvated in organic matrices, H absorption studies 7—34073
- super metal rich stars, Mg isotopic characts. determ. from MgH spectral obs. 7—60645
- surface, air exposed, XPS after hydrogenation-dehydrogenation cycles 7—17923
- thin films, initial oxidation stages, emission phenomena 7—13629
- vapour, dye laser freq. mixing, VUV laser source for high-resolution spectroscopy 7—24709
- AlGaAs:Mg LPE layers, Mg doping and injection laser threshold current 7—12092
- AlGaAs:Mg-GaAs:Se concentrator solar cells, 26 percent efficient 7—3699
- $Al_xGa_{1-x}As$:Mg/GaAs:Se quantum well heterostruct., photopumped laser operation 7—25818
- Al_2O_3:Mg, microstruct. development during intermediate and final-stage sintering 7—64952
- $BaTiO_3$:Ce,Mg,Ga, double doping study 7—2037
- Fe-Mg superlattices, mag. props. *(Japanese)* 7—12950
- GaAs:MG, MOVPE, p-type doping using an organometallic Mg precursor 7—22522
- GaAs:Mg, rapid annealing, temp. depend. of damage removal and carrier activation 7—17032
- GaAs:Mg MBE layers, photoluminescence 7—22295
- GaAs:Mg$^+$, formation of p-type layers using ion implantation and rapid thermal annealing 7—45311
- GaAs/AlAs:Mg/GaAs tunnel structs., current transport mechanisms 7—7357
- GaAs-GaAlAs heterojunction bipolar transistors, ^{24}Mg and ^{64}Zn implanted profiles 7—44591
- InP:Mg p-n junction waveguide fabricated by Mg ion implantation 7—64326
- LiD:Mg^{2+}, elec. props., X-irradiation effects, DC cond., dielec. loss and ionic thermocurrent meas. 7—27341
- LiF:Mg,Ti phosphor layer on borosilicate glass substrate, laser stimulated thermolum. 7—64703
- LiF:Mg^{2+} doped, elec. charge of dislocations 7—6628
- LiF:Mg(Ni)(Co) R′ colour centres, spectral holeburning props., depend. on doping and irradiation 7—26743
- LiH:Mg single crysts., secondary emission, exciton luminesc. and reson. Raman scatt. studies 7—3038
- $LiNbO_3$: Mg, Fe crysts., photoconductivity props. studies 7—38624
- $LiNbO_3$:Mg, incorporation of H$^+$, IR spectra of OH$^-$ ions 7—7724
- $LiNbO_3$:Mg, laser-induced grating characteristics 7—62746
- Mg, dislocations, interaction with pinning centres, 4.2 to 295K 7—44558
- Mg I, interstellar, IUE obs. rel. to limits on ‘local fluff’ 7—55782

magnesium continued
- Mg I, non-LTE study of solar IR emission lines near 12 microns 7—66534
- Mg I and Mg II, IR spectrum 7—50135
- Mg II, core-excited states, energy levels and lifetimes, HF calcs. 7—867
- Mg IX, $1s^22l2l'$-$1s^22l3l''$ transition, correl. and relativistic effects 7—42552
- Mg ion + H_2O, intermolecular potential functions, additivity 7—10699
- Mg^+ cooling by laser beam 7—25458
- Mg^{3+}, electron impact excitation rate coeffs. 7—55455
- Mg^{4+}, electron impact excitation rate coeffs. 7—55455
- Mg/Ar ionisation chambers used as γ-ray dosimeters in mixed neutron-photon fields, characts. 7—34282
- Mg-$B_{12}H_{12}$, stable conform., SCF-MO calcs. 7—15477
- Mg-SiO-H_2, nucleation, physical spinodal theory 7—21428
- Mg+H_2, reactive collision complex form., far wing laser light scatt. 7—22982
- Mg+H_2, reactive collision dynamics by far using laser scatt. 7—28296
- Mg+H_2^+, direct dissociative charge exchange investig. 7—50332
- Mg+H^+(He^+), multiple ionisation, charge transfer cross sections 7—15706
- Mg+N_2O, reaction dynamics, high resolution laser fluoresc. spectra 7—8252
- Mg^++He, pot. curves reson. line broadening and shift parameters 7—50302
- Mg^++He(Ar), charge cloud orientation, excitation, propensity rule 7—62498
- Mg_N^{2+} microparticles, fragmentation, density-functional calc. 7—5810
- Mg^+Ar(He), reson. line broadening and shift rates, pot. calc. 7—15683
- Mg(I), vap. press. meas. by boiling temp. method, thermodynamic props. 7—44778
- ^{24}Mg fine structure transition via linear Ramsey interrogation 7—884
- ^{26}Mg interstellar fossil anomaly rel. to excess in meteorites 7—48036
- NaCl:Mg, electron range vel. to heat treatment 7—21283
- NaCl:Mg, X-ray irrad., exciton interactions with impurity-vacancy dipoles, absorpt. and luminesc. spectra 7—45162
- NaF:Mg, electron beam irradiated, thermoluminescence and thermally stimulated conductivity 7—7771
- Si:Al, Mg transmutation doping by proton irrad. 7—38027
- Si:Mg, photothermal ionisation spectroscopy 7—45374
- Si:Mg metastable impurity levels, self-consistent local-density total-energy calcs. 7—38503

magnesium alloys
- *see also magnesium compounds*
- Al-Li-Mg powders, mech. alloying 7—64968
- Al-Zn-Mg-Cu, impact toughness improvement by intermediate thermomech. treatment 7—53907
- graphite fibre reinforced Al-Mg-Fe, unidirectional and angle-ply, strength and fracture anal. 7—59605
- Mg-Al alloys, precipitation and recrystallisation rates under small external stress 7—17532
- rapid solidification prep., status and potential 7—22611
- α'-Ag-Mg, annealed, twin like domain boundary, high resolution electron microscopy 7—26763
- Ag-Mg, commensuration and discommensuration characteristics, modulation periods 7—46463
- Ag-Mg (15.0 wt.%), disordered alloy, SRO, X-ray diffr. study 7—16490
- Al-Cu-MG, annealed, creep, 623-723 K 7—53802
- Al-Cu-Mg, 2024, averaged, yield loci, expt. investig. 7—51923
- Al-Cu-Mg, 2024, TEM specimen prep. parallel and perpendicular to machined surfaces 7—39808
- Al-Cu-Mg, 7090, powder metallurgy, fatigue crack growth, influence of load ratio 7—28124
- Al-Cu-Mg, Al-Mg, plastic deform., AE, X-ray obs. *(Russian)* 7—46579
- Al-Cu-Mg, cast composite, mica particle distrib. 7—46375
- Al-Cu-Mg, D16T, endurance over wide range of stress variation 7—22811
- Al-Cu-Mg, deformed, dislocation struct., AE obs., electron microscopy *(Russian)* 7—39832
- Al-Cu-Mg, fatigue crack propagation rate, effect of overloads 7—59623
- Al-Cu-Mg, fracture behaviour, influence of fine transition-metal particles and grain struct. 7—3406
- Al-Cu-Mg, hot workability, recrystallisation during torsional deform. *(Korean)* 7—46559
- Al-Cu-Mg, IN 9021, corrosion behavior 7—39733
- Al-Cu-Mg, IN 9021, creep crack growth fracture morphology 7—53881
- Al-Cu-Mg, stability of struts in compression in elastoplastic range 7—22771
- Al-Cu-Mg, strip with hole, fatigue resist., effect of multiple local plastic deform. 7—59625
- Al-Cu-Mg r-curve behaviour of double edge notched tensionspecimens in plane stress 7—13701
- Al-Cu-Mg system, D16 alloy, struct. changes during electron bombardment 7—8005
- Al-Cu-Mg-Al_2O_3-Al_4C_3, IN 9021, mechanically alloyed precip. hardened, tensile behaviour 7—13525
- Al-Fe-Mg, solidified from liq. phase, struct. *(Russian)* 7—39498
- Al-Li-Cu-Mg, fracture, effect of subgrain struct. and ageing practice 7—13563
- Al-Li-Cu-Mg, stress corrosion resist. and mech. props. 7—33833
- Al-Li-Cu-Mg quaternary alloy, initiation of voiding at second-phase particles 7—39645
- Al-Li-Cu-Mg-Zr, wear, comparative investigs. and prep. method role 7—13605
- Al-Li-Cu-Mg-Zr die forgings, mech. props., microstruct. 7—46636
- Al-Li-Cu-Mg-Zr powder alloy, superplastic, high modulus and hardness 7—53816
- Al-Li-Zn-Mg-Cu alloys, microstruct. evolution 7—53739
- Al-Mg, 5052, oxide thin surface films, AES anal. *(Japanese)* 7—17723
- Al-Mg, AE during deform., effect of struct. state *(Russian)* 7—38127
- Al-Mg, adhesive-adherend interface under load, stresses in adhesive bond 7—28260
- Al-Mg, creep, stress exponent, dynamic strain ageing, dislocation struct. 7—17591
- Al-Mg, deformed, dislocation struct., AE obs., electron microscopy *(Russian)* 7—39832
- Al-Mg, liq., excess entropy of mixing, resist. calcs. 7—2571
- Al-Mg, plasma-coated, heat treatment effect on fine struct. and failure mechanism 7—3496
- Al-Mg, plastic deform. and supercond. props., 0.5 to 4.2K *(Russian)* 7—8055

magnesium alloys continued
- Al-Mg, rapidly solidified powders, effect of extrusion parameters on props. 7—39595
- Al-Mg, strengthening diagram, relationship with dislocation kinetics *(Russian)* 7—53753
- Al-Mg, thermal surface oxide layers, SIMS characterisation 7—13650
- Al-Mg (0.2 wt.%), subgrain growth rel. to prior cold work and annealing temp. 7—17551
- Al-Mg (5 at.%), creep, interpretation of internal stress determ. from dip tests 7—65091
- Al-Mg (5 at.%), Portevin-Le Chatelier band kinetics, video recording 7—65103
- Al-Mg (5 wt.%) polycrystals, high temp. deform., microstruct. 7—13501
- Al-Mg (6.5 wt.%), grain boundary segregation, STEM-EDX analysis 7—39518
- Al-Mg (9.8 wt.%), AlMgSi, AlZnCuMgZr, directional solidification, microstruct. *(German)* 7—46452
- Al-Mg alloy, charge transfer, X-ray emission and UPS studies 7—3118
- Al-Mg alloys, spall strength, impact stress and strain-rate depend. studies 7—33796
- Al-Mg alloys, steady-state creep, microstruct. development 7—53817
- Al-Mg alloys 5056 and 5083, recrystn. kinetics after hot deform. 7—3328
- Al-Mg dilute alloys, divacancy effect, annihilation radiation Doppler broadening meas. 7—37982
- Al-Mg surface layers, electronic and atomic structs., heat treatment effects *(Russian)* 7—58575
- Al-Mg system, trapping and diffusion mechanism, μSR study 7—45863
- Al-Mg-Bi:Cr, low activation alloy development for reacting plasma experiment 7—15384
- Al-Mg-Ce system, liquidus, intermetallic compound *(Chinese)* 7—7960
- Al-Mg-Cu:Zr, low activation alloy development for reacting plasma experiment 7—15384
- Al-Mg-Li, 14 MeV neutron irrad., mech. props. microscopic struct. 7—56820
- Al-Mg-Mn, fatigue, criterion for omission of variable amplitude loading histories 7—22794
- Al-Mg-Mn, fracture toughness, all modes 7—65121
- Al-Mg-Si, Al-Mg, cast, mica particle dispersed composites, struct., strength, hardness 7—59574
- Al-Mg-Si, annealed, plastic flow under multiaxial cyclic loading 7—33725
- Al-Mg-Si, chamber wall, Light Ion Beam Fusion Target Development Facilities, activation studies 7—49732
- Al-Mg-Si, compression test, high speed, microcomputer system, split Hopkinson bar technique 7—13686
- Al-Mg-Si, high-purity, nucleation and growth of precipitates and the bubbles, effect of 600 MeV protons 7—58364
- Al-Mg-Si, squarely extruded, texture and mech. props. *(Japanese)* 7—33694
- Al-Mg-Si/TiC composites, implantation modified, friction, surface chemistry 7—46660
- Al-Mg-Zn system, fracture viscosity rel. to surplus phase morphology 7—46610
- Al-Mg-Zn(Cu) icosahedral quasicrysts., solid state reaction and rapid solidification prep. comparison 7—37864
- Al-Mg-mica particle composites, prep. and props. 7—22613
- Al-Mg(-Si), 800 MeV proton irrad., gas accumulation at grain boundaries 7—58361
- Al-Mg(-Si), response to single and multistage compression 7—53830
- Al-Mg(-Si), solidification, continuous and interrupted, development of microstruct. and homogenisation *(German)* 7—53719
- Al-Si-Mg (7, 0.3 wt.%), strength and ductility, effect of macroporosity 7—3386
- Al-Si-Zn-Mg-Ti(-Sr) system alloys, mech. props., Sr microalloying effect 7—3377
- Al-Zn-Mg, 7020, thin welded joints, ductile crack growth of surface cracks 7—59594
- Al-Zn-Mg, 7075, grain boundary precip., crystallographic orientation depend. 7—22686
- Al-Zn-Mg, 7090, fracture, stress intensity rel. to notch root radius 7—17635
- Al-Zn-Mg, corrosion protection by Ce corrosion coatings 7—53988
- Al-Zn-Mg, environmentally assisted cracking at high vel. 7—65213
- Al-Zn-Mg, IN9021, powder metallurgy, fatigue crack growth, influence of load ratio 7—28124
- Al-Zn-Mg, plasma-coated, heat treatment effect on fine struct. and failure mechanism 7—3496
- Al-Zn-Mg, serrated flow, second phase precip., dislocation ageing 7—22755
- Al-Zn-Mg, small fatigue crack growth from a keyhole notch 7—65133
- Al-Zn-Mg, superplasticity rel. to grain refining addition elements 7—46561
- Al-Zn-Mg, TEM specimen prep. parallel and perpendicular to machined surfaces 7—39808
- Al-Zn-Mg (4.5, 1.75 at.%), ageing, specific surface energy of Guinier-Preston zones 7—28046
- Al-Zn-Mg alloy, precipitation hardening, plastic flow instability 7—22757
- Al-Zn-Mg-Cu, 7475, environment sensitive fracture using shadow optical method of caustics 7—39647
- Al-Zn-Mg-Cu, 7475, superplasticity, constitutive eqn., evaluation of parameters 7—65085
- Al-Zn-Mg-Cu, fatigue crack propag., influence of microstruct. *(German)* 7—22833
- Al-Zn-Mg-Cu, high-energy rate powder metallurgy processed, microstruct. evaluation 7—22607
- Al-Zn-Mg-Cu, high-strength alloys, long-term marine atm. stress corrosion tests 7—46679
- Al-Zn-Mg-Cu, microalloying effect on struct. and mech. props. 7—53755
- Al-Zn-Mg-Cu, notched and unnotched bars, macroscopic shear localisation and fracture 7—46633
- Al-Zn-Mg-Cu, strain distrib. within crack tip plastic zones 7—3396
- Al-Zn-Mg-Cu-Ni-Zr, modified 7075, prod. by liq. dynamic compaction, struct. and props. 7—46437
- Al-Zn-Mg-Mn-Si, rapid solidification, superplasticity 7—53826
- Al-Zr-Mg, grain boundary struct. and superplasticity, electron microscopy studies *(Russian)* 7—6630
- Al-Zu-Mg, liquid dynamic compaction, microstruct. and precipitation, TEM study 7—59529
- AlMgSc first wall materials, sputtering and radiation induced segregation 7—38072
- $Au_{77}Mg_{23}$, atom sublattices, selective high resolution electron microscopy 7—6486

magnesium alloys continued
C fibre reinforced Al-Mg composites, tensile strength, fracture, interfacial bond strength 7−33744
C fibre reinforced Al-Zn-Mg alloy, linear thermal expansion coeff., 25 to 400°C 7−52093
CdMg dilute alloys, muon Knight shift temp. depend. study 7−45892
Co-Mg coevaporated films, prep. and mag. props. 7−53082
Cu-Al-Mg alloys, complex oxide form. and precipitate morphology *(Russian)* 7−33664
Cu-Fe-Mg-Ni-Al alloy, stress relaxation in tension and creep in torsion 7−44667
Cu-Mg amorphous alloys, 2D weak localisation effects 7−21871
Cu-Sn-Mg, ductility at high temp., alloying additions effect *(Japanese)* 7−13515
Gd-Mg system, phase equilib. study 7−26935
La-Mg alloy, H adsorpt., H storage investig. 7−52241
La-Mg system, phase equilib. study 7−26935
$La_{2-x}Ca_xMg_{17}$, H_2 storage appl. 7−40052
Li-Mg, liq., excess entropy of mixing, resist. calcs. 7−2571
Li-Mg disordered, phonons and martensitic phase transitions 7−58423
LiMg, electron-electron scatt., elec. resistivity meas. 7−32981
Mg-based amorphous alloys, elec. resist., press. depend. 7−7199
Mg-based simple metallic glasses, thermoelec. power temp. depend. studies 7−2581
Mg-Cu alloys, vap. press. meas. by boiling temp. method, thermodynamic props. 7−44778
Mg-Cu solvated in organic matrices, H absorption studies 7−34073
Mg-Fe, dil., Kondo system, mag. scatt. time of conduction electrons meas. 7−21902
Mg-Fe dilute thin film, mag. screening and Kondo-type behaviour 7−12944
Mg-Gd supersaturated solid soln., precipitate cryst. struct. *(Russian)* 7−33665
Mg-Mn, MA8, superplastic behaviour, effect of grain struct. *(Russian)* 7−59584
Mg-Mn-Al-Zn, MA8, superplastic deform., effective stresses *(Russian)* 7−53811
Mg-Sm-Zn system, phase equilib. 7−46413
Mg-Y, IMV6, fatigue crack growth and fracture microrelief, 293 and 140K 7−17614
Mg-Zn, glassy, low temp. resist. anomaly, two-level systems, incipient localisation and electron correl. effects 7−2570
Mg-Zn metallic glasses, room temp. stability, crystallisation and precipitation 7−11931
Mg-Zn rapidly solidified alloys, mech. props. 7−22711
Mg_2Ni dehydriding kinetic rates, use as H_2 storage material 7−54363
Mg_2NiH_x, structural transition, DSC obs. 7−59510
$Mg_{70}Zn_{30}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
$Mg_{70}Zn_{30}$ and $(Mg_{70}Zn_{30})_{95}Pb_5$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7−38148
$Mg_{76}Zn_{24}$, amorphous, crystn., X-ray small angle scatt. 7−11935
MgZnSn, glass forming ability, intermetallic cpd. effect, X-ray and Mossbauer investig. 7−52050
Ni-Mo-Cu-Fe-Mg, coarse-grained PC permalloys, annealing-twin density *(Japanese)* 7−3330
Pb-Al-Mg-Sn-Li, strength and microstruct. 7−8047
SiC fibre reinforced Al-Mg, thermal residual stress 7−63848
SiC particle reinforced Al-Cu-Mg composite, failure mechanism, SEM obs. 7−65132
Zn-Al-Mg alloy, defect and grain boundary diffusion-controlled positron trapping study 7−39301

magnesium compounds
see also magnesium alloys
cordierite, electron beam induced phase decomposition 7−13796
cordierite glass and glass-ceramic, comparative single-point diamond scratching behaviour 7−46654
enstatite, electron beam induced phase decomposition 7−13796
forsterite, elastic props., theoretical modelling, polyhedral approach 7−38091
MgO films, prep. by RF sputtering, orientation and microstruct. *(Japanese)* 7−22480
MgO-monticellite ceramic, high resoln. TEM and STEM study 7−22738
poly(styrenesulphonate)s, enthalpy of dilution, large dielectric constant solvent 7−21483
salts, ion-molecule interactions in DMF, IR spectrosc. obs. 7−10584
sialon, SIMS 7−9919
surface, (100), atomic-level surface features studied by an electron-microscopic technique 7−6939
ZrO_2-MgO electrolyte mixed ionic and electronic conduction obs. 7−2644
Al-Al_2O_3-MgO, cast particulate composites, microstruct. and mech. props. 7−65086
Al-Mg spinel, substrate, resonance Raman scattering of Si film 7−64017
Al_2O_3-MgO, diphasic xerogels, densification, sintering, isostructural seed, epitaxy 7−27987
Al_2O_3-MgO-TiO_2-Na_2O system, sintering and creep, Na_2O influence, Cable and Reijnen-Readley models *(German, English)* 7−7933
Al_2O_3-SiO_2-Fe_2O_3-CaO-MgO-Na_2O-K_2O glass batch melting, interaction between solid, liq. and gas 7−7946
$BaMg_2Fe_{16}O_{27}$, Curie temp., magnetization, susceptibility, mag. anisotropy meas. *(French)* 7−27507
$BaMg_2Fe_{16}O_{27}$, hexagonal ferrites, neutron diffr. studies 7−45622
BaO-MgO-P_2O_5 glasses, internal friction investig. 7−6721
$BeAl_2O_4$-$MgAl_2O_4$ pseudo-binary system, phase relations *(Japanese)* 7−16721
$CaMg(B_3O_4(OH)_3)_2.3H_2O$, hydroboracite, thermal expansion 7−63850
$(Ca_{1.1}Mg_{0.5}Fe_{0.3}Mn_{0.1})(CO_3)_2$, ankerite, ^{57}Mossbauer spectra relax. rates 7−27640
$Ca_{18}Mg_2H_2(PO_4)_{14}$, whitlockite, cryst. growth 7−53528
$CaMgSi_2O_6$ - $CaFeSi_2O_6$, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7−59289
$CaMgSi_2O_6$, diopside, thermal expansion and glass transition, quenched defects effects 7−12333
$CaMnGe_2O_6$-$Ca_{0.5}Mn_{0.5}SiO_3$ cross section of $CaSiO_3$-$MnSiO_3$-$MnGeO_3$-$CaGeO_3$ system 7−2213
CaO-MgO-P_2O_5 glasses, internal friction investig. 7−6721
Cd_x Mg_{1-x} PS_3, IR, visible and UV spectra, dilution and intercalation effects 7−13175
$Co_xMg_{1-x}O$, Neel temp., var. with mag. dilution 7−27516
Cr,Nd:$LaMgAl_{11}O_{19}$ laser material, optical props. 7−10958

magnesium compounds continued
CuO and magnesia ceramic, direct bonding region, thermal resistance 7−37395
Fe-Mg-Si-O system, phase equilibria at high press. and temp., thermochemical data base 7−21407
$(FeMg)_2SiO_4$, oligoclase, high fluence D implantation, trapping and desorption, saturation conc. studies 7−26781
$(FeMg)_2SiO_4$, spinel growth, interface struct. investig. 7−16566
FeO_2-CaO-MgO-BaO-Na_2O, wustite solid solns., interdiffusion coeffs., 1073-1473K *(Japanese)* 7−12357
HfO_2-MgO system massive vacuum condensates, structure *(Ukrainian)* 7−12527
$In_{2-x}Sn_xO_{3-y}$-WO_3-MgF_2-Au, electrochromic coatings for solar windows 7−53621
$KMgF_3$:Dy^{3+}, ligand hyperfine interaction of Dy^{3+}, ENDOR 7−22163
$KNi_xMg_{1-x}F_3$, nuclear spin-lattice relax., NMR studies 7−64542
$LaMgAl_{11}O_{19}$, elastic and anharmonic props., acoustic meas. 7−44706
$LaMgAl_{11}O_{19}$:Nd(Eu), single cryst., phys. chem. and spectrosc. props. 7−13185
$LaMgAl_{11}O_{19}$-$LaMgGa_{11}O_{19}$-$LaMgFe_{11}O_{19}$ system, solid solns, 7−39491
Li-Na-K-CO_3/MgO salt/ceramic phase change material for high temp. thermal storage, thermoanalytic investigation 7−65631
$Li_{2+x}(Li_xMg_{1-x}Sn_3)O_8$, ramsdellite type cpds., ionic conductivity and cryst. chemistry 7−32708
$Li_2Mg_{1-x}Fe_{2x}Sn_{3-x}O_8$, ramsdellite type cpds., ionic conductivity and cryst. chemistry 7−32708
$Li_{0.6}Mg_{0.29}Ti_{2.2}O_5$, crystal struct. refinement 7−44467
$Li_{2x}Mg_{1.5-x}VO_4$ solid soln. phase, synthesis, stoichiometry and struct. 7−21168
$LiNbO_3$:MgO, melt growth and charactn. 7−58170
Li_2O-MgO-B_2O_3:VO^{2+}, borate glasses, ESR of VO^{2+} ion 7−59110
Li_2O-MgO(CaO)-Al_2O_3-SiO_2, multicomponent glasses, sequence of cryst. phases 7−26648
$(Mg,Fe)SiO_3$, hypersthene, Mossbauer spectra of Fe^{2+}, electronic spin relax. 7−33307
Mg complex + H_2O, intermolecular potential functions, additivity 7−10699
$MgAl_2O_4$ 7−30014
$MgAl_2O_4$, Ar^+ ion irrad., XPS and RBS characterisation 7−32514
$MgAl_2O_4$, neutron irrad., microstruct., mech. props. 7−51843
$MgAl_2O_4$, particle shape of plasma sprayed oxides, SEM obs. 7−2403
$MgAl_2O_4$ spinel, electron irradiation, Mg depletion, cubic γ-alumina form. and microcracking 7−26802
$MgAl_2O_4$ spinel, preparation and IR optical applications 7−37066
$MgAl_2O_4$, spinel single cryst., low dose neutron irrad., swelling, defect interaction 7−51842
$MgAl_2O_4$ stoichiometric spinel, electron beam-induced diffusion, cracking and phase separation 7−16641
$MgAl_2O_4$:He spinel, implanted, high temp. electron irrad., structural damage 7−51829
$MgAl_2O_4$:Ni^{2+}, Czochralski growth and optical props. 7−59406
$Mg_2Al_2Si_5O_{18}$, cordierite, electron-irradiation induced amorphism 7−32505
$Mg_2Al_4Si_5O_{18}$ and solid solutions, thermal expansion *(Japanese)* 7−21496
$MgBH_4{}^+$, relative energy characts., electronic correl. in ab initio calcs. 7−15528
$Mg_xCd_{1-x}Se$ single cryst. solid solns., local centres parameters determ. *(Russian)* 7−32953
$Mg_xCd_{1-x}Se$ single crysts., impurity photocurrent temp. activation meas. and calcs. *(Russian)* 7−45394
$MgCl_2$ diffusion through polycarbonate nucleopore membranes 7−3603
$MgCl_2$-$CaCl_2$ melts, thermodynamic props. 7−26977
$MgCo_2O_4$, fine-particles, low temp. prep. by solid solution precursor method 7−59486
$Mg_{1-x}Cr_xFe_2O_4$, Barkhausen noise parameters correl. with strength 7−22963
$MgCr_2O_4$, cation distribution, temp. depend. normality *(Korean)* 7−32404
$MgCu_2$, standard molar Gibbs free energies calc. 7−44778
Mg_2Cu, standard molar Gibbs free energies calc. 7−44778
MgF_2, colour centres, luminesc. study 7−39172
MgF_2 cryst., electronic colour centres, UV absorpt. and luminesc. study 7−39174
MgF_2, evaporation material, wide band pass filters, multiple Fabry-Perot interference filter struct. *(Korean)* 7−25943
MgF_2 films, mech. props., relation between different quantities 7−8041
MgF_2 films deposited on fused SiO_2 with ion beam assistance, adhesion, internal stresses 7−21749
MgF_2 molecules, ultrasoft X-ray emission spectra studies 7−10615
MgF_2 polarisation analyser, high transmission for Lyman-α radiation 7−57526
MgF_2 single crysts., positronium effective mass and phonon interactions, annihilation γ-rays ang. correl. meas. 7−45234
MgF_2, stress corrosion, crack tip, dissociative chemisorpt. 7−33812
MgF_2 thick vapour deposited multiple layer coating, growth structures 7−58670
MgF_2:Co laser, mode locking and Q-switching by loss-modulation freq detuning 7−62711
MgF_2-Al Schottky detectors, frequency and polarisation-selective 7−41470
MgF_2-MF_2 mixtures, (M=Ca,Sr,Ba), films, prep., physicochemical and optical props. 7−3178
Mg_2FeH_6 cryst. complexes, Madelung field effects, quantum chem. calcs. 7−11984
$MgFe_2O_4$, mag. props., depend. on preparation method 7−13066
$MgFe_2O_4$, photoelectrochemical props., effect of defects and doping 7−45385
$Mg_7Ga_2GeO_{12}$, spinelloid related cpd., cryst. struct., powder X-ray diffr. determ. 7−63564
$MgGa_2O_4$-Mg_2GeO_4 system, spinelloid phases charact. 7−37946
Mg_2Ge, Hall effect in solid and liq. states 7−38647
MgH in super metal rich stars, Mg isotopic characts. determ. 7−60645
MgH, predissoc., Feshbach reson., semiclassical complex-energy quantisation 7−42705
MgH^+, orbital energies, multipole moments and electric field gradients, HF calcs. 7−62270
MgH_2, collisional redistrib. profiles meas. 7−42525
MgH_2, cryst. imperfection obs., TEM 7−32445
MgH_2-$LaH_{2.8}$ hydrides, H diffusion coeff., NMR studies 7−32705
MgHe, collisional redistrib. profiles meas. 7−42525
$Mg_{1-x}Mn_xFe_2O_4$, outside spin wave manifold effective linewidth values, effect of dimensional reson. 7−53146

magnesium compounds continued
$Mg(NH_4)_2(SO_4)_2.6H_2O$, EPR of Mn^{2+}, Mn^{2+}-Fe^{2+} exchange interaction 7—2924
$Mg_{0.98}Na_{0.02}Fe_2O_4$, spinel struct., EXAFS and XANES studies, humidity sensor appls. 7—64784
Mg_2NiH_4 cryst. complexes, Madelung field effects, quantum chem. calcs. 7—11984
Mg_2NiH_4, struct., thermal and elec. props., rel. to covalent bonding 7—21184
Mg_2NiH_4, twinning at unit cell level, low temp. phase, electron microscopy study 7—26762
MgO (001), ab initio Hartree-Fock calcs. 7—27378
MgO (001), initial stages of Cu deposition, EELS 7—63959
MgO (100), adsorbed two dimens. phases *(French)* 7—21620
MgO (100), LEED intensities, quasidynamical approx. calc. 7—12428
MgO, $a^3\Pi$ and $d^3\Delta$ states, high resolution laser fluoresc. spectra 7—8252
MgO, adsorption induced luminescence, O atomic and mol. beams 7—13231
MgO, appl. of high temperature compression creep equipment for low stresses 7—17751
MgO barrier MIM structures, IETS study 7—12878
MgO bicrystals, (110) tilt boundaries and (100) twist boundaries *(Japanese)* 7—21232
MgO, cation solute segregation to surface 7—21593
MgO coating on amorphous $Co_{70.4}Fe_{4.6}Si_{15}B_{10}$ alloy, mag. props. 7—22123
MgO compacts, sintering, densification and porosity rel. to $Mg_3(PO_4)_2$ additions 7—17505
MgO crystal surface, defocussed dark-field electron microscope images 7—6485
MgO, deformed and annealed, red cathodoluminescence spectrum 7—27792
MgO, directional Compton profiles and autocorrelation function 7—3103
MgO, dopant profiles modification due to surface and interface modifications 7—58306
MgO, electron irrad., stored energy, differential thermal anal. studies 7—32503
MgO, energy spectra meas. of secondary electrons for controlled emission 7—39340
MgO films, ion secondary electron emission 7—22416
MgO, hydrostatic pressure dependence obs. of thermal conductivity and heat capacity 7—306
MgO, ion-induced Auger electron emission under shadowing conditions 7—64841
MgO, minerals, shock induced radiation 7—27694
MgO, positron lifetime spectra, impurity effects 7—39278
MgO, proton-irradiated, cross-stabilisation of Frenkel defects 7—44627
MgO single cryst. substrates, Rh and Cu epitaxial film struct. and surface purity study 7—16896
MgO single crystals, high temp. creep and dislocation struct. at low stresses 7—21336
MgO, single crystals, IR absorpt. and transmission spectra study 7—53305
MgO single crystals, vibr. polishing in water 7—3479
MgO, sinterability, microstruct. changes during sintering 7—22624
MgO, sinterability, prep. and charactn. of sample powder 7—22623
MgO smoke particles, energy filtered imaging by scanning CTEM technique 7—22404
MgO sputtered coatings on metal substrates, adhesion and structural props. 7—52337
MgO, strain derivatives of dielec. constants 7—17259
MgO surfaces, Cu films, epitaxial and electronic structures, LEED, AES, and EELS studies 7—52352
MgO, wear behaviour, cathodolum. mode appl. in SEM 7—8228
MgO, with chemisorbed O_2, photostimulated desorption 7—27107
MgO:Al crystals, cathodolum., effect of heat treatment 7—7767
MgO:C, single crystals, solute C and C segregation, SIMS study 7—16759
MgO:C, single crystals, solute C and C segregation, SIMS study 7—16761
MgO:C single crystals, solute C and C segregation, SIMS study 7—16760
$MgO:Ca^{2+}$ (100), entropy of segregation calcs. 7—2323
MgO:Cr, Cr^{3+} absorption spectrum, spin-orbit interaction effects 7—13182
MgO:Fe, gamma irrad., thermoluminescence and TSC studies 7—33464
MgO:Fe, gamma-ray and electron radiation-induced conductivity 7—33015
MgO:Fe, small angle [001] twist boundaries, Fe solute effect 7—32459
MgO:H, C single crystals, ion implanted, C and H diffusion behaviour, SIMS studies 7—32714
MgO:Na, ion implanted single crystals, HREM obs. 7—12292
MgO-Al_2O_3 ceramic coatings, thermo-sprayed, microstruct. studies *(Japanese)* 7—22628
MgO-Al_2O_3-SiO_2, leucosapphire, crystal growth by directional crystn., gas inclusions formation 7—33539
MgO-Al_2O_3-SiO_2 glass-ceramics, nucleation crystallisation, modulus of rupture, acousto-US obs. 7—59723
MgO-Al_2O_3-SiO_2-GeO_2 cordierite ceramics, sintering, microstruct., thermal props. 7—52088
MgO-Al_2O_3-SiO_2-ZrO_2, low thermal expansion dec. insulators 7—2237
MgO-CaO, activated sintering, densification, microstruct. *(Chinese)* 7—13410
MgO-Cr_2O_3-ZrO_2 system, subsolidus, high temp. phase relation 7—17519
MgO-FeO, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7—59289
MgO-Ga_2O_3-Fe_2O_3 system, precipitation of $Ga_{2-x}Fe_xO_3$ *(French)* 7—6798
MgO-$LiFeO_2$, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7—59289
MgO-M_2O_3-ZrO_2 7—17519
MgO-Na_2O-B_2O_3 glasses, FIR spectra 7—39123
MgO-$NiFe_2O_4$ sputtered films, struct., comp., AES study 7—22478
MgO-SiO_2 high-temperature composites, calcination temp. and mech. strength 7—33651
MgO-SiO_2 melt, struct. study 7—58142
MgO-SiO_2 systems, liq. immiscibility 7—6807
MgO-ZrO_2, dispersed, phase transform., toughening 7—65034
$MgO(Al_2O_3)_2$ spinel, first-order twin boundaries struct., TEM obs. and computer simulation studies 7—51782
$MgO(Al_2O_3)_2$ spinel, lateral twin boundaries struct., electron microscopy obs. and computer simulation studies 7—51783

magnesium compounds continued
$MgO(Al_2O_3)_n$, electron beam irrad., point defect aggregation, screw dislocation climb 7—63662
$MgO.Al_2O_3$ epitaxial film substrate for Si solid phase epitaxy 7—38399
$Mg_3(PO_4)_2.8H_2O$, synthetic, and bobierrite, cryst. structures 7—32376
Mg_2Pb, Hall effect in solid and liq. states 7—38647
$MgS:Sm^{3+}$, photolum. of Sm^{3+} ions 7—59246
$MgSO_3.6H_2O$, deform. electron density, X-ray and neutron diffr. studies 7—44459
Mg_2Si antifluorite semicond., electronic struct. calcs. 7—12608
Mg_2Si, Hall effect in solid and liq. states 7—38647
$Mg_2Si(Ge)(Sn)$, anharmonic effects, first order Raman scatt. studies 7—58429
$MgSiO_3$, perovskite type, cryst. struct., lattice dynamics and eqn. of state 7—58248
Mg_2SiO_4, fosterite-based ceramic with BaO addition, synthesis, sintering, struct. and props. 7—46397
Mg_2SiO_4, laser-heated, temp. distrib. meas. 7—9837
Mg_2SiO_4 single cryst., ^{17}O nuclear quadrupole coupling tensors determ. 7—13057
$Mg_2SiO_4:V$, forsterite, high temp. deform., creep study 7—21332
$Mg_2SiO_4:V$ forsterite single crysts., creep, 1571-1923K 7—33731
$Mg_2Si_2O_6$-$CaMgSi_2O_6$ system, solid solutions, dilatometry and elec. conductivity meas. 7—2175
Mg_2Sn, Hall effect in solid and liq. states 7—38647
$MgWO_4.2H_2O$, cryst. struct., topotactic dehydration, X-ray powder diffr. study 7—32393
$MgX_4{}^{2-}$, (X=Cl, Br, I), force consts., vibrational anal. 7—5651
$Mg_xZn_{1-x}Te$-In Schottky barriers, C-V and photoelec. studies 7—64307
β''-$Na_{1+x}Mg_xAl_{11-x}O_{17}$ based multivalent β''-aluminas, synthesis 7—33628
Na_2O-(MgO, NaO)-GeO_2-H_2O system, crystallisation of fibrous (Mg, Ni) germanates 7—2153
Na_2O-Y_2O_3-MgO-SiO_2 glass, Na^+ conductivity 7—52134
$Na_{1+x}Zr_{2-(x/2)}Mg_{(x/2)}(PO_4)_3$ solid soln., cryst. chemistry and ionic cond. studies 7—32408
Nd_2MgTiO_6, cryst. struct., Rietveld refinement of neutron powder diffr. data 7—26705
Ni-MgO, diffusion processes and interphase boundary morphology 7—16817
$Rb_2Mg(SO_4)_26H_2O:CO^{2+}$ optical absorption spectrum 7—13180
$Rb_2Mg(SO_4)_2.6H_2O:Cu^{2+}$, electronic and EPR spectra 7—13019
Si_3N_4, with MgO addition, phys. and tribological props., effect of hot-pressing time *(Japanese)* 7—65150
$Si_3N_4:Mg_2O_3$, deformed, microstructural changes, creep mechanisms 7—46591
Si_3N_4-ZrO_2 composites, thermal instability 7—28158
SiO-K_2O-CaO-MgO-CdO glass melts, evaporation 7—2160
SiO_2-Al_2O_3-MgO-Cr_2O_3 glass, magnetism of spinel microcrystals, ESR study 7—27594
SiO_2-Al_2O_3-MgO-TiO_2-Cr_2O_3 based glass ceramics, Cr^{3+} laser emission and excitation spectra 7—22299
SiO_2-CaO-MgO-Na_2O glass, frequency dependent equation of state 7—51987
SiO_2-Na_2O-CaO-Al_2O_3-MgO glasses, heavy ion irradiation, enhanced diffusion, preferential sputtering 7—32523
SiO_2-Na_2O-CaO-MgO-Al_2O_3-BaO-FeO_3 glass, elec. field stimulated Na depletion 7—6897
SiO_2-Na_2O-CaO-MgO glass, reaction in isotopically labeled water, $D_2{}^{18}O$ 7—26993
SiO_2-Si_3N_4-MgF_2, multilayer nonabsorbing systems, multiple angle of incidence ellipsometric anal. 7—39203
SrO-MgO-P_2O_5 glasses, internal friction investig. 7—6721
$Y_{1-x}Mg_xCrO_3$, electrical and thermal transport props 7—45319
ZrO_2-MgO toughened ceramics, dry friction and wear against steel 7—8125
ZrO_2-MgO-P_2O_5 system, phase equilib. at 1573K 7—28023

magnetic aftereffect
amorphous ferromag. alloys, effects of stress on mag. permeability aftereffect 7—33221
Chua-type magnetisation model 7—33222
garnet films, Co-containing, domain-wall dynamics, magnetic after-effect 7—64504
Co, single crystal and polycrystalline, mag. relax. following electron irradiation 7—53067
Co-based metallic glasses, magnetic aftereffect and magnetostriction studies 7—27571
Co-rich amorphous ferromag. alloys, aftereffect of mag. permeability 7—33223
α-Fe, electron irradiated, residual resistivity recovery and mag. after-effect 7—27570
Fe-based metallic glasses, magnetic aftereffect and magnetostriction studies 7—27571
$Fe_{67}Co_{18}B_{14}S$ metallic glass, magnetic aftereffect, thermal treatment, positron lifetime study 7—38907
Fe_3O_4, magnetite, mag. after-effects at room temp. 7—64493
Ho_3Fe_4, amorphous ribbons, mag. props. 7—33177
NiCoFe ferrite, perminvar, wall displacements, induced anisotropy effect. 7—52968
$Y_3Fe_5O_{12}:Si$, band model of photoinduced magnetic effects 7—17214
$Zn_{1-x}Ge_xFe_2O_4$, ferrites, atomic, mag. and electronic disorder *(French)* 7—44477

magnetic amplifiers
α-Fe_2O_3 single crystal, backward surface wave, parametric instability and amplification 7—22128

magnetic anisotropy
see also induced anisotropy (magnetic)
3d- and 4f- metals, periodic spin structs., critical props. calcs. *(Russian)* 7—59031
actinide systems, moderately delocalised, mag. behaviour, anisotropy of crit. correlations 7—7474
alloy film, magnetostrictive, on glass substrate, magneto-SAW propag. 7—22127
amorphous ribbons, magnetostriction meas., SAMR method, anisotropy effects study 7—7580
anisotropic magnetic multilayers, magnetostatic surface spin wave spectra calcs. 7—45762
anisotropic magnetoresist., weak ferromagnets with cubic anisotropy, atomic d-state model calcs. 7—2577

magnetic anisotropy continued
- anisotropic spin chain, magnon bound state energy and wave functions, Dzyaloshinskii interactions *(Russian)* 7—7500
- antiferromagnet, anisotropic electron fluid, magnon spectrum and attenuation 7—59000
- antiferromagnet, easy-axis, magnetoelastic domain wall oscillations 7—38917
- antiferromagnet, magnon dynamic and kinematic interactions 7—64447
- antiferromagnets with easy-axis, nuclear spin relax. 7—17233
- $(BEDTTTF)_2AuCl_2$, antiferromag. ground state, AFMR meas. 7—27608
- $(BEDTTTF)_2ICl_2$, antiferromag. ground state, AFMR meas. 7—27608
- N-(p-n-butoxybenzylidene)p-n-ethylaniline, mag. susceptibility, anisotropy and order parameter 7—16416
- continuous-symm. ferromagnet, weak random anisotropy, wandering moments and resonances, perturbation calcs. 7—64451
- dimethylammonium manganese chloride, 1D antiferromagnet, nuclear spin-lattice relax., effect of nonlinear excitations 7—59122
- disordered mag. materials, competing anisotropy, micromagnetism approx. *(Russian)* 7—33163
- disordered spin systems, effective susceptibility exponent, nonmonotonic temp. depend. 7—64461
- easy-plane ferromagnets, different-ion anisotropy, arbitrary site spin, low temp. props. 7—33193
- ferrimagnetic alloys, amorphous, role of single-ion anisotropy 7—45661
- ferrite film structure, layered, anisotropic, dipole exchange spin waves 7—64494
- ferrite powders, RF echoes investig. *(Russian)* 7—22162
- ferrites, domain structure near the compensation temp. 7—7534
- ferromagnet, easy axis, ID Bloch wall stability analysis 7—45731
- ferromagnet, free energy, anisotropy and rotational invariance 7—59007
- ferromagnet, spin wave excitation by acoustic fields, non-uniformly distrib. dislocations *(Russian)* 7—45646
- ferromagnetic films, surface and guided magnetic polariton dispersion relations 7—38463
- ferromagnetic Heisenberg spin chain, compressible, static π-kink 7—53020
- ferromagnetic single-domain films with inclined anisotropy axis, magnetostatic spectrum 7—53092
- ferromagnetic superconductors, intermediate state and easy-axis mag. anisotropy 7—38831
- ferromagnetic superconductors, intermediate state and easy-plane magnetic anisotropy 7—38832
- ferromagnets, one-dimensional easy plane, quantum Monte Carlo and transfer-matrix calcs. 7—7468
- ferromagnets, solitons in arbitrary anisotropy systems *(Russian)* 7—45682
- fluids, liquid and frozen, magnetisation processes 7—59060
- garnet bubble films, H_2^+—implanted, thermal stability and aging 7—22124
- garnet epitaxial layers, Bloch line behaviour in an in-plane field 7—53101
- garnet films, $He^+(H_2^+)$ implanted, magnetisation and uniaxial anisotropy meas. 7—7576
- graphite:B-Na intercalation cpd., Fermi level displacement, diamag. anisotropy and Hall effect meas. 7—16933
- Heisenberg antiferromagnets, multicritical points 7—27541
- Heisenberg ferromagnet, anisotropic, with biquadratic exchange 7—12987
- Heisenberg ferromagnet, interaction anisotropy influence on surface magnetism 7—52970
- Heisenberg ferromagnetic chain, bound states, correl. functions 7—64474
- hexagonal ferrites, influence of electric field on struct. and props., Mossbauer study 7—7616
- hexenylammonium copper tribromide, easy-plane ferromagnetic chains, sp. ht. and spin Hamiltonians, quantum statistics calcs. 7—64469
- Ising ferromagnet, with biquadratic exchange interaction and uniaxial anisotropy 7—17189
- Ising model on square superlattice, critical props., real space renormalisation group calcs. *(Chinese)* 7—27532
- Ising-like Heisenberg antiferromagnets on a triangular lattice, mag. props. 7—27540
- lyotropic nematic mesophase with benzenesulphonate solute, induced diamag. anisotropy sign reversal, PMR 7—21089
- magnetic chains, anisotropic, of arbitrary spin, Bethe ansatz for two-magnon bound states 7—53015
- magnetic semiconductors, anisotropic, narrow-band, elementary excitations 7—59001
- magnetoresistive sensors, highly sensitive, characts. 7—4872
- mechanical moment, anisotropy curves, harmonics amplitude calc. 7—2837
- metallic glasses, laser annealed struct. and magnetoelastic props., effects of surface characts. 7—45785
- metallic glasses, magnetic properties *(French)* 7—27515
- metallic molecules and cpds., magnetic moment formation and mag. susceptibility 7—58995
- microstructure analysis by mag. measurement 7—33166
- nematic liquid crysts., diamagnetic anisotropy meas. 7—38845
- noncollinear mag. material, antiferromag. mode relax., magnon damping *(Russian)* 7—7498
- oblique-deposited films, in-plane anisotropy axis switch 7—53084
- paramagnets, amorphous, van Vleck susceptibility 7—7472
- particulate magnetic recording tapes, hysteretic props. ang. depend. studies 7—53058
- Permalloy thin films heads, RF sputtered, mag. props. 7—33235
- permanent magnet materials, props., struct., exchange interactions 7—53053
- planar magnetic materials with biquadratic exchange, nonlinear magnetisation waves 7—17165
- rare earth alloys, $R_2(Fe,Al,Co)_{14}B$, mag. props., composition depend. 7—53030
- rare earth iron garnets, Bi-doped, growth-induced anisotropy 7—22103
- rare earth-Fe-B alloys, sintered permanent magnets, depend. of coercivity on anisotropy field 7—45744
- rocks, relation between mag. susceptibility and strain in laboratory expts. 7—66109
- spin glasses, anisotropy-induced Heisenberg-Ising crossover 7—38890
- spin Hamiltonian, anisotropic, one-sublattice, re-entrant phases 7—38873
- tetramethyltetraselenafulvalene salts, organic superconductors, antiferromag. anisotropy, SDW amplitude, nesting vector 7—22146
- thin films, mag. anisotropy, angular spatial dispersion *(Russian)* 7—2905
- transition metal-metalloid spin glasses, amorphous, EPR linewidth, theory 7—45805
- two dimensional Heisenberg model, easy-plane exchange anisotropy, Monte Carlo study 7—17196
- uniaxial antiferromagnet, two-dimens. mag. vortices, dynamical props. 7—53005

magnetic anisotropy continued
- uniaxial ferromagnets, magnetic moment kinetics, magnetic anisotropy, spin wave decay and dispersion calcs. *(Russian)* 7—17166
- weak ferromagnets, domain growth kinetics, Langevin eqns. study 7—59050
- Zener theory 7—7504
- AgMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7—7525
- $BaCo_2Fe_{16}O_{27}$, Curie temp., magnetization, susceptibility, mag. anisotropy meas. *(French)* 7—27507
- $BaFe_{12-x}Mn_xO_{19}$, Mn substitution effects on mag. props. *(Chinese)* 7—7486
- $BaFe_{12}O_{19}$ acicular media for perp. mag. recording, dynamic props. 7—59061
- $BaIn_{1.5}Fe_{10.5}O_{19}$ single crystals, magnetocrystalline anisotropy consts., anomalous temp. depend. 7—45664
- $BaMg_2Fe_{16}O_{27}$, Curie temp., magnetization, susceptibility, mag. anisotropy meas. *(French)* 7—27507
- $BaMnF_4$, 2D Heisenberg magnet, spin dynamics and EPR linewidth 7—38932
- $Ba_{0.1}Sr_{1.1}Ca_{0.8}Fe_{12}O_{19}$-$La_2O_3$, hexagonal ferrites, influence of electric field on struct. and props., Mossbauer study 7—7616
- $BaZn_{1.1}Co_{0.9}Fe_{16}O_{27}$ hexaferrite, competing anisotropies, first order magnetisation processes and spin transitions obs. 7—38856
- $Bi_3(GaFe)_5O_{12}$, epitaxial films, mag. and magnetooptical props. 7—53102
- CO-H system, magnetisation study 7—38901
- $CdCr_2Se_4$, photoferromagnetic effect, magnetic impurity effects, magnetisation reversal characts. meas. 7—17154
- Ce compounds, moderately delocalised, mag. behaviour, anisotropy of crit. correlations 7—7474
- CeAs, antiferromag., anisotropic exchange and spin dynamics, neutron study 7—33147
- $Ce_2Fe_{14}B$, anisotropy constants, temp. depend. *(Chinese)* 7—59003
- CeSb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7—33147
- $CeZn_2$, Kondo anomaly and metamagnetism 7—64234
- Co alloy, thin film disks, DC magnetron sputtered, anisotropy induced signal waveform modulation 7—33229
- Co metallic mag. film, mag. anisotropy field freq. dispersion 7—33240
- Co-CoO multilayered films, exchange anisotropy 7—27579
- Co-Cr films, continuous fabrication by sputtering, substrate degassing effects 7—27904
- Co-Cr films, mag. parameters, Brillouin light scattering study 7—53357
- Co-Cr films, sputter deposition, microstructure and its growth mechanism 7—27179
- Co-Cr films, sputter deposited, effects of additive gases on mag. props. 7—27575
- Co-Cr films for perpendicular mag. recording media, deposition in facing targets sputtering system 7—64899
- Co-Cr magnetic thin films, facing targets sputter deposition, microstruct. model 7—27905
- Co-Cr perpendicular recording media, props., effect of impurity gases 7—59069
- Co-Cr thin films, mag. props. and microstructure 7—27514
- Co-Gd-Tb-based thin films, properties and stability for magneto-optic recording 7—53075
- Co-Si-B amorphous alloys, mag. props., annealing effects 7—27513
- $Co_{100-x}B_x$ amorphous sputtered thin films, magnetic anisotropy origins 7—27583
- $CoCl_2$-graphite intercalation cpds., mag. susceptibility meas. 7—45638
- CoCr evaporated films, mag. props. 7—33225
- CoCr sputtered films, struct. and mag. props., role of atomic mobility during film growth 7—33224
- CoCr sputtered perpendicular recording media, with columnar microstruct., reversal mech. 7—7552
- CoCr thin films for recording media, perpendicular anisotropy 7—33202
- CoCr thin films on metallic underlayers, mag. characts. 7—27573
- CoCr-based thin films, growth and mag. props., nucleation layer effects 7—45065
- CoCrTa sputtered films, microstruct. and mag. props. studies 7—12575
- $Co_{74}Fe_6B_{20}$ amorphous sputtered thin films, magnetic anisotropy origins 7—27583
- CoFeCr sputtered films, struct. and mag. props. 7—27175
- $CoFe_2O_4$ (100)-textured thin films, anisotropy study 7—7568
- $CoFe_2O_4$ ferrite epitaxial layers, high coercivity *(Chinese)* 7—38908
- $(Co_{0.95}Fe_{0.05})_{75}Si_{15}B_{10}$ amorphous alloy, mag. saturation 7—45632
- $Co_{71}Fe_4Si_{15}B_{10}$ and $Co_{75}Si_{15}B_{10}$ amorphous alloys, mag. props., stress and annealing depend. 7—33250
- CoN_x thin films, magnetic props. 7—13008
- CoNiCr-Cr sputtered thin films, film struct., mag. props. 7—33227
- $Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromag. alloy struct., shock loading effects, mag. struct. anal. 7—2100
- $Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromagnet, prep. and struct. 7—22605
- CoO_x sputtered thin, annealing effects on mag. props. and structure, Co-CoO layer separation 7—27180
- CoPtTi thin films, magnetic and microstructural props. 7—33230
- $Cr_{1/3}NbS_2$, long-period helical spin struct. *(Japanese)* 7—45626
- $CsMnCl_3.2H_2O$,1D Heisenberg magnet, spin dynamics and EPR linewidth 7—38932
- $CsNiF_3$, easy-plane ferromagnetic chains, sp. ht. and spin Hamiltonians, quantum statistics calcs. 7—64469
- Cu-Mn spin glass, intrinsic remanent magnetisation and anisotropy energy, temp. depend. 7—45690
- $CuCl_2.2DMSO$, paramagnetic susceptibility of antiferromagnetic quantum chain 7—52997
- CuMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7—7525
- DgTb amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
- Dy-Y highly dil. alloys, mag. props. 7—7483
- DyFe alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
- DyFe amorphous alloys, local mag. anisotropy energy estimation 7—7503
- $DyLiFeO_3$, orthoferrite, mag. props. 7—2824
- a-DyNi, critical props. and universality class of disordered systems 7—2884
- $Dy_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7—27305
- $ErCo_3Ni_2$, ferrimag. cpds., mag. anisotropy, temp. depend. 7—64450
- $Er_2Fe_{14}B$ alloys, magnetic anisotropy and spin reorientations 7—38855
- ErIG, mag. prop. calc. 7—52977

magnetic anisotropy continued
- $Er_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7—27305
- $(Eu, Lu, La)_3Fe_5O_{12}$ films, gyromagnetic ratio, damping parameter and mag. anisotropy 7—45777
- $Eu_xY_{3-x}Fe_{5-y}Ga_yO_{12}$ LPE garnet films, ferromagnetic relax. meas. 7—38911
- Fe epitaxial films, mag. size effects 7—59081
- Fe sputtered films, mag. perpendicular anisotropy, Mossbauer studies 7—59076
- Fe ultra thin films, Brillouin scatt. 7—27728
- Fe-Al metastable alloy sputtered film, mag. props., comp. depend., X-ray diffr. and Mossbauer meas. 7—7559
- Fe-Al-Si, Sendust, magnetocrystalline anisotropy 7—33165
- Fe-Co-Cr-Mo alloys, electronic struct. and mag. props., X-ray spectra studies *(Russian)* 7—32902
- Fe-Co-Mn(V) films, ion beam sputtered, soft mag. props. 7—33237
- Fe-Co-Ni amorphous alloys, anisotropic magnetoresist. studies 7—58793
- Fe-Co-Ni cryst. alloys, anisotropic magnetoresist. studies 7—58794
- Fe-Cr-Co-Mo permanent magnet ribbons, mag. props., influence of modulated structure 7—53043
- Fe-Cu metastable alloy sputtered films, mag. props., X-ray diffr. and Mossbauer meas. 7—7560
- Fe-Dy-C high coercivity permanent magnet materials 7—2903
- Fe-Nd-B magnets, microstructure and mag. props. 7—53049
- Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, origin of high coercivity 7—27578
- Fe-Pt (36 at.%), cryst. struct., permanent mag. props. *(Japanese)* 7—53036
- Fe-Si (3 wt.%) bicrystals, domain struct. and magnetisation 7—12992
- Fe-Si (33 at.%), amorphous films, mag. anisotropy, effect of crystn. and deform. *(Russian)* 7—53088
- Fe-Si electrical steels, anisotropic cold-rolled, magnetisation characts. 7—12966
- Fe-Si-Al alloy single crystals, mag. props. *(Japanese)* 7—22104
- Fe-Si-Al films, magnetoelastic effect and anisotropy fields 7—59071
- $(Fe\text{-}B)_{85}Nd_{15}$ amorphous films, soft mag. props. 7—53077
- $Fe_{80}B_{14}Si_6$ amorphous ribbons, anisotropy of losses 7—45658
- $Fe_{81.5}B_{14.5}Si_4$, amorphous, mag. hyperfine fields under stress, Mossbauer study 7—22166
- $(FeCo)_{80}B_{20}$ amorphous ultrafine particles, mag. props. 7—53063
- $Fe_{1-x}Co_xCl_2$, random-field and competing-anisotropy effects, sp. ht. study 7—2872
- $(FeM)_{80}B_{14}Si_6$, M=Mn, Mo, V, glass, magnetoresistance 7—64203
- $Fe_{75}Mo_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7—11925
- $Fe_{3-2}N$ film, hexagonal, prep. by plasma reaction, mag. characts. 7—13380
- FeNi metallic mag. film, mag. anisotropy field freq. dispersion 7—33240
- $Fe_{40}Ni_{40}B_{20}$ amorphous thin films, coercive field, annealing effects 7—7553
- $Fe_{40}Ni_{38}Mo_4B_{16}Si_2$, ferromag. amorphous ribbons by field quenching technique, mag. anisotropy 7—33164
- $Fe_{75}Ni_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7—11925
- $\gamma\text{-}Fe_2O_3$ films, CVD deposited, uniaxial mag. anisotropy 7—33234
- Fe_3O_4 films, mag. anisotropy and magneto-optical props. 7—2910
- Fe_3O_4 particles in magnetic fluid, surface mag. props., Mossbauer spectra study 7—45756
- $Fe_{82}P_{11}B_7$ metallic glass, mag. anisotropy and correlated hyperfine interactions 7—7505
- $Fe_{1-x}Si_x$ amorphous films, Hall effect and mag. anisotropy 7—2911
- $Fe_{78}Si_9B_{12}$ amorphous alloys, surface crystallisation and mag. props. 7—51649
- $Fe_{0.458}Sn_{0.088}O_{0.454}$ film, mag. props., appl. in perpendicular mag. recording 7—59005
- $FeTiO_3$, oblique easy-axis antiferromag. neutron scatt. study of mag. excitations 7—45643
- Gd-Co, anisotropic ferrimagnets in high mag. fields 7—17200
- Gd-Fe evaporated amorphous alloy films, mag. props. and FMR behaviour studies 7—45825
- Gd-Tb-Co-Fe sputtered amorphous films, Kerr magneto-optical effect, anisotropy dispersion effects 7—38913
- $Gd_2\ (Co_{1-x}Mn_x)_{17}$, Co contribution to magnetocrystalline anisotropy, point charge model 7—45665
- GdCo and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
- GdCo-based glasses, double transition behaviour induced by anisotropy 7—22109
- GdCo(Fe) amorphous films with perpendicular anisotropy, Hall loop meas., mag. struct. studies 7—7205
- GdCoSi, amorphous film, mag. and magnetoopt. props., thickness depend. 7—33239
- $Gd_2Fe_{14}B$ alloys, magnetic anisotropy and spin reorientations 7—38855
- $GdFe_{1-x}Mn_xO_3$, orthoferrite, mag. behaviour characts. 7—45657
- $Gd_3Fe_5O_{12}$, initial permeability peak at low temperature 7—33212
- GdNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
- ^3He spins on exfoliated graphite surface, detection of ferromag. domains 7—38291
- $HgCr_2Se_4$ spinel magnetic semicond., electronic struct., elec. props., defects and ferromag. anisotropy 7—38857
- $HoCo_3Cu_2$, ferrimag. cpds., mag. anisotropy, temp. depend. 7—64450
- $Ho_2(CoFe)_{17}$ intermetallics, high field magnetisation studies 7—53038
- $Ho_2Fe_{14}B$ alloys, magnetic anisotropy and spin reorientations 7—38855
- $Ho_2Fe_{14}B$ single crystals. mag. anisotropy and magnetisation 7—27547
- HoNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
- $K_2Ni_{1-x}Fe_xF_4$, 2D random mixture with competing spin anisotropies, Mossbauer spectroscopy 7—59021
- $LiMo_xLi_{1-x}F_4$, dilute dipolar-coupled magnet, ferromagnetism, glassiness, metastability 7—22098
- Mn-Al-C, anisotropic permanent magnet, rotational hysteresis 7—53050
- MnBi ferromag. thin films, reversed micro-domain growth, magnitude-anisotropic dispersion 7—17205
- $MnCl_2$-graphite intercalation cpds., mag. susceptibility meas. 7—45638
- $(Mn_mFe_{1-m})_{100-x}Bi_x$ films, evaporated, structure and mag. props. *(Japanese)* 7—59077
- $MnPS_3$, layered cpd., mag. props. 7—52951
- $Mn_{0.61}Zn_{0.35}Fe_{2.04}O_4$ single cryst., low temp. acoustic props. anomalies, spin-reorientation transitions 7—51957
- Na, induced torque and CDW ground state 7—2838

magnetic anisotropy continued
- $(Nd,Tb)_{16.7}Fe_{75.5}B_{7.8}$, magnetisation meas., spin reorientation temp. 7—17161
- Nd-Fe-B based permanent magnets, hysteresis loop and mag. anisotropy 7—53031
- Nd-Fe-Co, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7—64496
- $Nd_2Fe_{14}B$ alloys, magnetic anisotropy and spin reorientations 7—38855
- $Nd_2Fe_{14}B$, magnetic props., H_2 absorption effects 7—38906
- $Nd_2Fe_{14}B$ permanent magnet, magnetic anisotropy consts. determ. from unsaturated torque curves 7—52973
- $Nd_2Fe_{14}B$ single crystals. mag. anisotropy and magnetisation 7—27547
- $Nd_2Fe_{14}B$ sputtered films, perpendicular anisotropy 7—53073
- NdFeBCoAl magnets, Curie temp., coercive force and magnetisation 7—52982
- $Nd_2Fe_{14-x-y}Co_xAl_yB$ alloys, permanent mag. props. 7—45755
- $Nd_2Fe_{14-x}Co_xB$ system, mag. phase transitions and anisotropy 7—27524
- $Nd_2Fe_{12-x}Mn_xCo_2B$, mag. props. 7—52946
- NdIG, mag. props. 7—45662
- $Nd_{2-x}R_xFe_{12}Co_2B$, mag. characts. 7—45670
- $Nd_2(Y_2)(Fe_{1-x}Al_x)_{14}B$, intrinsic and permanent mag. props. *(Chinese)* 7—13003
- $Nd_xY_{3-x}Fe_5O_{12}$, garnets, growth anisotropy, Mossbauer study 7—38973
- Ni epitaxial films and interfaces with Cu and Pd, mag. size effects 7—59081
- Ni-Mn disordered alloys, ferro-spin-glass domain model calcs. 7—59025
- Ni-Zn ferrite and Ni ferrite films, prep., mag. props. 7—13378
- $NiFe_2O_4$ films, amorphous, uniaxial perp. mag. anisotropy, substrate temp. depend; 100 to 573K *(Japanese)* 7—53091
- Pr-Fe, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7—64496
- $Pr_2\ Fe_{14-x}\ Co_x\ B$ system, struct. and magnetism 7—45631
- $PrCo_{4-x}Fe_xB$, crystallographic and mag. props. 7—45671
- $Pr_2(Fe_{1-x}Co_x)_{14}B$, mag. props. 7—64549
- PrIG, mag. props. 7—45662
- $Pr_{2-x}R_xFe_{12}Co_2B$, (R=Dy, Tb), mag. characts. 7—45670
- $Pr_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7—27305
- $Pr_xY_{3-x}Fe_5O_{12}$, garnets, growth anisotropy, Mossbauer study 7—38973
- PuSb, moderately delocalised f-electrons,, anisotropic mag. behaviour 7—12968
- R-Co, 4f Co rich intermetallics, basal plane magnetocrystalline anisotropy 7—52972
- RCo_5, (R=Tb,Dy,Ho, Pr,Nd,Ce,Sm,Gd,Er,Tm,Yb), magnetocrystalline anisotropy, rare earth contribution 7—45659
- $R_2Fe_{14-x}Mn_xB$ (R ≡ Y, Nd, Pr, Gd), mag. characts. 7—27523
- $R_2Fe_{12-x}Mn_xCo_2B$ (R ≡ Pr, Gd), mag. props. 7—27500
- Rb_2MnCl_4, quasi-2D uniaxial antiferromagnet, mag. phase diagram 7—7517
- $Rb_2Mn_xCr_{1-x}Cl_4$ mixed crystals, mag. props. 7—2897
- $SiO_2\text{-}Al_2O_3\text{-}MgO\text{-}Cr_2O_3$ glass, magnetism of spinel microcrystals, ESR study 7—27594
- $SrFe_{12}O_{19}$, mm wave magnetic and dielec. resonances 7—53139
- Tb-Co thin films preparation for erasable optical memory disk *(Japanese)* 7—7049
- a-Tb-Fe/Ni-Fe-Mo bilayer films, unidirectional anisotropy 7—59065
- TbAg amorphous alloys, local mag. anisotropy energy estimation 7—7503
- TbCo, amorphous sputtered films, mag. props., film struct., comp., internal stress meas. *(Japanese)* 7—7570
- TbCo film, optical disc memory struct., mag. props., underlayer film treatment effect 7—45767
- TbCo sputtered films, stability of mag. and magneto-optical props. *(Japanese)* 7—33241
- $Tb_{0.3}Dy_{0.5}Er_{0.2}Fe_2$, spin reorientation, Mossbauer study 7—13068
- TbFe amorphous alloys, local mag. anisotropy energy estimation 7—7503
- TbFe amorphous alloys, magneto-optical props. and mag. anisotropy 7—27706
- TbFe and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
- $Tb_{31}Fe_{69}$ amorphous films, mag. props. and domains, substrate temp. effects 7—13011
- $a\text{-}Tb_{64}Fe_{20}Ga_{16}$, mag. phase transition behaviour in random anisotropy system 7—2864
- $TbGe_{1-x}Si_x$, first-order mag. phase transition, neutron diffr., mag. struct. study 7—45673
- TbNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
- tetramethyltetrathiafulvalene salts, organic superconductors, antiferromag. anisotropy, SDW amplitude, nesting vector 7—22146
- Ti-N-Permalloy ferromag. multilayers, prep. and props. 7—64497
- U-based mag. alloys, mag. props. and electronic struct. *(Russian)* 7—12967
- U-Co system, mag. props., influence of hydriding 7—45750
- U-Cu-P(As), ternary particles, cryst. struct. and mag. props. 7—12955
- U-Ni-As(P), ternary particles, cryst. struct. and mag. props. 7—12955
- USb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7—33147
- UX_3 (XLL=S,Se,Te), trichalcogenides, mag. susceptibility study 7—12958
- $(Y,Gd)_3Fe_5O_{12}$:Mn, thin films, noncubic mag. anisotropy origin 7—53068
- $Y_2\ (Co_{1-x}Mn_x)_{17}$, Co contribution to magnetocrystalline anisotropy, point charge model 7—45665
- $(YBi)_3(FeGa)_5O_{12}$, epitaxial films, mag. bubble lattices, influence of external stresses 7—64503
- YCo_x, ferromag. resonance, local Co anisotropy effects 7—53143
- $Y_2Co_7H_x$ hydrides, cryst. struct. and mag. props., H effects *(Russian)* 7—44468
- $Y(Co_xNi_{1-x})_5$, magnetocrystalline anisotropy studies *(Russian)* 7—45656
- $Y(Dy)(Er)_{2-x}Th_xFe_{14}B$ alloys, mag. props., comp. depend. study 7—7492
- $(YEuTmCa)_3(FeGe)_5O_{12}$ films, planar anisotropy and magnetisation, ion irrad. effects study 7—2906
- $Y_2(Fe,Al,Co)_{14}B$, mag. props., composition depend. 7—53030
- $Y_2Fe_{14}B$, magnetic props., H_2 absorption effects 7—38906
- $Y_2Fe(Co)_{14}B$ alloys, magnetic anisotropy and spin reorientations 7—38855
- $Y_2Fe_{14-x}Si(Cu)B$ alloys, mag. props. 7—45681
- YH_x system, mag. susceptibility and electronic struct. *(Russian)* 7—58988
- YIG films, low dose ion implanted, magnetostatic backward vol. waves 7—45765
- YIG powder, FMR line shape, test of independent powder particle model 7—64533

magnetic anisotropy continued
YIG:La,Ga-YIG:La double layered film, different magnetisation and anisotropy, magnetostatic mode spectra 7−64498
YIG:Si epitaxial films, mag. anisotropy and spin reorientation under unpolarised white light irrad. *(Russian)* 7−33246
$YLiFeO_3$, orthoferrite, mag. props. 7−2824
$(YSmLuGd)_3(FeGa)_5O_{12}$ garnet film struct. and mag. props., mag. bubble memory appls. *(Japanese)* 7−7575
$Yb_2Fe_{14}B$, exchange and cryst. field interactions 7−27512
$ZrTe_5$, thermal and mag. meas. 7−44932

magnetic annealing
see also induced anisotropy (magnetic)
magnetoresistive sensors, highly sensitive, characts. 7−4872
spinodal systems, nonlinear theory of mag. ageing 7−3344
Co-Cr thin films, sputter etching and annealing, FMR study 7−59112
Co-Si-B amorphous alloys, mag. props., annealing effects 7−27513
Co-Zr(Ti) amorphous films, induced anisotropy, relax. process 7−53080
$Co_{100-x}B_x$ amorphous sputtered thin films, magnetic anisotropy origins 7−27583
$Co_{74}Fe_6B_{20}$ amorphous sputtered thin films, magnetic anisotropy origins 7−27583
$CoNbTi/SiO_2$ amorphous layered films, high freq. permeability 7−53078
Fe-based thin films, saturation magnetisation and coercive force 7−59074
Fe-Cr-Co permanent magnetic alloys, casting 7−53051
Fe-Cu-Ni, FCC ternary alloys, mag. props. 7−22852
$(FeCo)_{80}B_{20}$ amorphous ultrafine particles, mag. props. 7−53063
$Fe_{80-x}Cr_x(SiB)_{20}$ amorphous alloy, induced anisotropy, melt spinning effects *(Russian)* 7−59004
Mn-Ga, amorphous film, prep. by ionised cluster beam deposition 7−3205

magnetic bays *see geomagnetic variations*

magnetic birefringence *see magneto-optical effects*

magnetic bottles
see also magnetic mirrors
No entries

magnetic breakdown
metals, dielec. const. giant quantum oscills. under coherent magnetic breakdown *(Russian)* 7−53216
metals, longitudinal sound absorpt. oscills. orientation anomalies under magnetic breakdown *(Russian)* 7−51955
Peierls structural phase transition in 2D conductors, mag. breakdown 7−12588
Cu, thick proximity induced superconductor, mag. field effects, thickness and temp. depend. 7−52903

magnetic bubble devices
applications and development, review 7−17209
ion-implanted devices, bubble generation mechanism 7−59082
magnetics conference, Phoenix, AZ, USA (April 1986) 7−29572

magnetic bubble memories
Bloch line pair propag. using in-plane mag. field 7−59086
garnets, ferrimagnetic, vertical Bloch line motion, memory appls. 7−53024
vertical Bloch line propag. under pot. well by cond. current 7−59088
$(YLuBi)_3(FeGa)_5O_{12}$:Ne^+ films, stripe domain stabilisation by ion implantation 7−53100
$(YSmLuCa)_3(FeGe)_5O_{12}$, film, stripe domain stabilisation for Bloch line memory 7−59087
$(YSmLuGd)_3(FeGa)_5O_{12}$ garnet film struct. and mag. props., mag. bubble memory appls. *(Japanese)* 7−7575

magnetic bubbles
see also magnetic bubble devices
Bloch line and Bloch wall dynamics, computer simulation using lumped-constant model 7−59090
Bloch line pair propag. using in-plane mag. field 7−59086
bubble garnet films, coercive force determ., microwave absorpt. meas. 7−59096
domain wall motion, computer simulation 7−53099
dynamic collapse, computer simulation 7−17207
ferrites, domain structure near the compensation temp. 7−7534
films, coercive force control mechanism *(Russian)* 7−45776
films, domain wall struct. in external mag. field *(Russian)* 7−7573
garnet bubble films, H_2^+−implanted, thermal stability and aging 7−22124
garnet bubble films, H_2^+-implanted, H out-diffusion suppression of overlayers 7−38259
garnet epitaxial layers, Bloch line behaviour in an in-plane field 7−53101
garnet film, strip domain stretching, computer simulation 7−59083
garnet films, $He^+(H_2^+)$ implanted, magnetisation and uniaxial anisotropy meas. 7−7576
garnets, bubble materials, stripe domain structures, undulation instabilities 7−59097
ion-implanted devices, bubble generation mechanism 7−59082
magnetics conference, Phoenix, AZ, USA (April 1986) 7−29572
permalloy disk, cylindrical magnetic bubble dynamics calcs. *(Russian)* 7−17210
translational motion, exchange relax. effects *(Russian)* 7−17206
vertical Bloch line dynamics, lumped const. model, numerical stability 7−59094
vertical Bloch line pair, lumped const. model 7−59093
vertical Bloch line propag. by bias pulse, pot. well form. using high-coercivity film 7−59085
vertical Bloch line propag. under pot. well by cond. current 7−59088
vertical Bloch line propagation at multiple stripe domain heads 7−59089
vertical Bloch lines, lumped const. and distributed models 7−59092
vertical Bloch lines and mag. domain walls, 1D anal. 7−59091
$(YSmLuCa)_3(FeGe)_5O_{12}$, bubble lattice, magnetisation curves 7−53094
$(BiDySmLu)_3(FeAl)_5O_{12}$ bubble garnet films, Bi-substituted, LPE growth rate reduction 7−45049
$(BiDySmLuGd)_3(FeGa)_5O_{12}$ bubble garnet films, Bi-substituted, LPE growth rate reduction 7−45049
$Bi_3(GaFe)_5O_{12}$, epitaxial films, mag. and magnetooptical props. 7−53102
$(BiLu)_3(FeGa)_5O_{12}$ film, magnetic bubble motion, Rayleigh surface wave effects 7−33245
$(BiYSmTbGdHoCa)_3(FeSiGe)_5O_{12}$ bubble films, rare earth substitution effects 7−59095
Fe garnet epitaxial films, near a nonmagnetic metallic disk, domain struct., mech. stress effects 7−38922
$SmLu(FeGa)_5O_{12}$ films, with submicron domain structures, mag. inhomogeneity 7−45782

magnetic bubbles continued
$(SmLuGd)_3(FeGaSc)_5O_{12}$ films, with submicron domain structures, mag. inhomogeneity 7−45782
$TbCu_{3.54}$, seedy mag. order, neutron scatt. study, mag. meas. 7−33145
$(YEuLuCa)_3(GeFe)_5O_{12}$ films, mag. bubble motion in the presence of a modulated bias field 7−53098
$(YEuTmCa)_3(FeGe)_5O_{12}$, epitaxial films, O ion adsorpt. bubble diameter variation effect 7−22125
$(YEuTmCa)_3(FeGe)_5O_{12}$ films, double layer, mag. bubbles, translational velocity 7−45781
$(YLuSmCa)_3(FeGe)_5O_{12}$ epitaxial films, transition layer 7−45779
$(YSmLuCa)_3(FeGe)_5O_{12}$ epitaxial layer, conversion electron Mossbauer spectra 7−48926
$(YSmLuCa)_3(FeGe)_5O_{12}$, film, stripe domain stabilisation for Bloch line memory 7−59087
$(YTmBi)_3(FeGa)_5O_{12}$ films, bubble wall states generation in rotating gradient expt. 7−53097

magnetic circuits
betatron magnetic circuit temp. distrib. calc. *(Russian)* 7−42247
recrystallised dielectromagnetics for AC machine magnetic circuits 7−22725
transformer magnetic circuit temp. distrib. calc. *(Russian)* 7−42247

magnetic circular dichroism
benzene, Ar matrix isolated, vac. UV and MCD absorpt. spectra 7−15635
benzofurazan, vibronic struct., magnetic circular dichroism spectra anal. 7−50211
2,1,3-benzothiodiazole, vibronic struct., magnetic circular dichroism spectra anal. 7−50211
bis(n-toluene)vanadium, matrix isolated, magnetisation props., MCD meas. 7−57112
chromium(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7−57112
demethyl porphyrins, monosubstituted free-base series, MCD study, INDO and CI calcs. 7−25401
1,4-diazabicyclo[2.2.2]octane, soln., electronic state assignment, MCD spectra 7−50210
ground states, MCD saturation behaviour 7−57111
high resolution synchrotron spectroscopy appl. 7−19742
iron(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7−57112
lowest order contributions, interference and interaction of induced electronic currents 7−25582
magnetic dipole transition moments and rotational strengths of vibr. transitions 7−62453
matrix-isolated species meas. in 1.5 to 60K range, cryostat design 7−14982
measurement of magnetic elliptical dichroism 7−33368
$Bi_3(GaFe)_5O_{12}$, epitaxial films, mag. and magnetooptical props. 7−53102
Cr, matrix isolated, magnetisation props., MCD meas. 7−57112
Cu II complexes, interligand interaction, spectrosc. props. *(Japanese)* 7−57093
Eu complexes, Eu(III)ethylenediamine tetraacetate and Eu(III)bis-citric acid, polarised luminescence studies 7−22313
KBr:Se^{2-}, mag. circular dichroism, electric conductivity, mobility of anion vacancies 7−3024
Na^- identification, Na/NH_3 matrix, absorption and MCD spectra anal. 7−30973
Ru complex, $Ru(bpy)_3^{2+}$, charge transfer states assignments, MCD and CD spectra anal. 7−31056
Si, excitonic absorpt., MCD spectra, low mag. fields 7−27257
SrF_2:Tm^{2+}, optically detected low-field ESR, cross-relaxation effects 7−33301
$Tb_3Fe_5O_{12}$, magnetic struct., X-ray absorpt. spectra magnetic dichroism meas. 7−39315

magnetic clutches *see clutches*

magnetic cooling
cryogenic engineering conf., Berlin, Germany (April 1986) 7−48183
rare earth aluminium RAl_2 layered structural sintered composite, mag. entropy 7−59016
refrigerator, Ericsson, regenerator and working material heat transfer process 7−56284
refrigerator, performance improvement by He condensation heat transfer enhancement 7−56283
refrigerator, rotary, for superfluid He production 7−35525
refrigerator, rotating, for He liquefaction 7−56282
$Dy_3Al_5O_{12}$, refrigerant characts. for Carnot mag. refrigerator 7−56286
EuS, refrigerant capacity and use in mag. cooling 7−56285
$Gd_3(Ga_{1-x}Fe_x)_5O_{12}$ and $GD_3[Al_3(Ga_{1-x}Fe_x)_2]O_{12}$, mag. solid soln. systems for regenerator materials 7−59015
$Gd_3Ga_5O_{12}$, refrigerant characts. for Carnot mag. refrigerator 7−56286
$Gd_3Ga_5O_{12}$, sintered, mag. refrigerant, Kapitza conductance to He II 7−58603
$Gd_3Ga_5O_{12}$, use in mag, refrigerator for He liquefaction 7−56283
$Gd_3Ga_5O_{12}$, use in rot. mag. refrigerator for He liquefaction 7−56282
Pb, use in Ericsson mag. refrigerator, regenerator and working material heat transfer process 7−56284
$PrNi_5$, nucl. demagnetisation and enhanced nucl. cooling 7−30018

magnetic cores
DC-AC orthogonal core type convertor, appl. to photovoltaic power system 7−34037
ferromagnetic cores, magnetisation, odd harmonics and secondary EMF 7−2889
flux-gate compass for automobile navigation 7−330
inductor core, geometric dimension optimisation, mag. permeability anal. *(Russian)* 7−33201
magnetics conference, Phoenix, AZ, USA (April 1986) 7−29572
modulator for proton storage ring, design and anal. 7−30817
steel, low C, cold rolled lamination, mag. props., Mn and S contents effect 7−7550
Fe-Si-Al, carbide precip. kinetics, core loss 7−8001
$Mn_{1-x}Zn_xFe_2O_4$ ferrite cores, hysteresis losses 7−33210

magnetic devices
see also clutches; ferrite devices; magnetic amplifiers; magnetic lenses; magnetic thin film devices; magnetostrictive devices
axisymmetrical magnetic devices, anal. using conjugated diff. eqns. 7−24660
EM flow-rate meter electrically-conducting fluid, flow rate meas. using *(Russian)* 7−11571
ferroprobe azimuth transducers, instrumental errors *(Russian)* 7−34706

magnetic devices continued
flowmeter calibration, computer-aided test system 7−37591
refrigerator, Vuilleumier, with mag. linkage, test and analysis 7−56290
valve for high-pressure gas injection, plasma fusion confinement appl. 7−11683
NiFe/SiO_2/CoPt multilayer magnetoresistors sensitivity anal. 7−48786
magnetic dipoles *see magnetic moments*
magnetic disaccommodation *see magnetic aftereffect*
magnetic disc storage
perfluoropolyether lubricant on magnetic disc surface, ion-induced volatilisation for quantitative anal. 7−39933
Co-Ni-Fe underlayer for double-layer perpendicular media, vacuum deposition and mag. props. 7−27577
magnetic domain walls
3d- and 4f- metals, periodic spin structs., critical props. calcs. *(Russian)* 7−59031
anisotropic honeycomb domain wall networks in uniaxial systems 7−26900
antiferromagnet, easy-axis, magnetoelastic domain wall oscillations 7−38917
antiferromagnetic superconductors, anomalous behaviour 7−58964
antiferromagnets, dislocation-generated domain walls at spin-reorientation phase transitions *(Russian)* 7−53023
Bloch line and Bloch wall dynamics, computer simulation using lumped-constant model 7−59090
Bloch line pair propag. using in-plane mag. field 7−59086
Bloch wall motion simulation 7−59049
Bloch walls, solitons and particles, an analogy in sine-Gordon framework 7−35289
Bloch walls, subdivided, Neel line internal structure 7−22118
domain structure induced by acoustic waves in easy-plane magnetic materials 7−2918
ethyl ammonium tetrachlorocuprate, antiferromagnet, domain-wall spin reorientation study 7−53026
ethylamine platinum trichloride, Wolffram's red salt, bound domain wall pairs 7−27545
ferromagnet, biaxial, spin wave excitation with moving domain wall 7−45650
ferromagnet, easy axis, ID Bloch wall stability analysis 7−45731
ferromagnet, Winter oscillations, parametric excitation 7−22119
ferromagnetic hysteresis, domain wall pinning, mathematical model anal. 7−7544
ferromagnetic materials, magnetoacoustic and Barkhausen emission study NDT appl. 7−45749
ferromagnetic superconductors, intermediate state and easy-axis mag. anisotropy 7−38831
ferromagnets, dilute, lines and domain walls 7−33199
ferromagnets, magnetic susceptibility of system with 360° domain walls *(Russian)* 7−7488
ferromagnets, nuclear spin-lattice relax., one-magnon process effects *(Russian)* 7−33284
films, coercive force establishment, magnetoelastic interaction effects *(Russian)* 7−7558
films, domain wall struct. in external mag. field *(Russian)* 7−7573
films, Neel surface domain wall structures, spin-polarized SEM studies 7−13010
garnet epitaxial layers, Bloch line behaviour in an in-plane field 7−53101
garnet films, Co-containing, domain-wall dynamics, magnetic after-effect 7−64504
garnets, ferrimagnetic, vertical Bloch line motion, memory appls. 7−53024
Ising model, spin-glass transition, domain wall scaling, energy and free energy distribs. calcs. 7−38891
layered Ising magnets, quasi-1D kinetics of ordering processes 7−2887
losses induced by irreversible Barkhausen jumps of sinusoidally moving 180° domain wall, multidomain wall motion 7−27555
low symm. magnets, domain boundaries struct. and energy calcs. *(Russian)* 7−33200
magnetic bubbles, translational motion, exchange relax. effects *(Russian)* 7−17206
magnetics conference, Phoenix, AZ, USA (April 1986) 7−29572
metallic glasses, defects, SANS studies 7−51659
micropolar elastic crystals, solitary waves 7−6135
motion, computer simulation 7−53099
one-dimensional magnetic systems, domain wall interactions and forced motions 7−27546
oscillations of a periodic chain of Bloch lines 7−38899
permalloy films, domain motions and instabilities, magneto-optic observation 7−53095
rare earth iron garnet films, surface-spin orientations, depth-selective Mossbauer spectroscopy 7−2907
textured polycrystalline magnet, hysteresis and rotational hysteresis 7−64485
vertical Bloch line dynamics, lumped const. model, numerical stability 7−59094
vertical Bloch line pair, lumped const. model 7−59093
vertical Bloch line propag. by bias pulse, pot. well form. using high-coercivity film 7−59085
vertical Bloch line propag. under pot. well by cond. current 7−59088
vertical Bloch line propagation at multiple stripe domain heads 7−59089
vertical Bloch lines, lumped const. and distributed models 7−59092
vertical Bloch lines and mag. domain walls, 1D anal. 7−59091
$BaFe_{12}O_{19}$, Bloch domain boundary, Neel boundary transition in mag. field, NMR study *(Russian)* 7−33195
$(Bi,Tm)_3(Fe,Ga)_5O_{12}$ garnet films, magnetisation reversal, pulsed mag. field nonuniformity effect 7−45783
$(BiGdTm)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7−45778
$(BiLu)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7−45778
$(BiTm)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7−45778
$(BiYLu)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7−45778
Co-Cr films, film growth and magnetisation reversal mechanism 7−27585
CoCr films, magnetisation reversal mechanisms 7−59068
CoCr sputtered perpendicular recording media, with columnar microstruct., reversal mech. 7−7552
$Co_{80}M_{20}$ (M=Cr,Sm) sputtered thin film recording media, micromag. and struct. studies 7−33243

magnetic domain walls continued
$Co_{90}M_{10}$ (M=Pt,Re) sputtered thin film recording media, micromag. and struct. studies 7−33243
CoNi thin films, oblique-deposited, mag. props., O impunity effects 7−33244
$Cu_{1-x}Cd_xFe_2O_4$, irreversible magnetisation depend. on magnetising field 7−64487
$Dy_{1-\delta}Al_2$, intrinsic coercive field 7−45728
$DyFeO_3$ interphase magnetic domain wall motion studies *(Russian)* 7−27543
$Dy_xY_{1-x}Al_2$, intrinsic low field susceptibility studies 7−45633
$Dy_xY_{1-x}Al_2$, intrinsic coercive field 7−45728
$ErAl_2$, intrinsic coercive field 7−45729
Fe, magnetic domain walls, low freq. internal friction *(Chinese)* 7−38898
Fe-Nd-B magnets, microstructure and mag. props. 7−53049
Fe-R-B (R=rare earth) metallic glass permanent magnets, struct. and mag. props. 7−27565
Fe-Si (3 wt.%), noncrystalline lamination, Bloch wall bowing anomaly, wall surface pinning 7−33196
$FeBO_3$, NMR of ^{57}Fe domains and domain walls 7−7593
$Fe_{81}Be_{13.5}Si_{3.5}C_2$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7−64478
$Fe_5Co_{70-x}Cr_xSi_{10}B_{15}$, x=0, 3, 6, 9, amorphous ferromagnet, 180° domain wall *(Korean)* 7−33198
$Fe_{5.85}Co_{72.15}Mo_2B_{15}Si_5$ amorphous ribbons traversed by DC electric currents excess resistance, collective motion of ferromag. domain walls 7−32989
$Fe_{75-x}Cr_xSi_{10}B_{15}$, x=0, 2, 4, 6, amorphous ferromagnet, 180° domain wall *(Korean)* 7−33198
$Fe_{77}Nd_{15}B_8$, sintered permanent magnets, domain wall obs. 7−27544
$Fe_{40}Ni_{40}B_{20}$, amorphous alloys, domain wall motion, SEM obs. 7−52978
$Fe_{40}Ni_{40}B_{20}$, amorphous alloy, Barkhausen noise, neutron irradiation effect 7−53029
$Fe_{50}Ni_{30}B_{20}$, amorphous alloys, domain wall motion, SEM obs. 7−52978
$Fe_{40}Ni_{38}Mo_4B_{18}$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7−64478
γ-Fe_2O_3 acicular particles, magnetisation reversal by flipping mechanism 7−7545
$HoMo_6S_8$ ferromagnetic films, supercond. props., temp. and mag. field depend. 7−45538
Mn-Al-C, anisotropic permanent magnet, rotational hysteresis 7−53050
$Mn_{0.53}Zn_{0.35}Fe_{2.12}O_4$, single cryst. surface damage depth meas. 7−52979
$Mn_{1-x}Zn_xFe_2O_4$ ferrite cores, hysteresis losses 7−33210
Mo permalloy films, mag. domain walls stability, external mag. field, Lorentz microscopy 7−45780
Nd-Fe-B rapidly solidified permanent magnet materials, magnetisation processes and domain wall motion 7−38902
Nd-Fe-B rapidly solidified ribbons, magnetisation, quench rate depend. 7−53034
Ni dislocation structure evolution during creep, alternating mag. field effects study *(Russian)* 7−58286
NiCoFe ferrite, perminvar, wall displacements, induced anisotropy effect. 7−52968
NiCoP onefold layer, domain propag. along hard axis 7−45727
$Ni_{0.97}Cu_{0.03}Fe_2O_3$, ferrite, domain-acoustic echo 7−13014
$PrCo_5$, microstructure and coercivity, effect of annealing, 650-850°C 7−38905
$SmCo_5$ fine particles, produced by ball milling, strain and domain wall energy *(Japanese)* 7−7556
$Tb_xGd_{1-x}Al_2$, intrinsic low field susceptibility studies 7−45633
$Tb_xGd_{1-x}Al_2$, intrinsic coercive field 7−45729
U-based mag. alloys, mag. props. and electronic struct. *(Russian)* 7−12967
$(YEuTmCa)_5(FeGe)_5O_{12}/(YLa)_3Fe_5O_{12}$ ferrite/garnet layered structs., domain wall and ferromag. reson. props. *(Russian)* 7−45828
YIG cryst., domain wall dynamics, optical polarisation study 7−45732
YIG, ferromagnet, domain struct., transform. in alternating mag. fields 7−53027
YIG, toroidal ferrimagnetic polycrystals, domain-wall continuity 7−33197
$(YLuBi)_3(FeGa)_5O_{12}:Ne^+$ films, stripe domain stabilisation by ion implantation 7−53100

magnetic domains
see also magnetic bubbles; magnetic domain walls
colloid-SEM method for domain obs. *(Japanese)* 7−7533
Curie temp. calcs. long range magnetic order and intermediate valence, Anderson model 7−45247
cylindrical magnetic domain films, ion implanted, magnetisation reversal 7−2915
domain structure determ. using light diffr., inverse problem *(Russian)* 7−53286
dynamics, review 7−17209
Fe-Si multilayered thin films, stacking structs., magnetostatic coupling and layer boundary interdiffusion 7−7574
ferrite slab with domain struct., EM waves *(Russian)* 7−2920
ferrites, domain structure near the compensation temp. 7−7534
ferroelectrics, inhomogeneous magnetoelectric effect 7−38920
ferromagnetic materials, defect and microstructural analyses using TEM 7−37817
ferromagnetic superconductors, intermediate state and easy-plane magnetic anisotropy 7−38832
ferromagnets, two-dimens., domain struct. 7−53028
garnet film, strip domain stretching, computer simulation 7−59083
garnet film, stripe domain stabilisation by grooving 7−59084
garnet films, isolated stripe domain deformation instability study *(Russian)* 7−2916
imaging with scanning Kerr effect microscope 7−45725
Ising ferromagnet, fixed spin influence on thermodynamic behaviour 7−38887
Ising model, random-field, formation of domains 7−45602
magnetically ordered regions in crystals with dislocations, static susceptibility 7−38851
magneto-optical Kerr effect, obs. of domains 7−64618
metal particles, ultra fine, ferromag., growth rel. to mag. field 7−53515
multidomain material, screening of domain moments and remanence stability 7−47430
permalloy films, domain motions and instabilities, magneto-optic observation 7−53095
photoinduced magnetism, effects on domain structure 7−52931
quasi-uniaxial magnets, thin films, static susceptibility at phase transitions, domain structure formation 7−33247

magnetic domains continued
random field systems, static and dynamic props. 7—45710
scanning electron microscopes, spin polarised operation, spatial resolution for mag. domain studies 7—56376
SEM, spin polarised, for mag. domains obs. 7—17197
single domain particles transition rate calcs. 7—45730
stripe domain structs., stability and temp. hysteresis model calcs. 7—7535
stripe domains, inhomogeneous mag. field 7—45724
stripe domains in alternating fields, dynamic magnetisation reversal *(Russian)* 7—7537
surface magnetism, study by spin polarised electrons 7—2901
transparent magnetic materials transitions meas., using magnetooptical apparatus 7—30048
two dimensional electron gas, Condon domains, dynamical effects 7—12631
two dimensional electron gas, Condon domains, electrical charging effects 7—12630
two-dimensional electron gas, Condon domains, transition to vortex state 7—12629
weak ferromagnets, domain growth kinetics, Langevin eqns. study 7—59050
$(Bi,Tm)_3(Fe,Ga)_5O_{12}$ garnet films, magnetisation reversal, pulsed mag. field nonuniformity effect 7—45783
$Bi_3(GaFe)_5O_{12}$, epitaxial films, mag. and magnetooptical props. 7—53102
$(BiGdTm)_3(FeGa)_5O_{12}$ single cryst. film, reverse-magnetisation domain nucleation studies 7—17208
$Ca_3Mn_2Ge_3O_{12}$ single domain crysts., birefringence and spontaneous phase transitions 7—17303
Co single cryst., NMR freq. temp. depend. anomaly, spin-wave stiffness const. determ. 7—53154
Co-Cr film, mag. domain obs. by colloid-SEM method *(Japanese)* 7—7533
Co-Pt thin films, sputtered, TEM study, mag. domain struct. 7—21757
CoCr layers, domain obs. with digitally enhanced Kerr-microscope 7—45726
CoCr thin films for recording media, perpendicular anisotropy 7—33202
$Co_{71}Fe_4Si_{15}B_{10}$ and $Co_{75}Si_{15}B_{10}$ amorphous alloys, mag. props., stress and annealing depend. 7—33250
$Co_{80}Nb_{10}Ti_{10}$ two-layered films, mag. domain structures, transmission Lorentz microscopy 7—53096
Dy_xCo_{1-x} thin films, ferrimagnetic reson. in region of spin-reorientation transitions 7—45824
$ErFeO_3$, antiferromag. domain struct., spin reorientation region 7—45723
$(Eu, Lu, La)_3Fe_5O_{12}$ films, gyromagnetic ratio, damping parameter and mag. anisotropy 7—45777
Fe, magnetic domains, spin-polarised SEM studies 7—56376
Fe whisker, ferromag. domain struct. obs. 7—7536
Fe whiskers, (011), Neel's domain struct. in weak and zero applied fields 7—2888
Fe whiskers, mag. domain obs. by colloid-SEM method *(Japanese)* 7—7533
Fe-B-Ce-based metallic glasses, mag. domain structs. and annealing embrittlement 7—27586
Fe-Cu multilayer films, layered mag. domains, Schlieren-Lorentz TEM studies 7—38916
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, origin of high coercivity 7—27578
Fe-Si, electrical steels and alloys, conf., Vladimir, USSR (Dec. 1984) 7—9576
Fe-Si, polycrystalline, magnetisation, domain struct. and magnetostriction *(Russian)* 7—59051
Fe-Si (3 wt.%), domain structure and mag. props., influence of plane tension and insulating coatings 7—12991
Fe-Si (3 wt.%), dynamic remagnetisation, structural depend. of losses 7—12994
Fe-Si (3 wt.%), mag. props. and domain struct., influence of laser treatment 7—12993
Fe-Si (3 wt.%), secondary recrystallisation grains, subboundaries formation and their influence on mag. domain struct. 7—13471
Fe-Si (3 wt.%) bicrystals, domain struct. and magnetisation 7—12992
Fe-Si (3.3 wt.%), grain-oriented, domain refined, core losses 7—33692
$Fe_{78}B_{13}Si_9$, magnetron sputtered amorphous alloys, thermal, mag. and magnetomechanical props. 7—33249
FeNiAlCoTiCuS permanent magnetic material, phase comp. and ordering, atom probe FIM and TEM studies 7—33635
Fe_2O_3 powder type audio tapes, mag. domain obs. by colloid-SEM method *(Japanese)* 7—7533
Fe_3O_4, magnetite, hysteresis props. rel. to particle size 7—14268
Fe_3O_4 nearly spherical particles in low mag. fields, mag. props. 7—27568
$Fe_{0.65}si_{0.35}$ thin films, amorphous and crystalline, magnetisation rotational processes 7—53085
^3He spins on exfoliated graphite surface, detection of ferromag. domains 7—38291
$KCoF_3$ antiferromagnetic cryst., electronic Raman scatt. by high-energy magnetic excitons 7—46016
MnAs, paramagnetic-ferromagnetic transition, nucleation model calcs. 7—52992
MnBi ferromag. thin films, reversed micro-domain growth, magnitude-anisotropic dispersion 7—17205
Nd-Fe-B permanent magnet, microstructure and coercivity 7—27559
Ni-Mn disordered alloys, ferro-spin-glass domain model calcs. 7—59025
$Ni_{1-x}Co_xFe_2O_4$ polycryst. magnetostrictive ferrite, long-term bulk acoustic wave memory 7—59099
Sm_2Co_{17} single domain particles, SEM domain obs. 7—27566
$Tb_{0.27}Dy_{0.73}Fe_2$, Terfenol, polycrystalline, domain structures and magnetomech. coupling 7—53025
TbFe films, micron-size laser-written mag. domains, Lorentz microscopy 7—2913
$Tb_{31}Fe_{69}$ amorphous films, mag. props. and domains, substrate temp. effects 7—13011
$(TmBi)_3(FeGa)_5O_{12}$ indicator film, visualisation of mag. field profile of thin-film magnetic heads 7—61359
$Y_3Fe_5O_{12}$:Si, epitaxial film, domain struct. rearrangement, unpolarised light influence 7—45784
YIG, ferromagnet, domain struct., transform. in alternating mag. fields 7—53027
YIG, ferromagnetic hysteresis loop, grain size distrib. effect 7—27556
YIG:Si epitaxial films, mag. anisotropy and spin reorientation under unpolarised white light irrad. *(Russian)* 7—33246
$(YSmLuCa)_3(FeGe)_5O_{12}$, film, stripe domain stabilisation for Bloch line memory 7—59087

magnetic double refraction *see magneto-optical effects*

magnetic double resonance
see also CIDEP; double nuclear magnetic resonance; dynamic nuclear polarisation; ELDOR; ENDOR; microwave-optical double resonance; nuclear polarisation
formic acid-d_0(d_1), hyperfine interactions, double microwave-RF reson. 7—42656
iodomethane-d_3, hyperfine interactions microwave-RF double reson. 7—36657
RF-microwave resonance detection in optical pumping expt. *(Chinese)* 7—7607
$CaF_2:Eu^{3+}$, O^{2-}, quadrupole coupling and crystal-field shielding under hydrostatic press. 7—2551
$YAlO_3:Eu^{3+}$ lattice and electronic contributions to the quadrupole interaction of trivalent Eu 7—2550

magnetic drum storage *see magnetic storage*

magnetic epitaxial layers
garnet epitaxial thin film, FMR investig. 7—53069
garnet LPE films, lattice relax. around cracks 7—7054
garnets, Bloch line behaviour in an in-plane field 7—53101
hexaferrite film growth 7—52320
rare earth iron garnet films, surface-spin orientations, depth-selective Mossbauer spectroscopy 7—2907
$(Bi,Tm)_3(Fe,Ga)_5O_{12}$ garnet films, magnetisation reversal, pulsed mag. field nonuniformity effect 7—45783
$(BiDySmLu)_3(FeAl)_5O_{12}$ bubble garnet films, Bi-substituted, LPE growth rate reduction 7—45049
$(BiDySmLuGd)_3(FeGa)_5O_{12}$ bubble garnet films, Bi-substituted, LPE growth rate reduction 7—45049
$Bi_3(GaFe)_5O_{12}$, epitaxial films, mag. and magnetooptical props. 7—53102
$(BiGdTm)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7—45778
BiIG films, selected-area sputter epitaxy 7—7845
$(BiLu)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7—45778
$(BiTm)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7—45778
$(BiTm)_3(FeGa)_5O_{12}$, garnet films, pulsed magnetisation reversal, influence of temp. on integral characts. 7—45735
$(BiYLu)_3(FeGa)_5O_{12}$, garnet films, pulsed magnetisation reversal, influence of temp. on integral characts. 7—45735
$(BiYLu)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7—45778
$CoFe_2O_4$ ferrite epitaxial layers, high coercivity *(Chinese)* 7—38908
$(Eu, Lu, La)_3Fe_5O_{12}$ films, gyromagnetic ratio, damping parameter and mag. anisotropy 7—45777
$Eu_xY_{3-x}Fe_{5-y}Ga_yO_{12}$ LPE garnet films, ferromagnetic relax. meas. 7—38911
Fe (111), electron capture spectroscopy 7—59368
Fe epitaxial films, mag. size effects 7—59081
Fe epitaxial monolayers on the Au (100), surface magneto-optic Kerr effect 7—59080
Fe, FCC metastable phase epitaxial films on Cu local mag. moment, XPS study 7—53504
Fe garnet epitaxial films, near a nonmagnetic metallic disk, domain struct., mech. stress effects 7—38922
Fe garnet film, epitaxial growth from weakly dissociated molten soln. 7—64944
Fe garnet films containing Bi, comp. study, and chemical etching anal. 7—45083
Fe, magnetic films, MBE growth on GaAs, interface effects 7—27584
Fe, surface ferromagnetic order 7—45773
$(Gd,Bi)_3(FeGaAl)_5O_{12}$ garnet films, selected area liq. phase epitaxy, local ion implantation effects 7—21726
Ni epitaxial films and interfaces with Cu and Pd, mag. size effects 7—59081
$Pb_{1-x}Eu_xTe$ epitaxial layers, mag. props. 7—45772
$SmLu(FeGa)_5O_{12}$ films, with submicron domain structures, mag. inhomogeneity 7—45782
$(SmLuGd)_3(FeGaSc)_5O_{12}$ films, with submicron domain structures, mag. inhomogeneity 7—45782
$(YBi)_3(FeGa)_5O_{12}$, epitaxial films, mag. bubble lattices, influence of external stresses 7—64503
$Y_3Fe_{5-x}Ga_xO_{12}$ epitaxial film, high freq. threshold props. studies *(Russian)* 7—45775
$Y_3Fe_5O_{12}$:Si, epitaxial film, domain struct. rearrangement, unpolarised light influence 7—45784
YIG double-layered films, thermal detection of FMR, microwave freq. appls. 7—45766
YIG, epilayers, SIMS anal. 7—27207
YIG epitaxial film, magnetic grating, Raman-Nath diffr. of surface magnetostatic waves 7—58999
YIG, epitaxial layers, Faraday rot. meas., Bi and Pb ion contribs. 7—53071
YIG LPE films, mag. mode fine struct. *(Chinese)* 7—13007
YIG, LPE films, microwave magnetostatic waves, magnetic induction probe studies 7—58996
YIG single crystal films, FMR foldover, Suhl instability 7—53141
YIG:Si epitaxial films, mag. anisotropy and spin reorientation under unpolarised white light irrad. *(Russian)* 7—33246
$(YLuBi)_3(FeGa)_5O_{12}:Ne^+$ films, stripe domain stabilisation by ion implantation 7—53100
$(YLuSmCa)_3(FeGe)_5O_{12}$ epitaxial films, transition layer 7—45779
$(YSmLuCa)_3(FeGe)_5O_{12}$ epitaxial layer, conversion electron Mossbauer spectra 7—48926
$(YSmLuCa)_3(FeGe)_5O_{12}$, epitaxial films, Faraday rot., Sm^{3+} conc. effect. 7—53070
$(YSmLuCa)_3(FeGe)_5O_{12}$, film, stripe domain stabilisation for Bloch line memory 7—59087

magnetic field effects
see also biomagnetism; galvanomagnetic effects; magnetic levitation; magnetic properties of substances; magnetic separation; magneto-optical effects; magnetoacoustic effects; magnetocaloric effects; magnetoelectric effects; magnetohydrodynamics; magnetomechanical effects; particle optics; Scott effect; Senftleben-Beenakker effect; thermal magnetoresistance; thermomagnetic treatment
1-acetonaphthone+diphenylamine, micellar soln. photoinduced electron transfer, mag. field effects 7—3579
action potential in lobster giant axon, effect of time-varying mag. fields 7—3766

magnetic field effects continued
- alpha effect, cyclonic events, rel. to current helicity 7—57984
- axial magnetic field and azimuthally streaming medium energy deuterons in a plasma focus 7—63364
- bacterial photosynthetic reaction centres, charge recombination, ultrafine interaction, mag. field effect 7—8516
- behavioural effects of exposure to NMR imaging, rat open-field behaviour and learning obs. 7—18016
- behavioural effects of exposure to NMR imaging, spatial memory tests on rats 7—18017
- blood, hypercoagulation syndrome in mobility-restricted rats, effect of a weak variable mag. field 7—54669
- carbon tetrachloride, liq. and solid, μSR 7—53208
- cetyltrimethylammonium bromide-decyl alcohol-D$_2$O nematic amphiphilic systems, orientation in mag. field, NMR study 7—63447
- charged particle acceleration by transverse EM wave in static mag. field *(Japanese)* 7—20119
- cholesteric liq. crystals, solitons, D NMR spectra 7—21096
- CIDNP, hyperfine interactions, semiclassical theory, rel. to mag. field depend. 7—928
- collective drifting motion of cathode spots in an axial magnetic field 7—32162
- combustion of organic cpds., mag. field effect, rel. to biological processes 7—47135
- combustion processes under intense mag. fields, living organisms appl. 7—8285
- diffusion equation soln. for particles with magnetic moments in inhomogeneous mag. field *(Russian)* 7—44893
- diphenylmethylene, excited triplet state, mag. field effects, fluoresc. 7—10657
- drift waves, current-driven in shearless and sheared mag. fields, particle simulations 7—51444
- electron dynamics, in plane travelling wave in steady mag. field *(Russian)* 7—62614
- electron positron bound pairs, motional mag. field effect on spin states in condensed matter 7—39225
- equatorial spread-F, effect of mag. activity during high and low solar activity 7—66377
- Fermi liquid systems, mag. props. 7—12387
- Fourier transform ion cyclotron reson. spectra, residual spatial mag. field gradient effects 7—42550
- free electron laser, EM pumped, with EM wiggler and axial-guide mag. field, linear gain 7—1176
- glow discharges, poloidal magnetic field effects 7—21023
- haemopoietic tissue, ^{252}Cf RBE and PLD-like effect of mag. fields, CFU-S assay 7—28590
- inert gas atoms, anisotropic collisions with atoms and ions, intermultiplet mixing 7—57154
- Knudsen flow, molecular angular momentum polarization, anal. using magnetic field effect on particle flux 7—31842
- laser plasma, expansion, transverse mag. field effect 7—26393
- Lewis tumour graft, effect of a static nonuniform mag. field, mouse obs. 7—28595
- linear particle transport theory, current density transients 7—56191
- liposome vesicles, mag. field-induced drug permeability 7—40213
- low temperature measurement methods, thermometers and magnetic effects *(German)* 7—24652
- lyotropic mesophase, spinning, director distrib. in mag. field *(French)* 7—51616
- lyotropic nematic liquid crystals, nonequilib. periodic reorientation induced by mag. field 7—58138
- magnetic properties measurement, hydrostatic pressure, low temp. technique in mag. field *(Japanese)* 7—48790
- magnetised coaxial cylindrical double plasmas, radial pot. form. with unstable waves 7—51461
- mammalian cells, irrad. with ^{252}Cf and ^{60}Co, effects of alternating mag. fields on survival 7—28594
- metal particles, ultra fine, ferromag., growth rel. to mag. field 7—53515
- mitogenic response of peripheral blood mononuclear cells, effect of ELF pulsed mag. fields 7—28580
- molecular dynamics, noninertial accelerations, statistical correlations study, electromagnetic field effect 7—62344
- molecular Knudsen gas, cross effect between heat and momentum transport 7—26380
- nematic liq. crysts., Freedericksz effect in crossed elec. and mag. fields 7—63446
- operant behaviour of rats, alteration by low-intensity mag. fields 7—28578
- parametric resonance in magnetically (electrically) anisotropic systems 7—42874
- photon dispersion in strong mag. field with positronium formation 7—41690
- point sink on plane with magnetic field, heat and mass transfer 7—1618
- polar liquid dielectrics, mag. field effects 7—13072
- polarization moments in a state with high angular momentum 7—43025
- quasi-one-dimensional density-wave systems, electronic struct., high mag. field effects 7—58754
- spin precession, classical adiabatic angle and geometrical phase 7—49882
- steel, Cr-Ni, low-C, butterfly martensite, crystallographic characts. *(Russian)* 7—6580
- thermal properties measurement, hydrostatic pressure, low temp. technique in mag. field *(Japanese)* 7—48790
- thermal relaxation of 2D plasma in uniform mag. field 7—44101
- thermally inhomogeneous plasma immersed in strong mag. field, self-filamentation instability 7—51443
- thin films, electron dynamics in external longitudinal mag. field, electron energy spectrum calcs. 7—58906
- three-level atoms, optical free induction decay quantum beat 7—57482
- thrombolytic process dynamics under conditions of a constant mag. field 7—3835
- e$^+$e$^-\rightarrow\bar{\nu}\nu$, mag. field effects, Glashow-Weinberg-Salam model study 7—41778
- n beta-decay, mag. field effects, spin effects and ν mass 7—41800
- , C-field setting, transitions and disturbances 7—18757
- Al, anodic oxidation coatings, electrolytic colouring, mag. field effects *(Japanese)* 7—59662
- Ar discharge, homogeneous longit. mag. field effects 7—21026
- Ar, positron annihilation and diffusion, computer-based anal. 7—50378
- Ar, positron drift and diffusion in crossed elec. and mag. fields, simulation 7—36760
- Ar-NO$_2$ system, muon spin relax. in transverse and longit. mag. fields 7—50413

magnetic field effects continued
- Bi films, elec. resistivity, 1600-4500 angstroms 7—2737
- ^{45}Ca^{2+} efflux from isolated chick brains, lack of effect of static mag. field 7—28579
- Cs beam primary frequency standard, C-field setting, transitions and disturbances 7—18757
- ^{133}Cs, $7^2P_{3/2}$ state, level crossing in elec. and mag. fields 7—50003
- Fe alloys, martensitic transformations, effect of stresses and mag. fields 7—53731
- Fe alloys, solidification in mag. fields *(Russian)* 7—59508
- GaAs, LEC single cryst. homogeneity, effect of strong mag. field 7—53549
- n$^-$-GaAs/Al$_x$Ga$_{1-x}$As/n$^+$-GaAs capacitors, accumulation layers magnetotunnelling obs. 7—12880
- H atom, energy levels in mag. field, quantum chaos and statistical props. 7—19765
- H atom, positron annihilation, computer expt. 7—36791
- H EM energy density distrib., van der Waals forces 7—50048
- H, electronic states in uniform mag. field, cylindrical adiabatic approx. calcs. 7—42479
- H, highly excited, quasi-Landau struct. 7—36510
- H, spin-polarised atomic, three-body recombination 7—32749
- H$^-$ extraction, effect of weak mag. field in front of plasma electrode 7—10341
- ^{3}He, superfluid A$_1$-phase, magnetically generated superflow, nonlinear effect obs. 7—27047
- n-Hg$_{0.8}$Cd$_{0.2}$Te, magnetic field-induced metal-insulator transition, threshold field electron density depend. 7—52427
- InP:Fe, programmed magnetic field applied LEC crystal growth 7—59399
- InP:S,Ga,Sb, LEC growth, appl. mag. field method, dislocation etching 7—53553
- InSb:Te, Cd, Zn single crystals, Czochralski growth, solute distrib., mag. field effect on melt 7—3158
- InSb:Te crystals, Czochralski growth, layered heterogeneity, melt temp. fluctuations, mag. field effect 7—27888
- K$_2$ polarization moments in a state with high angular momentum 7—43025
- KBr single crysts., F-band absorpt., X-irrad., thermolum., mag. and elec. field effects 7—59230
- NiCr-CuFe thermocouple, mag. field effects *(Chinese)* 7—24646
- Si, axial magnetic Czochralski growth 7—32343
- Si, Czochralski growth, large diameter crystals, under horizontal or vertical mag. field 7—32342
- Si, magnetic Czochralski growth, at high pulling rates 7—33551
- Si, magnetic-field-applied Czochralski growth *(Chinese)* 7—59401
- Si:B, impurity transport in mag. Czochralski growth, computer simulation 7—58182
- Si:B, magnetic Czochralski growth, computer simulation of B transport 7—32344
- a-Si:H, form. by ion flux control under toroidal mag. field *(Japanese)* 7—17446
- a-Si:H films high-rate deposition by RF planar magnetron sputtering *(Japanese)* 7—17419
- Yb amorphous films, stability, effect of mag. field *(Russian)* 7—52319

magnetic field measurement
- *see also field plotting; fluxmeters; magnetometers*
- 1 to 20 MHz lightning radiation fields, amplitude spectra meas. 7—40549
- C fibre composite tubular struct., induced EM fields, 2D model prediction 7—25703
- CMOS magnetosensitive square wave oscillator 7—61360
- components of magnetic field meas. inside cylindrical capacitor 7—18847
- computerised microtomography methods, 3D reconstruction of mag. microfields 7—4874
- cylindrical ferromag. specimen, surface slit, open circuit remagnetisation, cavity mag. field meas. 7—54051
- direction finding errors due to nonvertical lightning channels, finite ground conductivity effect 7—14366
- electron holographic interferometry, quantitative phase anal. and magnetic field meas. appl. 7—41538
- equipment for low-freq. field strength ratio meas. *(Russian)* 7—34699
- Fabry-Perot fibre optic sensor and its appls. 7—43424
- Faraday rotation in multimode optical fibre probe, Z-pinch plasma expt. 7—11785
- fibre optics mag. field sensor, using magnetostrictive effect *(Japanese)* 7—334
- fringing field shaping and adjustment using separated coils *(Chinese)* 7—24661
- galvanomagnetic instruments for operation in cryogenic electrical-engineering installations 7—56308
- heads, magnetooptical visualisation of mag. field distrib. 7—61359
- high freq. core loss automatic measuring system 7—48784
- high-permeability materials, single sheet testers, anal. and improvement of mag. field meas. method 7—4870
- integrated magnetic field sensor based on magnetotransistors 7—48792
- integrated semiconductor magnetic field sensors, features, appls. 7—331
- ring laser magnetic sensor, for weak field measurement *(Chinese)* 7—4189
- magnetocardiographic data measurement and its movie display *(Japanese)* 7—14073
- magnetometers for simultaneous magnetic and resistive meas. at low temp. high magnetic field 7—48788
- magnetoresistive sensors, highly sensitive, characts. 7—4872
- MFTF, mag. field strength meas. using NMR 7—15403
- NMR imaging, static magnetic field and gradient fields estimation 7—14986
- NMR magnetic field meter, high-field meas. at liquid He temp. 7—18849
- optical all fibre magnetometer with mag. feedback compensation 7—25989
- optical all single mode fibre magnetic field sensor 7—25990
- optical fibre calibrated Faraday rotation current and mag. field sensor 7—25980
- optical fibre magnetic field sensor, wideband, using Cd$_{1x}$Mn$_x$Te sensing element 7—25979
- optical fibre sensor, calibrated, as Faraday rotation current and magnetic field sensor 7—31515
- plasma poloidal field meas. using Zeeman effect and charge exchange recombination 7—6459
- sensor technology and appls., conf., Bad Nauheim, FRG (March 1986) *(German)* 7—24271
- sensors using magnetoresistive effect, review 7—48789
- shear-wave magnetometry using metallic glass ribbon 7—56307
- split-drain MOS magnetic field sensor 7—4875

magnetic field measurement continued
- TEXT, plasma density and poloidal field meas. using injected Li beam 7—6452
- Tokamak plasma diagnostics by meas. poloidal magnetic field, using Zeeman splitting in Li 7—1740
- TOPAZ magnet, field mapping device 7—14984
- variable magnetic field meas. under cryogenic conditions 7—48787
- Li beam, mag. field meas., Zeeman and motional-Stark effect 7—19766
- Si-based sensors, deposition methods and appls. 7—48715
- YIG, LPE films, microwave magnetostatic waves, magnetic induction probe studies 7—58996

magnetic field variations, Earth *see geomagnetic variations*

magnetic fields
- *see also electromagnetic fields; interplanetary magnetic fields; interstellar magnetic fields; magnetic field effects; magnetic field measurement; superconducting critical field*
- 2D magnetic field problems, boundary and finite element methods combined 7—62584
- 1759+211, nearby radio galaxy, polarisation and mag. field of oscillating radio galaxy 7—55820
- accretion disks, model of hydromagnetic turbulence in differentially rotating disks 7—18354
- antenna far field pattern, reflector support boom effect 7—50472
- astronomical bodies, rot.-mag. field connection rel. to origin of Earth-Moon system 7—23509
- astrophysical, resonant fast dynamo theory 7—20808
- asymmetric strip line segments, cross coupling, electrodynamic theory 7—36848
- asymmetrically driven coaxial line, field asymmetry calc. 7—32076
- azimuthally-periodic current distribs., mag. field calcs. 7—50446
- B2 1320+299, quasar with asymmetric radio struct., mag. field lines distrib. 7—35065
- B$_1$ field distribution in linear mag. field gradient 7—48803
- Bloch line pair propag. using in-plane mag. field 7—59086
- blowup of force-free bipolar magnetic field in infinite region of space 7—40687
- 3C 219, radiogalaxy, jet mag. field struct. 7—14647
- charged particle in mag. field, alternative lagrangians 7—42873
- charged particles motion in superposed dipole and uniform mag. fields, allowed region 7—14482
- collective excitations of electrons by intense wave in magnetic field 7—20116
- collisionless plasma expansion, magnetic field effects, plasma wake study 7—31950
- computation, C^1 quadratic interpolant 7—50445
- computation using locally orthogonal discretization 7—50447
- conducting plate eddy current density and force on moving filament 7—62583
- cosmological model for perfect fluid distribution, magnetic field behaviour 7—24505
- crossed-field analyzer, aberration anal., elec. and mag. field expressions 7—10841
- DC magnetic field stabiliser based on NMR *(Slovak)* 7—24662
- dielectric and magnetic materials, linear feedback models for polarisation and magnetisation 7—22179
- diffraction magnetodielectrics, integral equation 7—36846
- diffusion into conductors of nonuniform resistivity 7—62566
- e/m experiment, magnetic field and electron trajectory calcs. 7—48228
- ferromagnetic rigid body in magnetic field, rotation problem 7—41087
- flaw detection of pipelines, eddy currents as interfering factor 7—39822
- force-free and curl a=ka magnetic fields, solns. 7—1004
- geomagnetic tail, field lines geometry 7—37653
- global geometry of polyphase structures fed by complex current systems *(Italian)* 7—31207
- gyromagnetic compass bearings anal., appl. of current flow junction *(Polish)* 7—30051
- Helmholtz coils for generating mag. fields, optimisation using computational method 7—48791
- high current electron beam equilibrium with anisotropic transverse temp. 7—36866
- high resolution analysing magnet with aberration correction, 2D field mapping and field correction 7—25283
- homogenisation by diamagnetic shields 7—42848
- implantable telemetry systems finite element anal. of mag. fields 7—28754
- implicit method for solving Maxwell's equation 7—57206
- induction equation on regions with a boundary, Green's functions 7—1640
- ionosphere, EM disturbances, IKB-1300 meas. at auroral latitudes 7—66389
- Ising system, transverse susceptibility, direct calc. from local mag. field distrib. 7—17149
- laser fusion and hot-electron transport, mag.-field generation 7—26470
- laser plasma spherically symmetric modulated spontaneous mag. field 7—44205
- liquid metal flow in cylindrical induction pump with inductors producing travelling mag. field, anal. *(German)* 7—63107
- magnetics conference, Phoenix, AZ, USA (April 1986) 7—29572
- magnetised compressible media, spatial mapping and time reversal 7—20097
- magnetoencephalogram topography and source model of abnormal neural activities associated with lesions 7—47032
- magnetopause neutral points location in static MHD equilib. model 7—34798
- magnetosphere, reconnection model, magnetic and electric field behaviour 7—14414
- magnetosphere, standing waves struct., elec. and mag. field obs. 7—9326
- magnetostatic leakage fields of surface defects, math. model and defect size determ. applic. 7—39819
- magnetotail, chaotic particle dynamics near 2D mag. neutral point 7—34799
- magnetotail, plasma and mag. field var. assoc. with substorms 7—60486
- magnetotail, plasma dynamics and mag. fields *(Russian)* 7—9321
- magnetron sputtering cathode, CAD using finite-element program 7—46316
- Maxwell's equations, correction for signals, magnetic current density addition, and comments and replies 7—42830
- moving-magnet instrument, magnetic field computation *(Rumanian)* 7—24642
- multifilamentary superconducting conductors, AC eddy current losses caused by tangential magnetic field *(Slovak)* 7—58952
- open magnetic field lines, differential eqns. 7—15799

magnetic fields continued
- parametric magnetic head field eqns., generalised Poisson integral approach 7—42839
- permanent magnet structures, transverse helical field production 7—50449
- permanent magnets, cylindrical symmetric field shaping 7—50448
- plasma and magnetic field compression by liner, self-similar solutions 7—44231
- plasma deflagration gun, simple model including self-consistent electric and magnetic field 7—32138
- plasmapause, electron density var., possible mag. field effects 7—60449
- potential formation in a plasma flowing along aconverging magnetic field *(Japanese)* 7—6374
- pressure variation in coaxial plasma experiments with low inductance drivers 7—32077
- pulse generation circuit for fast-rising pinching magnetic field, circuit anal. 7—32135
- pulsed power systems for modified betatron accelerator 7—30793
- rectangular slot, mag. field intensity concentrator calc., NDT appl. 7—3560
- reluctivity characts. in nonlinear finite element anal. of magnetostatic fields 7—42846
- scattering problems, hybrid iterative method 7—20099
- self-consistent equilibrium states of electron beam in longitudinal magnetic field 7—57224
- SEM type-1 magnetic contrast, rel. to mag. field vector pot. 7—56378
- short magnetic cylinder in transverse time-harmonic mag. field, 7—62574
- surface magnetostatic wave, space-frequency dependence of energy flux 7—33158
- surface waves at a plasma–metal boundary, propagating at right angles to a magnetic field 7—37699
- theta pinch, magnetic field swelling around civil axis *(Japanese)* 7—51501
- topology near neutral points in resistive MHD and collisionless plasma approximations 7—37653
- toroidal fields, Namikawa-Matsushita antidynamo theorem extension 7—18352
- torus, constant-alpha force-free fields, boundary integral eqn. approach 7—51418
- troidal plasma devices, system for mapping magnetic field errors 7—51500
- Universe, mag. field and rot. 7—40963
- vector diffraction theory, plane wave and spread function decompositions 7—62599
- vertical Bloch lines and mag. domain walls, 1D anal. 7—59091
- vortex field, 2D, with boundary conditions of 3rd kind, numerical determ. for tube drawing, inductive heating *(German)* 7—33811
- wire target surface laser irrad. plasma prod., mag. field variation 7—16316
- Nb$_3$Al, supercond. transition and mag. fields, muon spin resonance studies 7—52878

magnetic films *see magnetic thin films*

magnetic fluids
- anisotropic viscous behaviour, transport phenomena 7—32272
- dissociation-association equilibrium of magnetic particle chains in homogeneous magnetic fields, statistical theory 7—33971
- effective field investig. 7—54197
- ferrofluid, mag. saturated, particle pair correlation 7—59102
- ferrofluid, near mm wavelength studies of refr. indices by dispersive Fourier transform spectra 7—53289
- ferrofluid, pumping by rotating mag. field 7—13005
- ferrofluid droplet shape stability in magnetic field 7—6324
- ferrofluid jet in mag. field, droplet form. using capillary nozzles 7—37553
- ferrofluid-Al particle composite, microwave absorption studies 7—59306
- ferrofluid-polystyrene spheres composite, chain formation 7—59100
- ferrofluids, mag. filtration 7—59101
- ferromagnetic fluid, phase transition existence using correlation inequalities 7—17174
- internal rot., constitutive eqn. 7—43922
- Kelvin-Helmholtz instability, nonlinear theory 7—11387
- Legendre transformation in steady plane MHD flows of a viscous fluid 7—63229
- liquid, film flow stability 7—51329
- liquid, motion in two rot. fields of different polarity 7—51328
- liquid, surface tension model 7—54199
- liquid, water-based, elastic parameters 7—54198
- liquid and frozen, magnetisation processes 7—59060
- liquids, hydrodynamic eqns., kinetic coeffs., internal rots. effects 7—51327
- lyotropic nematic mesophases doped with different conc. of ferromag. grains 7—21091
- magnetic oxide particles in suspension, conc. and permeability, electronic meas. 7—48783
- magnetics conference, Phoenix, AZ, USA (April 1986) 7—29572
- magnetisation, acoustic perturbation 7—54196
- magneto-optical effects, birefringence 7—59186
- magnetorheological suspensions, struct., phys. props. and dynamics 7—37521
- rotational pyrometer, precision temperature measurement 7—311
- susceptibility calc. at low fields and low frequencies 7—13004
- Taylor instability, mag. field effects 7—31738
- thin layer coating, hydrodynamic drag, num. investig. 7—51061
- Cs, liquid alkali metals, temp. depend. of mag. susceptibility 7—33152
- α-Fe$_2$O$_3$ particles in silicone oil, mag. suspension, rheology 7—37408
- Fe$_3$O$_4$ particles in magnetic fluid, surface mag. props., Mossbauer spectra study 7—45756
- ^{3}He, liquid, magnetic properties, density functional anal. 7—21559
- Hg-Cs, liq. alloy, molar mag. susceptibility, temp. depend 7—7494
- Hg-Tl, liq. alloy, molar mag. susceptibility, temp. depend 7—7494
- K, liquid alkali metals, temp. depend. of mag. susceptibility 7—33152
- Li, liquid alkali metals, temp. depend. of mag. susceptibility 7—33152
- Na, liquid alkali metals, temp. depend. of mag. susceptibility 7—33152
- Rb, liquid alkali metals, temp. depend. of mag. susceptibility 7—33152

magnetic flux
- *see also flux creep; flux flow; flux-line lattice; flux pinning; fluxmeters; skin effect*
- bucket iron sources, plasma flow operation conditions obs. 7—20881
- carrier domain magnetometer, introduction and history 7—18845
- coaxial pipe, magnetic, impedance 7—5815
- coil constant determ. in in γ'-$_p$ expt. at PTB 7—18739
- eddy currents, flux reflection and flux conc. effects, 3D finite element anal. 7—42845
- flat plate steel conductor impedance to earth fault currents 7—62582
- flux-gate compass for automobile navigation 7—330

magnetic flux continued
- high speed rotating disk, asymmetrical eddy currents and conc. effect of mag. flux 7−5814
- linking and enclosing magnetic flux 7−35844
- quantum meas., NRLM work relating to precision meas. and fundamental constants 7−14915
- rotation frequency sensing units, white longitudinal mag. flux pulsations *(Russian)* 7−14983
- superconducting magnetic levitation system for magnetic flux quantum determ. 7−18846
- superconducting thin plate, magnetic flux dynamics eqns. 7−33132
- Co-Pt-M (M=Cs,Mo,W,V,Nb,Ta,Ti,Zr,Ge), thin film media for high density recording *(Japanese)* 7−7567
- Fe-Ni-Si-B glass alloy, liq. quenched, saturated mag. flux density, effect of peening 7−13611
- Pb In type II cylindrical superconductor, AC losses, circular magnetic field effects 7−52895

magnetic flux jumping *see Meissner effect*

magnetic glasses *see spin glasses*

magnetic hardness *see ferromagnetic properties of substances*

magnetic heads
- domain imaging with scanning Kerr effect microscope 7−45725
- magnetics conference, Phoenix, AZ, USA (April 1986) 7−29572
- magnetooptical visualisation of mag. field distrib. 7−61359
- magnetoresistive elements, Barkhausen noise meas., magnetoresistive suscept. method 7−48785
- parametric magnetic head field eqns., generalised Poisson integral approach 7−42839
- Permalloy thin films heads, RF sputtered, mag. props. 7−33235
- Fe-Ni soft magnetic film single-pole readout head, induced RF permeability variation 7−53072

magnetic hysteresis
- amorphous alloys, remagnetisation, influence of surface condition *(Russian)* 7−59057
- anisotropy and microstructure analysis by mag. measurement 7−33166
- automatic hysteresis measurement system with high accuracy 7−4871
- digital simulation, simplified 7−64489
- displacement transducers, error sources in dynamic appls. 7−48712
- elongated-single-domain particles, rotational hysteresis, chain-of-spheres model 7−59063
- ferromagnet in unidirectional field *(Russian)* 7−12997
- ferromagnetic cores, magnetisation, odd harmonics and secondary EMF 7−2889
- ferromagnetic hysteresis, domain wall pinning, mathematical model anal. 7−7544
- ferromagnetic materials, magnetoacoustic and Barkhausen emission study NDT appl. 7−45749
- loop mapping procedures, models to expt. results 7−53035
- low freq. meas., well-defined time depend. of flux density, meas. system 7−29985
- magnetic stripe domain structs., stability and temp. hysteresis model calcs. 7−7535
- mathematical models 7−31210
- metallic glasses, magnetic properties *(French)* 7−27515
- multifilamentary superconducting wires, hysteresis losses 7−22064
- oxide recording media, static hysteresis loops, Fourier anal. 7−33213
- particulate magnetic recording tapes, hysteretic props. ang. depend. studies 7−53058
- particulate recording media, magneto-optic Kerr effect hysteresis loop meas. 7−48782
- polycrystalline ferrimagnets, shape of grains influence on magnetisation curve and hysteresis loop 7−45746
- rare earth high energy product permanent magnets, magnetising and B/H hysteresis loop meas. 7−53046
- soft magnetic materials, specific magnetic loss meas. at remagnetisation freq. 50 Hz to 200 kHz 7−9850
- steel, low-field mag. hysteresis 7−64483
- steel, Ni-Cr-Mn, ferromag., mag. hysteresis loops, effects of grain size, hardness and stress 7−64482
- steel, stainless, ferromag., mag. hysteresis loops, effects of grain size, hardness and stress 7−64482
- textured polycrystalline magnet, hysteresis and rotational hysteresis 7−64485
- TTF-BDT (Au), spin-Peierls phase diagram, high temp. sp. ht. and suscept. meas. 7−59026
- two dimensional vector hysteresis model, computationally fast 7−64481
- Al, anodic oxidation coatings, electrolytic colouring, mag. field effects *(Japanese)* 7−59662
- $BaFe_{12}O_{19}$ acicular media for perp. mag. recording, dynamic props. 7−59061
- $BaFe_{12}O_{19}$ powders, coprecipitated, magnetisation reversal, mag. dilution effects 7−53062
- $Bi_xDy_{3-x}Fe_{3.8}Al_{1.2}O_{12}$ garnet films, magneto-optical props. 7−64614
- $Ce(Co,Cu,Fe)_6$, magnetically hard, heat treatment effects on struct. and mag. characts. 7−27564
- Co, low-field mag. hysteresis 7−64483
- Co-CoO multilayered films, exchange anisotropy 7−27579
- Co-Cr films, sputter deposited, effects of additive gases on mag. props. 7−27575
- Co-Si-B amorphous alloys, mag. props., annealing effects 7−27513
- $Co_{1-x}Ca_xFe_2O_4$, single domain-superparamagnet transition 7−17203
- CoCr films, magnetisation reversal mechanisms 7−59068
- CoCr sputtered perpendicular recording media, with columnar microstruct., reversal mech. 7−7552
- CoCrTa sputtered films, microstruct. and mag. props. studies 7−12575
- Cu-Mn-Al alloys, mag. and structural props. study 7−2895
- DyIG:Ga,Bi, RF sputtered films for magneto-optical memory, mag. props. 7−64613
- Fe epitaxial monolayers on the Au (100), surface magneto-optic Kerr effect 7−59080
- Fe, low-field mag. hysteresis 7−64483
- Fe-Ni Invar, high-field hysteresis and ferromag.-antiferromag. coexistence 7−22122
- Fe-Sc alloys, struct. and mag. props., NMR and X-ray diffr. studies *(Russian)* 7−6578
- Fe-Si, electrical steels and alloys, conf., Vladimir, USSR (Dec. 1984) 7−9576
- Fe-Si, rapidly quenched ribbons, grain growth, mag. props. 7−8017
- Fe-Si, structure, texture and mag. props. 7−12995

magnetic hysteresis continued
- Fe-Si (3 wt.%), domain structure and mag. props., influence of plane tension and insulating coatings 7−12991
- Fe-Si (3 wt.%), specific magnetic loss meas. at remagnetisation freq. 50 Hz to 200 kHz 7−9850
- Fe-Si (3.2 wt.%), mag. props., influence of substructural features 7−12996
- Fe-Zr, amorphous, high-field magnetisation hysteresis, spin glass clusters 7−2898
- $Fe_{80-x}Cr_x(SiB)_{20}$ amorphous alloy, induced anisotropy, melt spinning effects *(Russian)* 7−59004
- $Fe_{3-2}N$ film, hexagonal, prep. by plasma reaction, mag. characts. 7−13380
- $Fe_{76}Nd_{16}B_8$ plasma sprayed permanent magnets, characts. 7−45754
- $Fe_{77}Nd_{15}B_8$-based melt spun ribbons, crystallisation and mag. props. 7−26662
- Fe_3O_4, magnetite, hysteresis props. rel. to particle size 7−14268
- Fe_3O_4, magnetite-laced microspheres, mag. moment meas. 7−53064
- Gd-Tb-Co-Fe sputtered amorphous films, Kerr magneto-optical effect, anisotropy dispersion effects 7−38913
- Gd_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7−53039
- Li ferrites, microstruct. effects on mag. props. *(German)* 7−59052
- Mn-Al-C, anisotropic permanent magnet, rotational hysteresis 7−53050
- Mn-Ga, amorphous film, prep. by ionised cluster beam deposition 7−3205
- $Mn_3Al_2Si_3O_{12}$ spin glass, dynamic and static scaling exponents 7−38879
- $Mn_{0.53}Zn_{0.35}Fe_{2.12}O_4$, single cryst. surface damage depth meas. 7−52979
- $Mn_{1-x}Zn_xFe_2O_4$ ferrite cores, hysteresis losses 7−33210
- Nb_3Sn fine filament internal-tin superconductors, hysteresis losses 7−2778
- Nd-Fe-B based permanent magnets, hysteresis loop and mag. anisotropy 7−53031
- Nd-Fe-B sintered magnets, hysteresis loops, anal. 7−33215
- $Nd_{15}Fe_{77}B_8$ permanent mag., rotational hysteresis energy and magnetisation reversal 7−64492
- $Nd_2Fe_{14}B$ sputtered films, perpendicular anisotropy 7−53073
- Ni, low-field mag. hysteresis 7−64483
- Ni-Mn disordered alloys, ferro-spin-glass domain model calcs. 7−59025
- Sm-Co-B rapidly quenched ribbons, hard mag. props. and struct. 7−53048
- TbCo, amorphous sputtered films, mag. props., film struct., comp., internal stress meas. *(Japanese)* 7−7570
- TbFe amorphous alloys, magneto-optical props. and mag. anisotropy 7−27706
- Tb_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7−53039
- U-based mag. alloys, mag. props. and electronic struct. *(Russian)* 7−12967
- U-Co system, mag. props., influence of hydriding 7−45750
- $U_3Sb_3Cu_2$, cryst. struct., mag. props. 7−38864
- $Y_2Fe_{14}B$, magnetic props., H_2 absorption effects 7−38906
- YIG, ferromagnetic hysteresis loop, grain size distrib. effect 7−27556
- YIG:Ga, Bi, RF sputtered films for magneto-optical memory, mag. props. 7−64613

magnetic impurity interactions
- antiferromagnetic metals and alloys, 4f-local moments, SDW instability 7−58970
- bound magnetic polarons, variational model in adiabatic approx. 7−12624
- braunites, $Mn^{2+}Mn_6{}^{3+}SiO_{12}$:Fe(Ca)(Al), antiferromagnetism and spin glass order, mag. meas. 7−27518
- crystals, toroidal ordering and impurity scattering 7−38838
- dilute mag. alloy system, external mag. field, thermodynamic props. anomalies 7−45666
- Ising ferromagnet, magnetism at site-bond diluted anisotropic free surface 7−2800
- Ising model, ferromagnetic, 3 D, with quenched random nonmagnetic impurities 7−17190
- Josephson tunnel junction, ordered magnetic impurities in barrier region near critical temp. 7−58961
- metals, magnetic impurity spin coupling, s-d mixing interaction envelope function calcs. 7−2814
- one-dimensional periodic Anderson Hamiltonian, effect of disordered conc. nonmagnetic impurities 7−27517
- quasi-1D mag. systems, impurity low lying states *(Russian)* 7−52975
- $(TMTSF)_2(ClO_4)_{1-x}(ReO_4)_x$, supercond. ground state, role of anions 7−45555
- transition metal fluorides, mixed, Raman scatt. by localised and magnon modes 7−46027
- weakly localised regime, effect of mag. impurity on conductivity 7−2839
- $CdIn_{0.3}Cr_{1.7}S_4$ spin glass, equilibrium mag. fluctuations 7−64452
- Ce impurity system, degenerate Anderson model, Bethe-ansatz soln. 7−2559
- $CeNi_{5-x}Fe_x$, mag. and cryst. props., effect of H absorpt. 7−33168
- $CeNi_{5-x}Mn_x$, mag. and cryst. props., effect of H absorpt. 7−33168
- $Co_xMg_{1-x}O$, Neel temp., var. with mag. dilution 7−27516
- $CsNiFeF_6$ spin glass, equilibrium mag. fluctuations 7−64452
- $DyLiFeO_3$, orthoferrite, mag. props. 7−2824
- Fe-Au system, low Au conc., low temp. nucl. orientation and NMR-ON studies 7−2936
- Fe-Pt, dilute alloys, ferromagnetic, internal mag. fields, impurity conc. dependence 7−38858
- $Fe_{83}B_{17}$ with V, Cr, Mn or Nb, amorphous, mag. contrib. to thermopower 7−45287
- $Fe_{74}Co_{10-x}Cr_xB_{16}$, amorphous, prep. by melt spinning, X-ray diffr., DSC, Mossbauer studies 7−46369
- $LiFe_{4.5}Al_xGa_yO_8$, magnetisation and lattice parameter, role of Al and Ga ions 7−22097
- $Mn_{0.97}Ti_{0.03}As$, mag. phase transitions, effect of Ti additions 7−27519
- $Nd_2(Fe_{0.67}Al_{0.33})_{14}B$, reduction of mag. hyperfine fields and Curie temp. on Al substitution, Mossbauer spectra 7−38859
- $Nd_2Fe_{14-x}M_xB$, (M=Co,Ni,Cu,V,Al,Cr,Mn), crystallographic and mag. props. 7−27522
- $Nd_2(Fe_{0.67}Si_{0.33})_{14}B$, reduction of mag. hyperfine fields and Curie temp. on Si substitution, Mossbauer spectra 7−38859
- Pd-Fe:B(O), mag. susceptibility, impurity effects 7−27520
- $Rb_{1-x}Cs_xFeCl_3$, random singlet-magnetic ground state system, mag. ordering effects 7−33167
- $YLiFeO_3$, orthoferrite, mag. props. 7−2824
- Yb impurity system, degenerate Anderson model, Bethe-ansatz soln. 7−2559

magnetic inks *see magnetic fluids*
magnetic leakage
flat plate steel conductor impedance to earth fault currents 7—62582
irreversible Barkhausen jumps of sinusoidally moving 180° domain wall, induced losses, multidomain wall model 7—27555
magnetostatic leakage fields of surface defects, math. model and defect size determ. applic. 7—39819
metallic glasses dynamic magnetisation 7—33218
steel, Si-Al, core loss reducing effect of AP 7—33208
superconductors and magnetic materials, internal fields 7—17131
Fe-Si, rapidly quenched ribbons, grain growth, mag. props. 7—8017
Fe-Si (3.3 wt.%), grain-oriented, domain refined, core losses 7—33692
Fe-Si anisotropic elec. engineering steels, EM losses, thermomechanical treatment effects *(Russian)* 7—59550
Fe-Si-Al, carbide precip. kinetics, core loss 7—8001
Fe-Si-Al, electrical steel sheet, rollability, core losses *(German)* 7—59549
Fe-Si-Ni (6.5, 2 wt.%), development of Goss texture, lowering of core loss 7—33693
$Fe_{80}B_{14}Si_6$ amorphous ribbons, anisotropy of losses 7—45658
NdFe alloys, magnetic moment irreversibility from temperature cycling 7—33194
R-Co alloys, magnetic moment irreversibility from temperature cycling 7—33194
magnetic lenses
see also aberrations
aberration theory for electrostatic round lenses, multipole lenses and deflectors 7—1021
camera tubes magnetic focusing and deflection systems *(Chinese)* 7—10837
combined electric-magnetic focusing-deflection system, relativistic fifth order geom. aberration eqn. 7—10838
deflection magnets, set of independent aberration coeffs. 7—1019
in-lens spectrometer for electron beam testing, secondary electron trajectories and fields calc. 7—61405
saturated objective, electron opt. parameters computation 7—18937
solenoidal magnetic lens, space-charge correction of spherical aberration 7—5825
STEM microanalytical system design 7—56382
STEM objective lens, high excitation, Munro programs data variations effect on predicted opt. props. 7—18933
TEM lens shape with min. spherical aberration coeff., computation method 7—18936
magnetic levitation
digital controller for a magnetic suspension system 7—333
eddy currents calc. in parallel circular loop moving above conducting slab 7—31213
gyromagnetic compass bearings anal., appl. of current flow junction *(Polish)* 7—30051
inertial clock based on computer controlled servo-driven corotation system with superconducting suspension 7—14927
single-axis magnetic suspension systems with digital controllers 7—332
superconducting body for magnetic flux quantum meas., NRLM work 7—14915
superconducting magnetic levitation system for magnetic flux quantum determ. magnetic flux quantum determ. 7—18846
magnetic lines of force *see magnetic flux*
magnetic liquids *see magnetic fluids*
magnetic losses *see eddy current losses*
magnetic materials
see also ferrites; garnets; magnetic fluids; magnetic thin films; permalloy; permanent magnets
fusion reactor materials, conf., Chicago, IL, USA (Apr. 1986) 7—48145
fusion reactors, near term, key materials issues 7—49620
magnetic materials, amorphous *see magnetic properties of amorphous substances*
magnetic memories *see magnetic storage*
magnetic mirrors
axisymmetric magnetic mirror, whistler mode electron cyclotron reson. plasma startup and heating, X-ray meas. 7—37707
axisymmetric MHD stable sloshing ion distributions 7—57985
axisymmetric mirror at high beta, stabilisation study 7—44217
axisymmetric ring confinement system with retrograde-drifting particles 7—63331
beam-plasma, electron cyclotron instability 7—44227
collisional plasma, axial confinement, mirror ratio scaling 7—37727
conf., Saskatoon, Canada, May 1986 7—29595
Constance B, high beta hot electron expts., ECRH-induced diffusion, electron micro-instabilities 7—32064
density profiles across mag. field gradient, single detector diagnostics 7—44246
drift cyclotron loss-cone instability, 3D mode struct. 7—37728
EBT, hot electron ring geometry, implications for stability 7—44215
EBT, neutral density and particle confinement time meas. 7—1722
ECRH in tandem mirror, electrostatic potential, electron density 7—6363
electron cyclotron absorption and amplification in mirror-confined plasmas, ang. and momentum distrib. depend. 7—37679
fast wave plasma heating, diamagnetism obs. 7—20907
field-reversed configurations, electrostatic confinement in edge layer 7—26492
field-reversed mirrors, axisymm. eigenmodes calcs. 7—32046
first wall/blanket structures, comparison of tokamak and tandem mirror designs 7—25190
FRX-C/T compact toroid translation expt., design and performance 7—25225
fusion reactor concept, axisymmetric tandem mirror and heliac stellarator aspects 7—5407
GAMMA 10 tandem mirror, space potential meas. and potential confinement 7—32063
GAMMA-10, tandem mirror, hot electron meas. by X-ray, plug potential formation with thermal barrier 7—32062
interchange mode in mirrors, parametric stabilisation by ICRF 7—37669
LISA, RF heating by cylindrical plasma waveguide modes 7—32019
low-frequency electromagnetic perturbations in tandem mirrors, var. quadratic calcs. 7—37680
MFTF-B, background gas pressure diagnostic, electrical and mech. design 7—25220
MFTF-B, mag. field alignment diagnostic for magnet system, design 7—25221
MFTF-B, structural mechanics methods for design optimisation 7—5411
magnetic mirrors continued
MFTF-B mag. field alignment diagnostic, electron-beam source development 7—25222
MIMIMARS halo model and computer code 7—15335
MINIMARS, tandem mirror direct converter design for high-temperature heat recovery 7—25212
Monte Carlo simulation for space-varying mag. fields *(Chinese)* 7—37719
neutral beam injected mirrors, relax. to steady state 7—37731
neutral-particle densities outside the TMX-U plasmaedge 7—1777
particle balance meas. using diagnostic system in TMX-U 7—1767
Phaedrus-B, phased antenna experiments in the central cell 7—32067
Phaedrus-B, tandem mirror, ion trapping and pumping in thermal barrier region 7—32065
Phaedrus-B Tandem Mirror, Thomson scatt. electron temp. meas. in east end cell 7—26522
RFC-XX-M, negative potential mode 7—32068
RFC-XX-M mirror-cusp device, plasma waves and turbulence meas. using CO_2 laser 7—26529
rotating magnetic fields, RF driven, plasma confinement appl., self-consistent calc. 7—796
steady state whistler turbulence and stability of thermal barriers in tandem mirrors 7—37681
tandem mirror, axisymmetric stabilising element 7—1719
tandem mirror, axisymmetric thermal barrier form., hot electron prod. 7—11656
tandem mirror, microwave heating, shift in plasma column position 7—51476
tandem mirror, Phaedrus, ion cyclotron freq. stabilisation of m=1 interchange mode 7—44220
tandem mirror, thermal barrier, pot. drops, struct. 7—63333
tandem mirror, thermal barrier potential, electron cyclotron reson. heating 7—51496
tandem mirror reactors, fuelling requirements 7—15317
tandem mirror transport, temp. gradient effect on neoclassical scaling 7—51406
tandem mirror with quadrupole symmetry, analytic equilib. 7—26490
tandem mirrors, MHD modes with finite Larmor radius, destabilisation 7—26491
TANDEM program for axisymmetric tandem mirror device magnetic configs. 7—42192
Tara, 137 GHz gyrotron diagnostic for instability studies 7—11750
TARA tandem mirror, ECE diagnostic using fast scanning Michelson interferometer 7—11744
Tara tandem mirror, heating, gas press. meas. and control 7—63337
TARA tandem mirror, heavy ion beam probe design 7—25223
Tara tandem mirror central cell, Thomson scatt. methods for optical diagnostics 7—1747
Tara tandem mirror experiment, recent results 7—32066
TMX-U, drift pumping, concepts and development 7—26494
TMX-U, $E\|B$ end-loss-ion analyser 7—25218
TMX-U, halo recycler, design, operation 7—25201
TMX-U, neutral particle time-of-flight analyser for escaping particle vel. distrib. 7—25219
TMX-U, optically thin perpendicular electron cyclotron emission from hot electrons 7—11745
TMX-U, perpendicular electron cyclotron emission meas. system for electron temp. 7—11746
TMX-U, plasma potential control system 7—36248
TMX-U, plasma potential diagnostic, hardware and calibration system 7—25224
TMX-U, Ti-Ta sublimation getter pumping system and performance, computer control 7—25184
TMX-U, time-of-flight neutral particle analyzer, velocity distn., ion temp. meas. 7—32093
TMX-U central cell heating and fueling expts. 7—32069
TMX-U overview, engineering developments 7—15358
TMX-U tandem mirror experiments 7—30662

magnetic moments
see also atomic magnetic moment; elementary particle magnetic moment; local moments in dilute systems; molecular moments; nuclear magnetic moment
acicular magnetic particle orientation behaviour, dynamical anal. 7—45759
antiferromagnetic, X-Y model, triangular lattice in mag. field, phase diagram, spin wave free energy calcs. 7—17178
β-bis(ethylenedithiolo)tetrathiofulvalene iodide, organic superconductor, ^2H spin-lattice relax., temp. depend. study 7—53171
chiral mols., vibr. mag. dipole transition moments, rot. strengths, SCF HF calcs. 7—49885
continuous-symm. ferromagnet, weak random anisotropy, wandering moments and resonances, perturbation calcs. 7—64451
copper phthalocyanine iodide, quasi 1D conductor, transition of local moments coupled to itinerant electrons 7—2815
diffusion equation soln. for particles with magnetic moments in inhomogeneous mag. field *(Russian)* 7—44893
disordered mag. materials, competing anisotropy, micromagnetism approx. *(Russian)* 7—33163
electrodynamics, field theory on $R\times S^3$ topology 7—30271
ferromagnetic amorphous ribbons, melt spinning prep. in external fields 7—22608
ferromagnetic superconductors, mixed state, surface tension 7—52919
ferromagnetic-nonferromagnetic supercond. superlattices, vortex pinning 7—45591
films, magnetisation distrib. and magnetostatic energy at film edge 7—59073
iron porphyrin complexes, mag. moment susceptibility, Mossbauer study 7—22168
Kondo lattice, heavy fermion band form., effective magnetic moments, and Wilson ratio, relativistic KKR calcs. 7—22091
magnetic dipole—emission during uniform motion in homogeneous medium *(Russian)* 7—20120
magnetically ordered regions in crystals with dislocations, static susceptibility 7—38851
metallic glasses, laser annealed struct. and magnetoelastic props., effects of surface characts. 7—45785
permanent magnet linear undulator for ENEA free electron laser expt., dipole moment meas. 7—43151
planar magnetic materials with biquadratic exchange, nonlinear magnetisation waves 7—17165

magnetic moments continued
rare earth alloys, RMn_2, R=heavy rare earth, mag. state, spin echo NMR spectra 7−27629
spherical model, fluctuation effects and phase transitions 7−33192
transition metals and their alloys, mag. atoms, quantum statistical ab initio theory 7−58969
uniaxial ferromagnets, magnetic moment kinetics, magnetic anisotropy, spin wave decay and dispersion calcs. *(Russian)* 7−17166
Vavilov-Cherenkov radiation, elec., mag. and toroidal dipole moments in thin channels 7−56059
Al-Mn alloy icosahedral quasicryst., mag. and elec. props. studies 7−2858
$Al_{1-x}Mn_x$ cryst. and quasicryst. alloys, struct. and mag. props. 7−1949
$Al_{80}Mn_{20}$, quasicrystalline icosahedral phase, sp. ht., mag. props. 7−52955
$BaCa_{1/2}Sr_{1/2}Fe_4O_8$, mag. ordering 7−45624
$BaCo_2Fe_{16}O_{27}$, hexagonal ferrites, neutron diffr. studies 7−45622
$BaFe_{12}O_{19}$, hexagonal ferrites, neutron diffr. studies 7−45622
$BaMg_2Fe_{16}O_{27}$, hexagonal ferrites, neutron diffr. studies 7−45622
$CeNi_{5-x}Fe_x$, mag. and cryst. props., effect of H absorpt. 7−33168
$CeNi_{5-x}Mn_x$, mag. and cryst. props., effect of H absorpt. 7−33168
$CeRh_3(Bi_{1-x}Si_x)_2$, 4f shell dehybridisation, Curie temp. and mag. moments 7−45679
CfX (X=N,As,Sb), mag. susceptibility meas. 7−12939
Co, BCC and FCC forms, ferromag. phases investig. 7−2851
Co-B alloy, amorphous, thermodynamic, thermomag. and struct. studies *(French)* 7−16438
Co-Y amorphous alloys, high-field susceptibility, spin wave stiffness const. 7−33150
Co-Y amorphous alloys, mag. props. 7−58990
$(Co_{1-x}Mn_x)_2B$, crystalline and amorphous, mag. and elec. props. 7−2827
$Co_{1-x}Rh_x(Ru_x)S_2$, prep., mag. and crystallographic props. 7−33154
Co(001), metastable BCC phase, electronic struct. and magnetism 7−45418
Cr (100), electronic struct. and surface magnetism at finite temps. 7−12776
Cr, magnetovolume, thermal expansion and Gruneisen parameters 7−33260
Cr-BN amorphous films, supercond. transition temp. 7−27454
Cr-V alloy, magnetovolume, thermal expansion and Gruneisen parameters 7−33260
CrAs, local spin density and paramagnetic susceptibility 7−38844
$Cr_{1-x}Mn_xGe$, cryst. and amorphous, mag. characts., substitution effects 7−59009
CrTe-CrSe system, mag. phase diagram 7−22105
$CuFe_{2-x}Al_xO_4$ system, mag. props. 7−45740
$DyLiFeO_3$, orthoferrite, mag. props. 7−2824
$Dy_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7−27305
Er formate dihydrate, circular dichroism meas. 7−17301
Er_2Co glasses, electronic struct., photoemission and magnetism 7−64060
$Er_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7−27305
$EuRh_{1.5}Sn_{4.2}$, anomalous mag. and elec. props. 7−64440
EuSe, mag. phases, press., alloying effects, NMR and mag. studies 7−2847
Fe (100), finite temp. surface magnetism 7−52949
Fe, BCC and FCC forms, ferromag. phases investig. 7−2851
Fe, FCC metastable phase epitaxial films on Cu local mag. moment, XPS study 7−53504
Fe overlayers or sandwiches with Cu (001), electronic and mag. props. 7−64499
Fe surface magnetism, effect of adsorbed O 7−58973
Fe-Al disordered alloys, electronic struct., mag. props. and Mossbauer spectra 7−64073
Fe-Co-Ni amorphous alloys, anisotropic magnetoresist. studies 7−58793
Fe-Co-Ni cryst. alloys, anisotropic magnetoresist. studies 7−58794
Fe-Co-Si-B and Fe-Ni-Si-B glass, liq.-quenched, cooling condition depend. of saturated mag. flux density 7−58991
Fe-Cu evaporated film, composition distrib. and mag. props., Mossbauer meas. 7−7561
Fe-Cu metastable alloy sputtered films, mag. props., X-ray diffr. and Mossbauer meas. 7−7560
Fe-Cu-Ni, FCC ternary alloys, mag. props. 7−22852
Fe-N mag. moments and bulk prep. by reduction-sintering method with heat treatment 7−7936
Fe-Ni-Zr metallic glasses, Ni contrib. to magnetism 7−53183
Fe-R intermetallics, (R=rare earth), intersublattice mol. field studies 7−27306
Fe-Sc alloys, struct. and mag. props., NMR and X-ray diffr. studies *(Russian)* 7−6578
Fe-Sc amorphous alloys, Curie temp., mag. moment and magnetovolume effects 7−33172
Fe-V superlattices and alloys, magnetism study 7−64436
Fe-Zn alloys, sputtered, X-ray diffr., magnetisation and Mossbauer studies 7−59075
Fe-Zr, amorphous, superparamagnetic behaviour 7−2904
Fe_{13} clusters, icosahedral and cubo-octahedral coordination, electronic struct., first-principles method calcs. 7−45132
$Fe_{90-x}B_xZr_{10}$, amorphous, B addition effect on mag. props., elec. resistivity, crystallisation *(Chinese)* 7−7487
$Fe_{1-x}Co_x$, spin-polarised positron annihilation and mag. moments 7−53439
Fe_xGe_{1-x} amorphous magnetic alloys, d-band occupancy, EELS study 7−64059
$(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, ferromagnetism onset, magnetovolume effect study 7−2845
$FeNiCr_{0.20}$, spin glass, phase transition, mag. suscept. study 7−53004
$FeNiMn_{0.15}$, spin glass, phase transition, mag. suscept. study 7−53004
$(FeNi)_xPd_{1-x}$, atomic mag. moments, magnetisation meas. *(Russian)* 7−17198
$(Fe_{1-x}Ni_x)_{77}Si_{10}B_{13}$, amorphous, effective mag. moment, Curie temp. *(Korean)* 7−27503
$Fe_{1-x}O$, wustite, electronic struct. and X-ray absorption spectra 7−2479
Fe_3O_4, magnetite-laced microspheres, mag. moment meas. 7−53064
Fe_xSi_{1-x} amorphous magnetic alloys, d-band occupancy, EELS study 7−64059
$Fe_{1-x}V_x$, polarised neutron study 7−52940
$Fe_1{-}xCr_xBO_3$, weak ferrimagnetism, antisymmetric exchange 7−45741
Gd-Co, amorphous, influence of hydrogenation or mag. props. 7−2899
Gd-Co, anisotropic ferrimagnets in high mag. fields 7−17200
Gd_2Co glasses, electronic struct., photoemission and magnetism 7−64060
Ho formate dihydrate, circular dichroism meas. 7−17301

magnetic moments continued
Ho_2Co_{17}, intersublattice mol. field calc. 7−27511
$Ho_2(CoFe)_{17}$ intermetallics, high field magnetisation studies 7−53038
$La(Cr_xMn_{1-x})_2Ge_2$, layer struct. intermetallic cpd., mag. props. comp. depend. studies 7−7489
MnF_2 and site-diluted $(Mn_{0.5}Zn_{0.5})F_2$, μ^+SR studies above and below Neel temp. 7−45875
$Mn_{1-y}Fe_y$ sputtered films, mag. props. 7−38915
Na vapour, laser-excited, anomalous blue shifted emission near D_1 transition 7−49996
Nb_3Sn-NbTi hybrid superconducting magnet, Meissner magnetic image effect, magnetisation and susceptibility meas. appl. 7−4869
NdFe alloys, magnetic moment irreversibility from temperature cycling 7−33194
$Nd_2Fe_{14}B$, magnetic props., H_2 absorption effects 7−38906
$Nd_2Fe_{14}B$ sputtered films, perpendicular anisotropy 7−53073
$Nd_2Fe_{12-x}Mn_xCo_2B$, mag. props. 7−52946
NdZn, antiferromag. skew scatt. Hall effect 7−52578
Ni (110) with chemisorbed O_2 or CO, mag. props. investigated by spin-polarised electron beams 7−58994
Ni, BCC and FCC forms, ferromag. phases investig. 7−2851
Ni clusters with surface adsorbed CO, surface electronic and mag. struct. 7−21969
Ni surface magnetism, effect of adsorbed O 7−58973
Ni-Mo metallic superlattices, macromag. and micromag. props. 7−2826
$NiMn_{0.27}$, spin glass, phase transition, mag. suscept. study 7−53004
PbO-Fe_2O_3-B_2O_3 glass ceramics, mag. props. and EPR spectra of precipitated mag. phases 7−45748
PbV_2O_6, vitreous and crystalline, mag. props. 7−7473
PdMnTe, magnetisation and neutron diffr. study 7−27499
Pr_2 Fe_{14-x} Co_x B system, struct. and magnetism 7−45631
$PrCo_{4-x}Fe_xB$, crystallographic and mag. props. 7−45671
$Pr_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7−27305
$PuSb_{1-x}Te_x$ single crystals, mag. meas. 7−12959
R-Co alloys, magnetic moment irreversibility from temperature cycling 7−33194
RCo_5, (R=Tb,Dy,Ho, Pr,Nd,Ce,Sm,Gd,Er,Tm,Yb), magnetocrystalline anisotropy, rare earth contribution 7−45659
$R_2Fe_{14-x}Mn_xB$ (R ≡ Y, Nd, Pr, Gd), mag. characts. 7−27523
$R_2Fe_{12-x}Mn_xCo_2B$ (R ≡ Pr, Gd), mag. props. 7−27500
$Rb_{1-x}Cs_xFeCl_3$, random singlet-magnetic ground state system, mag. ordering effects 7−33167
$Rb_2Mn_{1-x}Cr_xCl_4$, reentrant spin glass state, quasi-2D XY system, Cl^{35} NMR spectra study 7−27613
$Sc(Co_{1-x}Al_x)_2$, anomalous high field magnetisation 7−64438
Si-Fe BCC alloy, struct. and mag. props., order-disorder transition effects *(Russian)* 7−32346
Sm-Co amorphous thin films, low temp. mag. props. *(Chinese)* 7−38910
Sm-Fe amorphous thin films, low temp. mag. props. *(Chinese)* 7−38910
SmCo permanent magnet linear undulator for ENEA free electron laser expt., dipole moment meas 7−43151
$SrFe_{1-x}Co_xO_3$ ferromag. cpd., mag. props., comp. depend., Mossbauer spectra and neutron diffr. studies 7−7539
ThNX (X=Se, Te), heat capacity, neutron diffr. and crystal field models 7−12976
U alloys, high press. magnetic and superconducting props., review 7−12952
$U_{0.95}$ $Th_{0.05}$ Pt_3, ground state antiferromag. order, neutron diffr. meas. 7−38847
UCl_4, spin-density study, covalency effects 7−12947
U_6Co, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
UFe_2, spin-polarised energy bands, density of states and eqn. of state, mag. moment formation 7−58734
U_6Fe, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
U_6Mn, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
$U(Mn_{1-x}Al_x)$, paramagnetic props. meas., temp. depend. study 7−27494
UNX (X=Se, Te), heat capacity, neutron diffr. and crystal field models 7−12976
UPt_3, heavy-fermion system, development of antiferromag. correlations 7−64435
Y-Fe-B system alloys, mag. props. 7−27563
Y_2Co_{17}, local orbital moment, recursion method calcs. 7−45640
$Y_2Co_{14}B$ intermetallic cpd., electronic struct. and mag. props., tight-binding calcs. 7−2450
YCo_3H_x mag. props. meas. 7−33217
YCo_5H_x, mag. props. meas. 7−33217
$Y_2Co_7H_x$ hydrides, cryst. struct. and mag. props., H effects *(Russian)* 7−44468
$Y_2Co_7H_x$, mag. props. meas. 7−33217
$Y_2Fe_{14}B$, electronic struct. and mag. props. recursion method calcs. 7−2452
$Y_2Fe_{14}B$, magnetic props., H_2 absorption effects 7−38906
$Y_{100-x}Fe_xH_y$ metallic glasses, mag. props., H content effects 7−33155
$YLiFeO_3$, orthoferrite, mag. props. 7−2824
$Y_2Mo_2O_7$, spin glass like behaviour 7−7524
$Y_5Ni_{95}H_x$ amorphous thin films, mag. and elec. transport props., H content effect, 1.5 to 400K *(Chinese)* 7−38909
$(Y_xZr_{1-x})Co_{2.9}$, cryst. struct., mag. props. 7−51719
YbPd, magnetic and nonmagnetic charge states 7−33144
Yb_3Se_4, crystal struct. and mag. props. *(French)* 7−63590

magnetic monopoles
't Hooft-Polyakov monopole, charge-exchange and helicity-flip scattering 7−19043
Abelian lattice gauge theories, mean field methods for strings and monopoles 7−24772
Abelian U(1) lattice gauge theory, mag. monopoles and charged states 7−24760
asymptotic scatt., bound-state spectrum and dynamical symm. 7−56424
Atiyah-Singer index theorem, boundary conditions and vacuum quantum numbers 7−61447
charge-monopole interaction, O(3,1) symm. problem 7−48943
charge-monopole scattering, Green fn. calc. 7−56584
compactification in higher dimensions, stability criteria and tensor field monopole configurations 7−189
cosmological evolution of monopole-string networks 7−56114

magnetic monopoles continued
cosmology, monopole abundance from first order GUT phase transition of early Universe 7–9572
CP violating electric charge 7–10004
CR-39 plastic track detector, underground search for massive magnetic monopoles 7–49848
Debye scalar potentials for the electromagnetic fields, mag. monopoles 7–36850
detection, from Stanford to MACRO 7–10014
dilution by inflation and entropy enhancement 7–9734
Dirac monopole induced α-particle tunnelling 7–5203
Dirac strings, magnetic monopoles and electric currents 7–15070
dynamical props. of charged fermion in 6D Abelian monopole geometry 7–19045
dyon(Kaluza-Klein)-fermion interactions 7–56583
dyon-electron bounds system, energy levels, wave functions 7–24460
early Universe, monopole-entropy ratio 7–4598
electric charge distribution around a mag. monopole, charge density 7–9934
event-160, possible explanations 7–56586
existence and link with Higgs boson 7–49039
fermion-monopole system, existence of physical charged fermions 7–35754
fractional electric charge induced on GUT monopoles, chiral anomaly effects 7–19044
GUT scale parameter, constraints 7–48488
holonomy and the Wess-Zumino term 7–48955
interactions with quark's dipole moment 7–61578
Kaluza-Klein monopoles, motion at low energy 7–14839
Kepier problem with a magnetic monopole 7–41673
Lorentzian cobordism, non-time orientable, pair creation 7–9724
magnetic flux linking and enclosure 7–35844
monopole searches 7–35865
nontrivial field configs., homotopy theory applications, review 7–24793
nucleon decay, mag. monopole catalytic reaction, appl. to galactic nuclei *(Chinese)* 7–66439
p-form electrodynamics gauge theory generalization 7–30166
particle and nucl. physics intersections conf., Lake Louise, Canada, May 1986 7–29569
Prasad-Sommerfield monopoles at wide separation, dynamics 7–48930
quantised fibre-bundled space, charged particle motion and charge density 7–41584
quantum symmetries from quantum phases, fermions from bosons, a Z_2 anomaly and Galilean invariance 7–48970
rotating Kaluza-Klein monopoles and dyons 7–9730
scalar matter field in a fixed-point compactified five-dimensional Kaluza-Klein theory 7–48492
Schrodinger non-relativistic conformal symmetries and invariant tensor fields 7–35674
searches for monopoles, status 7–36429
self-dual monopoles, scattering of gauge and Higgs fields 7–30177
SO_3 gauge field interacting with isovector Higgs field, radiative corrections, monopole model 7–15090
SU(2) lattice gauge theory with mixed action, Z(2) monopoles and specific heat 7–48962
SU(5) model, monopole-fermion interactions, Abelian and nonAbelian anomalies 7–9996
SU(n) Yang-Mills-Higgs systems, non-self-dual monopole solns. 7–9943
superconducting monopole detector, design, initial results 7–19660
supermassive relic particle search, flux upper limits 7–61516
supermassive relics, flux limits 7–49022
topologically massive gauge theories, monopoles and string tension 7–48989
trapped monopole search in magnetite 7–30901
U(1) lattice gauge theory with Higgs fields, 4 dimens., monopoles, matter representations role 7–41603
Yang-Mills theory, static multidyon solns. construction by Lorentz transformation 7–4966
zero-energy boundary state of superheavy fermion and SO(10) monopole *(Chinese)* 7–24777
$e^+e^- \rightarrow M\bar{M}$, search for magnetically charged particles 7–41777
γ-monopole$\rightarrow$monopole$+e^+e^-$, energy spectrum calcs. 7–56582
$u\rightarrow\bar{u}$, quark scattering on SU(5) colourless magnetic monopole 7–30300

magnetic permeability
amorphous ferromag. alloys, effects of stress on mag. permeability aftereffect 7–33221
ferromagnet in unidirectional field *(Russian)* 7–12997
ferromagnetic amorphous ribbons, melt spinning prep. in external fields 7–22608
ferromagnetic metals, eddy current testing, mag. permeability effect 7–22958
inhomogeneous plates, mag. permeability anal. *(Russian)* 7–33201
magnetic oxide particles in suspension, conc. and permeability, electronic meas. 7–48783
magnetics, conf., Japan (Nov.1985) 7–24259
magnetoelastic waves in a conductive thin magnetostrictive slab 7–27588
metallic glasses, laser annealed struct. and magnetoelastic props., effects of surface characts. 7–45785
orthoferrites, mag. and dielec. props. at submillimetre wavelengths 7–38990
periodic composite materials, effective transport props., multipole coeffs. 7–32974
quasistatic magnetic permeability of an amorphous ferromagnet 7–33214
reluctivity characts. in nonlinear finite element anal. of magnetostatic fields 7–42846
simple cubic lattice of conducting mag. spheres, mag. permeability 7–45742
steel, austenitic, Mn-Cr, hardening characts. and hydroextrusion parameters *(Russian)* 7–59540
steel, cryogenic, Al alloying effect on mech. and mag. props. 7–39679
steel, low C, cold rolled lamination, mag. props., Mn and S contents effect 7–7550
steel, low C, magnetoacoustic emission, magnetisation, Barkhausen effect in decarburised steel 7–33207
steel, Si-Al, Sb additions, effect on internal oxidation and mag. permeability 7–33206
$CdCr_2Se_4$, photoferromagnetic effect, magnetic impurity effects, magnetisation reversal characts. meas. 7–17154
Co-Ni-Fe underlayer for double-layer perpendicular media, vacuum deposition and mag. props. 7–27577

magnetic permeability continued
Co-rich amorphous ferromag. alloys, aftereffect of mag. permeability 7–33223
Co-Zr(Ti) amorphous films, induced anisotropy, relax. process 7–53080
CoFeCrBSi ribbons, amorphous soft mag. materials, homogeneity determ. permeability 7–64480
$Co_xFe_{3-x}O_4$ ferrites, polycrystalline, Verwey transition 7–7120
$Co_{70.4}Fe_{4.6}Si_{15}B_{10}$, amorphous alloy, mag. props. rel. to mag. coating 7–22123
$CoNbTi/SiO_2$ amorphous layered films, high freq. permeability 7–53078
$Co_{80}Nb_{10}Ti_{10}$-SiO_2, amorphous multi-layered films, mag. props. rel. to film thickness 7–2912
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7–12698
$Dy_{0.73}Tb_{0.27}Fe_2$ alloys, magnetomechanical coupling 7–45788
α-Fe, electron irradiated, residual resistivity recovery and mag. after-effect 7–27570
Fe-Al(Si) cold-rolled nonbrittle powder strip prep., texture and mag. props. 7–46370
Fe-Mn-Al alloy, mag. props., struct. and deform. texture 7–2892
Fe-Ni soft magnetic film single-pole readout head, induced RF permeability variation 7–53072
Fe-Si, structure, texture and mag. props. 7–12995
Fe-Si (3 wt.%), grain oriented, texture development for regular and high permeability 7–8008
Fe-Si-Al, Sendust films, DC opposite sputtered, mag. and crystallographic characteristics 7–7847
$Fe_{67}Co_{18}B_{14}S$ metallic glass, magnetic aftereffect, thermal treatment, positron lifetime study 7–38907
$Fe_{40}Ni_{40}B_{20}$, concentration dependence of surface insulating coating, influence on magnetic props. 7–64479
$GdFeO_3$ orthoferrite crysts., RF mag. props. and frozen rare earth sublattice 7–17225
$Gd_3Fe_5O_{12}$, initial permeability peak at low temperature 7–33212
Mo permalloy films, mag. domain walls stability, external mag. field, Lorentz microscopy 7–45780
Nd-Fe-B rapidly solidified ribbons, magnetisation, quench rate depend. 7–53034
Ni-Fe-Cu, mag. props., hardness, elec. resist., V, Nb and Ta additions effect *(Japanese)* 7–12998
Ni_3Fe, ordered and disordered, mag. permeability studies 7–59053
$Ni_{0.5}Zn_{0.5}Fe_2O_4$ ferrites, mag. spectra with temp. dependent mag. permeability *(Russian)* 7–27554
PtMnGa, Curie temp., hydrostatic press. effect 7–27527
$SmCo_5$ and Sm_2Co_{17} plastic magnets, magnetisation process, depend. of surface flux density 7–27548
YIG films, low dose ion implanted, magnetostatic backward vol. waves 7–45765

magnetic permeability measurement
high freq. core loss automatic measuring system 7–48784
magnetic oxide particles in suspension, conc. and permeability, electronic meas. 7–48783

magnetic phase diagrams *see magnetic transitions*

magnetic pinch *see pinch effect*

magnetic polarons *see polarons*

magnetic properties of amorphous substances
alloys, rapidly solidified, conf., Boston, MA, USA (Dec. 1985) 7–18496
amorphous alloys, magnetocaloric effect anomaly 7–38868
amorphous ferromag. alloys, effects of stress on mag. permeability aftereffect 7–33221
amorphous films, ferromag., induced mag. anisotropy *(Russian)* 7–52974
amorphous ribbons, magnetostriction meas., SAMR method, anisotropy effects study 7–7580
ferrimagnetic alloys, amorphous, role of single-ion anisotropy 7–45661
ferromagnetic amorphous ribbons, melt spinning prep. in external fields 7–22608
ferromagnetism, microscopic frozen spins model calcs. *(Russian)* 7–52945
ferromagnets, amorphous and crystalline, magnetostriction theory 7–13013
films, amorphous, mag. anisotropy, influence of plastic deform. *(Russian)* 7–45660
films, amorphous, magnetic anisotropy field, elastic deform. effect *(Russian)* 7–38914
frustration in amorphous magnetic systems 7–59037
Ising ferromagnet, transverse suscept. investig. 7–2870
magnetics, conf., Japan (Nov.1985) 7–24259
magnetics conference, Phoenix, AZ, USA (April 1986) 7–29572
magnetoelastic amorphous metals, coupled mode anal., appl. for sensor performance characterisation 7–33253
metallic glass ribbons, small angle mag. rotation under tensile and compressive stresses 7–2919
metallic glasses, defects, SANS studies 7–51659
metallic glasses, laser annealed struct. and magnetoelastic props., effects of surface characts. 7–45785
metallic glasses, magnetic properties *(French)* 7–27515
metallic glasses, magnetic relaxation and struct. transformations 7–27557
paramagnets, amorphous, van Vleck susceptibility 7–7472
Powercore strip, amorphous metal ribbon layers, bonding study 7–22975
quasistatic magnetic permeability of an amorphous ferromagnet 7–33214
random magnets, basic concepts, review 7–7485
remagnetisation of amorphous alloys, influence of surface condition *(Russian)* 7–59057
soft magnetic materials, specific magnetic loss meas. at remagnetisation freq. 50 Hz to 200 kHz 7–9850
spin glasses, amorphous transition metal-metalloid, EPR linewidth, theory 7–45805
Al-Mn alloys, cryst. and amorphous phases, mag. props. 7–17163
Al-Mn quasicrystals, nonuniform local magnetism, NMR spin echo studies 7–22090
$Al_{1-x}Mn_x$ cryst. and quasicryst. alloys, struct. and mag. props. 7–1949
$Al_{80}Mn_{20}$, quasicrystalline icosahedral phase, sp. ht., mag. props. 7–52955
$Au_{80}Mn_{20}$ disordered alloy, free and frozen magnetisations 7–53037
Bi-based metallic glasses, thermal relax. processes 7–51653
Bi-Zn-Fe-O amorphous films, struct. and mag. props. 7–51645
Ce-(Fe,Co)-(B,Si) system alloys, melt spun ribbons, mag. props. *(Japanese)* 7–53052
Ce-Cu amorphous alloys, mag. and transport props., Ce-derived anomalies 7–52601
Co and its alloys, spin wave excitations and magnetisation temp. depend. 7–45642

magnetic properties of amorphous substances continued
Co-B alloy, thermodynamic, thermomag. and struct. studies *(French)* 7—16438
Co-based amorphous alloys, anisotropic electrical magnetoresistivity at 295 K 7—58796
Co-based metallic glasses, magnetic aftereffect and magnetostriction studies 7—27571
Co-based metallic glasses, flash annealing under stress 7—52971
Co-Mg coevaporated films, prep. and mag. props. 7—53082
Co-P, amorphous, Curie temp. meas. 7—45669
Co-rich amorphous ferromag. alloys, aftereffect of mag. permeability 7—33223
Co-rich metallic glasses, magnetostriction, anomalous temp. depend., single ion model 7—33261
Co-Si-B amorphous alloys, mag. props., annealing effects 7—27513
Co-transition metal amorphous films, mag. and galvanomag. props. 7—53079
Co-Y alloys, low temp. sp. ht. study, crystalline and amorphous phases 7—52995
Co-Y amorphous alloys, high-field susceptibility, spin wave stiffness const. 7—33150
Co-Y amorphous alloys, mag. props. 7—58990
Co-Zr amorphous films, low energy ion beam sputtering, mag. props. 7—53081
Co-Zr(Ti) amorphous films, induced anisotropy, relax. process 7—53080
$Co_{100-x}B_x$ amorphous sputtered thin films, magnetic anisotropy origins 7—27583
$Co_{3.9}Er$ noncrystalline alloy, local atomic order, magnetism 7—32286
$Co_{74}Fe_6B_{20}$ amorphous sputtered thin films, magnetic anisotropy origins 7—27583
CoFeCrBSi ribbons, amorphous soft mag. materials, homogeneity determ. permeability 7—64480
CoFeSiB inhomogeneous magnetic alloys, anomalous Hall effect—magnetic polarisation correls. 7—7208
$(Co_{0.95}Fe_{0.05})_{75}Si_{15}B_{10}$ amorphous alloy, mag. saturation 7—45632
$Co_{70.4}Fe_{4.6}Si_{15}B_{10}$, amorphous alloy, mag. props. rel. to mag. coating 7—22123
$Co_{71}Fe_4Si_{15}B_{10}$ and $Co_{75}Si_{15}B_{10}$ amorphous alloys, mag. props., stress and annealing depend. 7—33250
$(Co_{1-x}Mn_x)_2B$, crystalline and amorphous, mag. and elec. props. 7—2827
CoNbTi/SiO_2 amorphous layered films, high freq. permeability 7—53078
$Co_{80}Nb_{10}Ti_{10}$-SiO_2, amorphous multi-layered films, mag. props. rel. to film thickness 7—2912
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromagnet, prep. and struct. 7—22605
$(Co_{0.6}Ni_{0.4})_{78}Si_8B_{14}$, amorphous, itinerant electron charact., current induced reson. mag. field shift obs. 7—27590
$(Co_{1-x}Ni_x)_{75}Si_{15}B_{10}$ amorphous alloys, magnetostriction and other mag. props. 7—45787
CoP amorphous films, FMR spectra during crystallisation 7—53142
$Co_{70}Si_{30}$ amorphous films, coercive force rel. to crystallisation *(Russian)* 7—59078
$Co_{75}Si_{10}B_{15}$, amorphous powder, static consolidation, mechanical and mag. props. 7—3217
CoTi soft ferromagnetic thin films, structure-related induced anisotropy 7—45663
CoTi-CoNb amorphous alternating layers, magnetic and diffusional props. study 7—7563
Cr-BN amorphous films, supercond. transition temp. 7—27454
$Cr_{1-x}Mn_xGe$, cryst. and amorphous, mag. characts., substitution effects 7—59009
DgTb amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
DyAg, antiferromag. crystalline and ferromag. amorphous alloys, spin dynamics, μSR study 7—45873
DyFe alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
DyFe amorphous alloys, local mag. anisotropy energy estimation 7—7503
a-DyNi, critical props. and universality class of disordered systems 7—2884
Er_2Co glasses, electronic struct., photoemission and magnetism 7—64060
$Er_{0.135}Fe_{0.813}B_{0.052}$ melt spun ribbons, mag. and struct. props. 7—59059
Fe and its alloys, spin wave excitations and magnetisation temp. depend. 7—45642
Fe, mag. props., of different phases, modelling using Monte Carlo method *(Russian)* 7—58992
Fe-Al metastable alloy sputtered film, mag. props., comp. depend., X-ray diffr. and Mossbauer meas. 7—7559
Fe-B (15 at.%), amorphous powder and strip, struct., mag. props., thermal stability *(Russian)* 7—63470
Fe-B metallic glasses, struct. relax., Curie temp. meas. 7—21124
Fe-B-Ce-based metallic glasses, mag. domain structs. and annealing embrittlement 7—27586
Fe-based metallic glasses, magnetic aftereffect and magnetostriction studies 7—27571
Fe-Ce amorphous alloys, mag. props. and elec. resist. 7—59010
Fe-Co-B powders, amorphous mag. state, Mossbauer spectra study 7—45846
Fe-Co-Ni amorphous alloys, anisotropic magnetoresist. studies 7—58793
Fe-Co-Ni based alloys, crystalline and amorphous, magnetoresistance 7—38538
Fe-Co-Si-B and Fe-Ni-Si-B glass, liq.-quenched, cooling condition depend. of saturated mag. flux density 7—58991
Fe-Cr-B-Si, amorphous, annealing effects on Curie temp. 7—45675
Fe-La amorphous alloys, high-field susceptibility and Curie temp. 7—58989
Fe-Ni-Si-B glass alloy, liq. quenched, saturated mag. flux density, effect of peening 7—13611
Fe-Ni-Zr metallic glasses, Ni contrib. to magnetism 7—53183
Fe-Ni-based alloys, amorphous and crystalline, mag. phase transitions 7—52983
Fe-Pt Invar disordered alloys, premartensitic transform., mag. anomalies 7—7495
Fe-R-B (R=rare earth) metallic glass permanent magnets, TEM studies 7—26661
Fe-R-B (R=rare earth) metallic glass permanent magnets, struct. and mag. props. 7—27565
Fe-Sc amorphous alloys, Curie temp., mag. moment and magnetovolume effects 7—33172
Fe-Si (3 wt.%), noncrystalline lamination, Bloch wall bowing anomaly, wall surface pinning 7—33196

magnetic properties of amorphous substances continued
Fe-Si (33 at.%), amorphous films, mag. anisotropy, effect of crystn. and deform. *(Russian)* 7—53088
Fe-Si-B amorphous alloys, hypoeutectic, thermal stability and soft mag. props. 7—11928
Fe-SiO_2 compositionally modulated mag. film props. study 7—7566
Fe-Sm amorphous alloys, crystn. behavior, DTA, magnetisation and X-ray diffr. meas. 7—44372
Fe-Tb amorphous alloys, film and bulk mag. props. and thermal expansion meas. 7—7540
Fe-W-based alloys, amorphous and crystalline, mag. phase transitions 7—52983
Fe-Zr, amorphous and microcrystalline, exchange interaction and saturation magnetisation 7—45651
Fe-Zr, high-field magnetisation hysteresis, spin glass clusters 7—2898
Fe-Zr, superparamagnetic behaviour 7—2904
Fe-Zr-B, meas. of Curie temp. 7—2853
Fe_{50} Ni_{22} Cr_{10} P_{18} and Fe_{48} Ni_{34} P_{18} metallic glasses, spin waves, study by polarised neutron scatt. 7—12962
$(Fe\text{-}B)_{85}Nd_{15}$ amorphous films, soft mag. props. 7—53077
FeB amorphous magnetic thin films, spin wave mode linewidth meas. 7—45826
$Fe_{81}B_{19}$ amorphous alloy, thermally activated time fluctuations of nucl. spin orientation 7—7622
$Fe_{81}B_{19}$ amorphous ribbon, averaged spin orientation under uniaxial compression, Mossbauer spectra study 7—45792
$Fe_{83}B_{17}$ with V, Cr, Mn or Nb, amorphous, mag. contrib. to thermopower 7—45287
$Fe_{78}B_{13}Si_9$, amorphous alloys, mag. losses, aging kinetics 7—59056
$Fe_{78}B_{13}Si_9$ amorphous ribbons, ferromag. resonance 7—27606
$Fe_{78}B_{13}Si_9$, magnetron sputtered amorphous alloys, thermal, mag. and magnetomechanical props. 7—33249
$Fe_{80}B_{12}Si_8$, amorphous alloy ribbons, processing conditions rel. to mag. prop. changes *(Korean)* 7—7919
$Fe_{80}B_{14}Si_6$ amorphous ribbons, anisotropy of losses 7—45658
$Fe_{81.5}B_{14.5}Si_4$, amorphous, mag. hyperfine fields under stress, Mossbauer study 7—22166
$Fe_{83}B_{12}Si_5$ metallic glasses, crystn., magnetisation, scaling, mag. relax. meas. 7—63496
$Fe_{81.5}B_{13.5}Si_{3.5}C_2$, amorphous ferromag. alloy, acoustic waves, mag. field induced changes 7—2917
$Fe_{90-x}B_xZr_{10}$, amorphous, B addition effect on mag. props., elec. resistivity, crystallisation *(Chinese)* 7—7487
$Fe_{81}Be_{13.5}Si_{3.5}C_2$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7—64478
$Fe_{80}C_{20}$-Si compositionally modulated amorphous struct., mag. and diffusional props. study 7—7564
$Fe_{70}(CeNdPr)_{20}B_{10}$, rapidly quenched ribbons, hard mag. props. 7—27562
$Fe_{70}Co_{30}$-SiO_2 compositionally modulated mag. film props. study 7—7566
$(FeCo)_{80}B_{20}$ amorphous ultrafine particles, mag. props. 7—53063
$Fe_{67}Co_{18}B_{14}S$ metallic glass, magnetic aftereffect, thermal treatment, positron lifetime study 7—38907
$Fe_{74}Co_{10-x}Cr_xB_{16}$, amorphous, prep. by melt spinning, X-ray diffr., DSC, Mossbauer studies 7—46369
$Fe_5Co_{70-x}Cr_xSi_{10}B_{15}$, x=0, 3, 6, 9, amorphous ferromagnet, 180° domain wall *(Korean)* 7—33198
$Fe_{5.85}Co_{72.15}Mo_2B_{15}Si_5$ amorphous ribbons traversed by DC electric currents excess resistance, collective motion of ferromag. domain walls 7—32989
$Fe_{39}Co_{39}Si_{10}B_{12}$, magnetic induced anisotropy, crossover effect 7—17169
$Fe_{85-x}Cr_xB_{15}(Ni_xB_{15})$ metallic glasses, mag. and elec. props. 7—13002
$Fe_{43}Cr_{25}Ni_{20}B_{12}$ glass, devitrification, mag. meas. and X-ray diffr. studies 7—21128
$Fe_{76}Cr_4P_8C_{12}$, amorphous alloy, mag. short range order above T_c, paramag. phase 7—45623
$Fe_{75-x}Cr_xSi_{10}B_{15}$, x=0, 2, 4, 6, amorphous ferromagnet, 180° domain wall *(Korean)* 7—33198
$Fe_{80-x}Cr_x(SiB)_{20}$ amorphous alloy, induced anisotropy, melt spinning effects *(Russian)* 7—59004
Fe_xGe_{1-x} amorphous magnetic alloys, d-band occupancy, EELS study 7—64059
$(Fe_{1-x}M_x)_{84}B_{16}$ (M=Co,Ni) thermoelectric power, influence of Ci(Ni) additives 7—32995
$(FeM)_{80}B_{14}Si_6$, M=Mn, Mo, V, glass, magnetoresistance 7—64203
$Fe_{75}Mo_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7—11925
$Fe_{77}Nd_{15}B_8$-based melt spun ribbons, crystallisation and mag. props. 7—26662
$Fe_{50}Ni_{50}$, Deltamax, magnetic ribbons, inverse Wiedemann effect for very low torsions 7—45786
$(Fe_{1-x}Ni_x)_{80}B_{20}$, amorphous, contribution of Ni to hyperfine fields *(Korean)* 7—27636
$Fe_{40}Ni_{40}B_{20}$ amorphous thin films, coercive field, annealing effects 7—7553
$Fe_{40}Ni_{40}B_{20}$ amorphous alloy, effect of plastic deform. on mech. and mag. props. *(Russian)* 7—53810
$Fe_{40}Ni_{40}B_{20}$, concentration dependence of surface insulating coating, influence on magnetic props. 7—64479
$Fe_xNi_{80-x}B_{20}$ amorphous ferromagnets, elec. resist. and thermopower meas., comp. and temp. depend. 7—45263
$Fe_xNi_{80-x}B_{18}Si_2$, glassy alloys, variation of mag, inhomogeneity 7—45634
$Fe_{40}Ni_{38}Mo_4B_{18}$, metallic glass, conversion electron Mossbauer spectra 7—48926
$Fe_{40}Ni_{38}Mo_4B_{18}$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7—64478
$Fe_{40}Ni_{38}Mo_4B_{16}Si_2$, ferromag. amorphous ribbons by field quenching technique, mag. anisotropy 7—33164
$Fe_{48.5}Ni_{34}P_{17.5}$, small-angle polarized neutron scattering study 7—52939
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous ribbon, magnetoelastic, Matteucci effect meas. *(Spanish)* 7—53103
$Fe_{40}Ni_{40}P_{14}B_6$, ferromag. amorphous alloy, struct. relax., effect of surface 7—28062
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, magnetic ribbons, inverse Wiedemann effect for very low torsions 7—45786
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, amorphous spin glasses, relaxation 7—53000
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, metallic spin glass, time decay of saturated remanent magnetisation 7—59058
$(Fe_{1-x}Ni_x)_{77}Si_{10}B_{13}$, amorphous, effective mag. moment, Curie temp. *(Korean)* 7—27503
$Fe_{75}Ni_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7—11925
$(Fe_7Ni_{93})_{77}Si_{10}B_{13}$ amorphous spin glass, dynamic mag. susceptibility and critical phenomena *(Russian)* 7—7511

magnetic properties of amorphous substances continued
- Fe_2O_3-SrO system, glass ribbon prep. by melt spinning, charactn. 7—53690
- Fe_3O_4-CaO-SiO_2 amorphous oxides, magnetic props. and struct., Mossbauer spectra study 7—7538
- $Fe_{82}P_{11}B_7$ metallic glass, mag. anisotropy and correlated hyperfine interactions 7—7505
- FePGa, amorphous, magnetoelastic props. 7—27591
- $Fe(Pd_{1-x}Au_x)_3$ disordered alloys, atomic and mag. structs., Mossbauer studies *(Russian)* 7—17247
- $Fe_{1-x}Si_x$ amorphous films, Hall effect and mag. anisotropy 7—2911
- $Fe_{67}Si_{33}$ amorphous films, coercive force rel. to crystallisation *(Russian)* 7—59078
- Fe_xSi_{1-x} amorphous magnetic alloys, d-band occupancy, EELS study 7—64059
- $Fe_{77}Si_{10}B_{13}$, as-quenched and cold-rolled amorphous alloy, mag. props. 7—33219
- $Fe_{78}Si_{10}B_{12}$ amorphous ribbons, X-band ferromag. resonance, transmission of microwaves 7—27607
- $Fe_{78}Si_9B_{13}$ amorphous ribbons, magnetoelastic effects on practical props. 7—33252
- $Fe_{80}Si_xP_{20-x}$ amorphous alloys, struct., mag. and elec. props. *(Korean)* 7—2893
- $(Fe_{1-x}W_x)_{84.5}B_{15.5}$ amorphous alloys, elec. and mag. props. *(Chinese)* 7—12969
- FeZr, amorphous and microcryst., exchange interaction and saturation magnetisation *(Russian)* 7—12963
- $Fe_{0.91}Zr_{0.09}$ amorphous alloys, critical mag. phenomena, results from μSR studies 7—45872
- $Fe_{91}Zr_9$, amorphous, long-range mag. order, neutron scatt. and AC susceptibility studies 7—58979
- $Fe_{91}Zr_9$, amorphous, long-range mag. order, small-angle neutron scatt. 7—58980
- $Fe_{92}Zr_8$, mag. susceptibility, elec. resist., magnetoresistance meas. 7—52954
- Fe_xZr_{100-x} amorphous alloys, Kohlrausch thermal relax., sp. ht. meas. 7—59027
- $Fe_{77.5}Si_{7.5}B_{15}$ amorphous wires, Barkhausen and Matteucci effects, influence of tensile and compressive stress 7—33254
- $Fe_{0.65}si_{0.35}$ thin films, amorphous and crystalline, magnetisation rotational processes 7—53085
- Gd-Co, influence of hydrogenation or mag. props. 7—2899
- Gd-Co compositionally modulated mag. film props. study 7—7566
- Gd-Co films, amorphous, spontaneous spin-reorientation transition *(Russian)* 7—45763
- Gd-Co-Mo amorphous magnetic thin films, spin wave mode linewidth meas. 7—45826
- Gd-Co(Fe)(CoFe) alloys, amorphous thin films, Faraday rotation 7—64612
- Gd-Fe evaporated amorphous alloy films, mag. props. and FMR behaviour studies 7—45825
- Gd-Tb-Co-Fe sputtered amorphous films, Kerr magneto-optical effect, anisotropy dispersion effects 7—38913
- GdCo and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
- GdCo-based glasses, double transition behaviour induced by anisotropy 7—22109
- Gd_2Co glasses, electronic struct., photoemission and magnetism 7—64060
- GdCo(Fe) amorphous films with perpendicular anisotropy, Hall loop meas., mag. struct. studies 7—7205
- GdCoSi, amorphous film, mag. and magnetoopt. props., thickness depend. 7—33239
- GdFe and GdCo amorphous thin films, electrical conductivity, influence of mag. order 7—7409
- $Gd_xLa_{65-x}Co_{25}B_{10}$ mixed glasses, mag. props., phase transitions, microstruct. effects 7—64465
- GdNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
- Gd_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7—53039
- $Ge_{80-x}Mn_xB_{20}$ amorphous alloy, Curie point and crystallisation temp. 7—17173
- Ho_3Fe_4, amorphous ribbons, mag. props. 7—33177
- HoNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
- K_2O-Al_2O_3-B_2O_3-Fe_2O_3-Gd_2O_3 glasses, mag. props., composition dependences 7—2823
- $LiMo_xLi_{1-x}F_4$, dilute dipolar-coupled magnet, ferromagnetism, glassiness, metastability 7—22098
- $Lu_xCu_{0.37}Y_{0.63-x}$ metallic glasses, low temp. sp. ht. 7—64462
- Mn-Ga, film, prep. by ionised cluster beam deposition 7—3205
- MnSi, amorphous, concentrated spin glass, ESR study 7—13022
- Nd-Fe-B, metastable amorphous alloys, crystn., thermal stability 7—39482
- Nd-Fe-B rapidly solidified ribbons, magnetisation, quench rate depend. 7—53034
- Nd-Fe-Co, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7—64496
- Ni and its alloys, spin wave excitations and magnetisation temp. depend. 7—45642
- Ni-B alloy with transition metal additives, amorphous, mag. scatt. influence on transport props. 7—33001
- $NiFe_2O_4$ films, amorphous, uniaxial perp. mag. anisotropy, substrate temp. depend; 100 to 573K *(Japanese)* 7—53091
- $Ni_{78}Mn_{22}$ reentrant alloy, struct. sensitive mag. props. 7—7496
- $Ni_{61}Zr_{39}$, X-ray diffraction pattern, crystallization behaviour and magnetic props. 7—3219
- PdSiCo inhomogeneous magnetic alloys, anomalous Hall effect—magnetic polarisation correls. 7—7208
- Pr-Fe, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7—64496
- $Ru_xFe_{80-x}B_{20}$ amorphous alloys, magnetic phase diagram, magnetisation and Mossbauer studies 7—53042
- Sm-Co amorphous thin films, low temp. mag. props. *(Chinese)* 7—38910
- Sm-Fe amorphous thin films, low temp. mag. props. *(Chinese)* 7—38910
- Sm-Fe-Co-B-Si melt-spun alloys, mag. props. 7—27553
- Tb-Co amorphous films, magneto-optic props. 7—64611
- a-Tb-Fe/Ni-Fe-Mo bilayer films, unidirectional anisotropy 7—59065
- Tb-Si amorphous films, spin-glass transition 7—7519
- TbAg amorphous alloys, local mag. anisotropy energy estimation 7—7503
- TbCo, amorphous sputtered films, mag. props., film struct., comp., internal stress meas. *(Japanese)* 7—7570

magnetic properties of amorphous substances continued
- $TbCu_{3.54}$, seedy mag. order, neutron scatt. study, mag. meas. 7—33145
- TbFe amorphous alloys, local mag. anisotropy energy estimation 7—7503
- TbFe amorphous alloys, magneto-optical props. and mag. anisotropy 7—27706
- TbFe and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
- $Tb_{31}Fe_{69}$ amorphous films, mag. props. and domains, substrate temp. effects 7—13011
- TbFeCo amorphous film sputtered onto polycarbonate substrate, depth profile, XPS 7—65362
- TbFeCo-based amorphous films, magneto-optical recording appls. 7—53074
- $(Tb_xFe_{1-x})_{1-y}U_y$, amorphous, magneto-optical effects 7—59187
- TbNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
- Tb_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7—53039
- Y-Fe sputtered amorphous films, mag. props. 7—53083
- Y-Fe-B system alloys, mag. props. 7—27563
- $Y_5Ni_{95}H_x$ amorphous thin films, mag. and elec. transport props., H content effect, 1.5 to 400K *(Chinese)* 7—38909
- Zr-Co amorphous alloys, superconductivity, normal-state resistivity and mag. susceptibility 7—12900
- $Zr_{1-x}Ni_x$ amorphous alloys, itinerant electron magnetism, AC susceptibility meas. *(Chinese)* 7—27490

magnetic properties of dilute alloys *see magnetic properties of dilute systems*

magnetic properties of dilute systems
- *see also local moments in dilute systems; magnetic impurity interactions*
- alloys, dilute, electron scatt., many-impurity effects *(Russian)* 7—45305
- alloys, dilute, negative magnetoresistance; coupling pair model 7—32987
- dilute ferromagnetic alloys, magnetisation and Curie temp. calcs., approximated Heisenberg model 7—7549
- environmental percolation, large-cell Monte Carlo renormalisation-group calcs. 7—2861
- manganese formate, $Mn(HCOO)_2.2H_2O$, magnetic transitions, compression and mag. dilution effects 7—52986
- single ion and pair EPR lineshape 7—7587
- spin systems, magnetically dilute, mag. reson. freq. shift at low temps. 7—45793
- surface and interface magnetism, dilution effects and influence of nature of interaction 7—59032
- Ag-Mn-Sb, dilute metallic spin glasses, response time, temp. depend. study 7—2896
- AgMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7—7525
- $BaFe_{12}O_{19}$ powders, coprecipitated, magnetisation reversal, mag. dilution effects 7—53062
- Co-Au-Fe, dil., local structural and mag. environments of Fe 7—26965
- Co-Cr-Fe sputtered films, dilute, Mossbauer effect 7—22167
- Cr-Al dilute alloys, mag. phase diagram, mag. susceptibility studies *(Russian)* 7—2840
- Cu-Fe, dil., local structural and mag. environments of Fe 7—26965
- Cu-Mn, dilute metallic spin glasses, response time, temp. depend. study 7—2896
- CuMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7—7525
- $Mn_{0.5}Zn_{0.5}F_2$, sp. ht. meas. in random fields 7—33178
- PdNi alloys, magnetic clusters interaction energy calcs. 7—45652
- Si:B, mag. props. of the acceptor system 7—27496
- Tm intermediate valence systems, dynamics, self-consistent perturbation theory studies 7—27309
- $Y_{1-x}Dy_x$ dilute alloys, spin density wave antiferromagnetism 7—52947

magnetic properties of fine particles
- *see also superparamagnetism*
- acicular magnetic particle orientation behaviour, dynamical anal. 7—45759
- amorphous matrix with small ferromag. Fe particles, mag. props., comparison with spin glasses 7—7557
- conference, Taxco, Mexico (Jan. 1986) 7—55898
- diffusion equation soln. for particles with magnetic moments in inhomogeneous mag. field *(Russian)* 7—44893
- elongated-single-domain particles, rotational hysteresis, chain-of-spheres model 7—59063
- fine particle system, magnetisation calc. 7—33204
- fluids, liquid and frozen, magnetisation processes 7—59060
- magnetic oxide particles in suspension, conc. and permeability, electronic meas. 7—48783
- magnetisational reversal, ellipsoidal and nonellipsoidal particles 7—33203
- metal particles, ultra fine, ferromag., growth rel. to mag. field 7—53515
- metallic particles, magnetic characterisation 7—27569
- paramagnetic cluster, mag. props. of dynamic model *(Russian)* 7—53066
- particulate magnetic recording tapes, hysteretic props. ang. depend. studies 7—53058
- particulate recording media, magneto-optic Kerr effect hysteresis loop meas. 7—48782
- polycrystalline permanent magnet, texture influence on coercive field strength computation *(German)* 7—2902
- recrystallised dielectromagnetics for AC machine magnetic circuits 7—22725
- review 7—59064
- superparamagnets, Mossbauer spectra, many-state relax. model 7—45856
- time-dependent magnetic behaviour of fine particle systems 7—13006
- $BaFe_{12-2x}Co_xTi_xO_{19}$ superfine particles, coercivity conc. and aspect ratio depend. meas. 7—53054
- $BaFe_{12}O_{19}$ acicular media for perp. mag. recording, dynamic props. 7—59061
- $BaFe_{12}O_{19}$ fine powder for particulate perp. mag. recording media, coercivity meas. method 7—59062
- $BaFe_{12}O_{19}$ particulate media, magnetisation props, temp. effects study 7—53055
- $BaFe_{12}O_{19}$ particulate coatings, pigment-to-binder loading effects 7—53056
- $BaFe_{12}O_{19}$ powders, coprecipitated, magnetisation reversal, mag. dilution effects 7—53062
- BaO-V_2O_5-Fe_2O_3 semiconducting glasses, elec. props., Mossbauer, EPR and X-ray diffr. studies 7—7236
- Co particles, magnetic structure and thickness distrib., holographic interference electron microscopy appl. 7—5860
- Co-Al alloys, magnetic hardening 7—33209

magnetic properties of fine particles continued
Cr-Fe (28.5 at.%) superparamag. particles formed during solid soln. decomp., mag., transitions *(Russian)* 7—33220
CrO_2 particles, LIPS tape prep. and characts. 7—53061
Cu-Fe-Al, cold rolled, γ to α transform. of fine α-Fe precipitates, mag. props. 7—3300
Fe acicular particles, oxide layer morphology and mag. props. 7—52067
Fe and Fe-Co-Ni fine powders, corrosion resist. and mag. prop. changes, surface-active agent use in prep. 7—54001
α-Fe fine particles magnetic props., necking config. effects study 7—53060
Fe-Co alloys, powder metallurgy produced, mag. props. 7—33211
Fe-SiO_2 granular films, mag. relax., DC SQUID magnetometry, Mossbauer spectra 7—45761
$(FeCo)_{80}B_{20}$ amorphous ultrafine particles, mag. props. 7—53063
$Fe_{14}Nd(Y)(Ce)_2B$ fine particles prep. by hydriding, mag. props., recording appls. 7—53660
FeO_x fine particles, magnetic and morphological props., annealing effects study 7—53766
γ-Fe_2O_3 particles, microstructure, X-ray diffr., magnetisation props. 7—45757
γ-Fe_2O_3 particles, pure and Co-modified, microstructural defects, effect on mag. behaviour 7—58497
Fe_2O_3 silica coated particle dispersions, magnetic recording appls. 7—53057
Fe_2O_3:Co particles, coercivity time-scale depend., magnetic switching units vol. determ. 7—53059
Fe_3O_4, magnetite-laced microspheres, mag. moment meas. 7—53064
Fe_3O_4 nearly spherical particles in low mag. fields, mag. props. 7—27568
Fe_3O_4 particles in magnetic fluid, surface mag. props., Mossbauer spectra study 7—45756
$Fe_{2.4}Ti_{0.6}O_4$, magnetisation in 1 to 30 microns particle size range 7—47425
$SmCo_5$ fine particles, produced by ball milling, strain and domain wall energy *(Japanese)* 7—7556
$SmCo_5$ powder in nylon-12 and polybutylene tetraphthalate, thermoplastic magnet, heat resistance 7—27567
Sm_2Co_{17} single domain particles, SEM domain obs. 7—27566
Sr ferrite fine particles, prep., mag. props. *(Japanese)* 7—53065
$YFeO_3$-Fe_2O mixed phase system microcryst., anomalous behaviour of mag. hyperfine field 7—45760
YIG powder, FMR line shape, test of independent powder particle model 7—64533

magnetic properties of substances
see also antiferromagnetic properties of substances; demagnetisation; diamagnetic properties of substances; ferrimagnetic properties of substances; ferromagnetic properties of substances; magnetic permeability; magnetic properties of amorphous substances; magnetic properties of dilute systems; magnetic properties of fine particles; magnetic structure; magnetic surface phenomena; magnetic susceptibility; magnetic transitions; magnetisation; magnetocaloric effects; paramagnetic properties of substances
actinide metal, compound and alloy props., conference, Aix en Provence, France (Sept. 1985) 7—9579
Alnico 5, Fe-Co-Ni-Al-Cu, microstruct. and mag. props., effects of heat treatment *(Korean)* 7—8138
conference, Freudenstadt, Germany (April 1986) 7—48144
graphite intercalation cpds., staging, struct., dynamical and magnetic props., review 7—1966
intermetallic hydrides, recent studies 7—21489
rare earth and rare earth-transition metal superlattices, magnetism *(Japanese)* 7—12951
TTF-Chloranil, optical, magnetic and electrical props. 7—2556
Co-Sb superlattices, NMR study *(Japanese)* 7—13046
Fe-Mg superlattices, mag. props. *(Japanese)* 7—12950
Fe-Mn superlattices, NMR study *(Japanese)* 7—13046
Fe-V superlattices, NMR study *(Japanese)* 7—13046

magnetic read/write heads *see magnetic heads*

magnetic recording
see also thermomagnetic recording
carrier temp. effect on photomagnetic information recording 7—33262
digital magnetic recorders, raising recording density 7—41365
high density recording materials *(French)* 7—27582
magnetics, conf., Japan (Nov.1985) 7—24259
magnetics conference, Phoenix, AZ, USA (April 1986) 7—29572
oxide recording media, static hysteresis loops, Fourier anal. 7—33213
particulate recording media, magneto-optic Kerr effect hysteresis loop meas. 7—48782
random magnets, basic concepts, review 7—7485
$BaFe_{12}O_{19}$ acicular media for perp. mag. recording, dynamic props. 7—59061
$BaFe_{12}O_{19}$ fine powder for particulate perp. mag. recording media, coercivity meas. method 7—59062
$BaFe_{12}O_{19}$ particulate media, magnetisation props, temp. effects study 7—53055
$BaFe_{12}O_{19}$ particulate coatings, pigment-to-binder loading effects 7—53056
Co-Cr films, continuous fabrication by sputtering, substrate degassing effects 7—27904
Co-Cr films, sputter deposition and characterisation 7—27178
Co-Cr films for perpendicular mag. recording media, deposition in facing targets sputtering system 7—64899
Co-Cr perpendicular recording media with oxidised surface layer, wear resistance 7—28185
Co-Cr perpendicular recording media, props., effect of impurity gases 7—59069
Co-Cr thin films for mag. recording, by facing targets sputtering, C-axis orientation 7—59418
Co-Ni evaporated recording media, improvement of mag. props. and corrosion resistance by Pr additions 7—33825
Co-Ni-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7—27581
Co-Ni-Re-P films for perpendicular mag. recording media, electroless deposition and mag. props. 7—27580
Co-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7—27581
Co-Pt-M (M=Cs,Mo,W,V,Nb,Ta,Ti,Zr,Ge), thin film media for high density recording *(Japanese)* 7—7567
CoCr corrosion-resistant alloy films, mag. props. and longitudinal recording performance 7—33226

magnetic recording continued
CoCr films, texture formation, appl. for perpendicular mag. recording 7—39539
CoCr layers, domain obs. with digitally enhanced Kerr-microscope, for recording media 7—45726
CoCr sputtered perpendicular recording media, with columnar microstruct., reversal mech. 7—7552
CoCr thin films for recording media, perpendicular anisotropy 7—33202
CoCrTa corrosion-resistant alloy films, mag. props. and longitudinal recording performance 7—33226
$Co_{80}M_{20}$ (M=Cr,Sm) sputtered thin film recording media, micromag. and struct. studies 7—33243
$Co_{90}M_{10}$ (M=Pt,Re) sputtered thin film recording media, micromag. and struct. studies 7—33243
CoNiReP alloy films for perpendicular mag. recording, thickness depend. of perpendicular coercivity 7—59066
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, origin of high coercivity 7—27578
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, prep. 7—27908
$Fe_{14}Nd(Y)(Ce)_2B$ fine particles prep. by hydriding, mag. props., recording appls. 7—53660
Fe_2O_3 silica coated particle dispersions, magnetic recording appls. 7—53057

magnetic relaxation
see also ferromagnetic relaxation; magnetic resonance; spin-lattice relaxation; spin-spin relaxation
intramolecular nuclear magnetic relaxation, correlation time 7—31070
Ising model, kinetic, exponents far from T_c for relax. 7—52926
Ising model, transverse, random forces, relax. and memory functions, dynamical behaviour calcs. in high-temp. limit 7—56178
metallic glasses, magnetic relaxation and struct. transformations 7—27557
plasma, mag. relax. Hall effect 7—57988
superparamagnets, Mossbauer spectra, many-state relax. model 7—45856
X-Y model, spin-1/2 1D, random forces, relax. and memory functions, dynamical behaviour calcs. in high-temp. limit 7—56178
$Cd_{0.6}Mn_{0.4}Te$, spin-freezing process, time-depend. of thermoremanent magnetization 7—2863
Co, single crystal and polycrystalline, mag. relax. following electron irradiation 7—53067
Fe-SiO_2 granular films, mag. relax., DC SQUID magnetometry, Mossbauer spectra 7—45761
$LiTmF_4$, Van Vleck paramagnet, 4f electron excitations, mag. relax. of ^{169}Tm nuclei 7—7601
Tm intermediate valence systems, dynamics, self-consistent perturbation theory studies 7—27309
$Y_3Fe_{5-x}Ga_xO_{12}$ epitaxial film, high freq. threshold props. studies *(Russian)* 7—45775
YIG, critical mag. relaxation, ESR linewidth 7—22106

magnetic resonance
see also acoustic magnetic resonance; antiferromagnetic resonance; atomic beam magnetic resonance; ferrimagnetic resonance; ferromagnetic resonance; laser magnetic resonance; magnetic double resonance; magnetic relaxation; molecular beam magnetic resonance; nuclear magnetic resonance; paramagnetic resonance
muonium, triplet, spin precession in near-resonance oscill. field 7—50417
polymers and related cpds., electronic props., Winter School, Kirchberg, Austria (March 1985) 7—4613
spectra, correl. functions, freq.-depend. asymptotic behaviour anal. 7—17215
spin precession in near-resonance oscill. field 7—50417
spin systems, magnetically dilute, mag. reson. freq. shift at low temps. 7—45793
^{133}Cs atoms, optically polarised spin system, mag. reson. characts. in wide-band noise RF field 7—42539
$ErFeO_3$, magnetodynamic resonance near low-temp. phase transition 7—38862
$YbFeO_3$, spontaneous spin reversal, magnetic reson. soft modes and energy gaps obs. 7—52964

magnetic resonance spectrometers
continuously variable phase shift anal. for NMR 7—24666
DC magnetic field stabiliser based on NMR *(Slovak)* 7—24662
electron spin echo spectrometer, using microcomputer controlled pulse generator 7—35551
EPR, spectrometer, automated, for structural anal. of disordered solids 7—58109
Hall-generator magnetic field stabilizer and a digital sweeper as a combined set for magnetic resonance spectrometers *(Polish)* 7—9862
neutron spectrometers, high resolution, for quasielastic scatt., which combine spin echo and mag. resonance 7—41572
NMR field cycling device using GTOs and MOSFETs 7—35546
NMR spectrometer, 300-1200 MHz, with AFC and continuous tuning 7—30055
NMR spectrometer, solid-state, tomographic expts. 7—30052
X-band time-domain EPR spectrometer, computer-controlled 7—30054

magnetic resonance spectroscopy
see also nuclear magnetic resonance spectroscopy
EPR spectroscopy enhanced sensitivity using dielectric sample resonator design 7—9856
ESR crystallography, two/three circle ESR goniometers *(Japanese)* 7—44328
ESR expts., high-precision programmable temp. controller 7—30053
ESR spectra computer anal., proton coupling constant extraction method 7—48812
ESR spectrometer sensitivity enhancement, using dielectric resonator 7—9865
inhomogeneous systems, spectral diffusion and saturation kinetics 7—35548
ODMR, optical design for longitudinal optical observation in yoke magnets 7—9860
rectangular cavity for EPR in TE_{102} mode 7—48823
solvent suppression by computer-optimised hard pulse sequences 7—35560
spectral diffusion, detect. by saturation transient method 7—35549
two dimensional Fourier transform ESR spectra 7—19904
weightbearing tissue contour and deformation by magnetic resonance imaging 7—28571
^{31}P NMR studies of human brain at 2 T 7—18041
YIG, small thin-film samples, magnetic resonances anal. 7—53090

- **magnetic screening** *see magnetic shielding*
- **magnetic semiconductor materials** *see magnetic semiconductors*
- **magnetic semiconductors**
  - *see also semimagnetic semiconductors*
  - anisotropic, narrow-band, elementary excitations 7−59001
  - ferromagnetic, Cherenkov spin wave amplification calcs. 7−52957
  - ferromagnetic, dielectric function and reflectivity above T_c 7−7661
  - ferromagnetic semicond., donor state, thermally induced abrupt shrinking 7−52510
  - ferromagnetic semiconductors, hot magnons 7−22099
  - ferromagnetic semiconductors, spin-depend. phonon Raman scatt., theory 7−46013
  - ferromagnetic superconductors, superlattices formed by coherent light beams 7−2622
  - ferromagnets with low carrier densities, indirect exchange 7−33162
  - spin polarised photoemission by optical spin orientation, book contrib. 7−33520
  - [α-]Mn_xS antiferromag. semicond., elec. and mag. props. 7−7244
  - $CdCr_2Se_4$, band structure characteristics and props. of nonequilibrium carriers, cathodoabsorption 7−46064
  - p-$CdCr_2Se_4$ ferromag. semicond., photocond. relax. time tempt. depend. meas. 7−45383
  - $CdCr_2Se_4$, ferromag. semiconducting thin films, influence of electric field on magnetisation 7−45738
  - $CdCr_2Se_4$ thin films, ferromagnetic semicond., multielectron energy struct., absorpt. spectrum, temp. and doping depend. 7−38488
  - $CdCr_2Se_4$-Ga, lightly doped, ferromag., photoconductivity, band struct. 7−7278
  - $Co_xFe_{1-x}Cr_2S_4$ mixed spinel system, temp. depend. Mossbauer studies 7−38976
  - EuO(S)(Se)(Te) (100) surfaces, structure and composition 7−12426
  - EuS ferromagnetic single cryst., elec. field gradient and magnetic hyperfine interaction, NMR meas. 7−52540
  - EuS, mag. props. under high press., competing magnetic interactions 7−7542
  - EuS, refrigerant capacity and use in mag. cooling 7−56285
  - EuSe ferromagnet, ^{151}Eu and ^{153}Eu NMR lineshape, mag. field depend. 7−22151
  - $Eu_{1-x}Sr_xS$ solid soln., X-ray absorpt. spectra d-f exchange interactions effects study, comp. depend. 7−3114
  - EuTe, bound magnetic polarons, spin dynamics 7−7502
  - $Fe_xMn_{1-x}S$, high temp. metal-nonmetal transition 7−7117
  - γ-Fe_2O_3 superfine powder, prep. and gas sensitive props. *(Chinese)* 7−59484
  - Fe_2O_3/o-toluidine photoelectrochemical imaging system *(Japanese)* 7−35590
  - $HgCr_2Se_4$, ferromag. semiconductor, sp. ht. 7−45684
  - $HgCr_2Se_4$, magnetisation, temp. depend. 7−45629
  - $HgCr_2Se_4$ spinel magnetic semicond., electronic struct., elec. props., defects and ferromag. anisotropy 7−38857
  - $HgCr_2Se_4$, stoichiometry and phys. props. investig. 7−2218
  - HgTe-EuTe system, interactivity 7−6801
  - α-Mn_xS, antiferromag. semiconductors, elec. conductivity 7−64240
  - $Mn_3Si_2Te_6$ ferrimag. semicond., cryst. struct., X-ray diffr. study 7−1977
  - MnTe, electronic struct. in magnetically ordered and disordered phases, tight-binding calcs. 7−45145
  - $Ni_xFe_{3-x}O_4$, elec. cond., thermoelec. power meas., 10-300K 7−38648
  - $Sm_{1-x}Eu_xS(Se)$ solid solns., X-ray absorpt. spectra d-f exchange interactions effects study, comp. depend. 7−3114
  - $Y_3Fe_5O_{12}$:Si, band model of photoinduced magnetic effects 7−17214
- **magnetic separation**
  - ferrofluids, mag. filtration 7−59101
  - magnetics conference, Phoenix, AZ, USA (April 1986) 7−29572
- **magnetic shielding**
  - CAD of shield for EELS spectrometer 7−48923
  - eddy current magnetic shield with active compensation, improvement of props. 7−47192
  - field homogenisation by diamagnetic shields 7−42848
  - laboratory magnetometer bench, with shield and regulator 7−30049
  - NMR imaging, passive screening of switched magnetic field gradients 7−14987
  - quasi-free neutron oscillation expt., magnetic shielding of a large volume 7−42314
  - shield topology, EM interaction with large systems 7−10820
  - superconducting mag. reson. imager, ferromag. screening 7−28748
  - superconductive fixed point, zero-field transition temperature meas., mag. shielding 7−38796
  - thin-walled mag. shell screening analysis and meas. *(Russian)* 7−62577
  - $(FeNi)_{78}Mo_4B_{17}Si$ metallic glass, mag. shielding props., composition depend. 7−27558
- **magnetic shielding, nuclear** *see nuclear screening*
- **magnetic stars**
  - Am stars, Li abundance, reson. doublet obs. 7−60669
  - anomalous He line stars, observational data review 7−66595
  - anomalous Zeeman effect, moments and expansion coeffs. 7−66443
  - Ap and Bp stars, stellar line Stark broadening 7−55690
  - Ap and Bp stars in Per OB2 association, spectroscopic obs. 7−66592
  - Ap stars, effects of axisymmetric mag. field on meridional circulation in rotating stars 7−55606
  - Ap stars, search for chromospheric Mg II emission 7−47932
  - Ap stars identification 7−40815
  - Ap stars in α Per, M39 and Coma Berenices clusters, spectroscopic obs. 7−66593
  - Ap-Si stars, identification of 1400 Å feature and autoionizing levels of Si II 7−40821
  - Ap-stars, atmospheric parameters rel. to evolution 7−55642
  - Ap-type stars, synthetic line profiles for higher terms of H I Balmer and Paschen series 7−60639
  - θ-Aur, B9p star, chem. elements surface distrib. 7−66603
  - Bp-stars, atmospheric parameters rel. to evolution 7−55642
  - chemically peculiar stars, IR photometric props. 7−60670
  - chemically peculiar stars, surface mag. fields characts. 7−66594
  - 40 Cnc, Praesepe Si star, UV spectrum and comparison with Vega 7−47882
  - cool CP stars, search for Be, IUE spectral obs. 7−47930
  - CP2 stars in open clusters, photoelectric search (in IC 2391 and NGC 2451) 7−29486
  - CP2 stars in open clusters NGC 1039 and NGC 7092, photoelectric search and spectroscopy 7−18407
  - CP stars, mag. fields evol. 7−47920
- **magnetic stars** continued
  - CP stars, statistics of 520 nm continuum depression depth 7−60664
  - CP stars with known rot. periods, statistics of radii, rot. vels., and rot. axes inclinations 7−60663
  - δ Del stars, Li abundance, reson. doublet obs. 7−60669
  - diffusion numerical simulation 7−34968
  - HD 101065 (Przybylski's star), element identifications from line coincidence statistics of UV spectra 7−55684
  - HD 25823, Si star, spectrum synthesis of UV Ga II and Ga III lines compared with IUE obs. 7−47943
  - HD 34452, 5200 feature vars. in hot Si star 7−18421
  - HR 3831 (HD 83368), rapidly oscillating Ap star, anal. of l=1 dipole oscill. 7−47919
  - Praesepe Am and Ap stars, spectral obs. 7−4534
  - rapidly oscillating Ap stars, search for rapid oscills in FG Sge 7−4476
  - rotation velocities, characts. and depend. on evol. 7−4475
  - spectropolarimetry of magnetic stars, diagnostic contents of Stokes I and V line profiles 7−29484
  - unsteady oblique-rotator model, effect of large-scale mag. field on meridional circulation 7−55607
  - UV classification of peculiar stars, results from IUE low-dispersion spectra reference atlas 7−60636
  - UV Ga stars, spectral characts. 7−60665
  - He peculiar stars, IUE obs. of magnetically controlled stellar winds 7−47949
  - Si stars in Orion Belt region, 140 nm spectrophotometric census 7−47950
- **magnetic storage**
  - *see also magnetic bubble memories; magnetic disc storage*
  - magnetic thin films, demagnetising energy in imperfect films, directional depend., appl. for mag. storage media 7−45770
- **magnetic storage devices** *see magnetic storage*
- **magnetic storage systems** *see magnetic storage*
- **magnetic stores** *see magnetic storage*
- **magnetic storms**
  - *see also micropulsations*
  - 1972 August 4, storm modelling 7−29364
  - 1978 December 18 to 19, ionospheric plasma concentration vars. in main ionospheric trough 7−34780
  - activity and disappearing solar filament link 7−4277
  - Birkeland current sheet motions and substorm expansion onset 7−9329
  - charged particle fluxes and mag. pulsations during strong storm 7−34795
  - electron substorm-related injections at synchronous orbit 7−47638
  - equatorial thermosphere, excess heating during storm sudden commencement 7−47584
  - F_2-layer storm-time disturbance, study of positive phase 7−9295
  - field variations rel. to solar wind parameters 7−14415
  - IMF directional discontinuity triggering of substorm expansion 7−34808
  - India, effect of source-field geometry on EM induction Earth 7−28821
  - ionosphere, effects of geomag. storms on sunrise fading of long-distance 40 kHz signals 7−55360
  - ionosphere D-region, dynamical regime over E Siberia during quiet and disturbed conditions 7−47614
  - K_p-index, effect on equatorial ionospheric scintillations 7−34762
  - magnetosheath, characts. of energetic electron fluxes during enhanced geomag. activity 7−4273
  - magnetosphere, storm-time reconfiguration as cause of strong precip. of energetic protons 7−9316
  - magnetosphere substorm, Pi 2 pulsations damping obs. rel. to Birkeland currents 7−47631
  - magnetosphere substorms, implications of magnetopause microscopic stress nonequilib. 7−34785
  - magnetosphere substorms, ISEE-3 energetic ion results (EPAS) in deep geomag. tail 7−29367
  - magnetosphere substorms, relation to comp and plasma props. of magnetotail plasma sheet 7−34789
  - magnetospheric substorm, reconnection model, magnetic and electric field behaviour 7−14414
  - middle atmosphere winds correl. to mag. field var. 7−66370
  - north-south asymmetry of geomag. activity, effect of By-component of interplanetary mag. field 7−9336
  - plasma sheet boundary layer, thermal catastrophe and substorms 7−60478
  - plasmasheet boundary layer, slow mode shock struct. 7−60487
  - plasmasphere, flux tube refilling after mag. storm, temporal features 7−47623
  - plasmasphere-ionosphere coupling, nearly conjugate dual-spacecraft measurements 7−29348
  - outer radiation belt, injection of relativistic electrons during storms 7−9317
  - radio disturbances prediction service, outline *(Japanese)* 7−23844
  - satellites, electron-irradiated dielectric discharges, statistical behaviour 7−55423
  - solar wind influence, conf., Prague, Czechoslovakia (Aug. 1985) 7−60860
  - storm sudden commencement disturbance propag. 7−60492
  - substorm, effect on Pc 1 spectral structures at synchronous orbit 7−60491
  - substorm studies, review of recent progress 7−23947
  - substorms, assoc. magnetotail plasma and mag. field var. 7−60486
  - substorms, assoc. thinning and expansion of plasma sheet 7−14419
  - substorms, associated low-latitude ionospheric disturbance 7−60442
  - substorms, effect on electron precipitation var. (at $L \sim 4$) 7−34771
  - sudden commencement of storms, correlation with triggered particle bursts 7−55374
  - VLF emissions at mid-latitude, rel. to assoc. magnetic disturbances 7−55387
- **magnetic structure**
  - *see also canted spin arrangements*
  - actinides, elastic neutron scatt. and diffr. studies, review 7−12945
  - antiferromagnetic metals and alloys, 4f-local moments, SDW instability 7−58970
  - copper phthalocyanine iodide, quasi 1D conductor, transition of local moments coupled to itinerant electrons 7−2815
  - four-lattice rhombic antiferromagnet, reson. props., exchange, and high freq. suscept. calcs. *(Russian)* 7−13037
  - Ising ferromagnet ground state magnetic struct., antiferromag. impurity effects *(Russian)* 7−22086
  - longitudinal weak ferromagnetism, disproportionate magnetic struct. and the Dzyaloshinski inhomogeneous interaction *(Russian)* 7−45627
  - magnetic phases, transitions between structures 7−2855
  - permanent magnet materials, props., struct., exchange interactions 7−53053

magnetic structure continued
rare earth dihydrides, Fermi surface nesting 7–52398
rare earth hydrides, cryst. and mag. structs., superstruct. form. 7–33148
rare earth iron garnet films, surface-spin orientations, depth-selective Mossbauer spectroscopy 7–2907
solid surface electronic and magnetic struct. calcs., book contrib. 7–33061
steel, cryogenic, Al alloying effect on mech. and mag. props. 7–39679
$BaCa_{1/2}Sr_{1/2}Fe_4O_8$, mag. ordering 7–45624
$Ba_2Sn_2Mn(Ni)(Co)Fe_{10-x}Ga_xO_{22}$ hexagonal ferrites, cryst. and magnetic struct. studies 7–44474
$BaVS_3$, low temp. phase transitions, powder neutron diffr. 7–38181
Bi-Zn-Fe-O amorphous films, struct. and mag. props. 7–51645
$Cd(Cu_{1-x}Al_x)_2$, mag. and cryst. props. 7–27506
$Cd(Cu_{1-x}Ni_x)_2$, mag. and cryst. props. 7–27506
Co particles, magnetic structure and thickness distrib., holographic interference electron microscopy appl. 7–5860
CoNi equiatomic ferromag. alloy, local mag. form factor determ., neutron scatt. study 7–38849
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromag. alloy struct., shock loading effects, mag. struct. anal. 7–2100
Cr-Si dilute alloys, magnetic phase diagram near tricritical point, neutron diffr. meas. 7–2856
Cr_2BeO_4 orthorhombic antiferromagnet, double exchange long-period magnetic struct. calcs. 7–2818
$Cr_{1/3}NbS_2$, long-period helical spin struct. *(Japanese)* 7–45626
$CsCoCl_3.2H_2O$, 1D antiferromagnet, exciton transfer, absorpt. spectra 7–27254
Dy-Y highly dil. alloys, mag. props. 7–7483
Er, magnetic struct., synchrotron X-ray scatt. studies 7–45625
Fe, circularly polarised X-ray absorpt. 7–59302
Fe, static paramag. spin susceptibility at finite temps. 7–33138
Fe-Mn-Al alloy, mag. props., struct. and deform. texture 7–2892
$FeClMoO_4$ layered compound, struct. and mag. props., Mossbauer effect, mag. suscept., and neutron diffr. studies 7–58981
$Fe_{76}Cr_4P_8C_{12}$, amorphous alloy, mag. short range order above T_c, paramag. phase 7–45623
$(Fe_{1-x}Mn_x)Pt$ alloys, mag. phase diagram 7–64434
Fe_3O_4 particles in magnetic fluid, surface mag. props., Mossbauer spectra study 7–45756
Fe_3O_4-CaO-SiO_2 amorphous oxides, magnetic props. and struct., Mossbauer spectra study 7–7538
$FePO_4$-II, high press. phase, mag. props. 7–45852
$Fe(Pd_{1-x}Au_x)_3$ disordered alloys, atomic and mag. structs., Mossbauer studies *(Russian)* 7–17247
Fe_3Pt, Invar, paramag. phase, inelastic neutron scatt. meas. 7–27493
$FeTiO_3$, mag. struct. 7–7484
$FeTiO_3$, oblique easy-axis antiferromag. neutron scatt. study of mag. excitations 7–45643
Gd-Y single crystal superlattices, struct. and mag. props. 7–27160
GdCo(Fe) amorphous films with perpendicular anisotropy, Hall loop meas., mag. struct. studies 7–7205
$Gd(Cu_{1-x}Co_x)_2$, mag. and crystallographic props. 7–38903
$GdMn_2$, magnetic structure, tight binding approx. 7–2819
$HoVO_4$, enhanced nucl. order, nucl. orientation study 7–64550
$La(Fe_xAl_{1-x})_{13}$, mag. props. determined via neutron scatt. and Mossbauer spectroscopy 7–2820
$Li_{0.25}Co_{0.25}Zn_{0.5}Fe_2O_4$, mixed ferrites, neutron diffr. study 7–52943
MnAs, crystal struct. and mag. props. 7–6592
$Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7–6784
$NaFeClMoO_4$, synthesis, struct. and low temp. magnetism 7–21172
Nd, magnetic structure studies, free energy anal. 7–2821
$Nd_2Co_{14}B$, spin arrangements, 4.2-1100K 7–22094
$Nd_x(Co_xFe_{1-x})_{14}B$ alloys, mag. struct., preferential site occupation 7–45619
$NdCu_6$, powder and single cryst., magnetic struct. and ordering, neutron diffr. studies 7–33146
Ni clusters with surface adsorbed CO, surface electronic and mag. struct. 7–21969
Ni, static paramag. spin susceptibility at finite temps. 7–33138
$Ni_{1-x}Co_xFe_2O_4$ polycryst. magnetostrictive ferrite, long-term bulk acoustic wave memory 7–59099
NpM_4Al_{8-x}, (M=Cr,Fe,Cu), mag. props., Mossbauer effect and neutron diffr. 7–59127
β-O_2 solid, rhombohedral Heisenberg antiferromag., neutron scatt. 7–7480
PdMn, atomic and mag. short range order 7–52941
PdMnTe, magnetisation and neutron diffr. study 7–27499
$Pr_2Co_{14}B$, spin arrangements, 4.2-1100K 7–22094
$Rb_{1-x}Cs_xFeCl_3$, random singlet-magnetic ground state system, mag. ordering effects 7–33167
$Ru_xFe_{80-x}B_{20}$ amorphous alloys, magnetic phase diagram, magnetisation and Mossbauer studies 7–53042
Sm-Co amorphous thin films, low temp. mag. props. *(Chinese)* 7–38910
Sm-Fe amorphous thin films, low temp. mag. props. *(Chinese)* 7–38910
$Tb_2Co_{14}B$, spin arrangements, 4.2-1100K 7–22094
$Tb_3Fe_5O_{12}$, magnetic struct., X-ray absorpt. spectra magnetic dichroism meas. 7–39315
$TbGe_{1-x}Si_x$, first-order mag. phase transition, neutron diffr., mag. struct. study 7–45673
$(Tb_{1-x}Y_x)_3Co$, magnetoelastic interactions and thermal expansion *(Russian)* 7–17211
Tm, polycrystalline, electrical resistivity, mag. struct. effect 7–52564
$TmCu_2$, magnetic phase transitions, suscept., sp. ht., elec. resist. and magnetisation meas. 7–2857
$UAs_{0.95}Se_{0.05}$, disappearance of type-I antiferromag. struct., neutron diffr. study 7–45620
UBe_{13}, obs. of antiferromag. correlations 7–22093
$U_{1-x}Np_xO_2$, x=0.25, 0.75, magnetic structure, neutron diffraction study 7–58978
$(VO)_2P_2O_7$, 1D spin 1/2 Heisenberg antiferromagnet, mag. susceptibility meas. 7–45639
$Y_2Mo_2O_7$, spin glass like behaviour 7–7524
$ZrZn_2$, magnetisation density meas., cryst. translational symm. 7–27498

magnetic superconductors
antiferromagnetic, upper crit. mag. field *(Russian)* 7–58963
antiferromagnetic superconductor, spin wave spectrum 7–38852
antiferromagnetic superconductors, anomalous behaviour 7–58964
coexistence of superconductivity andantiferromagnetism *(Chinese)* 7–12895
ferromagnetic, self-organising auto-wave regimes 7–17129

magnetic superconductors continued
ferromagnetic supercond. films, mixed states 7–27478
ferromagnetic superconductor, phase diagrams and order parameters 7–17127
ferromagnetic superconductors, intermediate state 7–52915
ferromagnetic superconductors, intermediate state and easy-axis mag. anisotropy 7–38831
ferromagnetic superconductors, intermediate state and easy-plane magnetic anisotropy 7–38832
ferromagnetic superconductors, mixed state, surface tension 7–52919
ferromagnetic superconductors, surfaces and thin films, mag. and superconducting props. 7–58986
ferromagnetic-nonferromagnetic supercond. superlattices, vortex pinning 7–45591
field theoretical approach to solid state physics 7–12934
itinerant ferromagnets, heavy fermion superconductivity *(Chinese)* 7–38805
materials, advances and developments *(French)* 7–27476
sinusoidal magnetic order and superconductivity coexistence 7–7442
Al-Pb disordered 3D normal metal-superconductor composite, elec. transport, magnetisation meas. 7–64383
$CeCu_2Si_2$ heavy fermion superconductor, magnetic field penetration, muon spin relax. studies 7–45886
$CePb_3$ heavy fermion material, magnetism and superconductivity 7–52880
Cr-Ru, BCC alloys, supercond. and mag. props. 7–7443
$Er_{0.187}Ho_{0.813}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7–2782
$Er_{0.705}Ho_{0.295}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7–2782
$ErRh_4B_4$, body-centred tetragonal, cryst. struct., X-ray diffr. study 7–26704
$ErRh_4B_4$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7–22077
$ErRh_4B_4$, superconducting and ferromagnetic transitions 7–64385
EuS Heisenberg ferromagnet, diverging and finite suscept. below T_c 7–7444
$HoMo_6S_8$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7–22077
$HoMo_6S_8$ ferromagnetic films, supercond. props., temp. and mag. field depend. 7–45538
$Pd_2Y_{1-x}Dy_xSn$, Heusler alloy system, field-induced reentrant superconductivity 7–2765
UCu_5, heavy-electron state 7–45535
Y_9Co_7 mag. supercond., ^{59}Co NMR and nuclear relax. studies 7–64401
YRh_3B, supercond. and mag. props. 7–38800
$Yb_{1.2-x}Eu_xMo_6S_8$, superconductivity and mag. interactions 7–38826
Zr-Co, electronic struct., supercond. and magnetism 7–64398

magnetic surface phenomena
ab initio calcs. of magnetism and electronic struct. at surfaces and interfaces 7–58854
anisotropic magnetic multilayers, magnetostatic surface spin wave spectra calcs. 7–45762
antiferromagnetic films, dipole-exchange spin-wave modes 7–45771
antiferromagnetic superlattices with magnetisation perpendicular to surface, collective excitations, magnetostatic theory 7–45647
conference, Taxco, Mexico (Jan. 1986) 7–55898
dilution effects and influence of nature of interaction 7–59032
domain imaging with scanning Kerr effect microscope 7–45725
dynamical phenomena at surfaces, interfaces and superlattices, summer school, Erice, Italy, (July 1984) 7–1
electron gas, diamagnetic susceptibility at low temps., surface effects 7–21841
electron scatt. and emission from mag. surfaces 7–59379
electronic structure of surfaces, interfaces andsuperlattices 7–2665
ferromagnetic superconductors, surfaces and thin films, mag. and superconducting props. 7–58986
ferromagnetic superlattices with magnetisation perpendicular to surface, collective excitations, magnetostatic theory 7–45647
ferromagnetic systems with linear magnetoelectric props., dipolar waves 7–45645
ferromagnetic transition metal surface, H_2 chemisorpt., self-consistent model 7–16862
ferromagnetic two-layer films, surface magnetostatic waves 7–13009
ferromagnets, insulating, surface and interface magnetisation changes with temp., Green's function calcs. *(Chinese)* 7–38869
ferromagnets, spin polarised secondary electron emission, book contrib. 7–33495
ferromagnets, static surface critical behaviour, scaling and renormalisation, book contrib. 7–33183
films, Neel surface domain wall structures, spin-polarized SEM studies 7–13010
films, surface spin wave excitation and detection by asymmetric coplanar transducers 7–64501
finite ferromagnetic slab, nonlinear spin ware dynamics and surface magnetostatic wave dispersion, averaged Lagrangian method *(Russian)* 7–17181
graphite, nonmagnetic samples, ferromag. behaviour 7–53040
Heisenberg ferromagnet, interaction anisotropy influence on surface magnetism 7–52970
inhomogeneous films, surface mag. domain stability *(Russian)* 7–2914
Ising antiferromagnet with site-diluted free surface, surface phase diagram 7–45718
Ising ferromagnet, magnetism at site-bond diluted anisotropic free surface 7–2800
Ising ferromagnet, surface effects, mean field renormalisation group study 7–12982
Ising model, 2D half-plane with layered exchange interactions and alternate surface magnetic fields 7–2836
Ising systems, semi-infinite, critical and multicritical phenomena 7–59044
magnetic meas. at surfaces, high resolution, with spin polarised electrons 7–3119
magnetostatic wave, space-frequency dependence of energy flux 7–33158
metal-metal superlattices, magnetism at interfaces and surfaces, neutron scatt. studies 7–2822
metallic superlattices, long wavelength bulk and surface spin waves 7–2835
PMMA, nonmagnetic samples, ferromag. behaviour 7–53040
polarised electrons in surface physics, book 7–29607
polarized electron probes of magnetic surfaces 7–33264

magnetic surface phenomena continued
- rare earth iron garnet films, surface-spin orientations, depth-selective Mossbauer spectroscopy 7−2907
- review 7−58984
- semi-infinite ferromagnetic q-state Potts bulks separated by bond diluted interface, criticality 7−33179
- shear SAWs in region of spin-reorientation phase transition 7−38921
- solid surface electronic and magnetic struct. calcs., book contrib. 7−33061
- spin polarised electron study 7−2901
- spin-polarised electron diffr. and photoemission 7−59380
- superlattices, surfaces and interfaces, structural, electronic and mag. props. 7−16849
- surface, electron capture spectroscopy 7−59368
- surface ferromagnetism in transition metals, Hubbard model 7−33139
- susceptometer for thin films and surfaces 7−30047
- teflon, nonmagnetic samples, ferromag. behaviour 7−53040
- thin films, surface spin waves, tight-binding and Coulomb parameter effects 7−27572
- transition metal surfaces and interfaces, hyperfine fields 7−58847
- transition metal surfaces and overlayers, mag. and electronic props. 7−58985
- transition metal thin films, ferromagnetic, surface spin waves, multiband model 7−2834
- transition metals, magnetic and electronic properties of surfaces, interfaces and overlayers 7−13015
- type II superconductor, critical state, surface barrier struct. 7−52916
- weak ferromagnet surface, ground state, influence of adsorbed gas molecules 7−45596
- Al, nonmagnetic samples, ferromag. behaviour 7−53040
- Co(001), metastable BCC phase, electronic struct. and magnetism 7−45418
- Cr (001), near-surface antiferromagnetism and surface ferromagnetism, photoelectron spectroscopy 7−59381
- Cr (100), electronic struct. and surface magnetism at finite temps. 7−12776
- Cr, surface EM wave absorpt., 4-350K 7−33354
- Cr surface magnetism, effect of adsorbed O 7−58973
- Cu (111), epitaxial FCC γ-Fe (111)p(1×1) films, surface ferromagnetic order 7−45773
- Cu, nonmagnetic samples, ferromag. behaviour 7−53040
- Fe (100), finite temp. surface magnetism 7−52949
- Fe (110) and (100) surfaces, Stoner excitation spectrum, spin polarised electron energy loss spectroscopy 7−53463
- Fe (110) surface, clean and Ag coated, magnetic hyperfine field, local structure 7−21878
- Fe (111), electron capture spectroscopy 7−59368
- Fe epitaxial films, mag. size effects 7−59081
- Fe, magnetic surfaces, spin polarised Auger electrons 7−53456
- Fe overlayers or sandwiches with Cu (001), electronic and mag. props. 7−64499
- Fe surface magnetism, effect of adsorbed O 7−58973
- Fe, surface magnetism 7−27528
- Fe-Ge (110) interface, electronic struct. calc., mag. effects 7−45496
- Fe-Si (3 wt.%), mag. texture of surface layers 7−13062
- $Fe_{40}Ni_{40}B_{20}$, concentration dependence of surface insulating coating, influence on magnetic props. 7−64479
- α-Fe_2O_3 single crystal, backward surface wave, parametric instability and amplification 7−22128
- Fe_3O_4 particles in magnetic fluid, surface mag. props., Mossbauer spectra study 7−45756
- Fe_3O_4, surface magnetism, ion bombardment effects 7−12949
- Gd surface, evidence for ferromag. order above bulk Curie temp. 7−33173
- ^3He, adsorbed on Grafoil, nuclear ferromagnetism and surface ferromagnetic effect 7−2296
- ^3He-$CuK_2(SO_4)_2.6H_2O$, thermal resist., surface mag. coupling, effect of ^4He addition 7−52173
- MnF_2 films, antiferromagnetic, dipole-exchange spin-wave modes 7−45771
- Nd-Fe-B permanent magnet, microstructure and coercivity 7−27559
- Ni (110) with chemisorbed O_2 or CO, mag. props. investigated by spin-polarised electron beams 7−58994
- Ni (111), electron capture spectroscopy 7−59368
- Ni clusters with surface adsorbed CO, surface electronic and mag. struct. 7−21969
- Ni, elastic spin-polarised low-energy electron scatt., book contrib. 7−33494
- Ni epitaxial films and interfaces with Cu and Pd, mag. size effects 7−59081
- Ni, magnetic surfaces, spin polarised Auger electrons 7−53456
- Ni surface magnetism, effect of adsorbed O 7−58973
- Ni/Pd interface, strongly paramagnetic layer, magnetisation distrib. 7−7475
- V (100), electron capture spectroscopy 7−59368
- V, surface (100)p(1×1), ferromag. order, electron capture spectra studies 7−27526
- YIG epitaxial film, magnetic grating, Raman-Nath diffr. of surface magnetostatic waves 7−58999
- YIG films, H_2 annealed, Mossbauer study 7−45847
- YIG, LPE films, microwave magnetostatic waves, magnetic induction probe studies 7−58996
- YIG:Ne^+ ferrite films, surface magnetostatic wave damping, ion implantation effects *(Russian)* 7−33242
- YIG/ferroelec. struct., surface magnetostatic wave propag. charact. meas. 7−52965
- $(YLuBi)_3(FeGa)_5O_{12}$, Ne^+ implanted, CEMS study, surface layer magnetization *(Chinese)* 7−7620
- ZnO-YIG-$Gd_3Ga_5O_{12}$ surface magnetostatic wave scatt. by SAW 7−64507

magnetic susceptibility
- *see also molecular magnetic susceptibility; photomagnetic effect* 7−45845
- 1D chain with ferromag. interactions, infinite susceptibility without long-range order 7−64426
- 3d transition metals and alloys, induced diamag. form factor calcs. 7−2813
- A15 cpds., normal, long-wavelength static spin suscept., temp. depend., electron-phonon interaction effects 7−64103
- actinide systems, moderately delocalised, mag. behaviour, anisotropy of crit. correlations 7−7474

magnetic susceptibility continued
- actinide-transition metal alloys, AM_2, A=U-Np, M=Fe-Ni, magnetism and electronic props. 7−27505
- actinides bulk magnetic and transport props. 7−12953
- alkali metal atomic fluids, thermodynamic and electronic props. 7−45157
- alkali metal tetrafluorotetracyanoquinodimethan($TCNFQ_4$), charge transfer salts, comparative EPR studies 7−53114
- amorphous ferromagnetism, microscopic frozen spins model calcs. *(Russian)* 7−52945
- amorphous paramagnets, van Vleck susceptibility 7−7472
- Anderson impurity model, finite U, ground state and spectroscopic props. 7−2817
- Anderson model, Coulomb repulsion between localised and extended states 7−17157
- Anderson model, dynamic susceptibility, freq. depend., $1/N_f$ expansion studies 7−2816
- Anderson-type model, two-band in 1D, mag. susceptibility and other ground-state props. 7−22092
- antiferromagnetic quantum spin chains, random exchange effects, Monte Carlo study 7−64475
- antiferromagnets, double sublattice, metamagnetic soft mode, spin dynamics, suscept. and thermodynamics 7−59012
- B-(BEDT-TTF)$_2I_3$, supercond., AC susceptibility and NMR studies 7−45543
- β-(BEDT-TTF)$_2I_3$, supercond. transitions, diamag. suscept. study 7−52886
- B-(BEDT-TTF)$_2$X organic superconds., Meissner effect under press. 7−45559
- (BEDT-TTF) charge transfer complex, phase transition 7−52703
- bis(methyl ammonium) iron tetrachloride, mag. susceptibility rel. to thermal and mag. history 7−22095
- blood cells, mag. susceptibility investig. *(Russian)* 7−65790
- (BMDT-TTF)$_2$Au(CN)$_2$ organic metal, synthesis, struct. and props. 7−32420
- N-(p-n-butoxybenzylidene)p-n-ethylaniline, mag. susceptibility, anisotropy and order parameter 7−16416
- classical spin chains, dil., effects of mag. field on thermodynamics 7−38840
- copper phthalocyanine iodide, quasi 1D conductor, susceptibility meas. 7−2815
- crystal with sinusoidal potential, 1D, paramagnetic susceptibility 7−17153
- crystals, toroidal ordering and impurity scattering 7−38838
- d- and f-metals and alloys, anomalous props. due to charge density fluctuations 7−7132
- dibenzotetrathiafulvalene radical ion complexes, electronic structs., mag. props., polarised reflectivity study 7−53330
- dirty superconductors, conductivity and diamag. susceptibility fluctuations near Anderson localisation 7−45563
- disordered spin systems, effective susceptibility exponent, nonmonotonic temp. depend. 7−64461
- electron gas, diamagnetic susceptibility at low temps., surface effects 7−21841
- $(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, magnetic phase diagram studies 7−2844
- ferromagnetic Heisenberg model, one- and two-dimensional, free energy and susceptibility 7−45722
- ferromagnets, magnetic susceptibility of system with 360° domain walls *(Russian)* 7−7488
- ferromagnets, one-dimensional easy plane, quantum Monte Carlo and transfer-matrix calcs. 7−7468
- ferromagnets, paramagnetic zero-field susceptibility, modified power law study 7−45612
- ferromagnets, two-dimens., domain struct. 7−53028
- four-lattice rhombic antiferromagnet, reson. props., exchange, and high freq. suscept. calcs. *(Russian)* 7−13037
- free-electron gas diamagnetic props. in external helical magnetic fields 7−45610
- frustrated spin clusters, dynamical susceptibility anal. 7−7526
- graphite intercalation cpds., 2D magnetism, review 7−59033
- graphite-$FeCl_3$ intercalation cpd., mag. suscept. and low temp. transition meas. 7−58993
- graphite-$FeCl_3$ intercalation cpd., spin-lattice relax. time meas., AC suscept. bridge techniques 7−13054
- graphite-HNO_3 intercalation cpds., absolute Pauli spin suscept. meas., Fermi level density of states determ., ESR/NMR method 7−12940
- heavy electron systems, Fermi liquid theory anal. of specific heat and magnetic susceptibility 7−38484
- heavy fermion metals, supercond. upper crit. field, temp. depend. 7−45587
- Heisenberg antiferromagnetic chain, S=1/2 random-exchange, correlation effects 7−52928
- Heisenberg classical magnetoelastic chains, lattice distortions and short-range mag. order 7−17195
- Heisenberg ferromagnet, 3D, susceptibility, correl. length, free energy, twelfth order series study 7−27488
- Heisenberg spin glasses, rotational symmetry breaking 7−53022
- homogeneous electron gas, para- and ferromagnetic states, correlation energy interpolation fn. 7−45196
- Hubbard model, three-dimensional half-filled band sector, magnetic props., Monte Carlo simulation 7−58971
- intermediate valence systems, Ferromagnetic order coexistence, mag. props 7−64187
- iron porphyrin complexes, mag. moment susceptibility, Mossbauer study 7−22168
- Ising chains, spin-S, cryst. field effect on transverse susceptibility 7−45601
- Ising model, 2D, logarithmic singularities of Q-depend. susceptibility 7−27484
- Ising model, d-dimens., thermodynamic behaviour in generalized spherical model 7−27536
- Ising model on Bethe lattice, susceptibility calcs. 7−2877
- Ising random-field systems, integer optimization and zero-temperature fixed point 7−7530
- Ising spin 1/2 lattice model, magnetic susceptibility, critical parameters, shifted ratio method 7−14890
- Ising square lattice, antiferromagnetic susceptibility and short-range correlation function 7−38893
- Ising system, transverse susceptibility, direct calc. from local mag. field distrib. 7−17149
- itinerant electron ferromagnetism, mag. susceptibility, Curie-Weiss law 7−27501

magnetic susceptibility continued
- itinerant ferromagnets, electron and magnon spectra, spin fluctuation effects, dynamical suscepts. calcs. *(Russian)* 7−12960
- Josephson effect for dynamic mag. susceptibility and ESR measurements 7−12917
- Landau diamagnetism, perimeter corrections for free electron gas 7−38843
- lattice gas of molecules in transverse field, molecular field approx. 7−2802
- layered frustration models, susceptibility, high temp. series expansions 7−22085
- lyotropic nematic mesophase with benzenesulphonate solute, induced diamag. anisotropy sign reversal, PMR 7−21089
- mag. suscept. and cryst. struct. determ. *(Russian)* 7−1952
- magnetic fluid, effective field investig. 7−54197
- magnetic fluids, susceptibility calc. at low fields and low frequencies 7−13004
- magnetically ordered regions in crystals with dislocations, static susceptibility 7−38851
- magnetoresistive elements, Barkhausen noise meas., magnetoresistive suscept. method 7−48785
- metal particles, quantum size effects 7−7597
- metallic molecules and cpds., magnetic moment formation and mag. susceptibility 7−58995
- metals, BCC refractory, mag. susceptibility, elastic consts. and compressibility 7−33142
- metals, electron impurity states, dynamic spin suscept. calcs. *(Russian)* 7−12646
- metals, strongly correlated, containing heavy fermions, thermodynamic and transport parameters 7−38458
- metals and binary alloys, diamag. susceptibility 7−45615
- micellar liq. cryst., isotropic phase, temp.-depend. supercooling limit, mag. birefringence meas. 7−63815
- mixed valent compounds, static susceptibility of the periodic Anderson hamiltonian 7−22096
- $Ni_3Al_{0.8}$-based alloys, magnetic and structural props. studies 7−45635
- NMR imaging and in vivo spectroscopy, mag. suscept. var. effect 7−28749
- oxalate (2,2′-bipyridine) iron polymer, slow paramag. relax., Mossbauer spectra 7−27638
- paramagnetic centre, anisotropic, pseudocrossing of levels and van Vleck susceptibility 7−7471
- penanthrene-TCNQ complex, physical props. 7−52622
- N-(p-n-pentyloxybenzylidene) p-n-butylaniline, phase transitions, mag. susceptibility meas. 7−1873
- periodic Anderson Hamiltonian, paramagnetic ground state 7−2809
- planar XY-model on a 2D random lattice, numerical simulation 7−24594
- polyazulene, electrochem. and mag. props. 7−52929
- polyparaphenylene, conducting polymer, non-Curie like susceptibility, exchange-coupled pair model 7−52930
- polypyrrole, conducting polymer, non-Curie like susceptibility, exchange-coupled pair model 7−52930
- potassium laurate-1,decanol-D_2O, reentrant nematic-isotropic phase transition, pretransitional behaviour 7−21444
- Potts model, cluster-size distrib. and mag. props. 7−33136
- α-quartz, neutron damaged, static paramag. susceptibility studies 7−33140
- α-quartz, neutron irradiated and annealed, positron annihilation and mag. susceptibility meas. 7−39274
- quasi-uniaxial magnets, thin films, static susceptibility at phase transitions, domain structure formation 7−33247
- random clusters, interacting spins, thermodynamic properties 7−59029
- random field systems, static and dynamic props. 7−45710
- rocks, relation between mag. susceptibility and strain in laboratory expts. 7−66109
- segregated-stack organic charge transfer solids, mag. props. 7−17151
- spin systems, disordered, pair approx. to describe mag. props. 7−45655
- spin-1 Ising model, two and three dimensional, biquadratic exchange interactions, reentrant behaviour, Monte Carlo study 7−12986
- steel, stainless, dual phase, phase transform. obs. using thermomag. analysis 7−53696
- superconductors and magnetic materials, internal fields 7−17131
- superlattices, Heisenberg magnetism study *(Chinese)* 7−27485
- susceptometer, SQUID-based high pressure 7−41410
- TCNQ salt, $MPht(TCNQ)_2$, ion-radical salt, spin ordering 7−64442
- TCNQ salt, N-n-propyl phthalazinium 7,7,8,8 $TCNQ_2$, struct., elec., mag. props., EPR meas. 7−33005
- tetrakis(1,1,1-trifluoro-4-phenylbutane-2,4-dionato) uranium (IV) magnetochemical study *(French)* 7−12956
- tetraphenylarsonium pentakis(nitrato)ytterbate(III), crystal field levels determ. by neutron spectroscopy 7−45238
- $(TMTSF)_2ClO_4$, transverse spin susceptibility and nuclear spin-lattice relax. rate of field-induced spin-density waves 7−45611
- $(TMTSF)_2PF_6(ClO_4)(ReO_4)$ organic metals, mag. suscept. press. depend. meas. 7−12943
- $(TMTSF)_2X$ salts, quasi-1D, cascade of field-induced SDW phases 7−45701
- transition metal dithiolates and diselenolates, molecular and electronic structs. 7−52397
- transition metal oxides, Fe group, metallic behaviour, rel. to mag. and elec. props. 7−2487
- transition metal phosphorous trisulphides, electronic, structural and mag. props., intercalation cpds. and chemical props. 7−44499
- transition metal thin films, ferromagnetic, surface spin waves, multiband model 7−2834
- trimethylammonium copper decachloride, mag. suscept., linear tetramer with ferromag. coupling 7−7491
- $TSF(Ni(dmit)_2)_3$, organic conductor, structure-related magnetism 7−2807
- TTF-BDT (Au), spin-Peierls phase diagram, high temp. sp. ht. and suscept. meas. 7−59026
- two dimensional electron gas, Condon domains, dynamical effects 7−12631
- uniaxial systems with strong dipolar interaction, nonasymptotic crit. behaviour 7−64467
- van der Waals complexes, lin., diamag. suscept., promolecule model 7−10539
- Van Vleck paramagnetic susceptibility, cryst. field effect, temp. depend., approximate formulae, review 7−12935
- [α-]Mn_xS antiferromag. semicond., elec. and mag. props. 7−7244
- Ag-Mn, nonlinear dynamic suscept. meas. at spin-glass transition 7−45694

magnetic susceptibility continued
- $AgMo_2$, (M=Cr, Fe, Co), delafossite-type cpds., mag. props. 7−2879
- AgO, tetragonal, struct. and mag. props. 7−32399
- $Ag_2P_3I_2$, solid electrolyte, prep., props. and cryst. struct. 7−32396
- $Ag_{1/3}TiS_2$, intercalation cpd., transport and mag. props. 7−52572
- AgTlTe, molten, struct. factors and radial distrib. functions, X-ray diffr. meas. 7−26617
- $Ag_{0.5}V_{0.5}PS_3$, struct., metal ordering and mag. props. 7−16517
- Al, electron energy spectrum, temp. effects and mag. susceptibility *(Russian)* 7−7102
- Al-Co icosahedral alloys, struct., elec. and mag. props. 7−6583
- Al-Mn alloy icosahedral quasicryst., mag. and elec. props. studies 7−2858
- Al-Mn alloys, cryst. and amorphous phases, mag. props. 7−17163
- Al-Si-Mn alloys, cryst. and amorphous phases, mag. props. 7−17163
- $Al_{1-x}Mn_x$ cryst. and quasicryst. alloys, struct. and mag. props. 7−1949
- $Al_{80}Mn_{20}$, quasicrystalline icosahedral phase, sp. ht., mag. props. 7−52955
- An-In liq. alloys, magnetic and thermodynamic props. 7−2812
- AuCr, competing antiferromagnet, mag. phase diagram 7−59023
- AuFe re-entrant spin glass, magnetoresist. and AC susceptibility studies 7−7518
- Au_xPt_{1-x}, mag. susceptibility, 77 to 450K 7−17164
- $Ba_2CaCu_2Fe_2F_{14}$, exchange interactions, mag. susceptibility meas. 7−45654
- $BaCo_2Fe_{16}O_{27}$, Curie temp., magnetization, susceptibility, mag. anisotropy meas. *(French)* 7−27507
- BaLaCuO, magnetic susceptibility meas., indication of high-T_c superconductivity 7−58953
- $BaMg_2Fe_{16}O_{27}$, Curie temp., magnetization, susceptibility, mag. anisotropy meas. *(French)* 7−27507
- $BaMnAlF_4$, exchange interactions, mag. susceptibility meas. 7−45654
- $BaMnGaF_7$, exchange interactions, mag. susceptibility meas. 7−45654
- $BaNpO_4$, oxo-neptunates, Mossbauer and mag. studies 7−13063
- $BaO-V_2O_5-Fe_2O_3$ semiconducting glasses, elec. props., Mossbauer, EPR and X-ray diffr. studies 7−7236
- $Ba_2Sn_2Mn(Ni)(Co)Fe_{10-x}Ga_xO_{22}$ hexagonal ferrites, cryst. and magnetic struct. studies 7−44474
- Bi magnetic suscept. field depend., electron band struct. effects *(Russian)* 7−12936
- Bi-Sb alloys, magnetic suscept. field depend., electron band struct. effects *(Russian)* 7−12936
- ^{13}C NMR spectral line broadening, lanthanide paramagnetic systems, magnetic suscept. anisotropy effects 7−27624
- $Cd(Cu_{1-x}Al_x)_2$, mag. and cryst. props. 7−27506
- $Cd(Cu_{1-x}Ni_x)_2$, mag. and cryst. props. 7−27506
- CdMn, XY-type spin glass, uniaxially anisotropic, successive transitions 7−17188
- $Cd_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
- $Cd_{1-x}Mn_xTe$, crit. dynamics, AC susceptibility meas. 7−33181
- $Cd_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
- $Cd_{1-z}Mn_zTe_{1-y}Se_y$, magnetic suscept. and ESR meas., temp. depend. study 7−45636
- $Cd_{1-z}Mn_zTe_{1-y}Se_y$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7−7501
- $Cd_xZn_yMn_xTe(Se)$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7−7501
- Ce alloys, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7−32900
- Ce compounds, moderately delocalised, mag. behaviour, anisotropy of crit. correlations 7−7474
- Ce cpds. and alloys, kondo effect versus crystal field 7−2602
- Ce-Sn alloys, intrinsic magnetic behaviour, influence of stoichiometry 7−45747
- CeAs, antiferromag., anisotropic exchange and spin dynamics, neutron study 7−33147
- $CeCu_{2-x}Ni_xSi_2$, Kondo-lattice system, resist. anomalies, low-temp. susceptibility 7−58799
- $CeCu_2Si_2$, lattice gas heavy fermion-boson model anal. of specific heat, entropy and magnetic susceptibility 7−58505
- $CeGe_{1-x}Si_x$ nearly ferromag. props., temp. and comp. depend. study 7−7493
- $Ce_xLa_{1-x}Al_3$ solid solns., magnetic and thermoelectric props. 7−7212
- $CeMRu_2Si_2$ (M=La,Y), high energy EXAFS and XPS studies 7−64801
- $Ce_xMo_6S_8$, crystal growth and struct., susceptibility and transport props. 7−64889
- $Ce(Ni_xCu_{1-x})_2Si_2$, mag. susceptibility, scaling behaviour, cryst. field effects 7−45616
- $CeNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7−22154
- $CePb_3$ heavy fermion material, magnetism and superconductivity 7−52880
- $CePd_3B_{0.6}$ heavy fermion cpd., thermal and mag. anomalous cryst. field effects 7−45239
- $CePd_3Si$, heavy fermion cpd., thermal and mag. anomalous cryst. field effects 7−45239
- $CeRu_2Si_2$, heavy fermion, magnetism and spin fluctuation effects induced by partial substitution 7−38850
- $CeRu_2Si_2$, heavy-fermion system, magnetoacoustic effects in high mag. fields 7−64506
- CeSb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7−33147
- Cf oxides, Cf_2O_3, Cf_7O_{12}, CfO_2, $BaCfO_3$, mag. susceptibility meas. 7−12937
- CfX (X=N,As,Sb), mag. susceptibility meas. 7−12939
- Co-Ce(Pr) liquid alloys, variable valency investig. 7−7192
- Co-Y amorphous alloys, high-field susceptibility, spin wave stiffness const. 7−33150
- Co-Y amorphous alloys, mag. props. 7−58990
- $Co_{1-x}Ca_xFe_2O_4$, single domain-superparamagnet transition 7−17203
- $CoCl_2$-graphite intercalation cpds., mag. susceptibility meas. 7−45638
- $Co_{0.55}Cu_{0.45}Cr_2S_{4-y}Se_y$, high field susceptibility 7−45630
- $(CoF_2)_{0.5}(BaF_2)_{0.2}(NaPO_3)_{0.3}$, AC magnetic susceptibility and acoustic wave attenuation meas. 7−59020
- $Co_{1-x}Fe_xCr_2S_4$, paramag. susceptibility study 7−52934
- $Co_{71}Fe_4Si_{15}B_{10}$ and $Co_{75}Si_{15}B_{10}$ amorphous alloys, mag. props., stress and annealing depend. 7−33250
- $CoGa_2O_4$, crystal growth, chemical vapour transport, struct., mag. and electronic props. 7−53517
- $Co_xMg_{1-x}O$, Neel temp., var. with mag. dilution 7−27516
- $(Co_{1-x}Mn_x)_2B$, crystalline and amorphous, mag. and elec. props. 7−2827
- $Co_{1-x}Rh_x(Ru_x)S_2$, prep., mag. and crystallographic props. 7−33154

magnetic susceptibility continued
$Co_{0.46}Zn_{0.54}In_2S_4$ layer cpd. mag. props. and ionic distrib., 2D magnetic system models 7−38880
$Co_xZn_{1-x}In_2S_4$ solid soln. layer cpd., site coordination and short range magnetic order, XPS anal. 7−26724
Cr-Al dilute alloys, mag. phase diagram, mag. susceptibility studies *(Russian)* 7−2840
Cr-Fe (28.5 at.%) superparamag. particles formed during solid soln. decomp., mag., transitions *(Russian)* 7−33220
Cr-Ga intermetallic cpds., mag. suscept. meas. 7−12942
Cr-Ru, BCC alloys, supercond. and mag. props. 7−7443
CrAs, local spin density and paramagnetic susceptibility 7−38844
$CrGa_{1.67}S_4$ layer cpd. mag. props. and ionic distrib., 2D magnetic system models 7−38880
$Cr_{1-x}Mn_xGe$, cryst. and amorphous, mag. characts., substitution effects 7−59009
$CrNbO_4$-VO_2-MoO_2 system, rutile phases, prep. and props. 7−6806
$Cr_{1+x}Nb_{3-x}Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
$CrVO_4$, magnetic phase transitions, mag. suscept. and sp. ht. meas. 7−2842
Cs, liquid alkali metals, temp. depend. of mag. susceptibility 7−33152
$Cs_3Cr_2X_9$ (X=Cl,Br,I), synthesis, struct., mag. props. 7−6601
$CsCuCl_3$, dynamic Jahn-Teller effects, mag. susceptibility study 7−45613
$Cs_3Fe_2F_9$, precise struct. determ. and ferromag. props. anal. 7−1981
$CsNiF_3$, dynamical critical slowing down, spin fluctuation relax. time, mag. suscept. meas. 7−38897
CsV_xO_y, crysts., struct., cathodic reduction from melt, and elec. props. studies 7−58236
Cu complex, Cu (II) α,ω-dicarboxylato polybutadiene, microstruct. obs. 7−13259
Cu complex, $CuCl_2$-2-phenyl-4,4,5,5-tetramethylimidazoline-1-oxyl-3-oxide, mag. props. 7−51715
Cu II complexes, charactn., electronic and ESR parameters 7−2925
Cu, rod, skin depth and complex mag. susceptibility, expt. 7−51
Cu, thick proximity induced superconductor, mag. field effects, thickness and temp. depend. 7−52903
Cu-Mn, metallic spin glasses, local-field rotational correlation length, AC susceptibility 7−17179
Cu-Mn spin glass, intrinsic remanent magnetisation and anisotropy energy, temp. depend. 7−45690
Cu-Rh, diamag. susceptibility calc. 7−45615
$CuCl_2$.2DMSO, paramagnetic susceptibility of antiferromagnetic quantum chain 7−52997
$Cu_xCo_{3-x}O_4$, cationic distribution and mag. props. 7−26726
$Cu_{100-x}Fe_x$ alloys rapidly quenched, spin glass state 7−12979
$CuMO_2$, (M=Cr, Fe, Al, Co), delafossite-type cpds., mag. props. 7−2879
Cu_2MnAl, Heusler alloy, heat and press. processed, changes in phys. props. during heating *(Russian)* 7−59645
$Cu_2P_3I_2$, solid electrolyte, prep., props. and cryst. struct. 7−32396
$Cu_{0.5}Ti_2(PO_4)_3$, Nasicon-type phase, struct. and physical props. 7−45804
$Dy_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
a-DyNi, critical props. and universality class of disordered systems 7−2884
$Dy_xY_{1-x}Al_2$, intrinsic low field susceptibility studies 7−45633
$Er_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
$EuCu_2Si_2$, mixed valence system, interconfiguration fluctuation model 7−64188
$EuIr_2Si_2$, Eu intermediate valence 7−7188
$EuNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7−22154
$EuNi_2P_2$, mixed valence system, interconfiguration fluctuation model 7−64188
$EuPd_2Si_2$, mixed valence system, interconfiguration fluctuation model 7−64188
$EuRh_{1.5}Sn_{4.2}$, anomalous mag. and elec. props. 7−64440
EuS Heisenberg ferromagnet, diverging and finite suscept. below T_c 7−7444
EuSe, mag. phases, press., alloying effects, NMR and mag. studies 7−2847
$Eu_{0.4}Sr_{0.6}S$ spin glass, activated dynamic scaling relation for susceptibility 7−38878
$Eu_xSr_{1-x}Te$, dilute antiferromag., phase diagram, spin glass props. *(German)* 7−12981
Eu_xTiS_2 mixed valence intercalation cpd., low-temp. synthesis and mag. props. 7−17779
Fe, itinerant electron ferromagnetism, mag. susceptibility, Curie-Weiss law, temp. depend. 7−27501
Fe, liq. and solid, mag. susceptibility effect of O content *(Russian)* 7−52953
Fe, mag. props., of different phases, modelling using Monte Carlo method *(Russian)* 7−58992
α-Fe, paramag. and ferromag., critical mag. phenomena, results from μSR studies 7−45872
Fe-Ce(Pr) liquid alloys, variable valency investig. 7−7192
Fe-Co-Ni-Ti (34.9, 20.0, 10.2 wt.%), thermoelastic martensite transformation 7−52032
Fe-Cr-Mn, may susceptibility and elec. resist. *(Russian)* 7−52952
Fe-Cr-Ni, low temp. mag. susceptibility and mag. transitions *(Russian)* 7−45628
Fe-La amorphous alloys, high-field susceptibility and Curie temp. 7−58989
Fe-Ni Invar, high-field hysteresis and ferromag.-antiferromag. coexistence 7−22122
Fe-Pt Invar disordered alloys, premartensitic transform., mag. anomalies 7−7495
Fe-SiO_2 granular films, mag. relax., DC SQUID magnetometry, Mossbauer spectra 7−45761
$FeCO_3$, antiferromag., magnetooptical determ. of exchange parameters *(Russian)* 7−53283
$FeClMoO_4$ layered compound, struct. and mag. props., Mossbauer effect, mag. suscept., and neutron diffr. studies 7−58981
x-$FeGa_2S_4$ layer cpd. mag. props. and ionic distrib., 2D magnetic system models 7−38880
$Fe_{1+x}Nb_{3-x}Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
$Fe_{1+x}Nb_{3-x}Se_{10-y}S_y$, struct. mag. suscept. and ESR meas. 7−58228
$(Fe_{0.15}Ni_{0.85})_{75}$ $P_{16}B_6Al_3$, static scaling in an amorphous metallic spin glass 7−38871
$Fe_xNi_{80-x}B_{18}Si_2$, glassy alloys, variation of mag, inhomogeneity 7−45634
$FeNiCr_{0.20}$, spin glass, phase transition, mag. suscept. study 7−53004
FeNiCr(Mn) spin glasses, nonlinear mag. suscept. study 7−52991

magnetic susceptibility continued
$FeNiMn_{0.15}$, spin glass, phase transition, mag. suscept. study 7−53004
$Fe_{40}Ni_{38}Mo_4B_{16}Si_2$, ferromag. amorphous ribbons by field quenching technique, mag. anisotropy 7−33164
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, amorphous spin glasses, relaxation 7−53000
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, magnetic susceptibility appl. of dynamic scaling 7−59019
$(Fe_7Ni_{93})_{77}Si_{10}B_{13}$ amorphous spin glass, dynamic mag. susceptibility and critical phenomena *(Russian)* 7−7511
α-Fe_2O_3/AgI composite electrolytes, phase transition temperatures *(Chinese)* 7−38244
Fe_2O_3-SrO system, glass ribbon prep. by melt spinning, charactn. 7−53690
$FePO_4$-II, high press. phase, mag. props. 7−45852
FeSi, low temp. magnetostriction meas. 7−45790
$Fe_7Si_8O_{22}(OH)_2$, grunerite, mag. order, quasi-one dimensional antiferromag. with spin canting transition 7−58983
$FeVO_4$, magnetic phase transitions, mag. suscept. and sp. ht. meas. 7−2842
$Fe_{91}Zr_9$, amorphous, long-range mag. order, neutron scatt. and AC susceptibility studies 7−58979
$Fe_{92}Zr_8$, mag. susceptibility, elec. resist., magnetoresistance meas. 7−52954
Gd monolayer on W, ferromag. order and crit. exponent, ESR study 7−45680
$Gd(Al_{1-x}Ga_x)_2$, cryst. struct., paramag. susceptibility, elec. resist. meas. 7−16492
$Gd(Cu_{1-x}Co_x)_2$, mag. and crystallographic props. 7−38903
GdIG, Faraday effect meas. 7−64616
$Gd_{2-x}La_xAl$, pseudobinary cpd., mag. props., disorder effects 7−7523
$Gd_xLa_{65-x}Co_{25}B_{10}$ mixed glasses, mag. props., phase transitions, microstruct. effects 7−64465
$GdNi_3$, paramag. suscept. studies 7−52935
Gd_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7−53039
Ge-Au(Pd) alloys, temp. and conc. depend. diamag. susceptibility 7−2811
E-glass, coord. of iron, ESR and mag. meas. 7−13021
^{3}He, liquid, magnetic properties, density functional anal. 7−21559
^{3}He, solid, anomalous low-temp. susceptibility at high molar vol. 7−38296
^{3}He, solid BCC and HCP phases, high-temp. series expansions with multiple-exchange Hamiltonian 7−58564
^{3}He superfluid, static spin susceptibilities 7−12387
Hf-Os, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
$HfCo_{2+5}$ C15 Laves phase system, ferromag. props., comp. depend. study 7−7490
HfCo(Ni)Sn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7−1952
$HfFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7−2475
HfU_2S_5, mag. props. 7−22120
Hg-Cs, liq. alloy, molar mag. susceptibility, temp. depend 7−7494
Hg-In, liq., mag. susceptibility, conc. and temp. depend. 7−27492
Hg-Na, liq., mag. susceptibility, conc. and temp. depend. 7−27492
Hg-Tl, liq. alloy, molar mag. susceptibility, temp. depend 7−7494
$Hg_{3-5}AsF_6$ single crysts. bulk superconductivity, DC suscept. meas. 7−7438
$Hg_{3-\delta}AsF_6$, 1D BCS Hamiltonian 7−45558
$Hg_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
$Hg_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
$Hg_{1-x}Mn_xTe$, semimag. semicond., magneto-optical study of spin freezing 7−7678
Hg_3S_2Cl, dielec. parameters and mag. susceptibility *(Russian)* 7−53254
$Hg_3Te_2Cl_2$, dielec. parameters and mag. susceptibility *(Russian)* 7−53254
$Ho_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
InP:Mn^{3+}, Jahn-Teller effect, mag. suscept. and ESR spectra anal. 7−52534
In_2Te_3:Fe, Fe^{2+} elec. inactivity study, mag. suscept., Mossbauer spectra and XPS anal. 7−52494
Ir paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
K, liquid alkali metals, temp. depend. of mag. susceptibility 7−33152
$KCu_4Cl_3(I_3)$ and KCu_4I_5 solid electrolytes, elec. conductivity and mag. susceptibility 7−12360
$K_3Cu_8S_6$, mixed valence 2D metal, CDW 7−45294
K_2O-Al_2O_3-B_2O_3-Fe_2O_3-Gd_2O_3 glasses, mag. props., composition dependences 7−2823
$KT_{i2-x}Nb_{5+x}O_{17}$, mixed-valence rutile structures 7−27329
$La_{1-x}Ce_xNi$, Kondo lattice form., elec. resist. and susceptibility meas. 7−21899
$La_2Mo_2O_7$, quasi-2D single cryst. struct. and electronic props. studies 7−58238
La_2NiO_4, quasi-2D, canted antiferromag. order studies 7−33153
La_2O_2S:Er, Nd, mag. susceptibility, dielec. const. and dielec. losses 7−2810
$La_{1.8}Sr_{0.2}CuO_4$, superconducting transition at 36.2 K 7−58947
$LaZnFe_{11}O_{19}$, cation distribution and random spin canting 7−37945
Li, liquid alkali metals, temp. depend. of mag. susceptibility 7−33152
Li spinel insertion compounds, reactions, mag. and elec. props. 7−33920
LiAl(Ga)(In)(Zn)(Cd) B32-type Zintl phases, mag. props., exchange enhancement, APW calcs. 7−27504
$LiFeClMoO_4$, synthesis, struct. and low temp. magnetism 7−21172
$LiMO_2$, M=Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu props., review 7−64437
$Li_x{}^+(NH_4{}^+)_y(NH_3)_zTiS_2{}^{(x+y)-}$ intercalation cpd., NH_3 oxidation, charge compensation 7−32354
$(Li_{1-x}Na(K)_x)_{0.9}Mo_6O_{17}$ anomalous transport props., resist., mag. suscept., sp. ht., struct. and supercond. transition temp. meas. 7−21913
Li_6NpO_6, oxo-neptunates, Mossbauer and mag. studies 7−13063
$LiVO_2$, phase transition near 200°C, elec. resist., mag. susceptibility, X-ray diffr., IR spectra, EPR, thermal anal. 7−32914
$LuFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7−2475
$Lu_5Ir_4Si_{10}$, superconducting, electronic phase transition and partially gapped Fermi surface 7−12902
$MgFe_2O_4$, mag. props., depend. on preparation method 7−13066
Mn_{1-x} Zn_xO, stabilised, spin-glass transition, susceptibility obs. 7−7515
$MnAl_2S(Se)_4$ layer cpd. mag. props. and ionic distrib., 2D magnetic system models 7−38880
$Mn_3Al_2Si_3O_{12}$ spin glass, dynamic and static scaling exponents 7−38879

magnetic susceptibility continued
$MnCl_2$-graphite intercalation cpds., mag. susceptibility meas. 7-45638
$MnFeF_5(H_2O)_2$, ferrimag., mag. and Mossbauer study 7-45845
$Mn_{11}Ge_8$, intermetallic compound, mag. props. 7-52985
$MnHg_{1-x}Au_x$, cubic to orthorhombic transition and mag. suscept. meas. 7-52037
$Mn^{2+}Mn_6{}^{3+}SiO_{12}$:Fe(Ca)(Al), antiferromagnetism and spin glass order, mag. meas. 7-27518
$Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7-6784
$MnPS_3$, layered cpd., mag. props. 7-52951
$Mn_{0.97}Ti_{0.03}As$, mag. phase transitions, effect of Ti additions 7-27519
Mo paramagnetic suscept. temp. depend., thermal expansion effects 7-17156
MoN B1 phase sputtered films, mag. susceptibility and defect struct. 7-53087
MoS_2, high press. synthesis, characterisation 7-26716
$Mo_3Si(Ge)$, neutron irrad., NMR and mag. suscept. studies *(Russian)* 7-13051
$Mo_{n-x}W_xO_{3n-1}$, electrical conductivity, mag. susceptibility and IR spectra 7-38546
$N(CH_3)_4VOF_3.H_2O$, V^{4+}-V^{4+} pair, mag. interaction *(French)* 7-58987
$(NH_4{}^+)_{0.22}TiS_2{}^{0.22-}$ ionic intercalation cpd., synthesis, characterisation by thermal anal., mag. 7-45244
Na, liquid alkali metals, temp. depend. of mag. susceptibility 7-33152
NaIn B32-type Zintl phases, mag. props., exchange enhancement, APW calcs. 7-27504
$Na_xMo_2O_4$ intercalation cpd., struct., mag. suscept., X-ray diffr. and electrochemical anal. 7-46842
$Nb_{76}Au_{24}$, with Cr and Fe impurities, supercond. transition temp., impurity conc. depend. 7-2768
NbH_4, mag. spin susceptibility and Knight shift 7-33141
NbNi(Co)Sn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7-1952
$NbSe_2$, 2H polymorph, electronic density of states, phase matching of CDWs, NMR study 7-64538
$Nb_3Sn_{1-x}Sb_x$ A15 pseudobinary alloy, structural transitions and related anomalies 7-38182
$Nd_2Fe_{14-x}Co_xB$ system, mag. phase transitions and anisotropy 7-27524
Ni, dislocation structure after US deformation, physical props. *(Russian)* 7-44699
Ni hydroxy-mica intercalation complexes, mag. props. 7-17162
Ni, itinerant electron ferromagnetism, mag. susceptibility, Curie-Weiss law, temp. depend. 7-27501
Ni-Ce(Pr) liquid alloys, variable valency investig. 7-7192
Ni-Mn-Al, martensitic transform. *(German)* 7-46471
$Ni_{1-x}Ge_xFe_2O_4$ spinel ferrite, AC susceptibility and Mossbauer studies 7-64441
$NiMn_{0.27}$, spin glass, phase transition, mag. suscept. study 7-53004
$Ni_{78}Mn_{22}$ reentrant alloy, struct. sensitive mag. props. 7-7496
Ni_2MnM (M=Al,Ga,In,Sn,Sb), Heusler alloys, Curie temp., effect of hydrostatic press. 7-64455
$NiS_{1-y}Se_y$, isothermal susceptibility of Pauli paramagnetic state 7-2846
$NpGeO_4$, oxo-neptunates, Mossbauer and mag. studies 7-13063
NpM_4Al_{8-x}, (M=Cr,Fe,Cu), mag. props., Mossbauer effect and neutron diffr. 7-59127
NpOS, mag. props. 7-13064
O, solid, α-β phase transition, magnetoelastic coupling and antiferromag. order effects 7-58193
O_2 liquid, SRO, thermal and mag. props. *(Russian)* 7-32253
P_2O_5-$Dy_2O_3(Pr_2O_3)$ glasses, struct., mag. and thermal props. 7-26658
$Pb_{1-x}Eu_xTe$ epitaxial layers, mag. props. 7-45772
$PbMn_{2/3}MO_3$, perovskite-type cpds., (M=Mo, Te, Re), dielec. and mag. props. 7-7650
PbTe, mag. susceptibility, optical absorpt. spectra, effect of intrinsic defects 7-64670
PbTe:Gd, mag. props. EPR study 7-53126
PbV_2O_6, vitreous and crystalline, mag. props. 7-7473
Pd, dynamic spin susceptibility, contrib. to low temp. sp. ht. 7-33143
Pd-Fe:B(O), mag. susceptibility, impurity effects 7-27520
PdMn, atomic and mag. short range order 7-52941
$PdMo_2$, (M=Cr, Fe), delafossite-type cpds., mag. props. 7-2879
$Pd_{58.8}U_{20.6}Si_{20.6}$ alloys, glassy to icosahedral quasicrystalline phase transition, elec. and mag. props. 7-37863
Pt complex, $(H_3O)_{0.33}Li_{0.8}(Pt(C_4N_2S_2)_2)1.67\ H_2O$, synthetic conductor, spin-carrying defects 7-44524
Pt paramagnetic suscept. temp. depend., thermal expansion effects 7-17156
$PuSb_{1-x}Te$, mag. props. 7-12938
$RAuCu_4$ (R=Gd, Tb, Dy, Ho, Er), cubic alloys, mag. props. 7-52936
RGa_8Co_2 (R=Ce, Pr, Eu), cryst. struct., mag. props. 7-45614
RGa_8Fe_2 (R=La, Ce, Pr, Nd, Sm), cryst. struct., mag. props. 7-45614
Rb, liquid alkali metals, temp. depend. of mag. susceptibility 7-33152
$RbCuCl_3$ single crysts., mag. suscept. meas., exchange interactions, magnetic and crystallographic transitions studies 7-52950
RbV_xO_y crysts., struct., cathodic reduction from melt, and elec. props. studies 7-58236
Rh paramagnetic suscept. temp. depend., thermal expansion effects 7-17156
$Rh_{1-x}Ru_xS_2$, prep., mag. and crystallographic props. 7-33154
$Ru_xFe_{80-x}B_{20}$ amorphous alloys, magnetic phase diagram, magnetisation and Mossbauer studies 7-53042
$Sc(CO_{1-x}Al_x)_2$, pseudobinary system, weak itinerant ferromagnetism 7-2825
Se-Te-Au(Ag) liq. mixtures, electronic props. 7-64247
Si:P, metallic, nearly-localised electron spin dynamics, EPR linewidth study 7-22110
$SrNpO_3$, oxo-neptunates, Mossbauer and mag. studies 7-13063
Tb-Si amorphous films, spin-glass transition 7-7519
$Tb_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7-21161
$TbCu_{3.54}$, seedy mag. order, neutron scatt. study, mag. meas. 7-33145
$Tb_xGd_{1-x}Al_2$, intrinsic low field susceptibility studies 7-45633
Tb_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7-53039
ThM_2Si_2 (M=Cu, Ru, Os, Ir, Pt), magnetochemistry and crystal chemistry 7-58976
α-Ti, mag. suscept. and elec. resist. meas., itinerant antiferromagnetism, comment 7-33151
Ti-Fe, electronic, mag., supercond. and glass forming ability rel. to stability 7-38846
$TiCrNb_2Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7-52426

magnetic susceptibility continued
TiNiSn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7-1952
TiS_2, highly stoichiometric, compositional and struct. studies 7-2224
TiS_2, nearly stoichiometric, direct reaction synthesis and characterisation 7-58499
$Ti_{75}Sb_{25}$, with Cr and Fe impurities, supercond. transition temp., impurity conc. depend. 7-2768
$TiSe_2$, 1T polytype, CDW transition effects of lattice fluctuations 7-21831
TiU_2S_5, mag. props. 7-22120
Tl-$SbTlSe_3$, liq., semicond., elec., mag. and thermoelec. props. 7-58825
Tl-$SbTlTe_3$, liq., semicond., elec., mag. and thermoelec. props. 7-58825
Tl_4MnI_6, paramag. suscept. w.r.t. NMR chem. shift, hyperfine coupling const. determ. 7-2941
Tm intermediate valence systems, dynamics, self-consistent perturbation theory studies 7-27309
$TmCu_2$, magnetic phase transitions, suscept., sp. ht., elec. resist. and magnetisation meas. 7-2857
$TmNi_2$, singlet ground-state cpd., induced-moment ferromagnetic ordering meas. 7-38866
U alloys, UTX (T=Ru,Co,Ni; X=Al,Ga,Sn), nonferromagnetic, high-field and low-temp. mag. props. 7-45696
U-Cu-P(As), ternary particles, cryst. struct. and mag. props. 7-12955
U-Ni-As(P), ternary particles, cryst. struct. and mag. props. 7-12955
UAl(Ga)(Sn)Ni(Co)(Ru) ternary alloys, magnetic behaviour, elec. resist. and sp. ht. meas., 5f electron effects 7-12999
$UAuCu_4$ magnetic props., X-ray diffr., NMR and mag. suscept. meas. 7-52948
UBe_{13}, lattice gas heavy fermion-boson model anal. of specific heat, entropy and magnetic susceptibility 7-58505
UCu_5 magnetic heavy electron materials, muon spin rotation studies 7-45884
$UCu_{4.5}Al_{7.5}$, antiferromagnetic suscept. meas. 7-12954
UFe_xAl_{12-x}, ferromagnetic suscept. meas. 7-12954
$U_{1-x}Gd_xO_2$ solid soln., microcharacterisation by ESR, XPS and mag. susceptibility meas. 7-12957
$UIrSi_3$, mag. and elec. props. 7-45674
$UMGa_5$ (M=Fe,Co,Ni,Ru,Rh,Pd,Os,Ir,Pt), structural chemistry, mag. behaviour 7-16513
UM_2Si_2 (M=Cu, Ru, Os, Ir, Pt), magnetochemistry and crystal chemistry 7-58976
$UPdCu_4$ magnetic props., X-ray diffr., NMR and mag. suscept. meas. 7-52948
UPd_2Sn, heavy electron behaviour, elec. resist., mag. susceptibility, sp. ht. meas. 7-32679
UPt_3, doped, strain-dependent mag. anomalies 7-12978
UPt_3 heavy-fermion superconductors, induced moment mag. form factors 7-12909
UPt_3, heavy-fermion system, magnetoacoustic effects in high mag. fields 7-64506
UPt_3 Kondo lattice, low-temp. sp. ht., suscept. and resist. meas., press. depend. anal. 7-7220
URu_2Si_2, monocrystalline, thermal expansion and sp.ht. 7-44866
USb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7-33147
$USb_{1-x}Te_x$, AC mag. susceptibility meas. 7-17160
$U_{1-x}Th_xPt_3$, Fermi surface instability modification by Th substitution in UPt_3 7-2766
$U_{1-x}Th_xSb$, AC mag. susceptibility meas. 7-17160
UX_3 (XLL=S,Se,Te), trichalcogenides, mag. susceptibility study 7-12958
U_2Zn_{17} magnetic heavy electron materials, muon spin rotation studies 7-45884
V, dynamic spin susceptibility, contrib. to low temp. sp. ht. 7-33143
$(VO)_2P_2O_7$, 1D spin 1/2 Heisenberg antiferromagnet, mag. susceptibility meas. 7-45639
WC electronic struct. and magnetic suscept., UV and X-ray photoelectron spectra 7-53493
Y_9Co_7, electronic struct. and mag. props. 7-7104
$Y_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7-21161
$Y_{1-x}Dy_x$ dilute alloys, spin density wave antiferromagnetism 7-52947
$Y_2Fe_{14}B$, electronic struct. and mag. props. recursion method calcs. 7-2452
$Y_2Fe_{14-x}Si(Cu)B$ alloys, mag. props. 7-45681
YH_x system, mag. susceptibility and electronic struct. *(Russian)* 7-58988
YIG, ferromagnet, domain struct., transform. in alternating mag. fields 7-53027
YIG, toroidal ferrimagnetic polycrystals, domain-wall continuity 7-33197
$Y(Mn_{1-x}Al_x)_2$, spin glass behaviour 7-52996
$Y_2Mo_2O_7$, spin glass like behaviour 7-7524
$Y_5Ni_{95}H_x$ amorphous thin films, mag. and elec. transport props., H content effect, 1.5 to 400K *(Chinese)* 7-38909
Y_2O_2S:Er, Nd, mag. susceptibility, dielec. const. and dielec. losses 7-2810
YRh_3B, supercond. and mag. props. 7-38800
Yb intermediate valent intermetallic cpds., Hall effect studies 7-12703
$Yb_{0.06}\ (NH_3)_{0.32}TiS_2$ intercalation compounds, structural and magnetic studies 7-63593
$YbAgCu_4$, strong electronic correlations 7-45194
$YbAuCu_4$, strong electronic correlations 7-45194
$Yb_{1.2-x}Eu_xMo_6S_8$, superconductivity and mag. interactions 7-38826
$Yb_xIn_{1-x}Cu_2$, Yb valence transition 7-45245
$YbNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7-22154
$YbPdCu_4$, strong electronic correlations 7-45194
$YbSb_2$, superconductivity study 7-58962
Yb_3Se_4, crystal struct. and mag. props. *(French)* 7-63590
Yb_xTiS_2 mixed valence intercalation cpd., low-temp. synthesis and mag. props. 7-17779
$Yb_{1-x}Tm_xSe$, anomalous Tm valence, lattice parameters, diamag. suscept. and Hall effect meas. 7-16998
$Zn_{0.5}Co_{0.5}FeCrO_4$, cluster spin glass, spin freezing 7-27531
$ZnCr_{1.6}Ga_{0.4}O_4$, antiferromagnetic frustrated spinel, noncritical behaviour near its freezing temp. 7-38875
$ZnCr_2O_4$, crystal growth, chemical vapour transport, struct., mag. and electronic props. 7-53517
$Zn_{1-x}Fe_xCr_2S_4$, paramag. susceptibility study 7-52934
ZnMn, Ising-type spin glass, uniaxially anisotropic, successive transitions 7-17188
$Zn_3(P_xAs_{1-x})_2$ solid solutions, interatomic interaction, mag. susceptibility 7-52932

magnetic susceptibility continued
- $ZnSiP_2$ and $ZnGeP_2$, single crysts., prep. and characterisation 7−2612
- Zr-Co, electronic struct., supercond. and magnetism 7−64398
- Zr-Co amorphous alloys, superconductivity, normal-state resistivity and mag. susceptibility 7−12900
- Zr-Ni(V) amorphous superconductors, struct. and supercond. props. 7−27482
- Zr-Ru, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
- ZrCo(Ni)Sn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7−1952
- ZrF_4-based fluoride glasses, Fe ions anal. 7−64672
- $ZrFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7−2475
- $Zr_{1-x}Ni_x$ amorphous alloys, itinerant electron magnetism, AC susceptibility meas. *(Chinese)* 7−27490
- $ZrTe_3$, anisotropic superconducting transition 7−45565
- ZrU_2S_5, mag. props. 7−22120

magnetic suspensions *see magnetic fluids*

magnetic switching
- betatron magnetically-switched electron injector, operating characts. 7−30794
- modulator for proton storage ring, design and anal. 7−30817
- Fe_2O_3:Co particles, coercivity time-scale depend., magnetic switching units vol. determ. 7−53059

magnetic tapes
- friction reduction by acoustic excitation 7−65148
- particulate magnetic recording tapes, hysteretic props. ang. depend. studies 7−53058
- particulate recording media, magneto-optic Kerr effect hysteresis loop meas. 7−48782
- CrO_2 particles, LIPS tape prep. and characts. 7−53061
- Fe_2O_3 powder type audio tapes, mag. domain obs. by colloid-SEM method *(Japanese)* 7−7533

magnetic thin film devices
- *see also magnetic bubble devices*
- Permalloy, thin film sensor, magnetostriction, magnetoresistive response 7−7211
- Fe-Ni soft magnetic film single-pole readout head, induced RF permeability variation 7−53072
- YIG film, nonuniformly magnetised, group delay characts. of magnetostatic forward vol. waves 7−45764

magnetic thin films
- *see also magnetic epitaxial layers*
- amorphous, mag. anisotropy, influence of plastic deform. *(Russian)* 7−45660
- amorphous films, magnetic anisotropy field, elastic deform. effect *(Russian)* 7−38914
- anisotropic magnetic multilayers, magnetostatic surface spin wave spectra calcs. 7−45762
- antiferromagnetic films, dipole-exchange spin-wave modes 7−45771
- bimetallic film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7−21705
- bubble films, coercive force control mechanism *(Russian)* 7−45776
- bubble garnet films, coercive force determ., microwave absorpt. meas. 7−59096
- coercive force establishment, magnetoelastic interaction effects *(Russian)* 7−7558
- conference, Taxco, Mexico (Jan. 1986) 7−55898
- cylindrical magnetic domain films, ion implanted, magnetisation reversal 7−2915
- demagnetising energy in imperfect films, directional depend., appl. for mag. storage media 7−45770
- diluted ferromag. alloys, mag. contrib. to elec. resistivity 7−22036
- domain imaging with scanning Kerr effect microscope 7−45725
- domain wall struct. in external mag. field *(Russian)* 7−7573
- double-layer film, magnetostatic energy and coupling 7−59072
- edge region magnetisation distrib. anal. under homogeneous field 7−38912
- epitaxial growth of ferromagnetic monolayers 7−2909
- Fe-Si multilayered thin films, stacking structs., magnetostatic coupling and layer boundary interdiffusion 7−7574
- ferrite, coplanar transducer excitation of magnetostatic surface wave 7−22102
- ferrite film structure, layered, anisotropic, dipole exchange spin waves 7−64494
- ferrite structure, resonant interaction between magnetostatic waves and volume elastic waves, effect of ideally conducting metal 7−22129
- ferromagnetic, precession soliton, nonlinear integro-differential eqn. soln. 7−64500
- ferromagnetic, surface and guided magnetic polariton dispersion relations 7−38463
- ferromagnetic film, backward bulk magnetostatic wave propag. by grating formed by ion implantation 7−53093
- ferromagnetic film, with mixed exchange boundary conditions, theory of dipole-exchange spin wave spectrum 7−45644
- ferromagnetic multilayers, propagating spin waves 7−52959
- ferromagnetic single-domain films with inclined anisotropy axis, magnetostatic spectrum 7−53092
- ferromagnetic supercond. films, mixed states 7−27478
- ferromagnetic superconductors, surfaces and thin films, mag. and superconducting props. 7−58986
- ferromagnetic thin absorbing film on reflecting struct., equatorial Kerr effect 7−53287
- ferromagnetic thin films, density of energy for localised retarded modes 7−7569
- ferromagnetic thin films, magnetisation calcs., differential operator method 7−45774
- ferromagnetic two-layer films, surface magnetostatic waves 7−13009
- ferromagnetic uniaxial thin films, spin wave spectrum, nearest-neighbour and next-nearest-neighbour exchange couplings 7−53089
- finite scaling theory in thin film with non-ideal surface 7−7572
- garnet bubble films, H_2^+−implanted, thermal stability and aging 7−22124
- garnet epitaxial thin film, FMR investig. 7−53069
- garnet film, strip domain stretching, computer simulation 7−59083
- garnet film, stripe domain stabilisation by grooving 7−59084
- garnet films, Co-containing, domain-wall dynamics, magnetic after-effect 7−64504

magnetic thin films continued
- garnet films, $He^+(H_2^+)$ implanted, magnetisation and uniaxial anisotropy meas. 7−7576
- garnets, isolated stripe domain deformation instability study *(Russian)* 7−2916
- garnets, stress induced optical anisotropy 7−53430
- high density recording materials *(French)* 7−27582
- inhomogeneous films, surface mag. domain stability *(Russian)* 7−2914
- interdiffusion in coupled mag. layers, spin wave resonance approach 7−2278
- magnetic film-magnetic substrate system, magneto-optical transverse Kerr effect 7−22226
- magnetic fluid, thin layer coating, hydrodynamic drag, num. investig. 7−51061
- magnetic waves, transmission line model 7−2908
- magnetics, conf., Japan (Nov.1985) 7−24259
- magnetisation distrib. and magnetostatic energy at film edge 7−59073
- magnetisation of thin ferromag. film, Ising approx. 7−64425
- magneto-optical thin films, under laser irradiation, thermal anal. 7−45995
- magnetostatically couple film edges, magnetostatic energy formula calcs. 7−45769
- multilayer ferromag. thin films, NMR freq. anisotropy *(Russian)* 7−45830
- Neel surface domain wall structures, spin-polarized SEM studies 7−13010
- oblique-deposited films, in-plane anisotropy axis switch 7−53084
- permalloy evaporated films, induced mag. anisotropy, thickness depend. study 7−7562
- permalloy films, domain motions and instabilities, magneto-optic observation 7−53095
- Permalloy films, field induced uniaxial anisotropy, thickness depend. 7−53086
- Permalloy thin films, mag. anisotropy, angular spatial dispersion *(Russian)* 7−2905
- Permalloy thin films heads, RF sputtered, mag. props. 7−33235
- quasi-uniaxial magnets, thin films, static susceptibility at phase transitions, domain structure formation 7−33247
- retarded modes in layered magnetic structures 7−64502
- sputtered magnetic thin film, ion beam irrad., struct. studies 7−22588
- surface magnetism, spin-polarised electron diffr. and photoemission 7−59380
- surface spin wave excitation and detection by asymmetric coplanar transducers 7−64501
- surface spin waves, tight-binding and Coulomb parameter effects 7−27572
- susceptometer for thin films and surfaces 7−30047
- transition metal surfaces and overlayers, mag. and electronic props. 7−58985
- transition metal thin films, ferromagnetic, surface spin waves, multiband model 7−2834
- vertical Bloch line propag. by bias pulse, pot. well form. using high-coercivity film 7−59085
- YIG:Ca films, magneto-optical props., reducing treatment effects 7−64617
- Al-Mn alloys, cryst. and amorphous phases, mag. props. 7−17163
- $BaFe_{12}O_{19}$ acicular media for perp. mag. recording, dynamic props. 7−59061
- $BaFe_{12}O_{19}$ films, RF diode sputtering prep. and mag. props. *(Japanese)* 7−7852
- Bi-Zn-Fe-O amorphous films, struct. and mag. props. 7−51645
- $Bi_xDy_{3-x}Fe_{3.8}Al_{1.2}O_{12}$ garnet films, magneto-optical props. 7−64614
- $(BiGdTm)_3(FeGa)_5O_{12}$ single cryst. film, reverse-magnetisation domain nucleation studies 7−17208
- $(BiLu)_3(FeGa)_5O_{12}$ film, magnetic bubble motion, Rayleigh surface wave effects 7−33245
- $(BiR)_3(FeGa)_5O_{12}$, garnet films, pulsed magnetisation reversal, in-plane mag. field 7−45736
- $(BiYSmTbGdHoCa)_3(FeSiGe)_5O_{12}$ bubble films, rare earth substitution effects 7−59095
- $CO_{70}Si_{30}$ amorphous films, coercive force rel. to crystallisation *(Russian)* 7−59078
- $CdCr_2Se_4$, ferromag. semiconducting thin films, influence of electric field on magnetisation 7−45738
- $CdCr_2Se_4$ thin films, ferromagnetic semicond., multielectron energy struct., absorpt. spectrum, temp. and doping depend. 7−38488
- Co alloy, thin film disks, DC magnetron sputtered, anisotropy induced signal waveform modulation 7−33229
- Co ferromagnetic thin layer on Au(111), cryst. struct., TEM study 7−64015
- Co metallic mag. film, mag. anisotropy field freq. dispersion 7−33240
- Co thin films, nucl. spin echo, effect of nonresonance pulsed mag. field 7−45839
- Co/Ag, compositionally modulated layered films, saturation magnetisation and FMR, thickness depend. 7−7565
- Co/Cr compositionally modulated layered films, saturation magnetisation and FMR, thickness depend. 7−7565
- Co-CoO multilayered films, exchange anisotropy 7−27579
- Co-Cr, continuously sputtered films, crystallographic orientation and mag, props. 7−27176
- Co-Cr films, continuous fabrication by sputtering, substrate degassing effects 7−27904
- Co-Cr films, deposition by exposed pole magnetron sputtering 7−27903
- Co-Cr films, film growth and magnetisation reversal mechanism 7−27585
- Co-Cr films, mag. parameters, Brillouin light scattering study 7−53357
- Co-Cr films, sputter deposition and characterisation 7−27178
- Co-Cr films, sputter deposition, microstructure and its growth mechanism 7−27179
- Co-Cr films, sputter deposited, effects of additive gases on mag. props. 7−27575
- Co-Cr films for perpendicular mag. recording media, deposition in facing targets sputtering system 7−64899
- Co-Cr magnetic thin films, facing targets sputter deposition, microstruct. model 7−27905
- Co-Cr perpendicular recording media, props., effect of impurity gases 7−59069
- Co-Cr sputtered films, microstructural inhomogeneity, mag. props. 7−45768
- Co-Cr sputtered films, segregated microstructure, TEM studies 7−12538
- Co-Cr thin films, DC magnetron sputtered, mag. props., effect of substrate and deposition rate 7−59067
- Co-Cr thin films, sputter etching and annealing, FMR study 7−59112

magnetic thin films continued
Co-Cr thin films for mag. recording, by facing targets sputtering, C-axis orientation 7—59418
Co-Cr thin films prepared by fracture, microtome and ion-beam thinning methods, microstructure obs. 7—2427
Co-Cr-Fe sputtered films, dilute, Mossbauer effect 7—22167
Co-Fe bilayer thin films, annealing behaviour, mag. props. 7—59079
Co-Gd-Tb-based thin films, properties and stability for magneto-optic recording 7—53075
Co-Mg coevaporated films, prep. and mag. props. 7—53082
Co-Ni evaporated recording media, improvement of mag. props. and corrosion resistance by Pr additions 7—33825
Co-Ni-Fe underlayer for double-layer perpendicular media, vacuum deposition and mag. props. 7—27577
Co-Ni-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7—27581
Co-Ni-Re-P films for perpendicular mag. recording media, electroless deposition and mag. props. 7—27580
Co-P, amorphous, Curie temp. meas. 7—45669
Co-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7—27581
Co-Pt bilayer thin films, annealing behaviour, mag. props. 7—59079
Co-Pt thin films, sputtered, TEM study 7—21757
Co-Pt-M (M=Cs,Mo,W,V,Nb,Ta,Ti,Zr,Ge), thin film media for high density recording *(Japanese)* 7—7567
Co-Ta amorphous magnetic thin films, sputter deposition methods 7—22483
Co-Ti(Pt) sputtered films, mag. props., O impurity effects 7—33238
Co-transition metal amorphous films, mag. and galvanomag. props. 7—53079
Co-W-P electroplated alloys, struct. and mag. props. *(Russian)* 7—2428
Co-Zr amorphous films, low energy ion beam sputtering, mag. props. 7—53081
Co-Zr amorphous magnetic thin films, sputter deposition methods 7—22483
Co-Zr(Ti) amorphous films, induced anisotropy, relax. process 7—53080
$Co_{100-x}B_x$ amorphous sputtered thin films, magnetic anisotropy origins 7—27583
CoCr double-layered film, sputter deposition 7—27177
CoCr films, corrosion in H_2SO_4 7—33824
CoCr films, magnetisation reversal mechanisms 7—59068
CoCr films, sputter deposition, mag. characteristics of initial deposition layer 7—27574
CoCr films, vacuum evaporation, thickness depend. of mag. props. 7—27576
CoCr magnetic thin films, magnetron co-sputtered, microstructure 7—33558
CoCr Permalloy films, weather resistance 7—28183
CoCr RF sputtered magnetic films, Cr segregation, STEM study 7—44827
CoCr sputtered film recording media, wear resistance, mech. strength and microstruct. 7—32859
CoCr sputtered films, struct. and mag. props., role of atomic mobility during film growth 7—33224
CoCr thin films, microstructure and corrosion resistance, effect of SiO_2 protective film 7—28184
CoCr thin films for recording media, perpendicular anisotropy 7—33202
CoCr thin films on metallic underlayers, mag. characts. 7—27573
CoCr-based thin films, growth and mag. props., nucleation layer effects 7—45065
CoCrTa sputtered films, microstruct. and mag. props. studies 7—12575
$Co_{74}Fe_6B_{20}$ amorphous sputtered thin films, magnetic anisotropy origins 7—27583
CoFeCr sputtered films, struct. and mag. props. 7—27175
$CoFe_2O_4$ (100)-textured thin films, anisotropy study 7—7568
$Co_{80}M_{20}$ (M=Cr,Sm) sputtered thin film recording media, micromag. and struct. studies 7—33243
$Co_{90}M_{10}$ (M=Pt,Re) sputtered thin film recording media, micromag. and struct. studies 7—33243
CoN_x thin films, magnetic props. 7—13008
CoNbTi/SiO_2 amorphous layered films, high freq. permeability 7—53078
$Co_{80}Nb_{10}Ti_{10}$ two-layered films, mag. domain structures, transmission Lorentz microscopy 7—53096
$Co_{80}Nb_{10}Ti_{10}$-SiO_2, amorphous multi-layered films, mag. props. rel. to film thickness 7—2912
CoNi sputtered films on Cr and polyimide, mag. props., relation to struct. 7—33228
CoNi thin films, oblique-deposited, mag. props., O impunity effects 7—33244
$Co_{80}Ni_{20}$ magnetic thin films, obliquely deposited, oxidation behaviour 7—65217
CoNiCr-Cr sputtered thin films, film struct., mag. props. 7—33227
CoNiReP alloy films for perpendicular mag. recording, thickness depend. of perpendicular coercivity 7—59066
CoO_x sputtered thin, annealing effects on mag. props. and structure, Co-CoO layer separation 7—27180
CoP amorphous films, FMR spectra during crystallisation 7—53142
CoPtTi thin films, magnetic and microstructural props. 7—33230
CoTi soft ferromagnetic thin films, structure-related induced anisotropy 7—45663
CoTi-CoNb amorphous alternating layers, magnetic and diffusional props. study 7—7563
DgTb amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
Dy thin films, conduction electron scattering on magnetic spin system 7—64362
Dy thin films, influence of thickness on mag. phase transitions 7—38860
Dy_xCo_{1-x} thin films, ferrimagnetic reson. in region of spin-reorientation transitions 7—45824
DyFe alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
DyIG:Ga,Bi, RF sputtered films for magneto-optical memory, mag. props. 7—64613
Fe ferromagnetic particles in Al_2O_3 thin films, mag. props., comparison with spin glasses 7—7557
Fe films on Ni substrates, magnetism and interface processes, in-situ conversion electron Mossbauer study 7—7571
Fe overlayers or sandwiches with Cu (001), electronic and mag. props. 7—64499
Fe sputtered films, mag. perpendicular anisotropy, Mossbauer studies 7—59076

magnetic thin films continued
Fe ultrathin films on Pd (111), photoemission, LEED and AES studies 7—45068
Fe:B polycrystalline films, amorphous alloy layer formation by ion implantation *(Chinese)* 7—6647
Fe-Al metastable alloy sputtered film, mag. props., comp. depend., X-ray diffr. and Mossbauer meas. 7—7559
Fe-Au-Fe double layers, exchange coupling 7—27510
Fe-based thin films, saturation magnetisation and coercive force 7—59074
Fe-Co-Mn(V) films, ion beam sputtered, soft mag. props. 7—33237
Fe-Cr-Fe double layers, exchange coupling 7—27510
Fe-Cu evaporated film, composition distrib. and mag. props., Mossbauer meas. 7—7561
Fe-Cu films, obliquely evaporated, inhomogeneous conc. distrib. 7—38367
Fe-Cu metastable alloy sputtered films, mag. props., X-ray diffr. and Mossbauer meas. 7—7560
Fe-Cu multilayer films, layered mag. domains, Schlieren-Lorentz TEM studies 7—38916
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, origin of high coercivity 7—27578
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, prep. 7—27908
Fe-Ni films, γ-phase low temp. precipitation investig. *(Russian)* 7—33666
Fe-Si amorphous magnetic thin films, sputter deposition methods 7—22483
Fe-Si-Al, Sendust films, DC opposite sputtered, mag. and crystallographic characteristics 7—7847
Fe-Si-Al films, magnetoelastic effect and anisotropy fields 7—59071
Fe-Si-B mag. film, magnetoelastic wave generation and detection 7—59070
Fe-SiO_2 compositionally modulated mag. film props. study 7—7566
Fe-SiO_2 granular films, mag. relax., DC SQUID magnetometry, Mossbauer spectra 7—45761
Fe-Tb amorphous alloys, film and bulk mag. props. and thermal expansion meas. 7—7540
Fe-Zn alloys, sputtered, X-ray diffr., magnetisation and Mossbauer studies 7—59075
$(Fe\text{-}B)_{85}Nd_{15}$ amorphous films, soft mag. props. 7—53077
FeB amorphous magnetic thin films, spin wave mode linewidth meas. 7—45826
$Fe_{80}C_{20}$-Si compositionally modulated amorphous struct., mag. and diffusional props. study 7—7564
$Fe_{70}Co_{30}$-SiO_2 compositionally modulated mag. film props. study 7—7566
$Fe_{3-2}N$, hexagonal, prep. by plasma reaction, mag. characts. 7—13380
Fe_xN thin films, ion beam deposited, mag. props. and corrosion resistance 7—33231
FeNi metallic mag. film, mag. anisotropy field freq. dispersion 7—33240
γ-Fe_2O_3 films, CVD deposited, uniaxial mag. anisotropy 7—33234
γ-Fe_2O_3 reactive RF sputter deposition, struct., elec. and mag. props. studies 7—17421
γ-Fe_2O_3 sputtered thin films, CoCr-doped, stress-induced perpendicular mag. anisotropy 7—33232
γ-Fe_2O_3 thin films, mag. props. 7—33233
Fe_2O_3:Co sputtered films, X-ray diffraction anal. 7—58675
Fe_3O_4 films, mag. anisotropy and magneto-optical props. 7—2910
$Fe_{1-x}Si_x$ amorphous films, Hall effect and mag. anisotropy 7—2911
$Fe_{67}Si_{33}$ amorphous films, coercive force rel. to crystallisation *(Russian)* 7—59078
$Fe_{0.458}Sn_{0.088}O_{0.454}$ film, mag. props., appl. in perpendicular mag. recording 7—59005
Gd-Co compositionally modulated mag. film props. study 7—7566
Gd-Co films, amorphous, spontaneous spin-reorientation transition *(Russian)* 7—45763
Gd-Co-Mo amorphous magnetic thin films, spin wave mode linewidth meas. 7—45826
Gd-Co(Fe)(CoFe) alloys, amorphous thin films, Faraday rotation 7—64612
Gd-Fe evaporated amorphous alloy films, mag. props. and FMR behaviour studies 7—45825
Gd-Tb-Co-Fe sputtered amorphous films, Kerr magneto-optical effect, anisotropy dispersion effects 7—38913
$(GdBi)_3(FeAlGa)_5O_{12}$ garnet films, LPE growth 7—59463
GdCo and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
GdCo(Fe) amorphous films with perpendicular anisotropy, Hall loop meas., mag. struct. studies 7—7205
GdCoSi, amorphous film, mag. and magnetoopt. props., thickness depend. 7—33239
GdNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
$HoMo_6S_8$ ferromagnetic films, supercond. props., temp. and mag. field depend. 7—45538
HoNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
Mn-Ga, amorphous, prep. by ionised cluster beam deposition 7—3205
MnBi ferromag. thin films, reversed micro-domain growth, magnitude-anisotropic dispersion 7—17205
MnF_2 films, antiferromagnetic, dipole-exchange spin-wave modes 7—45771
$Mn_{1-y}Fe_y$ sputtered films, mag. props. 7—38915
$(Mn_mFe_{1-m})_{100-x}Bi_x$ films, evaporated, structure and mag. props. *(Japanese)* 7—59077
Mo permalloy films, mag. domain walls stability, external mag. field, Lorentz microscopy 7—45780
MoN B1 phase sputtered films, mag. susceptibility and defect struct. 7—53087
Nd-Fe-Co, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7—64496
$Nd_2Fe_{14}B$ sputtered films, perpendicular anisotropy 7—53073
Ni finite films, sputtered, struct. and compositional studies 7—64024
Ni single cryst. films, quasi-localised spin-wave modes obs. 7—2830
Ni/Ag multilayer thin films, enhanced magnetisation 7—17204
Ni-Fe films, ion beam sputtered, magnetoresistance props. 7—22033
Ni-Fe-In ternary Permalloy electroplated films, mag. props. and thermal stability 7—33236
Ni-Zn ferrite and Ni ferrite films, prep., mag. props. 7—13378
NiFe/SiO_2/CoPt multilayer magnetoresistors sensitivity anal. 7—48786
$NiFe_2O_4$ films, amorphous, uniaxial perp. mag. anisotropy, substrate temp. depend; 100 to 573K *(Japanese)* 7—53091
$NiFe_2O_4$ films, crystn. kinetics 7—45090
$NiFe_2O_4$ sputtered films, struct., comp., AES study 7—22478

magnetic thin films continued
- $NiFe_2O_4$-MgO sputtered films, struct., comp., AES study 7−22478
- $Ni_{78}Mn_{22}$ reentrant alloy, struct. sensitive mag. props. 7−7496
- Pr-Fe, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7−64496
- Sm-Co amorphous thin films, low temp. mag. props. *(Chinese)* 7−38910
- Sm-Fe amorphous thin films, low temp. mag. props. *(Chinese)* 7−38910
- a-Tb-Fe/Ni-Fe-Mo bilayer films, unidirectional anisotropy 7−59065
- Tb-Si amorphous films, spin-glass transition 7−7519
- TbCo, amorphous sputtered films, mag. props., film struct., comp., internal stress meas. *(Japanese)* 7−7570
- TbCo film, optical disc memory struct., mag. props., underlayer film treatment effect 7−45767
- TbCo sputtered films, compositionally modulated, mag. props. 7−64495
- TbCo sputtered films, mag. and magneto-optic props., stability 7−53076
- TbCo sputtered films, stability of mag. and magneto-optical props. *(Japanese)* 7−33241
- TbFe and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7−64459
- $Tb_{31}Fe_{69}$ amorphous films, mag. props. and domains, substrate temp. effects 7−13011
- TbFeCo amorphous film sputtered onto polycarbonate substrate, depth profile, XPS 7−65362
- TbFeCo/dielectric interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7−12513
- TbFeCo-based amorphous films, magneto-optical recording appls. 7−53074
- TbNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7−7206
- Ti-N-Permalloy ferromag. multilayers, prep. and props. 7−64497
- $(TmBi)_3(FeGa)_5O_{12}$ indicator film, visualisation of mag. field profile of thin-film magnetic heads 7−61359
- $(Y,Gd)_3Fe_5O_{12}$:Mn, thin films, noncubic mag. anisotropy origin 7−53068
- Y-Fe sputtered amorphous films, mag. props. 7−53083
- $(YEuLuCa)_3(GeFe)_5O_{12}$ films, mag. bubble motion in the presence of a modulated bias field 7−53098
- $(YEuTmCa)_3(FeGe)_5O_{12}$ films, planar anisotropy and magnetisation, ion irrad. effects study 7−2906
- $(YEuTmCa)_5(FeGe)_5O_{12}/(YLa)_3Fe_5O_{12}$ ferrite/garnet layered structs., domain wall and ferromag. reson. props. *(Russian)* 7−45828
- $(YEuTmCa)_3(FeGe)_5O_{12}$ films, double layer, mag. bubbles, translational velocity 7−45781
- $Y_3Fe_{5-y}Ga_yO_{12}$ garnet films, magnetostatic wave props. 7−52958
- YIG, epitaxial layers, Faraday rot. meas., Bi and Pb ion contribs. 7−53071
- YIG film, nonuniformly magnetised, group delay characts. of magnetostatic forward vol. waves 7−45764
- YIG film tangentially magnetised dielec. layered struct., nonlinear magnetostatic wave mixing *(Russian)* 7−45649
- YIG films, ferromag. resonance absorpt., influence of exchange interaction, weak surface pinning 7−2931
- YIG films, H_2 annealed, Mossbauer study 7−45847
- YIG films, low dose ion implanted, magnetostatic backward vol. waves 7−45765
- YIG films, tangentially magnetised, magnetoelastic effects 7−22130
- YIG, small thin-film samples, magnetic resonances anal. 7−53090
- YIG:Ga, Bi, RF sputtered films for magneto-optical memory, mag. props. 7−64613
- YIG:La,Ga-YIG:La double layered film, different magnetisation and anisotropy, magnetostatic mode spectra 7−64498
- YIG:Ne^+ ferrite films, surface magnetostatic wave damping, ion implantation effects *(Russian)* 7−33242
- YIG/ferroelec. struct., surface magnetostatic wave propag. charact. meas. 7−52965
- $Y_5Ni_{95}H_x$ amorphous thin films, mag. and elec. transport props., H content effect, 1.5 to 400K *(Chinese)* 7−38909
- $(YSm)_3(FeGa)_5O_{12}$ garnet film, demagnetisation, elongation of striped domain struct. 7−45737
- $(YSmLuCa)_3(FeGe)_5O_{12}$, epitaxial films, Faraday rot., Sm^{3+} conc. effect. 7−53070
- $(YSmLuGd)_3(FeGa)_5O_{12}$ garnet film struct. and mag. props., mag. bubble memory appls. *(Japanese)* 7−7575
- $(YTmBi)_3(FeGa)_5O_{12}$ films, bubble wall states generation in rotating gradient expt. 7−53097

magnetic transition temperature
- *see also Curie temperature; Morin temperature; Neel temperature*
- 3d- and 4f- metals, periodic spin structs., critical props. calcs. *(Russian)* 7−59031
- BCC ordered alloy, high temp. mag. states *(Russian)* 7−64466
- copper phthalocyanine iodide, anomalies in proton NMR spin-lattice relaxation 7−2815
- ferromagnetic thin films, magnetisation calcs., differential operator method 7−45774
- Heisenberg ferromagnet, anisotropic, with biquadratic exchange 7−12987
- Heisenberg ferromagnet, thermal boson expansion at finite temp. 7−2885
- Hubbard model, three-dimensional half-filled band sector, magnetic props., Monte Carlo simulation 7−58971
- Ising model, d-dimens., thermodynamic behaviour in generalized spherical model 7−27536
- Ising model, ferromagnetic, 3 D, with quenched random nonmagnetic impurities 7−17190
- Ising model, transverse, fermionic representation and functional integral approach 7−45709
- Ising model on square superlattice, critical props., real space renormalisation group calcs. *(Chinese)* 7−27532
- Ising systems, semi-infinite, critical and multicritical phenomena 7−59044
- layered frustration models, susceptibility, high temp. series expansions 7−22085
- metallic alloys, spin-glass temperature, conc. depend. 7−45691
- spin glasses, critical fractal cluster model, relax. behaviour 7−45692
- $(TMTSF)_2X$ Bechgaard salts, cascade of field-induced SDW transitions 7−45704
- $(TMTSF)_2X$ quasi-1D conductors, SDW transition temperature, superconductivity 7−45705
- $Cd_{1-x}Mn_xTe$, crit. dynamics, AC susceptibility meas. 7−33181
- CrTe-CrSe system, mag. phase diagram 7−22105
- ErIG, mag. prop. calc. 7−52977
- $ErRh_4B_4$, magnetic transition temps., RKKY interaction studies 7−22107
- $FeNiCr_{0.20}$, spin glass, phase transition, mag. suscept. study 7−53004
- $FeNiMn_{0.15}$, spin glass, phase transition, mag. suscept. study 7−53004

magnetic transition temperature continued
- Ni-Mn disordered alloys, magnetic phase diagram near multicritical point 7−59024
- $NiMn_{0.27}$, spin glass, phase transition, mag. suscept. study 7−53004
- $NiS_{1-y}Se_y$, effect of Se substitution on mag. and electrical transition 7−2846
- Pt-R contact, R=Gd, Tb, Dy, Ho, Tm, mag. order destruction by cold current 7−52980
- $SmRh_4B_4$, magnetic transition temps., RKKY interaction studies 7−22107
- $Y_2Co_7H_x$ hydrides, cryst. struct. and mag. props., H effects *(Russian)* 7−44468

magnetic transitions
- *see also critical fluctuations; ferromagnetic-antiferromagnetic transitions; ferromagnetic-paramagnetic transitions; magnetic transition temperature; paramagnetic-antiferromagnetic transitions*
- 2D three-state chiral clock model, domain-growth kinetics 7−35460
- 3d- and 4f- metals, periodic spin structs., critical props. calcs. *(Russian)* 7−59031
- 3d-metal compounds, metal-dielectric transitions 7−52428
- ±J Ising model on arbitrary lattice, geometry-induced ferromagnetic-nonferromagnetic phase transition 7−27535
- actinides, elastic neutron scatt. and diffr. studies, review 7−12945
- anisotropic, thermodynamic props., Monte Carlo Method calcs. 7−38894
- anisotropic cubic spin-1 Ising model, linear chain approx. 7−2876
- antiferroelectric nematic, singlet orientational distrib. fn., Monte Carlo anal. 7−2989
- antiferromagnetic, X-Y model, triangular lattice in mag. field, phase diagram, spin wave free energy calcs. 7−17178
- antiferromagnetic Potts model, simple cubic lattice, critical fluctuations and phase transitions, Monte Carlo simulations 7−35457
- antiferromagnets, dislocation-generated domain walls at spin-reorientation phase transitions *(Russian)* 7−53023
- Arrott plots of magnetic systems with strong spinfluctuations 7−12972
- Ashkin-Teller quantum chain, criticality, finite-size effects and conformal invariance 7−52993
- axial toroidal moments in electrodynamics and solid-state physics 7−31232
- Bechgaard salts, thermodynamics of field-induced SDW states 7−7520
- bis(ethylammonium)copper tetrachloride, spin-flop transition, temp. depend. of critical angle *(Russian)* 7−33171
- bisethylammonium copper tetrachloride rhombic antiferromagnet, magnetic phase diagram, press. effects study *(Russian)* 7−52981
- Blume-Capel model, effective field theory 7−33134
- Blume-Capel model, ferromag. and antiferromag. props. 7−2867
- Curie temp. calcs. long range magnetic order and intermediate valence, Anderson model 7−45247
- degenerate Kondo lattice, magnetic instability and sp. ht. calcs. 7−58977
- disorder points in d-dimensional mag. systems with competing interactions, RPA calcs. 7−7516
- disordered mag. materials, competing anisotropy, micromagnetism approx. *(Russian)* 7−33163
- ethyl ammonium tetrachlorocuprate, antiferromagnet, domain-wall spin reorientation study 7−53026
- FCC binary alloys, phase diagrams, frustration effects 7−22114
- $(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, magnetic phase diagram studies 7−2844
- ferrites, domain structure near the compensation temp. 7−7534
- ferromagnet, Debye-Waller factor anomaly and diffuse scatt. studies *(Russian)* 7−12973
- ferromagnetic fluid, phase transition existence using correlation inequalities 7−17174
- ferromagnetic superconductor, phase diagrams and order parameters 7−17127
- ferromagnetic systems, critical behaviour and random walk representations 7−48532
- ferromagnetic transition metal surface, H_2 chemisorpt., self-consistent model 7−16862
- ferromagnets, static surface critical behaviour, scaling and renormalisation, book contrib. 7−33183
- generalised planar model, chiral and algebraic order, new phase transition scenario, Monte Carlo simulations 7−38877
- graphite intercalation cpds., 2D magnetism, review 7−59033
- graphite-$FeCl_3$ intercalation cpd., mag. suscept. and low temp. transition meas. 7−58993
- Heisenberg antiferromagnets, multicritical points 7−27541
- Heisenberg classical magnetoelastic chains, lattice distortions and short-range mag. order 7−17195
- Heisenberg ferromagnet, anharmonic spin-one, order of phase transitions, effect of press. 7−53018
- Heisenberg ferromagnet, easy-axis, phase transitions, mech. model 7−41034
- Heisenberg models with competing interactions, quantum fluctuations and phase diagram 7−38895
- high dimensional Ising models, magnetisation critical behavior 7−33187
- incommensurate antiferromagnetic struct., equilib. states and precession excitation spectra, phase diagram study *(Russian)* 7−27521
- intermediate valence systems, Ferromagnetic order coexistence, mag. props 7−64187
- Ising antiferromagnet with site-diluted free surface, surface phase diagram 7−45718
- ising antiferromagnets in maximum critical fields 7−17185
- Ising ferromagnet, surface effects, mean field renormalisation group study 7−12982
- Ising model, ferromagnetic, 3 D, with quenched random nonmagnetic impurities 7−17190
- Ising model, kinetic, exponents far from T_c for relax. 7−52926
- Ising model, paramagnet-spin glass transition in transverse field 7−53017
- Ising model, spin-glass transition, domain wall scaling, energy and free energy distribs. calcs. 7−38891
- Ising model disordered ferromag. binary system, phase diagram 7−59041
- Ising model with roughening transition at low temps. 7−2144
- Ising models with random bonds and crystal field interactions, tricritical point 7−2868
- Ising random-bond model, three-dimensional, phase diagram and crit. props. 7−45715
- Ising random-field model, multicritical points 7−17187
- Ising random-field systems, integer optimization and zero-temperature fixed point 7−7530
- Ising simple cubic lattice, fully frustrated, Monte Carlo simulations 7−53011

magnetic transitions continued
- Ising spin glass, phase diagram and replica momenta, n-colour Ashkin-Teller model 7—59039
- Ising spin glass, three-dimensional, entropy and free energy, Monte Carlo simulation 7—17184
- Ising spin glass on a Bethe lattice of infinite coordination, symmetry breaking 7—45712
- Ising spin-1 model, with bilinear and biquadratic exchange interactions, renormalisation group calcs. 7—53010
- Ising spins, mode condensation in a hierarchical system 7—45714
- Ising-like Heisenberg antiferromagnets on a triangular lattice, mag. props. 7—27540
- large-*N* spontaneous magnetisation in zero dimensions, phase diagram 7—59022
- magnetic lattice gas of molecules in transverse field, molecular field approx. 7—2802
- magnetic phase diagram, Ising model on 2D triangular lattice, antiferromag. interactions 7—53012
- magnetic phases, transitions between structures 7—2855
- magnetic struct. phase transitions in antiferromagnets, exchange magnetostriction 7—38863
- manganese formate, $Mn(HCOO)_2.2H_2O$, magnetic transitions, compression and mag. dilution effects 7—52986
- metals, phase transitions, ion-induced secondary particle emission 7—39341
- microcanonical simulation of 3D random-field Ising model 7—38892
- oxidic actinide cpds., systematic props., oxidation states, fluorite lattice and thermodynamic props., review 7—12013
- phase transitions in two-dimensional uniformly frustrated*XY* spin systems 7—2875
- photoinduced phase transition in magnets 7—38923
- quantum spin chains of arbitrary spin quantum number, phase diagrams and correlation exponents 7—33191
- quasi-one-dimensional conductors, anisotropic SDW and triplet supercond. state properties 7—45706
- quasi-one-dimensional systems, spin-Peierls transition 7—59047
- quasi-uniaxial magnets, thin films, static susceptibility at phase transitions, domain structure formation 7—33247
- quasicrystals, magnetic phase structure on the Penrose lattice 7—53013
- rare-earth magnets, spin reorientation phase transitions, fluctuation effects, critical behaviour *(Russian)* 7—52990
- resistivity of ferromagnetic metal near the reorientation phase transition point 7—33180
- rhombohedral crysts., intermediate commensurate state, plane spiral magnetic transitions 7—38883
- semi-infinite ferromagnetic q-state Potts bulks separated by bond diluted interface, criticality 7—33179
- spherical model, fluctuation effects and phase transitions 7—33192
- spin glasses, anisotropy-induced Heisenberg-Ising crossover 7—38890
- spin glasses, finite coordination number, mean field theory 7—45695
- spin Hamiltonian, anisotropic, one-sublattice, re-entrant phases 7—38873
- spin-Peierls systems, incommensurate phase, analogy with electronic Peierls problem 7—53003
- structural and magnetic instabilities in low-dimensional systems 7—59034
- TCNQ salt, $MPht(TCNQ)_2$, ion-radical salt, spin ordering 7—64442
- thin film, with non-ideal surface, finite scaling theory 7—7572
- three-spin box product interaction 7—17180
- $(TMTSF)_2X$ salts, phase diagram, importance of 1D correlations 7—45190
- $(TMTTF)_2X$ salts, phase diagram, importance of 1D correlations 7—45190
- transition metal magnetism, singular volume dependence 7—22108
- TTF-BDT (Au), spin-Peierls phase diagram, high temp. sp. ht. and suscept. meas. 7—59026
- two-dimensional antiferromagnetic Blume-Capel model, Monte Carlo simulation 7—64471
- two-dimensional Hubbard model, mag. props., mean-field phase diagram and spin-spin correls. 7—64429
- two-sublattice mag. materials, phase transitions, fluctuation effects 7—38872
- uniaxial ferromagnets, spin wave damping at orientational phase transition 7—52963
- weak ferromagnets, domain growth kinetics, Langevin eqns. study 7—59050
- Ag-Mn, nonlinear dynamic suscept. meas. at spin-glass transition 7—45694
- AgMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7—7525
- $AgMo_2$, (M=Cr, Fe, Co), delafossite-type cpds., mag. props. 7—2879
- Au-Fe, mag. hyperfine field, temp. and composition depend. 7—45243
- AuCr, competing antiferromagnet, mag. phase diagram 7—59023
- $Au_{80}Mn_{20}$ disordered alloy, free and frozen magnetisations 7—53037
- $BaCa_{1/2}Sr_{1/2}Fe_4O_8$, mag. ordering 7—45624
- $BaZn_{1.1}Co_{0.9}Fe_{16}O_{27}$ hexaferrite, competing anisotropies, first order magnetisation processes and spin transitions obs. 7—38856
- $Ca_3Mn_2Ge_3O_{12}$ single domain crysts., birefringence and spontaneous phase transitions 7—17303
- CdMn, XY-type spin glass, uniaxially anisotropic, successive transitions 7—17188
- $Cd_{1-z}Mn_zTe_{1-y}Se_y$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7—7501
- $Cd_xZn_yMn_zTe(Se)$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7—7501
- $CeAl_2$, low-temp. high-field magnetoresist. meas. 7—38541
- Co, magnetic phase location, total energy spin polarised band calcs. 7—17176
- $CoAlFeO_4$, cubic spinel, Mossbauer anal. 7—33304
- $Co_{1-x}Ca_xFe_2O_4$, single domain-superparamagnet transition 7—17203
- $CoCl_2$-graphite intercalation compound, obs. of magnetic state, high magnetic field 7—59008
- $Co_xFe_{3-x}O_4$ ferrites, polycrystalline, Verwey transition 7—7120
- γ-CoNiMn alloys, mag. phase diagram, neutron diffr. methods *(Russian)* 7—45667
- Cr (001), near-surface antiferromagnetism and surface ferromagnetism, photoelectron spectroscopy 7—59381
- Cr alloys, charge and spin density waves *(Russian)* 7—2514
- Cr-Al dilute alloys, mag. phase diagram, mag. susceptibility studies *(Russian)* 7—2840
- Cr-Ge dilute alloys, elec. resist. temp. and press. depend. studies 7—32980
- Cr-Si dilute alloys, magnetic phase diagram near tricritical point, neutron diffr. meas. 7—2856

magnetic transitions continued
- $(Cr_{1-x}Al_x)_{95}Mo_5$, antiferromagnetism disappearance, comp. depend., elec. resist. and sound rel. meas. 7—2843
- $Cr_{1-x}Mn_xGe$, cryst. and amorphous, mag. characts., substitution effects 7—59009
- Cu-Mn, metallic spin glasses, local-field rotational correlation length, AC susceptibility 7—17179
- $CuMO_2$, (M=Cr, Fe, Al, Co), delafossite-type cpds., mag. props. 7—2879
- CuMn and CuMnAu alloys, homogeneous and inhomogeneous spin freezing, μSR studies 7—45687
- CuMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7—7525
- Dy thin films, influence of thickness on mag. phase transitions 7—38860
- Dy-Re-Fe(CO)(Ni), intermetallide-based solid solns., phase equilib. and mag. props. 7—22639
- $Dy_3Al_5O_3$, exchange metamagnetism 7—2841
- Dy_xCo_{1-x} thin films, ferrimagnetic reson. in region of spin-reorientation transitions 7—45824
- $DyFeO_3$ interphase magnetic domain wall motion studies *(Russian)* 7—27543
- a-DyNi, critical props. and universality class of disordered systems 7—2884
- Er, magnetic struct., synchrotron X-ray scatt. studies 7—45625
- Er-H solid soln., mag. props., H addition effects 7—7510
- ErAg, sp. ht. meas. 0.5 to 21 K 7—52994
- $ErFeO_3$, low temperature phase transition, soft mode 7—38867
- $ErFeO_3$, magnetodynamic resonance near low-temp. phase transition 7—38862
- ErIG, mag. prop. calc. 7—52977
- $ErRh_4B_4$, superconducting and ferromagnetic transitions 7—64385
- Eu-Yb, high press. mag. and elec. props. studies 7—7541
- $Eu(As_{1-x}P_x)_3$, mag. phase transitions, strip line transmission spectra studies 7—64458
- EuSe, mag. phases, press., alloying effects, NMR and mag. studies 7—2847
- $Eu_xSr_{1-x}Te$, dilute antiferromag., phase diagram, spin glass props. *(German)* 7—12981
- Fe, electrical resistivity, high temp. and press. 7—38534
- Fe, ferromagnetic sp. ht. meas. by pulse-heating technique 7—7513
- Fe-Cr-Ni, low temp. mag. susceptibility and mag. transitions *(Russian)* 7—45628
- Fe-Ni-based alloys, amorphous and crystalline, mag. phase transitions 7—52983
- Fe-Sc alloys, struct. and mag. props., NMR and X-ray diffr. studies *(Russian)* 7—6578
- Fe-W-based alloys, amorphous and crystalline, mag. phase transitions 7—52983
- Fe_3BO_6 crysts., Laue diffracted Mossbauer spectra near spin-reversal phase transition 7—38975
- $FeClMoO_4$ layered compound, struct. and mag. props., Mossbauer effect, mag. suscept., and neutron diffr. studies 7—58981
- $FeGe_2$ single cryst., magnetisation, temp. depend. *(Russian)* 7—2891
- $(Fe_{1-x}Mn_x)Pt$ alloys, mag. phase diagram 7—64434
- FeNiCr disordered FCC alloys, paramagnetic-antiferromagnetic-spin glass reentrant transition obs. 7—17175
- FeNiCr spin glass, Edwards-Anderson order parameter temp. depend. meas. *(Russian)* 7—2866
- $FeNiCr_{0.20}$, spin glass, phase transition, mag. suscept. study 7—53004
- $Fe_cNi_{0.8-c}Cr_{0.2}$ spin glasses, critical dynamics 7—45683
- FeNiCr(Mn) spin glasses, nonlinear mag. suscept. study 7—52991
- $FeNiMn_{0.15}$, spin glass, phase transition, mag. suscept. study 7—53004
- $(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, amorphous spin glasses, relaxation 7—53000
- $(Fe_7Ni_{93})_{77}Si_{10}B_{13}$ amorphous spin glass, dynamic mag. susceptibility and critical phenomena *(Russian)* 7—7511
- FeOCl, anisotropic layer cpd., hyperfine interactions, Mossbauer spectra 7—58786
- $FeSb_2O_4$, thermodynamics studies, 10 to 300K 7—2231
- $Fe_7Si_8O_{22}(OH)_2$, grunerite, mag. order, quasi-one dimensional antiferromag. with spin canting transition 7—58983
- $Fe_{2-x}Ti_{1+x}O_5$, pseudo-brookite, anisotropic spin-glass transition, transverse spin ordering, μSR study 7—45688
- $Fe_{1-x}Zn_xF_2$ diluted Ising antiferromagnet, magnetisation critical exponent crossover, Mossbauer meas. 7—7529
- Gd-Co films, amorphous, spontaneous spin-reorientation transition *(Russian)* 7—45763
- GdCo-based glasses, double transition behaviour induced by anisotropy 7—22109
- $Gd_3Fe_5O_{12}$ garnet, spin-reorientation phase transition, NMR obs. 7—38861
- Gd_2In, mag. transitions under press. 7—59013
- $Gd_{2-x}La_xAl$, pseudobinary cpd., mag. props., disorder effects 7—7523
- $Gd_xLa_{65-x}Co_{25}B_{10}$ mixed glasses, mag. props., phase transitions, microstruct. effects 7—64465
- $Ho_2(CoFe)_{17}$ intermetallics, high field magnetisation studies 7—53038
- Ho_3Fe_4, amorphous ribbons, mag. props. 7—33177
- $Ho_{1-x}Y_xCo_3$, orientational phase transitions and elec. resist. *(Russian)* 7—7506
- $KFeS_2$, hydrogenated, ESR meas. in 100 to 320K range 7—13016
- $K_2Ni_{1-x}Fe_xF_4$, 2D random mixture with competing spin anisotropies, Mossbauer spectroscopy 7—59021
- $La_2Mo_2O_7$, quasi-2D single cryst. struct. and electronic props. studies 7—58238
- $LaNi_{5-x}Fe_x$, spin freezing props. 7—64464
- La_2NiO_4, quasi-2D, canted antiferromag. order studies 7—33153
- $Li_{0.5}Ga_xFe_{2.5-x}O_4$, dilute ferrimagnetics, cluster spin glass state 7—38884
- MnAs, crystal struct. and mag. props. 7—6592
- $MnAs_{0.9}P_{0.1}$, struct. and mag. props. 7—12948
- $Mn_{0.615}CR_{0.385}As$, press.-induced helimagnetic-ferromagnetic transition 7—52984
- $Mn_{0.63}Cr_{0.37}As$, thermal, mag. and struct. props. of transitions, thermodynamics, 10 to 350 K 7—64463
- $Mn_xFe_{1-x}Si$ solid solns., thermal expansion 7—6835
- $Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7—6784
- $MnTe_2$, mag. phase transition, neutron powder diffr. study 7—64456
- $Mn_{0.61}Zn_{0.35}Fe_{2.04}O_4$ single cryst., low temp. acoustic props. anomalies, spin-reorientation transitions 7—51957
- $Mn_xZn_{1-x}Fe_2O_4$ ferrites, magnetoacoustic props. *(Russian)* 7—22131
- $NaMnCrF_6$, SDW state, appl. of neutron white beam Laue diffr. technique 7—11845
- Nd, magnetic structure studies, free energy anal. 7—2821
- $Nd_2Fe_{14}B$, magnetic props., H_2 absorption effects 7—38906

magnetic transitions continued
Ni, electrical resistivity, high temp. and press. 7—38534
Ni, magnetic phase location, total energy spin polarised band calcs. 7—17176
Ni-Mn disordered alloys, ferro-spin-glass domain model calcs. 7—59025
Ni-Mn disordered alloys, magnetic phase diagram near multicritical point 7—59024
Ni_n (n=3 and 5) clusters, spin states and magnetism quenching, MO INDO calcs. 7—62557
NiAs-type compounds, electronic band struct., magnetism and structural phase transitions *(Japanese)* 7—21815
$Ni_3(CO)_m$ (M=2,4,6) clusters, spin states and magnetism quenching, MO INDO calcs. 7—62557
$Ni_5(CO)_m$ (m=9 and 12) clusters, spin states and magnetism quenching, MO INDO calcs. 7—62557
$NiMn_{0.27}$, spin glass, phase transition, mag. suscept. study 7—53004
$NiSb_2O_4$, thermodynamics studies, 10 to 300K 7—2231
O_2 monolayers, struct. and mag. order, thermodynamic behaviour 7—52242
$PdMO_2$, (M=Cr, Fe), delafossite-type cpds., mag. props. 7—2879
PuSb, heat capacity meas. 7—12975
PuSb, hybridisation-mediated anisotropic mag. behaviour 7—2850
$RbCuCl_3$ single crysts., mag. suscept. meas., exchange interactions, magnetic and crystallographic transitions studies 7—52950
Rb_2MnCl_4, quasi-2D uniaxial antiferromagnet, mag. phase diagram 7—7517
$Rb_2Mn_xCr_{1-x}Cl_4$ mixed crystals, mag. props. 7—2897
$Ru_xFe_{80-x}B_{20}$ amorphous alloys, magnetic phase diagram, magnetisation and Mossbauer studies 7—53042
$Sn_{1-x}Mn_xTe$, degenerate ferro-spin-glass, transport props. and spin disorder 7—45330
Tb-Si amorphous films, spin-glass transition 7—7519
a-$Tb_{64}Fe_{20}Ga_{16}$, mag. phase transition behaviour in random anisotropy system 7—2864
$TbGe_{1-x}Si_x$, first-order mag. phase transition, neutron diffr., mag. struct. study 7—45673
$TlFe_{2-x}Se_2$ layered cpd. single cryst., magnetic and structural props., Mossbauer and X-ray diffr. studies 7—2848
$TmCu_2$, magnetic phase transitions, suscept., sp. ht., elec. resist. and magnetisation meas. 7—2857
UAs muon spin rot., relax. rate, freq. shift, and magnetic transitions 7—45891
$UAs_{0.95}Se_{0.05}$, disappearance of type-I antiferromag. struct., neutron diffr. study 7—45620
$UAs_{1-x}Se_x$ system, mag. phase diagram, neutron diffr. study 7—12971
$UBr(Cl)(I)_3$, magnetic transitions, antiferromag. order and cryst. field splitting, neutron scatt. study 7—12974
$U_{1-x}Np_xO_2$, x=0.25, 0.75, magnetic structure, neutron diffraction study 7—58978
$USb_{1-x}Te_x$, AC mag. susceptibility meas. 7—17160
$U_{1-x}Th_xSb$, AC mag. susceptibility meas. 7—17160
UX_3 (X=S, Se, Te), Raman scatt. from phonons and electronic excitations, low temp. 7—13149
$U_xY_{1-x}B_4$ system, mag. props., XPS and bremsstrahlung-isochromat spectroscopy studies 7—17172
$Y_2Fe_{14}B$, magnetic props., H_2 absorption effects 7—38906
$ZnCr_{1.6}Ga_{0.4}O_4$, antiferromagnetic frustrated spinel, noncritical behaviour near its freezing temp. 7—38875
ZnMn, Ising-type spin glass, uniaxially anisotropic, successive transitions 7—17188

magnetic traps
see also magnetic bottles
currentless plasma heating in Heliotron E 7—32015
cusped magnetic field ion source, plasma props. calcs. 7—20915
electron cyclotron reson. heating of mag. confined plasmas using TE01 to TM11 mode convertors 7—37708
field-reversed configurations, electrostatic confinement in edge layer 7—26492
ion beams, intense, propagation across plasma-filled magnetic cusp 7—42261
ion losses from Jupiter-1M electromagnetic trap ring cusp *(Russian)* 7—32048
magnetic quadrupole, short wavelength drift waves, linear theory 7—44228
metal cluster ions, stored, spectroscopy in Penning trap 7—15779
Penning discharge, electron plasma column, density diagnostics 7—37741
Penning trap confinement of electron appl. to ion spectroscopy 7—10834
planar magnetic cusp confinement system, stability 7—63332
RACETRACK, magnetised plasma device with linear mirror and toroidal confinement 7—32047
RFC-XX-M, confinement times 7—11692
tandem mirrors, macroscopic model of trapped-particle modes *(Chinese)* 7—6430
K, plasma confinement in spindle cusp mag. field 7—32042

magnetic variables control
active anti-vibration platform, multivariable control 7—29991
laboratory magnetometer bench, with shield and regulator 7—30049
NMR spectrometer, computer control of magnetic field homogeneity 7—48795

magnetic variables measurement
see also fluxmeters; magnetic field measurement; magnetic permeability measurement; magnetometers
AC mutual inductance bridge for magnetic susceptibility meas. 7—41408
anisotropy and microstructure analysis by mag. measurement 7—33166
APL Bioelectromagnetics Laboratory 7—47263
carrier domain magnetometer, introduction and history 7—18845
circular dichroism meas. of matrix-isolated species, cryostat for 1.5 to 60K range 7—14982
coercive force meter with U-shaped electromagnet, operation rel. to test piece cross-section area 7—329
coil constant determ. in in γ'_p expt. at PTB 7—18739
EM precision meas., conf., Gaithersburg, MD, USA (June 1986) 7—14710
flux quantum meas., NRLM work relating to precision meas. and fundamental constants 7—14915
hydrostatic pressure, low temp. technique in mag. field *(Japanese)* 7—48790
hysteresis measurement system, automatic, with high accuracy 7—4871
magnetics conference, Phoenix, AZ, USA (April 1986) 7—29572

magnetic variables measurement continued
magnetisation and susceptibility meas., Nb_3Sn-NbTi hybrid superconducting magnet, Meissner magnetic image effect 7—4869
magnetoresistive elements, Barkhausen noise meas., magnetoresistive suscept. method 7—48785
monopole detector, with sensitivity to extremely small magnetic charge 7—18844
particulate recording media, magneto-optic Kerr effect hysteresis loop meas. 7—48782
proton gyromagnetic ratio expt. at ETL 7—14917
proton gyromagnetic ratio in H_2O determ., by low field method 7—14916
protons in spherical water sample, gyromagnetic ratio meas. in terms of quantum magnetic flux 7—61687
rotation frequency sensing units, white longitudinal mag. flux pulsations *(Russian)* 7—14983
soft magnetic materials, specific magnetic loss meas. at remagnetisation freq. 50 Hz to 200 kHz 7—9850
superconducting magnetic levitation system for magnetic flux quantum determ. 7—18846
susceptometer, SQUID-based high pressure 7—41410
susceptometer for thin films and surfaces 7—30047
twisted optical fibre, Faraday rotation meas. using rotating polarisation and analogue phase detect. 7—25981
vibrating magnetometer for magnetic moments of magnetic materials meas., temp. dependences 7—30050
YIG single-crystal ferrites, relation between biassing magnetic field and linewidth 7—4868
$BaFe_{12}O_{19}$ fine powder for particulate perp. mag. recording media, coercivity meas. method 7—59062

magnetic wells *see magnetic traps*

magnetisation
see also Barkhausen effect; coercive force; demagnetisation; magnetic aftereffect; magnetic anisotropy; magnetic domains; magnetic hysteresis; magnetisation reversal; magnetostatic waves; remanence; spontaneous magnetisation
7—45845
actinides bulk magnetic and transport props. 7—12953
anisotropic type II superconductors, mag. props. 7—38814
antiferromagnetic chain, soliton dynamics 7—52998
automatic hysteresis measurement system with high accuracy 7—4871
B-$(BEDT\text{-}TTF)_2X$ organic superconds., Meissner effect under press. 7—45559
bis(n-toluene)vanadium, matrix isolated, magnetisation props., MCD meas. 7—57112
charge, spin and momentum densities, conf., Sanga-Saby, Sweden (July, Aug 1985) 7—24258
chromium(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7—57112
classical spin chains, dil., effects of mag. field on thermodynamics 7—38840
coercive force for industrial alloys YuN14DK34T5, YuNDK15, YuN14DK24 and YuN14DK25BA 7—17202
concentrated magnetic systems, magnetisation density meas., cryst. translational symm. 7—27498
Coqblin-Schrieffer model in large-N limit, magnetisation 7—45617
cyclohexyl ammonium copper tribromide-d_{14}, $S=^1/_2$ ferromag. chain system, short and long range correlations 7—17159
cylindrical ferromag. specimen, surface slit, open circuit remagnetisation, cavity mag. field meas. 7—54051
cylindrical samples with ferromag. particles, critical current enhancement 7—2796
dielectric and magnetic materials, linear feedback models for polarisation and magnetisation 7—22179
dilute ferromagnetic alloys, magnetisation and Curie temp. calcs., approximated Heisenberg model 7—7549
disordered mag. materials, competing anisotropy, micromagnetism approx. *(Russian)* 7—33163
disordered systems, spin-lattice relax. and vibr. mode localisation 7—64541
domain structure determ. using light diffr., inverse problem *(Russian)* 7—53286
domain structure induced by acoustic waves in easy-plane magnetic materials 7—2918
double-layer film, magnetostatic energy and coupling 7—59072
electron lens, saturated objective, electron opt. parameters computation 7—18937
epitaxial growth of ferromagnetic monolayers 7—2909
$(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, magnetic phase diagram studies 7—2844
Fe (110) surface, clean and Ag coated, magnetic hyperfine field, local structure 7—21878
Fermi liquid systems, mag. props. 7—12387
ferrites, nonlinear magnetisation components calc. 7—45743
ferromagnet, Debye-Waller factor anomaly and diffuse scatt. studies *(Russian)* 7—12973
ferromagnet in unidirectional field *(Russian)* 7—12997
ferromagnetic bodies of finite dimensions, mag. states rel. to elastic stresses in trans-Rayleigh region 7—27587
ferromagnetic cores 7—2889
ferromagnetic fluid, phase transition and magnetisation lower bound 7—17174
ferromagnetic hysteresis, domain wall pinning, mathematical model anal. 7—7544
ferromagnetic semiconductors, hot magnons 7—22099
ferromagnetic substance magnetisation curve descriptive function 7—64490
ferromagnetic supercond. films, mixed states 7—27478
ferromagnetic thin film, precession soliton, nonlinear integro-differential eqn. soln. 7—64500
ferromagnetic thin films, magnetisation calcs., differential operator method 7—45774
ferromagnetic transition metal surface, H_2 chemisorpt., self-consistent model 7—16862
ferromagnets, insulating, surface and interface magnetisation changes with temp., Green's function calcs. *(Chinese)* 7—38869
ferromagnets, magnetic susceptibility of system with 360° domain walls *(Russian)* 7—7488
ferromagnets, nonlinear EM waves 7—17201
ferromagnets, one-dimensional easy plane, quantum Monte Carlo and transfer-matrix calcs. 7—7468

magnetisation continued
ferromagnets heated with a short intense laser pulse 7—64460
films, domain wall struct. in external mag. field *(Russian)* 7—7573
films, magnetisation distrib. and magnetostatic energy at film edge 7—59073
fine particle system, magnetisation calc. 7—33204
fluids, liquid and frozen, magnetisation processes 7—59060
free-electron gas diamagnetic props. in external helical magnetic fields 7—45610
garnet films, $He^+(H_2^+)$ implanted, magnetisation and uniaxial anisotropy meas. 7—7576
gases, RF wave-induced population inversion and magnetisation transport calcs. 7—51384
Heisenberg ferromagnet, anisotropic, thermodynamic props., Monte Carlo Method calcs. 7—38894
Heisenberg ferromagnet, anisotropic, with biquadratic exchange 7—12987
Heisenberg ferromagnet, diagram technique for Green functions 7—17150
Heisenberg ferromagnet, thermal boson expansion at finite temp. 7—2885
Heisenberg spin model classical version, spin waves and soliton solns. 7—2886
high dimensional Ising models, magnetisation critical behavior 7—33187
integrable S=1 isotropic quantum spin chain, mag. field props. calcs. 7—22087
inverse Brillouin functions, continued fraction approx. 7—64423
iron(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7—57112
Ising ferromagnet, fixed spin influence on thermodynamic behaviour 7—38887
Ising ferromagnet, with biquadratic exchange interaction and uniaxial anisotropy 7—17189
Ising model, spontaneous magnetisation on 3-12 lattice 7—7465
Ising model on Bethe lattice, magnetization and quadrupolar moment calcs. 7—2877
Ising systems, semi-infinite, critical and multicritical phenomena 7—59044
Ising-like Heisenberg antiferromagnets on a triangular lattice, mag. props. 7—27540
itinerant electron ferromagnetism, mag. susceptibility, Curie-Weiss law 7—27501
lattice gas of molecules in transverse field, molecular field approx. 7—2802
longitudinal weak ferromagnetism, disproportionate magnetic struct. and the Dzyaloshinski inhomogeneous interaction *(Russian)* 7—45627
mag. suscept. and cryst. struct. determ. *(Russian)* 7—1952
magnetic alloys, phase breakdown model, Curie temp., magnetisation *(Russian)* 7—45677
magnetic particle inspection, visibility and magnetisation *(German)* 7—8239
magnetic thin film, edge region magnetisation distrib. anal. under homogeneous field 7—38912
magnetics, conf., Japan (Nov.1985) 7—24259
magneto-optical permittivity tensor in crystals 7—53279
magnetoelastic amorphous metals, coupled mode anal., appl. for sensor performance characterisation 7—33253
magnetofluids, magnetisation, acoustic perturbation 7—54196
magnetostatically couple film edges, magnetostatic energy formula calcs. 7—45769
matrix-isolated species meas. in 1.5 to 60K range, cryostat design 7—14982
mesh partition in magnetisation anal. 7—5813
metal-metal superlattices, magnetism at interfaces and surfaces, neutron scatt. studies 7—2822
metallic glass ribbons, small angle mag. rotation under tensile and compressive stresses 7—2919
metallic glasses, laser annealed struct. and magnetoelastic props., effects of surface characts. 7—45785
metallic glasses dynamic magnetisation 7—33218
micromagnetism, existence of soln. of problem 7—45753
misch metal-Fe-B melt-spun magnets, mag. and structural props. 7—53032
one-dimensional Heisenberg antiferromagnet, soft modes 7—2832
organic polymer ferromagnet, prep., ESR and Mag. props. 7—64439
organic superconductors, S-based, superconductivity, volume property 7—2779
paramagnetic medium, completely disordered, magnetisation fluctuations, CPA approx. 7—2808
paramagnetic systems with restricted spectral diffusion, LF absorpt., dipole reservoir role 7—58975
Permalloy films, field induced uniaxial anisotropy, thickness depend. 7—53086
phase analysis, porosity, mag. methods 7—28240
photoinduced magnetism, effects on magnetisation in antiferromagnetic materials 7—52931
planar XY-model on a 2D random lattice, numerical simulation 7—24594
polycrystalline ferrimagnets, shape of grains influence on magnetisation curve and hysteresis loop 7—45746
polycrystalline magnets, influence of single particle coercivities on virgin curves 7—45751
porphyrin, covalently linked hybrid dimers, EPR, triplet state magnetisation, 7—25562
quartz:Al, static magnetisation of $Al\text{-}O^-$ centres, electric field effects 7—38900
quasi-uniaxial magnets, thin films, static susceptibility at phase transitions, domain structure formation 7—33247
random process with infinitely many interacting particles 7—29894
rare earth alloys, $R_2(Fe,Al,Co)_{14}B$, mag. props., composition depend. 7—53030
retarded modes in layered magnetic structures 7—64502
s-f model with antiferromag. s-f exchange 7—45653
spin glass classical models, elementary solutions 7—27538
spin glass phase, generalised random energy model, partition functions, magnetic props. and q(x) function calcs. 7—17177
spin glasses, critical fractal cluster model, relax. behaviour 7—45692
spin systems, disordered, pair approx. to describe mag. props. 7—45655
spin-1 Ising model, two and three dimensional, biquadratic exchange interactions, reentrant behaviour, Monte Carlo study 7—12986
spin-1/2 Heisenberg antiferromagnet, triangular lattice, Ising-like exchange anisotropy, magnetisation process 7—53021
sputtered magnetic thin film, ion beam irrad., struct. studies 7—22588
steel, alloy, electrical resistivity and magnetisation, temp. depend. 7—38535

magnetisation continued
steel, austenitic stainless, electrical resistivity and magnetisation, temp. depend. 7—38535
steel, high strength structural, finishing monitoring by magnetic structurescope based on the Barkhausen effect 7—28241
steel, low C, cold rolled lamination, mag. props., Mn and S contents effect 7—7550
steel, low C, magnetoacoustic emission, magnetisation, Barkhausen effect in decarburised steel 7—33207
steel, Mn pipeline, magnetisation and magnetostriction, effect of stress 7—33256
steel, stainless, type 304, elec. resist. and magnetisation 7—45268
superconductors and magnetic materials, internal fields 7—17131
superparamagnets, Mossbauer spectra, many-state relax. model 7—45856
surface magnetism, study by spin polarised electrons 7—2901
thin ferromag. film, magnetisation in Ising, approx. 7—64425
thin films, mag. anisotropy, angular spatial dispersion *(Russian)* 7—2905
$(TMTSF)_2ClO_4$, Bechgaard salts, thermodynamics of field-induced SDW states 7—7520
$(TMTSF)_2ClO_4$, mag. field induced phases, phase diagram studies 7—45752
torque curve anal. of uniaxial mag. samples 7—45745
transition metal cpds., charge and magnetisation densities, mol. cluster studies 7—27224
transition metals and their alloys, mag. atoms, quantum statistical ab initio theory 7—58969
triangular Ising model, two- and three-spin interactions, ground state spin config. studies 7—9802
two dimensional electron gas, thermodynamic props., interaction and disorder effects, HF approx. calcs. 7—2516
two-dimensional electron layer, Wigner liq. magnetisation, collective motion model calcs. 7—58757
type II superconductor, mixed state, free energy, interpolation method 7—52920
weak ferromagnets, domain growth kinetics, Langevin eqns. study 7—59050
$(YSmLuCa)_3(FeGe)_5O_{12}$, bubble lattice, magnetisation curves 7—53094
Ag-Mn-Sb, dilute metallic spin glasses, response time, temp. depend. study 7—2896
Ag-rare earth alloys, press.-induced structural transitions and mag. props. 7—7542
Al-Co icosahedral alloys, struct., elec. and mag. props. 7—6583
Al-Mn alloy icosahedral quasicryst., mag. and elec. props. studies 7—2858
Al-Pb disordered 3D normal metal-superconductor composite, elec. transport, magnetisation meas. 7—64383
$Al_{80}Mn_{20}$, quasicrystalline icosahedral phase, sp. ht., mag. props. 7—52955
AuFe re-entrant spin glass, magnetoresist. and AC susceptibility studies 7—7518
$Au_{80}Mn_{20}$ disordered alloy, free and frozen magnetisations 7—53037
$BaCo_2Fe_{16}O_{27}$, Curie temp., magnetization, susceptibility, mag. anisotropy meas. *(French)* 7—27507
$BaCo_2Fe_{16}O_{27}$, hexagonal ferrites, neutron diffr. studies 7—45622
$BaCuFe_{17}O_{27}$ W-type hexagonal ferrite, intermediate valency, oxidation annealing, magnetisation and neutron diffr. studies 7—7187
$Ba_2Fe_2^{2+}Fe_{12}^{3+}O_{22}$ hexagonal ferrite, hydrothermal synthesis, elec., magnetic and structural characterisation 7—45637
$BaFe_{12-x}Mn_xO_{19}$, Mn substitution effects on mag. props. *(Chinese)* 7—7486
$BaFe_{12}O_{19}$ films, RF diode sputtering prep. and mag. props. *(Japanese)* 7—7852
$BaFe_{12}O_{19}$, hexagonal ferrites, neutron diffr. studies 7—45622
$BaFe_{12}O_{19}$ particulate media, magnetisation props, temp. effects study 7—53055
$BaLaFeO_4$, layered cpds., bidimensional mag. coupling, Mossbauer spectra 7—27637
$BaMg_2Fe_{16}O_{27}$, Curie temp., magnetization, susceptibility, mag. anisotropy meas. *(French)* 7—27507
$BaMg_2Fe_{16}O_{27}$, hexagonal ferrites, neutron diffr. studies 7—45622
$BaO\text{-}Fe_2O_3\text{-}B_2O_3$-based glasses, crystallisation behaviour, nucleating agent effects 7—51650
$BaZn_{1.1}Co_{0.9}Fe_{16}O_{27}$ hexaferrite, competing anisotropies, first order magnetisation processes and spin transitions obs. 7—38856
Bi-Zn-Fe-O amorphous films, struct. and mag. props. 7—51645
$Bi_{3-2y}Ca_{2y}Fe_{3-y}V_yO_{12}$, sublattice magnetisation and Faraday rotation *(Chinese)* 7—17308
$(BiLu)_3(FeGa)_5O_{12}$ film, magnetic bubble motion, Rayleigh surface wave effects 7—33245
$Bi_xLu_yY_{3-x-y}Fe_5O_{12}$, ferrimagnetic garnets characterisation for MSW optical diffr. 7—13040
CO-H system, magnetisation study 7—38901
$Ca_xCo_{1-x}Fe_2O_4$ substituted ferrite system, mag. props., comp. depend., Mossbauer study 7—7618
$CaLaFeO_4$, layered cpds., bidimensional mag. coupling, Mossbauer spectra 7—27637
$CdCr_2Se_4$, ferromag. semiconducting thin films, influence of electric field on magnetisation 7—45738
$Cd(Cu_{1-x}Al_x)_2$, mag. and cryst. props. 7—27506
$Cd(Cu_{1-x}Ni_x)_2$, mag. and cryst. props. 7—27506
$Cd_{1-x}Mn_xS$, antiferromag. exchange constants between nearest-neighbour Mn^{2+} ions 7—64449
$Cd_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7—7497
$Cd_{0.8}Mn_{0.2}Te$, dil. mag. semicond., low temp. mag. spectroscopy 7—64477
$Cd_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7—7497
$Cd_{1-x}Mn_xTe$ dilute antiferromagnet, high field magnetisation meas. 7—64486
$Ce\ (Fe_{1-x}Al_x)_2$, Fe-rich intermetallics, mag. and elec. props. 7—45621
Ce-(Fe,Co)-(B,Si) system alloys, melt spun ribbons, mag. props. *(Japanese)* 7—53052
Ce-Sn alloys, intrinsic magnetic behaviour, influence of stoichiometry 7—45747
$CeAg_{1-x}In_x$, magnetisation process, strain effects 7—64488
$CeNi_{5-x}Fe_x$, mag. and cryst. props., effect of H absorpt. 7—33168
$CeNi_{5-x}Mn_x$, mag. and cryst. props., effect of H absorpt. 7—33168
$CeZn_2$, Kondo anomaly and metamagnetism 7—64234
Co and its alloys, spin wave excitations and magnetisation temp. depend. 7—45642
Co, magnetic phase location, total energy spin polarised band calcs. 7—17176

magnetisation continued
Co particles, magnetic structure and thickness distrib., holographic interference electron microscopy appl. 7−5860
Co single cryst., NMR freq. temp. depend. anomaly, spin-wave stiffness const. determ. 7−53154
Co-B alloy, amorphous, thermodynamic, thermomag. and struct. studies *(French)* 7−16438
Co-Cr films, mag. parameters, Brillouin light scattering study 7−53357
Co-Cr sputtered films, microstructural inhomogeneity, mag. props. 7−45768
Co-Fe-Ni-V alloys, Invar props. and mag. field distribs. *(Russian)* 7−45733
Co-Mg coevaporated films, prep. and mag. props. 7−53082
Co-rich amorphous ferromag. alloys, aftereffect of mag. permeability 7−33223
Co-Si-B amorphous alloys, mag. props., annealing effects 7−27513
Co-transition metal amorphous films, mag. and galvanomag. props. 7−53079
Co-Y amorphous alloys, mag. props. 7−58990
Co-Zr amorphous films, low energy ion beam sputtering, mag. props. 7−53081
CoCr corrosion-resistant alloy films, mag. props. and longitudinal recording performance 7−33226
CoCr evaporated films, mag. props. 7−33225
CoCr films, sputter deposition, mag. characteristics of initial deposition layer 7−27574
CoCr films, texture formation, appl. for perpendicular mag. recording 7−39539
CoCr layers, domain obs. with digitally enhanced Kerr-microscope 7−45726
CoCr thin films, microstructure and corrosion resistance, effect of SiO_2 protective film 7−28184
CoCrTa corrosion-resistant alloy films, mag. props. and longitudinal recording performance 7−33226
$Co_{0.55}Cu_{0.45}Cr_2S_{4-y}Se_y$, high field susceptibility 7−45630
$Co_{3.9}Er$ noncrystalline alloy, local atomic order, magnetism 7−32286
CoFeCr sputtered films, struct. and mag. props. 7−27175
CoFeSiB inhomogeneous magnetic alloys, anomalous Hall effect−magnetic polarisation correls. 7−7208
$(Co_{0.95}Fe_{0.05})_{75}Si_{15}B_{10}$ amorphous alloy, mag. saturation 7−45632
$CoNbTi/SiO_2$ amorphous layered films, high freq. permeability 7−53078
CoNi sputtered films on Cr and polyimide, mag. props., relation to struct. 7−33228
CoNiCr-Cr sputtered thin films, film struct., mag. props. 7−33227
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromag. alloy struct., shock loading effects, mag. struct. anal. 7−2100
CoO_x sputtered thin, annealing effects on mag. props. and structure, Co-CoO layer separation 7−27180
Co_3Ti, effect of plastic deformation on mag. props. 7−33259
Cr, matrix isolated, magnetisation props., MCD meas. 7−57112
Cr surface magnetism, effect of adsorbed O 7−58973
CrO_2 particles, LIPS tape prep. and characts. 7−53061
CrTe-CrSe system, mag. phase diagram 7−22105
Cu, thick proximity induced superconductor, mag. field effects, thickness and temp. depend. 7−52903
Cu-Fe-Al, cold rolled, γ to α transform. of fine α-Fe precipitates, mag. props. 7−3300
Cu-Mn, dilute metallic spin glasses, response time, temp. depend. study 7−2896
Cu-Mn-Al alloys, mag. and structural props. study 7−2895
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7−12698
$Cu_{1-x}Cd_xFe_2O_4$, irreversible magnetisation. depend. on magnetising field 7−64487
$Cu_{100-x}Fe_x$ alloys rapidly quenched, spin glass state 7−12979
$CuFe_{2-x}Al_xO_4$ system, mag. props. 7−45740
Cu_2MnAl, high press. phase transition, elec. resist., saturation magnetisation, lattice parameters *(Russian)* 7−46457
DyFe amorphous alloys, local mag. anisotropy energy estimation 7−7503
a-DyNi, critical props. and universality class of disordered systems 7−2884
DySe-USe system, mag. props. of solid solns. 7−22121
Eu-Yb, high press. mag. and elec. props. studies 7−7541
$Eu(As_{1-x}P_x)_3$, mag. phase transitions, strip line transmission spectra studies 7−64458
$EuCu_2Si_2$, Eu valency, effect of Cu or Si replacement by other ions 7−58787
$EuRh_{1.5}Sn_{4.2}$, anomalous mag. and elec. props. 7−64440
EuS Heisenberg ferromagnet, diverging and finite suscept. below T_c 7−7444
EuS, mag. props. under high press., competing magnetic interactions 7−7542
$Eu_xSr_{1-x}Te$, dilute antiferromag., phase diagram, spin glass props. *(German)* 7−12981
$Eu_xY_{3-x}Fe_{5-y}Ga_yO_{12}$ LPE garnet films, ferromagnetic relax. meas. 7−38911
Fe and its alloys, spin wave excitations and magnetisation temp. depend. 7−45642
Fe, ferromagnetic, spin depend. Compton profile, circularly polarised synchrotron radiation study 7−33477
α-Fe fine particles magnetic props., necking config. effects study 7−53060
Fe, magnetic films, MBE growth on GaAs, interface effects 7−27584
Fe ores, saturation magnetisation, temp. depend., Backer's chem. reaction *(Korean)* 7−33263
Fe oxide layer on Fe acicular particles morphology and mag. props. 7−52067
α-Fe, paramag. and ferromag., critical mag. phenomena, results from μSR studies 7−45872
Fe surface magnetism, effect of adsorbed O 7−58973
Fe, surface magnetism 7−27528
Fe ultra thin films, Brillouin scatt. 7−27728
Fe-Al disordered alloys, mag. props., site-diluted Ising model calcs. 7−2873
Fe-Al metastable alloy sputtered film, mag. props., comp. depend., X-ray diffr. and Mossbauer meas. 7−7559
Fe-based thin films, saturation magnetisation and coercive force 7−59074
Fe-Co alloys, powder metallurgy produced, mag. props. 7−33211
Fe-Co-Ni based alloys, crystalline and amorphous, magnetoresistance 7−38538
Fe-Co-based ternary alloys, atomic and mag. moment mutual ordering *(Russian)* 7−33169
Fe-Cr-Co(-Si), permanent magnet alloys, microstruct., mag. props., Si content effect 7−22117
Fe-Cu films, obliquely evaporated, inhomogeneous conc. distrib. 7−38367
Fe-La amorphous alloys, high-field susceptibility and Curie temp. 7−58989
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, origin of high coercivity 7−27578
Fe-Ni Invar, high-field hysteresis and ferromag.-antiferromag. coexistence 7−22122
Fe-Pt (36 at.%), cryst. struct., permanent mag. props. *(Japanese)* 7−53036
Fe-Pt Invar disordered alloys, premartensitic transform., mag. anomalies 7−7495
Fe-Sc alloys, struct. and mag. props., NMR and X-ray diffr. studies *(Russian)* 7−6578
Fe-Si, polycrystalline, magnetisation, domain struct. and magnetostriction *(Russian)* 7−59051
Fe-Si (3 wt.%), dynamic remagnetisation, structural depend. of losses 7−12994
Fe-Si (3 wt.%) bicrystals, domain struct. and magnetisation 7−12992
Fe-Si electrical steels, anisotropic cold-rolled, magnetisation characts. 7−12966
Fe-Si-Al films, magnetoelastic effect and anisotropy fields 7−59071
Fe-Si-B, normalising, decarburisation, secondary recrystallisation, mag. induction obs. 7−8020
$Fe-SiO_2$ compositionally modulated mag. film props. study 7−7566
$Fe-SiO_2$ granular films, mag. relax., DC SQUID magnetometry, Mossbauer spectra 7−45761
Fe-Sm amorphous alloys, crystn. behavior, DTA, magnetisation and X-ray diffr. meas. 7−44372
Fe-Zn alloys, sputtered, X-ray diffr., magnetisation and Mossbauer studies 7−59075
Fe-Zr, amorphous, high-field magnetisation hysteresis, spin glass clusters 7−2898
Fe-Zr, amorphous and microcrystalline, exchange interaction and saturation magnetisation 7−45651
Fe-Zr, mechanically alloyed, glass forming ability 7−21110
Fe-Zr-B, amorphous, meas. of Curie temp. 7−2853
$Fe_{78}B_{13}Si_9$, magnetron sputtered amorphous alloys, thermal, mag. and magnetomechanical props. 7−33249
$Fe_{80}B_{14}Si_6$ amorphous ribbons, anisotropy of losses 7−45658
$Fe_{83}B_{12}Si_5$ metallic glasses, crystn., magnetisation, scaling, mag. relax. meas. 7−63496
$Fe_{81}Be_{13.5}Si_{3.5}C_2$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7−64478
$Fe_{80}C_{20}-Si$ compositionally modulated amorphous struct., mag. and diffusional props. study 7−7564
FeCo alloys, critical mag. phenomena, results from μSR studies 7−45872
$Fe_{70}Co_{30}-SiO_2$ compositionally modulated mag. film props. study 7−7566
$Fe_{85-x}Cr_xB_{15}(Ni_xB_{15})$ metallic glasses, mag. and elec. props. 7−13002
$Fe_{80-x}Cr_x(SiB)_{20}$ amorphous alloy, induced anisotropy, melt spinning effects *(Russian)* 7−59004
$FeGe_2$ single cryst., magnetisation, temp. depend. *(Russian)* 7−2891
$(FeMn)_{80}B_{14}Si_6$ glass, magnetoresistance and magnetisation 7−45354
$(Fe_{1-x}Mn_x)_2P$ system, Mossbauer study 7−53180
$Fe_xMn_{1-x}S$, high temp. metal-nonmetal transition 7−7117
$(FeMo)_{80}B_{14}Si_6$ glass, magnetoresistance and magnetisation 7−45354
$Fe_{16}N_2$, high-dose ion implantation prep., mag. props. 7−59055
$Fe_{3-2}N$ film, hexagonal, prep. by plasma reaction, mag. characts. 7−13380
Fe_xN thin films, ion beam deposited, mag. props. and corrosion resistance 7−33231
$(Fe_{65}Ni_{35})_{1-x}$ $(Fe_{84}Mn_{16})_x$ alloys, low field magnetisation and Mossbauer effect studies 7−33311
$Fe_xNi_{80-x}B_{18}Si_2$, glassy alloys, variation of mag, inhomogeneity 7−45634
$Fe_{5-x}Ni_xC_2$, prep. and characterisation 7−17490
$Fe_{40}Ni_{38}Mo_4B_{18}$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7−64478
$(FeNi)_xPd_{1-x}$, atomic mag. moments, magnetisation meas. *(Russian)* 7−17198
$(Fe_{1-x}Ni_x)_{77}Si_{10}B_{13}$, amorphous, effective mag. moment, Curie temp. *(Korean)* 7−27503
$\gamma-Fe_2O_3$ particles, colloidal suspension, mag. props. of ionic ferrofluids 7−45758
$\alpha-Fe_2O_3$ powder compacts, shock-modified, Morin transition, Mossbauer and magnetisation studies 7−2852
$\gamma-Fe_2O_3$ reactive RF sputter deposition, struct., elec. and mag. props. studies 7−17421
$\alpha-Fe_2O_3$, reduction-sintering prep., mag. props. 7−59054
Fe_3O_4, magnetite-laced microspheres, mag. moment meas. 7−53064
Fe_3O_4 nearly spherical particles in low mag. fields, mag. props. 7−27568
$Fe_3O_4-CaO-SiO_2$ amorphous oxides, magnetic props. and struct., Mossbauer spectra study 7−7538
Fe_2P, mag. props. under high press., competing magnetic interactions 7−7542
FePGa, amorphous, magnetoelastic props. 7−27591
$Fe_7Si_8O_{22}(OH)_2$, grunerite, mag. order, quasi-one dimensional antiferromag. with spin canting transition 7−58983
$Fe_{80}Si_xP_{20-x}$ amorphous alloys, struct., mag. and elec. props. *(Korean)* 7−2893
$Fe_{0.458}Sn_{0.088}O_{0.454}$ film, mag. props., appl. in perpendicular mag. recording 7−59005
$FeTiO_3$, oblique easy-axis antiferromag. neutron scatt. study of mag. excitations 7−45643
$Fe_{2.4}Ti_{0.6}O_4$, magnetisation in 1 to 30 microns particle size range 7−47425
$(FeV)_{80}B_{14}Si_6$ glass, magnetoresistance and magnetisation 7−45354
$Fe_{1-x}Zn_xF_2$ diluted Ising antiferromagnet, magnetisation critical exponent crossover, Mossbauer meas. 7−7529
FeZr, amorphous and microcryst., exchange interaction and saturation magnetisation *(Russian)* 7−12963
$Fe_{0.91}Zr_{0.09}$ amorphous alloys, critical mag. phenomena, results from μSR studies 7−45872
Fe_xZrSe_2, intercalated layered cpd., thermopower and low DC field magnetisation study 7−17199
$Fe_{0.65}si_{0.35}$ thin films, amorphous and crystalline, magnetisation rotational processes 7−53085
$Fe_{1-}xCr_xBO_3$, weak ferrimagnetism, antisymmetric exchange 7−45741
GaAs-GaAlAs superlattices, density of states of Landau levels, sp. ht., magnetisation meas. 7−52823

magnetisation continued
Gd equal magnetisation lines, effective field const., paramag. Curie temp. and magnetocaloric effect 7−7546
Gd:Ce, hyperfine field and relax. rate, intermediate valence model 7−7184
Gd-Co, amorphous, influence of hydrogenation or mag. props. 7−2899
Gd-Co, anisotropic ferrimagnets in high mag. fields 7−17200
Gd-Co compositionally modulated mag. film props. study 7−7566
Gd-Fe evaporated amorphous alloy films, mag. props. and FMR behaviour studies 7−45825
Gd_2Co glasses, electronic struct., photoemission and magnetism 7−64060
GdCo(Fe) amorphous films with perpendicular anisotropy, Hall loop meas., mag. struct. studies 7−7205
$Gd(Cu_{1-x}Co_x)_2$, mag. and crystallographic props. 7−38903
GdFe and GdCo amorphous thin films, electrical conductivity, influence of mag. order 7−7409
$GdFe_{1-x}Mn_xO_3$, orthoferrite, mag. behaviour characts. 7−45657
$Gd_xLa_{65-x}Co_{25}B_{10}$ mixed glasses, mag. props., phase transitions, microstruct. effects 7−64465
$Ge_{80-x}Mn_xB_{20}$ amorphous alloy, Curie point and crystallisation temp. 7−17173
H_2, solid ortho-para mixtures, nonexponential relax. of nucl. magnetisation, NMR absorption spectrum 7−27053
^3He, adsorbed on Grafoil, nuclear ferromagnetism and surface ferromagnetic effect 7−2296
^3He, BCC solid, nuclear magnetism, molar volume depend. 7−58565
^3He, liquid, magnetic properties, density functional anal. 7−21559
^3He, solid-liquid melting pressure magnetisation curve 7−63900
^3He, superfluid, unitary states in strong mag. fields 7−12388
HfU_2S_5, mag. props. 7−22120
n-$Hg_{1-x-y}Cd_xMn_yTe$ high field magnetoresist. and magnetisation, Mn-Mn exchange interaction effects 7−12964
$HgCr_2Se_4$, magnetisation, temp. depend. 7−45629
$Hg_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
$Hg_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
$Hg_{1-x}Mn_xTe$, spontaneous Hall effect studies 7−45360
$Ho_2(CoFe)_{17}$ intermetallics, high field magnetisation studies 7−53038
$Ho_2Fe_{14}B$ single crystals. mag. anisotropy and magnetisation 7−27547
$HoMo_6S_8$ ferromagnetic films, supercond. props., temp. and mag. field depend. 7−45538
In equal magnetisation lines, effective field const., paramag. Curie temp. and magnetocaloric effect 7−7546
$(La_{1-x}Ce_x)_2Fe_{14}B$ rapidly quenched ribbons, hard mag. props. 7−27549
$La_{0.6}Pb_{0.4}Co_yMn_{1-y}O_3$, elec. conductivity, influence of Co ion substitution for Mn 7−45314
$LaZnFe_{11}O_{19}$, cation distribution and random spin canting 7−37945
$LiFe_{4.5}Al_xGa_yO_8$, magnetisation and lattice parameter, role of Al and Ga ions 7−22097
$Li_{0.5+0.5}XTi_x$ $Fe_{2.5-1.5x}O_4$, dilute ferrite spinels, spontaneous magnetisation, anomalous temp. depend. 7−45739
$MgFe_2O_4$, mag. props., depend. on preparation method 7−13066
Mn-Ga, amorphous film, prep. by ionised cluster beam deposition 7−3205
Mn-Sn, homogenised, mag. props., thermal expansion 7−2900
MnF_2, antiferromag., muon level crossing resonance 7−53186
$Mn_{1-y}Fe_y$ sputtered films, mag. props. 7−38915
$(Mn_mFe_{1-m})_{100-x}Bi_x$ films, evaporated, structure and mag. props. *(Japanese)* 7−59077
$MnFeF_5(H_2O)_2$, ferrimag., mag. and Mossbauer study 7−45845
$MnPS_3$, layered cpd., mag. props. 7−52951
$MnZnFe_2O_4$, struct., Mossbauer, X-ray, and mag. meas. 7−1971
$Mn_xZn_{1-x}Fe_2O_4$ ferrites, magnetoacoustic props. *(Russian)* 7−22131
MoN B1 phase sputtered films, mag. susceptibility and defect struct. 7−53087
Nb film supercond. props., α particle bombardment and thermal cycling effects 7−33704
$(Nd,Tb)_{16.7}Fe_{75.5}B_{7.8}$, magnetisation meas., spin reorientation temp. 7−17161
Nd-Fe-B liquid-quenched alloys, mag. props. 7−27550
Nd-Fe-B rapidly solidified permanent magnet materials, magnetisation processes and domain wall motion 7−38902
Nd-Fe-B sintered magnets, hysteresis loops, anal. 7−33215
$Nd_2Co_{14}B$, NMR study 7−64544
$Nd_2Fe_{14}B$, elastic props. between 120 to 300K 7−27529
$Nd_2Fe_{14}B$ single crystals. mag. anisotropy and magnetisation 7−27547
NdFeBCoAl magnets, Curie temp., coercive force and magnetisation 7−52982
$Nd_2Fe_{14-x-y}Co_xAl_yB$ alloys, permanent mag. props. 7−45755
$Nd_2Fe_{14-x}M_xB$, (M=Co,Ni,Cu,V,Al,Cr,Mn), crystallographic and mag. props. 7−27522
$Nd_2Fe_{12-x}Mn_xCo_2B$, mag. props. 7−52946
$Nd_2Fe_{14-x}Ru_xB$ alloys, mag. props., comp. depend. study 7−7547
NdIG, mag. props. 7−45662
$Nd_{2-x}R_xFe_{12}Co_2B$, mag. characts. 7−45670
$Nd_2(Y_2)(Fe_{1-x}Al_x)_{14}B$, intrinsic and permanent mag. props. *(Chinese)* 7−13003
Ni and its alloys, spin wave excitations and magnetisation temp. depend. 7−45642
Ni epitaxial films and interfaces with Cu and Pd, mag. size effects 7−59081
Ni, magnetic phase location, total energy spin polarised band calcs. 7−17176
Ni surface magnetism, effect of adsorbed O 7−58973
Ni/Ag multilayer thin films, enhanced magnetisation 7−17204
Ni/Pd interface, strongly paramagnetic layer, magnetisation distrib. 7−7475
Ni-Ag multilayer films, magnetisation and FMR studies 7−22147
Ni-based alloys, magnetic props. under high press., effects on s and d band electrons 7−7542
Ni-H system, band structure calcs. 7−45140
Ni-Mn disordered alloys, ferro-spin-glass domain model calcs. 7−59025
Ni-Mo metallic superlattices, macromag. and micromag. props. 7−2826
Ni-Zn ferrite and Ni ferrite films, prep., mag. props. 7−13378
Ni-Zr amorphous powder, prep. by mechanical alloying 7−33623
$Ni_2MnIn(Sn)(Sb)$ Heusler alloys, galvanomag. props. and magnetisation meas., fermi level shift effects 7−7207
NpOS, mag. props. 7−13064
$Pb_{1-x}Eu_xTe$ epitaxial layers, mag. props. 7−45772
$Pb_{0.95}Gd_{0.05}Te$, antiferromag. exchange constant between nearest-neighbour Gd^{3+} ions 7−59002

magnetisation continued
PbV_2O_6, vitreous and crystalline, mag. props. 7−7473
Pd_3Fe, electronic struct. 7−52415
Pd_3Fe hydrated ordered alloy, mag. behaviour, Mossbauer studies *(Russian)* 7−2890
PdSiCo inhomogeneous magnetic alloys, anomalous Hall effect−magnetic polarisation correls. 7−7208
Pr-Co rapidly quenched ribbons, mag. props. 7−27551
$PrCo_{4-x}Fe_xB$, crystallographic and mag. props. 7−45671
$Pr_2(Fe_{1-x}Co_x)_{14}B$, mag. props. 7−64549
PrIG, mag. props. 7−45662
$Pr_{2-x}R_xFe_{12}Co_2B$, (R=Dy, Tb), mag. characts. 7−45670
PtCo, order-disorder transform. kinetics, temp. depend., magnetisation meas. 7−63797
$Pt_3Mn_xFe_{1-x}$, mag. state near critical composition *(Russian)* 7−17170
R-Co, 4f Co rich intermetallics, basal plane magnetocrystalline anisotropy 7−52972
$R_2Fe_{14-x}Co_xB$, spin reorientations 7−64484
$Rb_2Mn_xCr_{1-x}Cl_4$ mixed crystals, mag. props. 7−2897
$Ru_xFe_{80-x}B_{20}$ amorphous alloys, magnetic phase diagram, magnetisation and Mossbauer studies 7−53042
$Sc(Co_{1-x}Al_x)_2$, anomalous high field magnetisation 7−64438
Si:B, mag. props. of the acceptor system 7−27496
Sm-Co amorphous thin films, low temp. mag. props. *(Chinese)* 7−38910
Sm-Co-Fe-transition metal permanent magnets, magnetisation 7−53033
Sm-Fe amorphous thin films, low temp. mag. props. *(Chinese)* 7−38910
$SmCo_5$ and Sm_2Co_{17} plastic magnets, magnetisation process, depend. of surface flux density 7−27548
$Sm_2(Co_{1-x}M_x)_{17}$ (M=Fe,Mn), rapidly quenched ribbons, mag. props. 7−27552
$SmLu(FeGa)_5O_{12}$ films, with submicron domain structures, mag. inhomogeneity 7−45782
$(SmLuGd)_3(FeGaSc)_5O_{12}$ films, with submicron domain structures, mag. inhomogeneity 7−45782
$Sn_{1-x}Mn_xTe$, degenerate ferro-spin-glass, transport props. and spin disorder 7−45330
$SrFe_{1-x}Co_xO_3$ ferromag. cpd., mag. props., comp. depend., Mossbauer spectra and neutron diffr. studies 7−7539
$SrLaFeO_4$, layered cpds., bidimensional mag. coupling, Mossbauer spectra 7−27637
Tb-Co amorphous films, magneto-optic props. 7−64611
TbAg amorphous alloys, local mag. anisotropy energy estimation 7−7503
TbCo film, optical disc memory struct., mag. props., underlayer film treatment effect 7−45767
TbCo sputtered films, mag. and magneto-optic props., stability 7−53076
TbCo sputtered films, stability of mag. and magneto-optical props. *(Japanese)* 7−33241
$TbCu_{3.54}$, seedy mag. order, neutron scatt. study, mag. meas. 7−33145
TbFe amorphous alloys, local mag. anisotropy energy estimation 7−7503
TbFe amorphous alloys, magneto-optical props. and mag. anisotropy 7−27706
$Tb(Fe_xCo_{1-x})_3$, struct. and mag. props. 7−1950
$(Tb_xFe_{1-x})_{1-y}U_y$, amorphous, magneto-optical effects 7−59187
Ti-N-Permalloy ferromag. multilayers, prep. and props. 7−64497
$Ti_xCo_{1+x}Fe_{2-2x}O_4$ spinel solid soln., mag. props., Mossbauer effect study 7−12685
TiU_2S_5, mag. props. 7−22120
$TmCu_2$, magnetic phase transitions, suscept., sp. ht., elec. resist. and magnetisation meas. 7−2857
$TmNi_2$, singlet ground-state cpd., induced-moment ferromagnetic ordering meas. 7−38866
U-Co system, mag. props., influence of hydriding 7−45750
UAl(Ga)(Sn)Ni(Co)(Ru) ternary alloys, magnetic behaviour, elec. resist. and sp. ht. meas., 5f electron effects 7−12999
$UCu_{4.5}Al_{7.5}$, antiferromagnetic suscept. meas. 7−12954
UFe_xAl_{12-x}, ferromagnetic suscept. meas. 7−12954
UNi_2, polarised neutron diffr. study 7−12946
UPt_3 heavy-fermion superconductors, induced moment mag. form factors 7−12909
US, magnetic character, effects of fission damage, neutrons 7−13000
$U_3Sb_3Cu_2$, cryst. struct., mag. props. 7−38864
WC-Co hard metals, thermal conductivity and thermal diffusivity *(German)* 7−27036
Y-Fe sputtered amorphous films, mag. props. 7−53083
Y_9Co_7 mag. supercond., ^{59}Co NMR and nuclear relax. studies 7−64401
YCo_3H_x mag. props. meas. 7−33217
YCo_5H_x, mag. props. meas. 7−33217
$Y_2Co_7H_x$, mag. props. meas. 7−33217
$Y_2Co_{14}R$, NMR study 7−64544
$Y(Dy)(Er)_{2-x}Th_xFe_{14}B$ alloys, mag. props., comp. depend. study 7−7492
$(YEuTmCa)_3(FeGe)_5O_{12}$ films, planar anisotropy and magnetisation, ion irrad. effects study 7−2906
$Y_2(Fe,Al,Co)_{14}B$, mag. props., composition depend. 7−53030
$Y_3Fe_{5-x}Ga_xO_{12}$ epitaxial film, high freq. threshold props. studies *(Russian)* 7−45775
$Y_{100-x}Fe_xH_y$ metallic glasses, mag. props., H content effects 7−33155
$Y_2Fe_{14-x}Si(Cu)B$ alloys, mag. props. 7−45681
YIG cryst., domain wall dynamics, optical polarisation study 7−45732
YIG, ferrimagnetic garnets characterisation for MSW optical diffr. 7−13040
YIG films, H_2 annealed, Mossbauer study 7−45847
YIG single crysts., FMR linewidth, parametrically excited spin wave effects 7−2828
YIG:H, sp. ht. and annealing behaviour, conversion-electron Mossbauer spectroscopy study 7−17253
YIG:La,Ga-YIG:La double layered film, different magnetisation and anisotropy, magnetostatic mode spectra 7−64498
$Y_5Ni_{95}H_x$ amorphous thin films, mag. and elec. transport props., H content effect, 1.5 to 400K *(Chinese)* 7−38909
$YbSb_2$, superconductivity study 7−58962
Zn ferrite, shock-synthesised or furnace-reacted, mag. props. 7−38904
$Zn_{0.5}Co_{0.5}FeCrO_4$, cluster spin glass, spin freezing 7−27531
$ZnCr_{1.6}Ga_{0.4}O_4$, antiferromagnetic frustrated spinel, noncritical behaviour near its freezing temp. 7−38875
$Zn_{1-x}Ge_xFe_2O_4$, ferrites, atomic, mag. and electronic disorder *(French)* 7−44477
$Zn_{1-x}Mn_xSe$, antiferromag. exchange constants between nearest-neighbour Mn^{2+} ions 7−64449
$Zn_{1-x}Mn_xTe$, $x=0.25-0.71$, free exciton state exchange splitting, magnetoreflectance, magnetisation meas. 7−53288
Zr-Co, electronic struct., supercond. and magnetism 7−64398

magnetisation continued
- ZrU_2S_5, mag. props. 7—22120
- $ZrZn_2$, magnetisation density meas., cryst. translational symm. 7—27498

magnetisation reversal
- cylindrical magnetic domain films, ion implanted, magnetisation reversal 7—2915
- ellipsoidal and nonellipsoidal particles 7—33203
- magnetics conference, Phoenix, AZ, USA (April 1986) 7—29572
- stripe domains in alternating fields, dynamic magnetisation reversal *(Russian)* 7—7537
- textured polycrystalline magnet, hysteresis and rotational hysteresis 7—64485
- transparent magnetic materials transitions meas., using magnetooptical apparatus 7—30048
- unsaturated ferromagnet, EM field eqns., reduction to Burgers eqn. and exact analytic soln. 7—33216
- $BaFe_{12}O_{19}$ powders, coprecipitated, magnetisation reversal, mag. dilution effects 7—53062
- $(Bi,Tm)_3(Fe,Ga)_5O_{12}$ garnet films, magnetisation reversal, pulsed mag. field nonuniformity effect 7—45783
- $(BiGdTm)_3(FeGa)_5O_{12}$ single cryst. film, reverse-magnetisation domain nucleation studies 7—17208
- $(BiR)_3(FeGa)_5O_{12}$, garnet films, pulsed magnetisation reversal, in-plane mag. field 7—45736
- $(BiTm)_3(FeGa)_5O_{12}$, garnet films, pulsed magnetisation reversal, influence of temp. on integral characts. 7—45735
- $(BiYLu)_3(FeGa)_5O_{12}$, garnet films, pulsed magnetisation reversal, influence of temp. on integral characts. 7—45735
- $CdCr_2Se_4$, photoferromagnetic effect, magnetic impurity effects, magnetisation reversal characts. meas. 7—17154
- Co-Al alloys, magnetic hardening 7—33209
- Co-Cr films, film growth and magnetisation reversal mechanism 7—27585
- CoCr films, magnetisation reversal mechanisms 7—59068
- CoCr sputtered perpendicular recording media, with columnar microstruct., reversal mech. 7—7552
- CoCr thin films for recording media, perpendicular anisotropy 7—33202
- DyFe alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
- γ-Fe_2O_3 acicular particles, magnetisation reversal by flipping mechanism 7—7545
- γ-Fe_2O_3 particles, microstructure, X-ray diffr., magnetisation props. 7—45757
- GdCo and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
- Nd-Fe-B rapidly solidified ribbons, magnetisation, quench rate depend. 7—53034
- $Nd_{15}Fe_{77}B_8$ permanent mag., rotational hysteresis energy and magnetisation reversal 7—64492
- TbFe and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
- $Tb_{31}Fe_{69}$ amorphous films, mag. props. and domains, substrate temp. effects 7—13011

magnetism
- *see also antiferrimagnetism; antiferromagnetism; band model of magnetism; diamagnetism; electromagnetism; ferrimagnetism; ferromagnetism; geomagnetism; Heisenberg model; Ising model; magnetic moments; magnetic monopoles; metamagnetism; paramagnetism; planetary magnetism; rock magnetism; stellar magnetism; superparamagnetism; weak ferromagnetism; X-Y model*
- Schrodinger representation 7—4702
- toroidal magnetic material, quasistatic electromag. field, skin effect 7—64276

magneto-optical devices
- branching waveguide, appl. in nonreciprocal optical devices 7—57542
- Faraday isolator, simple compact high performance permanent magnet 7—31437
- Faraday rotation current and mag. field sensor, calibrated optical fibre 7—25980
- ferromagnetic garnets, magneto-optical effects and appls. *(French)* 7—59190
- glass:Tb_4O_7 Faraday rotator low loss single mode fibres, MCVD fabrication 7—25993
- magnetic heads, magneto-optical visualisation of mag. field distrib. 7—61359
- metallic films, magnetooptic materials and their applications 7—27703
- modulator, magneto-optic, highly efficient low field *(French)* 7—5989
- optical fibre sensor, calibrated, as Faraday rotation current and magnetic field sensor 7—31515
- power supplies to magneto-optical elements of particle channels, digital remote control system 7—42268
- real-time programmable image subtractor using a magnetooptic device 7—20145
- semimagnetic semiconductors, magnetooptic materials and their applications 7—27703
- transparent magnetic materials transitions meas. 7—30048
- twisted optical fibre, Faraday rotation meas. using rotating polarisation and analogue phase detect. 7—25981
- waveguide-type optical isolator using the Faraday and Cotton-Mouton effects 7—31464
- $(YBi)_3Fe_5O_{12}$, magnetooptic materials and their applications 7—27703
- YIG, FZ growth for magnetooptic devices in fibre-optic communication systems 7—27892
- YIG films, symmetrical single-mode magneto-optic waveguides, phase matching by stress appl. 7—45972

magneto-optical effects
- *see also Faraday effect; Kerr magneto-optical effect; magnetic circular dichroism; magnetoabsorption; magnetoreflectance; optical constants; Zeeman effect*
- amorphous paramagnets, van Vleck susceptibility 7—7472
- anisotropic magnetically active dielectric, light reflection and refraction 7—62618
- atomic fluorescence noise spectrum in mag. field, polarisation moments 7—42546
- atoms in ground state, polarisation ellipse rot., optical self-pumping in mag. field 7—50004
- diamagnetic molecular system, magneto-chiral birefringence and dichroism at longitudinal elec. saturation 7—42661
- dielectric cryst., linear magneto-optical effect anisotropy 7—39092
- difference resonance expt. with polarising prism 7—26385

magneto-optical effects continued
- domain structure determ. using light diffr., inverse problem *(Russian)* 7—53286
- ferrofluid, near mm wavelength studies of refr. indices by dispersive Fourier transform spectra 7—53289
- ferromagnetic garnets, magneto-optical effects and appls. *(French)* 7—59190
- free-electron lasers, gain props., gradient magnetic field effect calcs. 7—20238
- linear absorpt. magneto-optical reson. by anisotropic collisions 7—36533
- lyotropic nematic with discotic micelles, orientation in mag. field 7—44357
- magnetic domain studies, review 7—17209
- magnetic fluids, magneto-optical effects, birefringence 7—59186
- magnetically ordered crystal plate, magneto-optical effects at normal incidence 7—59185
- magnetics conference, Phoenix, AZ, USA (April 1986) 7—29572
- magneto-optical permittivity tensor in crystals 7—53279
- metallic films, magnetooptic materials and their applications 7—27703
- metallic glasses, magnetic properties *(French)* 7—27515
- micellar liq. cryst., isotropic phase, temp.-depend. supercooling limit, mag. birefringence meas. 7—63815
- mode conversion, Bloch oscillations and Zener tunneling with light by means of the Sagnac effect 7—36877
- multilayer films, magnetooptic, permittivity tensor, photoelastic modulated ellipsometry 7—41426
- nematic liquid crystals, optical modulation, high-speed 7—37131
- nematic liquid crysts., diamagnetic anisotropy meas. 7—38845
- nonpolar fluid, ellipsoid mols., induced birefringence and dielectric polarisation 7—33363
- permalloy films, domain motions and instabilities, magneto-optic observation 7—53095
- photon dispersion in strong mag. field with positronium formation 7—41690
- polarisation switching, magnetic control 7—62758
- rare earth cpd. crystals, magnetooptic anisotropy, ionic polarisability in cryst. field 7—53285
- resonance scattering spectra appl. to very weak mag. fields diagnostics in diffuse media 7—23991
- resonances in fluorescence induced by the wind effect 7—25453
- ring lasers, two-mode, with controlled phase anisotropy, EM wave interaction theory 7—43161
- semiconductor cubic crystals, magneto-optic anisotropy induced by spatial dispersion 7—17307
- semimagnetic semiconductors, magnetooptic materials and their applications 7—27703
- suspensions, Cotton-Mouton constant, cluster integral expansion 7—3025
- thin films magneto-optical, under laser irradiation, thermal analysis 7—45995
- toroidal mag. materials, magneto- and electro-optical effects 7—45994
- Voigt effect coherent forward scattering atomic spectrometer eval. 7—64608
- $Al_xGa_{1-x}As$-AlAs quantum well, magneto-optical absorpt. study 7—7681
- $Bi_xDy_{3-x}Fe_{3.8}Al_{1.2}O_{12}$ garnet films, magneto-optical props. 7—64614
- $Bi_3(GaFe)_5O_{12}$, epitaxial films, mag. and magnetooptical props. 7—53102
- $Cd_{1-x}Mn_xTe$, low-temperature magnetic spectroscopy with DC SQUID 7—48780
- $(CdSe)_{1-x}(MnS)_x$ crystals, semimag. semiconductors, magnetooptic studies 7—64609
- CdTe-(Cd,Mn)Te MQW, optical and magnetooptical props. 7—13137
- ClH_2^+ ion, ν_2 band, mag. field modulated IR laser spectrosc. 7—36605
- Co-Cr films, mag. parameters, Brillouin light scattering study 7—53357
- CoF_2, antiferromag. insulator, H-odd linear dichroism of exciton-magnon transitions 7—53282
- Cs, atom, spontaneous decay suppression at optical frequencies, test of vac.-field anisotropy in confined space 7—57026
- $CsFeCl_3$, quasi-one-dimensional ferromag., mag. field effects on optical spectrum 7—3026
- Cu complex, $CuBr_2.2DMSO$, linear chain antiferromag., optical birefringence 7—7679
- DyIG:Ga,Bi, RF sputtered films for magneto-optical memory, mag. props. 7—64613
- GaAlAs diode laser, frequency shift in magnetic field 7—5885
- n-GaAs films, magneto-optical studies under high hydrostatic press. 7—13247
- GaAs layers, MOVPE, Zn acceptor impurities, magnetophotolum. 7—22308
- GaAs, magneto-optical photoluminescent spectra studies 7—46148
- GaAs, neutral shallow donor inter-excited-state transitions, far IR photocond. in mag. field study 7—22249
- GaAs, photoluminescence lines, mag. and strain field splitting 7—3079
- GaAs:Cu, neutral state of deep acceptors, photoluminescence spectra, Jahn-Teller effect 7—64149
- GaAs:Si/$Al_xGa_{1-x}As$ quantum wells, photolum. studies 7—39178
- GaAs/AlGaAs multiple-quantum-well structures, shallow donors, far infrared spectroscopy 7—39121
- GaAs-AlAs superlattices, 2D excitons, magneto-optical study *(Japanese)* 7—13139
- GaAs-$Ga_{1-x}Al_xAs$ quantum wells, interband photocond. and excitonic Landau level transitions in mag. field 7—27390
- $GaP_{0.2}AS_{0.8}$ strained-layer superlattice, low-temp. pressure-depend. magneto-optic meas. 7—12793
- $(GdBi)_3(FeAlGa)_5O_{12}$ garnet films, LPE growth 7—59463
- GdCoSi, amorphous film, mag. and magnetoopt. props., thickness depend. 7—33239
- p-Ge, cubic crysts., magnetic field-induced circular photocurrent drag effect calcs. 7—58833
- Ge light hole Landau level inversion, light amplification in crossed elec. and mag. fields 7—31293
- p-Ge, threshold switching and microwave-induced spontaneous emission in static magnetic field 7—52707
- H, diamagnetic Rydberg states, meas. and calcs. 7—5615
- HgTe-CdTe superlattices, band struct., optical and magneto-optical studies 7—64337
- InAs-GaSb superlattice, band offset press. depend., magneto-optical studies 7—38698
- InAs-GaSb superlattices, band line-up under hydrostatic press. 7—52782
- InGaAs-GaAs and GaAs-GaPAs strained layer superlattices, press. depend. magneto-optic meas. at low temp. 7—27404
- $In_{0.2}Ga_{0.8}As$-GaAs strained-layer superlattice, low-temp. pressure-depend. magneto-optic meas. 7—12793

magneto-optical effects continued
InP, neutral shallow donor inter-excited-state transitions, far IR photocond. in mag. field study 7—22249
InSb shallow magnetodonors photo-ionisation spectra studies 7—64165
MnF_2, light scatt. from magnons 7—45996
Na atoms in flame, laser-probed resonant Voigt effect, analytical detection sensitivity 7—19764
Ne, optical saturable absorpt. in difference magnetooptic reson., relax. const. calc. 7—62793
Ni, ferromag., magneto optical effects and band struct. *(Russian)* 7—59188
PbTe doping superlattices, transport and magneto-optical props. 7—12852
PbTe-PbEuSeTe, compositional and doping superlattices, struct., electronic, optical and magnetooptical studies 7—53290
PbTe-PbSnTe compositional and doping superlattices, struct., electronic, optical and magnetooptical studies 7—53290
Ru complex, $Ru(bpy)_3^{2+}$, rigid solutions, luminescence, magnetic circular polarisation 7—64685
Sm, polarisation switching and optical bistability in Fabry-Perot cavity 7—1218
Sm vapour, optical bistability expts., polarisation switching 7—62759
Sr, $(7s)^1S$-$(5s^2)^1S$ transition, two-photon absorpt., quantum interference 7—881
Tb-Co thin films preparation for erasable optical memory disk *(Japanese)* 7—7049
TbCo sputtered films, compositionally modulated, mag. props., magneto-optical storage appl. 7—64495
TbCo sputtered films, mag. and magneto-optic props., stability 7—53076
TbCo sputtered films, stability of mag. and magneto-optical props. *(Japanese)* 7—33241
TbFe magneto-optical layer, AlN corrosion protective coating 7—53953
$(TmBi)_3(FeGa)_5O_{12}$ indicator film, visualisation of mag. field profile of thin-film magnetic heads 7—61359
$(YBi)_3(FeGa)_5O_{12}$, epitaxial films, mag. bubble lattices, influence of external stresses 7—64503
$(YBi)_3Fe_5O_{12}$, magnetooptic materials and their applications 7—27703
YIG:Ga, Bi, RF sputtered films for magneto-optical memory; mag. props. 7—64613

magnetoabsorption
highly symmetric mols., two-photon transitions, molecules, magneto-optical interaction 7—10691
magneto-optical absorpt. of polarons 7—39094
n-$Cd_{1-x}Mn_xSe$, electric-dipole-induced spin resonance 7—27592
CsI, excitons, three-photon magnetoabsorpt. meas., g-value determ. 7—2498
GaAs, photoconductivity oscillations, monochromatic IR illumination in mag. field 7—12763
$Ga_{0.3}In_{0.7}As$-InP strained layer superlattice, inter-band magneto-absorption 7—45998
$Ga_{0.47}In_{0.53}As/Al_{0.48}In_{0.52}As$ quantum well, interband magnetoabsorpt. meas., effective mass determ. 7—17088
GaSb-AlSb strained-layer superlattices, electronic props. 7—52817
InSb, narrow-gap semiconductor, bound excitons, magneto-absorption studies 7—45168
$NaMnCl_3$ quasi 2D antiferromagnet, deforming magnetic exciton and light absorpt. characts. 7—53284
PbTe, interband absorption in a mag. field, exciton states 7—22227
PbTe, low-voltage electroabsorpt., exciton states, magnetoabsorpt. spectra 7—2501
Si, excitonic absorpt., MCD spectra, low mag. fields 7—27257

magnetoacoustic effects
see also magnetoacoustic resonance
acoustic wave-parametric spin wave coupled oscills. instability, freq. and damping rate calcs. 7—17213
alkali metals, low temp. nonlocal electromagnetic ultrasound generation calcs. *(Russian)* 7—7294
alloy film, magnetostrictive, on glass substrate, magneto-SAW propag. 7—22127
conductors, sound absorption and velocity under weak localisation conditions 7—38646
continuously viable signal delays with ultrasound 7—43589
domain structure induced by acoustic waves in easy-plane magnetic materials 7—2918
ferromagnet, spin wave excitation by acoustic fields, non-uniformly distrib. dislocations *(Russian)* 7—45646
ferromagnetic materials, magnetoacoustic and Barkhausen emission study NDT appl. 7—45749
high-β plasma, ion beam excitation of lower hybrid freq. magnetoacoustic oscills. 7—44173
insulators with spiral mag. struct., sound absorption 7—38918
magnetic properties, density functional anal. 7—21559
magneto-surface-acoustic-wave propagation, anal. considering micro-eddy current loss 7—27589
magnetofluids, magnetisation, acoustic perturbation 7—54196
metals, ferromagnetic, sound propagation, velocity and absorption 7—38919
paramagnets, tetragonal, magnetoelastic excitations and struct. phase transitions 7—27489
semiconductors, acoustic props. under hopping conduction conditions 7—16692
semiconductors, acoustical Hall effect 7—58823
shear-wave magnetometry using metallic glass ribbon 7—56307
steel, low C, magnetoacoustic emission, magnetisation, Barkhausen effect in decarburised steel 7—33207
Al, ultrasonic attenuation in a transverse mag. field, electron mean free path 7—64296
Bi plates, magnetoacoustoelectronic instabilities, joint action of two strong electric fields 7—52694
$CeRu_2Si_2$, heavy-fermion system, magnetoacoustic effects in high mag. fields 7—64506
$Fe_{81.5}B_{13.5}Si_{3.5}C_2$, amorphous ferromag. alloy, acoustic waves, mag. field induced changes 7—2917
$Fe_{97}Si_3$, magnetoelastic acoustic emission 7—33257
Ga, sound attenuation oscillatory deviation in weak mag. field, Fermi surface cross section and electron rel. determ. 7—2106
n-InSb, electron absorption of sound, hopping mechanism 7—17056
$Mn_xZn_{1-x}Fe_2O_4$ ferrites, magnetoacoustic props. *(Russian)* 7—22131
Ni, fatigue life in const. mag. field and ultrasonic field, 4.2-273K *(Russian)* 7—46639

magnetoacoustic effects continued
$Ni_{1-x}Co_xFe_2O_4$ polycryst. magnetostrictive ferrite, long-term bulk acoustic wave memory 7—59099
$Ni_{0.97}Cu_{0.03}Fe_2O_3$, ferrite, domain-acoustic echo 7—13014
UPt_3, heavy-fermion system, magnetoacoustic effects in high mag. fields 7—64506
ZnO-YIG-$Gd_3Ga_5O_{12}$ surface magnetostatic wave scatt. by SAW 7—64507
magnetoacoustic resonance
see also ferroacoustic resonance
No entries
magnetoacoustics *see magnetoacoustic effects*
magnetocaloric effects
see also magnetic cooling; thermomagnetic recording; thermomagnetic treatment
amorphous alloys, magnetocaloric effect anomaly 7—38868
ferromagnets heated with a short intense laser pulse 7—64460
polychromatic crystals, mag. props. 7—51683
Gd equal magnetisation lines, effective field const., paramag. Curie temp. and magnetocaloric effect 7—7546
In equal magnetisation lines, effective field const., paramag. Curie temp. and magnetocaloric effect 7—7546
$Li_{0.5+0.5}XTi_x$ $Fe_{2.5-1.5x}O_4$, dilute ferrite spinels, spontaneous magnetisation, anomalous temp. depend. 7—45739
$Mn_{1-y}Fe_y$ sputtered films, mag. props. 7—38915
magnetocardiography *see biomagnetism; cardiology*
magnetocrystalline anisotropy *see magnetic anisotropy*
magnetoelastic effects
amorphous ribbons, magnetostriction meas., SAMR method, anisotropy effects study 7—7580
antiferromagnet, easy-axis, magnetoelastic domain wall oscillations 7—38917
ferromagnet, Debye-Waller factor anomaly and diffuse scatt. studies *(Russian)* 7—12973
ferromagnetic bodies of finite dimensions, mag. states rel. to elastic stresses in trans-Rayleigh region 7—27587
films, coercive force establishment, magnetoelastic interaction effects *(Russian)* 7—7558
Heisenberg classical magnetoelastic chains, lattice distortions and short-range mag. order 7—17195
hexagonal Belorizky model, magnetoelastic interactions 7—53109
hexagonal perovskites, antiferromag., magnetoelastic interaction *(Russian)* 7—33248
Ising elastic antiferromagnets on a triangular lattice 7—33185
lattices with axial symmetry, temp. induced metamagnetism, magnetoelastic model 7—53002
metallic glasses, laser annealed struct. and magnetoelastic props., effects of surface characts. 7—45785
metallic glasses, magnetic properties *(French)* 7—27515
nonlinear electro-magneto-thermo-elasticity, steady-state problems 7—37331
orthorhombic paramagnet, J=1, external field induced Jahn-Teller effect *(Polish)* 7—7179
paramagnets, tetragonal, magnetoelastic excitations and struct. phase transitions 7—27489
semiconductors, anisotropic, electro-magneto-thermo-elasticity, extended irreversible thermodynamic approach 7—58394
semiconductors, electro-magneto-thermo-elasticity, classical irreversible thermodynamic approach 7—58393
shear-wave magnetometry using metallic glass ribbon 7—56307
steel, ferromag., magnetic state inspection, elastic stresses in trans-Rayleigh region 7—3558
steel, stainless, martensitic and austenitic, amplitude depend. damping rel. to annealing and tempering *(German)* 7—13498
superconducting ring, magnetoelastic stability in its own field 7—17148
weakly itinerant ferromagnetic systems, magnetoelastic anomalies due to spin fluctuations 7—53106
Ag-Tb(Tm) dilute alloys, magnetoelastic coupling coeff., 5d virtual found state effects calcs. 7—53108
$(BiLu)_3(FeGa)_5O_{12}$ film, magnetic bubble motion, Rayleigh surface wave effects 7—33245
$Ca_3Ga_2Ge_3O_{12}:Cr^{3+}$ garnet, ESR and ultrasonically modulated ESR studies 7—22139
Cr, magnetovolume, thermal expansion and Gruneisen parameters 7—33260
Cr-Mo dilute alloys, magnetoelasticity, antiferromagnetism disappearance effects 7—45789
Cr-V alloy, magnetovolume, thermal expansion and Gruneisen parameters 7—33260
Fe-Cr-Co solid soln., uniaxial tensile stress in spinodal decomp. effect on coercive force, thermomag. treatment effects 7—7555
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, origin of high coercivity 7—27578
Fe-Si-Al films, magnetoelastic effect and anisotropy fields 7—59071
Fe-Tb amorphous alloys, film and bulk mag. props. and thermal expansion meas. 7—7540
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous ribbon, magnetoelastic, Matteucci effect meas. *(Spanish)* 7—53103
FePGa, amorphous, magnetoelastic props. 7—27591
$Fe_{97}Si_3$, magnetoelastic acoustic emission 7—33257
$Fe_{78}Si_9B_{13}$ amorphous ribbons, magnetoelastic effects on practical props. 7—33252
In single-crystal plate, acoustohelicon resons. 7—52695
Ni, magnetic biaxial anisotropy induced by plastic deformation 7—59006
O, solid, α-β phase transition, magnetoelastic coupling and antiferromag. order effects 7—58193
$SmCo_5$ fine particles, produced by ball milling, strain and domain wall energy *(Japanese)* 7—7556
$Y_2Co_7H_x$ hydrides, cryst. struct. and mag. props., H effects *(Russian)* 7—44468
YIG films, tangentially magnetised, expt. investig. 7—22130
magnetoelastic waves
ferrite thin film Z 7—22129
magnetics, conf., Japan (Nov.1985) 7—24259
magneto-surface-acoustic-wave propagation, anal. considering micro-eddy current loss 7—27589
propagation in a conductive thin magnetostrictive slab 7—27588
shear SAWs in region of spin-reorientation phase transition 7—38921
surface magnetoelastic wave excitation by meander-line transducer 7—62936

magnetoelastic waves continued
Fe-Si-B mag. film, magnetoelastic wave generation and detection 7−59070
α-Fe_2O_3, hematite, magnetoelastic wave, parametric amplification in reversal of wavefront 7−7578
Fe_2O_3, hematite, magnetoelastic wave propagation, polarisation effects 7−7581
α-Fe_2O_3 single crystal, backward surface wave, parametric instability and amplification 7−22128

magnetoelectric effects
absorbing crystals, wave propagation, polaris. and rel. 7−10852
carnauba wax, magneto-electret, surface charge density and dielec. const. 7−22126
ferroelectric antiferromagnet, resonance interaction of spin waves with polarisation waves 7−7579
ferromagnetic systems with linear magnetoelectric props., dipolar waves 7−45645
Fresnel equations for a magnetoelectric medium 7−50444
hexagonal perovskites, antiferromag., magnetoelastic interaction *(Russian)* 7−33248
magnetic ferroelectrics, inhomogeneous magnetoelectric effect 7−38920
magnetics conference, Phoenix, AZ, USA (April 1986) 7−29572
quartz:Al, static magnetisation of Al-O$^-$ centres, electric field effects 7−38900
semiconductors, extrinsic, thermal gradient magnetoconc. effect 7−52659
$BaMnF_4$ magnetic system with linear magneto-elec. coupling, electromag. mode calcs. 7−45791
$BaMnF_4$, magnon polaritons, wave propagation in mag. systems with spontaneous electric polarisation 7−12961
$(Co_{0.6}Ni_{0.4})_{78}Si_8B_{14}$, amorphous, itinerant electron charact., current induced reson. mag. field shift obs. 7−27590
Cr_2BeO_4 multi-sublattice antiferromag., elec. polarisation, magnetoelec. effect calcs. *(Russian)* 7−7577
$GaAs/Al_xGa_{1-x}As$ heterostruct., 2-D density of states in extreme quantum limit 7−2455

magnetofluidynamics *see magnetohydrodynamics*

magnetogasdynamics *see magnetohydrodynamics*

magnetohydrodynamic conversion
direct energy conversion R and D in Russia 7−13923
gas+liq. metal two-phase flow under transverse mag. field, modelling 7−51335
technology breakout in energy conversion, conf., San Diego, CA, USA (Aug. 1986) 7−60875
two-phase liquid metal gas flow in vertical pipes 7−65496

magnetohydrodynamic convertors
see also magnetohydrodynamic power plants
arc- extinguishing devices for protecting anode wall in MHD channel 7−44291
channel flow, coupled fluid and electrodynamic anal. 7−26401
channels, pot. difference meas. across boundary layers 7−44267
explosive MHD generators, assessment 7−65497
forced oscills. in MHD generator channels 7−32104
high power generator, stability of nonuniform subsonic flow against quasi 1D acoustic oscillations 7−44266
high-temperature oxidizer heaters for a 500-MW MHD power station 7−63232
history and development of MHD conversion 7−16340
interelectrode breakdown in MHD ducts 7−37765
liquid metal thermoacoustic engine, MHD generator 7−65495
liquid metal two-phase mixture with and without mag. field, shock waves 7−5410
metal-NH_3 generator as pulsed and continuous power source 7−63362
plane-linear induction magnetohydrodynamic pump, thermophysical study *(Russian)* 7−11254
solid-fuel MHD generators, thermal UHF radiation, temp. meas. 7−44265
K additions, redistribution mechanism in MHD generator channel 7−1794

magnetohydrodynamic generators *see magnetohydrodynamic convertors*

magnetohydrodynamic power plants
electricity generation using MHD 7−11556
high-temperature oxidizer heaters for a 500-MW MHD power station 7−63232

magnetohydrodynamic waves
Alfven normal modes in non-uniform plasma, viscous damping, solar atm. appl. 7−57992
Alfven solitons in solar wind, particle interactions rel. to proton heating 7−66418
Alfven waves of finite amplitude, modulational instability theory 7−34855
Alfven-gravity spectrum of an incompressible slab, astrophysical appl. 7−57991
chromosphere and coronal heating, fast magnetosonic surface wave dissipation 7−31969
discrete Alfven waves in planar flux tubes 7−37661
fast sausage waves in mag. slab, solar atm. appl. 7−24102
high-β plasma instabilities excitation at geostationary orbit, Pc 5 generation 7−11644
inhomogeneous plasmas, Alfven modes, ideal MHD eqns. 7−37663
interplanetary Alfvenic fluctuations propagation direction determ., systematic errors 7−47659
interstellar MHD shock waves in mol. clouds, theory for oblique mag. fields 7−66454
ionosphere, duct propag. of short-period MHD wave based on International Reference Ionosphere model 7−66392
ionospheric F_2-layer, MHD waveguide oscills., excitation by geoelectric currents 7−14407
magnetogasdynamic cylindrical shock wave in isothermal gas 7−16270
magnetosphere, generation and propag. mechanisms of low-latit. mag. pulsations 7−55370
magnetosphere, hydromagnetic wave coupling, impulse-excited resonances 7−55380
magnetosphere, MHD waves propag. rel. to low-latit. geomag. pulsations obs. 7−55371
magnetosphere, Pi 2 pulsations damping obs. rel. to Birkeland currents 7−47631
magnetosphere, simulation of Pc 1 mag. pulsations generation 7−66401
magnetospheric Alfven waves, non-uniform ionospheric conductivity effects 7−55381

magnetohydrodynamic waves continued
magnetotail, EM ion cyclotron beam anisotropy instability rel. to left-hand polarised mag. waves 7−66400
normal modes in neutral sheet 7−55383
plasma, whistler wave stimulated Brillouin scatt. off kinetic Alfven waves 7−51440
plasma MHD surface waves in cylindrical finite β plasma 7−26415
plasmons dynamic behaviour in resistive MHD model 7−26406
propagation of magnets-acoustic-gravity waves, solar appl. *(Chinese)* 7−4306
shocks in diffuse interstellar clouds, ζ Oph direction model 7−48035
shocks in diffuse interstellar clouds, molecular production 7−48034
Sun, atmosphere, MHD waves nonlinear propag., nonperiodic behaviour and energy cascade onset 7−66455
T-10 tokamak, H pellet injection effect on discharge characts. 7−1718
tokamak plasma, current generation by asymmetrical heating with Alfven waves 7−51485
turbulent Alfven waves, contrib. to origin of bipolar galactic and extragalactic jets 7−60523
two-ion-species, magnetised plasma, Alfven surface waves 7−1695
Venus, magnetosheath, origin of large-amplitude mag. fluctuations 7−34901

magnetohydrodynamics
see also magnetohydrodynamic conversion; magnetohydrodynamic convertors; magnetohydrodynamic waves; plasma magnetohydrodynamics
accretion disk coronae, mag. loops struct. and stability 7−4431
accretion disks, model of hydromagnetic turbulence in differentially rotating disks 7−18354
astrophysical, appl. of spectral theory and to ideal MHD eqns. 7−34854
astrophysical jets formation, dynamics of rotating magnetised mass accretion 7−55460
astrophysical struct. of Alfven wings assoc. with conductor moving through magnetoplasma 7−23989
bipolar galactic and extragalactic jets, prod by turbulent Alfven waves 7−60523
black hole accretion MHD, entropy accretion rate and moving black hole accretion 7−14599
blood, MHD oscillatory flow through channels of variable cross section 7−28551
boundary layers, heat transfer, Joule heating and transpiration effects 7−37556
Burgers equation, integrability, Painleve test 7−14781
channel flow through porous medium 7−57932
chaotic flow, fast magnetic dynamos 7−37557
chaotic shear flow, resonant fast dynamo 7−20808
comet, stability of sunlit ionopause, sheared MHD flow 7−60599
completely confined porous medium, onset of hydromagnetic thermal convection, stability 7−6205
conducting liq., MHD convection, Hall and wall temp. oscills. effect 7−6206
conducting viscous incompressible flow near anoscillating porous flat plate 7−6322
conduction centrifugal pump based on axisymm. math. model, MHD flow 7−51332
convection, overstability study 7−51333
convection in horizontal magnetic field with periodic boundary conditions 7−4328
convective turbulence with rot. and mag. fields, mixing length theory 7−29388
converging magnetogasdynamic cylindrical shock waves in a uniform atmosphere 7−37552
Couette flow with heat transfer, Hall effects 7−37554
cylindrical MHD pumps, two-dimens. flows 7−51330
cylindrical-symmetric relativistic shock wave with azimuthal mag. field, nonexistence 7−4325
cylindrical-symmetrical relativistic shock wave, motion in presence of axial mag. field 7−4322
cylindrically-symmetrical relativistic shock waves, astrophysical appl. 7−47685
Czochralski crystal puller, modelling of melt motion in axial mag. field 7−53545
differentially rotating perfect fluid stars, stability 7−40796
Earth's mag. field, improved MHD model 7−34383
Earth magnetosheath, MHD turbulence obs. 7−34786
eigenvalue problems, large scale, conference, Oberlech, Austria (July 1985) 7−48189
electrically conducting film flow, rivulet in nonuniform mag. field 7−26356
electrically conducting film flow transverse nonuniform mag. field 7−26355
electricity generation using MHD 7−11556
ferrofluid droplet shape stability in magnetic field 7−6324
ferrofluid jet in mag. field, droplet form. using capillary nozzles 7−37553
fusion-fission hybrid reactor pebble bed blanket, magnetohydraulic flow 7−15366
generalized magnetohydrostatic equilibria 7−37659
geomagnetic core dynamo, for Couette-Poiseuille flow 7−65941
geomagnetic field, MHD model with spatially-dependent conductivity 7−60165
geomagnetism, dissipative structure, laminar and turbulent flow 7−28842
heat transfer in cylinder, temp. distrib., implicit calcs. 7−51324
heat transfer in unsteady MHD Couette flow of electrically conducting viscous incompressible rarefied gas, theory 7−66448
homogeneous uniformly rot. McLaurin spheroid in mag. field, equilib. and stability, stellar appl. 7−47686
hydromagnetic channel flow in inclined magnetic field, Hall effects 7−51334
hydromagnetic convection at a heated semi-infinite vertical plate 7−57933
hydromagnetic cylindrical shock in a rotating gas 7−57934
hydromagnetic free convection flow along porous plate with mass transfer, Hall effects 7−63141
hydromagnetic stability of stratified compressible fluid between two rotating cylinders 7−57936
hydromagnetic Stokes flow in a rotating fluid with suspended small particles 7−44008
ideal rotating fluid in PPN formalism 7−4314
inclined porous channel, viscous MHD flow in the presence of a mag. field 7−6320
incompressible fluid flow, attractors, fractal dimension 7−9677

magnetohydrodynamics continued
- incompressible laminar boundary layer, MHD flow past non-isothermal cone 7—11554
- incompressible laminar boundary layer flow, MHD with heat and mass transfer 7—20806
- incompressible viscous fluid, MHD flow in infinite channel 7—6326
- induction equation in spherical region with boundary, Green's function determ. 7—66445
- induction equation on regions with a boundary, Green's functions 7—1640
- interstellar molecular shocks, S chem. 7—48048
- Jupiter magnetosphere, centrifugal field line breaking and upper limit to Io mass injection 7—66496
- laminar compressible MHD boundary layer at wedge 7—6325
- laminar flow, vortex behaviour 7—63228
- laminar mixing layer in longit. mag. field 7—51048
- Legendre transformation in steady plane MHD flows of a viscous fluid 7—63229
- linear stability of hydromagnetic flow for nonaxisymmetric disturbances 7—63230
- Liouville eqn., real periodic solns. in the μ-representation 7—48318
- liquid metal blanket with nonuniform thickness liner *(Japanese)* 7—16271
- liquid metal blankets with helical veins, MHD flow 7—51325
- magnetic energy dissipation in force-free jets, implications for radio galaxies 7—29391
- magnetic liquid, film flow stability 7—51329
- magnetic liquid, motion in two rot. fields of different polarity 7—51328
- magnetic liquids, hydrodynamic eqns., kinetic coeffs., internal rots. effects 7—51327
- magnetically confined jet, 2D axisymmetric numerical simulations 7—55447
- magneto-gravitational instability of a rotating and finitely-conducting fluid 7—11555
- magnetoconvection, condition for the validity of Chandrasekhar's conjecture 7—51323
- magnetoconvection, interaction between standing and travelling waves and steady states 7—6328
- mathematical structure of test relativistic magnetofluiddynamics 7—61107
- micropolar fluid in magnetic field, laminar free convective heat transfer, suction/injection effects 7—57824
- non-Newtonian fluid, buoyancy effects, magnetic field parameter, magnetisation 7—6257
- nonequilibrium linearised MHD flow over wavy wall 7—63226
- nonlinear gravity waves and capillary waves on surface of infinitely cond. liq., MHD effects 7—44058
- partially open magnetospheres with and without magnetodisks, analytical models 7—55443
- planetary magnetic dynamos, implications of lunar palaeomagnetism 7—34892
- planetary magnetospheres, similarity model illustrating effects of toroidal mag. field and rotation 7—9407
- polydispersed MHD flow in a cylindrical vessel 7—51285
- radiation magnetogas dynamics, shock wave formation, weak discontinuity propag. 7—57935
- radiation magnetogasdynamics in flow behind spherical shock, exact similarity solns. 7—57931
- Rayleigh problem in rotating fluid 7—51320
- resistive MHD, complex eigenvalue spectrum computations 7—51336
- Rivlin-Ericksen fluid MHD flow in open inclined channel 7—1639
- second-order fluid flow through channel with porous walls under mag. field 7—20762
- secondary flow in MHD generator channel with mag. field 7—1635
- self similar cylindrical shock wave in radiating magnetogasdynamics, astrophysical appl. 7—34847
- singularly perturbed systems containing singular manifolds 7—51321
- solar atmosphere, current sheets form. model 7—66539
- solar corona, magnetic energy cascade as heating mechanism 7—60618
- solar corona, struct. and stability of mag. fields from dynamic relaxation anal. 7—55592
- solar flares shock waves, mag. cloud chamber effects rel. to He-enriched plasma cloud 7—4282
- solar magnetic fluxtubes, numerical magnetostatic solns. 7—47804
- solar p-mode oscillations, compressive waves propag. through fibril mag. fields 7—66541
- solar photosphere, force free mag. fields in spherical coordinates *(German)* 7—14549
- solar quiescent prominences, static current-sheet models 7—66540
- solid-state plasma, microwave harmonics, parametric excitation of hypersound 7—38609
- stellar atmospheres, effect of rot. and mag. field on thermosolutal-convective instability 7—14557
- stellar radiative core, magnetic field maintenance 7—40795
- Stokes problem for vertical plate in dissipative fluid with const. heat flux, finite-difference analysis 7—26358
- strong shock wave propag. in medium with exponentially varying density, similarity soln. 7—14481
- Sun, convection zone-radiative interior interface, dynamo theory 7—60526
- system of eqns. on special Riemann manifold 7—65939
- system of eqns. using Riemann theta functions 7—65940
- tearing instability in MHD flows 7—51053
- topological stability of finite-length mag. flux tubes, theory 7—66556
- turbulent MHD flow, correls. containing fluctuations of electrical parameters 7—20807
- turbulent transport of mag. fields 7—60511
- two-dimensional magnetogasodynamical boundary layer flow in aligned mag. field, similarity solns. 7—57937
- unsteady flow in tube of variable cross section in axial mag. field 7—44059
- unsteady MHD flow past vertical porous plate, mass transfer and free convection effects with constant suction 7—54332
- unsteady MHD flow past vertical porous plate, mass transfer and free convection effects with variable suction 7—54333
- viscoelastic Maxwell fluid, MHD oscillatory motion between 2 plates or 2 coaxial cylinders 7—6319
- viscoelastic rarefied gas, MHD natural convection flows, buoyancy effects 7—6321
- viscous fluid, time depend. rotational flow over infinite porous disk with magnetic field 7—26290
- viscous stratified fluid, unsteady flow, variable mag. induction 7—63193
- Von Karman ansatz extension 7—1644
- vortices, interaction, MHD, current layer form. 7—51178
- Hg film flow in transverse nonuniform mag. field 7—26355

magnetohydrodynamics continued
- Hg, film flow rivulet in nonuniform mag. field 7—26356
- Hg layer, rotating, heated from below, subject to mag. field, oscillatory instability 7—16193
- Li flow in transverse magnetic fields, heat transfer and temp. fluctuations, fusion reactor cooling appl. 7—6327
- Li liquid flow through thin walled elbow in uniform magnetic field 7—37555

magnetomechanical effects
- *see also gyromagnetic effect; magnetoelastic effects; magnetoelastic waves; magnetostriction*
- amorphous ferromag. alloys, effects of stress on mag. permeability aftereffect 7—33221
- deformed paramagnetic tetragonal system, field-induced symmetry change in the free energy 7—12324
- ferromag., mag. hysteresis loops, effects of grain size, hardness and stress 7—64482
- polychromatic crystals, mag. props. 7—51683
- steel, Mn pipeline, magnetisation and magnetostriction, effect of stress 7—33256
- steel, Ni-Cr-Mn, ferromag., mag. hysteresis loops, effects of grain size, hardness and stress 7—64482
- steel, stainless, ferromag., mag. hysteresis loops, effects of grain size, hardness and stress 7—64482
- $CeAg_{1-x}In_x$, magnetisation process, strain effects 7—64488
- $CoFe_2O_4$ (100)-textured thin films, anisotropy study 7—7568
- $Co_{71}Fe_4Si_{15}B_{10}$ and $Co_{75}Si_{15}B_{10}$ amorphous alloys, mag. props., stress and annealing depend. 7—33250
- Fe, Armco, H charging, Rayleigh wave attenuation, mag. field effect 7—53107
- Fe, Armco, mag. internal friction, cathodic charging effect 7—17212
- Fe garnet epitaxial films, near a nonmagnetic metallic disk, domain struct., mech. stress effects 7—38922
- Fe, magnetic domain walls, low freq. internal friction *(Chinese)* 7—38898
- Fe, magnetic field effect on wear 7—7582
- Fe-Si (3 wt.%), domain structure and mag. props., influence of plane tension and insulating coatings 7—12991
- Fe-Si (3 wt.%), mag. props., influence of elastic-stress state produced by coatings 7—12990
- $Fe_{81}B_{19}$ amorphous ribbon, averaged spin orientation under uniaxial compression, Mossbauer spectra study 7—45792
- $Fe_{81.5}B_{13.5}Si_{3.5}C_2$, amorphous ferromag. alloy, acoustic waves, mag. field induced changes 7—2917
- $Fe_{77.5}Si_{7.5}B_{15}$ amorphous wires, Barkhausen and Matteucci effects, influence of tensile and compressive stress 7—33254
- LiF, fracture, mag. field effects 7—16675
- Ni, fatigue life in const. mag. field and ultrasonic field, 4.2-273K *(Russian)* 7—46639
- Ni, mag. props., influence of low-temp. US deform. *(Russian)* 7—53878
- Ni, magnetic field effect on wear 7—7582
- Ni-Cr wire, irreversible magnetisation, effect of plastic deformation 7—53041
- $Tb_{0.27}Dy_{0.73}Fe_2$, Terfenol, polycrystalline, domain structures and magnetomech. coupling 7—53025
- $(YBi)_3(FeGa)_5O_{12}$, epitaxial films, mag. bubble lattices, influence of external stresses 7—64503
- YIG films, symmetrical single-mode magneto-optic waveguides, phase matching by stress appl. 7—45972

magnetometers
- *see also magnetic field measurement*
- carrier domain magnetometer, introduction and history 7—18845
- fibre optic magnetometer, polarimetric DC using composite metallic glass resonator 7—14981
- fibre optic magnetometer with magnetic feedback compensation 7—41411
- fibre optic sensors, nonlinear, synchronous sampling demodulation scheme 7—31508
- fibre optic using Mach-Zehnder interferometer 7—18843
- fibre optics mag. field sensor, using magnetostrictive effect *(Japanese)* 7—334
- galvanomagnetic instruments for operation in cryogenic electrical-engineering installations 7—56308
- geophysical exploration magnetometer, compensation display device *(Russian)* 7—30045
- integrated magnetic field sensor based on magnetotransistors 7—48792
- integrated semiconductor magnetic field sensors 7—331
- laboratory magnetometer bench, with shield and regulator 7—30049
- ring laser magnetic sensor, for weak field measurement *(Chinese)* 7—4189
- magnetic field sensors using magnetoresistive effect, review 7—48789
- mu-metal shielded magnetometers use for rock magnetism meas. 7—18179
- optical all fibre magnetometer with mag. feedback compensation 7—25989
- peak height fluxgate magnetometer for small mag. fields meas. 7—48781
- proton magnetic gradiometer for marine surveys *(Chinese)* 7—4188
- proton magnetometer, DPM-1 instrument from USSR for marine surveys 7—40602
- proton magnetometer, intra-cycle build-up to increase accuracy *(Russian)* 7—30046
- sample support rod for vibrating sample magnetometer with temperature control 7—48700
- shear-wave magnetometry using metallic glass ribbon 7—56307
- shipboard-three component magnetometer, characts. and meas. of geomag. anomalies 7—29276
- small sample magnetometers for simultaneous magnetic and resistive meas. at low temp. high magnetic field 7—48788
- SQUID magnetometers, multichannel, flux-transformer crosstalk elimination 7—35541
- SQUID magnetometers for magnetocardiographic data measurement and its movie display *(Japanese)* 7—14073
- SQUID magnetometers for medical and geophysical use *(Swedish)* 7—9849
- susceptometer for thin films and surfaces 7—30047
- variable magnetic field meas. under cryogenic conditions 7—48787
- vibrating magnetometer for magnetic moments of magnetic materials meas., temp. dependences 7—30050
- vibrating sample magnetometer, detection coil system, optimum design 7—56309
- vibrating sample magnetometers, detection coil system, optimum design *(Japanese)* 7—56311
- $Fe_{40}Ni_{40}P_{14}B_6$, amorphous ribbon, magnetoelastic, Matteucci effect meas. *(Spanish)* 7—53103

magnetooptics *see magneto-optical effects*
magnetophotoconductivity *see photoelectromagnetic effects*
magnetoplasma *see plasma*
magnetoplasmadynamics *see plasma magnetohydrodynamics*
magnetoreflectance
polyacetylene:I, metallic, effective mass, magnetoreflection studies 7−64056
Bi, electronic structure, effect of ion implantation 7−45143
$Zn_{0.95}Mn_{0.05}Te$, antiferromag. exchange const. determ., free exciton Zeeman splitting meas. 7−22229
$Zn_{1-x}Mn_xTe$, $x=0.25-0.71$, free exciton state exchange splitting, magnetoreflectance, magnetisation meas. 7−53288
magnetoresistance
see also Corbino effect
2D electron systems, width effect on magnetoconductivity 7−27353
Aharonov-Bohm magnetoconductance oscills. study using nm-scale lithography 7−52836
Anderson model, transport props. at low temps. 7−27311
anisotropic, weak ferromagnets with cubic anisotropy, atomic d-state model calcs. 7−2577
β''- $(BEDT\text{-}TTF)_2AuBr_2$, organic metallic conductor, transport props. 7−45283
β-$(BEDT\text{-}TTF)_2X$ salts ($X=I_3$, IBr_2, AuI_2), magnetoresistance, superconductivity 7−52884
BEDT-TTF radical cation salts, synthesis, conducting and superconducting props. 7−46855
degenerate electron gas in inversion channel, lateral superlattice, magnetoresistance 7−38599
dirty superconductors, weak localisation and supercond. fluctuations 7−64403
disordered metal rings, half-flux-quantum magnetoresistance oscillations 7−45279
four-terminal phase-coherent conductance 7−17001
graphite films, pyrolysed from polyoxadiazole condensation polymer, elec. and thermal props. 7−2736
graphite-AsF_5 intercalation cpd., galvanomag. props. 7−58822
III-V semiconductors, negative magnetoresistance and nonequilib. electron cooling 7−17042
InP, electron-electron interaction, quantum effects, magnetoresist. studies 7−38591
Kondo lattices, magnetoresistance at low temp. 7−2600
magnetic alloys, dilute, negative magnetoresistance; coupling pair model 7−32987
magnetic field sensors using magnetoresistive effect, review 7−48789
magnetoresistive elements, Barkhausen noise meas., magnetoresistive suscept. method 7−48785
metal foils and films, Hall effect and magnetoresistance 7−52575
metal self-similar network, magnetoresistance, periodic oscillating corrections 7−7210
metal wires and loops, asymmetry in magnetoconductance 7−17014
metal-dielectric-metal systems, magnetodynamic nonlinear I-V charactrs. 7−17116
metallic filaments strongly anisotropic 2D system, weak localisation in magnetoresistance 7−45282
metallic glasses, elec. cond. temp. and mag. field depend., localisation and electron interaction effect calcs. 7−2568
metallic glasses, weak localisation, magnetoresistance meas. 7−52574
metallic rings in mag. field, quantum interference, tight-binding approx. 7−52570
metallic thin films, electron scatt. times, magnetoresist. studies 7−64369
metallic wires, transverse conductance fluctuations and mag. field asymm. 7−64205
metals, electroconductivity in const. mag. field, electron relax. time and interactions *(Russian)* 7−32994
metals, transverse magnetoconductivity, dislocation scatt. effects *(Russian)* 7−52547
modulation doped heterostructures, 2D electron gas, transport coeffs., parallel conduction effects 7−2677
p-type semiconds., magnetoresistance, two-band model calcs. 7−27349
Permalloy, thin film sensor, magnetostriction, magnetoresistive response 7−7211
permalloy evaporated films, induced mag. anisotropy, thickness depend. study 7−7562
Permalloy films, field induced uniaxial anisotropy, thickness depend. 7−53086
quasi one-dimensional inversion layers, hopping magnetoconductance fluctuations 7−12868
semiconductor microstructures, Aharonov-Bohm effect 7−58824
semiconductors, magnetic two-phonon resonance involving acoustic phonons 7−45355
semiconductors, magnetophonon resonance of short-wave phonons, anisotropy 7−12744
semiconductors, unoriented cubic, mobility anisotropy coeff. determ. 7−12715
semimetals, high temp. kinetic coeffs. oscills., band struct. and magnetoresist. temp. depend. studies *(Russian)* 7−12738
Si_3N_4 MONOS structures, negative hopping magnetoresist. meas. 7−64357
superconductivity, two- and three-dimensional, interplay with electron localisation 7−64392
superconductors, disordered 2D, interactions and localisation problems, review 7−64178
superlattices, microstructures and microdevices, conf., Goteborg, Sweden (Aug. 1986) 7−35097
thick film chip resistors as low temperature thermometers 7−316
$(TMTSF)_2$ $ClO_4(PF_6)$, high field magnetoresist., quantum effects and phase transitions 7−45301
$(TMTSF)_2ClO_4$, field-induced SDW states in high mag. fields 7−45698
$(TMTSF)_2ClO_4$, mag. field induced phases, phase diagram studies 7−45752
$(TMTSF)_2ClO_4$, organic supercond., field-induced SDW state, oscillatory magnetoresist. 7−27464
$(TMTSF)_2PF_6$, unified phase diagram, magnetotransport data anal. 7−45410
$(TMTSF)_2ReO_4$, quantum oscillations and field-induced transitions 7−45300
$(TMTSF)_2ReO_4$, Shubnikov de Haas oscills. and (0 1/2 1/2) anion ordering 7−45281
transition metal alloys, disordered, localised and extended state coexistence 7−7175
magnetoresistance continued
transition metal compounds, cond. phenomena, intersite correl. and orbital degeneracy effects calcs. *(Russian)* 7−21921
transition metals, resistivity and superconducting transition temp. 7−17013
transport equation for weakly localised electrons 7−7195
transport phenomena, localisation and interactions, conf. Braunschweig, Germany (Aug. 1984) 7−60882
two-dimensional carrier systems, parallel transport 7−52827
two-dimensional electron systems, magnetoconductance, density and mag. field dependences 7−33033
two-dimensional hole systems, magnetotransport *(Japanese)* 7−12826
Ag cylindrical films, weak localisation and oscill. magnetoresistance 7−7414
Al thin films, spin-orbit scatt., localisation and superconductive tunnelling studies 7−45242
AlGaAs-GaAs, selectively doped heterojunctions, energy relax. of 2D electrons, deformation potential constant 7−12801
As-Sb alloys, magnetoresist., thermomag. power and Fermi surface quantum oscills. meas. 7−2578
Au, narrow rings and lines, low-temp. magnetoresist., aperiodic struct. 7−64206
Au-Fe, dil., Kondo system, mag. scatt. time of conduction electrons meas. 7−21902
Au-Pd thin films and wires, localisation and electron-electron interaction effects, magnetoresist. meas. 7−52863
Au-SiO_2-Bi, low temp. hot electron energy relaxation and inelastic collision times in thin metal films 7−27441
AuFe re-entrant spin glass, magnetoresist. and AC susceptibility studies 7−7518
$Au_{60}Pd_{40}$ narrow rings and lines, low-temp. magnetoresist., aperiodic struct. 7−64206
Bi, filamentous single crystals, static skin effect and acoustoelectric instability 7−38644
Bi:Sb, magnetocond. in 13 T mag. field at low temp. 7−7209
$Bi_{1-x}Sb_x$, anomalous magnetoresistance, quantum limit 7−58795
$C_{10}CuCl_2$ intercalation cpd., Shubnikov-de Hass effect, amplitude behaviour *(Russian)* 7−52571
$C_{16}ICl$, intercalation cpd., Shubnikov-de Hass effect, amplitude behaviour *(Russian)* 7−52571
Cd, high pressure magnetoresist. near electronic topological transition *(Russian)* 7−7204
$Cd_{0.2}Hg_{0.8}Te$, galvanomagnetic props., effect of US treatment 7−38593
n-$Cd_{1-x}Mn_xSe$, magnetoresist. and Hall effect meas. near metal-insulator transition 7−12741
CdTe-HgTe superlattices, IR material characterisation, transport phenomena anal. 7−64338
Ce-Cu amorphous alloys, mag. and transport props., Ce-derived anomalies 7−52601
$CeAl_2$, low-temp. high-field magnetoresist. meas. 7−38541
$CeCu_6$, heavy fermion substance, magnetoresistance under press. 7−52579
$CeCu_6$, heavy-fermion material, coherent and incoherent behaviour, Hall effect and magnetoresist. 7−32992
$CeSi_x$, galvanomag. and thermoelec. props. 7−38537
Co-based amorphous alloys, anisotropic electrical magnetoresistivity at 295 K 7−58796
Co-transition metal amorphous films, mag. and galvanomag. props. 7−53079
$CoSi_2$, thin film, electrical transport props. 7−27442
$Cu_{1-x}Ti_x$ metallic glasses, magnetoresist., quantum interference and electron interaction effects 7−2576
$Cu_{44}Ti_{56}$ 3D metallic glasses, magnetoconductivity meas., quantum interference effects calcs. 7−17016
$Cu_{39}Zr_{61}$ 3D metallic glasses, magnetoconductivity meas., quantum interference effects calcs. 7−17016
$Eu(As_{1-x}P_x)_3$, mag. phase transitions, strip line transmission spectra studies 7−64458
Fe-Co-Ni amorphous alloys, anisotropic magnetoresist. studies 7−58793
Fe-Co-Ni based alloys, crystalline and amorphous, magnetoresistance 7−38538
Fe-Co-Ni cryst. alloys, anisotropic magnetoresist. studies 7−58794
$Fe_{80-x}Cr_xB_{20}$ metallic glasses, electron transport props., disorder and mag. effects 7−52563
$(FeM)_{80}B_{14}Si_6$, M=Mn, Mo, V, glass, magnetoresistance 7−64203
$(FeMn)_{80}B_{14}Si_6$ glass, magnetoresistance and magnetisation 7−45354
$(FeMo)_{80}B_{14}Si_6$ glass, magnetoresistance and magnetisation 7−45354
FePd, annealed, transport and thermal expansion props. 7−46512
$(FeV)_{80}B_{14}Si_6$ glass, magnetoresistance and magnetisation 7−45354
$Fe_{92}Zr_8$, mag. susceptibility, elec. resist., magnetoresistance meas. 7−52954
GaAs, electron-electron interaction, quantum effects, magnetoresist. studies 7−38591
GaAs, epitaxial growth, $\delta(z)$ doping layer, electronic states 7−52729
GaAs narrow n^+ wires, universal magnetoconductance fluctuations 7−64272
GaAs, negative magnetoresistance and electron localisation in the region of a metal-insulator transition 7−12737
GaAs submicron $n^+n^-n^+$ multilayers, single impurity-assisted tunnelling 7−38710
GaAs submicron wires, conductance fluctuations in magnetoresistance 7−38597
GaAs/$Al_xGa_{1-x}As$ superlattices, magnetophonon oscills. damping, polar-optical phonon contrib. calcs. 7−27391
GaAs/n-AlGaAs MBE-grown selectively doped heterostructs., 2D electron gas, transport props. 7−21988
GaAs-AlGaAs, noise, localised states, quantum Hall effect 7−45413
GaAs-AlGaAs heterojunction, narrow 2D electron gas, mag. depopulation of 1D subband 7−17080
GaAs-AlGaAs heterostructures, density of states of Landau levels 7−52822
$GaAsAl_xAlGa_{1-x}As$, 2D electron gas, edge depletion width 7−58866
GaInAs/GaAs single quantum well pseudomorphic structs., high electron mobility meas. 7−12841
GaInAs-InP, quantum well structures, adduct MOVPE, photolum., magnetoresist charactn. 7−27388
$Ga_{0.47}In_{0.53}As$/InP heterojunction, chem. beam epitaxy grown, 2D electron gas, Shubnikov-de Haas oscillations 7−12803
$Ga_{0.47}In_{0.53}As$-InP heterojunction, with three electron subbands, hydrostatic press. effect 7−2695
$Ga_{0.47}In_{0.53}As$-InP heterojunction, MOCVD grown, 2D hole gas 7−21992

magnetoresistance continued
- $Ga_{1-x}In_xAs/InP$ heterostructures, MOVPE, electron mobility, exciton peak, magnetotransport 7−58883
- GaSb/InAs/GaSb quantum wells, carrier densities and mobilities, magnetotransport meas. 7−12846
- Ge:Sb, mobility anisotropy coeff. determ. 7−12715
- Ge_xSi_{1-x}-Si strained layer heterojunctions, selectively doped, hole mobilities, temp. depend. 7−7383
- $HfTe_5$, Fermi surface, effective masses, energy bands, determ. from Schubnikov-de Haas effect 7−64051
- n-$Hg_{1-x-y}Cd_xMn_yTe$ high field magnetoresist. and magnetisation, Mn-Mn exchange interaction effects 7−12964
- $Hg_{1-x-y}Cd_xMn_yTe$, Shubnikov-de Haas oscillations 7−21943
- HgCdTe, 0^- giant oscillation near semimetal-semiconductor transition 7−64053
- HgCdTe IR photodetectors, magnetoresist. and cyclotron resonance characterisation 7−64054
- HgCdTe:B, bulk and thin film, resonant impurity levels, magnetotransport studies 7−64162
- $Hg_{1-x}Cd_xTe/CdTe$ superlattices, MBE growth and props. 7−53602
- $Hg_{1-x}Mn_xSe$, zero gap semimag. semiconductor, inversion asymmetry spin level splitting 7−58784
- $Hg_{1-x}Mn_xTe$, Hall coeff., magnetoresist. meas., exchange interaction, field, temp. effects 7−64270
- $Hg_{1-x}Mn_xTe$ LPE crystals, magnetophonon reson. recomb. with phonon emission 7−63755
- $Hg_{1-x}Mn_xTe$, magnetoresist. meas., effect of valence band spectrum quantisation at low temps. 7−52653
- p-HgTe-CdTe superlattices, magnetotransport props. 7−33076
- InAs, electron-electron interaction, quantum effects, magnetoresist. studies 7−38591
- InGaAs/InP single quantum wells, transport and persistent photocond. props. 7−27385
- $In_{0.53}Ga_{0.47}As$-InP, quasi-2D heterostructures, suppression of current filament by mag. field 7−52760
- $In_{0.53}Ga_{0.47}As$-InP heterointerfaces, CV profiling 7−12834
- $In_xGa_{1-x}As$, magnetophonon resonance effect 7−21942
- InP $n^+n^-n^+$ struct., space-charge limited magnetoconductivity 7−45472
- InP, negative magnetoresistance and electron localisation in the region of a metal-insulator transition 7−12737
- InP-SiO_2 interface, electron localisation 7−45514
- InSb, cyclotron resonance harmonics in conduction band, obs. 7−53136
- InSb, electron inversion layers, cyclotron and electron spin resonance 7−38736
- InSb films, preparation of highly sensitive magnetoresistance elements 7−7859
- n-InSb, magnetic two-phonon resonance involving acoustic phonons 7−45355
- InSb/CdTe interface, quasi-2D electron gas obs. 7−21987
- InSb-NiSb eutectic composite, rel. between metal fibre morphology and elec. props. 7−59644
- n-InSe layered crysts., 2D electron gas regions, magnetoresist. meas. 7−45359
- $La_{0.6}Pb_{0.4}Co_yMn_{1-y}O_3$, elec. conductivity, influence of Co ion substitution for Mn 7−45314
- Mg quasi-two-dimensional films, electron localisation and interaction effects 7−7411
- Mg-Fe, dil., Kondo system, mag. scatt. time of conduction electrons meas. 7−21902
- Mo thin monocryst. plates magnetoresist., Al atoms diffusion annealing effects *(Russian)* 7−7408
- $MoSi_2$, high purity monocrystalline metallic cpd., magnetoresistance, resistivity 7−32990
- Nb thin films, T_c suppression and critical fields 7−2762
- Nb-Si films, superconducting fluctuations weak localisation and electron interactions 7−2783
- $NbSe_3$, CDW and magnetotransport, mag. field effects to 230 kG 7−64215
- $NbSe_3$, CDW depinning under mag. field 7−64216
- Ni-B alloy with transition metal additives, amorphous, mag. scatt. influence on transport props. 7−33001
- Ni-Fe films, ion beam sputtered, magnetoresistance props. 7−22033
- NiFe/SiO_2/CoPt multilayer magnetoresistors sensitivity anal. 7−48786
- $Ni_2MnIn(Sn)(Sb)$ Heusler alloys, galvanomag. props. and magnetisation meas., fermi level shift effects 7−7207
- $NiSi_2$, thin film, electrical transport props. 7−27442
- PbS, epitaxial film, weak-field magnetoresistance, multi-valley model *(Korean)* 7−33114
- PbTe, epitaxial film, weak-field magnetoresistance, multi-valley model *(Korean)* 7−33114
- PbTe oxidised disordered films, magnetoresist. quantum oscills. obs. 7−64271
- PbTe-EuTe short period superlattices, props., appl. to laser diodes 7−52785
- $Pd_{58.8}U_{20.6}Si_{20.6}$ alloys, glassy to icosahedral quasicrystalline phase transition, elec. and mag. props. 7−37863
- Pt thin film resistance thermometer, low temp. high mag. field use 7−14941
- PtMn dilute alloy, longitudinal magnetoresist. meas. 7−12700
- Si (100), magnetoconductivity of nonequilib. electron-hole pairs associated with surface charge layer 7−38671
- Si (100) MIS structs., state density of 2D electrons in transverse mag. field 7−12870
- Si (100) with periodic MOS microstructures, dynamic magnetoconductivity of inversion electrons 7−38743
- Si, accumulation layers, quasi-1D transport, strong localisation 7−64359
- Si MOS inversion layers, high field low temp. transport props. *(Chinese)* 7−12862
- Si MOSFETs, weak localisation magnetoresist. in almost quantising mag. fields 7−22024
- Si MOSFETs, weak localisation in isotropic and anisotropic 2D electron gases 7−64172
- Si n-type (100) inversion layers, valley splitting enhancement by lossless edge currents 7−7395
- Si surface, electronic inversion layer, positive magnetoresist. obs. 7−38596
- Si:Au n-n^+ isotype junction, enhanced magnetosensitivity 7−7370
- Si-SiGe strained-layer superlattices, optical and electronic props. 7−53353
- Si_3N_4, amorphous hopping cond. in high elec. and mag. fields 7−64257
- $SmCu_2$ single cryst., high field transverse magnetoresist. meas., Fermi surface determ. 7−52576
- $TiBe_2$, spin-fluctuation material, magnetoresistivity 7−45278

magnetoresistance continued
- UAl_2, spin-fluctuation material, magnetoresistivity 7−45278
- UBe_{13}, elec. resist., Press. and mag. field effects 7−45562
- UBe_{13} superconducting thin films, mag. field studies 7−12928
- $V_3Ga(Au)(Pt)$, superconducting A15 cpds., resistivity and magnetoresistance 7−32982
- VO_2 film, cond., magnetoresist. and nonlinear resist. in strong elec. field, metal-insulator transition study 7−52706
- W, magnetoresistance, crystal with surface defects *(Russian)* 7−32988
- W plates with adsorbed layers, transverse magnetoresist. under static skin effect conditions *(Russian)* 7−45369
- W single crysts., galvanomagnetic props., low temp. Fermi surface local features effects *(Russian)* 7−27320

magnetoresistance, thermal *see thermal magnetoresistance*

magnetoresistivity *see magnetoresistance*

magnetoresistors *see magnetoresistance; resistors*

magnetosphere
- *see also magnetospheric electromagnetic wave propagation; radiation belts*
- 3D magnetopause model involving antiparallel merging 7−47633
- abrupt mag. field changes over polar ionosphere, MAGSAT observations 7−47622
- AKR and maser synchrotron instability 7−47641
- AKR emissions from magnetosphere, satellite interferometric measurements 7−40650
- AKR showing harmonic struct., DE 1 observations 7−55376
- Alfven waves, non-uniform ionospheric conductivity effects 7−55381
- AMPTE artificial comet, study of plasma waves and elec. field 7−9355
- AMPTE artificial comet release, solar wind−Ba ions collisionless coupling 7−60483
- AMPTE Ba^+ ion cloud release expt., just outside magnetosphere 7−23966
- AMPTE Li ion cloud release experiment, shocklike electrostatic noise emissions 7−9357
- AMPTE magnetotail Ba release expt., structuring due to plasma instability 7−66396
- artificial satellites, electric charge build-up in magnetospheric environment, secondary electron yields 7−55415
- aurora showing signatures of magnetosheath plasma transfer 7−9285
- auroral kilometric radiation, cyclotron maser radiation from localized source 7−55372
- auroral kilometric radiation, Prognoz-10 obs. 7−55378
- auroral kilometric radiation, relativistic plasma maser instability theory 7−11694
- auroral zone, permanent flare activity during magnetically quiet periods 7−55379
- auroral-zone ion conic form. mechanism, laboratory obs. 7−44250
- beam-generated electrostatic electron waves 7−47645
- Birkeland current sheet motions and substorm expansion onset 7−9329
- bow shock, dissipative fluid electrodynamics 7−23949
- bow shock, electrostatic potential jump determ. from solar wind ion components meas. 7−34821
- bow shock, microstructure 7−55410
- bow shock, Prognoz 10 BUDVAR meas. 7−55407
- bow shock, Prognoz 10 EPSW meas. 7−55408
- bow shock, Prognoz-10 meas. 7−55406
- bow shock, Vlasov electrodynamics 7−23950
- bow shock layer, Rankine-Hugoniot geometry, currents and stationarity 7−23948
- bow shock wave, charged particle flow fine struct. 7−60475
- bowshock, high Mach number perpendicular shocks with resistive electrons simulation 7−6391
- bowshock, upstream particle injection event of magnetospheric origin 7−60477
- bowshock measurements and Prognoz-10 orbit characts. 7−55416
- charged particle fluxes in S Atlantic mag. anomaly effect of plasma pitch-angle and radial diffusion 7−4275
- charged particle motion in magnetotail, analytical theory 7−9335
- charged particles motion in superposed dipole and uniform mag. fields, allowed region 7−14482
- conducting body moving through magnetoplasma, plasma wave generation 7−9369
- conductor motion through magnetoplasma, assoc. Alfven wings struct. 7−23989
- convective flows and spatial gradients determ. methods 7−9230
- cosmic ray variation rel. to D_{st} field 7−4279
- critical ionization phenomena and dissociative electron-ion recombination 7−55377
- current-driven double layers, field-aligned current density and pot. difference 7−34802
- cusp latitude correl. to IMF B_z and AE index 7−9333
- dayside magnetopause, flux transfer events and multiple X-line reconnection 7−44126
- dayside magnetopause, flux transfer events particle simulation 7−44127
- dayside magnetopause, Kelvin-Helmholtz instabilities contrib. to Pc 3-4 energy 7−60493
- deep geomagnetic tail, ISEE-3 energetic ion results (EPAS) 7−29367
- double layers simulation, model of auroral circuit 7−9297
- drift kinetic magnetosound-Alfven mode instability at the magnetopause *(Chinese)* 7−55368
- electric field generation mechanism, for region near magnetopause 7−34790
- electric field vars., effect on plasmasphere structure 7−66399
- inductive electric fields, estimation from whistler and ionosphere data 7−4270
- electron distribution function and radial diffusion coeff., meas. at $L=1.2$ to 1.4 from Interkosmos-19 data 7−34805
- electron distributions of north and south polar cap regions, electron precipitation processes 7−9300
- electron energy spectra and electrostatic cyclotron waves during diffuse auroras, coordinated obs. 7−34763
- electron precipitation at polar cusp, near-conjugate observations by DE 1 and DE 2 satellite 7−29347
- electrostatic ion cyclotron waves of collisional type, Q machine expts. 7−55375
- electrostatic potential at large-scale in auroral plasma, numerical BGK calcs. 7−23945
- electrostatic shocks as nonlinear ion acoustic waves, model 7−29365
- electrostatic wave trapping near magnetospheric equator, dispersion eqn. soln. 7−34788

magnetosphere continued
ELF hiss propagation inside and outside plasmasphere, statistical study from GEOS-1 obs 7—34787
EM fluctuations in vicinity of magnetopause 7—40648
EM ion beam instabilities growth at cyclotron harmonic wave numbers 7—60489
EM source field geometry, effect on EM induction in Earth 7—28821
energy regimes 7—40651
energy source for Birkeland currents 7—55347
fast neutral atoms emission and effects on solar wind, cometary exosphere analogue 7—55521
flux transfer events at magnetopause, influence on polar ionosphere 7—40632
forced oscillations, obs. and plasma characts. 7—47646
foreshock, energetic O$^+$ burst during upstream particle event 7—60476
foreshock, solar wind perturbation 7—9322
compressional foreshock boundary, ISEE 1 magnetometer observations 7—9330
foreshock region, solar foreshock coordinate system 7—9330
general aspects (book) 7—48216
geomagnetic activity, connection between characteristic parameters of solar and geomag. 11-year cycles 7—18114
geomagnetic activity, longit. distrib. of C9 index rel. to solar mag. field 7—18400
geomagnetic activity prediction on 1 to 10 year time scale, review 7—23956
geomagnetic effects caused by plasma blob motion 7—34792
geomagnetic pulsations at low latits., exptl. aspects 7—55371
geomagnetic tail, field lines geometry 7—37653
GEOS-2 satellite, long-term behaviour of photoelectron emission from elec. field double probe sensors 7—66426
geosynchronous region, bounce-phase bunched ion distrib. model, elec. field effects 7—47639
ground-level magnetic fields of ULF pulsations at the plasmapause 7—34806
hydromagnetic wave coupling, impulse-excited resonances 7—55380
IMF B$_y$ role in generation of elec. field responsible for cross-cap flow 7—60494
interchange instability 7—60588
internal magnetic field strength anticorrelation with transient external mag. field strength 7—66395
interplanetary magnetic field effects, laboratory simulation 7—29370
ion acoustic double layers in auroral plasma 7—66387
ion beams in plasma sheet boundary layer, model 7—66397
ion heating by waves with freqs. below the ion gyrofrequency 7—40633
ionosphere-magnetosphere coupling studies, recent advances 7—23939
ionospheric ion acceleration and transport to plasma sheet 7—23928
ISEE-3 Geotail Mission, suprathermal ion and electron results 7—29368
K-index generation by computer from digital data 7—47635
Kelvin-Helmholtz instability of structured plasma layer 7—55382
large bulk ion conic heating region 7—47632
LF electrostatic waves assoc. with auroral kilometric radiation, generation 7—47640
longitudinal electrostatic field formation on auroral lines of force, role of cold ionospheric plasma 7—34766
low latitude discrete chorus emissions and VLF hiss 7—55355
low-latitude magnetic pulsations, generation and propag. mechanisms 7—55370
magnetic activity and solar wind speed since 1500 AD 7—9356
magnetic field obs. in magnetotail, ISEE-3 Geotail Mission results 7—29369
magnetic flux tube emptying by upward-flowing current 7—14418
magnetoacoustic oscills. excitation mechanism and dynamics in bow shock 7—44173
magnetopause, appl. of microscopic stress nonequilib. theory 7—34785
magnetopause, field-twisting flux tubes and solar wind particle entry 7—9319
magnetopause, stability of rotational discontinuity *(Chinese)* 7—4267
magnetopause compression following 1982 July 13 interplanetary shock 7—47643
magnetopause crossings by UKS magnetometer, flux transfer events 7—55386
magnetopause for large magnetic shear, AMPTE and IRM observations 7—23951
magnetopause neutral points location in static MHD equilib. model 7—34798
magnetopause region, intense EM fluctuations at ULF freqs. 7—40648
magnetosheath, characts. of energetic electron fluxes during enhanced geomag. activity 7—4273
magnetosheath, MHD turbulence obs. 7—34786
magnetosheath, solar wind C, N and O ion abundances measured by AMPTE/CCE 7—9318
magnetotail, broad-band electrostatic waves, review 7—60481
magnetotail, broadband noise generation by beam acoustic instability 7—34801
magnetotail, EM ion cyclotron beam anisotropy instability rel. to left-hand polarised mag. waves 7—66400
magnetotail, energetic particle pulses statistical props. *(Chinese)* 7—4268
magnetotail, plasma and mag. field var. assoc. with substorms 7—60486
magnetotail, plasma dynamics and mag. fields *(Russian)* 7—9321
distant magnetotail, structural and dynamical aspects from ISEE-3 plasma meas. 7—29366
magnetotail magnetosheath, storm sudden commencements correl. to triggered particle bursts 7—55374
magnetotail plasma sheet, comp and plasma props. 7—34789
magnetotail reconnection, effect of external elec. field 7—9323
magnetotail reconnection models with field-aligned plasma flow 7—23952
MHD waves in neutral sheet 7—55383
midday auroral oval, rocket meas. of electron influx 7—55349
multiple auroral arcs and Birkeland currents, evidence for plasma sheet boundary waves 7—9320
nonlinear ion heating in magnetized plasma by monochromatic low-frequency waves 7—58034
north-south asymmetry of geomag. activity, effect of By-component of interplanetary mag. field 7—9336
P78-2 (SCATHA), boom potential in sunlight at geosynchronous altitudes 7—34827
Pc 1 pulsations generation, simulation using two coupled ordinary oscillatory differential eqns. 7—66401
Pi 2 oscillations, polarization characts. 7—55384

magnetosphere continued
Pi 2 pulsations, anomalous damping obs. rel. to Birkeland currents in magnetosphere 7—47631
plasma, whistler wave stimulated Brillouin scatt. off kinetic Alfven waves 7—51440
plasma behaviour near geosynchronous orbit 7—60480
plasma blob motion influenced by geomagnetic effects 7—34792
plasma boundaries in the inner magnetosphere 7—9324
plasma diagnostics 7—14510
plasma EM wave linear mode conversion 7—37686
plasma sheet, effect of solar wind mag. fields 7—14419
plasma sheet, permanent flare activity during magnetically quiet periods 7—55379
plasma sheet boundary layer, thermal catastrophe and substorms 7—60478
plasma sheet boundary layer waves 7—9320
plasmapause, bi-Maxwellian transport eqns. for SAR arcs 7—55365
plasmapause, elec. field and convection characts. at midnight 7—34770
plasmapause, electron density var., GEOS-2 obs. 7—60449
plasmapause effects on impulse-excited resonances; MHD wave coupling 7—55380
plasmasheet boundary, field-aligned plasma flow generation 7—60488
plasmasheet boundary layer, slow mode shock struct. 7—60487
plasmasphere, electron temp. vars. along geomag. field lines rel. to electron density profiles and VLF paths 7—4258
plasmasphere, flux tube refilling after mag. storm, temporal features 7—47623
plasmasphere hiss and VLF chorus initiating radiation belts slot region electron precipitation 7—9325
plasmasphere-ionosphere coupling, nearly conjugate dual-spacecraft measurements 7—29348
plasmasphere-ionosphere plasma transport 7—14409
plasmosphere, H$^+$ and He$^+$ flow along mag. field lines 7—9299
inner plasmsphere, substorm introduction of 1 keV magnetospheric ions 7—23941
intense polar rain, polar cap and magnetotail obs. and acceleration processes 7—23940
intense polar rain occurring symmetrically in both hemispheres and solar wind interaction 7—29356
polar region, parabolic heavy iron flow 7—60455
proton interaction with electrostatic VLF waves, as precipitation mechanism 7—34807
pulsating aurora and absence of hydromagnetic waves in conjugate equatorial magnetosphere 7—55358
quasi-electrostatic half-electron-gyrofrequency VLF emissions 7—4272
radiation belt electron fluxes, observations made by satellite semiconductor telescopes *(Chinese)* 7—4269
radiation belt protons, spatial distrib. at high and low latits. 7—4274
reconnection model, magnetic and electric field behaviour 7—14414
resonance frequency of magnetic force lines, measurement using gradient method 7—55369
small plasma beams and clouds transverse deflection and dissipation 7—60484
solar wind coupling, role of drift kinetic magnetosound-Alfven mode instability *(Chinese)* 7—55368
solar wind influence, conf., Prague, Czechoslovakia (Aug. 1985) 7—60860
solar wind interaction, limits on energy transfer through dayside merging 7—47636
solar wind interaction, Primdahl-Spangslev hypotheses definitive test 7—14420
solar wind interaction, relation to aurora borealis and aurora australis *(French)* 7—60439
solar wind interaction during southward IMF, MHD simulation 7—9332
solar wind interactions, review *(Russian)* 7—40663
standing waves struct., elec. and mag. field obs. 7—9326
stochastic instability of charged particles in geomag. trap, theory 7—34804
storm sudden commencement disturbance propag. 7—60492
storm-time magnetic field reconfiguration, contrib. to strong precip. of energetic protons 7—9316
structure and characteristics *(Italian)* 7—60622
sub proton-gyrofrequency waves in multicomponent plasma in mag. field 7—63266
synchronous orbit electron injections, fine struct. and pitch angle depend. 7—47638
tail, chaotic particle dynamics near 2D mag. neutral point 7—34799
tail, energetic ion enhancements assoc. with travelling compression region 7—60485
tail, ion tearing mode simulations with open boundary conditions 7—34800
tail lobe magnetic field strength rel. to Kp by empirical relation 7—9331
transverse magnetic fields, time-depend. plasma interaction 7—60527
ULF-modulated electrostatic wave 7—47644
upgoing auroral H$^+$ and O$^+$ ion beams, wave-particle interactions 7—9306
Van Allen radiation belts, high-energy electrons and positrons, charge composition meas. 7—4276
VLF wave generation upon appearance of anomalous resistance 7—34791
wave processes *(Russian)* 7—9298
wave-particle interactions in outer trapping and morningside auroral regions, model 7—55373
whistler-mode waves, polarisation of half-gyrofrequency waves in two-component plasma 7—34803

magnetospheric electromagnetic wave propagation
1.91 MHz echoes from mag. conjugate point after propag. through magneto-ionic duct 7—60496
cyclotron harmonic waves, propagation paths in mag. meridian plane 7—9313
ELF hiss propagation inside and outside plasmasphere, statistical study from GEOS-1 obs 7—34787
EM filamentation instability 7—37691
half-gyrofrequency whistler-mode waves in magnetospheric plasma 7—60495
high-altitude auroral zone, ray tracing of Z-mode emissions from source regions 7—47642
left circularly polarized wave instability, for cold and hot ion plasma 7—34796
magnetospheric VLF radio waves spectral estimation, one-bit correlation method 7—9337

- **magnetospheric electromagnetic wave propagation** continued
  - plasmasphere, electron temp. vars. along geomag. field lines rel. to electron density profiles and VLF paths 7—4258
  - radio windows in ionosphere and magnetosphere, theory 7—4255
  - ray scattering in gyrotropic medium, theory 7—9294
  - VLF emissions at mid-latitude, statistical characts. 7—55387
  - VLF quiet band phenomena observed during conjugate VLF signal propagation study 7—34797
  - whistler at low latitudes, automatic obs. of polarisation, meas. and tracking equipment *(Japanese)* 7—34749
  - whistler dispersion, semi-annual and annual vars. meas. 7—14410
  - whistler mode waves and scatt. of energetic electrons 7—60490
  - whistler nonneutral envelope solitons, charge separation effects 7—37692
  - whistler waves and ion-cyclotron waves interaction 7—60482
  - whistler-mode waves, polarisation of half-gyrofrequency waves in two-component plasma 7—34803
  - whistlers, wintertime propagation characts., for N China observations *(Chinese)* 7—4265
  - whistlers at low-latitude, path latitude and critical low-latitude cut-off *(Chinese)* 7—4266
- **magnetostatic fields** *see magnetic fields*
- **magnetostatic wave devices**
  - YIG double-layered films, thermal detection of FMR, microwave freq. appls. 7—45766
  - YIG film, nonuniformly magnetised, group delay characts. of magnetostatic forward vol. waves 7—45764
- **magnetostatic waves**
  - anisotropic magnetic multilayers, magnetostatic surface spin wave spectra calcs. 7—45762
  - antiferromagnetic superlattices with magnetisation perpendicular to surface, collective excitations, magnetostatic theory 7—45647
  - Fe-Si multilayered thin films, stacking structs., magnetostatic coupling and layer boundary interdiffusion 7—7574
  - ferrite slab with domain struct., EM waves *(Russian)* 7—2920
  - ferrite thin film Z 7—22129
  - ferrites, magnetostatic wave excitation and propagation 7—33156
  - ferromagnetic single-domain films with inclined anisotropy axis, magnetostatic spectrum 7—53092
  - ferromagnetic superlattices with magnetisation perpendicular to surface, collective excitations, magnetostatic theory 7—45647
  - ferromagnetic systems with linear magnetoelectric props., dipolar waves 7—45645
  - ferromagnetic two-layer films, surface magnetostatic waves 7—13009
  - film, ferromag., backward bulk magnetostatic wave propag. by grating formed by ion implantation 7—53093
  - finite ferromagnetic slab, nonlinear spin ware dynamics and surface magnetostatic wave dispersion, averaged Lagrangian method *(Russian)* 7—17181
  - surface magnetostatic wave, space-frequency dependence of energy flux 7—33158
  - surface wave, magnetostatic, excitation by coplanar transducer 7—22102
  - $Bi_xLu_yY_{3-x-y}Fe_5O_{12}$, ferrimagnetic garnets characterisation for MSW optical diffr. 7—13040
  - $Y_3Fe_{5-y}Ga_yO_{12}$ garnet films, magnetostatic wave props. 7—52958
  - YIG epitaxial film, magnetic grating, Raman-Nath diffr. of surface magnetostatic waves 7—58999
  - YIG, ferrimagnetic garnets characterisation for MSW optical diffr. 7—13040
  - YIG film tangentially magnetised dielec. layered struct., nonlinear magnetostatic wave mixing *(Russian)* 7—45649
  - YIG films, low dose ion implanted, magnetostatic backward vol. waves 7—45765
  - YIG films, tangentially magnetised, magnetoelastic effects 7—22130
  - YIG LPE films, mag. mode fine struct. *(Chinese)* 7—13007
  - YIG, LPE films, microwave magnetostatic waves, magnetic induction probe studies 7—58996
  - YIG:Ne^+ ferrite films, surface magnetostatic wave damping, ion implantation effects *(Russian)* 7—33242
  - YIG/ferroelec. struct., surface magnetostatic wave propag. charact. meas. 7—52965
  - ZnO-YIG-$Gd_3Ga_5O_{12}$ surface magnetostatic wave scatt. by SAW 7—64507
- **magnetostatics**
  - 2D electrostatic and EM problems, general interactive finite element package 7—62569
  - 3D FEM of mag. field intensity, computer verification 7—25700
  - axisymmetric conductors, magnetostatic fields, Fe effects, Legendre polynomial expansion 7—62567
  - azimuthally-periodic current distribs., mag. field calcs. 7—50446
  - double-layer film, magnetostatic energy and coupling 7—59072
  - films, magnetisation distrib. and magnetostatic energy at film edge 7—59073
  - inverse nonlinear finite element problems 7—42838
  - leakage fields of surface defects, math. model and defect size determ. applic. 7—39819
  - magnetostatically couple film edges, magnetostatic energy formula calcs. 7—45769
  - micromagnetics, field Lagrangians 7—50450
  - multipole, constraint relations among partial harmonic potentials 7—57203
  - permanent magnets, multipole, mag. fields calc. 7—30044
  - YIG:La,Ga-YIG:La double layered film, different magnetisation and anisotropy, magnetostatic mode spectra 7—64498
- **magnetostriction**
  - alloy film, magnetostrictive, on glass substrate, magneto-SAW propag. 7—22127
  - amorphous ferromag. alloys, effects of stress on mag. permeability aftereffect 7—33221
  - amorphous films, magnetic anisotropy field, elastic deform. effect *(Russian)* 7—38914
  - amorphous ribbons, magnetostriction meas., SAMR method, anisotropy effects study 7—7580
  - ferrite powders, RF echoes investig. *(Russian)* 7—22162
  - ferromagnets, amorphous and crystalline, magnetostriction theory 7—13013
  - magnetic struct. phase transitions in antiferromagnets, exchange magnetostriction 7—38863
  - magnetoelastic amorphous metals, coupled mode anal., appl. for sensor performance characterisation 7—33253
  - magnetoelastic waves in a conductive thin magnetostrictive slab 7—27588
  - magnetostriction values from stress depend. of Young's modulus 7—33251
- **magnetostriction** continued
  - metallic glass ribbons, small angle mag. rotation under tensile and compressive stresses 7—2919
  - Permalloy, thin film sensor, magnetostriction, magnetoresistive response 7—7211
  - Permalloy thin films heads, RF sputtered, mag. props. 7—33235
  - steel, C, inverse magnetostrictive effect and electromagnetic nondestructive testing methods 7—13714
  - steel, Mn pipeline, magnetisation and magnetostriction, effect of stress 7—33256
  - stressed materials, magnetostriction, finite element anal. 7—59098
  - $(TMTSF)_2PF_6$, metal-insulator transition, lattice expansion 7—64086
  - Bi, chemical pot. of electrons, effect of mag. field 7—38682
  - Co-based metallic glasses, magnetic aftereffect and magnetostriction studies 7—27571
  - Co-based metallic glasses, flash annealing under stress 7—52971
  - Co-Cr thin films, mag. props. and microstructure 7—27514
  - Co-Fe-V-Si-B metallic glass, Co-rich, temp. and annealing dependences of magnetostriction const. 7—33255
  - Co-rich amorphous ferromag. alloys, aftereffect of mag. permeability 7—33223
  - Co-rich metallic glasses, magnetostriction, anomalous temp. depend., single ion model 7—33261
  - Co-transition metal amorphous films, mag. and galvanomag. props. 7—53079
  - Co-Zr amorphous films, low energy ion beam sputtering, mag. props. 7—53081
  - $Co_{0.55}Cu_{0.45}Cr_2S_{4-y}Se_y$ spinels, X-ray diffr. study 7—44475
  - $Co_{71}Fe_4Si_{15}B_{10}$ and $Co_{75}Si_{15}B_{10}$ amorphous alloys, mag. props., stress and annealing depend. 7—33250
  - $(Co_{1-x}Ni_x)_{75}Si_{15}B_{10}$ amorphous alloys, magnetostriction and other mag. props. 7—45787
  - CoTi-CoNb amorphous alternating layers, magnetic and diffusional props. study 7—7563
  - CrAs, local spin density and paramagnetic susceptibility 7—38844
  - $Dy_{0.73}Tb_{0.27}Fe_2$ alloys, magnetomechanical coupling 7—45788
  - Er-H solid soln., mag. props., H addition effects 7—7510
  - Fe, thermal expansion, electron correl. effects 7—2238
  - Fe-Al(Si) cold-rolled nonbrittle powder strip prep., texture and mag. props. 7—46370
  - Fe-based metallic glasses, magnetic aftereffect and magnetostriction studies 7—27571
  - Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, prep. 7—27908
  - Fe-Ni glassy alloys magnetostriction values from stress depend. of Young's modulus 7—33251
  - Fe-Sc amorphous alloys, Curie temp., mag. moment and magnetovolume effects 7—33172
  - Fe-Si, polycrystalline, magnetisation, domain struct. and magnetostriction *(Russian)* 7—59051
  - Fe-Si (3 wt.%), domain structure and mag. props., influence of plane tension and insulating coatings 7—12991
  - Fe-Si (3 wt.%) bicrystals, domain struct. and magnetisation 7—12992
  - Fe-Si (33 at.%), amorphous films, mag. anisotropy, effect of crystn. and deform. *(Russian)* 7—53088
  - Fe-Si electrical sheet steel, magnetostriction variations meas., ponderomotive force influence 7—13012
  - Fe-Si-Al alloy single crystals, mag. props. *(Japanese)* 7—22104
  - Fe-Si-Al films, magnetoelastic effect and anisotropy fields 7—59071
  - $Fe_{81.5}B_{14.5}Si_4$, amorphous, mag. hyperfine fields under stress, Mossbauer study 7—22166
  - $FeCl_2$, magnetostriction, X-ray diffr. meas. 7—33258
  - $Fe_{14}Nd_2B$ magnets, high-field magnetostriction 7—53104
  - $Fe_{50}Ni_{50}$, Deltamax, magnetic ribbons, inverse Wiedemann effect for very low torsions 7—45786
  - $(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, ferromagnetism onset, magnetovolume effect study 7—2845
  - $Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, magnetic ribbons, inverse Wiedemann effect for very low torsions 7—45786
  - FePGa, amorphous, magnetoelastic props. 7—27591
  - FeSi, low temp. magnetostriction meas. 7—45790
  - $Fe_{77.5}Si_{7.5}B_{15}$ amorphous wires, Barkhausen and Matteucci effects, influence of tensile and compressive stress 7—33254
  - Gd-Tb alloys, temp. depend. of magnetostrictive coeffs. 7—64505
  - $Li_{0.5+0.5X}Ti_x$ $Fe_{2.5-1.5x}O_4$, dilute ferrite spinels, spontaneous magnetisation, anomalous temp. depend. 7—45739
  - Mn-Sn, homogenised, mag. props., thermal expansion 7—2900
  - $Mn_xFe_{1-x}Si$ solid solns., thermal expansion 7—6835
  - $Nd_2Fe_{14}B$, magnetic props., H_2 absorption effects 7—38906
  - Ni dislocation structure evolution during creep, alternating mag. field effects study *(Russian)* 7—58286
  - Ni, thermal expansion, electron correl. effects 7—2238
  - Ni-Fe-In ternary Permalloy electroplated films, mag. props. and thermal stability 7—33236
  - $Ni_{1-x}Co_xFe_2O_4$ polycryst. magnetostrictive ferrite, long-term bulk acoustic wave memory 7—59099
  - $Tb_{0.27}Dy_{0.73}Fe_2$, twinned [112] crystals, magnetostriction 7—53105
  - $(Tb_{1-x}Y_x)_3Co$, magnetoelastic interactions and thermal expansion *(Russian)* 7—17211
  - $Y_2Fe_{14}B$, magnetic props., H_2 absorption effects 7—38906
  - $(YSmLuGd)_3(FeGa)_5O_{12}$ garnet film struct. and mag. props., mag. bubble memory appls. *(Japanese)* 7—7575
- **magnetostrictive devices**
  - fibre optic magnetometer, polarimetric DC using composite metallic glass resonator 7—14981
  - magnetic field sensor utilizing fibre optics and magnetostrictive effect *(Japanese)* 7—334
  - ponderomotive force influence in magnetostriction meas. 7—13012
  - surface magnetoelastic wave excitation by meander-line transducer 7—62936
  - ultrasonic transducer bodies and matching stubs construction *(Rumanian)* 7—20552
- **magnetostrictive microphones** *see microphones*
- **magnetostrictive transducers** *see magnetostrictive devices; transducers*
- **magnetothermal effects** *see magnetocaloric effects*
- **magnetovolume effects** *see magnetomechanical effects*
- **magnetron sputter deposition** *see sputter deposition*

magnetron sputtered coatings *see sputtered coatings*
magnetron sputtering *see sputtering*
magnetrons
E×B type devices, discharge phenomena *(Japanese)* 7—51539
electron gun for ultrasoft X-rays generation 7—30115
hollow oval magnetron for large-area low-energy ions 7—6404
induced drift currents in circular planar magnetrons 7—63260
injection locked magnetron, phase noise meas., Doppler weather radar system appl. 7—30042
S-band, inverted, intense single-pulse microwave sources diagnostics 7—9845
Varian-NCSU relativistic magnetron, initial test results 7—30043
magnets
see also electromagnets; permanent magnets; superconducting magnets
thermodynamic potential technique, appl. to magnet props. investig. 7—41327
magnon-phonon interactions *see phonon-magnon interactions*
magnons
see also phonon-magnon interactions; spin waves
anisotropic spin chain, magnon bound state energy and wave functions, Dzyaloshinskii interactions *(Russian)* 7—7500
antiferromagnet, anisotropic electron fluid, magnon spectrum and attenuation 7—59000
antiferromagnet, magnon dynamic and kinematic interactions 7—64447
antiferromagnetic chain, soliton dynamics 7—52998
antiferromagnets, parametric magnons, effect on spectra of other quasiparticles 7—52967
bis(methylammonium) copper tetrachloride, ferromag., parallel-pumped magnons, deterministic chaos obs. 7—52962
conducting antiferromagnets, collective excitations *(Russian)* 7—58998
ferromagnetic chain, soliton dynamics 7—52999
ferromagnetic semiconds., Cherenkov spin wave amplification calcs. 7—52957
ferromagnetic semiconductors, hot magnons 7—22099
ferromagnetic superconductors, superlattices formed by coherent light beams 7—2622
ferromagnets, electron and nuclear spin wave attenuation coeffs., scatt. by two-level systems *(Russian)* 7—27508
ferromagnets, nuclear spin-lattice relax., one-magnon process effects *(Russian)* 7—33284
Heisenberg ferromagnetic chain, bound states, correl. functions 7—64474
hexagonal perovskites, antiferromag., magnetoelastic interaction *(Russian)* 7—33248
Hubbard model, 3-D, d-wave pairing near a spin-density-wave instability 7—45608
intersubband *s-d* exchange absorption of spinwaves in ferromagnetic conductors 7—7499
itinerant ferromagnets, electron and magnon spectra, spin fluctuation effects, dynamical suscepts. calcs. *(Russian)* 7—12960
magnetic chains, anisotropic, of arbitrary spin, Bethe ansatz for two-magnon bound states 7—53015
magnetic insulators, light absorpt. by intersublattice charge transfer 7—46065
metallic superlattices, long wavelength bulk and surface spin waves 7—2835
metals, ferromagnetic, long-wavelength magnon relax. 7—64446
noncollinear mag. material, antiferromag. mode relax., magnon damping *(Russian)* 7—7498
one-dimensional Heisenberg antiferromagnet, soft modes 7—2832
quasi-1D mag. systems, impurity low lying states *(Russian)* 7—52975
rare earth mag. materials, hyper-Raman light scatt. by spin subsystem oscillations 7—7688
s-f model with antiferromag. s-f exchange 7—45653
shear SAWs in region of spin-reorientation phase transition 7—38921
tetrachlorobis(ethylammonium)copper(II), antiferromag. spin wave freqs., parallel pumping 7—58997
transition metal fluorides, mixed, Raman scatt. by localised and magnon modes 7—46027
$BaFe_{12}O_{19}$, Bloch domain boundary, Neel boundary transition in mag. field, NMR study *(Russian)* 7—33195
$BaMnF_4$ magnetic system with linear magneto-elec. coupling, electromag. mode calcs. 7—45791
Co-Cr films, mag. parameters, Brillouin light scattering study 7—53357
CoF_2, antiferromag. insulator, H-odd linear dichroism of exciton-magnon transitions 7—53282
$CsFeCl_3$, quasi-one-dimensional ferromag., mag. field effects on optical spectrum 7—3026
$CsMnF_3$ antiferromagnet, parametrically excited magnon redistrib. and chaos 7—17167
EuSe ferromagnet, ^{151}Eu and ^{153}Eu NMR lineshape, mag. field depend. 7—22151
$Eu_xSr_{1-x}S$ mag. sp. ht., field and temp. depend., numerical simulation 7—2883
$FeBO_3$, antiferromagnet, parametric excitation of magnons with a decay spectrum 7—52966
$FeTiO_3$, oblique easy-axis antiferromag. neutron scatt. study of mag. excitations 7—45643
He^3, solid, spin-wave region reson. freq., magnon corrections calcs. 7—52185
K_2CuF_4, 2D ferromagnet, polarised neutron studies of forbidden magnons 7—45693
MnF_2, light scatt. from magnons 7—45996
Pr, longitudinally polarised antiferromagnetic phase, magnetic excitations, neutron scatt. interpretation 7—64445
$Rb_2Mn_{0.7}Cr_{0.3}Cl_4$, randomly disordered mag. system, mag. cluster excitations and wave-like magnons 7—38881
YIG, charact. of chaotic states of parallel-pumped magnons 7—52961
YIG single crysts., FMR linewidth, parametrically excited spin wave effects 7—2828
Magnus effect *see fluid dynamics*
maintenance *see maintenance engineering*
maintenance engineering
biomedical electronic instruments safety and testing Electrotechnical Testing Institute practices *(Czech)* 7—18090
Calder Hall, safety, inspection and maintenance 1956-86, review 7—56809
CANDU reactor, fuel channel replacement program 7—10269
conf., Austin, Texas, USA (Nov. 1985) 7—14703
Creys-Malville (France) nuclear power station maintenance QA *(French)* 7—25127
maintenance engineering continued
electric power industry Inter-RAM conference, Syracuse, NY, USA (June 1986) 7—9592
Forsmark-2 PWR, preventive maintenance during operation 7—15282
FRG nuclear fuel reprocessing plant, remote maintenance aspects, manufacturer's viewpoint 7—49559
German BWRs, experience in exchanging recirculation, class 1 piping systems 7—49574
heat pump service life and compressor survival in northern climate 7—23212
Lepreau nuclear power station, innovative measures in operation, maintenance, commissioning and staffing 7—10251
McGuire Nuclear Station, reliability centred maintenance of feedwater system 7—36207
mobile robot use in nuclear power plants, TMI-2, Hope Creek, Salem 7—49613
Monticello BWR, technical feasibility of life extension, preventative maintenance 7—30599
nuclear fuel pin weighing system, remote maintenance design considerations 7—49548
nuclear plant components, welding advances 7—30638
nuclear power plant availability improvement by reactor trip prediction software 7—10275
nuclear power plant operation simplification by reliability data collection 7—10276
nuclear power plant Risk Management Query System 7—15291
nuclear power plants, Bechtel automated control of design document data 7—36092
nuclear power plants, in-service maintenance, economic aspects *(German)* 7—61987
nuclear reactor fuel cladding repair, CO_2 laser welding appl. *(Japanese)* 7—15243
reactor pressure vessel manipulators, functions and basic concepts *(German)* 7—56807
TFTR, maintenance manipulator development 7—19431
TOR fast reactor fuel reprocessing facility, integrated remote handling system 7—49558
Majorana forces *see nuclear forces*
majority algebra *see algebra*
Malter effect *see secondary electron emission*
mammography *see diagnostic radiography*
man machine interfaces *see user interfaces*
man-machine systems
see also ergonomics; user interfaces
human factors, conf., Dayton, OH, USA (Sept.-Oct, 1986) 7—35114
human prosthesis systems, control properties 7—18095
incident control, simulation of man machine interaction 7—15287
task difficulty effects on steady state visual evoked response 7—54544
upper arm prosthesis, intelligent control system *(Chinese)* 7—60127
management
see also DP management; management science; research and development management
Duke Power Company, excellence standards 7—42245
management information systems
see also database management systems; management science
laboratory information management, IBM PC package 7—24631
office information retrieval system using concepts of the AIR/PHYS physics data bank *(German)* 7—14721
water level measurement system, management information systems 7—66162
workload management system for microcomputers 7—24630
management science
geologic research management and organisation 7—40480
management techniques *see management science*
Mandelstam-Brillouin scattering *see Brillouin spectra*
Mandelstam representation
No entries
manganese
see also nuclei with ......
allotropic phases nucleation during laser annealing, melting, solidification and regrowth 7—12143
atom, forbidden transitions probabilities, intracavity laser, visible spectra anal. 7—42535
atom, orbital calcs., reduced basis set, Adamowicz's and max. overlap methods 7—56932
atom, vapour, photoelectron ang. distrib. and drag current, nondipole part 7—15575
atoms, in Ar solid, ENDOR/ESR spectra 7—5710
band structure occupancy determ. using Fourier-transformed Compton profile 7—21801
diffusion in stellar envelope 7—34968
geophysical prospecting method, borehole γ-ray logging—neutron activation technique 7—55284
Juan de Fuca Ridge regional perspective on heat and Mn fluxes from hydrothermal plume meas. 7—66095
lasing mechanism and energy characts., relax. processes of metastable states 7—62673
metallisation of Si_3N_4 ceramic by prediffusion, prior to bonding to stainless steel *(Japanese)* 7—8147
Neel temp. and thermal expansion press. depend., strain gauge meas. 7—6724
NMR spectroscopy with AFC and continuous tuning 300-1200 MHz 7—30055
ocean chemistry, Mn geochemistry near high-temp. vents in Mid-Atlantic Ridge rift valley 7—34468
ocean Mn concs. in S Pacific, from hydrothermal vents 7—9027
seafloor hydrothermal plumes of E Pacific Rise, Fe, He, Mn obs. showing Fe enrichment 7—9028
tris-sarcosine calcium chloride: Mn^{2+} crystals, ferroelec. phase transition 7—2995
vapour laser, emission spectrum and its time evolution 7—1088
vapour lasers, resonance radiation trapping effects 7—62669
X-ray satellites, zero-point plasma oscillations 7—17367
$BaO.Al_2O_3:Eu^{2+},Mn^{2+}$ phosphor, luminesc. props. 7—46112
$BaTiO_3:Mn$, impurity electronic struct., molecular-orbital calcs. 7—45213
$BaTiO_3:Mn$, Mn oxidation state change near phase transitions 7—16974
$BaTiO_3:Mn^{4+}$, EPR spectra, spin-Hamiltonian consts. 7—45812
$Bi_{12}SiO_{20}:Mn,Cr$ single crystals, photoconductivity 7—33044
$BiVO_4:Mn^{3+}$, ESR spectra, temp. depend. 7—22137

- **manganese** continued
  - CaF_2:Ce, Mn crysts., energy transfer, optical absorpt. and luminesc. studies, X-ray irrad. effects 7−27773
  - CaF_2:Ce,Mn, optically active sites, optical spectra 7−22305
  - CaF_2:Mn, gamma irradiation-induced defects, absorpt. and excitation spectra studies 7−26801
  - $CaSO_4$:Mn, thermoluminescent dosimeter, phys. characts. *(Korean)* 7−34278
  - $CdCl_2$:Mn^{2+}, cryst. struct. of $CdCl_2$, temp. var., determ. from EPR data 7−32382
  - CdS(Se)(Te):Mn, impurity EPR spin Hamiltonian parameter correl. calcs. 7−27597
  - $Cd_{1-x}Zn_xTe$:Mn, hyperfine coupling constant, EPR study 7−22138
  - Cu:Mn matrix, electronic struct. calcs. 7−16976
  - Fe-Mn superlattices, NMR study *(Japanese)* 7−13046
  - $Fe(NH_4)_2(SO_4)_2.6H_2O$, EPR of Mn^{2+}, Mn^{2+}-Fe^{2+} exchange interaction 7−2924
  - GaAs:Mn crysts., impurity and defect props., heat treatment, photolum. studies 7−39163
  - GaF_2:Mn cubic cryst., local lattice instability near impurity, ESR study 7−53123
  - GaSe:Mn single crystals, optical props. 7−27777
  - InAs:Sb(Ga)(Mn), single crystal, elec. inhomogeneity, effects of isovalent impurities 7−7229
  - In_2O_3:Sn-ZnS:Cu,Cl,Mn-Al, surface electrical conductivity in ZnS:Cu,Cl,Mn thin films 7−38672
  - InP:Mn, deep acceptor level, props. 7−21853
  - InP:Mn, LPE growth, carrier conc. control and appl. to buried heterostructure laser diodes 7−21774
  - InP:Mn^{3+}, Jahn-Teller effect, mag. suscept. and ESR spectra anal. 7−52534
  - KCl_xBr_{1-x}:Mn, doped crystals, elastic constants, meas. using US pulse superposition method 7−26827
  - $KZnF_3$:Mn^{2+}, thermal expansion of the $Mn^{2+}-F^-$ bond 7−6836
  - $LiNbO_3$:Mn^{2+}, EPR of axial and low-symmetry paramagnetic centres 7−38925
  - $Mg(NH_4)_2(SO_4)_2.6H_2O$, EPR of Mn^{2+}, Mn^{2+}-Fe^{2+} exchange interaction 7−2924
  - Mn I lines in solar spectrum, appl. as temp. diagnostics for photospheric inhomogeneities 7−66553
  - Mn/GaAs interface formation on clean and oxidised (110) surfaces 7−45029
  - Mn/GaAs(InP) interfaces, interactions, XPS and elec. transport studies 7−7384
  - Mn/SiO, thin cermet films, electroformed characts. in dielec. range 7−12892
  - Mn-GaAs, extrinsic surface states, core level UPS study 7−2713
  - MnI(II), modified wall stabilised arc, hook measurements study 7−37755
  - MnO, deformed, dislocation struct., TEM study 7−21209
  - ^{53}Mn, evidence of existence in solar nebula 7−34891
  - PZT:Mn, dielec. dispersion 7−13076
  - PbF_2-ZnF_2-GaF_3-AlF_3-YF_3-LaF_3:Mn II, Nd III, energy transfer 7−1889
  - $Rb_2Cd_2(SO_4)_3$:Mn^{2+}, langbeinite, reversible phase transitions, EPR studies 7−63810
  - Sb-Ge-Se:Mn, effect of Mn impurity on comp. and physicochemical props. 7−11922
  - Si:Mn, optical props. *(Chinese)* 7−33043
  - Si:Mn, temperature-electric instability, elastic compression effect 7−64239
  - $SrTiO_3$:Mn, Mn oxidation state change near phase transitions 7−16974
  - $Tl_2Co(SeO_4)_2.6H_2O$:Mn^{2+}, electron spin resonance studies 7−45809
  - $(Y,Gd)_3Fe_5O_{12}$:Mn, thin films, noncubic mag. anisotropy origin 7−53068
  - YAG:Mn^{4+}, luminesc. and fluoresc. line narrowing studies 7−46105
  - Zn complex, Zn $(acetylacetonate)_2.H_2O$, Mn^{2+} dopant, crystal struct., EPR spectra study 7−64521
  - $Zn(BF_4)_26H_2O$:Mn^{2+}, EPR study 7−64520
  - $Zn(NH_4)_2(SO_4)_2.6H_2O$, EPR of Mn^{2+}, Mn^{2+}-Fe^{2+} exchange interaction 7−2924
  - ZnS:Cu, Mn (H), electroluminesc., simultaneous action of AC and DC fields 7−64699
  - ZnS:Cu,Mn films, vacuum deposition and DC electroluminescence 7−7868
  - ZnS:Mn, electrolum. study 7−13234
  - ZnS:Mn, impact excitation and Auger quenching 7−27827
  - ZnS:Mn, thin film electroluminesc. capacitors, trapping level spectra 7−12666
  - ZnS:Mn electrolum. thin film-based structs., native memory formation, supersound effects study *(Russian)* 7−3020
  - ZnS:Mn electrolum. thin film displays, growth by at. layer epitaxy 7−13362
  - ZnS:Mn electroluminescent thin films, photothermal deflection spectroscopy 7−27804
  - ZnS:Mn films, struct. and electroluminescence props. *(Japanese)* 7−27783
  - ZnS:Mn heavily doped phosphors, mechano and electroluminesc. 7−13240
  - ZnS:Mn powders, EPR anal. for different cryst. structs. 7−13025
  - ZnS:Mn thin films, DC electrolum. and local destructive dielec. breakdown model calcs. 7−59147
  - ZnS:Mn thin films, electrolum., review 7−27784
  - ZnS:Mn thin films, local destructive breakdown and DC electrolum., film prep. and test conditions depend. 7−59146
  - ZnS_xSe_{1-x}:Mn^{2+}, Mn energy levels, photoconductivity bands 7−7156
  - ZnS(Se)(Te):Mn, impurity EPR spin Hamiltonian parameter correl. calcs. 7−27597
  - ZnSe:Mn, ^4E states, spin-orbit interactions and dynamical Jahn-Teller effect 7−21875
  - $ZnTiF_6.6H_2O$:Mn^{2+}, ESR spectrum, axial press. effects 7−22136

- **manganese alloys**
  - *see also Elinvar; Invar; manganese compounds*
  - Al-Mn quasicrystal, struct. model with m35 symm. 7−6570
  - manganin foil stress gauges, piezoresist. response meas. 7−29998
  - rare earth alloys, RMn_2, R=heavy rare earth, mag. state, spin echo NMR spectra 7−27629
  - steel, Mn, medium carbon, gas cylinder, fatigue behaviour *(Chinese)* 7−3411
  - steel, Mn-Mo-V, reactor piping material, strength, deformation and fracture behaviour 7−13578
  - Ag-Mn, nonlinear dynamic suscept. meas. at spin-glass transition 7−45694
  - Ag-Mn-Al, beta to zeta reversible transformation, elec. resist. meas. *(Russian)* 7−16728

- **manganese alloys** continued
  - Ag-Mn-Sb, dilute metallic spin glasses, response time, temp. depend. study 7−2896
  - AgMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7−7525
  - Al-Am, quasicrystalline and crystalline alloys, temp. dependence of elec. resistivity 7−2574
  - Al-Cu-Li-Mn-Cd, 2020, micromechanisms governing elevated temp. fracture resist. 7−22803
  - Al-Fe-Mn icosahedral alloys, elec. resist. and Hall coeff. studies 7−27316
  - Al-Fe-Mn powder, rapidly solidified, microstruct. 7−46445
  - Al-Ge-Mn and Al-Si-Mn, amorphous ductile, with two separate phases 7−59493
  - Al-Li-Mn, precip.-hardened, cyclic stress response and deform. behaviour 7−22791
  - Al-Mg-Mn, fatigue, criterion for omission of variable amplitude loading histories 7−22794
  - Al-Mn, Al-rich alloy, rapidly solidified, crystn. of quasicryst. icosahedral phase 7−63472
  - Al-Mn, electron wind-induced muon drift 7−52115
  - Al-Mn, icosahedral-glass and icosahedral quasicrystal models distinguished via high-resolution lattice imaging 7−32295
  - Al-Mn, lattice model of quasicrystalline phase, high resolution electron microscope images 7−37866
  - Al-Mn, periodic and quasiperiodic crystals 7−1928
  - Al-Mn, plastic deform. and supercond. props., 0.5 to 4.2K *(Russian)* 7−8055
  - Al-Mn, pressure induced quasi-crystal to crystal transition for melt span alloys 7−16726
  - Al-Mn, quasicrystal diffraction patterns, distortion and peak broadening 7−11981
  - Al-Mn, quasicrystals, diffraction pattern simulations 7−6585
  - Al-Mn, rapid solidification, extended solid soln. and eutectic growth 7−33647
  - Al-Mn, rapidly quenched, icosahedral phase, comp. analysis 7−26699
  - Al-Mn, rapidly solidified, decagonal phase morphology 7−39499
  - Al-Mn (14 at.%), solidification, icosahedral and T-phase form. temp. rel. to cooling rates 7−53718
  - Al-Mn (15 wt.%), melt spun ribbons, icosahedral struct., decomp. rel. to annealing 7−28030
  - Al-Mn alloy, decagonal phase, struct. model 7−63552
  - Al-Mn alloy icosahedral quasicryst., mag. and elec. props. studies 7−2858
  - Al-Mn alloys, cryst. and amorphous phases, mag. props. 7−17163
  - Al-Mn alloys, icosahedral, amorphous and cryst. local struct., EXAFS study 7−63466
  - Al-Mn alloys, icosahedral symmetry versus local icosahedral environments, NMR spectra meas. 7−63536
  - Al-Mn amorphous films, quasicrystalline transformation by ion irradiation 7−2071
  - Al-Mn icosahedral alloy form. by pulsed electron beam and laser beam surface melting 7−26924
  - Al-Mn icosahedral alloys, elec. resist. and Hall coeff. studies 7−27316
  - Al-Mn periodic and aperiodic alloys, local atomic environments 7−44454
  - Al-Mn quasicrystal, two-dimensional Patterson synthesis, optical method 7−11993
  - Al-Mn quasicrystalline alloys, isomorphism, neutron diffr. meas. 7−51638
  - Al-Mn quasicrystalline and metastable phases, phase form. and thermal stability 7−26644
  - Al-Mn quasicrystals, 1D translational periodicity and ten-fold rotation axis 7−26643
  - Al-Mn quasicrystals, field ion images, computer simulation studies 7−32368
  - Al-Mn quasicrystals, local struct., EXAFS and XANES studies 7−6582
  - Al-Mn quasicrystals, nonuniform local magnetism, NMR spin echo studies 7−22090
  - Al-Mn surface icosahedral phase form., ion beam mixing and interdiffusion 7−16653
  - Al-Mn system, G-phase form. and stability range 7−22663
  - Al-Mn system, quasicrystal form., metallurgy 7−3295
  - Al-Mn-Cr-Si quasicryst. atomic struct., pulsed neutron scatt. meas. 7−51639
  - Al-Mn-Fe, wear, comparative investigs. and prep. method role 7−13605
  - Al-Mn-Fe alloy, aging characteristics, pre-cold working effects 7−53758
  - Al-Mn-Ru-Si icosahedral alloys, EXAFS study 7−39317
  - Al-Mn-Si, quasicryst., X-ray diffr., TEM and SEM study 7−12299
  - Al-Mn-Si, quasicrystalline phases and amorphous structure 7−51637
  - Al-Mn-Zr (7,1 wt.%), rapidly solidified, quasicrystalline phase precip. 7−3310
  - Al-Mn(-Si) rapidly solidified alloys, quasicrystal form. by electron beam melting 7−26915
  - Al-Si-Mn alloys, cryst. and amorphous phases, mag. props. 7−17163
  - Al-Si-Mn-Fe,intermetallic phases, TEM obs., extraction replica technique 7−39807
  - Al-Zn-Mg-Mn-Si, rapid solidification, superplasticity 7−53826
  - Al-Zn-Mg-Zr-Fe-Mn, superplasticity rel. to grain refining addition elements 7−46561
  - AlMn films, ion irradiation-induced amorphous to quasicryst. transform., comp. depend. study 7−16654
  - AlMn icosahedral phase, atomic struct., electron diffr., studies 7−32366
  - AlMn, icosahedral struct., EXAFS 7−26701
  - AlMn, quasicrystalline phases, plasmon electron energy loss spectroscopy and electrical resistivity 7−3123
  - AlMn quasiperiodic material, disorder systematics, X-ray scatt. studies 7−11995
  - $Al_{0.8}Mn_{0.2}$, icosahedral and crystalline phases, vibr. density of states, neutron scatt. study 7−44726
  - $Al_{1-x}Mn_x$ cryst. and quasicryst. alloys, struct. and mag. props. 7−1949
  - Al_4Mn alloy, decagonal and icosahedral phase coexistence, electron diffr. studies 7−11991
  - Al_4Mn, diffraction approach to the structure of decagonalquasi-crystals 7−6586
  - Al_6Mn, icosahedral, fine line struct. in convergent beam electron diffr. 7−63560
  - $Al_{80}Mn_{20}$, quasicrystalline icosahedral phase, sp. ht., mag. props. 7−52955
  - $Al_{86}Mn_{14}$, atomic level interpretation of quasicrystal microstructure 7−16498
  - $Al_{86}Mn_{14}$, quasicrystals, EXAFS studies 7−64804
  - $Al_{85}Mn_7Cr_8$, quasicrystals, EXAFS studies 7−64804
  - $Al_6Mn_{1-x}Fe_x$, rapidly quenched, crystn. process, high temp. X-ray studies 7−1922

manganese alloys continued
$Al_{86}Mn_7Fe_7$, $Al_{86}Mn_{14}$, icosahedral alloys, obs. of mirror-related grains 7−37867
AlMnSi, icosahedral and α-phase structs., EXAFS anal. 7−63554
AlMnSi, icosahedral struct., EXAFS 7−26701
AlMnSi, quasicrystalline phases, plasmon electron energy loss spectroscopy and electrical resistivity 7−3123
$(Al_6Mn)_{1-x}Si_x$, icosahedral phase transform., electron microscope study 7−2187
Au-Mn (15 at.%), disordered phase, high resolution electron microscopy study 7−63834
Au_4Mn, atom sublattices, selective high resolution electron microscopy 7−6486
$Au_{80}Mn_{20}$ disordered alloy, free and frozen magnetisations 7−53037
Bi-MnBi eutectic, pure and modified, growth 7−59500
C-Mn ferritic pearlitic steel, coercivity and Barkhausen noise power spectrum, stress depend. meas. 7−7548
CdMn, XY-type spin glass, uniaxially anisotropic, successive transitions 7−17188
$CeNi_{5-x}Mn_x$, mag. and cryst. props., effect of H absorpt. 7−33168
Co-Ni-Mn system, thermodynamics and phase equilib. 7−65008
$(Co_{1-x}Mn_x)_2B$, crystalline and amorphous, mag. and elec. props. 7−2827
γ-CoNiMn alloys, mag. phase diagram, neutron diffr. methods *(Russian)* 7−45667
$Cr_{1-x}Mn_xGe$, cryst. and amorphous, mag. characts., substitution effects 7−59009
Cu-Al-Mn, stacking fault energy determ. *(Russian)* 7−12082
Cu-Al-Mn, surface layers, change in chem. state during annealing investig. using Auger spectroscopy *(Russian)* 7−33834
Cu-Al-Mn, thermoelastic martensite form., effect of thermal and stress cycling 7−22680
Cu-Al-Mn-Fe bronzes, microstruct., corrosion 7−39697
Cu-Al-Ni-Fe-Mn bronze, cast, laser surfacing, improved corrosion resist., microstruct. characteris. 7−13651
Cu-Al-Zn-Mn-Ni shape memory alloy, positron annihilation study 7−46206
Cu-Mn, dilute metallic spin glasses, response time, temp. depend. study 7−2896
Cu-Mn, metallic spin glasses, local-field rotational correlation length, AC susceptibility 7−17179
Cu-Mn dil. alloys, electronic struct. of mag. impurities 7−58771
Cu-Mn dilute alloys, oxided formation, Auger lines relative intensities 7−17726
Cu-Mn spin glass, intrinsic remanent magnetisation and anisotropy energy, temp. depend. 7−45690
Cu-Mn spin glass, remanent magnetization, field dependence 7−59018
Cu-Mn-Al alloys, mag. and structural props. study 7−2895
Cu-Mn-Ge system, phase equilib. in Cu-rich alloys 7−3277
Cu-Mn-Sn, phase conc. nonuniformities rel. to annealing *(Russian)* 7−59494
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7−12698
CuMn and CuMnAu alloys, homogeneous and inhomogeneous spin freezing, μSR studies 7−45687
CuMn dilute alloys, electron struct., X-ray Lα emission spectra studies 7−12598
CuMn, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
CuMn spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7−53019
Cu_2MnAl, Heusler alloy, heat and press. processed, changes in phys. props. during heating *(Russian)* 7−59645
Cu_2MnAl, high press. phase transition, elec. resist., saturation magnetisation, lattice parameters *(Russian)* 7−46457
CuMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7−7525
$CuMn_{0.05}Ni_{0.03}$, spin glass, long-time low temp. relaxation 7−38870
$Er_2(Fe,Mn)_{14}B$, struct., composition depend. 7−51701
Fe-Al-Mn, austenitic, SCC in NaCl soln. 7−8195
Fe-Al-Mn, fatigue crack growth 7−65130
Fe-C-Mn, ferrite nucleation at austenite grain edges, kinetics 7−7991
Fe-C-Mn, nucleation of proeutectoid ferrite at austenite grain boundaries 7−8003
Fe-Co-Mn(V) films, ion beam sputtered, soft mag. props. 7−33237
Fe-Cr-Mn, may susceptibility and elec. resist. *(Russian)* 7−52952
Fe-Cr-Mn-C, laser clad, microstruct. and wear props. 7−13652
Fe-Cr-Mn-Ni-C system, phase relationships at solidification temps. 7−28014
Fe-Cr-Ni-Al-Si-Mn, oxidation from 700 to 1000°C 7−65207
Fe-Mn, alloying with N under high press. 7−3266
Fe-Mn, FCC alloys, H-induced martensitic transform. *(Japanese)* 7−33655
Fe-Mn, friction, solid struct. calcs. 7−51932
Fe-Mn, kinetics of α-phase form. and role in shape memory effect *(Russian)* 7−46581
Fe-Mn, p/m type, martensitic transform. and struct. form. mechanisms 7−33658
Fe-Mn-Al, mag. props., struct. and deform. texture 7−2892
Fe-Mn-Al, plasma nitriding, sputtering and redeposition of cathode material 7−39752
Fe-Mn-Al, processing and props., effect of Si and C additions 7−17707
Fe-Mn-Al-Cr system, rel. between $\gamma \rightarrow \varepsilon$ transform. temp. and comp. of metastable austenite region *(Chinese)* 7−7993
Fe-Mn-C, FCC, energy of complex packing defects, calc. *(Russian)* 7−58263
Fe-Mn-C, local instability in FCC struct. *(Russian)* 7−58208
Fe-Mn-C critical nucleus comp. of ferrite 7−7967
Fe-Mn-Ni system, melting diagram 7−3278
Fe-Mn(S), surface comp. and surface tension, effect of S and Mn *(Chinese)* 7−6916
Fe-Si-Mn, atomic ordering and mechanical props. 7−11990
$Fe_{83-x}M_xB_{17}$, amorphous, mag. contrib. to thermopower 7−45287
$(FeM)_{80}B_{14}Si_6$, M=Mn, Mo, V, glass, magnetoresistance 7−64203
FeMnAl, low temperature specific heat *(Chinese)* 7−12306
$(Fe_{1-x}Mn_x)_{78}B_{22}$, amorphous alloys, lattice parameters, annealing, X-ray diffr., elec. resist. 7−37878
$(Fe_{1-x}Mn_x)_{84}B_{16}$, amorphous, Mn content effect on elec. resistivity *(Chinese)* 7−12692
$(Fe_{1-x}Mn_x)Pt$ alloys, mag. phase diagram 7−64434
$(Fe_{65}Ni_{35})_{1-x}$ $(Fe_{84}Mn_{16})_x$ alloys, low field magnetisation and Mossbauer effect studies 7−33311

manganese alloys continued
FeNiMn spin glasses, nonlinear mag. suscept. study 7−52991
$FeNiMn_{0.15}$, spin glass, phase transition, mag. suscept. study 7−53004
$Fe_xNi_{85-x}Mn_{15}$, low temp. sp. ht. near ferromag.-antiferromag. transition *(Russian)* 7−7512
Gd_2 $(Co_{1-x}Mn_x)_{17}$, Co contribution to magnetocrystalline anisotropy, point charge model 7−45665
$GdMn_2$, magnetic structure, tight binding approx. 7−2819
$Ge_{80-x}Mn_xB_{20}$ amorphous alloy, Curie point and crystallisation temp. 7−17173
$La(Cr_xMn_{1-x})_2Ge_2$, layer struct. intermetallic cpd., mag. props. comp. depend. studies 7−7489
Mg-Mn, MA8, superplastic behaviour, effect of grain struct. *(Russian)* 7−59584
Mg-Mn-Al-Zn, MA8, superplastic deform., effective stresses *(Russian)* 7−53811
Mn-Al icosahedral quasicrystals, local structure 7−11997
Mn-Al-C, anisotropic permanent magnet, rotational hysteresis 7−53050
Mn-Al-C ferromag. alloys, phase, transformations and struct. defects, positron annihilation study 7−46461
Mn-Al-C system, mag. and struct. transform. *(Russian)* 7−59014
Mn-C system, fusibility diagram in ε-solid soln. and carbide Mn_7C_3 region 7−7964
Mn-Cu, sintered damping alloy, tempering, & solid soln. breakdown mechanism 7−22692
Mn-Cu alloy, nonlinear anelasticity and temp. depend. lattice consts., nonlinear resonance curve meas. 7−63741
Mn-Cu single crystals, Debye-Waller coeff. behaviour, energy dispersive X-ray diffr. study *(Russian)* 7−51983
Mn-Ga, amorphous film, prep. by ionised cluster beam deposition 7−3205
Mn-Ni alloys, γ-phase decomposition, annealing and quenching, X-ray phase anal. 7−17510
Mn-P-B system, isothermal cross section at 1070K, lattice parameters of phases 7−53702
Mn-Sn, homogenised, mag. props., thermal expansion 7−2900
MnAlSi and MnAl icosahedral crystals, structure, EXAFS studies 7−11996
MnBi ferromag. thin films, reversed micro-domain growth, magnitude-anisotropic dispersion 7−17205
MnBi/Bi eutectic, freezing rates, convection effect on microstruct. 7−22652
$Mn_{0.794}Cr_{0.206}$ alloy, sigma phase, heat capacities 7−52073
$Mn_{1-y}Fe_y$ sputtered films, mag. props. 7−38915
$(Mn_mFe_{1-m})_{100-x}Bi_x$ films, evaporated, structure and mag. props. *(Japanese)* 7−59077
$Mn_xFe_{1-x}Si$ solid solns., thermal expansion 7−6835
Mn_3GaC temp.-induced metamagnets, dipol-octopol interaction calcs. 7−17191
$Mn_{11}Ge_8$, intermetallic compound, mag. props. 7−52985
ζ-Mn_5Ge_2, high temp. phase structs., electron microscopy obs. 7−26697
ζ_1-$Mn_{5.11}Ge_2$, cryst. struct. 7−58202
$MnHg_{1-x}Au_x$, cubic to orthorhombic transition and mag. suscept. meas. 7−52037
Mn_3Ni_2Si, rapidly solidified, Friauf-Laves phase related quasicrystal, TEM obs. 7−51706
Mn_2P, electronic struct., mag. props., KKR, LMTO methods, LSD approx. 7−64070
MnSb, epitaxial growth of ferromagnetic monolayers 7−2909
MnSi, amorphous, concentrated spin glass, ESR study 7−13022
$Nd_2Fe_{14-x}Mn_x$,B, crystallographic and mag. props. 7−27522
$Nd_2Fe_{12-x}Mn_xCo_2B$, mag. props. 7−52946
Ni-Fe-Mn system, coexistence of $Ni_3(FeMn)$ and Ni(MnFe) superstructures *(Russian)* 7−1946
Ni-Mn, microtwinning, $\beta \rightarrow \theta$ martensitic transform 7−32455
Ni-Mn disordered alloys, ferro-spin-glass domain model calcs. 7−59025
Ni-Mn disordered alloys, magnetic phase diagram near multicritical point 7−59024
Ni-Mn-Al, martensitic transform. *(German)* 7−46471
$Ni_3(Al_{0.52}Mn_{0.48})$, $L1_2$ ordered alloys, grain boundary strength and fracture, electronic and struct. studies 7−33756
Ni_3FeMn, atom pair interaction energy and Kurnakov temp. *(Russian)* 7−1938
$Ni_3(Fe_{1-x}Mn_x)$ magnetic alloys, impurities, ordering 7−51995
$Ni_{1-x}Fe_xMnSb$, half-metallic ferrimag., mag. and crystallographic props. 7−45672
$NiMn_{0.27}$, spin glass, phase transition, mag. suscept. study 7−53004
Ni_3Mn-NiCr tie line, disordering kinetics, neutron diffr. investig. *(Russian)* 7−32347
$Ni_{78}Mn_{22}$ reentrant alloy, struct. sensitive mag. props. 7−7496
$Ni_2MnIn(Sn)(Sb)$ Heusler alloys, galvanomag. props. and magnetisation meas., fermi level shift effects 7−7207
Ni_2MnM (M=Al,Ga,In,Sn,Sb), Heusler alloys, Curie temp., effect of hydrostatic press. 7−64455
NiMnSb, half-metallic ferromagnet, positron-annihilation study 7−21802
NiMnSb Heusler alloys, positron annihilation studies of solids 7−64728
$PdFe_xMn_y$, reentrant alloy, ferromagnetism investig. 7−2860
PdMn, atomic and mag. short range order 7−52941
Pd_3Mn, H-induced order-disorder transition 7−46460
Pd_3MnH_x, H solubility in ordered/disordered Pd alloys 7−21473
Pd_2MnSn, cubic ferromagnet, high temp. spin dynamics 7−2881
PtMn dilute alloy, longitudinal magnetoresist. meas. 7−12700
$Pt_3Mn_xFe_{1-x}$, mag. state near critical composition *(Russian)* 7−17170
PtMnGa, Curie temp., hydrostatic press. effect 7−27527
$R_2Fe_{14-x}Mn_xB$ ($R \equiv$ Y, Nd, Pr, Gd), mag. characts. 7−27523
$R_2Fe_{12-x}Mn_xCo_2B$ ($R \equiv$ Pr, Gd), mag. props. 7−27500
$Sm_2(Co_{1-x}Mn_x)_{17}$, rapidly quenched ribbons, mag. props. 7−27552
TbMn, dilute alloys, hyperfine fields and local moment form. 7−64433
Th_6Mn_{23}, giant cells, polyhedral packing 7−11992
Ti-Fe-Mn, sintering, dilatometry, thermographic obs. 7−13404
Ti-Fe-Mn compacts, vol. changes in sintering, Mn Influence 7−7926
Ti-Mn, alpha and beta phases, yield and tensile strength, ductility, Bauschinger behaviour, fatigue life, crack propag. 7−8052
Ti-Mn, Laves phase, liquid quenching, transformations and phase diagrams 7−65059
Ti-Mn, nucleation, sympathetic, morphology, crystallography and kinetics 7−65035
U_6Mn, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
$U(Mn_{1-x}Al_x)$, paramagnetic props. meas., temp. depend. study 7−27494
Y_2 $(Co_{1-x}Mn_x)_{17}$, Co contribution to magnetocrystalline anisotropy, point charge model 7−45665

manganese alloys continued
$Y(Mn_{1-x}Al_x)_2$, spin glass behaviour 7–52996
ZnMn, Ising-type spin glass, uniaxially anisotropic, successive transitions 7–17188
Zr-Mn, Laves phase, liquid quenching, transformations and phase diagrams 7–65059
Zr-Mn-H system, equilibrium props. 7–16756
$ZrMnFe_x$ system, H storage material, effect of hyperstoichiometric Fe 7–45000

manganese compounds
see also manganese alloys
formate, $Mn(HCOO)_2.2H_2O$, magnetic transitions, compression and mag. dilution effects 7–52986
$Hg_{1-x}Mn_xTe$-HgTe dilute mag. semicond. superlattices, MBE growth and props. 7–13357
$K\beta/K\alpha$ X-ray intensity ratios, chem. effects 7–17365
oxides, hydrothermal deposits on TAG geothermal field, Mid-Atlantic Ridge, dating 7–8915
oxides, Ni- and Co-containing, structural chemistry, EXAFS studies 7–63578
$[\alpha$-$]Mn_xS$ antiferromag. semicond., elec. and mag. props. 7–7244
$BaFe_{12-x}Mn_xO_{19}$, Mn substitution effects on mag. props. *(Chinese)* 7–7486
$Ba_{1.06}Fe_{10.92}Mn_{1.02}O_{19}$ and $Ba_{1.03}Fe_{11.97}O_{19}$ single crystals, white synchrotron radiation topography 7–6606
$BaMnAlF_4$, exchange interactions, mag. susceptibility meas. 7–45654
$BaMnF_4$, magnon polaritons, wave propagation in mag. systems with spontaneous electric polarisation 7–12961
$BaMnGaF_7$, exchange interactions, mag. susceptibility meas. 7–45654
$BaMn_{1-x}Ta(Zn)_xO_3$ phase struct. and transforms., high resolution electron microscopy obs. 7–58237
$C_5MnCl_2.2.4NH_3+4.8NH_3$, thermochemical energy storage, kinetic study *(French)* 7–17782
$CaCO_3$-$MnCO_3$ mixed cryst., metastable formation range and morphology 7–26910
$(Ca_{1.1}Mg_{0.5}Fe_{0.3}Mn_{0.1})(CO_3)_2$, ankerite, ^{57}Mossbauer spectra relax. rates 7–27640
$Ca_3Mn_{1.8}Fe_{1.2}O_{3+y}$, perovskites, microdomains, electron microscopy 7–16533
(Cd,Mn)Te, atomic layer epitaxy, review 7–13362
(Cd,Mn)Te quantum well structure, wide-gap II-VI superlattices 7–7346
(Cd,Mn)Te/CdTe superlattice, optical props. heterointerface effects 7–7736
$Cd_{1-x}Mn_xS$, antiferromag. exchange constants between nearest-neighbour Mn^{2+} ions 7–64449
$Cd_{1-x}Mn_xS$, crystal growth and charact. *(Japanese)* 7–7829
$Cd_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7–7497
n-$Cd_{1-x}Mn_xSe$, electric-dipole-induced spin resonance 7–27592
n-$Cd_{1-x}Mn_xSe$, magnetoresist. and Hall effect meas. near metal-insulator transition 7–12741
$Cd_{1-x}Mn_xSe$, powder, stress effects, amorphisation *(Korean)* 7–27960
$Cd_{0.6}Mn_{0.4}Te$, spin-freezing process, time-depend. of thermoremanent magnetization 7–2863
$Cd_{0.8}Mn_{0.2}Te$, dil. mag. semicond., low temp. mag. spectroscopy 7–64477
$Cd_{0.8}Mn_{0.2}Te/Cd_{0.7}Mn_{0.3}Te$ semimagnetic superlattices, electronic props., theory 7–45445
$Cd_{1-x}Mn_xTe$, crit. dynamics, AC susceptibility meas. 7–33181
$Cd_{1-x}Mn_xTe$, low-temperature magnetic spectroscopy with DC SQUID 7–48780
$Cd_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7–7497
$Cd_{1-x}Mn_xTe$ dilute antiferromagnet, high field magnetisation meas. 7–64486
$Cd_{1-x}Mn_xTe$ exciton localisation, time resolved photolum. study 7–46106
$Cd_{1-x}Mn_xTe$ films, hot wall vacuum growth, twinned struct. 7–53593
$Cd_{1-x}Mn_xTe$, frequency-dependent Faraday rotation 7–22225
$Cd_{1-x}Mn_xTe$, interband Faraday rot. meas. 7–39093
$Cd_{1-x}Mn_xTe$, low-temperature epitaxial growth, MBE and MOCVD 7–64906
$Cd_{1-x}Mn_xTe$ mixed cryst., far IR Fourier transform spectra, acoustic local mode and TA band mode 7–53378
$Cd_{1-x}Mn_xTe$, photoluminescence position and lifetime 7–13205
$Cd_{1-x}Mn_xTe$ semimag. semicond., ESR line shape meas., comp. and temp. depend. 7–7584
$Cd_{1-x}Mn_xTe$, semimagnetic semiconductor, optical absorpt. edge, press. dependence *(Chinese)* 7–39139
$Cd_{1-x}Mn_xTe$ sensing element for wideband optical fibre magnetic field sensor 7–25979
$Cd_{1-x}Mn_xTe$-$Cd_{1-y}Mn_yTe$ superlattices, electron diffr. using partially coherent illumination 7–37807
$Cd_{1-x}Mn_xTe(Se)$, mag. field-induced exchange effects, photolum. meas. 7–27705
$Cd_{1-z}Mn_zTe_{1-y}Se_y$, magnetic suscept. and ESR meas., temp. depend. study 7–45636
$Cd_{1-z}Mn_zTe_{1-y}Se_y$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7–7501
$(CdSe)_{1-x}(MnS)_x$ crystals, semimag. semiconductors, magnetooptic studies 7–64609
CdTe-(Cd,Mn)Te MQW, optical and magnetooptical props. 7–13137
CdTe-$Cd_{0.6}Mn_{0.4}Te$ superlattices, high resolution electron microscope study 7–27162
CdTe-CdMnTe, quantum wells, excitons and kinetics 7–12622
CdTe-CdMnTe superlattices, photoluminesc. props. 7–13218
$Cd_xZn_yMn_xTe(Se)$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7–7501
CoO-MnO system, thermodynamic props., phase diagram, miscibility gap 7–53706
$CsMnCl_3$ antiferromag. crysts., struct. deform. by exciton self-localisation, luminesc. spectra fine struct. study *(Russian)* 7–27752
$Cu_{0.26}Mn_{0.87}PS_3$, crystalline lamellar cpds. EXAFS studies of disorder 7–59295
$(FeMn)_{80}B_{14}Si_6$ glass, magnetoresistance and magnetisation 7–45354
$Fe_{3-x}Mn_xO_4$, substituted magnetite, reactivity in O_2, relation with cation distrib. *(French)* 7–46829
$(Fe_{1-x}Mn_x)_2P$ system, Mossbauer study 7–53180
$Fe_xMn_{1-x}S$, high temp. metal-nonmetal transition 7–7117
Ga_2S_3-MnS phase diagrams, metastable phases, thermal and structural features 7–38165

manganese compounds continued
n-$Hg_{1-x-y}Cd_xMn_yTe$ high field magnetoresist. and magnetisation, Mn-Mn exchange interaction effects 7–12964
$Hg_{1-x-y}Cd_xMn_yTe$, Shubnikov-de Haas oscillations 7–21943
$Hg_{1-x}Cd_x(Mn_x)Te/CdTe$ superlattices, twin faults, X-ray obs. 7–45036
$Hg_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7–7497
$Hg_{1-x}Mn_xSe$, zero gap semimag. semiconductor, inversion asymmetry spin level splitting 7–58784
$Hg_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7–7497
$Hg_{1-x}Mn_xTe$, Hall coeff., magnetoresist. meas., exchange interaction, field, temp. effects 7–64270
p-$Hg_{1-x}Mn_xTe$, highly doped, ground state of shallow acceptor 7–7167
$Hg_{1-x}Mn_xTe$ LPE crystals, magnetophonon reson. recomb. with phonon emission 7–63755
$Hg_{1-x}Mn_xTe$, magnetoresist. meas., effect of valence band spectrum quantisation at low temps. 7–52653
$Hg_{1-x}Mn_xTe$, semimag. semicond., magneto-optical study of spin freezing 7–7678
$Hg_{1-x}Mn_xTe$, spontaneous Hall effect studies 7–45360
$KBr:MnO_4$, low temp. resonance Raman scatt. and luminescence 7–39101
$KBr:MnO_4^-$, resonance Raman scatt. spectra 7–22234
$K_2Cu_xMn_{1-x}F_4$, quasi-two-dimensional mixed ferromagnetic-antiferromag. system, mag. phase transitions, intermediate spin glass phase 7–27525
K_2MAF_4, optical dichroism, spin forbidden *d-d* transitions, intensity prod. mechanisms 7–33360
$K_2Mn_2(MoO_4)_3$, synthesis and cryst. struct. determ. 7–44482
$KMn_4(PO_4)_3$ synthetic orthophosphate, cryst. struct., homeotypy with $KFe_4(PO_4)_3$ 7–21177
La-Mn-O system, solid state equilibrium relationships 7–38160
$LaNi_4MnH_x$, dynamical disorder of H, quasi-elastic neutron scatt. study 7–21535
$LiMnFe_2O_4$ ferrite, solid solution form. in contact diffusion pairs 7–2273
$Li_{1-y}MnRu_{1-x}Ti_xO_4$ system, characterisation of different phases *(German)* 7–26971
$Mg_{1-x}Mn_xFe_2O_4$, outside spin wave manifold effective linewidth values, effect of dimensional reson. 7–53146
Mn halides, vapour lasers, resonance radiation trapping effects 7–62669
Mn-NH_4 solutions, electrolysis, pH rise at cathode 7–33937
Mn-Ni-P, equilib. phase diagram at 1070K, X-ray anal. 7–46429
Mn-P melts, free energy of mixing and Mn_3P form. 7–65042
Mn-Zn ferrite US scatt. loss evaluation by line-focus-beam acoustic microscope 7–2331
Mn^{2+}-F^-, ligand field correl. effects ab initio MBPT calcs. 7–21874
Mn_{1-x} Zn_xO, stabilised, spin-glass transition, susceptibility obs. 7–7515
$MnAl_2S(Se)_4$ layer cpd. mag. props. and ionic distrib., 2D magnetic system models 7–38880
$Mn_3Al_2Si_3O_{12}$ spin glass, dynamic and static scaling exponents 7–38879
MnAs, crystal struct. and mag. props. 7–6592
MnAs, paramagnetic-ferromagnetic transition, nucleation model calcs. 7–52992
MnAs, phase transitions, effect of external press. and chemical substitutions 7–63798
MnAs, press, induced transitions 7–26941
$MnAs_{0.9}P_{0.1}$, struct. and mag. props. 7–12948
$MnAs_{1-x}P_x$, paramag. diffuse scatt. studies, neutron diffr. method 7–52933
$MnAs_{0.8}Sb_{0.2}$, press. induced transitions 7–26941
$MnCO_3$, decomp. to Mn_3O_4, kinetic evol. for laser/thermal prep. 7–39870
$Mn_2(CO)_{10}$, gas-phase, photodissoc. pathways and recomb. kinetics 7–59771
$Mn_2(CO)_{10}$, photolysis, thermal chem., photofragment vibr. excitation 7–23047
$Mn_{0.615}CR_{0.385}As$, press.-induced helimagnetic-ferromagnetic transition 7–52984
$Mn_xCd(Hg)_{1-x}Te$, refractive index dispersion and two-mode refl. spectra behaviour calc. model *(Russian)* 7–45971
$MnCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7–53495
$MnCl_2$-graphite intercalation cpds., mag. susceptibility meas. 7–45638
$MnCl_2(MnBr_2)$, liq. solns. and cryst. hydrates, luminesc. quenching mechanism 7–53399
$MnCo_2O_4$, fine-particles, low temp. prep. by solid solution precursor method 7–59486
$Mn_{0.63}Cr_{0.37}As$, thermal, mag. and struct. props. of transitions, thermodynamics, 10 to 350 K 7–64463
$Mn_3Cr_2Ge_3O_{12}$ garnets, cryst. growth, chemical vapour transport, struct. 7–53518
MnF_2 and site-diluted $(Mn_{0.5}Zn_{0.5})F_2$, μ^+SR studies above and below Neel temp. 7–45875
MnF_2, antiferromag., muon level crossing resonance 7–53186
MnF_2, antiferromag., muon level-crossing reson. 7–59133
MnF_2 antiferromagnetic superlattices with magnetisation perpendicular to surface, collective excitations, magnetostatic theory 7–45647
MnF_2 films, antiferromagnetic, dipole-exchange spin-wave modes 7–45771
MnF_2, light scatt. from magnons 7–45996
MnF_2, thermal behaviour of two-exciton bands 7–2497
$MnFeF_5(H_2O)_2$, ferrimag., mag. and Mossbauer study 7–45845
$Mn_3Fe_2Ge_3O_{12}$ garnets, cryst. growth, chemical vapour transport, struct. 7–53518
$Mn_3Ga_2Ge_3O_{12}$ garnets, cryst. growth, chemical vapour transport, struct. 7–53518
Mn_2GeS_4, cryst. struct. refinement *(French)* 7–32402
MnH, in Ar solid, ENDOR/ESR spectra 7–5710
$(Mn(H_2O)_6)^{2+}$ complexes in aqueous solutions, X-ray absorption spectra studies 7–22381
$Mn(H_2PO_4)_2.2H_2O$, cryst. struct., Patterson synthesis 7–2001
$Mn(IO_3)_2$, electronic absorption spectra, energy splittings 7–64625
$Mn^{2+}Mn_6{}^{3+}SiO_{12}$:Fe(Ca)(Al), antiferromagnetism and spin glass order, mag. meas. 7–27518
$MnNa(H_2PO_3)_3.H_2O$ orthorhombic struct., bond lengths and angles, X-ray diffr. study 7–32372
$MnNa_3P_3O_{10}.12H_2O$, cryst. struct determ. 7–58210
$Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7–6784
MnO, band struct., optical props. 7–32912
MnO_2, crystallite size, strain, X-ray diff. study 7–2221

- **manganese compounds** continued
  - MnO_2-$BaMnO_3$ system, pseudo-binary, phase relation and thermal behaviour of synthetic hollandite, $Ba_xMn_8O_{18}$ *(Japanese)* 7−28026
  - $Mn_{1-\Delta}O$, manganosite, relax. kinetics in CO-CO_2 mixtures 7−58539
  - $Mn_{1-x}O$, defect cluster energies, MO calc. 7−2010
  - $Mn_{1-x}O$, dopant cations interaction with 4:1 defect clusters, theoretical study 7−63644
  - Mn_2O_4, electrolytic preparation, phase transitions and ion exchange 7−33921
  - $(MnO_4)^-$complexes in aqueous solutions, X-ray absorption spectra studies 7−22381
  - MnP, spin-waves, neutron inelastic scatt. study 7−64444
  - $MnPS_3$, absorpt. spectra of transition metal ion 7−33411
  - $MnPS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7−38450
  - $MnPS_3$, layered cpd., mag. props. 7−52951
  - MnS thin films, luminesc. and excitation spectroscopy studies 7−7741
  - α-Mn_xS, antiferromag. semiconductors, elec. conductivity 7−64240
  - $Mn_2Sb_2O_x$, synthesis and cryst. struct., X-ray powder diffr. meas. 7−58240
  - $Mn_3Si_2Te_6$ ferrimag. semicond., cryst. struct., X-ray diffr. study 7−1977
  - $Mn_xSn_{1-x}Mo_6S_8$, Mn dopant props., supercond. transition temp., EXAFS, XANES, photoemission studies 7−46236
  - MnTe, electronic struct. in magnetically ordered and disordered phases, tight-binding calcs. 7−45145
  - $MnTe_2$, mag. phase transition, neutron powder diffr. study 7−64456
  - $Mn_{0.97}Ti_{0.03}As$, mag. phase transitions, effect of Ti additions 7−27519
  - $MnTiO_3$, quasi-2D antiferromag., spin dynamics 7−52987
  - Mn_xTiS_2, intercalation cpd., elec. resist. and thermopower studies 7−45331
  - $(Mn_{0.5}Zn_{0.5})F_2$ diluted antiferromag. spin-wave-quasilocalised excitation crossover 7−22101
  - $Mn_{0.5}Zn_{0.5}F_2$, sp. ht. meas. in random fields 7−33178
  - $Mn_xZn_{1-x}F_2$, 3D site-random Ising magnet, crit. behaviour 7−17186
  - $MnZnFe_2O_4$, struct., Mossbauer, X-ray, and mag. meas. 7−1971
  - $Mn_{0.53}Zn_{0.35}Fe_{2.12}O_4$, single cryst. surface damage depth meas. 7−52979
  - $Mn_{0.61}Zn_{0.26}Fe_{2.13}O_4$, ferrite, conductivity study 7−21909
  - $Mn_{0.61}Zn_{0.35}Fe_{2.04}O_4$ single cryst., low temp. acoustic props. anomalies, spin-reorientation transitions 7−51957
  - $Mn_{1-x}Zn_xFe_2O_4$ ferrite cores, hysteresis losses 7−33210
  - $Mn_{1-x}Zn_xFe_2O_4$ substrates, Auger microprobe temperature profiles of contamination residue 7−59822
  - $Mn_xZn_{1-x}Fe_2O_4$ ferrites, magnetoacoustic props. *(Russian)* 7−22131
  - $Mn_xZn_{1-x}Se$, energy gap comp. depend., photocond. and absorpt. edge meas. 7−38454
  - NH_4MnX_3 (X=Cl, F), absorpt. spectra 7−33410
  - $NaMnCrF_6$, SDW state, appl. of neutron white beam Laue diffr. technique 7−11845
  - $NaMn_2ZrP_3O_{12}$, Nasicon analogues, cryst. data 7−12014
  - PbF_2-MnF_2-$Al(PO_3)_3$ glasses, conductivity and mechanical relax 7−16803
  - $PbMg_{1/3}Nb_{2/3}O_3$-$PbTiO_3$, MnO doped, relaxor ferroelec. ceramics, dielec. ageing effects 7−22195
  - $Pb_{1-x}Mn_xTe$, indirect exchange interaction between Mn^{2+} ions 7−27509
  - PbTe-$MnTe_2$ system, phase diagram, conductivity and thermoelectromotive force 7−63824
  - PdMnTe, magnetisation and neutron diffr. study 7−27499
  - Rb_2MnCl_4, optical dichroism, spin forbidden *d-d* transitions, intensity prod. mechanisms 7−33360
  - Rb_2MnCl_4, quasi-2D uniaxial antiferromagnet, mag. phase diagram 7−7517
  - $Rb_2Mn_{0.7}Cr_{0.3}Cl_4$, randomly disordered mag. system, mag. cluster excitations and wave-like magnons 7−38881
  - $Rb_2Mn_{1-x}Cr_xCl_4$, reentrant spin glass state, quasi-2D XY system, Cl^{35} NMR spectra study 7−27613
  - $Rb_2Mn_xCr_{1-x}Cl_4$ mixed crystals, mag. props. 7−2897
  - $RbMnF_3$, thermal behaviour of two-exciton bands 7−2497
  - n-Si-MnO photoanodes, photoelectrochemical and struct. behaviour 7−54329
  - $Sn_{1-x}Mn_xTe$, degenerate ferro-spin-glass, transport props. and spin disorder 7−45330
  - $Ti_{1.2}Mn_{1.8}H_3$ hydride, H diffusion, quasielastic neutron scatt. studies 7−52135
  - Tl_4MnI_6, paramag. suscept. w.r.t. NMR chem. shift, hyperfine coupling const. determ. 7−2941
  - (Zn,Mn)Se quantum well structures, wide-gap II-VI superlattices 7−7346
  - (Zn,Mn)Se/ZnSe superlattice, optical props. heterointerface effects 7−7736
  - $Zn_{1-x}Mn_xSe$, antiferromag. exchange constants between nearest-neighbour Mn^{2+} ions 7−64449
  - $Zn_{1-x}Mn_xSe$/ZnSe strained layer superlattices, electronic energy states and relax. 7−45425
  - $Zn_{0.95}Mn_{0.05}Te$, antiferromag. exchange const. determ., free exciton Zeeman splitting meas. 7−22229
  - $Zn_{1-x}Mn_xTe$, x=0.25−0.71, free exciton state exchange splitting, magnetoreflectance, magnetisation meas. 7−53288
  - $Zn_{1-x}Mn_xTe$, interband Faraday rot. meas. 7−39093
  - $Zn_{1-x}Mn_xTe$, photoluminescence position and lifetime 7−13205
  - $Zn_{1-x}Mn_xTe$ semimag. semicond., ESR line shape meas., comp. and temp. depend. 7−7584
  - ZnSe-ZnMnSe, quantum wells, excitons and kinetics 7−12622
  - ZnSe-ZnMnSe strained layer superlattices, quantum confinement effects 7−27403
  - ZnSe-ZnMnSe superlattices, photoluminesc. props. 7−13218

- **manipulators** *see industrial robots*

- **manometers**
  - *see also pressure measurement*
  - indirect manometers, calibration by static expansion of gas 7−30026
  - membrane-capacitance manometer, sensitivity estimation 7−48706
  - precision digital manometer, Model 2661, based on compound timing-fork pressure sensor *(Japanese)* 7−48719
  - H absorption and desorption on milligram samples 7−6981

- **manufacture**
  - *see also electronic equipment manufacture; steel manufacture*
  - steel, wear resistant, for cutout dies of electric machine manufacture 7−13719

- **manufacturing computer control**
  - *see also process computer control*
  - solar cell high throughput automated fabrication line 7−8417

- **manufacturing processes**
  - *see also cold working; cutting; drawing (mechanical); extrusion; forging; forming processes; hot pressing; hot working; joining processes; machining; manufacture; rolling; sintering*
  - automated single-mode optical coupler manufacturing 7−26049
  - fibre optic couplers, fused, mass production 7−26050
  - plastics, conductive, continuous milling *(Japanese)* 7−46408
  - CO_2 lasers, unconventional material processing appl. 7−17759
  - U mills, final product dust median aerodynamic diameters 7−8702
- **manufacturing resources planning** *see operations research; production control*
- **many-body problems**
  - *see also BCS theory; quantum statistical mechanics; renormalisation*
  - Bogolyubov generating functions, quantum method, current Lie algebra, representations, functional eqns. 7−41240
  - conference, Marineland, Florida, USA (March 1986) 7−40985
  - Dirac-Coulomb Hamiltonian, relativistic many-bodies, Foldy-Wouthuysen type diagonalisation procedure 7−9698
  - dynamical processes in many-body systems, random motion approx. 7−48587
  - general coupled-cluster methods, MBPT, analytic energy gradients 7−19674
  - general relativity, many-body Lagrangian 7−9718
  - HF theory of many-body problems of proton-neutron interaction 7−30350
  - integrable many-body systems in one dimens., Lax representation 7−14868
  - LMG model as many body probe 7−24482
  - many electron atom and ion systems, theoretical model 7−14815
  - N-molecule system, long-range dispersion interactions, spherical tensor theory 7−42723
  - N-molecule system, long-range induction interactions, spherical tensor theory 7−42722
  - N-molecule system, long-range isotropic interactions, spherical tensor theory 7−42724
  - N-particle quantum system, probability and energy density currents, expression as density functionals 7−117
  - nondegenerate many-body theory and conservation laws 7−24448
  - nuclear many-body problem, unitary-model operator anal. 7−10116
  - nuclear many-body problem, unitary-model-operator anal. 7−5164
  - polymers, highly conducting, electronic structure, correlation effects 7−64064
  - quantum many-body theory, connected-moments expansion 7−41151
  - Schrödinger eqn. for molecular systems, computational considerations 7−4700
  - second-row atoms, g_J factors, many-body calcs. 7−62265
  - solid-state spectroscopy, many-body aspects, book 7−24326
  - spectra of partial differential operators, book 7−55905
  - superconducting electron pairing, exchange and correl. contributions 7−45574
  - three-body problem, chaotic instability 7−41246
  - three-body problem, effective pots. and wavefns., asymptotics 7−30931
  - two-level atoms, intrinsic optical bistability, quantum-electrodynamical many-body treatment. 7−37019
  - water, liq., three-body forces and single-molecule dynamics 7−11880
  - wave functions, coupled cluster calculations 7−24481
  - Be, multi-config. HF and many-body perturbation theory calcs. 7−19699
  - CO, approximate coupled cluster doubles approx. 7−25348
  - F^{n-}(n=0 or 1), MBPT and coupled cluster calc., comparison with CI 7−49899
  - H, Schrodinger eqn., many dimensional analogue, quantum mechanical many-body problem 7−42460
  - H_2 formulation of ab initio optical potential for electron elastic scatt. 7−15714
  - HF, MBPT and coupled cluster calc., comparison with CI 7−49899
  - H_2O, MBPT and coupled cluster calc., comparison with CI 7−49899
  - ^3He, liq., Fermi hypernetted chain calcs. 7−52174
  - ^3He, liquid, binding energy, many-body correlations 7−6910
  - Mg, spectra struct. and isotope shifts, many-body perturbation theory calcs. 7−50019
  - NH_2, MBPT and coupled cluster calc., comparison with CI 7−49899
  - Ne, MBPT and coupled cluster calc., comparison with CI 7−49899
- **many-particle systems** *see statistical mechanics*
- **many-valley semiconductor materials** *see many-valley semiconductors*
- **many-valley semiconductors**
  - crystals, interaction of excitations with dislocations 7−38553
  - doped, crit. transport props. 7−64248
  - excited states of shallow donors 7−52514
  - n-Ge, many-valley semicond., surface photogalvanic effect calcs. 7−52679
  - low-lying excited states, metal-insulator transition, modified Hubbard model, Gutzwiller variational calcs. 7−7119
  - magnetoresistance of 2D electron in lateral superlattice 7−38599
  - mobility anisotropy coeff. determ. 7−12715
  - AlGaAs/GaAs modulation-doped heterojunctions, 2D electron gas, DX centres 7−38694
  - n-$Al_xGa_{1-x}As$ epitaxial layers, graded-gap, resistance, press. dependence 7−33113
  - $Al_xGa_{1-x}As$/GaAs, multilayer and superlattice structs., electronic subbands 7−58877
  - GaAs, conduction band, deformation splitting and intervalley scattering 7−2548
  - GaAs quantum wells, electron interference effects, obs. of bound and reson. states 7−64334
  - PbS, epitaxial film, weak-field magnetoresistance, multi-valley model *(Korean)* 7−33114
  - PbTe, weak-field magnetoresistance, multi-valley model *(Korean)* 7−33114
  - n-Si, electron heating and intervalley redistribution in strong electric fields 7−27336
  - Si n-type (100) inversion layers, valley splitting enhancement by lossless edge currents 7−7395
  - Si:P, many-valley semicond., electron intervalley scatt., optical pumping study 7−52608
  - Si-SiGe strained layer superlattices, electric subbands 7−2700
- **manybody problems** *see many-body problems*
- **map drawing** *see cartography*
- **maraging steel** *see alloy steel*
- **marine systems**
  - *see also ships*
  - ARGO/JASON, remotely operated deep ocean exploration system, development 7−55328

marine systems continued
optical convertor for marine quartz gravimeter 7−29262
V4-275R Stirling engine, submarine appls. 7−65565

mark scanning equipment
holographic recording techniques and appls. 7−57276
point of sale hologram scanner, optical design 7−25783
US identification system for coded moving objects 7−1361

Markarian galaxies
see also Seyfert galaxies
active galactic nuclei, spectroscopic obs. and red shifts 7−4566
catalogue of Markarian galaxies, redshifts, classifications, magnitudes, and flux densities 7−55496
Markarian 1018, spectrophotometric study of variability 7−55807
Markarian 231, Seyfert 1 galaxy, morphology and nuclear spectroscopy 7−48067
Markarian 231, Seyfert galaxy/QSO, CO ($J=1$-0) emission detect. and optical imaging 7−66757
Markarian 297, 325, clumpy irregular galaxies, U−G and G−K colours 7−24224
Markarian 306, double nucleus galaxy, spectroscopic investigation 7−24199
Markarian 335, soft X-ray excess in Seyfert 1, accretion disk 7−60804
Markarian 35 (=NGC 3353), spectrophotometric characts. 7−40910
Markarian 380 as $z=0.475$ Seyfert galaxy, spectrophotometry 7−40915
Markarian 3, Seyfert 2 galaxy, dust in emission-line gas 7−66746
Markarian 490, high ionisation starburst galaxy, spectroscopic and imaging obs. 7−4574
Markarian 609, absolute spectrophotometry 7−24228
Markarian 705, Seyfert ring galaxy, B and V surface photometry 7−66732
MKN 739, multiple nucleus galaxy, interstellar characts. and obs. 7−55790
morphological types, deficiency of normal elliptical galaxies 7−24201
Mrk 421, optical variability on short time scale 7−14660
NGC 5383, barred spiral galaxy, CO obs. 7−55827
Seyfert galaxies, emission-line variability 7−14648
Seyfert galaxies, narrow-line, with permitted Fe II emission (Mrk 507, 5C 3.100, I Zw 1), optical, X-ray, and IR props. 7−66751
Seyfert galaxies of type 1.8 and 1.9, radio props. 7−29537
Seyfert galaxy nuclei, near-UV spectroscopy rel. to reddening and Bowen fluoresc. 7−55801
starburst galaxies, spectroscopic study 7−24222
Wolf-Rayet emission features 7−35039
in Zwicky galaxy clusters, data on galaxies and clusters 7−4567

marketing
holography market trends, embossed holograms, opt. elements and NDT systems 7−25742

Markov chains *see Markov processes*

Markov processes
asymptotic behaviour of Markov chain potentials, random walks and Brownian motion *(French)* 7−61228
atmosphere, large water droplets dispersion model 7−34583
chain algorithms for canonical ensemble simulation 7−48520
damped nonlinear oscillator, Markovian master eqn. 7−35329
delay-differential systems, chaos, statistics and dimensions 7−48572
ECG, Markov-chain analysis of RR intervals 7−28498
fatigue life, examination by Markovian processes, appl. of theory 7−32560
finite-temperature soliton problem, nonlinear density-matrix approach 7−24435
Gaussian N-ple Markov process, nonlinear prediction of degree n 7−29735
generalised cell mapping, largest Lyapunov exponent 7−29927
ground cover thematic classification map, use of multitemporal data 7−8951
harmonic oscillator with small noise, instability 7−4770
information loss in the transition from deterministic systems to probabilistic processes 7−48568
informational representation of evolutions 7−61232
ionosphere f_0F_2, hourly variability estimation at low latitude station 7−60472
jump processes, boundary behaviour of diffusion approximations 7−29897
linear particle transport eqns., duality in transport theory 7−56710
linear transport theory in a random medium 7−18727
mapping problems, smoothing error dynamics 7−8788
Markovian approximation to finite-coupling generalised master eqn., convolution form 7−18691
N-level systems, quantum Markovian master eqn., evolution matrix in coherence vector formulation 7−48539
nonMarkovian processes driven by dichotomic Markov noise, first-passage times 7−24558
optimal water supply planning, use of seasonal runoff forecasts 7−23741
partition for billiards 7−29895
perturbed Markov chains, stationary distribs., transition matrix perturbation 7−24554
phoneme classification using Markov models 7−43567
polydienes, sequence distribs., kinetic treatment of first order Markovian process 7−16443
potential modelling with fields of correlated random variables 7−14873
preserving Markov property by weak convergence 7−48553
quantum Markov chains, translation-invariant distrib. 7−61265
random residence time distribution 7−4759
seasonal runoff forecasts, stochastic modelling 7−23740
solar irradiation simulation using Markov processes and Fourier analysis 7−8433
South Dakota, USA, stochastic daily precipitation models, parameters seasonal and regional var. 7−23781
statistically nonuniform emitters, noise and emission props., Markov model 7−48582
transition state identification, statistical method 7−22991
two-phase medium, statistically heterogeneous, radiative transfer, Markov calcs. 7−37316
waiting time distrib. function, asymptotic solns. of continuous time random walk problems *(Chinese)* 7−35398

Mars
1986 observer's guide 7−18365
Alba Patera, linear volcanic features identified as probable spatter ridges 7−55516
atmosphere, dust injection mechanism 7−34904

Mars continued
atmosphere, mass fractionation during transonic escape of gases rel. to loss of water 7−55508
atmosphere, meteorology in AD 1964 to 1983 period 7−55514
atmosphere, semiannual oscillations 7−29418
atmosphere, tidal theory in geometric height and log-press. coords. 7−29323
atmosphere normal modes 7−40533
atmosphere remote sensing using IR pressure modulation and filter radiometry 7−47747
atmospheric tide theory, treatment of IR radiative damping 7−29208
case for Mars II, conference, Boulder, Colorado (July 1984) 7−24300
conference on atm. and climate, Washington, DC, USA (July 1986) 7−9598
dust on Mars, MECA workshop, Tempe, Arizona (February 1986) 7−29603
Elysium region, lithospheric loading models and tectonic features 7−29420
flowing water evidence 7−60592
global dust storms interannual variability 7−40737
heat conduction, temp. profile and radial deform. for elastic planetary interior 7−23592
impact cratering events, size-velocity distribution of large ejecta fragments 7−24029
ionosphere, electrical and electrothermal conductivities 7−34781
IR radiation transfer, transmission of the CO_2 15 μm band 7−40688
landform sequences, environmental change *(French)* 7−55512
lava flows, small surface features anal. and comparison with terrestrial analogues 7−55518
limb hazes in Martian atmosphere, vertical struct. from scattered light profiles 7−55513
magnetic field 7−66493
noble gases implantation in shergottite meteorites 7−55581
oblique asteroid impacts, process for ejecting SNC meteorites 7−34957
Olympus Mons, isostatic gravity and elastic bending models 7−29419
optical communication link for Mars sample return mission roving vehicle 7−34835
Phobos and Deimos, crater ejecta blocks, size and distrib. 7−34903
Phobos mission (for 1988-89) *(French)* 7−66419
polar cap seasonal changes, CO_2 exchange with atmosphere 7−40733
polygonal terrane of Utopia Planitia, N Martian plains 7−9397
regolith, appl. of heat-conducting fluid flow through porous media 7−16249
rock exposure spatial distribution 7−40735
sedimentary deposits in northern lowland plains, evidence from Viking orbiter images 7−55517
SNC meteorites production, effect of impact-generated gas cloud on solid ejecta accel. 7−55585
stratigraphy characts. 7−55515
sunlight absorption in IR CO and CO_2 bands 7−4358
surface fines, implications of physical props. of shocked and thermally altered nontronite 7−55024
surface material, implications of fluidisation and hydrothermal alteration of suevite deposit 7−55049
Tharsis region, origin through impact-induced mantle convection 7−14514
thermal inertia of basaltic lava, low values due to porosity or dust 7−40736
underground water on Mars, quantity and condition 7−24043
Valles Marineris rift system, structure and development 7−9398
valleys morphology, comparison with Hawaiian valleys and evidence for groundwater sapping 7−55095
violet light photographic technique 7−18364
water in subsurface layers, distribution 7−40734

martensitic-austenitic transformations *see reverse martensitic transformations*

martensitic steel
bearing appls., Ti and C ion implantation, enhanced lubricated sliding wear resistance 7−53916
bearing type, quenching temp. rel. to microstruct. and fracture surface morphology 7−8015
case hardened, struct. and contact endurance after plastic surface deform., tempering effect 7−46706
cyclic softening, creep and fatigue, fusion reactor appls. 7−53757
environmentally assisted cracking at high vel. 7−65213
HSLA, gouging abrasive near mechanism, investig. with aid of pendulum single-pass grooving 7−22846
HT-9 martensitic steel, radiation induced segregation 7−56830
intergranular crack nucleation, fractographic and acoustic emission meas. *(Russian)* 7−33766
packet martensite deformation, struct. and crystal geometry *(Russian)* 7−3357
slip processes in intersecting planes, α' martensite form. *(Russian)* 7−33728
stainless, amplitude depend. damping rel. to annealing and tempering *(German)* 7−13498
stainless, brittle failure rel. to overheating, fractography 7−22796
stainless, cooling rate and heat treatment effect on chem. microinhomogeneity 7−3294
stainless, ferritic-martensitic, high-Cr, fast reactor irrad., phosphide phases 7−22700
stainless, ion-nitrided, struct. and props. 7−22884
stainless, laser surface melted, residual stresses 7−3506
stainless, low activation, hardening, tempering, mechanical props. 7−53861
stainless, low-activation, for first wall and blanket structures, development prospects 7−42194
stainless, oxidation and descaling behaviour, influence of annealing *(Japanese)* 7−59665
stainless, precipitation hardened, impact toughness rel. to Mo content, AES obs. 7−39666
structural, micromechanisms of near-threshold fatigue crack propag. 7−13551
tempering after surface plastic deform. effect on damageability in cyclic loading 7−46705
Cr-Ni, low-C, butterfly martensite, crystallographic characts. *(Russian)* 7−6580
Mn, lath martensite, embrittlement in specimens containing 6 to 10% Mn *(Japanese)* 7−33774

martensitic structure
pearlite-martensite interface, SEM obs. 7−39505

martensitic structure continued
- steel, austenite, strain-induced martensitic transform., strain rate effect 7—7996
- steel, austenitic stainless, strain martensite determ., eddy current method 7—3559
- steel, austenitic stainless, streaking effects of H induced ϵ martensite phase, TEM obs. 7—28038
- steel, bearing type, quenching temp. rel. to microstruct. and fracture surface morphology 7—8015
- steel, C, inverse magnetostrictive effect and electromagnetic non-destructive testing methods 7—13714
- steel, C-Mn, creep crack growth at 360°C, effect of microstruct. 7—28113
- steel, case hardened, struct. and contact endurance after plastic surface deform. tempering effect 7—46706
- steel, Cr-Mn-Si-Ni, SCC in aq. NaCl soln., microstruct. effect 7—8196
- steel, Cr-Mo ferritic-martensitic, fracture toughness precip. of Laves phases 7—53849
- steel, Cr-Mo-V, creep ductility, impurity and microstruct. effects 7—46587
- steel, CR-Mo-V, thermal fatigue resist., effect of initial struct. 7—28132
- steel, Cr-Ni-Mn, decomp., martensite struct. rel. to alloying comp. *(Russian)* 7—59531
- steel, high C, electrolytically-separated α-martensite, diffr. study of struct. *(Russian)* 7—51702
- steel, low-C, Ni influence on struct., fracture resist. and fractographic features 7—3420
- steel, martensitic, tempering after surface plastic deform. effect on damageability in cyclic loading 7—46705
- steel, Mn, work hardening, martensite form. *(Russian)* 7—39510
- steel, Mn-V, continuously cooled, hardness rel. to martensite vol. fraction 7—28121
- steel, Ni, abrasive wear rel. to anisotropic ferrite-martensite microstruct. 7—13607
- steel, Ni-Co-Mo, maraging, lath martensite boundary cracking near threshold stress intensity factor *(Japanese)* 7—53846
- steel, Ni-Co-W, maraging, martensite isothermal aging, hardness, struct. and elec. resist. kinetic behaviour study 7—17553
- steel, packet martensite deformation, struct. and crystal geometry *(Russian)* 7—3357
- steel, quenching, elec. field enhancement 7—46517
- steel, Si-Mn-Mo, austenitising, bainite transform., lump-like composite struct., mech. props. *(Chinese)* 7—13477
- steel, stainless, martensitic, cooling rate and heat treatment effect on chem. microinhomogeneity 7—3294
- steel, structural, fracture toughness, rapid austenitisation, effect of conditions *(Russian)* 7—39651
- steel, structural, micromechanisms of near-threshold fatigue crack propag. 7—13551
- steel, structural heredity in heat cycling 7—33703
- Au-Cd (47.5 at.%), stress induced martensitic transform., pseudoelasticity 7—39610
- CO-GE, disordered ε' martensite struct. *(Russian)* 7—58207
- Co-Ta, cryst. struct. of α-martensite, effect of Ta conc. *(Russian)* 7—44452
- Co-Ta alloy, 1D disordered α-martensite states *(Russian)* 7—51703
- Cu-Al-Ni, cryst. struct. of α''_1 martensite formed during deform. *(Russian)* 7—53814
- Cu-Al-Zn, β-phase stability, mech. props. rel. to quenching rate 7—33659
- Cu-Sn, dual phase, struct.-prop. correl., hardness obs. 7—8094
- Cu-Zn-Al, shape memory alloy, type II twins in self-accommodating martensite plate variants 7—22752
- Fe-Al-C (3.8, 1.8 wt.%), martensite crystallostruct. changes, effect of temp. and heating/cooling rates *(Russian)* 7—53727
- Fe-C martensite, struct. in transition state from first to third stage of tempering, electron microscopy and diffr. study 7—46528
- Fe-N martensite, transform. kinetics, anal. by nonisothermal dilatometry 7—8004
- Ni-Al (20 wt.%) alloy, planar flow cast, cooling rates and microstruct. 7—59505
- Ti-Al-Sn, weld metal, cryogenic toughness *(Japanese)* 7—46620
- Ti-Ni-Cu(Au), martensite cryst. lattice distortions, comp. depend. 7—22679
- $Ti_{50}Ni_{40}Au_{10}$, martensitic transform., TEM study 7—59522
- $Ti_{50}Ni_{45}Au_5$ martensite, interstitial H-induced extra reflection, TEM and electron diffr. study 7—59521
- U-Ti (4 at.%), quenching, decomp., TEM obs. 7—39527

martensitic transformations
- *see also shape memory effects*
- 2D magnetic-analogue model 7—26905
- A15 compounds, martensitic and supercond. phase transitions 7—58942
- A15 cpds., supercond. rel. to martensitic transition, microscopic theoretical model 7—2767
- A15 superconductors, mechanisms for martensitic transformations 7—38188
- alloys, martensitic transformations, long-period 1-D struct. form. 7—13451
- alloys, pseudoelasticity and shape memory effects, review 7—8060
- alloys with shape memory, simulation of material behaviour 7—2088
- bainite reaction 7—3297
- bearing type, austenite transform. kinetics and internal stresses in bainitic hardening 7—39563
- Bonnet transformation and differential geometry 7—7997
- ceramics, transformation toughening, shear, shape and orientation effects 7—39626
- composites, binary elastic, effective transform. strain 7—44660
- deformation process 7—39515
- epitaxial overlayers, structural transitions 7—27194
- polycrystalline alloys, plastic deform., stress induced martensitic transform. *(Japanese)* 7—13514
- shape memory alloys, ageing and thermal cycling effects 7—3336
- shape memory alloys, mech. props., polycrystal model *(Japanese)* 7—53789
- shape memory effects in plastic transform. conditions *(Russian)* 7—33656
- shape memory engines, practical efficiency 7—65033
- shape memory heat engine performance and optimum stress calc. 7—23207
- steel, austenite, strain-induced martensitic transform., strain rate effect 7—7996
- steel, austenitic, cold deformed, mag. props. *(Russian)* 7—45734
- steel, austenitic, martensite transform. start temp. increase in electrolytic H impregnation, internal microstresses role 7—17690

martensitic transformations continued
- steel, austenitic stainless, electrical resistivity and magnetisation, temp. depend. 7—38535
- steel, austenitic stainless, low activation, development, mechanical props., fusion reactor structural material 7—53799
- steel, austenitic stainless, microstructure rel. to cathodic H charging 7—28039
- steel, austenitic stainless, strain martensite determ., eddy current method 7—3559
- steel, austenitic stainless, streaking effects of H induced ϵ martensite phase, TEM obs. 7—28038
- steel, austenitic stainless, surface phase transform. rel. to H charging and ageing 7—17530
- steel, C, isothermal austenite transform. near martensite point, kinetic anomaly 7—46467
- steel, Cr-Ni-Co VKS6, struct. and mech. characts., effects of Ni, Co and heat treatment 7—8108
- steel, dual-phase, strength differential effect 7—46547
- steel, Fe-Cr-C, martensite and bainite transforms. *(Russian)* 7—13448
- steel, hardening process modelling, stresses effect on struct. transform 7—39555
- steel, high speed, powders, transform., struct. and props., prior annealing effect 7—13452
- steel, high-speed, atomised powder, particle size effect on amount of residual austenite 7—3308
- steel, high-speed W-Mo, nitrogen effect of stabilisation of austenite 7—8021
- steel, low alloy, B-containing, near-threshold fatigue cracks 7—46605
- steel, metastable, anomalous plasticity, slip, microtwinning and martensitic transformations *(Russian)* 7—8056
- steel, Mn, austenitic, friction induced martensitic transform., wear resist., work hardened surface layer 7—17531
- steel, Mn, work hardening, martensite form. *(Russian)* 7—39510
- steel, Ni-Co-W, maraging, martensite-austenite reversible transforms. during tensile deform. and thermal cycling 7—17528
- steel, Ni-Cr-based, high temp. strength, modified ausforming effects *(Japanese)* 7—8089
- steel, residual stresses establishment 7—33657
- steel, slip processes in intersecting planes, α' martensite form. *(Russian)* 7—33728
- steel, stainless, laser surface melted, residual stresses 7—3506
- steel, stainless, transition class, deform. method effect on microstruct. 7—3299
- steel, stainless, type 304, elec. resist. and magnetisation 7—45268
- steel, stainless, wire, electroplastic drawing, struct. and physicomech. studies *(Russian)* 7—8057
- steel, tool, W-Cr-V, phase transition temps., possible influence *(German)* 7—59517
- stress-induced, anal. of inelastic bending 7—65032
- AgCd, martensite transformation and shape memory effect, resistivity and thermoelectric power meas. 7—53729
- B''-Al_2O_3-Na_2O-ZrO_2 ceramics, transform toughened, fabrication, mech, props. ionic resist. 7—65143
- Al_2O_43-ZrO_2 composites, microstruct. charactn. by Raman spectroscopy *(Japanese)* 7—22684
- Au-Cd (47.5 at.%), stress induced martensitic transform., pseudoelasticity 7—39610
- CO-GE, disordered ε' martensite struct. *(Russian)* 7—58207
- Ca, FCC and BCC, lattice dynamics 7—38134
- Ce plate, isostructural $\gamma\rightleftarrows\alpha$ transformation, shape changes *(Russian)* 7—46464
- Co alloys, 1D disordered structural states, form., quenching, X-ray diffr. study 7—44784
- Co-Ta, cryst. struct. of α-martensite, effect of Ta conc. *(Russian)* 7—44452
- Co-Ta alloy, 1D disordered α-martensite states *(Russian)* 7—51703
- Cu-Al-Mn, surface layers, change in chem. state during annealing investig. using Auger spectroscopy *(Russian)* 7—33834
- Cu-Al-Mn, thermoelastic martensite form., effect of thermal and stress cycling 7—22680
- Cu-Al-Ni, cryst. struct. of α''_1 martensite formed during deform. *(Russian)* 7—53814
- Cu-Al-Ni, shape memory alloys, polycrystalline, cyclic deform., fatigue above transform temp. 7—3434
- Cu-Al-Ni shape memory alloys, polycrystalline, cyclic deform. and fatigue above transform. temp. 7—3433
- Cu-Al-Ni-Ti-Zr, shape memory alloy, grain refinement, fracture mode, Ti and Zr additions effect 7—3301
- Cu-Al-Zn, β-phase stability, mech. props. rel. to quenching rate 7—33659
- Cu-Be, explosive cladding, martensitic transform., electron diffr. 7—46468
- Cu-Fe-Al, cold rolled, γ to α transform. of fine α-Fe precipitates, mag. props. 7—3300
- Cu-Sn, dual phase, struct.-prop. correl., hardness obs. 7—8094
- Cu-Za-Al ribbons, rapidly, quenched, martensitic transform., stabilisation 7—22678
- Cu-Zn alloy, cyclic BCC-9R martensitic transform.-induced dislocations Burgess vector, electron microscopy studies 7—51775
- Cu-Zn-Al, thermoelastic, two way memory effect, dislocation form. model 7—22741
- Cu-Zn-Al, thermoelastic, two-way memory effect, dislocations origin 7—22754
- Cu-Zn-Al (26,4 wt.%), shape memory alloy, martensitic transform. crystallography *(Chinese)* 7—7994
- Cu-Zn-Al (26,4 wt.%), shape memory alloy, crystallography of martensitic transform. *(Chinese)* 7—7995
- β-Cu-Zn-Al alloys, elastic constants and lattice stability 7—13492
- Cu-Zn-Al shape memory alloys, grain refinement 7—53774
- Cu-Zn-Al-Zr, shape memory alloys, grain-refined, effect of grain size on transform. temp. 7—39512
- CuZn brass alloys, local disorder and premartensitic phenomena, EXAFS study 7—64817
- CuZnAl alloys, β-phase, defects study by positron annihilation 7—39297
- CuZnAl, isothermal growth of thermoelastic martensite, quenching and ageing effects 7—53730
- Fe alloys, martensitic transformations, effect of stresses and mag. fields 7—53731
- Fe-Al-C (3.8, 1.8 wt.%), martensite crystallostruct. changes, effect of temp. and heating/cooling rates *(Russian)* 7—53727
- Fe-Co-Ni-Ti (34.9, 20.0, 10.2 wt.%), thermoelastic martensite transformation 7—52032

martensitic transformations continued
Fe-Cr-C, martensite nucleation, dislocations, grain boundaries, plastic accommodation 7—28040
Fe-Cr-Ni, hardening at low temp. *(Russian)* 7—39554
Fe-Mn, FCC alloys, H-induced martensitic transform. *(Japanese)* 7—33655
Fe-Mn, kinetics of α-phase form. and role in shape memory effect *(Russian)* 7—46581
Fe-Mn alloy, p/m type, martensitic transform. and struct. form. mechanisms 7—33658
Fe-Mn-Al-Cr system, rel. between $\gamma \rightarrow \epsilon$ transform. temp. and comp. of metastable austenite region *(Chinese)* 7—7993
Fe-Ni, martensitic transform., defect form., positron annihilation study *(Chinese)* 7—39213
Fe-Ni alloys, martensitic transform., positron annihilation study of defects 7—39266
Fe-Ni austenitic alloys, martensitic transformations, grain size effects *(Russian)* 7—46465
Fe-Ni-C alloys, martensitic transform., effect of soln. strengthening of austenite 7—53728
Fe-Ni-Nb, martensitic transform. and shape memory effect *(Russian)* 7—46470
Fe-Ni-Nb alloys, shape memory effect, effect of phase hardening *(Russian)* 7—53809
Fe-Ni(-C), martensite nucleation, dislocations, grain boundaries, plastic accommodation 7—28040
Fe-Pd, thermoelastic FCC-FCT martensitic transform. mechanism, TEM obs. 7—28041
Fe-Pt Invar alloys, premartensitic transform., local structural change, EXAFS study 7—63556
Fe-Pt Invar disordered alloys, premartensitic transform., mag. anomalies 7—7495
FePd, thermal expansion and α-γ phase boundary lines 7—2239
KBr, martensitic character of press. induced B1-B2 phase transition 7—6789
Li-Mg disordered, phonons and martensitic phase transitions 7—58423
MgO-ZrO_2, dispersed, phase transform., toughening 7—65034
Mn-Cu single crystals, Debye-Waller coeff. behaviour, energy dispersive X-ray diffr. study *(Russian)* 7—51983
Mo-ZrO_2, sintered composites, tetragonal to monoclinic transform. of ZrO_2 *(Japanese)* 7—13450
Mo-ZrO_2, sintered composites, mech. props, microstruct. *(Japanese)* 7—13558
Ni-Al alloys, premartensitic behaviour, neutron scatt. study 7—44717
Ni-Al-Fe system, phase equilibria in the Ni-rich region 7—39487
Ni-Mn, microtwinning, $\beta \rightarrow \theta$ martensitic transform 7—32455
Ni-Mn-Al, martensitic transform. *(German)* 7—46471
Ni-Ti, nitinol, memory alloy, martensitic transformations 7—39513
Ni-Ti, nitinol, shape memory alloy, phase transitions, thermal energy conversion appl. 7—39514
NiTi alloy powder, shock compaction 7—59480
NiTi, martensitic transform. rel. to d-transition element alloying *(Russian)* 7—59519
Ti-Al-Cr-Mo alloy VT3-1 mech. props. depend. on decomp. product morphology for metastable phases 7—39655
Ti-Al-Mo-Fe, struct. changes during phase transitions *(Russian)* 7—53721
Ti-Al-V, struct., martensitic transform., cooling rate depend. *(Russian)* 7—46469
Ti-Ni-Cu(Au), martensite cryst. lattice distortions, comp. depend. 7—22679
Ti-Ta metastable alloys, phase transforms. during heating *(Russian)* 7—13449
TiNi, mono- and polycryst., elastic props. and internal friction, premartensitic anomalies *(Russian)* 7—59564
TiNi shape memory alloys, wear resist. and hardness, influence of heat treatment *(Korean)* 7—17647
TiNi-Ge, premartensitic effects *(Russian)* 7—53692
TiNi-TiAu alloys, martensitic transformations and shape memory effects *(Russian)* 7—17529
TiNi-TiFe alloys, martensitic transform. and props. *(Russian)* 7—39511
$Ti_{50}Ni_{40}Au_{10}$, martensitic transform., TEM study 7—59522
$Ti_{50}Ni_{45}Au_5$ martensite, interstitial H-induced extra reflection, TEM and electron diffr. study 7—59521
TiNiCu alloys, martensitic transformations, kinetic and morphological laws 7—52031
TiNiFe, premartensitic state investig., Mossbauer effect studies *(Russian)* 7—3298
$Ti_{50}Ni_{47}Fe_3$, intermetallic cpd., martensitic transform. at high press. *(Russian)* 7—59520
ZrO_2 advanced ceramics, props. and appl. 7—13416
ZrO_2, CeO_2 containing tetragonal polycrystals, thermal stability, mech. props. 7—28101
ZrO_2 ceramics, displacive transform. mechanism 7—65031
ZrO_2 ceramics stabilised by rare earth oxides, thermal shock resistance *(Japanese)* 7—22736
ZrO_2, MgO partially stabilised, cryogenically induced martensitic transform. of precipitates 7—28037
ZrO_2, partially stabilised, instrumented impact testing, absorbed energy, stress induced phase transform. 7—28237
ZrO_2 transform. toughened ceramics, fracture toughness rel. to transform. temp. 7—46614
ZrO_2, Y_2O_3 partially stabilised, stress-induced phase transform., obs. by Raman microprobe *(Japanese)* 7—22683
ZrO_2, Y_2O_3 partially stabilised, tetragonal phase stability in molten fluoride salts *(Japanese)* 7—28164
ZrO_2, Y_2O_3 partially stabilised, phase diagram, microstruct. *(Japanese)* 7—53707
ZrO_2, Y_2O_3 stabilised, fracture toughness and transformability, grain size depend. 7—13566
ZrO_2-Sc_2O_3, cubic to β martensitic transform. 7—22681
ZrO_2-TiO_2, solubility of TiO_2 in ZrO_2 7—39490
ZrO_2-Y_2O_3, arc melted, cubic to tetragonal transform. herringbone struct. 7—28042
ZrO_2-Y_2O_3, rapidly quenched, microstruct. evolution by annealing 7—22737
ZrO_2-Y_2O_3 ceramic system, phase equilib. and transform 7—22682

martensitic transformations, reverse *see reverse martensitic transformations*

maser clocks *see atomic clocks*

masers
astronomical maser source involving H_2O and cold dust, theoretical study 7—24197
Doppler-shifted cyclotron resonance maser, theory, TE and TM modes 7—43040
electron cyclotron instability, kinetic and temp. restrictions 7—14484
electron cyclotron maser emission from pulsed electron beams 7—25791
electron motion in superposed standing wave/magnetic field 7—5865
electron-cyclotron maser instability in relativistic plasmas 7—11694
electrostatic electron cyclotron resonance maser, linear theory 7—20177
five electron laser with tapered-wiggler, high-efficiency microwave radiation extraction 7—20241
free electron laser was slow-wave structures, quantum description, FIR/microwave generation 7—10972
free-electron laser, MM-wave, sideband control 7—62716
induced resonance electron cyclotron (IREC) quasi-opticalmaser 7—1157
induced resonance electron cyclotron quasi-optical maser 7—31295
induced resonance electron cyclotron quasi-optical maser in an open resonator 7—20176
Jaynes-Cummings model and beyond in quantum optics, review 7—1065
magnetised plasma, ion-wave turbulence, Langmuir waves, maser theory 7—58008
magnetosphere auroral kilometric radiation and maser synchrotron instability 7—47641
micromaser, quantum theory, symm. breaking via off-diagonal at. injection 7—1068
one-atom maser, quantum collapse and revival, observation 7—43041
Orbitron maser, steady state, high vacuum operation 7—25792
Ori IRc 2, SiO maser emission from expanding shell 7—60646
Polish lasers and masers, development *(Polish)* 7—15907
relativistic cyclotron resonance maser linear theory with resonant electrodynamic systems 7—62658
relativistic electron beam diodes, electrode design and appls. 7—20967
Rydberg atom two-photon micromaser theory 7—50526
Rydberg masers, at. and field fluctuations, squeezed radiation source 7—10905
Rydberg single-atom maser QED model testing 7—10458
Rydberg-Bremsstralung maser emission, anal. 7—15836
submm astronomy and FIRST 7—60773
submm laser system for local oscillator use in heterodyne receiver, astron. appl. 7—34869
TRW free electron maser, design 7—1067
two-level atoms, excited, microscopic maser theory 7—15837
ULF-modulated electrostatic wave maser theory anal., magnetosphere appl. 7—47644
Ge hot-hole cyclotron resonance maser with negative effective hole masses 7—15838
H active masers for VLBI appls. 7—43042
H maser, operation below 1K 7—1069
H maser at temp. below 1K 7—43043
H maser atomic standard, built at Johns Hopkins University, long term performance 7—18759
H maser miniature passive clock, NBS design, characts. and performance 7—18760
H masers, single-state selection system 7—43045
H microwave-pumped cryogenic maser 7—43044

masking (acoustic) *see hearing; speech intelligibility*

masks
see also semiconductor device manufacture
Hipparcos astrometry mission, diffraction grid fabrication by electron beam lithography 7—24014
multilayer thin-film deposition, sequential masking system 7—64903
GaAs:Zn,Si, selective double diffusion using sputtered Si masks 7—51805
Si, etching rates in CF_4/O_2 plasmas, effect of photoresist or Al masking 7—65222
SiO_2, etching rates in CF_4/O_2 plasmas, effect of photoresist or Al masking 7—65222
SiO_2 mask, Si solar cell fabrication using masked ion implantation 7—23165

masonry dams *see dams*

mass
see also atomic mass; elementary particle mass; molecular weight; nuclear mass
ω Cen, globular cluster, rot., vel. dispersion, and mass determ. 7—9520
Coma galaxy cluster, mass determ. from galaxies positions and vels. 7—40945
comets, total cometary mass in solar system 7—24077
conservation laws 7—14483
dark matter in Universe, conference, London, England (October 1985) 7—55884
planetary satellites, masses and orbital freqs. rel. to planets masses and rot. freqs. 7—14508
planets, masses and rot. freqs. rel. to satellites masses and orbital freqs. 7—14508
Q 1548+114A, B, QSO pair, foreground QSO mass limit from gravit. lens effect 7—9554
SMC N2, planetary nebula, mass determ. by speckle interferometry 7—24183
47 Tuc, globular clusters, rot., vel. dispersion, and mass determ. 7—9520

mass analyzers *see mass spectrometer components and accessories*

mass differences
see also baryon mass; lepton mass; mass formulae; meson mass
$1/2^+$ baryons, EM mass differences in quark and Skyrme models 7—41811
Skyrme model, electromagnetic mass differences of N and Δ 7—5092
Skyrme model of proton-neutron mass difference 7—49145
K_L-K_S mass difference in the chiral quark-loop model 7—61684
$\nu_\mu, \nu_e \rightarrow \nu_\tau$ oscillations limits, $\nu_\mu, \nu_e \rightarrow \tau^-$ direct coupling 7—35768
π-η mass difference in lattice QCD, U(1) problem, strong coupling expansion 7—41810
π-mass differences, charge dependent effects on NN scatt. lengths 7—19177
π^+-π^0 mass difference and Weinberg sum rules, phenomenological anal. 7—41809
N-Δ splitting, chiral bag model predictions 7—24847

mass filters *see mass spectrometer components and accessories*

mass formulae
see also baryon mass; lepton mass; mass differences; meson mass
baryon mass spectrum, convexity props. in pot. models with flavour independence 7—503
$E_8 \times E_8$ superstring theory, extra U(1) phenomenology, fermion mass spectra 7—41688
fermion, mass calcs. from abelian generation group symm. breaking 7—61636
fermion and boson mass shifts in elec. field, QED theory 7—41700
fermion mass matrices in unified models 7—446
fermion masses and mixings in $SU(3)_C \times SU(2)_L \times U(1)_Y$ six-dimensional model 7—30228
fourth generation quark-lepton effects on third generation, quark-lepton mass matrices and renormalisation group eqns. 7—56482
Gell-Mann-Okubo mass formula quark-parton model anal. 7—5068
glueball mass calcs., SU(2) lattice gauge theory with dynamical fermions 7—9959
glueball mass inequalities, QCD anal. 7—10029
hadron mass spectrum, stochastic approach 7—30262
hadron spectrum, stochastic approach, link with quarkonium model 7—49121
hadron spectrum fitting in 5D conformal relativity, quark composition effects 7—24867
heavy quarkonia, relativistic corrections to mass spectra 7—19092
Kobayashi-Maskawa matrix elements, expt. determination 7—56487
lattice gauge theory, baryon mass calc., quark mass renormalization 7—30155
lattice gauge theory, hadron mass calcs., conf., Wuppertal, Germany, Nov. 1985 7—60883
lattice QCD, light hadron and quark masses, large lattice results 7—15139
lepton spectrum derivation using the TLVP EM model 7—61638
multibaryon reson., mass formula 7—504
multiflavour QCD, nonAbelian bosonization and baryon mass formulae 7—61579
non-relativistic potential model for $q\bar{q}$ and $Q\bar{Q}$ systems, meson masses 7—61605
nonassociativity as the generating source of the mass levels of hadrons and leptons 7—61637
particle families as radial excitations, eigenstates of relativistic wave eqns. 7—30179
QCD sum rules and the Skyrme model at large N_c 7—61583
quark and lepton mass formula in geometrical rishon model 7—497
quark mass matrices in standard electroweak model, maximal CP violation, anal. for many quark generations 7—30215
quenched ACD, chiral props. and hadron spectrum in alternate directions implicit method 7—61577
quenched QCD hadron mass calcs. on 16^4 spacetime lattice 7—61604
relativistic fermion-antifermion equation and a mass spectrum of mesons 7—41774
Skyrme model, baryon masses 7—418
spectrum supersymmetry of Regge trajectories 7—5079
squark mass matrix constraints from CP-violation 7—24805
state dependent bag constant at large-N limit of QCD 7—10022
strange dibaryons, mass spectrum and level density 7—61635
U(1) lattice gauge theory, 3D, meson mass calcs. in quenched approx. 7—15068
U(1) lattice gauge theory, mass gap, variational calcs. 7—30157
d quark-D fermion mixing, $D=E_6$ fermion, KM mixing angle, SU (5) mass relation study 7—61528

mass measurement
see also weighing
comparator using flexure-strip suspensions 7—48699
conference, Prague, Czechoslovakia (April 1985) 7—48169
IR materials erosion due to rain, optical damage characterisation 7—31411
metrological characts. of precision balances, with automatic readout 7—41346
polymers, gaseous uptake at high pressure, meas. technique 7—41348
thyroid gland mass, determ. using scintillation camera and computer 7—3870
vacuum techniques for mass determ. *(German)* 7—18754
^{226}Ra mass-unit standard 7—48698

mass spectra
see also mass spectrometers; mass spectroscopic chemical analysis; mass spectroscopy; secondary ion mass spectra; time of flight mass spectra
acetaldehyde, electronic struct. and decay channels, negative ion mass and electron impact spectroscopy 7—50383
acetylacetone enolate anions, collision-induced losses of ketene, mass spectra 7—13839
adamantane, surface ionis. coeff. eval., mass spectra 7—59786
air, positive corona discharge, influence of water mols., mass spectra anal. 7—32180
alkali cluster beams, photoionis. mass spectra, abundance distribs. 7—15768
alkali metal hydroxide vapour, ion clustering struct., chem. equilib., mass spectra 7—17814
alkylamines, surface ionis. mass spectra 7—10763
alloocimene, surface ionis. coeff. eval., mass spectra 7—59786
aminoalcohols, surface ionis. mass spectra 7—10763
atomic and molecular clusters in beams, review 7—31204
benzene, $^1B_{1u}$ state, photoionis., mass and photoelectron spectra 7—42681
benzene clusters, struct., IR photodissoc. and mass spectra study 7—62371
benzene clusters, vibr. predissoc. spectra assignment, isotope use in mass spectroscopic detect. 7—31125
benzenedicarboxylic acid dimethyl esters, fragmentation process by electron impact 7—986
camphene, surface ionis. coeff. eval., mass spectra 7—59786
η-cyclopentadienylnickel nitrosyl, dissoc. and multiphoton ionis., photofragment spectroscopy 7—50281
1,4-dichlorobenzene, multiphoton ionisation dissoc. by two-colour picosecond laser mass spectrometry 7—31135
2-dicyanomethylene-1,3-indanedione-methylated[2.2]paracyclophanes charge transfer complexes, IR and mass spectroscopy 7—25523
didymium tartrate crystals, gel grown, charactn., thermal behaviour 7—39367
2,4-dihydroxyquinoline, gas phase, prototropic equilib., electron impact fragmentation spectra anal., LCAO-CNDO calcs. 7—36479

mass spectra continued
1,2-dimethoxybenzene derivatives, mass spectra, electron impact ionis. meas. 7—987
2-dimethylaminomethyloyclohexanols, electron impact ionis. mass spectra 7—50388
dimethylditelluride, excimer laser photolysis, laser mass spectroscopy 7—22547
ethanol, photoionisation mass spectra, temp. effect 7—46818
fluoroalkanes, electron impact dissociative ionis., cross section estimation 7—20066
formic acid radical cation and its isomers, pot. energy surface, ab initio quantum chemical methods appl. 7—42521
Fourier transform ion cyclotron reson. spectra, residual spatial mag. field gradient effects 7—42550
glow discharge ion source, ion energy distributions 7—4914
heavy clusters, ionis. dynamics, cluster ion-photoelectron coincidence 7—15791
n-hexane, photoionisation mass spectra, temp. effect 7—46818
hydrazines, surface ionis. mass spectra 7—10763
hydrocarbons, plasma deposition of a-C:H 7—39422
III-V semiconductor-Au system, heat treatment, gaseous species evolution, mass spectra studies 7—39881
inert gas-NH_3 ion form. by electron ionisation, mass anal. ion kinetic energy spectra 7—13736
metal cluster ions, size-selected, in triple quadrupole arrangement, expts. 7—15777
metal clusters, photoionisation spectra, evolution, rel. to size 7—15769
metallic clusters, produced by liq. metal ion source, stability and struct. 7—31205
metals, etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7—3493
methane-d_0(-d_4), ionisation potential, photoionis. mass spectrosc. obs. 7—50271
methanol, form. stimulation in methane glow discharge 7—32178
methoxy(-d_3) radicals, gas-phase detection by reson.-enhanced multiphoton ionisation spectroscopy 7—31134
methyl halides, oriented mol. beams prod., rot. states 7—42751
methyl xyloglucuronates, mol. wt. and sequence determ. by ^{13}CNMR and mass spectroscopy 7—15625
1-methylallyl cation, photoionisation mass spectrometry, heat of form., ionisation energies, ab initio MO calcs. 7—13798
3-methylpentane, photoionisation mass spectra, temp. effect 7—46818
neutron-rich light nuclei near N=20, direct mass meas. with recoil spectrometer 7—41883
organometallic compounds, laser mass spectroscopy, laser CVD appl. 7—22573
organorhenium hydrides and alkyls, mass spectra, electron impact induced H-rearrangements 7—42773
phosphosilicate glass, standard, laser microprobe mass analysis, quantitative 7—54250
α-pinene, surface ionis. coeff. eval., mass spectra 7—59786
PMMA, UV laser photoablation, mass spectroscopic studies 7—22853
polymers, conducting, laser desorption/Fourier transform mass spectral analysis 7—1920
propylamine, fragmentation, electron impact mass spectrometry, ab initio MO calcs. 7—50387
propylene oxide cation radical, unimol. dissoc. reaction, nonergodic behaviour 7—39857
quarternary ammonium salts, surface ionis. mass spectra 7—10763
tetrachloroethene discharges, radical reactions, spectrosc. investig. 7—20990
tetrachloroethene-O_2 discharges, radical reactions, spectrosc. investig. 7—20990
tetrachloromethane dication, isomers, mass spectrometry and ab initio calc. investig. 7—36513
tetracyanoethylene-methylated [2.2]paracyclophanes charge transfer complexes, IR and mass spectroscopy 7—25523
tetrafluoromethane ion, lifetime, mass spectra 7—19969
TGS group crysts., thermal anomalies, evaporation products mass spectra study *(Russian)* 7—44781
thioanisole and its derivatives, long range spin-spin coupling consts., NMR and mass spectra 7—19886
torus, mass spectra meas. during H_2 and H_2/CH_4 glow discharge *(Chinese)* 7—6431
trifluoromethyl radical+O_2, rate const. meas., laser photolysis and time-resolved mass spectrometry 7—8249
trimethylsilylium+O_2(aromatic bases), assoc. binding energies meas., mass spectra 7—54096
p- xylene, laser ionisation time of flight mass spectra, mass resolution of 10,000 7—9918
p-xylene, resonant multiphoton ionisation dissoc. mechanism 7—8295
ylides, neutralisation-reionisation mass spectrometry 7—10766
Ag surface, O_2 chemisorption, flash desorption spectra *(Chinese)* 7—52294
Ag_n clusters, multiply charged, stability 7—50440
$(Ag)_n^-$ clusters, mass distribs., mass spectra 7—50431
Al_n^+ (n=1 to 4), cluster ions, mass selected, prod., continuous source 7—10805
$Al_n^+ + O_2$ mass selected ions, reaction study 7—22993
Ar clusters, mass distrib. meas. and struct. model 7—15762
$(Au)_n^-$, mass distribs., mass spectra 7—50431
$B_nN_m^+$ cluster ions in laser plasma, laser ionisation mass spectrometry *(German)* 7—42816
Bi, adsorpt. and growth modes on Pt (111), spectrosc., LEED and work function investig. 7—27102
Bi_n^{p+} ions, ($n/p \leq 14$, $p \leq 4$), mass spectrum from liquid metal ion source study *(French)* 7—5807
C_2^+, excited state, prod., ion-mol. reactions, FT mass spectra investig. 7—54087
C_n^+, mass resolved cluster ions, photofragmentation 7—15789
C_n^+-$D_2(O_2)$ cluster ions, ion+mol. reactions 7—50432
CHe^+, mass spectrometric obs. 7—49956
$C_2He_2^{2+}$, mass spectrometric obs. 7—49956
CNH_2^+, laboratory generation, mass spectra 7—46811
COF_2, electron impact dissociative ionis., cross section estimation 7—20066
CS_2, dissociative attachment bands, impact electron and fragment ion energy spectra anal. 7—50386
C_N^a(a=+or−), abundance distrib., magic numbers, photoionis. mass spectroscopic investig. 7—15759
$Cd_xHg_{1-x}Te$, photo-epitaxy, free radical mechanism 7—53612

mass spectra continued
- Co-O cluster ions, collision-induced dissoc., struct. calcs., mass spectral anal. 7−54107
- $Cr^+ + H_2(HD)(D_2)$, kinetic and electronic energy effect, mass spectra 7−65293
- Cu, chlorinated surface, laser-induced desorption and etching processes 7−27092
- $(Cu)_n^-$ clusters, mass distribs., mass spectra 7−50431
- CuCl solid surface, laser-induced desorption and etching processes 7−27092
- Fe, films, ethane and ethylene adsorpt. and reaction, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
- Fe XVIII lines spectroscopic measurement, mass separation 7−6416
- Fe-Cr system, thermodynamic characts., mass spectrometry 7−53736
- Fe_n^+ (n=6 to 16), cluster ions, mass selected, prod., continuous source 7−10805
- $FeC_4H_6^+$ isomers, gas-phase photodissoc., bond energy and struct. determ. 7−15661
- Ga atom during trimethylgallium CVD reaction, multiphoton-ionisation/mass spectrometric detection 7−25471
- Ga, reference sample, absolute isotropic abundance ratio and at. weight 7−42779
- Ge^{n+} microcluster, pulsed conc. spectra, bonding and growth kinetics 7−19740
- H-D exchange, fast atom bombardment mass spectrometric obs. 7−50392
- H_n^+, even cluster ions, form., reactivity collision-induced dissoc., isotope effects, mass spectra anal. 7−50434
- H_n^+, isotopes, relative abundance, mass spectometric meas., computer-assisted null point method 7−25489
- H_2O^-, Fourier transform ion cyclotron reson. mass spectrometry 7−13734
- H_3O^-, Fourier transform ion cyclotron reson. mass spectrometry 7−13734
- HOCl, gaseous, UV absorpt. spectrum, rel. to atm. modelling 7−25534
- Hg clusters, form., atomic photon and electron impact ionisation, mass spectra study 7−50430
- Hg clusters, photoionisation spectra, evolution, rel. to size 7−15769
- HgI_2, evaporation studies and phase stability 7−52025
- HoI_3, mass spectra, vapour press. and thermodynamic props. 7−26927
- Kr, ion mobility of Kr^{2+} at 88 K 7−63246
- ^{A}Lu, A-173-6, resonance ionization mass spectrometry for high resolution optical spectra 7−19744
- Mg, autoionising Rydberg states, reson. ionisation mass spectrometry 7−19785
- N_2^+, effusive molecular beam crossed by an electron beam and the optical model of this effect 7−10738
- N_2+Ar, electron transfer, state-to-state study 7−10714
- $(NH_3)_n^{x+}$, multiply charged clusters, decomp. channels 7−15790
- $(NH_3)_n$ (n=2 to 5), clusters, electronically excited $\bar{A}$ states, two-photon ionis. mass spectroscopy 7−15761
- NH_4^-, Fourier transform ion cyclotron reson. mass spectrometry 7−13734
- NO^++iodomethane (NO_2), charge exchange, ground state radiative lifetimes, ion cyclotron reson. spectra anal. 7−31114
- NO_2, photodissoc. REMPI study of photofragment energy 7−42709
- NO_3^- production in negative corona discharge, mass spectra 7−32175
- Nb, oxidised, sputtered atoms and monoxide mols., energy distribs. 7−59335
- Nb_2O_4, gaseous, atomisation energy determ., mass spectrometric study 7−28331
- Nb_2O_5, gaseous, atomisation energy determ., mass spectrometric study 7−28331
- Nb_4O_{10}, gaseous, atomisation energy determ., mass spectrometric study 7−28331
- Nb_4O_9, gaseous, atomisation energy determ., mass spectrometric study 7−28331
- Nd, reson. ionisation photoelectron spectroscopy 7−19799
- $Ne^{q+}+D_2(D)$, collision parameters, energy-gain spectra meas., multichannel Landau-Zener model anal. 7−36752
- Ni, films, ethane and ethylene adsorpt. and reaction, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
- $NiC_4H_8^+$ isomers, gas-phase photodissoc., bond energy and struct. determ. 7−15661
- O^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7−25602
- O_2^- and O_4^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7−25602
- OCS, vibr. excited, photodissoc. cross section meas. 7−15662
- POBr, gaseous, form., mass spectrometric and matrix IR investig. 7−39908
- PdGe, bonding, electronic states, ab initio HF-CI calcs. 7−42497
- Pd(111), adsorbed S, adsorbate oxidation kinetics *(German)* 7−33953
- Pr, reson. ionisation photoelectron spectroscopy 7−19799
- Ru, surfaces, CO reactions, $Ru(CO)_x^{n+1}$ formation, field desorption study 7−54183
- Si, etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7−3493
- Si, laser-induced etching with Cl_2 7−22915
- Si:B, laser microprobe mass analysis, quantitative 7−54250
- SiF_4, electron impact dissociative ionis., cross section estimation 7−20066
- SiF_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7−62476
- SiF_4-O_2, microwave discharges, mass spectrometric study 7−32169
- SiH_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7−62476
- SiH_4, Si_2H_6 and SiH_2Cl_2 plasmas, optical emission spectroscopy, mass spectrometry and laser-induced fluorescence 7−37764
- SiH_4-Ar-H_2 plasma, Si deposition 7−23011
- SiH_4-NO, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7−62476
- SiH_n, (n=1 to 4), photoion yield and thresholds, photoionisation mass spectra study 7−50242
- SiO_2, etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7−3493
- Sm, reson. ionisation photoelectron spectroscopy 7−19799
- Ta, oxidised, sputtered atoms and monoxide mols., energy distribs. 7−59335
- TiO_2-SiO_2, synthetic, surface struct., XPS, NMR and mass spectra 7−58596
- U complex, bis(acetylacetonato)dioxouranium(VI), electron ionis. mass spectra 7−10762

mass spectra continued
- WF_6+Si_n (n=2 to 6), Fourier transform ion cyclotron reson. mass spectrometry 7−31200
- XeF lasers, electron beam pumped, N_2 production from Ne/Xe/NF_3 mixtures 7−43063

mass spectrometer applications
- *see also isotope separation; mass spectroscopic chemical analysis*
- exploding cathode whiskers, plasma form., mass spectrometric diagnostics 7−44269
- materials anal. of failed flex circuit using laser microprobe mass spectrometry 7−17845
- vacuum, leak calibration using mass spectrometer 7−61348
- vacuum, residual gas analysers, quadrupole and mag. sector mass spectrometers appl. 7−61350
- vacuum, residual gas analyzer calibration, gas dynamics 7−61349
- Ar-SF_6 plasma, negative ion detect., wall probe method appl. 7−20960

mass spectrometer components and accessories
- *see also ion sources*
- alkaline ion source design for SIMS *(French)* 7−9922
- automatic sample loader based on 8085 microcomputer 7−48909
- charged particle motion in 2D hexapole field, stability 7−41526
- charged particle stability in 2D octopole fields 7−41527
- deuterium ion source for plasma chromatograph and mass spectrometer 7−4909
- double focusing mass spectrometer with crossed fields and double plane condenser 7−56371
- dust-impact ion source, TOF mass spectrometer 7−48907
- electric prism for double focusing mass spectrometer 7−15029
- hybrid mass spectrometer appl. 7−30112
- impulse-field focussing pulse generators for high-resolution spectrometry 7−359
- ion beam transport through ideal quadrupole, hexapole and octopole operating in RF-only mode 7−41528
- ion chemistry, gaseous, hybrid BEQQ mass spectrometer appls. 7−48904
- ion cyclotron resonance drift cell for tandem ICR spectrometer 7−9917
- ion source for SIMS equipments with primary ion mass separation *(German)* 7−9915
- ion source performance improvement in glow discharge mass spectrometry 7−9916
- multipole devices with 2D electric fields 7−41525
- peak amplitude and time detector for narrow pulse signals 7−48903
- PIG, ion source for negative ions 7−36704
- prism, decelerating, electric, test dispersion meas. 7−57229
- quadrupole mass filter, RF-only transmission props. 7−35619
- quadrupole mass spectrometer based on low-performance RF generator 7−30111
- quadrupole mass spectrometer control system design 7−18905
- resolution test of an electric prism-oblique incidence magnet double focusing mass spectrometer 7−48906
- RF traps, Brownian motion in a parametric oscillator model 7−29911
- sample probe, continuous-flow, for fast-atoms bombardment mass spectrometry 7−48902
- with five-stage vacuum system 7−30110
- Li^+ triode ion gun, thermal emission, characts. meas. 7−39345
- SF_6^-, negative ionis. source for quadrupole mass analyser 7−35620
- Xe ions, prod. by saddle-field neutral beam source, distrib. 7−35622

mass spectrometers
- *see also ion optics; mass spectra; mass spectroscopy*
- accelerator mass spectrometry and nuclear physics 7−24720
- accelerator mass spectrometry with heavy ions 7−24721
- charge/mass particle spectrometer for electrophotographic toner 7−4910
- double focusing, with elec. prism, ion optics and petroleum products anal. 7−15029
- double focusing mass spectrometer with crossed fields and double plane condenser 7−56371
- electron-impact ionisation time-of-flight mass spectrometer for molecular beams 7−48910
- extremely high vacuum instrument for SIMS, characts. and thin film anal. appls. 7−54243
- hybrid mass spectrometer appl. 7−30112
- ion cyclotron resonance drift cell for tandem ICR spectrometer 7−9917
- ion signal calibration in imaging atom-probe with time-gated intensifier 7−48911
- ISOLDE, intense unstable-nuclei beam production 7−48908
- laser microprobe mass analyzer, LAMMA 1000 7−8341
- low-level counting, conference, Bratislava, Czechoslovakia (Oct. 1985) 7−24272
- mass resolution of 10 000 in a laser ionization time-of-flight mass spectrometer 7−9918
- molecular threshold electron spectra, TEPSICO-II apparatus 7−18907
- PDP-8 on-line computer for missing mass spectrometer data handling 7−9824
- quadrupole mass spectrometer based on low-performance RF generator 7−30111
- tandem mass spectrometry instrumentation capabilities 7−48900
- Thomson spectrometer, time-resolving for ion beam diagnosis 7−56372
- TOF mass spectrometer, automatically controlled *(Japanese)* 7−56370

mass spectrometry *see mass spectroscopy*

mass spectroscopic chemical analysis
- *see also atom probe field ion microscopy; ion microanalysis; ion microprobe analysis; isotope separation; mass spectra; secondary ion mass spectra; secondary ion mass spectroscopy*
- alkali metal hydroxides, saturated vapours, composition, mass spectrometric determ. 7−33985
- calibration for quantitative gas mixture anal. 7−65369
- compound formation in cluster beams, mass spectrosc. obs. 7−15782
- conference, Oak Ridge, TN, USA (April 1986) 7−60864
- cyclophosphazenes, linked to spermine, synthesis, struct. NMR, IR and mass spectro, antitumoural activity anal. 7−23291
- DC plasma etching of Si in SF_6/O_2 mixtures, mass spectrometric transient study 7−8203
- deuterium ion source for plasma chromatograph and mass spectrometer 7−4909
- diagnostics of plasma systems using mass spectrometry 7−32101
- dimethylnitramine, pulsed laser pyrolysis GC/MS anal. 7−65308
- dimethylnitrosamine, pulsed laser pyrolysis GC/MS anal. 7−65308
- elements, charge distrib. in ion beam produced from RF-spark ion source 7−46883
- fast atom bombardment mass spectrometry, industrial appls. 7−54206
- gas laser with high reliability, anal. methods *(German)* 7−20188

mass spectroscopic chemical analysis continued
glasses, entrapped gas bubbles, calibration of dynamic small-sample analysis systems 7−65370
graphite, laser-induced vaporization mass spectrometry of refractories 7−23079
heterocyclic aromatic polymers, laser desorption FT mass spectrosc. anal. 7−23085
hexamethylbenzene, proton transfer, high press. mass spectroscopy 7−54083
high-quality quartz crystals impurities assessment, production developmental results 7−59823
homoadamantane, ionised, methyl elimination, field ionisation kinetics and ^2H and ^{13}C labelling 7−42775
p-hydroxybenzoic acid-based polymers, pyrolysis, thermal stability, thermogravimetric and gas chromatographic mass spectral anal. 7−54208
inert gas-NH_3 ion form. by electron ionisation, mass anal. ion kinetic energy spectra 7−13736
isophthalic acid-phenylene diamine-DMFA-H_2O copolymer, diffusion kinetics, mass-thermal anal. method *(Russian)* 7−23096
isotopically selective laser measurements, resonance ionisation mass spectrometry and photon burst anal. 7−54213
laser ionisation mass spectrometry appl. to thin film and near-surface layer studies 7−28374
laser microprobe mass analysis, quantitative 7−54250
laser microprobe mass analyzer, LAMMA 1000 7−8341
LIMA analysis, performance assessment and applications 7−28375
liquid ionisation, principle and appls. *(Japanese)* 7−17839
mesitylene, proton transfer, high press. mass spectroscopy 7−54083
methyl fluoride, proton bound dimer, hydrogen bond energy determ. gas-phase mass spectra anal. 7−28365
methyl xyloglucuronates, mol. wt. and sequence determ. by ^{13}CNMR and mass spectroscopy 7−15625
nitroaromatic crystals, resonance UV laser radiation interaction, characts. 7−25618
organic samples analysis, modular instrument for SIMS and direct chromatography 7−13841
peak shape determination in laser microprobe mass analysis 7−46884
pentamethylbenzene, proton transfer, high press. mass spectroscopy 7−54083
perfluoropolyether lubricant on magnetic disc surface, ion-induced volatilisation for quantitative anal. 7−39933
petroleum products, anal. using double focusing mass spectrometer with elec. prism 7−15029
PMMA layers, metal-polymer struct., degrad. during mech. fracture *(Russian)* 7−20660
polished optical glasses, secondary ion mass spectroscopy and ellipsometric investig., correlation of results 7−43458
polycyclic aromatic hydrocarbons, characterisation from reference air particulate samples 7−54385
polyimide surface, in situ anal. of H,C,N and O using direct recoil time-of-flight technique 7−54242
polymers, pyrolysis mass spectrometry characterization 7−46900
polypyrrole, oxidation, atom-probe study 7−46822
pulsed-laser atom probe mass spectroscopy 7−41409
quantitative mass spectrometer analysis of very low impurity concentrations in gases 7−17841
refractories, laser induced vaporisation mass spectrometry 7−23079
refractory solids, laser vaporisation systems, mass spectrometric detection, collimator efficiency 7−44775
respiratory gas exchange calc. using mass spectrometer, correction for instrument time constant and transport delay 7−60143
secondary ion imaging, with charge-coupled device camera 7−48912
semiconductors, MOCVD, organometallic precursors monitoring by laser mass spectroscopy 7−22547
SIMS, depth resolution limitations, semiconductor impurity profiles 7−54253
SIMS, quantitative distribution analysis, of P in SiO_2-Si layer system 7−54254
spark source mass spectrometry, applications in materials characterisation 7−13846
sputter initiated resonance ionisation spectroscopy 7−13845
surface analysis appl. 7−32774
surface analysis by laser ionisation 7−52213
tandem accelerator secondary ion mass spectrometry, semiconductor dopants 7−54252
1,2,3,5-tetramethylbenzene, proton transfer, high press. mass spectroscopy 7−54083
thermal decomposition study instrument 7−59818
thermal desorption expt., microcomputer-controlled mass spectroscopy 7−3619
thin films, trace anal. of H, C and O using extremely high vacuum SIMS 7−54243
Total Diet Program, residue identification by mass spectroscopy 7−54205
transition metal tetraphenylporphines, multiphoton ionisation mass spectrometry 7−46885
triaryl-substituted keto/enol pairs, gas-phase ion chemistry, mass spectra 7−13737
tropane alkaloids, chem. ionis. and electron impact mass spectra 7−59802
AlOH, enthalpy of form., mass spectrometric determ., equilib. const., ionisation pot. 7−59777
AsH_3 and PH_3 gas source for MBE, mass spectrometry 7−53592
C BN, laser-induced vaporization mass spectrometry of refractories 7−23079
C cluster ions, trapped FT ICR mass spectrometry 7−1000
C stable isotopes meas. at nanomole level, using static mass spectrometer 7−17842
$Cd_2P_2S_6$ intercalated with pyridine complexes of ferric ion, spectroscopic and ESR studies 7−64519
CdS, oxidised, SIMS/XPS characterisation 7−39934
Cl^-+H_2O (methanol)(acetonitrile), clustering reactions, van 't Hoff plots based on ab initio MO calcs. 7−28288
Cu, Xe desorpt., surface temp. determ. using pyroelectric calorimeter 7−52233
Cu_xS-CdS solar cells, comp. of differing junction types, AES, SIMS determ. 7−23167
FeF_2 - FeF_3, ion-molecule equilibria, mass spectra, heat of form., electron affinity 7−46862
GaAlAs, LIMA anal., effect of alloy composition on secondary ion yields 7−28376
GaAs(100), thermal and ion-assisted reactions with Cl_2 7−3537
$H^+(H_2O)_n$, ion mobility in water vapour, TOF mass spectra 7−11582

mass spectroscopic chemical analysis continued
$In_xGa_{1-x}As$, photoluminescence determ. of effects due to In alloying 7−46096
InGaAsP, MOVPE system, gas switching mass spectrometry 7−22526
KC_8/D_2O intercalation cpd., X-ray diffr., NMR, EPR and gas phase mass spectra anal. 7−46843
$LiNbO_3$:H channel waveguides, anal. 7−26023
N_2^++Ar, absolute state to state total cross sections meas. 7−46825
$NaPO_3$, ionic and mol. composition, mass spectral anal. 7−33952
O_2, chemisorbed on MgO, photostimulated desorption 7−27107
^{239}Pu, ^{240}Pu and ^{242}Pu, conc. determ. by isotope dilution-thermal ionisation mass spectrometry 7−10769
Ru (001), clean and O covered, adsorption of NO_2, EELS, thermal desorption mass spectrometry 7−52267
$(SN)_x$, repolymerisation, mass spectrometric study 7−54119
Si MBE grown layers, arbitrary doping profiles 7−12109
Si surface, 100, in situ anal. of H, C, N and O using direct recoil time-of-flight technique 7−54242
Si, surface reaction with XeF_2, rel. to etching mechanism 7−17738
Si wafer substrates, oxide removal, transient mass spectrometry, XPS studies 7−13670
Si wafers, etching by NF_3, plasma and reagent pulse induced transients 7−3533
Si wafers, surface contaminants, identification, depth distrib., SIMS 7−22418
a-Si:H films, plasma CVD, deposition kinetics *(Japanese)* 7−17450
SiO_2, sputtering in XeF_2 and Cl_2 atms. 7−53465
SiO_2-Si interface, insulator props. after exposure to H_2+N_2 and NH_3. 7−59693
Ti-Co, liq-alloys, thermodynamic props., mass spectrometry *(Japanese)* 7−52084
VO^++inert gases, collision-induced dissoc. studied by ion beam tandem mass spectrometer 7−23001
W, surface reaction with XeF_2, rel. to etching mechanism 7−17738
$YIrC_x$ (x=1,2) equilib. reaction, thermodynamic parameters evaluation, Knudsen effusion mass spectrometry 7−23054
ZnSe, MOCVD, chemical reactions monitoring 7−53611

mass spectroscopy
see also atom probe field ion microscopy; mass spectra; mass spectrometers; secondary ion mass spectroscopy
alkali metal hydroxides, electron affinity, mass spectrometric determ. 7−15740
alkali metal oxides, electron affinity, mass spectrometric determ. 7−15740
atmospheric pressure ionisation source for Finnigan-MAT 400 mass spectrometer 7−4911
atom probe data, software package for on-line anal. 7−30128
atom probe mass analysis with a signal height discriminating timer 7−30127
extremal values meas., automatic digital recording system 7−30109
fast atom bombardment mass spectrometry, industrial appls. 7−54206
fast ion bombardment technique, using continuous-flow sample probe 7−48902
Fourier transform ICR mass spectrometry, dynamic range extension 7−48901
Fourier transform mass spectrometry in microelectronics processing, book contrib. 7−41529
halogenated aromatic hydrocarbons, resonant two photon ionization in supersonic beams 7−19961
hybrid instruments for mass spectrometry/mass spectrometry 7−4907
IC fabrication appl. 7−39940
ion beam, cyclotron resonance, phase indication 7−22144
isotope dilution mass spectrometry, U/Pu, assay in reprocessing input solns. 7−30574
matrix-assisted field desorption mass spectrometry, temp. effects 7−30108
microelectronic devices and materials, characterisation methods, book 7−41028
pyrolysis mass spectrometry characterization of polymers 7−46900
radiocarbon accelerator mass spectrometry for hydrological investigations 7−29295
semiconductor industry, coevaporation system using quadrupole mass spectrometer 7−22494
semiconductor materials characterisation by inductively coupled plasma mass spectrometry 7−46913
semiconductor processing, trace element anal. by spark source mass spectrography 7−46915
space plasma diagnostic techniques 7−14510
C cluster ions, trapped FT ICR mass spectrometry 7−1000
CO, electron impact, fragment ion kinetic energy determ. 7−25673
^{252}Cf plasma desorption mass spectrometry, low accel. voltage appl. 7−48905
Cu-Si alloys, thermodynamic props. determ. by Knudsen cell mass spectrometry 7−26976
Fe-Co, liq., thermodynamic mixing functions, Knudsen cell mass spectrometry *(German)* 7−21470
^{A}Lu, A=173,174, high resolution mass resolved spectra 7−15552
O_2, quadrupole mass spectrometer, photoproduction cross sections, photoionisation and photodissociation 7−10681
SF_6, electron impact, fragment ion kinetic energy determ. 7−25673

mass standards *see measurement standards*

mass transfer
A 0538−66, recurrent X-ray transient, mass transfer in eccentric orbit binary system 7−14609
absorbent wall capillary, mass transfer anal. 7−27059
accretion from inhomogeneous medium, general case and observational consequences 7−9460
air-water interface, mass transfer in eddies 7−11493
annular premixed propane flame, mass transfer, residence time in recirculation zone 7−17790
applications of the power fluidics oscillator in the process of mass transfer 7−26245
Aql X-1, accretion rates from Einstein obs. of persistent X-ray emission and bursts 7−66661
asymptotic laminar boundary layer flow mass transfer effects on transient behaviour 7−4323
atmosphere, mass transport by along-valley wind systems in deep Colorado valley 7−29143
IM Aur, Algol-type eclipsing binary, UV spectrum rel. to gas streams 7−4509
ζ Aur type detached binary systems, IUE obs. rel. to accretion shocks 7−55732

mass transfer continued
binary gas mixtures, thermodiffusion ratio determ. 7—57972
binary liquid mixtures, heat and mass transport 7—1559
binary mixture with diffusion, mass transfer across moving interface, boundary condition 7—58436
black holes, neutrino and γ-Ray emission due nucl. reactions of accreting matter *(Russian)* 7—24160
blow close-packed bed of fruit and vegetables, heat transfer, num. anal. 7—63139
boundary layer, heat and mass transfer, external turbulence effects 7—1541
buoyancy effects in vertical open tubes, thermal and mass 7—31787
capillary-porous bodies, heat and mass transfer, mathematical models 7—62957
Carbopol-934 turbulent non-Newtonian mass transfer in circular tube 7—63187
cataclysmic binaries, axisymmetric accretion flows 2D modelling 7—60667
U Cep, classical Algol binary system, photometry rel. to accretion structs. 7—4512
chemical boiling, heat and mass transfer, gas liberation and free convection 7—43907
chemical reactions, exothermic, in coupled nonisothermal continuous stirred tank reactors, dynamics 7—13732
circular channels, variable cross section, momentum, energy and mass transfer *(Russian)* 7—11549
close binary stars, evolution with orbital ang. momentum losses rel. to mass transfer rates 7—24121
close binary systems, particles ejection owing to sudden increase in initial vels. *(Chinese)* 7—4502
coating formation kinetics in metal solns. under isothermal conditions 7—17670
coating-solid interface, nonlinear mechano diffusion 7—17669
coiling-induced secondary flow in capillary supercritical fluid chromatography 7—33975
composite material, diffusion and heat transfer, practical eqns. 7—6855
compositional two-phase flow behaviour in pipelines, press. and temp. profiles prediction 7—20800
computer simulation of transport in solids, book contrib. 7—26994
conical three-D diffusor or confusor, mass transport, numerical soln. 7—26353
convective dispersion and interphase mass transfer 7—51269
Couette flow, circular, mass transfer at smooth and rough surfaces 7—51163
coupled viscous flow/transport problems, numerical computation 7—44065
T CrB, recurrent nova, accretion rate from UV obs. (1978 to 1986) 7—47941
crystal growth, heat and mass transfer in microgravity and on Earth 7—53510
CVD of Si in annular tubes, film thickness profiles in mixed convection-diffusion regime 7—27190
CH Cyg, eclipsing symbiotic star, mass transfer and radio outburst characts. *(Russian)* 7—40847
cylinder in cross flow of water with injection into boundary layer, heat transfer and drag 7—43888
Czochralski growth, global finite element calc. 7—39370
dispersed drops, motion and mass transfer in pulsed column 7—6290
E 2003+225, AM Her star, mass transfer and mag. field characts., spectrophotometric obs. 7—60722
earth, oil-bearing, heat and mass transfer 7—56189
electrodialysis, internal heat sources effects 7—13802
entrainment and mass transfer at the density interface in a trough 7—11539
extruded adsorbent pellets, N_2 meas transfer, skin resistance 7—16836
falling films, surface temp. meas., rel. to gas and vapour sorption 7—56263
fibrous medium, thermally induced hygroscopic mass transfer 7—44037
fluid displacement in porous medium, interphase mass transfer and phase transform. 7—51300
fluid-fluid interface, multicomponent mass transfer 7—8255
fluidised bed, electrodes, mass transport 7—20789
fluidised beds, turbulent, mass transfer, burning rate 7—59761
fluidised beds, two- and three-phase, heat transfer characts. 7—31878
fluids flowing through rot. nonaligned straight tubes, medical device appl. 7—65803
freons, liquid-vapour system, shock wave compression 7—31874
fuel drop, liq., moving, combustion, thin-flame theory, variable density effect 7—26364
galactic nuclei Kerr black holes, optically-thick gas steady spherically-symm. accretion, outgoing radiative flux 7—35044
gas centrifuge, separative power, aspect ratio and feed flow rate effect 7—9828
gas flow struct. and impurity distrib., num. calcs. 7—51124
gas-liquid mass transfer enhancement by dispersed organic phase 7—6271
gas-liquid two-phase flow of drag reducing fluids, heat transfer 7—16175
Handlos-Baron model for simple drop extraction in turbulence, limitations 7—16219
heat exchangers with oval-shaped tubes, heat transfer and press. drop on shell-side 7—51112
heat insulating materials, surface destruction, self-similar heating regime study 7—62950
heat pipe, high-temperature parameters, conjugate problem calc. 7—51104
Her X-1, mass transfer characts. 7—60711
high flux, single solute mass transfer in spherical rigid drops 7—16217
high-enthalpy gas flow, heat and mass transfer on catalytic wall 7—11510
hydromagnetic free convection flow along porous plate with mass transfer, Hall effects 7—63141
incompressible 2D jet reattachment, augmented thrust and mass flow 7—51248
incompressible laminar boundary layer, MHD flow past non-isothermal cone 7—11554
incompressible laminar boundary layer flow, MHD with heat and mass transfer 7—20806
interacting binary stars, mass transfer and accretion disks rel. to evolution 7—47997
interacting drops in 2-phase flow, fluid dynamics and mass transfer 7—63203
interfacial turbulence and mass transfer, importance of surface compression elasticity modulus and Reynolds number 7—63128
ionic mass transport through homogeneous membrane in uniform elec. field 7—54173

mass transfer continued
irregularly shaped bodies, heat and mass transfer, numerical simulation 7—48639
isotope binary mixtures, separation, nonstationary mass transfer 7—42778
Knudsen effect on plasma-particle mass transfer, self-diffusion 7—1678
laminar incompressible 2D boundary layer eqns. similarity solns. 7—51042
leaching processes, 3D diffusion eqn., numerical soln. 7—48638
liquid boiling, heat and mass transfer 7—31627
liquid with vapour bubbles, finite duration pulses and shock wave evol. 7—6250
low-mass X-ray binaries, accretion rates rel. to soft X-ray transients 7—55707
macromolecules, ultrafiltration, transfer limiting phenomena 7—54167
Marangoni convection and mass transfer from the the liquid to the gas phase under microgravity conditions 7—20720
massive close binaries evolution with mass loss and overshooting, mass transfer in very massive system 7—29465
metal powder, superfine, mass transfer features 7—27963
metals laser radiation, nature of mass transfer *(Russian)* 7—32494
mixing process in heat exchanger, heat and mass transfer 7—37452
molten reactor core/concrete interactions in HCDA, mass and heat transfer simulation 7—25138
MS-type stars, comp. peculiarities due to mass transfer 7—47935
multicomponent mass transfer in spherical rigid drops 7—16218
natural convection, heated horizontal surface, numerical anal. 7—31777
NGC 5548, Seyfert 1 galaxy, evidence for black hole accretion event, He II obs. 7—35052
nonFickian mass transport, transport theory conf., Montecatini Terme, Italy, June 1985 7—60874
nonFickian mass transport through polymers, viscoelastic theory 7—61295
nonhomogeneous membrane, total mass transport 7—54180
nonNewtonian flow, transient mass and heat transfer from drops or bubbles 7—11473
novae, classical, preoutburst history, rapid accretion and hibernation 7—60673
novae, evolution model taking mass and momentum loss into account 7—60672
ocean currents, mass transport by steady and variable wind and wave-induced currents 7—8985
ocean currents, separation and forecasting of mass transport components *(Chinese)* 7—55068
RZ Oph, long-period eclipsing binary, case-C mass exchange model 7—29504
V2051 Oph, possible low-field polar, intermittent accretion model 7—60694
oscillating boundary layers, mass transfer rates 7—6182
oscillating free-connection flow past infinite porous vertical limiting surface, effects of mass transfer 7—14479
OTEC, open cycle heat and mass transfer expts. 7—65575
particles diffusion and heat flux in the initial stage of the transport process 7—20589
pattern formation for a one dimensional evolution equation based on Thom's river basin model 7—24608
AD Phe, W UMa star, mass ratio and mass transfer rate from decreasing orbital period 7—4501
point sink on plane with magnetic field, heat and mass transfer 7—1618
porous material, diffusion and heat transfer, practical eqns. 7—6855
porous slab, phase change, heat and mass transfer 7—31863
porous solid-liquid systems, mass exchange in elec. field 7—12398
power law fluid, multiple drop slow motion, drag and mass transfer 7—11472
PSR 1937+214, 1.5 ms pulsar, spin-up due to accretion 7—29499
BV Pup, dwarf nova, accretion rate from X-ray, UV and optical obs. 7—47922
quasars, characts. review 7—48098
rigid particle suspensions, mass and entropy transport 7—32691
second-order boundary layers for steady, incompressible, three-dimensional stagnation point flows 7—51043
sediment transporting capacity of overland flow, determ. on plane and irregular beds 7—14317
semi-detached close binary star, mass transfer and accretion disk model 7—60727
semi-infinite target penetration by long rods 7—51001
U Sge, classical Algol binary system, photometry rel. to accretion structs. 7—4512
shell and tube heat exchanger, heat transfer and press. drop, interbaffle spacing 7—43896
shock wave structure, liq. with bubbles, transient heat and mass transfer effect 7—6249
single bubbles free rising in Newtonian liquids, gas desorption, mass transfer, drag coeffs. 7—16233
solar cooling by direct evaporation from sprays 7—37532
solar coronal loops, quasi-steady mass flows model 7—47808
solar dryer based on convective heat and mass transfer 7—54354
solar still mass transfer rate prediction from condensing surface mass fraction 7—28411
solid adsorbent grain, spherical, submitted to adsorbable vapor press. step temp., conc. and press. distrib. *(French)* 7—1386
solid-fluid mixtures, boundary conditions 7—6854
soluble gas bubbles, dynamics in liq. 7—31866
sound attenuation in water fog 7—37239
spiral tube bundles, heat and mass transfer 7—43905
submerged jet impinging on cylindrical surface 7—26325
subsonic bluff-body flows, wake periodicity 7—31807
supercritical fluid, diffusion and mass transfer 7—63106
surface, computer modelling, book contrib. 7—27082
surface geometry meas. by projected moire fringes 7—31903
symmetry planes of differently shaped bodies, heat and mass transfer characts. 7—11447
thermophysical research automation at BSSR Institute of Heat and Mass Transfer 7—4823
toluene, mixed acid nitration, isomer distrib., mass transfer effects on selectivity 7—54094
turbulent channel flow, heat and mass transfer modelling 7—26257
turbulent flow and mass transfer of unstabilised stream in channel with obstacle 7—11391
turbulent mass transfer at mobile interface, computer simulation 7—43865
two stratified layers, rectangular enclosure, natural convection, numerical anal. 7—31778
two-phase flow through breaks in horizontal pipe, stratified flow 7—770
two-phase thermosiphons, heat and mass transfer 7—11409

mass transfer continued
AN UMa, AM Her star, light curve var. due to accretion flow channelling by white dwarf mag. field 7−60720
SU UMa stars, mass transfer instabilities and similarities to recurrent X-ray transients 7−14604
unsteady heat and mass transfer in a heat exchanger with twisted tubes 7−31794
unsteady MHD flow past vertical porous plate, mass transfer and free convection effects with constant suction 7−54332
unsteady MHD flow past vertical porous plate, mass transfer and free convection effects with variable suction 7−54333
vaporisation and dispersion from a surface to a turbulent boundary layer 7−52018
viscoelastic rarefied gas, MHD natural convection flows, buoyancy effects 7−6321
viscous incompressible fluid flow through porous medium and mass transfer 7−11532
vortex flows, ballistics of objects in system 7−11427
X-ray binaries, numerical simulations of mass transfer in eccentric orbit binary systems 7−14609
X-ray transient, recurrent, of Population II, mass transfer instabilities and similarities to SU UMa stars 7−14604
York, England (Jul. 1986) 7−48142
zeolites, synthetic, thermal regeneration in thermofluidised bed, heat and mass transfer, mathematical model 7−51120
Al_2O_3:Mo, W, Cr, leucosapphire, growth by horizontal directional crystallisation, mass transport of Mo, W 7−22459
CO_2-H_2O, mass transfer coeff., turbulence in open absorpt. channel 7−6189
H_2 evolving electrode with superimposed electrolyte flow, mass transfer 7−46852
Li, liq. fusion reactor blanket, mass transfer in dynamic environment, corrosion damage 7−49659
Li-Pb, liq. fusion reactor blanket, mass transfer in dynamic environment, corrosion damage 7−49659
NH_3, absorpt. into water in packed tower, mass transfer coeffs. meas 7−266
Ni-Cu diffusion contact, mass transfer at grain boundaries in fields ofdiffusion-concentration stresses 7−2272
Pd membrane, diffusion of H_2, transport coeffs. and energetics 7−21533

master equation
1D system, master eqn. and Fokker-Planck eqn. in thermodynamic limit 7−276
adsorbed atoms, thermal relax. in an intense laser field 7−38330
adsorbed atoms on coated transparent crystal, laser heating 7−63654
amorphous solid, e^- scavenging, generalized master eqn. theory 7−21884
biased tight-binding lattice, quantum tunnelling and thermally resisted motion 7−29946
bistable system, equistability criterion 7−35418
collision cascades, linear, variance calc. 7−63686
damped nonlinear oscillator, Markovian master eqn. 7−35329
desorption from a linear chain of adsorption sites, kinetic ising model 7−21649
diffusion-reaction systems, fluctuations, adiabatic elimination of transport modes 7−39855
disordered systems, excitation diffusion and energy relax. 7−21792
electron-phonon system, electronic relaxation, infinite order effects and non-Markovian theory 7−51974
free particle, quantum master equation 7−48450
gas-solid interface, photon-phonon conversion, laser-linewidth effects 7−58599
glass transition, master-eqn. approach 7−63818
irreversible processes and Onsager relations 7−29865
many-fermion systems, microscopic theory of one-body dissipation, TDHF calcs. 7−61822
Markovian approximation to finite-coupling generalised master eqn., convolution form 7−18691
mean field kinetic Ising model, microscopic approach using Liouville formalism 7−2801
methyl isocyanide, overtone-induced isomerisation, master eqn. formalism 7−13750
migratory phase transitions, stochastic theory 7−29956
molecules photodesorption by IR laser-adsorbate coupling 7−58616
N-level systems, quantum Markovian master eqn., evolution matrix in coherence vector formulation 7−48539
open quantum systems, Lindblad theory for collective mode damping 7−61138
phonon-assisted hopping, higher-order memory effects 7−16956
photodesorption, laser-induced, effect of resonant vibrational energy transfer 7−52293
quantum amplifiers, master eqn., linear theory 7−1050
sequential dynamics for master eqns., Kohlrausch relaxation 7−199
soliton turbulence, transport by negative eddy viscosity 7−14790
stationary probability distribs. and Lyapounov functions 7−24398
thermal fluctuations in a Knudsen flow system 7−63183
universal master equation for the gravitational violation ofquantum mechanics 7−4723
Br_2, $B^3\Pi(0_u{}^+)$, electronic self-quenching energy transfer rate consts. 7−20015
$CO+N_2$ nonequilibr. vibr. kinetics study 7−57157
N_2, plasma, electron velocity distrib., self-consistent determ. 7−20859

masterslice *see cellular arrays*

matched filters
composite matched filtering with error correction 7−42990
optical correlation design, wavelength-angle multiplexing appl. 7−25939
speckle location identification using matched filtering 7−55483

materials
see also individual materials, e.g. ceramics
aerospace material advances 7−27875
biocompatible material developments 7−28773
building materials used in the Netherlands, proposed standard for radioactivity 7−34287
critical and emerging issues in biomaterials 7−65871
education frontiers, conf., Boston, USA (Dec. 1985) 7−35112
energy utilisation, material advances 7−28384
science, annual review, book 7−24313
science, new materials synthesis and new props. achievement 7−27876
SiN_x:H,B, microcrystalline, wide-gap, RF glow discharge deposition 7−22503

materials handling
see also computerised materials handling; crushing; fission reactor fuel preparation and reprocessing; fluidised beds; grinding; transportation; winding (process)
computerised biomechanical modelling for manual materials handling task design 7−14040
nuclear fuel reprocessing plants, remote maintenance using servomanipulator based system 7−5338
remote handling facilities at Harwell 7−62036
TEM, transfer device for air-sensitive materials and surfaces 7−18940
WF_6, physicochemical props. rel. to CVD for VLSI appls. 7−17462

materials preparation
see also crystal growth; hot pressing; melt spinning; powder metallurgy; powder technology; sintering; vulcanisation
actinides, metals and cpds., crystal prep. for solid state research 7−17395
alkaline earth sulphide phosphors, prep. and thermolum., review 7−17488
alloy ingot preparation, thermal plasma arc melting 7−27968
alloys, rapidly solidified, conf., Boston, MA, USA (Dec. 1985) 7−18496
anisotropic media and composites, linear-elastic, lateral press. coeff. 7−1416
annual review of materials science, book 7−24313
θ-(BEDT-TTF)$_2$(I$_3$)$_{1-x}$(AuI$_2$)$_x$, molecular superconductor, prep. and characterisation *(Japanese)* 7−45261
bimetal cylinder, temp. fields and residual stresses in cooling 7−33705
BVDT-TTF organic conductors and 1D metals, synthesis 7−45299
ceramic composites, non-oxide, CVD fabrication 7−64993
ceramic synthesis from molecular precursors, conf., Palo Alto, USA (Apr. 1986) 7−35113
ceramic-ceramic composite materials, CVD processing 7−64992
ceramics, multiphase and composite, conf., University Park, PA, USA (July 1985) 7−60880
charge transfer complexes, synthesis, struct. and physical props. 7−44510
cobaltites, fine-particles, low temp. prep. by solid solution precursor method 7−59486
composite, winding, stress form. in frontal hardening 7−17491
diamond, synthetic prod. from graphite 7−53647
diamond polycrystals, synthesis using refractory metal catalysts, press. up to 13 GPa 7−53646
diamond semiconductors, synthesis and props. *(Russian)* 7−16588
diamond synthesis at low press., basic thermodynamics and kinetic conditions *(Russian)* 7−17486
epoxy resin, aminimide-cured, mica reinforced, improved mech. props. 7−59489
extraction metallurgy using thermal plasmas, fundamentals and applications 7−33621
ferroelectrics with multi-domain layers, fabrication and SAW excitations 7−27676
fibre reinforced Al alloy matrix composites, fabrication process 7−46377
fibre reinforced polymer composites, binder content in impregnated reinforcement, contactless US inspection use 7−3565
gels, drying induced shrinkage, liquid flow and chem. reactions 7−23069
glass, finished lens moulding technology saving time and money 7−31535
glass ceramic materials, liq. phase separation, nucleation and crystn., book 7−24327
glass technology, mixed transfer processes 7−7948
glass-making, review 7−3259
gradient index glass rods prep. by sol-gel index modifying ion interdiffusion process 7−7952
graphite fibre reinforced Mg matrix composites, fabrication, fibre coatings, wetting, adhesion 7−46374
halide eutectic composites, growth, struct., mech., elec. and optical props. 7−33648
heterogeneous ceramics, processing for dielectric appls. 7−64984
hydrocarbon processing using thermal plasmas, fundamentals and applications 7−33621
intercalation, material modification, controlled prop. prod. *(Czech)* 7−7909
ion radical salt, $(AsPh_4)_{0.25}(Ni(dmit)_2)$, synthesis, elec. cond. and cryst. struct. 7−37958
IR optical materials, production 7−37075
laser heated materials, temp. distrib. meas. method 7−9837
laser materials-processing using YAG laser, plume generation, influence on processing variables 7−12148
laser processing of high-tech materials at high irradiance, review 7−13342
laser welding, machining and materials processing, conf., San Francisco, USA (Nov. 1985) 7−9597
materials science and processing, outline of trends 7−46282
metal chalcogenides, low-dimensional, synthesis and CDW props. 7−32926
metal matrix composites, liq. metal infiltration prep., wetting 7−46372
metal oxides, synthesis methods and solid state chemistry 7−33620
metallic glass reinforced Al composite fabrication by multi-lamina explosive compaction 7−59482
metals, resonance interaction of concentrated energy flux 7−33624
microgravity expts. in materials processing *(Japanese)* 7−59737
molten carbonate fuel cell electrolyte structures, fabrication techniques 7−46934
mullite-alumina composites, sintering and charactn. 7−3252
natural fibre reinforced polyester composites, fabrication, mech. props., weathering 7−7956
new materials synthesis and new props. achievement 7−27876
optical glass filter manufacturing, spectral characts. 7−5961
oxynitride glass development, book contrib. 7−28003
phenolic resin composites, optimisation for friction materials 7−39475
piezoelectric ceramics, prep. and industrial appls. 7−13096
poly(vinyl alcohol) fibres, high modulus, zone drawing 7−59487
poly 2-aminopyridine films, electrochemical synthesis, SEM obs. 7−53691
poly ether ether ketone film, zone annealing prep., dynamic modulus, tensile strength 7−8038
polyacetylene:I (AsF_5) films, synthesis, elec. and optical props. 7−63513
polyacetylene:I films, liquid crystal polymerisation synthesis under mag. fields 7−65318
polybis(pyrrolyl)phosphazene, synthesis and electrochemical oxidation 7−65315
polycarbosilane powders and fibres, prep. by fluid soln. rapid expansion 7−13399
polyetheretherketone, penetrant durability rel. to processing and struct. 7−65168
polyethylene, chlorinated, prep., mech. and thermal props. 7−28006

materials preparation continued
polyethylene, single cryst. growth mode and lateral habit, impurity effects 7−26668
polyethylene oxide, single cryst. growth mode and lateral habit, impurity effects 7−26668
polymer, advanced, developments 7−28007
polymer composites containing anisometric particles, flow and flow orientation 7−37498
polymer films, pyroelectric behaviour for IR detection 7−7644
polymer liquid crystals, synthesis, characterisation and applications 7−17508
polymer microdispersions, preparation 7−22631
polymers, conductive, synthesis methods 7−64999
polymers, conjugated, elec. cond., chain rigidity effects 7−64230
polyyne, one-dimensional conjugated, synthesis and props. 7−65000
poly[bis(trifluoroethoxy)phosphazene] membranes, synthesis, casting, diffusion testing 7−13812
porous material prep. from montmorillonite-α-naphthylamine complex, oxidation, struct. 7−27986
powders, synthesis by laser heating, hexamethyldisilazane pyrolysis 7−65311
PVC-polyethylene toughened blends, co-crosslinking technique 7−28005
rapid solidification prep., compaction and processing techniques 7−22612
$(SCN)_x$:I, prep., elec. cond. 7−52597
shock compression induced modification and synthesis, book contrib. 7−27957
shock waves in condensed matter, conference, Spokane, WA, USA (July 1985) 7−18501
β-sialon, engineering ceramics, prep., fabrication, appls. 7−53683
silica, sol-gel processing, role of catalysts 7−22630
silica monolithic gels, autoclave prepared Raman studies 7−8314
silicone rubber, vulcanised, elec. props. 7−7302
space development and thermal phenomena, materials processing in microgravity environment *(Japanese)* 7−39843
steel, reduced activation alloys, development, fusion material appl. 7−53664
synthesis under high-press. shock loading 7−33934
tetrathiafulvalenes, N-containing, charge transfer complexes, struct. and elec. props. 7−44514
thermotropic liq. cryst. polymers, history, prep. and charactn. 7−6508
transition metal complexes, $M(dmit)_2$, conductive and superconductive materials 7−44515
transition metal oxides, sol-gel process synthesis, electronic and ionic props. 7−33618
transition metal sulphides and selenides, metal-rich, high temp. prep. and struct. props. 7−33617
triorthophosphates, superionic, synthesis and charactn. 7−53530
ultra-fine powder prod. using thermal plasmas, fundamentals and applications 7−33621
viscoplastic liquid impregnation of heated filler, axisymm. problem 7−44040
zirconia transparent gel-monolith from Zr alkoxide, controlled hydrolysis prep. 7−8313
Al, electrodeposition from nonaq. solns. *(Japanese)* 7−64964
Al-Mg-Si, Al-Mg, cast, mica particle dispersed composites, struct., strength, hardness 7−59574
Al-Pb disordered 3D normal metal-superconductor composite, elec. transport, magnetisation meas. 7−64383
Al-Si, talc particle reinforced composites, prep., wear and mech. props. 7−13408
Al-Si-SiO_2 sand composites, prep. and mech. props. 7−17500
Al_2O_3 profiled crystals, prod., quality characts. 7−33615
B″-Al_2O_3-Na_2O-ZrO_2 ceramics, transform toughened, fabrication, mech, props. ionic resist. 7−65143
Al_2O_3-SiO_2, mullite ceramics, sol mixture prep., drying method effect *(Japanese)* 7−7944
Al_2O_3-SiO_2-CaO glasses containing rare alkali oxides, struct. and elec. props 7−6528
Al_2O_3-SiO_2-Fe_2O_3-CaO-MgO-Na_2O-K_2O glass batch melting, interaction between solid, liq. and gas 7−7946
Al_2O_3-ZrO_2-Y_2O_3 system, synthesis and props. 7−22614
$AlPO_4$, cryst., prep. by reaction using BPO_4 7−46388
Au fine powder, synthesis from metallic aerogels 7−3216
B fibre reinforced Al, strength characts. 7−33768
B fibre reinforced Al matrix composite, TiB_2 coated, prep. using liq. phase infiltration 7−3229
BN, engineering ceramics, prep., fabrication, appls. 7−53683
BaF_2, precip. from aq. soln., orthorhombic to cubic transform. 7−17502
$BaFe_{12}O_{19}$, synthesis by hydrolysis of barium acetate and tris (acetylacetonate) iron *(Japanese)* 7−46392
$BaTiO_3$, form. from metallo-organic precursors, kinetics 7−39465
$Ba_2Ti_{5-x}Zr_xO_{12}$, synthesis, stability, cryst. chem. 7−53681
$Bi_{13}V_5TiO_{34}$, layered cpd., crystal-chemical and dielectric props. 7−6595
C black filled polymer composites, elec. resist. rel. to curing temp. 7−65001
C, carbonisation of phenol formaldehyde resin 7−46802
C fibre reinforced C, multidirectional composites, macroporosity and interface cracks 7−46513
C fibre reinforced epoxy resin laminates, curing characts., fibre kinking 7−39474
C fibre reinforced polyetheretherketone, penetrant durability rel. to processing and struct. 7−65168
CO_2 pulsed laser, medium repetition rate, materials processing appls. 7−20184
CaO-Al_2O_3-SiO_2 cement, macro-defect-free processing and low freq. dielec. response 7−13081
CaO-Fe_2O_3 system, solid state reactions, ferrite growth and morphology 7−3236
$Ca_8Y_2(PO_4)_6(OH)_{2-x}O_x$, synthesis, struct., dielec. props., AC elec. cond., IR spectra 7−3235
CdO-Al_2O_3-P_2O_5 glasses, EPR spectra, synthesis effects 7−64530
Cd_2SnO_4, sintering synthesis and props. 7−64954
CoAl, combustive synthesis, physicochemical props. 7−7918
$Co_{1-x}Rh_x(Ru_x)S_2$, prep., mag. and crystallographic props. 7−33154
Cu fine powder, synthesis from metallic aerogels 7−3216
Cu, preparation using γ-$Cu_2(OH)_3Cl$ precursor, X-ray diffr. 7−27970
Cu-Li, prep. and props. 7−53663
CuO, preparation using γ-$Cu_2(OH)_3Cl$ precursor, X-ray diffr. 7−27970
$Eu_2PCl(Br)(I)$, prep., mag. props. and cryst. struct. *(German)* 7−32379
Fe-Mn-Al, processing and props., effect of Si and C additions 7−17707

materials preparation continued
Fe-Nd-B permanent magnets, prep. by liquid dynamic compaction 7−53661
Fe-P amorphous alloy preparation by electroplating 7−17489
$FeAl_3$, Fe_2Al_5, combustive synthesis, physicochemical props. 7−7918
$Fe_{14}Nd(Y)(Ce)_2B$ fine particles prep. by hydriding, mag. props., recording appls. 7−53660
$Fe_{5-x}Ni_xC_2$, prep. and characterisation 7−17490
Fe_2O_3, haematite, prep. from δ-FeOOH by thermal decomp. on grinding, X-ray diffr. line broadening 7−46390
$K_2Mn_2(MoO_4)_3$, synthesis and cryst. struct. determ. 7−44482
La_2TiMo_6 (M=Fe, Ni, Cu, Zn), synthesis, struct. and elec. props. 7−2619
$LiAlO_2$ battery separator felt, prep. by sol-gel technique, phase transitions in gels 7−22601
$LiAlO_2$, Li_2SiO_3 and Li_2O, breeder ceramics, fabrication, irrad., T release, EXOTIC expts. 7−49648
$Li_{3-x}H_xTaO_4$, prep. by means of hydrothermal synthesis and protolysis 7−39449
$LiMo_8O_{10}$, synthesis and struct., orthogonal nonintersecting octahedral cluster chains 7−32386
$LiMoS_3$, synthesis, electrochemistry and struct. 7−33619
$Li_2O.2SiO_2$ sol-gel glass, prep. and devitrification behaviour 7−58158
Li_2SiO_3, Li_4SiO_4, Li_6SiO_5, breeder materials, prep. in alcoholic media 7−49654
Mg alloys rapid solidification prep., status and potential 7−22611
$MgFe_2O_4$, mag. props., depend. on preparation method 7−13066
MoI_x, preparation, elec. and optical props. 7−64946
$MoSe_3S$ cathode for secondary Li batteries, prep. and characterisation 7−64948
β''-$Na_{1+x}Mg_xAl_{11-x}O_{17}$ based multivalent β''-aluminas, synthesis 7−33628
Na_2O-B_2O_3-Nd_2O_3, SiO_2 substituted, leaching of $Na_2O-B_2O_3$, X-ray study of $NdBO_3$ 7−51657
Na_2O-CaO-Al_2O_3-SiO_2 system, synthesis of glasses by sol-gel process 7−64997
Na_2O-CaO-SiO_2, high-silica glass, sol-gel prep. method 7−46402
Na_2O-CaO-SiO_2 coating glass for optical fibres, preparation 7−7949
Na_2O-CaO-SiO_2 glass, melting using natural fine-powdered quartz 7−7950
Na_2O-WO_3-B_2O_3 glass ceramics, containing W bronze, prep. and elec. props. *(Japanese)* 7−3261
$Na_2O.nAl_2O_3$, mullite struct., form. by solid state reaction 7−7937
$NaPO_{2+x}N_y$ glass prep. and props., comp. calcs. 7−7951
$Na_4Zr_2Si_3O_{12}$-$Y_3Fe_5O_{12}$ composite ceramics, prep., thermal expansion 7−63853
Nb-Ge alloys, processed in inert gas in 100 m drop tube 7−7986
Ni-Al powders, gasless combustion synthesis, particle size 7−46368
NiAl, Ni_2Al_3, combustive synthesis, physicochemical props. 7−7918
$Ni_yCo_{3-y}O_4$ spinels, prep. by thermal decomposition of mixed hydroxide nitrates 7−13424
$Ni_{61}Zr_{39}$, preparation by grinding, diffraction anal., crystallization behaviour and magnetic props. 7−3219
Np borides and oxychalcogenides, synthesis and crystallographic studies *(French)* 7−17487
PZT powders, oxalate method prep., particle size *(Japanese)* 7−7941
$Pb(Mg_{1/3}Nb_{2/3})_3$ perovskite, prep. using $Pb_3Nb_2O_3$ and MgO 7−39468
$Pb(Mg_{1/3}Nb_{2/3})O_3$-$Pb(Zn_{1/3}Nb_{2/3})O_3$, ferroelec. powder, prep., solid solubility, Curie point *(Japanese)* 7−7945
$PbTiO_3$, form. from metallo-organic precursors, kinetics 7−39465
$PbTiO_3$ gels and films, hydrolysis conditions effect on characts. 7−46400
$PbTiO_3$ piezoelectric fibres, synthesis by hydrothermal reaction *(Japanese)* 7−64974
$Pb(Zn_{1/3}Nb_{2/3})O_3$-$PbTiO_3$, perovskite ceramic powder, prep. dielec. and piezoelec. props. 7−46380
$Pb\{(Mg,Zn)_{1/3}Nb_{2/3}\}O_3$, prep. and ferroelec. props. *(Japanese)* 7−27993
Pd fine powder, synthesis from metallic aerogels 7−3216
PdRhPSi(SiNi), amorphous laser processed surface alloy on cryst. Ni in NaOH soln., anodic characts. 7−28317
Pu borides and oxychalcogenides, synthesis and crystallographic studies *(French)* 7−17487
$Rh_{1-x}Ru_xS_2$, prep., mag. and crystallographic props. 7−33154
a-Si, cathodic deposition from organic solvents *(Japanese)* 7−64947
Si-C-O system, predominance diagrams, thermodynamics of Si and SiC prep. 7−22645
SiC fibre reinforced Al alloys, whisker or particulate hybrids, mech. props. 7−13537
SiC fibre reinforced SiC, high heat flux, low activation struct. materials 7−49635
SiC fibres, continuous, synthesis from polycarbosilane 7−22616
SiC whisker reinforced Al, flame spraying fabrication and forging, whisker distrib. and strengths 7−59483
SiC:Si, reaction bonded composite, mech. props. and microstruct. anisotropy 7−65146
SiC:Si reaction bonded composite ceramics, interface struct., grain boundaries 7−64995
SiC-$Si3N_4$ fibres, prep. by polycarbosilazane precursors pyrolysis 7−27988
Si_3N_4, engineering ceramics, prep., fabrication, appls. 7−53683
Si_3N_4, reaction bonded, thermal cond. *(Japanese)* 7−6902
SiO_2 gels. prep. using tetraethoxysilane, elastic moduli 7−46537
SiO_2 glasses, prep. by sol-gel technique, dielec. props. 7−45918
SiO_2, high percentage in sol-gel procedure for optical fibres production *(Croatian)* 7−20480
SiO_2, spherical particles synthesis, thermal behaviour *(Japanese)* 7−7943
SiO_2-Al_2O_3, mullite form. from xerogels, X-ray and IR obs. 7−46391
SiO_2-Al_2O_3 system, charactn. of spinel phase from xerogels and form. process of mullite 7−39464
SiO_2-GeO_2 core optical fibres, fabrication by the sol-gel method 7−46404
SnTe, low temp. iodide method synthesis, X-ray reaction product studies 7−64945
SnTe, low-temp. iodide method synthesis, micro-nonhomogeneity studies 7−63835
Sr ferrite fine particles, prep., mag. props. *(Japanese)* 7−53065
$Ta_2O_5nH_2O$, prep. of monodispersed particles with controlled size 7−64979
TeO_2-$ZnCl_2$ system, glass prep. and composition 7−46403
Th_3N_4 and ThN, prep. and oxidation behaviour 7−22600
Ti nonisothermal carbidising mechanism, combustion with carbonaceous material, thermal wave propag. vel. determ. 7−46381
Ti sponge, prod. technology 7−7913

materials preparation continued
Ti-Pd, amorphous, formation by mechanical alloying methods 7—59479
TiN, deformation-induced stacking faults, synthesis by vibratory milling 7—44572
TiNi alloy, amorphisation by high press. shear deform. *(Russian)* 7—8053
TiO_2 sol-gel process, synthesis, structure and appls. 7—46401
TiO_2-SiO_2 r-GRIN glass rods prep. by sol-gel method 7—13427
TiS_2, nearly stoichiometric, direct reaction synthesis and characterisation 7—58499
TiS_e, prep. in presence of Sb, struct. studies 7—33616
$TiSi_2$ ultrafine powder prep. and film charactn. 7—64975
U borides and oxychalcogenides, synthesis and crystallographic studies *(French)* 7—17487
V-based alloys, alloying and impurity effects 7—53666
VN, deformation-induced stacking faults, synthesis by vibratory milling 7—44572
$Y_4Al_2O_9$, $Y_3Al_5O_{12}$, $YAlO_3$, synthesis by sol-gel process 7—13420
YIG, multicomponent systems, synthesis, microwave characts., mathematical modelling 7—33626
Zn ferrite, shock-synthesised or furnace-reacted, mag. props. 7—38904
$ZnMo_8O_{10}$, synthesis and struct., orthogonal nonintersecting octahedral cluster chains 7—32386
Zn_3P_2, prep., X-ray charactn. 7—7939
ZrO_2-Al_2O_3 composite powder, thermal decomposition prep. for porous ceramics 7—13422
ZrO_2-Y_2O_3 ceramics, with straight, uniform-sized channels 7—22627

materials properties
this heading is restricted to those properties which are not covered by other specific headings
see also dielectric properties of substances; electrical properties of substances; magnetic properties of substances; mechanical properties of substances; optical properties of substances; thermal properties of substances; thermodynamic properties
annual review of materials science, book 7—24313
databases, nonbibliographic, cluster anal. 7—41026
formulation of new materials 7—13341
glass ceramic materials, liq. phase separation, nucleation and crystn., book 7—24327
new materials synthesis and new props. achievement 7—27876

materials requirements planning *see operations research; production control*

materials testing
see also acoustic applications; corrosion testing; creep testing; dynamic testing; electron beam applications; fatigue testing; fracture toughness testing; hardness testing; impact testing; insulation testing; mechanical testing; nondestructive testing; notch testing; tensile testing; ultrasonic materials testing; wear testing
ΔKth testing method for plastic zone size at fatigue crack tip 7—17748
Canadian fusion breeder blanket program, Chalk River irradiation facilities 7—49664
ceramic materials, lifetime prediction 7—8218
ceramics, parameter meas. by laser interferometry 7—9888
ceramics, powder size and distrib., surface texture, thermal props., interferometric meas. 7—9818
ceramics, thermal inertia measurement, reflective-cavity method investig. 7—46753
composite, digital image correlation methodology use for deform. quantification 7—59718
composite panel, whole-field strain determ. using coherent opt. processing 7—57779
crack initiation determ. by standard test methods 7—39799
disc bend test, parameterize anal. 7—54039
ductile-brittle transition temp. determ. from miniature disc bend tests 7—54038
dynamic three-point bending test, finite element anal. considering contact and frictional effects *(Japanese)* 7—57776
electrical insulators for liq. metal blankets of fusion reactors 7—49624
electronic materials characterisation, recent trends *(Japanese)* 7—13163
epoxy insulation study using X-ray computing tomograph 7—13679
FFTF as an irradiation test bed for fusion materials and components 7—49662
fibre optic sensor development for high speed material diagnostics 7—65250
fibre reinforced ceramics, test techniques for mech. props. 7—13698
freely expanding ring test, determ. of material strength at high strain rates 7—54044
fusion reactor breeder blanket materials, expts. and test facilities 7—49621
high-quality quartz crystals, production developmental results 7—59823
insulating oils, gamma-ray effects on elec. props. 7—48829
IR materials erosion due to rain, optical damage characterisation 7—31411
layered materials, semitransparent, modulated photothermal radiometric anal. 7—54033
linear viscoelastic materials, dynamic props. by wave propagation testing, PMMA appl. 7—16090
Low-Temperature Neutron Irradiation Facility for fusion materials research 7—49665
metallic specimen heating in split-Hopkinson bar expts. using induction coil heaters 7—33870
optical fibres, strength meas. by bending 7—43384
optical methods in composites, conf., Keystone, USA (Nov. 86) 7—55894
piezoelectric solids elastoelectric response to cyclic stresses obs., using computerised system 7—39810
plastic film covered steel plates, thermoelastic props. meas. 7—33713
polymer films stress development during thermal cycling, bending beam technique 7—28063
polymeric materials, shock absorpt. charact., expt. technique 7—8222
pressure sensitive adhesives, ball rolling motion, friction coefficient, viscoelastic props. 7—28234
pressure testing at elevated temps., portable equipment 7—13689
programmable analyser, metallurgical test appl. 7—35505
PVC, unplasticised, satisfactory service life under static load 7—8219
refractory compound films, mech. props., struct., test methodology 7—33684
remanent life assessment, predictive methods, present status and future developments 7—8217
RTNS-II fusion materials irradiation facility, status 7—49667
rubber, tear test methods comparison 7—28236
scratch adhesion testing, critical load for coating loss, acoustic emission 7—3549

materials testing continued
servo hydraulic materials testing machines, Instron 1340 Series 7—8209
shear testing methods for composites 7—46745
Si solar cells, SILSO, grain boundary charact., meas./test techniques 7—13858
SIRIUS-M, ICF test facility, materials testing 7—49663
SIRIUS-M, symmetric illumination, inertially confined direct drive materials test facility 7—49661
soil testing, BASIC program 7—34735
Solar Max samples, erosion studies 7—46743
split point drills, TiN and ZrN coatings performance charact. meas. 7—65244
stainless steel electrode surface damage anal. in high energy spark gaps 7—33991
steel, austenitic, ^{59}Ni doped, design of single variable He effects expt. for FFTF irradiation expts. 7—49666
steel, high strength, strength meas., anal. of elastic-plastic ball indentation method 7—63088
steel, low alloy, oxides on fracture surfaces, failure anal. examination 7—13586
superalloy $L1_2$ structures, high temp. deform. mechanisms *(French)* 7—22766
surface deformation slope meas., reflection grating method, digital image processing 7—29974
synthetic quartz growth, Brazilian lascas charact. for synthetic quartz growth, props. correlation 7—59394
thermal shock loadings in PTS accidents, J-integral concept appl. 7—13696
tubular specimens, mech. tests in high-press. chamber, stress-strain tensor functional construct. 7—59716
video/computer technology role in exptl. mech. 7—63093
wedge test for adhesive joints, mechanics 7—33872
In-glass vacuum seal, adhesion strength, meas. method 7—59715
$In_{2-x}Sn_xO_{3-y}$ protective coatings for Galileo spacecraft, radiation testing 7—59647
$LiAlO_2$, fusion blanket material, effects of sweep gas, extraction vessel material and ceramic props 7—49664
Li_2O, fusion blanket material, effects of sweep gas, extraction vessel material and ceramic props. 7—49664
$Ni_{40}Pd_{40}P_{20}$, glass transition, internal friction by Collette torsion pendulum 7—38199
Pb-Sn solder, deform. props. 7—46590

mathematical analysis
see also approximation theory; Bessel functions; calculus; catastrophe theory; differential equations; eigenvalues and eigenfunctions; Fourier analysis; integral equations; numerical analysis; series (mathematics); spectral analysis; transforms
generalized Kato decomposition 7—60983
Laplacian, coordinate-free proof of Maxwell's interpretation 7—55928
shell, stresses under local loads, calc. using Timoshenko method 7—57696
slow motion extraction from nonlinear equations of motion 7—14763
special function calcs. from two complex variables *(Russian)* 7—56022
superposed epoch analysis method 7—34743
vibrating string controversy of mid-1700s, classical wave eqn. 7—48262
weight-1 6j coefficients, complete determ. of zeros 7—29795

mathematical logic *see formal logic*

mathematical programming
see also dynamic programming; geometric programming; linear programming; nonlinear programming
3D contact problems with friction, mathematical programming approach 7—16131
evolution, test of phylogenical predictions using combinatorial optimisation 7—40084
reconstruction of tomographic images from projections of a small number of views via mathematical programming 7—34245

mathematics
see also algebra; combinatorial mathematics; convergence; digital arithmetic; duality (mathematics); equations; formal logic; functions; geometry; mathematical analysis; number theory; probability; statistics; topology
book, mathematics and its applications 7—4643
morphology, introduction 7—35262
teaching, modelling and creative thinking 7—55937

mathematics computing
average condition number for solving linear equations 7—29713
flow, determinacy of degenerate equilibria 7—57782
fluid dynamics, Glimm's method, introduction and FORTRAN listing *(Spanish)* 7—20678
gas dynamics in 1D, AZTEC software 7—26237
Henon mapping with Pascal, dynamic systems simulation 7—34836
linear asymmetric matrix equations, biconjugate gradient routine ILUBCG2 7—48302
MFFT package for 2D and 3D vectorised discrete Fourier transforms 7—41060
ML-TEST, FORTRAN subroutine package for implementation of maximum-likelihood method 7—59986
spreadsheet programs, numerical problems soln. 7—24341

matrices *see matrix algebra*

matrix algebra
see also S-matrix theory
angular momentum traces, generating functions 7—120
asymptotic covariance matrix of sample correlation coefficients under general conditions 7—24360
atom, spin-dependent interactions, l^Nl' configs., matrix elements identities 7—42515
atoms, photoionisation, ang. depend. electronic Green's fn., finite basis-sets 7—42570
automorphisms of algebraic varieties and Yang-Baxter equations 7—35425
Banach spaces, optimisation and differentiation 7—55985
Baxter condition for commutativity of transfer matrices 7—60964
Bezoutians and intertwining matrices 7—60952
block-Toeplitz band matrices, determinant 7—48282
characteristic roots ratios, appls. to principle component or ridge regression 7—24363
Clifford bundles and the Dirac operator, connections 7—61443
connection with inverse matrices 7—55953
convex functions, connection with monotonicity 7—48283
decentralised stabilisation, construction of inverses with prescribed zero minors 7—29667
DFB lasers numerical matrix method for anal. of structure 7—57349

matrix algebra continued
- digital images restoration theory, additive noises, constrained generalised inverse matrix 7−36909
- Dirac matrices, in gravitational field, construction mode 7−56098
- eigenvalues, sensitivity under elementary matrix perturbations 7−60955
- electron optical system, aberration shift relations, matrix derivation 7−18938
- EM scattering problems, sparse matrix solution, algorithms comparison 7−50477
- evolution equations, integrable, nonlinear, equivalent classes and generalized Miura transformations 7−55952
- evolution equations, integrable solns. 7−60963
- fission reactor criticality problems, 3-dimensional, soln. by simplified response matrix technique 7−49531
- fourth order matrices, representation as linear combination of four independent powers 7−4733
- frame response to a harmonic excitation, taking intoaccount the effects of shear deformation and rotaryinertia, Timoshenko beam theory 7−6132
- free rigid body, eqns. of motion, matrix forms 7−41089
- Gaussian Schell-model beams in optical systems, matrix representation 7−11094
- generalized spectral matrices and radial matrices on symmetry classes of tensors 7−48276
- geophysical eigenvalues, efficient computation 7−18323
- Gibbs free energy calc., symmetric minimum-norm updates 7−39912
- global inverse spectral problems for rational matrix functions 7−60961
- H-matrix, absolute value of inverse, comparison with M-matrix 7−29670
- Hamiltonian circuit in a graph, heuristic determ. method 7−60943
- hermitian and nonnegativity preserving subspaces of complex square matrices 7−24362
- Hermitian matrix and it's principal submatrices, possible inertias 7−48281
- Hermitian matrix linearisation using LINRZ program 7−48269
- Holocoupler-Selfoc fibre system, coherent transfer matrix description 7−26016
- Hopf bifurcation problem, parameter functionization 7−55988
- hyperbolic-parabolic systems of conservation eqns., solns. large-time behaviour 7−55998
- identities among certain triangular matrices 7−24353
- inelastic scatt., log derivative method, piecewise constant diagonal reference pot. addition 7−36726
- intertwining and testing matrices corresponding to a polynomial 7−60953
- inverses of banded and k-Hessenberg matrices 7−48275
- Jacobi-matrix method based on SO(2,1) algebra, parabolic coords., Coulomb fns. expansion in parabolic Sturmians 7−56076
- Jordan form, influence of marked reduced graph of nonnegative matrix 7−55956
- layered elastic systems, boundary element transfer matrix analysis 7−35281
- Lie algebra of second-order matrices, polynomial identities *(French)* 7−60969
- linear and nonlinear permutation polynomials, permutation of matrices over a field 7−60956
- linear operators on matrices, invariance of decomposable numerical range 7−48274
- linear stochastic difference eqns., matrix criteria, sufficient conditions *(Russian)* 7−35212
- linear systems, stability problems *(German)* 7−29674
- lower bounds for arbitrary matrix algebra 7−24354
- matrix equation $AX=B$ with applications to the generators of a controllability matrix 7−48285
- matrix polynomials, common multiples, divisors and eigenvalues 7−55955
- matrix polynomials, similarity condition for factorisation 7−55959
- meromorphic differential equations, second order, reduction theory 7−48313
- metric spaces, proof of Onsager lemma 7−41076
- minimum spectral radius of matrices of zeros and ones 7−48279
- minus partial order and the shorted matrix 7−29664
- Morse pot., matrix elements, appl. of 2D harmonic oscillator 7−56071
- Muller matrices of polarisation systems, general props. 7−66464
- multicomponent linear conjugation problem, asymptotic props. of solns. 7−29722
- multivariate Meixner classes of invariant distributions of random matrices 7−24361
- N$_0$-matrices, spectrum 7−29669
- N×N matrix differential operators, spectral problem on the line 7−56086
- Nahm's equations, singular point analysis, and integrability 7−18975
- non-negative irreducible matrix, spectrum localization using Holder norms 7−60937
- noncommutative algorithm for multiplying square 5th order matrices *(Russian)* 7−60968
- nonrelativistic scattering on a line, Jost matrix integral form. 7−61149
- nonsingular bordered matrix system, generalised deflated block elimination algorithm 7−35202
- open-channel network flow model *(Japanese)* 7−35285
- operator theory, symposium, Athens, Greece (Aug. 1985) 7−55878
- optical matrix vector multiplication by four-wave mixing 7−42991
- optical matrix-matrix multiplier based on Kronecker product decomposition 7−57248
- optical phase conjugation, matrix analysis 7−57480
- optics, misaligned first-order, canonical operator theory 7−5832
- orthogonality in multiway classifications 7−24403
- oscillator basis, matrix elements, centre-of-mass coordinates elimination 7−24483
- partial matrices, completion to contractions 7−29660
- pencils of matrices, lower eigenvalue bounds 7−48280
- period doubling in four-dimensional symplectic maps 7−29721
- periodic competitive and cooperative systems, periodic solutions 7−40085
- periodic Lyapunov and Riccati difference equations, inertia theorems 7−48311
- periodic solutions of nonlinear second order vector differential equations 7−61041
- perturbed Markov chains, stationary distribs., transition matrix perturbation 7−24554
- perturbed matrix pencil, equivalence orbit and canonical Kronecker form 7−24355
- plate elements, geometric stiffness matrix formulation 7−43723
- polynomials subject to small perturbations 7−14749
- positive block matrices, struct. and nonstationary prediction 7−55951
- positive definite doubly stochastic matrices and extreme points 7−24356

matrix algebra continued
- positive matrices, arithmetic-geometric means 7−48288
- pseudopotential in Cartesian Gaussian orbitals, matrix elements, recurrence formulae *(Russian)* 7−25377
- quantum mechanical systems, U-matrix theory anal., eigenstates 7−61157
- quantum transfer matrix method for finite temp. props. 7−24402
- rank-preserving diagonal completions of a matrix 7−48277
- ray matrix method for analysis of opt. resonators with image rot. 7−50599
- reducing matrices, generating relations and corepresentations 7−4652
- Riccati equation, using matrix sign function 7−48286
- semiinfinite band matrix, polynomial factorisation 7−60958
- sign patterns of matrices and their inverses 7−60957
- simultaneous diagonalisability of matrices, biunitary transformation 7−35195
- simultaneous reduction of sets of matrices under similarity 7−55954
- soil, infiltration from cavities, num. soln. 7−18254
- sp(4,R) symplectic algebra generators, matrix representation 7−60948
- star and minus orderings, relationship for matrices 7−24359
- star partial ordering for matrices, rank subtractivity 7−24358
- strictly dissipative matrices, determinant 7−29668
- structure matrix of (0, 1)-matrices, rank, trace and eigenvalues 7−29671
- Sylvester resultant matrix, structure of the inverse 7−48284
- symmetric tridiagonal band matrix, explicit inverse, Sturm-Liouville system eigenvalues appl. 7−60959
- symplectic QR-like methods, matrix factorizations 7−29666
- thermofield transfer-matrix method, 1D quantum spin systems appl. 7−138
- transfer functions and operator theory 7−55983
- uncoupling systems of linear partial diff. eqns., operator kernel 7−29685
- wave phenomena in plane layered media, global matrix formulation 7−61125
- weak r-monotonicity, relationship with $\{1\}$-monotonicity 7−60960
- Z-matrix, nonnegativity of principal minors, polynomial algorithm 7−29665
- q mass matrices and symmetry props. of electroweak model 7−61529
- Be, ground state, exact density-pot. relation 7−42726

matrix isolation spectra
- *see also Shpolskii spectra*
- acridine, radical anion in stretched polyethylene films, polarised absorpt. spectra 7−50083
- acridine dyes, PVA matrices, luminesc. spectra anal., external heavy-atom effect 7−42680
- actinides in hosts, optical absorption spectra 7−27730
- alkali halides, neutral molecule incorporation, composite form. at room temp. 7−54101
- alkali metal chlorate ion pairs, coord. structs., FT IR matrix isolation spectra 7−62367
- aluminium(III)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7−25563
- anthracene, radical anion in stretched polyethylene films, polarised absorpt. spectra 7−50083
- anthracene-tetracene photoadduct in polymer matrix, photochemical hole burning 7−23038
- anthraquinone dyes, α-substituted, order parameters in nematic liq. cryst. 7−36633
- 1,4-anthraquinone phosphoresc. depend. on polycryst. matrix, Jahn-Teller pseudoeffect 7−50236
- anthrone, triplet-triplet energy transfer to donors in Shpolskii matrices, phosphoresc. 7−57122
- 2-azido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7−36608
- azulene, in rare gas matrix, highly excited single vibronic level relaxation, direct obs. 7−19915
- benzene, Ar matrix isolated, vac. UV and MCD absorpt. spectra 7−15635
- benzenes, mono-substituted, biaxiality in nematic solutions, IR dichroism studies 7−36662
- benzenes, mono-substituted, orientational order in nematic solutions, IR dichroism studies 7−36661
- bis(benzene)vanadium-nickelocene, in diamag. ruthenocene lattice, isotropic exchange interactions, EPR 7−57104
- bis(n-toluene)vanadium, matrix isolated, magnetisation props., MCD meas. 7−57112
- 9,10-bis-(phenylethynyl) anthracene, in PMMA films, fluoresc. quenching *(Russian)* 7−10661
- carbenes, intramol. H shifts, spectrosc. obs. 7−62390
- centrosymmetric molecules in amorphous media, Stark effect by hole burning and inner elec. fields 7−25581
- chlorin, ground and excited states normal mode symmetry determ. 7−36588
- chlorin, in polyvinyl butyral matrix, spectral hole burning and Stark effect 7−62792
- chlorin, photoisomer, in n-octane, emission anisotropy 7−57052
- chlorobenzene, matrix isolated, triplet states, phosphoresc. 7−15636
- chlorophyll derivatives, in organic solvent matrix, vibrationally resolved fluoresc. spectra 7−57120
- chlorophylls a and b and aggregates, spectra in nematic liq. crysts. and polyvinyl alcohol films 7−59930
- chromium(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7−57112
- complex mols. in inhomogeneous matrices, absorpt. spectra, heating of breaks, model calcs. 7−42584
- cyclopentadienylcycloheptatrienylvanadium-nickelocene, in diamag. ruthenocene lattice, isotropic exchange interactions, EPR 7−57104
- diacetylene-HF complexes in solid Ar, IR spectra, H-bonding 7−10574
- 3-diazo-2-butanone - do(d6), vibr. anal., IR and Raman spectra 7−19853
- trans-1,2-difluoroethane, Ar$_{364}$ matrix isolated, substitutional defects, consistent force field 7−57059
- dye molecules adsorbed on silicate matrix, UV electronic spectra 7−42639
- dyes in polymer matrix, microheterogeneities fluoresc. conc. depend. *(Russian)* 7−5717
- ethylene-Li-N$_2$ complexes in solid Ar, IR spectra 7−31033
- fluorescent dyes in nematic liquid crystals, spectral props. 7−935
- fluoromethane, matrix isolated, vibr. energy transfer and migration processes 7−25635
- FTIR vibr. circular dichroism 7−50104
- germanium(IV)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7−25563

matrix isolation spectra continued

- glycolic acid, Ar gas matrix, rot. isomerisation, ab initio SCF calcs., IR spectra 7−19851
- group IVA atoms, photochemistry, electronic struct., matrix isolation spectra 7−3580
- guanine, matrix isolated, IR spectra, keto-enol tautomerism 7−50126
- high resolution synchrotron spectroscopy appl. 7−19742
- hole-burning spectroscopy as a tool to eliminate inhomogeneous broadening 7−46104
- 9-hydroxyphenalenone-de(di) Shpolskii matrix isolated, H bonding, phosphoresc. 7−19926
- impurity molecule in glassy matrix, inhomogeneous distrib. function and homogeneous spectra 7−50084
- inorganic cpds., vapor state and matrix isolation spectroscopy 7−15593
- iron(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7−57112
- methane, Ar(Kr)(Xe) solid trapped, site struct. and hindered rot., IR spectra 7−5675
- methane, solid to matrix, IR ν_4 band obs. 7−42608
- methyl cyanide, spin-rot. coupling heteronuclear dipolar order 7−50065
- 5-methyl indole in polymer films, UV polarised absorpt. spectrum 7−925
- methyl thiyl radical+$NO(NO_2)(O_2)$, reaction rate consts., mol. fluoresc. anal. 7−19917
- methyl-substituted amine−HF complexes, methylation effect, IR spectra anal. 7−19855
- 9-methylguanine, matrix isolated, IR spectra, keto-enol tautomerism 7−50126
- methylnitrene, matrix-isolated, IR and UV absorpt. spectra 7−42637
- 1-methyluracil, isotopic derivatives vibr. spectra, ab initio Hartree-Fock SCF calcs. 7−15589
- naphthalene, isotopically mixed cryst., resonant secondary emission and spectral diffusion 7−42665
- octaethylporphyrin, in polyvinyl butyral matrix, spectral hole burning and Stark effect 7−62792
- olefin-H_2O complexes, matrix isolation study, IR spectra, H-bonds 7−31032
- organic cpds., in α-cyclodextrin-NaCl mixture, room-temp. luminesc. 7−36666
- perfluorovinyl radical in Ar matrix, ESR INDO MO calcs., hyperfine struct. 7−31078
- perylene in microcryst. n-heptane, selectively laser excited in phonon sideband, stimulated emission 7−33415
- phenazine, radical anion in stretched polyethylene films, polarised absorpt. spectra 7−50083
- platinum phthalocyanine, first excited states in mag. fields, Zeeman study 7−10643
- polyacrylate radicals trapped in polymeric network, struct. and stability, EPR obs. 7−5801
- polyatomic mols., n-alkane matrix isolated, spectroscopy 7−45979
- porphyrin, covalently linked hybrid dimers, EPR, triplet state magnetisation, 7−25562
- protochlorophyll, molecule in glassy matrix, inhomogeneous distrib. function and homogeneous spectra 7−50084
- pyridylaryloxazoles, spectral-luminesc. and lasing props. study 7−43089
- quinoxaline, triplet state, Shpol'skii ODMR spectra, spin-lattice relax. 7−62428
- random organic solids, non-exponential relax. processes. 7−37058
- rhodamine 6G, aggregated, in PMMA matrix, polarisation props. in transmitted light 7−31060
- rhodamine 6G, polymer matrix effect on spectral and lasing characts. 7−31309
- rigid molecule, orientation in nematic liq. cryst., NMR study 7−62414
- semiquinone cation radical, immobilised, EPR spectral simulation calcs. 7−50200
- trans- stilbenes, poly(vinyl alcohol) films, photophysics study, visible spectra anal. 7−36632
- tetrachlorodibenzodioxins, isomers, identification, micro-diffuse reflectance and matrix isolation FT-IR techniques 7−25502
- tetramethyl tin isolated in Ar, inelastic neutron scatt., intermol. interaction, rot. tunnelling 7−20067
- thiophene, in liq. crysts., variable angle spinning ^1H NMR 7−929
- thiopyrylocyanine dyes, in polymer matrix, hypsochromic shift, solvation, IR spectra 7−42611
- Ag dimers and clusters, matrix isolated, guest-host interaction and photochem. transform. 7−15786
- Ag_3 clusters isolated in solid Xe matrices, reson. Raman scatt. and photoisomerisation process 7−25696
- $(AgO_2)_x$ complexes, $(x=1,2)$, bonding and configuration, matrix isolation ESR spectra anal. 7−19905
- AlF^+, radical, matrix ESR and CI investig. 7−15629
- $Au(O_2)$ complexes, bonding and configuration, matrix isolation ESR spectra anal. 7−19905
- BF^+ radical cations in Ne matrix, generated by laser sputtering and high temp. sources, EPR, CI calcs. 7−25604
- CO, Ar matrix isolated, librovibr. spectra, indirect dephasing model 7−15582
- Cl_2, excited state, in Ar matrix, internal dynamics and fluoresc. 7−25589
- Cr, matrix isolated, magnetisation props., MCD meas. 7−57112
- Cs+trichlorotrifluoroethane, vapor phase reactions, chemiluminesc. obs. 7−59767
- CuCl microcrystals, excitons, size quantisation effects, luminesc. spectra anal. 7−53409
- $(CuO_2)_x$ complexes, $(x=1,2)$, bonding and configuration, matrix isolation ESR spectra anal. 7−19905
- DI, Ar matrix, conc. effects, binary complexes with impurities, IR spectra anal. 7−31034
- Fe complex, oxy(tetraphenylporphyrinate), Iron II, cocondensation products, struct. and bonding, IR spectra 7−10572
- $Fe(CO)_4$, IR laser-induced photochem. 7−65334
- $Ga(CO)_2$, form. in hydrocarbon matrices, magnetic parameters, EPR and IR spectra anal. 7−19906
- H, elastic electron scatt., reson. struct. study 7−20045
- H_2-octaethylporphin in polystyrene, photochemical hole, transmission spectrum, temp. broadening *(Russian)* 7−15617
- HCN cluster form. in carbon tetrachloride matrix, IR spectra 7−19841
- $(HCN)_n$ microcluster selective formation in cryogenic matrices, FTIR spectroscopy obs. 7−48895
- HCl, in Ar and Kr matrices far IR spectra, press. effects 7−22240
- HI and DI in solid N_2, IR spectra in temp. range 9 to 30 K 7−50127
- HI, Ar matrix, conc. effects, binary complexes with impurities, IR spectra anal. 7−31034

matrix isolation spectra continued

- H_2S, in O_2 matrix, FT IR spectra 7−36606
- $(H_2S)_2$ in O_2 matrix, FT IR spectra 7−36606
- Hg, in N_2 matrix, electronic-to-vibr. energy transfer and relax., fluoresc. 7−49992
- Hg, in N_2-Kr matrix, electronic-to-vibr. energy transfer and relax., fluoresc. spectrum 7−49985
- IO_2 radical in $KClO_4$ crysts., ESR study 7−22143
- $Li(ethylene)_n$, in solid Ar, IR spectra and struct. 7−36614
- Mn, in Ar solid, ENDOR/ESR spectra 7−5710
- MnH, in Ar solid, ENDOR/ESR spectra 7−5710
- NH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7−62413
- NH_3, matrix isolated, orientation-inversion motions, inertial model 7−42580
- NH(ND), isolated in solid Ne(Ar)(Kr)(Xe), radiative decay and radiationless relax., lifetime meas. 7−10653
- Na^- identification, Na/NH_3 matrix, absorption and MCD spectra anal. 7−30973
- Nb_2, metal cluster in solid Kr and Xe matrices, absorption and reson. Raman spectroscopy 7−31055
- Nd clusters isolated in solid Ar, size-dependent valence change 7−20089
- PH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7−62413
- POBr, gaseous, form., mass spectrometric and matrix IR investig. 7−39908
- Pr clusters isolated in solid Ar, size-dependent valence change 7−20089
- Rb+perfluoroheptene, vapor phase reactions, chemiluminesc. obs. 7−59767
- Ru complex, $Ru(bpy)_3^{2+}$, charge transfer states assignments, MCD and CD spectra anal. 7−31056
- SO_3 complexes with selected O_2-containing bases, matrix isolation IR spectra 7−36615
- SiH_3 radical in Xe matrix, EPR line shape 7−10632
- Sm clusters isolated in solid Ar, size-dependent valence change 7−20089
- Sm small clusters, matrix isolated, mixed valence, eritical cluster size 7−64186
- $Zn_n(n\leq6)$ matrix isolated cluster, optical spectra investig. 7−50433

matrix isolation spectroscopy

- atmospheric trace gas measurements using matrix isolation−FTIR spectroscopy 7−55316
- molecular cluster selective formation in cryogenic matrices, FTIR spectroscopy obs. 7−48895
- molecular spectroscopy using n-alkane matrix isolation, polarisation meas. 7−45979
- reactive intermediates determination by matrix isolation FTIR spectroscopy 7−54417

Matteucci effect

- $Fe_{40}Ni_{40}P_{14}B_6$, amorphous ribbon, magnetoelastic, Matteucci effect meas. *(Spanish)* 7−53103
- $Fe_{77.5}Si_{7.5}B_{15}$ amorphous wires, Barkhausen and Matteucci effects, influence of tensile and compressive stress 7−33254

Mattheissen's rule *see electrical conductivity of crystalline metals and alloys*

maximum principle

- *see also dynamic programming*
- cathode lenses, design, Pontryagin's max. principle 7−42885
- electrostatic cathode lenses, design, Pontryagin's max. principle 7−42884

maxmin technique *see minimax techniques*

Maxwell-Boltzmann distribution *see statistical mechanics*

Maxwell effect *see flow birefringence*

Maxwell equations *see electromagnetism*

MBE *see molecular beam epitaxial growth*

MCD *see magnetic circular dichroism*

M²CMOS *see CMOS integrated circuits*

Mealy Moore machines *see finite automata*

mean free path, carrier *see carrier mean free path*

measurement

- *see also specific measurements, e.g. frequency measurement*
- *see also instruments; testing; units (measurement)*
- metrology teaching techniques *(Polish)* 7−48680
- physical constants, measurement uncertainty assessment 7−39
- two-phase flow void fraction meas., using fibre optic sensor 7−43430

measurement by laser beam

- *see also laser velocimeters; laser velocimetry; plasma diagnostics by laser beam*
- 3D coordinate meas. using position-sensitive device *(Japanese)* 7−29981
- 3D flow obs. by interferometry and image processing 7−37576
- 3D human body segmental motion meas. using laser scanning system 7−28568
- absorptance characts. of mirrors meas., by photoacoustic calorimetry 7−31432
- automatic inspection device using Q-switched YAG laser, microscopic inclusions location in optical components 7−31544
- bacterial size distrib. change meas. under drugs by laser light scatt. *(Japanese)* 7−60145
- best wave interferometer with Zeeman laser for measuring short range 7−18752
- calibration and comparison of laser interferometer systems 7−14997
- ceramic/metal jointed interface, strain distrib. determ., laser speckle photography *(Japanese)* 7−54037
- ceramics, parameter meas. by laser interferometry 7−9888
- ceramics, props. meas., conf., Soverato, Italy (Sept. 1986) 7−9582
- chromatic dispersion meas. of multimode optical fibre waveguides *(Czech)* 7−11122
- chromatic dispersion measurement system using 'n' LD light sources different in wavelength 7−14995
- coating thickness meas. and control during thermal spraying 7−61315
- combined laser interference system for the meas. of motion 7−41443
- composite panel, whole-field strain determ. using coherent opt. processing 7−57779
- conference, laser science advances, Dallas, TX, USA (Nov. 1985) 7−9573
- crack tip propagation measurement by pulsed holographic microscopy *(Japanese)* 7−46780
- curved metal surface, roughness monitoring using laser light scattering *(Japanese)* 7−14918
- DC-induced prebreakdown events in n-hexane 7−32147
- dense particle fields, laser diffraction meas. correction for multiple scatt. 7−1212

measurement by laser beam continued
differentiating interferometer with hologram grating, use in mechanical vibrs. meas. 7—56330
diffraction-schlieren image method of measuring hollowcylindrical objects 7—6024
diode-laser spectroscopy, signal recording and averaging 7—41503
disk, rotating bladed, vibrating anal. using holographic interferometry and laser vibrometry 7—31719
displacement meas. using laser-speckle interferometry and stimulated US stress waves 7—24624
distance measurement *(Japanese)* 7—20313
droplet field visualization and characterization via digital image analysis 7—37577
droplet shape and size variations from morphology-depend. reson. in fluoresc. spectra 7—29970
droplet sizing techniques, laser interferometric, performance comparison 7—30071
dye laser, high resolution computer controlled, for spectroscopy appls. 7—20249
dye laser radiation, frequency conversion and surface spectroscopy appl. 7—15931
EM field probe, sensitive HF, using semiconductor laser in small loop antenna 7—24657
engineering meas., conf., Cannes, France (Dec. 1985) 7—29586
eye, excised crystalline lens, computer assisted scanning laser monitor for optical quality meas. 7—23507
fibre diameter, tolerance checking during drawing 7—62852
fibre optic evanescent-wave coupling force transducer, using He-Ne laser 7—41367
fibre optic gyroscope, phase modulated, coherent backscatter analysis 7—43427
flames laser induced fluoresc. imaging calibration 7—59759
flow instabilities, tomographic visualisation, improved method 7—37568
flow visualisation, laser light sheet method for building environmental engineering 7—37570
flow visualisation by light slicing technique 7—44067
frequency, interferometric laser frequency division and stabilization 7—20314
gravitational wave detection via correlated spontaneous emission lasers 7—35387
grid mixing tank, turbulence meas. using laser-Doppler anemometer 7—1656
harmonic modulation of semiconductor lasers *(German)* 7—25820
heterodyne interferometer using direct modulation of diode laser wavelength 7—41440
injection laser application for measuring surfacegeometric parameters 7—4816
insulating oils, gamma-ray effects on elec. props. 7—48829
interferometer skin-friction meter, numerical and expt. study 7—16276
interferometers, two-beam, noise power spectra induced by laser phase noise 7—30066
interferometric distance meas. by wavelength shift of laser diode light 7—4806
interferometric systems using frequency ramped single-mode diode lasers, limitations and noise 7—30065
internal flow visualisation by 3D dynamic laser sheets *(French)* 7—31900
IR and laser spectroscopic charactn. of Al defects in cultured quartz 7—59234
laser FM measurement technique, suppression of residual AM 7—15919
laser gravitational obs. sensitivity, light wave interference, quantum fluctuations effects 7—43039
ring laser magnetic sensor, for weak field measurement *(Chinese)* 7—4189
length measuring interferometers, electronic processing of interferograms 7—4886
light beam CT, appl. to finite amplitude US wave field meas. 7—20524
light velocity meas., using streak camera and ring laser 7—18766
liquid surface shape meas., self-reproduction phenomenon appl. 7—18749
long-haul single mode fibre attenuation meas., laser and LED source effects 7—43414
materials anal. of failed flex circuit using laser microprobe mass spectrometry 7—17845
metal surface roughness parameter measurement, diamond turned, light scattering technique 7—61318
monofrequency laser interferometer with fine resolution 7—18753
nuclear moment meas. using laser spectrometer, apparatus parameters 7—30328
optical absorption, intracavity laser spectroscopy meas., sensitivity calcs. 7—31336
optical signal phase meas. error when passed through multimode optical fibre 7—37013
particle siting with phase Doppler spray analyser, nonspherical drops effect 7—29969
particle size and velocity measurement using phase Doppler particle analyser 7—29968
particle size distribution in multicomponent systems, polarisation intensity ratio and pointer beam techniques 7—29967
particle size measurement by light scattering, vignetting phenomena 7—56219
particle sizing, high resolution, using time-of-flight and light scatt. meas. 7—48684
phase sensitive scanning optical microscope, interferometer-based design with submicron resolution 7—24698
photon detector devices, local investig. by scanning laser microprobe 7—30083
picosecond semiconductor lasers for characterizing high-speed image shutters 7—20466
planar graded waveguides, parameters meas. in near IR, refractometric method 7—37150
plasma multidimensional ion velocity distrib. meas., by optical tomography 7—20942
plate with jet impingement, holographic visualisation of pressure distrib. 7—37569
polyethylene, thermal diffusivity, meas. by laser flash method, 4.2-300K 7—24647
position/dimension meas., laser-based system with triangulation format 7—24625
proton beams angle and energy characts. determ. 7—36368
Rayleigh waves, laser interferometry meas. 7—1345
SAE interactions with cracks and slots, noncontacting study using lasers 7—46756

measurement by laser beam continued
SAW filters, acoustic field investig. using fibre optic homodyne laser probe 7—1358
semiconductor, processing and fabrication techniques, laser diagnostic methods 7—22500
semiconductor bicrystal, diffusion length and grain boundary recomb. vel. determ. by laser excitation 7—41402
semiconductor laser and integrated optics for optical fibre sensors 7—25998
servo-controlled lasers progress and appls. 7—20307
shock-compressed transparent materials, refractive index meas. using laser interferometry 7—30081
skin and RIF-1 tumour of mice, heat-induced changes, quantification by laser Doppler flowmetry 7—65711
steel, microstructural monitoring by laser-ultrasonic attenuation and forward scattering 7—33889
strain gauge, laser speckle, using spatial filtering detector 7—43821
thermal expansion, by beam position change meas. 7—56223
thermographic laser calorimeter for absorptance meas. in optical coatings 7—41389
Tokamak plasma diagnostics by meas. poloidal magnetic field, using Zeeman splitting in Li 7—1740
transient photoconductivity measurements of amorphous semiconductors by subnanosecond nitrogen lasers 7—18806
troposphere, climatic and environmental parameters meas., laser remote sensing *(German)* 7—40081
turbulence measurement using a laser-2-focus velocimeter 7—57967
turbulent channel flow, 3D coherent structures in near-wall region 7—37548
two-parameter data-acquisition system for slit-scan chromosome analysis 7—35501
two-phase flow, concentration and droplet size distrib., simultaneous and instantaneous meas. 7—37535
ultrasonic field meas. using laser interferometry, use of pulse-excited hydrophones 7—62942
UV Raman spectrometer, H_2 Raman-shifted YAG laser system 7—41481
vibratory structures, stroboscopic laser speckle interferometry 7—30074
Cd^+, ion drift velocity in He glow discharge, meas. using AlGaAs laser *(Japanese)* 7—20294
H, liq. and solid, cryogenic, high press. eqn. of state, laser interferometric meas. method 7—30027
KCl:Li F_A(II) colour centre lasers appl. to intracavity laser spectroscopy 7—43189
N_2 laser, four-channel TEA, for interferometric meas. on plasma focus 7—43188
O_2, singlet, optical monitoring of generation during photodynamic treatment of tumours 7—65897
OH radicals in spray flames, planar laser-induced-fluorescence monitoring 7—59766
Si, minority carrier lifetime and resist. mapping, flying-spot scanning method 7—4867
WC-Co cermet particle reinforced low alloy steel composite, elastic consts., laser US technique 7—65268

measurement errors
10 mA LF AC current standard using single-junction type thermal AC-DC transfer convertors *(Japanese)* 7—9842
150 kHz sonars for Doppler acoustic velocity profiling in the Arctic 7—9265
accuracy improvement using a priori information 7—14908
accuracy verification of meas. instrument scales, member of check points determ. 7—4804
aerial photographs, potential precision of monocular and stereoscopic obs. 7—47317
anemometer calibration accuracy *(Rumanian)* 7—26368
astrometry, internal refr. errors in USNO meridian circle 7—4333
atmospheric parameters, satellite retrievals, systematic errors 7—66266
birefringence measurement in anisotropic crystals by multiple beam interference 7—41455
bone, dual photon absorptiometry measurements, precision of dual photon absorptiometry measurements 7—40262
calibration, upper confidence limit for uniform distrib. parameter 7—56205
calibration of neutron probe for soil humidity measurement *(French)* 7—47581
capacitance strain gauges, CERL planer, calibration errors 7—29993
cardiac, bioelectrical sources localisation, accuracy, magnetocardiography appl. 7—54542
chromatographic method of measuring water contents of solids 7—48759
circular gauge, systematic errors correction, computerised calibration procedure 7—56244
close-range photogrammetry 7—358
concentrating photovoltaic arrays, test date anal. 7—17907
concentration measurement of binary system by ionising-radiation methods in presence of impurity, error estimation method 7—59807
dense particle fields, laser diffraction meas. correction for multiple scatt. 7—1212
dielcometric water-content meter, methodological error in checking by use of water content simulators 7—48757
dielcometric water-content meters, metrological characts. 7—48756
dielectric thin films, refr. index and thickness meas. using waveguide props. 7—56323
digital elevation models, comparative test of photogrammetrically sampled models 7—47316
diode laser direct modulation heterodyne interferometer, high meas. accuracy 7—41440
direction finding errors due to nonvertical lightning channels, finite ground conductivity effect 7—14366
dislocation density, micrograph evaluation errors 7—16559
distribution laws stability under normal meas. conditions 7—4803
Doppler US blood flow meas., error bounds 7—8672
dosimetric discrepancies obtained using a guarded parallel-plate ion chamber with a high input impedance electrometer 7—14136
dynamometer machines, three-level standard system 7—302
Earth (2,2) gravity coefficient time vars, detect. sensitivity of LAGEOS 7—34825
Earth rotation parameters determination, atm. limitations on accuracy 7—60412
earthquake hypocentre location errors appraisal, complete approach for single-event locations 7—54892

measurement errors continued
- earthquake magnitudes systematic errors determ., techniques testing using 7—54891
- eddy current electrical cond. meters, inspection errors rel. to geometric parameters 7—28244
- effective airway resistance as determined by body plethysmography, meas. reliability 7—40187
- ellipsometric metrology of ultrathin films, using dual incidence angle meas., error anal., optimum angle determ. 7—24686
- EM displacement transducers, error sources in dynamic appls. 7—48712
- EM flowmeters, noise reduction 7—37599
- equiprobably distributed meas. errors, unexcluded systematic error bounds calc. 7—288
- ferroprobe azimuth transducers, instrumental errors *(Russian)* 7—34706
- flowmeter, EM, for liq. metal flow rate meas., error in correl. method 7—57954
- flowmeter, microcomputerised system, accuracy estimation 7—57956
- flowmeter, NMR, front sampling parameters effect on systematic error 7—57952
- flowmeter, NMR, relax. error elimination method 7—57953
- flowmeter, tagging type, error structure 7—57950
- flowmeter, US, freq. modulated, errors in flow meas. 7—57951
- flowmeter error components determination 7—57955
- flowmeters, propeller type, vibration effects 7—37597
- flowmeters, pulsation effects in vortex and orifice types 7—37596
- flush-mounted hot film anemometer accuracy in pulsatileflow 7—8735
- fringe contrast improvement in speckle photography, speckle reduction using vibr. optical fibre 7—9889
- galaxies automated surface photometry, calibration and validation of photometric technique 7—60575
- galaxies bulge-to-disk ratios determination, reliability of χ^2 minimisation scheme 7—48071
- galaxy cluster-cluster correlation function, sampling errors and significance levels 7—48092
- gamma-ray spectrometry, counting losses not eliminated by dead time correction circuitry 7—4938
- HV capacitance meas. bridge, frequency dependent errors 7—18813
- instrument errors, non-guaranteed limits *(Polish)* 7—35491
- ionic conductors, solid, impedance studies, bridge balance conditions and error corrections *(German)* 7—30033
- ionising radiation interaction with matter, stochastic processes meas. optimisation 7—5535
- IR film thickness gauging, optical interference suppression 7—33472
- IUE SWP camera, residual sensitivity vars. rel. to short-period temporal studies 7—55494
- left ventricular diastolic function, scintigraphic meas., effects of ECG gating 7—34265
- length measurement, improving sensitivity, noise removal *(Japanese)* 7—48690
- linear rational expectations model, unobserved components and errors in meas. 7—48676
- low temperature measurement by Pt resistance thermometer, errors 7—9833
- magnetoencephalogram moving dipole inverse solns., effects of meas. errors and noise 7—3853
- magnetosphere electric field measurement, effects of photoelectron emission from GEOS-2 double probe sensors 7—66426
- meteorology, comparison of principal component and near neighbour methods for areal quality control 7—4141
- meter, core-magnet type, moving coil, flat, indicating errors caused by external mag. field *(Japanese)* 7—4873
- Mossbauer spectra meas. with high count rate 7—36425
- multi-channel systems, calc. of meas. accuracy using generalized limiting errors *(Polish)* 7—61308
- nanometer-range precision meas., environmental effects *(Japanese)* 7—48689
- neutron-activation detectors, activity meas. by gamma spectrometry, systematic errors 7—49793
- NMR images, relax. times meas., accuracy and precision 7—60066
- NMR shifts meas., resonance line shape effect determ. 7—30056
- oceanographic current profiling system design and calibration, HF volumetric backscattering 7—9270
- oceanographic near-surface current meas. over Norwegian continental shelf 7—9251
- one-sided interferograms in Fourier spectrometers, recovery of linear phase errors 7—35581
- optical fibre, tolerance checking on diameters during drawing 7—62852
- optical fibre OTDR, range and accuracy in backscatter measurements 7—15999
- optical fibre single-mode cutoff wavelength meas. errors 7—43403
- optical pachometry with contact lenses in situ, measurement artifact 7—40238
- OTDR present and future, meas. accuracy 7—41436
- particle size measurement using fibre-optic dual-beam laser interferometer 7—35494
- phase meters, orthogonal with clipped signals, noise error statistical characts. 7—56302
- photoelectric meridian circle, annual and diurnal vars. of graduation error 7—47702
- photometric transducers, spectral match quality determ. 7—4878
- photovoltaic array I-V characteristic measurement error 7—3688
- piecewise-Chebyshev approximation of exptl. data *(Russian)* 7—56206
- piezoelectric accelerometers, dynamic matching for differential acceleration measurement 7—56229
- plotting probability density function of resultant error with two or more components 7—48673
- Potsdam PZT star catalogue, systematic deviations from four NPZT catalogues 7—4355
- precision instrument calibration, criteria for neglect of small errors 7—290
- precision solenoid diameter measurement, systematic error anal. *(Japanese)* 7—18740
- precision solenoid dimensional meas. error anal., expt. verification *(Japanese)* 7—18741
- quantum measurements of positions and interferometric noises 7—14921
- quasi-integer-period-sampling, accuracy improvement 7—18734
- radio-meteor systems for time-scale synchronisation, accuracy criteria 7—41350
- radiometry and photometry principles *(Japanese)* 7—336
- rangefinding by optical method, precision, for long baseline meas., error of point approx. method for air integral refr. index 7—66342

measurement errors continued
- reduction of calibration points via *QR* factorization of linear models 7—18737
- refractive index meas., environmental conditions induced errors correction 7—340
- refractometric water-content meas., systematic error reduction by structural method and microcomputer 7—48832
- reliability estimate for multiparameter NDT 7—3562
- resistance thermometers comparisons, Allen-Bradley, TVO and TSKU-21 7—30022
- RF noise meas. in radioastronomy *(Spanish)* 7—4336
- rough-surface interferometry, two-wavelength, absolute statistical error 7—41448
- signal phase meas. error when passed through multimode optical fibre 7—37013
- solar cells, calibration, indoor and outdoor methods 7—59843
- spectrograph of 1-m Yale telescope at Cerro Tololo, stability 7—24016
- stellar four-colour photometry, errors in obs. of secondary uvby standards 7—9462
- stellar UV photometry, discrepancies in UFT, IUE and TD1 fluxes of Of star (HD 152408) 7—60685
- stochastic processes characts. accuracy improvement, redundant channel data utilisation 7—4802
- strain gauges, resistance, temp. charact., error in determ. 7—56245
- temperature measurement with built-in thermoelectric thermometers, errors 7—41378
- thermal conductivity measurement, hot-wire apparatus and method *(Chinese)* 7—14938
- thermophysical characteristics meas., error due to heat capacity of heater 7—56256
- time determination, universal, current accuracy 7—56211
- Tokyo Photoelectric Meridian Circle, diurnal var. of instrumental consts. 7—4332
- tomography and interferometry, regularisation, expt. errors and accuracy 7—35583
- transient time constants determ., three point method 7—286
- tubular specimens, torsion testing, error estimation 7—65247
- twin-wave laser interferometer for remote meas., accuracy increasing methods 7—343
- US flaw detector, measuring errors of pulse parameters with different specimens 7—28246
- Us rangefinders with various types of cct., error estimation of standard channel 7—62930
- US thickness measurement, standardless, of objects having variable sound vel. with depth 7—65257
- variable pressure meas., errors due to vibratory acceleration reduction 7—291
- videodensitometric determination of percent stenosis, effect of beam hardening and scatt. 7—28686
- water flow in tubes, heat transfer crisis, control expt. errors 7—63130
- water meter, weighted mean error components analysis and standardisation 7—57949
- waveguide below cutoff attenuation standard calibration, using repeatable attenuation step 7—14972
- X-ray diffr. meas. of interplanar distances, error due to nonuniform lattice deformation 7—16351
- zenith angle transducers in deviation recorders, accuracy *(Russian)* 7—34707

measurement standards
- *see also atomic clocks; temperature scales*
- 2e/h and h/e^2 determ. from volt and quantised Hall resist. meas. in SI units 7—41332
- 10 mA LF AC current standard using single-junction type thermal AC-DC transfer convertors *(Japanese)* 7—9842
- 50 kA current transformer intercomparison between China and West Germany 7—18815
- absolute intensity measurements in the vacuum ultraviolet 7—24684
- AC-DC difference meas. system establishment at NPL, Israel, using multijunction thermal convertors 7—18837
- aminoplastic thin standards prep. method for X-ray microanalysis 7—60142
- angle meas., NPL role in standardisation and calibration 7—18747
- astrometric standard stars, UBV photometry 7—4433
- atomic frequency standards *(French)* 7—9822
- audit organisation, criteria and procedures 7—14912
- Australian Broadcasting Commission TV network use for precise time comparisons 7—56214
- balances with upper scale limits up to 10 kg 7—41347
- beta radiation unit of absorbed dose rate to tissue, PTB National Primary Standard 7—28717
- black-body cavity for total radiation thermometry 7—48739
- black-body reflectometer for room temp. emissivity meas. 7—14990
- calorimeter coaxial, and its use as reference standard in automated microwave power calibration system 7—48744
- capacitance, HV compressed gas capacitors appl. 7—18814
- ceramic colour standards, thermochromism 7—9867
- certification of an infralow-frequency vibrator for seismic vibrations meas. 7—4207
- classification and aggregation in metrology, USSR approach 7—289
- cylindro-inner cones, freezing point, radiant emission characts. 7—56254
- density standard, 1-kg Si sphere, polishing 7—56224
- diffused wide-angle calibration source for remote sensors 7—18862
- digital automated AC/DC transfer standard, using differential multijunction thermal convertors 7—18838
- E region stars, secondary standards for Stromgren photometry 7—55739
- EM precision meas., conf., Gaithersburg, MD, USA (June 1986) 7—14710
- emissivity, use in calibrating IR vision systems for biomed. use 7—60117
- F-type subdwarfs used as spectrophotometric standards, photometric anal. 7—47851
- field strength meters calibration using loop antenna, conductive objects effect determ. 7—18822
- force-balance linear standard accelerometer, low-frequency 7—41358
- fracture toughness determination from thin side-grooved specimens 7—59706
- frequency, based on Ramsey resonance of alkali hyperfine doublet 7—19733
- frequency, HeNe/methane laser absolute frequency meas. at 88 THz 7—18762

measurement standards continued
frequency, interferometric laser frequency division and stabilization 7−20314
frequency, using optically pumped Ag atomic beam 7−18763
frequency and time reproduction standards, automatic 7−41352
frequency bridge, radiooptical, metrological certification 7−56210
frequency control, conf., Philadelphia, PA, USA (May 1986) 7−55893
frequency deviation unit for FM oscillations, working standard 7−48772
frequency meas. of methane hyperfine line 7−20190
frequency standards based on stored ions 7−14924
galvanic cells, SO_x sensor using Ag^+-β-alumina solid electrolyte 7−326
gas analysis instrumentation, calibration *(Spanish)* 7−56208
gas mixtures, standard, specifications for pure gases as initial components 7−56212
glass standards, geometrical dimens. stability with time 7−41328
Hamon type resistance standards and appl. *(Czech)* 7−61358
heavy water, equation of state, international standard 7−51988
humidity, NBS developments 7−4859
humidity meas., UK standards development at NPL 7−4858
hygrometry standard, design principles 7−56293
inductance, LF models comparison 7−18834
inductance standard calibration method, using ratio transfer unbalanced bridge 7−18833
inertial clock based on computer controlled servo-driven corotation system with superconducting suspension 7−14927
internal standard element selection and evaluation, plasma emission spectrometric anal. 7−28363
far-IR blackbody source of variable temperature, for use in IR astronomical radiometry 7−40713
JILA absolute gravimeters 7−18327
Josephson array voltage standard, NBS efforts 7−18824
Josephson series arrays development, for high-precision voltage standards 7−18823
Josephson voltage standard, computer controlled 7−14970
Laboratoire Primaire du Temps et des Frequences, metrological activities in 1986 *(French)* 7−9821
laboratory accreditation in the UK 7−14911
laser frequency measurement techniques and standards operation *(French)* 7−29983
laser frequency standard accuracy improvement, based on saturation absorption method 7−18761
laser power meas. standards scales intercomparison 7−15917
laser wavelength meas. using 0.63 μm transition 7−1208
length meas. in μm range, using SEM 7−4812
microwave power standard, using electron beam 7−14967
NBS 50 kHz phase angle calibration standard 7−14963
NBS primary AC-DC transfer standards, using multijunction thermal convertors 7−18836
nuclear reactor radiation fields, intense, neutron-activation measurements, standardisation 7−49846
oceanographic current meters standardisation problems and solutions 7−9272
oil crops, oil and water content meas., standard specimens for checking NMR analysers 7−54823
ophthalmic applicators, B-particle, calibration of US National Bureau of Standards 7−47259
optical fibre mode field diameter: toward a standard definition 7−57593
optical frequency standard based on Ramsey excitation in Ca atomic beam 7−14925
optical multimode fibre attenuation meas., interlaboratory comparison in China 7−43417
optical nondestructive evaluation at the National Bureau of Standards 7−39835
optical pyrometer, automatic, spectral responsivity, effective wavelength *(Korean)* 7−30015
phosphate rock standard, anal. 7−33982
phosphosilicate glass, laser microprobe mass analysis, quantitative 7−54250
photon-radiation absorbed dose rates meas. by water calorimeter 7−5489
power standards comparison using two-resistor power splitter, reflection determ. 7−18818
primary broadbanded coaxial thermal noise standard, watt unit realisation 7−18819
prisms certification for standard angular meas. 7−294
quantized Hall resistance measurement at the National Measurement Laboratory, Australia, using GaAs/GaAlAs heterostructure 7−14965
quantum Hall resistance meas., from 4K to 20mK 7−14969
quantum Hall resistance standard realisation at BIPM 7−18811
quantum Hall resistance value determ., using calculable capacitor at ETL 7−14968
radiation absorbing materials in 1-3 GHz range certification, modulus of reflection coeff. determ. 7−4866
radiation thermometer, design, construction and performance 7−30016
radio-meteor systems for time-scale synchronisation, accuracy criteria 7−41350
radiometric standards comparison cryogenic radiometer vs. electron storage ring BESSY 7−18861
refractive index meas., reference materials anal. 7−56321
resistance, automated cryogenic current comparator resistance bridge 7−18829
resistance, precise comparisons of quantized Hall resistances 7−18809
resistance, theory and design 7−18828
resistance, US legal unit monitoring via quantum Hall effect 7−18808
resistance laboratory unit determ., using quantum Hall effect 7−18812
ring dye laser for probing trapped ions, optical frequency standard appl. 7−20285
seawater effective salinity determ., conductivity comparator 7−4209
SI, metric conversion arguments 7−48678
SI ohm determ., Australia's contribution 7−14975
solar cells, calibration, indoor and outdoor methods 7−59843
sputter depth profile calibration of multilayer structures 7−39382
squeezable tunnelling junctions 7−7447
statistical analysis based on classical variance 7−18736
steel, austenitic stainless, residual stress meas. SEM/ASTM round robin study 7−13680
stellar photometry, four-colour obs. of primary and secondary uvby standards 7−9462
stellar photometry, UV standard stars for calibration of Hubble Space Telescope 7−60735
stellar photometry, VRI photoelectric sequence towards South Galactic Pole 7−40880

measurement standards continued
stellar radial-velocity standards, zero-point and accuracy of coude obs. at Calar Alto Observatory 7−29409
stellar spectrophotometry, standard stars for determ. of theoretical uvbyβ indices 7−9458
surface resistivity measurement methods and standards 7−61356
thermal conductivity measurement, hot-wire apparatus and method *(Chinese)* 7−14938
thermodynamic temp. determ. of Ne triple point 7−18791
time, passive TV techniques for time transfer via Indian satellite INSAT-1B 7−18764
time and frequency meas., fundamentals *(French)* 7−9820
time and frequency standard units automatic comparison, software 7−41353
time and frequency standards comparison along radiometeoric channel, instruments design 7−56209
time and frequency transfer, NBS calibration service based on GPS common view data 7−14926
time determination, universal, current accuracy 7−56211
unified standard for RF signal shape and spectrum parameter meas., design 7−48773
vacuum, leak standards, National Bureau of Standards program 7−61347
voltage, Chinese Josephson standard, 2e/h precision determ. 7−18825
voltage, intelligent voltage standard using solid-state references 7−18841
voltage, Josephson standard establishment at NPL, India 7−18826
voltage, programmable DC-100 MHz voltage standard 7−18839
voltage and resistance, US legal units 7−41329
voltage standard and size duplicating methods 7−56207
waveguide below cutoff attenuation standard calibration, using repeatable attenuation step 7−14972
X-ray detector, energy-dispersive, mineral standards for calibration 7−23105
X-ray interferometer for surface roughness transducers calibration 7−35649
XUV radiometric standards at NBS 7−18860
zero power-factor reference based on thermal convertors 7−18816
Ag/AgCl electrodes fabricated with IC-compatible technologies, chemical sensor reference appl. 7−8343
CO_2 laser, optogalvanic Lamb dip freq. stabilisation 7−31301
Cs alkali gas cell atomic freq. standards 7−41357
Cs atomic beam freq. standards, distributed phase shift minimization 7−41356
Cs atomic beam frequency reference, metrological analysis 7−41351
Cs atomic clock, PTB design, preliminary results 7−18756
Cs atomic clock, velocity distrib. determ. 7−18755
Cs beam freq. standards, atom transit time effect on stability 7−41355
Cs beam frequency standard with narrow atomic velocity distrib. ranges, Ramsey patterns 7−18758
Cs beam frequency standard, optically pumped, progress 7−41354
Cs beam primary frequency standard, C-field setting, transitions and disturbances 7−18757
Cs_2 reference for freq. stabilisation of 1.06 μm Nd:YAG laser 7−57403
Dy_2O_3-Er_2O_3-Ho_2O_3, mixtures, IR reflectance spectrum, wavelength standard 7−41330
H maser atomic standard, built at Johns Hopkins University, long term performance 7−18759
H maser miniature passive clock, NBS design, characts. and performance 7−18760
O_2, triple point in sealed transportable cells 7−41331
^{226}Ra mass-unit standard 7−48698
Rb alkali gas cell atomic freq. standards 7−41357
Si photodiode quantum efficiency as absolute radiometric standard 7−14991
Ta_2O_4:H films, NPL standard, distrib. of H, AES and SIMS 7−26789

measurement systems
see also meters
chromatic dispersion measurement system using 'n' LD light sources different in wavelength 7−14995
instrument errors, non-guaranteed limits *(Polish)* 7−35491
radioactive solution level gauging, meas. system resolving power, γ-detection 7−24741
SI, metric conversion arguments 7−48678
Us rangefinders with various types of cct., error estimation of standard channel 7−62930

measurement theory
accuracy improvement using a priori information 7−14908
complex nonrelativistic systems, measurement problems 7−48451
conference, Prague, Czechoslovakia (April 1985) 7−48169
dielcometric water-content meter, methodological error in checking by use of water content simulators 7−48757
dielcometric water-content meters, metrological characts. 7−48756
distribution laws stability under normal meas. conditions 7−4803
equiprobably distributed meas. errors, unexcluded systematic error bounds calc. 7−288
general description of measurement processes 7−287
ionising radiation interaction with matter, stochastic processes meas. optimisation 7−5535
length, differentiation method 7−48346
low-temperature thermophysics systems metrology, applied aspects 7−48745
measurement, scale, and scaling, relations rel. to subsurface hydrology 7−23914
methodological problems in modern metrology 7−48675
microtopographic roughness parameters determ. from surface sections 7−4810
MIS narrow gap structures, evaluation theory of C-V meas. 7−64355
model approximating experimental data, estimation of bias 7−48674
multi-channel systems, calc. of meas. accuracy using generalized limiting errors *(Polish)* 7−61308
periodic optical signals, charactn. using 3rd order statistical functions 7−50504
precision instrument calibration, criteria for neglect of small errors 7−290
quantum noise reduction *(French)* 7−56087
quasi-integer-period-sampling, accuracy improvement 7−18734
reduction of calibration points via *QR* factorization of linear models 7−18737
stochastic processes characts. accuracy improvement, redundant channel data utilisation 7−4802
symmetry breaking role 7−18627

mechanical birefringence
- *see also photoelasticity*
- complex bodies, residual stresses, investig. by photoelastic methods *(Polish)* 7—43683
- fibres, birefringent, increase of minor field component 7—57584
- glass waveguides, ion-exchanged, stress 7—31454
- polyesters, cycloaliphatic, stress optical behaviour 7—45975
- polyethylene blends, melting, crystallisation, DSC, X-ray diffr., Raman spectra 7—44411
- polyethylene blends, melting, crystallisation, relax., DSC, light scatt. 7—44412
- polymers, amorphous, structured, strain-dependent birefringence under creep conditions *(Russian)* 7—27690
- InP:S substrate wafers for LPE growth of laser diode heterostructures, polarised IR and X-ray topographic evaluation 7—32453
- K_2ZnCl_4, incommensurate phase, piezo-optical effects, birefr. meas. 7—45973

mechanical contact
- *see also abrasion; friction; lubrication; wear*
- 3D contact problems with friction, mathematical programming approach 7—16131
- 3D contact problems with friction, static and dynamic analysis 7—43804
- 3D elastic bodies, contact problems, mathematical models of friction 7—51002
- abrasive wear mechanism clarification, contact surface deform. effect on wear and friction 7—8134
- anisotropic Hertz problem in 2-dimens., complex variable anal. 7—57765
- asperity pair elastic joints, friction resistance 7—11363
- bar, prestressed, on elastic foundation with initial stresses, contact problem soln. 7—43809
- bars, plastic impact, contact duration 7—37393
- beams, linear elastic in contact problems, moving FEM 7—20663
- bodies moving with slip, contact temp. 7—11252
- body under stamp action, unloading process for contact interaction 7—1517
- brittle materials, contact flaws, strength, lateral crack growth effects 7—8091
- ceramic materials, wear mechanism in dry rolling friction 7—59643
- ceramic matrix composite frictional stress evaluation along fibre-matrix interface 7—28143
- ceramics, microfracture prediction via microcontact model 7—16678
- cylinder, circular, sliding over dissimilar thermally conducting half-plane 7—20666
- cylinder, semi-infinite and half-space, axisymmetric contact problem 7—6161
- cylinder, viscoelastic, finite deformations under rolling contact 7—6159
- cylinders with parallel axial displacement, overlap coeff. in end friction 7—16135
- discs and rings, subjected to rolling contact, stress intensity factors for small cracks in rim 7—57761
- duel FEM for elastic bodies with enlarging contact zone 7—57763
- dynamic friction characteristics during interaction with elastic system, pattern form. anal. 7—1519
- dynamic isochromatic method in expt. contact mechanics *(German)* 7—20667
- dynamic photoelastic of wave propagation and energy transfer across contacts 7—16139
- dynamic three-point bending test, finite element anal. considering contact and frictional effects *(Japanese)* 7—57776
- elastic contact problems with nonlinear friction laws, existence of local uniqueness of solns. 7—37397
- elastic film on rigid substrate, contact stress and strain, zero friction, finite element anal. 7—57768
- elastic film on rigid substrate, contact stress and strain with friction, finite element anal. 7—57769
- elastic frictionless contact of real rough surfaces, numerical model 7—16133
- elastic isotropic medium with almost spherical reinforced cavity, axisymm. stress state 7—1421
- elastic layer on rigid flat supports, contact problem 7—31709
- elasticity theory, variational problems, with small parameter 7—24428
- elasto-plastic contact under large deformation, finite element based quadratic programming 7—43805
- elastohydrodynamic lubrication of soft, highly deformed contacts under conditions of nonuniform motion 7—57770
- elastomers, adherence, study by cyclic unloading expt. 7—33909
- elastomers, impact wear 7—22844
- elastomers, sliding friction mechanics, asperities adhesion fracture 7—53922
- fibre reinforced plastic hollow cylinder, 3D stress state 7—37333
- finite element analogy of Coulomb friction law 7—31711
- flat punch of arbitrary shape on an elastic half-space 7—37396
- fretting, spherical particle form., role of contact interaction of fatigue crack sides 7—3447
- friction and contact noise, conf., Delft, Netherlands (June 1985) 7—48168
- frictionless elastic layer indented by elastic cylinder, asymm. double contact problem 7—6162
- general contact boundary conditions and friction system anal. 7—43807
- half-space, prestressed elastic, general spatial static contact problem 7—1516
- half-space with initial stresses, contact interaction with a finite elastic cylinder 7—63084
- Hertz contact, elastoplastic axisymmetric problems, FEM solution 7—20662
- Hertzian contact, internal stresses, influence on material stresses, calc. with different stress hypotheses 7—16134
- Hertzian contact, stress hypotheses and material stresses 7—1521
- indentation of elasto-plastic half-space by rigid circular cylinder 7—26226
- interfacial bonding and adhesion, conf., Aspen, CO, USA (Aug. 1985) 7—24269
- material contacts, tribo-frontiers in surface modification 7—53917
- moving load on viscoelastic half-plane, anal. 7—57764
- multiphase interface and interaction problems, probabilistic modelling and simulation 7—52219
- nonstationary interaction 3D contact problems for elastic solids with friction, variational method 7—43806
- orthotropic elastic contact, plane problem 7—6165
- planar boundary contact problem with cracks *(German)* 7—6166
- plane anisotropic contact problems, Green's function soln. 7—6163

mechanical contact continued
- plate, damped elastic infinite, adjacent semi-infinite fluid, impulsive force effect study 7—63052
- plate, thick, contact interaction with thick elastic layer 7—11361
- plates, flexible, rectangular, on nonlinearly elastic base, optimal design 7—62995
- punches, elliptical, on elastic half space, general theorem 7—6164
- rectangle, elastic, compressible object, contact interaction of two stressed half-planes 7—1518
- rigid cylindrical body embedding into ideally plastic tube 7—11299
- ring-shaped stamp, normal stresses, exact soln. *(Ukrainian)* 7—11358
- rough surfaces, elastoplastic deform. in real contact zones, friction coeffs. calc. 7—16136
- rubber half-space, rigid sphere impact, coeff. of energy absorpt. 7—1520
- sea-bed-structure interaction in the presence of frictional effects for submarine pipelines 7—20664
- semi-infinite target penetration by long rods 7—51001
- sheet, orthotropic, adhesively bonded to a stringer, crack tip stress intensity factors 7—1497
- shell, cylindrical, on absolutely solid bed, contact problem, stress-strain state *(Ukrainian)* 7—11357
- shell, cylindrical leaning on rigid support, stress-deformed state 7—16132
- shell, spherical, in contact with elastic filler, natural oscills., asymptotic analysis 7—11328
- shells, linear thermoelastic, mech. contact, uniqueness theorem 7—37340
- shells, shallow spherical on Winkler foundation, static and dynamic behaviour 7—57767
- sliding half-planes, transient contact problem, thermoelastic instability 7—43810
- spiral longitudinal systems, tensioning and twisting 7—50949
- statistical model of elastic contact accounting for subroughness 7—26228
- steel, C, bar, collision with Pb bar, contact duration study 7—37393
- steel, C, wear behaviour with US vibr. effect superimposed on static contact load 7—3452
- steel, Cr-Mo-V, porosity assoc. with insoluble carbides, probable effect on rolling contact fatigue 7—17639
- steel, high strength, strength meas., anal. of elastic-plastic ball indentation method 7—63088
- steel, stainless, O-alloyed friction structures, under conditions of thermal action, stability *(Russian)* 7—59673
- stress-strain state in contact zone and rolling resist. in repetitive rolling 7—26229
- strip, elastic-plastic, contact problems under complex loading 7—43808
- strip, infinitesimal and large strain in rolling contact problems 7—11359
- surface crack growth in lubricated rolling/sliding spherical contact 7—11354
- transversely isotropic elastic plate pressed between two rigid cylindrical surfaces, contact problem 7—16130
- transversely isotropic half-space indented by parabolic concave punch 7—48366
- tribotechnical problems, contact layer modelling by numerical methods 7—26230
- two-component medium model dynamics, interaction of parallel elastic rods 7—1460
- wear in rolling contact 7—22845
- wear scar contour resulting from fretting of spherical surface against flat 7—2098
- Al disks, 1100 rolling contact deform. 7—17594
- Cu-composite material contact, sliding characts. and contact resistance *(Japanese)* 7—8120
- Cu-Cu contact, sliding characts. and contact resistance *(Japanese)* 7—8120
- PLZT, elastic-plastic contact damage 7—39627

mechanical engineering
- beams/plates under combined loading, finite element dynamic inelastic analysis 7—63002
- columns, cantilever resting on elastic foundation, dynamic stability 7—50965
- columns subjected to intermediate concentrated load, stability analysis, FEM 7—20608
- columns subjected to intermediate concentrated load with axially restrained ends, FEM stability analysis 7—57718
- concrete, inelastic behaviour, damage mechanics constitutive theory, FEM model 7—53833
- contact, elasto-plastic under large deformation, finite element based quadratic programming 7—43805
- damage model, 3-D finite strain viscoelastic 7—50955
- elastoplastic boundary value problem, Galerkin approach 7—50956
- elastoplastic problems at finite strain, FEM solution 7—43694
- elastostatics, linearised, existence and uniqueness theorems for boundary integral equations 7—61102
- finite element viscoelastic analysis, integration error controls 7—20601
- fracture mechanics, linear elastic, singular nine-noded distorted isoparametric elements 7—63054
- heat conduction, 2D, isoparametric line and transition finite elements 7—43628
- Hertz contact, elastoplastic axisymmetric problems, FEM solution 7—20662
- panels, damped stiffened with viscoelastic damping, FEM free vibration analysis 7—20621
- plane elasticity, two-grid FEM method 7—6089
- plate analysis using initial-value method 7—20600
- plate bending element, bilinear, force evaluation 7—57707
- plate elements, geometric stiffness matrix formulation 7—43723
- plate/shell element, field-consistent four-noded laminated anisotropic 7—62983
- plates, bimodulus thick circular, axisymmetric buckling analysis using FEM 7—57716
- plates, infinite containing ovaloid hole, stress concentration 7—57688
- plates, laminated composite, 3D hybrid stress isoparametric element 7—56020
- plates, multilayered shear-deformable, finite elements 7—43667
- plates, rectangular laminated composite, dynamic stability analysis using finite strip method 7—6118
- plates, rectangular on linear elastic foundation, nonlinear dynamic response 7—20599
- plates, rectangular thin laminated composites, bending analysis using FEM 7—57708
- plates/shells, two-dimensional FEM model for buckling analysis 7—57717

mechanical engineering continued
polymer-dominated multi-material systems, hygrothermal process interdependence and elasto-viscoplastic behaviour 7−53785
RATAN-600 radio telescope, improvement of surface precision of primary mirror reflecting elements 7−60537
shell elements, degenerated, implementation with transverse shear and membrane strains 7−50944
shells, nonlinear elastic-viscoelastic layered, multi-director FEM formulation 7−43695
tensile strip with large circular hole, stress analysis using nonlinear FEM 7−20596

mechanical engineering computing
see also computerised control
2D photoelastic shear-difference data, computer-assisted reduction 7−57775
4-cylinder internal combustion engine, 2D intake manifold flow digital simulation 7−63170
aeroplane wings, transonic flow calc. using higher-order approximation method 7−51211
beams, linear elastic in contact problems, moving FEM 7−20663
beams/columns subjected to non-uniform axial loads, vibration and buckling 7−6140
bending motions, computer-controlled displays 7−59999
boundary element method for elastostatics with internal constraints 7−29758
contact problems with friction, 3D, static and dynamic analysis 7−43804
creep modelling for engineering design 7−22776
curved members, consistent discrete elements technique 7−50948
cyclic loading, constitutive model and analytical integration method *(Chinese)* 7−14773
discontinuous flows, teaching using interactive techniques and windowing 7−60923
dynamically overloaded cold profiled cylindrical compression springs calc. using Spectrum 48 k *(Croatian)* 7−22705
FEM, penalty function approach to field consistency 7−57687
finite element analysis of steady nonlinear harmonicoscillations of axisymmetric shells 7−6133
finite strain rod model, 3D, computational aspects 7−6119
flow, inviscid compressible, mech refinement, for adaptive FEM 7−37485
forming processes simulation using arbitrary Eulerian-Lagrangian formulation 7−6105
gas turbine CAD system with Denton scheme for flow program, comparison with expt. results 7−63177
gas turbine computer-aided interactive design system, Denton scheme for flow program 7−63176
kinematics instruction using microcomputers 7−14732
linear elastic beam elements of MODULEF library *(French)* 7−31655
plate, center cracked with singularity, finite element mesh 7−20645
plate, two-layered, transient response of interface crack 7−43802
plates, first-ply failure analysis of composite laminates 7−63053
plates, interlaminar shear stress determination using MSC/NASTRAN theory 7−20597
plates, multiannular, buckling analysis using power series numerical method 7−20607
rectangular rigid frame, structural anal. by the ε-method using a digital computer 7−14761
SCARE postprocessor program to MSC/NASTRAN, ceramic components reliability anal. 7−17750
shell, inclined Timoshenko-type, triangular finite element construct. 7−1415
shells, shallow, boundary/interior element method for quasi-static and transient response analyses 7−6090
steel metallurgy, computer-assisted image anal. systems 7−3546
stress, FEA using microcomputer 7−48357
stress analysis, assumed stress hybrid finite element method 7−1451
supersonic flow interaction between moving bodies, moving grid FEM 7−26314
torsional axially symmetric finite element model for problems in elasticity 7−57701
tubes with rectangular cross-sections, local buckling 7−50967
tyred wheels, noise investigation, array processor use *(German)* 7−6041
vibration analysis of flat shells by using B spline functions 7−50969
Vuilleumier cycle heat pump for domestic appl., computer simulation 7−65554
B fibre reinforced Al tube under multi-axial loadings, elastic-plastic deformation 7−46548

mechanical impact *see impact (mechanical)*

mechanical instability *see mechanical stability*

mechanical interfaces *see mechanical contact*

mechanical organs *see artificial organs*

mechanical permeability *see permeability*

mechanical properties of liquids
see also elasticity of liquids
sucrose, aq. soln., ultrasonic velocity and absorpt., mech. props. study 7−63744

mechanical properties of solids *see mechanical properties of substances*

mechanical properties of substances
see also anelasticity; bending; brittleness; creep; deformation; elastic aftereffect; elastic moduli; elasticity; fracture; hardness; internal stresses; mechanical properties of liquids; mechanical strength; photoelasticity; photoplasticity; plasticity; slip; stress relaxation; stress-strain relations; tribology; viscoelasticity
alloys, rapidly solidified, conf., Boston, MA, USA (Dec. 1985) 7−18496
carboxylato-telechelic polyisoprene, mech. props. 7−38096
instability phenomena in solids, conf., Trieste, Italy (Aug. 85) 7−55896
polyethylene-polybutylmethacrylate blend, dynamic mech. props. *(Russian)* 7−20595
polyolefines, oriented, mech. props. and mol. mobilities *(Russian)* 7−63723
polypropylene-ethylene-propylene copolymer blends, isotactic, mechanical props. and morphology 7−63539
shell, drum, under conc. forces tangential to its edge and middle surface 7−57681
shock waves in condensed matter, conference, Spokane, WA, USA (July 1985) 7−18501
steel, dispersoid, H embrittlement, mechanical props. 7−33795
thin films, conference, India (Jan. 1985) 7−4619
Cu Foametal, high thermal conductivity material, thermal, mechanical and vacuum props. 7−25191

mechanical properties of substances continued
Fe-Si, electrical steels and alloys, conf., Vladimir, USSR (Dec. 1984) 7−9576
GaAs single crystals, high temp. mechanical props., effects of doping and environment 7−21326
TiN sputtered films, mech. props., substrate ion beam pretreatment effects 7−22484
W_5Re/Cu joint for divertor plate in Next European Torus, thermal conductivity, mech. props 7−25198

mechanical relaxation *see anelastic relaxation*

mechanical stability
bar material, dilutely voided, instability in uniaxial tension 7−53787
beam-point mass system. stability of 1D unbounded elastic systems 7−26185
body suspended on string with impact interactions, stability of permanent rotations 7−41090
column, heavy compressed, with imperfections, buckling 7−1457
columns, cantilever resting on elastic foundation, dynamic stability 7−50965
columns, thick-faced sandwich, buckling under distributed axial loads 7−26176
columns, thin-faced sandwich, buckling under distributed normal loads 7−26175
columns subjected to intermediate concentrated load, stability analysis, FEM 7−20608
columns subjected to intermediate concentrated load with axially restrained ends, FEM stability analysis 7−57718
columns with elastic axial restraint, FEM-based stability analysis 7−50964
composite cylindrical shells, buckling under external press. 7−37358
composite material shallow sandwich shells, finite deflection eqns. and linear stability problem *(Chinese)* 7−43721
composite shell, conical, stability calc. with allowance for cracking of binder in layers 7−16084
composite with biperiodic system of circular fibers in an elastoplastic matrix, stability anal. 7−63026
cylindrical, asymmetrically loaded, stability and large deformation behaviour 7−11306
deformable bodies, surface instability 7−11323
deformable bodies, three-dimens. stability theory, construction elements, approx. approach 7−16086
dynamic system stability estimate based on quasistationary principle 7−81
dynamic systems, multiple parameter, time-varying, stability 7−37320
elastic column having linear viscous internal damping, stability 7−6087
elasto-plastic anisotropic media, necking and forming limit diagrams, instability problem *(French)* 7−31665
elementary localized potentials, stability loss for internally unstable elastic-plastic material 7−41104
fibres in elastic matrix with finite strains, stability 7−11322
flexible cylinder array, fluidelastic in stability in cross-flow 7−16089
flight vehicle aeroelasticity, 3D motion, nonlinear integrodifferential eqns., Lyapunov stability 7−43737
frame, two-bar, nonlinear stability anal., elastic type approach appl., buckling behaviour 7−43720
gyroscope, noncontact, in resistive medium, run-up system 7−43653
gyroscopic systems, periodically perturbed linear, dynamic behaviour 7−11273
laminated plates with metal bearing layers, use in compressed elements, equil. mode stability 7−31667
multidimensional Hamiltonian systems, Lyapunov stability 7−80
oscillator stability boundaries under high freq. multicomponent parametric excitation 7−50939
osteosynthesis, 1-sided external fixation, improved stability *(German)* 7−40182
panels, cylindrical, instability, effect of centrally located midplane delamination 7−63022
plate, thin rectangular, stability and instability under follower force 7−26182
plates, elastico-plastic stability at combined loading *(Russian)* 7−63025
plates, orthotropic rectangular linear elastic under biaxial loads, post-buckling stability 7−50966
plates, prismatic, folding, instability by finite strip method *(Spanish)* 7−20611
plates, rectangular laminated composite, dynamic stability analysis using finite strip method 7−6118
plates and shells, perforated, with system of attached masses, eqns. of motion 7−1393
plates/shells, two-dimensional FEM model for buckling analysis 7−57717
rigid body in resistive medium, eqns. of free motion, stability control of numerical integration 7−41088
rod, curvilinear sectional stability of planar bending mode with allowance for initial defects 7−31661
rod, nonuniformly ageing viscoelastic, with small deform., thermal stability 7−11317
rod-type vibr.-freq. transducers, resonator shape optimisation 7−1482
rods of non-homogeneously ageing anisotropic viscoelastic material, stability 7−26184
row of circular fibres in elastic-plastic matrix, stability 7−1455
scalar comparison eqns. in stability of motion theory 7−86
sheets, thin voided viscoplastic, instabilities during tension 7−16076
shell, bifurcational stability problems soln. using finite element method 7−16087
shell, cylindrical, buckling analysis on refined eqns. basis 7−43729
shell, cylindrical, dynamic stability under nonaxisymmetry loading 7−57720
shell, cylindrical, hinged compressed, connected to elastic filler, axisymmetric stability, boundary conditions 7−43730
shell, cylindrical, three-layer, spectrum of regions of dynamic instability 7−16085
shell, cylindrical, with circular cutout, local stability 7−11316
shell, multilayered, coiled, unidirectional buckling 7−16088
shell, open sandwich conical, elastic-plastic, critical loads and stability loss *(Polish)* 7−43728
shell, three-layer, limit boundary problem in theory of stability *(Ukrainian)* 7−11315
shell structures, eccentricity of normal forces and initial imperfections 7−26174
shells, cylindrical, stability and design optimisation during stress wave propag. *(Ukrainian)* 7−11326
shells, cylindrical viscoelastic creep-stability anal. 7−26166

mechanical stability continued
shells, shallow saddle-shaped hypar, initial post-buckling behaviour 7−26177
shells, spherical, orthotropic, shallow, on elastic foundation, nonlinear studies 7−37357
shells, spherical, with delaminations, bifurcation of equilib. 7−31669
shells, statically loaded global stability, Berger's hypothesis 7−57719
shells, three-layered cylindrical, stability under external press. on basis of 3D formulation 7−31666
solid body hinge-suspended in a fluid flow, vibrations 7−1394
strain-space plasticity formulation for hardening-softening materials with elastoplastic coupling 7−26164
thin-walled sections under combined bending and torsion, nonlinear theory 7−57698
Timoshenko beam on elastic foundation under moving spring-mass system, stability 7−43719
tubes, curvilinear, under uniformly distributed load, nonlinear deformation and stability loss 7−6121
tubular cantilevered beams conveying compressible fluid, unstable oscillation 7−4670
viscoelastic ageing medium, stability of lining of horizontal opening 7−1454
Al alloy, Duralumin type, stability of struts in compression in elastoplastic range 7−22771

mechanical strength
for fatigue strength, see fatigue; for creep strength see creep fracture
see also bending strength; compressive strength; fracture toughness; impact strength; notch strength; shear strength; tensile strength; yield strength
carbide/α-Fe matrix interface, void nucleation mechanism 7−38354
cellulose acetate-polyarylate films, phase separation, porous struct. and strength *(Russian)* 7−26967
composite, failure criteria, tensor-polynomial type, exptl. verification of efficiency 7−22812
composite laminates, fatigue and residual strength 7−44672
composite materials with cracked matrix, strength 7−46609
cylinder weakened by system of reduced strength layers under dynamic loading, behaviour 7−11345
deformed cubic crysts., generalised set of elastic moduli and stability calcs. 7−51914
dynamic fatigue limit, determ. method 7−8221
E-glass batch melting redox and its effect onspecific glass properties 7−7947
epoxide resins, spiro type, acid anhydride cured, mech. relax. props. 7−21349
fibre reinforced composites, brittle, Weibull statistical distrib. of strength 7−3429
fracture mechanics and strength size effects, phys. evidence 7−57756
glass fibre reinforced epoxy, fatigue life and static strength, statistical study 7−39618
glasses, strength, structure and relaxation 7−1897
halide eutectic composites, growth, struct., mech., elec. and optical props. 7−33648
insulators, electric and mechanical breakdown, space environment effects simulation 7−39013
joints of dissimilar metals, adhesively bonded strength evaluation 7−46791
laminated cross-ply plates, micromech. initial failure anal. 7−62975
laser materials, high strength, development 7−10961
lenses, cement contact, heat resistance depend. on construction parameters 7−43299
loose snow strength characteristics determ. appl. of conical indenter instrument 7−9052
material strength determ. at high strain rates, freely expanding ring test 7−54044
materials fatigue behaviour, influencing factors *(Japanese)* 7−39642
metals, strength, durability and fracture, time depend. in microsecond range 7−46597
optical fibres, hermetically coated, anti-thermal and high strength coating development 7−31483
optical fibres, silicone-coated, influence of pH solns. on strength and dynamic fatigue 7−6006
optical single-mode, high-strength long-length synthesised by vapour axial deposition 7−11135
panel, composite, min. wt., optimum design w.r.t. arbitrary loads 7−1397
paperboard, constitutive behaviour under uniaxial and biaxial loading 7−63019
PET films, discontinuous levels of strength, determ. method *(Russian)* 7−13700
polyimide films, uniaxially-stretched, conductivity and dielec. losses 7−39005
rock salt form Gulf Coast domes, uniaxial and triaxial mechanical expts. 7−47428
rocks, effect of press. on elastic and strain-strength props. 7−47424
shock release adiabat approx. using the Hugoniot 7−21354
solvent welded joints, struct. and strength rel. to bonding solvent 7−28263
steel, austenitic, Mn-Cr, hardening characts. and hydroextrusion parameters *(Russian)* 7−59540
steel, C-Mn, arc welds, as-deposited strength, toughness, microstruct. 7−13555
steel, cold rolled, Ni activated phosphating, corrosion resist., durability, strength 7−28187
steel, Cr-Mo, plate, directional solidification, rolling, strength, toughness, microstruct., weldability 7−59622
steel, dual-phase, strength differential effect 7−46547
steel, high speed, service performance rel. to Ca and Zr microalloying 7−3366
steel, low alloy, microstruct., mech. props. rel. to cooling rate 7−46514
steel, maraging, struct., mech. props. and cavitation-corrosion stability *(Russian)* 7−46684
steel, Mn-V-Mo austenitic, struct. and precipitation hardening *(Russian)* 7−17541
steel, Ni-Cr-based, high temp. strength, modified ausforming effects *(Japanese)* 7−8089
structurally nonuniform materials in complex stress state, variant of strength criterion 7−32553
ultimate long-term strength, parametric methods of time-temp. extrapolation 7−28051
ultrahigh-strength fibre splices by modified H_2/O_2flame fusion 7−11121
Al alloys, heat treatment, prediction of start of exposure phase 7−33698

mechanical strength continued
Al-Cu-Mg, growth by Stepanov's method, macro- and microstructure, strength, plasticity meas. 7−33546
Al-Fe-V rapidly solidified sheets, mech. props., hot rolling effects 7−22838
Al_2O_3-H_2O-based heterogeneous monotype systems, hardening and binding props. 7−65052
B fibre reinforced Al, strength characts. 7−33768
$BaTiO_3$, polycrystalline, dielec. breakdown, microstructural effects 7−39021
C and graphite., strength and struct., conf., Liverpool, England (Sept. 1985) 7−24257
a-C:H, props., review 7−51630
CoAl, combustive synthesis, physicochemical props. 7−7918
Fe-Ni austenitic alloys, martensitic transformations, grain size effects *(Russian)* 7−46465
$FeAl_3$, Fe_2Al_5, combustive synthesis, physicochemical props. 7−7918
FeH_x cleavage strength, tight-binding model calcs., interstitial solute effects 7−59538
MgO-SiO_2 high-temperature composites, calcination temp. and mech. strength 7−33651
NaCl:Eu^{2+} crysts., mechanical strength, dopant distrib. and γ-irrad. effects study 7−26800
Ni-base superalloys and intermetallics, rapidly solidified, mech. props. 7−22839
Ni-Mo_2C eutectic, directional solidification oriented struct., strength, hardening mechanism *(Russian)* 7−59507
NiAl, Ni_2Al_3, combustive synthesis, physicochemical props. 7−7918
PLZT ceramics, mechanical strength, composition and polarisation depend., microindentation meas. 7−6697
PbO_2-H_2O-based heterogeneous monotype systems, hardening and binding props. 7−65052
PdFe, drawing effects on elec. resist. and mech. props. *(Russian)* 7−17584
Si strips, grown by Stepanov's reversed method, strength, struct., electrophysical props., effects of thermal conditions during growth, photocell appl. 7−32325
VH_x cleavage strength, tight-binding model calcs., interstitial solute effects 7−59538
Y_2O_3 powders, agglomerate strength distrib., US meas. 7−46379
ZrO_2, MgO partially stabilised ceramics, thermal treatment, mech. props., microstruct. 7−65067

mechanical testing
see also creep testing; dynamic testing; fatigue testing; fracture toughness testing; hardness testing; impact testing; materials testing; mechanical variables measurement; notch testing; tensile testing; wear testing
beams, symmetrical bending, precision test equipment, loading system 7−63091
hydrostatic testing of nuclear fuel waste disposal containers 7−15406
metallic specimen heating in split-Hopkinson bar expts. using induction coil heaters 7−33870
panels, rectangular, compression testing simply supported boundary conditions 7−33869
PEEK, fracture toughness, temp. and strain-rate effects 7−39660
PEEK glass fibre reinforced plastics, fracture toughness, temp. and strain-rate effects 7−39660
PET films, discontinuous levels of strength, determ. method *(Russian)* 7−13700
probing method for investig. of rules of change in stressed and strained state 7−59714
pulp fibres longitudinal compression device 7−13697
scratch adhesion testing, critical load for coating loss, acoustic emission 7−3549
strength of cemented joints in polymer materials, device for meas. 7−54036
tubular specimens, mech. tests in high-press. chamber, stress-strain tensor functional construct. 7−59716
tubular specimens, torsion testing, error estimation 7−65247
viscoelastic test block dynamic rigidity form factor for complex Young's modulus meas. *(Hungarian)* 7−51010
In-glass vacuum seal, adhesion strength, meas. method 7−59715
SiO_2 silica fibre mechanical strength determ. *(French)* 7−11157

mechanical variables measurement
see also elastic moduli measurement; force measurement; pressure measurement; shock measurement; strain measurement; stress measurement; torque measurement; vibration measurement
Collette torsion pendulum theory 7−14934
conference, Prague, Czechoslovakia (April 1985) 7−48169
laser Doppler anemometer for measuring superlow velocities 7−43812
loose snow strength characteristics determ. appl. of conical indenter instrument 7−9052
point impedance meas., bias errors 7−63090
strength of cemented joints in polymer materials, device for meas. 7−54036
thin films, structural, mech., and comp. props., charactn. and meas. 7−38378
In-glass vacuum seal, adhesion strength, meas. method 7−59715

mechanical waves *see elastic waves*

mechanics
see also bending; biomechanics; celestial mechanics; classical mechanics; damping; density; dynamics; fluid mechanics; intermolecular mechanics; kinematics; mechanical stability; momentum; relativistic mechanics; statics; statistical mechanics; wave mechanics
flycasting mechanics, flyline investig. 7−50
linear flywheel for energy storage 7−48
numerical methods, innovative, in engineering, conf., Atlanta, GA, USA (March 1986) 7−12
raindrop falling in stationary mist, undergraduate mechanics problem 7−58

mechanics of fluids *see fluid mechanics*

mechanoception
cerebral cortical contribs. to sensory evoked pots., hydranencephaly obs. 7−23342
cress roots, development and gravity sensing under microgravity 7−8718
cross-modality matching of auditory and lingual vibrotactile sensations, magnitude estimation instrumentation 7−14028
cytoskeleton and mechanoception thresholds 7−40177
dot matrix characters, perception through skin sensation by elec. stimulation 7−28546
EEG reactions in comatose patients after mech. or visual stimuli 7−65864

mechanoception continued
electrotactile stimulation, human tracking of electrocutaneous signals, training effects 7−14025
evoked potential components, mid and long latency, law of 3.5 c/sec 7−3771
evoked potential maps in learning disabled children 7−8558
evoked potentials from passive elbow movements, modification by motor intent 7−14026
evoked potentials processing with tactile and thermal stimulation; prototype system *(Spanish)* 7−34318
lentil root, gravity perception, Biorack expt. 7−8720
mass discrimination in weightlessness, improvement with arm movements of higher acceleration 7−8723
movement-related brain pots., synchronisation rel. to computer detect of EMG edges 7−14027
multi-modality evoked potentials in hypoxaemia, cat obs. 7−54583
multi-modality evoked responses vs. temp. and thermal dose with whole-body hyperthermia in water bath 7−8500
otoliths, nystagmus induced by off vertical axis rotation, three-dimensional model 7−47047
periodontal mechanoreceptor mediation of short latency excitatory reflex in human masseter muscle 7−3808
peripheral mechanoreceptive units in man, response characts. 7−65778
rabbit nictitating membrane response to piezoceramic vibrotactile CS, classical conditioning 7−8775
respiratory proprioceptor system in man, noninvasive technique for exam. 7−40374
sensory receptors of cat's hindlimb, response to a transient, step-function DC elec. field 7−28581
somatosensory evoked cortical pots. to median nerve stimulation, scalp topography and distrib. 7−34167
somatosensory evoked pot. and sensory action pot. phenomena, simulation by 2D pot. field modelling 7−34166
somatosensory evoked pot. ipsilateral and contralateral components following median nerve stimulation 7−23372
somatosensory evoked potentials after stimulation of digital nerves in upper limbs: normative data 7−34168
somatosensory evoked potentials in a brain-dead patient, unexpected myogenic contaminants 7−3893
somatosensory evoked potentials recording, short latency, with median nerve stimulation 7−3807
somatosensory evoked pots., short latency, in infants and children: developmental changes and maturational index 7−8606
somatosensory evoked pots. to finger stimulation, N20 and P22 obs. 7−8605
somatosensory evoked responses, short latency, increased latencies used for defining abnormality 7−8607
somatosensory potentials in hemiplegics, intrahemispheric cond. delay 7−3806
somatosensory system, cat, effect of cortical ablation on afferent activity 7−3805
somesthetic primary cortex evoked pots. elicited by central afferent stimulation 7−34169
spinal somatosensory evoked pots. monitoring during surgery, microprocessor-based system 7−23482
utricular afferents response to sinusoidal vibrations, simulation using spike generator mechanism model 7−47132
vertebrate gravity receptors, embryonic development, frog obs. 7−8714
vibrotactile perception, AM effects 7−47134
mechanoluminescence *see triboluminescence*
medical administrative data processing
see also medical computing
microcomputer appl. Conf. London, England (Sept. 1986) 7−35106
medical aids for handicapped *see handicapped aids*
medical care *see health care; patient care*
medical computing
see also medical administrative data processing; medical diagnostic computing
16-channel controller for implantable gait stimulation system, design 7−28781
animation of human walking, real-time, for pathological gait evaluation 7−28569
arterial pressure, mean, computer control with Na nitroprusside: adaptive model-based system 7−40359
automation range of motion meas. in cervical spine using video images 7−28747
biomechanics models in manual work design 7−40209
bioprosthetic heart valves, computer simulations of closing sounds 7−34343
blood-rate detector, one-chip VLSI implementation using PPL 7−28756
body surface measurement and replication by photogrammetry and CAD 7−54695
body surface pot. mapping, recursive computation of LF baseline drifts 7−40338
cardiac action potentials and twitches, real time acquisition and analysis 7−65737
cardiac arrhythmia haemodynamics, simulation with a real-time computer model 7−3826
cardiac rhythms and arrhythmias: a teaching program 7−48247
cardiac tissue, anisotropic, electronic interactions 7−13989
cell automated classification techniques, imaging flow cytometer 7−8774
cerebral blood flow measurement, multicompartment analysis of trace clearance 7−18010
color monitor system for color anomaly inspection *(Japanese)* 7−47066
computer model of peripheral auditory processing incorporating phase-locking, suppression and adaptation effects 7−37269
coronary arteries microembolisation, computer simulation of hyperemic flow 7−18007
coronary arteries skeleton from cineangiograms 7−18062
coronary blood flow, absolute, online computer meas. using a H$_2$ dilution catheter 7−28742
dichotic stimulation for central auditory testing, audio tape production, computer programs 7−47084
DICOM-8 digital imaging computer for pseudo-3D imaging 7−47275
digital sampling of cardiac Purkinje fiber action potentials, maximum frequency components 7−18085
DNA distributions with abnormal stemlines determined by flow cytometry, automatic analysis 7−59949
ECG, arrhythmia detector performance, confidence limits estimation 7−40335
medical computing continued
ECG, continuous vectorcardiography, in acute myocardial infarction 7−34302
ECG, freq.-domain QRS classification algorithm using an annotated ECG database 7−34307
ECG, HF, microcomputer-based analyser 7−54787
ECG, Holter anal., fourth generation computer aided system: Mk4 7−40331
ECG, P wave recognition, CSE database in the development of a new algorithm 7−40340
ECG, power line interference estimation and removal 7−65863
ECG, quantitative investigation of QRS detect. rules using MIT/BIH arrhythmia database 7−54789
ECG, RR-intervals during atrial fibrillation, heart rate stratified anal. from ambulatory tape recordings 7−34314
ECG ambulatory arrhythmia analysis: a dual-channel, Bayesian approach 7−40332
ECG analysis, long term automated system, low cost microprocessor based implementation 7−40350
ECG automatic detect. of ventricular fibrillation 7−18082
ECG baseline wander reduction using linear phase filters 7−18086
ECG databases, software interface for arrhythmia detector evaluation 7−40336
ECG interpretation online system using Bonner program 7−40325
ECG P-wave, algorithm for automatic detect. in single or multiple lead signals 7−28746
ECG program for anal. of 12 simultaneous leads during an exercise test, precision and accuracy 7−40342
echocardiographic assessment of ventricular volume microcomputer based method 7−40237
EKG tracings, chronic disease detect., computer-aided technique 7−14151
EMG, clinical, basic problems of automatic analysis 7−8737
EMG, computerised, conf., New York, USA (April 1981) 7−4621
EMG, quantitative, diagnostic yield of automated method 7−8742
EMG automatic analysis with ANOPS computer, monopolar electrode use 7−8738
EMG signal on-line analysis, microcomputer based neurophysiological measurementsystem 7−8739
equine ground reaction force data analysis 7−54650
exercise ECG anal., versatile computer system 7−28743
exercise ECG system, for phys. working capacity meas. 7−40339
expert systems and compiler techniques for intelligentimplantable cardiac pacemakers 7−14162
external counterpulsation in the presence of arrhythmias, computer simulation anal. 7−14156
factor analysis of dynamic structures in nuclear medicine *(Japanese)* 7−18072
fixation disparity, computerised meas. 7−8726
foetal biophysical profile: antepartum assessment using a programmed microcomputer 7−40322
gait, temporal and spatial parameters meas. using a microcomputer system 7−40321
gait analysis system, portable computerised, force distrib. meas. under foot in walking modes *(Japanese)* 7−14146
gait correction two-channel orthotic stimulator *(Slovenian)* 7−23486
geometric illusions meas. using microcomputer *(Japanese)* 7−3788
haemodynamically compromised subjects, exercise test protocols, digital filtering and data processing 7−8727
heart, programmed stimulation, real time data collection 7−34329
heart's pathological sinus mode modelled by system of interconnected pacemaker cells 7−54518
heart rate and arterial blood press. variability signals, auto-spectral and cross-spectral anal. 7−47270
hemodynamic regulation modelling 7−54667
Holter ECG processing, distrib. 2-channel system 7−40349
Holter ECG processing, improvement of morphology clustering through directed search techniques 7−40334
HP program to determ. centre thickness of convex spectacle lenses 7−14158
human gait data acquisition and processing using digital camera 7−65809
hyperthermia treatment using 27 MHz waveguide applicator, relative heating patterns calc. 7−8676
implantable gait stimulation system, 16-channel microprocessor-based controller, features 7−28780
infants, noisy ventilatory waveforms, robust computer algorithm for breaths. detect. 7−28737
intracranial pressure monitoring unit with computerised signal processing, improved design *(Spanish)* 7−34299
IPI semiautomated inspection devices for inspectors 7−54546
left ventricular ejection fraction, continuous monitoring using a miniature NaI detector and microcomputer 7−34305
magnetic resonance imaging, computer model to optimize image contrast 7−54690
membrane lung performance during low blood flow CO$_2$ removal, model 7−8772
microcomputer appl. Conf. London, England (Sept. 1986) 7−35106
microcomputer-assisted haemodynamic and respiratory monitoring 7−40329
microwave reflectometry, frequency-domain, image reconstruction, parameter identification, simulation tools appl. 7−65834
motor control performance tracking accuracy quantification system 7−28572
motor unit potentials with varying loads, automatic analysis 7−8741
muscle function anal., microcomputer system 7−40320
musculotendon actuator models for neuromuscular stimulation system CAD 7−28573
myocardial contractility anal., computational method 7−14140
myocardial infarction, acute, computer-aided decision in haemodynamic-based treatment 7−40360
myoelectric signals of neck and head, speech information 7−34164
neonates with low birth weight, data acquisition system for monitoring 7−3920
neural networks, computer simulation for perceptual psychology 7−60007
neurological disorders, meas. of sensory-motor integrated function, 3 computerised tracking tasks 7−3912
neuromuscular diseases, computerised electromyographic signal processing 7−54541
nuclear medicine, computer appl. 7−34365
plethysmography, whole-body, online real-time data processing system 7−3922

medical computing continued
posture measurement precision; CODA-3 use in clinical assessment 7—34300
prosthetic heart valve test apparatus, microcomputer-based data acquisition system 7—40364
prosthetics fitting, optical noncontact 3D body measurement 7—34350
radioactive cloud, dose reduction factors for large buildings, computer codes 7—54759
radioimmunoassay data processing software 7—40284
radiotherapy, computerised treatment planning systems, comparison when calculating dose under shielding blocks 7—28706
radiotherapy, external, use of microcomputer for nonlinear optimisation of doses 7—34283
radiotherapy, microcomputer-based computing course 7—65888
radiotherapy, port film enhancement of digital processing 7—47234
radiotherapy treatment planning, graphical displays 7—40283
rehabilitation of handicapped, technology, conf., Minneapolis, MN, USA (June 1986) 7—29599
renal volume calculation using $[^{123}I]$hippuran gamma camera renography and computerised image processing 7—8680
respiratory impedance, calcs. from forced random noise data, microcomputer-based system 7—3913
respiratory pressure data analysis for detecting breathing circuit faults in ventilated patients 7—40330
respiratory waveforms from ECG traces 7—18084
role of vision in producing motion sickness 7—54545
SAMICOS, sleep analysing microcomputer system using multichannel EEG 7—23470
Selectron treatment calc., min. data input computer program 7—60077
semi automatic computerised system for producing heart and coronary arteries images 7—3875
sleep EEG and EMG, computer program for automatic anal. 7—54783
spinal somatosensory evoked pots. monitoring during surgery, microprocessor-based system 7—23482
stomach and duodenum, radiographic mag. using computed radiography 7—14126
sudden infant death syndrome, microprocessor-based home monitor 7—3921
Swedish perspectives on the use of computers in cardiology 7—28741
tachyarrhythmias surgery, programmable stimulator: data acquisition, processing and display system 7—34330
thyroid gland mass, determ. using scintillation camera and computer 7—3870
tissue blood perfusion, computer-based system for continuous on-line meas. using a thermal method 7—40319
tissue characterisation from US B-scan data, liver and spleen appl. 7—14072
urodynamic data-acquisition and anal. system, microcomputer-aided 7—3914
vessels tracking in medical images, development of 3D discontinuity detector and linking algorithm 7—8751
visual display, programmable, for diagnosing, assessing and rehabilitating unilateral neglect 7—65880
vocal fold vibration and speech signal, simultaneous high speed digital recording 7—47129
walking and ECG, computerised system for 24 hr simultaneous recording and anal. 7—40347
Wolff-Parkinson-White preexcitation syndrome, computer simulation with a modified Miller-Geselowitz heart model 7—3765

medical diagnosis *see patient diagnosis*

medical diagnostic computing
see also computerised signal processing
audiological investigations using microcomputer system 7—65882
automatic left ventricular cineangiograms analysing system 7—47258
blood flow phase detection on digital subtraction angiography 7—47257
cancer detection, coding theoretic approach 7—47252
cardiac electrophysiological stimulation and online processing, automated system 7—34324
cardiac left-to-right shunts, quantitation using digital subtraction angiography 7—40285
cardiac wall motion during exercise, computerised quantitative segmental anal. from 2D echocardiograms 7—34321
cardiology application, conf., Linkoping, Sweden (Sept. 1985) 7—24309
carotid angiograms abnormality detection using computerised syntactic pattern recognition 7—40354
chest radiography, ANDS-V1 computer detect. of lung nodule 7—47249
chest radiography, digital image processing 7—23455
cognitive dysfunction diagnosis, multimicroprocessor-based real-time EEG analyser 7—23475
compression of radiological images with 512, 1024, and 2048 matrices 7—54738
coronary angiograms, digitised, computer anal. for assessment of changes in poststenotic coronary flow 7—28687
coronary angiography, quantitative, accuracy of the catheter as a reference for arterial dimensions 7—28685
coronary artery quantification by digital radiography 7—28691
CT, high speed, using Imatron C-100 cine scanner, efficient data archiving and rapid image anal. 7—28683
cutaneogalvanic reaction parameters, automated recording system 7—40353
digital diagnostic imaging, versatile image processor and its appl. in computed radiography 7—28673
digital subtraction angiography, automated tracking of the vascular tree using a double-square-box region-of-search algorithm 7—28674
digital subtraction angiography, technique for automatic motion correction 7—23456
discrete cosine transform and vector quantisation in medical imagery, comparison 7—28624
ECG, ambulatory recordings, performance evaluation of algorithms for QT interval meas. 7—40343
ECG, arrhythmia detect. in Holter records: reliability of multi-lead vs. single-lead anal. 7—40355
ECG, automated arrhythmia anal. combined with ST anal. for exercise monitoring 7—34326
ECG, data compression VCG anal., comparison of two algorithms 7—40356
ECG, multivariate characterisation of normal ST response derived from a computerised exercise ECG system 7—34325
ECG, ST segment shape recognition, automatic method 7—23476
ECG interpretation of right ventricular hypertrophy 7—65878

medical diagnostic computing continued
ECG signal processing methods for microcomputer-based automatic diagnostic system 7—47284
ECG ST-T segment anal., template matching algorithm 7—34327
echocardiograms, 2D, automatic and intelligent left ventricular contour detect. 7—34212
echocardiographic scan images, cine, spatial and temporal processing: automated myocardial border tracking 7—28638
echocardiography, 2D,, microcomputerised image processor and 3D reconstruction of left ventricle 7—34213
echocardiography, computer assisted anal. of left ventricular function 7—34211
echocardiography, versatile digitisation and processing system 7—34216
EEG, alpha rhythm in normal state, generation model 7—8536
EEG, epileptogenic sharp transients detect., multichannel signal processor 7—54786
EEG, focal epileptic spikes, technique for averaging, spatio-temporal mapping and dipole modelling 7—23473
EEG, human, adaptive techniques for signal enhancement 7—34319
epicardial electric activation, knowledge based classification from array ECG signals 7—8752
exercise ECG-testing, computerised, and ^{201}Tl scintigraphy: relative diagnostic accuracy 7—28757
expert diagnostic US system, statistical approach 7—23415
eye examination setup, OAP-311, rational refraction system 7—8747
fluorescence imaging, digital background subtraction 7—40247
gated radionuclide ventriculography with a slant-hole collimator, fully-automated contour detect. 7—40252
head-injured patients, computer assessment of neurological status using EEG power spectrum anal. 7—34128
image edge enhancement by 3D processing 7—54803
image processing in cardiovascular radiology 7—65833
image processing technology, medical radiography appl., review 7—65856
imaging system trends *(Japanese)* 7—15824
infection diagnosis, computer subtraction of simultaneously acquired dual radionuclide images 7—40274
IR thermogram processing system using a microcomputer *(Chinese)* 7—28643
left ventricle, ^{201}Tl perfusion imaging simulated by a dynamic model 7—34267
left ventricular regional wall motion, quantification using multiple-view radionuclide angiography and the centerline method 7—34268
left ventriculograms. digital subtraction, automated edge detect. method 7—34269
liquid crystal light valves for medical imaging 7—14107
macular laser lesions, image anal. 7—34229
mammography, subtle microcalcifications detect., evaluation of digital unsharp-mask filtering 7—28677
MR imaging systems, clinical software *(Japanese)* 7—15826
multipoint signal averager for repetitive bioelectric signals, microprocessor-based 7—18091
myocardial scintigrams, symbolic reasoning in PROLOG 7—40253
neurosurgical intensive care unit, computerised monitoring system 7—34320
NMR, high-speed techniques for estimating T1 and T2 images 7—23429
NMR imaging, struct. enhancement by subtraction 7—54692
NMR imaging computer simulation, implementation and preliminary results 7—23430
nuclear medicine, computer appl. 7—34365
nuclear medicine acquisition station, microcomputer-based, low-cost 7—28681
nuclear medicine images, digital restoration by two-step procedure 7—14121
nuclear medicine software in Europe: current situation, aspects and projects 7—23433
nuclear ventriculography, ejection fraction determ. by combined inverse Fourier anal. and second-derivative technique 7—40254
pacemakers, dual chamber, expert system and diagram for troubleshooting 7—28775
portable continuous blood pressure monitor utilizing an M68705 microcomputer 7—28755
radiation dosimetry, picture-processing-based automated system 7—28713
radiographic screen-film images, computer simulation 7—23442
radiographs, effect of digital unsharp masking on detectability of interstitial infiltrates and pneumothoraces 7—47248
radiography system TCR 201 7—18067
radiography system using an imaging plate as an X-ray sensor, TCR-201 7—40282
radiologic automated diagnosis (RAD) of neuroimages interpretation 7—65857
radionuclide ventriculography, computer program for data acquisition 7—40289
retinal optical intensity profile model for computer-aided visual acuity assessment 7—59976
right ventricular ejection fraction, automated determ. by digital processing of ^{81m}Kr scintigrams 7—65835
rotating phantom: evaluation of hard and software for gated gamma camera systems in nuclear medicine 7—23453
scintigram-standard radiograph superimposition, image processing system, ventilation index determ. 7—40259
scintigraphic images, automated comparison 7—40258
SEM stereophotogrammetric method and system for three-dimens. eval. of features on flat substrates 7—40377
SHIMaDZU intelligent medical imaging system *(Japanese)* 7—15825
Shimadzu magnetic resonance imaging system, SMT-50 *(Japanese)* 7—15827
single photon emission CT, automated body contour detect. 7—65841
single photon emission CT using ^{111}In and ^{123}I, digital image restoration using optimised Metz filters 7—40257
skin diagnostics by shadow moire topography, visibility calc. using Sinclair Spectrum computer *(Czech)* 7—14145
spinal bone mineral determ. using automated contour detect.: appl. to single and dual energy CT 7—47243
storage phosphor system for computed radiography: destructive scanning 7—23444
storage phosphor system for computed radiography: screen optics 7—23445
systolic and diastolic cardiac function, rapid radionuclide-derivation using cycle-dependent background correction and Fourier anal. 7—40286
tomosynthesis using a digital radiographic system 7—23446

medical diagnostic computing continued
- ultrasound Doppler velocimeter signals anal. using personal computers 7–54687
- US tomography, resolution improvement using adaptive filtering *(Japanese)* 7–34202
- vascular and urethral parameters meas., microprocessor-based signal processing system 7–54686
- ventricular pressure-volume relationships, automated anal. by digital ventriculography 7–28692
- whole body X-ray CT scanner SCT-2500T *(Japanese)* 7–18092
- Wolff-Parkinson-White anomaly, computerised ECG diagnosis 7–34323
- X-ray images, computer processing 7–23435

medical effects of radiation *see biological effects of radiation*
medical electronics *see biomedical electronics*
medical engineering *see biomedical engineering*
medical equipment *see biomedical equipment*
medical information processing *see medical administrative data processing; medical computing*
medical laser applications *see laser applications in medicine*
medical measurement *see biomedical measurement*
medical monitoring *see patient monitoring*
medical NMR *see biomedical NMR*
medical physics *see medicine*
medical radiography *see diagnostic radiography*
medical sciences *see medicine*
medical treatment *see patient treatment*
medical ultrasonics *see biomedical ultrasonics*

medicine
- *see also biomedical engineering; cardiology; health hazards; patient diagnosis; patient monitoring; patient treatment; physiology*
- mathematical functions, determ. from integral values along certain manifolds, medical image Radon transform appl. 7–46996
- Rett syndrome, EEG findings 7–65738
- science and health care—whence and whither, 1986 Assoc. Lecture of HPA 7–60852
- ^{79}Kr: a new radionuclide for nuclear medicine 7–40290

Meissner effect
- anisotropic superconductors, Meissner effect 7–45557
- B-(BEDT-TTF)$_2$X organic superconds., Meissner effect under press. 7–45559
- disordered granular superconductor near percolation, phase transitions 7–17140
- highly excited crystals, mixed state and defect struct. 7–45584
- magnetic material props., Schrodinger representation 7–4702
- organic superconductors, S-based, superconductivity, volume property 7–2779
- Hg$_{3\text{-}5}$AsF$_6$ single crysts. bulk superconductivity, DC suscept. meas. 7–7438
- La$_{1.8}$Sr$_{0.2}$CuO$_4$, superconducting transition at 36.2 K 7–58947
- Nb$_3$Sn-NbTi hybrid superconducting magnet, Meissner magnetic image effect, magnetisation and susceptibility meas. appl. 7–4869
- UBe$_{13}$, U$_{0.97}$Th$_{0.03}$Be$_{13}$ and UBe$_{12.94}$Cu$_{0.06}$, low temp. high mag. field study 7–12911

Meissner-Ochsenfeld effect *see Meissner effect*

melt spinning
- glass fibre processing, spinning process in liq. state 7–3258
- melt spinning prep. in external fields 7–22608
- metal foil prep. by melt overflow rapid solidification 7–22609
- mirror, honeycomb sandwich, borosilicate, blank prep. by spin casting 7–37225
- misch metal-Fe-B melt-spun magnets, mag. and structural props. 7–53032
- polyester-polyether segmented copolymer, melt spinning, fibre form., struct., phase separation 7–46407
- polyethylene, ultra-high modulus, tensile strength, effect of mol. wt. 7–39590
- steel, austenitic stainless, rapidly solidified by melt spinning, photocalorimetric cooling rate meas. 7–46438
- steel, high Si, rapid solidification in double roller method 7–22665
- Ag-Zn, dynamics of β' to ζ transform., elec. resist. obs. *(Japanese)* 7–53720
- Al alloys, rapidly solidified, pitting corrosion 7–17678
- Al-Co, melt spinning, microstruct., precip., microhardness *(Korean)* 7–46444
- Al-Ge (12 at.%), alloy ribbons, prep. by centrifuge melt spinning, effect of process variables on characts. 7–46366
- Al-Li-Be alloys, rapidly solidified, microstruct. eval. 7–22656
- Al-Mn, Al-rich alloy, rapidly solidified, crystn. of quasicryst. icosahedral phase 7–63472
- Al-Mn, rapidly quenched, icosahedral phase, comp. analysis 7–26699
- Al-Mn (15 wt.%), melt spun ribbons, icosahedral struct., decomp. rel. to annealing 7–28030
- Al-Mo, rapid solidification processed, diffusion-induced dislocation migration 7–65047
- Al-Si-Pb-Bi, duplex alloys, melt quenching, microstruct. supercond. props. 7–45593
- Al-Ti-Gd, rapidly solidified ribbons, aged, ternary phase precipitate identification 7–3311
- Al-V, rapidly quenched, icosahedral phase, comp. analysis 7–26699
- Al$_{86}$Mn$_7$Fe$_7$, Al$_{86}$Mn$_{14}$, icosahedral alloys, obs. of mirror-related grains 7–37867
- Al$_{80}$Si$_{20}$ melt spun ribbons, microstructures and superconducting transition temperatures 7–38222
- C fibres, melt spun, non-circular, elastic modulus, tensile strength 7–7908
- Ce-(Fe,Co)-(B,Si) system alloys, melt spun ribbons, mag. props. *(Japanese)* 7–53052
- Cu-based alloys, rapid solidified and ion implanted, struct. studies 7–21130
- Cu-Za-Al ribbons, rapidly, quenched, martensitic transform., stabilisation 7–22678
- Fe-P, amorphous alloys, electrodeposition and melt spinning prep., struct. anal. 7–11934
- Fe-Si, rapidly quenched ribbons, grain growth, mag. props. 7–8017
- Fe-Si (4.5 to 7.5 wt.%), melt-spun, ordered struct. 7–1951
- Fe$_{80}$B$_{12}$Si$_8$, amorphous alloy ribbons, processing conditions rel. to mag. prop. changes *(Korean)* 7–7919
- Fe$_{74}$Co$_{10-x}$Cr$_x$B$_{16}$, amorphous, prep. by melt spinning, X-ray diffr., DSC, Mossbauer studies 7–46369

melt spinning continued
- Fe$_{80-x}$Cr$_x$(SiB)$_{20}$ amorphous alloy, induced anisotropy, melt spinning effects *(Russian)* 7–59004
- Fe$_2$O$_3$-SrO system, glass ribbon prep. by melt spinning, charactn. 7–53690
- Nb$_{73}$Al$_{12}$Si$_{14.5}$B$_{0.5}$, A-15 superconducting tapes for high mag. fields, fabrication 7–33133
- Ni-Al-Cr, melt spun ribbons, microstruct., mech. props., Cr conc. effect 7–28031
- Ni-P ion-implanted and melt spun amorphous alloys, crystn., TEM, RBS and DTA meas. 7–16439
- Ni-Si-B amorphous ribbons, surface charactn. 7–12420
- Ni$_{30}$B$_{54}$C$_{16}$, B-rich amorphous alloy prep. by rapid quenching, crystn., hardness and elec. resist. 7–13441
- Pb-Bi-Sn(In), alloy filaments, prod. by glass-coated melt spinning, enhancement of supercond. 7–58937
- Si crystal growth, mould shaping, spinning, method 7–53568
- Ti-Ni-Al rapidly quenched amorphous alloys, thermal stability studies 7–21123
- Ti$_3$Al-Nb alloys, ductility and fracture toughness, dispersoid modification effects 7–22779
- Ti$_3$Al-Nb-Er rapidly solidified alloy, microstruct. effects and dispersoid stability 7–22669
- TiNi rapidly solidified alloys, shape memory behaviour 7–22780
- W wire reinforced amorphous Ni$_{75}$B$_{17}$Si$_8$ matrix composite ribbons, melt spinning prep. 7–46373

melting
- *see also melting point; zone melting*
- 2D Lennard-Jones system, determination of algebraic exponents near the melting transition 7–51992
- alkanes, long-chain, cryst. and molten, low energy electron transmission and secondary electron emission expts. 7–33492
- alloy, heterogeneous, fusion kinetics 7–3280
- anisotropic honeycomb domain wall networks in uniaxial systems 7–26900
- Au$_x$(TeO$_2$)$_{1-x}$ thin films, nanosecond laser annealing, Au cluster redistrib., growth and coalescence 7–12145
- bicrystal model, grain-boundary melting transitions, mol. dynamics simulations 7–21419
- N,N′-bis(4-n-octyloxybenzal)-1,4-phenylenediamine, condis crystal props. 7–37909
- borophosphosilicate glass film, rapid isothermal fusion 7–21425
- cadmium arachidate, Langmuir-Blodgett films, struct. disorder and polymerisation competition at elevated temp., IR spectra obs. 7–46163
- dl-camphene, methyl reorientation, high press. NMR study 7–27609
- colloidal crystals, shear melting and Taylor instabilities 7–43858
- crystal instability, defect-phonon interactions 7–44722
- crystal nucleation and growth, crystal defects 7–58169
- crystal-to-amorphous phase transition under laser annealing, model 7–16424
- density functional theory with reference liq., appl. to hard sphere system 7–16718
- 1,3-di(p-n-alkoxyphenyl) propane-1,3-dione, double melting and mesomorphism 7–38171
- di-4′-substituted phenyl-trans-cyclohexane-1,4-dicarboxylates, mesomorphic props., effect of inserting ketone groups in terminal chains 7–21088
- diphenyl cryst., surface melting, ellipsometry studies 7–32613
- disordering transitions, nucleation mechanism, review 7–44743
- dynamics and melting of surfaces 7–52011
- E-glass batch melting redox and its effect onspecific glass properties 7–7947
- EBBA melting and crystn. processes, Raman spectroscopy, X-ray and thermal anal. 7–63777
- ethylene adsorbed on graphite, layering and layer-critical-point transitions 7–12471
- FCC (110) surface, cooperative premelting effects, molecular dynamics simulation 7–16852
- fibrous composites, influence of thermal effects of struct. and props. during explosive welding 7–17793
- glass, molten, jet formation during absorpt. wave propag. 7–46251
- glass and melt, relaxational processes, eqn. of state 7–21386
- glass transitions, crystal melting and liquid quenching in two-dimensions 7–16748
- grain boundaries and surfaces, melting 7–32619
- graphite, laser excitation effects, time resolved picosecond reflectivity study 7–12136
- graphite, multilayer melting transition of adsorbed methane 7–6992
- graphite, pulsed laser melting, impurity redistrib., RBS channelling, Raman scatt. and TEM meas. 7–12135
- graphite intercalated with Br, struct. and phase transitions, review 7–52041
- graphite surface pulsed laser melting, cluster form. and evaporative loss, nanosecond time resolved reflectivity meas. 7–12137
- graphite with monolayer and bilayer tetrafluoromethane, phase diagram, phase transitions 7–38338
- graphite-Br intercalation cpds., 2D stripe-domain system, melting transition 7–58449
- graphite-K intercalation cpd., KC$_{24}$, 2D layer melting dynamics, neutron scatt. meas. 7–21420
- graphite-Rb intercalation cpd., RbC$_{24}$, 2D layer melting dynamics, neutron scatt. meas. 7–21420
- heat transfer, 2-dimens., with melting and freezing, finite element soln. algorithm 7–1381
- heat transfer during melting around horizontal tube, axial fins effects 7–51106
- hierarchical low-temperature behaviour of one-dimensional incommensurate structures 7–29914
- ice, melting around horizontal cylinder, numerical simulation 7–1604
- ice, melting in porous media, solid-liq. interface motion, temp. distrib. 7–50926
- ice, microwave absorption measurements of melting spherical andnon-spherical hydrometeors 7–9106
- ice I, pre-melting second-order transform., isothermal compressibility and expansivity meas. 7–32631
- ice-air composite materials, melting process study 7–26335
- in-tube melting in the presence of circumferentially nonuniform heating 7–43897
- interfacial melting, 2D model, computer simulation 7–58448
- isotactic polybutene-1, high press. crystallisation and melting 7–12242
- laser heating of slab by time-dependent irradiation 7–21266

melting continued
laser interactions with condensed matter, review 7—12125
laser melting of solids, theory 7—21267
laser melting of solids, theory 7—21268
laser surface treatment, recent developments 7—21274
laser-irradiated materials, nonequilib. melting and solidification, computational modeling 7—2059
latent heat storage unit with finned tube, heat transfer characts. 7—43647
latent heat thermal energy storage, contact melting phenomena 7—43646
lead (II) carboxylates, thermotropic phase transitions, DSC meas. 7—21441
lines of simple substances, thermodynamic similarity and thermal props. calcs. 7—6762
long-chain amphiphile on solid substrate, thermally induced disorder, Fourier transform IR spectra 7—12467
mercury carboxylates, thermotropic phase transition temps. and heats of phase changes 7—2155
metal, intense laser irradiation melting in high vel. gas flow, interaction model calcs. 7—58321
metal, nitriding, laser-plasma synthesis, melting processes calc. 7—28176
metallic glasses, metastable struct., surface melting, by plasma, laser or electron beams 7—63495
metals, melting and crystallisation in EM crucible 7—52009
metals, undercooling in containerless microgravity environment 7—26917
metals with close-packed structure, solid-liq. phase transitions, atomic processes 7—52012
methane monolayer on graphite, thermodynamic study 7—16863
microintrusions having an intermediate state, melting 7—38167
molten salts, microscopic struct. and dynamics, review 7—44348
molten steel, melting and dissolution of falling body *(Czech)* 7—63776
molten surfaces, roughening 7—52194
nuclear waste glasses, electric melting, melter designs 7—5448
olivine-pyroxene-plagioclase system, effect of water saturation on partial melt distrib. 7—8925
optical polarisation preserving fibres, discharge fusion splice optimum method 7—31529
organic mol. cpds., pre-melting second-order transform., isothermal compressibility and expansivity meas. 7—32631
oxide systems, phase transition determ. using solar heating 7—22662
partial melting phenomena in Earth and planetary evolution, conference, Eugene, Oregon (September 1984) 7—4625
partially molten systems, distrib. of apparent dihedral angles on random sections 7—8927
partially molten systems, permeabilities and interfacial areas and curvatures 7—8926
PEEK, melting behaviour, molecular anal. using Fourier transform spectroscopy, thermal anal. 7—12244
peridotite, melting phase relations up to 14 GPa rel. to origin of peridotitic upper mantle 7—8937
peridotite, partially molten, connectivity of melt phase 7—8924
peridotite melting under ultrahigh pressure 7—34481
phase-change material during melting, heat cond. and natural convection, moving boundary problem 7—43900
photosynthetic membranes suspended in cryoprotective glycerol-H_2O mixture, proton relax. time meas. 7—34170
physics of melting, implications for temps. in Earth's outer core 7—23614
plasma limiter materials, operating performance, plasma-induced degradation 7—26818
poly(vinylidene fluoride), α-polymorph, melting behaviour and isothermal lamellar thickening 7—12240
polyester thermoelastoplastics, softening, thermodynamics *(Russian)* 7—63847
polyethylene, branched, phase transforms. obs., positron lifetime meas. 7—46231
polyethylene, lamellas, thermodynamic characts., DSC investig. *(Russian)* 7—21422
polyethylene, linear, DSC, origins of endothermic peaks 7—11952
polyethylene, linear, melt-crystallised, surface melting 7—6766
polyethylene, low density, bulk crystallisation kinetics, morphology 7—37893
polyethylene, low density, crosslinked, morphology, transmission electron microscopy 7—37894
polyethylene, low density, crystallisation and melting behaviour 7—37892
polyethylene, low density, with antioxidants, irrad., DSC melting behaviour 7—21421
polyethylene blends, melting, crystallisation, DSC, X-ray diffr., Raman spectra 7—44411
polyethylene blends, melting, crystallisation, relax., DSC, light scatt. 7—44412
polyethylene blends, melting and crystallisation, small angle light scatt. 7—44413
polyethylene oxide-melaminoformaldehyde cocured copolymer, crystallisation and melting *(Russian)* 7—26923
polyethylenes, crosslinked, nucleation density, morphology, transmission electron microscopy 7—37895
polymeric granular solids on hot moving interface, melting, approx. soln., nonNewtonian boundary layers 7—32614
polymethylenes, melting characts., continuum model *(Russian)* 7—63782
polyvinylidene fluoride, struct., melting and crystn. *(Russian)* 7—6563
premelting, ionic disorder and defects 7—44763
pyrope ($Mg_3Al_2Si_3O_{12}$), melting up to 10 GPa rel. to press.-induced struct. change in pyrope melt 7—8936
quantum field theory of lattice dynamics and melting in sphalerite and diamond structure crystals 7—26876
rare-gas solids, phonons, close to melting 7—63757
sandy rock, pore moisture thawing and freezing, aq.-phase press. influence 7—52004
sapphire, filaments, CO_2 laser heating, evaporation and chlorination 7—58331
scanning laser photoacoustic microscopy, phase transition studies 7—20582
shock wave compression, review 7—21351
small particles, quasi-melting 7—32608
snow, IR meas. of grain size and melting degree 7—23719
SOI structures, lateral epitaxy formation, melting and resolidification 7—38386
solid cylinder pressed against heated wall, ablative melting 7—1387
solid-fluid interface, FCC (111) cryst., layerwise struct., mol. dynamics simulation 7—2367
solid/liquid interface, pulse echo US study of location during solidification and melting 7—52006

melting continued
stainless steel, electron beam heating, vaporisation and melting meas. 7—26929
steel, austenitic stainless, fusion reactor first wall behaviour after plasma disruption, electron beam expt. 7—62068
steel, Cr-Ni-Mo, Ge and melting method influence on mech. props. at high temp. 7—8025
steel, surface oxidation through laser beam treatment, oxide film struct. and wettability 7—8158
steel, tool, laser surface glazing, microstruct. rel. to melt depth 7—46691
steel, wear-mechanism maps 7—22842
substances, pure and impure, melting results, correlation 7—62965
surface exposed to vapour with noncondensable gas, simultaneous melting and condensation 7—51274
surface layer modification at solid walls in high temp. plasma expts. 7—63343
surface rippling during laser material processing, thermohydraulics anal. 7—58574
Te elemental and alloy thin films, laser irrad. effects, refl. meas., optical data storage appl. 7—12144
thermal storage, phase change material melting process 7—65623
thermodynamic stability and viscosity behaviour or melting curve 7—12247
thin supported films, melting 7—44770
two-dimensional, defect core-energy depend., Laplacian-roughening model calcs. 7—6765
two-dimensional lattice gas on triangular net, order-disorder transitions, struct. factors, Monte Carlo simulation 7—56176
unidirectional solidification under microgravity, particles and bubbles behaviour *(German)* 7—44772
X-ray tubes, microfocus, electron beam melting of anodes 7—35646
xenoliths, kinetics of partial melting and dissolution 7—8944
Ag single cryst. spheres, superheating 7—44767
$AgNO_3$, electrical resistance effects accompanying high pressure and temperature melting and decomposition 7—16719
Al, fusion reactor first wall behaviour after plasma disruption, electron beam expt. 7—62068
Al, Gibbs free energy at melting nonstructural contribution estimation 7—2156
Al thin films, pulsed laser melting, transient elec. resist. and reflectance meas. 7—12141
Al-Cu (4.5 wt.%), laser treated, surface solidification with moving heat source 7—22648
Al-Mn icosahedral alloy form. by pulsed electron beam and laser beam surface melting 7—26924
Al-Mn(-Si) rapidly solidified alloys, quasicrystal form. by electron beam melting 7—26915
Al-Si melts, sorption degassing, struct. 7—3290
Al_2O_3-SiO_2-Fe_2O_3-CaO-MgO-Na_2O-K_2O glass batch melting, interaction between solid, liq. and gas 7—7946
Ar adsorbed films, surface melting and roughening 7—38342
Ar physisorbed monolayers on graphite, melting transition, high resolution synchrotron X-ray diffr. study 7—63780
Ar_7, melting transition and nonrigid dynamics onset, mol. dynamics simulation study 7—26920
$(As_2Se_3)_{1-x}Tl_x$, elec. and thermal transport props., effect of Tl addition 7—38200
Au films, rapid crystn. kinetics under laser irrad., picosec. transient reflectance meas. 7—11915
$(CSe)_n$, polymerised, metallic and supercond. 7—7433
$CaMnGe_2O_6$-$Ca_{0.5}Mn_{0.5}SiO_3$ cross section of $CaSiO_3$-$MnSiO_3$-$MnGeO_3$-$CaGeO_3$ system 7—2213
Co, liq., O solubility 7—12284
$Co(NO_3)_2.6H_2O$, electrical resistance effects accompanying high pressure and temperature melting and decomposition 7—16719
CsI, Hugoniot overtake sound-rel. meas. 7—44705
CsI, shock wave overtake meas. 7—21353
Cu (II) complexes, bis (β-diketonato) and β-diketone ligands, double melting, mesomorphism, long chain substituent effect 7—1862
Cu (110), adsorbed Pb, struct. and melting, X-ray scatt. studies 7—7016
Cu, crystal surface and interface, heterophase fluctuations *(Russian)* 7—58650
Cu, dispersion hardened, melting and solidification in microgravity environment 7—22659
Cu, electron beam heating, vaporisation and melting meas., first wall appl. 7—26929
Cu films, rapid crystn. kinetics under laser irrad., picosec. transient reflectance meas. 7—11915
Cu, shock Hugoniot, ab initio interatomic pot. calcs. 7—21395
Cu-Dy, thermodynamic props. rel. to glass forming ability 7—38204
Cu-Er, thermodynamic props. rel. to glass forming ability 7—38204
Cu-Gd, thermodynamic props. rel. to glass forming ability 7—38204
Cu-Kr system, Kr bubble growth, positron annihilation studies 7—39247
Cu-La, thermodynamic props. rel. to glass forming ability 7—38204
Cu_2FeSnS_4, stannite, melting, polymorphic transition temp. 7—44764
Eu-In-Te systems, phase equilib. investigs. 7—2173
Fe, cast, surface melting, composition and impurity effects 7—21423
Fe thermodynamic props., data tables and reviews 7—18512
Fe-B-Si and Fe-B-Si-Cr-Mo-W alloys, finely cryst. and amorphous structs. on surface by laser treatment 7—8175
Fe-Mn-Ni system, melting diagram 7—3278
a-GaAs films, dynamics of laser annealing by transient grating method 7—12122
GaAs, laser-induced melting and nonlinear optical studies 7—12432
GaAs surfaces, picosecond laser melting and evaporation 7—12120
GaAs surfaces, picosecond laser interactions, time-resolved optical studies 7—12134
Gd-Sb, phase diagram, peritectic reactions, congruent melting, DTA, microstructural and X-ray anal. 7—39481
a-Ge films, dynamics of laser annealing by transient grating method 7—12122
Ge microcrystals, gas-evaporated, thermal annealing, Raman and electron microscopic study 7—64635
Ge, pulsed laser melting, time-resolved reflectivity meas. 7—2158
Ge, reflectivity meas. during pulsed laser irradiation 7—12132
Ge, swirl defects formation 7—51753
a-Ge/Pb/a-Ge trilayers, melting transition of Pb 7—32884
GeTe, solid and liquid states, electrophysical props. 7—52654
He, high density props., exponential-six pot. 7—32742
^3He, solid-liquid melting pressure magnetisation curve 7—63900
^3He, spin-polarised, general model for steady-state melting 7—52184

melting continued

- ^4He, liq., in Vycor glass, thermodynamics of freezing and melting 7–52169
- In-Sn alloys, solid and liquid, surface composition, Auger electron spectra study 7–12421
- $LiKSO_4$ phase diagram, critical points determ., press. depend., differential thermal anal. 7–6780
- Mg phase diagram determ., HCP to BCC transition, fusion curve calc. 7–52043
- $Mg_2Si(Ge)(Sn)(Pb)$, Hall effect in solid and liq. states 7–38647
- Mg_2SiO_4-$MgSiO_3$ system, melting and phase relations at 20 GPa under hydrous conditions 7–8935
- Mn allotropic phases nucleation during laser annealing, melting, solidification and regrowth 7–12143
- Mn-C system, fusibility diagram in ε-solid soln. and carbide Mn_7C_3 region 7–7964
- NH_3, pre-melting second-order transform., isothermal compressibility and expansivity meas. 7–32631
- NH_4HSO_4 single crysts., surface layer phase transitions, surface cond. anomalies obs. 7–63925
- Na_2O-CaO-SiO_2 glass, melting using natural fine-powdered quartz 7–7950
- Nb, electron beam heating, vaporisation and melting meas. 7–26929
- Ni, liq., O solubility 7–12284
- Ni/Al/Si system, contact structure formation by rapid thermal melting 7–45019
- Ni-Au (110), Au-enriched by surface segregation, LEED 7–27080
- Ni-base superalloy powder, IN-100, shock consolidation 7–39459
- Ni-base superalloy power, mach stem characterisation during shock wave loading 7–38117
- Ni-Kr system, Kr bubble growth, positron annihilation studies 7–39247
- O films adsorbed on graphite, triple point wetting and surface melting 7–45007
- Os complex, excited-state decay, glass to fluid transition effect, energy gap law appl. 7–21418
- P_2O_5-SiO_2 glass in multilayer struct., laser-induced flow modelling 7–38057
- Pb (110), surface initiated melting, ion shadowing and blocking meas., RHEED 7–44769
- PbTe, solid and liquid states, electrophysical props. 7–52654
- Pd-Rh-P-Si, surface alloy vitrification by laser treatment 7–21271
- $RbHSO_4$ single crysts., surface layer phase transitions, surface cond. anomalies obs. 7–63925
- Sb_2S_3-I_2 system, SbSI form. and melting diagram 7–26919
- Si, amorphous foil, time-resolved X-ray absorption during pulsed laser irradiation 7–12128
- Si, amorphous layers, liq. phase crystallisation under pulsed heating 7–44773
- Si films, laser beam melted, facet formation at solid-melt interface 7–38418
- Si films, laser-induced melting and recrystn., heat transfer algorithm 7–21269
- Si films, phase diagram of laser induced melt morphologies 7–12131
- Si, ion implanted, laser beam melting and resolidification 7–12126
- Si, laser irradiated, surface morphology and phase transitions 7–12121
- Si, melting induced by picosecond laser pulses 7–38166
- Si, overheating during pulsed laser irradiation 7–12127
- Si, pulsed laser melting, time-resolved reflectivity meas. 7–2158
- Si, reflectivity meas. during pulsed laser irradiation 7–12132
- Si, single crystal, effects of shape of crystn. front, melting boundary 7–6566
- Si, structural changes produced by one micron picosecond laser pulses, TEM characterisation 7–12133
- Si surface, cellular structures formation due to interaction with picosecond light pulses 7–44960
- Si surface relief, 3D cellular struct. formed by picosec. light pulse irrad. 7–32772
- Si, swirl defects formation 7–51753
- Si, thermodynamic props., data tables and reviews 7–18512
- Si thin film, laser-irradiated melt morphology and order-disorder transitions studies 7–44614
- Si:Bi, solute trapping by lateral motion of $\{111\}$ ledges 7–44592
- Si:Cu, ion implantation-amorphised, direct imaging of pulsed laser-induced buried molten layers 7–12130
- Si:In, nucleation of internal melt during pulsed laser irradiation 7–12129
- Si:P, pulsed laser annealing, molten phase local nucleation study 7–63655
- Si:P, pulsed laser processing via free carrier absorpt. 7–21273
- Sn-Bi alloy, heterogeneous, fusion kinetics 7–3280
- SnTe, solid and liquid states, electrophysical props. 7–52654
- Te crystalline thin films, laser-induced transform., transient conductance and optical meas. 7–12142
- TeO_x films, nanosecond pulsed laser-induced segregation 7–44610
- Ti alloy ingot preparation, thermal plasma arc melting 7–27968
- U, vacancy formation and phase transformations, positron annihilation studies 7–39248
- Xe adsorbed on graphite, thermodynamics of first-order and continuous melting 7–2358
- Zn, fusion reactor first wall behaviour after plasma disruption, electron beam expt. 7–62068

melting point

- actinide metals, preparation and physical props. 7–17778
- alloys, self-diffusion and melting point 7–21507
- binary alloys, melting point trends and elemental variables correls. 7–63775
- bisphenol A polycarbonate crystals, melting point rel. to vapour induced crystallisation and annealing treatment 7–32312
- 4-cyanophenyl-trans-4-((trans-4-n-butylcyclohexyl)methyl)-cyclohexanoate, nematogenic, cryst. struct., X-ray diffr., conformational anal. 7–2006
- 4,4′-di-n-alkoxy-2-hydroxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7–1866
- 4,4′-di-n-alkoxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7–1866
- 1-difluoronitroacetyl-2,2-dimethylhydrazine, cryst. and mol. struct., X-ray diffr. anal. 7–26735
- 1,1- diphenylethanol, cryst. struct. 7–12057
- α-ethoxyacrolein semicarbazone, cryst. and mol. struct., X-ray diffr. 7–26734
- ice, pure and doped, US absorpt., dislocation damping 7–26756
- insulators, Schottky defect form. enthalpy-Debye temp. correl. study 7–26742

melting point continued

- liquid metals approximate struct. theory, hot cryst. vacancy form. energy calcs. 7–63421
- metal particles, size-dependent melting points 7–44771
- metals, low-melting, microhardness 7–22797
- metals with close-packed structure, solid-liq. phase transitions, atomic processes 7–52012
- poly(vinylidene fluoride)-poly(ethyl acrylate) blends, phase diagram and morphology 7–63538
- polyaryl ether ketone blends, isomorphic behaviour, miscibility, glass transition and melting temps. 7–44416
- thin films, phase transition temp., thickness depend., thermodynamic theory, appl. to Au 7–26922
- transition metals, liquid and solid, thermal diffusivity and thermal conductivity meas. *(Russian)* 7–2567
- 1,3,5- trimethylbenzene, melting point meas., liq. self-diffusion study, hard-spheres method 7–52003
- Al-Mn icosahedral alloy form. by pulsed electron beam and laser beam surface melting 7–26924
- Al-Mn surface icosahedral phase form., ion beam mixing and interdiffusion 7–16653
- $AlCl_3$/1-butylpyridinium chloride electrolyte for Al-FeS_2 secondary cell, phys. and elec. characts. *(Japanese)* 7–8371
- Au/Al_2O_3, wettability of single crysts. between metal melting point and 1673 K *(French)* 7–63902
- Bi, solidification of undercooled liquid, nucleation, pressure effects 7–38169
- Cr-Ti-C system, existence of quasibinary section Cr-TiC 7–3288
- $CsH_{0.1}D_{0.9}AsO_4$, melting pt., phase diagram 7–21417
- Cu (II) complexes, bis (β-diketonato) and β-diketone ligands, double melting, mesomorphism, long chain substituent effect 7–1862
- Cu-Ni-P alloy, P addition effect on struct. and strength 7–53669
- Fe, high-press. melting curve, implications for temps. in Earth's outer core 7–23614
- Fe, phase diagram and Earth interior conditions 7–38179
- Fe, polymorphic forms stability, elastic consts. in 20 to 1470°C range, enthalpy of fusion rel. to self-diffusion activation energy 7–6781
- Fe solid and molten, X-ray Kα_1 and Kβ_1 lines *(Russian)* 7–39211
- Ga melting and triple points realisation, comparison of sealed cells 7–61333
- GaAs, semiinsulating, electrophysical props., dislocation effects 7–16557
- GaAs, superheating during picosecond laser melting 7–12246
- Hf-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7–28018
- Li_2O-SiO_2 glass, phase nucleation, melting temp. depend. 7–6549
- NaCl, Anderson-Gruneisen parameters, temp. variation 7–2137
- O_2 liquid, SRO, thermal and mag. props. *(Russian)* 7–32253
- Pd-Te, phase diagram, DTA, X-ray powder diffr. studies 7–39483
- $Si_{50}Ge_{50}$, model alloy system, liquid-solid interface dynamics, rapid solidification 7–6761
- Si_xTe_{100-x} glasses, crystallisation, DSC studies 7–6542
- Sn/Al_2O_3, wettability of single crysts. between metal melting point and 1673 K *(French)* 7–63902
- Sn-R binary systems (R=La, Nd, Gd, Er, Lu), phase diagrams and equilib. 7–7961
- Tc-C system, phase diagram and components activity 7–7962
- Ti-Mo(W)-N, phase equilibria between high melting nitrides and refractory binder metals 7–28018
- Tl_xSe_{100-x} glasses, glass transition, melting, recrystallisation, elec. transport 7–64246
- V-N system, phase equilib., crystallography, thermodynamic props. 7–28011
- (1-x)V_2O_5-xPbO, phase diagram in V_2O_5-rich region *(French)* 7–12265
- Zr-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7–28018
- Zr_5Pb_3, fusion blanket neutron multiplier, fabrication and props. 7–49656

membranes

- *see also biomembranes; lipid bilayers; osmosis*
- absorbed polyelectrolytes, effect on convective flow and diffusion in porous membranes 7–11536
- annular membranes, large deformations under vertical edge loads 7–6107
- basal membranes, diffusion of organic cpds., continuous radioactivity method meas. *(French)* 7–65345
- bilayer, double-chain amphiphiles, phase transitions, DSC obs. 7–54496
- bilayer, single- and triple-chain amphiphiles, phase transitions, DSC obs. 7–54497
- bilayer membranes, phospholipid order, benzyl alcohol effects 7–10619
- cellulose acetate, membranes, osmosedimentation, performance, morphology 7–13816
- cellulose acetate hollow-fibre membranes, ZnTPP modified, photosensitivity and photosynthesis 7–13811
- cellulose acetate membranes, struct., kinetic and thermodynamic parameters 7–54172
- cellulose membrane, permeation of tartrazine 7–6881
- circular, nonlinear nonsymm. forced oscill. 7–26191
- cylindrical, asymmetrically loaded, stability and large deformation behaviour 7–11306
- cylindrical, unsymmetric solns. 7–37339
- deformation under creep conditions 7–1449
- diffusion under strain, thermodynamics 7–44886
- dilute adsorbable gases, heat of transport through pores, pore struct. form. 7–54175
- elastic, with rigid inclusion, finite deform. 7–57692
- elastic and flow mechanics for membrane spargers 7–31877
- electrodialysis, internal heat sources effects 7–13802
- electrolyte distribution inside and outside membrane, low freq. streaming pot. with overlap of diffusion layers 7–8291
- electroosmotic permeability of cellulose acetate membranes 7–54161
- emulsion liquid membrane, dicyclohexano-18-crown-6 mediated Tl^+ transport 7–13814
- ethylene-vinyl alcohol copolymers, ultrathin membranes, prep. and props. 7–54178
- fine-pore diffusion membrane, metal-covered, benzene isotopic mol. separation by laser illumination 7–15734
- flat membrane, transversely loaded, geometrically nonlinear analysis 7–6095
- fluctuation pressure between walls 7–3604
- hindered diffusion across a membrane 7–29943
- idealised spiral wound membrane module, fluid flow 7–6312
- interface response theory of discrete composite systems 7–38424

membranes continued
- ion exchange membrane water electrolysis, alkaline type, for H_2 energy storage 7–3727
- ion exchange membranes in organic salts, molar conductance, viscosity model 7–13801
- ion-selective membranes, with chelating agents, stoichiometry of current-carrying complexes 7–33955
- ionic mass transport through homogeneous membrane in uniform elec. field 7–54173
- liquid, macrocycle-mediated cation transport, halocarbon solvent effects 7–13813
- liquid-liquid extractions with microporous hollow fibers 7–54179
- low-porosity membranes, flexible, two-dimens. flow 7–16241
- metal, H permeation *(German)* 7–57971
- metal species, coupled transport through supported liq. membranes 7–54176
- microstructure characterization and bulk properties of disordered two-phase media 7–52068
- microstructure of organic mono- and multilayers 7–52296
- MK-40, with electrodeposited basic polyelectrolyte films, permselectivity 7–13803
- multilayer fluid membrane system in the lyotropic phase of quaternary microemulsion system, steric interactions 7–34116
- natural gas separation using supported liquid membranes 7–11526
- nonhomogeneous membrane, total mass transport 7–54180
- nonlinear elastic constitutive model, strain stiffening behaviour 7–13497
- nontransport properties of membranes determ., expt. methods 7–28336
- Nylon 6 membranes, decrystallised acrylic acid grafted, reverse osmosis, fine struct. 7–65346
- open pores, nonequilib. chemical pot. 7–23060
- ozone generation by membrane electrolysis for treating ultra-pure water 7–23024
- paper web tension profile meas. by contactless acoustic instrument 7–1336
- perfluorinated Nafion 120 membrane, NaCl transport, hydrated species interactions 7–33968
- perfluorosulfonated ionomer membranes, interpretation of small-angle X-ray and neutron scatt. 7–32310
- PET membranes, permeability and struct. in adsorpt.-active medium *(Russian)* 7–28347
- phospholipid membranes, multipulse dynamic NMR 7–17956
- poly 2-hydroxy ethyl methacrylate films, swollen membranes, phenylalanine solute diffusion 7–28343
- polycarbonate nucleopore membranes, $MgCl_2$ diffusion 7–3603
- polymer membranes, sorption meas. using quartz cryst. microbalance 7–54171
- polyoxy-2,6-dimethyl-1,4-phenylene, sulphonated, ultrafiltration membrane prep. 7–54174
- polypyrrole electronically conductive polymer, fibrillar/microporous morphology control 7–26667
- polyvinyltrimethyl silane, membrane, asymmetric, gas permeability, temp. depend. *(Russian)* 7–17822
- polyvinyltrimethylsilane membranes, modified by acrylonitrile, gas permeability and diffusion *(Russian)* 7–8301
- poly[bis(trifluoroethoxy)phosphazene] membranes, synthesis, casting, diffusion testing 7–13812
- pores generation, obs. and testing 7–298
- porous, charged, ionic transport, Goldman const. field assumption 7–39915
- PVC-poly(1,3-propylene phosphate) membrane, cond. percolation 7–33958
- rectangular, with degenerated modes, nonlinear forced oscills. 7–26190
- reverse osmosis desalination meas. and controls 7–28338
- semipermeable membranes, wetting regimes and interfacial phenomena 7–12407
- shell analysis using a simple flat hybrid stress element 7–16081
- stretched-membrane heliostat solar reflectors and concentrators 7–8363
- surfactant vesicles studied by positron annihilation 7–39268
- synthetic membranes, conf., Alcabideche, Portugal (June-July 1983) 7–24306
- technology, conf., Sun Valley, Idaho, USA (June 1985) 7–9580
- ternary electrolyte systems, diffusion pot. in simple porous membranes 7–54170
- thermodynamic transport processes in field of extremals, osmosis and reverse osmosis 7–17824
- transport process meas. techniques 7–28337
- ultrafiltration, membrane-solute interactions effects on pure solvent transfer 7–54177
- ultrafiltration, modelisation and structure modulus *(French)* 7–16245
- vesicle bilayer membranes, oxidation-reduction mechanisms 7–13810
- waste water treatment, energy-efficient membrane-based hybrid processes 7–13940
- water desalination by electrochemical membrane process *(German)* 7–13819
- water electrolyser for H_2 production, membrane electrolysis 7–23230
- $BaSO_4$, precipitation membranes, current-voltage curves 7–33967
- CO_2 removal by membrane lung at low blood flow, performance model 7–8772
- Ca^{2+}, ion-selective electrode, subnanomolar range detection limit 7–17833
- Cu^{2+}, detection in Nafion membranes, H_2O solvent and Zn^{2+} ratio effects, ESR spectra anal. 7–33268
- Pd membrane, diffusion of H_2, transport coeffs. and energetics 7–21533
- Ra, permeability studies, automated multisensor apparatus 7–6349

memories *see digital storage*

memory (physiological) *see brain; brain models; neural nets; neurophysiology*

memory devices *see digital storage*

mendelevium
- *see also nuclei with ......*
- No entries

mendelevium compounds
- No entries

menus *see user interfaces*

mercury (metal)
- *see also nuclei with ......*
- adsorption on W, field emission microscopy studies 7–32804
- Alai Range, USSR, mineral exposures and tectonic associations 7–8883
- Allende meteorite, Hg isotope ratios 7–55583
- arc discharge, high-pressure, heat transport obs. 7–21009

mercury (metal) continued
- arc plasmas, diagnostics of excitation nonequilibrium using self-reversed emission lines 7–51511
- atmosphere emissions from cement factory, influence on environment 7–40060
- atom, $6^1S_0 \rightarrow 6^3P_1$ transition isotope shift in UV absorpt. spectra 7–19770
- atom, electron impact ionisation efficiency curves, reson. struct. 7–5774
- atom, electron scatt., relativistic effects, Kohn-Sham theory 7–42765
- atom, in N_2 matrix, electronic-to-vibr. energy transfer and relax., fluoresc. 7–49992
- atom, in N_2-Kr matrix, electronic-to-vibr. energy transfer and relax., fluoresc. spectrum 7–49985
- atom, oscillator strengths and excitation energies, relativistic CI and MCRHF calcs. 7–50260
- atom, Stark broadening, line shift and width 7–50010
- atom, transitions, relativistic SCF calcs. 7–49979
- atom, two-photon excitation cross section, Hartree-Slater self-consistent calcs. 7–50042
- atom, valence energy and polarisability, semiempirical pseudopot. calcs. 7–56926
- atomic vapour, oscillator strength meas. by four-wave mixing 7–19773
- atoms, diffusion coeff. in Ar gas, interaction pot. determ. 7–6348
- atoms, elastic scatt. of electrons, spin polarisation meas. 7–50364
- atoms, low-energy electron elastic scatt. calcs. 7–50362
- clusters, form., atomic photon and electron impact ionisation, mass spectra study 7–50430
- clusters, photoionisation spectra, evolution, rel. to size 7–15769
- deposition and stripping props. on Ir electrodes 7–45058
- desorption, electron-stimulated, from $Cd_{0.2}Hg_{0.8}Te$ 7–17378
- discharge, low-press., excited state pop. mechanisms determ. using pulsed optical pumping 7–26557
- discharge, low-press., laser diagnostics 7–58085
- dispersion patterns around El Sid-Fawakhir Gold Mine, Eastern Desert, Egypt, stream sediments meas. 7–18148
- electrode, dropping type, coumarin adsorpt., $Cd^{2+}(In^{3+})$ reduction retardation 7–58609
- electrode, organic substance adsorpt., electromag.-radiation study 7–13805
- electrode-soln. interface, 2-anion simultaneous adsorpt., elec. double laser parameters algorithm 7–54132
- excited atoms, superelastic electron collisions, plasma prop. meas., plasma electron spectroscopy 7–20852
- film electrode, square wave voltammetry, theory 7–54204
- film flow in transverse nonuniform mag. field 7–26355
- film flow rivulet in nonuniform mag. field 7–26356
- Hg/H_2O, polarised interface, interfacial tension 7–27056
- high pressure decaying arc., spectroscopic temp. meas. 7–11809
- high-pressure discharge with NaI additives, model and diagnostics 7–1800
- injection into porous media, elec. resist. devil's staircase, fluid displacement kinetics and thermodynamics 7–44041
- laser, optical pumped with UHF excitation 7–36946
- liquid, thermodynamic stability and viscosity behaviour or melting curve 7–12247
- liquid-optical fibre interface, optoacoustic effect study 7–44698
- liquid-vapour interface, in-plane distrib. of atoms 7–52023
- low press. plasma, elec. double layers 7–1705
- metal-nonmetal transitions 7–2486
- molecule, $GO_u{}^+$ state vibr. anal., visible and UV fluoresc. spectra study 7–19933
- nonideal plasma, thermopower study 7–37645
- phase diagrams, appl. for online press. and temp. calibration 7–4853
- plasma, heavy ion plasma double layers, particle-in-cell simulations 7–31993
- plasma parameters, electronic device for taking probe current second derivative *(Czech)* 7–32080
- reflector geometry variation by immersed-electrode current *(Spanish)* 7–11095
- solid and liquid, high press. phase transitions, EMF pulse study *(Russian)* 7–2166
- spreading over surfaces with regular and random reliefs 7–6926
- static structure factor, neutron diffr. study and Monte Carlo simulation 7–37841
- UV spectra, isotopic shifts and hyperfine splittings 7–49987
- vapour, multiplet, spectral broadening, temp. depend. 7–42551
- vapour, nonresonant tripling and sum-frequency mixing 7–37028
- vapour, third harmonic generation, dressed-atom theory 7–50637
- Venice lagoon, sediment heavy metal pollution 7–60276
- water pollution monitoring instrument for continuous operation 7–65672
- water pollution of British estuaries 7–3732
- atom, electron elastic scatt., electron spin polarisation, electron spectra study 7–25651
- CsBr:Hg^{2+}, Hg^{2+} centres, electronic absorpt. spectrum 7–59229
- CsI:Hg^{2+}, Hg^{2+} centres, electronic absorpt. spectrum 7–59229
- Hg II trapped, two-photon optical spectra 7–10531
- Hg ion systems in glasses, luminescence under strong pulsed laser irrad. 7–33427
- Hg^+, Beutler spectral lines, electron impact excitation fn. 7–20056
- Hg^+, electron impact cross sections of spectral lines and excited states 7–25659
- Hg^+, electron impact ionisation, absolute cross-section meas. 7–25667
- Hg^{2+}, Beutler spectral lines, electron impact excitation fn. 7–20056
- Hg^{2+}, electron impact cross sections of spectral lines and excited states 7–25659
- Hg^{2+}, resonance fluorescence study, obs. of quantum jumps 7–10485
- Hg-Ar, low press. electrical discharge, isotope effects, hyperfine struct. 7–37786
- Hg-Ar complex, electronic states struct., pot. energy curves, visible fluoresc. spectra anal. 7–36631
- Hg-Ar discharge, degenerate four-wave mixing 7–5958
- Hg-Ar discharge, Hg 6^3P_1 and 6^1P_1 reson. level population study 7–57011
- Hg-Ar mixture, pulsed-periodic discharge plasma, optical characts. time depend. 7–37782
- Hg-Ar mixtures, electron energy distrib. functions meas. 7–21028
- Hg-Ar mixtures, in discharge, current variations and plasma parameters 7–21011
- Hg-Ar mixtures, in positive column, radius and plasma parameter variation 7–20956
- Hg-Tl high press. lamp arcs, partial press. determ. 7–26554
- Hg+Hg(Ar)(N_2), 6s6d and 6s7d states, collisional quenching 7–36730

mercury (metal) continued
$Hg+Hg(Ar)(N_2)$, excitation transfer between fine struct. states, fluoresc. spectroscopy 7−62504
$Hg+NH_3$, photosensitised reaction, complex form., luminesc. spectra 7−8256
Hg+Xe collisions, Hg radiative lifetimes and deactivation rate consts., mol. fluoresc. study 7−19752
Hg_3, excimer, laser-induced fluoresc. spectroscopy 7−938
Hg_3, superfluorescent laser action around 495 nm 7−15856
^{197}Hg, nuclear isomer separation, for gamma-ray laser 7−10091
^{199}Hg, optically pumped, limits on spatial anisotropy 7−49991
^{201}Hg, optically pumped, limits on spatial anisotropy 7−49991
InI-Hg arc, high-press., spectroscopic studies 7−44278
InP:Hg ion implanted at 200°C, rapid thermal annealing, carrier conc. and mobility 7−32469
InP:Ti, Hg, semi-insulating, impurity electron state compensation mechanism, SIMS, SSMS, EPR and Hall effect meas. 7−64164
Si:Hg, self-consistent one-electron states of 5d transition-atom impurities 7−32950
$Si:Hg^+$, ion implant range distributions, Rutherford backscatt. studies 7−2073
$Si\text{-}Ar:Hg^+$, ion implant range distributions, Rutherford backscatt. studies 7−2073
SiH_4+Hg, SiH_4 decomposition by $Hg(6^3P_1)$ photosensitisation 7−54149
SiO_2:Hg films, Hg-sensitized photo-CVD, X-ray fluorescence anal. 7−17440

Mercury (planet)
dust on surface, transport due to electrostatic charging 7−40730
heat conduction, temp. profile and radial deform. for elastic planetary interior 7−23592
Jupiter as source of electrons for Mercury magnetosphere 7−9391
magnetosphere, electron bursts observed by Mariner 10 spacecraft 7−9393
magnetosphere, energetic particles impulsive accel. and transport 7−9392
magnetosphere electron bursts originating from Jupiter 7−9391
satellites of Mercury and Venus, limiting direct and retrograde orbits 7−24035
K abundance in atmosphere of Mercury, determ. from spectroscopic obs. 7−24036
Na atmosphere, nature and variability 7−24038
Na sputtering from planetary surface, contrib. to Na atmosphere 7−24037

mercury alloys
see also mercury compounds
Cd-Hg, ω-phase lattice parameters, influence of temp. and press. *(Russian)* 7−51704
$Cd_{1-x}Hg_x$ alloys, electronic structure dependence on crystal lattice parameters 7−45141
Hg-Au, core holes, final-state screening, total energy calcs. 7−2526
Hg-Cs, liq. alloy, molar mag. susceptibility, temp. depend 7−7494
Hg-In, liq., mag. susceptibility, conc. and temp. depend. 7−27492
Hg-In liquid alloys, vol. and thermal expansion coeffs., higher-order correlation effects 7−12328
Hg-K alloys, viscosity, exptl. meas. at 320°C 7−21503
Hg-Na, liq., mag. susceptibility, conc. and temp. depend. 7−27492
Hg-Sn liquid alloys, vol. and thermal expansion coeffs., higher-order correlation effects 7−12328
Hg-Tl, liq. alloy, molar mag. susceptibility, temp. depend 7−7494
Hg−In liquid alloys, volume, thermal expansion coeff. 7−56227
Hg−Sn liquid alloys, volume, thermal expansion coeff. 7−56227
Mg-Ga liquid alloys, Hall effect, meas. 7−32991
$MnHg_{1-x}Au_x$, cubic to orthorhombic transition and mag. suscept. meas. 7−52037
Pb-Bi-Hg, liq., struct. microheterogeneity 7−11895
Sn-Bi-Hg, liq., struct. microheterogeneity 7−11895
Th_2Hg, intermediate phase in Th-Hg system, synthesis, struct., X-ray diffr. study 7−37911

mercury compounds
see also mercury alloys
additives to rad. waste to decrease ^{129}I levels 7−19537
$Hg_{1-x}Mn_xTe$-HgTe dilute mag. semicond. superlattices, MBE growth and props. 7−13357
intercalation compound with graphite, $KHgC_4$ and $KHgC_8$, valence bands, XPS studies 7−16932
Ag_2HgI_4, thermochromic phase transition, Raman and optical absorption studies 7−7680
$Ag_8HgS_2I_6$, superionic cpd., electrical and mechanical relax. 7−44900
Cd-Hg-Te phase diagram, numerical descriptions, review 7−26913
CdHgTe detector, CO_2 laser detection appl. 7−5915
CdHgTe focal plane arrays, sampling effects reduction 7−30090
(CdHg)Te, LPE growth, use of in-situ wash melts 7−59466
CdHgTe, optical nonlinearities and bistability 7−57435
CdHgTe photodetectors for infrared measuring techniques *(Russian)* 7−4889
$Cd_{0.2}Hg_{0.8}Te$, electron stimulated desorption of Hg 7−17378
$Cd_{0.2}Hg_{0.8}Te$, galvanomagnetic props., effect of US treatment 7−38593
$Cd_{0.2}Hg_{0.8}Te$ surface, electron-stimulated processes 7−13279
$Cd_{0.23}Hg_{0.77}Te$, time-resolved self-defocusing 7−43267
$Cd_{0.27}Hg_{0.73}Te:B^+$, ion implanted, photoreflection spectra in the edge absorption region 7−39099
$Cd_{1-x}Hg_xTe$ crysts., impurity band elec. conduction, Fermi glass model anal. 7−27328
$Cd_{1-x}Hg_xTe$ IR heterodyne detectors, intermediate temp. operation 7−35594
n-$Cd_xHg_{1-x}Te$, doped and undoped, minority-carrier lifetime 7−21932
$Cd_xHg_{1-x}Te$, abrupt interfaces using thermal and photo-MOVPE, Hall meas. 7−27917
$Cd_xHg_{1-x}Te$, band gap collapse, effects of Hg 5d electrons 7−64075
$Cd_xHg_{1-x}Te$, Bridgman growth using Accelerated Crucible Rotation Technique 7−46307
p-$Cd_xHg_{1-x}Te$, doped and undoped, minority carrier lifetime 7−45353
$Cd_xHg_{1-x}Te$, galvanomag. props. after metal-insulator transition 7−52655
$Cd_xHg_{1-x}Te$ heterostructures, MOVPE, computer controlled reactor, charactn. 7−59446
$Cd_xHg_{1-x}Te$, LPE and MOVPE grown, elec. props. and annealing 7−53512
$Cd_xHg_{1-x}Te$ layers, MOVPE, CdTe substrate orientation effect, RHEED, SEM obs. 7−59447
$Cd_xHg_{1-x}Te$ MOVPE growth on CdTe/sapphire substrate 7−27918

mercury compounds continued
$Cd_xHg_{1-x}Te$ MOVPE layers, elec. props. and Hall effect behaviour 7−27444
$Cd_xHg_{1-x}Te$, p-type, minority carrier exclusion 7−64242
$Cd_xHg_{1-x}Te$, photo-epitaxy, free radical mechanism 7−53612
n-$Cd_xHg_{1-x}Te$, single crystal, γ-irradiation, electrophysical props. in strong elec. field 7−7251
Cs_2HgBr_4, phase transitions, microwave permitt. meas. 7−2184
Cu_2HgI_4, order-disorder transition, differential scanning calorimetry, high-press. phase diagrams 7−58463
Hg chalcogenides of form $Hg_3X_2Y_2$, phys. characts. review *(Russian)* 7−53254
Hg complex, with cis, syn, cis-dicyclohexyl-18-crown-6, cryst. struct. study 7−51713
$Hg_{3-\delta}AsF_6$ single crysts. bulk superconductivity, DC suscept. meas. 7−7438
$Hg_{3-\delta}AsF_6$, 1D BCS Hamiltonian 7−45558
$Hg_{3-\delta}AsF_6$, chain compound, paraconductivity, Sugiyama-Gutfreund-Weger model 7−52584
HgBr $B^2\Sigma_{1/2}{}^+\leftarrow X^2\Sigma_{1/2}{}^+$ band excitation in UV 7−19877
HgBr, excited state, charge transfer absorpt. spectrum 7−5761
HgBr laser, UV to green conversion 7−19877
HgBr photodissociation laser pumped by wide-band optical radiation 7−50548
$HgBr_2$ struct., GPED automatic background subtraction 7−15710
$Hg_{1-x}Cd(Mn)_xTe$, refractive index dispersion and two-mode refl. spectra behaviour calc. model *(Russian)* 7−45971
n-$Hg_{1-x-y}Cd_xMn_yTe$ high field magnetoresist. and magnetisation, Mn-Mn exchange interaction effects 7−12964
$Hg_{1-x-y}Cd_xMn_yTe$, Shubnikov-de Haas oscillations 7−21943
$Hg_{1-x}Cd_x(Mn_x)Te$/CdTe superlattices, twin faults, X-ray obs. 7−45036
$Hg_{1-x}Cd_xSe$, reson. Raman Scatt. meas. 7−7701
HgCdTe, 0^- giant oscillation near semimetal-semiconductor transition 7−64053
HgCdTe 32×32 CCD array for IR camera, for astronomy 7−60560
n-HgCdTe, acceptor densities, photo-Hall determ. 7−58836
HgCdTe, ambipolar diffusion and free carrier recombination studied by transient grating technique 7−12731
HgCdTe and HgTe-CdTe superlattices, IR photolum. by Fourier transform spectroscopy 7−46134
HgCdTe anodic oxide surface analysis by laser ionisation 7−13275
HgCdTe as IR sensor material, characts. *(Japanese)* 7−56339
HgCdTe, bulk melt growth and LPE, defect control 7−64940
HgCdTe, cryst. growth by travelling heater method 7−64892
HgCdTe, electrochemical and electrolyte electroreflectance studies 7−64607
HgCdTe, electronic struct., alloying effects, ETBM calc. method 7−64080
HgCdTe, epitaxial film, interdiffusion profiling, microreflection spectroscopy 7−53369
HgCdTe epitaxial layers and structures, characterisation of intentional dopants 7−12552
HgCdTe epitaxial layers, Hall effect and elec. resist. characterisation 7−64375
HgCdTe Fabry-Perot IR bistable devices, parameter optimisation 7−57396
HgCdTe focal plane array photodetectors, growth, performance and array fabrication 7−15001
HgCdTe, Hg-rich LPE growth using dipping furnace 7−64943
HgCdTe, high quality LPE on CdZnTe, IR detector anal. 7−64941
HgCdTe, homogenization, wetting elimination 7−38221
HgCdTe IR CCD coupling structure for space appls. 7−29309
HgCdTe IR detectors, epitaxial growth of CdZnTe substrate 7−64926
HgCdTe, IR nonlinear absorpt., dynamic Burstein-Moss effect *(Chinese)* 7−50615
HgCdTe IR photodetectors, magnetoresist. and cyclotron resonance characterisation 7−64054
HgCdTe in MIS struct., electroreflectance at 77K 7−13128
HgCdTe, LPE growth in multi-slice apparatus 7−64942
HgCdTe materials for infrared detectors, prep. techniques 7−64019
p-HgCdTe, minority carrier characterisation using light-modulated Hall effect 7−21934
HgCdTe, p-type, acceptor conc., IR reflectance studies 7−64600
HgCdTe photoconducting detector design for IR imaging 7−9900
HgCdTe, single cryst. growth by travelling heater method 7−64891
(HgCd)Te substrates for Ge overlayer growth, surface preparation effects 7−45037
HgCdTe: In, ion implanted, damage and rapid thermal annealing 7−63637
HgCdTe:B, bulk and thin film, resonant impurity levels, magnetotransport studies 7−64162
$HgCdTe:B^+$, ion implanted n^+p junction, lifetime and carrier conc. profile 7−45450
HgCdTe-CdZnTe heterojunctions, lattice matching 7−21717
$Hg_{0.75}Cd_{0.25}Te$-Cu interface form., effect of different cation-anion bond strengths 7−27149
$Hg_{0.78}Cd_{0.22}Te$, stoichiometry of anodic oxides, quantitative meas. 7−39782
p-$Hg_{0.78}Cd_{0.22}Te$:Sb LPE films, elec. props. 7−7426
$Hg_{0.79}Cd_{0.21}Te$, metal-insulator transition, mag. field induced, low temps. 7−45158
n-$Hg_{0.8}Cd_{0.2}Te$ accumulation layer electrons, tilted field cyclotron resonance 7−7591
n-$Hg_{0.8}Cd_{0.2}Te$, condensed electron system, heat capacity, comment 7−58503
$Hg_{0.8}Cd_{0.2}Te$, Hg vacancies, heat of form. determ. 7−37969
$Hg_{0.8}Cd_{0.2}Te$, low temp. hot electron energy relax. time in extreme quantum limit mag. fields 7−33035
n-$Hg_{0.8}Cd_{0.2}Te$, magnetic field-induced metal-insulator transition, threshold field electron density depend. 7−52427
$Hg_{0.8}Cd_{0.2}Te$:Cu, activation energy of Cu shallow acceptors 7−64153
$Hg_{1-x}Cd_xTe$ and related materials, far IR spectroscopy 7−39120
$Hg_{1-x}Cd_xTe$, pseudobinary melts, heat capacity, enthalpy of melting, thermal cond. 7−21477
$Hg_{1-x}Cd_xTe$ crystals, anodic oxide capped, thermal stability 7−65225
$Hg_{1-x}Cd_xTe$ crysts., lattice defect imaging, high resolution electron microscopy obs. 7−51769
$Hg_{1-x}Cd_xTe$, electron-irradiated, positron annihilation 7−38060
$Hg_{1-x}Cd_xTe$, epitaxial growth by low temp. metalorganic CVD 7−27911
$Hg_{1-x}Cd_xTe$ films, LPE using a semiclosed rotational boat 7−64937

mercury compounds continued
$Hg_{1-x}Cd_xTe$ films, organometallic epitaxial growth on CdTe and characterisation 7—22579
$Hg_{1-x}Cd_xTe$ heterojunctions, supersymmetry, band-inverting contact 7—52717
$Hg_{1-x}Cd_xTe$, low frequency absorption bands *(Chinese)* 7—39095
$Hg_{1-x}Cd_xTe$, MBE growth, crystallographic orientations and condensation coeffs. 7—3180
$Hg_{1-x}Cd_xTe$ MBE layers, plasma oxidation, oxide growth, comp. and surface struct. 7—54018
$Hg_{1-x}Cd_xTe$ optical waveguides, high band gap, for 10.6 μm 7—37157
$Hg_{1-x}Cd_xTe$, photochemical organometallic vapour phase epitaxy 7—27946
$Hg_{1-x}Cd_xTe$ resistors, Umklapp 1/f noise, Hooge parameter, relativistic correction 7—2649
$Hg_{1-x}Cd_xTe$, sputtered and cleaved surfaces, deposition of In and Al reactive metals, UPS study 7—33513
$Hg_{1-x}Cd_xTe$ surfaces, sputtered and cleaved, deposition of unreactive Au, UPS study 7—33514
$Hg_{1-x}Cd_xTe$ with metallic donor clusters, anomalous Hall effect below mag. field induced metal insulator transition 7—2485
$Hg_{1-x}Cd_xTe$, zero gap, acceptor levels 7—27287
$Hg_{1-x}Cd_xTe$:B, ion implanted, annealing, nature oxide encapsulation 7—2036
$Hg_{1-x}Cd_xTe$/Ag(Cu)(Al) interfaces, morphology, Hg bonding effects 7—7021
$Hg_{1-x}Cd_xTe$/CdTe superlattices, MBE growth and props. 7—53602
$Hg_{1-x}Cd_xTe$/Pt interface, overlayer-cation reaction, XPS, UPS and LEED studies 7—65349
$Hg_{1-x}Cd_xTe$-CdTe superlattice, MBE growth and props. 7—7345
$Hg_{1-x}Cd_xTe_{1-y}Se_y$, existence region of wurzite struct. 7—53709
HgCeTe thin film solar cells fabrication 7—23188
HgCl laser pumped by wide-band optical radiation emitting at 558 and 559 nm; 7—36955
HgCl photodissociation laser pumped by wide-band optical radiation 7—50548
Hg_2Cl_2, imperfect crystal, structural phase transition, elastic breakdown 7—2165
Hg_2Cl_2, photocatalytic props., O_2 photogeneration from water 7—54151
Hg_2Cl_2 thin films, morphology and growth on Hg surface, electron beam damage 7—59469
$HgCr_2Se_4$, ferromag. semiconductor, sp. ht. 7—45684
$HgCr_2Se_4$, magnetisation, temp. depend. 7—45629
$HgCr_2Se_4$ spinel magnetic semicond., electronic struct., elec. props., defects and ferromag. anisotropy 7—38857
$HgCr_2Se_4$, stoichiometry and phys. props. investig. 7—2218
$Hg_{1-x}Fe_xSe$, ionised resonant donor and acceptor superlattice form., screened Coulomb interaction, carrier scatt. effects 7—16981
$HgGa_2S_4$, absorpt. and freq. conversion efficiency 7—57465
$HgGa_2S_4$-$HgIn_2S_4$ system, new multinary layered compound 7—53516
$HgGa_2Se_4$, optical props. in fundamental absorption region 7—39065
$HgGa_2Se_4$, photocond., photoluminescence spectra, annealing and ion implantation effects 7—39152
$HgGa_2Se_4$, single cryst., deep levels, photocond. and photolum. spectra 7—7159
HgI photodissociation laser pumped by wide-band optical radiation 7—50548
HgI, UV spectra, rot. struct., vibr. parameters 7—50163
HgI/HgI_2 laser at 442, 443, 444 nm with wide-band optical pumping 7—25806
HgI_2 cryst., photoelec. props. study 7—17049
HgI_2 crystals, AC photoconductivity, temp. depend. 7—64278
β-HgI_2 crystals, phonon spectrum and vibr. mode symmetry, first-order Raman scatt. *(Russian)* 7—3056
α-HgI_2 crystals, recent progress in material characterization for X- and γ-ray detectors 7—44577
HgI_2 detector, electrical characteristics 7—49838
HgI_2, detector material, applications 7—45307
HgI_2, evaporation studies and phase stability 7—52025
HgI_2, red, layered cryst., Raman scatt. intensities and atomic bonding 7—22257
red-HgI_2, resonant inverse Raman scattering 7—7702
HgI_2 single cryst. growth new technique 7—53562
HgI_2 single crysts., photoconduction, carrier surface generation and recombination 7—33045
HgI_2 solution-grown crystals, X-ray and γ-ray irrad. effect on elec. props., radiation detector performance 7—58838
$HgI_2(Br_2)(Cl_2)$-$AgPO_3$ glasses, struct. and elec. props., Raman spectra and ionic cond. meas. 7—6550
$HgIn_2Te_4$, props. in mid-IR 7—37061
$HgKP_3O_9$, cryst. struct. determ. 7—1955
$Hg_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7—7497
$Hg_{1-x}Mn_xSe$, zero gap semimag. semiconductor, inversion asymmetry spin level splitting 7—58784
$Hg_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7—7497
$Hg_{1-x}Mn_xTe$, Hall coeff., magnetoresist. meas., exchange interaction, field, temp. effects 7—64270
p-$Hg_{1-x}Mn_xTe$, highly doped, ground state of shallow acceptor 7—7167
$Hg_{1-x}Mn_xTe$ LPE crystals, magnetophonon reson. recomb. with phonon emission 7—63755
$Hg_{1-x}Mn_xTe$, magnetoresist. meas., effect of valence band spectrum quantisation at low temps. 7—52653
$Hg_{1-x}Mn_xTe$, semimag. semicond., magneto-optical study of spin freezing 7—7678
$Hg_{1-x}Mn_xTe$, spontaneous Hall effect studies 7—45360
$Hg(NH_4)_2Na_2(P_3O_9)_2$, cryst. struct. determ. 7—1956
HgO, core levels and valence band electronic struct. spin-orbit splitting, XPS and UPS studies 7—13330
$Hg_kPb_{1-k}Se(Te)$, quasiternary system, quasibinary phase diagrams 7—38172
α-HgS:Tl single cryst., elec. relax. current 7—64241
HgS-Ga_2S_3, phase diagram, incongruently melting compounds 7—13436
Hg_3S_2Cl, dielec. parameters and mag. susceptibility *(Russian)* 7—53254
a-HgSe films, elec. conductivity, thermoelectric power, optical absorpt. 7—22050
HgSe, plastic deformation 7—21331
HgTe, d-core transitions, reflectivity spectra 7—53364
HgTe, electron-irradiated, positron annihilation 7—38060
HgTe films, deposition by photolysis of (t-butyl)HgTe(t-butyl) 7—3197

mercury compounds continued
HgTe/ZnTe, isothermal interdiffusion expts. 7—52152
HgTe-based solid solns., low temp. electron mobility, resonance scatt. 7—38558
HgTe-CdTe as IR sensor material, characts. *(Japanese)* 7—56339
HgTe-CdTe superlattices, cut-off wavelengths meas. 7—3030
HgTe-CdTe superlattice, MBE growth and props. 7—7345
HgTe-CdTe superlattices, growth of GaAs (100) substrates by MBE 7—12520
HgTe-CdTe superlattices, present status, props. and applications *(Japanese)* 7—12829
HgTe-CdTe superlattice, semimetallic, band structure calc. 7—12851
HgTe-CdTe superlattice, IR magnetooptics and band struct. 7—13138
HgTe-CdTe superlattice, alloying, far IR study 7—13143
HgTe-CdTe superlattices, IR optical props. 7—13166
HgTe-CdTe superlattices, IR photoluminesc. spectra 7—13219
HgTe-CdTe superlattices, struct. characterisation 7—27164
HgTe-CdTe superlattices, electronic props., calc. methods 7—27406
p-HgTe-CdTe superlattices, magnetotransport props. 7—33076
HgTe-CdTe superlattices grown on lattice-mismatched GaAs substrates 7—52341
HgTe-CdTe superlattices, band struct., optical and magneto-optical studies 7—64337
HgTe-CdTe superlattices, IR material characterisation, transport phenomena anal. 7—64338
HgTe-EuTe system, interactivity 7—6801
HgTe-$Hg_{1-x}Cd_xTe$ double barrier, single quantum well heterostructures, resonant tunnelling 7—33068
HgTe-$Hg_{1-x}Cd_xTe$ heterojunctions, hole Hall mobility enhancement 7—33077
HgTe-ZnTe superlattice, MBE growth and props. 7—7345
$Hg_3Te_2Cl_2$, dielec. parameters and mag. susceptibility *(Russian)* 7—53254
HgZnTe as IR sensor material characts. *(Japanese)* 7—56339
HgZnTe bulk crystals, travelling heater method growth and charactn. 7—59387
HgZnTe, electrochemical and electrolyte electroreflectance studies 7—64607
$Hg_{1-x}Zn_xTe$ solid solns. band gap, temp. and comp. depend. 7—58738
KHg-graphite intercalation cpd., supercond. props., density of states model 7—27457
$K_2Hg(CN)_4$, cryst. struct. and phase transition 7—26933
$Zn_xHg_{1-x}Se$, electrophysical props. and carrier scatt. mechanisms 7—17024
$Zn_xHg_{1-x}Se$, far IR spectra study 7—22262

mercury lamps *see mercury vapour lamps*

mercury vapour lamps
Hg-Tl high press. lamp arcs, partial press. determ. 7—26554

MESFET *see Schottky gate field effect transistors*

mesic atoms
eta-mesic nucleus expt. signature for (π^+, p) reactions 7—31190
pionic atoms, anomalous strong interaction effects, Kemmer-Duffin-Petiau equation 7—50422
pionic atoms, formation and decay, collisional processes and Coulomb capture 7—5790
pionic atoms, Kemmer-Duffin-Petiau equation approach 7—50421
π^-p atom, accuracy of Deser-Goldberger-Baumann-Thirring formula 7—56608
H, kaonic, coupled channels problem soln. 7—5789
H, kaonic, Klein-Gordon eqn. with phenomenological pots. 7—42794
He, antikaonic, evidence for narrow nucl. $\bar{K}\alpha$ bound state 7—5788
He, kaonic, coupled channels problem soln. 7—5789
Na, pionic atom, 2p-1s transition width and energy 7—62544

mesic molecules
mesomolecular complexes, quasistationary state decay widths, perturbative calcs. 7—5794

mesomorphic state *see liquid crystals*

meson absorption
pion absorption in nuclei, review 7—56704
π absorption on diprotons, correct soln. from ($\vec{p}$,π^-) anal. power 7—61923
$^4He(\pi^-$,d), fast d prod., cluster model anal. 7—49472

meson-baryon interactions
see also kaon-baryon interactions; meson-baryon scattering; pion-baryon interactions
reaction amplitude, calcs. using hadron field theory 7—35670
$\Omega^- p \rightarrow \pi^+ \Omega^- n$, cross section calcs. using Bethe-Salpeter wave function *(Chinese)* 7—24776
ρ^0N in $^{12}C(\pi^-, \rho^0)$, 5 GeV/c, total cross section meas. for polarized/unpolarized ρ^0 7—5106

meson-baryon scattering
see also kaon-baryon scattering; meson-baryon interactions; pion-baryon scattering
Skyrme model results using chiral Lagrangian 7—41576

meson capture
see also mesic atoms; mesic molecules; radioactivity
No entries

meson decay
see also kaon decay; meson hadronic decay; meson leptonic decay; pion decay
bottom hadrons, mean lifetime determ. 7—56539
chromoelectric flux-tube breaking 7—41742
heavy quark meson decay constant calcs., nonrelativistic QCD potential model anal. 7—10054
light mesons, strong decays of radial excitations, relativistic model 7—19107
quarkonia decay, new quarks and neutrino counting below the Z threshold 7—35784
quarkonium→ggg, gggg, colour factor weight calcs., QCD anal. 7—56519
vector meson radiative decay in lattice QCD 7—35879
$A_2 \rightarrow \gamma\gamma$, radiative width meas. from $e^+e^- \rightarrow e^+e^-A_2(1320)$ 7—526
$B \rightarrow \gamma X$, helicity suppression and colour thaw problem 7—61590
$B \rightarrow Kl^+l^-$, rate and CP-nonconservation asymmetry, standard model calcs. 7—514
$B \rightarrow Kl^+l^-$, rates and CP violation, fourth-generation standard model anal. 7—19099
B meson, rare decay modes 7—514
B meson decay, mixing matrix and CP-violating phenomena 7—476
B meson exclusive decays, CP violation, phenomenology 7—41656
B meson semileptonic decay, $B^0\bar{B}^0$ mixing and lifetime ratio limits determ. 7—41789

meson decay continued
D meson exclusive decays, CP violation, phenomenology 7−41656
D^- lifetime meas. from e^+e^-, 29 GeV 7−19098
D^0 lifetime meas. from e^+e^-, 29 GeV 7−19098
$\eta(\nu\bar{\nu}) \rightarrow ZH$ from $gg \rightarrow \eta(\nu\bar{\nu})$, cross section calcs., fourth generation quarks 7−10082
$\eta\rightarrow\gamma\gamma$, meson-quark coupling constants, one-loop quark model 7−61695
$\iota\rightarrow\gamma\gamma$, constraints due to topological susceptibility and chiral Ward identities 7−5097
$\hat{O}\rightarrow\gamma\zeta$, radiative decays of 1^- quarkonia to $O^\pm$, 1^+, $2^\pm$ states 7−525
$\psi\rightarrow$glueball+X, final state interaction anal. for glueball production 7−61768
$\psi\rightarrow\gamma H$, Higgs production, comparison with phenomenological limits for $K\rightarrow e\nu H$ and $\psi'\rightarrow\psi H$ 7−513
$\psi\rightarrow\gamma\theta$, helicity amplitudes, glueball picture of $\theta(1700)$ 7−41818
$tt\rightarrow\gamma H$, minimal and two-doublet Higgs prod., standard model 7−35762
$\bar{t}t\rightarrow ZH$, minimal and two-doublet Higgs prod., standard model 7−35762
$\Upsilon(1S)$, exotic decay modes search at ARGUS 7−24890
$V\rightarrow H^0\gamma$ radiative decay, relativistic effects calcs. 7−49094
$V(t\bar{t})\rightarrow\gamma$, investigation of weak neutral currents in $h_1h_2\rightarrow V(t\bar{t})X$ 7−5098
meson detection and measurement
K^- reemission from light emulsion nuclei 7−42398
NaI π^0 and η^0 detector, energy resolutions by Monte Carlo simulations 7−49816
Pb scintillation calorimeter for electron and pion detection, radiation damage props. 7−15451
meson-deuteron interactions
see also meson-deuteron scattering
$\pi d\rightarrow NN$, cross-section and polarisation meas. *(Russian)* 7−61736
$\pi d\rightarrow NN$, unified description of coupled system at intermediate energy 7−41837
$\pi d\rightarrow\pi d$, Pauli blocking effects in low-energy scatt. 7−49182
$\pi d\rightarrow\pi pn$, dibaryon state search in kinematically complete meas. 7−5120
meson-deuteron scattering
see also meson-deuteron interactions
$\pi\vec{d}$ elastic scattering, dynamical observables determ. for vector and tensor pol. targets 7−49368
$\pi d\rightarrow\pi d$, unified description of coupled system at intermediate energy 7−41837
$\pi^+\vec{d}$ elastic scatt., vector analyzing power meas. at 0.74 GeV/c 7−42076
meson effects
tissue equivalent phantom materials for negative pions 7−65850
meson electric moment
No entries
meson field theory
see also nuclear forces
Dirac sea effects on finite nuclei, rel. model anal 7−49253
exchange currents, functional treatment 7−61421
giant monopole and quadrupole states in the relativistic σ-ω model 7−61827
low energy meson action from QCD, extended Skyrme model, anomaly terms 7−5052
micrononcausal Euclidean wave functions assuming Yukawa type couplings 7−41596
model independent exchange current determ. in e^- scatt. and baryons as topological solitons 7−35743
Nambu-Jona-Lasinio model, phenomenological lagrangian for strong interactions 7−35799
nuclear matter, thermodynamic properties, anal using saturating chiral field theory, mean field theory calcs. 7−24948
nuclear matter effective interaction, Dirac-Brueckner HF/Brueckner HF calcs. 7−24938
nucleons, static interaction potential 7−61800
pion condensation in hot nuclear matter 7−24953
three nucleon forces 7−61801
three-body forces in Fadeev eqns., perturbation anal. 7−61807
Tucson-Melbourne force and nuclear problems 7−61805
Walecka and Friedberg-Lee field theory models, nonlinear coupled diff. eqn. soln. method 7−61444
N structure effects on meson exchange currents, constituent quark model, MIT bag model anal. 7−24845
NN interaction, parity and time-reversal violation in nuclei and atoms 7−30325
NN scattering lengths, charge dependence due to pion mass differences 7−19177
NNN force, anal. using Δ-isobar and pion degrees of freedom 7−61806
NNN system, minimum relativistic model 7−56617
NNN three-body force, derivation using πNN, πNNN system eqns. 7−61809
$pp\rightarrow n\Delta^{++}$, one-pion exchange model anal. of ${}^1H({}^3He,t\Delta^{++})$ 7−24988
(π^+,π^-), $\pi\Delta$ interaction as dominant reaction mechanism 7−25008
${}^3He(\gamma,2pn)$, three-nucleon force effects, meson exchange 7−61856
$\Lambda N\rightarrow NN$, nonmesonic hypernuclei decay, meson exchange anal. 7−41933
$NN(\bar{N}N)$ potentials, skyrmion-skyrmion interaction and meson exchange model 7−19129
meson hadronic decay
see also kaon hadronic decay
charmed meson nonresonant three body decays in chiral perturbation theory 7−10058
glueball, $0^{-+}\rightarrow$quarks, decay width calcs. 7−516
heavy quarkonia, hadronic decay mechanism 7−61667
$A_2\rightarrow\pi^+\pi^-\pi^0$, observation of $e^+e^-\rightarrow e^+e^-A_2(1320)$ 7−526
$B(\bar{B})\rightarrow D^{*\pm}n\pi$ (n=1, 2, 3), B meson reconstruction, branching ratios 7−61658
$B\rightarrow D^0X$, D^+X, $D^{*+}X$, branching fraction meas. 7−61659
$B\rightarrow D^*(D)$, decay ratio calcs., quark model anal. 7−19097
$B\rightarrow K^{*0}(K^{*+})\gamma$, branching fraction upper limits 7−61655
$B\rightarrow K\pi$, ρK, ϕK, branching fraction upper limits 7−61655
$B\rightarrow\psi X$, inclusive branching ratio, momentum distribution 7−35862
$B\rightarrow\psi X$, leading logarithmic and α_s corrections 7−41793
B two-body decays, role in $\bar{p}p\rightarrow\bar{b}b\rightarrow\mu\mu X$ 7−15176
B-meson decays without charmed particles in the finalstate 7−517
$B^-\rightarrow FD^o(l^-\bar{\nu}D^o)$, l^-=e, μ, decay rate calcs. f_F, f_D decay constant determ. 7−61660
$B^0\rightarrow D^{*-}\pi^+$, branching ratio determ. 7−35859
B^0 decay, large CP violations 7−35863
$B^\pm\rightarrow D^0\bar{D}^0\pi^\pm$, CP violation anal. 7−61657
$B_c^-\rightarrow\rho^-\bar{D}^0$ (K^0F^-), partial decay rate asymmetries and CP violation 7−41792
B_s^0 meson rare decays, CP-odd effects 7−438
meson hadronic decay continued
$B_u^-\rightarrow F^-D^{0*}$ $(F^{-*}D^0)$, partial decay rate asymmetries and CP violation 7−41792
$\bar{c}c$ decay above $D\bar{D}$ threshold, OZI rule 7−24877
$\chi\rightarrow\psi\gamma$, mass, width, branching ratios from $\bar{p}p$ annihilation *(French)* 7−56542
$\chi_b\rightarrow\gamma\Upsilon(1S)$, branching ratio meas. 7−19102
D meson lifetime meas. in NA27 expt. 7−61662
$D\rightarrow$mesons, vacuum insertion and nonperturbative effects 7−10057
$D^0\rightarrow K^-\pi^+$, lifetime meas. 7−41795
$D^0\rightarrow K^-\pi^+\pi^-\pi^+$, lifetime meas. 7−41795
$D^0\rightarrow\bar{K}^0\phi$, branching ratio meas. 7−61661
$D^0\rightarrow\bar{K}^0\phi$, dynamical enhancement from current algebra, hard meson techniques 7−49136
$D^0\rightarrow K^+\pi^-$, search for wrong-sign decays 7−35860
D^0 lifetime meas. 7−19106
$D^0\rightarrow\phi\bar{K}^0$, anal. using algebraic method with hard-meson extrapolation 7−19103
D^0-$\bar{D}^0$ system, partial decay rate asymmetries, CP violation 7−35864
$D^+\rightarrow K^-\pi^+\pi^+$, lifetime meas. 7−41795
$D_s\rightarrow KK\pi$, mean lifetime and mass meas. 7−61656
$D_s\rightarrow\phi\pi^\pm$, lifetime meas. using TASSO 7−24882
$\delta(980)$, quark model existence, decay modes 7−10027
$\varepsilon(1300)\rightarrow\eta\eta$, partial decay width meas. 7−56541
$\eta\rightarrow 3\pi^0$, electromagnetic mixing calcs. in η' and η decay 7−19104
$\eta\rightarrow H^0X$, production mechanism, differential characteristics 7−41796
$\eta_c\rightarrow 00$, η_c search, branching ratio meas. in $\psi\rightarrow\gamma\eta_c$ 7−24878
$\eta'\rightarrow 3\pi^0$, electromagnetic mixing calcs. in η' and η decay 7−19104
$\eta'\rightarrow\eta\pi^0\pi^0$, electromagnetic mixing calcs. in η' and η decay 7−19104
$\eta'\rightarrow\eta\pi^0\pi^0\rightarrow 6\gamma$, radiative width meas. 7−61717
$\eta'\rightarrow\omega\gamma$, branching ratio meas. 7−61654
$f(1270)\rightarrow\eta\eta$, partial decay width meas. 7−56541
$F^+\rightarrow\pi^+\pi^0$, branching ratios and lifetime 7−35858
$F^+\rightarrow\pi^+\rho^0$, obs. level from D^+ decay 7−49136
$f'(1525)\rightarrow\eta\eta$, partial decay width meas. 7−56541
F^* charmed strange pseudovector meson, cascade radiative decay obs. 7−49137
$G(1590)\rightarrow\eta\eta$, decay measurements 7−56541
$h(2030)\rightarrow\eta\eta$, partial decay width meas. 7−56541
$\iota(146\phi)\rightarrow\gamma\gamma(0\gamma)$, radiative decays and SU(3) flavour structure 7−15161
J/ψ decays, rare phenomena, comparison of hadronic and radiative processes 7−61666
J/ψ hadronic decays, SU(3) violation 7−61664
J/ψ hadronic decays, SU(3) violation 7−61665
$M^0\rightarrow\eta\eta$, 1750 MeV narrow meson observation 7−35861
$\phi\rightarrow K^+K^-$, ϕK^+ spin-parity anal. in $K^+p\rightarrow\phi K^+p$, 13 GeV/c 7−554
$\phi\rightarrow\pi^+\pi^-\gamma$, rare decay mode anal. 7−5086
$\pi\rightarrow$hadrons, partial decay widths in QCD with coloured light scalars 7−19105
$\psi\rightarrow\eta\gamma(\eta'\gamma)$, gluonium content in phenomenological model with SU(3) breaking 7−19108
$\psi\rightarrow\gamma X$, MARK III results 7−41791
$\psi\rightarrow\gamma\eta_c$, $\eta_c\rightarrow\phi\phi$, η_c search, branching ratio meas. 7−24878
$\psi\rightarrow\gamma\phi\phi\rightarrow\gamma K^+K^-K^+K^-$, glueball search 7−24879
$\psi\rightarrow K^*K\pi$, MARK III results 7−41791
$\psi\rightarrow$mesons, tests for sequential-pair-creation mechanism 7−518
$\psi\rightarrow\rho\eta\pi$, MARK III results 7−41791
$\psi'\rightarrow$mesons, tests for sequential-pair-creation mechanism 7−518
$\psi'\rightarrow\psi H$, Higgs production phenomenological limits 7−513
$\rho\rightarrow\pi\gamma$, partial decay widths in QCD with coloured light scalars 7−19105
$\rho^-\rightarrow\pi^-\gamma$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
$\rho^-\rightarrow\pi^-\pi^0$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
$\Upsilon(1S)$, decay spectrum, α_s determ. 7−61663
$\Upsilon(2S)\rightarrow\gamma\chi_b$, $\chi_b\rightarrow\gamma\Upsilon(1S)\rightarrow e^+e^-$ $(\mu^+\mu^-)$, branching ratio meas. 7−19102
Υ (45)$\rightarrow B^0B^0$, $B^0\bar{B}^0$ mixing and lifetime ratio limits determ. 7−41789
$\Upsilon\rightarrow B^0\bar{B}^0$, local realism versus quantum non-separability, test 7−35325
Υ quarkonium physics, potential models, resonances, hadronic decays and B mesons 7−19101
$\Upsilon'\rightarrow\Upsilon\pi\pi$, 3S to 1^1P_1 transition, QCD multipole expansion 7−41797
$\Upsilon^*\rightarrow\pi^+\pi^-\Upsilon$, decay modes and branching fraction from 3S state 7−41794
$V\rightarrow p\gamma$, decay amplitude calcs., lattice QCD anal. 7−35801
$D^{*0}\rightarrow K^-\pi^+\gamma$, fragmentation function meas. 7−56561
$F^+\rightarrow\bar{K}'\phi K^+$, decay obs. using ARGUS, decay rates 7−24880

meson interactions *see meson-baryon interactions; meson-deuteron interactions; meson-meson interactions; meson-nucleus reactions*

meson leptonic decay
see also kaon leptonic decay
leptonic-decay and E1 transition rates, instantaneous BS eqn./confining force anal. 7−5053
light and heavy quarkonia, spin-depend. interactions, nonperturbative treatment 7−24876
scalar lattice QCD, hadron static props., form factors, charge radii, lepton widths 7−49080
$B\rightarrow e^+e^-$, $\mu^+\mu^-$, $\mu^\pm e^\mp$, branching fraction upper limits 7−61655
$B^-\rightarrow\bar{l}\,\bar{\nu}D^0(FD^o)$, l^-=e, μ, decay rate calcs. f_F, f_D decay constant determ. 7−61660
$\bar{b}b$, mass spectra, leptonic-decay and E1 transition rates, instantaneous BS eqn./confining force anal. 7−5053
$D \rightarrow \tau\nu_\tau(\mu\nu_\mu)$, branching ratios and ν_τ mass limits 7−24884
$F \rightarrow \tau v_\tau(\mu v_\mu)$, branching ratios and ν_τ mass limits 7−24884
$\pi\rightarrow 3e\nu$ rare and forbidden decays, review 7−56549
$\pi\rightarrow e\nu$, generation mixing for massive neutrinos 7−512
$\pi\rightarrow l\nu$, lepto-quark effects in E_6 superstring models, helicity unsuppressed amplitude anal. 7−61651
$\pi^0\rightarrow e^+e^-$, branching ratio two-photon processes, form factor 7−35855
$\pi^0\rightarrow e^+e^-$, constraints on axions 7−35854
$\pi^0\rightarrow e^+e^-$, importance of expt. cuts 7−19100
$\pi^0\rightarrow e^+e^-$ branching ratio meas. 7−49131
$\pi^0\rightarrow e\bar{e}\gamma$, form factor information 7−15145
$\pi^+\rightarrow ae^+\nu$, a=axion, branching ratio calc., chiral Lagrangian anal. 7−511
$\pi^+\rightarrow e^+e^-e^+\nu$, constraints on short-lived axions 7−511
$\pi^+\rightarrow e^+\nu\gamma$, axial vector to vector weak π^+ form factor meas. 7−10055
$\pi^+\rightarrow e^+\nu_e\gamma$, pion axial-vector to vector form factor ratio meas. 7−41802
$\Psi\rightarrow e^+e^-$, $R_2=\Gamma(\Upsilon\rightarrow e^+e^-)/\Gamma(\Psi\rightarrow e^+e^-)$ calcs. bound state quark model anal. 7−61582

meson leptonic decay continued
$\Upsilon \rightarrow e^+e^-$, $R_2=\Gamma(\Upsilon \rightarrow e^+e^-)/\Gamma(\Psi \rightarrow e^+e^-)$ calcs., bound state quark model anal. 7−61582
$D^+ \rightarrow \mu^+\nu_\mu$, $R_1=\Gamma(\eta_c \rightarrow \gamma\gamma)/\Gamma(D^+ \rightarrow \mu^+\nu_\mu)$ calcs. bound state quark model anal. 7−61582

meson magnetic moment
No entries

meson mass
0^{++} glueball mass calcs. from QCD sum rules 7−478
charmonium and bottomonium spectra, introductory physics course 7−18534
glueball (0^{++}), mass scaling, SU(N) Hamiltonian lattice calcs., Monte Carlo anal. 7−35807
glueball mass calcs., SU(2) lattice gauge theory with dynamical fermions 7−9959
glueball mass inequalities, QCD anal. 7−10029
glueball mass spectrum calculation by light-cone quantization *(Russian)* 7−61594
glueballs, tensor and scalar, mass calcs., in lattice gauge theory 7−61587
heavy hadrons, explicit mass formulas 7−35789
hybrid meson masses and spin interactions in QCD flux-tube model 7−61593
light and heavy quarkonia, spin-depend. interactions, nonperturbative treatment 7−24876
light quark meson mass spectrum, covariant oscillator quark model anal., inclusion of one-gluon-exchange effects 7−61546
lightest glueball mass in SU(2) and SU(3) gauge theories, lattice size depend. 7−41722
non-relativistic potential model for $q\bar{q}$ and $Q\bar{Q}$ systems, meson masses 7−61605
QCD, dynamical symmetry breaking and meson masses 7−24843
relativistic fermion-antifermion equation and a mass spectrum of mesons 7−41774
U(1) lattice gauge theory, 3D, meson mass calcs. in quenched approx. 7−15068
U(1) problem on a lattice, massless π^0 and massive η 7−48996
A_1 mass and props., implications from $\tau \rightarrow 3\pi\nu_\tau$ 7−49141
$\bar{c}c$ mass shift near deconfining temp., c-$\bar{c}$ potential model anal. 7−19077
$\chi \rightarrow \psi\gamma$, mass, width, branching ratios from $\bar{p}p$ annihilation *(French)* 7−56542
$D_s \rightarrow KK\pi$, mean lifetime and mass meas. 7−61656
$\delta(980)$, quark model existence, decay modes 7−10027
η^1 mass and topology in SU(3) lattice gauge theory 7−24783
η' mass in SU(3) lattice gauge theory, topology 7−429
f(1270), mass data review 7−56576
$K^+p \rightarrow \phi K^+p$, $\phi \rightarrow K^+K^-$, 13 GeV/c, ϕK^+ mass spectrum, spin-parity anal. 7−554
π-mass differences, charge dependent effects on NN scatt. lengths 7−19177
π^- mass determ. from ^{24}Mg pionic 4f-3d transition 7−596
π^+-π^0 mass difference and Weinberg sum rules, phenomenological anal. 7−41809
$\bar{q}q$, sum rule prediction for masses of $L \geq 1$ 7−35744
$qq \rightarrow qq$, $(q=u,d,s)$, low-energy amplitudes, meson masses, N/D dispersion method anal. 7−61549

meson-meson interactions
see also meson-meson scattering; pion-pion interactions
$\omega\eta$ resonance, evidence for four-quark states 7−15127
$\phi\pi^0$ resonance, evidence for four-quark states 7−15127

meson-meson scattering
see also meson-meson interactions; pion-pion scattering
πK scattering low energy meson physics in the superconducting quark model 7−35811

meson-nucleus reactions
for inelastic meson-nucleus scattering, see "meson-nucleus scattering"
see also kaon-nucleus reactions; meson-baryon interactions; meson capture; pion-nucleus reactions
flavour transfer reactions 7−49474

meson-nucleus scattering
see also kaon-nucleus scattering; meson-baryon scattering; pion-nucleus scattering
No entries

meson photoproduction
photon-hadron interactions involving tracer photon beams, multi-particle finite states 7−5101
(γ,K^+), relativistic bound state wave functions 7−42073
$\gamma d \rightarrow \pi^0 d$, 400-1000 MeV, coherent large angle photoprod. 7−531
$\gamma d \rightarrow \pi^0 np$ $(\pi^+ nn)$, threshold photoproduction in break-up reactions, cross sections 7−49162
$\gamma\gamma \rightarrow$ hadrons, data compilation, struct. functions, resonance widths, cross sections 7−14722
$\gamma N \rightarrow \psi X$, A dependence of ψ photoproduction for $E_\gamma=120$ GeV 7−35884
$\gamma\vec{p} \rightarrow p\pi^0$ 0.9-1.5 GeV, polarisation parameter meas. 7−61701
$\gamma p \rightarrow \pi^0 p$ 144.7-173 MeV, diff. cross section near threshold 7−49161
$\gamma\gamma \rightarrow K^+K^-\pi^+\pi^-$, vector meson prod., $\phi(1020)$ and $K^{*0}(890)$ signals 7−5136
$\gamma p \rightarrow p\pi^0$, 450 to 700 MeV, secondary proton polarisation *(Russian)* 7−15164

meson production
see also kaon production; meson photoproduction; pion production
hybrid mesons, $J^{PC}=1^{-+}$, $I=1$, exptl. constraints on production, vector dominance anal. 7−564
meson dynamics beyond the quark model, final state interactions, glueballs, CC anal. 7−24844
prompt meson production at large p_T 7−41707
$\bar{c}c$ decay above $D\bar{D}$ threshold, OZI rule 7−24877
$(\bar{d},X)$, X-mesons, baryons, quark-gluon phase transition and strangeness anal. 7−49390
D meson inclusive production, quark-gluon-string model 7−41750
$e^+ e^- \rightarrow X$, observation of scalar and tensor meson prod. at 29 GeV 7−19122
$e^+e^- \rightarrow$ mesons, $D°$-$\bar{D}°$ mixing signature 7−24894
e^+e^- annihilations, joint quarkonium and neutral Higgs boson production anal. 7−15168
$e^+e^- \rightarrow \bar{b}b$, forward-backward asymmetry, electroweak interference in new model 7−41824
$e^+e^- \rightarrow D^+$ $(D^0)X$, 29 GeV, lifetime meas. 7−19098
$e^+e^- \rightarrow D^*X$, cross-section, fragmentation function and forward-backward asymmetry 7−15167

meson production continued
$e^+e^- \rightarrow f(1270)X$, status on f-meson data 7−56576
$e^+e^- \rightarrow \pi^+\pi^-$, $2\pi^+2\pi^-$, $\pi^+\pi^-\pi^0\pi^0$, observation of $\rho'(1600)$ 7−61711
$e^+e^- \rightarrow Z^0 \rightarrow \bar{b}b,\bar{t}t$, unpolarized and polarized forward-backward asymmetries, properties 7−538
$\eta_c \rightarrow 00$, η_c search, branching ratio meas. in $\psi \rightarrow \gamma\eta_c$ 7−24878
$(\gamma,\psi X)$, rescaling of parton distribs. 7−61883
$\gamma\gamma$ annihilation, nondiffractive meson pair prod., perturbative QCD and resonance contribs. 7−41826
$\gamma\gamma \rightarrow D^{*\pm}X$, inclusive production, event rate and topology 7−61782
$\gamma\gamma \rightarrow \eta_c(2980)$, recent results on two-photon processes from DESY 7−61786
$\gamma p \rightarrow \pi^+\pi^-p$, $2\pi^+2\pi^-p$, $\pi^+\pi^-\pi^0\pi^0p$, observation of $\rho'(1600)$ 7−61711
$K^+d \rightarrow \eta X$, $\eta \rightarrow 2\gamma$, 10 GeV, differential cross section meas., quark-fusion model anal. 7−5124
$\mu N \rightarrow C\bar{C}X$, nonperturbative, $C\bar{C}$ component in quark fragmentation function 7−30273
$\mu p \rightarrow \omega X$, inclusive distribs. in deep inelastic interactions at 280 GeV/c 7−41862
$\mu p \rightarrow \rho^0 X$, inclusive distribs. in deep inelastic interactions at 280 GeV/c 7−41862
$NK \rightarrow \phi X$, joint hadron prod., parton model comparison 7−19143
$NK^\pm \rightarrow \phi X$, low p_T interactions, Lund model comparison 7−19142
$\bar{N}N \rightarrow 3$ mesons, quark rearrangement tests 7−49176
$N\bar{N} \rightarrow$ mesons, LEAR experiments 7−49166
$NN \rightarrow X$, isobar-width effects in the coupling of nucleon to isobarchannels 7−546
$Np(\bar{p}) \rightarrow \phi X$, joint hadron prod., parton model comparison 7−19143
$Np(\bar{p}) \rightarrow \phi X$, low p_T interactions, Lund model comparison 7−19142
$\bar{n}p \rightarrow X$, inclusive ρ^0 and f^0 cross-sections 7−10072
$N\pi^\pm \rightarrow \phi X$, low p_T interactions, Lund model comparison 7−19142
$(\bar{p},X)$, X-mesons, baryons, quark-gluon phase transition and strangeness anal. 7−49390
(p,X), X=hadrons, inclusive process, multiquark configurations in nuclei 7−61882
$\bar{p}(p)p \rightarrow f(1270)X$, status on f-meson data 7−56576
$pn \rightarrow p^0$, 25 GeV, anal. of particle-cluster production 7−56575
$\bar{p}p \rightarrow (q_H,\bar{q}_H)$, experimental method for heavy quark bound state formation, charmonium results 7−49189
$\bar{p}p$ annihilation, evidence for narrow S resonance at 1937 MeV 7−61756
$pp \rightarrow D(\bar{D})X$, inclusive cross-sections, comparison with fusion model 7−49191
$pp \rightarrow \eta X$, inclusive production at low transverse momentum 7−10081
$\bar{p}p \rightarrow f_1(1420)X$, spin-parity analysis 7−15170
$\bar{p}p \rightarrow$ meson+meson, quark rearrangement and annihilation models 7−49178
$pp \rightarrow pp\pi\pi(K\bar{K})$, coupled channel anal., I=0 scalar 7−61730
$\bar{p}p \rightarrow SX$, total cross-section 7−35909
$\phi\phi$, interpretation as four-quark states from π^-p and π^-Be interactions 7−41839
$\pi^+ \rightarrow \eta X$, 10.5 GeV/c, A-dependence of η inclusive production 7−30296
$\pi^+d \rightarrow \eta X$, 10.5 GeV/c, A-dependence of η inclusive production 7−30296
$\pi^+d \rightarrow \eta X$, $\eta \rightarrow 2\gamma$, 10 GeV, differential cross section meas., quark-fusion model anal. 7−5124
$\pi N \rightarrow \phi X$, joint hadron prod., parton model comparison 7−19143
$\pi N \rightarrow \rho N$, vector-meson prod., helicity-amplitude relations from skyrmion model 7−41838
$\pi^-N \rightarrow$ charmed mesons, search results 7−61765
$\pi^-N \rightarrow \rho^0 X$, 300 GeV/c, $p_T>2$ GeV/c, evidence for QCD higher twist mechanisms 7−61740
$\pi^+n_\uparrow \rightarrow \pi^+\pi^-p$, 6,12 GeV/c, spin dependence of $\rho°$ production 7−30293
$\pi^\pm N \rightarrow f(1270)X$, status on f-meson data 7−56576
$\pi^-p \rightarrow \eta^0\Delta^0(1232)$, 3.3 GeV/c, differential cross section and total cross section 7−35904
$\pi^-p \rightarrow \eta\pi^+\pi^-\eta$ isobar-model partial wave anal., pseudoscalar reson. detection 7−549
$\pi^-p \rightarrow Gn$, G(1590) existence and props. 7−61748
$\pi^-p \rightarrow \psi n$, 13.5 GeV/c, exclusive ψ search, cross section meas. 7−552
π^-p reaction, meson polarisation investig. 7−49181
$\pi^-p \rightarrow \rho^-p$, spin effects at high $P_\perp$ 7−30292
$\pi^+p \rightarrow (\eta^0, \omega^0)\Delta^{++}$, 16 GeV/c, helicity amplitude anal. 7−15173
$\pi^\pm p \rightarrow f(1270)X$, status on f-meson data 7−56576
$\psi \rightarrow$ mesons, tests for sequential-pair-creation mechanism 7−518
$\psi' \rightarrow$ mesons, tests for sequential-pair-creation mechanism 7−518
$\psi' \rightarrow \psi H$, Higgs production phenomenological limits 7−513
$Z^0 \rightarrow q\bar{q}\nu\bar{\nu}$, minimal standard model anal. 7−19120
$^{12}C(\pi^-,\rho^0)$, 5 GeV/c, total cross section meas. for $\rho^0 N$ interactions 7−5106
$\bar{p}p \rightarrow \gamma B$, narrow state search from monochromatic γ-rays 7−543
$\bar{p}p \rightarrow \pi°(\eta)(\gamma)X$, 24.3 GeV inclusive production cross sections 7−61779
$(\pi^+, \eta X)_0$ 10.5 GeV/c, A-dependence of η inclusive production 7−30296
$\pi^+\rho \rightarrow \rho^{\pm,0},\omega$, 250 GeV/c, inclusive cross section meas. 7−61755

meson resonances
see also D mesons; eta meson resonances; omega mesons; phi mesons; psi mesons; rho mesons; Upsilon meson resonances
0^{++} glueball mass calcs. from QCD sum rules 7−478
bottom hadrons, mean lifetime determ. 7−56539
charmonium and bottomonium spectra, introductory physics course 7−18534
Cyg X-3, cosmic glueballinos source, discussion 7−48105
Fermilab Antiproton Source, physics workshop report 7−49174
fermion guides, chiral symmetry spontaneous breakdown in QCD, pseudoscalar correl. functions 7−41727
glueball, $0^{-+} \rightarrow$ quarks, decay width calcs. 7−516
glueball (0^{++}), mass scaling, SU(N) Hamiltonian lattice calcs., Monte Carlo anal. 7−35807
glueball mass calcs., SU(2) lattice gauge theory with dynamical fermions 7−9959
glueball mass in SU(2), effect of dynamical quarks 7−61501
glueball mass inequalities, QCD anal. 7−10029
glueball mass spectrum calculation by light-cone quantization *(Russian)* 7−61594
glueball search, QCD spectroscopy beyond the quark model 7−56521
glueball search in $\psi \rightarrow \gamma\phi\phi \rightarrow \gamma K^+K^-K^+K^-$, spin-parity analysis 7−24879
glueball wave functional calcs. using lattice technique 7−61580
glueballs, tensor and scalar, mass calcs., in lattice gauge theory 7−61587
heavy narrow $Q\bar{Q}$ resonances, gluonic prod., parton cross sections 7−61585
heavy quarkonia, detection possibilities of gluon condensation 7−488
heavy quarkonia, hadronic decay mechanism 7−61667

meson resonances continued
- heavy quarkonia, QCD scale parameter 7−35809
- heavy quarkonia, relativistic corrections to mass spectra 7−19092
- heavy quarkonium systems, spin-dependent forces 7−61553
- hybrid mesons, $J^{PC}=1^{-+}$, $I=1$; exptl. constraints on production, vector dominance anal. 7−564
- large-N QCD, Eguchi-Kawai approach, deconfinement and glueball props. 7−61574
- lattice action sum rules, appl. to glueballs and static quark pots. 7−48959
- leptonic-decay and E1 transition rates, instantaneous BS eqn./confining force anal. 7−5053
- light and heavy quarkonia, spin-depend. interactions, nonperturbative treatment 7−24876
- light quark pair prod. in heavy quarkonia, pot. model study 7−41720
- meson dynamics beyond the quark model, final state interactions, glueballs, CC anal. 7−24844
- moment sum rule and meson spectroscopy in statistical model 7−15132
- observability of quarks 7−49077
- pseudoscalar lattice mesons, relative charge distribs. for $\bar{q}q$ pair 7−49072
- QCD_2 ($N_c\to\infty$), spectrum of states, low-energy theorems and sum rules 7−61595
- QCD flux tubes and glueballs, soliton interactions in gauge theories 7−5051
- QCD low-energy theorems for scalar gluonic currents between quarkonium states 7−10024
- QCD sum rules for exotic $\bar{q}qG$ states 7−41733
- quarkonia decay, new quarks and neutrino counting below the Z threshold 7−35784
- quarkonium, anal. as bound-state problem in momentum space 7−116
- quarkonium, Jost function and T-matrix derivation 7−61558
- quarkonium$\to$ggg, gggg, colour factor weight calcs., QCD anal. 7−56519
- quarkonium energy splittings in perturbative QCD 7−15126
- quarkonium fine structure in covariant harmonic-oscillator quark model 7−495
- quarkonium physics in the pot. approach 7−30238
- relativistic kinematics and hyperfine separation in light and heavy mesons, $\bar{q}q$ pot. 7−30252
- scalar glueball mass calc. in Friedberg-Lee soliton bag model 7−494
- scalar glueball mass estimate, pure gauge lattice QCD calcs., four-parameter improved action 7−487
- scalar gluonium, local duality constraints, Gauss-Weierstrass QCD sum rule anal. 7−489
- Skyrme model, recent developments in context of QCD, review 7−414
- technidilation from technicolour model, $\xi(2.23)$ resonance 7−15098
- tensor gluonium spectrum, QCD sum rules framework 7−19073
- toponium and QCD scale parameter $\Lambda_{\overline{MS}}$ 7−61787
- ultra-heavy quarks, prod. and decay props., quarkonia prod. in hh and e^+e^- 7−30242
- vector glueball, algebraic approach consistent with QCD 7−41743
- A_1 mass and props., implications from $\tau\to3\pi\nu_\tau$ 7−49141
- $A_2\to\pi^+\pi^-\pi^0$, observation of $e^+e^-\to e^+e^-A_2(1320)$ 7−526
- $B\to Kl^+l^-$, rate and CP-nonconservation asymmetry, standard model calcs. 7−514
- B meson, rare decay modes 7−514
- B meson decay, mixing matrix and CP-violating phenomena 7−476
- B meson exclusive decays, CP violation, phenomenology 7−41656
- B mesons, QCD probes of charge radii and possible sum rules 7−35805
- $B\to\psi X$, inclusive branching ratio, momentum distribution 7−35862
- $B\to\psi X$, leading logarithmic and α_s corrections 7−41793
- B^0 - $\bar{B}^0$ system, CP violation, left-right mixing, SUSY standard model comparisons 7−24805
- $B^0\to D^{*-}\pi^+$, branching ratio determ. 7−35859
- B^0 decay, large CP violations 7−35863
- B^0-$\bar{B}^0$, time-dependent CP violation effects 7−435
- $B_c^-\to\rho^-\bar{D}^0$ (K^0F^-), partial decay rate asymmetries and CP violation 7−41792
- B_s^0 meson rare decays, CP-odd effects 7−438
- $B_u^-\to F^-D^{0*}$ ($F^{-*}D^0$), partial decay rate asymmetries and CP violation 7−41792
- $\bar{b}b$, mass spectra, leptonic-decay and E1 transition rates, instantaneous BS eqn./confining force anal. 7−5053
- $\bar{c}c$ decay above $D\bar{D}$ threshold, OZI rule 7−24877
- $\bar{c}c$ mass shift near deconfining temp., c-$\bar{c}$ potential model anal. 7−19077
- $c\bar{c}$ states, radiative angular distribs. 7−15162
- $\chi\to\psi\gamma$, mass, width, branching ratios from $\bar{p}p$ annihilation *(French)* 7−56542
- $\chi_b\to\gamma\Upsilon(1S)$, branching ratio meas. 7−19102
- $\delta(980)$, quark model existence, decay modes 7−10027
- $e^+e^-\to tt$, polarization asymmetries, one-loop electroweak corrections 7−534
- $e^+e^-\to Z^0\to\bar{b}b,\bar{t}t$, unpolarized and polarized forward-backward asymmetries, properties 7−538
- $\varepsilon(1300)\to\eta\eta$, partial decay width meas. 7−56541
- η ($\nu\bar{\nu}$) $\to$ ZH from gg $\to\eta(\nu\bar{\nu})$, cross section calcs., fourth generation quarks 7−10082
- f(1270), mass data review 7−56576
- $f(1270)\to\eta\eta$, partial decay width meas. 7−56541
- $F^+\to\pi^+\pi^0$, branching ratios and lifetime 7−35858
- $f'(1525)\to\eta\eta$, partial decay width meas. 7−56541
- F* charmed strange pseudovector meson, cascade radiative decay obs. 7−49137
- $G(1590)\to\eta\eta$, decay measurements 7−56541
- g_T(2050-2350), glueball candidate, coupling const. estimate 7−41710
- $gg\to{}^{2S+1}L_Jg$, helicity amplitude formalism, cross-section formulae 7−61586
- $\gamma\gamma\to$ hadrons, data compilation, struct. functions, resonance widths, cross sections 7−14722
- H(1190) meson, polarisabilities, sum rules 7−10087
- $h(2030)\to\eta\eta$, partial decay width meas. 7−56541
- H′ meson investigation by QCD sum rule method 7−41751
- i(1440), production and decay processes involving pseudoscalar gluonium particles 7−41717
- $\iota(1440)$, contributions to QCD anomalous Ward identities 7−19071
- $\iota\to\gamma\gamma$, constraints due to topological susceptibility and chiral Ward identities 7−5097
- $M^0\to\eta\eta$, 1750 MeV narrow meson observation 7−35861
- $\bar{n}p$ interactions, total, annihilation cross sections, narrow state search 7−49173
- $\hat{O}\to\gamma\zeta$, radiative decays of 1^- quarkonia to $O^\pm$, 1^+, $2^\pm$ states 7−525
- $\bar{p}p\to(q_H\bar{q}_H)$, experimental method for heavy quark bound state formation, charmonium results 7−49189
- $\bar{p}p$ annihilation, evidence for narrow S resonance at 1937 MeV 7−61756
- $\bar{p}p\to\bar{b}b\to\mu\mu X$, secondary leptons in $\bar{b}b$ jets, B two-body decays 7−15176
- $\bar{p}p\to f_1(1420)X$, spin-parity analysis 7−15170
- $\bar{p}p\to$glueball+X, anal. of I=0 S-wave $\pi\pi$ and $K\bar{K}$ final states 7−61768
- $\bar{p}p\to K_LK_S(K_SK_S)(K^-K^+)$, baryon exchange model anal., cross sections, resonances 7−30287
- $\bar{p}p\to K_S\bar{K}_S$, proposed $\xi(2230)$ search expt. 7−49167
- $\bar{p}p\to$SX, total cross-section 7−35909
- $\phi\phi$, interpretation as four-quark states from π^-p and π^-Be interactions 7−41839
- $\pi^-p\to Gn$, G(1590) existence and props. 7−61748
- $\bar{q}q$, nonsingular potential calc., quasistatic approximation 7−61607
- $\bar{q}q$, sum rule prediction for masses of $L\geq1$ 7−35744
- $\bar{q}q$ and Lorentz nature of quark confinement 7−61560
- $q\bar{q}$ confinement pots., Hill determinant method 7−5043
- $\bar{t}t\to\gamma H$, minimal and two-doublet Higgs prod., standard model 7−35762
- $\bar{t}t$ resonance, one-loop electroweak radiative corrections 7−41819
- $\bar{t}t\to ZH$, minimal and two-doublet Higgs prod., standard model 7−35762
- Υ quarkonium physics, potential models, resonances, hadronic decays and B mesons 7−19101
- $V\to H^0\gamma$ radiative decay, relativistic effects calcs. 7−49094
- $V(t\bar{t})\to\gamma$, investigation of weak neutral currents in $h_1h_2\to V(t\bar{t})X$ 7−5098
- $\xi(2232)$, a $\Lambda\bar{\Lambda}$ bond state in quark pair creation model 7−41709
- $\zeta(1480)$, glueball candidate study 7−5061
- $F^+\to\bar{K}'\phi K^+$, decay obs. using ARGUS, decay rates 7−24880
- $\bar{p}p\to\gamma B$, narrow state search from monochromatic γ-rays 7−543

meson scattering *see meson-baryon scattering; meson-deuteron scattering; meson-meson scattering; meson-nucleus scattering*

meson spin and parity
- glueball search in $\psi\to\gamma\phi\phi\to\gamma K^+K^-K^+K^-$, spin-parity analysis 7−24879
- $K^+p\to\phi K^+p$, $\phi\to K^+K^-$, 13 GeV/c, ϕK^+ mass spectrum, spin-parity anal. 7−554
- $\pi p\to\pi p$, spin rotation parameter meas. 7−61734
- $\bar{\nu}N\to\rho^0$, tensor polarization meas. of ρ^0, charged current interaction 7−5083

mesonic atoms *see mesic atoms*

mesonic molecules *see mesic molecules*

mesons
- *for μ mesons see muons*
- *see also cosmic ray mesons; eta mesons; kaons; meson resonances; pions*
- σ model, chiral, meson analysis, coupling to GSW bosons 7−48995
- chiral bag model, meson contributions to moment of inertia 7−24847
- evolution of meson science in Japan, review 7−566
- ground state 1^{--} mesons, effects of asymptotic flavour symmetry, QCD anal. 7−49143
- heavy quark meson decay constant calcs., nonrelativistic QCD potential model anal. 7−10054
- light meson multiplet structure, semirelativistic model anal. 7−19076
- multiquark states, constituent quark models 7−41703
- pseudoscalar meson charge radii from QCD sum rules, SU(3) breaking 7−10033
- pseudoscalar meson electric form factor calcs. lattice QCD anal. 7−35801
- quark mass and spin effects in meson wave functions 7−41744
- structure, hyperfine interactions 7−56518
- tensor meson (2^{++}), quasi-free Bethe-Salpeter wave fn. calc. 7−48977
- $B\to D^0X$, D^+X, $D^{*+}X$, branching fraction meas. 7−61659
- $B\to D^*(D)$, decay ratio calcs., quark model anal. 7−19097
- $B\to e^+e^-$, $\mu^+\mu^-$, $\mu^\pm e^\mp$, branching fraction upper limits 7−61655
- $B\to\gamma X$, helicity suppression and colour thaw problem 7−61590
- $B\to K^{*0}(K^{*+})\gamma$, branching fraction upper limits 7−61655
- $B\to Kl^+l^-$, rates and CP violation, fourth-generation standard model anal. 7−19099
- $B\to K\mu^+\mu^-$, Ke^+e^-, branching fraction upper limits 7−61655
- $B\to K\pi$, ρK, ϕK, branching fraction upper limits 7−61655
- B meson semileptonic decay, $B^0\bar{B}^0$ mixing and lifetime ratio limits determ. 7−41789
- $B^-\to FD^0(l^-\bar{\nu}D^0)$, $l^-=e$, μ, decay rate calcs. f_F, f_D decay constant determ. 7−61660
- $e^+e^-\to e^+e^-\eta'$, radiative width meas. 7−61717
- $F\to\tau\nu_\tau(\mu\nu_\mu)$, branching ratios and ν_τ mass limits 7−24884
- $Q\bar{q}$ bound state, semi-relativistic theory 7−61545
- $V\to p\gamma$, decay amplitude calcs., lattice QCD anal. 7−35801

mesosphere
- 1984 spring processes 7−34616
- Antarctic springtime mesosphere, O_3 and NO_2 meas. by SAM II, SAGE and SAGE II 7−55161
- auroral zone mesosphere, radar obs. of negative-ion photodetachment at sunrise 7−66376
- baroclinic planetary modes in deep and shallowspherical atmospheric models *(Chinese)* 7−4077
- composition modelling for mid-latitudes 7−14402
- density fluctuations over Japan indicating gravity waves 7−40621
- dynamics and remote sensing of middle atmosphere, symposium, Prague (Aug. 1985) 7−40986
- dynamics of middle atmosphere over Saskatoon, 1981–2 spectral study 7−47586
- EHF limb sounding from Space Shuttle 7−40568
- El Chichon and "mystery cloud" aerosols in stratosphere and mesosphere 7−23803
- gravity wave effects under solstice conditions, simulation using 3-D circulation model 7−47597
- gravity wave motions in the upper middle atmosphere (60–110 km) 7−47587
- incoherent scatter radar probing 7−9211
- internal waves, radar observations and theory 7−40517
- internal waves, vertical propagation characts. near mesopause level 7−47601
- far IR radiative transfer, non-LTE model for far IR bands 7−23923
- far IR radiative transfer model for mesosphere, for CO_2, H_2O, N_2 and O_2 bands 7−23924
- IR spectroscopy from space, ATMOS expt. on Spacelab-3 7−55314
- low latitude atm., diurnal propagating tides 7−60436
- noctilucent clouds, observational props. rel. to behaviour of upper atmosphere 7−23925
- noctilucent clouds and fireballs, search for correlation 7−29437
- polar mesopause, large-amplitude semidiurnal temp. var. as evidence for pseudotides 7−34754
- polar mesospheric clouds, altitudes, SME obs. 7−60434

mesosphere continued
polar mesospheric clouds, existence regions calc. from zonally averaged model of middle atmosphere 7—47596
polar mesospheric clouds 7—9276
N polar region, temperatures of winter season mesopause and thermosphere 7—34755
radiance/temperature vars., Nimbus 6 PMR expt. meas. 7—47588
radiative heating and cooling rates 7—60337
response to solar activity oscills. (of period 27 and 13 days) 7—66369
simulation studies of tidal analysis using meteor echo returns 7—40623
SOUSY VHF radar measurements in the lower and middle atmosphere 7—23870
temperature and circulation vars. in middle and high latitudes 7—47590
temperature over Volgograd, search for solar cycle relationship 7—47599
temperature struct. changes due to solar cycle, at 44 to 77°E 7—34756
thermal structure of middle atmosphere, meas. in Eastern and Western Hemispheres over solar cycle 7—66375
tides for solstice conditions, numerical simulations 7—9277
turbulence, high-resolution obs. in lower and middle atmosphere by MU radar 7—47598
turbulence in middle atmosphere, obs. and meas. by VHF radar 7—4246
wind and temperatures of lower mesosphere 7—4248
wind and tide meas. determ. from meteors radar obs. 7—55341
wind measurements, results from middle and upper atmosphere radar 7—47561
winds correl. to mag. field var. 7—66370
winter polar vortex, simulation as material entity 7—47489
zonal and meridional winds, long term observations 7—47600
H_2O conc., airglow holes and small comet influx 7—40622
H_2O estimation determ. from D-region ion comp. data 7—60435
H_2O vapour vertical profile, Spacelab One observations 7—34758
Na chemistry, applicability of steady-state model 7—9281
Na layer, lidar obs. 7—34753
Na layer near to 80 km altitude, Na density variations during twilight 7—29322
O recombination rates near mesopause level, and dynamic and thermodynamic parameters 7—29321
O_2 molecular photodissociation and Herzberg continuum 7—34757
O_2, UV molecular absorption continua and radiative lifetimes UV molecular absorption continua and radiative lifetimes 7—15620
O_3 density variations, meas. by Nimbus-7 and SME 7—60323
O_3 in middle atmosphere, latitudinal-seasonal vars. of O_3 conc. and mixing ratio 7—9280
O_3 nighttime increase, ground-based EHF radiometry 7—47593
O_3, ν mode of vibrationally excited molecule, nonlocal thermodynamic equilibrium 7—18328
O_3, photochemical behavior near to 1 mbar level 7—29160

metal castings *see castings*

metal clusters
alkali cluster beams, photoionis. mass spectra, abundance distribs. 7—15768
alkali metal clusters, structures, pseudopotential method, local density approx. 7—36840
binary alloys, generation and reactivity 7—15784
charged metallic particles, charging energy and stability 7—57200
compound metal clusters, struct. and electronic structs. calcs. 7—15783
compounds, electronic struct., rel. to atoms and solids 7—15785
condensation in free jets, scaling laws, similarity relations 7—42825
conference, Heidelberg, Germany (April 1985) 7—14702
consideration of metal vapours, mechanism of early stages 7—26925
dispersed in polymeric matrices, synthesis and props. 7—17370
electron beam irradiated, structural instability *(Japanese)* 7—21286
electronic characteristics of small metal particles *(Dutch)* 7—52396
formation, energetics and reactions of clusters and ions 7—15776
geometrical structure 7—15774
group VIII metal octahedral clusters, iterative extended Huckel calcs. 7—19689
ionisation phenomena, ab initio wave functions 7—36444
ionisation threshold, photoionisation TOF mass spectra 7—20085
ionised cluster beams, form. and kinetics 7—15771
ions, size-selected, in triple quadrupole arrangement, expts. 7—15777
ions, sputtered, unimol. decomposition and collision-induced fragmentation 7—15778
ions, stored, spectroscopy in Penning trap 7—15779
laser excitation dynamics of at. and mol. clusters in free jets 7—42823
ligand-free metal clusters 7—25698
magnetic characterisation 7—27569
metal trimer clusters photodissoc., bound-free transitions fluoresc. study 7—23045
molecular beam studies 7—24724
octahalobistrimethylacetorhenium, press. tuning IR spectral shifts 7—22242
phase investig. 7—15772
photoionisation spectra, evolution, rel. to size 7—15769
polynuclear metal cluster bonds, chemical sub-micron structure *(Dutch)* 7—50437
positron bound states, formation and annihilation decay 7—45231
quantum size effects in metal particles 7—7597
Schottky-barrier formation and microscopic metal clusters on GaAs (110) 7—45497
shell structure and response props. 7—15767
small clusters, electronic and geometrical structs. 7—15773
small metal particles, optical props., struct. dependences 7—17284
stability and struct. of metallic clusters produced by liq. metal ion sources 7—31205
submicron materials characterisation, conf., Evanston, IL, USA (Oct. 1983) 7—24294
tetra-n-butylammoniumoctahalorhenium, press. tuning IR spectral shifts 7—22242
theory, review 7—15793
transition metal clusters, chemisorpt. patterns, charge depend. 7—15763
AU clusters and bulk samples, Debye temps., EXAFS studies 7—2136
Ag clusters, photographic role, size effects 7—15788
Ag clusters, small, photolytic, oscill. of photoionisation thresholds on AgBr grain surface 7—36841
Ag clusters, vibrational characteristics, SERS studies 7—22255
Ag clusters on electrode surface, SHG enhancement by transient resonances 7—20325
Ag_5^{q+}, electronic struct., Dirac scattered wave study 7—42818
$(Ag)_n^-$ clusters, mass distribs., mass spectra 7—50431

metal clusters continued
Al atomic cluster, trapping regions around impurity atoms, charge density 7—53195
Al clusters, electron energy spectra, size effects 7—7103
Al_n^+ (n=1 to 4), cluster ions, mass selected, prod., continuous source 7—10805
Al_n^+ (n=2,3)+O_2(H_2O)(ethylene), absolute cross sections, meas. 7—5743
Al_n^++O_2 mass selected ions, reaction study 7—22993
Au clusters, electron microscopy of small particles 7—1824
Au, dynamical props., EXAFS studies 7—64805
Au, particles on NaCl substrate, crystal structure 7—27209
$(Au)_n^-$, mass distribs., mass spectra 7—50431
Be_{13} and Be_{55}, stability and struct., binding energy, ionisation pot. 7—11988
Bi_y cluster, laser vaporisation and photoionis., TOF mass spectrometry 7—31201
Co clusters, small, reactivity 7—15781
Cu cluster embedding in effective shell, amorphous Cu density of states calc. 7—2457
Cu_{13}, fragmental cluster model and electronic struct. *(Ukrainian)* 7—12597
Cu_3, formation by ion irradiation of Ta-Cu *(Chinese)* 7—53468
Cu_n^- (n=1-10), cluster, photoelectron spectra 7—62561
$(Cu)_n^-$ clusters, mass distribs., mass spectra 7—50431
Fe clusters+NH_3, reaction kinetics, cluster binding sites and adsorbate binding energies 7—54106
Fe films, particulate, vapour deposition on Al_2O_3 growth and props. 7—17427
Fe_8 cluster, vibr. photodissoc. spectra, IR laser study 7—62475
Fe_n^+ (n=6 to 16), cluster ions, mass selected, prod., continuous source 7—10805
Fe(0) microclusters, in A-type zeolites, mag. props. meas. 7—17256
Ga small metallic clusters, vol. and surface plasmons, EELS studies 7—27271
Hg clusters, photoionisation spectra, evolution, rel. to size 7—15769
K, *(French)* 7—26696
K_N, laser photoionisation of clusters containing up to 101 atoms 7—42822
$K_4Mo_2Cl_8$, press. tuning IR spectral shifts 7—22242
Li, large clusters, struct., charge distribution and spin densities, semiempirical study *(French)* 7—26696
Li microclusters, fragmentation channels rel. to magic number studies 7—5811
Mg_N^{2+} microparticles, fragmentation, density-functional calc. 7—5810
$Mo_4Cl_8(PEt_3)_4$, metal-metal multiple bonding, cluster electron count and geometries, HMO calcs. 7—25410
ND, mixed valent clusters, X-ray absorpt. studies 7—64791
$(NH_4)_4Mo_2Br_8$, press. tuning IR spectral shifts 7—22242
Na clusters, at. desorpt. energies determ. 7—15787
Na, large clusters, struct., charge distribution and spin densities, semiempirical study *(French)* 7—26696
Na microclusters, fragmentation channels rel. to magic number studies 7—5811
Na_3 excitation spectrum, excited states 7—15770
Na_N^{2+} microparticles, fragmentation, density-functional calc. 7—5810
Nb_2, metal cluster in solid Kr and Xe matrices, absorption and reson. Raman spectroscopy 7—31055
Nd clusters isolated in solid Ar, size-dependent valence change 7—20089
Ni (n=25 and 41), O chemisorpt., cluster model convergence 7—12461
Ni clusters with surface adsorbed CO, surface electronic and mag. struct. 7—21969
Ni_9 cluster, magnetic moment formation and mag. susceptibility 7—58995
Ni_n (n=1 to 6) clusters, electronic struct., ab initio SCF and CI calcs. 7—10446
Ni_n (n=3 and 5) clusters, spin states and magnetism quenching, MO INDO calcs. 7—62557
Ni_xH clusters, charge distrib., Hartree-Fock SCF INDO calcs. 7—52411
Pd clusters in C matrix, electronic and struct. studies by EXAFS and XANES 7—17363
Pd, evaporated on CdTe, core level electron binding energy shifts, photoemission spectra 7—22451
Pd on substrates, core-electron binding energy, photoemission initial and final state effects studies 7—27859
Pr clusters isolated in solid Ar, size-dependent valence change 7—20089
Pr, mixed valent clusters, X-ray absorpt. studies 7—64791
Pt clusters in Y-zeolite, atomic and electronic struct. and chemical reactivity 7—32677
Pt_2, MO calcs. with optimised Pt relativistic pseudopot. 7—10451
Rh, adsorbed on Rh (100), diffusion, classically exact overlayer dynamics 7—38328
$Rh_x(CO)_y$ (x=4 to 7, y=12,15,16), metal cluster bonding topology, graph theory 7—42817
Sb_x cluster, laser vaporisation and photoionis., TOF mass spectrometry 7—31201
Sb_xBi_y cluster, laser vaporisation and photoionis., TOF mass spectrometry 7—31201
Sm clusters isolated in solid Ar, size-dependent valence change 7—20089
Sm, mixed valent clusters, X-ray absorpt. studies 7—64791
Sm small clusters, matrix isolated, mixed valence, critical cluster size 7—64186
Sn small metallic clusters, vol. and surface plasmons, EELS studies 7—27271
Sn_3, electronic states, pot. energy surface, relativistic calcs. 7—5613
Tc_8Br_{12}, metal-metal multiple bonding, cluster electron count and geometries, HMO calcs. 7—25410
V_{15}, fragmental cluster model and electronic struct. *(Ukrainian)* 7—12597
Zn_n(n≤6) matrix isolated cluster, optical spectra investig. 7—50433

metal corrosion *see corrosion*

metal-glass seals *see glass-metal seals*

metal-insulator boundaries
see also metal-insulator-metal structures
Aharonov-Bohm magnetoconductance oscills. study using nm-scale lithography 7—52836
injection of charge carriers from a point contact with K halides 7—6868
metal-electrolyte rough interface, AC response, inverse-Cantor-bar model anal. 7—22012
superlattices, optical applications 7—17283
transition metal film-Al_2O_3 interfaces, thermal reaction, backscattering spectra, X-ray diffr. studies 7—52304

metal-insulator boundaries continued
- tunneling from a self-energy approach in metal-vacuum interface 7—52745
- Ag-ethylene-vinylacetate copolymer metal-polymer contact, pot. barrier electronic props., photocurrent spectra meas. 7—27419
- Al-a-Nb_2O_5, heterostructure, morphology, electrophysical parameters 7—13394
- Al-ethyl alcohol interface, surface polaritons, four-wave mixing 7—43244
- Al-Si-Cu electrode, sputtered Cu distrib. near SiO_2 interface 7—2415
- Al-SiO_2 : N interface traps and effective barrier height, nitriding effects obs. 7—38790
- Au-ethylene-vinylacetate copolymer metal-polymer contact, pot. barrier electronic props., photocurrent spectra meas. 7—27419
- CdI_2-Ag interface, absorpt. and luminesc. spectra studies *(Russian)* 7—59224
- Cr film on polyimide, interface chemistry 7—46871
- Mo group glasses, anomalously high bulk cond. meas. in metal-glass structs. 7—17029
- Nb-a-Nb_2O_5, heterostructure, morphology, electrophysical parameters 7—13394
- Pt group glasses, anomalously high bulk cond. meas. in metal-glass structs. 7—17029
- SiO_2-metal, silicidation reactions, rapid thermal annealing/TEM technique 7—52156
- SiO_x window on Pb-In-Au alloy films, hillock growth mech. of alloy films 7—16893
- Ta-Ta_2O_5-electrolyte system, conduction processes 7—38725
- Ta_2O_5 film, photocurrent and elec. cond. mechanism, electrode interface effects studies 7—27366
- TbFeCo/dielectric interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7—12513
- W/polyethylene interface struct. and defects, FIM obs. 7—27151

metal-insulator-metal devices
- W-Ni MIM diode as difference frequency IR detector, long-term stability 7—24700

metal-insulator-metal structures
- cathodes, emissivity, temperature and area effects 7—13336
- circuit anal., automated 7—27438
- dielectric between spherical electrodes, I-V characts. model calcs. 7—38771
- disordered films, density of states, electron-electron interactions, tunnel conductance meas. 7—52393
- electroformed, filamentary system, rupture potential 7—45517
- electroluminescent device structs., impurity centre electron impact-induced luminesc. mechanism 7—59260
- electroreflectance spectra, interface contribs. 7—53276
- explosive electron emission 7—13335
- field-induced hot-electron emission, energy anal. 7—30121
- formate ion incorporated into tunnel junction, quantitative analysis of inelastic tunnelling spectrum 7—38769
- hot electron dynamics in tunnel junctions, surface plasmon emission as probe 7—2735
- magnetodynamic nonlinear I-V charactrs. 7—17116
- metal-polymer-metal sandwich, short-circuit current obs. *(Korean)* 7—12879
- multilayer, resonant tunnelling in the presence of surface EM waves 7—52852
- polymer film capacitors, radiation-induced space charge 7—45516
- polypropylene evaporated films, SCL currents 7—21924
- tunnel junctions, prism coupled light emission 7—38770
- tunnelling current through disordered insulator, CPA calc. 7—52850
- voltage controlled tunable IR detectors using MIM structures 7—61377
- Ag-Ag_4RbI_5-Ag ionic conducting system, elec. current press. and relax. effects, plastic deform. obs. 7—52123
- Al/Al_2O_3/Au thin film struct., dielec. props. meas. and equivalent circuit anal. 7—17115
- Al/Al_2O_3/Au tunnel junction, electromagnetic modes anal. 7—27439
- Al-Al_2O_3-Ag MIM structs. biased near breakdown voltage, optical emission 7—52853
- Al-Al_2O_3-Au MIM structs. biased near breakdown voltage, optical emission 7—52853
- Al-Al_2O_3-Au sandwich struct., forming process in high elec. field *(Japanese)* 7—22028
- Al-AlO_x-Pb tunnel diode, $NiCl_2.6H_2O$ soln. phase adsorpt., inelastic electron tunnelling spectra 7—12877
- Al-AnS-Al MIM structures, electroreflectance, props. 7—38773
- Al-Dy_2O_3-Al thin-film sandwiches, dielec. polarisation props. 7—38772
- Al-polyethylene-Al thin film structures, anomalous Poole-Frenkel effect obs. 7—52851
- Au-SiO_2-Bi, low temp. hot electron energy relaxation and inelastic collision times in thin metal films 7—27441
- (Ba,Sr)TiO_3 film metal-dielec.-metal system, polarisation switching 7—52849
- $CoCl_2$, electronic transitions, IETS 7—50099
- Cu-SiO_x-Cu sandwich struct., thermal voltage memory effect, time depend. 7—45527
- GeO-BaO thin films between metallic electrodes, elec. props. 7—22054
- MgO barrier MIM structures, IETS study 7—12878
- Nb/Nb_2O_3/Pb film struct., Josephson and tunnel junctions, scanning tunnelling microscope study 7—64410

metal-insulator-semiconductor devices
- *see also charge-coupled devices*
- CMOS magnetosensitive square wave oscillator 7—61360
- dielectric films, on compound semiconductors, conf., Las Vegas, USA (Oct. 1985) 7—35108
- liquid-crystal spatial light modulator, coupled to image converter, expt. investig. 7—43440
- MINP solar cells, high efficiency, performance, fabrication, characts. 7—23153
- MOS capacitor, radiation effects *(Rumanian)* 7—16614
- MOS capacitors, interface trap charge effect on C-V and I-V characts. 7—27437
- MOS capacitors, radiation-induced interface state generation 7—58899
- MOS device, microcomputer-based instrumentation system for carrier transport study 7—64350
- MOS neutron sensors, detection props. depend. on radiation field 7—25305
- optically induced inversion in the MIS solar cell 7—8380
- process and device modelling by CAPROSS II 7—45505
- Schottky detectors, frequency and polarisation-selective 7—41470

metal-insulator-semiconductor devices continued
- solar cells, polycryst., barrier height anal. 7—46941
- solar cells, sputter deposition of barrier metal 7—17866
- solar cells on polysilicon substrates 7—40008
- unipolar semiconductor devices, multidimensional numerical anal., universal algorithm 7—45509
- CaF_2-Si structure with epitaxial CaF_2, electronic characteris 7—22026
- GaAs/Langmuir-Blodgett MISS devices, switching characts. 7—38751
- GaAs-Langmuir-Blodgett film MIS devices 7—55918
- GaAs-oxide interfaces, defect stabilised electronic properties 7—38748
- InP, surface, As-stabilisation, effect on elec. and physiochemical props. 7—38767
- Pd-Ag gates in MOS structures for use as H sensors 7—65364
- Pd-Cr-SiO_x-p-Si MIS electrodes for electrochemical solar cells 7—34048
- Pt-SiO_x-n-Si MIS electrode for electrochemical solar cells 7—34048
- Si films, solid epitaxial regrowth, structural and electrical characteristics 7—38403
- p-Si grating solar cells, 2D collection and injection 7—23163
- Si MINP solar cells, electron beam radiation effects 7—13876
- Si MINP solar cells, radiation damaged, conduction mechanism 7—65463
- Si MIS device diffusion length meas. by spectral response 7—8424
- Si MIS photodiode integrated arrays of photodetectors in spectral instruments 7—56335
- Si photoelectrochemical and MIS solar cells, surface dislocation loops effect on J-V characts. 7—17862
- Si solar cells, metal insulator n on p, radiation damage 7—3703
- a-Si:H based alloys for solar cells, elec. props. and degradation behaviour 7—52642

metal-insulator-semiconductor integrated circuits *see field effect integrated circuits*

metal-insulator-semiconductor structures
- 2D electron gas, skin effect and nonuniform states obs. 7—64353
- barrier height, I-V characts. and tunnel currents under illumination calcs. 7—64356
- carriers in insulator and at semiconductor-insulator interface of MIS structure 7—2730
- circuit anal., automated 7—27438
- curved interface, quasi-2D quantum electron states 7—17066
- electrons and phonons in 1D and 2D in semicond. structures 7—2734
- electrophysical properties of plasma deposited C thin films, MIS struct. as tool for anal. 7—17268
- field-effect capacitor, carrier ambipolar drift vel., field control study 7—52840
- hot electron dynamics in tunnel junctions, surface plasmon emission as probe 7—2735
- insulator semiconductor interfacial traps, small-signal DLTS response, model anal. 7—64147
- interface elec. charactn. by C-V anal. 7—22021
- interface state density profile determ., DLTS spectra interpretation 7—38733
- inversion layer solar cells 7—3680
- metal-Al_2O_3-InP structs., improved elec. props. with heat resist. interface 7—38753
- metal-SiO_xN_y-SiO_2-Si system, plasma oxynitride effect on interface charge 7—38761
- metal-vacuum-semiconductor structs. for studies of Si surfaces 7—38749
- minority carrier lifetime meas. *(German)* 7—56306
- MIS struct., light scatt. from inversion layer 7—3033
- MIS structs., state density of 2D electrons in transverse mag. field 7—12870
- MIS-liquid crystal structures, pseudocolour image synthesis 7—31252
- MNOS, dielectrics with deep traps, currents in strong elec. fields 7—33023
- MNOS struct., bipolar injection and recombination, calc. 7—2726
- modulators with MIS-liquid crystal structure 7—20406
- MONOS structures, shaped Auger anal. 7—63980
- MOS capacitance in strong inversion at high temp., freq. depend. 7—7403
- MoS capacitors, breakdown by charge injection 7—38757
- MOS capacitors, interface state generation by ionising radiation, oxide thickness depend. 7—58900
- MOS capacitors, use in determ. of electrical properties of SiO_2 layers 7—58931
- MOS diodes, thin-oxide, equilibrium props. 7—7393
- MOS interface charge state transient spectroscopy 7—45506
- MOS samples, radiation effects of 10-12 MeV electrons *(Chinese)* 7—6685
- MOS struct., Pt-diffused, elec. props., effect of Si-SiO_2 interface state density and SiO_2 film charge *(Japanese)* 7—7404
- MOS structure, gamma irrad. effects, mech. stress depend. 7—58903
- MOS structure, X-ray irrad., interface trap annealing, two-reaction model 7—58901
- MOS structure, X-ray irrad., trapped hole spatial depend., tunnelling anal. and annealing meas. 7—58902
- MOS structures, anodically and thermally grown, breakdown field strengths 7—17113
- MOS structures, interface and bulk traps, effect of processing steps 7—38758
- MOS structures, ion implanted, enhanced tunnelling 7—64358
- MOS systems, freq. spectrum of reciprocal capacitance 7—38741
- MOS systems, interface state generation upon carrier injection 7—38759
- narrow gap structures, evaluation theory of C-V meas. 7—64355
- nonequilibrium charge method of measuring MOS-structureparameters 7—2728
- nonequilibrium surface potential relax. under constant charge conditions 7—38732
- photoemf measurement in semiconductor, by two-capacitors method 7—30037
- photopolystor characteristics, theoretical anal. 7—21931
- quantised Hall resistance, freq. depend. 7—12871
- quantum Hall resistance, localised and mobile electron states in Si MIS structs. 7—38744
- Schottky barriers,, image force effect 7—7330
- Si_3N_4 MONOS structures, negative hopping magnetoresist. meas. 7—64357
- substrate, thermally grown SiO_2, studies of breakdown and defects 7—33104
- surface (100), electron delocalisation in 2D electron gas 7—12779
- surface (100) with periodic MOS microstructures, dynamic magnetoconductivity of inversion electrons 7—38743

metal-insulator-semiconductor structures continued
- surface (111) in MIS struct., Hall resistivity of 2D electron gas in strong mag. fields 7—7391
- surface state density spectrum determ. using equivalent three element circuit *(Russian)* 7—27434
- tunnel struct., inversion condition 7—7401
- two-dimensional carrier systems, parallel transport 7—52827
- two-dimensional electronic systems, plasmons and intersubband resonances 7—52730
- two-layer semiconductor MIS system, injection currents, upon creation of nonequilibrium surface depletion 7—33095
- Al/SiO_2/Si_3N_4/Si illuminated struct., nonlinear capacitance props. study 7—38731
- Al-As_2S_3-n-Si, I-V characteristics 7—7390
- Al-GaAsO-GaAs structures, energy diagram 7—33096
- Al-$InAsO_x$-InAs, space charge accumulation 7—33097
- Al-insulator-Si, optical and elec. charact. of $(Al_2O_3)_{1-c}$-$(AlN)_c$ 7—38766
- Al-Langmuir film-SnO_2, photovoltage spectra 7—64354
- Al-SiO_2-InAs, space charge accumulation 7—33097
- Al-SiO_2-Si MOS capacitors, optical and thermal cross-section of interface states, photocapacitance meas. 7—38742
- Al-SiO_2-Si system, contact pot. difference, effect of processing conditions 7—38746
- Al-SiO_2-Si tunnel dielectric, breakdown mechanism 7—33098
- AlAs-GaAs MIS capacitors, dynamic storage of holes 7—33071
- $Al_xGa_{1-x}As$ heteroepitaxial layers formed by metalloorganic chem. hydride method, electrophys. props., comp. effect, appl. as gate insulators 7—64370
- AlSi-Ti multilayer interconnects on oxidised Si substates, electromigration resistance 7—21713
- Au/Cd stearate/n-GaP electroluminescent device struct., electron-hole recomb. luminesc., minority carrier injection mechanism 7—59260
- Au/i-ZnS/n-ZnS electroluminescent device struct., electron-hole recomb. luminesc., minority carrier injection mechanism 7—59260
- Au-SiO_2-Si MIS structures, Au-SiO_2 boundary anal. 7—12867
- BN film formation on InSb, plasmachemical methods 7—33584
- BN MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7—22023
- $Bi_{12}SiO_{20}$ MIS-liquid crystal structure, dynamic image processing 7—57532
- C MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7—22023
- CaF_2-Si structure with epitaxial CaF_2, electronic characteris 7—22026
- CdS thin film MIS structs., band bending and interface state density 7—7402
- Cr/SiO_2/Si structs., Fowler-Nordheim tunnelling oscills., I-V characts. meas. 7—38745
- GaAlAs heterostructures with an insulating layer 7—12866
- $Ga_{1-x}Al_xAs$ MIS and SIS structures, prep. by metallorganic chem. hydride method, electrophysical props. 7—22018
- GaAs, common anion rule, density distrib., photoionisation 7—38765
- GaAs device structures, γ-ray effects, surface generation-recombination processes 7—64349
- GaAs MESFET and JFET devices, elec. resist., Hall effect, influence of electronic subband mag. depopulation 7—38740
- n-GaAs metal-dielectric-semiconductor system, field effect, transistor studies 7—52841
- GaAs-Langmuir-Blodgett film MIS devices 7—55918
- GaP, common anion rule, density distrib., photoionisation 7—38765
- Ge-$AlPO_4$ MIS structures, inversion layers obs. 7—45502
- HgCdTe in MIS struct., electroreflectance at 77K 7—13128
- InAs-superthin insulator-Au struct., inelastic electron tunnelling spectra 7—27436
- InGaAs, common anion rule, density distrib., photoionisation 7—38765
- InP, common anion rule, density distrib., photoionisation 7—38765
- InP MIS structs. with amorphous C films, interfacial electronic props. 7—7400
- InP MIS structures, prep. by RF plasma oxidation, interface elec. props. 7—2731
- InP MIS structures, thermal treatment in P overpressure 7—7394
- InP/native oxide MIS structures, interface elec. props. 7—33851
- InP-C based MIS struct., interfacial characts. 7—2732
- InSb MOS interfaces, annealing, O diffusion and reaction 7—58665
- InSb MOS structures, heat treatment effects 7—8031
- n-InSb MOS structures, heterogeneity of generation processes, expt. 7—17106
- InSb MOS structures, electric field effects on characteristics 7—38738
- InSb-SiO_2 MIS structures, photo-CVD fabrication 7—38739
- $LiNbO_3$/CdSe multilayer structs. with ohmic contacts, electroacoustic conversion, SAW excitation 7—58839
- $MoSi_2$:As-poly Si struct., redistribution of As by silicidation tempering 7—51812
- PbTe:In, MIS struct., tunneling spectra of quasilocal impurity states 7—12869
- Pd/Al composite film MOS structure, H_2 sensitivity 7—52842
- Pt/SiN/Si structure, nucleation kinetics and spatial distribution of spherulotic PtSi clusters 7—21675
- Si, accumulation layers, quasi-1D transport, strong localisation 7—64359
- Si, anodic oxidation in pure water, appl. to MOS structs. 7—39776
- Si MOS capacitor elec. parameters, effects of process chemical purity 7—33103
- Si MOS capacitor struct., defect profiling, DLTS 7—12652
- Si MOS inversion layers, high field low temp. transport props. *(Chinese)* 7—12862
- Si MOS inversion layers, quantum transport effects 7—52767
- Si, MOS inversion layers, scaling relation of cond. in strong mag. fields 7—64352
- Si MOS struct., phonon emission spectroscopy of 2D electron gas 7—27435
- Si MOS structure, space charge layer capacitance, quantisation effects 7—7398
- Si MOS structures, high field stressing, ESR study 7—33091
- Si metal tunnel-thin insulator-semiconductor structures, effects of high field corners 7—64348
- Si, oxidation and epitaxy, limited reaction processing 7—22577
- Si, single crystal wafer, oxidation, rapid thermal processing 7—22928
- a-Si solar cells, insulator-semiconductor interface properties 7—13901
- Si:Au,Fe-SiO_2, MOS struct., trap centres 7—7388
- Si:B, B ion dose identification, HF C-U meas. 7—6661
- Si:B, H, hydrogenation of B acceptor during electron injection by Fowler-Nordheim tunnelling 7—45504

metal-insulator-semiconductor structures continued
- Si:B, ion implanted, transient annealing and residual defect DLTS study *(Chinese)* 7—12642
- a-Si:H/SiO_x/metallic gate struct., capacitance-volt. characts. 7—45515
- Si:Na MOSFET struct., hopping cond. in 2D impurity band 7—45512
- Si:P MOS source/drain structs., 2D P diffusion props. 7—32718
- Si/SiO_2 interface, digital control of avalanche injection method for studying carrier transport 7—64350
- n-Si/SiO_2/Al struct., inductive admittance meas. 7—17108
- Si/SiO_2/$TiSi_x(WSi_x)$ MOS capacitors, radiation-induced interface traps 7—58897
- Si-C based MIS struct., interfacial characts. 7—2732
- Si-CaF_2-Si MOSFET structures, heteroepitaxial growth, struct., elec. props. 7—12567
- Si-SiO_2, MIS struct., temp. stress influence *(Slovak)* 7—7389
- Si-SiO_2 in MOS structs., charge phenomena in thermal films with avalanche injection 7—2727
- Si-SiO_2 interface relief study using scanning tunnelling microscopy 7—63978
- Si-SiO_2 MOS capacitors, defect struct. and interface state generation 7—7399
- Si-SiO_2:Cs MOS, semicond. flatband voltage depend. on impurity distrib. 7—27433
- Si-$SiO_{2-x}N_{2-x}N_{2x/3}$-Al structures, interface states, DLTS study 7—45513
- Si-SiO_2-Ag(Cu)(Au)(Pd)(Ti) MOS structures, diffusion coeff. meas. in elec. fields, solid solubilities 7—2279
- SiN film CVD coatings, Al void form. suppression in MOS struct. 7—7406
- Si_3N_4 film formation on InSb, plasmachemical methods 7—33584
- Si_3N_4 films in MIS structs., cond. characts. 7—38793
- Si_3N_4 MIS struct., electron transport and heating, vacuum emission studies 7—2723
- Si_3N_4 MNOS struct., CVD, elec. props., effects of deposition variables 7—52843
- Si_3N_4 MNOS structures, degradation, thermoactivational spectroscopic study 7—12872
- Si_3N_4 thin films in MNOS structs., charge transport in elec. fields 7—12730
- Si_3N_4-SiO_2-Si structs., injector props. 7—38763
- SiO_2 films, interface states, charge trapping *(Spanish)* 7—17110
- SiO_2 films, low temp. CVD, dielec. const., dissipation factor 7—59149
- SiO_2 films in MOS capacitors, ion implantation induced electron traps 7—38589
- SiO_2 films on Si, low-temperature annealing, interfacial props. of MOS structures 7—46526
- SiO_2, hot carrier trapping characts., effect of post-oxidation annealing 7—64268
- SiO_2 interfaces, Si-rich, enhanced electron injection 7—12864
- SiO_2 MIS structures, trap generation under charge injection stress 7—7392
- SiO_2 MOS structures, electron heating for low fields and thick films 7—2722
- SiO_2 thin films in MOS capacitors, wear-out charactn., processing depend. 7—38756
- SiO_2 ultrathin films, intrinsic breakdown characts. 7—64571
- SiO_2:N thin films on Si, surface nitridation in low NH_3 press. 7—46721
- SiO_2-Si interface, MOS capacitance derivative freq. depend., surface state densities and capture cross section 7—45507
- SiO_xN_y MIS struct., electron transport and heating, vacuum emission studies 7—2723
- Ti-Si:$As^+(P^+)(BF_2{}^+)$, $TiSi_2$ formation, ion implantation doping and masking oxide film effects 7—21708
- ZnSe-ZnS electroluminescent MIS structures, MOCVD growth and charactn. 7—59443

metal-insulator transition
- *see also electrical conductivity transitions; minimum metallic conductivity*
- 3d-metal compounds, metal-dielectric transitions 7—52428
- alkali metal atomic fluids, thermodynamic and electronic props. 7—45157
- alkali-metal-NH_3 sections, metal-nonmetal transitions 7—2486
- alloys, substitutionally random, electron localisation and metal-insulator transition, CPA calcs. 7—27302
- Anderson metal-insulator transition, conductivity exponent calc., σ-model anal. 7—12610
- Anderson model, conductivity, metal-insulator transition 7—52696
- Anderson transition, relation between conductivity, ultrasonic attenuation and nonlinear σ model composite operators 7—45155
- anisotropic composites, kinetic Hall and seebeck coeffs., critical behaviour calcs. 7—45411
- $(BEDT)_2X$, ($X=SbF_6$, AsF_6), metal-insulator transition, EPR study under hydrostatic press. 7—53115
- $(BEDT\text{-}TTF)_2I_3$, α and β phases, CESR 7—2930
- β-$(BEDT\text{-}TTF)_2I_3$, electronic and struct. props., ^1H NMR meas. 7—53170
- α-$(BEDT\text{-}TTF)_2I_3$, struct. charact. and band electronic struct. below metal-insulator transition 7—2007
- $(BEDT\text{-}TTF)_2ReO_4$, band electronic struct. 7—7094
- α(β)-$(BEDT\text{-}TTF)_2X$ ($X=I_3$, IBr_2), organic conductors, structural and electrical props. 7—63601
- (BEDT-TTF) BrO_4, band electronic struct. 7—7094
- α-$(BEDT\text{-}TTF\text{-}d_8)_2I_3$, conductivity increase near metal-insulator phase transition 7—2584
- binary crystals, structural stability, chem. trends 7—21153
- charge transfer complexes, one-dimensional conductors, nonlinear conduction, electrical switching 7—2648
- charge transfer electron-exciton complexes 7—27258
- composite mean-field theories, DC cond. and percolation threshold calcs. 7—45253
- Coulomb interaction, effect on Peierls gap 7—32933
- critical conductance 7—64084
- dirty metal strong correlation systems, metal-insulator transition 7—64088
- disordered electronic systems, localisation, scaling theory and probability distribs. 7—12672
- disordered interacting electron systems, effective Landau theory, sp. ht. behavior 7—32958
- electron gas, low freq. fluctuation phenomena near metal-dielectric transition point 7—38654
- fractal property of two-dimensional continuum percolation clusters 7—18716

metal-insulator transition continued
- Hubbard model, temperature-induced metal insulator transitions *(Russian)* 7−45153
- Hubbard model with degeneracy, phase transitions 7−64041
- InP, electron-electron interaction, quantum effects, magnetoresist. studies 7−38591
- inversion layer, finite temp. Coulomb electron correl., insulator-metal transition calcs. 7−52424
- metal-Hall insulator transition 7−52708
- metallic properties of materials, effects of temp., press. and composition 7−2486
- metals, impure, localisation, interactions and transport phenomena 7−64169
- metals, nonuniform liq., in partially ionised states, density functional theory 7−6504
- metals, strongly correlated, containing heavy fermions, thermodynamic and transport parameters 7−38458
- modified Gutzwiller theory, appl. to heavy-fermion systems 7−32915
- monovalent systems, low-lying excited states, metal-insulator transition, modified Hubbard model, Gutzwiller variational calcs. 7−7119
- narrow energy band systems, insulator-metal transition 7−38455
- nonlinear σ model, Anderson transition 7−64089
- nonlocal correlation in Hubbard model 7−38456
- one-dimensional incommensurate system, energy-dependent metal-insulator transition, computer exptl. evidence 7−58743
- one-dimensional incommensurate systems, DC cond., metal-insulator phase diagram 7−21818
- one-dimensional systems, electronic stability and density of states on Fermi surface, topological effect 7−58728
- organic charge transfer solids, review 7−7222
- poly(p-phenylene vinylene) films, highly graphitisable, elec. conductivity, thermoelectric power 7−32916
- polyacetylene:I_3^-, semicond. soliton lattice-metal phase transition, photomodulation spectra studies 7−21819
- polyacetylene, alkali metal doped, semiconductor-metal transition, EPR study 7−64528
- polypyrrole electronically conductive polymer, fibrillar/microporous morphology control 7−26667
- polythiophene films, photolum. quenching by electrochemical doping 7−59254
- quantum well structures, metal-insulator transition due to surface roughness scatt. 7−27400
- quasi 1D conductors, anisotropy and Peierls transition 7−45297
- random nonpercolating conductor networks, insulation breakdown calcs. 7−58744
- random systems with off-diagonal disorder, localisation studies 7−32959
- rare earth cpd. intermediate valence systems, charge ordering 7−7189
- static high pressure research, review 7−21350
- strongly correlated Fermi systems, Gutzwiller saddle-point approx., functional integral approach 7−207
- strongly disordered systems, conductor-insulator transition 7−64087
- superconductivity, two- and three-dimensional, interplay with electron localisation 7−64392
- $(TMTSF)_2(ClO_4)_{1-x}(ReO_4)_x$, supercond. ground state, role of anions 7−45555
- $(TMTSF)_2BF_4$, anion ordering, press, effects 7−2596
- $(TMTSF)_2PF_6$, metal-insulator transition, lattice expansion 7−64086
- $(TMTSF)_2PF_6$, unified phase diagram, magnetotransport data anal. 7−45410
- $(TMTSF)_2ReO_4$, ^{13}C high resolution NMR study, temp. effects, semiconductor-metal transition 7−53157
- transition metal alloys, disordered, localised and extended state coexistence 7−7175
- transition metal cpds., high press. metal-insulator insulator transition, extended Hubbard model calcs. *(Russian)* 7−32917
- transition metal oxides, Fe group, metallic behaviour, rel. to mag. and elec. props. 7−2487
- transport phenomena, localisation and interactions, conf. Braunschweig, Germany (Aug. 1984) 7−60882
- transverse sound attenuation, critical behaviour at electronic mobility edge 7−45154
- two-component media, metal-insulator transition, thermoelectric props., lattice model 7−52660
- [α-]Mn_xS antiferromag. semicond., elec. and mag. props. 7−7244
- Al-Ge mixture, H implanted, evidence for metal-insulator transition in Al 7−2483
- Au, discontinuous films, percolation metal-insulator transition, nonlinear behaviour 7−45156
- $BaPb_{1-x}Bi_xO_3$, supercond., struct. and elec. props. 7−58247
- $BaPb_{1-x}Bi_xO_3$, superconductivity and metal-semicond. transition 7−58940
- BaSe, pressure-induced metallisation 7−52698
- $Cd_xHg_{1-x}Te$, galvanomag. props. after metal-insulator transition 7−52655
- n-$Cd_{1-x}Mn_xSe$, magnetoresist. and Hall effect meas. near metal-insulator transition 7−12741
- CdS platelet, nonlinear optical and transport props. of many exciton system 7−32920
- $CeH_{2.7}$, photoelectron spectra, surface semiconductor-metal transitions 7−22442
- $Co_xFe_{3-x}O_4$ ferrites, polycrystalline, Verwey transition 7−7120
- $Cr_{1+x}Nb_{3-x}Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
- $Cs[Pd(S_2C_2(CN)_2)_2].0.5\ H_2O$, low-dimensional metal at low-temp. and high-press. 7−45290
- $Fe_xMn_{1-x}S$, high temp. metal-nonmetal transition 7−7117
- $Fe_{1+x}Nb_{3-x}Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
- FeO, high-press, metallisation obs. and implications for Earth's core 7−66101
- $Fe_{0.94}O$, metallisation at elevated press. and temp., shock wave elec. resist. meas. 7−7297
- Fe_xSb_{100-x}, amorphous, metal-insulator transition and effects of localisation and correlation 7−45407
- $Fe_3(1-\delta)O_4$, magnetite, synthesis, crystal growth and characterisation 7−2647
- GaAs, electron-electron interaction, quantum effects, magnetoresist. studies 7−38591
- GaAs, length scale near metal-insulator transition 7−52425
- GaAs, negative magnetoresistance and electron localisation in the region of a metal-insulator transition 7−12737
- GaAs, neutron transmutation doped, variable range hopping studies 7−33012

metal-insulator transition continued
- GaAs quantum well structures, metal-insulator transition due to surface roughness scatt. 7−27400
- GaAs-$Ga_{1-x}Al_xAs$ 2D quantum well heterostructures, magneto-impurities, mag. field and press. effects 7−52728
- GaSb:Se, resist. and thermoelec. power meas. at metal-insulator transition 7−45403
- Gd_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7−53039
- p-Ge:As, Hall effect and electrical conductivity, temp. corrections 7−38592
- $Hg_{1-x}Cd_xSe$, reson. Raman Scatt. meas. 7−7701
- $Hg_{0.79}Cd_{0.21}Te$, metal-insulator transition, mag. field induced, low temps. 7−45158
- n-$Hg_{0.8}Cd_{0.2}Te$, magnetic field-induced metal-insulator transition, threshold field electron density depend. 7−52427
- $Hg_{1-x}Cd_xTe$ with metallic donor clusters, anomalous Hall effect below mag. field induced metal insulator transition 7−2485
- I, metallisation and struct. transform. under press. 7−44800
- In granular films, electron localisation, transition from weak to strong 7−64083
- In, granular films, metal-insulator transition, conducting props. study *(Russian)* 7−7116
- InAs, electron-electron interaction, quantum effects, magnetoresist. studies 7−38591
- n-InAs, metal-Hall insulator transition 7−52708
- InAs quantum well structures, metal-insulator transition due to surface roughness scatt. 7−27400
- In_2O_3 3-D disordered samples, Anderson transition, finite temperature aspects 7−7118
- In_2O_{3-x}, Hall coeff., noncritical behaviour at mobility edge 7−32993
- InP, negative magnetoresistance and electron localisation in the region of a metal-insulator transition 7−12737
- InSb amorphous films, metal-semicond. transitions, superconductivity 7−64085
- InSb, impurity bands and their conductivity in strong mag. fields 7−45152
- InSb, length scale near metal-insulator transition 7−52425
- InSb, metal-insulator transition, mag. field induced, low temps. 7−45158
- InSb with metallic donor cluster, anomalous Hall effect below mag. field induced metal insulator transition 7−2485
- K-KCl melts metal-nonmetal transition, elec. cond. and optical reflectivity study 7−38457
- La_2NiO_4, thermal cond. meas. in semiconducting and metallic phases 7−16830
- $Li_{0.9}Mo_{6-x}W_xO_{17}$, W substitutional effects on elec. resistivity and transport props. 7−45260
- $Li_xSn_{1-x}Y_2O_4$, metal-insulator transition, Seebeck coeff. and elec. resist. studies 7−21817
- $LiVO_2$, phase transition near 200°C, elec. resist., mag. susceptibility, X-ray diffr., IR spectra, EPR, thermal anal. 7−32914
- $Mg_2Si(Ge)(Sn)(Pb)$, Hall effect in solid and liq. states 7−38647
- MnTe, electronic struct. in magnetically ordered and disordered phases, tight-binding calcs. 7−45145
- Mo-Si amorphous alloys, cluster formation and percolation 7−27455
- Mo_6Se_8, superconductivity and metal-insulator transition *(Russian)* 7−58742
- $(Na_{1-x}Li_x)_{0.9}Mo_6O_{17}$, Na substitutional effects on elec. resistivity and transport props. 7−45260
- $Na_xTa_yW_{1-y}O_3$, NMR study of metal-insulator transition 7−2484
- $NbSe_3$ CDW conductor, magnetothermopower studies 7−64226
- $(NbSe_4)_3I$, quasi-1D cpd., metal-insulator transitions 7−45408
- $NdCu_3Ru_xTi_{4-x}O_{12}$ and $Nd_{(2+x)/3}Cu_3Ru_xTi_{4-x}O_{12}$, electrical conductivity and crystallographic characterisation *(French)* 7−17057
- $Ni_xFe_{3-x}O_4$, elec. cond., thermoelec. power meas., 10-300K 7−38648
- n-nP, Anderson transition in a mag. field 7−16944
- PbLiInSe, intercalated layer compounds, conc. depend. of electrode potential 7−7230
- Rb-RbCl melts, metal-nonmetal transition, elec. cond. and optical reflectivity study 7−38457
- Se-Te-Au(Ag) liq. mixtures, electronic props. 7−64247
- a-Si, metallic state, prep., characts., appl. in devices *(Japanese)* 7−52697
- Si quantum well struct., 2D electron gas, transport props. 7−52774
- Si:P, metallic, nearly-localised electron spin dynamics, EPR linewidth study 7−22110
- n-Si:P, nonlinear optics near metal-insulator transition 7−20322
- Si-Te-As-Ge chalcogenide glass film, electronic processes in strong elec. field 7−45524
- $Sm_{1-x}Sc_xS$, first order valence phase transition, XANES study 7−38524
- SmSe, thermoelec. power, elec. resist., meas. near semiconductor-metal transition, press. up to 12 GPa 7−45404
- Sn granular films, superconductivity and metal-insulator transition *(Chinese)* 7−12923
- Tb_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7−53039
- $TiCrNb_2Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
- $Ti_{1.17}S_2$ crystals, metal-insulator transition investig. 7−7296
- VO_2 film, cond., magnetoresist. and nonlinear resist. in strong elec. field, metal-insulator transition study 7−52706
- Yb, relativistic band struct., self-consistent calcs. under normal and high press. 7−64068

metal-oxide-semiconductor devices *see metal-insulator-semiconductor devices*

metal-oxide-semiconductor field effect transistors *see insulated gate field effect transistors*

metal-oxide semiconductor structures *see metal-insulator-semiconductor structures*

metal-semiconductor boundaries *see semiconductor-metal boundaries*

metal semiconductor field effect transistors *see Schottky gate field effect transistors*

metal-semiconductor-metal structures
- Au-$Bi_{12}GeO_{20}$-Au, short-wave light illuminated, photocurrent kinetics 7−22029
- Au-$CdIn_2S_2Se_2$-In Schottky diodes, I-V charact. 7−33010
- CdTe thin film solar cells fabricated by evaporation *(Japanese)* 7−34044
- In/GaAs:Cu/In struct., I-V characts., carrier recomb. and generation, impurity thermionic field ionisation effects *(Russian)* 7−22030
- Nb-a-Si-Nb Josephson junctions, for IR laser radiation response near plasma reson. freq. 7−58958

metal-semiconductor-metal structures continued
Pt-CdInGaS$_4$-In surface-barrier structs., photovoltaic effect and SCL currents 7—52687
Si, circular wafer, edge effects on bulk resistance 7—58811
metal theory
see also band structure of crystalline metals and alloys; electron gas; lattice dynamics of metallic crystals
alkali metals, CDW instabilities and thermoelec. parameters 7—12707
alkali metals, structural properties, ab initio calc. 7—21156
barrier height for metal-metal tunnelling electrons, image-force effects 7—52747
BCC metals, volume interactions, phonon dispersion 7—6734
conference, Japanese Physical Soc. Nishinomiya-shi, Nyogo-ken, Japan (Sept. 1986) *(Japanese)* 7—48186
dielectric function, local-density-dependent 7—27285
electronic topological transitions, tunnelling studies 7—64052
FCC nonsimple metals, phonon dispersion, volume depend. energy 7—12219
foils, surface loss intensity of incident electrons, angular distribution 7—64836
grain boundary energies from local-electron-density distributions 7—6634
impure metals and superconductors, electron-phonon interaction 7—38143
liquid and amorphous metals, multiple scattering effects, cluster calcs. 7—7100
metal surface, pot. change with charge, Thomas-Fermi-Dirac-jellium model 7—52715
metallic molecules and cpds., magnetic moment formation and mag. susceptibility 7—58995
metallic superlattices, plasmon spectra 7—64137
noble metals, binding energies and elastic constants, one-parameter model pseudopotential calc. 7—44650
nonlinear magnetic Landau damping 7—64277
randomly distributed metal particles in a dielectric medium, Anderson localisation of EM waves 7—31218
sd metals, liq., variational thermodynamic calcs. 7—12590
self-similar network, magnetoresistance, periodic oscillating corrections 7—7210
sound attenuation by electrons 7—63747
surface, image potential saturation 7—7314
surface, pseudopotentials and dynamical props. 7—2341
surface, self-consistent image pot. 7—38662
surface energy term, particle in cube or square with infinite pot. walls 7—58604
thermodynamics during high-pressure shock 7—21352
transition metal magnetism, singular volume dependence 7—22108
universal conductance fluctuations, effects of finite temp., interactions and mag. field 7—64196
Al film, quantum size effects and dimensionality 7—45521
W (110), five-layer film, self-consistent electronic-struct. calcs. 7—38659
metal vapour lamps
see also mercury vapour lamps
NA high pressure lamps, Na loss reactions, thermochemical calcs. 7—65324
metal working *see metalworking*
metallic epitaxial layers
conference, Boston, MA, USA (Dec. 1985) 7—18508
rare earth silicide epitaxial formation by rapid annealing 7—21768
rare earth silicide thin films for microelectronics 7—38383
silicide formation on Si, epitaxial nature, initial nucleation processes and effect 7—21767
structural transitions in epitaxial overlayers 7—27194
transition metal silicides, epitaxial growth on Si, progress review 7—21766
Ag films on Al (111), growth and electronic struct., UPS, LEED and AES studies 7—52350
AgCu thin epitaxial films, struct. investig. *(Russian)* 7—12528
Al/GaAs epitaxial contacts, MBE growth 7—22488
Au epitaxial ultra-thin films, X-ray diffr. studies 7—27204
Au, particles on NaCl substrate, crystal structure 7—27209
Au thin films, on Au (111), surface-diffusion-induced ageing processes 7—45080
CoSi$_2$ epitaxial layer on Si, X-ray diffr. analysis 7—21047
CoSi$_2$ films, structural analysis by X-ray diffr. in the grazing Bragg-Laue geometry 7—7042
CoSi$_2$, MBE growth of epitaxial insulator-metal-semicond. struct., CaF$_2$-CoSi$_2$-Si 7—22496
Cu, electroless deposits, ductility, effect of inclusions 7—58719
Cu epitaxial film struct. and surface purity on MgO single cryst. substrates 7—16896
Cu films on MgO, epitaxial and electronic structures, LEED, AES, and EELS studies 7—52352
Cu/Pd metallic superlattices, UPS, LEED, AES and ISS studies 7—3153
Fe, epitaxial growth on Cu (100) 7—52353
Fe-Cu, epitaxially grown Fe films, electronic and crystallographic struct. 7—27214
Fe-GaAs(001)-c(8×2) interface, simultaneous epitaxy and substrate out-diffusion 7—38355
Fe-W (110), spin-resolved photoemission spectra of epitaxial Fe layers 7—46276
FeSi$_2$, epitaxial growth on Si, effects of thin interposing layers 7—22471
Gd-Y single crystal superlattices, struct. and mag. props. 7—27160
La epitaxial layer on W field emitter, surface self-diffusion studies 7—32702
Mo epilayers on MBE GaAs, RHEED study of struct. 7—21755
Nb epitaxial film (110), elastic strain generation and relax. *(Russian)* 7—16916
Nb films, epitaxial growth and superconducting props. 7—3181
Nb films, oriented, electron beam evaporation in ultrahigh vacuum onto GaAs 7—3175
Nb-Ce-Nb epitaxial film sandwiches, metastable phases 7—32857
Nb-La-Nb epitaxial film sandwiches, metastable phases 7—32857
Nb-Si films, sputtered, superconducting props. 7—17126
Nb-Ta superlattice single crystals, MBE growth 7—39385
Ni film, epitaxial growth on Ni (110), surface defect formation 7—63924
Ni-Fe (100), layered struct. reflectivity and EXAFS study 7—59292
NiSi layer on Si (111), solid phase epitaxial growth from Si/Ni multilayer structure 7—7071
NiSi$_2$ epitaxial layer on Si (001), surface struct., ion-scatt. studies 7—27075
NiSi$_2$/Si heterojunction, interface states, DLTS and hydrogenation studies 7—12777
metallic epitaxial layers continued
Pb, adsorption on Cu (100), epitaxial growth, thermal He atom scattering 7—52351
Pd$_2$Si, epitaxial silicide form., initial nucleation processes and effects 7—21767
Rh epitaxial film struct. and surface purity on clean and Cu-covered MgO single cryst. substrates 7—16896
Rh epitaxial films, growth and struct. rel. to substrate 7—22490
Ru-Ir bicrystal superlattice, stacking struct. and superconductivity 7—2432
Ru-Ir bicrystal superlattices, X-ray and transport studies 7—27159
Sn films, sputtered onto polypropylene sheet, orientation rel. to deposition rate 7—45061
Sn, graphoepitaxial growth on monatomic steps, TEM, electron diffr. studies 7—58714
Ti, electron beam bombardment, oxidation, structural and phase transforms. 7—21746
TiSi$_2$, epitaxial silicide form., initial nucleation processes and effects 7—21767
V epitaxial film (110), elastic strain generation and relax. *(Russian)* 7—16916

metallic glasses
amorphous alloys, cold shortness *(Russian)* 7—39649
amorphous ferromag. alloys, effects of stress on mag. permeability aftereffect 7—33221
amorphous films, ferromag., induced mag. anisotropy *(Russian)* 7—52974
amorphous ribbons, magnetostriction meas., SAMR method, anisotropy effects study 7—7580
atomic radial distrib. functions, ultradispersed eutectic structural model 7—11923
atomic transport, diffusivity meas. 7—52144
binary amorphous alloys, structural models *(Chinese)* 7—37873
collective excitations, dynamic struct. 7—44725
crystal to glass transform., kinetics and thermodynamics 7—44399
defects, SANS studies 7—51659
ductile and brittle fracture at low temp. *(Russian)* 7—39650
dynamic magnetisation 7—33218
elec. cond. temp. and mag. field depend., localisation and electron interaction effect calcs. 7—2568
Fe-Ni-B metallic glasses, struct. and crystn. kinetics, DSC and X-ray diffr. meas. 7—16436
FeB, amorphous alloy, metallic glass ribbon, thermal diffusivity, photoacoustic study 7—45262
ferromagnetic ribbons, melt spinning prep. in external fields 7—22608
ferromagnetism, microscopic frozen spins model calcs. *(Russian)* 7—52945
friction and wear behaviour rel. to microstruct. and surface chem. 7—8127
glassy structures, surface melting, by plasma, laser or electron beams 7—63495
hydrides, prep., struct. and props' 7—26663
ion irrad., inelastic deform. induced by fast ion electronic energy loss 7—63688
Lamb wave velocity meas. in thin plates by acoustic microscopy 7—2332
laser annealed struct. and magnetoelastic props., effects of surface characts. 7—45785
liquid-quenched, mesophase thermodynamic stability calcs. 7—6831
low temp. resist. anomaly, two-level systems, incipient localisation and electron correl. effects 7—2570
magnetic properties *(French)* 7—27515
magnetic relaxation and struct. transformations 7—27557
metallic glasses-H$_2$, mechanical relaxation behavior 7—26859
molecular dynamics simulations 7—16875
nonlinear relaxational acoustic attenuation, perturbation theory calcs. 7—32578
nonmagnetic metallic glasses, negative TCR and electronic struct. studies 7—52562
one-component, amorphisation and crystallisation *(Russian)* 7—32301
Pd(Fe,Co,Ni)$_{0.05\text{-}0.15}$Si$_{0.17}$ metallic glasses, crystallization kinetics, elec. resist. obs. *(Chinese)* 7—11919
Powercore strip, amorphous metal ribbon layers, bonding study 7—22975
rapid solidification processing, planar flow casting machine 7—3213
rapid solidification technology, review 7—39493
rapidly solidified alloys, developments and engng. design implications, review 7—27967
reinforced Al composite, fabrication by multi-lamina explosive compaction 7—59482
remagnetisation of amorphous alloys, influence of surface condition *(Russian)* 7—59057
sensing element for optical all single mode fibre magnetic field sensor 7—25990
shear-wave magnetometry using metallic glass ribbon 7—56307
short-range order, correlation functions 7—51660
strip, strain meas. using fibre magnetometer with mag. feedback compensation 7—25989
thin films, thickness meas. using quartz microbalance *(French)* 7—29982
transition metal alloys, glassy and cryst., catalytic activity and selectivity 7—28348
transition metal-metalloid metallic glasses, glass formability and electronic struct. 7—21804
transition metal-metalloid metallic glasses, struct. relax. and segregation *(Russian)* 7—32300
transition metal-metalloid spin glasses, amorphous, EPR linewidth, theory 7—45805
transition metals-H$_2$, disordered, NMR studies 7—27618
weak localisation, magnetoresistance meas. 7—52574
Ag-Cu(Ni) systems, amorphisation induced by ion mixing 7—21300
Al-Ge-X and Al-Si-X alloys, amorphous ductile, with two separate phases, form. range and props. for X=Mn, Fe, Co or Ni 7—59493
Al-Li-Zr rapidly solidified alloy, plastic deform. characts. 7—22777
Al-Mn, icosahedral-glass and icosahedral quasicrystal models distinguished via high-resolution lattice imaging 7—32295
Al-R (R=Er,Nd,Gd) rapidly solidified alloys, microstruct. and thermal props. 7—22667
Al$_{80}$Mn$_{20}$, quasicrystalline icosahedral phase, sp. ht., mag. props. 7—52955
Bi-based metallic glasses, thermal relax. processes 7—51653
Ca-Al-Ga metallic glasses, electron transport 7—45264
Ce-(Fe,Co)-(B,Si) system alloys, melt spun ribbons, mag. props. *(Japanese)* 7—53052
Co-B alloy, amorphous, thermodynamic, thermomag. and struct. studies *(French)* 7—16438

metallic glasses continued
Co-B amorphous alloys, ^{59}Co hyperfine field distrib., NMR spin echo studies 7−53174
Co-base amorphous powders, flame-spray quenching process for continuous prod. 7−53679
Co-based amorphous alloys, anisotropic electrical magnetoresistivity at 295 K 7−58796
Co-based metallic glasses, magnetic aftereffect and magnetostriction studies 7−27571
Co-based metallic glasses, flash annealing under stress 7−52971
Co-Fe-V-Si-B metallic glass, Co-rich, temp. and annealing dependences of magnetostriction const. 7−33255
Co-rich metallic glasses, magnetostriction, anomalous temp. depend., single ion model 7−33261
Co-Si-B, change of elongation, rel. to conditions for hot working 7−3384
$Co_{100-x}B_x$ amorphous sputtered thin films, magnetic anisotropy origins 7−27583
$Co_{82}B_{18}$ amorphous alloy, reminiscent devitrification, X-ray diffr. studies 7−6547
$Co_{70.5}Cr_{21}B_{2.4}Si_{1.6}W_{4.5}$, amorphous material behaviour in friction 7−28151
$Co_{3.9}Er$ noncrystalline alloy, local atomic order, magnetism 7−32286
$Co_{74}Fe_6B_{20}$ amorphous sputtered thin films, magnetic anisotropy origins 7−27583
CoFeCrBSi ribbons, amorphous soft mag. materials, homogeneity determ. permeability 7−64480
$Co_{69}Fe_{4.5}Cr_2Si_{2.5}B_{22}$ metallic glasses, long-time tunnelling heat relaxation meas. 7−38223
$Co_{57}Fe_5Ni_{10}Si_{11}B_{17}$, superplastic deform. *(Russian)* 7−39599
$Co_{58}Fe_5Ni_{10}Si_{11}B_{16}$, metallic glasses, multiplet splitting, XPS study 7−27858
$Co_{68}Fe_7Ni_{13}Si_7B_5$, amorphous alloy, superplasticity 7−3368
CoFeSiB inhomogeneous magnetic alloys, anomalous Hall effect−magnetic polarisation correls. 7−7208
$(Co_{0.95}Fe_{0.05})_{75}Si_{15}B_{10}$ amorphous alloy, mag. saturation 7−45632
$Co_{83.5}Fe_5Si_{7.5}Ge_{1.5}B_{2.5}$, amorphous alloy, struct. changes after γ-irrad. *(Russian)* 7−58336
$(Co_{1-x}Mn_x)_2B$, crystalline and amorphous, mag. and elec. props. 7−2827
$Co_{84}Nb_{10}B_6$ fully crystallised metallic glass, fracture processes 7−22841
$Co_{80}Nb_{10}Ti_{10}$-SiO_2, amorphous multi-layered films, mag. props. rel. to film thickness 7−2912
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$, metallic glass, reversible struct. transformation 7−1907
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromagnet, prep. and struct. 7−22605
$(Co_{1-x}Ni_x)_{75}Si_{15}B_{10}$ amorphous alloys, magnetostriction and other mag. props. 7−45787
$Co_{70}Si_{30}$ amorphous films, coercive force rel. to crystallisation *(Russian)* 7−59078
Cu-based alloys, rapid solidified and ion implanted, struct. studies 7−21130
Cu-Er metallic glass, ion beam mixing, diffusion and phase separation meas. 7−16659
Cu-Mg amorphous alloys, 2D weak localisation effects 7−21871
Cu-Su, amorphous system, high press. melt quenching, microhardness, X-ray obs. *(Russian)* 7−44396
Cu-Zr, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
Cu-Zr metallic glass, elec. cond., annealing effects 7−7198
$Cu_{57}Hf_{43}$ amorphous alloy, local Hf environment, TDPAC spectra study 7−32303
$Cu_{1-x}Pt_x$ disordered system, X-ray absorpt. edges *(German)* 7−46241
$Cu_{0.85}Sn_{0.15}$, amorphous melt-quenched alloys, crystn. *(Russian)* 7−37881
$Cu_{1-x}Ti_x$ metallic glasses, magnetoresist., quantum interference and electron interaction effects 7−2576
$Cu_{44}Ti_{56}$ 3D metallic glasses, magnetoconductivity meas., quantum interference effects calcs. 7−17016
$Cu_{50}Ti_{50}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
$Cu_{70}Ti_{30}$ metallic glass, atomic neighbouring struct., EXAFS study *(Chinese)* 7−6519
Cu_xTi_{100-x}, $x=50,66$, metallic glasses, crystn., DTA, X-ray diffr., hardness meas. 7−63489
$Cu_{33}Y_{67}$, partial struct. factors, chem. short range order 7−63486
CuZr metallic glass, blistering under He implantation, EELS anal. 7−16593
$Cu_{33}Zr_{67}$ metallic glasses, flux pinning and critical current peak effect studies 7−22079
$Cu_{39}Zr_{61}$ 3D metallic glasses, magnetoconductivity meas., quantum interference effects calcs. 7−17016
$Cu_{50}Zr_{50}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
$Cu_{57}Zr_{43}$, glass metals, temp. depend. of positron trapping effect 7−39292
$Cu_{60}Zr_{40}$, amorphous, isothermal crystallisation, nucleation activation energy, DSC obs. 7−11926
Er-Cu (Ni) metallic glass form. by near-isothermal cold rolling 7−22610
$Er_{0.135}Fe_{0.813}B_{0.052}$ melt spun ribbons, mag. and struct. props. 7−59059
Fe alloys, solidification in mag. fields *(Russian)* 7−59508
Fe-B, metallic glasses, photoemission investig. *(Slovak)* 7−59369
Fe-B, structural characterisation by laboratory EXAFS spectrometer 7−1911
Fe-B amorphous sandwich films, concentration-dependent diffusion 7−45027
Fe-B based metallic glasses, corrosion in H_2SO_4, alloying effect 7−28201
Fe-B based metallic glasses, embrittlement, formation of B-rich zones 7−59598
Fe-B metallic glasses, imperfection struct., positron annihilation studies 7−37885
Fe-B metallic glasses, struct. relax., Curie temp. meas. 7−21124
Fe-B-Ce-based metallic glasses, mag. domain structs. and annealing embrittlement 7−27586
Fe-B-Si and Fe-B-Si-Cr-Mo-W alloys, finely cryst. and amorphous structs. on surface by laser treatment 7−8175
Fe-base amorphous powders, flame-spray quenching process for continuous prod. 7−53679
Fe-based, amorphous ribbons, small angle mag. rotation under tensile and compressive stresses 7−2919
Fe-based amorphous alloys, O_2 adsorption, ion bombardment effects 7−21637
Fe-based amorphous alloys, secondary ion emission during heating *(Russian)* 7−51656
Fe-based metallic glasses, secondary ion emission and sputtering 7−3137

metallic glasses continued
Fe-based metallic glasses, magnetic aftereffect and magnetostriction studies 7−27571
Fe-based metallic glasses, retardation of annealing embrittlement by Ce microadditions 7−65118
Fe-Co-Si-B, liq.-quenched, cooling condition depend. of saturated mag. flux density 7−58991
Fe-Cr-B metallic glasses, imperfection struct., positron annihilation studies 7−37885
Fe-Cr-B-Si, amorphous, annealing effects on Curie temp. 7−45675
Fe-Cr-Si-B metallic glass wires, corrosion rel. to crystallinity and comp. 7−46701
Fe-M-B metallic glasses (M=Ti,V,Cr,Mn,Co,Ni,Cu,Pd,C,Si,Ge,Sn), formation kinetics, thermal stability 7−58474
Fe-Ni based metallic glasses, quenched-in excess vol. and structural relax. 7−6531
Fe-Ni-B, amorphous, shock loading, inclusions dissolving, domain struct. *(Russian)* 7−63487
Fe-Ni-B metallic glasses, crystallisation, microhardness *(Russian)* 7−59617
Fe-Ni-P-C, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
Fe-Ni-Si-B, liq.-quenched, cooling condition depend. of saturated mag. flux density 7−58991
Fe-Ni-Si-B glass alloy, liq. quenched, saturated mag. flux density, effect of peening 7−13611
Fe-Ni-Si-B metallic glasses, imperfection struct., positron annihilation studies 7−37885
Fe-Ni-Zr metallic glasses, Ni contrib. to magnetism 7−53183
Fe-Ni-based amorphous alloys, relax. spectra, effect of pulse treatment 7−46536
Fe-P, amorphous alloys, electrodeposition and melt spinning prep., struct. anal. 7−11934
Fe-R-B (R=rare earth) metallic glass permanent magnets, TEM studies 7−26661
Fe-R-B (R=rare earth) metallic glass permanent magnets, struct. and mag. props. 7−27565
Fe-Si-B (10, 15 at.%), metallic glass, plastic deform. resist. 7−13521
Fe-Si-B (10, 15 at.%) alloy glass, ion milling rate, cooling condition depend. 7−46690
Fe-Si-B alloy glass, crystn., effect of solid-liq. interfacial energy 7−16437
Fe-Si-B amorphous alloys, hypoeutectic, thermal stability and soft mag. props. 7−11928
Fe-Si-B amorphous alloys, electron momentum distrib. and Fermi energy, Doppler broadening positron annihilation 7−39220
Fe-Si-B metallic glasses, wear resist. 7−13604
Fe-Si-B metallic glasses, struct. relax. *(Chinese)* 7−65070
Fe-W-B metallic glasses, imperfection struct., positron annihilation studies 7−37885
Fe-Zr, high-field magnetisation hysteresis, spin glass clusters 7−2898
Fe-Zr, mechanically alloyed, glass forming ability 7−21110
Fe-Zr, superparamagnetic behaviour 7−2904
Fe-Zr-B, meas. of Curie temp. 7−2853
Fe_{13} clusters, icosahedral and cubo-octahedral coordination, electronic struct., first-principles method calcs. 7−45132
Fe_{50} Ni_{22} Cr_{10} P_{18} and Fe_{48} Ni_{34} P_{18} metallic glasses, spin waves, study by polarised neutron scatt. 7−12962
FeB amorphous magnetic thin films, spin wave mode linewidth meas. 7−45826
$Fe_{100-x}B_x$ metallic glass system, elec. resist. under press. 7−7200
$Fe_{50}B_{50}$ amorphous film, energy-dispersive X-ray diffr. meas. 7−63401
$Fe_{75}B_{25}$, polymorphous crystallisation into Fe_3B orthorhombic phase 7−37874
$Fe_{79}B_{21}$, amorphous alloy, elec. resist. and crystn. on hardening from different temps. 7−44380
$Fe_{80}B_{20}$, amorphous, partial pair distribution function determ. 7−51640
$Fe_{80}B_{20}$, amorphous surface layer produced laser irradiation, thickness meas. using X-ray diffr. 7−44304
$Fe_{80}B_{20}$, glass metals, temp. depend. of positron trapping effect 7−39292
$Fe_{80}B_{20}$, metallic glasses, multiplet splitting, XPS study 7−27858
$Fe_{80}B_{20}$ ribbons, amorphous and crystallised, surface comp., electronic props., topography, AES, XPS, ion scatt. studies 7−27065
$Fe_{81}B_{19}$ amorphous alloy, thermally activated time fluctuations of nucl. spin orientation 7−7622
$Fe_{81}B_{19}$ amorphous ribbon, averaged spin orientation under uniaxial compression, Mossbauer spectra study 7−45792
$Fe_{83}B_{17}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7−13065
$Fe_{83}B_{17}$, metallic glass, struct. relax. X-ray and neutron diffr. study 7−6521
$Fe_{83}B_{17}$ with V, Cr, Mn or Nb, amorphous, mag. contrib. to thermopower 7−45287
$Fe_{84}B_{16}$ amorphous alloy, interstitial element segregation during fracture *(Russian)* 7−53875
$Fe_{85}B_{15}$, high energy heavy-ion irradiation, electrical resistance meas., evidence for electronic energy loss effect 7−58353
$Fe_{75}B_{15}Si_{10}$, amorphous alloy powders, rapid quenching water atomisation process 7−46371
$Fe_{78}B_{12}Si_{10}$, amorphous, very small angle neutron scatt. 7−44392
$Fe_{78}B_{13}Si_9$ amorphous and partially crystalline alloy, high resolution TEM studies 7−21127
$Fe_{78}B_{13}Si_9$, amorphous alloys, mag. losses, aging kinetics 7−59056
$Fe_{78}B_{13}Si_9$, magnetron sputtered amorphous alloys, thermal, mag. and magnetomechanical props. 7−33249
$Fe_{78}B_{13}Si_9$ reinforced Al composite, fabrication by multi-lamina explosive compaction 7−59482
$Fe_{80}B_{12}Si_8$, amorphous alloy ribbons, processing conditions rel. to mag. prop. changes *(Korean)* 7−7919
$Fe_{80}B_{14}Si_6$ amorphous ribbons, anisotropy of losses 7−45658
$Fe_{80}B_{14}Si_6$ metallic glasses, long-time tunnelling heat relaxation meas. 7−38223
$Fe_{81.5}B_{14.5}Si_4$, amorphous, mag. hyperfine fields under stress, Mossbauer study 7−22166
$Fe_{82}B_{12}Si_6$, amorphous, initial crystallisation 7−44387
$Fe_{83}B_{12}Si_5$, crystn., magnetisation, scaling, mag. relax. meas. 7−63496
$Fe_{80}B_{14.5}Si_{3.5}C_2$ metallic glass, laser beam irrad., high energy, shear band form. and cracking 7−59606
$Fe_{81}B_{13.5}Si_{3.5}C_2$ amorphous and cryst. alloy, Si diffusion and segregation 7−6859
$Fe_{81}B_{13.5}Si_{3.5}C_2$, Metglass 2605 SC, surface crystn. behaviour 7−58154

metallic glasses continued
$Fe_{81.5}B_{13.5}Si_{3.5}C_2$, amorphous ferromag. alloy, acoustic waves, mag. field induced changes 7−2917
$Fe_{77}B_{16}Si_5Cr_2$ metallic glass, crystallisation, DSC and X-ray diffr. studies 7−11932
$Fe_{81}Be_{13.5}Si_{3.5}C_2$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7−64478
$Fe_{70}(CeNdPr)_{20}B_{10}$, rapidly quenched ribbons, hard mag. props. 7−27562
$Fe_{67}Co_{18}B_{14}S$ metallic glass, magnetic aftereffect, thermal treatment, positron lifetime study 7−38907
$(Fe_{1-x}Co_x)_{77}B_{13}Si_{10}$ amorphous alloys, Mossbauer study 7−7623
$Fe_{67}Co_{18}B_{14}Si$, amorphous mag. alloy, crystallisation, elec. resist., TEM obs. 7−11927
$Fe_{74}Co_{10-x}Cr_xB_{16}$ amorphous alloys, form. and crystn. 7−11930
$Fe_{74}Co_{10-x}Cr_xB_{16}$, amorphous, prep. by melt spinning, X-ray diffr., DSC, Mossbauer studies 7−46369
$Fe_5Co_{70-x}Cr_xSi_{10}B_{15}$, x=0, 3, 6, 9, amorphous ferromagnet, 180° domain wall *(Korean)* 7−33198
$Fe_{5.85}Co_{72.15}Mo_2B_{15}Si_5$ amorphous ribbons traversed by DC electric currents excess resistance, collective motion of ferromag. domain walls 7−32989
$(Fe_{1-x}Co_x)_{78}Si_{9.5}B_{12.5}$ amorphous alloys, density of states, XPS studies *(Chinese)* 7−13320
$Fe_{39}Co_{39}Si_{10}B_{12}$, magnetic induced anisotropy, crossover effect 7−17169
$Fe_{67}Co_{18}SiB_{14}$, mean positron lifetimes after annealing *(Chinese)* 7−27814
$Fe_{80\text{-}x}Cr_xB_{20}$ metallic glasses, electron transport props., disorder and mag. effects 7−52563
$Fe_{85\text{-}x}Cr_xB_{15}(Ni_xB_{15})$ metallic glasses, mag. and elec. props. 7−13002
$Fe_{30}Cr_{10}Ni_{40}B_{20}$ metallic glass, fracture toughness rel. to prep. and struct. 7−53870
$Fe_{43}Cr_{25}Ni_{20}B_{12}$ glass, devitrification, mag. meas. and X-ray diffr. studies 7−21128
$Fe_{70}Cr_5Si_{10}B_{15}$ metallic glass, field electron emission 7−33530
$Fe_{75-x}Cr_xSi_{10}B_{15}$, x=0, 2, 4, 6, amorphous ferromagnet, 180° domain wall *(Korean)* 7−33198
$Fe_{80-x}Cr_x(SiB)_{20}$ amorphous alloy, induced anisotropy, melt spinning effects *(Russian)* 7−59004
$(Fe_{1-x}M_x)_{84}B_{16}$ (M=Co,Ni) thermoelectric power, influence of Ci(Ni) additives 7−32995
$(FeM)_{80}B_{14}Si_6$, M=Mn, Mo, V, glass, magnetoresistance 7−64203
$(Fe_{1-x}Mn_x)_{78}B_{22}$, amorphous alloys, lattice parameters, annealing, X-ray diffr., elec. resist. 7−37878
$Fe_{75}Mo_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7−11925
$Fe_{77}Nd_{15}B_8$-based melt spun ribbons, crystallisation and mag. props. 7−26662
$Fe_{50}Ni_{50}$, Deltamax, magnetic ribbons, inverse Wiedemann effect for very low torsions 7−45786
$Fe_{40}Ni_{40}B_{20}$, amorphous, positron annihilation studies 7−45859
$Fe_{40}Ni_{40}B_{20}$ amorphous thin films, coercive field, annealing effects 7−7553
$Fe_{40}Ni_{40}B_{20}$, amorphous and crystalline, elec. resistivity, temp. dependence 7−21892
$Fe_{40}Ni_{40}B_{20}$, amorphous metallic films, SAX investig. *(Russian)* 7−51576
$Fe_{40}Ni_{40}B_{20}$ amorphous alloy, effect of plastic deform. on mech. and mag. props. *(Russian)* 7−53810
$Fe_{40}Ni_{40}B_{20}$, concentration dependence of surface insulating coating, influence on magnetic props. 7−64479
$Fe_{40}Ni_{40}B_{20}$ metallic glass ribbon, failure mechanics and atom probe study correlations 7−28139
$Fe_{40}Ni_{40}B_{20}$ metallic glass, neutron diffr. struct. factors determ. 7−51654
$Fe_{40}Ni_{40}B_{20}$, metallic glass, fracture toughness rel. to prep. and struct. 7−53870
$Fe_{45.5}Ni_{44.5}B_{10.3}$, amorphous, internal friction, thermo-EMF struct., annealing effect *(Russian)* 7−59560
$Fe_xNi_{80-x}B_{20}$, XRF and PIXE surface anal. 7−12411
$Fe_{40}Ni_{38}B_{18}Mo_4$, Metglass 2826 MB, surface crystn. behaviour 7−58154
$Fe_{38}Ni_{40}Mo_4B_{18}$, metallic glass, positron annihilation *(Chinese)* 7−64726
$Fe_{40}Ni_{38}Mo_4B_{18}$, amorphous, positron annihilation studies 7−45859
$Fe_{40}Ni_{38}Mo_4B_{18}$, amorphous alloys, thermal devitrification kinetics 7−51651
$Fe_{40}Ni_{38}Mo_4B_{18}$, conversion electron Mossbauer spectra 7−48926
$Fe_{40}Ni_{38}Mo_4B_{18}$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7−64478
$Fe_{40}Ni_{40}Mo_4B_{16}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
$(FeNi)_{78}Mo_4B_{17}Si$ metallic glass, mag. shielding props., composition depend. 7−27558
$Fe_{40}Ni_{38}Mo_4B_{16}Si_2$, ferromag. amorphous ribbons by field quenching technique, mag. anisotropy 7−33164
$Fe_{40}Ni_{40}P_{20}$ amorphous alloy, electron struct. and surface struct., XPS and UPS studies 7−27238
$Fe_{40}Ni_{40}P_{14}B_6$ amorphous alloy, relax. struct. transforms., 80 to 300K 7−1890
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous material behaviour in friction 7−28151
$Fe_{40}Ni_{40}P_{14}B_6$, ferromag. amorphous alloy, struct. relax., effect of surface 7−28062
$Fe_{40}Ni_{40}P_{14}B_6$ metallic glass, heterogeneous struct., EXAFS study 7−27816
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glasses, multiplet splitting, XPS study 7−27858
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, magnetic ribbons, inverse Wiedemann effect for very low torsions 7−45786
$Fe_{40}Ni_{40}P_{14}B_6$, Metglass 2826, crystn. behaviour, influence of annealing atm. 7−53768
$Fe_{40}Ni_{40}P_{14}B_6$, superplastic deform. *(Russian)* 7−39599
$Fe_{40}Ni_{40}P_{16}B_4$, amorphous and crystallised alloys, surface oxidation behaviour 7−59666
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, amorphous spin glasses, relaxation 7−53000
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, metallic spin glass, time decay of saturated remanent magnetisation 7−59058
$(Fe_{0.5}Ni_{0.5})_{75}P_{16}B_6Al_3$, struct. relax., theory *(Russian)* 7−44397
$Fe_{70}Ni_{10}P_{13}C_7$, amorphous powder, crystallisation *(Russian)* 7−58162
$Fe_{70}Ni_8S_{10}B_{12}$, amorphous and cryst. states., oxidation *(Russian)* 7−53993
$Fe_{0.20}Ni_{0.58}Si_{0.08}B_{0.14}$, amorphous viscoelastic behaviour 7−21348
$(Fe_{1-x}Ni_x)_{77}Si_{10}B_{13}$, effective mag. moment, Curie temp. *(Korean)* 7−27503
$(Fe_{1-x}Ni_x)_{77}Si_{10}B_{13}$, structural anal. *(Korean)* 7−26655
$Fe_{10}Ni_{65}Si_{10}B_{15}$ spin glass, amorphous, effect of phase segregation during struct. relax. 7−39517
$Fe_{40}Ni_{40}Si_{16}B_4$ metallic glass, positron trap depth distrib. determ., lifetime and Doppler effect meas. 7−39304

metallic glasses continued
$Fe_{70}Ni_8Si_{10}B_{12}$, amorphous alloys, thermal devitrification kinetics 7−51651
$Fe_{75}Ni_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7−11925
$Fe_{80}P_{20}$, amorphous ribbons, structural relax., crystallisation, Mossbauer spectra *(Chinese)* 7−11918
$Fe_{82}P_{11}B_7$ metallic glass, mag. anisotropy and correlated hyperfine interactions 7−7505
$Fe_{80}P_{13}C_7$ alloy, metallic glass surface layers by rapid quenching, microhardness 7−3512
$Fe_{80}P_{13}C_7$, amorphous alloy powders, rapid quenching water atomisation process 7−46371
$Fe_{67}Si_{33}$ *(Russian)* 7−59078
$Fe_{77}Si_{10}B_{13}$, as-quenched and cold-rolled amorphous alloy, mag. props. 7−33219
$Fe_{78}Si_9B_{12}$ amorphous alloys, surface crystallisation and mag. props. 7−51649
$Fe_{78}Si_9B_{13}$ amorphous ribbons, magnetoelastic effects on practical props. 7−33252
$Fe_{90-x}Si_xB_{10}$ amorphous alloys, multistep-micro-crystallisation studies 7−21129
$Fe_{80}Si_xP_{20-x}$ amorphous alloys, struct., mag. and elec. props. *(Korean)* 7−2893
$Fe_{0.74}Tb_{0.26}$, amorphous, oxidation 7−65192
$(Fe_{1-x}W_x)_{84.5}B_{15.5}$ amorphous alloys, elec. and mag. props. *(Chinese)* 7−12969
$Fe_{90}Zr_{10}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7−13065
$Fe_{90}Zr_{10}$ glasses, crystallisation characteristics 7−51647
$Fe_{90}Zr_{10}$ glasses, crystallisation characteristics 7−51648
$Fe_{91}Zr_9$, amorphous, long-range mag. order, neutron scatt. and AC susceptibility studies 7−58979
$Fe_{91}Zr_9$, amorphous, long-range mag. order, small-angle neutron scatt. 7−58980
$Fe_xZr_{100\text{-}x}$ amorphous alloys, Kohlrausch thermal relax., sp. ht. meas. 7−59027
Gd-Co, amorphous and crystalline, hydrogenation, pressure-composition isotherm 7−3606
Gd-Co, influence of hydrogenation or mag. props. 7−2899
$Ge_{80-x}Mn_xB_{20}$ amorphous alloy, Curie point and crystallisation temp. 7−17173
$Hf_{1-x}Cu_x$ metallic glass, thermal stability and phase transformations 7−21125
HfNi, amorphous phase form. by solid-state reaction, dominant moving species 7−21706
La-Al, glass, short-range struct., pulsed neutron and X-ray diffraction 7−1912
La-Si, glass, short-range struct., pulsed neutron and X-ray diffraction 7−1912
$La_{100-x}Al_x$ metallic glasses, electron transport 7−45265
$Lu_xCu_{0.37}Y_{0.63-x}$ metallic glasses, low temp. sp. ht. 7−64462
Mg alloys rapid solidification prep., status and potential 7−22611
Mg-based simple metallic glasses, thermoelec. power temp. depend. studies 7−2581
Mg-Zn metallic glasses, room temp. stability, crystallisation and precipitation 7−11931
Mg-Zn rapidly solidified alloys, mech. props. 7−22711
$Mg_{70}Zn_{30}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
$Mg_{70}Zn_{30}$ and $(Mg_{70}Zn_{30})_{95}Pb_5$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7−38148
$Mg_{76}Zn_{24}$, amorphous, crystn., X-ray small angle scatt. 7−11935
$MoSi_2$, amorphous layer form. on ion beam mixing of Mo films on Si 7−21301
$Nb_{79}Si_{21}$, N^+ implantations, effect on A15 phase formation 7−63480
Nd-Fe-B amorphous ribbons, effect of crystallisation conditions on hard mag. props. 7−27561
Nd-Fe-B rapidly solidified ribbons, magnetisation, quench rate depend. 7−53034
Ni base amorphous alloys, containing Ti, Zr, Nb, Ta and/or P, corrosion behaviour in boiling conc. HNO_3 and HCl 7−3511
Ni/Nb alternating layers, ion beam mixing 7−21303
Ni-B, implanted, mech. props., disorder and amorphicity 7−53819
Ni-B alloy, electroless, heat induced struct. changes 7−13639
Ni-B alloy with transition metal additives, amorphous, mag. scatt. influence on transport props. 7−33001
Ni-B amorphous and crystalline alloys, vibr. density of states 7−38146
Ni-base amorphous powders, flame-spray quenching process for continuous prod. 7−53679
Ni-based consolidated rapidly solidified alloys, strengthening mechanisms 7−22712
Ni-based metallic glasses, quenched-in excess vol. and structural relax. 7−6531
Ni-Mo-B(P), depth-composition profile, X-ray photoelectron study 7−63928
Ni-Mo-Cr-B powders, amorphous and microcrystalline, shock consolidated, wear props. 7−46655
Ni-P, implanted, mech. props., disorder and amorphicity 7−53819
Ni-P coating, electrolytic, electron microscope obs. of struct., P content depend., amorphous layer form. 7−8157
Ni-P glasses, local atomic struct., NMR and EXAFS studies 7−63504
Ni-P ion-implanted and melt spun amorphous alloys, crystn., TEM, RBS and DTA meas. 7−16439
Ni-P metallic glasses, electronic struct., XPS study 7−39357
Ni-Si-B, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7−3354
Ni-Si-B amorphous ribbons, surface charactn. 7−12420
Ni-Ti metallic glass, ion beam mixing, diffusion and phase separation meas. 7−16659
$(Ni\text{-}Pd)_{82}Si_{18}$ amorphous alloys, corrosion behaviour, struct. relax, effects. 7−8166
Ni_3B, amorphous, surface electronic struct. during crystallisation and O_2 and CO adsorption 7−7308
$Ni_{64}B_{36}$ amorphous alloy, struct., boundary effects, computer simulation study *(Chinese)* 7−11920
$Ni_{64}B_{36}$, metallic glass, struct. relax. X-ray and neutron diffr. study 7−6521
$Ni_{30}B_{54}C_{16}$, B-rich amorphous alloy prep. by rapid quenching, crystn., hardness and elec. resist. 7−13441
$Ni_{75}B_{15}Si_{10}$ amorphous alloy, metalloid redistribution, scanning Auger microprobe study 7−32655

metallic glasses continued
  $Ni_{75}B_{17}Si_8$, ultrafine fine-grained, prep. from amorphous ribbon, creep deform. 7—22748
  $Ni_{70}Cr_7Fe_3Si_8B_{12}$ ribbon, rapidly quenched from melt, struct. inhomogeneity and crystallised metastable phase *(Chinese)* 7—63477
  $Ni_{83}Cr_7Fe_3Si_4B_3$, amorphous alloy, crystallisation *(Chinese)* 7—6518
  $Ni_{69.2}Cr_{6.6}Si_{13.7}B_{7.9}Fe_{2.6}$, amorphous alloy, 70 MeV Ni^{+6} ion irrad., surface swelling 7—16646
  $(Ni_{1-x}Cu_x)_{77}B_{13}Si_{10}$ pseudobinary metallic glass, low-temp. sp. ht. studies 7—12309
  $(Ni_{1-x}Cu_x)_{80}P_{20}$ pseudobinary metallic glass, low-temp. sp. ht. studies 7—12309
  $Ni_{52.5}Mo_{38}Cr_8B_{1.5}$ metallic glass, shock consolidated, wear props. 7—28154
  $Ni_{60}Nb_{40}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
  $Ni_{60}Nb_{40}$ glass ribbons, H embrittlement susceptibility, effects of cold working 7—46503
  $Ni_{60}Nb_{40-x}Al_x$ metallic glasses, form. and stability, X-ray diffr., DSC obs. 7—58155
  $Ni_{1-x}P_x$, amorphous glasses, electronic structure, calcs. 7—7101
  $Ni_{1-x}P_x$ metallic glass, electronic struct. and props., LMTO calcs. 7—52409
  $Ni_{77}P_{23}$ amorphous alloy, struct. relax. and crystn., elec. resist. and X-ray diffr. obs. 7—1894
  $Ni_{82}P_{18}$, amorphous state, electrical resistance meas. in gaseous H_2 7—32978
  $Ni_{40}Pd_{40}P_{20}$ alloy glass, solid-liq. interfacial energy 7—2208
  $Ni_{40}Pd_{40}P_{20}$, glass transition, internal friction by Collette torsion pendulum 7—38199
  $Ni_{45}Pd_{35}P_{20}$ metallic glass, decomposition, crystallisation and embrittlement, atom-probe FIM study 7—33639
  $Ni_{78}Si_{10}B_{12}$, metallic glass, shear crack propag. 7—65113
  $Ni_{80}Si_{10}B_{10}$ metallic glass, fracture toughness rel. to prep. and struct. 7—53870
  $Ni_{80}Si_5B_{15}$ metallic glass, fracture toughness rel. to prep. and struct. 7—53870
  $Ni_{35}Ti_{65}$, amorphous, internal friction of H 7—39577
  $Ni_{33}Y_{67}$, partial struct. factors, chem. short range order 7—63486
  $NiZr-H_2$, desorption, pressure-concentration isotherms 7—26665
  $NiZr_2$ metallic glasses, crystallisation, influence of O and other trace impurities 7—51633
  $Ni_{100-x}Zr_x$ metallic glasses, low temp. sp. ht. study, density of states and Debye temp. determ. 7—2226
  $Ni_{100-x}Zr_x$ metallic glasses, H storage, press.-conc. isotherms, site occupation, binding energies 7—58153
  $Ni_{33}Zr_{67}$ metallic glasses, flux pinning and critical current peak effect studies 7—22079
  $Ni_{64}Zr_{36}$, amorphous, electrical resistance meas. in gaseous H_2 7—32978
  $Ni_{64}Zr_{36}$, amorphous, short range order, EXAFS 7—44388
  $Pb_{80}Si_{20}$, amorphous, thermal stability, Auger study 7—58577
  Pd-Rh-P-Si, surface alloy vitrification by laser treatment 7—21271
  Pd-Si, metallic glasses, photoemission investig. *(Slovak)* 7—59369
  Pd-Si, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7—3354
  Pd-Si base metallic glasses, viscous flow, comp., thermal stability *(Chinese)* 7—12341
  Pd-U-Si, growth of quasicrystalline phase from glassy state 7—58144
  Pd-U-Si glassy alloys, glassy-to-icosahedral polymorphous crystn. transform., X-ray and electron diffr. studies 7—6515
  Pd-U-Si glassy state, quasicrystalline phase form., X-ray and electron diffr. studies 7—26645
  Pd_{80} $Si_{20}H_3$, metallic glass, H diffusion, quasielastic neutron scatt. study 7—21534
  PdCuSi, amorphous, reversible and irreversible changes in the thermal conductivity 7—45267
  $Pd_{77.5}Cu_6Si_{16.5}$ glass, cryst. nucleation and growth kinetics 7—11917
  $Pd_{78.5}Cu_6Si_{15.5}$ metallic glass, structural relax., vitrification, sp. ht., DSC obs. *(Russian)* 7—37880
  $Pd_{40}Ni_{40}P_{20}$ metallic glass, structural relax., shear and longitudinal sound. vel. meas. 7—51655
  $Pd_{82-y}Ni_ySi_{18}$, amorphous, electrical resistance meas. in gaseous H_2 7—32978
  PdRhPSi(SiNi), amorphous laser processed surface alloy on cryst. Ni in NaOH soln., anodic characts. 7—28317
  $Pd_{0.84}Si_{0.16}$ metallic glasses, crystallisation kinetics, elec. resist. obs. *(Chinese)* 7—11919
  $Pd_{100-x}Si_x$, amorphous, electrical resistance meas. in gaseous H_2 7—32978
  $Pd_{77}Si_{23}$ metallic glasses, picosecond laser annealing 7—44613
  $Pd_{80}Si_{20}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
  $Pd_{80}Si_{20}$, metallic glass, crystallisation 7—37882
  $Pd_{81}Si_{19}$, glassy, surface topographies, SEM and scanning tunnelling microscopy studies 7—12436
  $Pd_{81}Si_{19}$ glassy alloy, surface structure, scanning tunnelling microscopy studies 7—18921
  PdSiCo inhomogeneous magnetic alloys, anomalous Hall effect—magnetic polarisation correls. 7—7208
  PdSiCu, ultrasonic vel., mechanical props. *(Korean)* 7—26874
  $Pd_{80}Si_{20}H_3$ metallic glass, H diffusion, quasielastic neutron scatt. studies 7—52119
  Sm-Fe-Co-B-Si melt-spun alloys, mag. props. 7—27553
  TaIr-GaAs Schottky barrier contacts 7—17102
  TbFe amorphous alloys, magneto-optical props. and mag. anisotropy 7—27706
  Ti-Cu-Ni-Si amorphous alloys, structural relax. annealing, X-ray diffr. studies 7—6537
  Ti-Ni-Al rapidly quenched amorphous alloys, thermal stability studies 7—21123
  Ti-Ni-Cu system metallic glasses, superplastic props. in vitrification temp. range 7—3356
  $TiCu-H_2$, thermal stability of hydrides 7—26664
  TiNi-TiCu amorphous alloy, thermal devitrification kinetics, DSC obs. 7—21116
  $Ti_{75}Ni_{20}Ge_5$ metallic glasses, corrosion rates in the H_2SO_4 and HCl solns. 7—28199
  $Ti_{75}Ni_{20}Si_5$ metallic glasses, corrosion rates in the H_2SO_4 and HCl solns. 7—28199
  $Ti_{84}S_{16}$ metallic glass, total struct. factors, neutron and X-ray diffr. studies 7—6546

metallic glasses continued
  W wire reinforced amorphous $Ni_{75}B_{17}Si_8$ matrix composite ribbons, melt spinning prep. 7—46373
  Y-Fe-B system alloys, mag. props. 7—27563
  YAl nonmagnetic metallic glasses, negative TCR and electronic struct. studies 7—52562
  $Y_{100-x}Fe_xH_y$ metallic glasses, mag. props., H content effects 7—33155
  Zr-based transition metal glasses, local densities of states 7—7086
  Zr-Co, amorphous alloys, microhardness and struct. relax. *(Chinese)* 7—65069
  Zr-Co amorphous alloys, superconductivity, normal-state resistivity and mag. susceptibility 7—12900
  Zr-Fe amorphous alloys, chemical short range order, thermal relaxation and ion irradiation effects 7—44385
  Zr-Ni, amorphous alloys, microhardness and struct. relax. *(Chinese)* 7—65069
  Zr-Ni metallic glass, crystallisation, metastable crystalline phase form. 7—21126
  Zr-Ni(V) amorphous superconductors, struct. and supercond. props. 7—27482
  $Zr_{70}Au_{30}$, spontaneous oxidation in air, effect of humidity, pulverisation 7—3510
  $Zr_{76}Fe_{24}$, metallic glass, interaction of O, XPS study 7—39350
  Zr_2Pd-H_2, thermal stability of hydrides 7—26664
  $Zr_2PolD_{2.9}$, metallic glass, deuteron mag. resonance study 7—22159
  Zr_3Rh-H_2, thermal stability of hydrides 7—26664
  $Zr_{75}Rh_{25}$ and $(Zr_{75}Rh_{25})_{93}Be_7$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7—38148

metallic thin films
  see also discontinuous metallic thin films; electronic conduction in metallic thin films; metallic epitaxial layers; metallisation
  7—27867
  2D grain structures, topology, geometry, nucleation conditions 7—32853
  adhesion, ion beam enhanced 7—65279
  Al, mirror coatings, UV reflectivity loss, in space 7—25938
  Al films on InP, wet anodisation, compositional profiles 7—65216
  alloy film, magnetostrictive, on glass substrate, magneto-SAW propag. 7—22127
  amorphisation and film anal., ion beam techniques 7—37868
  amorphous metal alloy thin films, thermal stability 7—21761
  bimetallic film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7—21705
  buried interfaces in metallic film structures, SIMS anal. 7—17382
  characterisation by SIMS, Auger spectroscopy and TEM 7—12550
  composition measurement, X-ray fluorescence algorithms 7—54249
  composition-modulated metallic foils, mech. props., book contrib. 7—27222
  diffuse jellium-metal film surface, electrodynamic response, microscopic theory RPA calcs. 7—52458
  electroless deposition, appl. for ^{60}Co radiation control in BWR 7—49590
  electron mean free path, average, stat. model calc. 7—58911
  electron scatt. times, magnetoresist. studies 7—64369
  electron states calc., allowance for transition layer in construction of pot. *(Russian)* 7—58733
  electrostatic problems, integral eqns. for thin dielec or conducting layers 7—31209
  etching, kinetic model, electron flux activation 7—3492
  first wall appl. in fusion devices, behaviour during plasma-wall interaction 7—51489
  glassy thin films, thickness meas. using quartz microbalance *(French)* 7—29982
  grain structures and grain growth 7—16903
  growth by laser photolysis of carbonyls, C and O incorporation mechanisms 7—58685
  Hall effect and magnetoresistance 7—52575
  highly reflecting diffusers, middle-IR region, develop. status study 7—57615
  ion implantation doping and masking oxide film effects 7—21708
  layered solid, marker evolution on ion irrad., computer simulation 7—21302
  liquid metal films, wedging press. 7—12410
  magnetooptic materials and their applications 7—27703
  MBE growth, process monitoring and equipment 7—27909
  metal silicide layers on Si, thermal oxidation 7—65209
  multilayer films, thickness and composition anal. using X-ray fluorescence 7—46898
  multilayers subject to high radiation flux, X-ray optics changes 7—30135
  Nb-Ti compositionally modulated films, low-temp. interdiffusion 7—38269
  noble metal film adhesion on sapphire, ion beam induced enhancement 7—21292
  nonlinear TE polarised surface plasmon polaritons guided by metal films 7—5946
  optical films, contactless thickness meas. using eddy currents *(German)* 7—24626
  optically transmissive and electrically conductive, microstructural engineering 7—31410
  permalloy films, domain motions and instabilities, magneto-optic observation 7—53095
  Permalloy films, field induced uniaxial anisotropy, thickness depend. 7—53086
  phonon film injector, temperature dynamics, effect of phonon-phonon scatt. in the substrate 7—2441
  plasma-enhanced CVD for metallisation appls. 7—17459
  plasmon excitations, density oscillations 7—52484
  polycrystalline, DC conductivity 7—52566
  polyethylene-metal, adhesion of metal films, effects of Ar^+ bombardment 7—28267
  post magnetron sputter and reactive sputter coating on contoured substrates 7—53588
  power absorpt. due to electron-hole pair production, screening pot. at surface 7—52490
  prism-metal film-nematic liq. cryst. system, excitation of nonlinear surface EM waves 7—25866
  quasi-two-dimensional, localisation and interactions 7—64171
  rare earth silicide thin films for microelectronics 7—38383
  resistivity increase during gas adsorpt., surface roughness effect calcs. 7—45519
  silicide nucleation at metal film/Si interface, kinetic model 7—63970
  silicide thin films, nucleated, thickness oscillations 7—32865
  β-Sn thin films, high resolution TEM obs. 7—16891

metallic thin films continued
- stainless steel films, amorphous and amorphous-crystalline with refractory metal additions, magnetron sputtering 7−39380
- steel, stainless, films, sputter deposited, vacuum annealing-induced solute depletion 7−64012
- superlattices, elastic and plastic props. 7−27085
- superlattices, elastic props., effect of strain 7−52376
- superlattices, mech. props. and diffusion 7−52377
- surface electron light absorpt. Green's function method study *(Russian)* 7−21970
- surface polaritons, absorpt. by molecules near metallic surface 7−58749
- surface science, conference, Julich, Germany (April 1986) 7−55890
- surface-enhanced spectroscopy appl. to change of optical props. of microenvironment of small scattering object 7−18852
- Te elemental and alloy thin films, laser irrad. effects, refl. meas., optical data storage appl. 7−12144
- thermionic method of vacuum film deposition *(Russian)* 7−46331
- thickness measurement, X-ray fluorescence algorithms 7−54249
- transition metal disilicide films, electrical transport props. 7−58908
- transition metal film-Al$_2$O$_3$ interfaces, thermal reaction, backscattering spectra, X-ray diffr. studies 7−52304
- transition metal surfaces and overlayers, mag. and electronic props. 7−58985
- transport phenomena, localisation and interactions, conf. Braunschweig, Germany (Aug. 1984) 7−60882
- vacuum deposition, appl. for Co^{60} radiation control in BWR 7−49590
- weakly localised regime, interaction effects 7−64173
- work functions, coverage dependence 7−38676
- XPS, UPS, work function meas. 7−12485
- York, England (Jul. 1986) 7−48142
- Ag, adsorbed SCN ions, SERS 7−32838
- Ag, CO adsorbed layer, surface enhanced Raman scattering study 7−3037
- Ag, chemisorption of O, electrical resistivity meas. 7−33110
- Ag cylindrical films, weak localisation and oscill. magnetoresistance 7−7414
- Ag film, pure transition radiation following electron irrad. *(French)* 7−64708
- Ag film bounded by Langmuir-Blodgett films, antisymmetric coupled surface-plasmon-polaritons 7−22364
- Ag film on Cu substrate, depth profile shape, AES, influence of crystallographic orientation 7−27205
- Ag films, ion-induced microcones, TEM obs. 7−58593
- Ag films, loss coeffs. determ. of long-range surface plasmons 7−2650
- Ag films, with surface adsorbed ethylene, adsorbate-substrate bonding 7−52292
- Ag films on Al (111), growth and electronic struct., UPS, LEED and AES studies 7−52350
- Ag island films, optical props. in attenuated-total-reflection geometry 7−13243
- Ag, lauric acid adsorpt., reflectivity and laser excited surface plasmon spectroscopy meas. 7−45011
- Ag, polycrystalline film, recrystallisation under thermal stress *(Russian)* 7−58702
- Ag thin film growth, in situ study by internal stress meas. 7−16890
- Ag thin films, surface sensitivity of fluoresc. EXAFS in refl. conditions 7−64750
- Ag ultrathin films, elec. cond., size effects *(Russian)* 7−45520
- Ag/In thin film couples, interface AgIn$_2$ cpd. form. and props., gamma ray spectra 7−21688
- Ag-Ag, thin film system, phase growth, electron microscope obs. 7−58488
- Ag-Al film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7−21705
- Ag-Au bilayers, EXAFS and X-ray reflectivity meas. 7−27821
- Ag-D films, implanted, elec. resist. meas., vibr. props. 7−38775
- Al, disordered films, density of states, electron-electron interactions tunnel conductance meas. 7−52393
- Al, elec. cond. quantum size effect, Kubo formalism study 7−22034
- Al evaporated films, O contaminated, recrystn., after annealing 7−38412
- Al film, quantum size effects and dimensionality 7−45521
- Al film deposition from partially ionised vapour flux, fast ion interactions 7−12531
- Al film deposition on amorphous substrates 7−21770
- Al film deposition using magnetron-plasma CVD system 7−64931
- Al film growth by UV laser photolysis of trimethylaluminium 7−54153
- Al film on Si, wire bondability 7−21710
- Al films, angular dependent photoelectric yield and optical constants 7−45387
- Al films, vapour deposited, effect of O partial press. 7−52339
- Al films and wires, fluctuation and localisation effects 7−64176
- Al films on Si, Auger depth profiles using a dual ion gun system 7−22429
- Al foils, U contamination study using CR-39 track detectors 7−54218
- Al, laser deposition for metallisation 7−53631
- Al, low energy electron transmission, inelastic and elastic scattering cross section calcs. 7−63698
- Al overlayers interaction with amorphous alloy diffusion barriers 7−21761
- Al, reactively evap., morphology and opt. props. 7−59272
- Al sputtered thin films, struct. props. 7−21758
- Al, stress relax. mechanisms 7−21784
- Al, surface roughness characterisation spectroscopic ellipsometry method 7−9819
- Al thin films, corrective trimming by laser controlled wet chem. etching 7−28195
- Al thin films, pulsed laser melting, transient elec. resist. and reflectance meas. 7−12141
- Al thin films, spin-orbit scatt., localisation and superconductive tunnelling studies 7−45242
- Al thin films, vacancy redistrib. kinetics, machine modelling study *(Russian)* 7−6860
- Al thin films on Si substrates, plastic props., meas. by submicron indentation hardness, substrate curvature techniques 7−58720
- Al vacuum-deposited films, topography characts. by light scattering 7−9816
- Al vacuum-deposited films, topography charactn. by ellipsometry 7−9817
- Al/Ag layers, surface plasmon dispersion, plasma wave effects, reflectivity meas. 7−58848
- Al/Al$_2$O$_3$/Au thin film struct., dielec. props. meas. and equivalent circuit anal. 7−17115
- Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7−31424

metallic thin films continued
- Al-Cr(Mn)(Fe) amorphous films, quasicrystalline transformation by ion irradiation 7−2071
- Al-Mo multilayered films, struct., elec. props. 7−58863
- Al-Ni multilayered films, struct., elec. props. 7−58863
- Al-Si thin film metallisations, Hall-Petch relation 7−2442
- Al-Ti-Cu multilayer films, thickness and composition anal. using X-ray fluorescence 7−46898
- Al-Ti-based homogeneous alloy films, elec. resist., microstruct., electromigration, comp. effects 7−21765
- Al-V films, precip. from metastable solid solns. 7−65048
- Al-W/Ti(Ni) thin film reactions, W diffusion marker studies 7−2277
- AlSi-Ti multilayer interconnects on oxidised Si substates, electromigration resistance 7−21713
- AlSi-Ti(Ta) layered films, compound formation and Si behavior 7−21762
- Au film, (H$_2$O)$_n$H$^+$ energetic cluster impact, transmission electron microscopy 7−13304
- Au film, optical props. 7−17296
- Au films, CVD from Au complexes 7−64915
- Au films, focused ion beam induced deposition 7−46334
- Au films, optical thickness and filling factor determ. 7−39197
- Au films, rapid crystn. kinetics under laser irrad., picosec. transient reflectance meas. 7−11915
- Au films, with surface adsorbed ethylene, adsorbate-substrate bonding 7−52292
- Au films on amorphous substrates, prep. by surface-energy-driven grain growth 7−38385
- Au, furnace for LPE growth system, IR reflectivity *(Korean)* 7−33606
- Au mechanical resonance spectra 7−21712
- Au overlayer on Ni films, Ni out-diffusion 7−12511
- Au single crystal films, localisation and size effect 7−17118
- Au thin film based transparent IR reflectors, prep. and optical props. 7−39201
- Au thin film form. on Mo (110) chemically modified surface 7−12489
- Au thin films, optical characterisation using surface plasmon-polaritons 7−53425
- Au thin films, quantum size effect in optical transmission and refl. spectra 7−59275
- Au thin foil, Rutherford backscatt., low energy background studies 7−3132
- Au, X-ray telescope mirrors, surface scatt. meas. by triple axis spectrometer 7−37104
- Au/In thin film couples, interface AuIn$_2$ cpd. form. and props., gamma-ray spectra 7−21688
- Au/Ni thin film diffusion couples *(French)* 7−12576
- Au-Ni-Cu, diffusion of Au and Cu through Ni layer, depend. on ambient 7−38266
- Au-Pd films, electron scatt. times, weak localisation studies 7−64367
- Au-polymer composite thin films, plasma deposition, optical props. 7−27947
- Au-Si codeposited films, oxidation, SiO$_2$ form., alloy comp. depend. 7−13654
- Au-SiO$_2$-Bi, low temp. hot electron energy relaxation and inelastic collision times in thin metal films 7−27441
- Au$_{60}$Pd$_{40}$ thin films, warm electron energy loss meas. 7−2739
- Cd films, laser-assisted oxidation 7−65208
- Ce overlayers on Si (100), oxidation enhancement, CeSiO$_3$ formation 7−28226
- Co evaporated films, photoemission spectra, correl. effects 7−39363
- Co metallic mag. film, mag. anisotropy field freq. dispersion 7−33240
- Co, powder and thin film samples, nuclear spin-lattice relax. studies 7−38955
- Co thin films on Au, ferromag. resonance studies 7−2932
- Co-Au compositionally modulated multilayered films, magneto-optical Kerr rot., wavelength depend. 7−3100
- Co-Cr, continuously sputtered films, crystallographic orientation and mag, props. 7−27176
- Co-Cr films, continuous fabrication by sputtering, substrate degassing effects 7−27904
- Co-Cr films, film growth and magnetisation reversal mechanism 7−27585
- Co-Cr films, sputter deposition and characterisation 7−27178
- Co-Cr films, sputter deposition, microstructure and its growth mechanism 7−27179
- Co-Cr films, sputter deposited, effects of additive gases on mag. props. 7−27575
- Co-Cr films for perpendicular mag. recording media, deposition in facing targets sputtering system 7−64899
- Co-Cr thin films, mag. props. and microstructure 7−27514
- Co-Cu compositionally modulated multilayered films, magneto-optical Kerr rot., wavelength depend. 7−3100
- Co-Fe bilayer thin films, annealing behaviour, mag. props. 7−59079
- Co-Ni-Fe underlayer for double-layer perpendicular media, vacuum deposition and mag. props. 7−27577
- Co-Ni-Re-P films for perpendicular mag. recording media, electroless deposition and mag. props. 7−27580
- Co-Pt bilayer thin films, annealing behaviour, mag. props. 7−59079
- Co-Si bilayered films, chem., elec., and struct. charges upon annealing 7−22037
- Co-Ta amorphous magnetic thin films, sputter deposition methods 7−22483
- Co-transition metal amorphous films, mag. and galvanomag. props. 7−53079
- Co-Zr amorphous magnetic thin films, sputter deposition methods 7−22483
- CoCr double-layered film, sputter deposition 7−27177
- CoCr films, sputter deposition, mag. characteristics of initial deposition layer 7−27574
- CoCr films, vacuum evaporation, thickness depend. of mag. props. 7−27576
- CoCr thin films on metallic underlayers, mag. characts. 7−27573
- CoFeCr sputtered films, struct. and mag. props. 7−27175
- CoFeMoB amorphous thin films, prep. and high-freq. impedance studies 7−53585
- Co$_{50}$Ga$_{50}$ film samples, interband optical conductivity *(Ukrainian)* 7−13244
- Co$_{80}$Nb$_{10}$Ti$_{10}$ two-layered films, mag. domain structures, transmission Lorentz microscopy 7−53096
- Co$_{80}$P$_{20}$, amorphous films, electrodeposited, optical and NMR spectra, annealing effect *(Russian)* 7−45831
- CoSi$_2$, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263

metallic thin films continued
Co(001), metastable BCC phase, electronic struct. and magnetism 7−45418
Cr evaporated films, photoemission spectra, correl. effects 7−39363
Cr films, acoustic emission during electrodeposition 7−52329
Cr, oxidised overlayer on Si (111), CrSi$_2$ formation and reduction of Cr$_2$O$_3$ during annealing 7−58660
Cr, thin films, crystallographic props., electron diffr. patterns 7−21751
Cr thin films, intrinsic stress, elasticity modulus, thermal expansion and struct. 7−16889
Cr thin films, struct. and compositional characts., electron diffr. patterns 7−21752
Cr, vacuum-deposited, hardness and struct. studies 7−33761
Cr-Ge thin film interface, interdiffusion, reaction and intermixing, soft X-ray photoemission study 7−27028
Cr-Ni (45 wt.%) amorphous free-standing thin films, struct. transformations, pulse laser irradiation 7−38382
Cr-Ni multilayer thin films structures, AES depth profiling during sample rotation 7−27829
Cu (100), MT-Z potential, calc. electronic states 7−17064
Cu current collecting grid on Si solar cells, oxidation and spalling 7−22910
Cu deposition, initial stages, on MgO (001) and ZnO (10$\bar{1}$0) 7−63959
Cu, elec. cond. quantum size effect, Kubo formalism study 7−22034
Cu film deposition, sputtering method using Ar gas flow *(Japanese)* 7−22479
Cu films, interaction with Cl$_2$, bulk diffusion processes 7−21783
Cu films, laser-assisted oxidation 7−65208
Cu films, photochemically deposited, C contamination, surface processes 7−53617
Cu films, rapid crystn. kinetics under laser irrad., picosec. transient reflectance meas. 7−11915
Cu films, sputter deposition, effect of ion bombardment of growing film 7−64009
Cu films, with surface adsorbed ethylene, adsorbate-substrate bonding 7−52292
Cu thin film, surface electromag. waves damping, deposition technique study 7−59274
Cu thin film growth, in situ study by internal stress meas. 7−16890
Cu thin films, CW Ar$^+$ laser-induced oxidation 7−39694
Cu, thin films, crystallographic props., electron diffr. patterns 7−21751
Cu/Au thin film systems, interdiffusive kinetics, EXAFS studies 7−16819
Cu/In thin film couples, interface CuIn$_2$ cpd. form. and props., gamma ray spectra 7−21688
Cu/Mo multilayered film growth, RHEED intensity oscills. *(Japanese)* 7−63987
Cu/NiPd multilayered film, atomic level structural characterisation 7−16900
Cu/PdNi, single cryst. multilayers, sputter deposition 7−53582
Cu-Al bilayers, EXAFS and X-ray reflectivity meas. 7−27821
Cu-Al film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7−21705
Cu-Mg amorphous alloys, 2D weak localisation effects 7−21871
Cu-Mo multilayer film growth, RHEED intensity obs. 7−7051
Cu-Ni, compositionally modulated thin films, double positioning twinning 7−38351
Cu-Sn alloy coatings, magnetron sputtered, crystal orientation 7−39381
Cu-Sn thin film diffusion couple, reaction kinetics at room temp. 7−21536
Cu-Zr, compositionally modulated amorphous films, sputter deposition prep. 7−22482
(Fe,Co,Ni)-P layers, electrochemical deposition, struct. *(Chinese)* 7−7037
Fe films, particulate, vapour deposition on Al$_2$O$_3$ growth and props. 7−17427
Fe films on insulators, H$^+$ bombardment, Mossbauer and adhesion study 7−32517
Fe overlayers or sandwiches with Cu (001), electronic and mag. props. 7−64499
Fe thin films, stress development during oxidation 7−45096
Fe thin films, surface plasma waves, optical and magneto-optical effects 7−27704
Fe ultra thin films, Brillouin scatt. 7−27728
Fe:B polycrystalline films, amorphous alloy layer formation by ion implantation *(Chinese)* 7−6647
Fe-Ag sputtered films, thermal stability, X-ray diffr. and Mossbauer studies 7−58679
Fe-Au compositionally modulated multilayered films, magneto-optical Kerr rot., wavelength depend. 7−3100
Fe-Au-Fe double layers, exchange coupling 7−27510
Fe-B amorphous sandwich films, concentration-dependent diffusion 7−45027
Fe-Co alloys, powder and thin film samples, nuclear spin-lattice relax. studies 7−38955
Fe-Co-B films, phase transition, microstruct. 7−33568
Fe-Cr alloy films, oxide film form. by aqueous corrosion, EXAFS study 7−64007
Fe-Cr-Fe double layers, exchange coupling 7−27510
Fe-Cu compositionally modulated multilayered films, magneto-optical Kerr rot., wavelength depend. 7−3100
Fe-Cu films, obliquely evaporated, inhomogeneous conc. distrib. 7−38367
Fe-Cu sputtered films, thermal stability, X-ray diffr. and Mossbauer studies 7−58679
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, origin of high coercivity 7−27578
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, prep. 7−27908
Fe-Ni films, γ-phase low temp. precipitation investig. *(Russian)* 7−33666
Fe-Ni-Au trilayer film, structural depth profiling by glancing angle X-ray diffraction 7−26593
Fe-Si amorphous magnetic thin films, sputter deposition methods 7−22483
Fe-Si thin films, silicide formation, AES and EELS studies 7−32862
Fe-Te sputtered films, CsCl-type ordering and amorphisation 7−64021
Fe-Ti compositionally modulated amorphous films, sputter deposition prep. 7−22482
Fe-Ti multilayered films, ion bombard., microstructure, TEM obs. 7−12165
Fe-Ti-C multilayered films, ion bombard., microstructure, TEM obs. 7−12165
Fe-Zr alloy formation at Fe/Zr thin film interfaces, Mossbauer study 7−63975

metallic thin films continued
Fe$_{50}$B$_{50}$ amorphous film, energy-dispersive X-ray diffr. meas. 7−63401
FeNi metallic mag. film, mag. anisotropy field freq. dispersion 7−33240
Fe$_{1-x}$Si$_x$ amorphous films, Hall effect and mag. anisotropy 7−2911
Ga crystalline film amorphisation by pulsed excimer laser irrad., residual resist. and T$_c$ meas. 7−12140
Ga, thin evaporated films, nucleation and growth mechanism 7−46327
Ga, vac. condensates, struct. and opt. characts. 7−2404
Ga-Bi two-layer film compositions, refl. and microstruct., temp. depend. 7−53428
Gd monolayer on W, ferromag. order and crit. exponent, ESR study 7−45680
Gd-Fe sputtered amorphous films, structural relax., positron lifetime meas. 7−37870
GdFe and GdCo amorphous thin films, electrical conductivity, influence of mag. order 7−7409
Hf, film, sputtered in oscillatory electron discharge, structural features 7−12548
HfNi, amorphous phase form. by solid-state reaction, dominant moving species 7−21706
Hg deposition and stripping props. on Ir electrodes 7−45058
In-Ge thin films, anomalous structures 7−21733
In-glass, glow discharge induced changes 7−12577
K, clean and contaminated, CDW search using EELS 7−53462
LaNi$_5$:H films, resist. rel. to hydrogenation 7−58910
Li, aggregated, particle order and disorder, minimal spanning tree 7−4788
Mg quasi-two-dimensional films, electron localisation and interaction effects 7−7411
Mg thin films, initial oxidation stages, emission phenomena 7−13629
Mg-Fe dilute thin film, mag. screening and Kondo-type behaviour 7−12944
Mn-Ga, amorphous, prep. by ionised cluster beam deposition 7−3205
Mn$_{1-y}$Fe$_y$ sputtered films, mag. props. 7−38915
Mo CVD coating on graphite, struct., thermal resist. props. 7−52375
Mo, ion beam mixing of marker atoms, heat of mixing effect 7−21304
Mo magnetoresist., Al atoms diffusion annealing effects *(Russian)* 7−7408
Mo, on Si, ion beam mixing, amorphous layer form. 7−21301
Mo/Al-Si interdiffusion kinetics and contact resistance study for VLSI appls. 7−21714
Mo/Si, amorphous multilayers, annealing, diffusion, structural relax. 7−52309
Mo-N polycrystalline films, implanted, single defects, X-ray diffr. data anal. 7−38372
Mo-Ni thin films, struct., composition and homogeneity 7−2436
Mo-Pd-Si, thin film metallisation system, interdiffusion, cpd. formation 7−21538
Mo$_x$Ni$_{100-x}$, x=20, 28, 35, 48, 63, amorphous, struct., short range order, thermal stability 7−21107
Na films, meas. set-up for laser blow-off process 7−11792
Na thin films, photoelectron emission spectra 7−39347
Nb film microstruct., nonnormal incidence ion bombardment effects 7−12174
Nb films and coatings, sputter deposition method 7−27902
Nb:He$^+$(H$^+$) films, radiation defects produced by ion implantation 7−7059
Nb-Al thin film diffusion couples, Nb$_3$Al A15 phase form. during annealing, XPS and Auger studies 7−58548
Nb-N polycrystalline films, implanted, single defects, X-ray diffr. data anal. 7−38372
Nb-Pb and Nb-Sn film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7−21705
Nb-Si films, superconducting fluctuations weak localisation and electron interactions 7−2783
Nb-Ti compositionally modulated films, struct. study 7−7056
Nb-V sinusoidally modulated superlattice, growth and charact. 7−21741
Nb$_3$Ir films, lattice-stiffness changes due to ion irradiation, Brillouin scatt. 7−52379
Nb$_3$Sn films, superconducting critical temp., effect of ion beam irradiation 7−7430
Nb$_3$Sn thin films, X-ray diffr. spectra, processing methods 7−44308
Nd$_2$Fe$_{14}$B sputtered films, perpendicular anisotropy 7−53073
Ni, electrodeposited films, occurrence of multiply twinned particles 7−38373
Ni electrodeposition on Pt microelectrodes in the Watts bath, role of boric acid 7−46357
Ni, electroless plating, outdoor exposure, accelerated atmospheric corrosion *(Japanese)* 7−13633
Ni film on Cu, SIMS meas. of interdiffusion coeffs., SIMS analysing depth 7−27853
Ni film on sapphire substrate, adhesion, mechanical resonance spectra 7−21712
Ni film on Si, evaporated, silicide formation studies 7−21696
Ni films, adsorption of benzonitrile and alkyl cyanides, XPS 7−52288
Ni films, vacancy migration, impurity quenching, complex bonding energy *(Russian)* 7−44531
Ni films on Mo or Cu surfaces, out-diffusion through Au overlayers 7−12511
Ni single crystal films, resistivity ratio and mean free path length 7−52857
Ni, X-ray telescope mirrors, surface scatt. meas. by triple axis spectrometer 7−37104
Ni/Ag multilayer thin films, enhanced magnetisation 7−17204
Ni/Al multilayers, RBS spectra, automatic iterative fitting 7−22428
Ni/Al thin film interactions, phase formation sequence 7−21701
Ni/Cr multilayer films, AES sputter profiling, depth resolution 7−59358
Ni/Cr(Nb) alternating layers, ion beam mixing 7−21303
Ni/Ni-P compositionally modulated films, electrodeposition 7−3209
Ni/Zr thin film diffusion couples, amorphisation, DSC studies 7−26639
Ni-Ag amorphous thin films, crystallisation and internal constraints *(French)* 7−2433
Ni-Ag multilayer films, magnetisation and FMR studies 7−22147
Ni-B amorphous films, ion implanted and sputtered, elec. props. 7−22032
Ni-Cr multilayers, interface resolution in Auger depth profiles 7−27830
Ni-Cr-Al films, thin film resistor appl., struct., temp. coeff. of resist. props. 7−58912
Ni-Cr-Si thin films, influence of Si on props. 7−22493
Ni-Fe film, ion beam sputter deposition, ion bombardment effect on preferred orientation 7−64010
Ni-GaAs interfacial reactions, contact elec. props. 7−12504

metallic thin films continued
- Ni-Mo-B(P), metallic glasses, depth-composition profile, X-ray photoelectron study 7−63928
- Ni-Nb amorphous films, early stages of reaction with cryst. Au films 7−21703
- Ni-Si bilayered films, chem., elec., and struct. charges upon annealing 7−22037
- Ni-Si thin film diffusion couples, lateral silicide formation 7−21540
- Ni-Si-B amorphous alloy films, electrical resistance and activation energy 7−27315
- Ni-Te, vapour deposited thin films, annealing behaviour 7−3345
- Ni-Zr, amorphous phase formation by solid state reaction, evidence for nucleation barrier 7−58146
- Ni_xAg_{1-x} amorphous thin film, RF sputtered, real-time crystallization kinetics *(French)* 7−52349
- NiAl thin films, ion irrad. induced amorphisation studies rel. to cascade parameters 7−63671
- NiAl/Ni thin film interactions, phase formation sequence 7−21701
- NiFe-Co-Au trilayer film, structural depth profiling by glancing angle X-ray diffraction 7−26593
- NiSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263
- NiTi sputtered films on glass substrates, interfacial reaction, Auger study 7−22395
- Pb electrodeposition from aq. HCl soln. onto Pt (111) 7−27954
- Pb films, breakdown, nodule form., thermal expansion effect *(Russian)* 7−45067
- Pb surface plasmon detection, attenuated total refl. meas. 7−16961
- Pb thin film, optical consts. in visible region 7−7662
- Pb-In-Au alloy films, hillock growth during heat treatment 7−16893
- Pb-In-Au thin films, hillock growth kinetics, grain boundary diffusion, SEM study 7−27221
- Pb-Pt composite films oxidation, KPS 7−27867
- Pd, evaporated on CdTe, core level electron binding energy shifts, photoemission spectra 7−22451
- Pd film, vapour quenched, resistivity meas., indirect obs. of amorphous to crystalline transition 7−52864
- Pd films, adsorption of benzonitrile and alkyl cyanides, XPS 7−52288
- Pd films, sputter deposition, effect of ion bombardment of growing film 7−64009
- Pd films on Al (111), growth and electronic struct., UPS, LEED and AES studies 7−52350
- Pd, metallisation using decomposition of palladium acetate films with microfocused ion beam 7−52314
- Pd monolayers on Ta(110), morphology and struct. phase transitions 7−38374
- Pd, on Si, epitaxial silicide form., initial nucleation processes and effects 7−21767
- Pd/C model catalyst supported on TEM grids, in-situ heating and microanalysis expts. 7−23098
- Pd-H system, H conc. determ. in absorbing metallic thin films 7−23117
- PdH, thin film thickness depend. resistivity changes meas. 7−33109
- PdH_x films, critical solution temperature, thickness dependence 7−32864
- PdH_x films, H absorption, press.-composition isotherm studies 7−52248
- Pd_2Si polycryst. film on Si, ion sputtering effects, XPS, UPS and scanning tunnelling microscopy studies 7−59357
- Pd_2Si, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263
- Pt film adhesion on thermally grown alumina, O enhancement 7−46790
- Pt films, sputter deposition, effect of ion bombardment of growing film 7−64009
- Pt, in Si/Pt/Si layered system, marker evolution on ion irrad., computer simulation 7−21302
- Pt, sputtered film, microstruct., thickness effect studied by X-ray diffr. method 7−21756
- Pt thin film resistance thermometer, low temp. high mag. field use 7−14941
- Pt thin films on TiO_2 (110), XPS and depth profile data 7−22437
- Pt, X-ray telescope mirrors, surface scatt. meas. by triple axis spectrometer 7−37104
- PtSi contact metallurgy by different formation processes 7−21709
- PtSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263
- Ru, ion beam mixing of marker atoms, heat of mixing effect 7−21304
- a-Si/Au thin film bilayers, Si crystallisation study 7−21699
- Si-Pd, Pd_2Si formation, TEM study 7−38267
- Si-Pt, Pt_2Si formation, TEM study 7−38267
- Ta films, $(H_2O)_nH^+$ energetic cluster impact, transmission electron microscopy 7−13304
- Ta films, maskless ion beam assisted deposition 7−46342
- Ta-Ir amorphous thin film thermal stability, crystallisation behaviour studies 7−63464
- Ta_xCu_{1-x} amorphous thin-film diffusion barriers on GaAs, thermal and structural stabilities 7−52321
- Tb-Co thin films preparation for erasable optical memory disk *(Japanese)* 7−7049
- TbCo, amorphous sputtered films, mag. props., film struct., comp., internal stress meas. *(Japanese)* 7−7570
- Te crystalline thin films, laser-induced transform., transient conductance and optical meas. 7−12142
- Ti, film, sputtered in oscillatory electron discharge, structural features 7−12548
- Ti film charactn. for $LiNbO_3$ integrated optic devices 7−57607
- Ti film on Si, heat treatment in O_2, N_2 or O_2/N_2, Ti silicides, TiO and TiN formation 7−65191
- Ti films, deposition by arc evaporation 7−63392
- Ti, films on Si, heat treatment, $TiSi_2$ form. 7−46530
- Ti, on Si, epitaxial silicide form., initial nucleation processes and effects 7−21767
- Ti, periodic microrelief, laser irradiation 7−63927
- Ti, polycrystalline, electron beam bombardment, recrystallisation, oxidation and phase transforms. 7−21746
- Ti, reactively sputtered coatings, oxidation, XPS and contact resistance meas. 7−53934
- Ti thin films, dissolution and diffusion of O, resist., X-ray diffr., particle backscatt. and AES studies 7−58913
- Ti thin films, laser-induced damage, parameters effects 7−21275
- Ti-Cu-Ti thin films, reaction kinetics, stress, and microstruct. 7−21764
- Ti-Si interface, laser irradiated, silicide formation 7−45079
- Ti-Si thin films, silicide phase formation 7−21695

metallic thin films continued
- TiN_x sputtered films on sapphire, elec. and optical props., depend. on substrate temp. 7−39192
- $TiO_2/Ag/TiO_2$ struct., Ag thickness effect on optical transmission *(Rumanian)* 7−17354
- $TiSi_2$ formation on Si by rapid thermal annealing 7−21707
- $TiSi_2$ formation on Si:As 7−12551
- $TiSi_2$:B(P)(As) films on Si, impurity diffusion 7−7077
- $TiSi_2$:O films, quantitative SIMS analysis, in situ ion implantation of ^{18}O reference level 7−12100
- V evaporated films, photoemission spectra, correl. effects 7−39363
- V film, B ion implementation, phase changes, electron microscopy study 7−12169
- V films, laser-induced oxidation kinetics 7−59681
- V polycrystalline films, struct. defect disappearance, activation energy, elec. resist. meas. 7−26740
- V/Ni multilayered superlattice, microstruct., X-ray and neutron diffr. 7−32849
- V-Si films, electrical transport props. 7−33108
- W (110), five-layer film, self-consistent electronic-struct. calcs. 7−38659
- W and refractory metals, VLSI appls., conf., Albuquerque, NM, USA (Nov. 1984 and Oct. 1985) 7−14715
- W CVD films, nucleation on insulators and surface reaction with Si 7−16911
- W deposition on Si (111)-(7×7), interface formation 7−58710
- W film on MBE GaAs, RHEED study of struct. 7−21755
- W films, CVD on Si by Si reduction of WF_6, effect of substrate dopants and crystal perfection 7−22576
- W films, ion beam enhanced etching with XeF_2 7−53942
- W films, LPCVD deposition kinetics in single wafer vacuum reactor 7−59448
- W films, LPCVD growth on Si substrates by H_2 reduction of WF_6 7−17470
- W films, maskless ion beam assisted deposition 7−46342
- W films, selective deposition on self-aligned $CoSi_2$ by low pressure CVD 7−53606
- W films by selective LPCVD, struct. charactn., diffusion barrier appls. 7−17468
- W films prep. by various deposition methods, effects on elec. resist. 7−52860
- W LPCVD film struct., IC appls. 7−58692
- W LPCVD films by WF_6/Si reduction method, influence of deposition variables 7−17461
- W nonselective CVD films, adhesion to SiO_2 7−17760
- W, plasma-assisted etching, ion bombardment effects, quartz cryst. microbalance studies 7−28211
- W reactively sputtered films, elec. resist., microstructure, effects of N or O partial press. 7−52861
- W selective CVD films, diffusion barrier props. 7−52155
- W, selective deposition by APCVD 7−17460
- W, selective LPCVD on self-aligned Ti and PtNi silicides 7−17458
- W selective low press. CVD growth on Ti, $TiSi_2$ and PtNiSi, surface reactions, struct. 7−27183
- W thin films on Si substrates, plastic props., meas. by submicron indentation hardness, substrate curvature techniques 7−58720
- W-Re amorphous thin film thermal stability, crystallisation behaviour studies 7−63464
- W-Ru amorphous thin film thermal stability, crystallisation behaviour studies 7−63464
- W-Si amorphous thin films, interfacial reactions with polycryst. metal overlayers 7−21763
- W-Si interfaces, microstruct. charactn. 7−16882
- W-Si system, selective deposition of W films on Si wafers, WSi_2 formation 7−21748
- WSi_2 amorphous films, crystallisation, stacking faults and resistivity 7−21759
- WSi_x CVD films on Si and Si_3N_4 coated Si, excess Si redistribution upon annealing 7−21723
- WSi_x films, sputter deposited from cold pressed, vacuum sintered composite target, annealing, comp., resist. meas. 7−21719
- Yb amorphous films, stability, effect of mag. field *(Russian)* 7−52319
- Zn alloy films on Al, growth and adhesion rel. to application technique 7−13396
- Zn electrodeposition, struct. rel. to inhibition conditions 7−22593
- Zn passive electrodes, space charge effects 7−28315
- Zr, film, sputtered in oscillatory electron discharge, structural features 7−12548

metallisation
- *see also electrodeposition*
- Auger depth profiling, interface resolution 7−54246
- diffusion process study 7−12350
- film growth on semicond. surfaces, scanning tunnelling microscopy studies 7−21053
- laser materials processing developments at GEC Hirst Research Centre (UK) 7−53581
- laser-assisted metallisation for low-cost high-efficiency solar cells 7−8415
- lift-off edge residue removal 7−20577
- microelectronic materials, characterisation by SIMS, book contrib. 7−44976
- particle metallising, kinetics of vapour condensation 7−2162
- protective coatings, reactive magnetron sputtering, microelectronics appl. 7−33556
- silicide oxidation, thermodynamics and kinetics 7−22863
- silicides, rapid thermal annealing 7−21545
- solar cell metallisation grids, optimum transparency factor determ. 7−59857
- solid-state devices and materials, conf., Tokyo, Japan (Aug. 1986) 7−48173
- sputter deposited coatings, microstructure, IC appls. 7−52338
- superhard material powders, X-ray method of determ. of degree of metallisation 7−54043
- synchrotron radiation mirror, lacquer-coated, irrad. with undulator light, surface heating 7−43307
- thin films, interfaces and phenomena, conf., Boston, MA, USA (Dec 1985) 7−18502
- thin films, plasma-enhanced CVD for metallisation appls. 7−17459
- Triotron sputtering equipment for the production of mixed Ta/Si layers *(German)* 7−33564
- Al film, laser deposition for metallisation 7−53631
- Al film deposition using magnetron-plasma CVD system 7−64931

metallisation continued
  Al, selective CVD technology 7—53629
  Al/TiN/Si contacts for VLSI, analytical electron microscopy 7—58651
  Al-Si/$MoSi_2$ stable contacts to shallow junctions 7—52847
  Al-Si/Ti/Al-Si VLSI metallisation, electromigration and microstruct. props. 7—21550
  Al-Si-Cu electrode, sputtered Cu distrib. near SiO_2 interface 7—2415
  $Ar^+ + Na_2MoO_4(NaNbO_3)(MoO_2)(Nb_2O_5)$, ion-induced decomp., metallisation channels, XPS anal. 7—57149
  Au CVD by laser induction 7—22564
  Au films, focused ion beam induced deposition 7—46334
  Co-Si, direct silicidation, on Si:B(As)(P), rapid thermal annealing 7—21546
  $CoSi_2$, MBE growth, struct. props. and device appls. 7—21738
  $CoSi_2$ self-aligned silicide technology using rapid thermal processing 7—52154
  CuAl-quartz, SAW resonators, annealing behaviour and phase noise performance 7—11242
  $FeSi_2$ thin films, appl. to electro-optic VLSI interconnects 7—53427
  GaAs, semi-insulating, AL metallisation, electromigration failure anal. 7—44927
  GaAs substrates, laser-induced metal and alloy plating, silicide form. 7—39448
  GaAs/Au-Ge/Ni ohmic contacts, ion implantation and metallisation prep. 7—22014
  n-GaAs/AuGe-Ni, ohmic contact fabrication RBS anal. 7—32840
  GaAs-Ni interfacial reactions, contact elec. props. 7—12504
  InGaAsP-InP laser diodes, low resist. contacts on p-side 7—20276
  InP, high resistivity layer form. by ion implantation, ohmic contact characterisation 7—38035
  InP-Au, metallic contact layers, thermal dissociation, P loss 7—23005
  Mo, laser photochemical etching by surface halogenation 7—46676
  Mo-Pd-Si, thin film metallisation system, interdiffusion, cpd. formation 7—21538
  $MoSi_2$:As-poly Si struct., redistribution of As by silicidation tempering 7—51812
  $NbSi_2$ film form. by scanning electron beam annealing 7—21285
  $NbSi_2$ sputtered films, rapid thermal annealing 7—21739
  NiGeAuAgAu alloyed ohmic contacts to AlInAs-GaInAs heterostruct., charact. 7—22016
  $NiSi_2$ formation by reaction of filament evaporated Ni with Si substrate 7—38268
  $NiSi_2$, MBE growth, struct. props. and device appls. 7—21738
  PLZT, ferroelec. ceramic, laser-induced surface metallisation 7—53924
  Pd, metallisation using decomposition of palladium acetate films with microfocused ion beam 7—52314
  Pd-Ge ohmic contacts to InGaAsP-InP, solid-phase epitaxial growth 7—2706
  Pd-PET membranes, H diffusivity and solubility, meas. by nonequilib. stripping potentiostatic method 7—6809
  Pt silicide formation, defects study by scanning Auger microscopy 7—21195
  Si materials science issues in IC processing 7—35115
  Si, porous, W deposition for buried conductor formation 7—3189
  Si substrates, laser-induced metal and alloy plating, silicide form. 7—39448
  Si:As surface, $TiSi_2$ formation 7—12551
  Si/PtSi/V/Al Schottky barrier diode metallisation system 7—2666
  Si-$Co_{50}Mo_{50}$-Au, amorphous $Co_{50}Ta_{50}$ alloys as diffusion barriers 7—44923
  Si-$Co_{50}Ta_{50}$-Al, amorphous $Co_{50}Ta_{50}$ alloys as diffusion barriers 7—44923
  Si-$TiSi_2$, $TiSi_2$ local epitaxial growth on Si (111), rapid thermal annealing, annealing ambient 7—33856
  Si-W, buried conductor formation, low press. CVD W deposition on porous Si 7—32877
  a-SiGe:H,F/Pd(Au)(Ni), Schottky barrier height, internal photoemission meas. 7—45501
  Si_3N_4 ceramic, bonding to stainless steel, using Cr and Mn prediffusion *(Japanese)* 7—8147
  Si_3N_4-Ti, reaction under rapid thermal annealing 7—39334
  SiO_xN_y, plasma-enhanced deposited oxynitride films, IR and UV transmission, appl. for electronic devices 7—33474
  $TaSi_2$ and Ta_2Si surfaces, oxidation oxide stability 7—39685
  $TaSi_2$ film form. by scanning electron beam annealing 7—21285
  $TaSi_2$, LPCVD process 7—59449
  $TaSi_2$/polycrystalline Si structures, oxidation, dopant effects 7—39686
  $TaSi_2$-Si interface, ion implanted, dopant diffusion, SIMS anal. 7—38271
  Ti, oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
  Ti-Cu-Ti thin films, reaction kinetics, stress, and microstruct. 7—21764
  Ti-Si thin films, silicide phase formation 7—21695
  TiB_x plasma-enhanced CVD films on Si, furnace annealing, metallisation appls. 7—38411
  TiN films as diffusion barriers in high temp. metallisation *(Japanese)* 7—46319
  TiN_xO_{1-x}-$TiSi_x$, bilayer, formation by rapid thermal anneal in N_2 7—21547
  $TiSi_2$ films on polysilicon, elec. resist., implications for low temp. appls. 7—58907
  $TiSi_2$ formation by As^+ ion beam mixing and rapid thermal annealing 7—52153
  $TiSi_2$ formation kinetics on Si (100) and Si (111) 7—38273
  $TiSi_2$, oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
  $TiSi_2$ plasma-enhanced CVD films for interconnect appls. 7—52342
  $TiSi_2$:As(Sb) layers, dopant redistribution during silicidation by rapid thermal annealing, ion scatt. spectra study 7—21253
  W and refractory metals, VLSI appls., conf., Albuquerque, NM, USA (Nov. 1984 and Oct. 1985) 7—14715
  W CVD films, nucleation on insulators and surface reaction with Si 7—16911
  W, CVD on Si substrate, effects of dopants and cryst. perfection 7—16912
  W films, ion beam enhanced etching with XeF_2 7—53942
  W films, LPCVD deposition kinetics in single wafer vacuum reactor 7—59448
  W films, magnetron sputtering prep., elec. and mech. props. 7—16913
  W films, selective deposition on self-aligned $CoSi_2$ by low pressure CVD 7—53606
  W films by selective LPCVD, struct. charactn., diffusion barrier appls. 7—17468

metallisation continued
  W LPCVD film struct., IC appls. 7—58692
  W LPCVD films by WF_6/Si reduction method, influence of deposition variables 7—17461
  W, LPCVD on Si-Ge alloy for interconnect appls. 7—17472
  W, laser photochemical etching by surface halogenation 7—46676
  W, microwave plasma etching, side wall protection technique using chopping method 7—59686
  W nonselective CVD films, adhesion to SiO_2 7—17760
  W, selective CVD for VLSI device appls. 7—17455
  W, selective CVD for VLSI appls. 7—17457
  W, selective deposition by APCVD 7—17460
  W selective LPCVD films on Si substrate, characts. 7—38409
  W, selective LPCVD for MOS VLSI appls. 7—17456
  W, selective LPCVD for CMOS VSLI, appls. 7—17471
  W, selective LPCVD on self-aligned Ti and PtNi silicides 7—17458
  W, selective LPCVD on Si substrate, elec. and struct. props. 7—17467
  W-Si, sputter deposition on Si (100), rapid thermal annealing 7—21548
  W-Si amorphous thin films, DC sputter deposited, crystn. temp., DTA 7—21720
  W-Si interface, thermal behaviour rel. to silicide form. 7—16822
  W-Si system, selective deposition of W films on Si wafers, WSi_2 formation 7—21748
  W-Si system, silicidation reaction suppression up to 1100°C 7—16821
  WSi_2-$TiSi_2$, bilayer, on Si, rapid thermal annealing 7—21549
  ZrN reactively sputtered films, elec. charactn. rel. to submicron gate electrode appls. 7—38777
metallising *see metallisation*
metallo-organic compounds *see organometallic compounds*
metallocenes *see organometallic compounds*
metallography
  see also electron diffraction examination of materials; electron microscopy; optical microscopy
  alloys, morphological analysis of eutectic structures 7—7987
  alloys, surface-modified, cross-section precip. extraction replica technique 7—54042
  anodic films on Al, double-refraction theory 7—39743
  automatic quantitative microstructure analysis, contrast determ. 7—8227
  digital representation and evaluation of metallographical microstructural images *(German, English)* 7—39809
  electron backscattering pattern technique in SEM, use for creep tested specimens 7—46748
  electron microprobe use as digital image analyser *(French)* 7—46746
  graphite particulate composites, opt. and scanning electron microscopic obs. of graphite struct. 7—22933
  image analysis systems, microprocessor and minicomputer-based 7—1033
  inclusions, 3D size distributions 7—39802
  interference layer technique, phase optical consts., data collection construction *(German, English)* 7—4645
  metal/ceramic, diffusion welded layered composites, transition zone metallography, struct., hardness *(German, English)* 7—8226
  monotectic alloy, section prep., micromilling, polishing *(German, English)* 7—22937
  Nimonic 80A, crack growth under sulphidising conditions, metallography 7—59680
  pearlite spacings, meas. of spread 7—39804
  rare earth alloys, R-Co-Fe system between 2:17 and 2:7 phase regions, phase equilibria, metallography, X-ray diffr., thermomagnetic anal. 7—17511
  steel, analytical electron microscopy, developments and trends 7—22949
  steel, eutectoid, 1.3 wt.% Cr, specimen prep. technique influence on analytical TEM obs. of partitioning 7—22950
  steel, high speed, wear mechanisms and tool life rel. to microstruct. 7—8128
  steel, rotor type, deformed, microcrack dimens. rel. to acoustic emission parameters and struct. 7—65258
  steel metallurgy, computer-assisted image anal. systems 7—3546
  stereological counting meas., estimation of dihedral angles 7—39803
  weld metal, self-shielded FCAW, nitride and N contents estimation method 7—59710
  Zircaloy-2, phase transition temp., resist. obs. 7—59512
  Al alloys, crystal structure and microstructure, metallography studies 7—58204
  Al, anodised, variation in polarised light intensity with grain orientation 7—54041
  Al, plastic deformation under impact loading, metallography, SEM and TEM studies *(Russian)* 7—3361
  Al-Cu-Mg, 2024, TEM specimen prep. parallel and perpendicular to machined surfaces 7—39808
  Al-Si-Mn-Fe,intermetallic phases, TEM obs., extraction replica technique 7—39807
  Al-Zn-Mg, TEM specimen prep. parallel and perpendicular to machined surfaces 7—39808
  Cu-Ti-Al single crysts., strain hardening due to multiple twinning *(Russian)* 7—46501
  Fe, cast, cavitation resist., microstructure, SEM obs. *(German, English)* 7—59641
  Fe-C, ferrite and cementite refl., polishing conditions effect *(German, English)* 7—22938
  Fe-Ni, austenite form. during continuous heating *(Russian)* 7—17557
  Mo, etching, new method 7—39749
  Ni-Ti-Nb, shape memory alloy, cast microstruct. 7—7988
  Si, oxidation, surface layer defect formation 7—46733
  SiC particle reinforced Al-Cu-Mg composite, failure mechanism, SEM obs. 7—65132
  Ti-Al-Mo-V-Cr alloy VT22, metallographic study of β-solid soln. decomp. 7—39523
  Zn-based alloys, mechanical props., alloying addition effects *(Japanese)* 7—8090
  Zr-Nb (2.5 wt.%) H and D profiling at surface, effect of surface prep. 7—59668
metallurgical industries
  see also forging; rolling mills
  fibre-reinforced Al alloy-matrix composites fabrication process 7—46377
  magnetic vortex field, 2D, with boundary conditions of 3rd kind, numerical determ. for tube drawing, inductive heating *(German)* 7—33811
metallurgy
  see also ageing; alloys; crystal microstructure; deformation; electrical properties of substances; hardening; heat treatment; magnetic properties of substances; materials testing; mechanical properties of substances;

metallurgy continued
metallography; metallurgical industries; metals; metalworking; phase diagrams; phase transformations; physical chemistry; powder metallurgy; precipitation; recrystallisation; surface treatment; zone refining
Clarence Zener, impact on metallurgy 7−7828
extraction metallurgy using thermal plasmas, fundamentals and applications 7−33621
French Metallurgy Society meeting, Paris, France (Oct. 1986) *(French)* 7−29579
fusion reactor materials, conf., Chicago, IL, USA (Apr. 1986) 7−48145
process reactor, magnetic plasma rotation 7−26429
surface and interface analysis, appls. conf., Veldhoven, Netherlands, (Oct. 1985) 7−24289

metalorganic chemical vapour deposition *see chemical vapour deposition*

metalorganic compounds *see organometallic compounds*

metals
see also actinides; alkali metals; alkaline earth metals; aluminium; bimetals; cadmium; gallium; indium; lattice dynamics of metallic crystals; lead; mercury (metal); metallic thin films; rare earth metals; thallium; thermoelectric effects in metals and alloys; tin; transition metals; zinc
adatom overlayers, diffusion and interactions 7−7012
adiabatic shear bands, struct., review 7−32549
advanced metals developments 7−27978
amorphous, interstitial diffusion and trapping, Monte Carlo simulations 7−32721
anomalous skin effect, Fermi surface curvature effects *(Russian)* 7−58827
appearance pot. spectra, many-body effects, single-particle excitation contrib. calcs. 7−22387
asymmetric oblique supersonic collisions, shock polar method anal. 7−32572
barrier pot. calc. for tunnelling electrons at metal-metal interface 7−52746
BCC, ductile-brittle transition rel. to dislocation density 7−39668
BCC, H-dislocation interaction mechanism, embrittlement and dislocation motion 7−44600
BCC, interstitial diffusion in crystals, quantum theory 7−44916
BCC, polycrystalline, dislocation struct., strain hardening *(Russian)* 7−59545
BCC and FCC crystal structures, H trapping, thermal anal. obs. 7−22830
BCC metal alloys, interdiffusion coeffs. 7−44896
BCC refractory, mag. susceptibility, elastic consts. and compressibility 7−33142
beam-solid interactions and phase transformations, conference, Boston, MA, USA (Dec. 1985) 7−9590
bend tests for stress corrosion testing 7−54040
Bridgman growth, interface temp. distrib., furnace stability, computer calc. 7−53546
bubble nucleation and growth under neutron and proton irrad., nonequilib. statistics 7−51848
bulk modulus and its press. derivative 7−21322
bulk sample, laser heating and combustion by obliquely incident radiation 7−26795
cathodic protection against metallic corrosion of cement plant facilities 7−28210
ceramic-metal interfaces, grain boundaries, bonding and interfacial structure 7−26765
ceramic/metal jointed interface, strain distrib. determ., laser speckle photography *(Japanese)* 7−54037
ceramics, ion implantation and near surface microstructures, analytical electron microscopy 7−37816
characteristic temps. of narrow band metals 7−45689
charged particle, interaction with solid surface, general formalism, spherical geometry 7−2652
chemicothermal treatment conditions, form. kinetics of irreversible deform. 7−17692
chemisorbed CO, affinity levels, energy and composition 7−59780
clean surfaces, ion-induced secondary electron spectra 7−59346
close-packed structure, solid-liq. phase transitions, atomic processes 7−52012
clusters, condensation in free jets, scaling laws, similarity relations 7−42825
coatings, comp. of dissimilar metals interacting through melt 7−3490
cold-deformed, microcrack development *(Russian)* 7−39652
collective excitations and interband transitions 7−2459
composites, laminated, struct.-performance maps 7−17574
compression pulses, nanosecond, attenuation 7−58413
contactless quasioptical resonator inspection 7−54052
core level X-ray spectra, deviation from asymptotic theory 7−59376
corrosion, positive and negative ion exoemission, physicochemical conception 7−13301
corrosion in contact with thermal insulation *(German)* 7−3524
corrosion in contact with wood *(German)* 7−3523
crack detection, structural inhomogeneities, multi-freq. eddy current testing 7−22954
creep crack growth prediction by a local approach 7−53841
creep modelling for engineering design 7−22776
crystal to glass transform., kinetics and thermodynamics 7−44399
crystals, magneto-optical Kerr effect, charge carrier plasma reson. enhancement calcs. 7−45997
cubic polycrystals, elastic consts., Young's modulus rel. to axial texture *(Russian)* 7−59562
current state excitation, surface scatt. effects calcs. 7−17005
cyclic hardening, hardening law and fatigue damage 7−58400
cyclic local stress-strain and fatigue crack initiation life *(Chinese)* 7−46593
d- and f-metals, anomalous props. due to charge density fluctuations 7−7132
defect profiles, low energy positron meas. 7−64731
defects, neutron and synchrotron radiation studies, comparisons 7−51754
deformed, heterogeneous dislocation distrib., two-parameter description 7−44547
deuteron irrad., multiple fracture planes, bubble growth 7−58372
diamagnetic susceptibility of pure metals and binary alloys 7−45615
dielec. const. giant quantum oscills. under coherent magnetic breakdown *(Russian)* 7−53216
dirty, conduction electron inelastic lifetime, nonlocalisation method studies 7−64210
dirty, electron-phonon scatt., collision rates 7−64235

metals continued
dislocation assemblies, parameter linking change in internal energy and vol. in creation *(Russian)* 7−58279
dislocation mobility, damping by conduction electrons, kink model 7−51768
disordered, temp. coeff. of elec. resist., Mooij correlation nonuniversality 7−21893
disordered metallic cylinders, phase transition of Aharonov-Bohm periodicity 7−52580
disordered metals with nuclear-spin impurities, ESR study 7−22135
dual-phase, simulation of growth process of minor phase grains 7−65050
ductile, new workability criterion 7−13533
ductile metal tubes, no. of cracks in axial splitting 7−59597
elastoplastic problems, numerical methods, double exposure speckle photography 7−57714
electroconductivity in const. mag. field, electron relax. time and interactions *(Russian)* 7−32994
electrodes, Fourier transform IR techniques, in-situ spectroelectrochemistry 7−54144
electrodes, H atom diffusion and trapping, meas. by potentiostatic double-step method 7−21524
electrodes, H atom diffusion and trapping, meas. by potentiostatic double-step method 7−21525
electromigration in jellium metal, electron wind force 7−32728
electron diffraction analysis, appl. of theoretical diffr. patterns 7−11853
electron gas, dynamic struct. factor, particle self-energy contributions 7−45182
electron gas, multipair excitations and sum rules 7−45183
electron impurity states, dynamic spin suscept. calcs. *(Russian)* 7−12646
electron irrad., PAC-monitored defect reactions 7−44623
electron work function in solns., photoemission law 7−22435
electron work functions in diglyme (diglyme-water), photo- and thermionic emission meas. 7−52731
electronic sp. ht., finite conduction electron lifetime correction calcs. 7−16784
electronic struct. of impurities in metals, valence-electron-only molecular orbital calcs. 7−2528
electronic structure, positron annihilation studies, review 7−45126
electronic structure, positron studies 7−64730
electronic structures of lattice defects, tight binding recursion method 7−27289
EM generation of acoustic waves, theory 7−51945
EM wave interaction with dislocations, conduction electron density *(Russian)* 7−63615
etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7−3493
EXAFS and XANES, conference, Abbaye Royale de Fontevraud, France, (July 1986) 7−60862
fatigue deformed, stimulated electron emission kinetics *(Russian)* 7−3156
fatigue non-damaging notches 7−38103
fatigued, dislocation patterning, labyrinth structures, rotational effects 7−38009
FCC, creep activation energy *(Russian)* 7−46577
FCC, creep power law breakdown, stacking fault energy effect 7−39609
FCC, cyclic deform., dipolar wall spacings in dislocation struct. 7−53825
FCC, EXAFS spectra, backscattering amplitude and phase shift functions 7−27820
FCC, quantitative assessment of forest hardening 7−65055
Fermi surface, pseudopotential calcs., program set review *(Russian)* 7−64050
ferromagnetic, elastic moduli anomalies, thermodynamic theory *(Russian)* 7−2080
ferromagnetic, long-wavelength magnon relax. 7−64446
ferromagnetic, sound propagation, velocity and absorption 7−38919
ferromagnetic, spin fluctuations above T_c *(Japanese)* 7−22113
ferromagnetic, structural defects studies muon depolarisation method calcs. 7−45898
ferromagnetic metals, eddy current testing, mag. permeability effect 7−22958
field theoretical approach to solid state physics 7−12934
fine grained structure, grain boundary diffusion theory *(Russian)* 7−6853
fine particles, energy level statistics 7−38431
foil prep. by melt overflow rapid solidification 7−22609
formation energy of a vacancy in metals, rapid convergence of lattice sums to pseudopotential calc. 7−51760
French Metallurgy Society meeting, Paris, France (Oct. 1986) *(French)* 7−29579
Frenkel pair production cross sections, calc. fission-fusion neutron spectrum sensitivity 7−51849
grain boundary diffusion mechanisms, review 7−52143
grain boundary interactions with dislocations *(Russian)* 7−63645
grain boundary structure *(German)* 7−44571
granular, hopping conduction 7−17007
HCP, computer simulation of twin boundaries 7−38014
heavy electron superconductors, p-wave pairing consequences 7−2772
heavy metals pollution of Cpatzacoalos estuary and Ostion Lagoon, sediment anal. 7−46975
heavy particle tunnelling, electronic polaron effects 7−52118
hexagonal, slip transmission, crystallography 7−2024
high temp. corrosion in sulphidising/oxidising environments 7−3494
high temp. materials, carburisation, mathematical model, diffusion and precip. *(German)* 7−8193
high-melting, fracture toughness *(Polish)* 7−44679
image potential induced states at metal surfaces, effective masses, lifetimes 7−52722
impure, localisation, interactions and transport phenomena 7−64169
indirect-exchange interaction, realistic calc. 7−38854
inhomogeneity of elastic and plastic deform. 7−58399
inhomogeneous surface layer, Love waves *(Russian)* 7−16683
intense laser irradiation melting in high vel. gas flow, interaction model calcs. 7−58321
internal interfaces, grain boundary struct., intergranular fracture 7−26766
ion beam-induced nitride form. and phase identification, X-ray diffr. study 7−12176
ion bombarded, continuous spectrum optical emission 7−13295
ion implantation of inert gases, high press. precip. phases 7−38031
ions, coupled transport through supported liq. membranes 7−54176
IR imaging of subsurface structures, using pulse video thermography 7−33899
irradiated, creep mechanisms, dislocation climb and slip 7−12194
irradiated, deformation, impurity atmosphere effects *(Russian)* 7−59569

metals continued
irradiated, deformation rate, impurity atmosphere effects *(Russian)* 7—33727
irradiated, deformation rate, radiation swelling and creep *(Russian)* 7—44597
irradiated, internal stress, diffusion relaxation 7—58313
irradiation damage, instantaneous processes 7—58314
irradiation-induced transient creep during pulsed irradiation 7—13528
irregular surface, thermionic emission, thermodynamical treatment 7—64868
Kondo effect amplification by mag. field 7—52602
laser etching and deposition, basic mechanisms, review 7—53923
laser oxidation, absorptivity meas. 7—59682
laser radiation, nature of mass transfer *(Russian)* 7—32494
laser radiation screening by damage products 7—32493
laser-induced surface effects, nonlinear optical diagnostics 7—2061
light interstitial motion, recent expts. 7—52114
light particle quantum tunnelling and diffusion 7—52113
liquid phase sintering treatments, phase diagrams 7—7911
local and macroscopic viscosities in solid state 7—46555
longitudinal sound absorpt. oscills. orientation anomalies under magnetic breakdown *(Russian)* 7—51955
low-melting, microhardness 7—22797
$(M-OH_2)^{n+}$ complexes, charge transfer and electric mobility, ab initio SCF calcs. 7—62253
materials modification with ion beams, review 7—16647
materials science and processing, outline of trends 7—46282
melting and crystallisation in EM crucible 7—52009
mesh IR diffractive filters fabricated by electron beam lithography, spectral and polarising characts. 7—62816
metal, quasi-2D conductivity, high freq. effects *(Russian)* 7—33038
metal-ceramic composite, dynamic fracture toughness *(Japanese)* 7—13559
metal-ceramic interfacial props., thermodynamics 7—12506
metal-ceramic particle composites, cast, solidification, struct. and props. 7—7932
metal-H systems, interatomic forces near H impurity 7—58293
metal-H systems, Jahn-Teller relax. effects in inelastic neutron scatt. spectra 7—58781
metal-H systems, statistical thermodynamic aspects of bonding 7—6576
metal-polymer two-layer plates under bending load, strength and stiffness calc. 7—57713
metallic superlattices, long wavelength bulk and surface spin waves 7—2835
metals, magnetic impurity spin coupling, s-d mixing interaction envelope function calcs. 7—2814
metals, resonance interaction of concentrated energy flux 7—33624
muons in metals, valence-electron-only molecular orbital calcs. of Knight shift 7—2961
neutron irradiation damage *(Japanese)* 7—32508
neutron scattering studies, conf., Julich, Germany (Oct. 1985) 7—48178
Newns-Anderson model, time-depend., for moving particles on metal surfaces 7—52263
nitriding, laser-plasma synthesis, melting processes calc. 7—28176
nondestructive inspection of cond. surfaces and dielec. coatings using radiowave diffract. 7—39820
nonelastic deformation, modelling internal stresses 7—51924
nonlocal cond., microwave radiation transmission 7—13269
nonlocal optics, screened electromagnetic propagators, Green's function calcs. 7—27260
nonmagnetic, spin-resolved photoemission, book contrib. 7—33521
nonthermal positrons, resonance trapping at vacancies 7—45226
normal, long-wavelength static spin suscept., temp. depend., electron-phonon interaction effects 7—64103
nuclear analysis of metallic materials *(German)* 7—54211
one-dimensional, Peierls problem solns. *(Russian)* 7—45304
optical radiation continuous spectrum emitted by at. particle secondary emission products, two-photon form. mechanism 7—42713
oxidation, conference, Paris, France (May 1986) 7—60866
oxidation, high temp., under time-dependent gas press. 7—33837
packing defect energy rel. to electron density *(Russian)* 7—45212
particle coupled to fermionic environment, ground state static props. 7—45107
particles, nanometer-size in amorphous substrates, detection and size classification 7—32240
particles, size-dependent melting points 7—44771
particles, ultra fine, ferromag., growth rel. to mag. field 7—53515
passive dissolution rate in halide solns., transitional complex form. 7—17681
phase diagrams, ab initio calc. using electronic and thermodynamic perturbation theory 7—17516
phonon point contact spectroscopy, review *(Russian)* 7—12788
phonon spectra, dynamical pseudopot. shell model calcs. 7—51964
physisorption interaction of H_2 7—12480
plasma deposition using directional evaporator with hollow cathode, flow cross section, ion current density 7—3202
plasmon dispersion relations, correl. and inhomogeneity corrections, local density approx. calcs. 7—21839
plasmon linewidth, memory-function approach 7—45193
plastic deformation, high density current action 7—46550
plastic deformation in conditions of quasihydrostatics *(Russian)* 7—59586
plastic deformation of materials with elliptic inclusions 7—28067
plastic forming operations, Bauschinger effect 7—46557
plasticity and viscoplasticity 7—46552
plates, Doppler-shifted cyclotron resonance and skin effect 7—17224
point defects in thermal equilibrium, laser interferometry-neutron diffr. studies 7—58274
point-contact config., thermoelec. voltage, phonon drag and finite size effects 7—2582
pointed, corrosion, impedance plot methods 7—3486
polycrystalline, expt. simulation of intercryst. sliding and fracture 7—2095
polycrystalline, internal friction temp. spectrum and microplasticity *(Russian)* 7—16684
polycrystalline BCC, work hardening scheme 7—33691
polymer-metal interfaces, bonding and adhesion 7—28265
position annihilation, electron-positron interactions, review 7—46179
positive muon diffusion and hopping rate 7—52111
positron annihilation ang. correlation curves, interpretation of Fourier transform 7—46191
positron annihilation studies, review 7—46180
positron self-trapping and adiabatic diffusion 7—45228
positron studies of simple metals 7—64729

metals continued
positron-vacancy interactions, calc. taking lattice relax into consideration *(Russian)* 7—53442
powder production by US gas atomisation 7—17499
powders, hot isostatic pressing, empirical model 7—46365
powders, shock wave induced consolidation, microlevel numerical modelling 7—27965
pretreatment, surface coating and post-treatment methods 7—22905
processing by pulse-periodic CO_2 laser radiation, physical laws 7—51824
proton tunneling, neutron scattering studies 7—6646
pure, oxidation, multilayer scale form. 7—33838
pure, vacancy cluster stability energy calcs., cluster size depend., elastic continuum expressions 7—51762
quantum diffusion, path integral approach 7—52112
radiation point defects, diffusion processes, defect drains 7—6894
radiation swelling, vacancy-interstitial and interstitial-impurity complex form. *(Russian)* 7—58309
reaction rate approach to e^+, μ^+ and π^+ trapping 7—45229
refractory metals, crystal growth and surface self-diffusion in high elec. fields, FEM studies 7—37914
resistivity saturation in metals with structural instabilities 7—45277
resonant displacement of levels of interacting localised plasmons and atoms of gas-filled pores *(Russian)* 7—32935
ribbon lattices, spectral characts., loss effects 7—13162
rings in mag. field, quantum interference, tight-binding approx. 7—52570
(s,p)-bonded, atomic interaction theory 7—11985
scanned CW laser beam, surface EM wave rule 7—45172
secondary ions, angular resolved energy spectra 7—27852
segregation during exponential cooling to an aging temperature 7—53744
sheet, forming limit diagram in negative minor strain region 7—65090
sheet, press formability and anisotropic yield, Bassani-type criteria 7—28068
sheet, superplastic bulging, technological anal. 7—65093
sheet, superplastic free bulging, mech. anal. 7—32552
sheet metal forming limits under complex strain paths using void growth and coalescence model 7—13532
sheet metals, history depend. forming limits, hardening models 7—59542
sheet metals, planar anisotropic, deformation anal. using rigid-plastic FEM 7—43701
sheets, rolled, US SH wave vel., ang. depend. 7—38126
sheets with randomly drilled holes, nonuniversal critical behaviour meas. 7—45259
shock Hugoniot eqn. of state, electron band theory approach 7—21392
shock induced consolidation of metal powders, multiphase mixture model 7—26864
shock loaded, mass ejection meas. techniques 7—30032
shock loaded free surfaces, mass ejection studies 7—32570
shock waves, equation of state calcs. 7—21393
sliding friction, fatigue wear mechanism 7—8135
small metallic spheres, effect of diffuse surface scatt. on electromag. props. 7—3042
small particles, dynamic polarisability, jellium model, RPA calcs. 7—52460
soft X-ray absorpt., numerical anal. 7—17361
specific heat, cavity method for flash mas., appl. to metals 7—4836
specimen heating in split-Hopkinson bar expts. using induction coil heaters 7—33870
sputtered atom velocity distrib., expt. methods 7—59332
sputtering by ion bombardment, excited states of sputtered atoms 7—7807
steady state creep, strain response to complete unloading 7—59568
strength, durability and fracture, time depend. in microsecond range 7—46597
strengthening diagram, relationship with dislocation kinetics *(Russian)* 7—53753
stress application, irreversible thermodynamics 7—28098
strip gratings as submillimetre laser output couplers, power transmission theory 7—43339
strongly correlated, containing heavy fermions, thermodynamic and transport parameters 7—38458
strongly coupled, universal disorder-induced resistivity behaviour 7—21954
structural, creep and stress relax. mechanism 7—46571
structural, electronic and vibr. props., pseudopotential calcs. 7—16484
structural changes under action of thermal cycling *(Russian)* 7—53752
structural metallic elements, elastic-plastic response, to irregular cyclic loadings 7—1445
substrates, adsorption of alkali metals, influence of adsorbate coverage on work function 7—2669
substrates, interaction of H at surfaces and interfaces 7—21670
substrates, radiation-induced implantation of polymeric films 7—8163
superlattice elastic and acoustic props. 7—2086
superlattices, magnetism at interfaces and surfaces, neutron scatt. studies 7—2822
superlattices, metallic sputtering prep., struct. charact. 7—3172
surface, adsorbate optical absorption spectra 7—27741
surface, atomic arrangements 7—32776
surface, glazing-angle scattering and neutralization of positron beam 7—46178
surface, laser radiation absorption, dependence on shape 7—26794
surface, physisorption, atomic electronic charge density study 7—42448
surface, pulsed laser induced desorption 7—58617
surface, quasi-stationary spectrum of nearby Rydberg atoms 7—49984
surface, sputtered atoms, ionisation probability studies 7—20068
surface electron states, clean and adsorbate covered surfaces 7—52719
surface interaction with diatomic molecule, multidimensional potential energy surface 7—53490
surface oxide films, spectral polarised directional emissivity meas., stratified media theory interpretation 7—17291
surface plasmon dispersion relation by ricochet photoemission 7—27280
surface refinement by ion implantation, friction, abrasive and corrosion resist. *(German)* 7—53949
surface roughness parameter measurement, diamond turned, light scattering technique 7—61318
surface topography meas. using scanning tunnelling microscopy 7—37814
surface with periodic profile, SHG, surface plasma waves 7—62776
surface-breaking defect characterization using laser-generated ultrasound 7—46774
surfaces, adsorbate binding 7—12491
surfaces, adsorbed noble gases, interadatom interactions, LEED studies 7—7014
surfaces, chemisorpt., surface bond length anal. 7—23057

metals continued

- surfaces, disordered, elastic reflection of medium-energy electrons 7—13285
- surfaces, EELS studies of dynamics 7—3127
- surfaces, field adsorption of rare gases 7—21648
- surfaces, field-assisted photodesorption 7—32809
- surfaces, friction mechanisms 7—53921
- surfaces, inverse photoemission studies, review 7—59279
- surfaces, ion beam and laser processing for improved corrosion resist., surface modification program 7—65200
- surfaces, ion implanted, durability 7—53918
- surfaces, ion-electron emission mechanism 7—7825
- surfaces, ionic slow collisions, Auger neutralisation 7—53482
- surfaces, jellium model, nonlocal exchange and correlation 7—52736
- surfaces, opaque, ablation due to laser irradiation 7—2055
- surfaces, oxidation, Ar^+ ion bombardment effects 7—39755
- surfaces, plasmon effects on image states 7—7309
- surfaces, pulsed laser irradiation, thermomechanical effects, interferometric study 7—20303
- surfaces, quantitative analysis using XPS or AES, data reduction techniques 7—28371
- temperature-conc.-density phase diagram calcs. 7—3282
- temperature-electric waves in normal metals 7—64207
- texture and internal stress determ. using ultrasonic Rayleigh waves and neutron diffraction 7—46767
- thermal conductivities measurement by direct elec. heating technique 7—24649
- thermal conductivity theory, Lorenz ratio 7—45272
- thermal diffusivity meas., mirage-effect thermal-wave method 7—45270
- thermal diffusivity measurement using photopyroelectric effect 7—14939
- thermal properties and compressibility 7—58509
- thermodynamic functions of relative temps. 7—38225
- trace element anal. by spark source mass spectrography 7—46915
- transverse magnetoconductivity, dislocation scatt. effects *(Russian)* 7—52547
- tribo-frontiers in surface modification 7—53917
- tribochemistry, chemical reaction increase by friction 7—46868
- tubes, longit. crack detect. using EM acoustic transducers 7—22953
- twin-boundary energies and entropies, const. press. Monte Carlo calc. 7—2028
- undercooling in containerless microgravity environment 7—26917
- US inspection, noncontact laser and EM acoustic transducer techniques comparison 7—28252
- vacancy pore spatial distrib. during continuous irrad. *(Russian)* 7—58268
- vaporisation by laser radiation, vapour emission *(Russian)* 7—44782
- vapour-inert gas mixture, low current steady state and periodic pulse discharge, props. 7—63379
- vapours and vapour-gas mixtures, atomic interactions and transport coeffs. 7—11575
- void detection, thermography appl. 7—28256
- void nucleation, non-steady state theory *(Russian)* 7—63606
- wear resistance, ion implantation and ion assisted coatings 7—3513
- wire grids, free-standing, transmission coeffs. in FIR, numerical computation 7—37109
- wires, transverse conductance fluctuations and mag. field asymm. 7—64205
- wires and loops, asymmetry in magnetoconductance 7—17014
- workpieces, linear thermal expansion, two point meas. *(German)* 7—48692
- H ion implants, trapping coefficients 7—6884
- H-metal disordered systems, neutron vibr. spectroscopy, review 7—21381
- H_2-metal impact, density functional approach, dynamic response at metal surfaces, van der Waals interaction, excitation of electron-hole pairs 7—3129
- He production and long-term activation by protons and deuterons, fusion reactor appl. 7—58371
- He-metal impact, density functional approach, dynamic response at metal surfaces, van der Waals interaction, excitation of electron-hole pairs 7—3129

metalworking

- *see also bending; cold working; forging; hot working*
- brass sheet formability, grain struct. and stress raisers influence 7—3376
- compressible materials, complex math. model of plastic flow 7—64959
- deformability criterion of porous body 7—64958
- magnetic vortex field, 2D, with boundary conditions of 3rd kind, numerical determ. for tube drawing, inductive heating *(German)* 7—33811
- rolled metal section, light, accelerated cooling rate during TMT, effects of design, hydromech. and temp. factors 7—8011

metamagnetism

- antiferromagnets, double sublattice, metamagnetic soft mode, spin dynamics, suscept. and thermodynamics 7—59012
- Ising metamagnet, phase diagrams based on model interactions 7—21650
- Ising spin-1 model, with bilinear and biquadratic exchange interactions, renormalisation group calcs. 7—53010
- lattices with axial symmetry, temp. induced metamagnetism, magnetoelastic model 7—53002
- two-sublattice Ising model, temp.-induced metamagnets, dipol-octopol interaction calcs. 7—17191
- $CeAl_2$, low-temp. high-field magnetoresist. meas. 7—38541
- $CeZn_2$, Kondo anomaly and metamagnetism 7—64234
- Co, BCC and FCC forms, ferromag. phases investig. 7—2851
- $Dy_3Al_5O_3$, exchange metamagnetism 7—2841
- Fe, BCC and FCC forms, ferromag. phases investig. 7—2851
- $FeCl_2$ metamagnet, spin-lattice coupling and tricritical behaviour 7—2849
- $NdCu_6$, powder and single cryst., magnetic struct. and ordering, neutron diffr. studies 7—33146
- Ni, BCC and FCC forms, ferromag. phases investig. 7—2851
- $Sc(Co_{1-x}Al_x)_2$, anomalous high field magnetisation 7—64438
- U-based mag. alloys, mag. props. and electronic struct. *(Russian)* 7—12967
- $UIrSi_3$, mag. and elec. props. 7—45674
- YCo_3H_x mag. props. meas. 7—33217
- YCo_5H_x, mag. props. meas. 7—33217
- $Y_2Co_7H_x$, mag. props. meas. 7—33217

meteor burst communications *see radio links; radiocommunication*

meteor trails *see meteors*

meteorite craters

- East Clearwater Lake (Quebec), Os isotopic comp. determ. in melt rock 7—23611
- geomagnetic reversals triggered by extraterrestrial object impact on Earth, precise mechanism 7—40413

meteorite craters continued

- group formation due to comet breakup 7—55544
- N Illinois, possible impact spherules from near base of Middle Ordovician 7—34499
- Jupiter icy satellites, radar glory from buried craters 7—34913
- Kentland, Indiana, cryptoexplosion struct., palaeomag. estimate of age and thermal history 7—29030
- Mars satellites, crater ejecta blocks, size and distrib. 7—34903
- Meteoritical Society, 49th annual meeting, New York (September 1986) 7—18506
- Moon, complex structures, terrace width var. 7—60585
- Moon, crater ejecta blocks, size and distrib. 7—34903
- Moon, cratering characts. 7—55501
- Moon, morphology anal. 7—55503
- Moon, radar bright rings obs. in craters and implications for Venus radar bright rings 7—24028
- oblique impact events, process for obtaining meteorite samples from other impacts 7—34957
- planetary satellites, cratering in icy targets 7—34863
- Puchezh-Katunki, USSR, possible correl. with Jurrassic Ir anomaly in Venetian region, N Italy 7—55038
- radar imaging method, discrimination between volcanic and impact craters 7—66487
- Ries crater, fluidisation and hydrothermal alteration of suevite deposit, and implications for Mars 7—55049
- Ries crater, Os isotopic comp. determ. in rock samples 7—23611
- Saturn, satellites cratering due to fragments from Hyperion 7—34922
- Saturn satellites, cratering record 7—34920
- size-velocity distribution of large ejecta fragments, determ. from lunar and Martian craters 7—24029
- small-scale impacts into cold or warm rock, laboratory expts. 7—9389
- Venus, identification of radar bright rings as impact craters 7—24028

meteorites

- *see also meteors; micrometeorites*
- 6th international conference on geochronology, cosmochronology and isotope geology, Cambridge, England (June-July 1986) 7—8
- Allende, Ca-Al rich inclusions, crystallisation sequences 7—9445
- Allende, cosmogenic Ar components identification by laser microprobe 7—55584
- Allende, Hg isotope ratios 7—55583
- Allende carbonaceous chondrite, trace element chemistry and solar nebula conditions 7—9440
- Antarctic meteorites, clay-mineraloid weathering products 7—34951
- Antarctic ureilites, mineralogy, evol. and origin 7—66522
- Antarctic ureilites, petrology of four specimens rel. to ureilite petrogenesis 7—9447
- Antarctica meteorites, terrestrial ages 7—60608
- Bencubbin, stony-Fe meteorite, ^{15}N enrichment 7—4387
- Bo County chondrite, Pb isotope study *(Chinese)* 7—18391
- bolide over N Europe, grazing incidence for 23 Sept. 1986 phenomena *(French)* 7—55580
- Camel Donga meteorite, new eucrite from Nullarbor Plain, mineralogy and comp. 7—34953
- Canyon Diablo, Os isotopic comp. determ. by accelerator mass spectrometry 7—23611
- Cape York iron meteorite, cosmic ray produced inert gas isotopes 7—66523
- carbonaceous chondrites, C isotopes and element abundances 7—24086
- carbonaceous chondrites, mineral comp. rel. to interplanetary dust 7—34823
- carbonaceous chondrites, O and H isotopic relations in water and acid residues 7—9443
- Cayley Formation, Moon, meteoritic component determ. 7—55499
- chemical investig., rel. to form. and origins 7—14543
- chondrites, multiple exposure history 7—24089
- chondrites (of type 3 and equilibrated), siderophile element composition 7—60611
- chondritic meteorites, comp. rel. to solid materials form. in preplanetary nebula 7—24024
- chondrule melts of porhyritic and radial pyroxene comp., dynamic crystallisation 7—9368
- collection of Museo Nacional de Ciencias Naturales, Madrid, Spain, inventory 7—9386
- cosmogenic isotope and track records, implications for cosmic ray fluxes 7—29440
- cosmogenic nuclides in meteorites and terrestrial matter, workshop, Los Alamos, New Mexico (July 1984) 7—29601
- Cretaceous-Tertiary extinctions 7—8953
- Dhajala chondrite, radionuclide depth profiles determ. 7—29439
- Dhurmsala, LL-chondrite, cosmic ray records 7—9442
- enstatite (EH3, EH4,5 and EL6) chondrites, comps. and implications for form. 7—34950
- enstatite chondrites, C and N content and compositional differences 7—60610
- enstatite chondrites and enstatite achondrites origin 7—40784
- eucrites, rare earth element patterns, genetic implications 7—40787
- Fox Lake, Alberta, fireball, 1985 March 2, trajectory and prospects of meteorite fall 7—66520
- fulgurites, form. on impact 7—47439
- H-chondrites, NRM and TRM, palaeointensity determ. reliability 7—9451
- Hedjaz, L-group chondrite, comp. and petrography rel. to metamorphic status 7—9446
- isotopic anomalies, explanation from type II supernovae nucleosynthetic yields 7—47959
- Jasper, Alberta, fireball, 1985 September 28, trajectory and prospects of meteorite fall 7—66520
- Jilin, H5 chondrite, cosmic ray track density depth profile study 7—55400
- magnetic remanence of iron meteorites 7—24088
- Marjalahti meteorite, galactic cosmic ray nuclei, time averaged charge and energy spectra 7—60498
- Marjalahti meteorite minerals, etched track length distributions for $Z \geq 90$ cosmic rays 7—47653
- Martian surface impacts, effect of impact-generated gas cloud on solid ejecta accel. 7—55585
- metal nodules and veins in ordinary chondrites, formation and composition 7—14544
- Meteoritical Society, 49th annual meeting, New York (September 1986) 7—18506
- Murchison, $^{48}Ca/^{50}Ti$ anomalies in hibonites 7—55579
- Murchison, amino acids identifications and struct. 7—40786

meteorites continued
Murchison carbonaceous chondrite, shock-induced volatile loss and implications for planetary accretion 7−34949
Murray, ^{48}Ca/^{50}Ti anomalies in hibonites 7−55579
Odessa Fe meteorites, plasma cleansing and reduction 7−34956
optical spectrometry of meteorites, comparative anal. of spectral props. of achondrites and ordinary chondrites 7−66521
ordinary chondrites, olivine chem. zoning, homogenization and chondrule thermal history 7−40788
ordinary chondrites, silica bearing chondrules and clasts origin 7−9444
origins, effects of secular resonances ν_{16} and ν_5 on asteroid orbits 7−47748
radioisotope detection using NaI:Tl, triple-coincidence spectrometer for ^{26}Al, ^{22}Na 7−25317
Ragland, LL 3.4 chondrite find from New Mexico, chemical and isotopic anals. 7−9450
Roosevelt County, New Mexico, recovery and classification of 30 new meteorites 7−34955
Roosevelt County, New Mexico, USA,. chondrites, petrology 7−55582
Sharps ordinary chondrite, thermoluminescence rel. to metamorphism 7−24087
shergottite meteorites, trapped Mars gases, implantation mechanism 7−55581
shock-wave effects, thermoluminesc. study of experimentally shock-loaded oligoclase and bytownite 7−55025
SNC meteorites, ^{10}Be contents determ. 7−40785
SNC meteorites, effect of impact-generated gas cloud on solid ejecta accel. 7−55585
SNC meteorites, ejection from Mars by oblique impact events 7−34957
SNC meteorites, implications of size-velocity distribution of large ejecta fragments from impact craters 7−24029
Staroe Pes'yanoe, possible derivation from Aten asteroid 2100 Ra-Shalom 7−24085
thermoluminescence sensitivity-metamorphism relation for ordinary chondrites and terrestrial systems 7−24087
trapping inert gases 7−50436
Tunguska event, relation to meteors with terminal flares 7−9449
unequilibrated chondritic meteorites, elemental comps. of major silicic phases in chondrules 7−34954
unequilibriated ordinary chondrites rel. to interstellar grain composition 7−60596
Wethersfield (1982) chondrite, abundances of cosmogenic radionuclides and noble gases 7−34952
Widmanstatten crystallography in Fe meteorites, habit planes and lattice orientations 7−9448
^{107}Ag anomalies of iron meteorites, and petrology 7−14545
^{39}Ar activity, galactic cosmic ray intensity 7−23957
^{10}Be, conc. in meteorite, AMS meas. 7−66524
^{36}Cl, conc. in meteorite, AMS meas. 7−66524
Fe-Ni alloy, magnetic remanence of meteorites at low-temperature 7−24088
^{26}Mg excess rel. to interstellar fossil anomaly 7−48036
^{53}Mn, evidence of existence in solar nebula 7−34891
Si isotopic composition of meteorites 7−60609

meteoroids
see also meteorites; meteors
atmospheric ablation, radiative heat exchange determ. using radiant heat conduction approximation 7−34948
bolide over N Europe, grazing incidence for 23 Sept. 1986 phenomena *(French)* 7−55580
Dhajala chondrite, pre-atmospheric size from radionuclide depth profiles 7−29439
distribution of meteoric material in solar system, phase density distrib. function determ. 7−66518
Eccentrid system, asteroids and meteoroids inside Earth's orbit 7−24085
flux hitting Earth 7−29438
flux in low Earth orbit 7−4386
Fox Lake, Alberta, fireball, 1985 March 2, trajectory and prospects of meteorite fall 7−66520
Geminid meteor stream, combined action of cometary ejection process and gravit. perturbations 7−47796
Germinid meteor swarm, spatial struct. determ. 7−66519
Giacobinids, mass distrib. index from radar obs. (October 1985) 7−4384
grain ablation, residual mass 7−55577
Jasper, Alberta, fireball, 1985 September 28, trajectory and prospects of meteorite fall 7−66520
oblique planetary impacts, process for obtaining meteorite samples from other impacts 7−34957
orbital element space distribution, spatial-probability characts. for meteoroid complex near Earth orbit 7−24084
Tunguska body constitution, comparison with meteors with terminal flares 7−9449

meteorological instruments
see also anemometers; barometers; hygrometers
AFMS-2, microcomputer-based automatic remote transmitting meteorological station *(German)* 7−4228
Histos network for hydrological and meteorological measurement for East-Scheldt storm surge barrier construction 7−47557
injection locked magnetron, phase noise meas., Doppler weather radar system appl. 7−30042
IR satellite, optical design of imaging system 7−55321

meteorology
see also weather forecasting
acoustic remote sensing of atmosphere and oceans, symposium, Paris (October 1985) 7−48133
S Africa ports, low-freq. sea-level fluctuations as response to synoptic weather systems passages 7−18191
agricultural weather analysis, operational assessment programme of Joint Agricultural Weather Facility 7−29126
air parcel trajectory analysis, appl. to acid deposition data from New Jersey Pine Barrens 7−40061
air pollution, CPU-time reduction for IFDM computer model 7−54399
air pollution, plume rise and dispersion, Salford software model 7−54398
air pollution in Kuwait, modelling of Shuaiba Industrial Area 7−54400
air pollution modelling and applications, conference, St. Louis, Missouri (April 1985) 7−48181
air pollution screening model, development of MICROGAUSS-I 7−54401
air-sea heat and momentum transfer during monsoon depression 7−4050
aircraft fuel consumption reduction by use of weather forecasts 7−66249

meteorology continued
aircraft icing conditions detection method, by ground-based microwave radiometry 7−23871
Annual Review of Earth and Planetary Sciences 7−9606
Antarctic general circulation model for winter, effect of sea-ice extent 7−34643
Arabian Sea, air-sea interface, sensible and latent heat fluxes 7−14292
areal quality control of min. temp. and sunshine duration, principal component and near neighbour methods 7−4141
E Asia, dynamic and thermodynamic influences of Tibetan Plateau on general circulation model 7−29135
N Atlantic, low pressure record for centre of active depression 7−66278
N Atlantic, radiation budget of ocean-atmos. system, interannual variation 7−55179
S Atlantic cloud amounts from Meteosat I images 7−47521
N Atlantic depression passing over British Isles, Christmas 1985 depression 7−55234
atmosphere temperature profile, remote sensing procedure with high vertical resolution 7−66218
atmosphere zonal circulation, corpuscular-tropospheric effect of solar wind streams 7−47475
Australia, diagnostic study of first year of operational Model Output Statistics forecasts 7−55125
Australia, generalised Model Output Statistics forecasting system 7−55126
Australia, min. temp. surveys 7−4133
S Australia, obs. of internal atmospheric bores and cold front 7−55127
Australia satellite data, meteorological appls. 7−4291
Baikal-Amur Mainline area of USSR, surface heat balance study 7−23816
Bangladesh, evaporation rates, water pan observations 7−29092
barotropic models using bounded derivative and normal mode initialization methods 7−60351
barotropic modon propagation over slowly varying topography, perturbation theory 7−4108
Bay of Bengal, atmospheric struct. during suppressed and active convective periods 7−55211
Beijing, China, suspended particulate dry deposition velocity *(Chinese)* 7−29219
Belgium, meteorological observations, AD 1981–5 at Uccle *(French, Flemish)* 7−47484
Berlin, Germany, stratosphere temperature-height standard-profile 7−4103
blocking anticyclones, local vorticity and heat balances in spectral general circulation model 7−29138
blocking events, climatology in perpetual January simulation of spectral general circulation model 7−29137
blocking events in S Hemisphere general circulation over Pacific 7−34599
blocking highs, forcing by transient cyclone-scale vorticity transfer 7−9094
blocking of general circulation, perturbation theory 7−4108
boundary layer parameterization, FORTRAN programs 7−55246
NE Brazil, March rainfall correlated with N Hemisphere circulation 7−29211
Brush Creek Valley, Colorado, mass transport by along-valley wind systems 7−29143
Canada, cloud shade to point cloudiness, empirical relationship 7−47513
Canada, lightning parameter meas. 7−47523
Canterbury Plains, New Zealand, interacting multi-scale wind systems anal. 7−55203
Cape Grim, Tasmania, effects of meteorology on surface O_3 concs. 7−40065
China, agricultural yields rel. to circulation and weather *(Chinese)* 7−29224
China, vortex weather systems influenced by Tibet plateau 7−4139
clear air turbulence over British Isles, 1985 September 4, obs. of extensive prolonged CAT event 7−14359
cloud base height estimation, use of condensation levels calc. from ground instruments 7−4144
cloud cover estimation, appl. of bispectral satellite measurements 7−29148
cloud systems imaged by satellites, synoptic analysis and diagnosis methods *(German)* 7−40542
cold front passage and F_2-layer nighttime penetration freq. *(Chinese)* 7−18331
Colorado Rockies, supercooled liq. water characts. in clouds at mountaintop sites 7−29147
compressible gas dynamical eqns., rapidly oscill. solns. *(Russian)* 7−55181
computer algorithms for checking weather data *(German)* 7−55330
computer applications, conf., Los Angeles, CA, USA (Nov. 1986) 7−48175
convective boundary-layer parameters, climatology over Ontario, Canada 7−40512
convective instability effect on ocean surface wind algorithm, Seasat scatterometer studies 7−66159
CRACUK model description, UK version CRAC2 weather model 7−29228
cumulonimbus clouds, introductory review 7−4142
Denver hailstorm, 1984 June 13, meteorological obs. 7−29127
depression over Bay of Bengal, latent heat distrib. study *(Chinese)* 7−18265
diffuse solar radiation model applicability to Huntsville, Alabama 7−60370
diffusion in marine boundary layer, SF_6 tracer expts. and parameterization 7−18285
dynamical systems arising in Galerkin approximation problems *(Russian)* 7−4116
Eagle Valley, Colorado, temp. inversion buildup and wind struct. 7−55202
eddy correlation technique for determination of turbulent fluxes 7−23845
El Nino-Southern Oscillation, relation to sea level vars. around Australia 7−29049
El Nino-Southern Oscillation events in AD 1531 to 1841 period 7−60315
electric field and precip. growth in finite thundercloud, theory 7−29206
NE England and North Sea, May 1986 cool seas and clear skies 7−55231
ERS-1 wind and wave calibration workshop, Schliersee, Germany (June 1986) 7−24305
Etna volcano, Christmas 1985 eruption, meteorological satellite observations 7−54975

meteorology continued
European temperature and precipitation rel. to N Atlantic atmos. pressure characts. 7—66246
evaporation from water surface in humid tropical area of India 7—29090
FOG-82, cooperative field study of radiation fog, exptl. design and results 7—9068
Mesoscale Frontal Dynamics Project, for W Europe 7—66304
moist frontogenesis by analytic model 7—34596
fronts, anal. as lines of max. curve integrals *(German)* 7—4167
GCSE course and examination 7—29619
general circulation, Hough harmonics for nonlinear shallow-water models 7—60357
general circulation, influence of large-scale topography on subtropical high formation *(Chinese)* 7—29217
general circulation model, dependence on wet or dry initial conditions for Sahara 7—34644
general circulation models, influence of surface and vegetation 7—9152
general circulation models, systematic westerly bias due to orographic gravity wave drag 7—34645
general circulation multiple equilibria, and role of topography and circulation *(Russian)* 7—4115
general circulation of baroclinic planetary atmosphere, effect of surface drag 7—34655
general circulation stationary regime, model including orography *(Russian)* 7—9080
geostrophic adjustment process, numerical simulation and gravity-inertia waves *(Chinese)* 7—18257
S Germany, meteorological parameters rel. to tropospheric CO_2 conc. at neighbouring mountain stations 7—55199
global sea-level press. distrib. in April and July, relation to Indian summer monsoon precip. 7—29207
global sea-level press. distrib. in April and July 7—29207
hydrology on global-scale, dynamic modelling of ocean-atmos.-land system 7—18229
ice accretion onto surfaces, study of accreted ice density 7—34648
icing of exposed surfaces, accretion onto fixed cylinders 7—34649
image from space, Giotto spacecraft observation and image processing method 7—9380
India, AD 1985 monsoon rainfall and weather conditions 7—29185
India, monsoon rainfall forecasting 7—4130
W Indian Ocean, low-level winds obs. by Indian Ocean satellite 7—40516
inertia-gravity waves trapped against a vertical barrier, theory 7—4109
intraseasonal oscillations appearing in GFDL general circulation model 7—34597
IR cooling rate calculation, for cooling due to H_2O vapour *(Chinese)* 7—29221
Ireland, high absolute humidities episode (1983 July 12 to 13) 7—40541
Israel, weather modification by artificial land surface albedo changes 7—9072
Johnstown flood, Pennsylvania, USA, model of July 1977 rainstorm 7—40524
Lake Powell area, Utah-Arizona, USA, mesoscale air quality for stagnant conditions 7—14330
large-scale atmospheric motion and dissipative structs. *(Chinese)* 7—9057
large-scale horizontal motion in atmos., stability study *(Chinese)* 7—29216
Latrobe Valley, Victoria, Australia, effects of meteorology on surface O_3 concs. 7—40065
lee cyclogenesis, initial stage development 7—60347
linear baroclinic waves, structural determinism and simple nonlinear equilibration 7—9095
macrocirculation classification indices using objective method 7—23815
Manchester, England, major snowfalls (since 1880) and assoc. synoptic conditions 7—9147
mapping of meteorological fields, developments in use of empirical orthogonal functions 7—29142
marine weather prediction, 3D models 7—55245
mean circulation fields anomalies, month-to-month persistence in general circulation model and Earth's atmosphere 7—9093
Mediterranean Sea, climatic series of sea level oscills. at Trieste and Cagliari 7—40484
medium-term weather forecasting, comparison of filters for high latits. using shallow water eqns. 7—9133
meso-alpha-scale convective complexes, study of meso-beta-scale characts. 7—34635
mesoscale circulation due to mesoscale melting snow temperature perturbation 7—29173
mesoscale meteorological fields, spatial fitness implications 7—47509
METSIS system for satellite broadcast of weather information; earth station config. 7—47522
Miami, weather characts. rel. to Florida Current parameters 7—18193
microcomputer-based solar and meteorological data acquisition and control system 7—4186
microwave fading, geographical distrib. prediction from ground based climatological meas. 7—55241
midlatitude circulation influenced by El Nino SST anomalies 7—40543
midlatitude cyclones, subsynoptic vertical energy fluxes 7—40544
modal amplitudes in interacting triads, probability distrib. with arbitrary random forcing 7—9097
modification of climate by land surface albedo alteration by man 7—18300
monsoon depression scale waves baroclinic growth, influence of low level wind shear 7—4135
monsoon energetics, for strong and break monsoons 7—29181
SW monsoon of 1979 AD, short-range prediction of onset phase 7—29178
monsoon rainfall over India rel. to conditions in middle atmosphere 7—4248
monthly mean surface temperature anomaly specification for Europe and Asia 7—23809
multipath fading, annual and seasonal variability 7—55242
multiyear drought durations, freq. anal. technique 7—23758
NE Nevada, precip. reconstruction, 1600 to 1982, using tree ring indices 7—29145
NOAA data processing system *(Japanese)* 7—4287
non-cancellation instability in horizontal advection schemes for momentum schemes 7—4137
normal mode oscillations of atmos. of short-period, theory and obs. 7—40533
Northern Hemisphere, 1986 spring meteorological conditions 7—4166
Northern Hemisphere, weather during autumn 1986 AD 7—66277
Northern Hemisphere standing eddies in winter, NCAR and GLA models 7—60348

meteorology continued
nuclear war climate perturbations, indirect effects due to smoke from fires 7—14323
Ob River valley, meteorological meas. rel. to photochemical mist form. 7—9136
observational network global analysis errors 7—34739
observing-systems simulation expts., historical summary 7—9070
occluded front representation on weather charts 7—55206
ocean continental shelf edge waves forcing, numerical model studies of long-period waves 7—8993
omega diagnostic computations, accuracy 7—34631
orography influence on zonal circulation, 3-level nonlinear model *(Russian)* 7—55182
oscillation of zonal mean characts. of motion on a spherical Earth *(Chinese)* 7—9058
equatorial Pacific, meteorological parameters during AD 1982-3 El Nino 7—29166
particle dry-deposition parameterization scheme for tracer transport models 7—18289
N Peru, convection, in clouds and rain in coastal areas, AD 1983 obs. 7—60350
planetary wave response to stationary tropical heating, for atmos. with vertical and meridional shear 7—40523
polar air stream baroclinic disturbances, diagnostic study 7—60343
polar high stability, theoretical dynamic analysis *(Chinese)* 7—29223
precipitation events, effect on vertical profiles of atmospheric NH_3 7—40513
precipitation zones, effect on satellite radar images of Earth's surface 7—66217
surface pressure field determination using wind data, iterative procedure *(German)* 7—55238
Qinghai-Xizang (Tibet) plateau, vortex development and maintenance, numerical model 7—4139
quadratic logistic discriminant analysis and applications in meteorology *(Chinese)* 7—18259
radar, meteorological appls. 7—47548
radiation budget, differences for oceanic and continental regions 7—14345
regional finite-element model of circulation, using semi-implicit semi-Lagrangian integration schemes 7—60349
relative distribution function and meteorological entropy *(Chinese)* 7—9064
remote sensing by satellites, policies of industrial countries 7—66126
Rossby and gravity wave breaking, definition of concept 7—29213
Rossby wave (normal mode) interference with quasi-stationary waves 7—34601
Rossby wave energy, energy flux and Lagrangian *(Chinese)* 7—9059
Rossby wave stability in shear flow, influence of orography *(Chinese)* 7—29225
Rossby wave stability influenced by large-scale orography *(Chinese)* 7—18256
Saharan dust transport by atmosphere, observations and model 7—14343
Saharan dust transport by atmosphere, review 7—9073
sandstorm effect on radiowave propag., system design for Riyadh, Saudi Arabia 7—4111
satellite data access in Australia, requirements and technical infrastructure 7—4293
satellite water vapour imagery for weather anal. and forecasting, research developments 7—55335
scalar dynamic precipitation model, state estimation from time-aggregate obs. 7—23830
sea surface temperature imaging, appl. of Advanced Very High Resolution Radiometer (AVHRR) data 7—14297
severe rainband, flow dynamics and stability 7—9096
E Shropshire, England, rainfall, runoff and erosion on bare arable soils 7—9039
Sichuan flood catastrophe, China, mesoscale analysis of July 1981 event 7—60344
solar flat-plate collectors, performance depend. on meteorological conditions 7—59870
solar insolation data analysis by means of Allan variance and Fourier transform 7—60371
Southern Hemisphere, surface air temp. vars. (1851 to 1984) 7—29237
southern hemisphere blocking during Global Weather Experiment 7—66261
Southern Hemisphere blocking episode and transient eddy influence on zonal flow 7—34600
Southern Hemisphere circulation, zonal teleconnections and longitude-time lag correl. 7—34603
Southern Hemisphere zonal wind variations, AD 1979 index cycles 7—34630
Spanish plume, forecasting and origin 7—29186
split cold front and associated rainfall pattern seen over UK on FRONTIERS radar 7—55207
standard errors of aeroclimate characts. of related observation series 7—23818
static wind load measurement, appl. of six-component high-freq. piezoelectric balance 7—14356
statistical interpolation by means of successive corrections 7—47519
stratified surface layer, similarity scales evaluation using wind speed and temp gradient 7—40514
stratosphere, temperature-height standard profile for Central Europe (Berlin) 7—4103
stratus clouds evolution, numerical modelling 7—9132
subtropical rain belt, contrib. of vapour condensation heating to seasonal movements of subtropical high ridge line 7—40508
Tasmania, Australia, land surface albedo mapping observations 7—66345
teaching with microcomputers, software packages review 7—60
terrain following coordinate models, press. gradient force and calc. of initial temp. 7—4138
textural features classification of meteorological imagery 7—9151
tidal oscillations in stratosphere, general circulation model calcs. 7—40534
tides in atmosphere, theory in geometric height and log-press. coords. 7—29323
tides in atmosphere, theory of treatment of IR radiative damping 7—29208
E Transvaal, rainfall amounts and possible influence of hail suppression programme 7—18279
tropical atmosphere model with circulation depend. heating and specific humidity 7—34595
tropical meteorology, interaction between meridional and zonal disturbances, in tropical easterly flow 7—40509

meteorology continued
tropical squall line, diagnostic modelling study of stratiform cloud region 7−29136
turbulence, high-resolution obs. in lower and middle atmosphere by MU radar 7−47598
Typhoon No. 7507, kinematical fields from upper air obs. (1975 August 17 to 23) 7−40510
typhoon trade, random dynamic prediction model 7−18295
ultra-long wave activity, by 3-layer baroclinic model *(Chinese)* 7−18269
United Kingdom, exptl. monthly long-range forecasting system 7−14358
United Kingdom, performance of snow forecasts from Meteorological Office fine-mesh model during 1985-6 winter 7−40540
United Kingdom, skill of exptl. monthly long-range forecasts 7−40539
United States, 1986 drought characts. in SE region 7−55109
E United States, anticyclones paths rel. to climatology of summertime O_3 and SO_2 7−40066
unstable marine boundary layer, struct. determ. from lidar and aircraft obs. 7−29133
urban hydrometeorology review 7−9032
urban warming in North America, average warming rate (1941 to 1980) 7−29146
W USA, synoptic classification of 10 years of 500 mb weather maps 7−4140
vertical displacements due to quasi-horizontal atmospheric motions 7−29165
vertical temperature distrib., relation to solar and atmospheric radiation propag. *(French)* 7−14338
volcanic eruption plumes from basaltic fissure eruptions, plume heights 7−8895
vortices formation over ocean surface heat anomalies, dynamic struct. 7−9134
water vapour transport calculation methods *(Chinese)* 7−18267
weather pictures from space using Meteosat *(German)* 7−23970
weather prediction, forecasts for community by students at Lowell University Massachusetts 7−29128
westerlies in equatorial region, variations and relation to low-latitude circulation *(Chinese)* 7−9060
wind, environmental conditions in passages between buildings 7−14353
wind, turbulence length scales in wind engineering 7−14354
wind environment assessment at ground level, acceptable criteria determ. 7−14352
wind field analysis and Bernoulli function behaviour for case of non-negative absolute vorticity 7−34656
wind speed extraction with pulse-limited radar altimeter, effect of white-caps and foam 7−29306
wind variability, meas. in mesoscale region near Point Conception, California (spring 1983) 7−29144
wind-chill indices 7−55204
zonal available potential energy and kinetic energy *(Chinese)* 7−18262
zonal circulation affected by heating anomalies 7−9065
zonal flow at surface, predicted by eddy flux parametrization scheme 7−34646
zonal shear flow in circular geometry, laboratory expt. study of instability *(Russian)* 7−60329
SO_2 pollution forecasting around thermal power stations 7−55244

meteors
see also meteorites; meteoroids
ancient meteor showers and comets, temporal correlations and genetic associations 7−55543
atmospheric ablation, radiative heat exchange determ. using radiant heat conduction approximation 7−34948
bolide over N Europe, grazing incidence for 23 Sept. 1986 phenomena *(French)* 7−55580
bursts for communication links, database anal. approach 7−60607
Draconid meteor show, extremely low activity during Oct. 1986 maximum 7−18390
Draconid meteors, possibility of strong shower (1986 October 8 to 9) 7−4385
Eccentrid system meteors and bolides, orbital characts. of meteoroids inside Earth's orbit 7−24085
electro-optical meteor observation, techniques and results 7−47716
fireballs and noctilucent clouds, search for correlation 7−29437
Fox Lake, Alberta, fireball, 1985 March 2, trajectory and prospects of meteorite fall 7−66520
Geminid meteor stream, combined action of cometary ejection process and gravit. perturbations 7−47796
Geminid shower, local and long-distance effects in low ionosphere 7−4256
Germinid meteor swarm, spatial struct. determ. 7−66519
Giacobinid meteor shower 1985, radar obs. 7−4384
Jasper, Alberta, fireball, 1985 September 28, trajectory and prospects of meteorite fall 7−66520
mean density hitting Earth 7−29438
micrometeorite studies of major meteor streams, activity periods and particle sizes 7−14547
mid-latitude meteor wind obs., appl. to momentum flux vars. determ. in lower thermosphere 7−55343
orbital element space distribution, spatial-probability characts. for meteoroid complex near Earth orbit 7−24084
photographic meteors, appl. of orbital catalogue to modelling of meteoric material distrib. in solar system 7−66518
Quadrantid meteors (1968), shower activity profile synthesis from multi-site radar obs. 7−29436
radar echo rates, freq. depend. in HF band 7−55578
radar observations use for mesosphere wind and tides determ. 7−55341
radio waves scattering from underdense meteor trains, electron volume density formulae 7−4383
radio-meteor systems for time-scale synchronisation, accuracy criteria 7−41350
α Scorpiid shower, local and long-distance effects in low ionosphere 7−4256
upper stratosphere chemistry, effect of meteoric material on O_3 in polar stratosphere 7−55166
TA reports (1986 August-October) 7−34947
TA reports (1986 July-November) 7−55575
TA reports (1986 June-August) 7−14542
TA reports (1986 November-1987 January) 7−55576
time and frequency standards comparison along radiometeoric channel, instruments design 7−56209
Tunguska event, relation to meteors with terminal flares 7−9449

meters
see also indiviudal types of meters
adaptive digital intensity meter, parameter optimization 7−48703
core-magnet type, moving coil, flat, indicating errors caused by external mag. field *(Japanese)* 7−4873

Metglas *see metallic glasses*

metrology *see measurement*

metrosils *see varistors*

MHD *see magnetohydrodynamics*

MHD convertors *see magnetohydrodynamic convertors*

MHD power plants *see magnetohydrodynamic power plants*

mica
electrical properties of micaplast materials with inorganic binders at temps. up to 900°C 7−12714
filled polymers, determ. of mica orientation 7−39477
geochronological dating by Ar isotope method 7−23860
growth spirals and complex polytypism, occurrence frequencies 7−37997
mica-epoxy composite dielectric strength obs. 7−64570
muscovite mica, effect of high γ-ray doses on thermal props. 7−8270
muscovite-plagioclase geothermometer 7−34475
nuclear track microfilter cascade fractionator, industrial appl. 7−36408
nuclear track microfilter props. for industrial aerosol meas. instrument 7−36407
paragonite mica, characteristic beam damage in TEM images 7−12159
particle reinforced aminimide-cured epoxy resin, improved mech. props. 7−59489
polypropylene mica filled composites, struct.-mech. props. relations 7−1919
reinforced polypropylene, fracture behaviour, effect of coupling agent, flake orientation and degradation 7−13593
track annealing studies in micaceous minerals 7−36402
Al-Mg-mica particle composites, prep. and props. 7−22613
$KAl_2(AlSi_3O_{10})(OH)_2$, cryst., struct. anisotropy, positron annihilation method 7−13255
$KMg_3(AlSi_3O)_{10}(OH)_2$, cryst., struct. anisotropy, positron annihilation method 7−13255
Ni hydroxy-mica intercalation complexes, mag. props. 7−17162

micelle systems *see colloids*

microassembling
Cu/Pb-Sn solder interfacial reactions, Cu_3Sn intermetallic formation 7−44924
Pb-Sn-Ag solder alloys, phase equilibria 7−46426

microbridges, superconducting *see superconducting junction devices*

microcalorimeters *see calorimeters*

microchannel plates *see image intensifiers*

microchemical analysis *see chemical analysis*

microcircuits *see integrated circuits*

microcomputer boards *see microcomputers*

microcomputer chips *see microprocessor chips*

microcomputers
for applications see microcomputer applications and under relevant application headings
see also microprocessor chips
high temp. crystallisation, flaw form., AE detection, automatic system 7−3557
radiation protection measuring equipment, use of microprocessors *(German)* 7−25257

microcontrollers *see microprocessor chips*

microcopying *see microphotography*

microdosimetry *see dosimetry*

microelectrodes
biological research, recording and stimulating electrodes 7−47306
extracellular neural recording with multichannelmicroelectrodes 7−8780
glass microelectrodes, open tip: cond. through wall at tip 7−60134
multimicroelectrode fabrication by Si dry etching *(Japanese)* 7−23504
resistance meter for microelectrodes, improved, neuroscience appl. 7−28791
tip geometric area definition by plasma etching of Parylene, intracortical stimulation appl. 7−28760

microelectronics *see integrated circuits*

microfarad meters *see capacitance measurement*

microfilming *see microphotography*

microgravity experiments *see zero gravity experiments*

microhardness *see hardness*

micromanometers *see manometers*

micrometeorites
cosmic dust placers in blue ice lakes of Greenland, struct. and comp. 7−14548
interplanetary micro-organisms, heat exposure expt. rel. to entry into planetary atmosphere 7−9275
meteor streams micrometeorite activity, observational results 7−14547
Solar Maximum Mission, surface impact craters anal. 7−4386
O isotope composition of deep-sea sediment spherules 7−9441

micrometeoroids *see meteoroids*

micrometers *see micrometry*

micrometry
see also interferometry; strain gauges
actuators for scanning tunnelling microscopy, behaviour and calibration 7−18926
interferometer-coupled micrometer 7−56221

microphones
adaptive microphone-array system for noise reduction 7−31609
arrays, adaptive optimisation under nonlinear constraint 7−37306
bone conduction microphone *(Japanese)* 7−43612
condenser microphones, photoacoustic response 7−57659
electroacoustic polymer microphones and earpieces *(German)* 7−43614
hearing aids, noise cancellation 7−40175
impulse response measurement using Golay codes 7−37304
reverberant room, response of multiple microplanes to single acoustic source 7−43534
room acoustics, inverse control using multiple loudspeakers and/or microphones 7−37252
sound field in room, grasp and development of spatial information by closely located four-point microphone 7−37258

microphonics *see microphones*
microphotography
No entries
microphotometers *see densitometry; photometers*
microprobe analysis, electron *see electron probe analysis*
microprobe analysis, ion *see ion microprobe analysis*
microprocessor chips
blood rate detector, one chip VLSI implementation using PPL 7−65881
microprocessor based respirator digital simulation 7−14154
systolic architectures for connected speech recognition 7−6059
TMS32010 signal processing microprocessor, use in acoustic noise cancellation system 7−37259
microprocessor systems *see microcomputers*
micropulsations
pulsating aurora and absence of hydromagnetic waves in conjugate equatorial magnetosphere 7−55358
pulsating aurora and concurrent geomagnetic pulsations 7−47634
cusp region pulsations of long-period, HF radar observations 7−9328
Delhi micropulsations obs. 7−66398
excitation by strong earthquakes 7−14417
ground-level magnetic fields of ULF pulsations at the plasmapause 7−34806
harmonically structured ULF pulsations in outer magnetosphere 7−23946
ionosphere fluctuating elec. fields due to Pc 4 events 7−29339
low-latitude magnetic pulsations, generation and propag. mechanisms 7−55370
low-latitude pulsations, exptl. aspects 7−55371
magnetogram deconvolution method for Pi 2 pulsations 7−4271
PC 1, Fourier analysis of wave packets, freq-spectra 7−14416
Pc 1, ionosphere as ULF wave filter 7−40640
Pc 1, spectral structures at synchronous orbit, substorm effects 7−60491
Pc 1 double and triple oscills. and natural freqs. of magnetospheric cavity 7−34793
Pc 1 pulsations, ionospheric duct propag. of short-period MHD wave using IRI model 7−66392
Pc 1 pulsations generation, simulation using two coupled ordinary oscillatory differential eqns. 7−66401
Pc 2 to Pc 4, meridional distrib. at high-latitude and source localization 7−29363
Pc 3,4,5 characts. 7−9326
Pc 3, occurrence near south polar cusp and correl. with IMF parameters 7−9327
Pc 3 at very low latitudes, generation mechanism 7−55385
Pc 3 oscillations observed along the meridian, phase observations 7−34794
Pc 3-4, energy densities rel. to upstream solar wind conditions 7−60493
Pc 3-5 rel. to ion vel., EISCAT 1983 obs. *(Chinese)* 7−18329
Pc 4, double reson., obs. and implication 7−47646
Pc 5, 14 Nov. 1979 event, antisymmetric standing wave struct. 7−23954
Pc 5, generation from high-β plasma instabilities excitation at geostationary orbit 7−11644
Pc 5, harmonic struct. of compressional pulsations at geosynchronous orbit 7−40649
Pc 5, storm-time event, wave props., ISEE-1 and 2 obs. 7−47637
Pc 5 event of 14 July 1982, plasma and elec. field obs. 7−23953
Pi 2 oscillations, polarization characts. 7−55384
Pi 2 pulsations, anomalous damping obs. rel. to Birkeland currents in magnetosphere 7−47631
Pi 2 structure of electron substorm-related injections at synchronous orbit 7−47638
polar cusp ULF pulsations 7−9334
resonance frequency of magnetic force lines, measurement using gradient method 7−55369
strong magnetic storm, observations of pulsations and charged particles 7−34795
VLF pulsations (type 2QP) observed on the ground and associated mag. pulsations 7−23955
microrecording *see microphotography*
microreduction *see microphotography*
microscopes
see also acoustic microscopes; electron microscopes; ion microscopes; optical microscopes
aplanatic objective in mirror microscope for ultracold neutrons 7−18912
influence of perspective distortions on imagequality in stereoscopic microscopes *(Russian)* 7−4887
microprocessor controlled microscope for nuclear emulsion meas. 7−19648
soft X-ray, undulator based, design 7−47298
Wolter X-ray microscope calibration 7−24750
Wolter X-ray microscopes, single and multilayered, mirror substrate prod. 7−30137
X-ray microscope, axisymm.. grazing incidence, figure tolerancing 7−30136
X-ray microscope design using multilayered optics 7−41565
X-ray microscope using multilayer optics with a laser-produced plasma source 7−30138
microscopy
see also acoustic microscopy; electron microscopy; ion microscopy; optical microscopy
activated platelets, human, soft X-ray microscopy studies 7−40124
medical microscopy techniques *(Dutch)* 7−14143
radiomicroscopy using Si microdetector, appl. to beta tracers 7−47223
scanning soft X-ray microscopy at the Brookhaven lightsource 7−35653
scanning X-ray microscope development at the Daresbury Laboratory 7−35654
soft X-ray lenses for X-ray microscopy, UV-holographic lithography fabrication 7−35652
soft X-ray microscopy at national synchrotron light source 7−18951
steel, cold-rolled, corrosion investig. by thermal-wave microscopy 7−28169
submicron techniques, conf., Nova Scotia, Canada (July-Aug. 1984) 7−35104
surface testing by microscope-TV-computer system 7−14922
ultra-soft X-ray contact microscopy, plant and animal cytology appls. 7−40388
X-ray applications, prospects 7−24739
X-ray contact microscopy, biology appls. 7−35655
X-ray holographic microscopy using synchrotron radiation 7−41554
X-ray microscopy experiments with synchrotron radiation 7−18949
X-ray microscopy using laser produced plasma X-ray source 7−20909
X-ray partially coherent radiation, props. and appls. 7−24738
microstrip antennas
field patterns of microstrip antenna in two component plasma 7−6397
microstrip lines *see strip lines*
microstructure, crystal *see crystal microstructure*
microtomes *see laboratory apparatus and techniques*
microtrons
Cherenkov free electron laser 7−10970
CW injector linac for 35 MeV double sided microtron *(Japanese)* 7−19557
double-sided microtron, injector development *(Japanese)* 7−19558
electron gun for continuous-operation sectional microtron, calc. and expt. meas. 7−56888
ENEA free electron laser, use of 20 MeV 120 mA microtron 7−1137
FEL microtron accelerator 7−1113
MAMI B, construction and research program 7−62148
NBS CW microtron, FEL expts. 7−1140
undulator, linear, variable gap permanent magnet, for ENEA free electron laser expt 7−43151
microwave acoustic devices *see acoustic microwave devices*
microwave antenna arrays
medical hyperthermia, Phase I regional device evaluation, microwave annular array vs. RF induction coil 7−47286
superconductor-insulator-superconductor mixers integrated with slot antennas, imaging array 7−60556
microwave antennas
see also waveguide antennas
biomedical microwave interstitial applicators for hyperthermia, design with improved treatment vol. 7−65827
interstitial microwave antenna array hyperthermia system, SAR patterns 7−8678
interstitial microwave antenna hyperthermia system, power deposition pattern control 7−8677
interstitial microwave antennas for thermal therapy 7−65825
radiometers, effects of rain on surface 7−9213
sonic microwave-antenna simulator 7−43582
spaceborne radiometer antenna reflector, MM wave, development 7−23920
submillimetre spectroscopy and appls. conf., Cannes, France (Dec. 1985) 7−29585
microwave conductivity *see high-frequency effects*
microwave detectors
2l-He hybrid cryostat for 690 GHz InSb bolometer 7−30024
145-GHz-frontend with superconductor-isolator-superconductor (SIS)-mixer 7−34867
common-user submm receiver for UKIRT and UK-NL telescopes 7−34883
compact quasi-optical dual LO receiver for 300-500 GHz 7−34882
ideal bolometer, background power effect on performance 7−56344
K-band receiver, cryogenically cooled HEMT for radio astronomical obs. 7−60548
Microwave Limb Sounder 183 GHz radiometer 7−60433
MM-wave radiometer system for remote sensing appls. 3 mm operation, aircraft/helicopter installation 7−23880
nonelectrical props., detection using microwaves in China, review 7−48682
optical fibre arrangement for microwave power detection 7−18865
semiconductor photon drag broadband detector for pulsed high-power MM-wave radiation 7−56337
solid state submm radiometer, characts., astron. appl. 7−60552
submillimeter astronomy, low noise heterodyne receiver 7−34868
submillimetre spectroscopy and appls. conf., Cannes, France (Dec. 1985) 7−29585
submm heterodyne detection system for atm. physic and astronomy 7−60562
submm laser system for local oscillator use in heterodyne receiver, astron. appl. 7−34869
superconducting tunnel junctions, microwave detection, quantum statistical theory 7−2786
UC Berkeley submm heterodyne receiver for spectroscopy 7−34879
UKIRT mm and submm receivers 7−34880
microwave devices
see also acoustic microwave devices; Gunn devices; masers; microwave parametric devices; solid-state microwave devices; waveguides
reentrant cavity as a low-power plasma source 7−44199
microwave filters
5 GHz range SAW filter fabricated by electron beam exposure with O_2-plasma ashing techniques 7−20534
microwave generation
see also microwave oscillators; relativistic electron beam tubes
conf., Saskatoon, Canada, May 1986 7−29595
diffraction radiation generator, electronic efficiency, microwave field distribution, phase nonuniformities effect 7−37124
intense single-pulse microwave sources diagnostics 7−9845
ion source, beam extraction expts. with Ar^+ beam 7−363
magnetised virtual cathode microwave generator, high-efficiency 7−20964
millimeter-wave generation via plasma three-wave mixing 7−26423
plasma heating, mm-wave irrad., high power mode conversion for linearly polarized HE_{11} hybrid mode output 7−44196
short pulse, high power microwave air breakdown 7−26585
undulator utilising a plane rectangular waveguide 7−62187
Varian-NCSU relativistic magnetron, initial test results 7−30043
virtual cathode oscillator, pinched diode driven, dynamics 7−44261
n-$GaAs/Al_xGa_{1-x}As$ multilayer heterostructs., nonlinear high-freq. effects during vertical transport 7−2694
p-Ge, solid-state radiation source for submillimeter and far IR waves 7−37079
Na^+ ion production, microwave discharge ion source 7−15030
microwave heaters *see radiofrequency heating*
microwave heating *see radiofrequency heating*
microwave holography
Effelsberg 100 m radiotelescope, surface meas. by microwave holography 7−24005
MM-wave holography, 2D image reconstruction method from holograms sampled by using Fresnel zone plates *(Japanese)* 7−43017
root-mean-square optimal solutions of selective holography 7−57272

- **microwave holography** continued
  - spatial light modulator, electron beam addressed, microwave holography appls. 7−25955
  - underground object imaging system with computerized reconstruction 7−47580
- **microwave imaging**
  - *see also microwave holography*
  - biological temperature retrieval by scanning radiometry 7−14104
  - brain tumours, invasive and noninvasive microwave hyperthermia 7−14105
  - clinical microwave thermography system 7−60069
  - diffraction tomography for dielectric constant distribution meas. 7−41401
  - ERS-1 active microwave instrumentation, operational control 7−47550
  - medical application of microwave thermography 7−60068
  - microwave reflectometry, frequency-domain, image reconstruction, parameter identification, simulation tools appl. 7−65834
  - MM-wave radiometer system for remote sensing appls. 3 mm operation, aircraft/helicopter installation 7−23880
  - Radarsat synthetic aperture radar system for remote sensing satellite 7−47578
  - SAR data processing, high speed, on NEDIPS data flow computer 7−47579
  - superconductor-insulator-superconductor mixers integrated with slot antennas, imaging array 7−60556
- **microwave induced delayed phosphorescence** *see MIDP*
- **microwave-infrared double resonance** *see microwave-optical double resonance*
- **microwave landing systems** *see aerospace instrumentation; aircraft instrumentation*
- **microwave links**
  - 10 GHz multirelay link rain attenuation outage time calcs. 7−55123
  - airborne microwave rain scatterometer/radiometer, DP software system *(Japanese)* 7−23908
  - airborne microwave rain scatterometer/radiometer, hardware system development *(Japanese)* 7−23907
  - airborne microwave rain scatterometer/radiometer, satelliteborne weather radar system *(Japanese)* 7−23911
  - airborne microwave rain scatterometer/radiometer system, microwave backscatter expt. of ocean surface *(Japanese)* 7−23910
  - airborne microwave rain scatterometer/radiometer system, rain meas. and data anal. *(Japanese)* 7−23909
  - arid land millimetre wave radio links, design considerations 7−40518
  - communication, equatorial and tropical regions, rain effects 7−66281
  - dust storms, attenuation at 2 and 7.5 GHz, obs. 7−55137
  - extinction properties of visible-, IR- andmm radiation (94 GHz) 7−9176
  - fading, geographical distrib. prediction from ground based climatological meas. 7−55241
  - line-of-sight links, elevated atmospheric duct, multipart fading anal. 7−47482
  - mm-wave propag. characts. of atmosphere *(German)* 7−66207
  - multipath fading, annual and seasonal variability 7−55242
  - rain attenuation and water vapour radiometric meas. at NPL 7−34606
  - sandstorm effect on radiowave propag., system design for Riyadh, Saudi Arabia 7−4111
  - seasonal variation of multipath parameters in Egypt 7−66282
  - tropospheric propagation at low latitude areas 7−66283
  - UHF/SHF SATCOM propagation and system design 7−40555
- **microwave measurement**
  - *see also microwave imaging; microwave reflectometry*
  - airborne microwave rain scatterometer/radiometer, DP software system *(Japanese)* 7−23908
  - airborne microwave rain scatterometer/radiometer, hardware system development *(Japanese)* 7−23907
  - airborne microwave rain scatterometer/radiometer, satelliteborne weather radar system *(Japanese)* 7−23911
  - airborne microwave rain scatterometer/radiometer system, microwave backscatter expt. of ocean surface *(Japanese)* 7−23910
  - airborne microwave rain scatterometer/radiometer system, rain meas. and data anal. *(Japanese)* 7−23909
  - brain tumors, interstitial microwave hyperthermia, swept freq. meas of antennas 7−14106
  - calorimeter coaxial, and its use as reference standard in automated microwave power calibration system 7−48744
  - cardiopulmonary rate monitor, microprocessor-based, using low-power Doppler microwaves 7−65828
  - dielectric meas. of birefringent and ceramic materials 7−14978
  - diffraction method of complex quality control of cond. surfaces and dielec. coatings 7−39820
  - diffraction tomography for dielectric constant distribution meas. 7−41401
  - earth surface, emissive props. model for radiometric meas. 7−66125
  - hygrometer, microwave, principle of operation and characts. 7−56294
  - intense single-pulse microwave sources diagnostics 7−9845
  - interpretation of radiometric measurements *(Czech)* 7−35565
  - JET microwave interferometer, plasma electron density meas. 7−44242
  - marine oil slicks detection, ARCHIMEDES 1 expt. 7−3744
  - medical microwave hyperthermia, thermal dosimetry method using microwave radiometry for temp. control 7−65859
  - microbiological objects dielectric props. monitoring, use of microwave bridge *(Slovak)* 7−65896
  - nonelectrical props., detection using microwaves in China, review 7−48682
  - optical discs, reflection and scattering by pits, microwave simulation 7−36889
  - optical fibre arrangement for microwave power detection 7−18865
  - permittivity meas. by cavity perturbation method 7−14980
  - permittivity meas. system 7−41404
  - photonic measurements of microwave pulses using electro-optic and fibre-optic components 7−25983
  - polymers, permittivity, loss tangent and refractive index meas., mm-wave technique 7−18820
  - power, microcalorimetric technique with X-band load 7−18817
  - power standard, using electron beam 7−14967
  - primary broadbanded coaxial thermal noise standard, watt unit realisation 7−18819
  - quartz, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7−7632
  - radar sensing, modelling interactions between ocean and environment 7−60423
  - rain attenuation and water vapour radiometric meas. at NPL 7−34606
  - rectangular waveguide calorimeter for single intensemicrowave pulses 7−9847
- **microwave measurement** continued
  - RF anechoic room absorbers eval. in 30 to 1000 MHz range 7−43604
  - sampling oscilloscopes use for economical HF fast-rise-time signal meas. 7−48775
  - sandstone cores, oil and water content meas. using microwave techniques 7−55288
  - seasonal variation of multipath parameters in Egypt 7−66282
  - semiconductor laser in small loop antenna as sensitive HF EM field probe 7−24657
  - snow, dielectric properties meas. in 3 to 37 GHz range 7−23710
  - time domain spectroscopy for dielectric props. meas., human skin in vivo meas. appl. 7−14961
  - time-domain reflectometry, single-reflection, conductivity limitations 7−41405
  - tropospheric propagation at low latitude areas 7−66283
  - waveguide below cutoff attenuation standard calibration, using repeatable attenuation step 7−14972
  - YIG single-crystal ferrites, relation between biassing magnetic field and linewidth 7−4868
  - BN, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7−7632
  - BeO, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7−7632
  - GaAs, semi-insulating, deep levels, nondestructive microwave DLTS measurements 7−45210
  - $NiFe_2O_4$, Trans-Tech 2-111, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7−7632
  - SiO_2, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7−7632
- **microwave-optical double resonance**
  - *see also PMDR*
  - alkaline earth monohalides, electronic struct. from laser microwave double resonance spectra 7−10638
  - 4-bromo-4′-chlorobenzophenone, orientationally disordered, triplet state, electron spin echo dephasing studies 7−38963
  - 1-bromo-4-chloronaphthalene, orientationally disordered, triplet state, electron spin echo dephasing studies 7−38963
  - β-9,10-dichloroanthracene, triplet excitons, zero field DF ODMR 7−27631
  - dichlorobenzene-dibromobenzene mixed cryst., triplet electron spin dephasing, ODMR spectra study 7−33300
  - fluorene-1,2,4,5-tetracyanobenzene, charge transfer cryst., triplet excitons, ODMR and ESR 7−7611
  - formaldehyde+polar gases 7−50321
  - Ge^{2+} impurity ion in alkali halide crysts., triplet excited relaxed states, ODMR study 7−2953
  - hydrocarbons, saturated, liq., optically detected ESR of solvated electrons 7−25560
  - ionic crystals, recombination luminescence optical detection of magnetic resonance studies 7−33435
  - ODMR, optical design for longitudinal optical observation in yoke magnets 7−9860
  - quinoxaline, triplet state, Shpol'skii ODMR spectra, spin-lattice relax. 7−62428
  - tris-1,10-phenanthroline rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
  - tris-2,2′-bipyridine rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
  - $Al_xGa_{1-x}As$, Ga interstitial identification by ODMR 7−33302
  - BaI, $X^2\Sigma^+$ and $C^2\,\Pi$ states, hyperfine struct. MODOR 7−10637
  - $CaCrO_4$, spin-triplet state, luminescence and ODMR 7−64686
  - CaF_2:Eu^{3+}, ^{153}Eu-^{151}Eu quadrupole moment ratio, optically detected NMR studies 7−22164
  - CaF_2:Eu^{3+}, hyperfine coupling in $^7F_0$ and $^5D_0$ states, ODMR meas., optical hole burning 7−45842
  - CaO, self-trapped hole centres, ODMR and spin coherence studies 7−7612
  - CdF_2:Eu^{3+}, hyperfine coupling in $^7F_0$ and $^5D_0$ states, ODMR meas., optical hole burning 7−45842
  - CdS, electron-hole exchange interaction for donor-acceptor pairs as a function of separation distance 7−52537
  - CrO_2Cl_2 vibronic anal., CCl_4 and $SnCl_4$ matrices, emission and excitation spectra, MODOR spectra 7−15542
  - CuO_x crystals, diamagnetic excitons, valence band corrugation 7−64546
  - Ga^+ impurity ion in alkali halide crysts., triplet excited relaxed states, ODMR study 7−2953
  - GaP, defects, optical detection of magnetic resonance studies 7−22165
  - GaP:Cu, 1.65 eV luminescence, optically detected mag. resonance studies 7−64547
  - Li, excited states, quantum defect and isotopic shift meas., millimeter wave ODR spectroscopy 7−15538
  - NCO, MODOR and intermodulated fluoresc., hyperfine coupling consts. 7−50206
  - NO_2, MODOR spectra 7−15632
  - Ne-OCS, mol. beams, IR absorpt. and microwave-IR double reson. spectra 7−62427
  - OCS, reson. IR radiation interaction, l doubling, microwave spectrum 7−42604
  - OCS, rot.-vibr. anal., electronic ground state, MW, IR and Raman spectra 7−19820
  - OCS, rot.-vibr. anal., dipole moments, Stark spectra. 7−19910
  - OH, $A^2\Sigma_{1/2}{}^+$, first excited electronic state ρ-doublet transition obs., UV-microwave double reson. 7−10636
  - Si p^+-i-n^+ diodes, gamma irrad., capacitance detected mag. resonance 7−17243
  - a-Si:H, triplet exciton recomb., ODMR studies 7−2490
  - $SrCrO_4$, spin-triplet state, luminescence and ODMR 7−64686
  - SrF_2:Tm^{2+}, g-factor signs, optically detected ESR 7−32948
  - SrF_2:Tm^{2+}, optically detected low-field ESR, cross-relaxation effects 7−33301
  - YO, gas-phase, MODOR 7−15631
  - ZnTe:Cl(Al), crystals, vacancy-impurity complexes, ODMR studies 7−2530
- **microwave oscillators**
  - *see also Gunn oscillators; microwave parametric oscillators; parametric oscillators; tunnel diode oscillators*
  - radioastronomy, mm-wave, 230 GHz, low-noise cryogenic receiver, spectroscopic appls. 7−29396
  - receiver, W-band microwave, for electron temperature meas. in Tokamak TJ-1 7−44241

microwave oscillators continued
submillimetre spectroscopy and appls. conf., Cannes, France (Dec. 1985) 7−29585
submm laser system for local oscillator use in heterodyne receiver, astron. appl. 7−34869
UKIRT mm and submm receivers 7−34880
virtual cathode oscillator, pinched diode driven, dynamics 7−44261

microwave parametric amplifiers
superconducting tunnel junctions, microwave detection, quantum statistical theory 7−2786

microwave parametric devices
see also microwave parametric amplifiers; microwave parametric oscillators
No entries

microwave parametric oscillators
No entries

microwave-radiofrequency double resonance *see magnetic double resonance*

microwave reflectometry
see also swept-frequency reflectometry; time-domain reflectometry
12-pole reflectometer calibration analysis 7−325
certification of radiation absorbing materials in 1-3 GHz range, modulus of reflection coeff. determ. 7−4866
frequency-domain, image reconstruction, parameter identification, simulation tools appl. 7−65834
laminated dielectric with losses, parameters determ. in broad freq. range, inspection method 7−65263
power standards comparison using two-resistor power splitter, reflection determ. 7−18818
quasistationary plasma, reflectometry, freq. modulated EM waves 7−63257
rubber, anisotropic sheets, complex permittivity tensor meas. and refl. characts. study 7−33317
sampling oscilloscopes use for economical HF fast-rise-time signal meas. 7−48775
six-port reflectometer for meas. complex dielectric constant 7−18821
Si, defect free zone, non-destructive microwave reflection decay meas. 7−51755

microwave region *see microwaves*

microwave spectra
see also molecular rotation; molecular vibration; radiofrequency and microwave spectra of diatomic inorganic molecules; radiofrequency and microwave spectra of organic molecules and substances; radiofrequency and microwave spectra of polyatomic inorganic molecules
bubble garnet films, coercive force determ., microwave absorpt. meas. 7−59096
ferrofluid, near mm wavelength studies of refr. indices by dispersive Fourier transform spectra 7−53289
ferrofluid-Al particle composite, microwave absorption studies 7−59306
glass, laser damage initial stage, luminesc. and microwave absorpt. obs. 7−31375
ice biological charge transfer processes, IR and microwave spectra 7−3749
molecules, gaseous, rot. transition detect. using pulsed MM wave Fourier transform microwave spectrometer 7−350
sea ice, C-band passive microwave spectral emission during growth phase 7−23661
CO_2 ice, absorpt. coeff. and refr. index, laboratory meas. UV to microwave, review 7−3008
GaAs microwave absorption transient spectroscopy for investigation of deep levels in semiconductors 7−52520
InP microwave absorption transient spectroscopy for investigation of deep levels in semiconductors 7−52520
K, Rydberg states, microwave multiphoton transitions obs. 7−25474
$KTaO_3$, soft mode damping, determ. by submillimeter backward wave spectroscopy 7−45910
O+ethylene reaction intermediates microwave kinetic spectroscopy 7−13748

microwave spectrometers
see also magnetic resonance spectrometers
800 MHz bandwith acousto-optical spectrometer at Helsinki Observatory 7−60561
acousto-optical spectrographs for ground and space submm astronomy 7−34877
analytical microwave spectrometer employing a Gunn oscillator locked to the rotational absorption line 7−15008
Cologne 3m radiotelescope acousto-optical spectrometers 7−34878
Cologne 3m radiotelescope mm and submm spectrometer 7−34871
electromagnet power system improvement using dual control 7−30057
MM-wave cavity spectrometer for gas mixture anal., 26.5-40 GHz, design and operation 7−13836
pulsed MM wave Fourier transform microwave spectrometer, rot. transition detect. in mols. 7−350
submm heterodyne spectrometer for astron. and atm. meas. 7−60562
submm heterodyne spectrometer for UKIRT and UK-NL telescope 7−34883
submm spaceborne instrumentation 7−47711
UC Berkeley submm heterodyne receiver for spectroscopy 7−34879
UK/NL EHF telescope spectrometer system 7−34876
wideband spectrometer backends, review 7−34876
X-band time-domain EPR spectrometer, computer-controlled 7−30054

microwave spectroscopy
see also magnetic resonance spectroscopy; microwave spectrometers; paramagnetic resonance
2-GHz frequency-domain fluorometer 7−23091
ENDOR electron spin echo resonator, variable temp., for single-crystal studies 7−30059
ESR spectrometer sensitivity enhancement, using dielectric resonator 7−9865
radioastronomy, mm-wave, 230 GHz, low-noise cryogenic receiver, spectroscopic appls. 7−29396
SETI, ultranarrowband searches with dedicated signal processing hardware 7−24013
submm heterodyne spectroscopy 7−31041

microwave thermography *see microwave imaging*

microwave tubes
see also electron-wave tubes; relativistic electron beam tubes
compact quasi-optical dual LO receiver for 300-500 GHz 7−34882
conf., Saskatoon, Canada, May 1986 7−29595
gyrotron appls. in fusion research 7−49617

microwave tubes continued
gyrotron development in the framework of the European Fusion Programme 7−49618
magnetised virtual cathode microwave generator, high-efficiency 7−20964
plasma heating, mm-wave irrad., high power mode conversion for linearly polarized HE_{11} hybrid mode output 7−44196
relativistic orotron with sinusoidal HF distribution along electron trajectories, theory 7−50458
TMX-U ECRH circular waveguide system development 7−26451

microwaves
1.5K cryogenerator for use with SIS detectors 7−30023
reflector-backed perfectly blazed strip gratings simulate corrugated reflector effects 7−42854

mictomagnetism
see also spin glasses
$Gd_{2-x}La_xAl$, pseudobinary cpd., mag. props., disorder effects 7−7523
$Nd_2Fe_{14-x}Ru_xB$ alloys, mag. props., comp. depend. study 7−7547

MIDP
No entries

Mie theory *see electromagnetic wave scattering*

mild steel *see carbon steel*

military administrative data processing *see military computing*

military ADP *see military computing*

military computing
airborne reconnaissance, conf., Diego, CA, USA (Aug. 1985) 7−18491
nuclear weapons, Microsoft BASIC programs showing local effects 7−30676

military equipment
see also aircraft; military systems; ships
fibre optic technology, military service aspects 7−50774
ground testing of fighter aircraft, p-static discharge effects 7−50452
holographic optical elements, industrial appls. in display systems 7−25753
multilens cameras for high velocity/low altitude photoreconnaissance 7−41515
neutral particle beam discriminator, RF power source technology 7−15427
optical fibre, radiation effects, design tradeoffs for radiation environments 7−1280
radiometry and the military 7−48826
thermoelectric power generator develop. for military appls. 7−65501
Be mirrors for large optics, preparation by hot isostatic pressing 7−26045
Cs and Ba Knudsen ultrahigh-temperature thermionic energy conversion for space nuclear power 7−65507

military systems
see also military equipment
aerospace technology, conference, Washington, DC, USA (Sept. 1986) 7−48171
airborne reconnaissance, conf., Diego, CA, USA (Aug. 1985) 7−18491
airborne reconnaissance, operational cartography appl. 7−23517
conf., Rochester, NY, USA 7−9595
KS-147A LOROP camera integration into RF-5E aircraft 7−18898
KS-147A LOROP camera system, photographic reconnaissance appl. 7−18897
KS-147A LOROP camera system for RF-5E aircraft 7−18899
oblique CCD reconnaissance camera operation, atmospheric effects 7−18900
radiometry and the military 7−48826
SDI, contributions of fusion neutral-particle beam research 7−10370
SDI, use of pulsed power technology 7−10286
SDI, use of RF linear accelerators 7−10317
SDI driving optics development 7−48824

Milky Way *see Galaxy*

milliammeters *see ammeters*

mills, rolling *see rolling mills*

MIM devices *see metal-insulator-metal devices*

MIM structures *see metal-insulator-metal structures*

MIMD computers *see parallel processing*

MINDO calculations
1- acetylcyclohexene, rot. barrier, conform. stability, MINDO/3 and MNDO calcs., UV spectra anal., CNDO calcs. 7−25405
acrolein, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7−56983
aliphatic amines, proton affinities anal. using Kitaura-Morokuma scheme and MINDO/3 method 7−62286
allyl cations, methyl substituted, MINDO forces calcs. 7−62288
L-ascorbic acid radical, stability and props. MIND and MNDO calcs. 7−15514
cyanopolyacetylene, interstellar mols., rot. consts., MINDO/3 calcs. 7−60770
diazoethenes, ground state geometries, semi-empirical MINDO/3 and MNDO calcs. 7−56975
diphenylamine, geometry optimisation, semiempirical quantum chem. methods 7−10433
ethane, substituted, inductive effect in quantum-chem. calcs., perturbation theory appl. 7−5600
flavins, mol. geometry and REDOX props., MINDO/3 calcs. 7−56976
flavins, struct. and REDOX props., electron distrib., MINDO/3 calcs. 7−56977
fluorobenzonitrile radical ions, self consistent reaction field calcs. 7−36481
guanine-metabolite adducts, ab initio and CNDO/2 and MINDO/3 calcs. 7−49928
hydroxyethylene, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7−56983
1-methylcyclohexyl cation to 1,2-dimethylcyclo pentyl cation, rearrangement, MINDO/3 study 7−10428
2-norbornyl cation, heavy atom tunneling, MINDO/3 calcs. 7−10426
polymethynes, restricted HF MINDO/3 calcs. 7−10432
pyrazine, in-plane vibrs., force field, MINDO/3 calcs. 7−42487
substance macroscopic properties; MINDO/3 semiempirical approximation program calc. 7−10434
2,2,4-trichloro-5-cyano-6-trichloromethyl-1,5-diazaphosphorine, NQR parameters, semiempirical calcs. 7−57094
$Al_2Si_4O_{17}H_{12}$ cluster, electronic struct. and state densities, MINDO/3 and CNDO/2 calcs. 7−57201
$Al_4Si_8O_{30}H_{16}$ cluster, electronic struct. and state densities, MINDO/3 and CNDO/2 calcs. 7−57201
ClNC isomerisation to ClCN, MINDO calcs. 7−56979

MINDO calculations continued
FNC isomerisation to FCN, MINDO calcs. 7—56979
SiO_2:F, vitreous, substitutional impurity, semiempirical calcs. 7—32464

mineral oil industry *see petroleum industry*

mineralogy *see minerals*

minerals
see also lunar rocks and minerals
alkali feldspar, hypersolvus, Raman spectroscopic study of order parameter behaviour, displacive transform. and evidence for Na-K site ordering 7—22254
Allende, Ca-Al rich inclusions, crystallisation sequences 7—9445
Allende meteorite, Ca-Al inclusions exposure ages determ. 7—55584
Amazon River, continental shelf, clay mineral reactions effect on Al distrib. in sediments and waters 7—34551
andalusite, dislocation strain energy 7—16555
anion adsorption on oxides, clay minerals and soils 7—54379
Antarctic ureilites, mineralogy, evol. and origin 7—66522
Antarctic ureilites, petrology of four specimens rel. to ureilite petrogenesis 7—9447
apatite, decomposition to dense polymorph of $Ca_3(PO_4)_2$ under high press. and temp. conditions 7—44796
apatite, external detector comparison for fission track dating 7—54962
apatite, fission tracks thermal annealing, chem. comp. effects 7—60252
apatite, track etch anisotropy study 7—36403
apatite concentrates, water-content measurement system 7—55300
apatite fission track plateau age dating, reproducibility of meas. 7—40597
Archaean continent formation and anomalous sub-continental mantle link, mineralogical anal. 7—47408
asbolane, struct. chemistry, EXAFS studies 7—63578
E Australia metallogeny and tectonics, conf., Sydney, Australia (August 1984) 7—55882
authigenic magnetite and hydrocarbons, occurrence correl. 7—60253
barite, X-irrad., thermally stimulated luminesc., trap distrib. 7—59266
benavidesite sulfosalt mineral, first discovery in China 7—47433
beryl, high press. cryst. struct. and compressibilities 7—16505
biominerals, form. and stability, thermodynamics of ionic solid solns. 7—17936
biotite from Ludlovian bentonites of Welsh Borders, Great Britain, K-Ar data 7—47386
biotite-sillimanite-spinel assemblages in high-grade metamorphic rocks, thermobarometric appl. 7—40434
biotites, pyroelastic, in Wenlockian of Gotland (Sweden), radiometric K-Ar ages *(French)* 7—47385
bobierrite, $Mg_3(PO_4)_2.8H_2O$, cryst. struct. 7—32376
braunites, $Mn^{2+}Mn_6{}^{3+}SiO_{12}$:Fe(Ca)(Al), antiferromagnetism and spin glass order, mag. meas. 7—27518
brushite, EXAFS, multiple scatt. processes 7—64777
S Bulgarian Black Sea coast, abraded cliffs heavy minerals characts. *(Russian)* 7—34483
buried metal sulphide deposits, exploration, effects of chem. processes on emitted gases meas. 7—40439
bytownite, thermoluminesc. study of exptl. shock-loading effects 7—55025
Camel Donga meteorite, new eucrite from Nullarbor Plain, mineralogy and comp. 7—34953
SE Caucasus, USSR, mineral resources 7—29013
Cevennes Medianes, France, vaugneritic magma evol. and characts. 7—40472
chemical analysis of mineral grain surfaces, Auger spectroscopy method 7—60426
chemical effects of α decay in uranium minerals 7—19544
China, cosmic dust in Wenduermiao and Bainaimiao groups, heavy minerals characts. 7—14546
chondritic meteorites, unequilibrated, elemental comps. of major silicic phases in chondrules 7—34954
chromite ore prospecting in Zimbabwe underground mine, appl. of high-resolution seismic refl. technique 7—65950
Circle quadrangle, Alaska, S central region, petrological evidence for terrane boundary 7—47437
clay constituents, apportionment into structural formula 7—65999
clay minerals, chemical modelling of specific anion adsorption 7—54379
clay minerals in sediments from the west equatorial Pacific 7—40463
clay-mineraloid weathering products in Antarctic meteorites, mineralogy and comp. 7—34951
conference on geology, Kingsley Dunham volume, Durham, England (April 1985) 7—24303
cordierite, cryst. struct. refinement and thermal expansion, 100-550K 7—6609
cordierite, electron beam induced phase decomposition 7—13796
corundum (α-Al_2O_3), elasticity and high pressure instabilities 7—66103
crystalline minerals, fracture characteristics using ^{222}Rn and ^{220}Rn as probes 7—23893
cumulus orthopyroxenes of Ultramafic Series, Stillwater Complex, REE evidence for magma evolution 7—65987
deep-sea floor polymetallic sulphide exploration, MINI-MOSES expt. 7—23863
in deep-sea sediments, anal. of finely dispersed minerals near East Pacific Rise 7—14260
diamonds, cubic, from Zaire, K-Ar isochron dating 7—23612
digenite, $Cu_{1.85}S$, single crystal, structural transitions 7—12259
djerfisherite, electrochemically synthesised, cryst. struct., neutron diffr. study 7—58224
England, Carboniferous sandstones origin, determ. from zircons dating 7—47409
enstatite, electron beam induced phase decomposition 7—13796
epidote, radiation damage study using fission track and thermoluminescence methods 7—51818
euclase, high press. cryst. struct. and compressibilities 7—16505
fayalite, electron density and polarised absorption spectra 7—22280
fission track closure temperatures, numerical calcs. 7—36435
fission track dating of annealed minerals and non-unique populations, clustering technique 7—47572
fluorapatite, relative defect-production efficiency for fission fragments, alpha decay and electron irradiation 7—12167
forsterite, elastic props., theoretical modelling, polyhedral approach 7—38091
garnet-hornblende thermometry, $CaMgSi_2O_6$ activity rel. to min. press. limits for garnet amphibolites 7—29005
garnet-orthopyroxene-plagioclase-quartz assemblages of Kapuskasing uplift, Ontario, geobarometry rel. to deep crustal struct. 7—14277

minerals continued
garnets from Orfordville Belt, New Hampshire, press., temp. and structural evolution 7—55044
gas emission causing bubbles in overlying ice, use in prospecting 7—23709
geological materials, X-ray absorpt. spectroscopy 7—59283
glaciolacustrine sediments of Yukon Territory, stratigraphic, isotopic and micrological evidence for early Holocene thaw unconformity 7—9034
glauconite, sedimentary authigenic, annealing temp. and time effects on fission tracks 7—54966
glauconite from sedimentary formations, extra-peninsular India, fission track dating 7—54965
gypsum, thermal breakdown and crack form. 7—2178
haematite, chemical remanent magnetisation and structural-sensitivity characterisation 7—29004
haematite-bearing dolomite, thermally activated viscous remanence 7—60250
hashemite, $Ba(Cr,S)O_4$, barite struct. type, cryst. struct. determ. 7—32375
heavy ion track etching, implications for α-recoil track dating 7—36434
Hedjaz meteorite, L-group chondrite, mineralogy rel. to metamorphic status 7—9446
hibonites in carbonaceous chondrites, $^{48}Ca/^{50}Ti$ anomalies 7—55579
hollandites, modelling tunnel-cation displacements using struct.-energy calcs. 7—32374
hornblende, Al content as empirical igneous barometer 7—55029
hydroxyapatite, EXAFS, multiple scatt. processes 7—64777
hydroxyapatite, morphology of F faces 7—51686
Ile-Ife, Nigeria, possible fault zone, elec.-geomag. surveys and minerals existence 7—47330
interplanetary dust, refractory minerals comp. 7—34823
interstellar silicate grains, exptl. investigations of astronomically important silicates 7—48017
ion microprobe analysis of rare earth elements in minerals 7—60427
Jabal Tirf layered gabbro, SW Saudi Arabia, mineral chemistry rel. to magma origin 7—29015
Johnson Camp, Arizona, Cu-Zn ore bodies determ. from soil and soil gas comp. anal. 7—40591
Juno, surface comp. and visible spectral characts. *(Russian)* 7—24047
kaersutite, cation distrib. and proton location, neutron diffr. studies 7—63569
kaolinite, FTIR photoacoustic spectra 7—48881
kaolinite particles in aq. suspension, amplification of shock waves 7—43978
central Krak Massif, USSR, struct. and petrology 7—28925
central Kurin depression, USSR, deep rocks NRM and ferromag. minerals characts. 7—55022
langbeinite, reversible phase transitions, EPR studies 7—63810
liquid soln.-solid grain system, stability of steady states, diffusion effect 7—32622
lithiophorite, struct. chemistry, EXAFS studies 7—63578
lithosphere mineral matter, elastic props. var. with press. and temp., laboratory anal. 7—55015
lower mantle minerals, revised thermal cond. rel. to interpretation of D″ zone 7—66020
mafic minerals, Gaussian anal. of temp. effects on reflectance spectra in 1-μm region 7—29006
magnesioferrite from the Cretaceous-Tertiary boundary, Caravaca, Spain 7—40473
magnetic minerals from Mesozoic dike swarm in NE Brazil, mag. behaviour rel. to palaeomagnetism 7—54869
magnetic minerals in upper marine crust, results from DSDP Hole 504B, E Pacific Ocean 7—29007
magnetite, $Fe_{3(1-\delta)}O_4$, synthesis, crystal growth and characterisation 7—2647
magnetite, hysteresis props. rel. to particle size 7—14268
magnetite compositions in Holocene tephras, appl. of discriminant function and for tephras identification 7—8893
magnetite-bearing dolomite, thermally activated viscous remanence 7—60250
mantle minerals, effects of chemical and phase transitions on intermediate mantle struct. *(Russian)* 7—66038
marine mineral resources in USA exclusive economic zone, geological distrib. and potential development 7—66096
Marjalahti meteorite minerals, etched track length distributions for $Z \geq 90$ cosmic rays 7—47653
mesolite, cryst. struct. X-ray refinement 7—1958
metamorphic map of Zambia, explanatory notes 7—18184
mica (biotite), geochronological dating by Ar isotope method 7—23860
monetite, EXAFS, multiple scatt. processes 7—64777
Mossbauer goodness-of-fit parameters, performance and use, appl. in mineralogical spectroscopy 7—33303
mullite, $Al_2(Al_{2+x}Si_{2-2x})O_{10-x}$, cryst. struct., X-ray diffr. data refinement 7—55030
mullite-corundum refractories, creep behaviour rel. to struct. features 7—22770
natural quartz minerals, thermoluminescent emissions 7—27798
nontronite, effects of shock and thermal alteration on physical props., and implications for Martian surface 7—55024
upper oceanic crust, mineralogy of seawater-basalt interactions 7—28993
oligoclase, thermoluminesc. study of exptl. shock-loading effects 7—55025
olivine, electrical conductivity changes due to creep at Earth mantle conditions 7—18180
olivine, heavy ion track etch rate and track structure 7—42347
olivine, in igneous cumulates, crystn. rel. to magmatic heat pump 7—47406
olivine-pyroxene-plagioclase system, effect of water saturation on partial melt distrib. 7—8925
olivines (synthetic), magnetic props. and oxidation expts. 7—34479
ore minerals, preliminary diagnostics, use of refl. spectra as part of automated system 7—29264
orthoclase, $KAlSi_3O_8:Fe^{3+}$, absorpt. and luminesc. spectra 7—53383
oxide minerals, chemical modelling of specific anion adsorption 7—54379
powder mixtures, X-ray diffr. anal. by heavy ion bombardment 7—32223
Precambrian palaeosols of Dominion and Pongola Groups, Transvaal, chemistry and mineralogy 7—29018
prospecting, India's activities at Instrumentation Group of National Geophysical Research 7—18308
pyrite mineralisation as cause of induced polarisation anomalies over oil reservoirs *(Chinese)* 7—55269
pyrope ($Mg_3Al_2Si_3O_{12}$), melting up to 10 GPa rel. to press.-induced struct. change in pyrope melt 7—8936

minerals continued
pyroxene, mineral lattice defects and crystalline plasticity, review *(French)* 7—34476
pyroxenes, synthetic, exsolution and phase transforms., X-ray and TEM obs. 7—16725
quartz from Cu sulphide deposit at Malanjkhand, fluid inclusions props. rel. to ore deposition conditions 7—29025
quartz sands, natural, red and blue colouration of thermoluminescence 7—46153
radiation damage and trace water relationship 7—32489
radionuclide sorption on natural materials 7—62087
remanence of haematite containing rocks, strain reorientation and remanence 7—23637
resources prospecting, use of soil gas geochem. anal. 7—40590
sanidines from Eifel volcanic field, $^{40}Ar/^{39}Ar$ age determs. rel. to age and duration of Middle Pleistocene cold period 7—47392
sanidines from Upper Carboniferous tonsteins and tuffs, $^{40}Ar/^{39}Ar$ ages rel. to time scale improvement 7—47388
sapphirine formation in Indo-Antarctic metamorphic terrain, implications of Late Proterozoic ages 7—34414
sea-bed mineral formation, geochemical modelling, Mn nodules 7—28998
sediment transport by waves along Konkan coast India, implications of mineral phases 7—28997
sediments of Red Sea rift, mineral comp. of coarse aluritic fraction 7—14261
Sharyzhalgai complex, Baikal region, USSR, ultrabasics geochem. characts. 7—23603
silicate minerals, XPS, Fe 2p spectra 7—59372
silicate minerals and glasses, Fe K-edge EXAFS studies, Fe coordination 7—59287
silicate systems, natural, crystallisation 7—8938
sillimanite, dislocation strain energy 7—16555
Solea graben, Mediterranean Sea, ore deposition and off-axis hydrothermal metamorphism 7—60247
sphene, natural radiation damage, fission track and thermoluminescence props. 7—51889
sphene from Lower Seve Nappe, Sweden, fission track age temp. method 7—40600
stellerite, cryst. struct., X-ray diffr. refinement 7—12007
stishovite (SiO_2), elasticity and high pressure instabilities 7—66103
sulphide minerals, interpretation of AES 7—22391
surface ore detection from space *(Russian)* 7—23646
TAG geothermal field, Mid-Atlantic Ridge, hydrothermal Mn oxide deposits dating 7—8915
tetranatrolite, cryst. struct., X-ray diffr. studies 7—44481
thermal IR multispectral scanner, airborne instrument for mineral deposits detection 7—14393
time-temperature relation for mineral isochrons, thermodynamic model, Rb-Sr system as example 7—66008
titanites from N Western Gneiss Region, Norway, U-Pb ages 7—60194
titanomagnetite, magnetisation in 1 to 30 microns particle size range 7—47425
tobermorite, ion exchange props. 7—59752
β-uranophane, $Ca(UO_2)_2(SiO_3OH)_25H_2O$, refined cryst. struct., thermal anal., IR spectra 7—55031
USSR, ore deposits characts. *(Russian)* 7—40478
Venus, surface colour 7—66492
Zabargad Island, struct. and Red Sea rifting 7—66034
zeolite 13X, hydrophobic, generation by exchange with octadecylammonium ion 7—13809
zeolite theta-1, structural TEM studies 7—16534
zeolites, conf., Burgas, Bulgaria (June 1985) 7—60885
zircons, dating of gabbro-dioritic complex in Ivrea-Verbano zone, Italy *(French)* 7—18136
zircons from N Western Gneiss Region, Norway, U-Pb ages 7—60194
zircons from Silurian-Devonian boundary volcanic rocks of Vendee (W France), U-Pb dating 7—47387
$^{40}A/^{39}Ar$ dating of minerals, errors due to ^{39}Ar loss during neutron activation 7—60390
AsS, realger, X-ray chemical shift, K absorpt. spectra anal. 7—46239
As_2S_3, orpiment, X-ray chemical shift, K absorpt. spectra anal. 7—46239
$BaSO_4$, barite, IR and far IR optical props. 7—13116
$CaCO_3$ porous minerals, dynamic shock-loaded response 7—26863
$CaCo_3$ cement (caliche) in Keweenawan sedimentary rocks (~1.1 Gyr), Michigan, implications for climate and sedimentation 7—29024
$CaTiO_3$ (perovskite), high press. phase transformations and isothermal compressibility 7—14269
$CoAs_3$, smaltite, X-ray chemical shift, K absorpt. spectra anal. 7—46239
Cu sulphide deposit at Malanjkhand, India, physico-chemical conditions of ore deposition 7—29025
$CuFeS_2$, natural chalcopyrite single crystals, deformed, TEM study 7—38002
$Cu_2(OH)_2CO_3$, malachite, X-ray K-absorpt. study 7—7790
Fe ore deposits, magnetic field strength meas. equipment *(Russian)* 7—34699
Fe ore fields, inhomogeneously magnetised models selection optimisation 7—23526
Fe ores, Korean, saturation magnetisation, temp. depend., Backer's chem. reaction *(Korean)* 7—33263
Fe oxides mineralogy determ. in sediments, appl. of Kubelka-Munk colour theory 7—66098
Fe sites in minerals, electronic struct., iterative EHT, multiple scatt. $X\alpha$ calcs. and Mossbauer meas. 7—17244
Fe-Mg-Si-O system, phase equilibria at high press. and temp., thermochemical data base 7—21407
FeAsS, arsenopyrite, X-ray chemical shift, K absorpt. spectra anal. 7—46239
FeO, high-press, metallisation obs. and implications for Earth's core 7—66101
$Fe_2O_{3-\epsilon}$, hematite, O activity depend., high temp. Mossbauer spectra 7—38978
$Fe_{3-\delta}O_4$, magnetite, O activity depend., Mossbauer spectra 7—38977
$Fe_7Si_8O_{22}(OH)_2$, grunerite, mag. order, quasi-one dimensional antiferromag. with spin canting transition 7—58983
$(Mg,Fe)SiO_3$, hypersthene, Mossbauer spectra of Fe^{2+}, electronic spin relax. 7—33307
$MgAl_2O_4$ spinel, high press. cryst. chemistry 7—16521
Mg_2SiO_4, laser-heated, temp. distrib. meas. 7—9837
Mg_2SiO_4-$MgSiO_3$ system, melting and phase relations at 20 GPa under hydrous conditions 7—8935

minerals continued
$Na_8Ti_{3.5}O_2(OH)_2[SiO_4]_4$, polymorphous modification of natisite, cryst. struct., X-ray diffr. 7—26709
SiO_2-related materials, cryst. and amorphous, electronic struct. calcs. 7—64081
U veins in biotite from Bancroft, Canada, fission track dating 7—40599

mines (coal) *see mining*

mines (mineral) *see mining*

minimax techniques
accelerating and focusing systems, structural and parametric optimisation, design 7—25280
game theoretical estimation problem with unmodelled accel., soln. algorithm 7—55434
solar collector/heat exchanger system, differential game control 7—65578

minimisation
see also minimisation of switching nets
BWR, power distribution minimum variance estimation 7—5369
EM scattering and eigenvalue problems, numerical solution, hybrid technique 7—50478
Gibbs free energy calc., symmetric minimum-norm updates 7—39912
mechanical elasto-plastic contact under large deformation, finite element based quadratic programming 7—43805
nonlinear functions, minimization using Hessian matrix modified Cholesky factorizations 7—41074
surface tension measurements, optimisation algorithm 7—14929

minimisation of switching nets
see also logic design
No entries

minimum metallic conductivity
metals, strongly correlated, containing heavy fermions, thermodynamic and transport parameters 7—38458
GaAs, neutron transmutation doped, variable range hopping studies 7—33012
a-Si:H, doped, electronic transport 7—21916
Sn granular films, superconductivity and metal-insulator transition *(Chinese)* 7—12923

mining
Appalachian low-S coal reserves and supply prospects 7—39951
book, economics and applied geology 7—29609
China, coal prospecting, use of seismic refl. method *(Japanese)* 7—23854
coal mines, in-seam seismic exploration technique *(Hungarian)* 7—60416
exploration and exploitation, conf., Santiago, Chile (November 1986) 7—35111
geophysical prospecting, network theory appls. in Euclidean space *(French)* 7—23647
Indian coal-mines, induced seismicity anal. 7—23568
radioisotope XFA of copper content in Zongtiaoshan copper mine *(Chinese)* 7—8337
seismic exploration of coal mines, in seam reflection technique *(Hungarian)* 7—66351
^{210}Pb concs. and states of equilib. with ^{238}U, ^{234}U and ^{230}Th in U miners' lungs 7—28724
Rn daughter exposure and cigarette smoking, lung cancer in Navajo men, U mining relationship 7—8703
U mine tailings disposal, radiation exposure estimation 7—5445

minmax technique *see minimax techniques*

minor planets *see asteroids*

minority carrier conduction *see minority carriers*

minority carriers
DLTS method for selective detection of deep recomb. centres 7—7168
double heterostructs., photon recycling, non-perfect optical confinement 7—33449
ferromagnets heated with a short intense laser pulse 7—64460
$In_{0.53}Ga_{0.47}As$:Fe metalorganic CVD epitaxial growth and elec. props. 7—63993
metal-semiconductor junctions, formation, structural and electrical props. 7—38727
minority carrier transport TOF study 7—45310
MIS structures, minority carrier lifetime meas. *(German)* 7—56306
MOS capacitance in strong inversion at high temp., freq. depend. 7—7403
organic semiconductors, electrical transport props., electron bombardment method 7—52641
photon detector devices, local investig. by scanning laser microprobe 7—30083
relaxation semiconds., minority carrier injection, boundary conditions effects, numerical computation 7—21935
semiconductor, carrier transport in built-in and external fields 7—52634
semiconductor, surface recombination vel. calc. 7—38587
semiconductor electron-hole plasma, noise spectrum calcs. near slow recomb. wave excitation threshold 7—38649
semiconductor grain boundary photovoltaic effect, scanning laser beam obs. anal. 7—12766
semiconductor IR detectors, non-equilibrium modes of operation 7—9898
semiconductors, optical beam induced minority carrier distrib. 7—17036
semiconductors with parabolic density of states, activity coeffs. of electrons and holes 7—27324
solar cell substrate charactn. techniques 7—40004
solar cells, recombination and transport parameters, advanced measurement techniques 7—54316
$Al_xGa_{1-x}As$ homojunctions, minority-carrier diffusion, TOF studies 7—12797
Au/Cd stearate/n-GaP electroluminescent device struct., electron-hole recomb. luminesc., minority carrier injection mechanism 7—59260
Au/i-ZnS/n-ZnS electroluminescent device struct., electron-hole recomb. luminesc., minority carrier injection mechanism 7—59260
n-$Cd_xHg_{1-x}Te$, doped and undoped, minority-carrier lifetime 7—21932
p-$Cd_xHg_{1-x}Te$, doped and undoped, minority carrier lifetime 7—45353
$Cd_xHg_{1-x}Te$, p-type, minority carrier exclusion 7—64242
CdS-$CuInSe_3$ backwall solar cells, intrinsic loss mechanisms calc. 7—23187
nCdS-n-GaAs photoanode, flux anal. of multiple junction solar cells 7—23162
CdTe, polycrystalline, grain boundaries elec. and optical characts. 7—38012
$CuInSe_2$-based photoelectrochem. solar cells, optical and electronic props. studies 7—46958
FeS_2-electrolyte photoactive interface, electronic props. 7—33086
GaAlAs-GaAs solar cells grown by MBE, material props. and device parameters 7—23164

minority carriers continued
- GaAs backwall Schottky barrier solar cells, minority carrier current collection, built-in elec. field enhancement limitations 7−54305
- GaAs epitaxial film shallow homojunction solar cells fabrication by Zn solid state diffusion method 7−17860
- GaAs, semi-insulating bulk with thin conducting layer, optical DLTS distortions calcs. 7−58766
- GaAs, surface recombination velocity and bulk minority carrier lifetime 7−17037
- GaAs, transport props., charge collection microscopy 7−52649
- GaAs/Au(Cr) Schottky barriers, hole diffusion length, photon and electron excitation studies 7−2707
- GaAs-GaAs-$Al_xGa_{1-x}As$ heterostructures, photosensitivity spectra 7−64319
- $GaAs_{0.12}P_{0.88}$:N, Te and GaP:N, Si(Te) epitaxial layers, minority carrier lifetimes, surface and interface recombination effects 7−7424
- Ge-Si, p-n junctions, photoelectric props., effects of electron bombardment 7−7351
- a-GeSi:H,F double Schottky barrier structures, surface photovoltage meas. and calc. 7−17093
- p-HgCdTe, minority carrier characterisation using light-modulated Hall effect 7−21934
- InP electrodes, surface modified, time resolved photoelectrochemical meas. 7−27415
- InP MIS structures, prep. by RF plasma oxidation, interface elec. props. 7−2731
- n-InP, minority carrier diffusion length meas. using a photoelectrochemical technique 7−33030
- InP, surface recombination velocity and bulk minority carrier lifetime 7−17037
- InP thin film solar cells on Si substrate, high efficiency and high radiation resistance 7−59852
- InSb, Dember EMF contrib. to capacitor photo-EMF 7−38621
- p-Si, alpha-particle irrad., defect form. and thermal stability 7−38073
- Si BSF solar cells, Rose-Weaver meas. technique 7−8423
- Si bicrystals, grain boundary carrier recombination, chemical origin 7−17039
- Si bifacial solar cells, minority carrier diffusion length and surface recomb. vel. determ. 7−8407
- Si, CVD thin film backside gettering effectiveness 7−38217
- Si dendritic web ribbon, electrical and struct. props. 7−16922
- Si dendritic web solar cells, twin plane effects on minority carrier diffusion length 7−13868
- Si, diffusion length depend. on cooling rates and bulk resistivity 7−7266
- Si, fast ionisation waves due to absorpt. and reemission of luminesc. 7−52627
- Si for solar cells, characterisation by electrolyte-semiconductor interphase and SERS investigation 7−13887
- Si high-low junction emitter solar cell, quantum efficiency improvement 7−3681
- Si junctions very shallow, elec. field anal. 7−21989
- Si layers, electron irradiation-induced defect levels, annealing behaviour, DLTS studies 7−52493
- Si MIS device diffusion length meas. by spectral response 7−8424
- Si MOS capacitor elec. parameters, effects of process chemical purity 7−33103
- Si, minority carrier lifetime and resist. mapping, flying-spot scanning method 7−4867
- Si, nondegenerate, minority carrier diffusion length and doping density 7−33031
- Si, polycrystalline cast ingots, bulk free-carrier lifetime, contactless meas. 7−7258
- Si solar cell, improved determ. of lifetime and surface recomb. vel. by transient methods 7−13870
- Si solar cell efficiency improvement simulation analysis 7−13865
- Si solar cells, high efficiency, identification of key parameters limiting perform. 7−59846
- Si solar cells, low recombination p^+ and n^+ regions for high performance 7−3655
- Si solar cells, metal insulator n on p, radiation damage 7−3703
- Si solar cells, multicrystalline, thermal annealing for fabrication 7−17865
- Si solar cells, passivation using $ZnS_{0.9}Se_{0.1}$ and GaP semiconductor coatings 7−65479
- Si space solar cells, damage coeffs. of 1 MeV electron fluences 7−13880
- Si, thermal and electronic transport, photothermal deflection spectroscopy 7−32731
- p- Si wafer, minority-carrier diffusion length determ., photocurrent generation method 7−38579
- Si wafers, doped by neutron transmutation, minority carrier lifetime, photocond., annealing 7−38785
- Si:Co, minority carrier lifetimes meas. *(Japanese)* 7−52647
- a-Si:H,F/a-Si,Ge:H,F superlattices, elec. transport studies 7−38716
- a-Si:H films, CVD, optical and electronic props. 7−33597
- a-Si:H solar cells, radiation damage by 12 MeV protons and annealing 7−13895
- n^+-Si:O, O precipitation and minority carrier generation lifetimes 7−16774
- Si:O Czochralski wafers, electron traps resulting from O precipitation 7−21866
- Si:P, meas. of heavy doping parameters 7−12855
- Si:Ti(V)(Cr)(Fe)(Zr) polycrystalline solar cells, structural, elec., photovoltaic props., impurity effects 7−39990
- Si-SiO_2, MIS struct., temp. stress influence *(Slovak)* 7−7389

mirages *see atmospheric optics; light refraction*

mirrors
- aberration field properties of simple non-axially symmetric optical systems 7−50691
- absorptance characts. of mirrors meas., by photoacoustic calorimetry 7−31432
- achromatic mirror lens with corrected opening aberration *(Czech)* 7−62810
- adaptive flexible mirror in astronomical telescope, IR background speckle noise 7−55467
- adaptive optical systems, dynamic characts. 7−43285
- advanced technology optical telescopes, conf., Tucson, United States (March 1986) 7−55886
- Al, mirror coatings, UV reflectivity loss, in space 7−25938
- almost concentric resonators for low gain FEL, alignment and performance 7−43155

mirrors continued
- amorphous multilayer X-ray reflectors, layer imperfections effects 7−25936
- aplanatic objective in mirror microscope for ultracold neutrons 7−18912
- array optics based devices 7−11092
- batch processed optical scanner using Si micromechanic techniques 7−20473
- beam deflection as a method for testing optical components 7−20475
- Cassegrain telescope with spherical lens corrector, secondary mirror position effect on image quality *(Chinese)* 7−4331
- cavity with phase conjugate mirror, transverse-mode instability and chaos 7−37052
- chopping secondary mirror of SIRTF, dynamic optical deformations 7−24008
- coatings, servo-controlled lasers progress and appls. 7−20307
- coatings for multiwavelength solid state lasers, laser beam testing expts. 7−57522
- conic constant and paraxial radius of curvature measurements for conic surfaces 7−20474
- conic mirror, on-axis focusing formula 7−43289
- conic that best fits an off-axis conic section 7−11089
- design for producing specified raster shape 7−43296
- dichromated gelatin transmission HOEs, reflective and refractive optics 7−25748
- dielectric coatings for laser mirrors, fabrication 7−15965
- dielectric mirror damage due to high K undulator radiation 7−1142
- dielectric mirrors, low loss, high reflecting for high power laser appls. 7−5967
- dielectric mirrors using reflecting coatings 7−37105
- double-pass amplifier with phase conjugate mirror, different frequencies counterpropagating waves amplification 7−50598
- electromechanical mirror scanners, survey *(German)* 7−62807
- electrostatic membrane mirror, configuring by least-squares fitting 7−31422
- EXAFS surface structure studies, at Daresbury SRS, in 60 to 11100 eV range 7−33486
- external, for Bragg injection semicond. laser with distrib. feedback 7−36985
- Fabry-Perot interferometer, mirror random phase inhomogeneity influence, resonator use 7−24689
- Fabry-Perot interferometer, OTF and resolving power, sequential theory 7−48836
- fabry-Perot interferometers with three mirrors for submillimeter wave region 7−35577
- Fabry-Perot resonators with active medium, large Fresnel numbers, asymptotic theory 7−11011
- Fabry-Perot resonators with phase-conjugate mirrors, dynamics 7−50649
- ferromagnetic thin absorbing film on reflecting struct., equatorial Kerr effect 7−53287
- FIR and MM wave polarisation transforming reflectors 7−36854
- focusing mirrors, thermooptic aberrations, heat transfer study 7−57509
- free electron laser, mirror degradation and performance requirements 7−43152
- galvanometric scanning system with optimal high resolution 7−31427
- glass, replicated, appl. to large segmented opt. systems 7−37088
- glass plate stack mirror for laser resonator, refl. coeff. 7−57508
- graphite fibre reinforced glass sandwich reflectors for far-IR astronomy, thermal stability 7−37093
- Halley Multicolour Camera, vibration effects in flat mirror, analysis and reduction 7−18355
- heliostat reflectant surfaces optical properties *(Rumanian)* 7−28388
- holographic optical elements, powered refl., back mirror method construction 7−25747
- holographic testing of stretchable concave imaging mirrors 7−31282
- honeycomb sandwich, borosilicate, blank prep by spin casting 7−37225
- honeycomb sandwich, thermal design 7−37089
- Hubble Space Telescope, performance prediction using OSAC code 7−40707
- Hubble Space Telescope performance, prediction using optical surface anal. code 7−25930
- Hubble Space Telescope primary mirror, test and eval. 7−40708
- hypersonic wavefront-reversing mirror operating in master-oscillator-amplifier config. 7−31399
- inertial confinement fusion light balance meas., light-integrating cylinder 7−44253
- insertion device beam line optics, review 7−43305
- interference pattern produced on reflection at phase-conjugate mirror 7−42902
- IR emission accessory for surface analysis, ellipsoidal mirror 7−54225
- IR optics advances 7−11079
- irregular surface simulation using spline fitting 7−43311
- Itek optical technology in manufacturing and metrology 7−37227
- LAMAR protoflight X-ray mirror assembly, design, fabrication and testing 7−47705
- large, prod. using single point diamond crushing combined with polishing 7−37220
- large, production using single-point diamond crushing followed by polishing 7−26048
- large aspheric optics, rapid fabrication using computer-controlled opt. surfacing unit 7−37224
- Large Deployable Reflector, moderate cost, system concept 7−40711
- large multicomponent, image parameters 7−37090
- large optical elements, plane surface shape testing with Fizeau interferometer 7−35585
- large optics generation, optimum parameters 7−37221
- large optics technology, conf., San Diego, USA (Aug. 85) 7−35089
- laser mirror using degenerate four-wave mixing in saturable amplifier 7−20246
- laser mirrors, spectral characts. 7−20247
- laser resonator Q-factor modulation using methods of adaptive nonlinear optics *(Russian)* 7−50604
- laser resonator with Gaussian mirrors, transverse modes 7−5919
- laser unstable resonator with dihedral corner reflector in gasdynamic laser, props. 7−62729
- layered synthetic microstructures for solar EUV telescopes 7−40703
- light beam detectors for industry *(German)* 7−299
- light-weight mirror, vertically mounted, load relief 7−43452
- lightweight composite mirrors for IR astronomy 7−57519
- Mach-Zehnder interferometer with multimode fibers using the double phase-conjugate mirror 7−48834

mirrors continued
metal mirrors, absorptance meas. at glancing incidence, photoacoustic calorimetry 7—20380
metal mirrors, precision machining technology *(Japanese)* 7—50793
metal reflectors in EUV, surface contamination, AES study 7—41563
metal surfaces, pulsed laser irradiation, thermomechanical effects, interferometric study 7—20303
Michelson spectrometer, corner cube reflector for cryogenic appl. 7—41491
microchannel spatial light modulator with improved resolution and contrast ratio 7—25954
moving-mirror laser-beam scanner enhancement by multipath reflection 7—15963
multilayer coating X-ray mirrors, design, fabrication and performance 7—25935
multilayer components for soft X-ray laser cavities 7—25844
multilayer dielectric exit mirror in laser, non-Gaussian laser beam form. 7—50611
multilayer mirrors, reflectivity, roughness effects 7—42908
multilayer mirrors as X-ray filters for slit scan radiography 7—34243
multilayer mirrors for short-wavelength optics, stability 7—18952
multilayer monochromators and supermirrors, X-ray and neutron, controlled sputter deposition 7—33563
multilayer soft X-ray reflection coatings, automatic electron beam deposition 7—33571
multilayer structures for X-ray laser cavities 7—37001
multilayer X-ray mirror, influence of thickness errors and boundary imperfections on performance 7—1248
multilayer X-ray mirror performance, coating thickness errors and boundary roughness determ. 7—30148
multilayer X-ray mirrors, fabrication, in situ monitoring system 7—37217
multilayer X-ray mirrors, resolution and reflectivity, interplane roughness influence 7—48928
multilayered deformable mirrors with monomorph and bimorph actuators 7—43283
multilayered mirrors for EUV solar imaging telescopes, space qualification 7—34864
multilayered structures, thin-film, appl. to figured X-ray optics, conf., San Diego, CA, USA (Aug. 1985) 7—29581
multilayered structures for soft X-ray mirrors, physical charactn. 7—37098
multipass systems with mirrors of different radii, general eqns. 7—11093
nonlinear distortion compensation of light beams with restricted deform. of control mirror 7—50622
open laser resonators with tilted mirrors, losses 7—62730
open resonators, Huygens-Fresnel principle and integral eqns. 7—31244
optical materials for energy efficiency and solar energy conversion, conf., San Diego, CA, USA (Aug. 1985) 7—48159
optical reflection, phase fluctuations due to conductivity noises 7—62809
optomechanical design, annotated bibliography 7—35142
parabolic trough collectors, concentrated flux density distrib. calc, using semifinite formulation 7—39966
particulate contaminated, model for scattering 7—42910
periscope, 3 mirror, Berry's topological phase, obs. by use of optical fibre 7—42905
phase conjugate, self-pumped, appl. to real-time image processing 7—20156
phase conjugate mirror, non-degenerate, for resonator system, mode selectivity and misalignment sensitivity 7—20356
phase conjugate optical resonators, eigenmodes, orthogonality props. *(Korean)* 7—1234
phase conjugation by modal dispersal using fibre and mirror combination, polarisation recovery 7—11065
photoelectric devices, hollow mirror lightguide and diaphragms, optical system calcs. 7—43365
photorefractive crystals, multiple phase-conjugate beam coupling 7—25902
pinhead mirror as imaging device 7—5966
plane, image form., teaching 7—48254
push-broom linear array scanner, design of all-reflective flat-field objective 7—55320
quartz ceramic reflectors, γ-irrad. effects on Nd:YAG laser energy characts. 7—50575
rainbow holography, one-step using spherical mirror 7—10881
RATAN-600 radio telescope, improvement of surface precision of primary mirror reflecting elements 7—60537
resolution function of CMA systems used for Auger signal measurements 7—30119
rhodamine 6G ring dye laser with external retroreflecting mirror 7—50597
ring resonator with continuously irregular layer reflector, FTIR prism, natural oscills. 7—36996
Ritchey-Chretien solar telescope for 30.4 nm, asphérisation and multilayer coating 7—39388
Ronchi test with daylight illum. for testing mirrors and lenses 7—11180
rotating mirror system in double-pulsed velocimetry, image shifting technique to resolve directional ambiguity 7—37559
ruby laser oscillator, novel design 7—15895
Schwartzschild objective in X-ray optics, image form. in multilayer optics, SHADOW program 7—30144
seasonally adjusted, geometrical optical performance evaluation 7—46918
segments, lightweight glass, development for Large Deployable Reflector 7—37226
selectively reflecting mirror with corrugated waveguide on surface, spectral and laser characts. 7—43291
semiconductor laser, narrow linewidth, single frequency, with phase conjugate external cavity mirror 7—43157
shaped multilayer X-ray interference mirrors focusing props. 7—61417
SHG and parametric amplification in resonator with mirrors with random inhomogeneities 7—25888
soft X-ray optical systems, book 7—55901
solar absorber in fixed spherical reflector, optical anal. 7—23215
solar control tunable Lippmann holowindows 7—36919
surface evaluation by soft X-ray scattering 7—25934
surface-emitting phase-locked array of diode lasers, 300 mW operation 7—57360
surfaces, high performance, spectral and parameter estimation problems in metrology 7—37232
synchrotron radiation mirror, lacquer-coated, irrad. with undulator light, surface heating 7—43307
synchrotron radiation mirror, thermal distortion prediction with finite element analysis 7—43306

mirrors continued
telescope, four-mirror, performance and complexity comparison of aspheric and spherical primaries 7—37092
telescope, Keck Observatory 10m, design and development work status, fabrication plans 7—40693
telescope, Texas Univ. 7.6m. design, progress report 7—40710
telescope, three-mirror, third-order aberrations formulae and design program 7—55466
telescope technology for Far Ultraviolet Spectroscopic Explorer 7—40709
telescopes, large aperture, with parabolic and spherical primaries, comparison 7—25931
telescopes, resonator diffr. losses 7—43292
thermally induced optical bistability with two holding beams investig. 7—57395
thermo-optic aberrations with central holes 7—43303
thin layered interference mirrors, radiation damage reduction 7—31433
toroidal reflectors with multilayered optical coatings, figured X-ray optics, unified geom. design 7—30140
tracking novelty filter using interferometer with phase conjugate mirror 7—43334
transmissivity meas., rotating linearly polarised light source appl. 7—18850
two-mirror compact collimator, aplantic, design, fabrication and testing 7—43328
two-mirror scanning system 7—43304
unstable confocal resonator, output characts., reson. mirror deform. and angular deflection effect *(Chinese)* 7—57371
unstable resonator semiconductor lasers, expt. 7—57374
unstable resonator semiconductor lasers, theory 7—57373
unstable resonator with perforated mirror, phase struct. of radiation wavefront 7—25846
variable curvature design and fabrication with bimorph piezoelectric plate 7—31423
vector aberration theory and the design of off-axis systems 7—50685
Wolter X-ray microscopes, single and multilayered, mirror substrate prod. 7—30137
X-ray ellipsoidal reflector for laser pumping 7—41560
X-ray microscope using multilayer optics with a laser-produced plasma source 7—30138
X-ray mirror substrates, grazing incidence, precision machining/metrology facility 7—37222
X-ray mirror surfaces, roughness meas. 7—15042
X-ray mirrors construction for telescopes 7—40700
X-ray multilayer optic development for plasma diagnostic and source enhancement 7—44251
X-ray optics, theories to optimise high refl. of mirrors and gratings 7—30141
X-ray radiographic imaging at medium energies using multilayer mirrors 7—47225
X-ray telescope for use in spectrometer for astronomy 7—47704
X-ray telescope mirrors, surface scatt. meas. by triple axis spectrometer 7—37104
XUV interferential mirrors and appl. to plasma radiation studies 7—25927
XUV laser cavities and pumping optics 7—25845
Zerodur, lightweight large mirror blanks prod. 7—37223
Ag mirrors, evaluation and modification of protective polymer glazings 7—37094
Ag/polymer mirrors, specularity and stability 7—37095
(Al,Ga)As/$(Ca,Sr)F_2$ multilayer structures, MBE grown, broadband high-reflectivity mirrors fabrication 7—11091
Al mirrors, LaF_3 and $LiYF_4$ broadband VUV reflectance coatings 7—57520
Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7—31424
AlGaAs injection heterolasers and integrated laser-photodetector pairs, prepared by microcleaving 7—31343
BaO, reflection spectra, 4d ionisation threshold 7—46234
$BaTiO_3$ double phase conjugation mirror, anal., demonstration and laser appl. 7—43252
$BaTiO_3$ phase-conjugate mirror, partial cancellation of specular reflection 7—5956
$BaTiO_3$ self-pumped phase conjugate mirror, instabilities 7—62790
Be, for large optics, fabrication by hot isostatic pressing 7—37228
Be mirrors for large optics, preparation by hot isostatic pressing 7—26045
C fibre reinforced sandwich panels for far-IR telescope mirrors, thermal stability tests 7—40705
C-W ultrathin layered stacks, sputtering techniques, in situ ellipsometry control system 7—1292
CO_2 amplifier with mirror utilizing degenerate four-wave interaction 7—25837
CO_2 laser, TEA, with three cavity mirrors, two-line operation 7—5869
CO_2 round-trip amplifier with wavefront-reversing mirror, energy characts. 7—43053
$CdIn_2O_4$ RF sputtered films, transparent heat mirror characts., elec. and optical meas. 7—39199
Cu mirrors, Ag^+ implanted, laser oxidation and optical props. 7—5971
Cu screen, transmission coeff. depend. on optical radiation incidence angle 7—57528
Cu thin film, surface electromag. waves damping, deposition technique study 7—59274
Cu vapour laser with self-pumped wavefront reversing mirror 7—1185
Cu vapour laser with wavefront-reversing mirror induced in active medium 7—1199
GaAlAs/GaAs surface-emitting linear laser arrays with etched mirrors 7—20255
GaInAsP-InP etched mirror laser, passivation with angled sputtering 7—57358
Gd_2O_3, reflection spectra, 4d ionisation threshold 7—46234
He-Ne laser, internal mirror, freq. and power stabilisation using fan *(Korean)* 7—25849
Hg reflector geometry variation by immersed-electrode current *(Spanish)* 7—11095
La_2O_3, reflection spectra, 4d ionisation threshold 7—46234
Mo-Si multilayer mirror, reflectivity and stimulated emission in XUV spectra region 7—37099
Nd:YAG laser, mode locked, with intracavity phase conjugate mirror 7—50606
Ni electroless plated mirrors, diamond-turned, surface finish meas. 7—37218
Ni:P plated mirrors, diamond-turned, surface finish meas. 7—26047

mirrors continued
- Pr_2O_3, reflection spectra, 4d ionisation threshold 7−46234
- Si surface polishing strain-free and flat to better than $\lambda/20$ 7−11179
- SiC mirrors, soft X-ray reflection 7−41553
- $Sr_{0.75}Ba_{0.25}Nb_2O_6$:Ce self-starting passive phase conjugate mirror 7−43243
- Ti-glass mirror, temp. deformation 7−20386
- TiC mirrors, soft X-ray reflection 7−41553
- TiO_2-SiO_2 dielec. multilayer reflector for surface emitting lasers, electron beam evaporation 7−59427
- W-C multilayer X-ray mirrors, optical constants of layers 7−20389
- WC mirrors, soft X-ray reflection 7−41553
- ZnO multilayers for solar collector coatings 7−3717

MIS devices *see metal-insulator-semiconductor devices*

MIS integrated circuits *see field effect integrated circuits*

MIS structures *see metal-insulator-semiconductor structures*

miscibility *see solubility*

MISFET *see insulated gate field effect transistors*

missiles
- No entries

mixed conductivity
- graphite-ClF_3 intercalation cpd., electrical conductivity 7−7295
- 2-(2-hydroxy-4-alkoxybenzylideneamino)-9-methylcarbazoles, photocond, props. 7−38631
- transition metal oxides, sol-gel process synthesis, electronic and ionic props. 7−33618
- ZrO_2-MgO electrolyte mixed ionic and electronic conduction obs. 7−2644
- Ag-As-Se glasses, electrical conductivity studies 7−27369
- $Ag_{0.15}As_{0.425}Se_{0.425-x}Te_x$ chalcogenide glasses, ionic and electronic cond., comp. depend. study 7−12768
- AgI-Ag_3AsO_4 superionic conducting glass, cond. and glass form. studies 7−32711
- $(Ag_2O)_x(B_2O_3)_{100-x}$ glasses, microstruct. and electronic cond. studies 7−6534
- Al_2O_3 scale growth on Fe-Cr-Al alloys, diffusion and transport props. 7−65214
- $BiVO_4$, pure and CaO doped polycryst. samples, sheelite struct., elec. cond., anion vacancy motion investigation 7−32712
- $CuInS_2$, chem. diffusion, 20-100°C 7−16799
- In_2O_3 mixed conductor films in WO_3 based electrochromic windows, recent R&D 7−37122
- $LiIO_3$, acoustoionic interaction 7−39041
- Li_2SO_4-Li_2CO_3 system, phase diagram and elec. cond. meas. 7−32612
- $LiVO_2$, phase transition near 200°C, elec. resist., mag. susceptibility, X-ray diffr., IR spectra, EPR, thermal anal. 7−32914
- Li_2WO_4, elec. transport mechanism, superionic phase 7−12359
- Na_2O-V_2O_5-B_2O_3 glasses, mixed ionic-electronic conduction 7−12769
- Pb-Sn-G solid solns., elec. transport props. and defect form. studies *(French)* 7−33017
- Tl_2S-Cu_2S melts, ionic-electronic conductivity 7−33057
- Y_2O_3, elec. cond. as function of O_2 partial press. in wet and dry atm. 7−45405
- Y_2O_3-ZrO_2:Fe, high dose ion implanted, profile shapes and electronic cond. 7−32472
- ZrO_2 substrates, sputtered Pt films, agglomeration and electrical conduction props. 7−52859
- ZrO_2-$YO_{1.5}$, thermal behaviour of ^{56}Fe implantations 7−27006

mixed state
- *see also flux creep; flux flow; flux-line lattice; flux pinning*
- antiferromagnetic superconductors, anomalous behavior 7−58964
- disordered granular superconductor near percolation, phase transitions 7−17140
- ferromagnetic supercond. films, mixed states 7−27478
- ferromagnetic superconductors, intermediate state 7−52915
- ferromagnetic superconductors, mixed state, surface tension 7−52919
- field theoretical approach to solid state physics 7−12934
- highly excited crystals, mixed state and defect struct. 7−45584
- type II superconductor, mixed state, free energy, interpolation method 7−52920
- type II superconductors, muon-spin rotation, diffusion of positive muons 7−7627
- undulator radiation, charged particle interaction with a mixed type II superconductor 7−64402
- Ba(Pb, Bi)O_3 superconducting ceramics, surface resistance 7−38829
- Nb, ultra-pure type II superconductor, diffusivity of positive muons, μSR study 7−45869
- Nb_3Al, supercond. transition and mag. fields, muon spin resonance studies 7−52878

mixed valence compounds
- 4f-shells with fluctuating valence, dynamical props. 7−45250
- Anderson lattice, low temp. sp. ht., functional integral approach, boson representation 7−16788
- Anderson model, periodic variational ground state 7−7083
- Anderson-type model, two-band in 1D, mag. susceptibility and other ground-state props. 7−22092
- Curie temp. calcs. long range magnetic order and intermediate valence, Anderson model 7−45247
- electronic properties, theory 7−21880
- ferromagnetic 4f-systems, Curie temp., valence instability effects calcs. 7−38865
- Ferromagnetic order coexistence, mag. props 7−64187
- fluctuating valence heavy fermion systems, impurity resistivity temp. depend. calcs. 7−2565
- fluctuations and photoemission props. calc. in tetrahedral-cluster model 7−39354
- generalised Anderson model, mixed valence system modelling 7−2562
- heavy Fermi liquids and narrow band metals, characteristic temps. 7−45689
- heavy fermions and valence fluctuations, conf., Shima Kanko, Japan (April 1985) 7−23
- HMTTeF-$TCNQF_4$ solid complex, partial charge transfer, Raman and XPS studies 7−32967
- impurity systems, intermediate valence and kondo impurities, noncrossing approx. 7−7162
- intermediate-valence systems, magnetic-nonmagnetic transitions 7−12965
- rare earth cpd. intermediate valence systems, charge ordering 7−7189
- rare earth semiconductors, valence changes, many-impurity Anderson model 7−7186

mixed valence compounds continued
- rare-earth core-electron spectroscopy, mixed valency versus covalency 7−45246
- semiconductors, intermediate valence, theory 7−38526
- static susceptibility of the periodic Anderson hamiltonian 7−22096
- TCNQ salt, mixed-valence, conducting Langmuir-Blodgett films form. *(French)* 7−52323
- thermodynamic perturbation theory for intermediate valence systems with two magnetic configurations 7−64182
- transition metal oxides, sol-gel process synthesis, electronic and ionic props. 7−33618
- valence fluctuating lattice systems, self-consultant perturbation theory 7−2561
- X-ray absorpt. spectroscopy of 4f mixed valence cpds. 7−59301
- Ba-La-Cu-O system, possible high T_c superconductivity 7−2770
- $BaCuFe_{17}O_{27}$ W-type hexagonal ferrite, intermediate valency, oxidation annealing, magnetisation and neutron diffr. studies 7−7187
- Ce compounds, intermediate valence and Kondo lattice models 7−2560
- Ce cpds., many body theory for spectroscopies 7−64790
- Ce cpds., valence fluctuations and c-f mixing interaction 7−2558
- Ce impurity system, degenerate Anderson model, Bethe-ansatz soln. 7−2559
- Ce-Fe-Si system. electron struct. of ternary intermetallic cpds. *(Russian)* 7−38525
- Ce-Si(Ni)(Co), amorphous, electronic configuration of Ce 7−7191
- $CeCu_{2-x}Ni_xSi_2$, Kondo-lattice system, resist. anomalies 7−58799
- $CeFeSi_2$, struct. and mag. props. studies *(French)* 7−37950
- $CeMRu_2Si_2$ (M=La,Y), high energy EXAFS and XPS studies 7−64801
- $CeNi_5$, intermediate-valence intermetallic cpd., point contact spectroscopy 7−38139
- $CeNi_2H_x$, stoichiometry deviation and structural disorder, H content depend., EXAFS study 7−64815
- CeO_2, intermediate valence state, XANES 7−52545
- $CePd_3$ mixed valence system, conduction carrier density, energy and temp. depend. 7−21882
- $Ce_{1-x}Pr_xNi_5$ mixed valence cpd., cryst. field at paramag. Pr^{3+} ions 7−45241
- CeS, continuous valence transition under high press. 7−32965
- $Ce(SO_4)_2.4H_2O$, intermediate valence state, XANES 7−52545
- Co-Ce(Pr) liquid alloys, variable valency investig. 7−7192
- $Cs_2Ag^IAu^{III}X_6$, (X=Cl,Br), valence study by X-ray absorption spectra at Au L_3 edge 7−7791
- $Cs_2Au^IAu^{III}Cl_6$, valence study by X-ray absorption spectra at Au L_3 edge 7−7791
- CsV_xO_y, crysts., struct., cathodic reduction from melt, and elec. props. studies 7−58236
- $Eu_xCe_{1-x}Cu_2Si_2$ cryst., mixed valence state and Kondo system coexistence *(Russian)* 7−7185
- $Eu(Cu_{1-x}M_x)Si_2$ (M=Au, Ag, Ru, Ni), substitution effects on mixed valence behaviour, Mossbauer and XANES studies 7−64183
- $EuCu_2Si_2$, Eu valency, effect of Cu or Si replacement by other ions 7−58787
- $EuCu_2Si_2$, mixed valence system, interconfiguration fluctuation model 7−64188
- $EuCu_2(Si_{1-x}Sn_x)_2$, substitution effects on mixed valence behaviour, Mossbauer and XANES studies 7−64183
- $EuIr_2Si_2$, Eu intermediate valence 7−7188
- $EuNi_2P_2$, mixed valence system, interconfiguration fluctuation model 7−64188
- Eu_xPd_{1-x}, amorphous mixed valent alloys, X-ray absorpt. spectra 7−64802
- $EuPd_{2-x}Au_xSi_2$, valence determ., Mossbauer and X-ray absorpt. studies 7−64800
- $EuPd_2Si_2$, mixed valence system, interconfiguration fluctuation model 7−64188
- Eu_xTiS_2 mixed valence intercalation cpd., low-temp. synthesis and mag. props. 7−17779
- Fe-Ce(Pr) liquid alloys, variable valency investig. 7−7192
- Fe_2O_3-P_2O_5-K_2O glasses, mixed valence, EXAFS studies 7−64786
- $HgCr_2Se_4$, magnetisation, temp. depend. 7−45629
- $InCl_x$ mixed valence cpds., nuclear electron capture aftereffects, quadrupole interactions, γ ray ang. correl. anal. 7−53182
- Ir complex, $(NEt_4)_4(Ir(CO)_2$4,4′,5,5′-tetracyano-2,2′-biimidazole) mixed valence cpd., anisotropic conductor precursors identified by intermolecular charge transfer 7−7190
- $K_3Cu_8S_6$, mixed valence 2D metal, CDW 7−45294
- K_2O-P_2O_5-WO_{3-x} mixed valence glasses, local order, EXAFS and X-ray diffusion studies 7−1903
- $KT_{i2-x}Nb_{5+x}O_{17}$, mixed-valence rutile structures 7−27329
- $La_{1-x}Ce_xNi$, Kondo lattice form., elec. resist. and susceptibility meas. 7−21899
- $Li_{1+x}FeCl_4$, ionic conductors, Mossbauer spectra studies *(French)* 7−2955
- ND, mixed valent clusters, X-ray absorpt. studies 7−64791
- $Na_xV_2O_5$ bronze, struct. and valence, XANES studies 7−63579
- Ni-Ce(Pr) liquid alloys, variable valency investig. 7−7192
- Pr, mixed valent clusters, X-ray absorpt. studies 7−64791
- PrO_2, intermediate valence state, XANES 7−52545
- PrO_x-$DyO_{1.5}(YO_{1.5})$ solid solutions, phase diagrams and variable valency 7−33642
- Pt complex, mixed-valence binuclear, near UV spectra 7−62398
- Pt complexes, halogen-bridged mixed-valence, soliton model 7−64184
- $(Pt(NH_3)_4)$ $(PtCl_2(NH_3)_4)$ $(HSO_4)_4$, quasi 1D cpd., valence fluctuation and negative thermal expansion 7−45248
- RbV_xO_y crysts., struct., cathodic reduction from melt, and elec. props. studies 7−58236
- Ru complex, mixed-valence ion, class II, two-electron intervalence transfer 7−52544
- Si-Yb interfaces, mixed valence of Yb, synchrotron radiation photoemission spectra, metal coverage and annealing temp. depend. 7−32966
- Sm, mixed valent clusters, X-ray absorpt. studies 7−64791
- Sm monochalcogenides, cation substituted, phase transition to mixed valence state 7−21883
- Sm small clusters, matrix isolated, mixed valence, critical cluster size 7−64186
- SmB_6, disordered Sm ions, ESR study 7−53128
- SmB_6, X-ray emission spectra with fluorescence-excitation and near-threshold electron-excitation methods 7−46246
- SmB_6: Eu^{2+} energy gap temp. depend., impurity ESR study 7−45151
- SmB_6:Er^{3+}, Jahn-Teller phenomena in valency-mixing surroundings 7−45240
- SmB_6:Er^{3+} energy gap temp. depend., impurity ESR study 7−45151

mixed valence compounds continued
- SmB_6:Gd^{3+} energy gap temp. depend., impurity ESR study 7−45151
- SmS, mixed valent system, atomic relax., determ. from XANES studies 7−64798
- $Sm_{1-x}Sc_xS$ alloys, intermediate valence, X-ray absorption study 7−7789
- $Sm_{1-x}Sc_xS$, first order valence phase transition, XANES study 7−38524
- SmSe, high press. EXAFS studies at 77 K 7−64799
- $Sm_{0.75}Y_{0.25}S$, intermediate valence cpd., charge relax. rates, determ. by phonon spectra 7−2557
- α-Sn_2F_6, Mossbauer lattice parameters 7−17251
- Tb oxides, TbO_2, Tb_4O_7, Tb_2O_3, X-ray absorpt. study of 4f electrons 7−64795
- Tm intermediate valence systems, dynamics, self-consistent perturbation theory studies 7−27309
- Tm_xSe, mixed valent systems, atomic relax., determ. from EXAFS spectra 7−64797
- $(UO)_2ErS_3$, crystal struct. and oxidation state *(French)* 7−11999
- UPd_2Sn, heavy electron behaviour, elec. resist., mag. susceptibility, sp. ht. meas. 7−32679
- Y_xPd_{1-x}, amorphous mixed valent alloys, X-ray absorpt. spectra 7−64802
- Yb compounds, intermediate valence and Kondo lattice models 7−2560
- Yb impurity system, degenerate Anderson model, Bethe-ansatz soln. 7−2559
- Yb intermetallic cpds., Hall effect studies 7−12703
- Yb-Si (111) interface mixed valence behaviour, angle-integrated photoemission study 7−13327
- $Yb_xIn_{1-x}Cu_2$, Yb valence transition 7−45245
- YbPd, magnetic and nonmagnetic charge states 7−33144
- Yb_3Si_5, mixed valence behaviour, angle-integrated photoemission study 7−13327
- Yb_xTiS_2 mixed valence intercalation cpd., low-temp. synthesis and mag. props. 7−17779
- $Yb_{1-x}Tm_xSe$, anomalous Tm valence, lattice parameters, diamag. suscept. and Hall effect meas. 7−16998

mixers (circuits)
- *see also frequency convertors; radio receivers*
- 145-GHz-frontend with superconductor-isolator-superconductor (SIS)-mixer 7−34867
- Josephson mixers, voltage bias studies at high freqs. 7−38822
- MM-wave radiometer, 145 GHz, receiver design using superconducting mixer, radiotelescope appl. *(German)* 7−24007
- point-contact-type Josephson harmonic mixer, frequency meas. of FIR lasers 7−20310
- radioastronomy, mm-wave, 230 GHz, low-noise cryogenic receiver, spectroscopic appls. 7−29396
- submillimetre spectroscopy and appls. conf., Cannes, France (Dec. 1985) 7−29585
- superconductor-insulator-superconductor mixers integrated with slot antennas, imaging array 7−60556
- UC Berkeley submm heterodyne receiver for spectroscopy 7−34879
- UKIRT mm dual-polarisation receiver 7−34880

mixes *see mixtures*

mixing
- *see also dissolving; heat of mixing; mixtures; solubility; solutions*
- alkali halide mixtures, binary common-anion, phase diagrams, thermodynamic anal. 7−3287
- alloys, preferential sputtering, segregation, mixing and diffusion 7−59337
- alloys, two-phase, models of tensile behaviour from components 7−46570
- annular jet mixing regions, flow struct., press. fluctuations 7−20766
- block copolymer-homopolymer system, phase separation, statistical theory 7−38213
- bubble columns with low height to diameter ratio, optimum gas sparger design 7−44071
- chaotic mixing, two periodic model flows anal. 7−43934
- coherent struct. in confined shear layer, system response influence 7−51089
- compressible separated turbulent shear flow, mixing, flow meas. 7−51080
- epoxide networks, crosslinked, sorption and diffusion of chloroform vapours *(Russian)* 7−27021
- fluid mixing (stretching) by time periodic sequences for weak flows 7−31733
- fluids possessing yield stress, cavern sizes and mixing performance, X-ray-heavy metal tracer method 7−11565
- gas-solid reactions, transport and mixing characts., thermocentrifugometric anal. 7−54095
- high concentration suspensions Reynolds numbers, homogenisation methods 7−6289
- highly viscous pseudo-plastic non-Newtonian solns. in bubble columns, hydrodynamics, mixing 7−16234
- homogeneous turbulence, thermal mixing layer evolution 7−51075
- ideal fluid injection from slot into free stream 7−31855
- II-VI and III-V semicond. solid solns., short range order and free energy of mixing, EXAFS meas. 7−63573
- imperfect, model, CSTR 7−8286
- jet supersonic and subsonic mixing, parabolised Navier-Stokes anal. 7−11481
- jets, confined, mixing 7−6263
- laminar mixing layer in longit. mag. field 7−51048
- liquid metal turbulent jet, mixing and solidification in co-flowing stream 7−51250
- liquid phase mixing in bubble columns withNewtonian and nonNewtonian fluids 7−6256
- liquid-vapour mixing flow, 1D calcs. 7−63199
- metal-salt solutions, miscibility gap, perturbation theory 7−38205
- molecular fluids, mixing, statistical mech., Kirkwood-Buff soln. theory 7−58480
- nonpremixed gases, turbulent diffusion combustion 7−1648
- nylon-6-rubber-modified rubber blends, mixing effect on morphology, mech. and impact props. 7−37903
- Ostwald ripening, finite vol. fraction effects 7−12282
- particle mixture, mixing model with particles of different elec. resist. *(Japanese)* 7−44831
- plane fluid mixing layers, vortex structure, meas. and models 7−16191
- plane turbulent jet propagating in transverse flow, rarefaction 7−11487
- plastics, conductive, continuous milling *(Japanese)* 7−46408
- poly 2,6-dimethyl-1,4-phenylene oxide and poly styrene-co-p-fluorostyrene blends, miscibility, press. depend. 7−17533
- polyamide 6-polyethylene blends, miscibility, mech. props. 7−59535
- polyaryl ether ketone blends, isomorphic behaviour, miscibility, glass transition and melting temps. 7−44416
- polyester-polyether segmented copolymer, melt spinning, fibre form., struct., phase separation 7−46407
- polymer solutions, thermodynamic props. prediction by group contrib. method 7−32683
- polypropylene-EPDM elastomer multicomponent blend, $CaCO_3$ filled, mech. and rheological props. 7−3381
- polystyrene-poly 2-chlorostyrene blend system, miscibility, vol. changes 7−44830
- polystyrene/styrene-methyl methacrylate random copolymer blend, DSC obs. of miscibility 7−12291
- polyurethane, interpenetrating network, microphase struct., X-ray diffr. obs. 7−44410
- polyurethanes, molecular struct., morphology, phase mixing, mech. props. 7−51664
- powders, electrostatic mixing 7−46363
- propylene-Al_2O_3 system, mixing and flow props. *(Japanese)* 7−44832
- pseudobinary alloys, tetrahedrally coordinated, Coulomb energy calcs. 7−1941
- pulmonary gas mixing, modification by postural changes 7−8618
- PVC-chlorinated PVC, miscible blends, rheological and mech. props. 7−8040
- rapid reactions, microdroplet mixing technique investig. using Raman spectrosc. 7−54082
- reacting and non-reacting turbulent liquid mixing layer, entrainment and mixing, composition meas. 7−16174
- salt-stratified fluid, turbulent boundary layers, mixing, mean circulation and transport rates 7−51086
- shear layer entrainment, 2D 7−31770
- single-stream mixing layer, phase averaged transverse vorticity meas. 7−31811
- slightly viscoelastic liquids, backmixing in multistage mixer columns 7−16749
- solids circulation pattern and particle mixing in large jetting fluidised bed 7−63208
- solution of rodlike molecules, flow, phase separation, orientation distrib. 7−43989
- spectroscopy, stopped-flow, first-order rate consts. and dead time determs. 7−48853
- Stepanov method growth, dopant evaporation effects 7−32319
- stirrers and induction pumps, liquid metal velocity distrib. effects on electrodynamic forces *(Polish)* 7−63231
- thermal mixing layer in grid turbulence 7−37444
- transverse thermal dispersion in forced convective flow through packed bed 7−51105
- turbulent, mixing in 2D ducts with transverse jets 7−31757
- turbulent mixing across density interface in presence of rot. 7−1543
- turbulent mixing of coaxial jets between H_2 and air 7−37505
- wall jet with turbulent boundary layer, 3D mixing 7−37503
- wall-turbulence hypothesis, refinement 7−57814
- Ag/Cu interface, metastable solid soln. form. by ion mixing 7−12163
- Ag-Au-Zn ternary system, liq., thermodynamic functions *(German)* 7−44856
- Ag-Cu(Ni) systems, amorphisation induced by ion mixing 7−21300
- Ag-Sn-Te system, ternary, enthalpy of mixing *(German)* 7−21469
- Al binary alloys liq., thermodynamic props. *(Korean)* 7−26978
- Al/Si contacts, diffusion at room temp. *(German)* 7−32724
- Al-Zn-Ag, phase diagram tielines, anomalous SAXS studies 7−53705
- Al-Zr(Nb)(Mo), molten, thermodynamic props. 7−21450
- Al_2O_3, mixing of metal overlayers, ion beam irrad., rapid thermal annealing, pulsed laser irrad. 7−58330
- Al_2O_3-CaO cement-glass microsphere composites, relative dielectric permittivity 7−33319
- $BaTiO_3$, form. from metallo-organic precursors, kinetics 7−39465
- CO_2 interface evolution in shock tube, turbulent mixing zone 7−11460
- CO_2, vibr. relax. during injection into ionosphere 7−34087
- CO_2-H_2O-N_2, laminar and turbulent mixing, vibr. relax. 7−11459
- CoO-NiO system, immiscibility 7−38202
- Cu-Ag-Pb system, thermodynamic optimisation 7−46421
- Cu-Ni-Fe, irrad., stability of periodic decomp. struct. 7−58366
- $Cu_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7−63486
- Er-Cu (Ni) metallic glass form. by near-isothermal cold rolling 7−22610
- $Ga_{1-x}In_xAs_ySb_{1-y}$ system, low temp. phase equilib. 7−52001
- a-Ge/au interfaces, atomic intermixing, asymmetries 7−21682
- $I^-+ClO_2^-$, oscillatory reaction, stirring and premixing effects 7−28278
- InP-Au interface, Fermi level pinning, growth characts., photoemission spectra 7−22009
- K-Pb liquid alloys, excess stability, entropy 7−26975
- Mn-P melts, free energy of mixing and Mn_3P form. 7−65042
- N_2O downstream mixing gasdynamic laser, numerical simulation 7−36940
- Na_2O-B_2O_3-SiO_2 glasses, liq. immiscibility rel. to trivalent oxide additions 7−39516
- $PbTiO_3$, form. from metallo-organic precursors, kinetics 7−39465
- PdTi, enthalpy of form. by high temp. calorimetry 7−21410
- Pt-Si interfacial growth following Si chemisorption, intermixing, SEXAFS obs. 7−64772
- Sb-Ge-Zn system, thermodynamic investig. *(German)* 7−53703
- Si/Ni system, silicide formation, ion beam induced, embedded markers and moving species 7−21298
- Si-binary alloy interfacial interactions, Rutherford backscattering spectrometry, TEM 7−12505
- Si-Ge interface, solid phase epitaxy, intermixing, EXAFS, AES, LEED obs. 7−63973
- SiC, mixing of metal overlayers, ion beam irrad., rapid thermal annealing, pulsed laser irrad. 7−58330
- Si_3N_4, mixing of metal overlayers, ion beam irrad., rapid thermal annealing, pulsed laser irrad. 7−58330
- SiO_2, mixing of metal overlayers, ion beam irrad., rapid thermal annealing, pulsed laser irrad. 7−58330
- Ti-Si interface, silicide form., Auger and appearance pot. spectra studies 7−45031

mixing, heat of *see heat of mixing*

mixing circuits *see mixers (circuits)*

mixtures
- *see also critical mixtures; mixing; solutions*
- adsorbed on graphite and Ag surfaces, ordering and phase separation 7−21651

mixtures continued
alcohol-water mixture, Benjamin-Feir turbulence in convective binary fluid mixtures 7—43916
alcohol-water mixture, volumetric behaviour, high press. study 7—51904
alkali halide solns. in water-acetamide mixtures, partial molal vol. meas. 7—58389
alkali metal-alkali halide mixtures, liq., longitudinal collective modes 7—6744
alkali-inert gas pair diffusion cross sections, light-induced drift 7—51366
n-alkane binary mixtures, Asfour Dullien eqn. modification, diffusivities depend. on conc. 7—6842
n-alkane binary mixtures, liq.-phase diffusivity meas. 7—6843
n-alkyl formate-n-alkanol mixtures, excess molar enthalpies at 298.15K 7—44823
n-alkylamine-n-dodecane systems, static dielec. consts. and excess molar enthalpies 7—59134
alkylcyanobiphenyl-phenylcyclohexanecarboxylate mesomorphic mixtures, binary phase diagrams, fluoresc. spectral determ. 7—27765
aluminium oxinate-gallium oxinate mixture, fluoresc. spectra, isodifferential derivative synchronous fluorimetric anal. 7—54231
amphiphilic molecules, adsorpt. and orientation, liq.-liq. interface 7—12403
anthracene solute alignment in uniaxial liq. cryst. solvents, Saupe ordering matrix calcs. 7—11902
automated analysis of two-dimensional NMR spectra of mixtures by pattern recognition 7—24635
basalt-bentonite mixtures, diffusion of tritiated water and chloride 7—40057
benzene, isotopic mixture in liq. crysts., dipolar coupling consts., 2D multiple quantum NMR 7—57090
benzene+ethylene, isomer group equilib. mole fractions, calcs. 7—13738
benzene-hexafluorobenzene, SS02 theory, charge symmetry model 7—58120
binary, boiling heat transfer, capillary porous coating thickness effect 7—51101
binary fluid mixture, compositional order, mol. dynamics study 7—37825
binary fluid mixtures, comparative anal. by extended irreversible thermodynamics and kinetic theory 7—16290
binary fluid mixtures, eqn. of state, high temp. and high press. 7—21385
binary gas mixtures, thermodiffusion ratio determ. 7—57972
binary hard sphere mixtures eqns. of state, van der Waals perturbation term calcs. 7—12226
binary liq. mixture, phase transitions, Yukawa tail pots., mean-spherical approx. soln. 7—63422
binary liquid diffusion coeff. estimation using empirical correls. 7—38229
binary liquid mixture, late-stage phase separation and hydrodynamic flow, light scatt. meas. 7—58486
binary liquid mixtures, heat and mass transport 7—1559
binary liquid mixtures, viscosity, excess volume and self-diffusion 7—58515
binary mixture of isotropic materials, effective conductivity, exact estimates 7—62961
binary mixture with diffusion, mass transfer across moving interface, boundary condition 7—58436
binary mixtures, eqn. of state, radial distrib. functions 7—32595
binary mixtures, neutron-gamma transmission based composition meas. 7—54215
binary mixtures, nonsteady thermodiffusional separation in regime with sampling 7—57973
binary mol. liq., statistical mechanical local composition theory, mol. size and energy difference effects 7—32248
binary reactive gas mixtures, kinetic rates, press. and laser intensity thermodiffusion effects 7—63241
binary solvent systems, pyrene solubility meas. and NIBS model calcs. 7—63829
binary systems, vacancy form. energy calcs., pair pot. theory 7—32429
binary-gas mixtures, phys. props. prediction, SSR-MPA and MSK pots. 7—51361
brine-toluene-n-butanol-Na-dodecyl sulphate system, diffuse interface in oil-in-water microemulsions 7—59788
bromobenzene, in binary liq. mixtures, diffusion thermoeffect, heats of transport 7—12337
p-bromochlorobenzene/p-chloroiodobenzene mixed crystals, crystal data at 293 K 7—51737
2-butoxyethanol-water(-cetyltrimethylammonium bromide) solns., ultrasonic relax. studies 7—12217
t-butyl alcohol-H_2O mixtures, X-ray scatt., Kirkwood-Buff parameters 7—44337
butylamine binary liq. mixtures, viscosity meas., free energy and intermol. interactions studies 7—63862
carbon tetrachloride-$SnCl_4$ liq. mixture, struct., neutron diffr. exam., RISM integral eqn. calcs. 7—63432
chaotic mixing, two periodic model flows anal. 7—43934
chemical process design, fluid props. and phase equilibria, conf., Lo-Skolen, Helsinger, Denmark (May 1986) 7—18473
chlorobenzene, in binary liq. mixtures, diffusion thermoeffect, heats of transport 7—12337
chloroform-methyl acetate, diffusion and activity coeff. 7—38232
cholesteric liq. cryst. mixtures, pitch, struct., phase transition point and optical props. studies 7—1881
cholesteric-nematic mixtures, supermolecular structure, spiral pitch 7—44356
CO_2-N_2 laser containing isotopically substituted molecules, active medium props. 7—43055
coal liquefaction process, fluid-phase equilibrium prediction 7—40021
continuum theory, motivation from discrete considerations 7—57680
cumene/1-butanol mixtures, US studies 7—58414
cyclohexane-carbon tetrachloride-ethyl acetate, ultrasonic and rheological study 7—31727
cyclohexane-d_6-methanol mixtures, stabilised vapour-liquid interface 7—12400
cyclohexane-methanol, liq.-liq. critical point, eqn. of state 7—12230
1-cyclohexyl-phenyl-2-methyl ethylenes, synthesis and phys. props. 7—1870
cyclohexylamine-water mixtures, positronium study 7—36823
deutero-isobutyric acid (coax)-D_2O, critical mixtures, isotope effects 7—12253
deutero-isobutyric acid (COOH)-H_2O, critical mixtures, isotope effects 7—12253
1,2-dibromoethane-alcohol mixtures, excess vol., comp. depend. meas. 7—63704

mixtures continued
dichlorodifluoromethane/N_2 gas mixtures, electron transport, collision cross section and dielectric strength 7—63244
1,2-dichloroethane-n-alkane or -2,2,4-trimethylpentane liq. mixtures, excess enthalpy meas. and calcs. 7—6827
dichloromethane-benzene(toluene) mixtures, US vels., densities and viscosities 7—6726
dichloromethane-d_0-dichloromethane-d_2, γ, mode vibr. linebroadening, Raman spectra 7—5685
diffuse discharge switching appls., temp. depend. electron transport studies 7—32189
dilute behaviour near crit. pt. of solvent 7—26979
3,3-dimethylbutan-1-ol-n-hexane mixtures, excess molar enthalpy, heat capacity and molar vol. 7—44850
N,N-dimethylformamide-n-alcohols, binary mixtures, excess isentropic compressibilities at 303.15K 7—21315
DMSO-water mixture, spin relax. ^{17}O and ^2H NMR study 7—38961
n-dodecane-hexane isomer mixtures, ultrasonic speeds and isentropic compressibilities 7—51943
electrolytic binary mixtures, US studies 7—26869
ethanol-water convective binary mixture, competing patterns 7—20727
ethanol-water mixture, finite-amplitude travelling wave convection 7—43913
ethoxylated alcohol-n-alkane-water mixtures, phase behaviour patterns 7—21406
ethylbenzene-acetonitrile (butyronitrile) (nitromethane)(nitroethane), excess molar volumes 7—44640
ethylbenzene-methanol system, US behavior 7—38123
fluid mixtures, diffusion induced by nonhomogeneous shearing deform. field 7—14765
fluorocarbon gaseous refrigerants and their mixtures, generalised viscosity correl. eqn. 7—16286
fluoromethane-d_3, mixtures and cryogenic solns., low temp. vibr. relax. 7—5755
fuel drop-air mixtures, flame propag. 7—23018
gas, dynamical self-struct. factor, matrix continued-fraction representation 7—63238
gas mixture nonequilib. flow through narrow channels, phonon drag effects 7—16253
gas mixtures, electron transport, collision cross section and dielectric strength 7—63244
gas mixtures, standard, specifications for pure gases as initial components 7—562[illegible]2
gas-vapour-liquid mixtures, shock compression 7—43713
glucose/mannose aqueous solns., US studies 7—12209
glutathione-methylmercury aq. mixtures, complexation, Raman spectrum vibr. study 7—64637
glycol-water mixtures, positronium formation and inhibition in liq., solid and glassy phases 7—36822
hard disk disordered packings, geometrical properties 7—32287
hard sphere and disphere fluid mixtures, investig. 7—11867
hard sphere mixture props., perturbation by intermol. attraction, structural integral eval. 7—37833
hard sphere mixtures, additive and nonadditive, Monte Carlo simulation and integral eqn. results 7—11871
heptafluoroiodopropane-O_3, laser photolysis yielding IF 7—31089
hexafluorobenzene-benzene-n-hexadecane ternary mixtures, vapour press. and excess vol. meas. at 298.15K 7—12315
hexafluorobenzene-n-hexadecane binary mixtures, vapour press. and excess vol. meas. at 298.15K 7—12315
hexafluoroethane-Ar mixture, electron drift velocity, attachment, ionization coeff. 7—31181
hexafluoroethane-methane mixture, electron drift velocity, attachment, ionization coeff. 7—31181
hexanol-hexane (cyclohexane)(benzene), excess molar enthalpies at 298.15K 7—26956
ideal gas mixtures, extended thermodynamics 7—56199
induced smectic phases, role of ratio of mol. lengths in binary mixtures 7—11897
interfacial monolayer between surfactants, rheological anal. of the Marangoni effect. 7—38233
interspecies transfer of momentum and energy in disparate-mass gas mixtures 7—42734
isotope binary mixtures, separation, nonstationary mass transfer 7—42778
lead II 9,10-dihydroxyoctadecanoate, and binary mixtures, molten elec. cond. 7—38231
Lennard-Jones fluid mixtures, infinite-dilution activity coeffs., computer simulation 7—16383
Lennard-Jones mixtures, gas solubility Henry coeffs. determ., WCA-LL-GH perturbation theory calcs. 7—6799
light scatt. spectrum, linewidths from sum rules 7—46028
liquid, binary excess props., predictions, Weeks-Chandler-Anderson type perturbation theory calc. 7—32247
liquid, polar hard dumbbell type, struct. and props., site-site Ornstein-Zernike eqn. soln. 7—63417
liquid crystal-polymer mixtures, phase diagrams, nematic-isotropic phase equilibria versus liq.-liq. demixing 7—16739
liquid mixtures, pressure-volume-temperature behaviour correl. to zero-shear viscosity 7—21501
liquid mixtures, refractive index meas. using speckle based fibre optic sensor 7—11124
liquid mixtures, transport processes, mutual diffusion, microscopic description 7—58514
liquids, mixing, conc. meas. by fluoresc. technique 7—65366
macromolecules, chem. inhomogeneous mixtures, fractionation efficiency anal. *(Russian)* 7—26928
Maxwellian particle gas mixtures, coupled linearised Boltzmann eqn. 7—1664
metal-insulator two-phase mixtures, reflection of light, specularity 7—22214
methane-d_4, mixtures and cryogenic solns., low temp. vibr. relax. 7—5755
methane-ethane fluid mixture, thermal cond./comp. depend. 7—51368
methane-ethane mixtures, liq., thermal cond. study 7—2280
methane-H_2, gaseous mixture, far-IR absorpt. spectrum 7—10577
methane-H_2 mixture, isochoric meas. at temp. from 140 to 273.15K, eqn. of state, density 7—26377
methanol-*n*-hexane near liquid-liquid critical point, mutual diffusion coeff. 7—44876
methanol-$d_0(d_1)(d_4)$-cyclohexane-$d_0(d_{12})$, critical mixtures, isotope effects 7—12253

mixtures continued
  methanol-heptane (octane), liq.-liq. phase equilibrium at press. from 0.1 to 150 MPa 7—26931
  methanol-n-hexane, equilibr. assoc. consts., NMR 7—932
  methanol/cumene mixtures, vs. studies at various temps. 7—58415
  4-methoxybenzylidene-4′-propylaniline-n-hexane (benzene) mixtures, enthalpy *(Russian)* 7—63833
  methyl methacrylate-n-heptane, excess enthalpies and vols. at 298.15K 7—44824
  methyl methacrylate-n-hexane, excess enthalpies and vols. at 298.15K 7—44824
  4-methylumbelliferone-fluorescein laser dye mixture, stimulated emission, conc. depend. 7—1098
  micellar liq. cryst., isotropic phase, temp.-depend. supercooling limit, mag. birefringence meas. 7—63815
  mineral powder mixtures, X-ray diffr. anal. by heavy ion bombardment 7—32223
  miscible binary/ternary liquid mixture, viscosity models assessment and improvement 7—2246
  molecular fluids and multicomponent mixtures, interfacial phase transitions 7—32755
  monatomic gases and their mixtures, dilute gas props. 3 parameter MSK pot. calcs. 7—16285
  monatomic systems, liq. and dilute gas, thermodynamics and transport props., MSK pot. calcs. 7—6826
  multicomponent, partial molar props., computer calc., operational definitions 7—28329
  multicomponent, thermal diffusion, Enskog theory 7—51364
  multicomponent gas mixtures, interaction with wall, Navier-Stokes boundary condition 7—51233
  multicomponent mixtures, fluid-fluid interfacial tensions 7—12394
  multicomponent mixtures, vapour-liq. critical points calc. using empirical method 7—38175
  naphthalene crysts., indole admixture trap form., thermolum. study *(Russian)* 7—22357
  NEAA-NMAA-H_2O ternary liq. solutions, US and volumetric investigations 7—38122
  nematic liquid crystal displays, multiplexed twisted, elastic constants of hybrid mixtures 7—2078
  nematic liquid crystals, rotational viscosity under high press. 7—32695
  nematic-cholesteric liq. cryst. mixtures, optically active additive, optical storage 7—36901
  nematocholesteric mixtures with two-freq. control, electro-optical props. 7—59183
  nitromethane-CS_2 liq. mixture, on glass, wetting 7—6927
  nonelectrolyte liquids and their mixtures, eqns. of state and struct. 7—26898
  nonideal fluid mixtures, phase diagrams, Monte Carlo calcs. 7—51989
  nonisothermal gas mixture, transport coeff. calc. 7—11574
  normal fluid chain-like molecule mixtures, quartic hard chain eqn. of state calcs. 7—12227
  organic binary liquid mixtures, excess diffusion calc. 7—26991
  organic liquid mixtures, positron interactions 7—39228
  para-azoxy-anisole-d_2-4-4′-diacetoxy-2-2′-dimethyl azoxybenzene nematic mixture, phase diagram, component order parameters, D and proton NMR study 7—21086
  paraffin mixtures, melting results, correlation 7—62965
  partially dissociated and ionised gas mixtures, chem. equilib. flow, effective transport coeffs. calcs. 7—31917
  n-pentane-dichloromethane, excess thermodynamic props. 7—52079
  p-n-pentyl-p′-cyanobiphenyl and dil. solns. with tetraethylmethane, nematic and isotropic phases, density meas. 7—2079
  perfluoromethylcyclohexane-carbon tetrachloride, liq.-liq. critical point, dielectric const. 7—13079
  phase equilibrium for mixtures containing components with large difference in mol. size or pot. energy 7—52078
  phase separation, cluster kinetics and self-similar structure functions 7—44836
  phenol-aniline (p-toluidine) (p-anisidine) mixtures, viscosity meas., 303.15-343.15 K 7—63861
  phenol-d_6-D_2O, critical mixtures, isotope effects 7—12253
  PMMA-merocyanine dye Langmuir-Blodgett multilayer mixtures, deposition studies, SHG obs. 7—58715
  polar-nonpolar molecule mixtures, anal. soln. 7—44336
  poly(ethylene oxide)-NaSCN mixture, ionic conductivity and phase behaviour studies 7—32704
  polymer soln. mixtures, vapour-liq. equilib., quartic hard chain eqn. of state calcs. 7—12228
  polystyrene-PMMA-toluene mixtures, interaction parameters 7—63424
  polystyrene-polybutadiene-toluene, mono- and polydisperse solns., interaction parameter determ. 7—10795
  polystyrene/poly(methylphenylsiloxane) liquid mixtures, phase separation processes, structure function scaling law test 7—1832
  proportional counter avalanche growth, concentration depend. in Kr+cyclohexane mixtures 7—826
  n-propyl-4′-n-decyloxybiphenyl-4-carboxylate-n-butyl-4′-n-decyloxybiphenyl-4-carboxylate, smectic-A-hexatic-B-smectic-I point, existence and nature 7—2198
  propylene carbonate-1,2-dimethoxyethane mixtures in electrolyte solns., dielectric props. 7—33322
  PVC based powder mixtures, shock consolidation, densification, industrial appls. 7—39473
  reactive granular materials, deflagration-to-detonation transition, two-phase mixture theory 7—37518
  reference buffer solutions in solvent mixtures with water, standard pH values 7—17799
  rhodamine 6G/DTDCI laser dye mixtures, undamped relaxation oscillations due to self-gain-switching 7—1094
  rhodamine dyes, polar and nonpolar solvent mixtures, aggregation, luminesc. meas. 7—7758
  salt/water/aprotic solvent mixtures, alkali cation influence, IR spectra anal. 7—19856
  sitosteryl chloride-cholesteryl laurate binary mixture, polymorphism 7—12267
  smectic A_1 binary mixture, nematic phase creation, phase diagram, transition enthalpy comp. depend. study 7—12269
  smectic B phase in binary mixture, dielec. relax. 7—13089
  smectic mixtures of A_1 and A_d phases, nematic gap obs. 7—6792
  solid-fluid mixtures, boundary conditions 7—6854
  spectroscopic analysis, computerised, using orthonormalised reference spectra 7—35605

mixtures continued
  spherical mols. model mixtures, phase equilibr. 7—38203
  steam-water mixtures, thermodynamic equilibrium during loss from reactor 7—49577
  sulpholane-benzene (toluene)(p-xylene)(mesitylene), ultrasonic speeds, compressibility and excess molar quantity at 303.15K 7—26870
  supercritical gas components, vapour-liq. equilib. calcs., excess Gibbs energy method 7—6768
  surface tension at low temps. of pure and mixed simple substances 7—58566
  surfactant mixtures, immiscible ideal solns., ideal interfacial layer 7—6921
  TCNQ-TTF powdered mixtures, strong solid-state charge transfer reaction 7—46835
  terminal nonpolar cpd. binary systems, reentrant nematic phases, phase diagrams, X-ray diffr. 7—21442
  ternary mixtures, qualitative and quantitative resolution 7—54201
  tetrabromomethane:Br_2 dil. binary mixture, directional solidification, cellular instabilities 7—26921
  1,1,2,2-tetrachloroethane-alkane binary mixture, US behaviour and isentropic compressibility 7—21358
  1,1,2,2-tetrachloroethane-benzene (toluene) (p-xylene) (acetone) (cyclohexane), viscosity meas. 7—63860
  tetramethyl urea+water system, solid-liq. phase equil., freezing pts. 7—32616
  TGS-L-α-alanine admixture, dielec. props., influence of rejuvenation process 7—33339
  thermodiffusion apparatus, counterflow, closed stream motion 7—43908
  thermodynamic description 7—44853
  tissue-equivalent gas mixtures, photoionisation, average energy per photon 7—19970
  toluene, in binary liq. mixtures, diffusion thermoeffect, heats of transport 7—12337
  triphenylchloromethane-o-terphenyl, sp. ht. capacity and glass transition temp. meas., thermodynamic config. anal. 7—21446
  two-fluid corresponding states principle for prediction of enthalpy and entropy departures 7—51372
  two-phase medium, statistically heterogeneous, radiative transfer, Markov calcs. 7—37316
  two-phase three component solns., interfacial tension 7—6923
  vapour-liquid equilibria calcs., cubic equation of state 7—38174
  viscoelastic disperse mixture, effective rheological properties, calcs. 7—26233
  water, alkanoic acids and their mixtures, freezing temp. determ. using kinetic technique 7—44762
  water-2-propanol-nitromethane, US vel. at miscibility point 7—21355
  water-oil-tenside microemulsion, three-phase regime 7—13826
  water-organic mixtures, positron annihilation and compressibility 7—39227
  X-ray diffr. phase anal., calibration-free, Monte Carlo error simulation 7—1812
  AgCl-KCl(CsCl), binary molten mixtures, elec. cond. 7—12340
  AgI-CsI(KI)(NaI), binary molten mixtures, elec. cond. 7—12340
  $AgI_{0.75}$-$KI_{0.25}$ mixture, Soret effect meas. under microgravity 7—21499
  Ar/C_2F_6 mixtures, Penning ionisation for diffuse discharge switching appls. 7—37622
  Ar-CF_4 mixtures in corona discharges in diffuse discharge switch appls., decomposition 7—37799
  Ar-H_2 mixtures, transport and relax. cross-sections, close-coupling calcs. 7—51363
  Ar-H_2O, two-phase mixture, voids fraction meas. 7—44072
  Ar-H_2O plasmas, dissoc. processes, macroscopic kinetics 7—32173
  Ar-Kr liquid mixtures, diffusion coeffs., simulation 7—44344
  Ar-Ne mixture, density meas. up to 8000 bar, Lennard-Jones comparison 7—1669
  Ar-TEA gas mixtures, emission spectra in proportional counter 7—62226
  Ar-tetrachloromethane, RF discharge, GaAs etching study 7—32167
  Ar-Xe DC discharge in supersonic jet, UV-visible emission spectra anal. 7—19874
  Ar+CO_2(N_2), vacuum UV lines, Stark broadening 7—891
  Ar+N_2+CO, submonolayer mixtures physisorbed on graphite, LEED study 7—2364
  Bi_2S_3-$PbBi_2S_4$ system, chemically twinned phases, X-ray diffr., TEM obs. 7—32462
  CCl_4/cresol binary mixtures, US studies 7—12207
  CO, and mixtures, line interaction effects in IR absorpt. spectra 7—31038
  CO-Xe(NH_3) mixtures, photoionis. discharge, energy characts. 7—21027
  CO_2, and mixtures, line interaction effects in IR absorpt. spectra 7—31038
  CO_2-^{3}He dilute mixtures, liq.-vapour curve, ^{3}He partial contrib. 7—32625
  CO_2-ethane gaseous mixture, determ. of virial coeffs., ref. index meas. method 7—51362
  CO_2-He-N_2 laser glow discharge, influence of magnetic fields on instability growth 7—5868
  CO_2-Xe(NH_3) mixtures, photoionis. discharge, energy characts. 7—21027
  CS_2 binary mixtures, free length theory and collision factor theory comparisons 7—44692
  CS_2-benzene mixtures in soln., CARS study of vibr. dephasing 7—42624
  Co_3O_4-$Al_2Si_2O_5(OH)_4$, X-ray anomalous scatt. difference patterns in powder diffr. anal. 7—16356
  Dy_2O_3-Er_2O_3-Ho_2O_3, mixtures, IR reflectance spectrum, wavelength standard 7—41330
  $FeH_3(PO_4)_2.2.5H_2O$, pyrite-phosphate mixtures, X-ray phase and electron microscopic studies 7—33652
  H-CO_2 binary mixtures, H fugacity coeff. meas., physical equilib. technique 7—16296
  H-propane and H-methane binary mixtures, H fugacity coeff. meas., physical equilib. technique 7—16295
  H_2, solid, ortho-para mixture, local order parameters distrib., NMR line shapes, relax. times 7—27052
  H_2, solid ortho-para mixtures, nonexponential relax. of nucl. magnetisation, NMR absorption spectrum 7—27053
  H_2-CO_2 binary mixtures, H component fugacities, press. depend. 7—51367
  H_2-F_2-HF gaseous mixture, light initiated chain reaction, stimulated light scatt. study 7—62778
  H_2-He mixture, radiant heat transfer body shape influence 7—20715
  H_2-O_2-Ar mixture, reflected-shock flowfield calcs., random choice method appl. 7—20812
  HCl and NaOH interdiffusion meas. at 25°C in aqs. soln. 7—6841
  HCl/Xe/He gas mixture, kinetic model of discharge *(Russian)* 7—11577
  HCl-Kr, mixture, vibr. relax., rate const. meas. 7—15687
  HCl-Xe, mixture, vibr. relax., rate const. meas. 7—15687

mixtures continued
HCl-Xe-He self-sustained discharge, population dynamics of electronic states of atoms and ions 7−37781
HF-H_2O, vap.-liq. equilib. and partial press. formulae 7−21427
H_2O-CO_2(H_2S)(NH_3)(H_2SO_4)(H_3PO_4)($ZnCl_2$) ($CuCl_2$), thermodynamic meas., bibliography of data sources 7−52070
H_2O-D_2O liq. mixture, thermal transport props. 7−16826
H_2O-DMSO-1,4-dioxan, chem. shift, NMR spectroscopy 7−25559
H_2O-H_2O_2 mixtures, defects, network construction, Raman spectrum 7−64630
He-Ar mixture, density meas. up to 8000 bar, Lennard-Jones comparison 7−1669
He-H mixtures, positron annihilation, simulation 7−36792
He-H_2O, gas/vapour mixtures in porous medium, natural convection 7−1554
He-N_2 mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect on physical parameters 7−16287
He-N_2 mixtures, metastable the electron impact excitation coeffs. 7−20059
He-Ne mixtures collision induced far IR translational absorpt. 7−10563
He-Xe pulsed discharge, Xe($^3P_2$) radial distrib. 7−26573
He-Zn metal vapor mixture, laser excitation by electron guns 7−26534
^{3}He-^{4}He mixture, Benjamin-Feir turbulence in convective binary fluid mixtures 7−43916
Hg-Ar mixtures, electron energy distrib. functions meas. 7−21028
Hg-Ar mixtures, in discharge, current variations and plasma parameters 7−21011
Hg-Ar mixtures, in positive column, radius and plasma parameter variation 7−20956
KBr-AgBr, binary molten mixtures, elec. cond. 7−12340
$KCl_{1-x}Br_x$ mixed powder crystals, long wavelength optical phonons; 7−12220
$K_2Ni_{1-x}Fe_xF_4$, 2D random mixture with competing spin anisotropies, Mossbauer spectroscopy 7−59021
Kr-He-H_2 mixtures, self-quenching streamer or Geiger-Muller region 7−19669
Kr-TEA gas mixtures, emission spectra in proportional counter 7−62226
KrF-SF_6 mixtures, excimer mol. excitation in steady-state plasma jet 7−58070
LiBr-LiCl binary mixed crystal system, critical nucleus, melt comp. 7−58445
LiCl-KCl, molten mixture, eutectic, isotope self-exchange vels., simulation 7−57187
LiCl-KCl mixture used to seal melt for $CdSnAs_2$ growth 7−7839
$MgCl_2$-$CaCl_2$ melts, thermodynamic props. 7−26977
MgF_2-MF_2 mixtures, (M=Ca,Sr,Ba), films, prep., physicochemical and optical props. 7−3178
N_2/H_2 mixtures, vibrationally excited, sound propag. characts. 7−51379
N_2-Ar, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2-Ar solid mixtures, orientational ordering, collective versus noncollective behaviour 7−21103
N_2-Ar solid mixtures, sp. ht. due to N_2 mol. rot. 7−32680
N_2-CO_2-CS_2 mixture, calc. of gains for vibrational transitions 7−1087
N_2-H_2, gaseous mixture, far IR absorpt. spectrum 7−19858
N_2-H_2O, gas/vapour mixtures in porous medium, natural convection 7−1554
N_2-He, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2-Ne, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2O-CO-Ar, superequilibrium pumping, Ar dilution effects 7−25611
N_2O-CO-H_2-Ar, superequilibrium pumping, Ar dilution effects 7−25611
Ne-Ar mixtures, transient cataphoretic segregation in a discharge tube 7−20988
Ni-Al powder system, cpd. formation during shock wave loading 7−39460
O atom, flame diagnostics by two-photon fluoresc., UV laser appl. 7−23015
O_2-N_2 equimolar liq. mixture, excess props. and struct., mol. dynamics simulation 7−32246
O_3, admixture in air influence on Trichel pulse characts., electron attachment rate determ. 7−20034
PbO-Nb_2O_5 oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
PbO-Nb_2O_5-Sc_2O_3 oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
S-I working fluid, max. heat flux transferable in thermosiphon 7−50930
SF_6, mixtures and cryogenic solns., low temp. vibr. relax. 7−5755
SF_6/dichlorodifluoromethane gas mixtures, electron transport, collision cross section and dielectric strength 7−63244
SF_6/N_2 gas mixtures, electron transport, collision cross section and dielectric strength 7−63244
SF_6-Ar mixtures vibr. relax. time resolved IR multiphoton absorpt. 7−5752
$SiCl_4$-$TiCl_4$, liq. mixtures, neutron diffr., RISM anal. 7−44342
SiF_4-O_2, microwave discharges, mass spectrometric study 7−32169
SiH_4-Ar-N_2, gas mixture, DC discharge plasma creation, spectroscopic meas. 7−20946
SiH_4-NO, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7−62476
$SnCl_4$-$TiCl_4$, liq. mixtures, neutron diffr., RISM anal. 7−44342
Ti-Al powder mixture subject to explosive shock-wave loading, compound formation 7−39461
UO_2Cl_2-KCl-NaCl-$NiCl_2$, fusibility, differential thermal anal. study 7−61972
Xe-TEA gas mixtures, emission spectra in proportional counter 7−62226
XeF-SF_6 mixtures, excimer mol. excitation in steady-state plasma jet 7−58070
ZnO_2-Fe_2O_3 powder mixtures, shock synthesis of $Zn_{1x}Fe_xFe_2O_4$ 7−39899
ZrO_2, Al_2O_3 stabilised thin films 7−45062
mm waves *see microwaves*
MMIC *see monolithic integrated circuits*
MNOS integrated circuits *see field effect integrated circuits*
MNOS structures *see metal-insulator semiconductor structures*
MNOS transistors *see insulated gate field effect transistors*
MO calculations *see molecular orbitals calculations*
mobility, carrier *see carrier mobility*
MOCVD *see chemical vapour deposition*
mode softening *see soft modes*
model reference adaptive control systems
continuous periodic reactor, adaptive model following control algorithm 7−8254
modelling
see also brain models; catastrophe theory; identification; physiological models; semiconductor device models; simulation
3D elastic bodies, contact problems, mathematical models of friction 7−51002
alloys, dislocation glide during ageing, hardening phase particle interaction modelling *(Russian)* 7−38010
bond graph model of a pool-type nuclear reactor 7−5438
calcium oxalate, crystal growth and aggregation, computer model, partial size distribution 7−16463
carburising process for dense and porous materials, math. model 7−39745
coaxial TEM deep-body hyperthermia applicator, 3D model 7−14082
cometary phenomena, exptl. modelling and similarity criteria 7−66506
compressible materials, complex math. model of plastic flow 7−64959
coronary arteries densitometry in radiographs, improved phys. model 7−28689
corrosion, knowledge 7−3470
corrosion knowledge, computer modelling, expert systems, decision tree 7−3469
crack parameter, finite element modelling of grinding residual stress effects 7−16113
creep modelling for engineering design 7−22776
cryostat, low-loss, numerical modelling 7−35524
crystal-to-amorphous phase transition under laser annealing, model 7−16424
CT methods use for nondestructive inspection under conditions of insufficient data 7−39818
cyclic loading, constitutive model and analytical integration method *(Chinese)* 7−14773
Czochralski crystal puller, modelling of melt motion in axial mag. field 7−53545
developing simplified models of combustion chemistry bysimulation with detailed chemical kinetics models 7−13779
diagnostic X-ray scatt., signal processing model 7−54719
diffusion hydrodynamic model for drainage system evaluations 7−4058
dosimetry model for risk assessment of inhaled particles, factors to be considered 7−54756
earthquake source process modelling 7−8867
electroacoustic transducers for sound-powered telephone, bond graph modelling 7−57660
environmental movement, dynamic model for prediction 7−54372
fatigue crack growth, two element structural rheological model 7−16128
fatigue failure model, crack initiation and propag. 7−1499
flow modelling for a biological cell sorter using design optimisation 7−8475
fusion material, irradiation, model for interstitial dislocation loop nucleation and growth kinetics 7−51817
fusion materials, modeling of precipitation under cascade damage 7−52059
gas-matter suspensions, shock wave interaction with rigid walls, mathematical modelling 7−1590
groundwater movement modelling, boundary element technique 7−4059
hardening process in steel, modelling with allowance for stresses effect on struct. transform. 7−39555
hardness distribution in nitrided layer of steel, prediction model 7−39746
Hastelloy X, thermomech. response, viscoplastic constitutive model 7−8059
high temp. materials, carburisation, mathematical model, diffusion and precip. *(German)* 7−8193
interfacial reactions, realistic modelling 7−21698
low-order, nonlinear, dynamic models for distillationcolumns 7−6773
macromolecular dynamics, modelling, hybrid approach 7−10786
magnetostatic leakage fields of surface defects, math. model and defect size determ. applic. 7−39819
mandibular kinesiograph recorded signals, distorted, GMDH correction modelling 7−54790
mathematics and operational research, modelling and creative thinking 7−55937
metal matrix composites, transverse elec. cond. model 7−45415
metal powders, hot isostatic pressing, empirical model 7−46365
NMR image reconstruction, appl. of autoregressive moving average parametric modelling 7−14079
oceanography, 3D-numerical model of the northern Bering Sea 7−8962
optical system design, interactive ray-tracing program integrated with solid-modelling CAD system 7−50679
PET, drawn sheets, molecular orientation, Raman spectra, refractive index 7−53318
phase change models for freezing and thawing soils 7−8456
phase change models for freezing and thawing soils 7−8457
plasma spray deposition process parameters control, math. model 7−3477
plate, semiinfinite, heated by moving heat source, thermoelasticity problem, welding-anal. 7−1419
polycrystalline aggregate, continuous constraints model for large strain grain deformations 7−32550
polymer, thermoviscoelastic properties prediction in complex stressed state 7−17573
polypropylene melt viscosity in shearing flow, mathematical models 7−44882
polystyrene melt viscosity in shearing flow, mathematical models 7−44882
powder metallurgical materials, plastic working in presence of free surface, math. modelling 7−53651
quenched phases, computationally efficient modelling of ordering 7−63769
rock failure during uniaxial loading, 2D computer model 7−8922
shape memory alloys, mech. props., polycrystal model *(Japanese)* 7−53789
solid bodies, motion in atmosphere, numerical study *(Russian)* 7−63172
steel, austenitic stainless, ductile failure under biaxial loading, thermal transients, analytical model 7−59609
steel, hot rolled microalloyed, protoeutectoid ferrite transform. kinetics, microstruct. modelling 7−17526
steel, Ni-Cr, duplex phase, plastic deform. modelling 7−28084
steel, quenching, effect of martempering on thermal stress and strain 7−46532
strain softening materials, crack growth resist. curves 7−39640
stratospheric far-IR emission analysis, synthetic spectra and FTIR meas. comparison 7−55315
TCA Tokamak, first wall damage, H recycling models 7−801
thermal transport problem modelling using boundary element methods 7−51149

modelling continued
three-layer Earth model with thin intermediate conducting layer, surface impedance determ. 7−60166
viscoelasticity, absorbing boundary conditions for numerical soln. of problems *(Russian)* 7−63018
water resources, model calibration, multiextremal optimization 7−9042
weld, NDT, elec. current methods modelling 7−3553
WODA−a modelling support system for BOD-DOassessment in rivers 7−9041
X-ray characteristic fluorescence behaviour in wedge shaped target 7−23102
X-ray screen-film systems, logit model for MTF 7−54723
Zircaloy-4, cold worked, anelastic contrib. to high temp. stress relax., model 7−65072
Zircaloy-4 fuel sheaths, failure model, circumferential temp. effect 7−728
C, activated, adsorption of Ag, mathematical model 7−44999
Cu-Zn-Al, thermoelastic, two way memory effect, dislocation form. model 7−22741
Fe, oxygen corrosion in neutral aerated sulphate solns., dynamic systems analysis *(German)* 7−8192
^{3}H, transport in the environment 7−54371
Ni-Cd batteries, Goddard model for aerospace appls., alterations using computer simulation 7−34017
Ni_3Al, polycrystalline, grain boundary fracture model 7−53896
SiO_2 powder/ceramic fibre composites, packing density model 7−13426
TaC, high temp. hardness, stacking faults, hardening rel. to C diffusion 7−3369
YIG, multicomponent systems, synthesis, microwave characts., mathematical modelling 7−33626
Zn-Sb melt, ordering models 7−44351
modelling, computer *see computer-aided analysis*
models *see modelling*
moderation (neutron) *see neutron moderation*
moderators
see also beryllium; graphite; heavy water
AGR, low temperature carbonaceous deposition, models and theory 7−42108
B_4C, thermal stress fracture, grain size and porosity effects *(Japanese)* 7−8087
graphite, AGR fuel sleeves, irrad., bending, AE obs. 7−723
graphite, fracture criterion, acoustic emission studies *(Japanese)* 7−8088
graphite, fracture processes and oxidation effects 7−28157
graphite, mol. dynamics simulation and Raman spectrum, atom configs. and interactions, honeycomb struct. 7−58200
graphite, pitchcoke, irrad., mech. props., radiolytic oxidation effect 7−25032
graphite, polycryst., deform. under press., elastic moduli rel. to struct., neutron irrad. effect 7−28069
graphite, polycryst. beam, finite contact area effect on impact stresses 7−28050
graphite, polygranular, failure models assessment 7−46596
graphite, thermally and radiolytically corroded, microstruct. rel. to elastic modulus 7−25033
graphite moderated reactors, stored Wigner energy 7−42142
high conversion PWR, B_4C control rod worth calc. 7−19391
HTGR, fracture criteria of reactor graphite under multi-axial stress *(Japanese)* 7−61946
HTGR severe air ingress accident, graphite/O_2 reaction kinetics for various graphites 7−19415
Light Ion Beam Fusion Target Development Facilities, activation studies 7−49732
LWR spent control and absorber rods, T content for waste disposal 7−25245
RBMK-1000/LWR comparison, differences in fuel coolant and moderator, Chernobyl accident *(Dutch)* 7−10213
slow muons, possibility of moderation from ionic crystals 7−64732
$^{10}B/^{11}B$ ratio, determ. in nucl. reactor moderator 7−56753
B_4C, fast neutron irradiated, thermal cond. meas. 7−6900
B_4C, neutron irrad., damage effect 7−36104
Cd plates, reactivity worth in MTR-fuel-type reactor 7−56772
modes, laser *see laser modes*
modes, lattice vibrations *see lattice dynamics*
modes, vibration *see vibrations*
MODFET *see high electron mobility transistors*
MODOR *see microwave-optical double resonance*
Modula
LWR System Analysis and Risk Assessment system 7−15289
modular circuits *see modules*
modulation
see also amplitude modulation; demodulation; demodulators; modulation spectroscopy; modulators; optical modulation; pulse modulation; Schwarz-Hora effect
anti-multipath modulation technique, bit error rate improvement using variable decision threshold reception *(Japanese)* 7−47039
biotelemetry, modulation techniques 7−34301
electron whistlers in plasmas, EM modulation 7−58000
harmonic modulation of semiconductor lasers, meas. appl. *(German)* 7−25820
US parametric modulation of EM wave at water-air boundary 7−37308
modulation doped field effect transistors *see high electron mobility transistors*
modulation doped structures *see semiconductor superlattices*
modulation factor *see modulation*
modulation index *see modulation*
modulation spectroscopy
see also appearance potential spectroscopy; electroabsorption; electroreflectance; magnetoabsorption; magnetoreflectance; piezoreflectance; thermoreflectance
2-GHz frequency-domain fluorometer 7−23091
acetylcholinesterase, immobilised, structure-activity relations, IR-ATR modulation spectroscopy obs. 7−54474
analytical spectroscopy methods review 7−54226
computer-controlled two-dye-laser heterodyne spectrometer of high precision 7−15012
cross-saturating sideband absorpt. spectroscopy with modulation 7−19751
dye laser spectrometer with ultra-high-resolution, using passive reference resonator 7−18889
electro-optic phase modulation gas correlation spectroscopy 7−9182
modulation spectroscopy continued
enzymes, structure-activity relations, IR-ATR modulation spectroscopy obs. 7−54474
Fourier transform IR, dual beam dynamic range considerations in ultimate sensitivity 7−48890
Fourier transform spectroscopy, magnetic modulation for detection of paramagnetic species 7−48856
heterodyne three-level spectroscopy 7−9907
IR polarisation modulation spectroscopy 7−48872
isotropic liquids, broadband spin decoupling investig. 7−18848
matrix CCD photodetector in modulation spectrometer, synchronous integration 7−18885
molecular velocity modulation laser spectroscopy using colour centre lasers 7−48867
monolayer at liquid/solid and gas/solid interfaces, IR external refl. spectroscopy optimisation 7−48883
sample introduction system for ICP atomic emission spectrometry 7−61384
selective line modulation atomic spectrometry, noise sources 7−61383
selective spectral line modulation, sample modulation appls. 7−61382
surface analysis in far IR, triple modulation FTIR spectrometry 7−54223
two-tone optical heterodyne spectroscopy with tunable Pb salt diode laser 7−30102
Ba, fast atomic beam laser fluoresc., g-factor 7−10483
H_2O, vap. pressure-broadening, amplitude modulation servo control in FM spectroscopy 7−18888
I_2, excited state lifetime, modulated fluoresc. emission 7−19911
Na_2, $A^1\Sigma_u{}^+$ state, long range pot. modulated gain spectra 7−19993
TlBr:I indirect exciton transition, effects of disorder 7−2489
modulation transfer function *see optical transfer function*
modulators
see also demodulators; modulation
electromechanical laser-beam modulator with high-frequency stability 7−31372
polarisation state control using fibre optic techniques 7−43421
modules
see also CAMAC
European COLUMBUS programme, contrib. to US space station 7−66421
integrated acousto-optic device modules for communication, signal processing, and computing 7−31526
Japanese Experiment Module contrib. to international space station programme 7−66423
modulus, Young's *see Young's modulus*
moire fringes
crack tip displacement anal. by moire interferometry 7−11367
deformation field quality and strain meas., effects of spatial coherence of light source and grating gap 7−61372
deformation meas., moire technique using digital processing 7−43822
deformation meas. using spatial frequency modulation of holographic interferometry, moire method *(Japanese)* 7−56218
deformation measurement using holographic interferometry and moiré fringes 7−48685
diffusely scatt. objects, dynamic deform. meas. by holographic moire and speckle interferometry 7−46764
displacement measurement using high sensitivity moire interferometry, tutorial paper 7−56331
dynamic strain meas. by high-speed moire photography 7−20673
engineering meas., conf., Cannes, France (Dec. 1985) 7−29586
fractional moire strain analysis using digital imaging techniques 7−31713
graphite fibre reinforced epoxy laminate, dynamic moire inteferometry of stress wave propag. 7−59717
graphite fibre reinforced PEEK, quasi-isotropic laminate, shear strain meas. by moire interferometry 7−65253
grating, low density transmission, pitch meas. by moire deflectometry, hybrid Talbot effect 7−43337
grating sensor, moire signal modulation depth under incoherent illum. 7−31447
hologram reconstruction accuracy and uniformity, moire anal. 7−5859
interferometry, conjugate shear and moire, appl. to obtaining out-of-plane displacements derivative 7−9880
interferometry for out-of-plane displacement meas. 7−18871
laminate, dynamic moire inteferometry of stress wave propag. 7−59717
linear displacement meas. using spatial phase detection of 1D periodic pattern *(Japanese)* 7−56217
linear grating sensors, moire signal quality rel. to light source coherence and grating gaps 7−31446
liquid surfaces, slightly deformed, visualisation using K.-Moire method 7−37483
mass transfer, surface geometry meas. by projected moire fringes 7−31903
MTF meas. using moire deflectometry 7−31265
optical methods in composites, conf., Keystone, USA (Nov. 86) 7−55894
paperboard, constitutive behaviour under uniaxial and biaxial loading 7−63019
pattern analysis, holographic-moire technique 7−20164
practical holography, conf., Los Angeles, CA, USA (Jan. 1986) 7−24281
principle strains in the plastic region, optical meas. using moire method and interferometry 7−17580
real-time moire holography 7−24696
real-time shadow moire vibr. meas., simple setup, high sensitivity and exact calibration 7−20668
sampling of halftone images, moire fringe suppression 7−36898
scanning moire topography, fringe sequence number automatic determ. *(Japanese)* 7−14919
scatter-plate interferometry, improvement by scatter-plate rotation *(Korean)* 7−24691
skin diagnostics by shadow moire topography, visibility calc. using Sinclair Spectrum computer *(Czech)* 7−14145
skull, dry, initial tooth and bone displacements, optical laser techniques meas. 7−65796
solid bodies, three dimensional, stress and strain determ. *(German)* 7−20670
spatial filtering and anal. *(Chinese)* 7−10876
strain measurement using moire by shifting model grating, image processing *(Japanese)* 7−31715
TEM, small precipitates in austenitic steels 7−46490
transducer for angular and linear displacements withseparated gratings 7−4829
transparencies for demonstrations 7−24336

moire fringes continued
  X-ray contrast inspection of contact area of contact joints using moire method, accuracy 7—8234
  SiC, stress intensity factor meas. using notched and surface flaw specimens 7—65251
  Sn/SnTe bilayers, electron diffr. pattern fine struct., influence of angular misorientation 7—16885

moistening *see wetting*

moisture
  see also humidity
  aggregated soils, microwave diel. models 7—23649
  bare soil surface, moisture and energy fluxes, event-based simulation model 7—55107
  calibration of neutron probe for soil humidity measurement *(French)* 7—47581
  composite materials, hygrothermal behaviour, new prediction methods 7—21492
  differential bare field drainage properties from airborne microwave observations 7—23915
  flood and flash-floods forecasting, generalised stochastic hydrometeorological model formulation 7—66201
  graphite fibre reinforced epoxy, interface modified, moisture effects 7—3476
  homogeneous soil matrix containing population of macropores, infiltration 7—23743
  laminated thick composite plates, buckling, hygrothermal effects 7—11321
  laminates, strain energy release rate of edge delamination, residual thermal and moisture influences 7—1508
  soil, drying model, integral methods for partial differential eqn. 7—66187
  soil, linearised unsteady multidimensional infiltration 7—55108
  soil, water content meas. by neutron counting 7—56291
  soil, water movement and solute movement 7—23778
  soil calibration of dual-energy gamma radiation system for multiple point meas. 7—23917
  soil hydraulic properties determ. from passive microwave data 7—23868
  soil moisture, analytical-numerical approach to one-dimensional infiltration in homogeneous soils 7—29082
  soil moisture, convection-dispersion eqn. for transfer function model of solute transport 7—23739
  soil moisture, drainage from uniform soil layer on hillslope 7—23756
  soil moisture, fundamental concepts of transfer function model for solute transport 7—23737
  soil moisture, illustrative appls. of transfer function model for solute transport 7—23738
  soil moisture, numerical hysteresis model for intermittent flux studies in unsaturated soils 7—29096
  soil moisture, stochastic convection-dispersion model of solute transport 7—23729
  soil moisture, stochastic estimation and forecasting for irrigated fields 7—23732
  soil moisture, water movement in unsaturated zone under irrigated area from environmental T meas. 7—23757
  soil thermal IR remote sensing 7—34696
  soil water extractor for minimising CO_2 degassing and pH errors 7—23916
  soils, freezing problem, moisture migration allowance study 7—55094
  steady infiltration from buried discs and other sources 7—23786
  structured soils, equilib. and first order kinetic transport models, validity constraints 7—23243

moisture content *see moisture*

moisture measurement
  see also humidity measurement
  apatite concentrates, water-content measurement system 7—55300
  chromatographic method of measuring water contents of solids 7—48759
  dielcometric water-content meter, methodological error in checking by use of water content simulators 7—48757
  dielcometric water-content meters, metrological characts. 7—48756
  linen material, raw, water-content meter 7—56292
  microwave detection of nonelectrical props. in China, review 7—48682
  oil crops, oil and water content meas., standard specimens for checking NMR analysers 7—54823
  peat water-content meter, IR, physical principles 7—55299
  refractometric water-content meas., systematic error reduction by structural method and microcomputer 7—48832
  sandstone cores, oil and water content meas. using microwave techniques 7—55288
  skin moisture assessment from meas. with a miniature resistance-type dew point sensor 7—3956
  soil, minimal moisture capacity determination methods 7—23891
  soil moisture meas., remote sensing in 100 MHz-1 GHz range 7—55273
  soil moisture vars. Bhaskara-II brightness temp. map of India 7—14321
  trace moisture in gases determ., using IR diode laser spectrometry 7—8330
  UHF water-content meters for cotton materials 7—48758
  vacuum microbalance, automated, for adsorption isotherm meas. 7—41397

molar volume *see density*

molecular alignment *see molecular orientation*

molecular beam electric resonance
  OCS, rot.-vibr. anal., electronic ground state, MW, IR and Raman spectra 7—19820

molecular beam epitaxial growth
  apparatus for MBE simultaneous growth on multiple Si substrates 7—7867
  CdTe films, MBE growth, photoluminescence and TEM characterisation 7—22376
  films, thickness distribution calc. 7—7866
  films grown from a partly ionised molecular beam, computer simulation of structure 7—7060
  growth fronts, mol. statics and dynamics studies 7—7065
  growth mechanism determ., dynamic RHEED method anal. 7—7062
  growth mechanisms, in situ RHEED 7—53603
  heteroepitaxial IV-VI infrared sensors on Si substrates with fluoride buffer layers growth using molecular beam epitaxy 7—41468
  heterostructure growth by MBE, growth approaches to improve interface quality 7—2421
  $Hg_{1-x}Mn_xTe$-HgTe dilute mag. semicond. superlattices, MBE growth and props. 7—13357
  II-VI semiconductors, low-temperature epitaxial growth, MBE and MOCVD 7—64906

molecular beam epitaxial growth continued
  III-V semiconductor films, metalorganic MBE 7—53601
  III-V semiconductors, chemical beam epitaxy 7—52360
  III-V semiconductors, MBE, surface effects and growth dynamics 7—58711
  III-V semiconductors, MBE growth, kinetic processes 7—2418
  III-V semiconductors, metal organic MBE and VPE growth, kinetic and thermodynamic aspects 7—7064
  InGaP/InGaAlP double heterostructure and multiquantum-well laser diodes, MBE growth and characterisation 7—62689
  kinetics and energetics studies at surface and interfaces 7—2422
  metal-semiconductor interfaces, epitaxial silicide technology 7—52835
  microdevices and superlattices, MBE growth, quasi-gas transition layers 7—38379
  microstructures and microdevices, conf., Goteborg, Sweden (Aug. 1986) 7—35097
  molecular beam source using multiholed plug effusion cell *(Japanese)* 7—18911
  multiple specimen-exchange system for molecular beam epitaxy 7—53521
  nanometer structure fabrication *(Japanese)* 7—12545
  near surface quasi-gas transition layer 7—53591
  quantum heterostructure materials and devices 7—52786
  semiconductor, dielectric and metal films, MBE growth, process monitoring and equipment 7—27909
  semiconductor crystal growth, trends *(Japanese)* 7—3182
  semiconductor interfaces, bonding and adhesion, characterisation techniques, electronic struct. 7—27418
  semiconductor microstructure growth by MBE 7—7856
  semiconductor quantum wells and superlattices, MBE 7—59431
  semiconductor superlattices, synthesis by MBE *(Japanese)* 7—12544
  semiconductor superlattices and quantum wells, evolution, heteroepitaxial growth 7—7343
  semiconductors, MBE growth, RHEED and photoemission studies 7—2438
  semiconductors, morphological stability in epitaxy, appl. to optoelectronic monolithically integrated structures 7—27172
  Si-SiGe strained superlattices on Si substrates, MBE growth, characterisation, appl. for HEMT 7—27218
  Si/SrO/Si heteroepitaxial structure formation by molecular beam epitaxy 7—53600
  surface (111), Si-Ge and Si-$NiSi_2$, study using an MBE system with automatic ellipsometer, nondestructive anal. 7—7058
  ultra-thin semicond. film growth techniques, review *(Japanese)* 7—7857
  (Al, Ga)As films, doped, Si migration during MBE growth 7—27171
  (Al,Ga)As/(Ca,Sr)F_2 multilayer structures, MBE grown, broadband high-reflectivity mirrors fabrication 7—11091
  Al alloy ultrahigh vacuum system for MBE 7—53595
  Al alloy vacuum chamber for MBE growth *(Japanese)* 7—33569
  Al alloy vacuum chamber for MBE 7—61345
  Al/GaAs epitaxial contacts, MBE growth 7—22488
  Al-Ge-Si, heterojunction ohmic contacts 7—27432
  AlAs:Si films and AlAs:Si-GaAs:Si superlattices, MBE growth and electrical props. 7—22052
  AlAs-GaAs quantum-wells, low temp. growth by modified MBE 7—39386
  AlGaAs high-power ridge-waveguide GRIN-SCH laser diode 7—10988
  AlGaAs laser diodes, MBE grown, fabrication and characts. *(Japanese)* 7—20273
  AlGaAs superlattice for visible laser diode, energy band structure *(Japanese)* 7—12823
  AlGaAs:Sb, MBE growth, Sb doping 7—2038
  AlGaAs/GaAs:Si heterostruct., MBE growth on polar surfaces 7—7863
  AlGaAs-GaAs single quantum well, MBE growth interruption, well width fluctuations 7—7865
  AlGaAs-GaAs single quantum wells with growth interrupted heterointerfaces, photoluminesc. 7—39168
  $Al_{0.3}Ga_{0.7}As$-GaAs optically-pumped multiple quantum well laser 7—5922
  $Al_xGa_{1-x}As$ MBE layers, deep electron traps, flux ratio effects 7—12641
  $Al_{0.4}Ga_{0.6}Sb$-GaSb-$Al_{0.4}Ga_{0.6}Sb$ MBE strained layer DH, optically pumped laser oscill. 1.6 to 1.8 μm 7—5888
  $Al_{0.48}In_{0.52}As$:Si, MBE grown, crystalline and optical props. 7—52322
  AlN-sapphire, low temp. epitaxial film growth 7—13387
  AsH_3 and PH_3 gas source for MBE, mass spectrometry 7—53592
  BN pyrolytic crucibles for MBE, AES, XPS, SIMS, and bulk anal. after vac. baking 7—53596
  BaO MBE on W (110) 7—16886
  CaF_2 insulating layers on Si, epitaxial growth and charact. 7—39393
  CaF_2, MBE growth of epitaxial insulator-metal-semicond. struct., CaF_2-$CoSi_2$-Si 7—22496
  CaF_2, MBE on Si and overgrowth with Si or Ge, characts. 7—22495
  CaF_2/GaAs (100) 7—64902
  CaF_2-Si, interface struct., high resolution TEM study 7—2394
  CaF_2-Si (111), MBE grown, electronic struct. 7—2725
  CaF_2-Si interface, strains in MBE grown insulator films, MeV ion channelling meas. 7—7080
  CaF_2-Si interface, with epitaxially grown insulator, post-growth annealing treatments 7—7074
  CaF_2-Si interface, with MBE grown insulator, trap states, I-V, C-V meas. 7—7407
  CaF_2-Si(111), tensile strain, interfacial disorder, reordering 7—27163
  (Cd,Mn)Te quantum well structure, wide-gap II-VI superlattices 7—7346
  CdTe, epitaxial growth on GaAs (100) 7—21779
  CdTe epitaxial layers, MBE growth on GaAs substrates, photoluminesc. 7—46083
  CdTe homoepitaxy on CdTe (111) by laser MBE, nucleation kinetics 7—22499
  CdTe, MBE growth, crystallographic orientations and condensation coeffs. 7—3180
  CdTe, MBE growth on GaAs substrates, struct. and optical props. 7—64907
  CdTe, MBE growth on Si using (Ca, Ba)F_2 buffer layer 7—46325
  n-CdTe:In, high mobility, growth by photoassisted MBE 7—22485
  pCdTe:Sb epilayers, photoassisted MBE growth 7—53607
  CdZnTe, MBE growth on GaAs substrates, struct. and optical props. 7—64907
  $Cd_{1-x}Zn_xTe$, MBE growth 7—13358
  $CoSi_2$, MBE growth, struct. props. and device appls. 7—21738
  $CoSi_2$, MBE growth of epitaxial insulator-metal-semicond. struct., CaF_2-$CoSi_2$-Si 7—22496
  $CoSi_2$-Si heterostructures, MBE or solid phase epitaxially grown, Schottky barrier heights, DLTS spectra 7—12859
  $CoSi_2$-Si heterostructures, epitaxial growth 7—39387

molecular beam epitaxial growth continued

- $CoSi_2$-Si Schottky barriers, epitaxially grown, supercond. below 1.05K, tunnelling spectra 7−12860
- Cu-Mo multilayer film growth, RHEED intensity obs. 7−7051
- EuS-SrS mag. superlattices grown on Si(111), strain, study by He ion channelling 7−27215
- Fe, epitaxial growth on Cu (100) 7−52353
- Fe, magnetic films, MBE growth on GaAs, interface effects 7−27584
- GaAlAs-GaAs solar cells grown by MBE, material props. and device parameters 7−23164
- $Ga_{0.65}Al_{0.35}As$-GaAs quantum wells, elect. field-induced decrease of exciton lifetimes 7−45481
- $Ga_{1-x}Al_xAs$ and GaAs multilayer structures, metalorganic MBE growth 7−7860
- $Ga_{1-x}Al_xAs$:S(Se), MBE growth, dopant incorporation 7−12533
- GaAs (001), chemisorption of CF_3 radicals, RHEED, photoelectron spectra, HF SCF calcs. 7−53497
- GaAs, (100) substrates, growth of HgTe-CdTe superlattices by MBE 7−12520
- GaAs, epitaxial growth, $\delta(z)$ doping layer, electronic states 7−52729
- GaAs, epitaxial layers, selective growth in MOMBE and MOCVD systems 7−22555
- GaAs films, initial stages of MBE growth on Si (100) 7−63995
- GaAs films, MBE growth and structural characterisation 7−21775
- GaAs growth mechanisms, in situ RHEED 7−53603
- GaAs layers, MBE, oval defects 7−59433
- GaAs MBE films, oval defects and whiskers 7−13364
- GaAs, MBE growth, acceptor impurity background reduction 7−3173
- GaAs, MBE growth, defect reduction using superlattice structures 7−13359
- GaAs, MBE growth, transient behaviour, RHEED oscillations 7−64904
- p-GaAs, MBE growth of high quality films *(Chinese)* 7−33566
- GaAs, MBE initial growth stage on (100) Si substrate, RHEED, AES and TEM 7−52356
- GaAs MBE layer growth and surface anal. *(Korean)* 7−2417
- GaAs MBE layers, oval defects, particulate effects during growth 7−21194
- GaAs MBE layers on Si (100), crystalline quality, rapid thermal annealing effects 7−12519
- GaAs metalorganic MBE 7−53601
- GaAs molecular layer epitaxy, UV light effects, photo-assisted reactions and adsorpt. phenomena *(Japanese)* 7−7048
- GaAs n-i-p-i doping superlattices, selective contacts, MBE growth through shadow mask 7−13356
- GaAs, nucleation and growth on Ge, antiphase boundary struct. 7−2420
- GaAs sawtooth doping superlattices, photoluminescence, transport props. 7−52825
- GaAs single domain layer growth on Si wafers by MOCVD/MBE, heteroepitaxy 7−52357
- GaAs substrate for MBE growth, thermal etching 7−7861
- GaAs, surface morphology of crysts. grown by gas-source MBE using trimethylgallium and As_4 7−17424
- GaAs:B buried isolation layer form. by focused ion beam, FIBI-MBE system 7−51804
- GaAs:In MBE layers, defect density reduction by isoelectronic In doping 7−3176
- GaAs:Mg MBE layers, photoluminescence 7−22295
- GaAs:Si, MBE growth, carrier concentration, dislocation effects 7−58682
- GaAs:Si,Be, MBE, dopant interaction 7−52362
- GaAs/Al quantum wells, MBE growth, photoluminescence and absorption linewidth studies 7−7749
- GaAs/$Al_xGa_{1-x}As$ modulated structs., MBE growth kinetics, RHEED studies 7−7066
- GaAs/$Al_xGa_{1-x}As$ MBE grown superlattices, effect of barrier config. and interface quality on props. 7−52790
- GaAs/AlGaAs heterostructs. on Si substrate, MOCVD and MBE growth 7−7883
- GaAs/AlGaAs pair-groove-substrate MQW laser with self-aligned stripe geometry 7−20260
- GaAs/AlGaAs quantum wells, MBE growth, interface disorder studies 7−7026
- GaAs/AlGaAs quantum wells, MBE growth and energy levels, photoluminescence meas. 7−7067
- GaAs/AlGaAs quantum wells and double heterostruct. lasers, chemical beam epitaxy, photolum. 7−22523
- GaAs/AlGaAs single quantum wells, interrupted MBE growth and temperature-dependent optical spectra 7−46082
- GaAs/AlGaAs superlattice heterostructures, MBE on nonplanar substrates 7−59425
- GaAs/CaF_2 system, MBE growth processes, growth chamber transfers 7−64902
- GaAs/GaAlAs superlattice structs., metalorganic MBE growth 7−7864
- GaAs-Al Schottky barrier contacts, MBE grown, interface reactions, vacuum annealing effects 7−45022
- GaAs-$Al_{0.37}Ga_{0.63}As$ quantum wells, photolum. studies, MBE growth, effect of interruption 7−39150
- GaAs-$Al_{0.44}Ga_{0.56}As$ quantum wells, MBE grown, tunnelling assisted photon emission, photoluminescence meas. 7−46120
- GaAs-Al_2O_3, interface struct., dielectric film mol. beam epitaxial growth 7−38360
- GaAs-$Al_xGa_{1-x}As$ MBE superlattices, low temp. photoluminesc. spectra 7−22340
- GaAs-$Al_xGa_{1-x}As(In_xGa_{1-x}As)$ lattice-mismatched heterojunctions, misfit strain relaxation, X-ray study 7−21718
- GaAs-AlAs alternate monolayer compounds structures, MBE growth 7−21716
- GaAs-AlAs device structs., MBE prep. using In-free mounting techniques 7−3183
- GaAs-AlGaAs, MBE materials for high-speed digital heterostructure devices 7−45480
- GaAs-AlGaAs DFB struct. with multiquantum well for surface emitting laser 7−10939
- GaAs-AlGaAs heterostructures, transport props. of 2D electron and hole gases 7−52812
- GaAs-AlGaAs MQW structures, MBE grown, material parameters meas. 7−38721
- GaAs-AlGaAs quantum wells, electron-phonon scatt. rate reduction by total spatial quantisation 7−45482
- GaAs-CaF_2, interface struct., dielectric film mol. beam epitaxial growth 7−38360

molecular beam epitaxial growth continued

- GaAs-Ge-SiO_2, semiconductor MBE layers on Ge islands on insulator, photolum. study 7−33455
- GaAs-InAs strain layer modulated structures, MBE grown, cross-sectional TEM 7−7032
- GaAs-InAs superlattice, reflection electron diffraction intensity oscillation 7−7030
- GaAs-Si, nucleation and growth of GaAs 7−45038
- GaAs-Si p-n heterojunctions, interface charge polarity 7−38686
- GaAs-ZnSe, MBE growth on GaAs epilayers, nucleation and characterisation 7−45046
- GaAs(100) films, mol. beam epitaxy system *(Czech)* 7−7854
- GaAs(100), MBE growth parameter influence on surface kinetic processes, RHEED specular beam intensity meas. 7−2424
- GaInAs films and structures, gas source MBE, review 7−33572
- $Ga_{0.47}In_{0.53}As/Al_{0.48}In_{0.52}As$ superlattices grown by MBE, structural charactn. 7−52792
- $Ga_xIn_{1-x}As/Al_xIn_{1-x}As$ MBE grown superlattices, effect of barrier config. and interface quality on props. 7−52790
- GaInAsP films and structures, gas source MBE, review 7−33572
- GaInAs(P)-InP heterostructures, gas source MBE growth 7−53598
- $Ga_{0.85}In_{0.015}As_{0.13}Sb_{0.87}/Al_{0.4}Ga_{0.6}As_{0.035}Sb_{0.965}$ DH lasers, MBE grown, 2.07 μm laser oscillation 7−43096
- GaP films, MBE growth on Si(211), defects obs. 7−58695
- GaSb/$Al_xGa_{1-x}Sb$ MBE grown superlattices, effect of barrier config. and interface quality on props. 7−52790
- Ge, growth surface optical characts. oscills. during MBE, automatic reflection ellipsometry meas. 7−64715
- Ge, heteroepitaxy on CaF_2-Si (111) 7−22497
- Ge, MBE growth on CaF_2/Si (111), structural and electrical characteristics 7−45051
- Ge, MBE on Si, role of surface reconstruction, LEED, Rutherford backscattering, channelling meas. 7−7034
- Ge-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7−12566
- Ge-Si alloy, MBE on Si substrates, stacking fault tetrahedra form. 7−21769
- Ge-Si alloys, strained layer epitaxy, review of developments 7−52343
- Ge-Sn heterostructure, MBE growth in ultra-high vac. system 7−2423
- GeSi-Si heterostructures, MBE grown, structural props., quality, electron diffr., imaging obs. 7−7036
- Ge_xSi_{1-x}-Si multilayers, MBE grown, thermally annealed, Ge diffusion, strain relax., ion channelling, backscattering anal. 7−6896
- Ge_xSi_{1-x}-Si strained layer superlattices, bandgap meas. 7−27408
- Ge_xSi_{1-x}-Si structures, epitaxial growth 7−39387
- HgCdTe materials for infrared detectors, prep. techniques 7−64019
- $Hg_{1-x}Cd_xTe$, MBE growth, crystallographic orientations and condensation coeffs. 7−3180
- $Hg_{1-x}Cd_xTe$ MBE layers, plasma oxidation, oxide growth, comp. and surface struct. 7−54018
- $Hg_{1-x}Cd_xTe$/CdTe superlattices, MBE growth and props. 7−53602
- HgTe based superlattice, MBE growth and props. 7−7345
- HgTe-CdTe superlattices grown on lattice-mismatched GaAs substrates 7−52341
- InAlAs, growth by MBE, alloy clustering, surface quality, role of kinetics and thermodynamics 7−32866
- InAlAs-InGaAs resonant tunnelling barrier struct., MBE grown, NDR characts. 7−52796
- $In_{0.52}Al_{0.48}As$ optical waveguides, MBE growth on InP 7−11107
- InAs-GaAs superlattices grown by beam-separation MBE, surface morphology and elastic strain 7−7031
- $In_xGa_{1-x}(Al_{1-x})As$, MBE growth rates, temp. dependence 7−17426
- InGaAs-InAlAs multiple quantum wells, long wavelength optical modulation, electro-optical effects 7−7677
- $In_xGa_{1-x}As$, gas source MBE growth 7−52361
- InGaAsP/InP superlattices, gas-source MBE grown, X-ray diffr. and TEM studies 7−32839
- InGaAsSb/AlGaSb DH lasers, MBE grown, room-temperature 2.2 μm operation 7−20219
- InP and InP based materials, epitaxial growth, review 7−33574
- InP films and structures, gas source MBE, review 7−33572
- InP surface annealed under As pressure, epitaxial growth of InAs 7−2431
- InSb heterostructures, MBE growth 7−27910
- Nb-Ta superlattice single crystals, MBE growth 7−39385
- Nb_3Ge films, obtained by joint evaporation technique, microstruct. *(Russian)* 7−59435
- $NiSi_2$, MBE growth, struct. props. and device appls. 7−21738
- $NiSi_2$-Si, epitaxy of $NiSi_2$, study using an MBE system with automatic ellipsometer, nondestructive anal. 7−7058
- $NiSi_2$-Si, stability of MBE grown thin $NiSi_2$ layers on Si (111) 7−38380
- $NiSi_2$-Si heterostructures, epitaxial growth 7−39387
- $Pb_{1-x}Eu_xSe$, MBE growth for IR device appls. 7−64908
- Ru-Ir bicrystal superlattice, stacking struct. and superconductivity 7−2432
- Si (111), MBE, ordered and disordered growth modes 7−12558
- Si, heteroepitaxy on CaF_2-Si (111) 7−22497
- Si MBE, impurity sticking coeffs., substrate orientation depend. 7−52355
- Si MBE, review 7−33573
- Si, MBE cryst. growth, dopant incorporation 7−12559
- Si, MBE grown, defect densities 7−12560
- Si MBE grown layers, arbitrary doping profiles 7−12109
- Si MBE growth, conf., Toronto, Ont., Canada (May 1985) 7−9588
- Si, MBE growth, RHEED intensity oscillations 7−7068
- Si, MBE growth, Radclean surface cleaning process 7−12557
- Si, MBE growth, selective diminution in RHEED pattern from (001)-2×1 reconstructed surface 7−7069
- Si, MBE growth on CaF_2/Si (111), structural and electrical characteristics 7−45051
- Si MBE growth on Si (100) and (111), interface formation 7−21773
- Si MBE homoepitaxial growth, expt. considerations 7−13369
- Si MBE layers, defects 7−21772
- Si, MBE on Si, role of surface reconstruction, LEED, Rutherford backscattering, channelling meas. 7−7034
- Si, MBE on Si substrates, stacking fault tetrahedra form. 7−21769
- Si, MBE simultaneous growth on multiple substrates, apparatus 7−7867
- Si SOI technology, two-step oxidation technique on MBE film 7−22912
- Si superlattice structs. using MBE *(German)* 7−64317
- Si:As films, heavily doped, grown by partially ionised MBE, phys. and elec. characts. 7−12561
- Si:B, MBE grown, coevaporation doping 7−12562
- Si:O epitaxial films for hetero-bipolar transistors 7−53599

molecular beam epitaxial growth continued
Si:P, MBE grown, coevaporation P doping 7—26773
Si:Sb, pot. enhanced doping during MBE growth, elec., optical props., cryst. quality 7—12112
Si:Sb MBE, electron irrad. effect on doping levels and profiles 7—63660
Si:Sb MBE film, doped by electron impact ion source, improved doping characts. 7—12101
Si:Sb MBE layers, doping by secondary implantation 7—12102
Si-alkaline earth fluoride structures, heteroepitaxial growth, struct., elec. props. 7—12567
Si-B_2O_3 interaction during Si MBE, Auger spectra study 7—13277
Si-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7—12566
Si-Ge, epitaxial growth of Ge, study using an MBE system with automatic ellipsometer, nondestructive anal. 7—7058
Si-$Si_{0.55}Ge_{0.45}$ modulation doped superlattice, MBE grown, electron mobility enhancement, Hall meas. 7—7382
Si-SiO_2, MBE SOI formation, Auger study 7—32876
3C-SiC, MBE growth on Si substrates using multielectron beam heating 7—17425
SiGe superlattice structures, Sb doped, MBE grown, comp., doping profiles, SIMS, Rutherford backscattering spectra 7—7035
SiGe-Si structures, MBE growth mode and interface structure 7—52311
$Si_{1-x}Ge_x$, epitaxial growth, struct., and elec. props. 7—52354
Si(111) substrates, MBE growth of non-lattice-matched $(Ba,Ca)F_2$, (Pb,Sn)Se-$(Ba,Ca)F_2$ and CdTe-$(Ba,Ca)F_2$ layers 7—27216
(Zn,Mn)Se quantum well structures, wide-gap II-VI superlattices 7—7346
Zn_3As_2, semiconducting, MBE growth 7—53590
ZnS films, MBE growth on Si (100), substrate temp. effects 7—39384
ZnS, MBE growth on Si (100), photoluminesc. props. 7—3174
ZnS, single cryst. growth by gas source MBE 7—17397
ZnSe, heteroepitaxial growth on GaAs, energy band gap, elastic strain effects 7—59242
ZnSe layers on Ge (100), MBE growth and photoluminesc. 7—7858
ZnSe:Cl layers grown by MBE, blue photoluminesc. 7—52364
ZnSe:N, MBE growth and doping, photoluminescence studies 7—27749
ZnSe-$In_{2-x}Sn_xO_{3-y}$ junctions, microstruct. optical props., influence of deposition method 7—21689
ZnSe-ZnTe strained layer superlattices, MBE growth on InP substrates 7—13366
ZnTe-ZnSe(S) superlattices, MBE and atomic layer epitaxy growth 7—13365

molecular beam magnetic resonance
No entries

molecular beams
see also molecular beam electric resonance; molecular beam magnetic resonance; molecule-surface impact; particle velocity analysis
alkali cluster beams, photoionis. mass spectra, abundance distribs. 7—15768
anthracene derivatives, laser-excited metastables, surface ejection of electrons, quantum-yield meas. 7—17804
anthracene surface, collision of N_2 mols. in singlet metastable states, fluoresc. emission 7—19939
bromoiodomethane, electronic state-selective photodissoc. 7—65337
cluster beams, history 7—15766
clusters, molecular beam studies 7—24724
clusters in beams, review 7—31204
$(CO_2)_n^+$ (n=2 to 4), cluster ion decay kinetics, mol. beam spectroscopy 7—13735
cold jet beam molecules spectroscopy *(German)* 7—62542
deflections, investig. 7—62541
dipole transitions induced from pulsed electric field on molecular beams *(French)* 7—62452
electron-impact ionisation time-of-flight mass spectrometer for molecular beams 7—48910
fluoromethane, mol. beam, laser Stark spectra, two-zone Ramsey fringes obs. 7—42663
Gaussian laser mode absorpt. in mol. beam 7—57484
high resolution overtone spectroscopy 7—42600
inert gas clusters, mol. spectrosc. 7—42824
IR transitions, adiabatic inversion 7—42784
laser double resonance studies of rotational relaxationin a supersonic molecular beam 7—10554
methane in supersonic molecular beams CARS of ν_3 band 7—25876
methyl halides, oriented mol. beams prod., rot. states 7—42751
precession induced fluoresc. modulation 7—19928
pulsed supersonic nozzle beam source, CS_2 photodissociation appl. 7—15665
rotational Excitation in molecular beam experiments 7—10739
selective vibrational pumping of a molecular beam by stimulated Raman process 7—10679
source, electromagnetically driven 7—48915
source using multiholed plug effusion cell *(Japanese)* 7—18911
supersonic molecular beam intensities, translational temp. relax. 7—6254
variable geometry photofragment spectrometer 7—15007
Ar-N_2O van der Waals complex, mol. beam IR spectra 7—31030
Ar-N_2(CO) molecular beams, shock heated, vibrational relaxation 7—10717
Ar_2+Xe(Kr), van der Waals bond exchange, mol. beam study, ang. and vel. distribs. 7—23000
CS_2, photodissoc. dynamics, VUV laser induced fluoresc. 7—23044
D_2O^+, mol. beam photoelectron spectrosc., femtosec. intramol. dynamics 7—36688
H_2+D, mol. beam scatt. study, differential cross sections meas. 7—39860
HF dimer, vibr. predissoc. lifetime 7—5729
H_2O^+, mol. beam photoelectron spectrosc., femtosec. intramol. dynamics 7—36688
I_2, B 0_u^+ state studied near dissociation limit, hyperfine interactions 7—25430
I_2 optically pumped molecular beam lasers 7—10916
IBr^+, A^2Pi-X^2Pi electronic emission spectrum 7—25528
K + methyl iodide (ethyl iodide) (n-propyl iodide), reactive collision, medical group effect, mol. beam study, cross section meas. 7—39900
N_2^+, effusive molecular beam crossed by an electron beam and the optical model of this effect 7—10738
$N_2+N_2^+(Ar^+)$, charge transfer, crossed mol. beam study 7—57166
NH_3, quantum resolved molecular-beam scattering 7—15695
Na_2 optically pumped molecular beam lasers 7—10916
Na_2, photodissoc., Doppler photofragment spectroscopy 7—19972

molecular beams continued
Na_2+Ar(He)(Ne), state selected rot. transitions, scatt. induced ang. momentum alignment 7—20005
Ne-OCS, mol. beams, IR absorpt. and microwave-IR double reson. spectra 7—62427
OCS, photodissoc. dynamics, VUV laser induced fluoresc. 7—23044
OH, $A^2\Sigma_{1/2}{}^+$, first excited electronic state ρ-doublet transition obs., UV-microwave double reson. 7—10636
S_n clusters, fragmentation investig. 7—15792
SF_6, supersonic mol. beams, IR-multiphoton excitation characts. 7—50282
SF_6-Ar_n clusters, spectroscopic obs. of phase coexistence 7—36842
SO_2, radiative lifetimes, collision-free supersonic beam, fluoresc. spectra 7—19922
$SO_2+Al \rightarrow AlO+SO$, pulsed crossed supersonic beam expt., energy threshold determ. *(French)* 7—33915
Xe_2+Kr, van der Waals bond exchange, mol. beam study, ang. and vel. distribs. 7—23000

molecular biophysics
see also biomembrane transport; biomolecular effects of radiation; DNA; lipid bilayers; proteins
α-helix, solitary excitations, viscous and thermal effects 7—8481
acetyl chymotrypsin in cryosolvent, ^{13}C NMR relax. 7—10792
N-acetyl-1-aminocyclohexanecarboxylic acid N′-methylamide, conformations, PMR and NOE studies 7—62424
acetylcholinesterase, immobilised, structure-activity relations, IR-ATR modulation spectroscopy obs. 7—54474
actin layer-lines, intensity increases on activation of Limulus muscle 7—40096
adenine series adsorbed on aqueous Ag sol, SERS study 7—17947
ajoene, antithrombotic cpd. from garlic, struct., mechanistic and synthetic studies 7—54449
Ala dipeptide in free space and water, conformational stability and flexibility, Monte Carlo studies 7—8486
albumen, human, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7—59916
albumin solution, struct. determ. by FTIR 7—54471
alcohol dehydrogenase, liver, Cu substituted, ligand and coenzyme effects, resonance Raman spectra 7—62548
allophycocyanin, energy transfer, bilin transition dipole moment orientation, fluoresc. polarisation and absorpt. 7—40100
amino acids, derivatives, trace anal. using laser fluoresc. detector 7—39943
amino acids, H-bonded crysts., ps librational dynamics, time-resolved coherent Raman spectroscopy 7—47008
amphiphiles with poly L-aspartic acid head groups, bilayer membranes, morphology, metamorphosis 7—8511
antibody/influenza virus neuraminidase complex, 3D struct. obs. 7—65693
antigen-antibody complex, 3D struct. at 2.8 Å resolution 7—17942
archaebacteria lipid dynamics, nonlinear ESR studies 7—8508
ascorbic acid radicals, stability, semiempirical MNDO calcs. 7—36480
ATP-$CdCl_2(Cd(ClO_4)_2)$, aq. solns., ^{13}C and ^{113}Cd spin-lattice relax. 7—28465
ATP-transition and nontransition metal complexes, struct., PMR and IR spectra 7—8493
azole-borane adducts, natural abundance ^{15}N NMR study 7—25552
azurin, g-values, EPR spectra, temp. depend. 7—57098
azurin, metal coord. sphere, changes rel. to pH, oxidation/reduction and metal substitution 7—65687
bacterial photosynthesis, femtosec. electron and energy transfer meas. 7—54468
bacterial photosynthetic reaction centres, Stark effect 7—28482
bacteriochlorophyll a, config. for photosynthesis, SCF HF INDO calcs. 7—858
bacteriorhodopsin, cryst., radiation-sensitive specimens, high resolution image quality achieved in electron diffr. pattern 7—47302
bacteriorhodopsin, location of chem. modified lysine 41 in struct. by neutron diffr. 7—23295
bacteriorhodopsin appl. in detection of small US vibrations by dynamic holographic method 7—57279
bacteriorhodopsin intermediates, ps time-resolved resonance Raman spectroscopy 7—47006
bacteriorhodopsin M_{412} intermediate, electron diffr. anal. 7—28463
barbiturates, cryst. struct. anal., H bond geometry and types 7—23300
beef liver catalase, refined struct. 7—17938
benzenoid hydrocarbons, polycyclic, aromatic struct. and reactivity anal. correlated to Iball carcinogenicity indices 7—28275
benzenoid polycyclic aromatic hydrocarbons, di-region theory for carcinogenesis and wholesale MO calcs. 7—56951
benzo(a)pyrene 7,8-diol 9,10-epoxides, solvolytic props., 6-fluoro substituent effects 7—62409
bilayer lipid membranes, simultaneous intracavity laser absorpt. spectroscopic and electrical meas. 7—13972
biochemical systems, chaos and noise effects 7—65680
biohelical poly A.poly U complex, hydration, IR spectra, piezogravimetry 7—8491
biological materials, ion beam etching using saddle field source, SEM studies 7—28797
biologically active peptides in soln., NMR and IR studies 7—28471
biomacromolecules, aq. solns., 2D NOE spectra, solvent effects 7—36656
biominerals, form. and stability, thermodynamics of ionic solid solns. 7—17936
biopolymer components, UV resonance Raman spectroscopy appl. 7—23488
biopolymer conformation determination using NMR, CONFOR graphics program 7—54455
biopolymers: struct.-functional correls. of hydrate surroundings 7—54448
bis(chlorophyll)cyclophane, radical cations, ENDOR and TRIPLE reson. 7—42655
book, annual review of biophysics and biophysical chemistry 7—30
bovine carbonic anhydrase B, rotational diffusion, fluoresc. correl. spectrosc. 7—15755
bovine fibrinogen solns., proton spin-lattice relax. 7—34111
bovine serum albumin- lithium dodecyl sulphate complexes, struct. and fractal dimension 7—40093
C-Phycocyanin from Synechococcus 6301, ps energy transfer kinetics and time-resolved fluoresc. spectra 7—54461
carbonylhemoglobin, pH dependent XANES by fast dispersive spectroscopy 7—65708
carboxylate-imidazolium diad in Streptomyces Griseus protease A, electrostatic environment 7—59936

molecular biophysics continued
chiral molecules, electron helicity, and origin of optical activity, polarised positron meas. 7−62538
chlorophyll a, in vitro, wavelength-selective and time-resolved fluoresc. spectra 7−34110
chlorophyll a, oxidised, ESE modulation 7−62416
chlorophyll a, radical cations, ENDOR and TRIPLE reson. 7−42655
chlorophyll derivatives, in organic solvent matrix, vibrationally resolved fluoresc. spectra 7−57120
chlorophyll in acetonitrile, interaction with superoxide anion 7−8476
chlorophyll-a, fluoresc. kinetics, time-resolved meas. using dye DFB laser 7−50584
chlorophyll-a, S_1 and T_1 spectra in visible region and S_1 bypassing relax. from two-photon excited states 7−47004
chlorophyll-H_2O system, ab initio LCAO SCF MO calcs., ionisation pot., electron affinity, intermol. mechanics 7−8520
chymotrypsinogen A-Al^{3+}, interactions, Raman spectra investig. of conform. changes 7−57071
collagen, fibrillar struct., X-ray diffr., zero layer line calc. 7−8483
commensalistic cultures grown in continuous stirred tank reactor, static and dynamic behaviour 7−13973
conference on laser appls. in chem. and biophys., Los Angeles, CA, USA (Jan. 1986) 7−40993
continuous mixed cultures, steady states and bifurcation anal., multiplicity and local stability 7−13949
Crambin, pot. energy minimisation calcs. 7−34103
cro protein-pseudo O_R3 complex, studies on crystn. 7−23290
crystal growth from soln., solvent role, protein appl. 7−21142
γ-crystallin IIIb, 3D model, construction from electron density maps using machine graphics 7−23301
cyanobacterial heterocysts, photosystem I, energy conversion monitoring, photoacoustic spectra 7−47016
cyclophosphazenes, linked to spermine, synthesis, struct. NMR, IR and mass spectro, antitumoural activity anal. 7−23291
cytochrome b, models, EPR and Mossbauer spectra, ligand plane orientation effect 7−17946
cytochrome c, binding to lipid domains in arrays of mitochondrial outer membrane channels 7−59914
cytochrome c, electron transfer rate meas. 7−5760
cytochrome c, nonradiative decay, absorpt. and reson. light scatt. 7−62440
cytochrome c, surface-enhanced reson. Raman spectrosc., 77-295K 7−28469
cytochrome c′, crystal structure analysis by multiwavelength X-ray diffr. 7−34104
cytochrome c and b_2 cores in oxidised and reduced states, EXAFS and XANES obs. 7−65683
cytochrome oxidase, redox-linked proton translocation: importance of gating electron flow 7−23316
cytochrome oxidase, resonance Raman spectral isolation of a and a_3 chromophores 7−23305
dark field electron microscopy for biological struct. determ., scattered electrons 7−40387
dehydrogenase catalysed redox reaction, equilibria, spectroscopic anal. *(German)* 7−54159
deinococcus radiodurans, surface protein projected struct. determ. by cryomicroscopy 7−47003
deoxy myoglobin, spectral broadening simulations 7−5799
deoxyhaemoglobin S, solns. and gels, quasi-elastic laser light scatt. 7−28464
dextran solns., enzymatically synthesized, shear-induced struct. 7−6174
dextran-magnetite particles as relax. enhancer in biological systems 7−28466
di-region theory for carcinogenesis and wholesale MO calcs. 7−56951
dihematoporphyrin ether, cancer therapy drug, Langmuir-Blodgett films at water-air interfaces 7−65699
dimyristoylphosphatidic acid/cholesterol bilayers, thermodynamic props. and phase transition kinetics 7−17955
dinucleoside monophosphates, specific interactions with cognate amino acids, UV difference absorbance photometry study 7−65678
dipalmytoylphosphatidylcholine vesicles, dynamic fluoresc. meas. on main phase transition 7−17954
dipeptide tryptophanyl-tryptophan, dynamics of struct., kinetic spectrofluorometry 7−34107
dipeptides in structured regions of globular proteins, maps of preferential conformational state 7−28451
DNA, 2-chain mols., spatial liq. cryst. packing for a different cation composition of the solvent 7−28448
DNA, aperiodic, electronic structure and cond. props. 7−23297
DNA, conformational state in aq. soln. of glycine, β-alanine and γ-aminobutyric acid, conformational transitions 7−28447
DNA, conformational state in aq. solns., containing glycine, β-alanine and γ-aminobutyric acid 7−28446
DNA, coordination with diaminodichloroplatinum(II), isomer orbital study, relativistic multiple scatt. Xα calcs. 7−56973
DNA, double helices, electrostatic forces, Monte Carlo simulation 7−42803
DNA, electric charge transfer phenomena, TSC investig. *(Czech)* 7−13948
DNA, helical polymer, cholesteric liquid crystalline phases 7−6506
DNA, large mols., separation by contour-clamped homogeneous elec. fields 7−65906
DNA, platinated, site specifically, biological activity probe for anticancer drugs 7−34095
DNA, soliton excitations, dynamical theory 7−47001
DNA, superhelical phenomena, math. basis, review 7−34102
DNA aq. soln., resonant microwave absorpt. model 7−23310
DNA conformation, rel. to economics in the hydration of phosphate groups 7−34109
DNA double helix, effect of base sequence on fine struct. 7−54454
DNA electronic structure and cond. props., calcs. 7−23296
DNA fragments, stability, stacking interactions, pseudo-polarisation tensor theory 7−997
DNA liquid cryst. microphases in water-organic solns., optical props. 7−65709
DNA methylation, 5-methylcytosine effect on interaction between stacked boxes 7−59920
B-DNA model segment, binding of water 7−34099
DNA satellite evolution, nonlinear phenomena 7−57193
DNA structures, stable branched, junction design considerations 7−34101

molecular biophysics continued
DNA-Eco RI endonuclease recognition complex, struct. at 3 Å resolution 7−65698
DNA-ligand interactions, groove binding, computer simulations 7−54447
DNA-salt solutions, thermodynamic coeffs., Monte Carlo calcs. 7−54443
DPPC bilayers, aqueous assemblies, high press. IR studies 7−54501
electron microscopic molecule images reconstitution, correspondence analysis, struct. interpret. tool 7−60138
electrophoretic separation of macromolecules, two-dimensional multivariate data analysis 7−54440
energy deposition by X-rays and electrons, microscopy implications 7−38064
energy transport in biological systems, theoretical description *(Czech)* 7−13978
enzymatic reaction kinetics, rate const. calc. 7−59741
enzyme recovery by liquid-liquid extraction using reversed micelles 7−40086
enzyme subunit interactions theory, appl. to ATP-hydrolyzing enzymes 7−54438
enzymes, oligomeric, aqueous solutions, small-angle X-ray scattering 7−17939
enzymes, structure-activity relations, IR-ATR modulation spectroscopy obs. 7−54474
erythrocyte receptors, human, adrenoreceptive function, fluoresc. probe 7−8501
ESR and ENDOR of irradiated solids of biological significance, review 7−23309
EXAFS characterisation of poorly cryst. deposits from biological systems in the presence of highly cryst. mineral 7−65900
extracellular water vols. in tissue, meas. by Gd modification of ^1H-NMR spin lattice relax. 7−18100
fast processes in biological systems, laser studies 7−23302
favin, 3D struct.: saccharide binding-cyclic permutation in leguminous lectins 7−65696
ferredoxins, g strain, EPR study 7−25567
ferric proteins, high-spin, relative spin conc. determ. using E/D-distrib. in EPR simulations 7−54462
ferritin, Fe core: form., struct. and dissolution, X-ray absorpt. spectroscopy obs. 7−65685
ferritin, first-order phase transition in dynamics 7−59918
fibrin assembly, lateral aggregation and the role of the 2 pairs of fibrinopeptides 7−40091
fibrin gels, proton spin-lattice relax. 7−34112
fibrinogen saturated adsorbed layer, variable angle reflectometry *(French)* 7−28459
flavoprotein, scanning fluorometer for rapid assessment of fluoresc. changes in vivo 7−8778
fluorescence correlation spectroscopy, theory of sample translation 7−60132
Fourier transform IR difference spectroscopy for elucidating biomolecular mechanisms 7−54832
gallstone and bezoar, FTIR spectra, protein bands and secondary struct. 7−54473
genetic information encoding, cybernetics and genetic engineering 7−60924
glass model of proteins 7−13953
globular protein loops, secondary struct. category 7−65695
globular proteins, struct. class, prediction from amino acid sequence 7−28450
glutamine synthetase, novel subunit-subunit interactions in struct., atomic model 7−8480
glycogen debranching enzyme crysts., improvement of diffr. limit and useful X-ray lifetime 7−23308
glycoprotein, proline-rich, from human parotid saliva, NMR and computer-simulated struct. anals. 7−59922
haematoporphyrin derivative, laser-induced fluoresc., tumour localisation 7−23431
haeme enzymes and model compounds, EXAFS study of active intermediates 7−65684
haeme proteins, ligand binding and electron transfer rates, spin-boson models 7−13952
haeme proteins, long-range electron transfer 7−8482
haemocyanin molecule assembly product, electron microscopic images reconstitution 7−60138
haemoglobin, haeme pockets, porphyrin dynamics, fluoresc. polarisation meas. 7−62437
haemoglobin, human, cooperative free energies for nested allosteric models 7−23272
haemoglobin, inverse Faraday effect, mag. reson. Raman activity 7−65700
haemoglobin, structural and functional aspects of Bohr effect *(Rumanian)* 7−17943
haemoproteins and Fe porphyrins, ps relax. 7−34113
halocarbons, solubility, interaction with human serum albumin, NMR and microcalorimetric obs. *(French)* 7−65701
halothane, anaesthetic, in green pepper, ^{19}F NMR imaging 7−28468
helical biological polymers, liq. cryst. phases, columnar textures 7−34106
α-helical proteins, dynamical struct., vibron solitons description 7−47002
heme metalloporphyrins, electronic struct. 7−54453
hemoglobin A, Cu and Ni reconstituted, metal ion coordination 7−54464
hevein, protein from latex of rubber tree, crystn. studies 7−23289
l-histidine hydrochloride monohydrate, single cryst., ^{14}quadrupole coupling, NMR spectra 7−13042
histone octamer, calf thymus, 2 struct. forms 7−28452
horseradish peroxidase, struct. charactn. of high valent intermediates, EXAFS and XANES obs. 7−65682
hydrophobicity parameters from partition coeffs. 7−13954
3-hydroxyretinoids, separation and identification of geometric isomers and occurrence in eyes of insects 7−23348
ice biological charge transfer processes, IR and microwave spectra 7−3749
immunoglobulin A from normal humans and myeloma patients, orientation and kinetics of surface denaturing 7−28442
inorganic and protein crystal growth—similarities and differences 7−23283
insect flight muscle, time-resolved struct. studies after photolysis of caged-ATP 7−28456
interleukin-2, human recombinant, crystn. 7−65679
isolucine, homooligo peptide, conformational anal. by singlet-singlet energy transfer method 7−46998

molecular biophysics continued
kanamycin nucleotidyltransferase, cumulative effect of intragenic amino-acid replacementson the thermostability of a protein 7−8487
laccase, quantitative Cu X-ray absorpt. edge studies 7−65705
β-lactoglobulin, struct. and similarity to plasma retinal-binding protein 7−34108
lattice shrinkage with increasing resting tension in stretched, single skinned fibres of frog muscle 7−8485
leaves, clover, fluorescence lifetime meas., single-photon counting technique 7−22311
lecithin, myelin figures, morphology, growth behaviour 7−3750
lipid bilayer, mol. dynamics simulation 7−40115
lipopolysaccharide-protein complex of Yersinia pseudotuberculosis in aq. solns., light scatt. obs. 7−54437
lipoproteins, surface charge determ. and its changes on peroxidation of lipids 7−40087
liposomes, conformational state, millimeter wave irrad., Raman spectra study 7−23405
liver alcohol dehydrogenase, horse, EXAFS investigation of struct. site 7−65704
looped DNA, elastic model 7−5800
lysozyme, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7−59916
lysozyme, growth kinetics of tetragonal crysts. 7−23281
lysozyme, internal motions, influence of inhibitor binding 7−8477
lysozyme as a model for protein crystn., cryst. growth studies 7−23280
lysozyme crystals, mol. dynamics, X-ray diffuse scatt. obs. 7−59921
lysozyme crystals, X-ray diffr. data collection and processing, high press. study 7−3944
macromolecular networks theory 7−65677
macromolecular systems, gamma-resonance and X-ray investigations of slow motions 7−59927
macromolecules, anomalous member identification of noisy image set 7−13957
macromolecules, struct. deter., giant combination scatter of light 7−8484
macromolecules adsorbed on surfaces, struct., optical studies 7−28458
malic dehydrogenase, aspects of thermal inactivation 7−54478
mammalian ferritin, binding of Fe^{2+} 7−59917
membrane protein crystals, growth and charactn. 7−23288
metals and DNA: molecular left-handed complements 7−17941
methemoglobins, whole-blood, millimolar absorpt. parameter spectra, 660-1000 nm 7−40101
5- methoxymethyl-1-(2′-deoxy-β-D-lyxofuranosyl)uracil, struct. and conformation, X-ray crystallographic anal. 7−23306
5-methylcytosine, incorporation in nucleic acids 7−54441
methyldiazohydroxide, dissoc., ab initio calcs., rel. to carcinogenesis 7−56962
molecular chain, electron transfer kinetic coeff., supersonic Davydov soliton mechanism 7−10751
molecular charge similarity index study, appl. to isosteric cpds. 7−56978
molecular replication and the origins of life 7−54446
Mossbauer spectra hyperfine struct. relaxational transformation processes anal. 7−2954
muscle, X-ray time resolved expts., multiwire detector and data acquisition system 7−14169
myocardial proton spin-lattice relaxation time in vitro: effect of elapsed time after excision 7−47136
myoglobin, direct and remote connectivities in phase-sensitive double quantum spectra 7−10791
myoglobin, haeme pockets, porphyrin dynamics, fluoresc. polarisation meas. 7−62437
myoglobin, sperm whale, equilib. heme orientation, nucl. Overhauser effect 7−13960
myoglobin, sperm whale, H_2O soln., homonuclear Overhauser effect obs. 7−17944
myoglobin, thermal spin equilib., high-resolution XANES study 7−65702
myosin heads crosslinked to actin, ATP induced μs rot. motions 7−28443
myosin helix-coil transitions, possible role in the microscopic mechanism of muscle contraction 7−59923
myosin in glycerinated muscle fibres, orientation of spin-labelled nucleotides 7−59925
nerves and molecules 3D reconstruction and display using pattern recognition 7−65734
neural cell adhesion mol., differentiation state-dependent surface mobilities 7−47019
neural network, spin-glass model with Monte Carlo dynamics 7−23292
N-nitrosamine metabolites, alkylating species, role in carcinogenesis 7−49889
NMR relax. time anal. for biological samples 7−13961
2,4,6,8-nonatetraenal, retinal model system, low-lying excited states, CI calcs. 7−861
B-nor-D-homo-8-isoanalogs, of steroid oestrogens, synthesis, biological activity *(Russian)* 7−23293
nucleic acid chromophores, UV resonance Raman spectroscopy 7−47007
nucleic acids, crystn., role of purification 7−23277
nucleic acids, energy minimisation and dynamics, empirical energy functions 7−34097
nucleic acids, liq. cryst. microphases, 'external chromophores' and intense bands in circular dichroism spectra 7−54459
nucleic acids components, binding of water 7−34098
oligo-DNA duplexes, sequence depend. struct., Raman spectra 7−31199
oligosaccharides, blood group A, conformation, NOE and ^{1}H NMR spectra 7−62423
oligosaccharides, conformal statistics 7−13958
organic crystals growth in a microgravity environment 7−22456
orientationally disordered photosynthetic unit, optical props. calcs. 7−53256
oscillation camera data processing, synchrotron radiation data in macromolecular crystallography 7−18098
ovotransferrin, chicken, Fe binding-sites, EXAFS and XANES obs. 7−65688
palmitic acid methyl ester, spin probe in adipose tissue, field gradient EPR 7−13962
pancreatic trypsin inhibitor, bovine, low freq. motion, inelastic neutron scatt. 7−17937
pattern recognition, book contrib. 7−54445
2,4-pentadienal, retinal model system, low-lying excited states, CI calcs. 7−861
peptides, struct. anal., NMR meas. 7−54452
periodic polypeptides, band struct. ab initio HF cryst. orbital calcs. 7−23298

molecular biophysics continued
phosphatidylcholine, photoelectron spectra 7−54493
phosphatidylinositol, photoelectron spectra 7−54493
phosphoglucomutase, crystn. at high salt conc., catalytic effect of polyethylene glycol 7−23278
phospholipid membranes, multipulse dynamic NMR 7−17956
phospholipid monolayers, translational molecular diffusion, substrate coupling and phase transitions 7−8509
phospholipids, interaction with H_2O and Na^+, ab initio SCF calcs. 7−59919
photoacoustics, appl. to biology 7−54463
photoelectron microscopy, applications to biological surfaces 7−8773
photosynthetic bacteria reaction centres, recomb. kinetics, electric field depend. 7−47017
photosystem I reaction centre, photochemically active subunit, dichroism spectra 7−8514
N-phthalyl-4-bromo-L-glutamic acid, dimethylester, struct. and absolute configuration 7−40092
pigment matrix, energy migration over, fluoresc. kinetics 7−28462
plant leaves, binding modes of water, dielectric study 7−54839
plastocyanin, g-values, EPR spectra, temp. depend. 7−57098
plastocyanin, paramag. Cu^{2+} containing, spectroscopic and computer simulation study 7−8494
plastocyanin, quantitative Cu X-ray absorpt. edge studies 7−65705
poly(C) and poly(I).poly(C) complexes with model phospholipid membranes, IR spectroscopic obs. 7−40094
poly-γ-benzyl-L-glutamate, helical polymer, cholesteric liquid crystalline phases 7−6506
poly-L-lysine, deuterated, Fourier transform vibr. circular dichroism in amide I bands 7−54475
polyalanine fragment, solvent struct. hydration, Monte Carlo simulation 7−23299
polyelectrolyte charge corrected mol. wt. and effective charge by sedimentation, transport through semipermeable membrane 7−59915
polyelectrolyte solutions, extensive force, num. eval. 7−46853
polynucleotide chains, conformational studies, low-energy states distrib. 7−28457
polynucleotides, struct. anal. using Raman lines of mononucleotides 7−10600
polypeptides, vibr. circular dichroism, 3_{10}-helix form., chain length depend., IR spectra, PMR 7−15633
polysaccharides, in coccoliths of Emiliania huxleyi, molar mass determ. 7−8479
polyunsaturated hydrocarbon chains, natural, temp. dependence of conformational characts. 7−28453
porphyrin motions in myoglobin haeme-pocket, fluoresc. polarisation meas. 7−28444
porphyrins, monolayers, intermolecular interactions 7−8513
proline, stabilising solute, calorimetric and IR spectroscopic study 7−8492
proteases, method for enhancing stability 7−47012
protein crystal growth, conf., Stanford, CA, USA (Aug. 1985) 7−18478
protein crystal growth, convective diffusion in parent soln. 7−23287
protein crystal growth, feasibility of mapping soln. props. 7−23284
protein crystal growth, preliminary investigations using the Space Shuttle 7−23286
protein crystal growth, the future 7−23274
protein crystallography, neutron, data-collection facility equipped with linear detector 7−14168
protein crystallography, static and time-resolved, real-time reduction of area detector data by hardware 7−14170
protein crystallography with synchrotron X-radiation source, electronic area detector data reduction system 7−14167
protein crystals, mechanisms of nucleation and growth 7−23275
protein dynamics and ligand binding, review 7−13950
protein dynamics and reaction rates, usefulness of simple models 7−13951
protein fluorescence quenching data analysis program 7−62438
protein globule, charge transfer activation energy and heterogeneous medium reorganisation 7−28440
protein in aqueous solution, FTIR spectra, automatic water subtraction procedure 7−54836
protein primary structure, universal regularities: preference in bonding and periodicity 7−59928
protein single crystal growth under microgravity 7−23285
protein stability and struct., rel. to specific contacts, harmonic system perturbation theory 7−59924
protein structure, knowledge-based prediction and novel mols. design 7−65692
protein structure, restrained least-squares refinement, incorporation of fast Fourier transforms 7−54451
protein structure by FTIR self-deconvolution 7−54476
protein structure determination by FTIR 7−54471
protein structure prediction using databases 7−54456
protein structure refinements, model-fitting procedure incorporating the double-null technique 7−54450
protein structure-spectra correlations, nonaqueous solvent effects using FTIR and ATR flow cell 7−54472
proteins, ^{1}H-^{13}C resonance coupling, selective excitation, hetero COSY and RELAY expts. 7−28467
proteins, aperiodic, electronic struct., ab initio calcs. 7−23273
proteins, conformational change mechanisms 7−54457
proteins, crystn., role of purification 7−23277
proteins, electronic structure and cond. props., calcs. 7−23296
proteins, labelled, 2D ^{1}H NMR investig. using half-filters and ^{15}N labelling 7−48808
proteins, large scale fluctuations, possible model 7−28441
proteins, soluble, effects of neutral detergents on crystn. 7−23276
proteins, struct. anal., NMR meas. 7−54452
proteins, temp. perturbation differential spectra, deprotonation of tyrosine residues as possible cause of longwave max. 7−54460
proteins and lipids, FTIR spectra, water subtraction procedure 7−54834
proteins in membranes, powder samples, label positions, determ. by neutron and anomalous X-ray diffr. 7−3755
proton relaxation times in mouse liver, heart and kidney, temporal fluctuations 7−47005
psoas fibres, rabbit, Ca^{2+}-sensitive cross-bridge dissociation in the presence of $Mg_2P_2O_7.3H_2O$ 7−40088
pulse sequence for in vivo ^{1}H NMR with surface coil 7−14166
purines, cryst. struct. anal., H bond geometry and types 7−23300
purines in ground and lowest excited singlet states, dipole moments 7−54466

molecular biophysics continued
- purple membrane, circular dichroic spectrum of L form and blue light product of M form 7—54492
- pyridine nucleotide, scanning fluorometer for rapid assessment of fluoresc. changes in vivo 7—8778
- pyrimidines, cryst. struct. anal., H bond geometry and types 7—23300
- retinal homologues, Raman spectra of cis-trans isomers 7—17948
- rhodopsin molecules in disc membrane of frog rod outer segments, 3D electron microscopical investigation 7—65690
- rhodopsin refolding during Meta II decay, Fourier transform IR difference spectroscopy obs. 7—59926
- ribonuclease, FTIR obs. of folding 7—54470
- ribonuclease, guanyl-specific, spatial structure studies 7—46999
- D-ribulose-1,5-bisphosphate carboxylase/oxygenase from Alcaligenes eutrophus H16, struct. obs. 7—65691
- ERNA^{Phe}, yeast, conformational dynamics of anticodon loop as sensed by wybutine fluoresc. 7—17940
- rubredoxin thin microcrystal, electron diffr. data, elastic bend distortion effects 7—13956
- sarcoplasmic reticulum, fluoresc. energy transfer as an indicator of Ca^{2+}-ATPase interactions 7—59913
- serum albumin, human, effect of hydration on mol.-dynamic props. in low temp. region 7—54436
- serum albumin flexibility, spin label study 7—28449
- sickle cell haemoglobin aggregates, polymorphism: struct. basis for limited radial growth 7—65697
- skeletal muscle, effect of cross-bridge clustering and head-head competition on mech. response 7—28548
- skeletal muscle, frog, small angle equatorial reflections of diffr. pattern rel. to sarcomere length 7—40215
- skeletal muscle, NMR relax. times, dependence on fibre type and diet, rabbit obs. 7—18003
- smooth muscle relaxing agents, homologous series, motional and conformational dynamics, NMR investig. 7—54439
- sodium taurocholate-bilirubin interaction, UV-visible absorpt. and fluoresc. spectra 7—50162
- solvent suppression pulse sequence for biomolecule ^1H NMR spectroscopy 7—28788
- spin-labelled proteins, meas. of rot. mol. motion by time-resolved saturation transfer EPR 7—40089
- squid axons, voltage clamped, Na^+ current rel. to physico-chem. props. and struct. changes, disopyramide effects obs. 7—54529
- stellacyanin, metal coord. sphere, changes rel. to pH, oxidation/reduction and metal substitution 7—65687
- stratum corneum, lipophilic pathway, Fourier transform IR spectroscopy studies 7—54510
- SV40 DNA, possible use for CETI 7—40090
- T_1 of blood and blood clots, paramag. effect of Fe 7—17949
- thermo-kinetic considerations for cryst. growth of complex mols. from soln. 7—23282
- three-dimensional protein struct., amino acid residue changes, mol. evolution *(Japanese)* 7—13955
- time-resolved IR spectroscopy system, data acquisition and processing 7—48884
- tissue T_2 transverse relax. rate, effect of interpulse delay 7—18005
- tissues, animal, metabolic heterogeneity rot.-frame imaging NMR 7—13963
- tobacco mosaic virus in water, freeze-fracture imaging of ordered phases 7—3751
- transferrin, human, N-terminal fragment containing a single Fe binding site, EXAFS obs. 7—65707
- triethyl phosphate, internal ^{31}P NMR reference in biological samples 7—54465
- troxidone, antiepileptic drug, electrostatic pot., ab initio SCF-MO-LCA. study 7—855
- trypsin pancreatic inhibitor, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7—59916
- trypsin-modified elongation factor from E. coli, effect of chem. impurities in polyethylene glycol on macromol. crystn. 7—23279
- tryptophan dynamics in proteins, single-photon laser fluoresc. studies 7—23304
- tumour models, expt., ^1H-NMR relax. times and water compartmentalisation 7—17950
- tumour-localising photosensitiser haematoporphyrin derivative, 2-photon laser-induced fluoresc. 7—23303
- twinned apatite bicrystals, theoretical detect. of a dark contrast line, rel. to chem. props. of human dentin and enamel 7—40097
- tyronyl-tRNA synthetase mutant with enhanced catalytic props., struct. obs. 7—65694
- N-urethanyl-α-amino acids, Fourier transform vibr. circular dichroism of carbonyl stretching modes 7—50207
- urine, soln., viscosity coeff. meas., temp. effects *(German)* 7—63865
- variant surface glycoproteins of Trypanosoma brucei, 6 Å resolution X-ray structs. 7—47000
- vesicles of N-acyl sphingomyelins, X-ray scatt., bilayer thickness determ. 7—40111
- viomycin polypeptide, H exchange rate, NOESY expt. 7—10790
- visual pigments, mol. biology 7—54477
- vitamin B_{12} coenzyme crysts., water struct., neutron and X-ray solvent densities anal. 7—28454
- vitamin B_{12} coenzyme crysts., water struct., struct charects. of solvent networks 7—28455
- vitamin B_1, in H_2O, 2D solvent suppressed COSY NMR spectra, pulse shaping 7—57086
- vitamins, electron-transfer reactions, kinetic ESR spectra, computer simulation 7—25568
- water, liquid, intermolecular pot. simulation for interaction models 7—1835
- X-ray absorption spectroscopy, biological calcification appl. 7—65706
- X-ray absorption spectroscopy of Cu-Mo-S and Fe-Mo-S systems of biological relevance 7—65703
- xanthan, helical polymer, cholesteric liquid crystalline phases 7—6506
- zwitterionic lipid bilayers, dielec. props. of polar head group region 7—8504
- 1-aminocyclopropane-1-carboxylic acid, chem. shifts, PMR 7—19902
- Ca^{2+}, binding to bile salts, NMR investig. 7—54442
- $CaPO_3$ crystal formation in tissues, SEM studies 7—28445
- Co^{2+}-carboxypeptidase A, polarised single-crystal absorpt. spectra, NMR 7—17945
- Cu complexes, glutamic acid, struct., EXAFS study 7—19882
- Cu-albumin complex, local struct., EPR and EXAFS obs. 7—65689

molecular biophysics continued
- Fe complexes of pyrazolone derivatives, biological activity, Mossbauer spectra study 7—40098
- H-bonds in molecular biology, FTIR spectra, strongly anharmonically coupled vibr. 7—47009
- H_2O biological charge transfer processes, IR and microwave spectra 7—3749
- H_2O, in biological systems, protein dynamics and NMR relax. time 7—25555
- Ir complexes, Vaska's cpd., ^{17}O NMR study 7—10625
- Mn-DNA binding modes, nuclear mag. relax. dispersion results 7—23271
- Na^+, binding to bile salts, NMR investig. 7—54442
- ^{23}Na ions, biexponential relax. detect. using double-quantum filtering 7—25446
- O_2, discovery by Scheele, involvement in biological reactions 7—60927
- OH+cytosine, ab initio SCF MO calcs. 7—8478
- Pt complexes, ^{17}O NMR study 7—10625
- Ru complex, chiral probe for A-form helices of DNA and RNA 7—34096
- VFe protein of V nitrogenase of Azotobacter chroococcum, V K-edge X-ray absorpt. spectrum 7—54467
- Zn enzymes, metal coordination, EXAFS obs. 7—65686

molecular bonds *see bonds (chemical)*

molecular clouds *see interstellar matter; nebulae*

molecular clusters
- acridine, dye mol. aggregations, high-resolution NMR, variational data processing methods 7—42647
- alkali metal hydroxide vapour, ion clustering struct., chem. equilib., mass spectra 7—17814
- alkali metals ionic clusters, stability and struct. Xα and ab initio methods 7—10421
- anthracene-NH_3, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7—19936
- beams, history 7—15766
- $(benzene)_n$, multiphoton ionis. by laser, dynamics and spectroscopy *(French)* 7—5730
- benzene clusters, struct., IR photodissoc. and mass spectra study 7—62371
- benzene clusters, vibr. predissoc. spectra assignment, isotope use in mass spectroscopic detect. 7—31125
- $(CO_2)_n^+$ (n=2 to 4), cluster ion decay kinetics, mol. beam spectroscopy 7—13735
- compound formation in cluster beams, mass spectrosc. obs. 7—15782
- conference on laser appls. in chem. and biophys., Los Angeles, CA, USA (Jan. 1986) 7—40993
- crown ether-NaSCN complex, tetrahydrofuran solvent, IR and microwave dielectric spectro anal. 7—31027
- dissociation dynamics following multiphoton ionisation 7—20082
- electron attachment to van der Waals clusters 7—20090
- ethane-Ar, vibr. predissoc. IR spectra 7—19971
- $(ethene)_n$ (n=2,3,4), van der Waals complexes, IR photodissoc. 7—42701
- generation and detection, size distrib., review 7—31204
- ground states, Hubbard models 7—10809
- inert gas clusters, ionis. energies, lin. correl. plot 7—25697
- ion clusters, dissoc. energies thermochemical data 7—18514
- ion clusters, form. in D-region 7—60435
- ion-neutral clusters, photodissoc. dynamics mechanisms and product energy disposal 7—20083
- laser excitation dynamics of at. and mol. clusters in free jets 7—42823
- merocyanine dyes, J aggregate form. in mixed monolayers, visible spectra and surface pressure-area isotherms anal. 7—31059
- perylene-NH_3, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7—19936
- polyoxymethylene, polymorphism and mol. aggregation, Raman microprobe, vibr. spectra 7—13152
- positive ion clustering with acetonitrile in atm. 7—999
- (10-(3-pyrenyl)decyl)dimethylmonochlorosilane, chemically bonded to silica surfaces, solvent effects on config., excimer decay profiles 7—22329
- review, materials, architectures and uses *(French)* 7—15765
- selective formation in cryogenic matrices, FTIR spectroscopy obs. 7—48895
- spectroscopy of molecular clusters 7—20086
- surfaces, chemistry and physics 7—15780
- total electronic energies, size depend. 7—36836
- transition metal cluster oxides, high-temp. multiphoton ionis. and fragmentation 7—36835
- transition metal cpds., charge and magnetisation densities, mol. cluster studies 7—27224
- water-cluster ions negatively charged, electron impact ionisation meas. 7—42821
- water-methanol mixed clusters, H-bonded networks, stability, thermochemistry 7—62559
- $Al_2Si_4O_{17}H_{12}$ cluster, electronic struct. and state densities, MINDO/3 and CNDO/2 calcs. 7—57201
- $Al_4Si_8O_{30}H_{16}$ cluster, electronic struct. and state densities, MINDO/3 and CNDO/2 calcs. 7—57201
- Ar clusters, mass distrib. meas. and struct. model 7—15762
- closo-$B_nH_n^{c-}$ clusters, bond indices, enthalpies, CNDO calcs. 7—10431
- $B_nN_m^+$ cluster ions in laser plasma, laser ionisation mass spectrometry *(German)* 7—42816
- BO_4^- anion clusters, hard basicity 7—25402
- C_n, clusters, rovibrational spectral fine struct. 7—50055
- CCr_6^{4+}, high resolution Auger spectra calc. 7—16942
- $(CO_2)_n^-$ clusters, photodissociation 7—1001
- $(CO_2)_N^+$ cluster ions, recording by secondary electron multiplier 7—42827
- CTi_6^{4+}, high resolution Auger spectra calc. 7—16942
- CV_6^{4+}, high resolution Auger spectra calc. 7—16942
- $Ce(OH)_9^{3+}$ cluster, 5d←4f excited states, Xα mol. orbital calcs. 7—62284
- Co-O cluster ions, collision-induced dissoc., struct. calcs., mass spectral anal. 7—54107
- DI, Ar matrix, conc. effects, binary complexes with impurities, IR spectra anal. 7—31034
- $Fe(H_2O)_n^{2+}$ clusters, intermol. pot. fn. and pot. energy surface, ab initio UHF calcs. 7—25354
- GaAs cluster, TOF mass spectra 7—20084
- $GaAs_n^-$ semicond. cluster anions, photodetachment and photofragmentation 7—36837
- H_2 cluster detection at 4.2K 7—36843
- H_n^+, n=5-23, cluster, dissociation in Ar gas target 7—36844
- HCN cluster form. in carbon tetrachloride matrix, IR spectra 7—19841

molecular clusters continued

$(HCN)_n$ microcluster selective formation in cryogenic matrices, FTIR spectroscopy obs. 7−48895
$(HF)_3$, vibr. predissoc. IR spectra 7−19971
$H^+(H_2O)_n$, mobility in water vapour, TOF mass spectra 7−11582
HI, Ar matrix, conc. effects, binary complexes with impurities, IR spectra anal. 7−31034
H_3N-HF-HF, H bond cooperativity, structural and energetic props., ab initio calcs. 7−19697
$(H_2O)_n$, H-bond strengths, MNDO calcs. 7−15519
H_2O, cluster, dimer pop. eval. 7−42820
H_2O clusters, Raman spectra 7−42826
H_2O dimer, far IR absorpt. spectra 7−47539
H_2O microclusters, mol. orientations at surface, surface pot. num. soln. 7−36838
$(H_2O)_n$, n=4 to 8, geometries and relative energies, Monte Carlo energy minimisation study, ab initio SCF calcs. 7−30921
$(H_2O)_n$ cluster, assoc. and vibr. relax. in water vapour 7−15764
$(H_2O)_nO_2^-$ clusters, charge transfer interaction investigated using ab initio MO theory, binding energy calc. 7−5809
H_3P-HF-HF, H bond cooperativity, structural and energetic props., ab initio calcs. 7−19697
$Li(LiF)_4^+$, conform. energies, LCGTO Xα method anal. 7−25393
$Mo_6L_8L'_6$, (L, L′ = S, Se, Cl, Br), cluster compounds, electronic struct., 3-band model, tight-binding and extended Huckel method calcs. 7−32913
N_2, aggregates, in solid Xe matrix, time resolved energy transfer and relax., rate const. meas. 7−50313
$(NH_3)_n^{x+}$, multiply charged clusters, decomp. channels 7−15790
NH_3, adsorpt. complexes with heterogeneous catalysts, vibr. study, IR spectra anal. 7−36607
NH_3 cluster, UPS using pulsed gaseous free jets 7−36685
$(NH_3)_n$ (n=2 to 5), clusters, electronically excited Ã states, two-photon ionis. mass spectroscopy 7−15761
$NH_3.H^-$, stability, pot. energy surfaces, ab initio CI calcs. 7−30955
NO dimer and cluster, UPS using pulsed gaseous free jets 7−36685
Na_2Cl, microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7−25379
$Na(H_2O)_n$ clusters, formation and detection 7−10808
$NaOH_2$, ionization potential determ. 7−10808
$Ni_3(CO)_m$ (M=2,4,6) clusters, spin states and magnetism quenching, MO INDO calcs. 7−62557
$Ni_5(CO)_m$ (m=9 and 12) clusters, spin states and magnetism quenching, MO INDO calcs. 7−62557
No_2Cl_2 microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7−25379
Os clusters and complexes, Al_2O_3 supported, structs., EXAFS 7−62560
$Re_6L_8L'_6$, (L, L′ = S, Se, Cl, Br), cluster compounds, electronic struct., 3-band model, tight-binding and extended Huckel method calcs. 7−32913
SF_6-Ar_n clusters, spectroscopic obs. of phase coexistence 7−36842
SO_2 cluster, UPS using pulsed gaseous free jets 7−36685
SiO_2 cluster, multipole expansions 7−62256
s-tetrazine clusters, photophysics and photochemistry, laser induced fluoresc. 7−31098
$(WCl_3)_n$, (n=1,2,3), electrographic investig. 7−13844
ZnS, clusters, electronic struct., variational cellular method 7−45120

molecular collision processes *see elastic scattering of atoms and molecules; molecular inelastic collisions*

molecular configuration interactions *see molecular electron correlations*

molecular configurations

see also bond angles; bond lengths; inorganic molecule configurations; isomerism; macromolecular configurations; molecular orbitals calculations; organic molecule configurations; X-ray diffraction examination of molecular structure
algorithms to look for most stable conformations 7−25682
anharmonic oscillators, classical path treatment 7−30918
anion-water complexes, struct. and binding energy, ab initio study 7−15483
anthracene-NH_3, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7−19936
bond form., atomic orbital deform., energy effects 7−25439
clusters, review, materials, architectures and uses *(French)* 7−15765
coding of relational descriptions of molecular structures 7−50399
complex molecules, effective kinetic diameter determ. 7−26376
conformational analysis, expert system, WIZARD-II 7−49877
cyclic and acyclic molecules, struct. determ. by mol. mechanics method 7−10406
dimethyl ether-HCl (DCl), H bonded complexes, IR spectra 7−19840
distance geometry conformational configuration 7−49919
Fourier domain data technique for struct. elucidation 7−54222
graphics system for molecular structures and properties, display system, Winchester Graphical System 7−49875
highly symmetric mols., two-photon transitions, molecules, magneto-optical interaction 7−10691
information retrieval system, microcomputer based 7−10774
ionic cpds., struct., ionisation pot., stark shift 7−15634
mesophase, mol. statistical theory, conform. mobility effects 7−63445
molecular design, computer-aided, conf., London, England (Oct. 1986) 7−50429
molecular indices, topological and structural, software suite calc. 7−10373
monocyclic free mols., conformation trends, electron diffr. data 7−15709
nonequilibrium selecting system, quantum-mechanical model, asymmetric interactions 7−19991
nonlinear mols., orientational ordering absorpt. dichroism 7−42659
nuclear quadrupole coupling consts., solvent effects *(French)* 7−25558
perylene-NH_3, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7−19936
point groups, rel. to mol. symm. teaching approach 7−29634
polar liquids, dielec. permittivity, mol. shape and polaris. anisotropy 7−17258
polyhexes, algorithm for enumerating 2-factors 7−10405
resonance, teaching approach using transparent overlays 7−9638
rigid molecules, simulation by molecular dynamics 7−15736
symmetry descent in molecular systems 7−5577
topology manipulation and coordinates algorithm using MOLTW program 7−50398
valency and structure, MO theory 7−30920
Woodward-Hoffman rule, topological explanation 7−57012
zero integral selection in mol. symmetry 7−10379

molecular conformations *see molecular configurations*

molecular dissociation

see also heat of dissociation; molecular dissociation energies; molecular electron impact dissociation; molecular photodissociation; molecular predissociation
acetaldehyde, electronic struct. and decay channels, negative ion mass and electron impact spectroscopy 7−50383
acetylene, protonated, low energy stereostruct. meas. 7−39869
acrylonitriles, ion form. by dissoc. electron attachment, mechanism 7−42754
alkylamines, surface ionis. mass spectra 7−10763
allyl chloride, dissoc. attachment cross sections 7−28290
aminoalcohols, surface ionis. mass spectra 7−10763
ascorbic acid radical anion, Ca^{2+} exchange, ESR line broadening meas. of rate const. 7−28270
atomisation enthalpies for organic compounds from band increments *(German)* 7−25388
benzene, shock decomposition products detection by chemiluminescence 7−23023
benzonitrile, ion form. by dissoc. electron attachment, mechanism 7−42754
benzyl chloride, dissoc. attachment cross sections 7−28290
bound state existence confirmation for atomic and mol. projectiles inside solid targets, expt. investig. *(French)* 7−22427
butane dissociative chemisorption on Ni (100) studied by supersonic molecular beam techniques 7−52287
cellulose complex, in water-methanol media, acidic props. *(Russian)* 7−63437
chain molecule, 1D, dissoc., vibr. relax., RRKM theory 7−8247
chain molecule, classical, dissoc., vibr. relax., RRKM theory 7−8248
chain molecules, 1D, unimolecular reaction dynamics, RRKM theory 7−8246
chemical bond incoherent neutron scatt. cross-sections 7−990
chemisorption, substrate impurity effects 7−63964
chlorobenzene, dissoc. attachment cross sections 7−28290
$(CO_2)_n^+$ (n=2 to 4), cluster ion decay kinetics, mol. beam spectroscopy 7−13735
continuous IR laser excitation, chem. kinetics appl. 7−65310
cyanogen, adsorption on Pd (100), Penning ionisation electron spectroscopy, UPS, TPD studies 7−52268
diatomic inert gas dications, dissoc., detect. and charactn. 7−46804
diatomic molecule, dissoc. state, pot. curve determ. 7−57013
diatomic molecules in flows with convective and diffusive particle transport, nonequilib. dissoc. 7−20811
diatomic mols., comparative study of Rydberg-Kratzer pot. 7−31137
diatomic mols., dissoc., equilibr. vel. and rot. distrib. disturbance 7−13761
diheliumacetylene dication, metastable, C-He bond prediction 7−49888
ethane dissociative chemisorption of Ni (100) studied by supersonic molecular beam techniques 7−52287
ethanediazonium ions, unimol. dissoc., ab initio and semiempirical MNDOC calcs. 7−15513
ethanol, photoionisation mass spectra, temp. effect 7−46818
ethylene, chemisorption and decomposition on Ni (100) 7−59785
ethylene dimer spectrum, photodissoc. spectrum, hindered rot. bands 7−42607
fluorobenzonitrile radical ions, self consistent reaction field calcs. 7−36481
fluoroethylene radical anions, dissoc. electron attachment 7−50349
formic acid radical cation and its isomers, pot. energy surface, ab initio quantum chemical methods appl. 7−42521
formyl ion, dissociative recombination at interstellar cloud conditions 7−23009
formyl ion, dissociative recombination of interstellar ion, electronic struct. calc. 7−20064
n-hexane, photoionisation mass spectra, temp. effect 7−46818
homonuclear diatomic molecules and u-g perturbations, hyperfine interactions 7−25429
hydrazines, surface ionis. mass spectra 7−10763
hydrocarbons, adsorption and reactions on clean and S or C covered Mo (100) 7−28345
ion chemistry, gaseous, hybrid BEQQ mass spectrometer appls. 7−48904
macroscopic solvation, electron distrib. ab initio INDO SCF calcs. 7−54099
metal cluster ions, sputtered, unimol. decomposition and collision-induced fragmentation 7−15778
methane, electron scatt. cross sections, 0.1 to 500 eV, complex optical pot. calcs. 7−25382
methane, liquid, fluorescence spectra near needle electrode under divergent fields 7−7737
methane, protonated, dissociative recombination at interstellar cloud conditions 7−23009
methane dissociative chemisorption on Ni (100) studied by supersonic molecular beam techniques 7−52287
methanediazonium ions, unimol. dissoc., ab initio and semiempirical MNDOC calcs. 7−15513
methyl fluoride, dissociative ionis., methylene and methyl ions, form., photoelectron spectra 7−10662
methyl thiocyanate, adsorption and reactions on Ni (111) 7−21640
3- methylcyclobutane in gas phase, photolysis and sensitised decompositions 7−23040
methyldiazohydroxide, dissoc., ab initio calcs., rel. to carcinogenesis 7−56962
3-methylpentane, photoionisation mass spectra, temp. effect 7−46818
nitriles, sat., ion form. by dissoc. electron attachment, mechanism 7−42754
nitromethane, first excited states, dissoc. nature, SCF CI calcs. 7−56959
oxalic acid, isomerisation and unimol. dissoc. channels, MO calcs. 7−28295
partially dissociated and ionised gas mixtures, chem. equilib. flow, effective transport coeffs. calcs. 7−31917
plate, photographic, low energy heavy mol. ions impact, sensitivity estimation 7−61392
poly-4-methylpentene-1, mechanical degradation, free radical form., ESR *(Russian)* 7−8275
product quantum state distributions in unimolecular reactions involving highly flexible transition states 7−22976
propane dissociative chemisorption on Ni (100) studied by supersonic molecular beam techniques 7−52287
propanediazonium ions, unimol. dissoc., ab initio and semiempirical MNDOC calcs. 7−15513

molecular dissociation continued
- propylene oxide cation radical, unimol. dissoc. reaction, nonergodic behaviour 7-39857
- pyridine chemisorption on oxidised Fe surface, XPS 7-27128
- pyridine-I_2 complex, ionic dissoc., electrochem. investig. 7-54209
- quarternary ammonium salts, surface ionis. mass spectra 7-10763
- radical anions, single cryst., dissoc., struct. investig. 7-33275
- stellar atmosphere di- and tri-atomic molecules, dissociation functions 7-24002
- surfactant-water-nonaqueous liq. systems, elec. cond. study 7-13789
- tetrachloromethane, dissoc. in RF plasma, probe diagnostic and relative emission intensity meas. 7-32095
- tetrafluoromethane+$He^+(Ne^+)(AR^+)(N^+)(N_2^+)(O_2^+)(H_2^+)(H_3^+)$, excitation cross sections 7-62501
- tetrafluoromethane-O_2 discharge, plasma etching, chem. processes 7-3475
- transition metal cluster oxides, high-temp. multiphoton ionis. and fragmentation 7-36835
- trifluoroidomethane, spectral moments, dissoc. band 7-36695
- vinyl chloride, dissoc. attachment cross sections 7-28290
- water adsorption and dissociation on clean and B-contaminated Rh surfaces 7-27135
- water adsorption and dissociation on Pt (111) contaminated with Si or oxidised Si 7-27134
- $^{16}O_2$, Schumann-Runge bands, oscillator strengths 7-10675
- Ar ion clusters, unimol. decomp., average kinetic energy meas. 7-28301
- Ar-H_2O plasmas, dissoc. processes, macroscopic kinetics 7-32173
- Ar+NH_3, dissoc. excitation, nascent vibr. and rot. distribs. 7-46824
- Ar_2^+, mobility, temp. and field depend. 7-51380
- C_{60} and similar substances, inert gas trapping, possible occurrence in meteorites 7-50436
- CO adsorption on Cu (111)-Fe cryst. 7-21616
- CO+Na^+, dissoc., rot. rainbow effect, time-of-flight spectra 7-54117
- CO_2 adsorption and dissociation on Fe (111), ARUPS 7-63961
- CO_2 adsorption and reaction, and coadsorption with ^2O, on Ni (110) 7-52289
- CO_2, adsorption on Fe (110), (111) and stepped (110) surfaces, UPS, work function meas. 7-12484
- CO_2+H^+, charge transfer reaction cross section and pot. energy curve meas. 7-54086
- CO_2+Na^+, dissoc., rot. rainbow effect, time-of-flight spectra 7-54117
- Cl_2, dissoc. state, pot. curve determ. 7-57013
- Cl_2, spectral moments, dissoc. band 7-36695
- Co-O cluster ions, collision-induced dissoc., struct. calcs., mass spectral anal. 7-54107
- Fe surface oxide layer, reduction by H adsorption, AES and LEED studies 7-8297
- H_2, dissoc. on different Cu surfaces with adsorbed O 7-59784
- H_2, dissociative adsorption on transition metal surfaces, effect of impurities 7-16876
- H_2, low temp. plasma, electrode sheath, calcs. 7-37703
- H_2, negative ion generation, atomic processes investig. 7-51527
- H_2, on Ni (100), dissociation dynamics, quantum mechanical study 7-54168
- H_2 on Ni and Cu surfaces, dissoc. chemisorpt. dynamics, morphology and surface temp. effects 7-13808
- H_2^+ + Cs, dissociative charge exchange, H_2 predissociation, fragment spectra anal. 7-36753
- H_2+H, collision-induced dissociation at interstellar densities 7-55448
- H_2^++Ar collisions, dissociation and electron capture cross section meas. 7-31156
- H_2^++He collisions, dissociation and electron capture cross section meas. 7-31156
- $H_2^+ + He \rightarrow H^+ + H + He$, degenerate product electronic state distribs. determ. 7-50299
- H_2^++Ne collisions, dissociation and electron capture cross section meas. 7-31156
- H_3^+, dissociative recombination at interstellar cloud conditions 7-23009
- H_n^+, even cluster ions, form., reactivity collision-induced dissoc., isotope effects, mass spectra anal. 7-50434
- H_n^+, n=5-23, cluster, dissociation in Ar gas target 7-36844
- HCN, in discharged He flow, $CN(B^2\Sigma^+)$ form. 7-25476
- HCN, isotopic species, electronic states, pot. surface, dissoc. vibr. anal., CI calcs. 7-62297
- HD^+, electrostatic pot., nonadiabatic effects 7-42457
- HD^+, pot. curves, vibr. and rot. states, adiabatic STO calcs. 7-25380
- HD-H_2O, sonolysis, H_2 and D_2 form., H/D isotope exchange 7-13755
- HF dimer, dissoc., excitation energy transfer meas. *(German)* 7-57163
- H_2O, absorption on K films, XPS, UPS, work function meas. 7-12485
- H_2O chemisorption on Si (100), MNDO calcs. 7-63963
- H_2O coadsorption with Li on Ru (001) and decomposition 7-21645
- H_2O, dissoc. and ion pair form., rate consts., computer simulation 7-28294
- HO_2H and HO_2D, intramol. energy flow and overtone-induced dissoc., classical trajectory study 7-28303
- He_2^+, mobility, temp. and field depend. 7-51380
- He_2^{2+}, ground-state pot. curve, Moller-Plesset perturbation calcs., bond lengths 7-42455
- HeH^+, dissociative charge exchange in HeH^++Cs collisions 7-5766
- HeH^++C, fast mol. ion dissoc., charged fragment wake effects *(French)* 7-50345
- $HeRh^{2+}$ adsorbed compound ion, field dissociation by atomic tunneling 7-33919
- $HeRh^{2+}$, cpd. ion, dissoc. in high elec. field, at. tunnelling, orientational and isotope effects 7-42777
- Hg_3, excimer, laser-induced fluoresc. spectroscopy 7-938
- HgI, UV spectra, rot. struct., vibr. parameters 7-50163
- Hi-H_2O-I_2 system vapour pressure determ. using static phase equilib. apparatus 7-23049
- I_2 and ICl collisions with solid surfaces, dissoc. dynamics and energy transfer 7-36803
- I_2, B 0_u^+ state studied near dissociation limit, hyperfine interactions 7-25430
- Mg+H_2^+, direct dissociative charge exchange investig. 7-50332
- N_2, activated dissoc. chemisorption on W (110), dynamics, mol. beam obs. 7-38323
- N_2, liquid, molecular dissociation and shock-induced cooling at high densities and temperatures 7-28307
- N_2 on Fe and Re crystals, adsorpt. and dissoc., EHT calcs. 7-56988
- N_2, on polycryst. Fe surface, electron spectrosc. obs. 7-7794
- N_2, plasma, electron velocity distrib., self-consistent determ. 7-20859
- N_2, shock-induced molecular dissociation 7-23022

molecular dissociation continued
- N_2+Na^+, dissoc., rot. rainbow effect, time-of-flight spectra 7-54117
- $(NH_3)_n^{x+}$, multiply charged clusters, decomp. channels 7-15790
- NH^++C, fast mol. ion dissoc., charged fragment wake effects *(French)* 7-50345
- NH_3 dissociation on Si (100) surface, rate-limiting steps at low-temp. 7-2366
- NH_3 unimolecular dissoc., pot. energy surface, classical trajectory study 7-13745
- N_2H^+, dissociative recombination at interstellar cloud conditions 7-23009
- NO, adsorpt. on Rh (111), dissoc., EELS and LEED study 7-16859
- NO, coadsorbed on Rh (111) with CO and O, EELS 7-16860
- NO_2 adsorption on Ag (110), surface nitrate formation 7-52286
- NO_2, adsorption on Ru (001) clean and O covered surfaces, EELS, thermal desorption mass spectrometry 7-52267
- N_2O adsorption and decomposition on clean and O covered Ni (100) 7-58644
- N_2O adsorption and decomposition on Si (100)2×1 7-63962
- N_2O, fragmentation by monochromatic soft X-rays, time-of-flight mass spectra 7-25610
- Na_2, excited state dissociation 7-49952
- Na_2Cl, microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7-25379
- NaK, $X^1\Sigma^+$ and $a^3\Sigma$ states, long range pots. anal. 7-42519
- Ne_2^+ glow discharge, time depend. of spectral line intensities from afterglow plasma 7-32142
- No_2Cl_2 microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7-25379
- O_2 adsorption on Cr (110), dissociative chemisorpt. studies 7-2377
- O_2 adsorption on Pd (111), EELS and LEED studies 7-2378
- O_2, on polycryst. Fe surface, electron spectrosc. obs. 7-7794
- O_2, shock-induced molecular dissociation 7-23022
- O_3 sonolysis in aq. soln., reaction rate 7-13756
- Ru (001), H_2 chemisorption, effect of coadsorbed O_2, LEED spectra anal. 7-33959
- S_n clusters, fragmentation investig. 7-15792
- $(SN)_x$, repolymerisation, mass spectrometric study 7-54119
- Si (111) surface, H_2 dissoc. chemisorption dynamics 7-54169
- Si:$As^+(As_2^+)$, ion implanted, phys. props., spreading resist., TEM, Rutherford backscattering, SIMS 7-26775
- SiF_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7-62476
- SiH_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7-62476
- SiH_4-Ar-H_2 plasma, Si deposition 7-23011
- SiH_4-NO, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7-62476
- SiH_4+Hg, SiH_4 decomposition by $Hg(6^3P_1)$ photosensitisation 7-54149
- VO^++inert gases, collision-induced dissoc. studied by ion beam tandem mass spectrometer 7-23001
- Xe_2^+, mobility, temp. and field depend. 7-51380
- Z+I_4, dissoc. in plasmas, metal prod. 7-46845

molecular dissociation energies
- alkali metal hydroxide vapour, ion clustering struct., chem. equilib., mass spectra 7-17814
- α-aminoalkyl radicals, electrochemical detection, bond dissoc. energies determ. using oxidation pots. 7-28286
- BS, $X^2\Sigma^+$, $A^2\pi_i$, $B^2\Sigma^+$ states, potential energy curves, dissociation energy calcs. 7-50290
- t-butyl nitric oxide, singlet and triplet surfaces, unimol. reactions, spectroscopy, rate meas. 7-28300
- diatomic mols., mass-vel. corrections, relativistic kinetic energies 7-10452
- ethylene-HCl van der Waals mol., dissociation energies and heats of formation, photoionisation study 7-19966
- fluoromethanes, protonated, structs., energetics, ab initio MO calcs. 7-56956
- formaldehyde, VUV excitation fluoresc. 7-15643
- hyperbolical potential functions, energy eigenvalues 7-42725
- ion clusters, dissoc. energies thermochemical data 7-18514
- methylamine, N-methyl substitution, bond dissoc. energies ab initio calcs. 7-15503
- N-methylhydroxylamine, N-methyl substitution, bond dissoc. energies ab initio calcs. 7-15503
- trifluoroacetonitrile, isomers, anion form. and dissoc., electron attachment 7-10740
- trifluoroisocyanide, isomers, anion form. and dissoc., electron attachment 7-10740
- trifluoronitrosomethane, geometric and electronic props. SCF and CI calcs. 7-15527
- $_3^+$, ground state pot. energy surface, MRD-CI calcs. 7-30959
- Ar ion clusters, unimol. decomp., average kinetic energy meas. 7-28301
- Ar_2^+, mobility, temp. and field depend. 7-51380
- $ArXe^+$, DC discharge in supersonic jet, UV-visible emission spectra anal. 7-19874
- CCl^+, Born-Oppenheimer pot. fn., mol. rot.-vibr. study, IR spectra anal. 7-36604
- CN, in solar spectrum, oscillator strengths and dissociation energies 7-4327
- CS_2, dissociative attachment bands, impact electron and fragment ion energy spectra anal. 7-50386
- Ca_2, $A^1\Sigma_u^+-X^1\Sigma_g^+$ red system. laser spectroscopy, rot. anal. and perturbation anal. 7-10652
- CaBr, pot. energy curves and dissociation energy, curve fitting procedure 7-36511
- Cu_n^- (n=1-10), cluster, photoelectron spectra 7-62561
- Ga_2, electronic states, CASSCF and FOCI calcs. 7-62267
- HO_2^+, electronic struct., MRD-CI calcs. 7-10450
- He_2^+, mobility, temp. and field depend. 7-51380
- InBr, A-X system, rot. struct., dissoc. energy 7-50071
- InCl molecule, $C^1\Pi-X^1\Sigma^+$ system, emission spectrum and dissociation energy 7-5694
- LiH(D), pot.-energy curves, PMO-RKR-van der Waals pot., Pade approx. method 7-30965
- N_2, ground state, pot. curves, MR CI and MC SCF calcs. 7-49936
- NH_4^-, stability against dissoc. and $NH_3.H^-$ form., pot. energy surfaces, ab initio CI calcs. 7-30955
- Na_2Cl, microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7-25379

molecular dissociation energies continued
  Nb_2O_4, gaseous, atomisation energy determ., mass spectrometric study 7−28331
  Nb_2O_5, gaseous, atomisation energy determ., mass spectrometric study 7−28331
  Nb_4O_{10}, gaseous, atomisation energy determ., mass spectrometric study 7−28331
  Nb_4O_9, gaseous, atomisation energy determ., mass spectrometric study 7−28331
  No_2Cl_2 microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7−25379
  PN, pot. energy curves, dissoc. energy 7−19737
  PaO_2 and PaO vapour press. meas., form. enthalpy and bond dissociation energy calcs. 7−10765
  PdGe, bonding, electronic states, ab initio HF-CI calcs. 7−42497
  PuF_6 and PuF_5 mols., ionisation and appearance pots. meas. bond dissociation energy calcs. 7−10765
  $SO_2+Al \rightarrow AlO+SO$, pulsed crossed supersonic beam expt., energy threshold determ. *(French)* 7−33915
  ScO, low-lying states, SDCI calcs. 7−25421
  ScS, low-lying states, SDCI calcs. 7−25421
  Sn_3, electronic states, pot. energy surface, relativistic calcs. 7−5613
  VO, low-lying states, SDCI calcs. 7−25421
  VS, low-lying states, SDCI calcs. 7−25421
  Xe_2^+, mobility, temp. and field depend. 7−51380

molecular dynamics method
  2D Lennard-Jones system, determination of algebraic exponents near the melting transition 7−51992
  α-helix, solitary excitations, viscous and thermal effects 7−8481
  alkali metal cation-halogen anion microclusters, structs. and energetics 7−8266
  amorphization of a disclination core 7−6624
  amorphous, molecular dynamics simulation, struct. of solid phases 7−32293
  anisotropic and isotropic fluids, single-particle trajectories and isojets, fractal behaviour 7−26608
  atomic collision cascade mol. dynamics computer simulations in insulators 7−26793
  atomic solids, mol. dynamics simulation 7−51673
  benzene-hexafluorobenzene, SS02 theory, charge symmetry model 7−58120
  bicrystal model, grain-boundary melting transitions, mol. dynamics simulations 7−21419
  binary fluid mixture, compositional order, mol. dynamics study 7−37825
  binary liquid mixtures, heat and mass transport 7−1559
  Bragg diffr. at structural phase transitions, molecular dynamics study 7−32635
  n-butane, free energy surface, extended-atom and all-atom models 7−56942
  n-butane, liq., mol. dynamics simulations, mean square displacement and vel. autocorrel. functions 7−6497
  carbon tetrachloride, liq. rot. and translation, mol. dynamics simulation 7−2240
  chain molecules, 1D, unimolecular reaction dynamics, RRKM theory 7−8246
  channel flow, molecular dynamics simulation 7−37418
  chemical exchanges, zero field NMR, two-site flips 7−22149
  chlorodifluoromethane, liq., mol. dynamics simulations with test-particle model pot. 7−32245
  classical fluids, particle trajectories, fractal anal. 7−37828
  computer modelling of materials 7−51676
  constant-pressure equations of motion 7−76
  deeply quenched liquids, crystalline nucleation 7−32607
  dense liquids, planar Couette flow, rheological props., mol. dynamics simulation 7−57791
  dense simple liquids, transport and time correlation function simulations 7−26604
  dense systems of spherical particles under shear dynamics 7−6258
  discontinuous potentials, mol. dynamics of hard dumbells and vibr. hard dumbells 7−41249
  dislocation generation at high stresses, 2D Frenkel-Kontorova model 7−32441
  eigenvalue problems, large scale, conference, Oberlech, Austria (July 1985) 7−48189
  electrolyte solutions, ionic props., mol. dynamics simulation 7−44331
  ethylene in Ar and water, photo-isomerisation, trajectory study 7−8264
  FCC (110) surface, cooperative premelting effects, molecular dynamics simulation 7−16852
  FCC crystal, vacancy jumps, self-correls., MD simulation 7−2015
  fluids confined between solid surfaces, wetting dynamics 7−12406
  fluids of optically isotropic mols., collision-induced light scatt. 7−33405
  Frenkel-Kontorova model in 2D 7−44549
  geometrical supercooling of liquids in porous glass 7−16720
  glass transitions, crystal melting and liquid quenching in two-dimensions 7−16748
  graphite, dynamic simulation of interstitial atom, self-energy and migration energy calcs. 7−2014
  graphite, mol. dynamics simulation and Raman spectrum, atom configs. and interactions, honeycomb struct. 7−58200
  graphite basal plane, adsorbed N_2, computer simulation 7−52297
  inert gases, hydrophobic hydration, free energy, mol. dynamics study 7−46821
  inert gases, liquefied, inherent structure, thermal disruption, mol. dynamics computer simulation 7−26612
  interaction-induced dipoles in dense media, translational correl. function 7−44335
  interfaces, molecular dynamics simulations 7−16875
  kinetics and energetics studies at surface and interfaces 7−2422
  Lanczos algorithm in molecular dynamics, spectral density calcs. 7−48343
  lattice thermal conductivity, molecular dynamics and anharmonic lattice dynamics 7−21552
  Lennard-Jones crystals, free energies, mol. dynamics calc. 7−12318
  Lennard-Jones fluid, Kirkwood theory of shear viscosity 7−37821
  Lennard-Jones fluid, repulsive, sound dispersion, density depend. 7−12212
  Lennard-Jones fluid, self-diffusion constant, Green-Kubo and nonequilib. calcs. comparison 7−52100
  Lennard-Jones fluid, shear thinning, mol. dynamics method calcs. 7−21059
  Lennard-Jones fluid, transport coeffs., mol. dynamics 7−12336

molecular dynamics method continued
  Lennard-Jones liquid, shear thinning and thickening, mol. dynamics study 7−11869
  Lennard-Jones potential, linear molecules, molecular dynamics with vector computer 7−50285
  lipid bilayer, mol. dynamics simulation 7−40115
  liquid cryst. film, Freedericksz transition, mol.-dynamics model calcs. 7−44813
  liquid metals, molecular dynamics simulations 7−16875
  mass transport along surfaces, computer modelling, book contrib. 7−27082
  material analysis, computer-based, conf., Boston, MA, USA (Dec. 1985) 7−14709
  MBE growth fronts, mol. statics and dynamics studies 7−7065
  metallic glasses, molecular dynamics simulations 7−16875
  methanol. liq., cross-correl. fn., diffusional dynamics study 7−37822
  2-methyl-2-propanol, solid, mol. dynamics and phase transitions, NMR study 7−36649
  micellar aggregates, packing of semi-flexible chains, statistical thermodynamics approach 7−28357
  micelles and bilayers, chain statistics, surface roughness and internal energy effect 7−23052
  microcapillaries, partitioning of hard-sphere fluids, Monte Carlo and mol. dynamics simulations 7−63416
  mismatched overlayers, dislocation depinning, mol. dynamics investig. 7−7011
  molecular design, computer-aided, conf., London, England (Oct. 1986) 7−50429
  molecular dynamics of the A+BC reaction in rare gas solution 7−28273
  molecular dynamics study, plastic flow at high strain rates 7−26834
  molecular liquids, molecular dynamics study using CYBER 205 7−51599
  molecular solids, mol. dynamics simulation 7−51673
  molten salts MA_3X_{10} and M_3AX_6, complexing, mol. dynamics studies 7−6496
  monolayer films, equilibrium configurations, molecular dynamics simulations 7−21771
  multicomponent mixtures, partial molar props., computer calc., operational definitions 7−28329
  noncrystalline solids, bonding and struct., conf., Reston, VA, USA (May 1983) 7−60879
  nonequilibrium processes, computer simulation 7−18688
  noninertial accelerations, statistical correlations study, electromagnetic field effect 7−62344
  nucleic acids, energy minimisation and dynamics, empirical energy functions 7−34097
  one-component plasma in external field, molecular dynamics study of particle arrangement 7−1730
  orientation disorder, molecular dynamics computation 7−26674
  podocarpane derivatives, rotation barriers of interacting axial methyl groups, mol. dynamics study, ^{13}C NMR 7−10626
  polyatomic liqs., hard dumb-bell model, mol. dynamics study 7−63415
  quantum, for dynamical correl. functions 7−24402
  quasicrystal, two-dimensional, thermodynamic props., molecular dynamics anal. 7−21482
  rigid molecules, new rigid motion algorithm for MD simulations 7−50284
  rigid molecules, simulation 7−15736
  rod-like particle fluid, transport props., mol. dynamics 7−42802
  rotational motion in molecular dynamics 7−32251
  shock-induced solid-solid phase transformations, nonequilib. mol. dynamics calcs. 7−17646
  shocked molecular systems, energy transfer, mol. dynamics simulations 7−39895
  silica glasses, surface structure, mol. dynamics simulations 7−12443
  soft-sphere crystal, shear flow, nonequilib. mol. dynamics calcs. 7−1526
  soft-sphere fluid, shear flow, nonequilib. mol. dynamics calcs. 7−1526
  solid-fluid interface, FCC (111) cryst., layerwise struct., mol. dynamics simulation 7−2367
  solids, sputtering and atomic collisions, computer simulations 7−59323
  spin models, accelerated hybrid stochastic algorithm for critical slowing down problem 7−2859
  Stockmayer fluid between Lennard-Jones plates, mol. dynamics study, electric field effect, polarisation 7−21060
  supercooled liquids interacting with repulsive Yukawa pot., glass transition 7−63856
  surface (115), thermal behaviour, molecular dynamics study 7−52222
  tetrachloromethane, induction spectra, mol. dynamics simulation 7−1830
  thiourea, paraelectric phase, mol. dynamics simulation 7−37920
  transition metals, BCC, atomic stability of (100) face, quenched molecular dynamics approach 7−6932
  tricosane, pseudohexagonal rotator phase, disorder at bilayer interface, mol. dynamics calcs. 7−58165
  unit orbital approx., theory and numerical calc. method 7−25340
  van der Waals potentials, clustering, mol. dynamics and Monte Carlo calcs. 7−37829
  viscous flow, stress ensemble calcs. 7−43838
  vorticity distrib. simulation, Monte Carlo techniques 7−37471
  water, liq., three-body forces and single-molecule dynamics 7−11880
  water, liquid, OH stretching vibr. spectrum, mol. dynamics study, IR, Raman and neutron diffr. spectra 7−44329
  Yukawa systems, phase diagram 7−32606
  α-AgI, cation diffusion and dynamic correlation 7−52124
  α-AgI, ionic motions and neutron inelastic scatt., mol. dynamics studies 7−27004
  AgI phase diagram, molecular-dynamics simulation 7−26912
  $(Ag_2O)_{0.1}(B_2O_3)_{0.9}$ glass network struct., mol. dynamics study 7−6539
  Ag_2S, fractal dimensionalities of ionic trails andisosets in superionic conductors 7−6869
  Ag_2S, superionic conductor, single-particle trajectories and isojets, fractal behaviour 7−26608
  Al (110), Ar ion damage production, mol. dynamics simulation 7−58378
  Al (110), Ar^+ sputtered, vacancy-type defect distribs., variable energy positrons study, mol. dynamics simulations 7−12429
  Al-He system, He bubbles, mol. dynamics simulations and positron states 7−58778
  $AlCl_3$ solns., complexing, mol. dynamics studies 7−6496
  Ar, Lennard-Jones cryst. struct., mol. dynamics method 7−16487
  Ar, rapidly quenched, Voronoi polyhedron distrib. calc., mol. dynamics method 7−26636
  $Ar_2^+ + N_2$, charge-transfer, mol. dynamics study 7−50335
  Ar_7, melting transition and nonrigid dynamics onset, mol. dynamics simulation study 7−26920

molecular dynamics method continued

- Au (100), reconstruction, glue model 7−32777
- $BeCl_2$, aq. soln., mol. dynamics, X-ray diffr. study 7−21075
- C_8K type graphite intercalation cpds., mol. dynamics study of model system 7−63430
- CaF_2, lattice constant, force calc. in molecular dynamics simulations 7−51710
- Cl^-, limiting ionic cond. in aq. soln., mol. dynamics simulation 7−44879
- Co single crystal foils, *α*- and *β*-phase, ion transmission and sputtering 7−59322
- Cu liquid targets, sputtering, mol. dynamics studies 7−3130
- *α*-Fe, dislocation pair jog, energy characts., mol. dynamics method anal. *(Russian)* 7−32440
- Ga liquid surface, In monolayer, sputtering, computer simulation studies 7−17387
- H in Pd, molecular dynamics simulation model for mobility and thermotransport props. 7−58554
- H_2O, intramol. vibr., mol. dynamics simulation 7−57047
- H_2O-DMSO, mol. dynamics, PMR relax. study 7−36651
- K+NaCl, cross section estimation 7−20004
- $(KBr)_{1-x}(KCN)_x$ mixed crystals, random strains and struct. 7−32405
- K_2O-SiO_2 glasses, molecular dynamics simulation 7−1901
- K_2O-SiO_2 glasses, struct., X-ray diffr., molecular dynamics calc. 7−6551
- LI_2-SiO_2 glasses, struct., X-ray diffr., molecular dynamics calc. 7−6551
- $LiCl.3H_2O$, soln., struct., mol. dynamics simulation 7−58127
- Li_2O-SiO_2 glasses, molecular dynamics simulation 7−1901
- N_2, liq. and fluid press., intermol. pots. comparison, mol. dynamics simulation 7−63419
- N_2, surface layer on graphite, motion investig. 7−32792
- N_2O, in liq. SF_6, rot. self-correl. functions, mol. dynamics simulation 7−44343
- Na, crysts., BCC and FCC, thermophys. props., mol. dynamics calcs. 7−2229
- Na^+, limiting ionic cond. in aq. soln., mol. dynamics simulation 7−44879
- $NaBeF_3$, molten, struct., dynamic props., mol. dynamics calcs. 7−37834
- Na_2BeF_4, molten, struct., dynamic props., mol. dynamics calcs. 7−37834
- NaCN, ab initio coupled HF calcs. of multipole moments and dipole polarisability of CN^- 7−5587
- NaCl, excess electron localisation, QUPID calcs. 7−20029
- $NaNO_2$, solid ferroelectric and paraelectric phases, lattice vibrs., Raman and IR spectra anal., mol. dynamics calcs. 7−21373
- Na_2O-SiO_2 glasses, molecular dynamics simulation 7−1901
- Ni (110), adsorbed H, order-disorder transitions, theory 7−12492
- Ni close packed polytypic struct., stacking order, mol. dynamics computer simulation studies 7−51691
- Ni, single and multiple defect props., mol. dynamics simulations 7−12060
- No^+, excess electron localisation, QUPID calcs. 7−20029
- $O+H_2$, cross section estimation 7−20004
- O_2-N_2 equimolar liq. mixture, excess props. and struct., mol. dynamics simulation 7−32246
- Pd (111), adsorbed H, order-disorder transitions, theory 7−12492
- Pd-H, single particle dynamics, simulation model 7−27016
- Rb, rapidly quenched, Voronoi polyhedron distrib. calc., mol. dynamics method 7−26636
- Rb, supercooled liquid, structural relax. 7−37840
- Rb_2ZnCl_4, incommensurate transition, pot. energy and mol. dynamics ab initio calcs. 7−21435
- Rh (111), clean and with adsorbed O, ion bombarded, desorbed atoms distributions 7−22420
- S_n, liq., chem. reactions, mol. dynamics simulation 7−39862
- SO_2 vapour, second virial coeff., intermol. pair pots., mol. dynamics simulation method study 7−31908
- Si, elastic consts., mol. dynamic calcs., shear modulus 7−6705
- Si films, laser beam melted, facet formation at solid-melt interface 7−38418
- Si, liquid, electronic props., tight binding-mol. dynamics calcs. 7−16931
- Si, molecular dynamics, classical two and three-body interatomic potentials 7−16966
- Si_n (n=10 to 32), clusters, growth and struct., solid-liq. transform., mol. dynamics simulation 7−26682
- SiO_2, vitreous, surface, adsorption and thermal accommodation of Pt single atoms 7−27133
- SiO_2, vitreous, surface struct., mol. dynamics simulation studies 7−63497
- T_2O, liq., molecular dynamics simulation 7−26992
- Xe overlayer raft orientation on Pt (111), mol. dynamics study 7−38334
- YF_3 solns., complexing, mol. dynamics studies 7−6496
- ZnO-SiO_2 amorphous system, structure, mol. dynamics computer simulation studies 7−21114

molecular electron correlations

- acetic acid, unimol. pyrolysis mechanisms, ab initio quantum-chem. study 7−46805
- acrolein, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7−56983
- AlH_3^+, charge-transfer reaction, mol. representation, CI calcs. 7−36485
- alkali atoms, photoelectron spectra, correl. effects, CI study 7−62450
- alkali metal hydrides, X $^1\Sigma^+$ state, HF quality Slater basis sets 7−19719
- azoles, UV photoelectron spectral assignment, ab initio. MRD CI calcs. 7−50239
- Beebe–Linderberg two-electron integral approx. 7−42449
- benzene, valence and Rydberg states, CASSCF-contracted CI calcs. 7−56997
- benzene+NO^+, struct. and energetics, calc. by ab initio MO computations 7−8267
- benzene like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7−50247
- benzofurans, UV spectra, substituent influence 7−50170
- o-benzyne, valence ionis. energy and mol. geometry, green fn. method, CI and GVB calcs. 7−62290
- bicalicene, cyclic, electronic structure, SCF CI calcs., NMR and PMR 7−50185
- binaphthyls, near-IR triplet-triplet spectrum and circular dichroism as probes for electron delocalisation 7−31086
- butadiene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7−19712
- carbonyl imines, relative stability, ab initio SCF MO study 7−57003
- CH mol., photodissoc., ab initio SCF with CI calcs. 7−42499
- chlorin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7−10447
- chloroazidobenzene derivatives, UV spectra, SCF-CI calcs. 7−57000
- compound metal clusters, struct. and electronic structs. calcs. 7−15783

molecular electron correlations continued

- cyclic ketones, *α*-bond rupture, photochem. reaction, ab initio SCF CI calcs. 7−56998
- cyclopropylcarbinyl cation and bicyclobutonium ion, pot. energy surface, polarisation functions and electron correl. effect 7−30966
- decapentaene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7−19712
- demethyl porphyrins, monosubstituted free-base series, MCD study, INDO and CI calcs. 7−25401
- di-t-butyl silylene, triplet ground-state, electronic and stearic effects, ab initio calcs. 7−25419
- diagrammatic VB method for CI calcs. 7−19711
- diatomic and triatomic systems containing group IB atoms Cu, Ag and Au, ground state pot. energy surfaces 7−25441
- diatomic mols., orbital stress and transition stress calc., bond lengths, rot. consts. photoelectron spectra 7−42503
- dimethyl silylene, triplet ground-state, electronic and stearic effects, ab initio calcs. 7−25419
- 2-dimethylamino-6-propionylnaphthalene, twisted charge transfer state, fluoresc. quantum chem. study 7−863
- dithioformic acid, conform. struct. and stability, rot. barrier, SCF and HF calcs. 7−25427
- effective pair correlation function with fixed zero value, construction 7−49868
- electron affinities evaluation 7−5591
- ethylene, bending force const. attenuation, ab initio CI calcs. 7−49939
- excited states, decay via radiative and dissoc. mechanisms, ab initio MRD-CI calcs. 7−57001
- formyl cyanide, vibr. freqs. and geometry, ab initio electron correl. calcs. 7−49938
- formyl radical pair, anharmonic vibr. effects, ab initio SCF-CI calcs. 7−10444
- glycine, zwitterion, electronic excitation spectrum, aq. solvation effects, CI calcs. 7−50160
- hexatriene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7−19712
- hydrides, relative energy characts., electronic correl. in ab initio calcs. 7−15528
- hydrocarbon peroxyl radicals, ab initio MO and electron correl. calcs. 7−49951
- hydroxyethylene, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7−56983
- isoformyl cation, force field, equilibr. geometry, ab initio determ. 7−62293
- macroscopic solvation, electron distrib. ab initio INDO SCF calcs. 7−54099
- many-electron systems, U(n) matrix element evaluation in composite basis 7−5604
- methane ion, photoelectron spectrum, Jahn-Teller effect, ab initio SCF and CI calcs. 7−42683
- methyl fluoride, pot. surface studied using ab initio MO theory with electron correl. energy 7−42494
- 1-methyl-2,4,6-triphenylpyridinium iodide, charge transfer complex, UV absorpt. spectra 7−36640
- methylene, $^1A_1$-$^3B_1$ separation, full CI calcs. 7−36486
- methylene, singlet-triplet gap, basis set and electron correl. effect 7−49943
- methylenefluoronium ylide, pot. surface studied using ab initio MO theory with electron correl. energy 7−42494
- molecular H-bonded systems, interaction energies, polarisation counterpoise corrections 7−62262
- multi-reference CI wave functions, geometrical energy derivative eval. 7−56994
- multichannel reaction matrix theory and CI in discrete and continuous spectrum 7−49873
- multireference second order perturbation CI 7−62247
- nitromethane, first excited states, dissoc. nature, SCF CI calcs. 7−56959
- nitromethane, isomers, struct., quantum mech. harmonic force field calcs. 7−56952
- nitrosomethanol, rotamers, struct., ab initio calcs. 7−56955
- 2,4,6,8-nonatetraenal, retinal model system, low-lying excited states, CI calcs. 7−861
- nonunitary orbital transform., transition density matrices calcs. 7−19717
- octatetraene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7−19712
- orbital optimisation scheme, spin projected HF method 7−838
- organic cpds. electron correl., SCF calcs. 7−19721
- organic radical cations, electronic visible-UV spectra, LNDO/s PERTCI calcs. 7−50169
- oxalic acid, isomerisation and unimol. dissoc. channels, MO calcs. 7−28295
- 2,4-pentadienal, retinal model system, low-lying excited states, CI calcs. 7−861
- polyacetylene, solitons, electronic props., local space approx. 7−52506
- polyenes, linear, ground-state vibrs. 7−36575
- polyenes, long, low-lying electronic excitations, PPP-MRD-CI calcs. 7−36488
- porphin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7−10447
- propene, electronic states, electron impact spectrosc. and ab initio CI calcs. 7−25417
- propylene, bending force const. attenuation, ab initio CI calcs. 7−49939
- quinone like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7−50247
- semiempirical MNDOC calcs., size consistency corrections 7−62292
- silaethylene, harmonic vibr. freqs., IR spectra, ab initio SCF CI calcs. 7−15600
- singly excited configurations, MCSCF method based on superposition 7−5611
- small clusters, electronic and geometrical structs. 7−15773
- spin-spin coupling const., polarisation propagator anal., RPA CI INDO calcs. 7−49942
- spin-spin coupling consts., ab initio diamagnetic spin-orbital contrib. 7−927
- squaraine dye, struct. and electronic props., NDO CI calcs. 7−857
- 1,2,4,5-tetramethylenebenzene, geometry optimisation, ab initio CI calcs. 7−15524
- tetramethyltin, vac. UV spectra, interpretation 7−50171
- 1,2,4,6-tetraphenylpyridinium perchlorate, charge transfer complex, UV absorpt. spectra 7−36640

molecular electron correlations continued
- thiazyl compounds, struct. and bonding investigated at SCF level, electron correl. effects 7−10439
- transition metal hydrides, dipole moments, CASSCF/MRCI calcs. 7−10443
- transition metals, second row hydrides, low-lying states, spectroscopic parameters determ. using large valence basis sets 7−42500
- trifluoromethyl, inversion barrier heights, SCF and CI calcs. 7−62289
- trifluoronitrosomethane, geometric and electronic props. SCF and CI calcs. 7−15527
- valence electron correlation energy calculation 7−42493
- valence virtual MOs for CI calcs. 7−860
- $_3^+$, ground state pot. energy surface, MRD-CI calcs. 7−30959
- AlF, pot. energy curves for excited states, ab initio CI calcs. 7−49948
- AlF^+, radical, matrix ESR and CI investig. 7−15629
- Ar^+, $3p^4 4p$ configuration, multielectron photoionisation, relativistic HF calcs. 7−36567
- ArH^+, low-lying mol. states nonorthogonal CI calcs. 7−50339
- $ArHe^+$, doublet states, ab initio CI calcs. 7−56989
- $ArHe^+$, mol. states, MRD-CI calcs. 7−36492
- $ArHe^{2+}$, mol. states, MRD-CI calcs. 7−36492
- As_2, electronic states, spectroscopic props., SCF CI calcs. 7−62294
- AuH bonding, ab initio fully relativistic calcs. 7−15531
- B clusters, magnetic properties, Heisenberg Hamiltonian 7−57199
- BF^+ radical cations in Ne matrix, generated by laser sputtering and high temp. sources, EPR, CI calcs. 7−25604
- C_2 ion, low lying quartet states, radiative transition probabilities, CASSCF and MC-CI electronic wavefunctions 7−49946
- C_4, struct., energies, single reference CI calcs. 7−19720
- C_5, geometric isomers, ab initio calc. of equilib. struct. 7−62291
- C_6, cyclic ground state, struct., ab initio calcs. 7−42819
- CCH, $X^2\Sigma^+$ state, rot.-vibr. energies, ab initio calc. using nonrigid bender Hamiltonian 7−25422
- CO, insertion reactions, electron correl. effects, MP2 and CAS SCF calcs. 7−65289
- Cl_3, electronic struct., ab initio SCF and CI study 7−5605
- ClO, electric dipole moment fn. calcs. 7−10442
- Cu_3, ground state surface, ab initio calcs. 7−42467
- CuH, singlet and triplet Σ^+ pot. energy curves investigated by valence-only CI calcs. 7−42495
- $F+H_2 \rightarrow HF+H$, collinear transition state, CI calcs. 7−54105
- FCP and higher-lying isomer, struct., stabilities, ab initio study 7−864
- Ga_2, electronic states, CASSCF and FOCI calcs. 7−62267
- GeH_4^+, Jahn-Teller, struct. and energy distortions ab initio CI calcs., HF calcs. 7−15523
- $H+HO_2$, abstraction reaction, saddle point geometries and barrier heights, ab initio SDCI calcs. 7−46806
- H_2, high energy electron scatt. cross sections calcs., revised Bethe theory 7−42507
- H_2, interat. interactions in van der Waals region, Epstein Nesbet calc. 7−36491
- H_2, MRD-CI pot. surfaces calcs. using balanced basis sets 7−42498
- H_2^+, interat. interactions in van der Waals region, Epstein Nesbet calc. 7−36491
- H_3, MRD-CI pot. surfaces calcs. using balanced basis sets 7−42498
- H_4 in ground and first two excited singlet states, pot. energy hypersurfaces 7−57002
- HCN, isotopic species, electronic states, pot. surface, dissoc. vibr. anal., CI calcs. 7−62297
- HCN, vibr. energy levels calc. using ab initio pot. energy function, CI calcs. 7−25484
- HCP and higher-lying isomer, struct., stabilities, ab initio study 7−864
- HF, MBPT and coupled cluster calc., comparison with CI 7−49899
- HF, macroscopic solvation, electron distrib. ab initio INDO SCF calcs. 7−54099
- $HF\text{-}H_3N$, H-bonded complex, force consts. calc. for vib. modes, correl. effects 7−19823
- HO_2^+, electronic struct., MRD-CI calcs. 7−10450
- H_2O, bond lengths and force consts., LR CI calcs. 7−56990
- H_2O, electron scatt., small-angle, meas. and calcs. 7−50346
- H_2O, full CI extrapolation, double zeta basis set 7−36484
- H_2O, MBPT and coupled cluster calc., comparison with CI 7−49899
- H_2O, vap., mol. Auger transition rates, appl. to Auger spectrum, Stieltjes imaging method 7−62458
- H_2O-Cu(Ni), complexes, bonding, intermolecular electron correl. 7−10449
- H_2O-Cu(Ni) complexes, binding, SCF CI calcs. 7−56958
- HSOH, CI analytic energy second derivatives, IR intensities and vibr. freqs. prediction 7−5608
- $H_2Si_2^-$, electronic struct., MC SCF CI and CEPA calcs. 7−56992
- HXCHY where $X,Y=CH_2$, NH and O, 1,3 shift, SCF and CI study 7−10448
- $He\text{-}H_2$ van der Waals mol., diagrammatic perturbation theory 7−5607
- He+ferrocene $(Fe(CO)_5)$, dissoc. excitations, mol. orbital correls. 7−10735
- He_2, interat. interactions in van der Waals region, Epstein Nesbet calc. 7−36491
- I_2, higher electronic states, rot.-vib. anal., mol. fluoresc. study 7−19918
- Li ion affinities of O_2 and N_2 bases, basis set and correl. effects 7−5610
- Li surface, CO chemisorption, molecule-cluster interaction ab initio SCF-CI calcs. 7−45013
- $Li\text{-}H_2$ system, second derivative nonadiabatic coupling matrix elements determ. pot. energy surfaces 7−42501
- Li-vinylidene complex, struct., bonding, ab initio CI calcs. 7−49935
- Li+HCl quenching reaction, electronic struct., ab initio SCF CI calcs. 7−56995
- LiCN(LiNC), struct., electron correl. calcs. 7−30956
- $LiF\text{-}H_3N$, Li-bonded complex, force consts. calc. for vib. modes, correl. effects 7−19823
- LiH, electronic energy, Green's fn. calc. 7−10445
- LiH, vibr. transition freqs. obtained from SCF and correlated wave functions, effects of basis set selection 7−25420
- LiH^+, spin density, cusped gaussian wave functions 7−42504
- Li_2S, triplet ground-state, electronic and stearic effects, ab initio calcs. 7−25419
- Mg_2FeH_6 cryst. complexes, Madelung field effects, quantum chem. calcs. 7−11984
- Mg_2NiH_4 cryst. complexes, Madelung field effects, quantum chem. calcs. 7−11984
- N_2, bond lengths and force consts., LR CI calcs. 7−56990
- N_2, elec. field gradients, finite field MBPT 7−5603

molecular electron correlations continued
- N_2, electron scatt., high energy, X-ray incoherent scatt. factor 7−36757
- N_2, ground state, pot. curves, MR CI and MC SCF calcs. 7−49936
- N_2, high energy electron scatt. cross sections calcs., revised Bethe theory 7−42507
- N_2, momentum-space props., Compton profiles 7−42505
- N_2, Rydberg states, SCF and CI calcs. 7−19715
- N_3^-, spectroscopic props. ab initio GTO CEPA study 7−15525
- NCl, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7−42492
- NF, $(b^1\Sigma^+, a^1\Delta) \rightarrow X^3\Sigma^-$ radiative decay processes 7−42522
- NF, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7−42492
- NF_3^+, inversion barrier heights, SCF and CI calcs. 7−62289
- NH_2, MBPT and coupled cluster calc., comparison with CI 7−49899
- NH_3 unimolecular dissoc., pot. energy surface, classical trajectory study 7−13745
- NH_4^-, stability against dissoc. and $NH_3.H^-$ form., pot. energy surfaces, ab initio CI calcs. 7−30955
- NO, low-energy electron scatt., R-matrix method, close-coupling expansion study 7−36490
- NO^{2+}, $^2\Sigma^+$ and $^2\Pi$ states, ab initio MC SCF CI calcs. 7−49937
- N_2O, protonation site and energies, N_2OH^+ struct. ab initio MO calcs., SCF calcs., CI calcs. 7−15480
- N_2OH^+ isomers, struct. and energy levels, ab initio MO, SCF and CI calcs. 7−15481
- NS, low-lying valence and Rydberg states obtained by CI studies 7−49947
- NS^+, electronic states study, CI calcs. 7−19714
- Na_2, excited state dissociation 7−49952
- O+HD reaction probabilities and rate consts. ab initio pot. energy surface 7−65295
- O_2, high energy electron scatt. cross sections calcs., revised Bethe theory 7−42507
- PdGe, bonding, electronic states, ab initio HF-CI calcs. 7−42497
- PuF_6, low lying 5f to 5f excitations, ab initio study, electron correl. effects 7−42502
- SF_3 radicals, electronic struct., ab initio SCF CI calcs. 7−19716
- SH_3 radicals, electronic struct., ab initio SCF CI calcs. 7−19716
- S_2N_2, excited states, ab initio CI calcs. 7−42491
- Sc-CO, mol. bonding, pseudopot., and singles-and-doubles CI calcs. 7−10440
- ScO, low-lying states, SDCI calcs. 7−25421
- ScS, low-lying states, SDCI calcs. 7−25421
- SiCl, spectral and struct. props., MO calcs. 7−25418
- SiH, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7−19713
- SiH_2, $^1A_1$, $^1B_1$ and $^3B_1$ states equilib. and stretched SiH bonds SCF CI calcs. 7−49944
- SiH_2, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7−19713
- SiH_2 radicals, singlet-triplet energy separation, SCF CI calcs. 7−19718
- SiH_3, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7−19713
- SiH_4, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7−19713
- SiH_4, mol. orbitals dynamic polarisation in Auger emission 7−5724
- SiH_4^+, Jahn-Teller, struct. and energy distortions ab initio CI calcs., HF calcs. 7−15523
- Si_2H_4, struct. and stability, ab initio calcs., heat of form. 7−10441
- Sn_3, electronic states, pot. energy surface, relativistic calcs. 7−5613
- $SnCl_4$, vac. UV spectra, interpretation 7−50171
- SnH_4^+, Jahn-Teller, struct. and energy distortions ab initio CI calcs., HF calcs. 7−15523
- VO, low-lying states, SDCI calcs. 7−25421
- VS, low-lying states, SDCI calcs. 7−25421

molecular electron impact dissociation
- adsorbates, electron stimulated processes at surfaces, excitation anisotropy 7−13282
- decafluorobutane, electron attachment rate const. 7−62534
- electron-molecule collision induced dissociativeexcitation as studied by Doppler profile analysis *(Japanese)* 7−985
- fluoroalkanes, electron impact dissociative ionis., cross section estimation 7−20066
- formyl ion, dissociative recombination of interstellar ion, electronic struct. calc. 7−20064
- hexafluoroethane, electron interactions, excited fragment form., excitation cross sections 7−57182
- methylamine, electron impact, excited NH radical form. 7−36800
- octafluoropropane, electron interactions, excited fragment form., excitation cross sections 7−57182
- tetrafluoromethane, electron interactions, excited fragment form., excitation cross sections 7−57182
- trifluoromethane, electron interactions, excited fragment form., excitation cross sections 7−57182
- ultrathin foils for Coulomb-explosion experiments 7−57184
- CO, dissociative electron attachment, ang. distrib. of O^- 7−25674
- COF_2, electron impact dissociative ionis., cross section estimation 7−20066
- CS_2, dissociative attachment bands, impact electron and fragment ion energy spectra anal. 7−50386
- D_3O^+, electron impact dissoc. fragment cross sections 7−5777
- H_2, atomic data relevant to edge plasmas 7−20063
- H_2, electron impact excitation cross-sections, correction for excited fragment escape 7−25671
- H_2^+ slow electron impact dissoc. recomb. 7−50382
- HCl, low-energy electron collisions, inelastic processes, R matrix theory anal. 7−31180
- H_2O vapour electron impact cross sections electron energy degradation spatial aspects 7−50381
- H_3O^+, electron impact dissoc. fragment cross sections 7−5777
- N_2, electron and photon collision cross section 7−18513
- NH_3, electron impact, excited fragment absolute emission cross sections 7−5776
- NH_3, electron impact, excited NH radical form. 7−36800
- NH_3, electron impact excitation cross-sections, correction for excited fragment escape 7−25671
- N_2H_4, electron impact, excited NH radical form. 7−36800
- $N^+(^5S)$ state production by electron impact on N_2, excitation function, quenching and aurora emissions 7−29328

molecular electron impact dissociation continued
O_2, dissociative excitation of OI($2p^{41}D$-$3s'^3D^o$, λ 1172.6 Å) multiplet transition 7-31179
SiF_4, electron impact dissociative ionis., cross section estimation 7-20066

molecular electron impact excitation
see also electron spectra
acetaldehyde, electronic struct. and decay channels, negative ion mass and electron impact spectroscopy 7-50383
adsorbate orientation, electronic excitation by electron beam, differential cross-section meas. 7-27101
angular scatt., electron vel. distrib. shaping 7-981
anthracene, vapour, electron impact excitation functions, fluorescence 7-25600
atomic clusters, multiple-scatt. theory, appl. of a non-muffin-tin pot. general pot. develop. 7-36839
benzene, electron momentum transfer cross-section calcs. 7-20039
biacetyl, triplet-state form. mechanism, electron impact induced phosphoresc. 7-42666
chiral molecules, electron helicity, and origin of optical activity, polarised positron meas. 7-62538
chloromethylidyne, $A^2\Delta \rightarrow X^2\pi$ emission in tetrachloromethane discharges, conc. profile determ. 7-31183
complex scaling methods 7-46819
dimethoxymethane, electron impact excitation, fluoresc. meas. 7-10764
dimethylether, electron impact excitation, fluoresc. meas. 7-10764
electron scatt. in a laser field, modified perturbation theory 7-36572
electron-molecule collision induced dissociativeexcitation as studied by Doppler profile analysis *(Japanese)* 7-985
electronic struct. and dynamics, conf., Snowbird, UT, USA (April 1986) 7-55877
ethane, positron and electron collisions, cross section meas., time-of-flight spectra anal. 7-36799
ethanol, jet-cooled, electron impact induced fluoresc. of dissoc. fragments 7-36676
ethylene, positron and electron collisions, cross section meas., time-of-flight spectra anal. 7-36799
hexafluoroethane, electron interactions, excited fragment form., excitation cross sections 7-57182
inversion of molecular scattering data 7-42731
metastable state, electron impact excitation meas. using adjustable threshold detector 7-25670
methane, electron elastic scatt., differential cross sections meas. 7-25653
methane, electron scatt. cross section calc., parameter-free model interaction 7-62535
methane, electron scatt. cross sections, 0.1 to 500 eV, complex optical pot. calcs. 7-25382
methane, jet-cooled, electron impact induced fluoresc. of dissoc. fragments 7-36676
methane, positron and electron collisions, cross section meas., time-of-flight spectra anal. 7-36799
methanol, jet-cooled, electron impact induced fluoresc. of dissoc. fragments 7-36676
methyl bromide, thermal electron attachment and diffusion 7-20038
methylformate, electron impact excitation, fluoresc. meas. 7-10764
molecular ions, electron capture, rot.-vibr. transitions in autoionisation, CF method anal. 7-20036
octafluoropropane, electron interactions, excited fragment form., excitation cross sections 7-57182
perylene, vapour, electron impact excitation functions, fluorescence 7-25600
perylene, vapour, electron scatt., energy loss spectra 7-31168
polypropylene foil, coherent transition X-ray meas. under e^- bombardment 7-5698
POPOP vapour, electron impact excitation functions, fluorescence 7-25600
positron and positronium atomic physics 7-36783
positrons in gases 7-36782
resonance collision, Herzenberg and Bardsley theories *(Russian)* 7-62537
p-terphenyl, vapour, electron impact excitation functions, fluorescence 7-25600
tetrafluoromethane, electron interactions, excited fragment form., excitation cross sections 7-57182
tetrafluoromethane-O_2 mixtures, electron gas investig. 7-20861
trifluoromethane, electron interactions, excited fragment form., excitation cross sections 7-57182
trimethylgallium decomposition during CVD, effect of added hydrazine, multiphoton and electron ionisation mass analysis 7-23010
water vapour in cometary ionospheres, electron cooling by vibr. and rot. excitation 7-29435
BF_3 (BCl_3) (BBr_3), electron impact, Auger and Coster-Kronig spectra 7-15719
CO_2, positron scattering, cross-section meas. 7-20054
Cr^{3+} dielectronic recombination, photon/ion coincidence meas. 7-10756
Cs halides, low energy electron collisions, cross section-electronegativity relation 7-20061
F_2, f $^3\Pi_g$ state, electron impact, laser photon emission 7-5778
H_2, atomic data relevant to edge plasmas 7-20063
H_2, $c^3\Pi_u$ state, total excitation cross-sections 7-5779
H_2, electron impact, $b^3\Sigma_u^+$ excitation differential cross section meas. 7-31178
H_2, electron impact excitation cross-sections, correction for excited fragment escape 7-25671
H_2, electron impact vibr. excitation, low energy, in He-H_2 mixtures 7-25675
H_2, electron scatt., elastic and vibr. excitation differential cross section calcs. 7-25652
H_2, maximum specific deposited energy, role of VV processes 7-31303
H_2 near-threshold rovibrational excitation cross-sections, first-order nondegenerate adiabatic theory 7-15729
H_2, positron impact vibr. excitation 7-36802
H_2, vibrational excitation by electrons, electron spectra 7-57181
HBr, electron impact, Auger and Coster-Kronig spectra 7-15719
HCl, low-energy electron collisions, inelastic processes, R matrix theory anal. 7-31180
H_2O, electron scatt., small-angle, meas. and calcs. 7-50346
H_2O, electron scatt. at intermediate energies, total absolute cross sections 7-62523
H_2O vapour electron impact cross sections electron energy degradation spatial aspects 7-50381
KH $A^1\Sigma^+$ state, collision induced transitions *(French)* 7-10726

molecular electron impact excitation continued
N_2 $A^3\Sigma_u^+$ state, electron impact excitation 7-25669
N_2, electron and photon collision cross section 7-18513
N_2, electron elastic scatt. and vibr. excitation, differential cross section meas. 7-36798
N_2, electron excitation of metastable levels 7-50389
N_2, vibrational excitation by electrons, electron spectra 7-57181
N_2^+, electron impact on N_2, A $^2\Pi_u$ state excitation rate meas. 7-19934
N_2^++He, electron beam excitation at 391.4 and 427.8 nm 7-10917
NH_3, electron impact excited, Balmer line emission cross sections 7-20065
NH_3, electron impact excitation cross-sections, correction for excited fragment escape 7-25671
N_2O, threshold electron impact spectrum 7-50385
$N^+(^5S)$ state production by electron impact on N_2, excitation function, quenching and aurora emissions 7-29328
NaCl, excess electron localisation, QUPID calcs. 7-20029
NaH $A^1\Sigma^+$ state, collision induced transitions *(French)* 7-10726
O_2, dissociative excitation of OI($2p^{41}D$-$3s'^3D^o$, λ 1172.6 Å) multiplet transition 7-31179
O_2, electron impact, vibr. excitation, three-body electron attachment, isotope effect 7-57185
O_2, electron scatt. cross section meas., 0.2 to 100 eV impact energy 7-20047
O_2, form. and resonant vibr. levels of O_2^-, spectra anal., cross sections calc. 7-15730
O_2-electron scattering at intermediate and high energies 7-5769
Pb and PbS ionised atomic clusters, fragmentation, TOF mass spectroscopic study 7-10807
SF_6^-, negative ionis. source for quadrupole mass analyser 7-35620
SiH_4, electron impact cross sections, spherical-complex-optical pot., ab initio HF calcs. 7-49904
SiH_4+e^+, optical pot. approach 7-30933

molecular electron impact ionisation
see also electron spectra
benzenedicarboxylic acid dimethyl esters, fragmentation process by electron impact 7-986
chloroferrocenes, ionisation pot., electron impact study 7-20062
$(CO_2)_n^+$ (n=2 to 4), cluster ion decay kinetics, mol. beam spectroscopy 7-13735
comet comae, electron impact ionization effect 7-40766
complex scaling methods 7-46819
dichlorodifluoromethane, electron impact ionis. cross section calc. 7-50380
2,4-dihydroxyquinoline, gas phase, prototropic equilib., electron impact fragmentation spectra anal., LCAO-CNDO calcs. 7-36479
1,2-dimethoxybenzene derivatives, mass spectra, electron impact ionis. meas. 7-987
2-dimethylaminomethyloyclohexanols, electron impact ionis. mass spectra 7-50388
fluoroalkanes, electron impact dissociative ionis., cross section estimation 7-20066
gases, positron diffusion and annihilation rates 7-37621
H_2 gas, thermalised free positron annihilation rate studies 7-50390
hexafluoroethane-Ar mixture, electron drift velocity, attachment, ionization coeff. 7-31181
hexafluoroethane-methane mixture, electron drift velocity, attachment, ionization coeff. 7-31181
ion source with small energy spread and high brightness 7-15031
ionising collisions, electron vel. distrib., energy partition effect 7-989
methane, dissociative ionization and electron attachment 7-31182
methane, gas, positron annihilation, density and elec. field effects 7-36825
momentum spectroscopy, differential cross section 7-36771
optically active molecules, expt. limits on asymmetric positronium formation 7-36813
organorhenium hydrides and alkyls, mass spectra, electron impact induced H-rearrangements 7-42773
orthapositronium, in ethane gas, annihilation rates, press. and temp. depend 7-36826
positron and positronium atomic physics 7-36783
positron-gas system, EM wave irrad., positron distrib. 7-36761
positrons in gases 7-36782
propylamine, fragmentation, electron impact mass spectrometry, ab initio MO calcs. 7-50387
tetrafluoromethane, electron impact ionis. cross section calc. 7-50380
time-of-flight mass spectrometer for molecular beams 7-48910
tropane alkaloids, chem. ionis. and electron impact mass spectra 7-59802
vibrationally excited molecules, ions. by UV irrad. or electron impact, stochastic dynamics 7-19734
water-cluster ions negatively charged, electron impact ionisation meas. 7-42821
C_2^+, excited state, prod., ion-mol. reactions, FT mass spectra investig. 7-54087
CO, electron impact, fragment ion kinetic energy determ. 7-25673
CO electron impact ionisation efficiency curves, reson. struct. 7-5774
CO gas, thermalised free positron annihilation rate studies 7-50390
COF_2, electron impact dissociative ionis., cross section estimation 7-20066
$CIBS^+$, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7-50158
F_2, electron impact ionis. cross section calc. 7-50380
FBS^+, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7-50158
H_2, atomic data relevant to edge plasmas 7-20063
H_2 electron beam ionisation luminesc. in high-current discharge, vacuum-UV radiation props. 7-57183
H_2, high energy electron scatt. cross sections calcs., revised Bethe theory 7-42507
H_2, low-energy positron scatt., Z_{eff} calcs. 7-50384
H_2 positron collisions, positronium form. cross sections 7-15724
H_2, positron impact, positronium form. cross-sections 7-36801
H_2O, electron impact, total ionisation cross-sections meas. 7-25672
Li_2, vibr. excited by optical pumping, electron impact ionisation cross sections 7-62536
N_2, electron and photon collision cross section 7-18513
N_2, electron impact ionis. cross section calc. 7-50380
N_2, electron impact ionisation efficiency curves, reson. struct. 7-5774
N_2, electron-impact ionisation, double differential cross section, TOF spectra anal. 7-42774
N_2 gas, thermalised free positron annihilation rate studies 7-50390

molecular electron impact ionisation continued
- N_2, high energy electron scatt. cross sections calcs., revised Bethe theory 7−42507
- N_2^+, electron impact on N_2, A $^2\Pi_u$ state excitation rate meas. 7−19934
- $(NH_3)_n^{x+}$, multiply charged clusters, decomp. channels 7−15790
- $N^+(^5S)$ state production by electron impact on N_2, excitation function, quenching and aurora emissions 7−29328
- O_2, electron impact ionisation efficiency curves, reson. struct. 7−5774
- O_2, electron scatt. cross section meas., 0.2 to 100 eV impact energy 7−20047
- O_2 gas, thermalised free positron annihilation rate studies 7−50390
- O_2, high energy electron scatt. cross sections calcs., revised Bethe theory 7−42507
- PuF_6 and PuF_5 mols., ionisation and appearance pots. meas. bond dissociation energy calcs. 7−10765
- SF_6, electron impact, fragment ion kinetic energy determ. 7−25673
- SF_6, electron impact ionis. cross section calc. 7−50380
- SF_6, electron swarm kinetics with attachment and ionis., higher-order Boltzmann eqn. calcs. 7−20854
- SiF_4, electron impact dissociative ionis., cross section estimation 7−20066
- UF_6, electron impact ionis. cross section calc. 7−50380

molecular electron scattering *see elastic scattering of electrons by atoms and molecules; molecular electron impact dissociation; molecular electron impact excitation; molecular electron impact ionisation*

molecular electronic states
- *see also charge transfer states; molecular metastable states; triplet state*
- $^{14}CO^+$, rot.-vibr. anal., UV spectra 7−19821
- absorption and fluoresc. line shapes, eigenstate-free Green function calcs. 7−25596
- acetaldehyde, mm and sub-mm wave spectra, centrifugal distortion and internal rot. anal. 7−57056
- 9-acetoxy-10-phenylanthracene derivatives, excited state absorpt. spectra 7−36591
- acetylene, Fermi perturbation study, UV absorpt. and fluoresc. excitation spectra anal. 7−36638
- acetylene, optical transition energies and ionisation pot., DVM-Xα calcs. 7−25391
- acetylene, vap., REMPI and third harmonic generation 7−25612
- acridine red, frozen solns., excited singlet states fluoresc. spectra 7−42675
- AlH_3^+, charge-transfer reaction, mol. representation, CI calcs. 7−36485
- alignment parameters, circular dichroic photoelectron angular distrib. meas. 7−36687
- alkali hydride, ground and excited mol. states, long range pot. curves calcs. 7−19994
- alkali hydrides, ground state reduced pot. curves 7−10466
- alkaline earth monohalides, electronic struct. from laser microwave double resonance spectra 7−10638
- alkanes, linear and branched, C K-shell excitation, electron energy loss spectra 7−57172
- alkoxy radicals, electronic struct., rot. resolved spectra 7−62352
- (alkylthioalkyl)trialkoxysilanes, electronic struct., UV absorpt. spectra 7−57082
- aluminium(III)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7−25563
- anthracene, excited states, vibronic coupling, one-photon spectrum 7−31051
- anthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
- aromatic carbonyl cpds., mol. photophysics, proximity effect and pseudo-Jahn-Teller interaction 7−62457
- L-ascorbic acid radical, stability and props. MIND and MNDO calcs. 7−15514
- trans-azobenzene, symmetry-forbidden electronic transition, reson. Raman excitation profiles 7−15604
- azulene, S_0-S_1 absorpt. spectra and Raman excitation profiles, vibr. intensity distribs., quantum-chem. anal. 7−42619
- basis sets correl. balance 7−56928
- Beebe-Linderberg two-electron integral approx. 7−42449
- benzene, $^1B_{1u}$ state, photoionis., mass and photoelectron spectra 7−42681
- benzene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7−25414
- benzene, absolute Raman cross sections, meas. 7−15607
- benzene, Ar matrix isolated, vac. UV and MCD absorpt. spectra 7−15635
- benzene, B_{2u}—A_{1g}, three-photon transition, condensed phase study 7−5732
- benzene, ionization-Raman double-resonance spectroscopy 7−10604
- benzene, valence and Rydberg states, CASSCF-contracted CI calcs. 7−56997
- benzene, vibronically induced intensities, CNDO/S calcs. 7−19704
- benzene molecule, electronic struct. 7−19724
- benzofurazan, vibronic struct., magnetic circular dichroism spectra anal. 7−50211
- benzonitrile-Ar(Kr)(N_2O)(H_2O)(trifluoromethane), excited state van der Waals complexes, fluoresc. investig. 7−50223
- benzophenone in diethylaniline, photolysis, excited triplet state with charge transfer struct. 7−42753
- 2,1,3-benzothiodiazole, vibronic struct., magnetic circular dichroism spectra anal. 7−50211
- 9,9′-bianthryl, n-hexane soln., excited states, dipole moments, transient dielectric loss results 7−13088
- bicalicene, cyclic, electronic structure, SCF CI calcs., NMR and PMR 7−50185
- 4,4′-bipyridyl radical cation-β-cyclodextrin inclusion complex, dichroism and MO calcs., ESR 7−25580
- 1,1′- bipyrrole, rot. isomerism, mol. conformation, electronic struct. ab initio STO calcs. 7−15478
- bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- carbonyldicobalt, electronic struct., MO calcs. 7−15522
- bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- carbonyldinickel, electronic struct., MO calcs. 7−15522
- bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- nitrosyldicobalt, electronic struct., MO calcs. 7−15522
- bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- nitrosyldiiron, electronic struct., MO calcs. 7−15522
- bis(π-allyl) nickel, photoelectron spectrum, semi-empirical and ab initio Green's Function methods 7−30950
- bis(n-toluene)vanadium, matrix isolated, magnetisation props., MCD meas. 7−57112

molecular electronic states continued
- 9-bromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
- bromocyanoacetylene cation in ground and electronic states, vibr. struct., emission and laser excitation spectra 7−50228
- BS, $X^2\Sigma^+$, $A^2\pi_i$, $B^2\Sigma^+$ states, potential energy curves, dissociation energy calcs. 7−50290
- butadiene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7−25414
- butadiene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7−19712
- trans-butadiene, optical transition energies and ionisation pot., DVM-Xα calcs. 7−25391
- trans-1,3-butadiene, vibr. struct., EELS 7−5767
- butynal, pulsed supersonic expansion intramolecular dephasing and relax. 7−10656
- carbazole+4-cyanopyridine (benzonitrile), H bonding interaction 7−17784
- carbocations, atom and bond props., quantum theory 7−5576
- carbon tetrafluoride, extreme UV photoexcitation study, UV fluoresc. anal. 7−36637
- CH mol., photodissoc., ab initio SCF with CI calcs. 7−42499
- chlorin, ground and excited states normal mode symmetry determ. 7−36588
- chloroferrocenes, ionisation pot., electron impact study 7−20062
- chloromethylidyne, $A^2\Delta \rightarrow X^2\pi$ emission in tetrachloromethane discharges, conc. profile determ. 7−31183
- 2-chloropyridine, microwave spectrum and nuclear quadrupole coupling 7−62359
- chromium(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7−57112
- closed mol. chains, collective excited states, nodal and nodeless solns. *(Russian)* 7−42517
- compound metal clusters, struct. and electronic structs. calcs. 7−15783
- conjugated systems, computer reaction simulation, hybrid model 7−49874
- coronene in jet, fluoresc. excitation and SVL fluoresc. spectra 7−31103
- 9-cyanoanthracene, intramol. radiationless transitions, rot. effects 7−57116
- cyclobutenediylic dyes, electron transfer rate consts. and fluoresc. lifetime determ. 7−25587
- cycloheptatriene, excited, H atom release, unimol. dynamics 7−50276
- η-cyclopentadienylnickel nitrosyl, dissoc. and multiphoton ionis., photofragment spectroscopy 7−50281
- cyclopropene, low-lying excited states, UV spectrum, ab initio study 7−62393
- cyclopropyl silane, excited torsional state, microwave spectrum, stark spectroscopy, ODR 7−50092
- decapentaene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7−19712
- deuterobenzenes, first excited singlet state vibr. level, fluoresc. lifetime meas. 7−50214
- 2,4-di(2-pyrenyl)pentane, meso and racemic diastereoisomers, absorpt. and fluoresc. spectra 7−62434
- diacetylene cation, fluorescing electronic state, stimulated emission pumping spectra 7−31119
- dialkyl sulphides, heptane and acetonitrile solns., electronic struct., UV absorpt. spectra 7−5695
- p-substituted N,N-dialkylanilines, TICT states, fluoresc.; H-bonds 7−15644
- 3,5-diarylaminobenzene derivatives, absorpt. and fluoresc. spectra, steric effects 7−36590
- diatomic molecule, ground state, two-photon nonresonant excitation 7−36717
- diatomic molecules, IR transitions, vibr.-rot. matrix elements 7−50131
- diatomic molecules, spectroscopic constants determination 7−42583
- diatomic molecules, vibr. force consts. and transition stress 7−50063
- diatomic mols., heteronuclear, one-electron wavefns., radial couplings, united-atom limit 7−50286
- diatomic mols., mass-vel. corrections, relativistic kinetic energies 7−10452
- diatomic mols., multiphoton rot. line strengths, intermediate Hund's (a-b) coupling case calcs. 7−62472
- diatomic mols., orbital stress and transition stress calc., bond lengths, rot. consts. photoelectron spectra 7−42503
- diatomic systems orbital energies, multipole moments and electric field gradients, HF calcs. 7−62270
- 1,4-diazabicyclo[2.2.2]octane, soln., electronic state assignment, MCD spectra 7−50210
- diazoethenes, ground state geometries, semi-empirical MINDO/3 and MNDO calcs. 7−56975
- 9,10-dibromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
- dibromodifluoromethane, V-V′ vibr.. steady states, IR-UV double reson. study 7−50323
- dicarbolide ion, electronic struct., MS-Xalpha MO calcs. *(French)* 7−25390
- dications, structs., donor-acceptor interactions and stabilities 7−10393
- dichloromethylene radical, fluoresc. decay meas., lifetime determ. 7−25594
- difluoromethane, ground state rot. spectrum 7−5670
- 6b,8a-dihydrocyclobut(a)acenaphthylene, photoisomerisation, solvent and irradiation parameter effects, visible and UV spectra study. 7−33947
- 4-N,N-dimethylaminobenzonitrile, cyclohexane (1,5-dioxane) solns., excited states, dipole moments, transient dielectric loss results 7−13088
- dimethyldioxirane, electronic struct. and geometry, NMR chem. shifts 7−62406
- dimethylritrosoamine excited singlet states symmetry and geometry, photodissoc. 7−54152
- dimethylsilylene, UV spectrum, geometry and vibr. freqs. 7−10610
- 4,4-dioxy-4-thia-1-acetyl-1,4-dihydropyridine, heteroaromaticity, p−d bonding, NMR, crystallography and calcs. 7−15623
- discrete states in the continuum, generation by coupling of bound states 7−36509
- DNA, aperiodic, electronic structure and cond. props. 7−23297
- double well potential, ground state energy 7−49969
- dye molecules in solutions, cascading of relaxation over higher excited singlet levels 7−36679
- electric dipole moment, mol. excited state, solvatochromic shift meas. 7−42512
- electronegative molecules, gaseous, electron attachment and detachment processes 7−19967
- electronic spectra, algebraic description methods 7−25479

molecular electronic states continued
electronically excited molecules, quantum Monte Carlo calcs. 7—15484
erbium(III) porphyrins, excited state, dual fluoresc. 7—10658
ethane, ground state, thermal decomp. pathways, ab initio electronic struct. calcs. 7—15476
ethylene, C—C bond description, HF and VB LCAO calcs. 7—25415
ethylene, optical transition energies and ionisation pot., DVM-Xα calcs. 7—25391
ethylene-HCl van der Waals mol., dissociation energies and heats of formation, photoionisation study 7—19966
ethynyl radicals, vibr. excited, colour centre laser spectra 7—62362
ethynylbenzene, ground state, UV emission spectrum 7—36635
europium carboxylate, luminescence props. calcs. 7—42667
excited state, three-photon photoselection theory, hexagonal point groups, appl. 7—5731
excited states, decay via radiative and dissoc. mechanisms, ab initio MRD-CI calcs. 7—57001
explosive absorption of finite-diameter laser beam 7—50269
flavins, struct. and REDOX props., electron distrib., MINDO/3 calcs. 7—56977
fluoromethane, conversion of different nuclear spin modifications, isotopic effect 7—50400
fluoromethane, multiphoton coherent excitation study 7—36698
formaldehyde, excited states, cubic force consts. and vibr.-rot. interaction consts. calcs. 7—25341
formic acid, ν_3 band, sub-Doppler laser-stack and Fourier transform spectroscopy 7—62430
formyl radical pair, anharmonic vibr. effects, ab initio SCF-CI calcs. 7—10444
FT photoelectron spectroscopy, correl. fn. and harmonic oscillator approx. 7—10665
germanium(IV)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7—25563
glycine, zwitterion, electronic excitation spectrum, aq. solvation effects, CI calcs. 7—50160
glyoxal, collision-induced intersystem crossing, gate states participation 7—25583
glyoxal, S_1-S_0 transition, two-photon spectra 7—62471
ground state energies, var. calcs. with trial binomial functions *(Russian)* 7—62251
ground states, MCD saturation behaviour 7—57111
guaiazulene, excited state dynamics kinetic model, laser-saturated fluoresc. study 7—50220
hexahalo complexes, vibronic coupling and state Jahn-Teller effect 7—19725
hexatriene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7—19712
2-(o-hydroxyphenyl)benzimidazole, excited state proton transfer, pulsed liq. lasers, pop. inversion obs. 7—50549
8-hydroxyquinoline, intramol. H bonding, UV photoelectron spectra and MO calcs. 7—25367
8-hydroxyquinoline-N-oxide, intramol. H bonding, UV photoelectron spectra and MO calcs. 7—25367
imidazole, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7—25526
iminoborane, and derivatives, electronic struct. ab initio calcs. 7—847
indoloquinoxaline, excited state, radiative rates, fluoresc. spectra 7—62433
iodomethane high-n Rydberg states, absorpt. density effects 7—50167
ionic cpds., struct., ionisation pot., stark shift 7—15634
iron(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7—57112
laser spectroscopy, conf., Maui, HI, USA, June 1985 7—9586
magdal red, frozen solns., excited singlet states fluoresc. spectra 7—42675
metal trimer clusters photodissoc., bound-free transitions fluoresc. study 7—23045
metal-ligand complexes, nonvibronic d-d intensities, charge-transfer manifold props., simplified group function, MO calcs. 7—19698
metalloporphyrin, fluoresc., picosec. kinetic meas. 7—31112
metalloporphyrin dianions, electronic struct., RHF calcs. 7—56946
metapyridinophanes, electronic struct. and transitions classification 7—10430
methanol, FIR lasers, intracavity triple reson. spectroscopy 7—10560
methyl ether, mol. charge similarity index study, appl. to isosteric cpds. 7—56978
methyl iodide, 6s Rydberg states, two-photon spectra, rot. subband struct., spin uncoupling 7—25620
methyl radical, pyrolytic precursors, electronic spectrum, EELS anal. 7—42760
methyl sulphide, mol. charge similarity index study, appl. to isosteric cpds. 7—56978
methylchloroform, microwave and mm-wave spectra, hyperfine struct., rot. and centrifugal distortion consts. 7—25500
3- methylcyclobutane in gas phase, photolysis and sensitised decompositions 7—23040
methylene, excited states, cubic force consts. and vibr.-rot. interaction consts. calcs. 7—25341
4-methylindole, electronic transition, methyl substitution effect, UV spectra anal. 7—42642
methylmethacrylate-dimethacrylate oxymethylanthracene polymer blend, γ-irrad., recomb. luminesc. spectra anal. 7—46145
methylnitrene, matrix-isolated, IR and UV absorpt. spectra 7—42637
molecular orbital wave functions; interaction parameters, GTO calcs. 7—15506
monohalobenzenes, electron struct., mol. reactivities, He Penning ionisation spectra and UV photoelectron spectra anal. 7—25642
multiple core holes, electronic system response and spectra prod., many-body theory 7—42477
naphthalenes, disubstituted, singlet-singlet electronic absorpt. and polarisation, UV spectra 7—62394
2-naphtholate, H^+recomb. and H^+ induced quenching, temp. depend. 7—57135
Ni+Ni collisions, quasimol. form., X-ray spectra study 7—31157
nitromethane, first excited states, dissoc. nature, SCF CI calcs. 7—56959
2,4,6,8-nonatetraenal, retinal model system, low-lying excited states, CI calcs. 7—861
nonequilibrium selecting system, quantum-mechanical model, asymmetric interactions 7—19991
nuclear quadrupole coupling consts., solvent effects *(French)* 7—25558
octahalodiosmate(III) anions, struct. and bonding 7—16508
cis, cis- octatetraene, excited 2^1A_g state pot., isomerisation study 7—13747

molecular electronic states continued
octatetraene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7—19712
optical vibronic transitions between mol. states with different geometric configs., probabilities calc. 7—31115
organic compounds., electronic density, transferability of atomic descriptions, mol. pot. calcs., HF STO calcs. 7—25355
organic cpds. excited state H^+ transfer, state orbital correls. 7—13760
organic molecules, photochemical processes, ab initio quantum chemical calcs. 7—59772
organic mols., electronically excited states, radiative decay and nonradiative conversion processes 7—50235
organic radical cations, electronic visible-UV spectra, LNDO/s PERTCI calcs. 7—50169
organic radicals, muonium-containing, H^+-Mu isotope effects 7—15745
2,4-pentadienal, retinal model system, low-lying excited states, CI calcs. 7—861
1,3-pentadiene, excited state polaris., photochem. 7—62303
periodic polypeptides, band struct. ab initio HF cryst. orbital calcs. 7—23298
phenothiazine derivative-methylviologen systems, charge separation yield 7—28323
phenylsilane vapour, VUV spectra and multiphoton ionisation study, photolysis prod. of Si 7—50172
phthalimides, electronic spectra, dipole moments, polarizabilities and Onsager radii, solvent effect 7—31064
picolines, absolute vacuum UV absorpt. spectra, absolute extinction coeff. and oscillator strength values 7—25536
platinum phthalocyanine, first excited states in mag. fields, Zeeman study 7—10643
polar compound in alcoholic solvents, time depend. fluoresc. shift, solute-solvent interaction 7—62436
polyatomic molecules, electronic-vibr. states, non-adiabatic effects anal. 7—25485
polyatomic mols., localised highly excited anharmonic vibr. anal. 7—50075
polyatomic mols. Rydberg states, cryst. field theory 7—10804
polydiacetylenes, electronic struct., substituent-induced strain effect, MNDO calcs. 7—10427
polyene chains, electronic struct., long-range electrostatic effects and terminal group influence 7—56987
trans-polyenes, electronic struct., DVM-Xα calcs. 7—25392
polyenes, homopolar singlet excitation energies, Hubbard model, Lieb-Wu eqns., numerical soln. 7—25353
polyenes, linear, ground-state vibrs. 7—36575
polyenes, long, low-lying electronic excitations, PPP-MRD-CI calcs. 7—36488
polyheterocyclic $4n\pi$-electron dianions, paratropicity, charge delocalisation and reactions 7—49896
polymethynes, restricted HF MINDO/3 calcs. 7—10432
polyvinyldiphenylanthracene, excited singlet state annihilation, fluoresc. 7—62432
porphyrin-quinone, excited state, interactions in reversed micelles, time-resolved fluoresc. spectroscopy. 7—19929
positronium, formation in molecular liquids, probability, spur model 7—17811
positronium, yield and emission spectra, in perfluorobenzene-cyclohexane mixtures, excited states effects 7—15741
potential energy surfaces, optical spectroscopy, time domain formulation 7—15535
propane, mol. charge similarity index study, appl. to isosteric cpds. 7—56978
propene, electronic states, electron impact spectrosc. and ab initio CI calcs. 7—25417
propyne, microwave spectrum in 17 to 52 GHz region for $\nu_{10}=4$ vibr. state 7—25499
proteins, aperiodic, electronic struct., ab initio calcs. 7—23273
purines in ground and lowest excited singlet states, dipole moments 7—54466
pyrazine $S_1(^1B_{3u})$ state, rot. induced vibr. energy redistrib. and K selectivity model 7—10710
pyrene, vibronic coupling and intramol. dynamics, fluoresc. excitation spectra 7—57118
quenching of aromatic ketone triplets, competing singlet and biradical form. 7—15641
resonantly enhanced multiphoton dissociative ionis. meas. 7—19968
rhodamine 6G*, transient excited singlet state absorption 7—57125
rhodamine B, frozen solns., excited singlet states fluoresc. spectra 7—42675
scintillator dye solutions, excited state absorpt. measurements 7—42516
selective vibrational pumping of a molecular beam by stimulated Raman process 7—10679
sensitised organic reactions, IR-laser induced, vibr. energy transfer rate control 7—65336
singly excited configurations, MCSCF method based on superposition 7—5611
sodium salicylate, excited state proton transfer, pulsed liq. lasers, pop. inversion obs. 7—50549
squaraine dye, struct. and electronic props., NDO CI calcs. 7—857
trans-stilbene, ground state, torsional motion, two-colour stimulated emission spectroscopy 7—50322
structure calcs., relativistic effects 7—36504
7,7′,8,8′TCNQ, semicond., fluorescence spectra and electronic energy levels 7—27769
terbium carboxylate, luminescence props. calcs. 7—42667
tetraethylmethylenediamine-I_2 charge transfer complex, electronic struct. influence, electronic absorpt. spectra 7—10611
1,2,4,5-tetrafluorobenzene in supersonic jet, fluoresc. and five-photon ionisation spectra, tunnelling 7—10659
tetrakis(alkylthio)tetrathiafulvalenes, valence electronic struct., UPS, EHT calcs. 7—21810
N,N,N′,N′-tetramethylbenzidine in various polar solvents, monophotonic ionisation 7—12758
1,2,4,5-tetramethylenebenzene, geometry optimisation, ab initio CI calcs. 7—15524
tetramethyleneethane, ground state triplet investig. 7—30926
tetramethyleneethane,. singlet ground state, ab initio calcs. 7—62259
tetramethylmethylenediamine-I_2 charge transfer complex, electronic struct. influence, electronic absorpt. spectra 7—10611
tetraphenylporphine on Ag surface, fluoresc. quenching and interference effects 7—36675

molecular electronic states continued
- thiazyl compounds, struct. and bonding investigated at SCF level, electron correl. effects 7−10439
- thiometallato complexes, mol. vibr., electronic struct., IR and Raman spectra study 7−57068
- toluene, excited, H atom release, unimol. dynamics 7−50276
- transition metal borides, AlB_2 type, electronic struct. study, heats of formation anal., HMO calcs. 7−25409
- transition metal mols., bonding, polyhedral hybrid approach 7−42490
- transition metal monocarbonyls, first row, electronic struct. and bonding 7−49897
- transition metals, second row hydrides, low-lying states, spectroscopic parameters determ. using large valence basis sets 7−42500
- triatomic molecules, partition function calcs., ab initio and sums of states methods 7−56966
- trichloromethyl radical, struct. and electronic states, ab initio UHF SWX_α calcs. 7−30949
- trifluoroacetaaldehyde, combined microwave-optical barrier determ. 7−42602
- trifluoronitrosomethane, combined microwave-optical barrier determ. 7−42602
- trifluoronitrosomethane, geometric and electronic props. SCF and CI calcs. 7−15527
- triphenylmethane dyes, induced optical activity, INDO/S calcs. 7−19708
- tryptamine, transition moment and geometry determ. by rot. resolved electronic spectroscopy 7−31058
- tryptophan, jet-cooled, excited state conformers and intramol. exciplex form., dispersed fluoresc. 7−36671
- two-configuration SCF wave functions, IR intensities and polarisabilities evaluation 7−10582
- two-step excitation alignment factors 7−62305
- uranyl borosilicate glass, excited states, fluoresc. 7−25588
- UV resonance Raman scatt. studies of electronic excitations 7−19875
- van der Waals species, multiphoton ionis. 7−10694
- vanadocene, electronic struct. and ^{13}C and ^1H NMR temp. shifts 7−62412
- vibrationally excited molecules, ions. by UV irrad. or electron impact, stochastic dynamics 7−19734
- vibronic coupling of electronic states, adiabatic Born-Oppenheimer pots. *(German)* 7−25631
- vinylidene + $He(Ar)(N_2)(H_2)(CO)$(methane), collisional quenching, rate consts., time resolved spectra 7−31104
- water, structure, quantum effects, gamma-ray diffr. obs. 7−26609
- p-xylene, excited, H atom release, unimol. dynamics 7−50276
- Ag_5^{q+}, electronic struct., Dirac scattered wave study 7−42818
- $Ag(CO)_n$, (n=1,3) electronic struct. 7−36445
- Al_n clusters, (n=5,9,13), electronic struct. and bonding 7−15775
- AlF, pot. energy curves for excited states, ab initio CI calcs. 7−49948
- AlF^+, radical, matrix ESR and CI investig. 7−15629
- $Al_2Si_4O_{17}H_{12}$ cluster, electronic struct. and state densities, MINDO/3 and CNDO/2 calcs. 7−57201
- $Al_4Si_8O_{30}H_{16}$ cluster, electronic struct. and state densities, MINDO/3 and CNDO/2 calcs. 7−57201
- Ar-HCl van der Waals complexes, IR spectra, secular eqn. calc. 7−31031
- $(ArH)^{+*}$, short-range pot. curves, Lyman-α line blue wing *(French)* 7−10463
- $(ArH)^{+*}$, pot. energy curves, semi-diabatic model *(French)* 7−10464
- $ArHe^+$, doublet states, ab initio CI calcs. 7−56989
- $ArHe^+$, mol. states, MRD-CI calcs. 7−36492
- $ArHe^{2+}$, mol. states, MRD-CI calcs. 7−36492
- ArXe, excited states, photoionisation and predissoc. 7−19959
- As_2, electronic states, spectroscopic props., SCF CI calcs. 7−62294
- BF^+ radical cations in Ne matrix, generated by laser sputtering and high temp. sources, EPR, CI calcs. 7−25604
- $BF_3.H_2O$, electronic struct., EEL and UV photoelectron spectra, ab initio MO STO calcs. 7−36449
- $BH+H^+$, charge transfer dynamics 7−50331
- $B_{12}H_{12}^{2-}$, electronic struct., MS-Xalpha MO calcs. *(French)* 7−25390
- B_2H_6, mol. vibr. coupling, dynamic electron transfers, variational method calcs. 7−36585
- BaAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7−25591
- BaI, $X^2\Sigma^+$ and $C^2\,\Pi$ states, hyperfine struct. MODOR 7−10637
- BaI, $X^2\Sigma^+$ product, distrib., fluoresc. detect. 7−25595
- Br_2, photodissoc., Br electronic Raman spectra 7−42530
- Br_2, recombination and relaxation dynamics of diatomic molecules in condensed phases 7−10684
- Br_2^+, excited state spin-orbit interaction 7−49962
- C_2, a $^3\pi_u$ radical, form. and decay in methane pulse discharge 7−23003
- C_2 cluster, Swan band emission obs. 7−62558
- C_2, intercombination transition probabilities between levels $X^1\Sigma_g^+$ and $a^3\Pi_\mu$ 7−25607
- C_2 ion, low lying quartet states, radiative transition probabilities, CASSCF and MC-CI electronic wavefunctions 7−49946
- C_2^+, excited state, prod., ion-mol. reactions, FT mass spectra investig. 7−54087
- C_6, cyclic ground state, struct., ab initio calcs. 7−42819
- C_{60} cluster, electronic structure, LMTO calcs. 7−19682
- C_{60}, localised mol. orbitals and electronic struct., PRDDO calcs. 7−49925
- C_n icosahedral clusters, struct. anal. and magic numbers 7−31202
- CCH, $X^2\Sigma^+$ state, rot.-vibr. energies, ab initio calc. using nonrigid bender Hamiltonian 7−25422
- CF radical, far IR laser mag. reson. spectrum 7−50202
- CH radical, electronic struct., reson. multiphoton ionisation spectra anal. 7−50240
- CN, A $^2\Pi$ $v=0$ rot. levels, laser excited, B-X emission 7−25584
- CN radical, anal. of perturbation between $B^2\Sigma^+$ $v=5$ and $A^2\ \Pi_i$ $v=17$ levels 7−50067
- CN+Ar, rot. levels, collisional energy transfer, state-resolved study 7−10713
- CO, B and C $^1\Sigma^+$ states, radiative lifetimes 7−62451
- CO, $B^2\Sigma^+$ state, electronic autoionis., cross section calc. 7−15656
- CO, electrostatic autoionis., review 7−951
- CO, free and adsorbed mol., valence wavefunctions, deexcitation electron spectroscopy 7−36756
- CO, ground state, vibr.-rot. matrix elements 7−912
- CO, pot. energy curve construction method 7−36512
- CO^+, comet tail bands, charge transfer, spectroscopy 7−15702
- $^{12}C^{18}O$, $E^1\Pi-A^1\Pi$ and $B^1\Sigma^+-A^1\Pi$ transitions, emission spectra 7−50095

molecular electronic states continued
- CO_2 excited with polarised reson. radiation, angle resolved photoelectron spectrum 7−50245
- CO_2^+, v_2 band, diode laser absorpt. 7−10580
- CS, $^3\Sigma^+$-$a^3\Pi$ band system, reson. enhanced multiphoton ionis. detect. 7−5663
- CS, singlet and triplet excitations, selective control, coherent multicolor laser spectroscopy 7−42629
- CS_2, dissociative attachment bands, impact electron and fragment ion energy spectra anal. 7−50386
- Ca_2, $A^1\Sigma_u^+-X^1\Sigma_g^+$ red system. laser spectroscopy, rot. anal. and perturbation anal. 7−10652
- CaAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7−25591
- CaCl, $E^2\Sigma$ state, time-resolved optical double-reson. study 7−25590
- CaH, $^2\Sigma^+$ states, rot.-vibr. levels, pot. curves 7−62345
- CdD, $B^2\Sigma$-$X^2\Sigma^+$ system study, near-UV spectra anal. 7−50164
- $Ce(OH)_9^{3+}$ cluster, $5d \leftarrow 4f$ excited states, $X\alpha$ mol. orbital calcs. 7−62284
- Cl_2, excited state, in Ar matrix, internal dynamics and fluoresc. 7−25589
- Cl_2 third-harmonic generation, nonadiabatic effects, coupled eqns. calcs. 7−1222
- Cl_2, X state, polynomial and near-dissoc. representations for spectral data 7−5714
- Cl_2^+, $A^2\Pi_u$, vibr. levels, radiative lifetime meas. 7−36677
- Cl_2^+, excited state spin-orbit interaction 7−49962
- Cl_2^{2+} electronic states, double charge transfer technique 7−841
- Cl_3, electronic struct., ab initio SCF and CI study 7−5605
- $ClBS^+$, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7−50158
- $ClCN^+$, gas phase $\tilde{B}^2\Pi \leftarrow \tilde{X}^2\Pi$ laser excitation spectrum 7−25529
- ClOO, low-lying electronic states, SCF-X_α-MS calcs. 7−49922
- $(Co(CN)_5)^{3-}$, soln., electronic struct., ESR investig. 7−31081
- Cr, matrix isolated, magnetisation props., MCD meas. 7−57112
- $Cr_2Br_9^{3-}$, singly and doubly excited states, exchange interaction, theoretical study 7−10749
- $Cr(CO)_6$, electronic struct., X-ray and photoelectron spectra 7−5699
- $Cr_2Cl_9^{3-}$, singly and doubly excited states, exchange interaction, theoretical study 7−10749
- $Cs+HeH^+$, HeH bound excited state form., predissoc. and radiative dissoc. 7−20033
- Cs_2, electronic states, laser induced fluoresc. 7−19912
- $CsUO_2(NO_3)_3$, excited states, fluoresc. 7−25588
- Cu complexes, with ethanolate, mol. and electronic struct., EPR study 7−19901
- Cu^{2+} complexes with phenanthroline, struct., ESR 7−31080
- Cu_3, assignment of the 5397 Å system, mol. fluoresc. data anal. 7−50217
- Cu_3, ground state surface, ab initio calcs. 7−42467
- $Cu(CO)_n$, (n=1,3) electronic struct. 7−36445
- CuCl, low-lying electronic states, radiative lifetimes 7−50258
- CuCl, low-lying excited states, HF approx. 7−62254
- CuF, low-lying electronic states, radiative lifetimes 7−50258
- CuH, singlet and triplet Σ^+ pot. energy curves investigated by valence-only CI calcs. 7−42495
- Cu(II)-alkyl persulphide complex prod., mol. and electronic struct. 7−15590
- $Cu(PH_3)_2(BH_4)$, mol. vibr. coupling, dynamic electron transfers, variational method calcs. 7−36585
- DBr^+, $X^2\Pi_{3/2}$ ground state, mol. rot.-vibr., isotope shifts, double modulation Faraday LMR IR spectra 7−62369
- D_2O, quantum state selective detection by (2+1) REMPI 7−36706
- D_2O^+, $\tilde{B}^2B_2$ state predissoc., intramol. dynamics, photoelectron spectroscopy 7−42699
- D_2O^+, mol. beam photoelectron spectrosc., femtosec. intramol. dynamics 7−36688
- D_2Se, Rydberg series identification, VUV spectra anal. 7−25538
- D_2Te, Rydberg states, high resol. VUV spectra 7−50173
- Eu chelate complexes, luminesc., photophys. 7−36669
- F_2, electronic struct., X-ray emission spectra 7−50174
- F_2, f $^3\Pi_g$ state, electron impact, laser photon emission 7−5778
- F_2^+, excited state spin-orbit interaction 7−49962
- FBS^+, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7−50158
- Fe complex $[(ethyl)_4N]_6[Tl_6Fe_{10}(CO)_{36}]$, struct. and bonding study, HMO calcs. 7−25411
- Fe complexes, $(Fe_3O(acetate)_6(pyridine)_3)$(pyridine), intramol. electron transfer, phase transition mechanism 7−10742
- Fe(II) tetraphenylporphyrin bis(tetrahydrofuran), electronic ground state, electron density meas. 7−51716
- FeO^-, rot., autodetachment spectroscopy 7−62462
- Ga_2, electronic states, CASSCF and FOCI calcs. 7−62267
- $Ga(CO)_2$, form. in hydrocarbon matrices, magnetic parameters, EPR and IR spectra anal. 7−19906
- GaO, lower electronic states, SCF-X_α SW calcs. 7−30948
- H_2, a $^3\Sigma_g^+$-$b^3\Sigma_u^+$ system, dipole moments and transition probabilities 7−917
- H_2 autoionising $^1\Sigma_u^+$ and $^1\Pi_g$ states, theory 7−5646
- H_2, E,F state, photodissoc. cross-sections calcs. 7−36714
- H_2, electron scatt., elastic and vibr. excitation differential cross section calcs. 7−25652
- H_2, excited state, multiphoton spectroscopy 7−10695
- H_2 excited states, rot. and vibr. branching ratios, UPS 7−5725
- H_2, fixed nuclei, elastic electron scatt., cross sections calcs. 7−15717
- H_2, resonantly enhanced multiphoton dissociative ionisation, photoelectron spectroscopy 7−15645
- H_2, Rydberg states, nonpenetrating, autoionis., energy-level struct. calcs. 7−15492
- H_2, stepwise two-photon ion-pair production, mol. spectroscopy 7−10683
- H_2, vibrationally excited, rot. excitation and dissoc. meas. using resonant multiphoton ionization 7−15658
- H_2^+ + Cs, dissociative charge exchange, H_2 predissociation, fragment spectra anal. 7−36753
- H_2^+ electric dipole polarisability and hyperpolarisability, vibr. effects introduction to calcs. 7−10547
- H_2^+, electric polarizabilities, perturbation study 7−36664
- H_2^+, excited states, non-Born-Oppenheimer electric polarisabilities 7−42662
- H_2^+, muonic, ground and excited states binding energies, variational calcs. 7−25684
- H_2^+ scattering from Al (110), charge exchange 7−3133
- H_2^+ scattering from Al (110), resonant transition rates for charge transfer 7−3134
- H_2^+ slow electron impact dissoc. recomb. 7−50382
- H_2-like mol. form., variational alternant MO method anal. 7−25356

molecular electronic states continued
- $H_2^+ + He \rightarrow H^+ + H + He$, degenerate product electronic state distribs. determ. 7−50299
- H_3^+ and isotopomers, IR spectra, ab initio calcs. 7−30929
- H_4 in ground and first two excited singlet states, pot. energy hypersurfaces 7−57002
- HBr, d shell photoionisation, shape resonances study 7−19964
- HBr, pot. energy curve construction method 7−36512
- HCN, isotopic species, electronic states, pot. surface, dissoc. vibr. anal., CI calcs. 7−62297
- HCN-HF, excited vibr. states, gas-phase IR spectrum 7−50108
- $HCN-H^{35}Cl$, gas phase rovibr. anal. 7−25477
- HCl, photodissoc. branching ratios pot. energy curves 7−31128
- HCl^-, bound electronic states, ab initio Born-Oppenheimer calcs. 7−42469
- HD^+, $1s\sigma^+$ electronic ground state, vibr.-rot. levels calcs. 7−50078
- HD^+, electrostatic pot., nonadiabatic effects 7−42457
- HF, two photon bound-bound electronic transition calcs. 7−31136
- H_3GeD, Fourier transform IR spectra, rovibr. anal. 7−25516
- $H_2(HD)(D_2)$, doubly excited states, photodissoc. cross section 7−19980
- HI, d shell photoionisation, shape resonances study 7−19964
- HO_2^+, electronic struct., MRD-CI calcs. 7−10450
- H_2O, quantum state selective detection by (2+1) REMPI 7−36706
- H_2O^+, $\tilde{B}^2B_2$ state predissoc., intramol. dynamics, photoelectron spectroscopy 7−42699
- H_2O^+, mol. beam photoelectron spectrosc., femtosec. intramol. dynamics 7−36688
- H_2O_2, overtone excited states, torsion-vibr. interactions 7−50072
- HOO radical, orbital energies, UHF calcs. phys. interpretation 7−56931
- H_2P_2 isomers, electronic states, ab initio mol. electronic struct. theory 7−56934
- H_2P_2, unimol. rearrangement, ab initio investig. 7−25342
- $H_2P_2^+$, unimol. rearrangement, ab initio investig. 7−25342
- H_2S, inner valence shell, photoionisation, ang. distrib. in 40 to 70 eV photon energy range 7−57131
- H_2Se, Rydberg series identification, VUV spectra anal. 7−25538
- $H_2Si_2^-$, electronic struct., MC SCF CI and CEPA calcs. 7−56992
- H_2SiD, Fourier transform IR spectra, rovibr. anal. 7−25516
- H_2Te, Rydberg states, high resol. VUV spectra 7−50173
- He+ferrocene ($Fe(CO)_5$), dissoc. excitations, mol. orbital correls. 7−10735
- $He^+ + H_2$, elastic and inelastic scatt. mechanisms, energy loss spectra 7−15671
- HeBCH, ground state, MP4 (SDTQ)/6-311G**//MP2/6-31G**+ZPE level calcs. 7−25480
- HeBeO, ground state, MP4 (SDTQ)/6-311G**//MP2/6-31G**+ZPE level calcs. 7−25480
- $(HeNe)^{+*}$, pot. energy curves, semi-diabatic model *(French)* 7−10464
- HgBr, excited state, charge transfer absorpt. spectrum 7−5761
- I_2, higher electronic states, rot.-vib. anal., mol. fluoresc. study 7−19918
- I_2, n-hexane soln., Raman excitation profile 7−10596
- I_2, recombination and relaxation dynamics of diatomic molecules in condensed phases 7−10684
- I_2, X state, polynomial and near-dissoc. representations for spectral data 7−5714
- IBr, ion-pair states, spectral anal. 7−19873
- ICl, $B^3\Pi_0$ state, predissoc., fluoresc. decay meas. 7−10687
- IF, $E(0^+)$ state, two-photon sequential absorpt. spectra 7−19988
- IOF_5, excited vibrs. state, microwave spectrum, vibr. and rot. parameters 7−25498
- InBr, A-X system, rot. struct., dissoc. energy 7−50071
- InBr, isotope shift, rot. anal., UV spectra 7−19876
- InO, lower electronic states, SCF-X_α SW calcs. 7−30948
- K_2, interferences continuum fluoresc. 7−25585
- K_2 polarization moments in a state with high angular momentum 7−43025
- Kr_2, photoionization cross sections of excited states, UPES anal. 7−50241
- KrXe, excited states, photoionisation and predissoc. 7−19959
- LaO, $X^2\Sigma^+$ and B^2Sigma^+ states, spin-rot. and hyperfine interactions 7−5715
- Li_2, optical-optical double reson. and double reson. multiphoton ionis. 7−42742
- Li_2+He(Kr), total integral scatt. cross-sections 7−36728
- Li_n clusters, n=2 to 13, electronic struct. and magic numbers, LCAO-$X\alpha$ calcs. 7−31206
- $^{6,7}LiD$, $X^1\Sigma$ state pot. energy curves, adiabatic corrections 7−36514
- $^{6,7}LiD$, $X^1\Sigma^+$ and $A^1\Sigma^+$ states, pot. energy curves 7−5622
- LiH^-, ground and first excited state electron affinities, extended-Koopman's-theorem, ab initio calcs. 7−25352
- $^{6,7}LiH$, $X^1\Sigma$ state pot. energy curves, adiabatic corrections 7−36514
- $^{6,7}LiH$, $X^1\Sigma^+$ and $A^1\Sigma^+$ states, pot. energy curves 7−5622
- LiH(D), pot.-energy curves, PMO-RKR-van der Waals pot., Pade approx. method 7−30965
- $Mg+H_2$, reactive collision dynamics by far using laser scatt. 7−28296
- $Mo(Co)_6$, electronic struct., X-ray and photoelectron spectra 7−5699
- $Mo_6L_8L'_6$, (L, L′ = S, Se, Cl, Br), cluster compounds, electronic struct., 3-band model, tight-binding and extended Huckel method calcs. 7−32913
- N heterocyclic cpds., mol. photophysics, proximity effect and pseudo-Jahn-Teller interaction 7−62457
- N_2 + K, electronic and vibr. excitation, cross section meas. 7−36735
- N_2, aggregates, in solid Xe matrix, time resolved energy transfer and relax., rate const. meas. 7−50313
- N_2, electron-impact ionisation, double differential cross section, TOF spectra anal. 7−42774
- N_2, ground state, pot. curves, MR CI and MC SCF calcs. 7−49936
- N_2, plasma, electron velocity distrib., self-consistent determ. 7−20859
- N_2, Rydberg states, SCF and CI calcs. 7−19715
- N_2^+, Meinel bands, charge transfer, spectroscopy 7−15702
- N_2^{2+}, Rydberg electron binding energy, UPS 7−872
- N_2-HF, IR spectrum and vibr. predissoc. 7−50106
- NCO, MODOR and intermodulated fluoresc., hyperfine coupling consts. 7−50206
- NCl, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7−42492
- NF, $(b^1\Sigma^+, a^1\Delta) \rightarrow X^3\Sigma^-$ radiative decay processes 7−42522
- NF, $b^1\Sigma^+$-$X^3\Sigma^-$ system, line assignments, transition moments, visible Fourier-transform spectra anal. *(French)* 7−50153
- NF, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7−42492

molecular electronic states continued
- NF+IF, electronic-to-electronic energy transfer rate, temp. depend. 7−36740
- $^{15}NH^-$, $X^2\Pi$ state, IR rot.-vibr. spectrum, isotopic shifts and equilib. consts. 7−50107
- NH_2, excited radical, fluoresc., Einstein coeff. and oscillator strength calc. 7−42668
- NH_3, two photon bound-bound electronic transition calcs. 7−31136
- $(NH_3)_n$ (n=2 to 5), clusters, electronically excited $\tilde{A}$ states, two-photon ionis. mass spectroscopy 7−15761
- NH(ND), isolated in solid Ne(Ar)(Kr)(Xe), radiative decay and radiationless relax., lifetime meas. 7−10653
- NH_2NO_2, electronic ground and first triplet states struct., SCF calcs. *(French)* 7−15498
- NO, $^2\Delta$ states, radiative lifetime meas., fluoresc. spectra 7−62439
- NO, $A(^2\Sigma^+)$ state, two-photon ionis., non-Franck-Condon behaviour 7−25615
- NO, autoionisation of $\nu=3$ Rydberg states, branching ratios, multiphoton spectra anal. 7−36718
- NO dimer, vibr. predissoc. lifetimes, time-resolved meas. 7−31126
- NO, excited state, circular dichroism in photoelectron ang. distribs. 7−19909
- NO, low-energy electron scatt., R-matrix method, close-coupling expansion study 7−36490
- NO, photoexcitation and ionisation cross sections, Stieltjes-orbital representations, HF calcs. 7−19677
- NO predissoc. levels, multiphoton ODR lineshapes 7−31129
- NO, sp. ht. extremum behaviour, electronic contrib., one low lying excited state model 7−16058
- NO^{2+}, $^2\Sigma^+$ and $^2\Pi$ states, ab initio MC SCF CI calcs. 7−49937
- NO-Kr, van der Waals species, multiphoton ionis. 7−10694
- NO-Ne, van der Waals species, multiphoton ionis. 7−10694
- NO^++iodomethane (NO_2), charge exchange, ground state radiative lifetimes, ion cyclotron reson. spectra anal. 7−31114
- NO_2, MODOR spectra 7−15632
- N_2O, electronic autoionisation studies using vibr. resolved const. ionic spectroscopy, dispersed fluoresc. 7−25592
- N_2O, photoionis. dynamics and vibr. branching ratios, fluoresc. spectra 7−15653
- NS, low-lying valence and Rydberg states obtained by CI studies 7−49947
- NS^+, electronic states study, CI calcs. 7−19714
- Na_2, B $^1\Pi_u$ state, pot. barrier, semiclassical model calcs. 7−62282
- Na_2, excited state dissociation 7−49952
- Na_2, excited states, pot. energy curves, Pluvinage model 7−62304
- Na_2, photodissoc., atomic fragment Doppler spectroscopy 7−10686
- Na_3 excitation spectrum, excited states 7−15770
- Na_3 predissociated states, size selective depletion spectroscopy 7−15666
- NaK, $X^1\Sigma^+$ and $a^3\Sigma$ states, long range pots. anal. 7−42519
- $NaLi^+$, first- and second-order nonadiabatic coupling consts. Born-Oppenheimer corrections, MCSCF calcs. 7−36464
- Ne-He van der Waals mol. pot., ab initio HF SCF calcs. 7−36459
- $NeCl_2$ photodissociation, product state distrib. 7−50277
- NeXe excited states, photoionisation and predissoc. 7−19959
- $Ni(CO)_4$, electronic struct., X-ray and photoelectron spectra 7−5699
- O_2, A band, line profiles study, IR spectra anal., dye laser excitation 7−50114
- O_2, autoionisation states, vibr. assignments 7−50073
- O_2, $B^3\Sigma_u^-$ state, Schumann-Runge bands 7−5659
- O_2, $C^3\Pi_g$ Rydberg state, excited-state photoelectron spectra 7−50250
- O_2, photoproduction cross sections, mass spectrometry, photoionisation and photodissociation 7−10681
- O_2, predissoc. linewidth, rot. var. 7−10685
- O_2, soln., time-resolved chemiluminesc. 7−8289
- O_2, vibrationally excited form. mechanism by NO_2 multiphoton absorpt. 7−19989
- O_2^+, $X^2\Pi_g$ vibr. branching ratios, 905-1000 Å, autoionis. effect 7−50272
- $O_2+HCl(HBr)(H_2)(D_2)$, singlet deactivation, rate const. determ. 7−25640
- O_3, UV Huggins bands, isotope shift obs. 7−19819
- OCS, vibr. excitation, non-Condon anal. 7−50062
- OClO, low-lying electronic states, SCF-X_α-MS calcs. 7−49922
- OH, $A^2\Sigma_{1/2}^+$, first excited electronic state ρ-doublet transition obs., UV-microwave double reson. 7−10636
- OH, ground state, conc.-profile in premixed oxy-fuel flames, IR spectroscopic determ. *(French)* 7−25513
- OH in flames, excited state rot. population study using laser induced fluoresc. 7−3592
- OH, predissociation, non-adiabatic effects, energy levels calcs. 7−15660
- OH radical, orbital energies, UHF calcs. phys. interpretation 7−56931
- Os complexes, OS(VI) nitrido systems, luminesc., excited-state distortion 7−50218
- PX, PX^+ and PX^- where X = H, F and Cl, low-lying electronic states, ab initio calcs. 7−30937
- PdGe, bonding, electronic states, ab initio HF-CI calcs. 7−42497
- Pt complex, diaminodichloplatinum(II), isomers orbital study, coordination with DNA, relativistic multiple scatt. $X\alpha$ calcs. 7−56973
- Pt complex, mixed-valence binuclear, near UV spectra 7−62398
- $Pt(NH_3)_2Cl_2$, relativistic and nonrelativistic electronic struct. and bonding, multiple scatt. wave study 7−36461
- $Pt_2(P_2O_5H_2)_4^{4-}$, electronic struct., bonding and spectra SCF EHT calcs. 7−42489
- PuF_6, low lying 5f to 5f excitations, ab initio study, electron correl. effects 7−42502
- $Re_6L_8L'_6$, (L, L′ = S, Se, Cl, Br), cluster compounds, electronic struct., 3-band model, tight-binding and extended Huckel method calcs. 7−32913
- Rh complex, Rh_2(1,3-diisocyanopropane)$_4^{2+}$, lowest excited states, absorption spectra anal., 7−25532
- Rh complex, Rh_2(2,5-dimethyl-2,5-diisocyanohexane)$_4^{2+}$, lowest excited states, absorption spectra anal., 7−25532
- Ru complex, Ru(bipyridine)$_3^{2+}$-methylviologen copolymer, quenching 7−31107
- $Ru(NH_3)_5$-bipyridylbutadiene-$Ru(NH_3)_5$ compound photoisomerisation mol. switching, electronic coupling parameter calc. 7−19678
- S_2, $b^1\Sigma g^+$-$X^3\Sigma_g^-$ system consts., IR and microwave spectra anal. 7−19848
- SD^+, $X^3\Sigma^-$ ground state, mol. rot.-vibr., Zeeman consts., mid-IR LMR spectra anal. 7−62368
- SF_3 radicals, electronic struct., ab initio SCF CI calcs. 7−19716
- SF_6, S 1s core-level photoionis. spectra 7−941

molecular electronic states continued
SH_3 radicals, electronic struct., ab initio SCF CI calcs. 7–19716
$(SN)_x$, molecular orbits, various chain sizes, MNDO calcs. 7–15517
S_2N_2, excited states, ab initio CI calcs. 7–42491
S_2N_2, photoelectron spectrum, valence ionic state calc. by many-body Green's function method 7–10667
SO radical, $A^3\Pi_1$-$X^3\Sigma^-$ transition, 0-0 band spectrum, rot.-vibr. levels, rot. consts. 7–10542
SO_2, super-excited molecule, quantum defect theory ionisation channels 7–30962
SO_2-HF(DF), mol. geometry, ^{19}F spin-spin and D-nucl. quadrupole coupling consts., rot. spectrum 7–5666
Sc-CO, mol. bonding, pseudopot., and singles-and-doubles CI calcs. 7–10440
ScO, low-lying states, SDCI calcs. 7–25421
ScS, low-lying states, SDCI calcs. 7–25421
$Si:O_2B$, ab initio MO electronic struct. calcs. 7–38499
$Si^{35}Cl_2H$, mm wave rot. spectra, centrifugal distortion const. and harmonic force field anal. 7–25496
SiF, core-excited Rydberg state, SCF calcs. 7–851
SiF_4, photoexcitation, photoabsorpt. and fluoresc. cross section meas. 7–50224
SiH_4, core-excited state, Auger decay 7–42689
SiH_n, (n=1 to 4), photoion yield and thresholds, photoionisation mass spectra study 7–50242
$SiH_3(D_3)$, ions and radicals, pot. energy curves and electron affinities determ., photoelectron spectra anal. 7–25603
Sn_3, electronic states, pot. energy surface, relativistic calcs. 7–5613
^{119}Sn compounds, Mossbauer spectra interpretation SCC-Xα-MO calcs. 7–36474
SrAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7–25591
T_2O, IR spectra, ν_3 mode, rot. and quartic distortion consts. 7–50111
$Ti_2X_9{}^{3-}$, exchange interaction, effective hamiltonian calcs., quantisation 7–10412
TlF, predissoc., tunneling, UV spectra 7–57141
$UO_2(NO_3)_2.6H_2O$, excited states, fluoresc. 7–25588
$UO_2SO_4.3.5H_2O$, excited states, fluoresc. 7–25588
VO, low-lying states, SDCI calcs. 7–25421
VS, low-lying states, SDCI calcs. 7–25421
$W(CO)_5$(piperidine), electronic spectra, excited state distortions, prereson. Raman intensities 7–10594
$W(CO)_5$(pyridine), electronic spectra, excited state distortions, prereson. Raman intensities 7–10594
Xe_2, excited states, photoionisation and predissoc. 7–19959
YO, gas-phase, MODOR 7–15631

molecular electronic structure *see molecular electronic states*

molecular energy level calculations
see also molecular electron correlations; molecular orbitals calculations; molecular rotation calculations; molecular rotation-vibration calculations; molecular vibration calculations; VB calculations
ab initio calcs. computational strategies 7–56930
asymmetric top molecules, program for symmetry-adapted rotational eigenfunctions and energy levels 7–4324
asymmetric top molecules, rot. adiabatic switching 7–42470
atomic kinetic energy density, approx. functionals study, HF calcs. 7–36476
atoms in compounds, oxidation numbers, determ. method 7–9627
azoles, protonation energies and tautomerism, basis set effects 7–25374
Beebe–Linderberg two-electron integral approx. 7–42449
Buttle corrections to R matrix 7–62248
cannabinoid cpds., activity, mol. reactivity template 7–56961
charge distribution calculation, zero flux surface method 7–49876
clusters, ground states, Hubbard models 7–10809
complex resonance eigenvalues by the Lanczos recursion method 7–10375
conference, Marineland, Florida, USA (March 1986) 7–40985
constraints in mol. mechanics, rigid group refinement 7–10378
correlation energy, scaling in perturbation theory calcs. of bond energies and barrier heights 7–10391
cyanoacetylene, at. polar tensors, similarity transference procedure 7–10399
cyclobutane, strain energies, bond energies, 1,3-interactions and σ-aromaticity 7–56933
cyclopolyenes, orbital mag. moment, paratropicity, HF eqns. 7–56968
cyclopropane, strain energies, bond energies, 1,3-interactions and σ-aromaticity 7–56933
density functional exchange energy, large gradient behaviour 7–36454
determinants and spin eigenfunctions, algorithm 7–49869
diatomic molecules, Hellmann-Feynman electrostatic theorem *(Russian)* 7–62280
diatomic mols., mass-vel. corrections, relativistic kinetic energies 7–10452
diatomic mols., Morse oscillator, struct., diagonal matrix elements 7–25629
diatomic mols., quantum mechanical virial theorem, electronic kinetic energy and pot. energy representations 7–49872
1,2-difluoroethane, gauche and trans conformers, stability, ab initio calcs. 7–15500
double core vacancies, energy calcs. 7–36450
effective pair correlation function with fixed zero value, construction 7–49868
electronic struct. and dynamics, conf., Snowbird, UT, USA (April 1986) 7–55877
electronic struct. calcs., basis sets correl. balance 7–56928
energy derivatives, discrete spatial symmetries 7–56922
exchange energy formula appl. 7–30942
exchange energy from approx. density pot. rel., gradient expansion 7–10371
excitation energies, quasidegenerate many-body perturbation theory and coupled-cluster calcs. 7–835
exponential approximation for the density matrix andthe Wigner's distribution 7–5582
formyl ion, dissociative recombination of interstellar ion, electronic struct. calc. 7–20064
Gaussian wave-packet dynamics 7–48409
general coupled-cluster methods, MBPT, analytic energy gradients 7–19674
graphical unitary group approach to arbitrary spin representations 7–49867
homonuclear diatomic mols., asymm. isotopic modifications, energy limits calcs. 7–10415

molecular energy level calculations continued
intermolecular interaction energies, SCF calcs., variation-perturbation procedure 7–15505
linked cluster expansion in MBPT and coupled-cluster theory 7–49871
many-electron Schrödinger eqn. for molecular systems, computational considerations 7–4700
many-electron systems, symmetric group approach, spin-depend. operators 7–15475
mesomolecular complexes, quasistationary state decay widths, perturbative calcs. 7–5794
metal complexes, charge density distribs. 7–25351
methylene, pot. energy surface and singlet-triplet splitting, calcs. 7–10397
multichannel reaction matrix theory and CI in discrete and continuous spectrum 7–49873
multiconfigurational SCF electronic energy domain struct. 7–19683
n-electron states, symmetry, extreme points of $\rho_n{}^2$ 7–56923
non-adiabatic transitions between two groups of interesting energy levels 7–30934
nucleic acids, energy minimisation and dynamics, empirical energy functions 7–34097
nucleic acids components, binding of water 7–34098
orbital concepts, rel. to mol. electron distribs. 7–56921
organic chemistry, Mobius systems, graph theoretical approach 7–46796
perturbation-theory method of calculating the energies andexcitation energies of atomic, molecular, andsolid-state systems 7–5596
polycyclic aromatic hydrocarbons, periodic table, characteristic polynomial, struct. invariants 7–56924
polyenes, homopolar singlet excitation energies, Hubbard model, Lieb-Wu eqns., numerical soln. 7–25353
polyhexes, algorithm for enumerating 2-factors 7–10405
polymers, giant orbital, nature and props. 7–31198
polymethyne dues, MO coeffs., effective additive parameter method 7–56945
potential energy surfaces, vibration-rotation calc. 7–50059
prolate spheroidal coordinates, variational approach, soln. to Poisson's eqn. 7–5579
R matrix theory, rel. to Titchmarsh-Weyl theory and its complex rotated analogue 7–42450
relativistic effects 7–36504
relativistic quantum mechanics 7–36503
resonance state determ. using complex scaling method 7–36443
simple molecules, charge density distribs. 7–25351
simple molecules, currant bun model 7–30915
spin and charge densities, HF and UHF calcs. 7–19684
spin precession, classical adiabatic angle and geometrical phase 7–49882
static electronic props., bivariational coupled-cluster approach 7–15471
strongly coupled systems, higher order adiabatic separation 7–42468
trifluoroiodomethane, valence and core levels, variable energy photoelectron study 7–10666
wave equations consistency of use in basis set variational solns. with Dirac hole theory 7–19692
Woodward-Hoffman rule, topological explanation 7–57012
Xα method, ab initio exchange-correlation parameter study 7–56972
zero integral selection in mol. symmetry 7–10379
Ar-HCl, energy levels, ab initio close coupling calcs. 7–50292
$BO_4{}^-$ anion clusters, hard basicity 7–25402
C-centres radicals, merostabilisation energy calcs. 7–30924
$(Cu_2Cl_6)^{2-}$ dimers, electronic struct., mag. props., Xα-SW calcs. 7–10419
$D_2{}^+$, nonadiabatic lower and upper bound calcs. 7–36469
FA (A=Li, Be, B, C, N, O, F), chem. bonding, kinetic energy anisotropy investig. 7–10396
H_2, Morse oscillator, struct., diagonal matrix elements 7–25629
H_2 near-threshold rovibrational excitation cross-sections, first-order nondegenerate adiabatic theory 7–15729
H_2, Rydberg states, nonpenetrating, autoionis., energy-level struct. calcs. 7–15492
$H_2{}^+$, nonadiabatic lower and upper bound calcs. 7–36469
H_2-H_2, energy levels, ab initio close coupling calcs. 7–50292
H_2+B^+, pot. energy surfaces, diatomics-in-molecules calcs. 7–5748
H_2+He, autoionising systems, Born-Oppenheimer approx., diatomics-in-molecules calcs. 7–5742
H_2O dimer, MBPT, coupled cluster study 7–49892
HOO radical, orbital energies, UHF calcs. phys. interpretation 7–56931
H_3Si-B_2H_5, form., geometry, ab initio calcs. 7–25376
N_2, Hopfield series, autoionisation, perturbation effects 7–10408
O+CO, recomb. chemiluminesc. spectrum calc. 7–46807
OA (A=Li, Be, B, C, N, O, F), chem. bonding, kinetic energy anisotropy investig. 7–10396
OH, predissociation, non-adiabatic effects, energy levels calcs. 7–15660
OH radical, orbital energies, UHF calcs. phys. interpretation 7–56931
$Rh_x(CO)_y$ (x=4 to 7, y=12,15,16), metal cluster bonding topology, graph theory 7–42817
$Ru(NH_3)_5$-bipyridylbutadiene-$Ru(NH_3)_5$ compound photoisomerisation mol. switching, electronic coupling parameter calc. 7–19678
$(SN)_x$, molecular orbits, various chain sizes, MNDO calcs. 7–15517

molecular energy levels
see also macromolecular energy levels; molecular electronic states; molecular energy level calculations; molecular fine structure; molecular hyperfine structure; molecular libration; molecular polarisability; molecular reorientation; molecular resonant states; molecular rotation; molecular rotation-vibration; molecular vibration; molecular vibronic states; nuclear screening
benzene, Jahn-Teller spectra, MQDT anal. 7–57009
diatomic polar mol. plasma, quasimonochromatic electric field influence on spectral line shift 7–37757
inert gas-halide excimers, interaction with simple cryogenic liquids 7–42776
mixed states, spatial separation into coherent components in field of traveling radio wave 7–49967
polyvinyl carbazole donor-acceptor complexes, luminesc. and photoemission spectra 7–46115
Rydberg states, modification by diabatic term superpromotion to continuous spectrum 7–36472
three-level medium, ultrashort pulse train propag., population trapping and coherent bleaching calcs. 7–43263
Ar_2, radiative lifetimes, time-resolved fluorescence study 7–5619
Bi_2, two step polarisation spectroscopy 7–10609
MgF_2 molecules, ultrasoft X-ray emission spectra studies 7–10615
Na_2, Stark multiplets in molecular Rydberg states 7–36665

molecular energy levels continued
  $Nd_2(SO_4)_3.8H_2O$, soln. complex, $^4F_{3/2}$ excited state lifetime 7−5614
  Ne_2^+ glow discharge, time depend. of spectral line intensities from afterglow plasma 7−32142

molecular excitation *see beam-foil spectra; chemical reactions; Davydov splitting; discharges (electric); molecular fluorescence; optical pumping; photoionisation; radiation quenching*

molecular fine structure
  asymmetric top molecules, rot. adiabatic switching 7−42470
  benzene molecule, spin-coupling mode rel. to aromatic character 7−19724
  deuterobenzenes, first excited singlet state vibr. level, fluoresc. lifetime meas. 7−50214
  methane, Ar(Kr)(Xe) solid trapped, site struct. and hindered rot., IR spectra 7−5675
  methane, fine struct. near C-K edge region in photon W-value 7−19962
  methane, oscillator strength, X-ray and VUV absorpt. spectra 7−36643
  tetrafluoromethane, oscillator strength, X-ray and VUV absorpt. spectra 7−36643
  vanadocene, electronic struct. and ^{13}C and ^1H NMR temp. shifts 7−62412
  $Al_2Si_4O_{17}H_{12}$ cluster, electronic struct. and state densities, MINDO/3 and CNDO/2 calcs. 7−57201
  $Al_4Si_8O_{30}H_{16}$ cluster, electronic struct. and state densities, MINDO/3 and CNDO/2 calcs. 7−57201
  $ArXe^+$, DC discharge in supersonic jet, UV-visible emission spectra anal. 7−19874
  AsH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
  C_n, clusters, rovibrational spectral fine struct. 7−50055
  CF radical, far IR laser mag. reson. spectrum 7−50202
  CuCl, low-lying excited states, HF approx. 7−62254
  D_2Se, Rydberg series identification, VUV spectra anal. 7−25538
  Fe-Mo(W) complexes, dinuclear clusters, fine and hyperfine struct. 7−36659
  H_2O, liq. state, FTIR spectra, fine struct., molar absorptivities of vibr. modes 7−53343
  H_2Se, Rydberg series identification, VUV spectra anal. 7−25538
  NH, $A^3\Pi-X^3\Sigma^-$ transition, Fourier transform spectroscopy, vibr. levels, fine struct., rot. consts. 7−50080
  NO_2, Rydberg state, high resolution two-photon spectra 7−31133
  OH, laboratory meas. of rot. spectrum with tunable far-IR radiation 7−47691
  PH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
  SF_6, mol. vibr.-rot. consts., IR saturated absorpt. spectra anal. 7−50118
  SH^+, electronic transitions, IR laser spectra 7−50100
  SbH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997

molecular fluorescence
  absorption and fluoresc. line shapes, eigenstate-free Green function calcs. 7−25596
  acetaldehyde, combustion, oxidation, radical concs. and phase rels. 7−54126
  9-acetoxy-10(4′-acetoxy) phenylanthracene derivatives, ground and excited state, uv absorpt. and fluoresc. spectra 7−19944
  acetylene, Fermi perturbation study, UV absorpt. and fluoresc. excitation spectra anal. 7−36638
  acridine dyes, PVA matrices, luminesc. spectra anal., external heavy-atom effect 7−42680
  acridine red, frozen solns., excited singlet states fluoresc. spectra 7−42675
  acyclic azines, substituted, fluorescence props. 7−62444
  alkylanilines, spectral line broadening, role of conform. and IVR fluoresc. spectra 7−19921
  alkylcyanobiphenyl-phenylcyclohexanecarboxylate mesomorphic mixtures, binary phase diagrams, fluoresc. spectral determ. 7−27765
  aluminium oxinate-gallium oxinate mixture, fluoresc. spectra, isodifferential derivative synchronous fluorimetric anal. 7−54231
  amino acids, derivatives, trace anal. using laser fluoresc. detector 7−39943
  -amino-5,6,7,8,-tetrahydronaphthalene, depletion of singlet and triplet states due to external heavy-atom perturbation 7−57121
  4-amino-N-methylphthalimide, in glycerine, stimulated intermolecular relax. 7−42673
  aniline-H_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7−19932
  aniline-methane van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7−19932
  aniline-N_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7−19932
  anthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
  anthracene, vapour, electron impact excitation functions, fluorescence 7−25600
  anthracene, vapour, two-photon excited fluoresc. polarisation 7−31109
  anthracene derivatives, laser-excited metastables, surface ejection of electrons, quantum-yield meas. 7−17804
  anthracene surface, collision of N_2 mols. in singlet metastable states, fluoresc. emission 7−19939
  anthracene-NH_3, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7−19936
  anthracenes, aq.-micellar soln., dimethylaniline fluoresc. quenching and exciplex form. 7−36683
  9,10-anthraquinone, vapour, fluoresc. and phosphoresc. study 7−939
  aromatic thiones, thermally activated delayed fluoresc., solvent effects, visible spectra anal. 7−31106
  azulene, in rare gas matrix, highly excited single vibronic level relaxation, direct obs. 7−19915
  azulene, quantum yield ratio, fluoresc. spectra studies 7−19923
  benzene-$d_0(d_6)$, vap., vibr. levels. fluoresc. spectra 7−10651
  benzil, fluoresc. and phosphoresc., spectra, O effects 7−50233
  benzoic acid, fluoresc. and phosphoresc., acetic acid effect 7−57114
  benzonitrile-Ar(Kr)(N_2O)(H_2O)(trifluoromethane), excited state van der Waals complexes, fluoresc. investig. 7−50223
  benzonitrile-Ar(Kr)(N_2O)(H_2O)(trifluoromethane) van der Waals complexes, LIF spectra 7−50222
  benzoxazinone derivative dye for fluorescent solar concentrator appls. 7−54278
  biphenyl, mol. vibr., supersonic jet spectroscopy, mol. fluoresc. and multiphoton ionisation spectra anal. 7−57129
  bis(4-aminophenyl)sulphone, twisted intramol. charge transfer and solvent dynamics, time resolved fluoresc. spectra 7−50232
  1,4-bis(β-pyrazinyl-2-vinyl)-benzene, solns. and solid state, irrad. and solvent effects, visible fluoresc. anal. 7−36674

molecular fluorescence continued
  9,9-bis(acridizinium-yl), fluoresc. quenching, solvent depend. *(German)* 7−940
  9,10-bis-(phenylethynyl) anthracene, in PMMA films, fluoresc. quenching *(Russian)* 7−10661
  bovine carbonic anhydrase B, rotational diffusion, fluoresc. correl. spectrosc. 7−15755
  9-bromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
  bromocyanoacetylene cation in ground and electronic states, vibr. struct., emission and laser excitation spectra 7−50228
  butynal, pulsed supersonic expansion intramolecular dephasing and relax. 7−10656
  C-Phycocyanin from Synechococcus 6301, ps energy transfer kinetics and time-resolved fluoresc. spectra 7−54461
  camphorquinone radical anion, photogenerated, time-resolved CIDEP spectra 7−57102
  camphorquinone radicals, optically active, circular dichroism, ESR study 7−5711
  carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7−31093
  carbazoles and weak complexes, jet-cooled, time-resolved fluoresc. 7−31100
  carbon tetrafluoride, extreme UV photoexcitation study, UV fluoresc. anal. 7−36637
  chlorin, ground and excited states normal mode symmetry determ. 7−36588
  chlorophyll *a*, pigment in dioleylphosphatidylcholine monolayer, fluoresc. conc. quenching master eqn. 7−50219
  chlorophyll a, in vitro, wavelength-selective and time-resolved fluoresc. spectra 7−34110
  chlorophyll derivatives, in organic solvent matrix, vibrationally resolved fluoresc. spectra 7−57120
  chlorophyll fluorescence, appl. in ecophysiology 7−47299
  chlorophyll in vivo, exciton states and exciton interaction processes, nonlinear transmission effects 7−59931
  chlorophyll in vivo, large absorpt. unit reflected in fluoresc. enhancement effect 7−59932
  chlorophyll solar-induced fluoresc. for ocean colour spectral variability obs. 7−47547
  chlorophyll-a, fluoresc. kinetics, time-resolved meas. using dye DFB laser 7−50584
  chlorophyll-protein complex II, light-harvesting, long-wavelength fluoresc. emission 7−59933
  chlorophylls a and b and aggregates, spectra in nematic liq. crysts. and polyvinyl alcohol films 7−59930
  chloroplast membranes, spectral effects of interaction with H^+, absorpt. and fluoresc. spectra obs. 7−54503
  coronene in jet, fluoresc. excitation and SVL fluoresc. spectra 7−31103
  9-cyanoanthracene, fluoresc. lifetimes in bulb and supersonic free jet 7−36670
  9-cyanoanthracene, intramol. radiationless transitions, rot. effects 7−57116
  cyclobutenediylic dyes, electron transfer rate consts. and fluoresc. lifetime determ. 7−25587
  cycloheptatriene, excited, H atom release, unimol. dynamics 7−50276
  cyclohexane, α and γ induced solute fluoresc., single photon counting expts. 7−62448
  cyclophane diarylcarbenes, triplet-singlet equilib., structural control 7−54147
  deuterobenzenes, first excited singlet state vibr. level, fluoresc. lifetime meas. 7−50214
  1,3-di(1-pyrenyl)propane, intramolecular excimer formation, viscosity dependence, anal. study 7−19729
  2,4-di(2-pyrenyl)pentane, meso and racemic diastereoisomers, absorpt. and fluoresc. spectra 7−62434
  2,5-di(4-biphenylil)-oxazol fluorescence decay, difference method of deconvolution 7−25599
  diacetylene cation, fluorescing electronic state, stimulated emission pumping spectra 7−31119
  dialkylanilines, para-substituted, dual fluoresc. 7−10649
  p-substituted N,N-dialkylanilines, TICT states, fluoresc., H-bonds 7−15644
  4,4′-diaminophenyl sulphone, intramol. charge transfer state, H-bonded cluster importance, fluoresc. and IR spectra 7−50213
  3,5-diarylaminobenzene derivatives, absorpt. and fluoresc. spectra, steric effects 7−36590
  diatomic molecules, high resolution Fourier spectroscopy 7−50138
  diatomic molecules, Lande g factor and relax. rate of ground state, simultaneous determ. using Hanle effect 7−31120
  diatomic molecules, Zeeman quantum beats during transient process, after ground electronic state optical depopulation 7−36545
  diatomic mols. laser and Fourier transform spectroscopy 7−19872
  diatomic polar mol. plasma, quasimonochromatic electric field influence on spectral line shift 7−37757
  9,10-dibromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
  dibucaine, H bonding nature and vibr. structure, birefringence emission spectra anal. 7−19935
  dichloromethylene radical, fluoresc. decay meas., lifetime determ. 7−25594
  diffusion-enhanced intermol. energy transfer, simulation method 7−10660
  p-difluorobenzene, rot. dynamics, fluoresc. polarisation theory 7−15688
  p-difluorobenzene, S_0 vibr. levels, vibr. relax. rates, level depend. 7−31150
  difluoromethylene radical photofragment, time-resolved IR spectra 7−19836
  5,6-dihydrobenzo(c)xanthylium salts, synthesis, struct. and spectral props. 7−57050
  dimethoxymethane, electron impact excitation, fluoresc. meas. 7−10764
  4-(N,N-dimethylamino)benzonitrile, solvated, charge- transfer state form., structural demand, fluoresc. 7−15637
  5-dimethylamino-3,3-dimethyl-2-phenyl-3H-indole-polar mol. complex form., absorpt. and fluoresc. spectra 7−57115
  2-dimethylamino-6-propionylnaphthalene, twisted charge transfer state, fluoresc. quantum chem. study 7−863
  dimethylether, electron impact excitation, fluoresc. meas. 7−10764
  dipalmytoylphosphatidylcholine vesicles, dynamic fluoresc. meas. on main phase transition 7−17954
  dipeptide tryptophanyl-tryptophan, dynamics of struct., kinetic spectrofluorometry 7−34107
  2,5-diphenylfuran, low-freq. modes, fluoresc. excitation spectra 7−57117

molecular fluorescence continued
diphenylmethylene, excited triplet state, mag. field effects, fluoresc. 7—10657
trans-diphenylpolyenes in polymer film, transition moment, luminesc. 7—19943
disordered 2D and anisotropic 3D systems, excitation transfer, time-resolved obs., spatial geometry effect 7—15642
trans-trans-1,4-distyrylbenzene associates, solns., fluoresc., stokes shift 7—42676
DNA, laser induced interstrand covalent crosslink, fluoresc. obs. 7—8490
DNA, UV induced thymine dimers, bound serotonin effect 7—8489
doubly charged ions, dispersed fluoresc., synchrotron excitation 7—36673
dye molecules adsorbed on silicate matrix, UV electronic spectra 7—42639
dye molecules in solutions, cascading of relaxation over higher excited singlet levels 7—36679
dye multicomponent solution tunable lasers, electronic excitation energy migration, fluoresc. quenching 7—31308
dye solutions, concentration depolarization in fluorescence concentration quenching 7—36681
dyes, determ. of progressive diffusion constants by method of fluorescence recovery after photobleaching *(Russian)* 7—3091
dyes, fluorescence, in nematic liq. crystals, spectra props. 7—935
dyes, laser operation in near UV range 7—5881
dyes in polymer matrix, microheterogeneities fluoresc. conc. depend. *(Russian)* 7—5717
eosin in propanol, O_2 induction of delayed fluoresc. 7—36682
erbium(III) porphyrins, excited state, dual fluoresc. 7—10658
erythrocyte receptors, human, adrenoreceptive function, fluoresc. probe 7—8501
erythrosine, fluoresc. and kinetic characts., solvatochromy and solvatofluorochromy anal. 7—57127
erythrosine in propanol, O_2 induction of delayed fluoresc. 7—36682
ethanol, jet-cooled, electron impact induced fluoresc. of dissoc. fragments 7—36676
N-ethyl carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7—31093
excitation transfer between donors and acceptors in fluid soln., donor fluorescence decay meas. *(French)* 7—59236
flavoprotein, scanning fluorometer for rapid assessment of fluoresc. changes in vivo 7—8778
fluorenecarboxylic acids, and esters, solvent and pH effects, absorpt. and fluoresc. spectra anal. 7—50237
fluorocarbene molecule, $\tilde{A}^1A'(000)$-$\tilde{X}^1A''(010)$ vibronic band, fluorescence study 7—31094
fluoromethane, matrix isolated, vibr. energy transfer and migration processes 7—25635
formaldehyde, VUV excitation fluoresc. 7—15643
fuel sprays, exciplex-based diagnostics 7—23077
gas phase runs, photoexcited, two-photon dissoc., IR fluoresc. 7—62443
trans-glyoxal, photodissoc., photofragment excited state distrib., fluoresc. spectra anal. 7—50226
glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, Fermi reson., visible fluoresc. spectra anal. 7—50230
glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, rot. anal., visible fluoresc., spectra study 7—50229
guaiazulene, excited state dynamics kinetic model, laser-saturated fluoresc. study 7—50220
haematoporphyrin derivative, laser-induced fluoresc., tumour localisation 7—23431
haemoglobin, haeme pockets, porphyrin dynamics, fluoresc. polarisation meas. 7—62437
3-hydroxyflavone, ground state tautomer, proton transfer relax., laser fluores. spectroscopy 7—15640
hydroxymethyl radical, oxidation kinetics, phosphoresc., time depend. rate const. 7—10648
indole, fluoresc. quenching by acrylamide, harmonic-content freq.-domain fluorometry, transient effects 7—25586
indoles, room temp. fluorescence quenching by trivalent lanthanide ions in dimethyl sulfoxide 7—42670
indoloquinoxaline, excited state, radiative rates, fluoresc. spectra 7—62433
inert gas halide cryogenic solns., UV excitation and stimulated emission 7—10645
isocyanic acid, heat of form., photodissoc. study, time-of-flight and laser-induced fluoresc. spectra anal. 7—31105
LDS-750 dye, solvation dynamics in polar aprotic and alcohol solvents, subpicosecond resolution meas. 7—49961
leaves of higher plants, fluoresc. induction transitions, photosynthesis 7—8519
light amplification coefficient and intensity, spasmodic increase during metastable atom and mol. condensation *(Russian)* 7—50523
long-range energy transfer for inhomogeneous spatial distribs. and indirect donor-donor interaction 7—33419
low-temp. plasma, low freq. electric field parameters, mol. fluoresc. diagnostics 7—37756
magdal red, frozen solns., excited singlet states fluoresc. spectra 7—42675
merocyanine dyes, J aggregate form. in mixed monolayers, visible spectra and surface pressure-area isotherms anal. 7—31059
metalloporphyrin, fluoresc., picosec. kinetic meas. 7—31112
methane, jet-cooled, electron impact induced fluoresc. of dissoc. fragments 7—36676
methanethiol radical, radiative lifetimes, fluoresc. study 7—19954
methanol, jet-cooled, electron impact induced fluoresc. of dissoc. fragments 7—36676
3-methoxybenzanthrone in soln., picosecond spectroscopy of intermolecular proton phototransfer 7—54150
methyl thiyl radical+$NO(NO_2)(O_2)$, reaction rate consts., mol. fluoresc. anal. 7—19917
methylformate, electron impact excitation, fluoresc. meas. 7—10764
methylnitrite, photodissoc. NO photofragment excited state distrib., fluoresc. spectra anal. 7—50225
micelles, monodisperse confinements, fluorescence decay kinetics anal. 7—19937
mode mixing effects in absorpt., fluoresc. and Raman excitation spectra 7—5684
molecular systems, nonlinear absorpt. optical bistability, eikonal approx. 7—62797
myoglobin, haeme pockets, porphyrin dynamics, fluoresc. polarisation meas. 7—62437
naphthacene, low-press. vapour, discrete electronic-vibr. fluoresc. spectra 7—50238

molecular fluorescence continued
naphthalene, isotopically mixed cryst., resonant secondary emission and spectral diffusion 7—42665
naphthazarin, vibronic states relax., fluoresc. spectra study. 7—50221
2-(1-naphthyl)-4-phenyl-oxazol fluorescence decay, difference method of deconvolution 7—25599
nickel (II) tetra (p-vinylphenyl) porphyrin, benzene soln., aggregation and luminesc. props., visible spectra anal. 7—42635
nonlinear UV-visible spectroscopy for analysing higher electron excitation states of org. mols. 7—4897
cis, cis- octatetraene, excited 2^1A_g state pot., isomerisation study 7—13747
olefin radical cations from hydrocarbon radiolysis, time-resolved fluoresc.-detected mag. reson. 7—57099
organic cpds., in α-cyclodextrin-NaCl mixture, room-temp. luminesc. 7—36666
organic molecules in conformationally inhomogeneous solvents, solvation effect on UV and fluoresc. spectra 7—50234
organic mols., electronically excited states, radiative decay and nonradiative conversion processes 7—50235
organic neutral molecules, solubilisation in AOT inverse micelles in n-heptane, distrib. eval., fluoresc. quenching data 7—54191
organometallic free radicals, laser and Fourier transform spectroscopy 7—19872
perylene, time-resolved fluoresc. anisotropy obs. 7—25598
perylene, vapour, electron impact excitation functions, fluorescence 7—25600
perylene, vapour, two-photon excited fluoresc. polarisation 7—31109
$(\text{perylene-Ag}^+)^*$ exciplex fluoresc., solvent influence 7—57113
perylene-NH_3, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7—19936
phenanthrene, low-press. vapour, discrete electronic-vibr. fluoresc. spectra 7—50238
phenanthrene in methanol glasses, phosphoresc. quenching, time-depend rate const. 7—10648
phenanthrene-d_0($-d_{10}$), in supersonic free jet, electronic spectra, intramol. dynamics 7—42672
phenothiazine derivative-methylviologen systems, charge separation yield 7—28323
phenyl alkyl ketones, ring-substituted, in soln., absorption and fluorescence spectra 7—42671
pigment matrix, energy migration over, fluoresc. kinetics 7—28462
plasmas, low-temp., oscill. elec. field meas. by mol. fluoresc. 7—20958
PMMA, UV laser ablation, laser-induced fluoresc. studies 7—23021
polar compound in alcoholic solvents, time depend. fluoresc. shift, solute-solvent interaction 7—62436
poly(2-vinylpyridine), protonated, dil. soln. with trifluoroacetic acid, excimer emission, fluoresc. anal. 7—31196
poly(4-vinylpyridine), protonated, dil. soln. with trifluoroacetic acid, excimer emission, fluoresc. anal. 7—31196
poly(γ-benzyl L-glutamate) aggregation with rhodamine B, fluoresc. depolarisation 7—31096
poly(ethylene oxide-propylene oxide-ethylene oxide) block copolymers, photoluminesc. probes 7—13199
polyacrylic acid, pyrene substituted, solns., fluoresc. quenching, polyelectrolyte effects 7—62446
polymer, gels, zinc phthalocyanin containing, fluoresc., photosynthesis model 7—8515
polymeric chain, non-crystalline, orientation evaluation using polarised fluoresc. method *(Japanese)* 7—995
polymethine dyes, fluoresc. quenching 7—36680
polymethine dyes, isomers, hidden struct. in visible-UV absorpt. spectra 7—50166
polystyrene solns., excimer fluoresc., conc. depend. 7—7743
polyvinyldiphenylanthracene, excited singlet state annihilation, fluoresc. 7—62432
POPOP vapour, electron impact excitation functions, fluorescence 7—25600
POPOP vapour, two-photon excited fluoresc. polarisation 7—31109
porphyrin, water-soluble dimers, excited-state props. fluoresc. spectra, EPR, ODMR 7—19925
porphyrin motions in myoglobin haeme-pocket, fluoresc. polarisation meas. 7—28444
porphyrin-quinone, excited state, interactions in reversed micelles, time-resolved fluoresc. spectroscopy. 7—19929
porphyrins, asymmetric, electron spectra, oscillator model anal. 7—31095
precession induced fluoresc. modulation 7—19928
proflavine aromatic polyimides, dynamical behaviour, fluoresc. depolarisation 7—31193
propynol, hyperfine polarisation quantum beats, fluoresc. spectral anal. 7—36668
protein fluorescence quenching data analysis program 7—62438
protochlorophyll in model systems, photo-induced reversible changes in fluoresc. 7—54458
pseudoisocyanine, quantum yield, fluoresc. lifetimes and intensities, temp. depend. 7—19920
pyrene, vibronic coupling and intramol. dynamics, fluoresc. excitation spectra 7—57118
pyrene molecules adsorption and confinement in etched micropores formed in amorphous superlattices 7—27112
ω-(1-pyrenyl)alkanoic acids, vac. deposited films, fluoresc. spectra 7—50216
ω-(1-pyrenyl)alkanoic acids, vac.-deposited film, fluoresc. spectral changes 7—58316
pyridine nucleotide, scanning fluorometer for rapid assessment of fluoresc. changes in vivo 7—8778
pyridylaryloxazoles, spectral-luminesc. and lasing props. study 7—43089
pyrimidine, jet-cooled, rot. resolved fluoresc. excitation spectra 7—25597
pyrimidine, rot. dynamics, fluoresc. polarisation theory 7—15688
quantum yield from highly excited molecular states, photoacoustic-effect meas., triplet-state absorpt. 7—36678
Raman scatt., Kramers-Heisenberg eqn., light-induced spectral redistrib., dephasing processes 7—25524
resorufin adsorbed on γ-Al_2O_3, fluoresc. line narrowing and site-selection expt. 7—10655
rhodamine 6 G, polar soln., electron-excitation energy migration, fluoresc. 7—42674
rhodamine 6G, hydrodynamically focused flow, laser induced fluoresc. detection 7—59811
rhodamine 6G, in ethanol, stimulated intermolecular relax. 7—42673
rhodamine 6G, polymer matrix effect on spectral and lasing characts. 7—31309

molecular fluorescence continued
- rhodamine 6G*, transient excited singlet state absorption 7—57125
- rhodamine B, frozen solns., excited singlet states fluoresc. spectra 7—42675
- rhodamine B, mol. forms, internal conversion mechanism, solvent effects 7—10650
- rhodamine B in submono-, mono- and multilayer systems, fluoresc. decays and spectral props. 7—19938
- ERNA^{Phe}, yeast, conformational dynamics of anticodon loop as sensed by wybutine fluoresc. 7—17940
- rot. resolved fluoresc. excitation spectra 7—25597
- sarcoplasmic reticulum, fluoresc. energy transfer as an indicator of Ca^{2+}-ATPase interactions 7—59913
- singlet-excited molecule formation in triplet-triplet annihilation 7—19942
- sodium taurocholate-bilirubin interaction, UV-visible absorpt. and fluoresc. spectra 7—50162
- solvent, liq., fluoresc. anisotropy, inertial effects influence 7—62449
- stilbene, free rotation transient, fluorescence anisotropy 7—15639
- trans-stilbene, ground state, torsional motion, two-colour stimulated emission spectroscopy 7—50322
- trans-stilbene, vap., free rot. obs., fluoresc. 7—50314
- trans- stilbenes, poly(vinyl alcohol) films, photophysics study, visible spectra anal. 7—36632
- stimulated intermolecular relax. 7—42673
- p-terphenyl, vapour, electron impact excitation functions, fluorescence 7—25600
- p-terphenyl aggregates, pure and doped, excitation energy transfer, spectral props. 7—2504
- 1,2,4,5-tetrafluorobenzene in supersonic jet, fluoresc. and five-photon ionisation spectra, tunnelling 7—10659
- tetrafluoromethane plasma, CF_3 radical, reaction probability with Si surface 7—23059
- N,N,N′,N′-tetramethylbenzidine in various polar solvents, monophotonic ionisation 7—12758
- 2,6,N,N-tetramethylcyanoaniline, charge transfer states, solvent effects, fluoresc. 7—31111
- tetraphenylchlorine, and halo derivatives, heavy atom effect on fluoresc. and phosphoresc. polarisation spectra 7—57123
- tetraphenylporphine, and halo derivatives, heavy atom effect on fluoresc. and phosphoresc. polarisation spectra 7—57123
- tetraphenylporphine on Ag surface, fluoresc. quenching and interference effects 7—36675
- thylakoid membranes and functional subunits, organisation, linear dichroism and fluoresc. polarisation obs. 7—59944
- time-resolved fluoresc. polarisation and four-wave mixing processes, study 7—36667
- toluene, excited, H atom release, unimol. dynamics 7—50276
- transient species in supersonic, free jet expansion, laser induced fluoresc. 7—31099
- trimethylaluminium, UV laser photolysis for Al film growth 7—54153
- triphenylmethane dyes, dual fluoresc. 7—10649
- tryptophan, jet-cooled, excited state conformers and intramol. exciplex form., dispersed fluoresc. 7—36671
- tryptophan dynamics in proteins, single-photon laser fluoresc. studies 7—23304
- tumour-localising photosensitiser haematoporphyrin derivative, 2-photon laser-induced fluoresc. 7—23303
- uranyl borosilicate glass, excited states, fluoresc. 7—25588
- xanthene dye amino derivatives, fluoresc. characts. 7—42643
- xanthene dyes, triplet-state conc. quenching, fluoresc. study 7—42679
- p-xylene, excited, H atom release, unimol. dynamics 7—50276
- zinc (II) tetra (p-vinylphenyl) porphyrin, benzene soln., aggregation and luminesc. props., visible spectra anal. 7—42635
- Ar_2 laser induced fluorescence 7—19916
- Ar_2, radiative lifetime of $A1_u$ states, time-resolved fluoresc. 7—19952
- Ar_2, radiative lifetimes, time-resolved fluorescence study 7—5619
- ArCl, formation in Cl_2 doped Ar, excited states anal., mol. fluoresc. study 7—19946
- BaAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7—25591
- BaI, $X^2\Sigma^+$ product, distrib., fluoresc. detect. 7—25595
- $BrCN^+$, $\tilde{B}\ ^2\Pi$ state, radiationless transition, fluoresc.-photon coincidence study 7—31101
- C-containing mols., X-ray emission spectra, ab initio MO HF calcs. 7—36642
- C_2 cluster, Swan band emission obs. 7—62558
- $CH+H_2$, rate const. meas., fluoresc. detect. 7—17763
- CN, A $^2\Pi$ $v=0$ rot. levels, laser excited, B-X emission 7—25584
- CN, generation by photolysis of NCNO, removal by H_2, HCl and HBr, fluoresc. 7—46812
- CN+Ar, rot. levels, collisional energy transfer, state-resolved study 7—10713
- CO, adsorbed on Pt (111), molecule-substrate vibr. mode, IR emission spectra study 7—57126
- CO in combustion flows, two-photon digital imaging using planar laser-induced fluorescence 7—46896
- CO photofragment, rot. state distrib., fluoresc. study 7—23039
- CO, selected rovibronic triplet levels, radiative lifetimes, fluoresc. 7—42686
- CO_2 laser-induced fluoresc. appl. to HCl detection in atm. 7—46993
- CS_2, Ar^+ ion irrad., S_2 sputtered mol. props. 7—936
- CS_2, photodissoc. dynamics, VUV laser induced fluoresc. 7—23044
- CS_2, photofragmentation dynamics using coherent VUV for product detect. 7—19976
- Ca_2, $A^1\Sigma_u{}^+-X^1\Sigma_g{}^+$ red system. laser spectroscopy, rot. anal. and perturbation anal. 7—10652
- CaAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7—25591
- CaCl, $E^2\Sigma$ state, time-resolved optical double-reson. study 7—25590
- Cl_2, dopant in Ar, ArCl and Cl_2 formation and excited states anal., mol. fluoresc. study 7—19946
- Cl_2, excited state, in Ar matrix, internal dynamics and fluoresc. 7—25589
- Cl_2, X state, polynomial and near-dissoc. representations for spectral data 7—5714
- $Cl_2{}^+$, $A^2\Pi_u$, vibr. levels, radiative lifetime meas. 7—36677
- $ClCN^+$, gas phase $\tilde{B}^2\Pi \leftarrow \tilde{X}^2\Pi$ laser excitation spectrum 7—25529
- $Co(CO)_3NO$, photofragmentation dynamics using coherent VUV for product detect. 7—19976
- Cs_2, electronic states, laser induced fluoresc. 7—19912
- $CsUO_2(NO_3)_3$, excited states, fluoresc. 7—25588
- Cu_2, glow discharge sputtering, laser-excited fluoresc. 7—10647

molecular fluorescence continued
- Cu_3, assignment of the 5397 Å system, mol. fluoresc. data anal. 7—50217
- D_2, desorption from Pd surface, rovibr. state distrib., VUV laser induced fluoresc. 7—17826
- F_2, f $^3\Pi_g$ state, electron impact, laser photon emission 7—5778
- $Fe(CO)_5$, photofragmentation dynamics using coherent VUV for product detect. 7—19976
- GeH_4, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7—19880
- H_2, desorption from Pd surface, rovibr. state distrib., VUV laser induced fluoresc. 7—17826
- H_2, photodissociation of doubly excited states, Lyman-α fluoresc. spectra anal. 7—19945
- HBr, VUV photoabsorpt. and fluoresc. spectra 7—19927
- HCF, mag. interactions obs. by intermodulated fluoresc. technique, hyperfine struct. 7—25593
- HCl-Kr, mixture, vibr. relax., rate const. meas. 7—15687
- HCl-Xe, mixture, vibr. relax., rate const. meas. 7—15687
- HO_2+O_3, reaction rate const. meas. by photofragment fluoresc. detect. 7—22990
- H_2O_2, photodissoc., fluoresc., VUV spectra 7—57140
- H_2O_2, photofragmentation dynamics at 193 nm, laser-induced fluoresc., rot. and vibr. distrib. 7—42700
- HSiF, mag. interactions obs. by intermodulated fluoresc. technique, hyperfine struct. 7—25593
- He + $Br_2(I_2)(ICl)(IBr)$, bound and continuum states, excitation transfer, optical and electron spectroscopy investig. 7—36689
- $He_2(a^3\Sigma_u)$, metastable state, reactivity, rate coeff. determ., fluoresc. 7—19760
- Hg-Ar complex, electronic states struct., pot. energy curves, visible fluoresc. spectra anal. 7—36631
- Hg_2, $GO_u{}^+$ state vibr. anal., visible and UV fluoresc. spectra study 7—19933
- Hg_3, excimer, laser-induced fluoresc. spectroscopy 7—938
- I_2, collision-induced rot. transfer 43-0 band, B-X system, rel. intensity 7—15585
- I_2, excited state lifetime, modulated fluoresc. emission 7—19911
- I_2, $F(0_u{}^+)$ ion-pair state anal., OODR and fluoresc. excitation spectrum 7—19931
- I_2, higher electronic states, rot.-vib. anal., mol. fluoresc. study 7—19918
- I_2 laser-induced fluoresc. appl. to temp. meas. in compressible flow 7—41383
- I_2, supersonic flow study by 3D visualization and laser-induced fluorescence 7—20751
- I_2, time behaviour of secondary emission excited by nearly-resonant light pulses 7—62445
- I_2, transfer bands, relative rot. line intensities 7—19941
- I_2, X state, polynomial and near-dissoc. representations for spectral data 7—5714
- IBr, ion-pair states, spectral anal. 7—19873
- ICl, $B^3\Pi_0$ state, predissoc., fluoresc. decay meas. 7—10687
- IF reaction product, laser induced fluoresc. *(French)* 7—13727
- K_2, interferences continuum fluoresc. 7—25585
- $K_4[Pt_2(P_2O_5H_2)_4]$, cryst., triplet sublevel annihilation, delayed fluoresc. anal. 7—50215
- Kr_2, radiative lifetime of $A1_u$ states, time-resolved fluoresc. 7—19952
- LaO, $X^2\Sigma^+$ and B^2Sigma^+ states, spin-rot. and hyperfine interactions 7—5715
- $Li^*Li_2^*$, excitation and rot. transfer, rate const. determ. *(French)* 7—5750
- MgO, $a^3\Pi$ and $d^3\Delta$ states, high resolution laser fluoresc. spectra 7—8252
- $Mo(CO_6)$, optical gain detection following multiple photon dissociation 7—31124
- N_2 metastable states, HFS, laser-induced fluoresc. study 7—42678
- $N_2{}^+$, electron impact on N_2, A $^2\Pi_u$ state excitation rate meas. 7—19934
- $N_2{}^+$, photoion, resonant excitation, rot. distrib. 7—31122
- NCO, MODOR and intermodulated fluoresc., hyperfine coupling consts. 7—50206
- NH_2, excited radical, fluoresc., Einstein coeff. and oscillator strength calc. 7—42668
- NH(ND), photolysis product of NH_3, laser induced fluoresc. 7—62442
- NO, $^2\Delta$ states, radiative lifetime meas., fluoresc. spectra 7—62439
- NO dimer, vibr. predissoc. lifetimes, time-resolved meas. 7—31126
- NO molecule scatt. from graphite surface 7—13316
- NO_2, excited state rot.-vibr. anal., supersonic jet fluoresc. excitation spectra 7—19919
- NO_2, form. from N_2O_5 photolysis, fluoresc. 7—36672
- N_2O, electronic autoionisation studies using vibr. resolved const. ionic spectroscopy, dispersed fluoresc. 7—25592
- N_2O, photoionis. dynamics and vibr. branching ratios, fluoresc. spectra 7—15653
- Na dimer, lowest triplet transition, laser-induced fluoresc., IR spectra anal. 7—36627
- Na_2, $b^3\Pi_u$ state, lifetimes, laser induced fluoresc. 7—19913
- Na_2+He, collisional depolarisation, fluoresc. spectra anal. 7—19924
- Na_2+He scatt. precession induced fluoresc. modulation 7—19928
- NaBr, excited vibr. level, laser induced fluoresc. spectra 7—19914
- NaK discharge, laser excited, fluoresc. spectrum *(French)* 7—10646
- NbO, hyperfine struct., intensity cancellation effects, microwave and fluoresc. spectra 7—50088
- O_2, absorpt. and fluoresc. calcs. in Schumann-Runge band system 7—19940
- O_2 laser-induced fluoresc. appl. to imaging of temp. fields in air 7—41384
- O_3, electronically excited state, radiative lifetime and quenching mechanism 7—31110
- OCS, photodissoc. dynamics, VUV laser induced fluoresc. 7—23044
- OH, $A^2\Sigma^+ \rightarrow X^2\Pi$ fluoresc. excitation function 7—42669
- OH in flames, excited state rot. population study using laser induced fluoresc. 7—3592
- OH, photolysis product, laser induced fluoresc. study 7—8293
- OH photoproduct, momentum distrib. Doppler and polarisation spectra 7—13795
- OH, radical, desorpt. on $TiO_2(NaCl)(SrF_2)$ surfaces, kinetic and internal energy, determ., fluoresc. detect. 7—8298
- OH radicals in spray flames, planar laser-induced-fluorescence monitoring 7—59766
- $OH+H_2O$, rot. transfer, time-resolved fluoresc. 7—42664
- PO_2, radiative lifetime and laser induced UV fluoresc. spectrum 7—42638
- Pb_2, glow discharge sputtering, laser-excited fluoresc. 7—10647
- Pr^{3+} complexes, soln., visible and UV electronic absorpt. spectra 7—36634
- Rh complex, $Rh_2(1,3\text{-diisocyanopropane})_4{}^{2+}$, lowest excited states, absorption spectra anal., 7—25532

molecular fluorescence continued
- Rh complex, Rh_2(2,5-dimethyl-2,5-diisocyanohexane)$_4^{2+}$, lowest excited states, absorption spectra anal., 7–25532
- S, Ar^+ ion irrad., S_2 sputtered mol. props. 7–936
- SF_6+N_2O, vibr. energy transfer and relax. study, kinetic model, IR fluoresc. spectra 7–50227
- SO_2, radiative lifetimes, collision-free supersonic beam, fluoresc. spectra 7–19922
- ScO, electric dipole moment calcs., laser fluoresc. excitation spectroscopy 7–19930
- SiCl, internal energy distrib., in laser sputtered molecules 7–31097
- $SiCl_2$ radical, laser-induced fluoresc. investig. 7–31090
- SiF_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7–62476
- SiF_4, photoexcitation, photoabsorpt. and fluoresc. cross section meas. 7–50224
- SiH_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7–62476
- SiH_4, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7–19880
- SiH_4-NO, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7–62476
- Si_2H_6, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7–19880
- Si_3H_8, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7–19880
- SrAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7–25591
- s-tetrazine clusters, photophysics and photochemistry, laser induced fluoresc. 7–31098
- TlF, predissoc., tunneling, UV spectra 7–57141
- $UO_2(NO_3)_2.6H_2O$, excited states, fluoresc. 7–25588
- $UO_2SO_4.3.5H_2O$, excited states, fluoresc. 7–25588
- Xe_2 excimers, two-photon fluoresc. appl. to subpicosecond pulse duration meas. 7–43187
- XeCl, excitation fns., fluoresc. 7–17773
- XeCl, intermediate states, obs. fluoresc. spectra 7–15638
- XeI, excitation fns., fluoresc. 7–17773

molecular force constants
- *see also Coriolis force*
- acetonitrile, anharmonic force consts., Fermi coupling, IR and Raman spectra 7–920
- bent XYZ type molecules, mol. consts. 7–5653
- benzene, substituent effects on vibr. modes 7–19824
- benzene derivatives, out-of-plane valence force field 7–31021
- bicyclic compounds, valence force field and vibr. wavenumber calcs., IR and Raman data comparison 7–50079
- β-BoB_2O_4, crystal vibr. assignment, Raman and IR spectra anal. 7–53346
- 2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7–46018
- CN^-—H_2O, quantum-chem. MO SCF calcs. 7–5597
- cyclopentyne, struct., ab initio MO calcs. 7–49895
- diacyl peroxides, low temp. photolysis, vib. anal. for CO_2 dimer, IR spectra 7–15597
- diatomic molecules, vibr. force consts. and transition stress 7–50063
- diatomic molecules, vibr.-rot. spectrum anal. 7–29635
- 2,2-dichloropropane-$d_0(d_6)$, vibr. anal. IR and Raman obs. 7–919
- difluorodichloromethane, mol. consts., force field study, thermodynamics props. 7–19814
- dimers, first row homonuclear, orbital forces and chemical bonding in density functional theory 7–5595
- dimers, H bonded, intermol. interactions, quantitative model 7–36721
- N,N-dimethylacetamide, vibr. relax. and noncoincidence effect, Raman spectra anal. 7–46048
- 4,4-dimethylheptane, conform. anal., IR and Raman spectra 7–19863
- 3,3-dimethylhexane, conformational anal., IR and Raman spectra obs. 7–15602
- ethane, internal force consts., vibr. spectrum calc. 7–31022
- ethylene, bending force const. attenuation, ab initio CI calcs. 7–49939
- ethylene, internal force consts., vibr. spectrum calc. 7–31022
- fluoroform, force field study by parametric method 7–5652
- force field calculations from Raman and infraredintensities 7–5785
- formaldehyde, excited states, cubic force consts. and vibr.-rot. interaction consts. calcs. 7–25341
- formaldehyde, vibr.-rot. interaction const., RHF closed-shell wave function 7–19818
- formate anion, isotopic species, vibr. anal., valence force fields calcs. 7–36577
- formic acid dimer, symm. stretching modes in gas phase 7–25475
- formyl radical pair, anharmonic vibr. effects, ab initio SCF-CI calcs. 7–10444
- germylacetylene-$d_0(d_3)$, vibr. anal., mol. consts. study, F-G matrix technique calcs. 7–36578
- glycolic acid, rot. isomerisation, ab initio SCF calcs., IR Ar matrix spectra 7–19851
- halide and pseudohalides at Au surface, SERs, metal-adsorbate vibr. freqs., surface bonding 7–12468
- α-helical proteins, dynamical struct., vibron solitons description 7–47002
- hexafluoride mols., vibr. isotope shifts 7–943
- 3-hexyne, vibr. spectra, normal coordinate calcs., free internal rot. 7–50069
- indole, valence force const. IR and Raman freqs., normal coordinate anal. 7–914
- isoformyl cation, force field, equilibr. geometry, ab initio determ. 7–62293
- methane, force field, HF SCF and GAS SCF calcs. 7–62268
- methane-$d_0(d_4)$, intermol. force const. and normal mode calcs. 7–56937
- methane-$d_1(d_3)$, bending mode triad, anal. model, IR spectra 7–19822
- methanol mol. vibr. spectrum, CNDO/2 FORCE calcs. 7–49924
- methyl cyanide-acetylene dimer, pulsed nozzle FT microwave spectrosc. 7–36593
- 2-methyl oxetan, vibr. circular dichroism spectra, expt. and theoretical results 7–50208
- N-methylacetamide-formamide, varying H bond geometry, N-H bond vibr. properties, ab initio calcs. 7–10407
- methylene, excited states, cubic force consts. and vibr.-rot. interaction consts. calcs. 7–25341
- methylene chloride, isotope effect, empirical general harmonic force field 7–62346
- methylimine, protonation, C=N bond rehybridisation rel. to stretching force const. 7–30925
- monohalomethane, harmonic force fields and vibr. spectra, ab initio HF calc. 7–50064

molecular force constants continued
- nitryl halides and their isotopes, vibr. anal. 7–50051
- perfluorotrimethylgermyl anion, vibr., IR and Raman spectra *(German)* 7–31048
- phenylalkynes, conform. in soln. and solid, vibr. anal., Raman and IR spectra study, valence force field calcs. 7–36612
- polyatomic mols., stretching force consts., inner-shell polarisation effect, HF calcs. 7–15588
- polyenes, linear, ground-state vibrs. 7–36575
- potential energy surface as minimisation problem, second-order derivatives 7–5623
- propionitrile, vibr. assignment, force consts. 7–31020
- propylene, bending force const. attenuation, ab initio CI calcs. 7–49939
- propylene, internal force consts., vibr. spectrum calc. 7–31022
- pyrazine, in-plane vibrs., force field, MINDO/3 calcs. 7–42487
- skatole, valence force const. IR and Raman freqs., normal coordinate anal. 7–914
- steroids, unsaturated, methyl group rot. barrier studied by NMR and force-field calcs. 7–10627
- 1,1,2,2-tetrabromodisilane, gas phase, mol. struct., conform. comp., GPED spectra anal. 7–36762
- tetrahedral mols., T_2 electronic state vibronic wavefunctions 7–19731
- toluene, vib. anal., isotropic species, comparison with benzene 7–19824
- s-triazine, gas phase, mol. struct., GPED anal., ab initio force field calcs. 7–36457
- tribromoacetonitrile, force field and thermodynamic fns. 7–30960
- sym-tribromobenzene, struct., vibr., GPED 7–57177
- 3,3,3-trifluoropropyne, intracavity dye laser photoacoustic spectra for overtone excitation, IR spectra 7–10575
- trimethylammonium hexochloroantimonate, mol. vibr., Raman and IR spectra anal. 7–53347
- trimethyloxonium hexachloroantimonate, mol. vibr., Raman and IR spectra anal. 7–53347
- vibrational freqs. anharmonic force consts. calcs. 7–5655
- weakly bound dimers complexes, bending force consts., internal dynamics 7–31011
- XYZ_4 systems, molecular dynamics 7–10775
- $AlBr_3NH_3$, vapour phase, vibr. anal., high temp. IR spectra 7–31050
- Ar-NH_3, microwave spectrum of K=0 states 7–25493
- $B_{12}Y_{12}^{2-}$, (Y=H, D, F, Cl, Br, I) mol. vib., normal coordinate anal. 7–913
- $Ca(SiO_x)_y$, cryst. struct., vibr. spectra, force consts., Si—O bond charact. 7–37932
- ClO_2, struct., pot. functions, electron diffr. and spectroscopic data 7–15708
- ClO_3F, vibr., centrifugal distortion consts. 7–19815
- $GaBr_3$, vapour phase, vibr. anal., high temp. IR spectra 7–31050
- $GeH_3D(GeD_3H)$, bending mode triad, anal. model, IR spectra 7–19822
- $GeH_4(GeD_4)$, intermol. force const. and normal mode calcs. 7–56937
- HCN, vibr.-rot. interaction const., RHF closed-shell wave function 7–19818
- HCN-HF, Coriolis coupling const., eval. for ν_β estimation 7–5583
- HCl, gas, vibr.-rot. spectrum anal. 7–29635
- HF weakly bound dimers complexes, bending force consts., internal dynamics 7–31011
- HF-H_3N, H-bonded complex, force consts. calc. for vib. modes, correl. effects 7–19823
- H_3GeX (X=F, Cl, Br, I), harmonic force fields and vibr. spectra, ab initio HF calc. 7–50064
- H_3N-HCl, H-bonded dimer charactn., rot. FT microwave spectrum 7–25490
- H_2O, associated species, stretching force consts., mol. interaction effects, CNDO calcs. 7–25396
- H_2O, bond lengths and force consts., LR CI calcs. 7–56990
- H_2O clusters, Raman spectra 7–42826
- H_2O, pot. energy surfaces 7–10468
- H_2O, vibr.-rot. interaction const., RHF closed-shell wave function 7–19818
- HOCl, FTIR spectra, vibr. rot. consts. and harmonic force field 7–50140
- H_2POOH, bonding, ab initio calcs., proton exchange reactions 7–5589
- H_2POSH, bonding, ab initio calcs., proton exchange reactions 7–5589
- H_2PSSH, bonding, ab initio calcs., proton exchange reactions 7–5589
- H_2S, pot. energy surfaces 7–10468
- H_2Se, pot. energy surfaces 7–10468
- H_4SiO_4, force fields, ab initio MO calcs. 7–25375
- H_3SiX (X=F, Cl, Br, I), harmonic force fields and vibr. spectra, ab initio HF calc. 7–50064
- H_3SnX (X=F, Cl, Br, I), harmonic force fields and vibr. spectra, ab initio HF calc. 7–50064
- $KSFO_3$, vibr., force consts., IR spectra 7–19837
- Li cpds., energy stability, struct., vibr. spectra, MO LCAO SCF calcs. 7–15512
- LiF-H_3N, Li-bonded complex, force consts. calc. for vib. modes, correl. effects 7–19823
- $(LiH)_x$ linear infinite chains study, pseudo-lattice method, ab initio SCF calcs. 7–36470
- Li(ethylene)$_n$, in solid Ar, IR spectra and struct. 7–36614
- MgX_4^{2-}, (X=Cl, Br, I), force consts., vibrational anal. 7–5651
- Mo complex, tetraacetomolybdenum, metal–metal quadruple bonds, normal coordinate anal. 7–42578
- $Mo_2Cl_8^{4-}$, metal–metal quadruple bonds, normal coordinate anal. 7–42578
- N_2, bond lengths and force consts., LR CI calcs. 7–56990
- $NbCl_5(Br_5)$, vibr. anal., GF matrix method calcs. 7–42593
- $Ni(PX_3)_4$ mols., force consts. calc. from vibr. spectroscopic data 7–50068
- NpF_6, IR-active fundamentals and combination bands, vibr. force consts. 7–25511
- O+CO, recomb. chemiluminesc. spectrum calc. 7–46807
- OCN^--H_2O interaction, pot. surface, SCF MO calcs. 7–56967
- OF_2, ν_1 and $2\nu_2$ Fermi diad, diode laser spectroscopy, band const. and force consts. 7–25487
- POBr, gaseous, form., mass spectrometric and matrix IR investig. 7–39908
- PuF_6, IR-active fundamentals and combination bands, vibr. force consts. 7–25511
- Re complex, tetraacetodichlororhenium, metal–metal quadruple bonds, normal coordinate anal. 7–42578
- $Re_2Cl_8^{2-}$, metal–metal quadruple bonds, normal coordinate anal. 7–42578
- $ReO_2(CN)_4$, vibr. anal., force consts. 7–10538
- S_8, crown struct., pot. hypersurface, EHT calcs. 7–36483

molecular force constants continued
- SeO_2, struct., pot. functions, electron diffr. and spectroscopic data 7−15708
- a-Si:H, Si−H−Si three centre bonds IR spectra, LCAO-MO-SCF-STO-3G calcs. 7−6741
- $Si^{35}Cl_2H$, mm wave rot. spectra, centrifugal distortion const. and harmonic force field anal. 7−25496
- SiF_4, force fields, ab initio MO calcs. 7−25375
- SiH, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7−19713
- SiH_2, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7−19713
- SiH_3, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7−19713
- SiH_4, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7−19713
- $SiH_3D(SiD_3H)$, bending mode triad, anal. model, IR spectra 7−19822
- $SnH_3D(SnD_3H)$, bending mode triad, anal. model, IR spectra 7−19822
- TeF_6, ν_3 bond, free jet IR absorpt. spectroscopy 7−10569
- VCl_3, Fourier for IR and laser Raman spectra meas., normal coordinate anal., molecular constant calcs. 7−50137

molecular force fields *see molecular force constants*

molecular hyperfine structure
- α,ω-bis (9-anthryl)alkanes, cation radicals, ESR, spin distribs. and mol. conformations 7−31077
- ascorbic acid radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7−33918
- ascorbic acid radical anion, Ca^{2+} exchange, ESR line broadening meas. of rate const. 7−28270
- bacteriochlorophyll a radical cations, hyperfine interactions with ^{15}N nuclei, calcs. for ENDOR and EPR methods 7−15594
- m-benzosemiquinone radical anion, reson. Raman, EPR and MO studies 7−10603
- bicyclooctene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7−53207
- bis(chlorophyll)cyclophane, radical cations, ENDOR and TRIPLE reson. 7−42655
- t-butyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7−36601
- chlorophyll a, oxidised, ESE modulation 7−62416
- chlorophyll a, radical cations, ENDOR and TRIPLE reson. 7−42655
- 4-chloropyridine, rot. spectra, ^{14}N and Cl hyperfine struct. 7−36586
- CIDNP, hyperfine interactions, semiclassical theory, rel. to mag. field depend. 7−928
- dibromodiphenylether-d_{10}:dibromobenzophenone-d_{10}, singlet-triplet transitions, photon echoes 7−15959
- 1,2- dichlorobenzene-$d_3(d_4)$, isotopic species, r_0 structure calcs., microwave spectra 7−19834
- dimethylamine radical cation, hyperfine coupling tensors, ab initio UHF calcs. 7−25373
- disordered systems, ESEEM and ENDOR spectra, model calcs. 7−53176
- ferredoxins, g strain, EPR study 7−25567
- fluorenone ketyl radical cation, single channel quadrature FT ESR spectra 7−25570
- formic acid-$d_0(d_1)$, hyperfine interactions, double microwave-RF reson. 7−42656
- gadolinium triacetate, frozen soln., coordination environment investig., ENDOR 7−25576
- gadolinium tripropanate, frozen soln., coordination environment investig., ENDOR 7−25576
- homonuclear diatomic molecules and u-g perturbations, hyperfine interactions 7−25429
- hydrazyl radicals, muonium substituted hyperfine coupling constants 7−42793
- hydrocarbon peroxyl radicals, ab initio MO and electron correl. calcs. 7−49951
- iodomethane-d_3, hyperfine interactions microwave-RF double reson. 7−36657
- methane, equilib. bond lengths, relativistic corrections 7−36477
- methyl cyanide-HF(DF), hyperfine struct., rot. spectra 7−31012
- methylamine radical cation, hyperfine coupling tensors, ab initio UHF calcs. 7−25373
- methylchloroform, microwave and mm-wave spectra, hyperfine struct., rot. and centrifugal distortion consts. 7−25500
- methyliodosilane, and deuterated species, dipole moments, quadrupole coupling consts., microwave spectra 7−19830
- muonium adducts of carbonyl bond, hyperfine coupling consts. 7−50409
- norbornene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7−53207
- 2,2,5,7,8-pentamethylchroman-b-oxyl-^{13}C, radical, ESR spectra and hyperfine coupling const. 7−36652
- pentynylidyne radical (C_5H), in interstellar space, hyperfine struct. obs. 7−60749
- perfluoropyridine 7−62351
- perfluorovinyl radical in Ar matrix, ESR INDO MO calcs., hyperfine struct. 7−31078
- phenazine derivatives, partly hydrogenated radicals, hyperfine const., EPR *(French)* 7−31079
- phenyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7−36601
- α-phenyl-N-tert-butylnitrone, deuterated, conform. of spin adducts, ENDOR investig. 7−50204
- cis-polyacetylene, muonium substituted radical, hyperfine coupling constant 7−50407
- porphyrin-quinone complexes, porphyrin triplet states, ESR and optical investig. 7−25571
- propynol, hyperfine polarisation quantum beats, fluoresc. spectral anal. 7−36668
- pyridine derivatives, rot. spectra, nuclear quadrupole hyperfine struct. 7−62351
- pyridine-$d_0(d_1)$, HFS, quadrupole coupling, Fourier transform microwave spectra 7−19827
- semiquinone cation radical, immobilised, EPR spectral simulation calcs. 7−50200
- simple molecules, superfine, hyperfine struct., from IR spectra 7−10586
- sodium hexacarboxylatoferrates, Mossbauer spectra 7−10639
- squaric acid radical, HYSCORE 2D ESR investig. 7−25565
- strong perchloric acid soln., free radical protonation equilib., ESR study 7−33918

molecular hyperfine structure continued
- tetraaryldiphosphine radical cations, ESR linewidths rel. to struct. 7−50201
- trifluoroiodomethane, IR RF double reson. spectra, rot. levels, nuclear quadrupole transitions 7−50205
- trimethylamine radical cation, hyperfine coupling tensors, ab initio UHF calcs. 7−25373
- tris-1,10-phenanthroline rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
- tris-2,2′-bipyridine rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
- urea, rot. transition, N quadrupole coupling, HFS, microwave spectra 7−10559
- vitamin E(^{13}C) radical, ESR spectra and hyperfine coupling const. 7−36652
- weakly bound dimers complexes, bending force consts., internal dynamics 7−31011
- Ag_5^{q+}, electronic struct., Dirac scattered wave study 7−42818
- $(AgO_2)_x$ complexes, (x=1,2), bonding and configuration, matrix isolation ESR spectra anal. 7−19905
- Ar-NO van der Waals mols., microwave and RF spectra, hyperfine parameters 7−31026
- Ar_2-HF(DF) trimers, mol. rot., hyperfine struct., spectra anal. and calcs. 7−50060
- $Au(O_2)$ complexes, bonding and configuration, matrix isolation ESR spectra anal. 7−19905
- BF^+ radical cations in Ne matrix, generated by laser sputtering and high temp. sources, EPR, CI calcs. 7−25604
- BF_3, electric-field gradients, NMR shielding tensors, NQR coupling consts., ab initio HF calcs. 7−19693
- BaI, $X^2\Sigma^+$ and C^2 Π states, hyperfine struct. MODOR 7−10637
- Co complexes, bis(dimethylglyoximato)cobalt(II), frozen soln., EPR and ENDOR investig. 7−57097
- $(Co(CN)_5)^{3-}$, soln., electronic struct., ESR investig. 7−31081
- Cu complex, aliphatic polyamine Cu (II), ESR hyperfine line width 7−19891
- Cu complex, bis(diisopropylsalicylato)copper(II) pyridyl nitronyl nitroxide, mol. conform., ESR study 7−57103
- Cu complex, Cu_4OCl_6(triphenylphosphine)$_4$, EPR spectrum, Zeeman, hyperfine and mag. dipole effects 7−10642
- Cu^{2+} complexes with phenanthroline, struct., ESR 7−31080
- $(CuO_2)_x$ complexes, (x=1,2), bonding and configuration, matrix isolation ESR spectra anal. 7−19905
- Fe complex, Fe(hexaphenyl-1,4,7,10-tetraphosphadecane), tetraphenylborate, electronic relax. 7−25578
- Fe-Mo(W) complexes, dinuclear clusters, fine and hyperfine struct. 7−36659
- Fe_2, diatomic molecules, electronic configuration, ^{57m}Fe Mossbauer data 7−10640
- $Ga(CO)_2$, form. in hydrocarbon matrices, magnetic parameters, EPR and IR spectra anal. 7−19906
- $GdCl_3$, frozen soln., coordination environment investig., ENDOR 7−25576
- H, ortho-para conversion, new channel 7−36502
- HCF, mag. interactions obs. by intermodulated fluoresc. technique, hyperfine struct. 7−25593
- HDNNC, rot.-inversion spectrum in region from 100 to 400 GHz 7−25494
- HF weakly bound dimers complexes, bending force consts., internal dynamics 7−31011
- HI-HF complexes, struct. and microwave spectra 7−50087
- HPO_3 radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7−33918
- HSiF, mag. interactions obs. by intermodulated fluoresc. technique, hyperfine struct. 7−25593
- I_2, B 0_u^+ state studied near dissociation limit, hyperfine interactions 7−25430
- I_2 hyperfine spectra at 629 nm *(Chinese)* 7−5689
- I_2, time behaviour of secondary emission excited by nearly-resonant light pulses 7−62445
- INCO, microwave spectrum, rot. and centrifugal distortion consts., quadrupole hyperfine struct. 7−5667
- LaO, $X^2\Sigma^+$ and B^2Sigma^+ states, spin-rot. and hyperfine interactions 7−5715
- methane hyperfine line frequency meas., stabilised He-Ne laser expt. 7−20190
- N_2 metastable states, HFS, laser-induced fluoresc. study 7−42678
- NCO, MODOR and intermodulated fluoresc., hyperfine coupling consts. 7−50206
- NH^-, IR rot.-vibr. spectrum, high-resolution meas. 7−62373
- NH^+, rot. transition obs. with resolved hyperfine struct. 7−42508
- NH_3, mol. beam laser Stark spectroscopy, ν_2 band, transition dipole moment meas. 7−50209
- NH_3^+ radical cation, hyperfine coupling tensors, ab initio UHF calcs. 7−25373
- NbO, hyperfine struct., intensity cancellation effects, microwave and fluoresc. spectra 7−50088
- OH, $A^2\Sigma_{1/2}^+$, first excited electronic state ρ-doublet transition obs., UV-microwave double reson. 7−10636
- PbH_4, equilib. bond lengths, relativistic corrections 7−36477
- Pr^{3+}:LaF_3, spin-spin reservoir cross-relax. via optical pumping 7−15652
- SF_6, mol. vibr.-rot. consts., IR saturated absorpt. spectra anal. 7−50118
- SO_2-HF(DF), mol. geometry, ^{19}F spin-spin and D-nucl. quadrupole coupling consts., rot. spectrum 7−5666
- $SiCl_3H$, quadrupole coupling, rot. microwave obs. 7−62356
- SiF_4, electric-field gradients, NMR shielding tensors, NQR coupling consts. ab initio HF calcs. 7−19693
- SiH_3 radical in Xe matrix, EPR line shape 7−10632

molecular inelastic collisions
- *see also atom-molecule collisions; atom-molecule reactions; ion-molecule collisions; ionisation of molecules; molecular electron impact dissociation; molecular electron impact excitation; molecular electron impact ionisation; molecular neutron scattering; molecular rotational-vibrational energy transfer; molecule-molecule reactions*
- acetylacetone enolate anions, collision-induced losses of ketene, mass spectra 7−13839
- bromocyanoacetylene cation in ground and electronic states, vibr. struct., emission and laser excitation spectra 7−50228
- complex molecules, effective kinetic diameter determ. 7−26376
- conference, Orleans, France (Sept. 1985) 7−4616

molecular inelastic collisions continued
diatomic molecules, collisions, kinetic theory cross-sections, perturbation calcs. 7—36727
dipole transitions induced from pulsed electric field on molecular beams *(French)* 7—62452
ethane, o-positronium decay rate, mean field behaviour transition 7—36733
glyoxal, collision-induced intersystem crossing, gate states participation 7—25583
interspecies transfer of momentum and energy in disparate-mass gas mixtures 7—42734
inversion of molecular scattering data 7—42731
log derivative method, piecewise constant diagonal reference pot. addition 7—36726
metal cluster ions, sputtered, unimol. decomposition and collision-induced fragmentation 7—15778
methane, gaseous, low temp. collision-induced IR absorpt. 7—10562
methane, o-positronium decay rate, mean field behaviour transition 7—36733
molecular beam studies of elementary photophysical processes 7—15700
molecular line shape and relaxation, stochastic theory 7—31116
nonreactive systems, laser excitation and collisional energy transfer 7—42688
open-shell mol. collisions, polarisation and alignment effects 7—20003
spectral line half-widths, collisional broadening, calc. optimisation 7—36693
three-body rearrangement and break-up, critical angle second-order scattering 7—5747
unimolecular reactions induced by vibr. overtone excitation, collisional energy transfer 7—39863
CN, collisional interelectronic and intraelectronic energy transfer involving rot. levels 7—36729
CO, rovibr. lines, IR spectral linewidth collisional broadening 7—36621
$CO+H_2O$, line broadening meas. 7—50330
$CO+N_2(O_2)$(air), J=1-0 rot. transition, press. broadening 7—5722
Co_2, intensity and press. broadening meas. in ν_3 fund. 7—50265
DCl + OH (OD), reaction rates, vibr. excitation and isotopic substitution effect 7—22996
$H+He(H_2)(N_2)(O_2)$, differential scatt. cross-sections for neutral particle precipitation 7—5739
H_2+H_2, atomic data relevant to edge plasmas 7—20063
NF+IF, electronic-to-electronic energy transfer rate, temp. depend. 7—36740
NH_3, excited vibr. state, rot.-inversion levels, collisional relax., visible obs. 7—62392
Na_2, collisional energy transfer, dimer laser action 7—5757
O_2, inelastic scatt., triplet-singlet conversion of positronium 7—62484
$O_2+HCl(HBr)(H_2)(D_2)$, singlet deactivation, rate const. determ. 7—25640
OCS, line strengths and collisional half-widths, IR spectra 7—36620
OH + HCl (DCl), reaction rates, vibr. excitation and isotopic substitution effect 7—22996
$OH+Ar(N_2)$, $A^2\Sigma^+-X^2\Pi$ band pressure broadening 7—50305
molecular internal conversion *see nonradiative transitions*
molecular internal mechanics *see molecular vibration*
molecular internal rotation *see rotational isomerism*
molecular intersystem crossing *see nonradiative transitions*
molecular libration
see also macromolecular dynamics
acetaldehyde in its lowest torsional states, mm-wave spectrum 7—50091
acetone-do(d_3)(d_6), mol. torsion, semirigid rotor model, far-IR spectra anal. 7—50105
acetylene, Fermi perturbation study, UV absorpt. and fluoresc. excitation spectra anal. 7—36638
alkoxyazoxybenzenes, mol. reorientation, far IR study 7—33383
amino acids, H-bonded crysts., ps librational dynamics, time-resolved coherent Raman spectroscopy 7—47008
aromatic aldehydes in cyclohexane solvent, internal mobility study, far-IR and microwave Fourier transform spectra anal. 7—64631
1-bromo-2-methylpropane, gaseous phase, conformational stability, for IR and LF Raman spectra 7—10602
butatrienone-do(d_3), struct., vibr. anal. ab initio MO calcs., microwave spectroanal. 7—25491
1-chloro-2-methylpropane, gaseous phase, conformational stability, for IR and LF Raman spectra 7—10602
cyclopropyl silane, excited torsional state, microwave spectrum, stark spectroscopy, ODR 7—50092
cytosine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7—10600
decylammonium-D_2O, surfactant aggregates, correl. time determ., relax. meas. 7—25540
3,4-dichloroaniline, solid, vibr., IR spectra, CNDO/2 calcs. 7—3050
2,6-dichlorophenol, NQR frequencies, temp. var. 7—33293
dimethyl tin dichloride, methyl group rotational tunnelling, librations and coupling, inelastic neutron scatt. study 7—12218
2,3-dimethylnaphthalene, rotational excitations of methyl 7—2117
ethane, conform. energies, LCGTO $X\alpha$ method anal. 7—25393
ethanethiol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7—62388
ethanol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7—62388
fluorophenols, torsional far IR spectra, tilt influence, use of CNDO/2 method 7—56982
glyoxal, $S_1\leftarrow S_0$ vibr. transitions, rot. anal., visible fluoresc., spectra study 7—50229
guanine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7—10600
α-helical proteins, dynamical struct., vibron solitons description 7—47002
hexabromomethane, vibrational spectra, crystal dynamics and phase transitions 7—38132
4-hydroxybiphenyl, cryst. packing rel. to mol. geometry and thermal motion 7—26736
mesogenic chiral esters, helical twisting power *(German)* 7—21095
methane-d_1(d_3), bending mode triad, anal. model, IR spectra 7—19822
methanol-d_4, mol. struct., pulsed neutron diffr. study 7—63427
methyl silane, rot.-vibr. anal., Fourier transform IR spectra 7—19846
methyl vinyl ketone, mol. torsional interactions, flexible model, far-IR spectra anal. 7—50101
4-methyl-pyridine(-d_7), phase transitions, mol. mechanism, IR and Raman spectra 7—32637

molecular libration continued
methyl-substituted amine—HF complexes, methylation effect, IR spectra anal. 7—19855
methylcyclobutane-do(d_3), conformational stability, low freq. Raman spectra anal. 7—50146
nucleic acid bases, H-bonded crysts., ps librational dynamics, time-resolved coherent Raman spectroscopy 7—47008
organic mols., bond valency related to mol. strain, Coulson-Moffitt model anal. 7—25416
organic sulphur cpds., liq., Monte Carlo simulations, develop. of suitable intermol. pot. fns. 7—31140
perovskite-related ABX_4 compounds, phonon-induced displacive transitions, octahedral librations, group anal. 7—12225
pyrazine, in-plane vibrs., force field, MINDO/3 calcs. 7—42487
trans-stilbene, ground state, torsional motion, two-colour stimulated emission spectroscopy 7—50322
TCNQ, single cryst., lattice mode assignment, Raman spectroscopic meas. and lattice dynamical calcs. 7—26883
tetramethyl tin isolated in Ar, inelastic neutron scatt., intermol. interaction, rot. tunnelling 7—20067
trichloromethanesulphenyl chloride, mol. vibr. and config., Raman and IR spectra anal. 7—42622
trifluoroacetaaldehyde, combined microwave-optical barrier determ. 7—42602
trifluoronitrosomethane, combined microwave-optical barrier determ. 7—42602
Ar_2-HF(DF) trimers, mol. rot., hyperfine struct., spectra anal. and calcs. 7—50060
$Ba(ClO_3)_2.H_2O$, polycryst., librational motions, zero-field NMR 7—15622
CO, Ar matrix isolated, librovibr. spectra, indirect dephasing model 7—15582
$GeH_3D(GeD_3H)$, bending mode triad, anal. model, IR spectra 7—19822
HCN, isotopic species, electronic states, pot. surface, dissoc. vibr. anal., CI calcs. 7—62297
H_2O, liq. state, FTIR spectra, fine struct., molar absorptivities of vibr. modes 7—53343
H_2O_2, overtone excited states, torsion-vibr. interactions 7—50072
H_2S, liq., Monte Carlo simulations, develop. of suitable intermol. pot. fns. 7—31140
$KHSeO_4$ single crystal, polarised IR spectra anal., rel. to cryst. struct. 7—46047
N_2, adsorbed on graphite, mol. zero-point energies, out-of-plane orientation, nucl. reson. photon scatt. study 7—32819
N_2-O_2 solid soln., thermal expansion anomaly 7—6838
$(NH_4)_2PdCl_4$, NH_4^+ rot. pot., inelastic neutron scatt. study 7—26676
$(NH_4)_2PtCl_4$, NH_4^+ rot. pot., inelastic neutron scatt. study 7—26676
N_2O, mol. solid, lattice vibr., IR active modes *(Japanese)* 7—6731
$NaCl:OH^-$, Cd^{2+} single cryst., gamma irrad., electronic and IR spectra 7—53320
$SiH_3D(SiD_3H)$, bending mode triad, anal. model, IR spectra 7—19822
$SnH_3D(SnD_3H)$, bending mode triad, anal. model, IR spectra 7—19822

molecular librational states *see molecular libration*

molecular magnetic susceptibility
difluoroacetonitrile, rot. Zeeman effect, g-values, mag. susceptibility and electric quadrupole moments 7—62431
hemerythrin, binuclear Fe cluster, PMR probe investig. 7—50184
imidazole, rot. Zeeman effect 7—57109
methane, mag. suscept. theory in atomic quantities terms 7—25366
pyrazole, rot. Zeeman effect 7—57109
transition metal complexes, IR and Raman spectra 7—50128
Co complex, CO(II)-5′ IMP, struct., hydration. mag. suscept. and Mossbauer emission obs. 7—36660
Co complex, Co (II) nonamethylimidodiphosphoramide, struct., mag. props., NMR 7—50197
Co complex, Co (II) octamethylpyrophosphoramide, struct., mag. props., NMR 7—50197
Fe-Mo(W) complexes, dinuclear clusters, fine and hyperfine struct. 7—36659
H_2O, mag. suscept. theory in atomic quantities terms 7—25366
NH_3, mag. suscept. theory in atomic quantities terms 7—25366

molecular mass *see molecular weight*

molecular metastable states
anthracene derivatives, laser-excited metastables, surface ejection of electrons, quantum-yield meas. 7—17804
anthracene surface, collision of N_2 mols. in singlet metastable states, fluoresc. emission 7—19939
azulene, quantum yield ratio, fluoresc. spectra studies 7—19923
diheliumacetylene dication, metastable, C-He bond prediction 7—49888
2-dimethylaminomethyloyclohexanols, electron impact ionis. mass spectra 7—50388
dioleylphosphatidylcholine monolayer, chlorophyll a pigment, fluoresc. conc. quenching master eqn. 7—50219
electron impact excitation meas. using adjustable threshold detector 7—25670
light amplification coefficient and intensity, spasmodic increase during metastable atom and mol. condensation *(Russian)* 7—50523
mesomolecular complexes, quasistationary state decay widths, perturbative calcs. 7—5794
molecular ions, electron capture, rot.-vibr. transitions in autoionisation, CF method anal. 7—20036
Ar-HF binary complex, long-lived metastable systems 7—36515
CO, C and D states, mol. dissoc. mechanisms, photoelectron-ion coincidence spectra 7—15664
CO, vibr. excitation reaction study in CO-He mixture 7—57162
DCN, metastable states, spectral quantisation appl. 7—25434
H_2, discharge rotational temp. and density determ., resonant multiphoton ionisation method 7—44105
H_2, photodissociation of metastable states, photofragment spectra anal. 7—36716
H_2+H reactive scatt., quantum mech. 3-D calcs. 7—50293
H_3^+ form., quasiclassical trajectory surface hopping method 7—59750
H_n^+, even cluster ions, form., reactivity collision-induced dissoc., isotope effects, mass spectra anal. 7—50434
He, atom, with turbulent flow, two electron group model for RF ionisation 7—31921
He discharge, atomic and molecular metastables, population transient behaviour 7—37783
$He_2(a^3\Sigma_u)$, metastable state, reactivity, rate coeff. determ., fluoresc. 7—19760

molecular metastable states continued
Hg-Ar complex, electronic states struct., pot. energy curves, visible fluoresc. spectra anal. 7—36631
N_2 $A^3\Sigma_u^+$ state, electron impact excitation 7—25669
N_2, electron excitation of metastable levels 7—50389
N_2 metastable states, HFS, laser-induced fluoresc. study 7—42678
N_2 metastable states in gas discharge, vibr. level population dynamics 7—37754
N_2, microwave nonself-sustained discharge, instability 7—37791
N_2, triplet Rydberg state, autoionis., TOF mass spectra 7—19963
NF, metastable radical, microwave spectrum 7—42603
NH, metastable $a^1\Delta$ state, quenching rate coeffs. 7—62441
NH^-, IR rot.-vibr. spectrum, high-resolution meas. 7—62373
NH^-, metastable states, autodetachment, vibr.-rot. spectrum meas. 7—31006
NH_3, double photoionisation and fragmentation, PIPICO method anal. 7—19985
O_2, $b^1\Sigma_g^+$ state excitation in gas discharge plasma 7—19735
O_2, glow discharge, metastable at. and mol. processes 7—16342
O_2, singlet form. kinetics in gas discharge plasma, expt. investig. 7—21037
O_2^+, $^4\Pi_u$ state, spin-forbidden radiative decay, photodissoc. study 7—50274
O_3, electronically excited state, radiative lifetime and quenching mechanism 7—31110

molecular moments
acetylene, elec. polarisabilities, ab initio calcs. 7—5585
allophycocyanin, energy transfer, bilin transition dipole moment orientation, fluoresc. polarisation and absorpt. 7—40100
asymmetric top mols., microwave spectra, electric dipole moment determ. 7—25495
1-azabicyclo[2.2.2]octane, binary solvent system, solute-solvent interactions, ^{13}C and ^{14}N spin-lattice relax. study 7—31069
benzenes, substituted, ionisation pots., electron affinity, HAM/3 study 7—19710
benzonitrile-Ar(Kr)(N_2O)(H_2O)(trifluoromethane) van der Waals complexes, LIF spectra 7—50222
9,9′-bianthryl, n-hexane soln., excited states, dipole moments, transient dielectric loss results 7—13088
bicyclo[1.1.1]pentanone, struct. and microwave spectrum 7—50094
3,3′-biselenienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7—36697
3,3′-bithienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7—36697
p-bromoacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
t-butyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7—36601
CH mol., photodissoc., ab initio SCF with CI calcs. 7—42499
charge deformation maps, molecular moments, and high-energy electron scattering 7—36723
chiral mols., vibr. mag. dipole transition moments, rot. strengths, SCF HF calcs. 7—49885
chloranil-pyrene charge transfer complex, solvent effects, visible spectra study 7—42636
5-chloro-2-hydroxypyridine, tautomerism, IR and UV spectra 7—31047
p-chloroacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
α-cyanoacetohydrazide, crystal struct., neutron diffr. anal., ab initio MO calcs. 7—36458
cyclopolyenes, orbital mag. moment, paratropicity, HF eqns. 7—56968
deltic acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7—25387
diacetylene, elec. polarisabilities, ab initio calcs. 7—5585
diatomic molecules, Zeeman quantum beats during transient process, after ground electronic state optical depopulation 7—36545
diatomic systems orbital energies, multipole moments and electric field gradients, HF calcs. 7—62270
1,2- dichlorobenzene-d_3(d_4), isotopic species, r_0 structure calcs., microwave spectra 7—19834
dichloromethane, CH stretching overtone intensities, SCF calcs. 7—5586
dielectric polarisation, Onsager model modifications, mol. moment calcs. 7—53225
difluoroacetonitrile, rot. Zeeman effect, g-values, mag. susceptibility and electric quadrupole moments 7—62431
trans-difluoroethylene ozonide, struct. dipole moment, ab initio HF calcs., microwave spectra 7—10557
2,6-difluoropyridine, vibronic band system study, UV spectra anal. 7—42641
dimers, H bonded, intermol. interactions, quantitative model 7—36721
N,N-dimethylacetamide, vibr. relax. and noncoincidence effect, Raman spectra anal. 7—46048
2-dimethylamino-6-propionylnaphthalene, twisted charge transfer state, fluoresc. quantum chem. study 7—863
4-N,N-dimethylaminobenzonitrile, cyclohexane (1,5-dioxane) solns., excited states, dipole moments, transient dielectric loss results 7—13088
electric dipole moment, mol. excited state, solvatochromic shift meas. 7—42512
electric dipole moments, dielec. meas. 7—31185
electrooptical anharmonism, parametric reson. generation 7—42660
erythrosine, fluoresc. and kinetic characts., solvatochromy and solvatofluorochromy anal. 7—57127
N-ethyl-p-chlorobenzamide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
flavins, struct. and REDOX props., electron distrib., MINDO/3 calcs. 7—56977
fluoromethanol, rot.-vibr. anal., conformational stability, dipole moment anal. microwave spectra 7—19831
formamide, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7—19696
formate ion, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7—19696
formic acid, ν_3 band, sub-Doppler laser-stack and Fourier transform spectroscopy 7—62430
gases, RF wave-induced population inversion and magnetisation transport calcs. 7—51384
n-hexane, partially oriented in liq. crystal, dipolar coupling consts., NMR methods study 7—25547
hexylphenylbutylbenzoate nematic, isotropic phase, Kerr effect dispersion, mol. dipole relax. study 7—63448

molecular moments continued
hydrocarbon peroxyl radicals, ab initio MO and electron correl. calcs. 7—49951
4′-hydroxy-1-methylstilbazolium, solvatochromism, spectra study, solvatochromic comparison method anal. 7—25519
inert gas-halide excimers, interaction with simple cryogenic liquids 7—42776
ionic cpds., struct., ionisation pot., stark shift 7—15634
linear molecules, fundamental IR band line intensities 7—42614
malonic acid, in dioxane, dipole moment, solvent effect eval. 7—25399
methane, gaseous, low temp. collision-induced IR absorpt. 7—10562
methane, vibr.-rot. bands, transition intensities, transformed dipole moment calcs. *(French)* 7—50053
2-methoxyethylamine, H bonded config. mol. rot., rot. isomerism barrier, quadrupole coupling consts., microwave spectra 7—50093
methyl silane, torsional dipole consts., rot.-vibr. anal., microwave and IR spectra 7—19829
methyliodosilane, and deuterated species, dipole moments, quadrupole coupling consts., microwave spectra 7—19830
methylsilanethiol, gauche and trans isomers, struct., dipole moments, internal rot. obs. 7—5668
nonpolar fluid, ellipsoid mols., induced birefringence and dielectric polarisation 7—33363
organic compounds, dipole moment geometric derivatives from nucl. electric screening 7—25428
organic compounds., electronic density, transferability of atomic descriptions, mol. pot. calcs., HF STO calcs. 7—25355
organic molecules, nonlin. optical props. prediction, PPP calcs. and perturbation theory 7—25408
parametric resonance in magnetically (electrically) anisotropic systems 7—42874
phenol, OH group rot., barrier height, MO study 7—848
phenyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7—36601
phthalimides, electronic spectra, dipole moments, polarizabilities and Onsager radii, solvent effect 7—31064
polar gas molecules, motion in strong surface fields 7—12786
polyatomic molecules, vibr.-rot. line intensities determ., irreducible tensorial sets basis 7—50070
purines in ground and lowest excited singlet states, dipole moments 7—54466
4H-pyran-4-one, derivatives and related S cpds. aromaticity, dipole moment anal. 7—22177
restoration of coherence effects in high-powerexcitation of an intramolecular quasicontinuum 7—10692
rigid molecule, orientation in nematic liq. cryst., NMR study 7—62414
SeS, rot. anal., isotropic shifts, mol. moments, IR Fourier transform spectra 7—62370
squaric acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7—25387
succinimide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
transition metal hydrides, dipole moments, CASSCF/MRCI calcs. 7—10443
tryptamine, transition moment and geometry determ. by rot. resolved electronic spectroscopy 7—31058
van der Waals complexes, lin., diamag. suscept., promolecule model 7—10539
9H-xanthen-9-one derivatives and related S cpds. aromaticity, dipole moment anal. 7—22177
$^{16}O_2$, Schumann-Runge bands, oscillator strengths 7—10675
Ar-NH_3, microwave spectrum of K=0 states 7—25493
BF_3, mol. quadrupole moment and polarisability calcs. 7—10410
C_2 ion, low lying quartet states, radiative transition probabilities, CASSCF and MC-CI electronic wavefunctions 7—49946
CF^+, near-equilib. pot. and electric dipole moment calc. by SCEP-CEPA method 7—25368
CO_2 $(10^01)_I \leftarrow (10^00)_{II}$ transition, line strengths and self-broadening parameters 7—10672
ClO, electric dipole moment fn. calcs. 7—10442
Co complex, cobalt(3-amino-5-methyl isoxazole)$_2$dichlorine, mol. motion detect., PMR 7—31066
Cs halides, low energy electron collisions, cross section-electronegativity relation 7—20061
CsH_2PO_4(d_4), polarised IR and Raman spectra, transition dipole moments, orientation calcs. 7—50124
Cu complex, 2-acetylpyridine thiosemicarbazone copper(II) complex, mag. moment meas., ESR and spectra investig. 7—57105
Cu complex, copper(3-amino-5-methyl isoxazole)$_2$dibromine, mol. motion detect., PMR 7—31066
Cu complex, pyridene 2-aldehyde thiosemicarbazone copper(II) complex, mag. moment meas., ESR and spectra investig. 7—57105
Er II, hyperfine struct. meas. by collinear fast beam laser and RF laser double reson. spectra 7—49957
H_2, a $^3\Sigma_g^+$-$b^3\Sigma_u^+$ system, dipole moments and transition probabilities 7—917
H_2, $b^3\Sigma_u^+$, excited states, mag. effects, ab initio calcs. 7—10413
H_2^+, damping coeffs. and multipole anal., exact second-order induction energy calcs. 7—62271
H_2^+ electric dipole polarisability and hyperpolarisability, vibr. effects introduction to calcs. 7—10547
H_2-Ar pairs collision-induced rototranslational spectra, ab initio dipole-moment surface 7—15493
H_2-He collision complexes, rotovibr. spectra. SCF CEPA calcs. 7—42478
HCN, dipole moment geometric derivatives from nucl. electric screening 7—25428
HCN, elec. polarisabilities, ab initio calcs. 7—5585
HCl, vibr. transition probabilities, reactive field effect 7—36584
$(HF)_2$, IR and Raman spectra, vibr. calcs., secondary basis set superposition error 7—25478
HF complexes, H-bonded, vibr. transition freqs., red shifts 7—10546
HF, intermol. pot. model including polarisability 7—25623
HF, vibr. transition, H bonding derivative HF theory 7—19680
HF, vibr. transition probabilities, reactive field effect 7—36584
HI, vibr. transition probabilities, reactive field effect 7—36584
H_2O, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7—19696
H_2O microclusters, mol. orientations at surface, surface pot. num. soln. 7—36838
H_2O mol., IR absorpt. spectra, anharmonicity effects, contact transformational and quantum chemical calcs. 7—25385

molecular moments continued
- H_2P_2 isomers, electronic states, ab initio mol. electronic struct. theory 7—56934
- H_2SiD, Fourier transform IR spectra, rovibr. anal. 7—25516
- $He+H_2$, collision-induced rototranslational spectra 7—15677
- Li first row compounds, solvation energies calc. 7—8269
- Li_2, vibr. excited by optical pumping, electron impact ionisation cross sections 7—62536
- LiH, constrained pure state one-electron density matrices 7—57014
- LiH^-, ground and first excited state electron affinities, extended-Koopman's-theorem, ab initio calcs. 7—25352
- N_2, elec. field gradients, finite field MBPT 7—5603
- N_2, elec. polarisabilities, ab initio calcs. 7—5585
- N_2, gaseous, induced vibr.-rot. and vibr.-translational spectra, quadrupole moment 7—31037
- N_2, transition moments and pot. energy curves, ab initio calcs. 7—42472
- N_2^+ surface semichannelling on Cu target, computer simulation 7—63697
- N_2-HF, IR spectrum and vibr. predissoc. 7—50106
- NH_3, mol. beam laser Stark spectroscopy, ν_2 band, transition dipole moment meas. 7—50209
- NH_3, ν_2 band, vibr.-rot. transitions, press. broadening coeffs., IR spectra anal. 7—50121
- NH_4^+, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7—19696
- N_2O+Ba reaction, chemiluminesc. study, N_2O electric dipole moment sign meas. 7—54116
- NaCN, ab initio coupled HF calcs. of multipole moments and dipole polarisability of CN^- 7—5587
- $^{18}O_2$, Schumann-Runge bands, oscillator strengths meas. 7—62455
- OCS, rot.-vibr. anal., dipole moments, Stark spectra. 7—19910
- $^{16}O^{18}O$, Schumann-Runge bands, oscillator strengths meas. 7—62454
- S_2, $b^1\Sigma g^+$-$X^3\Sigma_g^-$ system consts., IR and microwave spectra anal. 7—19848
- SO_2 vapour, second virial coeff., intermol. pair pots., mol. dynamics simulation method study 7—31908
- ScO, electric dipole moment calcs., laser fluoresc. excitation spectroscopy 7—19930
- Si_2H_6O, polarisation functions, ab initio MO calcs. 7—62263
- SnH_4, rot. spectrum in vibr. ground state obs. by IR-RF double reson. 7—25573
- ^{119}Sn compounds, Mossbauer spectra interpretation SCC-Xα-MO calcs. 7—36474
- Ti complexes, mono- and bis-cyclopentadienyltitanium halides, wide line PMR investig. 7—5707

molecular neutron diffraction *see molecular neutron scattering*

molecular neutron scattering
- n-butane, molecular spectroscopy by incoherent neutron scatt. 7—62350
- chemical bond incoherent neutron scatt. cross-sections 7—990
- hexadecyloctyldimethylammoniumbromide micelles, aq. solns., shape, neutron and X-ray scatt. 7—46872
- inelasticity corrections using a synthetic scatt. function 7—20069
- D_2O, neutron scatt. by molecules, inelasticity corrections using a synthetic scatt. function 7—20069
- H_2O, neutron scatt. by molecules, inelasticity corrections using a synthetic scatt. function 7—20069

molecular nuclear coupling
- acetylenes, substituted, spin-spin coupling consts., 7—31074
- aliphatic systems, geminal H^+-^{13}C coupling consts., Penney-Dirac calcs. 7—57095
- alkylfluorobenzenes, conform., proximate spin-spin coupling 7—5701
- amino acids, ^{14}N pure quadrupole resonance calcs. 7—57092
- aminosilanes, coupling consts., chem shift, ^{15}N NMR study 7—31072
- aminostannanes, coupling consts., chem shift, ^{15}N NMR study 7—31072
- benzene, isotopic mixture in liq. crysts., dipolar coupling consts., 2D multiple quantum NMR 7—57090
- benzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7—50178
- t-butyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7—36601
- calcium formate, rot- solid, heteronucl. dipolar powder patterns separation, dipolar SASS NMR spectroscopy 7—10622
- o-carborane, B quadrupole coupling, NMR study 7—5704
- CH mol., photodissoc., ab initio SCF with CI calcs. 7—42499
- N-chloro-N-methylmethamine, microwave spectrum, struct., quadrupole coupling consts. 7—50085
- 2-chloropyridine, microwave spectrum and nuclear quadrupole coupling 7—62359
- closed shell ions, electric field gradient Sternheimer function 7—12681
- COSY-2D spectra of solids, *D* quadrupole coupling consts., signs 7—48801
- 4-cyanopyridine, rot. spectrum, nucl. quadrupole coupling effects 7—57055
- cytidylyl-(3'-%')-guanasine-methylmercuric cation, aq. soln. interaction, NMR chem. shifts and coupling consts. determ. 7—50179
- deoxycytidylyl-(3'-5')-guanasine-methylmercuric cation, aq. soln. interaction, NMR chem. shifts and coupling consts. determ. 7—50179
- diarylphosphonyl radical, kinetic and spectrosc. characterisation 7—62419
- 2,6-dichlorobenzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7—50178
- 2,6-difluorobenzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7—50178
- 1-D-3,3-dimethyl-1-butyne, acetylenic deuteron quadrupole coupling const. determ. 7—62410
- estrones, long range H^+ coupling, chem. shift, ^1H NMR 7—19903
- ethylene, nuclear spin-spin coupling constants evaluated using manybody methods 7—5705
- ethyne, nucl. spin-spin coupling consts., coupled-cluster polarisation propagator approach 7—62407
- 1-fluoropropane, nuclear spin-spin coupling consts., calcs. using IPPP method 7—36644
- formic acid-$d_0(d_1)$, hyperfine interactions, double microwave-RF reson. 7—42656
- iodomethane-d_1, IR and NQR spectra 7—5706
- methane, proton–proton spin–spin coupling surface 7—42645
- methyl cyanide-acetylene dimer, pulsed nozzle FT microwave spectrosc. 7—36593
- methyl cyanide-HF(DF), hyperfine struct., rot. spectra 7—31012
- methyl fluoride -^{13}C,nematic liq. cryst. soln., chem. shieldings and spin-spin coupling 7—5703
- methyldichlorophosphine, struct., and orientation in mixed nematic liq. crystals, NMR spectra anal. 7—53165

molecular nuclear coupling continued
- methyne, nucl. spin-spin coupling consts., coupled-cluster polarisation propagator approach 7—62407
- nuclear quadrupole coupling consts., solvent effects *(French)* 7—25558
- organometallic compounds, coupling consts. correl. with alkyl substituent consts. 7—31073
- 2,2,5,7,8-pentamethylchroman-b-oxyl-^{13}C, radical, ESR spectra and hyperfine coupling const. 7—36652
- phenyl isocyanate, microwave spectra, ^{14}N quadrupole coupling 7—57054
- phenyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7—36601
- phenyl isothiocyanate, microwave spectra, ^{14}N quadrupole coupling 7—57054
- 1-phenyl-2-pyrrolidinone, substituted, nucl. coupling consts., NMR chem. shifts 7—931
- pivalonitrile, microwave spectra, ^{14}N nuclear quadrupole coupling and centrifugal distortion parameters 7—36602
- proteins, ^1H-^{13}C resonance coupling, selective excitation, hetero COSY and RELAY expts. 7—28467
- pyridine-$d_0(d_1)$, HFS, quadrupole coupling, Fourier transform microwave spectra 7—19827
- β-quinol-methanol clathrate, rot- solid, heteronucl. dipolar powder patterns separation, dipolar SASS NMR spectroscopy 7—10622
- spin-spin coupling const., polarisation propagator anal., RPA CI INDO calcs. 7—49942
- spin-spin coupling consts., ab initio diamagnetic spin-orbital contrib. 7—927
- sulphanilamides, electronic struct. and chem. activity, NQR spectra 7—10631
- tetraglycidyl methylene dianiline, ^1H spectrum, FT 2D NMR obs. 7—19899
- tetrahedral molecules, hybrid orbitals with d-character 7—56940
- 4-thiacyclohexanones, 2,6-disubstituted, stereochemistry, ^1H and ^{13}C NMR 7—57096
- triatomic anions, rots. in aqs. soln., ^{14}N NMR, spin-lattice relax. 7—27620
- trifluoroiodomethane, IR RF double reson. spectra, rot. levels, nuclear quadrupole transitions 7—50205
- two-dimensional spin-echo correlated spectroscopy, J scaling, small coupling correls. 7—35545
- urea, rot. transition, N quadrupole coupling, HFS, microwave spectra 7—10559
- urea-trans-4-octene clathrate, rot- solid, heteronucl. dipolar powder patterns separation, dipolar SASS NMR spectroscopy 7—10622
- N-vinylcarbazole, halogeno and nitro derivatives, struct., PMR, MNDO calcs. 7—933
- vitamin E(^{13}C) radical, ESR spectra and hyperfine coupling const. 7—36652
- Ar-NH_3, microwave spectrum of K=0 states 7—25493
- B_xH_y, polyboranes, nucl. coupling const. HF calcs. 7—19688
- $B_3H_6X_2^-$, ^{11}B-^{11}B COSY NMR, substituent effects 7—19898
- $B_3H_7X^-$, ^{11}B-^{11}B COSY NMR, substituent effects 7—19898
- BaI, $X^2\Sigma^+$ and $C^2\ \Pi$ states, hyperfine struct. MODOR 7—10637
- ^{13}C spin-exchange dynamics in solids 7—38949
- Co complex, cobalamine, ESR, unpaired electrons interspin distance, Eatons' formula calc. 7—25569
- ^{133}Cs, in Ba cpds., nucl. quadrupole interaction 7—10628
- Cu complexes, ESR, unpaired electrons interspin distance, Eatons' formula calc. 7—25569
- H-C-C relay investig. of unprotonated C atoms 7—35558
- H_2, in solid nonmagnetic hosts, nucl. spin relax. times and line shapes 7—42648
- HD, nuclear spin-spin coupling constants evaluated using manybody methods 7—5705
- HDNNC, rot.-inversion spectrum in region from 100 to 400 GHz 7—25494
- HF, nuclear spin-spin coupling constants evaluated using manybody methods 7—5705
- HI-HF complexes, struct. and microwave spectra 7—50087
- H_3N-HCl, H-bonded dimer charactn., rot. FT microwave spectrum 7—25490
- H_2O-DMSO, mol. dynamics, PMR relax. study 7—36651
- MnH, in Ar solid, ENDOR/ESR spectra 7—5710
- N_2, elec. field gradients, finite field MBPT 7—5603
- N_2 metastable states, HFS, laser-induced fluoresc. study 7—42678
- NH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7—62413
- NaXe, spin-rotation coupling, spin relaxation rate 7—25542
- PF_5, ^{19}F NMR chem. shifts and NQR coupling consts. 7—50188
- PH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7—62413
- SF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
- SO_2-HF(DF), mol. geometry, ^{19}F spin-spin and D-nucl. quadrupole coupling consts., rot. spectrum 7—5666
- SeF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
- $SiCl_3H$, quadrupole coupling, rot. microwave obs. 7—62356
- Sn complex, Sn (IV) meso-tetraphenylporphyrins spectrosc. cis-influences 7—50159
- TeF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
- WF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549

molecular orbitals *see molecular energy levels*

molecular orbitals calculations

includes calculations of electronic and geometric molecular structure
see also APW calculations; EHT calculations; GO calculations; GTO calculations; HMO calculations; KKR calculations; LCAO calculations; NDO calculations; OPW calculations; PNO calculations; PPP calculations; STO calculations
- 3d transition metal atoms and ions, approx. atomic orbitals, basis set reduction, maximum overlap method, mol. and solid state calc. appls. 7—840
- acidic and basic sites on surface, electronic absorpt. spectrosc. appls. calcs. 7—36473
- alkali metal monohydroxides, high temp. photoelectron spectroscopy, ab initio MO calcs. 7—50251
- alkane molecules, T beta-decay, molecular effects, neutrino mass determ. 7—49310

molecular orbitals calculations continued

- alkane molecules, T beta-decay, molecular final-state interactions 7−49311
- amino acids, ^{14}N pure quadrupole resonance calcs. 7−57092
- p-aminoqzobenzene, electronic absorpt. spectra, quantum chem. calcs. 7−36473
- anion-water complexes, struct. and binding energy, ab initio study 7−15483
- atom in molecule, effective state calcs., orbital population anal. *(Russian)* 7−62278
- atomic orbital deformation in bond form., energy effects 7−25439
- basis extension in the Roothaan method 7−30943
- benzene, π-electron SCF ground state, bond orbital reson. theory 7−853
- benzene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7−25414
- benzene, photoionisation, ground state inversion pot., multicentre diffr. effects 7−947
- benzene+NO^+, struct. and energetics, calc. by ab initio MO computations 7−8267
- benzene like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7−50247
- benzenes, substituted, ionisation pots., electron affinity, HAM/3 study 7−19710
- benzenoid polycyclic aromatic hydrocarbons, di-region theory for carcinogenesis and wholesale MO calcs. 7−56951
- benzophenone, STO 3G MO struct. and internal rot. pot., minimal basis set calc. 7−30928
- m-benzosemiquinone radical anion, reson. Raman, EPR and MO studies 7−10603
- bicalicene, cyclic, electronic structure, SCF CI calcs., NMR and PMR 7−50185
- 4,4′-bipyridyl radical cation-β-cyclodextrin inclusion complex, dichroism and MO calcs., ESR 7−25580
- bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- carbonyldicobalt, electronic struct., MO calcs. 7−15522
- bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- carbonyldinickel, electronic struct., MO calcs. 7−15522
- bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- nitrosyldicobalt, electronic struct., MO calcs. 7−15522
- bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- nitrosyldiiron,, electronic struct., MO calcs. 7−15522
- borate minerals, unoccupied mol. orbitals of B−O bond mol. orbital calcs., XANES, NMR and electron transmission spectra 7−33281
- butadiene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7−25414
- butane, localised MO transferability calc. 7−56935
- butanol, localised MO transferability calc. 7−56935
- butatrienone-do(d_3), struct., vibr. anal. ab initio MO calcs., microwave spectroanal. 7−25491
- butylamine, localised MO transferability calc. 7−56935
- carbonyl imines, relative stability, ab initio SCF MO study 7−57003
- carboranes, optimised struct. and relative stabilities, ab initio calcs. 7−30930
- chlorophyll-H_2O system, ab initio LCAO SCF MO calcs., ionisation pot., electron affinity, intermol. mechanics 7−8520
- 1,2-chloropropane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7−19690
- cinnamide compounds, conform., MO calc. 7−56986
- CN^-—H_2O, quantum-chem. MO SCF calcs. 7−5597
- conference, Marineland, Florida, USA (March 1986) 7−40985
- conjugated hydrocarbon ions, stability ab initio calcs. 7−42462
- conjugated systems, computer reaction simulation, hybrid model 7−49874
- covalent chemical bonding, MO anal. 7−49917
- crown ethers, simulated ab initio MO calc. 7−49908
- α-cyanoacetohydrazide, crystal struct., neutron diffr. anal., ab initio MO calcs. 7−36458
- cycloadditions, reactivity, perturbation theory 7−49909
- cyclopentadienyl metal cpds., struct., skeletal electron pair approach 7−10414
- cyclopentyne, struct., ab initio MO calcs. 7−49895
- cyclopropenes, structs. and strain energies, substituent effects, ab initio MO calcs. 7−56950
- di-region theory for carcinogenesis and wholesale MO calcs. 7−56951
- diarylphosphonyl radical, kinetic and spectrosc. characterisation 7−62419
- diatomic mols., orbital stress and transition stress calc., bond lengths, rot. consts. photoelectron spectra 7−42503
- diatomic systems orbital energies, multipole moments and electric field gradients, HF calcs. 7−62270
- diazosesquibicyclo[2.2.2]octane, inner shell Marcus terms, MO calcs. 7−62258
- dibenzotetraphene, radical cations, electronic and photoelectron spectra 7−57079
- dicarbolide ion, electronic struct., MS-Xalpha MO calcs. *(French)* 7−25390
- 1,2- dichlorobenzene-d_3(d_4), isotopic species, r_0 structure calcs., microwave spectra 7−19834
- 1,2-dichloroethane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7−19690
- difluoroacetylene, C-C triple bonds, bent bonds description 7−42482
- diisopropylamine, mol. struct. and conform., GPED, Raman IR spectra, MO calcs. 7−20043
- dimers, first row homonuclear, orbital forces and chemical bonding in density functional theory 7−5595
- dimethyl ether-sulphur dioxide complex, photoelectron spectra 7−15646
- N,N′- dimethyl-4,4′-bipyridinium, oxidation states, electronic struct. and conform. anal. 7−25383
- ethane, intramol. interactions, NOLMO calcs. 7−10411
- ethyl, ethenyl and ethynyl anions, structs. and rearrangement processes, ab initio MO calcs. 7−59757
- bidentate ethylene diamine complexes with ions Na^+, Li^+ and H^+, ab initio MO calcs., binding energy 7−10383
- ethylene photoionisation, ground state inversion pot., multicentre diffr. effects 7−947
- ethylenes, fluorinated, photoelectron spectrosc. 7−42682
- fluoroacetones, protonated, intramol. H bonding, STO-3G MO calcs. 7−49878
- fluoromethanes, protonated, structs., energetics, ab initio MO calcs. 7−56956
- fluorosilanes, protonated, structs., energetics, ab initio MO calcs. 7−56956
- formaldehyde, protonated, rot. const., ab initio MO calcs. 7−25349

molecular orbitals calculations continued

- formamide, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
- formate ion, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
- fourth row main group elements, MO theory, extended basis sets 7−5592
- group theoretical method of constructing symm. coords., vibr. spectroscopy of mols. 7−36582
- group VIII metal octahedral clusters, iterative extended Huckel calcs. 7−19689
- halomethanes, natural hybrid orbitals and photoelectron spectra 7−56941
- hydrides, excitation influence on electronic spectra struct. 7−56969
- hydrides, H^+ states, HF theory 7−19679
- hydrocarbon peroxyl radicals, ab initio MO and electron correl. calcs. 7−49951
- 4′-hydroxy-1-methylstilbazolium, solvatochromism, spectra study, solvatochromic comparison method anal. 7−25519
- 8-hydroxyquinoline, intramol. H bonding, UV photoelectron spectra and MO calcs. 7−25367
- 8-hydroxyquinoline-N-oxide, intramol. H bonding, UV photoelectron spectra and MO calcs. 7−25367
- isoformyl cation, force field, equilibr. geometry, ab initio determ. 7−62293
- isolated molecules, SCF computer program in molecular orbitals basis set 7−49913
- metal surfaces, field adsorption of rare gases 7−21648
- metal-ligand complexes, nonvibronic d-d intensities, charge-transfer manifold props., simplified group function, MO calcs. 7−19698
- methane, natural hybrid orbitals and photoelectron spectra 7−56941
- methane, photoionisation cross section, ground state inversion pot. method/diffr. theory 7−945
- methane C atom modified atomic orbital basis set calcs. 7−19681
- 1-methylallyl cation, photoionisation mass spectrometry, heat of form., ionisation energies, ab initio MO calcs. 7−13798
- methyldiazohydroxide, dissoc., ab initio calcs., rel. to carcinogenesis 7−56962
- methyleneamino compounds, electronic struct. calcs. 7−56964
- minimal basis set with localised orbitals, single-site approx. improvement 7−49915
- molecular orbital wave functions; interaction parameters, GTO calcs. 7−15506
- molecules, neutral and anionic, proton affinities, ab initio calcs., role in ion-mol. reactions 7−5590
- one-electron model for EHT MO calcs., embedded at. field linkages 7−30953
- orbital concepts, rel. to mol. electron distribs. 7−56921
- oxalic acid, isomerisation and unimol. dissoc. channels, MO calcs. 7−28295
- pentaphenes, radical cations, electronic and photoelectron spectra 7−57079
- perfluorovinyl radical in Ar matrix, ESR INDO MO calcs., hyperfine struct. 7−31078
- pharmacologically active cpds., similarity meas. calcs. 7−49890
- phenol, OH group rot., barrier height, MO study 7−848
- phosphonium ylides, fluorine-substituted, structs., energetics, ab initio SCF calcs. 7−30923
- planar four-coordinated metal complexes, symm. effects, RHF MO SCF calcs. 7−56963
- PMDA-ODA polyimide, XPS, mol. orbital anal. 7−50255
- polyamic acid, XPS, mol. orbital anal. 7−50255
- polyenes, optical props., configuration depend. 7−10673
- polymers, ring and ladder, electronic π-band struct., MO calcs. 7−56943
- polymethyne dues, MO coeffs., effective additive parameter method 7−56945
- porphyrin dimers, free-base, electronic spectra, quantum chem. calcs. 7−10416
- porphyrins, proton motion, electrostatic pot. distrib., SCF-MO-LCAO calcs. 7−57147
- propylamine, fragmentation, electron impact mass spectrometry, ab initio MO calcs. 7−50387
- pyrazine, successive protonation, ab initio quantum chem. calcs. 7−56957
- quinone like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7−50247
- reduction of orbital sets, computer program OFMO 7−49865
- tetrahedral molecules, hybrid orbitals with d-character 7−56940
- thioanisole and its derivatives, long range spin-spin coupling consts., NMR and mass spectra 7−19886
- third row main group elements, MO theory, extended basis sets 7−5592
- transition metal complexes, spin and charge densities calcs. 7−27491
- transition metal nitrides, organic polyenes, phosphazenes, struct. and orbital analogy 7−10389
- trimethylaluminium, UV laser photolysis for Al film growth 7−54153
- unit orbital approx., theory and numerical calc. method 7−25340
- valence virtual MOs for CI calcs. 7−860
- valency and structure, MO theory 7−30920
- van der Waals at. radii for mol. crystals 7−62301
- VX model compound, reactive props., electrostatic pot. calcs. 7−56954
- $Ag_5{}^{q+}$, electronic struct., Dirac scattered wave study 7−42818
- $Ag(CO)_n$, (n=1,3) electronic struct. 7−36445
- $Ar+H^+$ two-electron charge exchange mol. states, nonorthogonal CI calcs. 7−50339
- $BF_3.H_2O$, electronic struct., EEL and UV photoelectron spectra, ab initio MO STO calcs. 7−36449
- $B_{12}H_{12}{}^{2-}$, electronic struct., MS-Xalpha MO calcs. *(French)* 7−25390
- C-containing mols., X-ray emission spectra, ab initio MO HF calcs. 7−36642
- $C^{4+}+He$, double charge transfer process, differential cross sections, quantal study 7−62512
- C_2, photoionisation cross section, ground state inversion pot. method/diffr. theory 7−944
- C_{60} cluster, electronic structure, LMTO calcs. 7−19682
- CF^+, near-equilib. pot. and electric dipole moment calc. by SCEP-CEPA method 7−25368
- CH_3N^{2+}, pot. energy surface, ab initio MO calcs. 7−10390
- CO, 5σ photoionis., reson. effects calcs. 7−36705
- CO, photoionisation cross sections, ground state inversion pot./diffr. theory 7−946
- CO, short range interactions 7−19999
- CO_2, photoionisation cross sections, ground state inversion pot./diffr. theory 7−946

molecular orbitals calculations continued
- ^{13}C shielding tensors, individual gauge for localised orbital contrib. 7–57005
- $Ce(OH)_9^{3+}$ cluster, $5d \leftarrow 4f$ excited states, Xα mol. orbital calcs. 7–62284
- Co complexes, dimeric, bonding and struct. 7–56939
- $Co_{1-x}O$, defect cluster energies, MO calc. 7–2010
- Cu complex, Cu II-acetylacetone-substituted 8-hydroxyquinolines, ESR obs. 7–19890
- Cu complexes, halogen-substituted 8-hydroxyquinoline Cu II, ESR obs. 7–5709
- $Cu(CO)_n$, (n=1,3) electronic struct. 7–36445
- F_2, photoionisation cross section, ground state inversion pot. method/diffr. theory 7–944
- Fe phthalocyanine, local electron distrib., Penning ionis. electron spectrosc. 7–62521
- $Fe_{1-x}O$, defect cluster energies, MO calc. 7–2010
- Ga_2O, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7–50252
- H_2, short range interactions 7–19999
- H_2^+, charge-overlap damping fns., Born-Oppenheimer curves calcs. 7–62269
- H_2^+, damping coeffs. and multipole anal., exact second-order induction energy calcs. 7–62271
- H_2^+, molecular description of two-electron atoms 7–845
- H_2^+, OS orbital calcs. 7–56938
- H_2-like mol. form., variational alternant MO method anal. 7–25356
- HCl, photoionisation cross section, ground state inversion pot. method/diffr. theory 7–944
- H_2NC^+, interstellar mol., pot. energy surfaces, ab initio MO theory 7–19687
- $H^-(NH_3)$ cluster, struct., stability, ab initio MO calcs. 7–56965
- $H^-(NH_3)_2$ cluster, struct., stability, ab initio MO calcs. 7–56965
- H_2O, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7–19696
- H_2O, photoionisation cross section, ground state inversion pot. method/diffr. theory 7–945
- $(H_2O)_nO_2^-$ clusters, charge transfer interaction investigated using ab initio MO theory, binding energy calc. 7–5809
- H_2P_2 isomers, electronic states, ab initio mol. electronic struct. theory 7–56934
- H_2SeO, geometry and energy, role of optimum supplementary d-orbitals 7–25344
- H_4SiO_4, force fields, ab initio MO calcs. 7–25375
- InO_2, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7–50252
- Kr, adsorbate, excited states assignment 7–52725
- Li microclusters, fragmentation channels rel. to magic number studies 7–5811
- methanol, protonated, rot. const., ab initio MO calcs. 7–25349
- Mg-$B_{12}H_{12}$, stable conform., SCF-MO calcs. 7–15477
- $Mn_{1-x}O$, defect cluster energies, MO calc. 7–2010
- N_2, short range interactions 7–19999
- NH_3 dimer, geometry and energy calcs. SCF calcs. 7–15499
- NH_3, photoionisation cross section, ground state inversion pot. method/diffr. theory 7–945
- NH_4^+, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7–19696
- NH_4^+, methyl-substituted, H-bond and hydration energies relationship, HF MO calcs. 7–15490
- NO_2^-, electron deform. density, basis set depend. 7–62252
- N_2O, photoionisation cross sections, ground state inversion pot./diffr. theory 7–946
- N_2O, protonated, struct. determ. by ab initio MP2 gradient method 7–25343
- N_2O, protonation site and energies, N_2OH^+ struct. ab initio MO calcs., SCF calcs., CI calcs. 7–15480
- N_2OH^+ isomers, struct. and energy levels, ab initio MO, SCF and CI calcs. 7–15481
- Na microclusters, fragmentation channels rel. to magic number studies 7–5811
- Na_2, B $^1\Pi_u$ state, pot. barrier, semiclassical model calcs. 7–62282
- Na_2, excited states, pot. energy curves, Pluvinage model 7–62304
- Ni-He, electronic state or interstitial He atoms, MO calcs. of model clusters 7–16969
- $Ni_{1-x}O$, defect cluster energies, MO calc. 7–2010
- OCN^--H_2O interaction, pot. surface, SCF MO calcs. 7–56967
- OH+cytosine, ab initio SCF MO calcs. 7–8478
- OH_3^+, methyl-substituted, H-bond and hydration energies relationship, HF MO calcs. 7–15490
- Pt_2, MO calcs. with optimised Pt relativistic pseudopot. 7–10451
- PtCO, MO calcs. with optimised Pt relativistic pseudopot. 7–10451
- PtH, MO calcs. with optimised Pt relativistic pseudopot. 7–10451
- $Pt(NH_3)_2Cl_2$, relativistic and nonrelativistic electronic struct. and bonding, multiple scatt. wave study 7–36461
- a-Si:H, Si−H−Si three centre bonds IR spectra, LCAO-MO-SCF-STO-3G calcs. 7–6741
- $Si{:}O_2B$, ab initio MO electronic struct. calcs. 7–38499
- SiC_2, protonated isomers, struct. and proton affinity, ab initio HF MO calcs. 7–25384
- SiCl, spectral and struct. props., MO calcs. 7–25418
- SiF_4, force fields, ab initio MO calcs. 7–25375
- SiH_4, 2p threshold, reson. relax. processes, XPS 7–42684
- SiH_4, mol. orbitals dynamic polarisation in Auger emission 7–5724
- Si_2H_6O, polarisation functions, ab initio MO calcs. 7–62263
- SiO_2, amorphous, intrinsic defects, semiempirical mol. orbital studies 7–63474
- ^{119}Sn compounds, Mossbauer spectra interpretation SCC-Xα-MO calcs. 7–36474
- Th complex, bonding, Xα-SW MO calcs. 7–62283
- $TiCl_4$, electron attachment, scatt. cross section, multiple scatt. Xalpha continuum calcs. 7–62483
- $TiCl_4$, photoelectron and absorpt. spectra, MO calcs. 7–36636
- TlO_2, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7–50252
- UC_2, gaseous molecular forms, discrete variational Xα molecular orbital calcs. 7–10420
- VCl_4, photoelectron and absorpt. spectra, MO calcs. 7–36636
- Xe, adsorbate, excited states assignment 7–52725
- Zr complex, bonding, Xα-SW MO calcs. 7–62283

molecular orientation
- acetonitrile, dissolved in rapidly spinning nematic matrix, mol. orientation in strong external mag. field *(Russian)* 7–15626
- acetylene, chemisorbed state on noble metal surfaces 7–52261
- acridine, adsorbed on Al_2O_3, tunnelling spectra study 7–52264
- acridine, oriented in stretched polyethylene films, triplet-state ESR spectra 7–25564
- acyl cholesteryl esters, mol. motions, temp. depend., ^{12}C NMR obs. 7–38950
- adsorbate orientation, electronic excitation by electron beam, differential cross-section meas. 7–27101
- adsorbates, near edge X-ray adsorption fine structure spectroscopy 7–27822
- alkali metal cyanide halide mixed crystals, orientational glass state 7–21140
- 4-4′-alkoxybenzoyloxy-4′-cyanoazobenzenes, monolayer smectic A_1-nematic transition, dielec. studies 7–21085
- 4-n-alkyl-4′-cyanobiphenyl, mol. conformation and orientational order, nematic-isotropic transition, reson. Raman probe 7–21082
- aminoxyl(nitroxide) radicals, orientation in nematic liq. cryst., ESR obs. 7–36654
- anthracene solute alignment in uniaxial liq. cryst. solvents, Saupe ordering matrix calcs. 7–11902
- anthracene-$d_0(d_{10})$, oriented in stretched polyethylene films, triplet-state ESR spectra 7–25564
- anthraquinone dyes, α-substituted, order parameters in nematic liq. cryst. 7–36633
- 1-azabicyclo[2.2.2]octane, binary solvent system, solute-solvent interactions, ^{13}C and ^{14}N spin-lattice relax. study 7–31069
- azide, cyanate and thiocyanate adsorbed on Ag electrodes, pot. difference IR spectra, coverage depend. orientation 7–22252
- benzene, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7–64769
- benzene, adsorbed on graphite (BN), rot. dynamics and orientation, NMR spectra 7–53161
- benzene, adsorbed on Os (0001), mol. struct., angle-resolved UV photoemission spectral study 7–53492
- benzene, chemisorbed on Pt {110}, influence of orientation on H-D exchange reactions 7–59781
- benzenes, mono-substituted, biaxiality in nematic solutions, IR dichroism studies 7–36662
- benzenes, mono-substituted, orientational order in nematic solutions, IR dichroism studies 7–36661
- benzyl alcohol, ordering, phospholipid order in bilayer membranes 7–10619
- 3,3′-biselenienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7–36697
- bisphenol-A polycarbonate, stressed, reversible mol. orientation, IR studies 7–50428
- bistable cholesteric twist cell, anisotropic domain growth 7–1865
- 3,3′-bithienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7–36697
- blue-phases, orientation in an electric field, BP II transition to tetragonal phase 7–16397
- N-(4-butoxybenzylidene)-4′-butylaniline smectic G liq. cryst., orientational order 7–37847
- N-(p-n-butoxybenzylidene)p-n-butylaniline, nematic, mol. alignment, permitt. meas. 7–1875
- cadmium arachidate, Langmuir-Blodgett films, struct. disorder and polymerisation competition at elevated temp., IR spectra obs. 7–46163
- caesium pentadecafluorooctanoate-water discoid micelle solns., order-disorder transitions, X-ray scatt., elec. cond., NMR meas. 7–26949
- capron, oriented and nonoriented, relax. transitions *(Russian)* 7–26671
- cetyltrimethylammonium bromide-decyl alcohol-D_2O nematic amphiphilic systems, orientation in mag. field, NMR study 7–63447
- chiral liq. cryst. systems, blue phases, solitons 7–21097
- chiral smectic C liq. crystals, mol. theory 7–1867
- chlorophylls a and b and aggregates, spectra in nematic liq. crysts. and polyvinyl alcohol films 7–59930
- cholesteric liq. crystals, solitons, D NMR spectra 7–21096
- cholesteric-nematic mixtures, supermolecular structure, spiral pitch 7–44356
- cyclopentene, adsorpt. on stepped (221) Ag surface, mol. orientation 7–27099
- D_2, solid, cubic phase, orientational ordering, NMR 7–38294
- dipolar fluid, effective pair pot. for orientational correls. in elec. field 7–37826
- dipolar fluids, density functional theory, orientational correls. in linear chains 7–37827
- disorder, molecular dynamics computation 7–26674
- DOBAMBC, ferroelec. chiral smectic C phase, crit. field, temp. depend. 7–26624
- donor-acceptor pairs, electron transfer, orientational fluctuations influence 7–23002
- epoxy-epoxyester polymers, relax. and specific orientation in surface layers *(Russian)* 7–63918
- ethane chemisorbed state on noble metal surfaces 7–52261
- ethylene, chemisorbed state on noble metal surfaces 7–52261
- ferrocene, electrochemical response, orientation effect 7–26622
- ferroelectric liq. crystals, molecular orientation structures of surface stabilised states and their switching processes 7–16406
- ferroelectric liquid crystals, surface stabilised, disclination dynamics, switching process 7–58137
- ferroelectric smectic C* liquid crystal, alignment and switching characteristics 7–64589
- fluid, molecular, electromag. radiation absorpt., electrochromic effect 7–13130
- fluids, interaction-induced Rayleigh light scatt. 7–59217
- Hamiltonian for orientational order in systems with HCP symmetry 7–51625
- 4-n-hexylphenyl-4-butylbenzoate liq. cryst., isotropic phase, Kerr effect studies 7–33364
- bis(2-hydroxyethyl)terephthalate single cryst., benzene ring modes, Raman tensors determ. 7–64642
- initially splayed NLC layer, applied electric field, induced metastable state 7–21093
- ionic thermotropic liquid crystals, prep. and props. 7–26630
- cis-1,4-isoprene, mol. orientation, FT IR dichroism 7–17322
- liquid crystal, nematic, alignment on inorganic solid, parallel to surface 7–51617

molecular orientation continued
- liquid crystal capillary cell, orientational and struct. effects in conical elec. field 7−44370
- liquid crystal polymer rods, thermotropic, flow and orientation behaviour during extrusion 7−57887
- liquid crystalline polymer, electric field FT-IR reflectance spectra 7−25688
- liquid crystalline polymers, domains, are they disclination arrays 7−44359
- liquid crystals, order parameter, temp. depend., mol. asymm. effects 7−44369
- liquid crystals, orientational order parameters, IR dichroism of mol. groups 7−44358
- lyotropic nematic mesophases doped with different conc. of ferromag. grains 7−21091
- lyotropic nematic with discotic micelles, orientation in mag. field 7−44357
- macromolecules, uniform field production up to 2.6T 7−9852
- MBBA, nematic, electrochemistry, orientational effects 7−26622
- MBBA, nematic, orientational order, third harmonic generation susceptibility investig. 7−43235
- MBBA liq. cryst., mol. orientational relax. times, luminescence meas. 7−44368
- mesogen nematic and isotropic phases, rotational relax. 7−44355
- methane, adsorpt. on graphite, multilayer growth mode 7−32795
- methoxybutyl azobenzene, nematic, electrochemistry, orientational effects 7−26622
- methyl iodide, orientational dynamic, Raman scatt. investig. 7−42618
- methyldichlorophosphine, struct., and orientation in mixed nematic liq. crystals, NMR spectra anal. 7−53165
- molecular fluid, elec. field induced second harmonic generation, orientational effects 7−50638
- molecular fluids and multicomponent mixtures, interfacial phase transitions 7−32755
- molecule+molecule vibr.-rot. energy transfer, collision time-correl. functions 7−50315
- naphthalene derivatives, β R-substituted, polymorphism, review and comparative study *(French)* 7−32349
- nematic droplets, tangentially anchored, parity breaking transition 7−26626
- nematic films, collective rotation of molecules driven by the angular momentum of light 7−27686
- nematic guest-host liq. crystals, pretilt angle determ. 7−21081
- nematic liq. cryst., air flow effects, vel. gradient meas. appl. 7−32283
- nematic liq. cryst., localised deform. near surface defects, birefringence study 7−45978
- nematic liq. cryst. homeotropically oriented, light induced Freedericksz transition 7−51623
- nematic liq. cryst. orientation and induction interaction effects on IR dichroism 7−39079
- nematic liq. crystal, impurity-molecule luminescence, rotational depolarisation kinetics 7−51629
- nematic liq. crystal, symmetrically realigned, refl. of a plane TM wave 7−44367
- nematic liq. crystals, light scatt. and. propag. characts. 7−39078
- nematic liq. crystals, photoinduced chirality 7−44352
- nematic liq. crystals, relax. modes of order parameter fluctuations in vicinity of uniaxial-biaxial phase transition 7−26948
- nematic liq. crysts., generalised Freedericksz transition, weak anchoring effects 7−32273
- nematic liq. crysts., orientational self-focusing, aberration pattern polarisation asymmetry 7−11077
- nematic liquid crystals, supertwisted, hysteresis effect 7−16408
- nematic twisted configurations with nonzero pretilt angles, director patterns, numerical calcs. 7−11898
- nematic-isotropic interface, surface tension and mol. orientation, statistical theory 7−51619
- nonlinear mols., orientational ordering absorpt. dichroism 7−42659
- nonpolar fluid, ellipsoid mols., induced birefringence and dielectric polarisation 7−33363
- organic molecules at surfaces, Fourier transform IR studies 7−54220
- orientational distribution coefficients, rel. to asym. orientational distrib. function 7−26621
- oriented symmetric top mols., reactivity, rot. state depend. 7−46809
- para-azoxy-anisole-d_2-4-4′-diacetoxy-2-2′-dimethyl azoxybenzene nematic mixture, phase diagram, component order parameters, D and proton NMR study 7−21086
- para-azoxyanisole nematogenic liq. cryst., mol. ordering studies 7−37848
- pentadecanoic acid/H_2O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7−16839
- 4-pentyl-4′-cyanobiphenyl, nematic, electrochemistry, orientational effects 7−26622
- peptides, plane orientations, fundamental and overtone ^{14}N NMR 7−10618
- phenazine, adsorbed on Al_2O_3, tunnelling spectra study 7−52264
- phenol, aq. soln., liq.-vap. interface, second harmonic light phase, relation to mol. orientation 7−27057
- poly(phenylene vinylene), oriented films, IR spectra 7−37896
- poly-di-n-hexylsilane, conform. kinetics and packing, spectrosc. obs. 7−37887
- polyacetylene films, synthesised via Durham precursor route, struct. and morphological study 7−37897
- polyatomic ions in soln., rot., Hubbard-Onsager-Felderhof's dielectric friction theory 7−17281
- polycrystalline samples, overtone NMR spectroscopy 7−64535
- polyesteramidourethane, segmented, struct., polar low mol. wt. cpds. effects *(Russian)* 7−26673
- polyethylene, oriented, struct. transform. resulting from ionising radiation *(Russian)* 7−26947
- polyethylene, oriented, temp.-induced crystallisation 7−16446
- polyethylene, oriented films, oxidation effects on dynamic and struct. parameters *(Russian)* 7−17823
- polyethylene, oriented in heptane, uniaxial stretching, thermodynamics *(Russian)* 7−63731
- polyethylene terephthalate, partially oriented solid, struct. and order, 2D-MAS-NMR 7−51661
- polyethylene terephthalate glycol, films, uniaxially stretched, amorphous orientation and induced crystallisation 7−16448
- polyethylene terephthalate glycol, uniaxially stretched, amorphous orientation and induced crystallisation 7−11956
- polyethylene-d_4, NMR quadrupole spectra, orientation motional correl. times, T_2 meas. 7−45834

molecular orientation continued
- polyimide, photoconduction, mol. orientation and chain alignment effects, X-ray diffr. meas. 7−27365
- polyimide, photoconduction and mol. orientation 7−38629
- cis-1,4-polyisoprene, mol. orientation, FT IR dichroism 7−13159
- polymer liq. cryst. solns., optical microscopy, Freedericksz transition, permitt. meas. 7−1864
- polymeric chain, non-crystalline, orientation evaluation using polarised fluoresc. method *(Japanese)* 7−995
- polymers, electronic struct. and orientation on Pt, XANES studies 7−64058
- polymers, semicrystalline, EPR, elastic modulus data, mol. mobility phenomena 7−37900
- polypropylene, high-oriented, struct. rel. to physico-mech. props. *(Russian)* 7−26672
- polypropylene, oriented, thermal expansion behaviour 7−6839
- porphyrin, covalently linked hybrid dimers, EPR, triplet state magnetisation, 7−25562
- pyrazine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7−64769
- pyridine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7−64769
- pyridine, chemisorbed on Pt {110}, influence of orientation on H-D exchange reactions 7−59781
- rhodamine dye intercalated smectite, fluorescence props. 7−22325
- rigid molecule, orientation in nematic liq. cryst., NMR study 7−62414
- rubber, natural, mol. orientation, FT IR dichroism 7−13159
- rubber, natural, mol. orientation, FT IR dichroism 7−17322
- short-chain network, orientation functions 7−6557
- smectic C films, phase winding and flow alignment 7−26628
- smectic liquid crystals, ferroelectric, helical twist and spontaneous polarisation direction, tilt orientation struct. 7−16401
- sodium dodecylnaphthalene sulphonate/H_2O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7−16839
- static liq. crystals, smooth equilib. configurations, stability 7−21084
- stearic acid mono- and bi-layers on Al and Au, refl.-absorpt. IR spectra, order-disorder transitions 7−46165
- symmetric-top mol., degenerate vibr. mode, orientation by IR field 7−31117
- TCNE, electrochemical response, orientation effect 7−26622
- TCNQ, electrochemical response, orientation effect 7−26622
- terphenyl, oriented in stretched polyethylene films, triplet-state ESR spectra 7−25564
- tetracyanobenzene-naphthalene (anthracene) complexes, charge-transfer crystals, orientational transitions, mean field approach 7−6783
- 1,2,3,4-tetrahydro-5,6-dimethyl-1,4-methanonaphthalene, liq., motional dynamics, spin-lattice relax. time meas. 7−36650
- thiourea-ferrocene, inclusion cpd., orientation and dynamic behaviour, ^{13}C NMR chem. shielding spectra 7−50180
- s-triazine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7−64769
- vibrational and orientational relaxation, correl. functions 7−36738
- water between metal walls, Monte Carlo simulation, struct. and thermodynamic props. 7−11881
- CO adsorbed on Fe (100), tilted dissociation precursor 7−58642
- CO adsorbed on stepped Pt surfaces, coupled harmonic oscillator models 7−52230
- CO, chemisorbed on Ni (111), mol. orientation, effect of adsorbed K, ESDIAD study 7−32825
- CO_2 adsorption and reaction, and coadsorption with ^2O, on Ni (110) 7−52289
- $CsH_2PO_4(d_2)$, polarised IR and Raman spectra, internal vibrs. 7−50125
- $CsH_2PO_4(d_4)$, polarised IR and Raman spectra, transition dipole moments, orientation calcs. 7−50124
- D_2, HCP solid, orientational ordering, NMR 7−38293
- F_2 solid, high-press. behaviour at low temps. 7−37923
- H_2 solid, NMR line shapes, low temp. nuclear polarisation effects anal. 7−38295
- $HeRh^{2+}$ adsorbed compound ion, field dissociation by atomic tunneling 7−33919
- Li + XF (where X = Mu, ^1H, ^3H, ^{10}H), quasiclassical trajectory calcs., isotopic and orientational study 7−33923
- N_2, adsorbed on graphite, mol. zero-point energies, out-of-plane orientation, nucl. reson. photon scatt. study 7−32819
- N_2^+ surface semichannelling on Cu target, computer simulation 7−63697
- N_2-Ar solid mixtures, orientational ordering, collective versus noncollective behaviour 7−21103
- NH_3, matrix isolated, orientation-inversion motions, inertial model 7−42580
- NaCN, ab initio coupled HF calcs. of multipole moments and dipole polarisability of CN^- 7−5587
- O_2, liquid, orientational dynamics 7−42717
- U_2^-, superslow mol. motions, EPR spectra 7−62421
- Zn complex, $Zn(antipyrine)_2(NO_3)_2$:VO^{2+}, VO^{2+} orientation, EPR spectra anal. 7−53121

molecular photodissociation
- absorption, automated laser system for IR-IR, UV excitation anal. 7−6354
- acetylene, VUV photolysis in 110 to 135 nm region 7−19975
- alkali metals mols., dissoc., orientation, alignment and HFS 7−50278
- n-alkyl benzene chromium tricarbonyls intramolecular vibr. relax. 7−5728
- atmosphere, O_2 molecular photodissociation and Herzberg continuum 7−34757
- benzene cations, energy-selected, multiphoton ionisation, TOFMS 7−10680
- benzene chromium tricarbonyl-$d_0(d_6)$ deuteration effect on multiphoton dissoc. 7−5727
- benzene clusters, struct., IR photodissoc. and mass spectra study 7−62371
- bromodifluoroiodoethane, photodissoc. translational spectroscopy 7−62463
- bromoiodomethane, electronic state-selective photodissoc. 7−65337
- bromomethane, physisorbed on LiF, laser photofragmentation and photodesorpt. 7−50275
- bromotrifluoromethane, CW CO_2 laser induced reaction, frequency depend. kinetics 7−953
- bromotrifluoromethane, multiphoton dissociation by multifrequency laser radiation 7−42704
- bromotrifluoromethane in supersonic free jet, isotope-selective IR multiphoton dissociation 7−5781
- bromotrifluoromethane-^{13}C, multiphoton dissoc. under CO_2 laser pulses 7−42708

molecular photodissociation continued
- 1,3-butadiene ions, photodissoc., photoelectron photoion coincidence study, isomerisation barrier meas. 7—36711
- carbon tetrafluoride, extreme UV photoexcitation study, UV fluoresc. anal. 7—36637
- CH mol., photodissoc., ab initio SCF with CI calcs. 7—42499
- chlorodifluoromethane, IR multiphoton dissociation for ^{13}C laser isotope separation using waveguide reactor 7—991
- chlorodifluoromethane photolysis, difluoromethyl IR spectra anal. 7—19836
- chloroethane, IR-multiphoton dissoc., photolytic C deposition 7—62466
- chlorotrifluoroethene, IR multiphoton dissoc., press. depend. calc. 7—62467
- chlorotrifluoromethane, Ir multiphoton dissociation induced by CO_2 laser pulses 7—992
- chlorotrifluoromethane-^{13}C, multiphoton dissoc. under CO_2 laser pulses 7—42708
- coherent photodissociation reactions, picosec. polaris. technique obs. 7—36715
- cyanogen chloride, rot. distributions of CN fragment, LCGTO Xα method anal. 7—25393
- cyanomethane anion, photodetachment spectroscopy 7—10670
- cycloheptatriene, excited, H atom release, unimol. dynamics 7—50276
- η-cyclopentadienylnickel nitrosyl, dissoc. and multiphoton ionis., photofragment spectroscopy 7—50281
- diatomic molecules, dissociative single and double photoionisation, photoion spectra anal. 7—19984
- p-dichlorobenzene, mol. beam excitation, photofragment energy distrib. 7—31130
- 1,4-dichlorobenzene, unimol. ionic form. rates, determ., pulsed laser-line. reflection TOF mass spectrometry 7—15667
- dimethyl sulfide, photodissoc., long-lived emission obs. 7—25617
- dimethylditelluride, excimer laser photodissociation 7—36699
- dimethylnitrosoamine excited singlet states symmetry and geometry, photodissoc. 7—54152
- ethene, IR-multiphoton dissoc., photolytic C deposition 7—62466
- (ethene)$_n$ (n=2,3,4), van der Waals complexes, IR photodissoc. 7—42701
- ethenone, dissoc., nonlin. UV excitation 7—19981
- ethylene dimer, mol. beam IR laser photodissoc. 7—10576
- ethylene-HCl van der Waals mol., dissociation energies and heats of formation, photoionisation study 7—19966
- excited states, decay via radiative and dissoc. mechanisms, ab initio MRD-CI calcs. 7—57001
- fluoroform-d, IR multiple-photon dissoc., difluoromethyl diradical form. obs. 7—28291
- fluoromethane, dissociative photoionis., translational energy disposal and mechanisms 7—10663
- formaldehyde, VUV excitation fluoresc. 7—15643
- gas phase runs, photoexcited, two-photon dissoc., IR fluoresc. 7—62443
- gas-phase alkali compound photodissociation, photofragment fluoresc. anal. 7—19974
- trans-glyoxal, photodissoc., photofragment excited state distrib., fluoresc. spectra anal. 7—50226
- hexafluoroethane, IR multiphoton dissoc. IR absorpt. spectra 7—42710
- intense-field molecular multiphoton processes, coupled eqns. calcs. 7—42690
- interstellar S chem. in mol. shocks 7—48048
- ion-neutral clusters, photodissoc. dynamics mechanisms and product energy disposal 7—20083
- ions, laser-induced photodissoc. 7—19986
- isocyanic acid, heat of form., photodissoc. study, time-of-flight and laser-induced fluoresc. spectra anal. 7—31105
- ketene, triplet state photolysis, CO photofragment rot. state distrib. 7—23039
- large interstellar molecules, ionisation potentials and photodecomposition 7—24189
- metal β-diketonate, multiphoton ionisation mass spectra 7—19960
- metal trimer clusters photodissoc., bound-free transitions fluoresc. study 7—23045
- methyl fluoride clusters, photodissoc., photoionisation efficiency curves, appearance pots. 7—50435
- methyl iodide fragmentation and multiphoton ionization 7—10689
- methylnitrite, photodissoc. NO photofragment excited state distrib., fluoresc. spectra anal. 7—50225
- methylnitrite, photodissoc. S_1 pot. surface, MC SF calcs. 7—25347
- nitroaromatic crystals, resonance UV laser radiation interaction, characts. 7—25618
- nitromethane, collision-free photodissociation at 266 nm, OH prod. 7—8293
- nitromethane, photodissoc., quantum study *(French)* 7—13794
- phenetole cations, laser-induced dissoc., REMPI obs. 7—42711
- PMMA with low mol. weight additives, polymer destruction by UV and γ radiation by vibr. cross-relaxation 7—42800
- polyatomic molecule, IR multiphoton dissoc. yield, absorbed energy depend. 7—42703
- polyatomic molecule, vibr. overtone induced photodissoc. dynamics 7—36712
- polyatomic molecules and ions, laser-induced dissoc., REMPI obs. 7—42711
- propyne, IR-multiphoton dissoc., photolytic C deposition 7—62466
- small molecules, multiple photoionisation and photodissociation, mass spectrometer and coincidence studies 7—19965
- stilbene-He(Ne), coherent photodissoc., picosec. polaris. obs. 7—36715
- surface effects of structured metal surface 7—15663
- tetraphenylporphyrin metal complexes, multiphoton ionisation mass spectra 7—19960
- toluene, excited, H atom release, unimol. dynamics 7—50276
- transient species in supersonic, free jet expansion, laser induced fluoresc. 7—31099
- triatomic molecules, laser-induced dissociation dynamics 7—15659
- triatomic molecules, photodissoc., rot. refl. principle, calcs. 7—19982
- trichlorofluoromethane, IR photochemical reaction, rate coeff. 7—23037
- trichlorotrifluoroethane, nonstatistical dissoc. behaviour in multifrequency IR fields 7—42702
- trimethylgallium, photodissoc., laser photolysis/fluoresc. study 7—23046
- variable geometry photofragment spectrometer 7—15007
- p-xylene, excited, H atom release, unimol. dynamics 7—50276
- p-xylene, resonant multiphoton ionisation dissoc. mechanism 7—8295
- ArF, photodissoc., CARS 7—11062
- Br, photodissoc., initiated by laser emission 7—65339
- Br_2, photodissoc., Br electronic Raman spectra 7—42530

molecular photodissociation continued
- Br_2, recombination and relaxation dynamics of diatomic molecules in condensed phases 7—10684
- C_n^+, mass resolved cluster ions, photofragmentation 7—15789
- CH^+, interstellar mol., high resol. laser photofragment spectra 7—31063
- CO, C and D states, mol. dissoc. mechanisms, photoelectron-ion coincidence spectra 7—15664
- CO, soft X-ray induced fragmentation, Auger electron-ion coincidence study 7—36700
- CO_2, mol. photodissoc. resons. 7—952
- $(CO_2)_n^-$ clusters, photodissociation 7—1001
- COSe, photodissoc., CARS 7—11062
- CS_2, photodissoc. dynamics, VUV laser induced fluoresc. 7—23044
- CS_2, photofragmentation dynamics using coherent VUV for product detect. 7—19976
- CS_2, pulsed supersonic nozzle beam source appl. 7—15665
- Cl, photodissoc., third harmonic interference, polarisation effects, MPI spectra 7—50045
- $Co(CO)_3NO$, photofragmentation dynamics using coherent VUV for product detect. 7—19976
- $Cr(CO)_6$, photodissoc. in soln., $Cr(CO)_5$(methanol) form. 7—62399
- Fe_8 cluster, vibr. photodissoc. spectra, IR laser study 7—62475
- $FeC_4H_6^+$ isomers, gas-phase photodissoc., bond energy and struct. determ. 7—15661
- $Fe(CO)_5$, photofragmentation dynamics using coherent VUV for product detect. 7—19976
- $GaAs_n^-$ semicond. cluster anions, photodetachment and photofragmentation 7—36837
- H isotope separation by selective multiphoton dissociation 7—42780
- H_2, atomic data relevant to edge plasmas 7—20063
- H_2, E,F state, photodissoc. cross-sections calcs. 7—36714
- H_2, photodissociation of doubly excited states, Lyman-α fluoresc. spectra anal. 7—19945
- H_2, photodissociation of metastable states, photofragment spectra anal. 7—36716
- H_2, photodissociation processes, CARS *(French)* 7—5726
- H_2, resonantly enhanced multiphoton dissociative ionisation, photoelectron spectroscopy 7—15645
- H_2, resonantly enhanced multiphoton dissociative ionis. meas. 7—19968
- H_2, vibrationally excited, rot. excitation and dissoc. meas. using resonant multiphoton ionization 7—15658
- H_2-F_2-HF gaseous mixture, light initiated chain reaction, stimulated light scatt. study 7—62778
- H_2-He, photodissociation processes, CARS *(French)* 7—5726
- H_3^+, vibr.-rot., IR photodissociation spectra 7—31009
- HCl, photodissoc. branching ratios pot. energy curves 7—31128
- HCl, photodissociation processes in astrophysical environment 7—23042
- HD^+, vibr.-rot., IR photodissociation spectra 7—31009
- $H_2(HD)(D_2)$, doubly excited states, photodissoc. cross section 7—19980
- HNO_3, collision-free photodissociation at 266 nm, OH prod. 7—8293
- HO_2+O_3, reaction rate const. meas. by photofragment fluoresc. detect. 7—22990
- H_2O, excited state pot., photodissoc. ab initio calcs. 7—19978
- H_2O, photodissoc., OH prod., $A^2\Sigma^+$-$X^2\Pi$ fluoresc. 7—42669
- H_2O_2, collision-free photodissociation at 266 nm, OH prod. 7—8293
- H_2O_2, photodissoc., fluoresc., VUV spectra 7—57140
- H_2O_2, photodissoc., OH product state and spectroscopy 7—13795
- H_2O_2, photofragmentation dynamics at 193 nm, laser-induced fluoresc., rot. and vibr. distrib. 7—42700
- HONO, laser induced chem. processes anisotropies, OH ejection 7—19973
- HeH^+, vibr.-rot., IR photodissociation spectra 7—31009
- I, photodissoc., initiated by laser emission 7—65339
- I_2, photodissoc., absolute $I(^2P_{1/2})$ yield laser optoacoustic meas. 7—49963
- I_2, recombination and relaxation dynamics of diatomic molecules in condensed phases 7—10684
- $Mn_2(CO)_{10}$, gas-phase, photodissoc. pathways and recomb. kinetics 7—59771
- $Mo(CO_6)$, optical gain detection following multiple photon dissociation 7—31124
- N_2, electron and photon collision cross section 7—18513
- N_2, soft X-ray absorpt., at. ion yield 7—949
- N_2 soft X-ray-induced fragmentation, Auger electron-ion coincidence studies 7—42697
- NH_3, $\bar{A}$ state, rot. depend. lifetimes and excitation profiles, Raman spectra 7—62378
- NH_3, double photoionisation and fragmentation, PIPICO method anal. 7—19985
- NO_2, dissoc. to give NO photofragments, REMPI and TOF mass spectra 7—25613
- NO_2, optical selection in double resonant two-photon photodissoc. 7—23034
- NO_2, photodissoc. REMPI study of photofragment energy 7—42709
- Na_2, photodissoc., atomic fragment Doppler spectroscopy 7—10686
- Na_2, photodissoc., Doppler photofragment spectroscopy 7—19972
- Na_3 predissociated states, size selective depletion spectroscopy 7—15666
- NaCs, laser-induced photodissociation, relative cross section 7—31131
- NaRb molecule, laser induced photodissociation 7—50280
- $NeCl_2$ photodissociation, product state distrib. 7—50277
- $NiC_4H_8^+$ isomers, gas-phase photodissoc., bond energy and struct. determ. 7—15661
- O_2, photoproduction cross sections, mass spectrometry, photoionisation and photodissociation 7—10681
- O_2, potential energy curve, photodissociation and adsorp. spectra 7—5624
- O_2, UV cross sections and photodissociation rate consts. for stratosphere 7—55260
- O_2^- and O_4^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7—25602
- O_2^+, $^4\Pi_u$ state, spin-forbidden radiative decay, photodissoc. study 7—50274
- O_2^+ predissociative photoionisation, triple coincidence, double time-of-flight study 7—36709
- O_3^-, photodetachment cross sections Franck-Condon anal. 7—57139
- OCS, photodissoc. dynamics, VUV laser induced fluoresc. 7—23044
- OCS, vibr. excited, photodissoc. cross section meas. 7—15662
- OH, photodissociation processes in astrophysical environment 7—23042
- $RuNO(NO_3)_3$, photodissociation in nitric acid soln. 7—25057
- $(SF_6)_2$, mol. beam IR laser photodissoc. 7—10576
- SF_6, dimer dissoc., dimer conc., isotope effect, model and bolometer IR spectra anal. 7—19977
- SF_6, dissociative photoionisation, triple coincidence, double time-of-flight study 7—36709

molecular photodissociation continued
- SF_6Ar, mol. beam IR laser photodissoc. 7—10576
- $^{32}S_2$ in comets, photodissoc. lifetime 7—24075
- SiF_4, dimer dissoc., dimer conc., isotope effect, model and bolometer IR spectra anal. 7—19977
- SiF_4, photoexcitation, photoabsorpt. and fluoresc. cross section meas. 7—50224
- SiH_4, collisionally-assisted multiphoton dissoc. reaction mechanisms 7—65338
- SiH_4, dimer dissoc., dimer conc., isotope effect, model and bolometer IR spectra anal. 7—19977
- T isotope separation using CO_2 laser, optimisation 7—42707
- s-tetrazine clusters, photophysics and photochemistry, laser induced fluoresc. 7—31098
- UF_6, laser induced breakdown and appl. to flow diagnostics 7—20832
- UF_6, multiphoton dissoc. in supersonic jets 7—42706

molecular polarisability
- *see also molecular moments*
- acetylene, elec. polarisabilities, ab initio calcs. 7—5585
- alkali halides, interionic pots. determ. 7—42720
- alkoxycyanobiphenyls and related cpds. optical anisotropies, depolarised Rayleigh scatt. 7—39132
- alkylcyanobicyclohexyls and related cpd. optical anisotropies, Rayleigh light scatt. 7—39131
- alkylcyanobiphenyls and related cpds. optical anisotropies, depolarised Rayleigh scatt. 7—39132
- alkynyl(trimethyl)mercurials, synthesis, ^{13}C, ^{29}Si and ^{199}Hg NMR 7—31071
- anil brown, anisotropy in elec. cond. induced by external field 7—39924
- benzene, anisotropic mol. liq., Kerr consts. and anisotropic electronic polarisability calcs. 7—53273
- Cauchy moments, nonempirical HF perturbation theory calcs. 7—49918
- charged solid-liq., interfaces, dipolar hard spheres, density functional theory study 7—63414
- cyclopropylcarbinyl cation and bicyclobutonium ion, pot. energy surface, polarisation functions and electron correl. effect 7—30966
- diacetylene, elec. polarisabilities, ab initio calcs. 7—5585
- diamagnetic molecular system in DC electric field, magneto-spatial dispersional effect 7—31087
- diatomic molecules, Zeeman quantum beats during transient process, after ground electronic state optical depopulation 7—36545
- electric dipole moments, dielec. meas. 7—31185
- electro-optical materials, orbital symmetries 7—39086
- fluorobiphenylalkane nematics, physical and mol. props. 7—38983
- gas, vibr. excited, polarisability and refr. index 7—44097
- inert gas-halide excimers, interaction with simple cryogenic liquids 7—42776
- ion acoustic waves, active mol. plasmas, heavy particle polarisability effects 7—31977
- metal clusters, shell structure and response props. 7—15767
- monomer orientation in H bonded and weakly bonded complexes, elec. influence 7—954
- nematic liq. cryst. refractive indices, mol. statistical theory 7—37852
- nematic liquid crystals, degenerate four-wave mixing in isotropic phase, influence of molecular structure 7—11068
- nitrobenzene, polar mol. liq., Kerr consts. and anisotropic electronic polarisability calcs. 7—53273
- nonpolar fluid, ellipsoid mols., induced birefringence and dielectric polarisation 7—33363
- nonpolar liquids, permittivity meas., mol. polarisability determ. *(French)* 7—53217
- organic molecules, effective π-electron Hamiltonians, Green's function Monte Carlo calcs. 7—25412
- organic molecules, nonlin. optical props. prediction, PPP calcs. and perturbation theory 7—25408
- organic molecules as nonlinear electro-optical materials 7—37024
- phthalimides, electronic spectra, dipole moments, polarizabilities and Onsager radii, solvent effect 7—31064
- polyenes, mol. polarisability, CNDO/2, CNDO/C, α(VPT) and α(SCPT) calc. comparisons 7—49932
- polymers, giant orbital, nature and props. 7—31198
- quinones, polarisability and second hyperpolarisability, intramol. interactions effect 7—19707
- two-configuration SCF wave functions, IR intensities and polarisabilities evaluation 7—10582
- water, polar mol. liq., Kerr consts. and anisotropic electronic polarisability calcs. 7—53273
- BF_3, mol. quadrupole moment and polarisability calcs. 7—10410
- Br_2, liquid, optical props. 7—17294
- CO, Raman intensity of adsorbate vibr., cluster-model calc. 7—27089
- $CsH_2PO_4(d_2)$, polarised IR and Raman spectra, internal vibrs. 7—50125
- D_2, hyperpolarisabilities, vibr. contribs., CARS 7—57074
- FeCO colloids, anisotropy in elec. cond. induced by external field 7—39924
- H atom in molecule, polarisability change calcs. *(Russian)* 7—62279
- H_2 and isotopes, nonadiabatic eigenvalues and adiabatic matrix elements 7—62381
- H_2, hyperpolarisabilities, vibr. contribs., CARS 7—57074
- H_2^+, Born-Oppenheimer electronic polarisability, perturbational-variational Rayleigh-Ritz formalism appl. 7—10387
- H_2^+ electric dipole polarisability and hyperpolarisability, vibr. effects introduction to calcs. 7—10547
- H_2^+, electric polarizabilities, perturbation study 7—36664
- H_2^+, excited states, non-Born-Oppenheimer electric polarisabilities 7—42662
- HCN, elec. polarisabilities, ab initio calcs. 7—5585
- HCl, vibr. transition probabilities, reactive field effect 7—36584
- $(HF)_2$, IR and Raman spectra, vibr. calcs., secondary basis set superposition error 7—25478
- HF complexes, H-bonded, vibr. transition freqs., red shifts 7—10546
- HF, intermol. pot. model including polarisability 7—25623
- HF, vibr. transition, H bonding derivative HF theory 7—19680
- HF, vibr. transition probabilities, reactive field effect 7—36584
- HI, vibr. transition probabilities, reactive field effect 7—36584
- H_2O, long-range intermol. interaction energies using RPA/moment function methods 7—10698
- H_2O microclusters, mol. orientations at surface, surface pot. num. soln. 7—36838
- H_2O-H_2O_2 mixtures, long-range intermol. interaction energies using RPA/moment function methods 7—10698

molecular polarisability continued
- H_2O_2, long-range intermol. interaction energies using RPA/moment function methods 7—10698
- I_2, liquid, optical props. 7—17294
- N_2, elec. field gradients, finite field MBPT 7—5603
- N_2, elec. polarisabilities, ab initio calcs. 7—5585
- N_2, hyperpolarisabilities, vibr. contribs., CARS 7—57074
- N_2^+ surface semichannelling on Cu target, computer simulation 7—63697
- NaCN, ab initio coupled HF calcs. of multipole moments and dipole polarisability of CN^- 7—5587
- O_2, hyperpolarisabilities, vibr. contribs., CARS 7—57074

molecular positron scattering *see elastic scattering of electrons by atoms and molecules; molecular electron impact dissociation; molecular electron impact excitation; molecular electron impact ionisation*

molecular potentials *see potential energy functions*

molecular predissociation
- benzene clusters, vibr. predissoc. spectra assignment, isotope use in mass spectroscopic detect. 7—31125
- benzonitrile-Ar(Kr)(N_2O)(H_2O)(trifluoromethane), excited state van der Waals complexes, fluoresc. investig. 7—50223
- t-butyl nitric oxide, singlet and triplet surfaces, unimol. reactions, spectroscopy, rate meas. 7—28300
- cyanogen chloride, rot. distributions of CN fragment, LCGTO Xα method anal. 7—25393
- diatomic molecules, dissociative single and double photoionisation, photoion spectra anal. 7—19984
- ethane-Ar, vibr. predissoc. IR spectra 7—19971
- $(ethene)_n$ (n=2,3,4), van der Waals complexes, IR photodissoc. 7—42701
- nitromethane, first excited states, dissoc. nature, SCF CI calcs. 7—56959
- tetramethyldioxetane, homogeneous and inhomogeneous struct., vibr. overtone spectrum 7—25483
- s-tetrazine-Ar van der Waals complex, vibr. predissoc., RRKM approach, vibronic emission 7—19983
- van der Waals complex, rot. predissoc., multichannel reson. quantisation 7—50005
- van der Waals complex, triatomic, vibr. predissoc., adiabatic approx. model 7—36713
- vibrational predissociation lifetimes tunnelling, internal collision model 7—31127
- Ar-HF binary complex, long-lived metastable systems 7—36515
- Ar-N_2O van der Waals complex, mol. beam IR spectra 7—31030
- ArHF van der Waals complexes in supersonic jets, IR laser spectra 7—19842
- ArXe, excited states, photoionisation and predissoc. 7—19959
- BaI, $X^2\Sigma^+$ product, distrib., fluoresc. detect. 7—25595
- Br_2, $B^3\Pi(0_u^+)$, electronic self-quenching energy transfer rate consts. 7—20015
- CH^+, interstellar mol., high resol. laser photofragment spectra 7—31063
- CO adsorbed on Fe (100), tilted dissociation precursor 7—58642
- CO, C and D states, mol. dissoc. mechanisms, photoelectron-ion coincidence spectra 7—15664
- CO, isotopic species, $B^1\Sigma^+$-$X^1\Sigma^+$ transition, vacuum UV obs. 7—62401
- CS_2, dissociative attachment bands, impact electron and fragment ion energy spectra anal. 7—50386
- Cs+HeH^+, HeH bound excited state form., predissoc. and radiative dissoc. 7—20033
- D_2O, quantum state selective detection by (2+1) REMPI 7—36706
- D_2O^+, $\tilde{B}^2B_2$ state predissoc., intramol. dynamics, photoelectron spectroscopy 7—42699
- D_2Se, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7—25537
- D_2Se, Rydberg series identification, VUV spectra anal. 7—25538
- D_2Te, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7—25537
- H_2, photodissociation of metastable states, photofragment spectra anal. 7—36716
- H_2^+ + Cs, dissociative charge exchange, H_2 predissociation, fragment spectra anal. 7—36753
- HCN-HF, excited vibr. states, gas-phase IR spectrum 7—50108
- HF dimer, vibr. predissoc. lifetime 7—5729
- $(HF)_3$, vibr. predissoc. IR spectra 7—19971
- H_2O, quantum state selective detection by (2+1) REMPI 7—36706
- H_2O^+, $\tilde{B}^2B_2$ state predissoc., intramol. dynamics, photoelectron spectroscopy 7—42699
- H_2Se, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7—25537
- H_2Se, Rydberg series identification, VUV spectra anal. 7—25538
- H_2Te, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7—25537
- I_2, mag. predissoc., photoacoustics using RF laser optogalvanic detection 7—50273
- ICl, $B^3\Pi_0$ state, predissoc., fluoresc. decay meas. 7—10687
- InBr, A-X system, rot. struct., dissoc. energy 7—50071
- InCl molecule, $C^1\Pi$-$X^1\Sigma^+$ system, emission spectrum and dissociation energy 7—5694
- KrXe, excited states, photoionisation and predissoc. 7—19959
- MgH, predissoc., Feshbach reson., semiclassical complex-energy quantisation 7—42705
- N_2-HF, IR spectrum and vibr. predissoc. 7—50106
- $NH_3(ND_3)$, predissociation, dissoc. attachment cross section 7—50279
- NO, $^2\Delta$ states, radiative lifetime meas., fluoresc. spectra 7—62439
- NO dimer, vibr. predissoc. lifetimes, time-resolved meas. 7—31126
- NO predissoc. levels, multiphoton ODR lineshapes 7—31129
- NS, low-lying valence and Rydberg states obtained by CI studies 7—49947
- Na_3 predissociated states, size selective depletion spectroscopy 7—15666
- $NeCl_2$ photodissociation, product state distrib. 7—50277
- NeXe excited states, photoionisation and predissoc. 7—19959
- O_2, photoproduction cross sections, mass spectrometry, photoionisation and photodissociation 7—10681
- O_2, predissoc. linewidth, rot. var. 7—10685
- O_2^+ predissociative photoionisation, triple coincidence, double time-of-flight study 7—36709
- $^{18}O_2$, Schumann-Runge bands, predissoc. linewidths meas. 7—62464
- OH, predissociation, non-adiabatic effects, energy levels calcs. 7—15660
- $^{16}O^{18}O$, Schumann-Runge bands, predissoc. linewidths meas. 7—62465
- TlF, predissoc., tunneling, UV spectra 7—57141
- Xe_2, excited states, photoionisation and predissoc. 7—19959

molecular quadrupole moments *see molecular moments*

molecular relaxation *see chemical reactions; molecular fluorescence; molecular inelastic collisions; molecular spectra; time resolved spectra*

molecular reorientation
see also macromolecular dynamics
acetone-d_6-apocholic acid inclusion cpd., guest dynamics rel. to host lattice symm. 7—26677
acetone-d_6-deoxycholic acid inclusion cpd., guest dynamics rel. to host lattice symm. 7—26677
adenine series adsorbed on aqueous Ag sol, SERS study 7—17947
alkali metal cyanide-halide mixed crysts., orientational glass state static props., microscopic model calcs. 7—63591
alkanes, isomers study, depolarised Rayleigh-Brillouin scatt. investig. 7—62386
alkoxyazoxybenzenes, mol. reorientation, far IR study 7—33383
ammonium perfluorononanoate-H_2O system, micellar nematic phase, conductivity, relax. times 7—38230
L-asparagine.H_2O, ^{15}N chemical shift tensor, MASS NMR spectra anal. 7—53164
β-$(BEDT\text{-}TTF)_2I_3$, molecular motion, proton spin-lattice relax. meas. *(Russian)* 7—17236
benzonitrile, liq., FTIR and Raman obs. on dynamic and interaction processes 7—53344
bicyclo (222) octane, plastic phase, monomolecular reorientational dynamics, Raman scatt. study *(French)* 7—26675
bicyclooctene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7—53207
β-bis(ethylenedithiolo)tetrathiofulvalene iodide, organic superconductor, ^2H spin-lattice relax., temp. depend. study 7—53171
blue phase I→cholesteric transition, electric field-induced, kinetic hindrance 7—58465
dl-borneole, mol. reorientation dynamics, proton NMR study under hydrostatic press. 7—50175
bromomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
cadmium arachidate Langmuir-Blodgett films, elastic props., Brillouin scatt. study 7—32885
d1-camphene, methyl reorientation, high press. NMR study 7—27609
chalcogenide intercalation compounds with NH_3 guest species, NMR 7—53160
charged dye molecules, picosecond reorientational dynamics, dielectric friction 7—10773
cresyl violet in polymer solution, picosecond rot. reorientation 7—44339
1-cyanodamantane, glassy phase, study of molecular reorientations, high resolution quasi-elastic, neutron scatt. 7—51636
cyclohexyl group relaxation in polymers *(Spanish)* 7—50423
4,4′-di-n-pentyloxyazoxybenzene, nematic and rotary phases, molecular reorientation 7—32278
diamagnetic molecular system in DC electric field, magneto-spatial dispersional effect 7—31087
diamagnetic molecules, magneto-chiral birefringence and dichroism, reorientational processes influence 7—15812
dibromomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
dichloromethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
diglycine nitrate, ferroelec. transition mechanism, mol. reorientation, ^{14}N and ^{17}O quadrupole coupling meas. 7—53245
dimethyl sulphone, powder, mol. reorientations, rot. angle determ. 7—17226
dimethyl tin dichloride, methyl group rotational tunnelling, librations and coupling, inelastic neutron scatt. study 7—12218
dimethylthallium(II) cation, aq. soln., mol. motion, NMR spin relax. time meas. 7—57088
dipalmitoyl phosphatidyl chloride, low temp. phase, headgroup mobility, NMR study 7—1856
diphenyl ether, liq., reorientational motion, press depend. light scatt. obs. 7—46054
diphenyl methane, liq., reorientational motion, press depend. light scatt. obs. 7—46054
diphenylbutadiene, soln., rot. reorientation dynamics and picosecond photoisomerisation 7—15592
DMSO-water mixture, spin relax. ^{17}O and ^2H NMR study 7—38961
DOBAMBC ferroelec. chiral smectic C liq. cryst., helical pitch free value meas. 7—26632
dye mols. in polar fluids, correl. between mol. reorientation and dielectric friction 7—22182
ferrocene, azaferrocene and ruthenocene, struct. phase transitions and mol. dynamics. ^1H NMR 7—13053
ferroelectric liquid crystal cell, surface stabilised, homogeneous-twist transitions study 7—51620
ferroelectric liquid crystals, solitary waves, mol. reorientation dynamics 7—21092
Fischer-Tropsch waxes, cell parameters, temp. dependence 7—12043
fluid, rotational-translational diffusion, self van Hove fn. study 7—63857
graphite-Cs, $C_{24}Cs(H_s)_x$, domain mobility and rot. tunnelling spectrum 7—63525
hexylphenylbutylbenzoate nematic, isotropic phase, Kerr effect dispersion, mol. dipole relax. study 7—63448
iodomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
localised diatomic mol. monolayers, rotational ordering, interaction effects, mean-field treatment 7—16870
lyotropic nematic liquid crystals, nonequilib. periodic reorientation induced by mag. field 7—58138
MBBA, paramagnetic dopant mol. slow tumbling motion, EPR shift and broadening meas. 7—16458
Meldrum's acid, chem. shielding tensors, mol. motion, ^{13}C NMR obs. 7—53149
4-methyl-pyridine(-d_7), phase transitions, mol. mechanism, IR and Raman spectra 7—32637
molecular solids, mol. dynamics simulation 7—51673
multimethylammonium perchlorates, ClO_4^- ion motion, ^{35}Cl NMR 7—59114
nematic liq. cryst., laser-induced mol. reorientation, nonlocal radial depend. 7—58131
nematic liq. cryst., nonequilibrium polar pyroelec. state obs. 7—1837
nematic liq. cryst., parallel-aligned, phase retardation depend. optical response time 7—3018
nematic liquid crystal, transient processes in mag. field 7—11908
nematic liquid crystals, dynamic gratings, self diffractions and wavefront conjugation processes 7—11067
nematic liquid crystals, dynamic self-diffraction effects 7—11033

molecular reorientation continued
neopentane, plastic phase orientational motion, Raman and IR spectra anal. 7—57067
nitromethane, solid, methyl group rot., pot. surface calcs. 7—11972
norbornane, plastic cryst. phases, mol. reorientations, incoherent quasielastic neutron scatt. 7—63527
norbornene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7—53207
octaethylsilsesquioxane, mol. mobility and phase transitions 7—37917
oriented polymers, time-depend. fracture strength, microscopic mol. kinetics, statistical calcs. 7—32556
picosecond four-wave mixing for orientational relaxation times meas. 7—11072
poly(n-alkyl methacrylates), surface mobility and struct. transitions, dynamic contact angle meas. 7—32758
polyarylate, mol. motions in glass transition region, thermally stimulated depolaris. current 7—38586
potassium-laurate water, lyotropic liq. crystalline system, mol. motions, proton spin relax. study 7—64543
rotational motion in molecular dynamics 7—32251
sheared cholesteric polymer refractive index evolution mechanisms study 7—13120
slow molecular motions, anisotropy, ELDOR obs. 7—62426
solvent, liq., fluoresc. anisotropy, inertial effects influence 7—62449
trans-stilbene, soln., rot. reorientation dynamics and picosecond photoisomerisation 7—15592
terephthalic acid, linear chain struct., order-disorder phenomena, Raman scatt. study 7—21150
tetahedral group reorientation in solids, deuteron spin-spin and spin-lattice relax. 7—22157
tetramethylammonium salts, D NMR, reorientations 7—19884
toluene, α-crystallised, temp. and press. effects on methyl tunnelling, inelastic neutron scatt. 7—38133
toluene, liq., shear viscosity, Rayleigh correl. time meas., temp depend. 7—33402
4-C(trans-4′-n-hexylcyclohexyl)isothiocyanatobenzene, nematic and isotropic phases, dielec. relax. 7—53229
triatomic anions, rots. in aqs. soln., ^{14}N NMR, spin-lattice relax. 7—27620
trichloromethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
trimethylamine-d_9, solid, mol. reorientation, NMR quadrupole echo spectra 7—62411
urea inclusion cpds. with n-paraffins, phase transitions and ordering 7—32634
water, liq., three-body forces and single-molecule dynamics 7—11880
water, viscosity determ. by pulse NMR method 7—7604
Al-Zn dilute alloy, mixed dumbbells orientational ordering transition *(Russian)* 7—51688
Al-Zn dilute alloys, stress-induced mixed dumbbell tunnelling, sound propag. meas. *(Russian)* 7—51674
$B_{10}C_2H_{12}$, spin-lattice relax., ^{13}C, ^{10}B and ^{11}B NMR 7—10623
CS_2, liq., reorientation, vibr. relax., Raman spectra 7—62379
$Cd(BrO_3)_2 \,.\, 2H_2O(D_2O)$, H bonding, crystal struct., ^1H and ^2D NMR anal. 7—22156
$Cd_2P_2S_6$ intercalated with pyridine, D NMR study 7—33279
Co complex, cobalt(3-amino-5-methyl isoxazole)$_2$dichlorine, mol. motion detect., PMR 7—31066
$CsCaCl_3$, cubic to tetragonal phase transition, space group determ., X-ray studies 7—16736
CsSD, mol. reorientation, elec. field gradient ^2H NMR 7—13052
Cu complex, copper(3-amino-5-methyl isoxazole)$_2$dibromine, mol. motion detect., PMR 7—31066
GaAs, low-frequency Raman scattering anomaly 7—27710
4-n-hexyloxyphenyl 4′-n-decyloxybenzoate, liq. cryst. phases, dielec. relax. 7—53228
KPF_6, octahedral anion anisotropic reorientation, nuclear spin-lattice relax. meas. 7—2943
Mo_8O_{23} low-dimensional conductor, cryst. struct. and commensurate-incommensurate transition, X-ray diffr. study 7—58230
N_2-Ar solid mixtures, sp. ht. due to N_2 mol. rot. 7—32680
NH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7—62413
NH_3CdF_3, heat capacities determ. in temp. range 5 to 350K 7—44842
$NH(D)_4Cl{:}Cu^{2+}$ crysts., impurity optical absorpt. spectrum temp. depend. study 7—53374
NH_4MgF_3, heat capacities determ. in temp. range 5 to 350K 7—44842
$(NH_4)_2PdCl_4$, NH_4^+ rot. pot., inelastic neutron scatt. study 7—26676
$(NH_4)_2PtCl_4$, NH_4^+ rot. pot., inelastic neutron scatt. study 7—26676
$(NH_4)_2SO_4$, phase transitions, appl. of NH_3^+ paramag. probe to mol. motion 7—27604
$(NH_4^+)_{0.22}TiS_2^{0.22-}$ ionic intercalation cpd., synthesis, characterisation by thermal anal., mag. 7—45244
beta- NaN_3, elastic moduli, softening, microscopic theory 7—21320
Ni complex, $Ni(NH_3)_6Cl_2$, NH_3 reorientation rel. to phase transition, quasielastic neutron scatt. method 7—32316
PH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7—62413
RbSD, mol. reorientation, elec. field gradient ^2H NMR 7—13052
Rb_2ZnCl_4, incommensurate transition, pot. energy and mol. dynamics ab initio calcs. 7—21435
$Sr(BrO_3)_2.H_2O(D_2O)$, EFG parameters, H bonding, PMR, deuteron mag. reson. 7—27612
T_2O, liq., molecular dynamics simulation 7—26992

molecular reorientational states *see molecular reorientation*

molecular resonant states
see also Fermi resonance; molecular vibronic states
acetaldehyde, electronic struct. and decay channels, negative ion mass and electron impact spectroscopy 7—50383
acetylene, chemisorption on Cu (100), σ-shape and π resonances, XANES 7—53448
bromotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7—25882
coherent pulse sequence induced control of selectivity of reactions, exact quantum mechanical calcs. 7—28274
cyanogen, adsorption on Pd (100), Penning ionisation electron spectroscopy, UPS, TPD studies 7—52268
ethane, chemisorption on Cu (100), σ-shape and π resonances, XANES 7—53448
ethylene, chemisorption on C (100), σ-shape and π resonances, XANES 7—53448

molecular resonant states continued
fluoroethylene radical anions, dissoc. electron attachment 7−50349
halogenated aromatic hydrocarbons, resonant two photon ionization in supersonic beams 7−19961
3-hydroxyflavone, ground state tautomer, proton transfer relax., laser fluores. spectroscopy 7−15640
iodotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
malachite green, coherent mol. vibr. motion, fs time resolved obs. 7−57189
methane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7−50254
nile blue, coherent mol. vibr. motion, fs time resolved obs. 7−57189
organic chemistry, Mobius systems, graph theoretical approach 7−46796
organic compounds, Feshbach resons. auto-detachment, electron spectra 7−57181
resonance enhanced multiphoton ionisation spectra, reduction of 1+1 reson., populations and alignment factors 7−25621
sum-rules in resonance calculations with complex coordinates 7−42527
tetrafluoromethane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7−50254
tetramethylsilane, resons. in X-ray photoabsorption spectra 7−15621
ArXe$^+$, DC discharge in supersonic jet, UV-visible emission spectra anal. 7−19874
BCl$_3$, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
BeHe^{4+} quasimolecule, charge exchange collision cross sections, Feshbach method calcs. 7−36754
CO, 5σ photoionis., reson. effects calcs. 7−36705
CO$_2$, mol. photodissoc. resons. 7−952
Cl$^+$, charge transfer reactions with organic mols., cross section anal. 7−15701
H$_2$ electron beam ionisation luminesc. in high-current discharge, vacuum-UV radiation props. 7−57183
H$_2$, high resolution microwave spectroscopy of Rydberg transition 7−15595
H$_2^-$, autodetaching states, Feshbach-type formalism 7−15705
H$_2^+$, electron impact, autoionising states, avoided crossings 7−950
I$_2$, F(0$_u^+$) ion-pair state anal., OODR and fluoresc. excitation spectrum 7−19931
MgH, predissoc., Feshbach reson., semiclassical complex-energy quantisation 7−42705
Na$_2$, stimulated emission based on two-step hybrid reson. 7−42691
O$_2$, form. and resonant vibr. levels of O$_2^-$, spectra anal., cross sections calc. 7−15730
SF$_6$, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
SiCl$_4$, resons. in X-ray photoabsorption spectra 7−15621
SiF$_4$ resons. in X-ray photoabsorption spectra 7−15621
SiF$_4$, saturation spectrum at P(30) line of 9.4 μm band of CO$_2$ laser 7−50134

molecular rotation
see also macromolecular dynamics; molecular force constants; molecular reorientation; molecular rotation calculations; molecular rotational-vibrational energy transfer; molecular spectra; rotational isomerism
acetaldehyde, mm and sub-mm wave spectra, centrifugal distortion and internal rot. anal. 7−57056
acetaldehyde in its lowest torsional states, mm-wave spectrum 7−50091
acetone-d$_1$(-d$_2$)(-d$_3$), microwave and mm-wave rot. spectra, rot. spectrum, internal rot. and struct. 7−25497
acetonitrile-d$_3$, ^{2}H and ^{14}N spin-lattice relaxation rates, solvent effects 7−19897
acetylene, Fermi perturbation study, UV absorpt. and fluoresc. excitation spectra anal. 7−36638
alkoxy radicals, electronic struct., rot. resolved spectra 7−62352
allene-d, (-1,1-d$_2$), pure rot. spectra, microwave FT spectrosc. 7−5669
aniline-H$_2$ van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7−19932
aniline-methane van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7−19932
aniline-N$_2$ van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7−19932
α,ω-bis (9-anthryl)alkanes, cation radicals, ESR, spin distribs. and mol. conformations 7−31077
approximate rotational band shifts 7−36579
aromatic aldehydes in cyclohexane solvent, internal mobility study, far-IR and microwave Fourier transform spectra anal. 7−64631
asymmetric top molecules, rot. adiabatic switching 7−42470
benzene, adsorbed on graphite (BN), rot. dynamics and orientation, NMR spectra 7−53161
benzene-d$_1$ 1_{01}-0_{00} rot. transition, Stark shift, microwave FT spectrosc. 7−57110
benzene-d$_6$, IR spectra, rot. reson. 7−25514
benzonitrile-Ar(Kr)(N$_2$O)(H$_2$O)(trifluoromethane) van der Waals complexes, LIF spectra 7−50222
bicyclo[1.1.1]pentanone, struct. and microwave spectrum 7−50094
bis (trihalomethyl) ether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7−19998
bis (trihalomethyl) thioether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7−19998
bovine carbonic anhydrase B, rotational diffusion, fluoresc. correl. spectrosc. 7−15755
p-bromoacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7−25432
butane, rot. pot. functions, ab initio and MM2 calcs. 7−10404
t-butyl cyanide, disordered phase, cooperative dynamics 7−58195
CARS generation, rotational, through multiple four-colour interaction 7−50632
p-chloroacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7−25432
chlorodifluoromethane, IR spectra, rot. and vibr. relax. 7−36616
chloroform-d, ^{3}H spin-lattice relaxation rates, solvent effects 7−19897
4-chloropyridine, rot. spectra, ^{14}N and Cl hyperfine struct. 7−36586
chlorotrifluoromethane, ν_1-ν_3 band, diode laser spectrosc. 7−5680
coherent photodissociation reactions, picosec. polaris. technique obs. 7−36715
collision-induced rot. transfer 43-0 band, B-X system, rel. intensity 7−15585
crown ether-NaSCN complex, tetrahydrofuran solvent, IR and microwave dielectric spectro anal. 7−31027

molecular rotation continued
cyanoacetylene, interstellar, nonequilib. excitation of rot. levels 7−60743
cyanogen chloride, rot. distributions of CN fragment, LCGTO Xα method anal. 7−25393
cyanomethane anion, photodetachment spectroscopy 7−10670
P-cyanophosphaethene, bond angles and length, rot. const., microwave obs. 7−62358
cyanopolyacetylene, interstellar mols., rot. consts., MINDO/3 calcs. 7−60770
4-cyanopyridine, rot. spectrum, nucl. quadrupole coupling effects 7−57055
cyclobutylcarboxylic acid fluoride, microwave, IR and Raman spectra, Stark effect, conform. 7−25492
η-cyclopentadienylnickel nitrosyl, dissoc. and multiphoton ionis., photofragment spectroscopy 7−50281
diacetylene and dideuterodiacetylene cations, A$^2\Pi_u$-X$^2\Pi_g$ transition, rot. assignment 7−31016
diatomic molecules, spectroscopic constants determination 7−42583
diatomic mols., dissoc., equilibr. vel. and rot. distrib. disturbance 7−13761
diatomic mols., multiphoton rot. line strengths, intermediate Hund's (a-b) coupling case calcs. 7−62472
diatomic mols., orbital stress and transition stress calc., bond lengths, rot. consts. photoelectron spectra 7−42503
diazirine, ν_3 fundamental, rovibr. anal., IR spectra 7−10583
1,2- dichlorobenzene-d$_3$(d$_4$), isotopic species, r$_0$ structure calcs., microwave spectra 7−19834
dichlorofluoromethane, relax. to photophysical steady state during IR absorpt. 7−36618
difluoroacetonitrile, rot. Zeeman effect, g-values, mag. susceptibility and electric quadrupole moments 7−62431
difluorodichloromethane, mol. consts., force field study, thermodynamics props. 7−19814
trans-difluoroethylene ozonide, struct. dipole moment, ab initio HF calcs., microwave spectra 7−10557
difluoromethane, ground state rot. spectrum 7−5670
2,3-dihydrofuran, ring puckering vibr. and centrifugal distortion, microwave spectra anal. 7−36596
2,3-dimethylnaphthalene, rotational excitations of methyl 7−2117
dimethylritrosoamine excited singlet states symmetry and geometry, photodissoc. 7−54152
ethanes, substituted, NMR conformation studies, rot. energetics about C-C bond 7−31067
N-ethyl-p-chlorobenzamide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7−25432
ethylmethylsilane, rot. pot. functions, ab initio and MM2 calcs. 7−10404
excitation in molecular beam expts. 7−10739
fluid, rotational-translational diffusion, self van Hove fn. study 7−63857
fluorescence spectrometer, frequency-domain, for picosecond rotational-correlation times determ. 7−56347
fluoroform, mol. vibr., tridiagonal Fermi reson. Hamiltonian, visible spectral anal. 7−50154
fluoromethane, multiphoton coherent excitation study 7−36698
formaldehyde, protonated, rot. const., ab initio MO calcs. 7−25349
formaldehyde+polar gases 7−50321
formyl radical pair, anharmonic vibr. effects, ab initio SCF-CI calcs. 7−10444
four-wave mixing techniques for studying orientational relaxation, comparison 7−10779
free asymmetric top mols., vectorial correl. functions and spectral densities 7−31039
trans-glyoxal, photodissoc., photofragment excited state distrib., fluoresc. spectra anal. 7−50226
glyoxal, S$_1$←S$_0$ vibr. transitions, Fermi reson., visible fluoresc. spectra anal. 7−50230
glyoxal, S$_1$←S$_0$ vibr. transitions, rot. anal., visible fluoresc., spectra study 7−50229
glyoxal, vibronic bands, rot. anal. 7−5712
hexamethyldisilylchalcogenides, struct. 7−15615
imidazole, rot. Zeeman effect 7−57109
internal rotation, algebraic approach 7−36809
iodomethane, ν_4 band, high resolution IR spectra 7−5681
laser photoacoustic spectroscopy of humid and polluted air 7−20569
methane, Ar(Kr)(Xe) solid trapped, site struct. and hindered rot., IR spectra 7−5675
methane, solid to matrix, IR ν_4 band obs. 7−42608
methanol. liq., cross-correl. fn., diffusional dynamics study 7−37822
methanol-^{13}C, laboratory microwave spectrum, Ori A identification 7−57053
2-methoxyethylamine, H bonded config. mol. rot., rot. isomerism barrier, quadrupole coupling consts., microwave spectra 7−50093
methyl chloride, Fourier transform IR spectra, rot.-vibr. anal. 7−10571
methyl chloride, rot. transitions, isotope shifts, microwave spectra anal. 7−42606
methyl cyanide, spin-rot. coupling heteronuclear dipolar order 7−50065
methyl cyanide-acetylene dimer, pulsed nozzle FT microwave spectrosc. 7−36593
methyl cyanide-HF(DF), hyperfine struct., rot. spectra 7−31012
methyl halides, oriented mol. beams prod., rot. states 7−42751
methyl iodide, 6s Rydberg states, two-photon spectra, rot. subband struct., spin uncoupling 7−25620
methylchloroform, microwave and mm-wave spectra, hyperfine struct., rot. and centrifugal distortion consts. 7−25500
methylene, pot. energy surface and singlet-triplet splitting, calcs. 7−10397
methylene, triplet, ν_2 fundamental band, IR spectra 7−10568
methylene, X^{3}B$_1$, IR rot. transitions, diode laser absorpt. obs. 7−10567
methylene chloride, high resol. vibr.-rot. anal., IR spectra 7−31019
methylhypochlorite-d$_0$(d$_3$). rot., centrifugal distortion consts., microwave spectra 7−10558
methyliodosilane, and deuterated species, dipole moments, quadrupole coupling consts., microwave spectra 7−19830
methylnitrite, photodissoc. NO photofragment excited state distrib., fluoresc. spectra anal. 7−50225
microwave Fourier transform spectrometer for rot. transition detect. in mols. 7−350
monomolecular reactions, diffusion-induced, fluctuations and rotation 7−39864
myosin heads crosslinked to actin, ATP induced μs rot. motions 7−28443
nematic films, collective rotation of molecules driven by the angular momentum of light 7−27686
nitromethane, photodissoc., quantum study *(French)* 7−13794
nitroxyl radicals, in aq. glycerol soln., superslow rotation investig. 7−62422

molecular rotation continued
optical activity, rot. normal coords., generation 7−50266
oriented symmetric top mols., reactivity, rot. state depend. 7−46809
oxalic acid, isomerisation and unimol. dissoc. channels, MO calcs. 7−28295
pentamethylene oxide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7−19833
pentamethylene sulphide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7−19833
perfluoropyridine 7−62351
pivalonitrile, microwave spectra, ^{14}N nuclear quadrupole coupling and centrifugal distortion parameters 7−36602
polar molecules in nonlinear interaction with radiation, resonant variation of energy 7−19992
polyatomic mols., IR spectra, rot. reson. 7−25514
propylsilane, rot. pot. functions, ab initio and MM2 calcs. 7−10404
propyne, $2\nu_9$ band study, Fourier transform IR spectra anal. 7−50119
propyne, ν_3 and $2\nu_8{}^0$ bands study, Fermi reson., IR spectra anal. 7−50120
propyne, microwave spectrum in 17 to 52 GHz region for $\nu_{10}=4$ vibr. state 7−25499
propyne, $v_8=2$ vibr. state, microwave spectrum in 17-72 GHz region 7−36594
propynol, hyperfine polarisation quantum beats, fluoresc. spectral anal. 7−36668
pyrazine - BF_3, adduct, low-resolution microwave spectra anal. 7−36598
pyrazole, rot. Zeeman effect 7−57109
pyridazine - BF_3, adduct, low-resolution microwave spectra anal. 7−36598
pyridine - BF_3, adduct, low-resolution microwave spectra anal. 7−36598
pyridine - BH_4, adduct, low-resolution microwave spectra anal. 7−36598
pyridine derivatives, rot. spectra, nuclear quadrupole hyperfine struct. 7−62351
pyridine-$d_0(d_1)$, HFS, quadrupole coupling, Fourier transform microwave spectra 7−19827
pyrimidine, jet-cooled, rot. resolved fluoresc. excitation spectra 7−25597
pyrimidine - BF_3, adduct, low-resolution microwave spectra anal. 7−36598
resonant multiphoton ionisation, plasma diagnostics appls. 7−20954
rot. resolved fluoresc. excitation spectra 7−25597
second-rank tensor correl. fns. and spectral densities 7−50076
selenoformaldehyde, microwave spectra, struct., vibr. freqs. and centrifugal distortion consts. 7−50090
SeS, rot. anal., isotropic shifts, mol. moments, IR Fourier transform spectra 7−62370
short-chain molecules, liquid-phase, motion, ^{13}C and ^1H NMR investig. 7−15624
spin-labelled proteins, meas. of rot. mol. motion by time-resolved saturation transfer EPR 7−40089
stilbene, free rotation transient, fluorescence anisotropy 7−15639
stilbene-He(Ne), coherent photodissoc., picosec. polaris. obs. 7−36715
succinimide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7−25432
symmetric-top mol., degenerate vibr. mode, orientation by IR field 7−31117
1,2,3,4-tetrahydro-5,6-dimethyl-1,4-methanonaphthalene, liq., motional dynamics, spin-lattice relax. time meas. 7−36650
tetramethyl tin isolated in Ar, inelastic neutron scatt., intermol. interaction, rot. tunnelling 7−20067
time-resolved fluoresc. polarisation and four-wave mixing processes, study 7−36667
top molecules, symmetric and spherical, four-photon selection rules and line strengths 7−62468
triatomic molecules, photodissoc., rot. refl. principle, calcs. 7−19982
trifluoroiodomethane, IR RF double reson. spectra, rot. levels, nuclear quadrupole transitions 7−50205
tryptamine, transition moment and geometry determ. by rot. resolved electronic spectroscopy 7−31058
urea, rot. transition, N quadrupole coupling, HFS, microwave spectra 7−10559
van der Waals complex, rot. predissoc., multichannel reson. quantisation 7−50005
van der Waals complexes, lin., diamag. suscept., promolecule model 7−10539
water vapour in cometary ionospheres, electron cooling by vibr. and rot. excitation 7−29435
^{16} O_2, Schumann-Runge bands, oscillator strengths 7−10675
AgBr, vibr. states, rot. transitions, isotope shifts, Dunham pot., microwave spectra anal. 7−42605
AgI, mol. consts. and millimeter-wave rot. transitions, meas. 7−10555
Ar-benzene(tetrazine), van der Waals rovibr. states, intermolecular pot. 7−5735
Ar-N_2O van der Waals complex, mol. beam IR spectra 7−31030
Ar-NO van der Waals mols., microwave and RF spectra, hyperfine parameters 7−31026
Ar-PF_3 complex, rot. and distortion consts., microwave spectrum 7−62353
ArHF van der Waals complexes in supersonic jets, IR laser spectra 7−19842
B_2, ground state, excited vibr. levels struct., visible spectra anal. 7−50156
BCl, 0-0 vibr. band, rot. constants, visible spectra anal. 7−50157
^{11}BI, $a^3\Pi(0^+,1)\rightarrow X^1\Sigma^+$ system, rot. anal. UV obs. 7−62397
$^{11}BF_3$, ground vibr. state, rot. transitions, microwave spectra anal. 7−50086
Ba + N_2O, chemiluminescence, vibr. and rot. modes, translational energy and internal state influence 7−13780
BaCl, $B^2\Sigma$-$X^2\Sigma$ transition, rot. anal., FTS and diode laser spectra 7−10581
BaI, $X^2\Sigma^+$ product, distrib., fluoresc. detect. 7−25595
BrF, FT IR spectra, rot. struct. 7−922
CH radical, electronic struct., reson. multiphoton ionisation spectra anal. 7−50240
CH^+, interstellar mol., high resol. laser photofragment spectra 7−31063
CN, A $^2\Pi$ $v=0$ rot. levels, laser excited, B-X emission 7−25584
CN, collisional interelectronic and intraelectronic energy transfer involving rot. levels 7−36729
CO photofragment, rot. state distrib., fluoresc. study 7−23039
$^{12}C^{18}O$, $E^1\Pi-A^1\Pi$ and $B^1\Sigma^+-A^1\Pi$ transitions, emission spectra 7−50095
$CO+N_2(O_2)$(air), J=1-0 rot. transition, press. broadening 7−5722
CO_2, high intensity absorpt., mod. rot. effect, lasing transitions 7−62473
CO_2 laser, line centre stabilised, frequency shift 7−15839
CS, $^3\Sigma^+$-$a^3\Pi$ band system, reson. enhanced multiphoton ionis. detect. 7−5663

molecular rotation continued
CS, vibr. excited, mm-wave rot. spectrosc. obs. 7−36595
CS_2, Ar^+ ion irrad., S_2 sputtered mol. props. 7−936
Ca_2, $A^1\Sigma_u{}^+-X^1\Sigma_g{}^+$ red system. laser spectroscopy, rot. anal. and perturbation anal. 7−10652
CaCl, ultraviolet $C^2\Pi$-$X^2\Sigma$ band system, rot. anal. 7−50168
CdD, $B^2\Sigma$-$X^2\Sigma^+$ system study, near-UV spectra anal. 7−50164
Cl_2, X state, polynomial and near-dissoc. representations for spectral data 7−5714
$ClBS^+$, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7−50158
ClF, FT IR spectra, rot. struct. 7−922
ClO_2, struct., pot. functions, electron diffr. and spectroscopic data 7−15708
Cs halides, low energy electron collisions, cross section-electronegativity relation 7−20061
CsH form. kinetics, rot. distrib. *(French)* 7−13728
D_2Se, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7−25537
D_2Se, Rydberg series identification, VUV spectra anal. 7−25538
D_2Te, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7−25537
D_2Te, Rydberg states, high resol. VUV spectra 7−50173
FBS^+, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7−50158
FeO^-, rot., autodetachment spectroscopy 7−62462
GaCl, isotopic derivatives, Dunham pot. for electronic ground state, microwave spectra anal. 7−31029
$GeH^+(GeD^+)$ in He afterglow, $a^3\Pi_{0+,1}-X^1\Sigma^+$ visible band system 7−50152
$H+CO_2$, rot. resolved hot atom collisional excitation by time-resolved diode laser spectra 7−10731
$H+D_2\rightarrow HD+D$, product rot.-state distrib., information-theoretic anal. using perturbation method 7−62495
$H+H_2$, resonant scatt., rot. distribs. 7−39858
H_2 adsorbed on graphite, rotational states 7−52278
H_2 and isotopomers, rot. transition, Raman line position 7−62380
H_2, diffraction and rot. excitation by collision with solid surfaces, multiple Gaussian wave packet theory 7−10767
H_2 excited states, rot. and vibr. branching ratios, UPS 7−5725
H_2 in primordial intergalactic gas, rot. transitions rel. to heating by background radiation 7−24205
H_2 near-threshold rovibrational excitation cross-sections, first-order nondegenerate adiabatic theory 7−15729
H_2, photodissociation of metastable states, photofragment spectra anal. 7−36716
H_2, rotational Raman linewidths and line shifts, temp. and density depend. 7−924
H_2, vibrationally excited, rot. excitation and dissoc. meas. using resonant multiphoton ionization 7−15658
$H_2{}^+$ + Cs, dissociative charge exchange, H_2 predissociation, fragment spectra anal. 7−36753
H_2-Ar, rot. line broadening calc., projection operator algebra and linked cluster theorem 7−42687
H_2-Ar pairs collision-induced rototranslational spectra, ab initio dipole-moment surface 7−15493
H_2-methane pairs, rototranslational far IR absorpt. spectra 7−15601
HBF^+, rot. anal., microwave spectra 7−19832
HBO detection by discharge modulated IR diode laser spectroscopy 7−25505
HCl desorpt. from Ar (111) surface, internal state depend. 7−6963
HCl, IR spectra, Ar- and N_2-broadened linewidths, rot. spectrum 7−50113
HCl+O, steric requirements, reagent rot. effect 7−57150
HD^+, pot. curves, vibr. and rot. states, adiabatic STO calcs. 7−25380
HDNNC, rot.-inversion spectrum in region from 100 to 400 GHz 7−25494
HDO, vibr. modes, rot. decoupling 7−57042
HI-HF complexes, struct. and microwave spectra 7−50087
HN_3, rot. anal. for ground, ν_5 and ν_6 states, IR spectra 7−19850
H_3N-HCl, H-bonded dimer charactn., rot. FT microwave spectrum 7−25490
HNC, 2100 cm^{-1} bands, IR Fourier transform spectra anal. 7−50117
H_2NC^+, interstellar mol., pot. energy surfaces, ab initio MO theory 7−19687
H_2O, submm rotational lines, use for cometary spectroscopy 7−47795
H_2O vapour, absorpt. in 183 GHz line wing, temp. and press. depend. 7−36600
$H_2{}^{18}O$, energy levels, line intensities, Fourier transform IR spectra 7−5674
H_2O_2, photofragmentation dynamics at 193 nm, laser-induced fluoresc., rot. and vibr. distrib. 7−42700
H_3O^+, IR diode laser spectroscopy, rot. lines, inverse pot. function 7−10564
H_2Se, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7−25537
H_2Se, Rydberg series identification, VUV spectra anal. 7−25538
H_2Te, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7−25537
H_2Te, Rydberg states, high resol. VUV spectra 7−50173
$HeRh^{2+}$ adsorbed compound ion, field dissociation by atomic tunneling 7−33919
HgI, UV spectra, rot. struct., vibr. parameters 7−50163
I_2, transfer bands, relative rot. line intensities 7−19941
I_2, X state, polynomial and near-dissoc. representations for spectral data 7−5714
INCO, microwave spectrum, rot. and centrifugal distortion consts., quadrupole hyperfine struct. 7−5667
INI, spectra and struct., AO^+ state, rot. and vibr. consts. 7−50081
IOF_5, excited vibrs. state, microwave spectrum, vibr. and rot. parameters 7−25498
InBr, A-X system, rot. struct., dissoc. energy 7−50071
InBr, isotope shift, rot. anal., UV spectra 7−19876
InBr, rot. anal., use of isotopic effects 7−15587
LiH(D), pot.-energy curves, PMO-RKR-van der Waals pot., Pade approx. method 7−30965
methanol, protonated, rot. const., ab initio MO calcs. 7−25349
N_2, $\tilde{a}^1$ Π_g state, REMPI 7−31121
N_2 in hollow-cathode discharge, diagnostics using CARS and scanned probe laser 7−16333
N_2, reson. electron impact, vibr. energy loss selection rules 7−15725
N_2, rotational Raman linewidths and line shifts, temp. and density depend. 7−924

molecular rotation continued
N_2^+ surface semichannelling on Cu target, computer simulation 7–63697
N_2-HF, IR spectrum and vibr. predissoc. 7–50106
N_2-methane gaseous mixture, collision-induced absorpt., IR and microwave Fourier transform spectra anal. 7–50097
N_3^-, spectroscopic props. ab initio GTO CEPA study 7–15525
NF, $b^1\Sigma^+$-$X^3\Sigma^-$ system, line assignments, transition moments, visible Fourier-transform spectra anal. *(French)* 7–50153
NF, metastable radical, microwave spectrum 7–42603
NH, $A^3\Pi - X^3\Sigma^-$ transition, Fourier transform spectroscopy, vibr. levels, fine struct., rot. consts. 7–50080
NH, collision-induced intersystem crossing investigated using ArF laser photolysis 7–42692
NH^+, rot. transition obs. with resolved hyperfine struct. 7–42508
NH_3, matrix isolated, orientation-inversion motions, inertial model 7–42580
NH_2D, IR and microwave spectra, rot. anal. 7–25518
NH_3D^+, ν_4 fundamental band, IR difference-freq. laser spectra 7–50096
NH(ND), photolysis product of NH_3, laser induced fluoresc. 7–62442
NO, rot. resolved autoionising levels, wavelength depend. photoelectron spectra 7–25605
NO, rot. resolved laser photoelectron spectra, propensity rules 7–31113
NO_2, excited state rot.-vibr. anal., supersonic jet fluoresc. excitation spectra 7–19919
NO_2, Rydberg state, high resolution two-photon spectra 7–31133
N_2O, in liq. SF_6, rot. self-correl. functions, mol. dynamics simulation 7–44343
N_2O, rot. spectrum, vibr.-rot. transitions 7–50066
N_2O spectra in 1100 to 1440 cm^{-1} region 7–19854
N_2O^+, $A^2\Sigma^+$-$^2\Phi$ transition obs., visible spectra 7–62389
N_2OH^+ isomers, struct. and energy levels, ab initio MO, SCF and CI calcs. 7–15481
Na_2, Stark multiplets in molecular Rydberg states 7–36665
Na_2^+, rot. angular momentum, alignment, following assoc. ionis. of Na(3p) 7–960
Na_2+Ar(He)(Ne), state selected rot. transitions, scatt. induced ang. momentum alignment 7–20005
NaBr, excited vibr. level, laser induced fluoresc. spectra 7–19914
$NeCl_2$ photodissociation, product state distrib. 7–50277
O_2, A band, line profiles study, IR spectra anal., dye laser excitation 7–50114
O_2, $A^3\Sigma_u^+$-$X^3\Sigma_g^-$ system, mol. consts., near UV spectra 7–5691
O_2 $A'^3\Delta_u$-$X^3\Sigma_g^-$ system, mol. const., near UV spectra 7–5692
O_2, $C^1\Sigma_u^-$-$X^3\Sigma_g^-$ system, mol. consts., near-UV spectra 7–5690
O_2, $C^3\Pi_g$ Rydberg state, excited-state photoelectron spectra 7–50250
O_2, liquid, orientational dynamics 7–42717
O_2 molecular rotational band obs. with Fabry-Perot interferometer 7–47546
O_2, predissoc. linewidth, rot. var. 7–10685
O_2^-, ads. on silica gel, photoform., rot. dynamics, ESR obs. 7–25566
$^{18}O_2$, Schumann-Runge bands, oscillator strengths meas. 7–62455
$^{18}O_2$, Schumann-Runge bands, predissoc. linewidths meas. 7–62464
O_2-Ar afterglow, rotationally-resolved bands obs. at 373 to 474 nm 7–29326
O_3 absorption of high-power IR radiation 7–1237
O_3, UV Huggins bands, isotope shift obs. 7–19819
OH in flames, excited state rot. population study using laser induced fluoresc. 7–3592
OH, laboratory meas. of rot. spectrum with tunable far-IR radiation 7–47691
OH, photolysis product, laser induced fluoresc. study 7–8293
OH radical, Fourier transform spectrometry 7–55482
OH + H_2, rot. excitation cross sections, close-coupling calcs. 7–25639
$^{16}O^{18}O$, Schumann-Runge bands, oscillator strengths meas. 7–62454
$^{16}O^{18}O$, Schumann-Runge bands, predissoc. linewidths meas. 7–62465
$^{17}O^{18}O$, pure rotation Raman spectrum 7–15612
S, Ar^+ ion irrad., S_2 sputtered mol. props. 7–936
SO radical, $A^3\Pi_1$-$X^3\Sigma^-$ transition, 0-0 band spectrum, rot.-vibr. levels, rot. consts. 7–10542
SO, vibr. excited, mm-wave rot. spectrosc. obs. 7–36595
SO_2-H_2S complex, microwave spectrum, rot. transitions 7–42601
SO_2-HF(DF), mol. geometry, ^{19}F spin-spin and D-nucl. quadrupole coupling consts., rot. spectrum 7–5666
SO_2+Ar, intermol. energy transfer, trajectory study, rovibrational mol. energy depend. 7–31151
SO_2+Ar, intermol. energy transfer, trajectory calcs., rate coeffs. for rovibrational states 7–31152
SO_2.HCN (SO_2.DCN) dimers., anti-H-bonded, rot. spectrum, mol. geometry 7–36592
ScO, electric dipole moment calcs., laser fluoresc. excitation spectroscopy 7–19930
SeO_2 ground vibr. state, rot. const. sub mm spectra 7–31028
SeO_2, struct., pot. functions, electron diffr. and spectroscopic data 7–15708
Si_2, IR emission band spectrum 7–57062
$SiCl_3H$, quadrupole coupling, rot. microwave obs. 7–62356
SiF_4, double reson. meas., ground state rot. transitions 7–25577
SiH_2, intracavity laser absorpt. spectra. 7–15616
SiH_4, mol. vibr., rot. energy level struct. calcs. 7–50061
$SiH_3(D_3)$, ions and radicals, pot. energy curves and electron affinities determ., photoelectron spectra anal. 7–25603
$^ASiC_2$ (A=29, 30), rot. consts. rel. to detect. toward IRC+10216 (CW Leo) 7–29474
SnH_4, rot. spectrum in vibr. ground state obs. by IR-RF double reson. 7–25573
T_2O, IR spectra, ν_3 mode, rot. and quartic distortion consts. 7–50111
Ti complexes, mono- and bis-cyclopentadienyltitanium halides, wide line PMR investig. 7–5707
ZnD, $B^2\Sigma^+$ state, spectrosc., rot. anal. 7–5665

molecular rotation calculations
acetyldimethyl phosphine, geometries and rotation barriers, structures, ab initio calcs. 7–15501
acetylene, isotopic species, mol. vibr., rot. energy level struct. calcs. 7–50061
adsorbed molecules, hindered rotations, energy levels and thermodynamic props. 7–27130
asymmetric top molecules, program for symmetry-adapted rotational eigenfunctions and energy levels 7–4324
cannabinoid cpds., activity, mol. reactivity template 7–56961
1,3-dioxolanes, pseudorotation, gas-phase electron diffr. investig. 7–50354

molecular rotation calculations continued
fluoroform, force field study by parametric method 7–5652
formylphosphine, geometries and rotation barriers, structures, ab initio calcs. 7–15501
isotopic effects use in rot. anal. 7–15587
linear molecules, quartic and octic centrifugal const., vibr. depend. 7–57048
methylamine, torsional-wagging tunnelling and torsional-wagging-rotational problem 7–62347
orientation disorder, molecular dynamics computation 7–26674
polyatomic molecules, reduced rot. operator calcs. 7–5658
rotational nonequilibrium in expanding gas flows 7–62349
slow molecular motions, anisotropy, ELDOR obs. 7–62426
XYZ_4 systems, molecular dynamics 7–10775
Ar_2-HF(DF) trimers, mol. rot., hyperfine struct., spectra anal. and calcs. 7–50060
CrO, $^5\Pi(int) - {}^5\Pi(int)$ transition, rot. line strengths 7–50050
HDO, $\nu_1+\nu_2$ and $3v_2$ bands. energy level and intensity calcs. 7–5654
H_2O, rot. levels, isotope effects, three-parameter model 7–31018
$^{115}In^{79}Br$, $A^3\pi_0$-$X^1\Sigma^+$ and $B^3\pi_1$-$X^1\Sigma^+$ subsystems, rot. anal. 7–42592
$^{115}In^{81}Br$, $A^3\pi_0$-$X^1\Sigma^+$ and $B^3\pi_1$-$X^1\Sigma^+$ subsystems, rot. anal. 7–42592
InCl molecule, $C^1\Pi$-$X^1\Sigma^+$ system, emission spectrum and dissociation energy 7–5694

molecular rotation in solids *see molecular reorientation; nuclear magnetic resonance; plastic crystals*

molecular rotation-vibration
see also macromolecular dynamics; molecular force constants; molecular rotation-vibration calculations
$^{14}CO^+$, rot.-vibr. anal., UV spectra 7–19821
acetylene, A-X band system, short wavelength investig. 7–5693
acetylene, isotopic species, mol. vibr., rot. energy level struct. calcs. 7–50061
acetylene isotopes, IR spectra, vibr.-rot. IR spectra 7–31036
alkyl cpds., vibr., high resol. spectra, effective Hamiltonians 7–31010
allene, liq., ν_3 mode, vibr. dephasing, Raman spectra anal. 7–42621
chlorotrifluoromethane, ν_1-ν_3 band, diode laser spectrosc. 7–5680
cyclopropane, IR spectra, combination bands, vibr.-rot. coupling parameters 7–25515
diacyl peroxides, low temp. photolysis, vib. anal. for CO_2 dimer, IR spectra 7–15597
diatomic mols. laser and Fourier transform spectroscopy 7–19872
diazirine, ν_3 fundamental, rovibr. anal., IR spectra 7–10583
difluoromethylene radical photofragment, time-resolved IR spectra 7–19836
dimethylritrosoamine excited singlet states symmetry and geometry, photodissoc. 7–54152
fluoroform, mol. vibr., tridiagonal Fermi reson. Hamiltonian, visible spectral anal. 7–50154
fluoroform-d, Coriolis splitting parameter, vibr. depend., IR double-reson. spectra anal. 7–42616
fluoromethanol, rot.-vibr. anal., conformational stability, dipole moment anal. microwave spectra 7–19831
formyl radical-d0(d1), third-order anharmonic pot. consts. equilib. structure parameters, calc. procedure 7–10544
gases, absorpt. spectra, elec. modulation method 7–10553
glyoxal, rotationally resolved stimulated emission pumping spectra 7–50268
glyoxal, vibr. and rot. consts. meas., stimulated emission polarisation spectroscopy 7–57136
iodomethane, IR spectrum, rot. anal. and interaction mechanism 7–57063
isoformyl cation, force field, equilibr. geometry, ab initio determ. 7–62293
isoformyl cation, rot.-vibr. energies, ab initio pot. surfaces 7–62264
Kratzer oscillators, perturbed, rovibr. energy levels and expectation values 7–5656
linear and nonlinear molecules, vibr.-rot. hamiltonian, unified treatment 7–31017
linear molecules, fundamental IR band line intensities 7–42614
methane, vibr.-rot. bands, transition intensities, transformed dipole moment calcs. *(French)* 7–50053
methane-d_4, pentad rovibr. levels, line parameters study, Fourier transform IR spectra anal. 7–50115
methyl iodide, orientational dynamic, Raman scatt. investig. 7–42618
methyl silane, rot.-vibr. anal., Fourier transform IR spectra 7–19846
methyl silane, torsional dipole consts., rot.-vibr. anal., microwave and IR spectra 7–19829
methylene chloride, high resol. vibr.-rot. anal., IR spectra 7–31019
methylene radical, $^1A_1$ state and $^1A_1$-$^3B_3$ coupling, visible absorpt. and mag.-rot. spectra 7–49903
methylene radical, $\tilde{b}^1B_1$ state, visible absorpt. and mag.-rot. spectra 7–50155
microwave spectra, quadratic vibr.-rot. coupling terms 7–50089
molecular ions, electron capture, rot.-vibr. transitions in autoionisation, CF method anal. 7–20036
4-octyloxy-4′-cyanobiphenyl, liq. crystal, vibr. dephasing, Raman spectra study 7–57067
organic polyatomic molecules, jet-cooled IR laser spectroscopy 7–41495
organometallic free radicals, laser and Fourier transform spectroscopy 7–19872
polyatomic molecules, vibr.-rot. line intensities determ., irreducible tensorial sets basis 7–50070
resonance enhanced multiphoton ionisation spectra, reduction of 1+1 reson., populations and alignment factors 7–25621
time-resolved fluoresc. polarisation and four-wave mixing processes, study 7–36667
vinyl formate, gas phase structure anal., ab initio calcs., molecular mechanics calcs., IR spectra 7–19691
weakly bound dimers complexes, bending force consts., internal dynamics 7–31011
Ar-benzene(tetrazine), van der Waals rovibr. states, intermolecular pot. 7–5735
Ar-N_2O van der Waals complex, mol. beam IR spectra 7–31030
Ar_2 laser induced fluorescence 7–19916
C_2, intercombination transition probabilities between levels $X^1\Sigma_g^+$ and $a^3\Pi_u$ 7–25607
C_n, clusters, rovibrational spectral fine struct. 7–50055
CCH, $X^2\Sigma^+$ state, rot.-vibr. energies, ab initio calc. using nonrigid bender Hamiltonian 7–25422
CN($B^2\Sigma^+$) form. from HCN, in discharged He flow 7–25476
CO, 4.7 μm band, vibr. temp. determ., registration region 7–10550

molecular rotation-vibration continued
- CO, $A^1\Pi$-$X^1\Sigma^+$ system, UV obs. 7−62396
- CO, and mixtures, line interaction effects in IR absorpt. spectra 7−31038
- CO, ground state, vibr.-rot. matrix elements 7−912
- CO molecules, jet cooled IR laser spectroscopy 7−41495
- CO, perturbed triplet states, lifetime meas. of rot.-vibr. levels 7−19951
- CO, rovibr. lines, IR spectral linewidth collisional broadening 7−36621
- CO, selected rovibronic triplet levels, radiative lifetimes, fluoresc. 7−42686
- CO_2, 4.3 μm band, vibr. temp. determ., registration region 7−10550
- CO_2 $(10^01)_I \leftarrow (10^00)_{II}$ transition, line strengths and self-broadening parameters 7−10672
- CO_2, and mixtures, line interaction effects in IR absorpt. spectra 7−31038
- CO_2, high intensity absorpt., mod. rot. effect, lasing transitions 7−62473
- CO_2 mixtures, gas density effect on Q branch in IR spectra 7−42612
- CaH, $^2\Sigma^+$ states, rot.-vibr. levels, pot. curves 7−62345
- CuH, vibr.-rot. spectra obs. using FTIR 7−50139
- D_2, desorption from Pd surface, rovibr. state distrib., VUV laser induced fluoresc. 7−17826
- DBr^+, $X^2\Pi_{3/2}$ ground state, mol. rot.-vibr., isotope shifts, double modulation Faraday LMR IR spectra 7−62369
- DO_2, third-order anharmonic pot. consts. equilib. structure parameters, calc. procedure 7−10544
- GaCl Raman-Stokes spectrum, intensity and band shape calcs. *(French)* 7−15606
- H_2 adsorbed on graphite, rotational states 7−52278
- H_2 and isotopes, nonadiabatic eigenvalues and adiabatic matrix elements 7−62381
- H_2 collisional effect on broadening and shift coeff. in vibr.-rot. spectra 7−15584
- H_2, desorption from Pd surface, rovibr. state distrib., VUV laser induced fluoresc. 7−17826
- H_2, physisorbed on Cu (100), quadrupolar mol. rot. damping due to electron-hole pair excitation 7−23064
- H_2 rovibrational population in H^- source, CARS time-resolved meas. 7−10605
- H_2, Rydberg states, nonpenetrating, autoionis., energy-level struct. calcs. 7−15492
- H_2^+ electric dipole polarisability and hyperpolarisability, vibr. effects introduction to calcs. 7−10547
- H_2-He collision complexes, rotovibr. spectra. SCF CEPA calcs. 7−42478
- H_3^+ and isotopomers, IR spectra, ab initio calcs. 7−30929
- H_3^+, vibr.-rot., IR photodissociation spectra 7−31009
- HCN-HF, excited vibr. states, gas-phase IR spectrum 7−50108
- HCN-HF H bonded complexes, hot bands Doppler limited laser spectroscopy 7−19835
- $HCN-H^{35}Cl$, gas phase rovibr. anal. 7−25477
- HD, photoionisation, multichannel quantum defect calcs., rovibr. frame transformation theory 7−25614
- HD^+, vibr.-rot., IR photodissociation spectra 7−31009
- HDO and D_2O, IR spectra, vibro.-rot. transitions, line intensity meas. 7−50109
- HF weakly bound dimers complexes, bending force consts., internal dynamics 7−31011
- HN_2O^+, millimetre-wave spectrum and mol. consts. 7−29387
- HO_2 radical, third-order anharmonic pot. consts. equilib. structure parameters, calc. procedure 7−10544
- H_2O, absorpt. of 2.3 μm radiation 7−57060
- H_2O, local mode stretching vibr. decoupling through rot. excitation, quantum mechanics 7−19816
- HOCl, FTIR spectra, vibr. rot. consts. and harmonic force field 7−50140
- H_3SiF, Coriolis coupling, FT IR spectrum, rovibr. anal. 7−5679
- H_3SnBr, rovibr. anal., harmonic force field calc., Fourier transform IR spectra study 7−50122
- $H_3{}^{116}Sn^{79}Br$, FT IR spectra, rovibr. investig. 7−921
- H_3SnCl, rovibr. anal., harmonic force field calc., Fourier transform IR spectra study 7−50122
- $H_3{}^{116}Sn^{35}Cl$, FT IR spectra, rovibr. investig. 7−921
- H_3SnI, rovibr. anal., harmonic force field calc., Fourier transform IR spectra study 7−50122
- $H_3{}^{116}SnI$, FT IR spectra, rovibr. investig. 7−921
- HT, rot. vibr., line position meas. in optoacoustic spectra 7−62456
- HTO, mol. vibr.-rot., IR spectra anal. 7−50116
- HeH^+, vibr.-rot., IR photodissociation spectra 7−31009
- I_2, $F(0_u{}^+)$ ion-pair state anal., OODR and fluoresc. excitation spectrum 7−19931
- I_2, higher electronic states, rot.-vib. anal., mol. fluoresc. study 7−19918
- IBr, ion-pair states, spectral anal. 7−19873
- ICl, $B^3\Pi_0$ state, predissoc., fluoresc. decay meas. 7−10687
- MgO, $a^3\Pi$ and $d^3\Delta$ states, high resolution laser fluoresc. spectra 7−8252
- N_2, gaseous, induced vibr.-rot. and vibr.-translational spectra 7−31037
- N_3^-, spectroscopic props. ab initio GTO CEPA study 7−15525
- NH, Fourier transform spectroscopy of $c^1\Pi$-$a^1\Delta$ transition 7−5786
- NH radical, rot.-vibr. anal. for $X^3\Sigma^-$ state, IR Fourier transform spectra 7−19847
- NH^-, IR rot.-vibr. spectrum, high-resolution meas. 7−62373
- NH^-, metastable states, autodetachment, vibr.-rot. spectrum meas. 7−31006
- $^{15}NH^-$, $X^2\Pi$ state, IR rot.-vibr. spectrum, isotopic shifts and equilib. consts. 7−50107
- NH_2^- struct., velocity modulation IR laser spectroscopy 7−15599
- NH_3, $\tilde{A}$ state, rot. depend. lifetimes and excitation profiles, Raman spectra 7−62378
- NH_3, excited vibr. state, rot.-inversion levels, collisional relax., visible obs. 7−62392
- NH_3, ν_2 band, vibr.-rot. transitions, press. broadening coeffs., IR spectra anal. 7−50121
- NH_2D and ND_2H, IR spectra, vibr.-rot. band, inversion doubling 7−25517
- NO $A^2\Sigma^+$-$X^2\Pi$ system, reduction of 1+1 reson. enhanced multiphoton ionisation spectra 7−25622
- NO, surface impact, dynamic investigation by laser beam 7−17385
- NO_3^-, aq. soln., band shape anal., Raman and IR spectra 7−57067
- N_2O, rot. spectrum, vibr.-rot. transitions 7−50066
- N_2O spectra in 1100 to 1440 cm^{-1} region 7−19854
- Na_2, $A^1\Sigma_u{}^+$ state, long range pot. modulated gain spectra 7−19993
- Ne-OCS, mol. beams, IR absorpt. and microwave-IR double reson. spectra 7−62427
- NeH^+, vibr.-rot. spectra obs. using FTIR 7−50139

molecular rotation-vibration continued
- OCS, reson. IR radiation interaction, l doubling, microwave spectrum 7−42604
- OCS, rot.-vibr. anal., electronic ground state, MW, IR and Raman spectra 7−19820
- OCS, rot.-vibr. anal., dipole moments, Stark spectra. 7−19910
- OF_2, ν_2 fundamental, rovibr. study, Fourier transform IR spectra anal. 7−50123
- OH, ground state, conc.-profile in premixed oxy-fuel flames, IR spectroscopic determ. *(French)* 7−25513
- OH radical, Fourier transform spectrometry 7−55482
- PF_3 molecules, jet-cooled IR laser spectroscopy 7−41495
- $PtBr_6{}^{2-}$, NMR chemical shift, nuclear shielding, rovibr. averaging 7−25550
- $PtCl_6{}^{2-}$, NMR chemical shift, nuclear shielding, rovibr. averaging 7−25550
- S_2, $b^1\Sigma g^+$-$X^3\Sigma_g{}^-$ system consts., IR and microwave spectra anal. 7−19848
- S_2, rotational, vibrational and translational energy distribs. from Ar^+ sputtering 7−993
- SCN^-, aq. soln., band shape anal., Raman and IR spectra 7−57067
- SD^+, $X^3\Sigma^-$ ground state, mol. rot.-vibr., Zeeman consts., mid-IR LMR spectra anal. 7−62368
- SF_6, dimer dissoc., dimer conc., isotope effect, model and bolometer IR spectra anal. 7−19977
- SF_6, IR radiation degenerate multiphoton parametric scatt. by vibr.-rot. transitions 7−25883
- SF_6, mol. vibr.-rot. consts., IR saturated absorpt. spectra anal. 7−50118
- SF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7−25550
- SH^-, IR spectra, laser modulation 7−62363
- SO radical, $A^3\Pi_1$-$X^3\Sigma^-$ transition, 0-0 band spectrum, rot.-vibr. levels, rot. consts. 7−10542
- SO_2, radiative lifetimes, collision-free supersonic beam, fluoresc. spectra 7−19922
- SeF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7−25550
- SiF_4, dimer dissoc., dimer conc., isotope effect, model and bolometer IR spectra anal. 7−19977
- SiH_4, dimer dissoc., dimer conc., isotope effect, model and bolometer IR spectra anal. 7−19977
- SiH_4, mol. vibr., rot. energy level struct. calcs. 7−50061
- TeF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7−25550
- TeF_6, ν_3 bond, free jet IR absorpt. spectroscopy 7−10569
- WF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7−25550

molecular rotation-vibration calculations
- diatomic molecules, IR transitions, vibr.-rot. matrix elements 7−50131
- diatomic molecules, vibr.-rot. spectrum anal. 7−29635
- diatomic molecules, Zeeman quantum beats during transient process, after ground electronic state optical depopulation 7−36545
- electronic spectra, algebraic description methods 7−25479
- formaldehyde, excited states, cubic force consts. and vibr.-rot. interaction consts. calcs. 7−25341
- formaldehyde, vibr.-rot. interaction const., RHF closed-shell wave function 7−19818
- H_2^+, higher vibr.-rot. levels calcs., relativistic connections 7−42588
- magnetic dipole transition moments and rotational strengths of vibr. transitions 7−62453
- methyl chloride, Fourier transform IR spectra, rot.-vibr. anal. 7−10571
- methylene, excited states, cubic force consts. and vibr.-rot. interaction consts. calcs. 7−25341
- multidimensional potential matrix elements 7−42589
- polyatomic systems. ro-vibr. energy levels, variational calcs., review 7−50057
- potential energy surfaces, vibration-rotation calc. 7−50059
- spectral line parameters database creation 7−50017
- SU(2) coordinate geometry for semiclassical theory of rotors and oscillators 7−25482
- triatomic molecules, ro-vibrational levels calcs., TRIATOM, SELECT and ROTLEV codes for triatomic molecules, ro-vibrational levels calcs. 7−42582
- two-electron quasimolecular dimer, vibr.-rot. struct. 7−15670
- AlF, pot. energy curves for excited states, ab initio CI calcs. 7−49948
- CCl^+, Born-Oppenheimer pot. fn., mol. rot.-vibr. study, IR spectra anal. 7−36604
- CO_2, 4.3 μm band microwindows, temp. and freq. depend., line coupling 7−36580
- HCN, vibr.-rot. interaction const., RHF closed-shell wave function 7−19818
- HCl, gas, vibr.-rot. spectrum anal. 7−29635
- HD^+, $1s\sigma^+$ electronic ground state, vibr.-rot. levels calcs. 7−50078
- HD^+, higher vibr.-rot. levels calcs., relativistic connections 7−42588
- H_2O, vibr.-rot. eigenvalues, calc. 7−31007
- H_2O, vibr.-rot. interaction const., RHF closed-shell wave function 7−19818
- HeH(D) visible emission spectra obs. and rovibrational energy-level calcs. 7−42633
- $He_2H^+(He_2D^+)$, rot.-vibr. states calcs. 7−36576
- $^{6,7}LiD$, $X^1\Sigma$ state pot. energy curves, adiabatic corrections 7−36514
- $^{6,7}LiH$, $X^1\Sigma$ state pot. energy curves, adiabatic corrections 7−36514
- $(NH_3)_2$, quasimolecular dimer, vibr.-rot. struct. 7−15670
- RbCn, SCF pot. energy and dipole surface calc. 7−42579
- SF_6, rot. freezing in two-photon excitation of triply degenerate vibrs. 7−31005
- SO_2+Ar, intermol. energy transfer, trajectory study, rovibrational mol. energy depend. 7−31151
- SO_2+Ar, intermol. energy transfer, trajectory calcs., rate coeffs. for rovibrational states 7−31152

molecular rotational energy transfer *see molecular rotational-vibrational energy transfer*

molecular rotational states *see molecular rotation*

molecular rotational-vibrational coupling *see molecular rotation-vibration*

molecular rotational-vibrational energy transfer
- *see also atom-molecule collisions; atom-molecule reactions; molecule-molecule reactions*
- allene, liq., ν_3 mode, vibr. dephasing, Raman spectra anal. 7−42621
- anthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
- atom+diatomic molecule, rot. inelastic scatt., classical dynamics 7−50312
- atom+molecular ion, vibr. relax. 7−62499
- atom-chain energy transfer, lattice chain length depend. 7−57159

molecular rotational-vibrational energy transfer continued
atom-diatom systems, polarised rot. transfer rates, vel. depend., close-coupled calcs. 7−42741
aziridine, bond inversion rate determ., PMR line shape anal. 7−19892
azulene, in rare gas matrix, highly excited single vibronic level relaxation, direct obs. 7−19915
benzene, intramol. energy transfer from local mode, bath mode anharmonicity influence 7−25634
benzene, vibr. energy transfer, IR-UV double reson. 7−10718
benzene liq., stimulated Raman gain meas., vibr. energy transfer, thermal lens detection 7−62772
benzonitrile, liq., FTIR and Raman obs. on dynamic and interaction processes 7−53344
benzonitrile-Ar(Kr)(N_2O)(H_2O)(trifluoromethane), excited state van der Waals complexes, fluoresc. investig. 7−50223
bichromophoric mols., short-range intramol. electronic energy transfer, triplet-triplet transfer 7−20019
bis(4-aminophenyl)sulphone, twisted intramol. charge transfer and solvent dynamics, time resolved fluoresc. spectra 7−50232
9-bromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
t-butyl nitric oxide, singlet and triplet surfaces, unimol. reactions, spectroscopy, rate meas. 7−28300
chlorodifluoromethane, IR spectra, resonant vibr. energy exchange kinetics 7−36617
chlorodifluoromethane, IR spectra, rot. and vibr. relax. 7−36616
CO_2, vibr. levels kinetics, rotational states influence 7−31186
CO_2-N_2 laser containing isotopically substituted molecules, active medium props. 7−43055
continuous IR laser excitation, chem. kinetics appl. 7−65310
cyanoacetylene, interstellar, nonequilib. excitation of rot. levels 7−60743
9-cyanoanthracene, intramol. radiationless transitions, rot. effects 7−57116
diatomic and polyatomic molecules 7−10721
diatomic molecules, Lande g factor and relax. rate of ground state, simultaneous determ. using Hanle effect 7−31120
diatomic mols., localised distrib. function soln. 7−5756
9,10-dibromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
dibromodifluoromethane, V-V′ vibr. steady states, IR-UV double reson. study 7−50323
dichlorofluoromethane, relax. to photophysical steady state during IR absorpt. 7−36618
dichloromethane-d_0-dichloromethane-d_2, γ, mode vibr. linebroadening, Raman spectra 7−5685
p-difluorobenzene, rot. dynamics, fluoresc. polarisation theory 7−15688
p-difluorobenzene, S_0 vibr. levels, vibr. relax. rates, level depend. 7−31150
disordered 2D and anisotropic 3D systems, excitation transfer, time-resolved obs., spatial geometry effect 7−15642
dye multicomponent solution tunable lasers, electronic excitation energy migration 7−31308
explosive absorption of finite-diameter laser beam 7−50269
exponential model 7−10715
fluorescence, diffusion-enhanced intermol. energy transfer, simulation method 7−10660
fluoromethane, matrix isolated, vibr. energy transfer and migration processes 7−25635
fluoromethane-d_3, mixtures and cryogenic solns., low temp. vibr. relax. 7−5755
formaldehyde+NH_3, molecular collisions, rotational cross sections, $\Delta J=0$ transitions, elec. field effects *(French)* 7−5754
formaldehyde+polar gases 7−50321
gas flows, low density collisional stimulation, intramol. motion and relax., macroscopic quantum effects 7−15693
gas phase relaxation process, bulk props. at early times, anal. soln. 7−50319
heptafluoroiodopropane, IR excitation, intensity depend. 7−20017
ion-molecule collisions, rotationally inelastic scatt., quantum close-coupled eqns., linear reference pot. algorithm 7−62477
laser double resonance studies of rotational relaxationin a supersonic molecular beam 7−10554
metalloporphyrin, fluoresc., picosec. kinetic meas. 7−31112
methane in supersonic molecular beams CARS of ν_3 band 7−25876
methane-d_4, mixtures and cryogenic solns., low temp. vibr. relax. 7−5755
2-methylaziridine, bond inversion rate determ., PMR line shape anal. 7−19892
molecule+molecule vibr.-rot. energy transfer, collision time-correl. functions 7−50315
multiatomic gases, relaxation processes 7−31916
nonequilibrium vibrationally excited gas, shock wave struct. 7−16210
polyatomic systems. ro-vibr. energy levels, variational calcs., review 7−50057
pyrazine $S_1(^1B_{3u})$ state, rot. induced vibr. energy redistrib. and K selectivity model 7−10710
pyrimidine, rot. dynamics, fluoresc. polarisation theory 7−15688
rainbow scatt. study in mol. and nucl. physics, and surface science 7−62482
relaxed gases, nonsteady-state flow in channels 7−11552
sensitised organic reactions, IR-laser induced, vibr. energy transfer rate control 7−65336
stilbene, free rotation transient, fluorescence anisotropy 7−15639
trans-stilbene, ground state, torsional motion, two-colour stimulated emission spectroscopy 7−50322
trans-stilbene, vap., free rot. obs., fluoresc. 7−50314
tetramethyldioxetane in free jet expansion, overtone vibr. initiated unimol. reaction, RRKM theory 7−28299
toluene liq., stimulated Raman gain meas., vibr. energy transfer, thermal lens detection 7−62772
toluylaldehydes, mobilities, microwave and far IR complex permittivities meas. 7−53218
unimolecular reactions induced by vibr. overtone excitation, collisional energy transfer 7−39863
vibrational and orientational relaxation, correl. functions 7−36738
Ar:Co,O_2, electronic energy transfer investig. 7−31149
Ar-N_2, rot. inelastic scatt., forward and inverse functional var. 7−5753
Ar-N_2(CO) molecular beams, shock heated, vibrational relaxation 7−10717
Ar+methane (methane-d_4)(SiH_4)(tetrafluoromethane), energy transfer, simulation 7−15690
Ar+NH_3, dissoc. excitation, nascent vibr. and rot. distribs. 7−46824
Ar+NO, rot. inelastic cross section determ. sudden approx. 7−25637

molecular rotational-vibrational energy transfer continued
Ar^++H_2(N_2) collisions, ion energy-loss spectroscopy 7−50324
ArHCl, intracavity for IR laser spectroscopy, van der Waals bonds, vibr. motions 7−10589
Br_2, $B^3\Pi(0_u{}^+)$, electronic self-quenching energy transfer rate consts. 7−20015
C_2+H_2, vibr.-translation energy transfer determ. 7−57160
CN+Ar, rot. levels, collisional energy transfer, state-resolved study 7−10713
CO, vibr. energy exchange rates, IR and UV emission 7−966
CO, vibr. excitation reaction study in CO-He mixture 7−57162
CO+N_2, nonequilibr. vibr. kinetics, IR spectra 7−57158
CO_2, gas mixtures, ν_3 band, rot. relax., IR spectra 7−42613
CO_2, intramode and Fermi relax. influence on multiple-pass short pulse energy extraction 7−57156
CO_2 laser, TEA, tunable multiline and single line operation at 10.6μm and 9.4μm 7−31300
CO_2, vibr. relax. during injection into ionosphere 7−34087
CO_2 waveguide laser, Cohen model 7−20183
CO_2-H_2O-N_2, laminar and turbulent mixing, vibr. relax. 7−11459
CS_2, liq., reorientation, vibr. relax., Raman spectra 7−62379
CdH+He(Ar), collisional rot. transitions, scaling rules *(French)* 7−10709
Cl+HCl, prod. rot. distribs., centrifugal sudden distorted wave study 7−46808
D_2CO + inert gas, Coriolis enhanced vibr. energy transfer theory and its appls. 7−31153
DF dimer+DF(HF), collisional vibr. relax., rate consts. meas. 7−50320
F+I_2, reaction dynamics, quasiclassical trajectory studies 7−22998
H + H_2, deactivation rate consts., low and high temp. 7−20020
H+CO, rot. distribs. from reson. and direct scatt., coupled channel scatt. calcs. 7−46826
H+CO, scatt., rot. distribs. and collision lifetimes calcs. 7−25638
H+CO vibr. excitation, pot. function, classical trajectory study 7−17783
H+H_2, resonant scatt., rot. distribs. 7−39858
H^++HF(CO_2), rot. energy transfer, pot. energy surface 7−967
H_2 + H_2 in interstellar and gaseous planetary matter 7−10720
H_2 + He in interstellar and gaseous planetary matter 7−10720
H_2, electron impact vibr. excitation, low energy, in He-H_2 mixtures 7−25675
H_2, photodissociation processes, CARS *(French)* 7−5726
H_2, positron impact vibr. excitation 7−36802
H_2, vibrational energy accommodation coeffs., photoelectron spectrosc. obs. 7−15691
H_2-He, photodissociation processes, CARS *(French)* 7−5726
H_2+H reactive scatt., quantum mech. 3-D calcs. 7−50293
H_2+H_2, deactivation of vibrationally excited H_2 by collisional transfer 7−10722
H_2+H_2, vibr. excitation, operator algebra study 7−20018
H_2+He(HBr), vibr. transition probabilities, semiclassical algebraic description 7−25636
HBr+H_2, vibr. transition probabilities, semiclassical algebraic description 7−25636
HCN, overtone transitions, self-broadening and intensity, photoacoustic spectra rot. relax. 7−20016
HCl-Kr, mixture, vibr. relax., rate const. meas. 7−15687
HCl-Xe, mixture, vibr. relax., rate const. meas. 7−15687
HF dimer, dissoc., excitation energy transfer meas. *(German)* 7−57163
H_2O+O_2(N_2)(Ar), rot.-vibr. lines, collisional broadening 7−42743
$(H_2O)_n$ cluster, assoc. and vibr. relax. in water vapour 7−15764
HO_2H and HO_2D, intramol. energy flow and overtone-induced dissoc., classical trajectory study 7−28303
He + H_2, V - T rate consts., numerical and anal. calcs. 7−20022
He para-difluorobenzene, vibr. energy transfer 7−50318
He-H_2, rot. inelastic scatt., forward and inverse functional var. 7−5753
He-N_2 mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect 7−16287
He+CO(CO_2), vibr. relax., coupled states calcs. 7−50317
He+H_2(O_2), vibr.-translation energy transfer determ. 7−57160
He+$N_2{}^+$, rot. transfer coeff. determ. *(French)* 7−10708
He+NH_3, Rydberg atom ionis., rot. deexcitation 7−36737
He+NO, rot. inelastic cross section determ. sudden approx. 7−25637
He+O_2, rot. inelastic collision, polaris.-preserving propensities 7−36736
I_2 and ICl collisions with solid surfaces, dissoc. dynamics and energy transfer 7−36803
I_2, in liquid Xe, vibr. relax. following geminate recombination 7−10712
IF, chemiluminesc. 7−31089
$I_2{}^*$+Ar, collision, rotational energy transfer 7−36734
$I_2{}^*$+He, collision, rotational energy transfer 7−36734
$I_2{}^*$+I_2, collision, rotational energy transfer 7−36734
K^+, scatt. by diatomic gases and spherical mols., energy transfer flight time meas. *(German)* 7−57163
Li^+, scatt. by diatomic gases and spherical mols., energy transfer flight time meas. *(German)* 7−57163
Li^++N_2, vibr. rot. energy transfer, collisional time-correl. functions 7−50316
Li_2, optical-optical double reson. and double reson. multiphoton ionis. 7−42742
Li_2+He (Xe), rot. energy transfer cross sections, studied using polarisation ratio vel. depend. 7−42740
$Li^*Li_2{}^*$, excitation and rot. transfer, rate const. determ. *(French)* 7−5750
Mg^++He(Ar), charge cloud orientation, excitation, propensity rule 7−62498
N_2 + K, electronic and vibr. excitation, cross section meas. 7−36735
N_2, aggregates, in solid Xe matrix, time resolved energy transfer and relax., rate const. meas. 7−50313
N_2, fuse jets, high-temp., rot. relax. 7−62500
N_2, in gas discharge, vibr. levels excitation , CARS obs. 7−20021
N_2, nonequilib. vibrational states distrib. kinetics, wide-band CAR study 7−31154
N_2 nonequilibrium weakly ionised discharge, energy balance 7−10711
$N_2{}^+$, photoion, resonant excitation, rot. distrib. 7−31122
N_2-CO, vibr. relax. in N_2 post discharge 7−20023
N_2+Ar, electron transfer, state-to-state study 7−10714
N_2+CO nonequilibr. vibr. kinetics study 7−57157
N_2+N_2, collision induced rototranslational absorpt. spectra 7−60521
N_2+$N_2{}^+$(Ar^+), charge transfer, crossed mol. beam study 7−57166
N_2+N_2(O_2)(CO), vibr. transition probabilities, semiclassical algebraic description 7−25636
N_2+Na, rot. excitation in exothermic process 7−50311
N_2+O_2(CO), vibr. excitation, operator algebra study 7−20018
NF-IF, electronic energy transfer, long-range interaction model 7−62478

molecular rotational-vibrational energy transfer continued
NH_2, excited radical, fluoresc., Einstein coeff. and oscillator strength calc. 7−42668
NH_3-saturated W (100), rot. inelastic scatt., two-photon reson. three photon laser ionisation spectra 7−10768
NH_3+H_2, ab initio potential-energy surface, HF, SCF calcs. 7−10716
NH(ND), isolated in solid Ne(Ar)(Kr)(Xe), radiative decay and radiationless relax., lifetime meas. 7−10653
NO, vibr. excited, energy transfer processes during scatt. 7−62496
Na impurity in vibrationally nonequilibrium N_2 jet, excited state population and deactivation 7−42744
Na^+, scatt. by diatomic gases and spherical mols., energy transfer flight time meas. *(German)* 7−57163
$Na+H_2$, energy transfer expts., CARS 7−10719
$Na^++N_2(CO)(CO_2)$, dissoc., rot. rainbow effect, time-of-flight spectra 7−54117
$O+H_2 \rightarrow OH+H$, reagent translational energy effect, pot. energy surface calc. 7−42739
O_2, vibr. excited, interaction with ZnO surface 7−15692
$O_2+HCl(HBr)(H_2)(D_2)$, singlet deactivation, rate const. determ. 7−25640
OH in flames, excited state rot. population study using laser induced fluoresc. 7−3592
OH, radical, desorpt. on $TiO_2(NaCl)(SrF_2)$ surfaces, kinetic and internal energy, determ., fluoresc. detect. 7−8298
$OH^{\cdot}+H_2$, rot. excitation cross sections, close-coupling calcs. 7−25639
$OH+H_2$, intra- and intermol. energy transfer 7−15689
$OH+H_2O$, rot. transfer, time-resolved fluoresc. 7−42664
OH+N, state specific collision dynamics 7−20014
OH(OD), stretching vibr. in alcohols and silanols, pop. lifetimes, IR spectra 7−19844
SF_6, mixtures and cryogenic solns., low temp. vibr. relax. 7−5755
SF_6-Ar mixtures vibr. relax. time resolved IR multiphoton absorpt. 7−5752
SF_6+N_2O, vibr. energy transfer and relax. study, kinetic model, IR fluoresc. spectra 7−50227
SO_2+Ar, intermol. energy transfer, trajectory study, rovibrational mol. energy depend. 7−31151
SO_2+Ar, intermol. energy transfer, trajectory calcs., rate coeffs. for rovibrational states 7−31152
SiCl, internal energy distrib., in laser sputtered molecules 7−31097

molecular rotational-vibrational states *see molecular rotation-vibration*

molecular rotorsional states *see molecular libration*

molecular spectra
see also macromolecular spectra; molecular fluorescence; molecular rotation; molecular spectral line breadth; molecular vibration; multiphoton spectra; optical double resonance; radiative corrections; spectra of inorganic molecules; spectra of organic molecules and substances
absorption and fluoresc. line shapes, eigenstate-free Green function calcs. 7−25596
Alentsev-Fock method, statistical anal. 7−36583
asymmetric top molecules, program for symmetry-adapted rotational eigenfunctions and energy levels 7−4324
cluster selective formation in cryogenic matrices, FTIR spectroscopy obs. 7−48895
cold jet beam molecules spectroscopy *(German)* 7−62542
complex mols. in inhomogeneous matrices, absorpt. spectra, heating of breaks, model calcs. 7−42584
conference, Marineland, Florida, USA (March 1986) 7−40985
conjugated molecules, topological spectra, HMO calcs. 7−49933
database for spectral line parameters 7−50017
diatomic molecule, ground state, two-photon nonresonant excitation 7−36717
diatomic molecules, vibr.-rot. spectrum anal. 7−29635
diatomic molecules, Zeeman quantum beats during transient process, after ground electronic state optical depopulation 7−36545
diatomic polar molecules, radiation spectrum, plasma elec. field effects 7−19956
diatomic systems, mol. const. determ. from higher harmonic vibr. spectra 7−25481
diphenylbutadiene, soln., rot. reorientation dynamics and picosecond photoisomerisation 7−15592
distortion analyticity and molecular resonance curves 7−57040
divine, spin-forbidden absorpt. spectra, energy matrix calc. 7−57044
FIR spectra of small molecules 7−36626
fluid under high pressure, FTIR spectra interpret. 7−50402
force field calculations from Raman and infraredintensities 7−5785
Fourier domain data technique for struct. elucidation 7−54222
free asymmetric top mols., vectorial correl. functions and spectral densities 7−31039
FTIR spectrometer, high resolution, for atomic, mol. and cryst. spectroscopy 7−41505
gas phase reaction kinetics, rapid scanning FTIR time-resolved spectrometry technique 7−48886
gases, absorpt. spectra, elec. modulation method 7−10553
high resolution synchrotron spectroscopy appl. 7−19742
high-resolution laser threshold photoelectronspectroscopy of nitric oxide and benzene 7−10669
impurity molecule in glassy matrix, inhomogeneous distrib. function and homogeneous spectra 7−50084
inert gas clusters, mol. spectrosc. 7−42824
infrared laser kinetic spectroscopy 7−10587
inorganic cpds., vapor state and matrix isolation spectroscopy 7−15593
intense-field molecular multiphoton processes, coupled eqns. calcs. 7−42690
laser double resonance studies of rotational relaxationin a supersonic molecular beam 7−10554
linear molecules, fundamental IR band line intensities 7−42614
mode mixing effects in absorpt., fluoresc. and Raman excitation spectra 7−5684
molecular beam, IR transitions, adiabatic inversion 7−42784
multi-photon absorption processes, atom and molecule excitation *(Japanese)* 7−10530
multivacancy effects in X-ray emission spectra 7−36522
nightglow, O and O_2 quenching parameters for precursors 7−47604
optical vibronic transitions between mol. states with different geometric configs., probabilities calc. 7−31115
organic saturated vapour concentration, spectrosc. determ. 7−52013
polyatomic mols., n-alkane matrix isolated, spectroscopy 7−45979
Raman band second moment meas. 7−31054

molecular spectra continued
Raman dye laser, Nd:YAG pumped, pulsed tunable for spectroscopy *(French)* 7−25814
resonant classical motion, EBK quantisation, Fourier transform approach, semiclassical eigenvalues 7−42587
Rydberg states, modification by diabatic term superpromotion to continuous spectrum 7−36472
satellite bands in Fourier integral approach 7−50024
simple molecules, superfine, hyperfine struct., from IR spectra 7−10586
spectral-active cpds., freq. shift in UV-visible spectra 7−19955
trans-stilbene, soln., rot. reorientation dynamics and picosecond photoisomerisation 7−15592
stimulated intermolecular relax. 7−42673
sum-rules in resonance calculations with complex coordinates 7−42527
T_d symmetry, analytical representation of spectra 7−30914
threshold electron spectra, TEPSICO-II apparatus 7−18907
two-level system, optical and vibr. dephasing, mechanical and stochastic formulations 7−31013
van der Waals complexes, lin., diamag. suscept., promolecule model 7−10539
velocity modulation laser spectroscopy using colour centre lasers 7−48867
vibrationally excited mols. prep. using ultracoherent transient spectroscopy 7−18880
Bi_2, two step polarisation spectroscopy 7−10609
CO_2 selection rule in two-photon absorption spectra 7−10693
H_n^+, isotopes, relative abundance, mass spectometric meas., computer-assisted null point method 7−25489
HCN isotopes, quartic approx. of pot. function, mech. spectroscopic problem 7−50288
HCl BF_3, struct. determ. mol. beam electric reson. spectroscopy 7−15591
$He+H_2$, collision-induced rototranslational spectra 7−15677
I_2.acridine charge-transfer complex, reson. Raman and far-IR spectra anal. 7−42620
I_2.hexamethylenetetramine charge-transfer complex, reson. Raman and far-IR spectra anal. 7−42620
I_2.phenozine charge-transfer complex, reson. Raman and far-IR spectra anal. 7−42620
K_2 polarization moments in a state with high angular momentum 7−43025
Ne_2^+ glow discharge, time depend. of spectral line intensities from afterglow plasma 7−32142
O containing cpds., free OH group valence vibr., freq. limits 7−36587
O_2 $(A^3\Sigma_u^+)$ vibrational populations, altitude dependence for nightglow, quenching anal. 7−47606

molecular spectral line breadth
absorption and fluoresc. line shapes, eigenstate-free Green function calcs. 7−25596
acetaldehyde in its lowest torsional states, mm-wave spectrum 7−50091
alkali metals vapours, dimer spectral line shape, nonadiabatic effects study 7−36696
alkylanilines, spectral line broadening, role of conform. and IVR fluoresc. spectra 7−19921
aluminium oxinate-gallium oxinate mixture, fluoresc. spectra, isodifferential derivative synchronous fluorimetric anal. 7−54231
1-azabicyclo[2.2.2]octane, binary solvent system, solute-solvent interactions, ^{13}C and ^{14}N spin-lattice relax. study 7−31069
azomethine derivatives, kinetic data eval. from freq. shifts of IR absorpt. bands 7−33911
benzene, liq., absorpt. coeff. and dielec. const., bandshape expressions 7−64597
benzene clusters, struct., IR photodissoc. and mass spectra study 7−62371
chloroform, liq., absorpt. coeff. and dielec. const., bandshape expressions 7−64597
chlorophyll in vivo, exciton states and exciton interaction processes, nonlinear transmission effects 7−59931
cyclopentanone, IR spectral band fit optimisation 7−62360
cyclopropane, IR spectra, combination bands, vibr.-rot. coupling parameters 7−25515
database for spectral line parameters 7−50017
deoxy myoglobin, spectral broadening simulations 7−5799
diacetylene, IR band intensities prediction using bond polar parameter method 7−50110
dichloromethane-d_0-dichloromethane-d_2, γ, mode vibr. linebroadening, Raman spectra 7−5685
1-D-3,3-dimethyl-1-butyne, acetylenic deuteron quadrupole coupling const. determ. 7−62410
dimethylsulphoxide, vibr. dephasing time meas., coherent Stokes Raman scatt. 7−57075
dye solution, reson. CARS line shape anal. for conc. series 7−15611
excimer laser line narrowing, multipass grating interferometer appl. 7−35573
trans-glyoxal, photodissoc., photofragment excited state distrib., fluoresc. spectra anal. 7−50226
guaiazulene, excited state dynamics kinetic model, laser-saturated fluoresc. study 7−50220
heptafluoroiodobutane, pulse depend. IR absorpt. spectrum 7−19843
heteronuclear shift-correlation spectra, pure absorpt. lineshapes, time reversal appl. 7−48804
lipid A, free, multibilayer, phase transition behaviour, FTIR, endotoxic principle of gram-negative bacteria outer barrier 7−54500
methane, absolute strengths and self-broadened widths in IR spectra 7−36622
methane, gaseous, low temp. collision-induced IR absorpt. 7−10562
methane, vibr. dephasing, critical density broadening, Raman spectra anal. 7−62387
methane-d_4, pentad rovibr. levels, line parameters study, Fourier transform IR spectra anal. 7−50115
methanol, in freons, ν(OH) IR band temp. variations 7−42610
methyl iodide, 6s Rydberg states, two-photon spectra, rot. subband struct., spin uncoupling 7−25620
methyl iodide, liq., absorpt. coeff. and dielec. const., bandshape expressions 7−64597
methylene, vibr. band broadening, Raman spectra 7−10597
methylnitrite, photodissoc. NO photofragment excited state distrib., fluoresc. spectra anal. 7−50225
molecular beam, high resolution overtone spectroscopy 7−42600
molecular line shape and relaxation, stochastic theory 7−31116
multiwave mixing Doppler broadening effects 7−15578
n-photon absorption, excitation transition probability calc. 7−42714

molecular spectral line breadth continued
1,3-pentadiyne, IR band intensities prediction using bond polar parameter method 7—50110
poly(p-phenylene sulfide), UV photoelectron spectra 7—15748
polydimethylsiloxanes, crosslinked, network struct. irregularity, PMR line shapes *(Russian)* 7—5803
propyne, ν_3 and $2\nu_8^0$ bands study, Fermi reson., IR spectra anal. 7—50120
pyridine, on Ag surface, IR laser stimulated desorption mol. spectroscopy 7—58614
Raman band second moment meas. 7—31054
rhodamine 6G in ethanol reson. CARS line shape anal. for conc. series 7—15611
rotational band shift 7—36579
saturated absorpt. resonances, transit time effects 7—25608
spectral line half-widths, collisional broadening, calc. optimisation 7—36693
three-level molecule, vibr. dephasing time meas., coherent Stokes Raman scatt. 7—57075
three-level vibrational system for bath represented by two-state stochastic processes, Raman band shapes 7—31052
top molecules, symmetric and spherical, four-photon selection rules and line strengths 7—62468
trifluoromethane, interacting states, high resolution FTIR absorpt. spectra 7—57065
trimethyl-d_9-pyrazine, normal vibrs., Raman and IR parameters investig. 7—50074
trimethylpyrazine, normal vibrs., Raman and IR parameters investig. 7—50074
trioxane, Raman band second moment meas. 7—31054
unimolecular reaction, kinetic data eval. from freq. shifts of IR absorpt. bands 7—33911
vibrational and orientational relaxation, correl. functions 7—36738
vibrational spectroscopy, lineshapes and dissipative processes 7—45956
water, liquid, OH stretching vibr. spectrum, mol. dynamics study, IR, Raman and neutron diffr. spectra 7—44329
ArHF van der Waals complexes in supersonic jets, IR laser spectra 7—19842
CN in solar spectra, facula models 7—24112
C_2N_2-Ar gaseous mixture, collision-induced absorpt., quadrupole moments, IR and microwave spectra 7—50098
CO, adsorbed on Pt (111), molecule-substrate vibr. mode, IR emission spectra study 7—57126
CO, and mixtures, line interaction effects in IR absorpt. spectra 7—31038
CO, band intensities, IR absorpt. 7—36619
CO, IR active gas at high press., absorpt. props. 7—10578
CO, isotopic species, $B^1\Sigma^+$-$X^1\Sigma^+$ transition, vacuum UV obs. 7—62401
CO, rovibr. lines, IR spectral linewidth collisional broadening 7—36621
CO, terminally bonded on Ru (001), vibr. dephasing 7—17318
$CO+H_2O$, line broadening meas. 7—50330
$CO+N_2(O_2)$(air), J=1-0 rot. transition, press. broadening 7—5722
CO_2, 4.3 μm band microwindows, temp. and freq. depend., line coupling 7—36580
CO_2 $(10^01)_{I}\leftarrow(10^00)_{II}$ transition, line strengths and self-broadening parameters 7—10672
CO_2, and mixtures, line interaction effects in IR absorpt. spectra 7—31038
CO_2 FTIR spectra, band intensities 7—50264
CO_2 laser P(16) transition, temp. variation of linewidth 7—36934
CO_2, self-broadened spectral line shape in low-frequency wing 7—57134
CO_2-Ar gaseous mixture, collision-induced absorpt., quadrupole moments, IR and microwave spectra 7—50098
Co_2, intensity and press. broadening meas. in ν_3 fund. 7—50265
$CsH_2PO_4(d_2)$, polarised IR and Raman spectra, internal vibrs. 7—50125
Cu_3, assignment of the 5397 Å system, mol. fluoresc. data anal. 7—50217
Eu complexes, in soln., spectral line width, temp. depend. 7—31025
FeO^-, rot., autodetachment spectroscopy 7—62462
GaCl Raman-Stokes spectrum, intensity and band shape calcs. *(French)* 7—15606
H_2 collisional effect on broadening and shift coeff. in vibr.-rot. spectra 7—15584
H_2, rotational Raman linewidths and line shifts, temp. and density depend. 7—924
H_2-Ar, rot. line broadening calc., projection operator algebra and linked cluster theorem 7—42687
HCN, overtone transitions, self-broadening and intensity, photoacoustic spectra rot. relax. 7—20016
HCN-HF, excited vibr. states, gas-phase IR spectrum 7—50108
HCl, IR spectra, Ar- and N_2-broadened linewidths, rot. spectrum 7—50113
HDO and D_2O, IR spectra, vibro.-rot. transitions, line intensity meas. 7—50109
H_2O absorption line parameters rel. to DIAL monitoring of atmosphere 7—47535
H_2O, ν_1 band, inverse Raman spectrosc. 7—5687
H_2O, spectral line halfwidth calc. in microwave region 7—50263
H_2O vapour, absorpt. in 183 GHz line wing, temp. and press. depend. 7—36600
$H_2O+O_2(N_2)$(Ar), rot.-vibr. lines, collisional broadening 7—42743
HOCl, IR spectra, ν_2 and ν_3 bands, a-type and b-type transitions 7—50112
HTO, mol. vibr.-rot., IR spectra anal. 7—50116
I_2, n-hexane soln., Raman excitation profile 7—10596
I_2, time behaviour of secondary emission excited by nearly-resonant light pulses 7—62445
K_2 spectroscopy using superheating in heat-pipe oven 7—6070
N_2 multiplex CARS temperature meas. precision using single-mode and multimode pump lasers 7—41376
N_2, rotational Raman linewidths and line shifts, temp. and density depend. 7—924
N_2 self-broadening at high temp. with inverse Raman spectroscopy 7—5723
N_2 vibr. transition, inhomogeneously broadened, nonstationary active spectroscopy 7—48857
N_2-methane gaseous mixture, collision-induced absorpt., IR and microwave Fourier transform spectra anal. 7—50097
N_2+N_2, collision induced rototranslational absorpt. spectra 7—60521
NH^-, IR rot.-vibr. spectrum, high-resolution meas. 7—62373
NH^-, metastable states, autodetachment, vibr.-rot. spectrum meas. 7—31006
NH_3 CW MIR laser, intensity and half-widths, absorpt. meas. 7—36941

molecular spectral line breadth continued
NH_3, excited vibr. state, rot.-inversion levels, collisional relax., visible obs. 7—62392
NH_3, mol. beam laser Stark spectroscopy, ν_2 band, transition dipole moment meas. 7—50209
NH_3, ν_2 band, vibr.-rot. transitions, press. broadening coeffs., IR spectra anal. 7—50121
NO, linewidth broadening and strengths, tunable diode laser IR spectroscopy 7—5676
NO, paramagnetic molecule,. magnetically modulated Fourier transform spectroscopy 7—48856
NO predissoc. levels, multiphoton ODR lineshapes 7—31129
NO_3^-, aq. soln., band shape anal., Raman and IR spectra 7—57067
N_2O, band intensities, IR absorpt. 7—36619
N_2O, electronic autoionisation studies using vibr. resolved const. ionic spectroscopy, dispersed fluoresc. 7—25592
Na_2 UV radiation generated by four-wave mixing, linewidth 7—15926
Ne-OCS, mol. beams, IR absorpt. and microwave-IR double reson. spectra 7—62427
O_2, A band, line profiles study, IR spectra anal., dye laser excitation 7—50114
O_2, absorpt. and fluoresc. calcs. in Schumann-Runge band system 7—19940
O_2 absorption line parameters rel. to DIAL monitoring of atmosphere 7—47534
O_2, predissoc. linewidth, rot. var. 7—10685
$^{18}O_2$, Schumann-Runge bands, oscillator strengths meas. 7—62455
$^{18}O_2$, Schumann-Runge bands, predissoc. linewidths meas. 7—62464
OCS, jet-cooled, $^1\Sigma^+\rightarrow{}^1\Pi$ transition, spectrosc-investig. 7—62400
OCS, line strengths and collisional half-widths, IR spectra 7—36620
OF_2, ν_1 and $2\nu_2$ Fermi diad, diode laser spectroscopy, band const. and force consts. 7—25487
$OH+Ar(N_2)$, $A^2\Sigma^+-X^2\Pi$ band pressure broadening 7—50305
$^{16}O^{18}O$, Schumann-Runge bands, oscillator strengths meas. 7—62454
$^{16}O^{18}O$, Schumann-Runge bands, predissoc. linewidths meas. 7—62465
SCN^-, aq. soln., band shape anal., Raman and IR spectra 7—57067
SF_6+N_2O, vibr. energy transfer and relax. study, kinetic model, IR fluoresc. spectra 7—50227
Sf_6, IR multiphoton excitation, time-resolved Raman spectra anal. 7—36629
SiF_4, saturation spectrum at P(30) line of 9.4 μm band of CO_2 laser 7—50134
Sm vapour, vel. diffusion effects, RF-laser double reson., Raman heterodyne investig. 7—882
TlF, predissoc., tunneling, UV spectra 7—57141
$UO_2(NO_3)_2.6H_2O$, Raman spectra, totally symm. vibrs., band shapes 7—42628

molecular structure (electronic) *see molecular electronic states*

molecular structure (geometrical) *see molecular configurations*

molecular torsion *see molecular libration*

molecular vibration
see also Fermi resonance; macromolecular dynamics; molecular force constants; molecular rotational-vibrational energy transfer; molecular spectra; molecular vibration calculations; molecular vibration in solids; potential energy curves and surfaces of molecules; potential energy functions
absorption and fluoresc. line shapes, eigenstate-free Green function calcs. 7—25596
acetone, stretching vibrs., CARS study 7—42623
acetonitrile, Raman bands, ClO_4^- ions effects 7—5686
N-acetyl-L-amino acid methylamides solid and soln., conformers, IR and Raman spectra 7—33395
acetylene, Fermi perturbation study, UV absorpt. and fluoresc. excitation spectra anal. 7—36638
acetylene, isotopic species, mol. vibr., rot. energy level struct. calcs. 7—50061
acetylene, protonated, $d_0(d_3)$, struct., vibr. freqs., IR intensities 7—5677
acetylene vibr. excited, chaos and dynamics on 0.5 to 300 ps time scale, Fourier transform spectra 7—42634
acetylenedicarboxylic acids and alkali metal salts, Raman and IR spectra *(French)* 7—15609
acyclic alcohols, hydroxyl stretching freqs., rotamer pop., CNDO calcs., IR spectra anal. 7—36611
adsorbed molecules photodesorption by IR laser-adsorbate coupling 7—58616
n-alcohols, IR intensities in liq. phase, OH vibrs., assoc. model 7—53336
alkali metal perchlorate vitrified dil. solns., IR spectra anal. 7—19857
n-alkyl benzene chromium tricarbonyls intramolecular vibr. relax. 7—5728
alkyl cpds., vibr., high resol. spectra, effective Hamiltonians 7—31010
alkylanilines, spectral line broadening, role of conform. and IVR fluoresc. spectra 7—19921
allene, liq., ν_3 mode, vibr. dephasing, Raman spectra anal. 7—42621
allyl phenyl ether, photoisomerisation reaction mechanisms, IR multiphoton excitation study 7—62372
aniline-H_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
aniline-methane van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
aniline-N_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
anthracene, cryst. and soln., a_g modes, Raman scatt. tensor elements meas. 7—64639
anthracene, ps/jet studies of intramol. vibr. energy redistrib. in large mols. 7—42599
1,4-anthraquinone, T_1 state, Jahn-Teller distortion, phosphoresc. 7—42677
2-azido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7—36608
azulene, S_0-S_1 absorpt. spectra and Raman excitation profiles, vibr. intensity distribs., quantum-chem. anal. 7—42619
benzaldehydes, monosubstituted, vibr., IR spectra 7—31049
benzene, intramolecular vibr. energy redistrib., bend-stretch pot. energy coupling 7—10540
benzene, ionization-Raman double-resonance spectroscopy 7—10604
benzene, stretching vibrs., CARS study 7—42623
benzene, substituent effects on vibr. modes 7—19824
benzene, vibronic activity, CNDO/S and INDO/S calcs. 7—49926
benzene and benzene-d_6, overtone spectra, CH and CD stretch vibrs. 7—42581
benzene chromium tricarbonyl-$d_0(d_6)$ deuteration effect on multiphoton dissoc. 7—5727

molecular vibration continued
benzene clusters, struct., IR photodissoc. and mass spectra study 7—62371
benzene clusters, vibr. predissoc. spectra assignment, isotope use in mass spectroscopic detect. 7—31125
benzene derivatives, out-of-plane valence force field 7—31021
benzene liquid, intermolecular resonance vibrations, IR absorpt. spectra, isotropic dilution *(Russian)* 7—59215
benzene-$d_0(d_6)$, vap., vibr. levels. fluoresc. spectra 7—10651
benzene-d_6, IR spectra, rot. reson. 7—25514
benzofurazan, vibronic struct., magnetic circular dichroism spectra anal. 7—50211
p-benzoquinone, struct. and vibr. anal., ab initio HF calcs. 7—25372
p-benzosemiquinone radical anion, struct. and vibr. anal. ab initio HF calcs. 7—25372
2,1,3-benzothiodiazole, vibronic struct., magnetic circular dichroism spectra anal. 7—50211
biphenyl, mol. vibr., supersonic jet spectroscopy, mol. fluoresc. and multiphoton ionisation spectra anal. 7—57129
bis(dichlorophosphoryl)methane, struct., conformational equilib., GPED, Raman and IR spectra 7—57176
bis (trihalomethyl) ether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7—19998
bis (trihalomethyl) thioether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7—19998
bis-dithiobiuret copper(II) chloride, Raman and IR spectra 7—62374
bisphenol-A polycarbonate, stressed, reversible mol. orientation, IR studies 7—50428
1-bromo-2-methylpropane, gaseous phase, conformational stability, for IR and LF Raman spectra 7—10602
bromocyanoacetylene cation in ground and electronic states, vibr. struct., emission and laser excitation spectra 7—50228
bromomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
bromotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7—25882
bromotrifluoromethane mol., intermolecular and intramolecular vibrational energy distrib. study, IR multiphoton excitation, Raman spectra 7—42594
trans-1,3-butadiene, vibr. struct., EELS 7—5767
n-butane, liq., mol. dynamics simulations, mean square displacement and vel. autocorrel. functions 7—6497
n-butane, molecular spectroscopy by incoherent neutron scatt. 7—62350
butatrienone-do(d_3), struct., vibr. anal. ab initio MO calcs., microwave spectroanal. 7—25491
butynal, pulsed supersonic expansion intramolecular dephasing and relax. 7—10656
1-butyne, vibr. anal., IR and Raman spectra 7—19852
carbamic acid derivatives, torsional changes, ab initio structural studies 7—15502
carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7—31093
chain molecule, 1D, dissoc., vibr. relax., RRKM theory 7—8247
chain molecule, classical, dissoc., vibr. relax., RRKM theory 7—8248
charge deformation maps, molecular moments, and high-energy electron scattering 7—36723
chemical reaction and charge-transfer processes, RIOSA quantum-mechanical study. 7—31159
6-chloro-2,4-dimethoxypyrimidine, liq. and vapour, electronic and vibr. spectra, UV and IR obs. 7—19859
2-chloro-4-methylquinoline, vibr., IR and UV-visible spectra 7—19838
chlorodifluoromethane, IR spectra, resonant vibr. energy exchange kinetics 7—36617
chlorodifluoromethane, IR spectra, rot. and vibr. relax. 7—36616
chloroethane, IR multiphoton excitation probed by CARs, vibr. population distribs. 7—10591
(chloromethyl) phosphonothioic difluoride, microwave, IR and Raman spectra, conformational stability 7—36599
2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7—46018
p-chlorophenyltin, Raman and IR vibr. spectra 7—57058
chlorophyll derivatives, in organic solvent matrix, vibrationally resolved fluoresc. spectra 7—57120
1,2-chloropropane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7—19690
2-chloropyridine, microwave spectrum and nuclear quadrupole coupling 7—62359
chlorotrifluoromethane, overtone spectra, vibr. anal. 7—36613
cluster selective formation in cryogenic matrices, FTIR spectroscopy obs. 7—48895
CN^-—H_2O, quantum-chem. MO SCF calcs. 7—5597
CO_2, isotopic species, vib. transition consts., IR emission spectra 7—19849
coronene in jet, fluoresc. excitation and SVL fluoresc. spectra 7—31103
crown ether-NaSCN complex, tetrahydrofuran solvent, IR and microwave dielectric spectro anal. 7—31027
crown ethers and metal complexes in soln. struct., Raman spectra 7—10601
cyanoacetylene, ν_5 and ν_6 fundamental bands, FT IR obs. 7—923
cyclobutene, IR spectra, vibr. struct. and C—H local mode dynamics 7—25510
cyclobutylcarboxylic acid fluoride, microwave, IR and Raman spectra, Stark effect, conform. 7—25492
cyclohexanols, hydroxyl stretching freqs., MM2/CNDO model calcs., IR spectra anal. 7—36610
cyclopropane, ν_{10} and ν_{11} fundamentals in IR Fourier transform spectra 7—50052
decafluorobutane, rot. isomerism and vibro spectra calc. 7—5682
deuterobenzenes, first excited singlet state vibr. level, fluoresc. lifetime meas. 7—50214
diacetylene cation, fluorescing electronic state, stimulated emission pumping spectra 7—31119
diatomic mol. on substrate, reson. laser induced desorption, classical and quantum models 7—58618
diatomic molecules, spectroscopic constants determination 7—42583
diatomic molecules in flows with convective and diffusive particle transport, nonequilib. dissoc. 7—20811
diatomic mols., orbital stress and transition stress calc., bond lengths, rot. consts. photoelectron spectra 7—42503
2,3-diazido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7—36609
3-diazo-2-butanone - do(d6), vibr. anal., IR and Raman spectra 7—19853
diazoethenes, ground state geometries, semi-empirical MINDO/3 and MNDO calcs. 7—56975

molecular vibration continued
1,2-dibromocyclopropane, rot. isomers, mol. vibr., IR and Raman spectra anal. 7—42609
1,2-dibromoethane, IR overtone spectra, vibr. anal. 7—10565
dibromomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
dibucaine, H bonding nature and vibr. structure, birefringence emission spectra anal. 7—19935
1,2-dichloroethane, IR overtone spectra, vibr. anal. 7—10565
1,2-dichloroethane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7—19690
1,2-dichloroethene, isomeric mixtures, determ. of struct. and comp., GPED spectra anal. 7—36763
1,2-trans-dichloroethylene, vibr. distribs., time-resolved FTIR photofragment emission spectroscopy 7—25508
1,1-dichloroethylene, vibr. spectrum, solvent effect *(German)* 7—915
1,1-dichloroethylene, vibr. spectrum, solvent effects *(German)* 7—916
dichloromethane, CH stretching overtone intensities, SCF calcs. 7—5586
dichloromethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
2,2-dichloropropane-$d_0(d_6)$, vibr. anal. IR and Raman obs. 7—919
difluorodichloromethane, mol. consts., force field study, thermodynamics props. 7—19814
trans-1,2-difluoroethane, Ar_{364} matrix isolated, substitutional defects, consistent force field 7—57059
difluoromethyl diradical, form. obs., dimerisation rate const. determ. 7—28291
2,3-dihydrofuran, ring puckering vibr. and centrifugal distortion, microwave spectra anal. 7—36596
dimedone Schiff bases, stretching vibr., IR spectra, solvent effects 7—57057
3,5-dimethoxy phenol, vibr., IR absorpt. spectra 7—19839
2,5-dimethoxybenzaldehydes, IR and Raman vibr. spectral anal. 7—57070
dimethyl ether-HCl (DCl), H bonded complexes, IR spectra 7—19840
dimethyl sulphoxide, Raman bands, ClO_4^- ions effects 7—5686
12,2-1dimethyl-1,3-dioxolane-4-methanol, OH stretching band, free and H bonded species equilib., dichroism and IR spectra 7—10641
N,N-dimethylacetamide, vibr. relax. and noncoincidence effect, Raman spectra anal. 7—46048
dimethylbenzonitriles, IR and Raman spectra 7—25501
dimethylcyclohexanes, conform. equilib., temp. and pressure effects, Raman spectra anal. 7—50150
2,3-dimethylpyrazine, vibronic interaction, vibr. anal., UV spectra 7—31065
dimethylsilylene, UV spectrum, geometry and vibr. freqs. 7—10610
dimethylsulphoxide, vibr. dephasing time meas., coherent Stokes Raman scatt. 7—57075
disodium cromoglycate in water, nematic lyotropic liq. crystal, struct. and order parameter, FTIR spectra 7—11899
2,4-dithiobiuret, Raman and IR spectra 7—62374
dithiolates, cyclic vibr., IR and Raman spectra *(German)* 7—31045
dodecafluorooctahydrothiophene, gas phase, geometric struct., GPED spectra anal. 7—36764
DPPC bilayers, aqueous assemblies, high press. IR studies 7—54501
dye molecules, Raman and IR meas., quantum beat data interpretation 7—42591
electroactive species, Fourier transform IR reflectron absorpt. spectra 7—23093
electrooptical anharmonism, parametric reson. generation 7—42660
enamides, conjugated s-skew-forms, conform. anal., spectra data anal. 7—19894
epihalohydrins, IR spectra, vibr. assignments 7—36603
ethane, internal force consts., vibr. spectrum calc. 7—31022
ethane, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
ethane and derivatives, vibr. Raman stokes spectrum 7—57072
ethane-Ar, vibr. predissoc. IR spectra 7—19971
ethanethiol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7—62388
ethanol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7—62388
ethene, laser-induced vibr. predesorption from NaCl 7—58615
3-ethoxy-4-hydroxybenzaldehydes, IR and Raman vibr. spectral anal. 7—57070
N-ethyl carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7—31093
ethylamine, geometrical structural parameters calcs. GPED 7—20042
ethylene, internal force consts., vibr. spectrum calc. 7—31022
ethylene-acrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7—53337
ethylenediamine ligands, vibr. circular dichroism, ion assoc., ring conform. and ring currents 7—31084
etioporphyrin metalocomplexes, isomers, vibr. spectra interpretation 7—42617
fluid under high pressure, FTIR spectra interpret. 7—50402
fluoroform, mol. vibr., tridiagonal Fermi reson. Hamiltonian, visible spectral anal. 7—50154
fluoromethane, multiphoton coherent excitation study 7—36698
p-fluorophenyltin, Raman and IR vibr. spectra 7—57058
p-fluorotoluene, torsion-vibr. coupling 7—42719
formaldehyde, VUV excitation fluoresc. 7—15643
formate anion, isotopic species, vibr. anal., valence force fields calcs. 7—36577
formic acid, ν_3 band, sub-Doppler laser-stack and Fourier transform spectroscopy 7—62430
formic acid-d_1, stretching vibr. Raman spectra 7—19866
formyl cyanide, vibr. freqs. and geometry, ab initio electron correl. calcs. 7—49938
formyl radical pair, anharmonic vibr. effects, ab initio SCF-CI calcs. 7—10444
gas, vibr. excited, polarisability and refr. index 7—44097
gaseous phase, conformational stability, for IR and LF Raman spectra 7—10602
germylacetylene-$d_0(d_3)$, vibr. anal., mol. consts. study, F-G matrix technique calcs. 7—36578
glutathione-methylmercury aq. mixtures, complexation, Raman spectrum vibr. study 7—64637
glycolic acid, rot. isomerisation, ab initio SCF calcs., IR Ar matrix spectra 7—19851
glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, Fermi reson., visible fluoresc. spectra anal. 7—50230
glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, rot. anal., visible fluoresc., spectra study 7—50229
glyoxal, S_1-S_0 transition, two-photon spectra 7—62471

molecular vibration continued
α-helical proteins, dynamical struct., vibron solitons description 7−47002
heptafluoroiodobutane, pulse depend. IR absorpt. spectrum 7−19843
hexafluoride mols., vibr. isotope shifts 7−943
hexamethyldisilylchalcogenides, vibr. spectra anal. 7−15615
hydrocarbon peroxyl radicals, ab initio MO and electron correl. calcs. 7−49951
hydrocarbons, temporary negative ion states, electron transmission 7−42586
hydroxides, solid, OH stretching freq., interionic influences 7−50129
9-hydroxyphenalenone-de(di) Shpolskii matrix isolated, H bonding, phosphoresc. 7−19926
imidazole, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7−25526
inorganic cpds., vapor state and matrix isolation spectroscopy 7−15593
iodomethane, ν_4 band, high resolution IR spectra 7−5681
iodomethane liq., mol. vibr., Raman spectra, temp. effects 7−64640
iodotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
IR spectroscopy, Ottawa, Ont., Canada (June 1985) 7−48160
isoformyl cation, difference freq. laser IR spectroscopy 7−62366
lanthanide thenoyltrifluoroacetonate pyridine, Raman and FTIR spectra 7−57061
laser-driven molecules, bistability and chaos 7−15920
lipid A, free, multibilayer, phase transition behaviour, FTIR, endotoxic principle of gram-negative bacteria outer barrier 7−54500
liquid dynamics, spectra study, book 7−55913
liquids, molecular, CARS, femtosecond pulses appls. 7−62375
lumiflavin vibr., isotope freq. shift, IR spectra 7−918
m-dinitrotetramethylbenzene, single cryst., vibr. study, IR reflectance and transmission and polarised Raman spectra 7−25512
malachite green, coherent mol. vibr. motion, fs time resolved obs. 7−57189
matrix-isolated molecules, FTIR vibr. circular dichroism 7−50104
mercaptopyrimidines, substituted, vibr. IR, Raman and UV spectra 7−31043
methacrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7−53337
methane, ν_2 and ν_4 bands, interacting E and F_2 fundamentals, reduced Hamiltonian and invariant parameters 7−25486
methane, vibr. anal. IR and Raman spectra, MNDO calcs. 7−10543
methane, vibr. dephasing, critical density broadening, Raman spectra anal. 7−62387
methane cation, stereochemical struct. direct determ. 7−36808
methane ion, photoelectron spectrum, Jahn-Teller effect, ab initio SCF and CI calcs. 7−42683
methanol, in freons, ν(OH) IR band temp. variations 7−42610
methanol. liq., cross-correl. fn., diffusional dynamics study 7−37822
methanol monolayers, stretch vibr. obs., optical sum-freq. generation 7−58610
methanol-^{13}C, laboratory microwave spectrum, Ori A identification 7−57053
methoxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7−10398
methyl(difluorophosphineborane), vibrational assignment, normal coordinate anal., Raman and IR spectra 7−62384
methyl chloride, Fourier transform IR spectra, rot.-vibr. anal. 7−10571
methyl halides, nucleophilic substitution reactions, quantum-mechanical model, HMO calcs. 7−36482
5-methyl indole in polymer films, UV polarised absorpt. spectrum 7−925
2-methyl oxetan, vibr. circular dichroism spectra, expt. and theoretical results 7−50208
s-cis methyl vinyl ether, coupled torsional and bending motions, microwave Fourier transform spectra 7−62355
methyl vinyl ketone, mol. torsional interactions, flexible model, far-IR spectra anal. 7−50101
methyl-substituted amine−HF complexes, methylation effect, IR spectra anal. 7−19855
N-methylacetamide, liq., low-freq. Raman spectra 7−50144
N-methylacetamide-formamide, varying H bond geometry, N-H bond vibr. properties, ab initio calcs. 7−10407
methylamine, torsional-wagging tunnelling and torsional-wagging-rotational problem 7−62347
methylene, vibr. band broadening, Raman spectra 7−10597
methylene chloride, high resol. vibr.-rot. anal., IR spectra 7−31019
methylene chloride, isotope effect, empirical general harmonic force field 7−62346
methylhydroxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7−10398
4-methylindole, electronic transition, methyl substitution effect, UV spectra anal. 7−42642
methylnitrene, matrix-isolated, IR and UV absorpt. spectra 7−42637
methylnitrite, photodissoc. NO photofragment excited state distrib., fluoresc. spectra anal. 7−50225
methylthiirane, vibr. spectra and ab initio calcs. 7−50147
1-methyluracil, isotopic derivatives vibr. spectra, ab initio Hartree-Fock SCF calcs. 7−15589
microwave spectra, quadratic vibr.-rot. coupling terms 7−50089
molecular beam, high resolution overtone spectroscopy 7−42600
molecular beam, IR transitions, adiabatic inversion 7−42784
molecule, A band, line profiles study IR spectra anal. 7−50114
molecules, neutral and anionic, proton affinities, ab initio calcs., role in ion-mol. reactions 7−5590
monocyclic free mols., conformation trends, electron diffr. data 7−15709
monohalomethane, harmonic force fields and vibr. spectra, ab initio HF calc. 7−50064
multimode vibrational wave functions, natural expansion 7−50056
naphthazarin, vibronic states relax., fluoresc. spectra study. 7−50221
neutral molecules, C_2 symmetry, vibrational circular dichroism 7−31085
nile blue, coherent mol. vibr. motion, fs time resolved obs. 7−57189
nitromethane, photodissoc., quantum study *(French)* 7−13794
organic molecule conformational anal., vapour phase IR spectra study 7−57069
organic mols., electronically excited states, radiative decay and nonradiative conversion processes 7−50235
oxetane, ring puckering pot., local correl. results 7−42456
pentadecanoic acid monolayers, stretch vibr. obs., optical sum-freq. generation 7−58610
pentamethylene oxide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7−19833

molecular vibration continued
pentamethylene sulphide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7−19833
1-pentyne, vibr. anal., IR and Raman spectra 7−19852
peptides, plane orientations, fundamental and overtone ^{14}N NMR 7−10618
perfluorotrimethylgermyl anion, vibr., IR and Raman spectra *(German)* 7−31048
phenanthrene-d_0(-d_{10}), in supersonic free jet, electronic spectra, intramol. dynamics 7−42672
phenols, vibr. spectra, calc. and interpretation 7−42596
phenylalkynes, conform. in soln. and solid, vibr. anal., Raman and IR spectra study, valence force field calcs. 7−36612
phthalocyanine thin films, molecular orientation studied using Raman polarisation studies 7−22250
platinum-cyanoalkene complexes, mol. vibr. study, Raman and IR spectra anal. 7−42626
PMMA with low mol. weight additives, polymer destruction by UV and γ radiation by vibr. cross-relaxation 7−42800
poly-L-lysine, deuterated, Fourier transform vibr. circular dichroism in amide I bands 7−54475
polyatomic molecule, vibr. overtone induced photodissoc. dynamics 7−36712
polyatomic mols., intramolecular vibr. relax., threshold energy depend. 7−911
polyatomic mols., IR spectra, rot. reson. 7−25514
polyatomic mols., reson. electron impact, vibr. energy loss selection rules 7−15725
polycyclic aromatic hydrocarbons, interstellar, visible luminesc. of vibr. excited mols. in Red Rectangle (HD 44179) 7−48008
polyethylene films, picosecond Raman scatt. after IR excitation, ultrafast vibr. energy transfer 7−64621
potential function in effective nuclear charge model, energetic consideration 7−25364
predissociation lifetimes tunnelling, internal collision model 7−31127
propane, vibr. anal. IR and Raman spectra, MNDO calcs. 7−10543
propanes, ^{1}H labelled, IR and Raman spectra, vibr. analysis, D substitution effect 7−50141
propionitrile, vibr. assignment, force consts. 7−31020
propylene, internal force consts., vibr. spectrum calc. 7−31022
propyne, $2\nu_9$ band study, Fourier transform IR spectra anal. 7−50119
propyne, ν_3 and $2\nu_8{}^0$ bands study, Fermi reson., IR spectra anal. 7−50120
propyne, microwave spectrum in 17 to 52 GHz region for ν_{10}=4 vibr. state 7−25499
propyne, v_8=2 vibr. state, microwave spectrum in 17-72 GHz region 7−36594
protoporphyrin-IX, effect of vinyl groups on meson. Raman spectra 7−15610
protoporphyrinato nickel (II), isotope shifts, vibr., LF reson. Raman spectra 7−19868
Raman band second moment meas. 7−31054
Raman spectrometer for time resolved meas. in gaseous samples, computer controlled 7−18886
rare earth naphthenate complexes, extract phase, FTIR and subtraction spectra 7−50142
resonant multiphoton ionisation, plasma diagnostics appls. 7−20954
resorufin adsorbed on γ-Al_2O_3, fluoresc. line narrowing and site-selection expt. 7−10655
rhodamine 6G*, transient excited singlet state absorption 7−57125
riboflavin, and derivatives, vibr., isotope freq. shift, IR spectra 7−918
salt/water/aprotic solvent mixtures, alkali cation influence, IR spectra anal. 7−19856
selenoformaldehyde, microwave spectra, struct., vibr. freqs. and centrifugal distortion consts. 7−50090
silaethylene, harmonic vibr. freqs., IR spectra, ab initio SCF CI calcs. 7−15600
t-stilbene, ps/jet studies of intramol. vibr. energy redistrib. in large mols. 7−42599
symmetric-top mol., degenerate vibr. mode, orientation by IR field 7−31117
1,1,2,2-tetrabromodisilane, gas phase, mol. struct., conform. comp., GPED spectra anal. 7−36762
tetradecafluorohexane, rot. isomerism and vibro spectra calc. 7−5682
tetramethyldioxetane, homogeneous and inhomogeneous struct., vibr. overtone spectrum 7−25483
tetraphenylmethane, vibr., dichroism, IR and Raman spectra 7−31042
tetraphenylporphin metal complexes, reson. Raman spectra 7−19862
s-tetrazine-Ar van der Waals complex, vibr. predissoc., RRKM approach, vibronic emission 7−19983
thiometallato complexes, mol. vibr., electronic struct., IR and Raman spectra study 7−57068
three-level molecule, vibr. dephasing time meas., coherent Stokes Raman scatt. 7−57075
three-level vibrational system for bath represented by two-state stochastic processes, Raman band shapes 7−31052
toluene, vib. anal., isotropic species, comparison with benzene 7−19824
tribromoacetamide, ^{15}N isotope effects, Raman spectra, ab initio calcs. 7−19871
sym-tribromobenzene, struct., vibr., GPED 7−57177
trichloromethane liq., mol. vibr., Raman spectra, temp. effects 7−64640
trichloromethanesulphenyl chloride, mol. vibr. and config., Raman and IR spectra anal. 7−42622
2,4,6-trichloropyrimidine, liq. and vapour, electronic and vibr. spectra, UV and IR obs. 7−19859
trifluoroiodomethane, IR RF double reson. spectra, rot. levels, nuclear quadrupole transitions 7−50205
trifluoromethyl phosphorane, conform. and struct., GPED anal. 7−20044
trimethylchlorogermane, liq., vibr. anal., isotope effects, Raman bandshape anal. 7−33371
2,3,3-trimethylhexane, conformational anal., Raman and IR spectral obs. and vibr. assignments 7−15614
trioxane, Raman band second moment meas. 7−31054
tris-1,10-phenanthroline rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
tris-2,2′-bipyridine rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
two-level system, optical and vibr. dephasing, mechanical and stochastic formulations 7−31013
N-urethanyl-α-amino acids, Fourier transform vibr. circular dichroism of carbonyl stretching modes 7−50207
vibr., semiclassical calc. from ab initio pots. using 2D spline fn. 7−30936

molecular vibration continued
vibrationally excited molecules, steady-state flux distrib. of populations over levels 7−15583
vinyl chloride, vibr. distribs., time-resolved FTIR photofragment emission spectroscopy 7−25508
vinyl formate, gas phase structure anal., ab initio calcs., molecular mechanics calcs., IR spectra 7−19691
vinyl-d_2 cation+H_2, reaction cross-section, vibr. state depend., TESICO obs. 7−54102
vinylene carbonate, struct. and vibr. spectra, ab initio CNDO/2 and INDO calcs. 7−49930
vitrified dil. alkali metal nitrate solns., IR spectra anal. 7−19857
water, liq., Raman isosbestic points meas. 7−39107
water, liquid, OH stretching vibr. spectrum, mol. dynamics study, IR, Raman and neutron diffr. spectra 7−44329
water, structure, quantum effects, gamma-ray diffr. obs. 7−26609
water vapour in cometary ionospheres, electron cooling by vibr. and rot. excitation 7−29435
AgBr, vibr. states, rot. transitions, isotope shifts, Dunham pot., microwave spectra anal. 7−42605
AgI, mol. consts. and millimeter-wave rot. transitions, meas. 7−10555
$AlBr_3NH_3$, vapour phase, vibr. anal., high temp. IR spectra 7−31050
AlO, B-X system vibr. bands in sunspot spectra 7−60525
Ar-N_2O van der Waals complex, mol. beam IR spectra 7−31030
$Ar^+ + H_2$, chemical reaction and charge-transfer processes, RIOSA quantum-mechanical study. 7−31159
ArHF van der Waals complexes in supersonic jets, IR laser spectra 7−19842
$ArXe^+$, DC discharge in supersonic jet, UV-visible emission spectra anal. 7−19874
AsH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
B_2, ground state, excited vibr. levels struct., visible spectra anal. 7−50156
BCl, 0-0 vibr. band, rot. constants, visible spectra anal. 7−50157
BCl_3, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
B_2H_6, mol. vibr. coupling, dynamic electron transfers, variational method calcs. 7−36585
$^{11}BF_3$, ground vibr. state, rot. transitions, microwave spectra anal. 7−50086
Ba + N_2O, chemiluminescence, vibr. and rot. modes, translational energy and internal state influence 7−13780
BaAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7−25591
BaCl, $B^2\Sigma$-$X^2\Sigma$ transition, rot. anal., FTS and diode laser spectra 7−10581
BaI, $X^2\Sigma^+$ product, distrib., fluoresc. detect. 7−25595
$Be^{2+}-H_2O$, geometry and vibr. freqs., ab initio HF calcs. 7−49881
$BrCN^+$, $\tilde{B}\ ^2\Pi$ state, radiationless transition, fluoresc.-photon coincidence study 7−31101
C_4, struct., energies, single reference CI calcs. 7−19720
CCl^+, Born-Oppenheimer pot. fn., mol. rot.-vibr. study, IR spectra anal. 7−36604
CF^+, near-equilib. pot. and electric dipole moment calc. by SCEP-CEPA method 7−25368
CH radical, electronic struct., reson. multiphoton ionisation spectra anal. 7−50240
CN, A $^2\Pi$ $\nu=0$ rot. levels, laser excited, B-X emission 7−25584
CN, generation by photolysis of NCNO, removal by H_2, HCl and HBr, fluoresc. 7−46812
CN radical, anal. of perturbation between $B^2\Sigma^+$ $\nu=5$ and A^2 Π_i $\nu=17$ levels 7−50067
CO, 4.7 μm band, vibr. temp. determ., registration region 7−10550
CO, 5σ photoionis., reson. effects calcs. 7−36705
CO adsorbed on Pt, vibr. spectrum, electrochemical pot., stark tuning rate 7−10570
CO adsorbed on Pt 111, vibr., site conversion, IR spectra 7−58613
CO, adsorption on Al (100), EELS and thermal desorpt. 7−17815
CO and K coadsorbed on Ni (111), adsorbates electrostatic interaction, IR reflection-absorption spectra, TPD, LEED obs. 7−32824
CO, and mixtures, line interaction effects in IR absorpt. spectra 7−31038
CO, Ar matrix isolated, librovibr. spectra, indirect dephasing model 7−15582
CO, $B^2\Sigma^+$ state, electronic autoionis., cross section calc. 7−15656
CO, $b^3\Sigma^+$-$a^3\Pi_r$ system, Kaplan bands, UV obs. 7−62395
CO, band intensities, IR absorpt. 7−36619
CO, isotopic species, $B^1\Sigma^+$-$X^1\Sigma^+$ transition, vacuum UV obs. 7−62401
CO, terminally bonded on Ru (001), vibr. dephasing 7−17318
CO_2, 4.3 μm band, vibr. temp. determ., registration region 7−10550
CO_2, and mixtures, line interaction effects in IR absorpt. spectra 7−31038
CO_2 excited with polarised reson. radiation, angle resolved photoelectron spectrum 7−50245
CO_2 hot bands, UV absorpt. spectrum 7−25535
CO_2 laser, active medium vibr. relax., decay rate, phase absorpt. method 7−43058
CS_2, Ar^+ ion irrad., S_2 sputtered mol. props. 7−936
CS_2-benzene mixtures in soln., CARS study of vibr. dephasing 7−42624
Ca_2, $A^1\Sigma_u{}^+-X^1\Sigma_g{}^+$ red system. laser spectroscopy, rot. anal. and perturbation anal. 7−10652
CaAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7−25591
CdD, $B^2\Sigma$-$X^2\Sigma^+$ system study, near-UV spectra anal. 7−50164
Cl_2, X state, polynomial and near-dissoc. representations for spectral data 7−5714
$Cl_2{}^+$, $A^2\Pi_u$, vibr. levels, radiative lifetime meas. 7−36677
$ClBS^+$, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7−50158
ClO_2, struct., pot. functions, electron diffr. and spectroscopic data 7−15708
ClO_3F, vibr., centrifugal distortion consts. 7−19815
Co_2, intensity and press. broadening meas. in ν_3 fund. 7−50265
CrO_2Cl_2 vibronic anal., CCl_4 and $SnCl_4$ matrices, emission and excitation spectra, MODOR spectra 7−15542
Cs+HeH^+, HeH bound excited state form., predissoc. and radiative dissoc. 7−20033
$CsH_2PO_4(d_4)$, polarised IR and Raman spectra, transition dipole moments, orientation calcs. 7−50124
Cu complexes, with porphyrin, effect of vinyl groups on meson. Raman spectra 7−15610
$Cu_n{}^-$ (n=1-10), cluster, photoelectron spectra 7−62561
$Cu(PH_3)_2(BH_4)$, mol. vibr. coupling, dynamic electron transfers, variational method calcs. 7−36585

molecular vibration continued
D_2, hyperpolarisabilities, vibr. contribs., CARS 7−57074
D_2O^+, mol. beam photoelectron spectrosc., femtosec. intramol. dynamics 7−36688
D_2Se, Rydberg series identification, VUV spectra anal. 7−25538
F_2+CS_2, reaction, mol. electronic emission spectrum 7−3577
FBS^+, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7−50158
Fe complex, oxy(tetraphenylporphyrinate), Iron II, cocondensation products, struct. and bonding, IR spectra 7−10572
Fe_8 cluster, vibr. photodissoc. spectra, IR laser study 7−62475
$GaBr_3$, vapour phase, vibr. anal., high temp. IR spectra 7−31050
$Ga(CO)_2$, form. in hydrocarbon matrices, magnetic parameters, EPR and IR spectra anal. 7−19906
GaCl, isotopic derivatives, Dunham pot. for electronic ground state, microwave spectra anal. 7−31029
$GeH^+(GeD^+)$ in He afterglow, $a^3\Pi_{0+,1}-X^1\Sigma^+$ visible band system 7−50152
H-bonds in molecular biology, FTIR spectra, strongly anharmonically coupled vibr. 7−47009
H_2, $E,F^1\Sigma_g{}^+$ state, REMPI, ab initio calcs. 7−62470
H_2, electron scatt., elastic and vibr. excitation differential cross section calcs. 7−25652
H_2 excited states, rot. and vibr. branching ratios, UPS 7−5725
H_2, hyperpolarisabilities, vibr. contribs., CARS 7−57074
H_2, maximum specific deposited energy, role of VV processes 7−31303
H_2 near-threshold rovibrational excitation cross-sections, first-order nondegenerate adiabatic theory 7−15729
H_2, negative ion generation, atomic processes investig. 7−51527
H_2, photodissociation of metastable states, photofragment spectra anal. 7−36716
H_2, resonantly enhanced multiphoton dissociative ionis. meas. 7−19968
H_2, vibrational excitation by electrons, electron spectra 7−57181
H_2, vibrationally excited, rot. excitation and dissoc. meas. using resonant multiphoton ionization 7−15658
$H_2{}^+$ + Cs, dissociative charge exchange, H_2 predissociation, fragment spectra anal. 7−36753
H_2-HF complex, struct., bonding, vibr. freq. shift 7−19817
H_2-He collision complexes, rotovibr. spectra. SCF CEPA calcs. 7−42478
HBO detection by discharge modulated IR diode laser spectroscopy 7−25505
HBeOH (HBOH) (HCOH) (HMgOH) (HAlOH) (HSiOH), struct. and vibr. freqs., SCF calcs. 7−10386
HCN, isotopic species, electronic states, pot. surface, dissoc. vibr. anal., CI calcs. 7−62297
HCN-HF H bonded complexes, hot bands Doppler limited laser spectroscopy 7−19835
$(HCN)_n$ microcluster selective formation in cryogenic matrices, FTIR spectroscopy obs. 7−48895
HCl desorpt. from Ar (111) surface, internal state depend. 7−6963
HCl, vibr. transition probabilities, reactive field effect 7−36584
HD^+, pot. curves, vibr. and rot. states, adiabatic STO calcs. 7−25380
HDO, vibr. modes, rot. decoupling 7−57042
HF complexes, H-bonded, vibr. transition freqs., red shifts 7−10546
HF dimer, vibr. predissoc. lifetime 7−5729
HF, vibr. transition, H bonding derivative HF theory 7−19680
HF, vibr. transition probabilities, reactive field effect 7−36584
HF-H_3N, H-bonded complex, force consts. calc. for vib. modes, correl. effects 7−19823
$(HF)_3$, vibr. predissoc. IR spectra 7−19971
H_3GeD, Fourier transform IR spectra, rovibr. anal. 7−25516
H_3GeX (X=F, Cl, Br, I), harmonic force fields and vibr. spectra, ab initio HF calc. 7−50064
HI and DI in solid N_2, IR spectra in temp. range 9 to 30 K 7−50127
HI, vibr. transition probabilities, reactive field effect 7−36584
HNC, 2100 cm^{-1} bands, IR Fourier transform spectra anal. 7−50117
H_2NC^+, interstellar mol., pot. energy surfaces, ab initio MO theory 7−19687
H_2O clusters, Raman spectra 7−42826
H_2O, excited state pot., photodissoc. ab initio calcs. 7−19978
H_2O, intramol. vibr., mol. dynamics simulation 7−57047
H_2O, liq. state, FTIR spectra, fine struct., molar absorptivities of vibr. modes 7−53343
H_2O mol., IR absorpt. spectra, anharmonicity effects, contact transformational and quantum chemical calcs. 7−25385
H_2O, ν_1 band, inverse Raman spectrosc. 7−5687
H_2O vapour electron impact cross sections electron energy degradation spatial aspects 7−50381
H_2O^+, mol. beam photoelectron spectrosc., femtosec. intramol. dynamics 7−36688
$H_2{}^{18}O$, energy levels, line intensities, Fourier transform IR spectra 7−5674
H_2O_2, overtone excited states, torsion-vibr. interactions 7−50072
H_2O_2, photofragmentation dynamics at 193 nm, laser-induced fluoresc., rot. and vibr. distrib. 7−42700
HOCl, IR spectra, ν_2 and ν_3 bands, a-type and b-type transitions 7−50112
HONO, laser induced chem. processes anisotropies, OH ejection 7−19973
H_2S, pot. energy surfaces, spectroscopic props., ab initio CEPA calcs. 7−19686
H_3S^+, pot. energy surfaces, spectroscopic props., ab initio CEPA calcs. 7−19686
HSOH, CI analytic energy second derivatives, IR intensities and vibr. freqs. prediction 7−5608
H_2Se, Rydberg series identification, VUV spectra anal. 7−25538
H_2SiD, Fourier transform IR spectra, rovibr. anal. 7−25516
H_3SiX (X=F, Cl, Br, I), harmonic force fields and vibr. spectra, ab initio HF calc. 7−50064
H_3SnX (X=F, Cl, Br, I), harmonic force fields and vibr. spectra, ab initio HF calc. 7−50064
HeBCH, ground state, MP4 (SDTQ)/6-311G**//MP2/6-31G**+ZPE level calcs. 7−25480
HeBeO, ground state, MP4 (SDTQ)/6-311G**//MP2/6-31G**+ZPE level calcs. 7−25480
Hg_2, $GO_u{}^+$ state vibr. anal., visible and UV fluoresc. spectra study 7−19933
HgBr $B^2\Sigma_{1/2}{}^+\leftarrow X^2\Sigma_{1/2}{}^+$ band excitation in UV 7−19877
HgI, UV spectra, rot. struct., vibr. parameters 7−50163
I_2, X state, polynomial and near-dissoc. representations for spectral data 7−5714
ICl-Ne, A, E and X states, binding energies, optical-optical double reson. 7−62425

molecular vibration continued
  IF, $E(0^+)$ state, two-photon sequential absorpt. spectra 7−19988
  INI, spectra and struct., AO^+ state, rot. and vibr. consts. 7−50081
  IOF_5, excited vibrs. state, microwave spectrum, vibr. and rot. parameters 7−25498
  I_2.acridine charge-transfer complex, reson. Raman and far-IR spectra anal. 7−42620
  I_2.hexamethylenetetramine charge-transfer complex, reson. Raman and far-IR spectra anal. 7−42620
  I_2.phenozine charge-transfer complex, reson. Raman and far-IR spectra anal. 7−42620
  $KSFO_3$, vibr., force consts., IR spectra 7−19837
  Li cpds., energy stability, struct., vibr. spectra, MO LCAO SCF calcs. 7−15512
  Li_2, vibr. excited by optical pumping, electron impact ionisation cross sections 7−62536
  $LiF-H_3N$, Li-bonded complex, force consts. calc. for vib. modes, correl. effects 7−19823
  LiH, vibr. transition freqs. obtained from SCF and correlated wave functions, effects of basis set selection 7−25420
  LiH(D), pot.-energy curves, PMO-RKR-van der Waals pot., Pade approx. method 7−30965
  Mo complexes, isopropylammonium dihydrogenoctamolybdate dihydrate, vibr. spectrum 7−36628
  Mo complexes, with dioxo ligands, mol. vibr., IR and Raman spectra anal. 7−50151
  N_2 $A^3\Sigma_u{}^+$ state, electron impact excitation 7−25669
  N_2, adsorbed on graphite, mol. zero-point energies, out-of-plane orientation, nucl. reson. photon scatt. study 7−32819
  N_2, chemisorpt. on (110) surface, FT IR refl-absorpt. spectrosc. obs. 7−27100
  N_2, electron elastic scatt. and vibr. excitation, differential cross section meas. 7−36798
  N_2 flowing and post discharge, vibr. level, CARS spectroscopy *(French)* 7−11810
  N_2, hyperpolarisabilities, vibr. contribs., CARS 7−57074
  N_2 in hollow-cathode discharge, diagnostics using CARS and scanned probe laser 7−16333
  N_2 metastable states in gas discharge, vibr. level population dynamics 7−37754
  N_2 vibr. transition, inhomogeneously broadened, nonstationary active spectroscopy 7−48857
  N_2, vibrational excitation by electrons, electron spectra 7−57181
  N_2, vibrationally nonequilibrium jet, Na impurity radiation 7−42744
  $N_2{}^+$, electron impact on N_2, A $^2\Pi_u$ state excitation rate meas. 7−19934
  N_2-HF, IR spectrum and vibr. predissoc. 7−50106
  $N_2{}^+ + N_2$ charge transfer reaction, calc. of vibr. levels for neutral mols. 7−42759
  $N_3{}^-$, spectroscopic props. ab initio GTO CEPA study 7−15525
  NH, $A^3\Pi - X^3\Sigma^-$ transition, Fourier transform spectroscopy, vibr. levels, fine struct., rot. consts. 7−50080
  NH, collision-induced intersystem crossing investigated using ArF laser photolysis 7−42692
  NH radical, form. by electron impact 7−36800
  NH_3, adsorpt. complexes with heterogeneous catalysts, vibr. study, IR spectra anal. 7−36607
  NH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7−62413
  NH_3, mol. beam laser Stark spectroscopy, ν_2 band, transition dipole moment meas. 7−50209
  NH_3, vibr., inversion doubling, variational calcs., use of intramol. pair pots. 7−31014
  $NH_3{}^+ + NO$, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7−20028
  $(NH_3)_2$, dimer struct., electron spectra anal., HF calcs. 7−36686
  NH_2D, IR and microwave spectra, rot. anal. 7−25518
  NH_3D^+, ν_4 fundamental band, IR difference-freq. laser spectra 7−50096
  NH(ND), photolysis product of NH_3, laser induced fluoresc. 7−62442
  NH_2NO, struct. and vibr. freqs. calc. using basis sets ranging from STO-3G to 6-311G** 7−10385
  NO, $^2\Delta$ states, radiative lifetime meas., fluoresc. spectra 7−62439
  NO, adsorpt. on Rh (111), dissoc., EELS and LEED study 7−16859
  NO, autoionisation of $\nu=3$ Rydberg states, branching ratios, multiphoton spectra anal. 7−36718
  NO dimer, vibr. predissoc. lifetimes, time-resolved meas. 7−31126
  NO, fundamental band, heterodyne freq. meas. 7−5664
  NO, rot. resolved autoionising levels, wavelength depend. photoelectron spectra 7−25605
  NO scattered from Pt (111) surface, vibrational states 7−968
  NO, state to state excitation by NO quenching 7−5713
  NO vibr. levels, lifetimes, semi-theoretical evaluation 7−15649
  NO^++iodomethane (NO_2), charge exchange, ground state radiative lifetimes, ion cyclotron reson. spectra anal. 7−31114
  $NO^+ + NH_3$, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7−20028
  NO_2, excited state rot.-vibr. anal., supersonic jet fluoresc. excitation spectra 7−19919
  $NO_3{}^-$, in UO $_2(NO_3)_2$, vibr. spectrosc. investig. 7−10548
  N_2O, band intensities, IR absorpt. 7−36619
  N_2O, photoionis. dynamics and vibr. branching ratios, fluoresc. spectra 7−15653
  N_2O, protonated, IR spectra, vibr. and rot. anal., struct. 7−10566
  N_2O, rot. spectrum, vibr.-rot. transitions 7−50066
  N_2O spectra in 1100 to 1440 cm^{-1} region 7−19854
  N_2OH^+ isomers, struct. and energy levels, ab initio MO, SCF and CI calcs. 7−15481
  NS, low-lying valence and Rydberg states obtained by CI studies 7−49947
  NaBr, excited vibr. level, laser induced fluoresc. spectra 7−19914
  Ni complex, tetrakistrimethylphosphine Ni(0), synthesis and mol. vibr. study, Raman and IR spectra anal. 7−42627
  $Ni(PX_3)_4$ mols., force consts. calc. from vibr. spectroscopic data 7−50068
  NpF_6, IR-active fundamentals and combination bands, vibr. force consts. 7−25511
  O containing cpds., free OH group valence vibr., freq. limits 7−36587
  O+CO, recomb. chemiluminesc. spectrum calc. 7−46807
  O_2, $C^3\Pi_g$ Rydberg state, excited-state photoelectron spectra 7−50250
  O_2, form. and resonant vibr. levels of $O_2{}^-$, spectra anal., cross sections calc. 7−15730
  O_2, hyperpolarisabilities, vibr. contribs., CARS 7−57074

molecular vibration continued
  O_2, vibrationally excited form. mechanism by NO_2 multiphoton absorpt. 7−19989
  $O_2{}^+$, $X^2\Pi_g$ vibr. branching ratios, 905-1000 Å, autoionis. effect 7−50272
  $^{18}O_2$, Schumann-Runge bands, predissoc. linewidths meas. 7−62464
  $O_2 + H^+$, charge transfer collisions, vibr. state resolved meas. 7−5762
  O_3 absorption of high-power IR radiation 7−1237
  O_3, IR multiphoton excitation probed by CARs, vibr. population distribs. 7−10591
  O_3, UV Huggins bands, isotope shift obs. 7−19819
  OCN^--H_2O interaction, pot. surface, SCF MO calcs. 7−56967
  OCS, line strengths and collisional half-widths, IR spectra 7−36620
  OCS, vibr. excitation, non-Condon anal. 7−50062
  OCS, vibr. excited, photodissoc. cross section meas. 7−15662
  OF_2, ν_1 and $2\nu_2$ Fermi diad, diode laser spectroscopy, band const. and force consts. 7−25487
  OF_2, ν_3 band, diode laser spectrosc. 7−57051
  OH, adsorbed on transition metal surface, vibr. modes anal. 7−45008
  OH groups, on basic oxide surfaces, stretching vibrs. and coordinating polyhedra props. 7−10551
  OH, predissociation, non-adiabatic effects, energy levels calcs. 7−15660
  OH(OD), stretching vibr. in alcohols and silanols, pop. lifetimes, IR spectra 7−19844
  $^{16}O^{18}O$, Schumann-Runge bands, predissoc. linewidths meas. 7−62465
  PH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7−62413
  PH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
  POBr, gaseous, form., mass spectrometric and matrix IR investig. 7−39908
  Pd complexes, bivalent, mutual influence of ligands, vibr. spectrosc. investig. 7−10585
  $Pd(CN)_x$ ($x=1$ to 4), liq. NH_3 solns., Raman and IR vibr. spectra 7−57076
  Pt complex, tetrakistrimethylphosphine Pt(0), synthesis and mol. vibr. study, Raman and IR spectra anal. 7−42627
  PuF_6, IR-active fundamentals and combination bands, vibr. force consts. 7−25511
  RuO_4 transitions in ν_3 band, freq. meas. 7−36624
  S, Ar^+ ion irrad., S_2 sputtered mol. props. 7−936
  S_8, crown struct., pot. hypersurface, EHT calcs. 7−36483
  SF_6 clusters, supersonic jet, Fourier transform IR spectra 7−15598
  SF_6, IR multiphoton excitation probed by CARs, vibr. population distribs. 7−10591
  SF_6 in Ar soln., IR absorpt. spectra 7−25522
  SF_6, optoacoustic signal generated by pulsed IR radiation 7−41480
  SF_6, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
  SF_6-Ar_n clusters, spectroscopic obs. of phase coexistence 7−36842
  $SF_6 + N_2O$, vibr. energy transfer and relax. study, kinetic model, IR fluoresc. spectra 7−50227
  SO_2, C^1B_2 electronic state, unequal bond lengths, two state vibronic model 7−25531
  $SO_2 + Ar$, intermol. energy transfer, trajectory study, rovibrational mol. energy depend. 7−31151
  $SO_2 + Ar$, intermol. energy transfer, trajectory calcs., rate coeffs. for rovibrational states 7−31152
  SO_3 complexes with selected O_2-containing bases, matrix isolation IR spectra 7−36615
  $S_2{}^{16}O$, equilib. struct., diode laser spectrosc. obs. 7−5661
  $S_2{}^{18}O$, equilib. struct., diode laser spectrosc. obs. 7−5661
  SbH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
  SeO_2 ground vibr. state, rot. const. sub mm spectra 7−31028
  SeO_2, struct., pot. functions, electron diffr. and spectroscopic data 7−15708
  Sf_6, IR multiphoton excitation, time-resolved Raman spectra anal. 7−36629
  Si_2, IR emission band spectrum 7−57062
  $SiCl_2$ radical, laser-induced fluoresc. investig. 7−31090
  $SiCl_2$, UV emission spectrum, vibr. anal. 7−31024
  $Si^{35}Cl_2H$, mm wave rot. spectra, centrifugal distortion const. and harmonic force field anal. 7−25496
  SiF_4 in Ar soln., IR absorpt. spectra 7−25522
  SiF_4, stretching vibr. overtone and combination states, multiphoton processes 7−25488
  SiH_4, mol. vibr., rot. energy level struct. calcs. 7−50061
  SiH_4, ν_2 and ν_4 bands, interacting E and F_2 fundamentals, reduced Hamiltonian and invariant parameters 7−25486
  $SiH_3(D_3)$, ions and radicals, pot. energy curves and electron affinities determ., photoelectron spectra anal. 7−25603
  SnH_4, rot. spectrum in vibr. ground state obs. by IR-RF double reson. 7−25573
  SrAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7−25591
  T_2O, IR spectra, ν_3 mode, rot. and quartic distortion consts. 7−50111
  $UO_2(NO_3)_2$, $NO_3{}^-$ group investig. by vibr. spectrosc. 7−10548
  $UO_2(NO_3)_2.6H_2O$, Raman spectra, totally symm. vibrs., band shapes 7−42628
  W_2Cl_6, mol. struct., GPED 7−5770
  WO, vibr. consts. determ. 7−15586

molecular vibration calculations
  alcohols, saturated, OH stretching band integrated intensity, rel. to struct. 7−62343
  n-alkanes, vibr. zero-point energy additivity 7−10545
  n-alkyl chlorides, vibr. zero-point energy additivity 7−10545
  anharmonic force consts. calcs. 7−5655
  bent XYZ type molecules, mol. consts. 7−5653
  bicyclic compounds, valence force field and vibr. wavenumber calcs., IR and Raman data comparison 7−50079
  n-butane-d_9, C-H bonds, vibr. anal. gas phase IR spectra simulation 7−19825
  chlorin, photoisomer, in n-octane, emission anisotropy 7−57052
  CO_2, vibr. levels kinetics, rotational states influence 7−31186
  computer-oriented approach to molecular mechanics 7−57041
  coupled potential energy surfaces, nuclear dynamics Lanczos algorithm 7−49976
  cyclopentyne, struct., ab initio MO calcs. 7−49895
  deltic acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7−25387
  diatomic systems, mol. const. determ. from higher harmonic vibr. spectra 7−25481

molecular vibration calculations continued
3-diazo-2-butanone - do(d6), vibr. anal., IR and Raman spectra 7—19853
dicarboxylic acid salts, config. in aq. solns., Raman spectra study, vibr. calcs. 7—10598
dihalogermanes, mol. dynamics, vibr. anal. 7—50049
dimers, H bonded, intermol. interactions, quantitative model 7—36721
ethane, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
fluoroform, force field study by parametric method 7—5652
formic acid dimer, symm. stretching modes in gas phase 7—25475
group theoretical method of constructing symm. coords., vibr. spectroscopy of mols. 7—36582
1,3,5- hexatriene, conform. struct, vibr. anal., ^2H substitution effects, RHF calcs. 7—25386
3-hexyne, vibr. spectra, normal coordinate calcs., free internal rot. 7—50069
hyperbolical potential functions, energy eigenvalues 7—42725
isolated polyatomic mol., intramolecular vibrational relax. rate, threshold energy depend. calcs. 7—31023
linear molecules, quartic and octic centrifugal const., vibr. depend. 7—57048
methane, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
methane $-d_0$ $(-d_4)$, integrated IR intensities 7—50132
methanol mol. vibr. spectrum, CNDO/2 FORCE calcs. 7—49924
2-methyl oxetan, vibr. circular dichroism spectra, expt. and theoretical results 7—50208
1-methyluracil, isotopic derivatives vibr. spectra, ab initio Hartree-Fock SCF calcs. 7—15589
molecules and ions, vibr. energy wavefunctions, variational methods 7—36574
multidimensional potential matrix elements 7—42589
naphthacene, low-press. vapour, discrete electronic-vibr. fluoresc. spectra 7—50238
NH vibr. transition probabilities and r-centroids 7—50262
nitromethane, isomers, struct., quantum mech. harmonic force field calcs. 7—56952
nitryl halides and their isotopes, vibr. anal. 7—50051
organic molecules, photochemical processes, ab initio quantum chemical calcs. 7—59772
orthonormal Jacobi-type coordinates, rel. to large-amplitude vibr. and scatt. 7—50054
phenanthrene, low-press. vapour, discrete electronic-vibr. fluoresc. spectra 7—50238
planar symmetrical XYZ_2-type molecules, vibr. anal. 7—50051
polyatomic molecules, electronic-vibr. states, non-adiabatic effects anal. 7—25485
polyatomic molecules, spectra of inelastic three-photon light scattering, effects of intermediate vibronic states 7—19826
polyatomic molecules, vibr. spectra, automated interpretation 7—10549
polyatomic molecules, vibrational spectra, algebraic approach *(French)* 7—57046
polyatomic mols., localised highly excited anharmonic vibr. anal. 7—50075
polyatomic mols., stretching force consts., inner-shell polarisation effect, HFD calcs. 7—15588
polyenes, linear, ground-state vibrs. 7—36575
polymers, vibrational spectra, vibr. freqs. calcs. 7—42813
propane, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
pyrazine, in-plane vibrs., force field, MINDO/3 calcs. 7—42487
quantized discrete self-trapping equation 7—42590
rotationally isomeric molecules, vibr., theory 7—57045
Schiff's bases, neutral and protonated, C=N stretching freq. 7—31008
squaric acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7—25387
theory, comparison with Huckel MO theory 7—29636
triatomic floppy mols., excited vibr. levels, distributed Gaussian basis study 7—15581
triatomic linear molecules, Renner-Teller effect, exact and approx. symm. 7—62348
triatomic molecules, bending vibrs., Schrodinger eqn. calcs. 7—36581
trimethyl-d_9-pyrazine, normal vibrs., Raman and IR parameters investig. 7—50074
trimethylpyrazine, normal vibrs., Raman and IR parameters investig. 7—50074
trimethylsulfonium iodide-d_0(-d_9), vibr spectrum, normal coord. calcs. 7—50077
trimethylsulfonium-d_0(-d_9), vibr spectrum, normal coord. calcs. 7—50077
two-centre harmonic oscillator matrix elements and recursion relations 7—36691
van der Waals complex, triatomic, vibr. predissoc., adiabatic approx. model 7—36713
XY_3, pyramidal, vibr. spectrum, free mol. and condensed state 7—42595
XYZ_4 systems, molecular dynamics 7—10775
BHF_2 (BDF_2), mol. consts., vibr. anal. 7—50058
$B_{12}Y_{12}^{2-}$, (Y=H, D, F, Cl, Br, I) mol. vib., normal coordinate anal. 7—913
CO_2, vibr., hyperspherical coordinates, semiclassical SCF calcs. 7—5584
$^{12}C^{16}O_2$, vibr. energy levels and parallel band intensities determ. 7—5657
CO_2-CS_2-N_2 mixture, calc. of gains for vibrational transitions 7—1087
Cr $(NH_3)_6$ ligands, trigonally distorted, $^4A_{2g}$-^2E_g, $^2T_{1g}$ spectra and ligand field calcs. 7—57077
D_3^+, semiclassical vibr. eigenvalues, adiabatic switching method 7—57043
H_2 vibrational population distrib. modelling in volume H^- ion source 7—10344
H_3^+, semiclassical vibr. eigenvalues, adiabatic switching method 7—57043
HCN, vibr. energy levels calc. using ab initio pot. energy function, CI calcs. 7—25484
HCl, low-energy electron collisions, inelastic processes, R matrix theory anal. 7—31180
$(HF)_2$, IR and Raman spectra, vibr. calcs., secondary basis set superposition error 7—25478
H_2O, stretching and bending vibr., adiabatic approx. 7—10541
H_2O, vibr., hyperspherical coordinates, semiclassical SCF calcs. 7—5584
H_2P_2 isomers, electronic states, ab initio mol. electronic struct. theory 7—56934
LiCN, excited vibr. levels, distributed Gaussian basis study 7—15581
MgX_4^{2-}, (X=Cl, Br, I), force consts., vibrational anal. 7—5651
N_2 nonequilibrium weakly ionised discharge, energy balance 7—10711
$NbCl_5(Br_5)$, vibr. anal., GF matrix method calcs. 7—42593
O_2, autoionisation states, vibr. assignments 7—50073
O_2^+ in dayside ionosphere, vibrational distrib. 7—55363
Os complexes, OS(VI) nitrido systems, luminesc., excited-state distortion 7—50218

molecular vibration calculations continued
$ReO_2(CN)_4$, vibr. anal., force consts. 7—10538
SiCl, spectral and struct. props., MO calcs. 7—25418
T_3^+, semiclassical vibr. eigenvalues, adiabatic switching method 7—57043
VCl_3, Fourier for IR and laser Raman spectra meas., normal coordinate anal., molecular constant calcs. 7—50137

molecular vibration in solids
N-acetyl-L-amino acid methylamides solid and soln., conformers, IR and Raman spectra 7—33395
acridine, adsorbed on Al_2O_3, tunnelling spectra study 7—52264
ammonium hydrogen bis(trichloroacetate) single cryst., internal modes, IR and Raman spectra studies 7—26877
anthracene, cryst. and soln., a_g modes, Raman scatt. tensor elements meas. 7—64639
(η^6-benzene)tricarbonylchromium(0), charactn. by micro-Raman spectroscopy 7—64636
1,4-benzoquinone, solid, optically inactive modes, vibr. spectroscopy 7—32585
bicyclohexyl, conformers, phase transform. vib., IR and Raman spectra 7—33393
β-bis(ethylenedithiolo)tetrathiofulvalene iodide, organic superconductor, ^2H spin-lattice relax., temp. depend. study 7—53171
3,3-bis(nitratomethyl)oxetane, solid and soln., IR lineshape 7—3047
β-BoB_2O_4, crystal vibr. assignment, Raman and IR spectra anal. 7—53346
1,3-butadiene adsorbed on Ag films, SERS 7—22251
1-butene adsorbed on Ag films, SERS 7—22251
trans-β-carotene, finite solid polyene, amorphous and cryst., visible absorpt. and wavelength-selective reson. Raman spectra 7—64641
chalcocarbonyl(5,10,15,20-tetraphenylporphinato) iron II complexes, IR and NMR spectra 7—33394
2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7—46018
cytosine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7—10600
2,6-dichloroaniline, solid, vibr., IR spectra, CNDO/2 calcs. 7—3050
dielectric coatings, mol. struct. and phys. props. Raman studies 7—45063
N,N′-dihydroxyethyldithiooxamide-do(d_4), vibr. anal., X-ray diffr., NMR, Raman, IR, visible and UV spectra 7—51741
2,4-dimethylaniline, freq. assignments, IR and Raman spectra 7—22261
DMtTCF salts, electronic and vibr. absorption spectra, electronic correlations 7—46034
edge dislocations, velocity in a crystalline solid, applied shear stress depend. 7—21206
epihalohydrins, IR spectra, vibr. assignments 7—36603
ferrocene derivatives, charactn. by micro-Raman spectroscopy 7—64636
graphite-AsF_5 intercalation cpd., stage 1, nonresonant intercalant modes, Raman scatt. studies 7—38136
guanine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7—10600
halide and pseudohalides at Au surface, SERs, metal-adsorbate vibr. freqs., surface bonding 7—12468
hexabromomethane, vibrational spectra, crystal dynamics and phase transitions 7—38132
2,4-hexadiyne-1,6-diol-bis (p-toluene sulphonate), phase transitions, piezomodulated reflection spectroscopy 7—27691
hexanitroethane, crystallographic and vibrational study 7—38131
high-melting, heat capacity anal. 7—63754
hydrates, solid, mol. stretching freq. versus H bond distance correlation anal. 7—21370
bis(2-hydroxyethyl)terephthalate single cryst., benzene ring modes, Raman tensors determ. 7—64642
ice stretching vibr., red shift 7—22236
impurity ion off-centre dipoles 7—64163
indole, cryst. and melt, vibr., IR and Raman obs. 7—3049
indole, valence force const. IR and Raman freqs., normal coordinate anal. 7—914
intercalation cpd. struct., enthalpy of reaction 7—46841
IV-VI narrow gap vibronic ferroelec., correl. length estimate *(Russian)* 7—17277
lanthanide oxysulphides (oxyhalides), Eu^{3+}-doped, vibronic spectra 7—51968
layer crystals, dynamics, spectra study, book 7—55913
layer crystals dynamics, long wavelength vibrs., factor group anal. 7—58424
lithium hydrogen dimalate, dielectric const., pyroelectric coefficient 7—38989
metal complexes, IR vibrational spectra, coordination bond length correlation 7—13161
methane, Ar(Kr)(Xe) solid trapped, site struct. and hindered rot., IR spectra 7—5675
methyl(difluorophosphineborane), vibrational assignment, normal coordinate anal., Raman and IR spectra 7—62384
4-methyl-pyridine(-d_7), phase transitions, mol. mechanism, IR and Raman spectra 7—32637
molecular chains, solitary excitations, intramol. vibrs. anharmonicity 7—44712
naphthalene-tetracyanobenzene complex, mol. motions, neutron scatt. obs. 7—44709
neopentane, plastic phase orientational motion, Raman and IR spectra anal. 7—57067
$(NH_4)_3PCr_4O_{16}$, polycrystn., internal vibr., IR and Raman spectra 7—22263
orthophosphates, vibr., Raman and IR spectra 7—3048
perylene in microcryst. n-heptane, selectively laser excited in phonon sideband, stimulated emission 7—33415
PET films, one-way drawn, trichroic IR absorpt. spectra 7—33381
phenazine, adsorbed on Al_2O_3, tunnelling spectra study 7—52264
trans-polyacetylene, electron transport accompanying molecular vibr. 7—64227
polyacetylene, solitons and IR-active localised vibrational states, Su-Schrieffer-Heeger model calcs. 7—2134
polydiacetylene cryst., Raman spectra, press. depend. 7—27726
polyimide films, vibr., EELS and UPS study 7—46257
polyoxyethylene, conformation, vibrational spectra, normal coordinate analysis 7—53317
polyoxymethylene, polymorphism and mol. aggregation, Raman microprobe, vibr. spectra 7—13152
polypropylene, isotactic, polymorphic forms, FTIR far-IR obs. 7—53339
polyvinylidene film, oriented phase I, trichroic IR absorpt. 7—33382

molecular vibration in solids continued
- pyrozine, triplet lifetime, temp dependence, visible and IR phosphorescence spectra 7—22328
- rare earth ethyl sulphates, vibronic states 7—38138
- rare earth molybdates, vibronic states 7—38138
- rotational diffusion in cubic fields, appl. to mol. dynamics in crystal lattices 7—275
- skatole, valence force const. IR and Raman freqs., normal coordinate anal. 7—914
- strontium formate dihydrate single crystals, polarised Raman scatt., water internal modes 7—53311
- susceptibility meas., PMR, X-ray and neutron diffr. 7—45244
- TCNQ salts, quasi 1D molecular crystals, optical props., Hubbard model generalization, cond. calc. 7—45952
- TMTCT salts, electronic and vibr. absorption spectra, electronic correlations 7—46034
- tricosane, pseudohexagonal rotator phase, disorder at bilayer interface, mol. dynamics calcs. 7—58165
- trimethylammonium hexochloroantimonate, mol. vibr., Raman and IR spectra anal. 7—53347
- trimethyloxonium hexachloroantimonate, mol. vibr., Raman and IR spectra anal. 7—53347
- vibrational modes of solids, nuclear reaction spectroscopy 7—21371
- XY_3, pyramidal, vibr. spectrum, free mol. and condensed state 7—42595
- $AlCl_3$, layer struct., IR vibr. spectra 7—13151
- $AlCl_3.6H_2O$ single cryst., polarised IR reflection spectra 7—3054
- $BaBr_2H_2O$, cryst. struct., comparative study with isotypic halides, bifurcated H bonds 7—63543
- $BaCl_2H_2O$, cryst. struct., comparative study with isotypic halides, bifurcated H bonds 7—63543
- BaI_2H_2O, cryst. struct., comparative study with isotypic halides, bifurcated H bonds 7—63543
- $Ba(NO_2)_2D_2O$, lattice vibrs., mol. contrib., Raman spectra 7—46007
- $BaTiO_3$, vibronic ferroelec., correl. length estimate *(Russian)* 7—17277
- Bi complex, $MBi(PO_4)_3$, M=Cd, Pb, Co, Sr, Bo, structural and spectroscopic data correl., Raman and IR spectra anal. 7—53348
- CO, adsorbed on Ni (001), 7—52235
- CO complexes, struct. ang. distortions, stretching modes. IR spectra 7—3052
- CO monolayer on Si (111), electronic props., pseudofunction method calcs. 7—2659
- CO, physisorbed multilayer, near-threshold electronic excitation, EELS spectra anal. 7—45001
- CO_2, amorphous solid, mol. vibr., IR spectra anal. 7—53307
- $CaF_2:Er^{3+}$, $H^-(D^-)$, IR excitation and absorpt. spectra anal. of sites 7—53306
- CaO-SiO_2 polycryst. silicates, FTIR and Raman spectra, isotopic shifts and force consts. 7—53341
- $Ca(SiO_x)_y$, cryst. struct., vibr. spectra, force consts., Si—O bond charact. 7—37932
- $3CdSO_4.8H_2O$, site symm. of SO_4^{2-} ion, IR absorpt. spectra 7—33374
- $Ce_2(SeO_4)_3.5H_2O$, vibr., IR and Raman spectra 7—3046
- $CrCl_3$, layer struct., IR vibr. spectra 7—13151
- $Cs_2HPO_4Te(OH)_6$, vibr. anal., IR and Raman spectra 7—39104
- $CsNO_3$, polycryst., IR absorpt. spectra 7—33396
- $Cs_2ReBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7—53292
- CsSCN, thermal vibrs. below structural phase transition at 470 K, neutron diffr. 7—63759
- $Cs_2TcBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7—53292
- $Cs_2[Fe(CN)_5NO].H_2O$, thermal behaviour and vibr. spectra 7—64632
- $CuAl_{1-x}Ga_xSe_2$, mixed crysts., Raman scatt. spectra 7—13168
- Dy, mean square amplitude of vibr. and Debye temp. 7—21368
- Fe oxide coatings on Invar, IR emission, absorpt. modes effect 7—27708
- Fe oxides, coatings on Fe, IR emission, absorpt. modes effect 7—27708
- $FeCl_3$, layer struct., IR vibr. spectra 7—13151
- Gd, mean square amplitude of vibr. and Debye temp. 7—21368
- H_2 cryst., IR absorpt. spectra in first overtone region 7—59209
- p-H_2, solid, obs. of fourth vibr. overtone transition of mol. H_2 7—12392
- $IrBr_6^{2-}$, in A_2MX_6-type host crysts., near-IR absorpt. spectra 7—22232
- $IrCl_6^{2-}$, in A_2MX_6-type host crysts., near-IR absorpt. spectra 7—22232
- $KBi_5(PO_4)_6$, structural and spectroscopic data correl., Raman and IR spectra anal. 7—53348
- $KBr:MnO_4$, low temp. resonance Raman scatt. and luminescence 7—39101
- $KCLO_4$ single crystals, vibr. anal., optical modes, IR spectra studies 7—22245
- $K_2(Fe(CN)_5NO).1.25\ H_2O$, DTA-TGA, cryst. and mol. struct. and vibr. props. 7—6597
- $K_2HPCr_2O_{10}$, polycrystn., internal vibr., IR and Raman spectra 7—22263
- KH_2PO_4 (KD_2PO_4), low freq. optical vibr. interaction, Raman spectra 7—46026
- $KHSeO_4$ single crystal, polarised IR spectra anal., rel. to cryst. struct. 7—46047
- $KMBi_2(PO_4)_3$, M=Cd, Pb, Co, Sr, Bo, structural and spectroscopic data correl., Raman and IR spectra anal. 7—53348
- K_2O-P_2O_5-TiO_2 glass, IR spectra 7—46025
- $K_3PCr_4O_{16}$, polycrystn., internal vibr., IR and Raman spectra 7—22263
- $K_2ReBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7—53292
- $KSnCl_3.H_2O$, near IR spectra, polarised overtone-combination bands 7—7684
- $K_2SnCl_4.H_2O$, near IR spectra, polarised overtone-combination bands 7—7684
- $K_2TcBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7—53292
- $KTiOPO_4$, IR spectra 7—46025
- $xLi_2O.yLi_2SO_4.B_2O_3$, IR and Raman spectra, vibr. study and struct. 7—37879
- Li_2SeO_4 single crystal, optic modes, room temp. Raman spectra study 7—53345
- Li_4TeO_4 glassy electrolyte, vibrational, thermal and elec. characts. study 7—6866
- Lu, mean square amplitude of vibr. and Debye temp. 7—21368
- Mg_2FeH_6 cryst. complexes, Madelung field effects, quantum chem. calcs. 7—11984
- Mg_2NiH_4 cryst. complexes, Madelung field effects, quantum chem. calcs. 7—11984
- Mo complex, tetraacetomolybdenum, metal–metal quadruple bonds, normal coordinate anal. 7—42578
- $Mo_2Cl_8^{4-}$, metal–metal quadruple bonds, normal coordinate anal. 7—42578
- $MoW_8O_{19}^{2-}$, valence force field calcs., influence of metal atoms oxidation state 7—17323
- N_2, physisorbed multilayer, near-threshold electronic excitation, EELS spectra anal. 7—45001
- $(NH_4)_{0.32}H_{0.16}WO_3$, intercalation cpd. struct., enthalpy of reaction 7—46841
- $(NH_4)_{1.84}V_3O_8$, intercalation cpd. struct., enthalpy of reaction 7—46841
- $NaBr:CN^-$, IR vibrational fluoresc. obs. 7—27775
- $NaCl:CO_3^{2-}$ cryst. surface, localised intramol. vibrations, IR transmission spectra study 7—2132
- $NaCl:OH^-$, Cd^{2+} single cryst., gamma irrad., electronic and IR spectra 7—53320
- $NaF:OH^-$, X^+; X=impurities, vibr., radiation effects, IR spectra 7—53321
- $NaLa(MoO_4)_2$: Nd^{3+}, Raman and IR spectra study 7—46046
- $Na_3PCr_3O_{13}.3H_2O$, polycrystn., internal vibr., IR and Raman spectra 7—22263
- $Na_4P_2Se_6$, isomeric forms, $P_2Se_6^{4-}$ vibr. spectra, normal coordinate anal. *(German)* 7—22270
- $Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7—6870
- $Na_5[Cu(HIO_6)_2].16H_2O$, room temp. reson. Raman spectrum 7—64638
- $NbW_5O_{19}^{3-}$, valence force field calcs., influence of metal atoms oxidation state 7—17323
- Nd complex, tetra dimethyl sulphoxide neodymium nitrate, vibr., Raman. IR and luminesc. study 7—33392
- $NoBi_5(PO_4)_6$ structural and spectroscopic data correl., Raman and IR spectra anal. 7—53348
- $NoMBi_2(PO_4)_3$, M=Cd, Pb, Co, Sr, Bo, structural and spectroscopic data correl., Raman and IR spectra anal. 7—53348
- $PbWO_4$, struct., X-ray, IR absorpt. and Raman spectra 7—37954
- Pd (001), H adsorption, coverage depend. props., ab initio calcs. 7—38340
- Pd complexes, with dithiooxamides, vibr., IR spectra 7—3053
- Pt complexes, triphenylphosphine complexes, vibr., IR and Raman spectra 7—33397
- $RbHSeO_4$ single cryst. ferroelec., H bond vibr., polarised IR spectra studies 7—27707
- $RbNO_3$, polycryst., IR absorpt. spectra 7—33396
- Rb_2ReCl_6, solid, IR and Raman spectra, vibr. anal. 7—53292
- Rb_2TcCl_6, solid, IR and Raman spectra, vibr. anal. 7—53292
- Re complex, tetraacetodichlororhenium, metal–metal quadruple bonds, normal coordinate anal. 7—42578
- $Re_2Cl_8^{2-}$, metal–metal quadruple bonds, normal coordinate anal. 7—42578
- Si (111)2×1, thiophene adsorpt., annealing-induced mol. fragmentation, surface vibr. spectra, HREELS study 7—27088
- Si porous films, IR absorpt. study 7—39149
- a-Si:H, Si—H—Si three centre bonds IR spectra, LCAO-MO-SCF-STO-3G calcs. 7—6741
- Si:H solar cells stability, role of Si—H bonds studied by Fourier transform infrared spectroscopy 7—13896
- a-SiC:H, elec., optical and local structure props. 7—45089
- SiC:H,F amorphous films, struct., elec. and optical props. 7—22360
- a-SiGe:D, F, vibr. modes, Fourier transform IR spectra studies 7—46053
- Si_xGe_{1-x}:H,F amorphous films, struct., elec. and optical props. 7—22360
- Si(001), 2 × 1 surface relax. and vibr. excitations 7—6949
- $SrBr_2H_2O$, cryst. struct., comparative study with isotypic halides, bifurcated H bonds 7—63543
- $SrCl_2H_2O$, cryst. struct., comparative study with isotypic halides, bifurcated H bonds 7—63543
- SrI_2H_2O, cryst. struct., comparative study with isotypic halides, bifurcated H bonds 7—63543
- $TbVO_4$ coherent vibr. and electronic excitation, time resolved spectra 7—22230
- $Te(OH)_62(NH_4)_2HPO_4$, $Te(OH)_6Na_2HPO_4.H_2O$, IR and Raman spectra, vibr. anal. 7—13147
- $TiCl_3$, α and δ forms, vibr. anal., IR spectra study 7—46049
- $Tl_4P_2Se_6$, isomeric forms, $P_2Se_6^{4-}$ vibr. spectra, normal coordinate anal. *(German)* 7—22270
- Y, mean square amplitude of vibr. and Debye temp. 7—21368
- $YAsO_4$, internal and external vibrs., IR and Raman spectra studies 7—64648

molecular vibrational energy transfer *see molecular rotational-vibrational energy transfer*

molecular vibrational relaxation *see molecular rotational-vibrational energy transfer*

molecular vibrational states *see molecular vibration*

molecular vibronic states
- acetylene, X-ray photoelectron spectrum study, diabatic model anal. 7—36448
- aniline, excited vibronic states, ion dip spectroscopy 7—19990
- azulene, in rare gas matrix, highly excited single vibronic level relaxation, direct obs. 7—19915
- benzene, vibronic activity, CNDO/S and INDO/S calcs. 7—49926
- benzene derivatives, vibronic coupling in dimeric systems 7—25533
- benzofurazan, vibronic struct., magnetic circular dichroism spectra anal. 7—50211
- 2,1,3-benzothiodiazole, vibronic struct., magnetic circular dichroism spectra anal. 7—50211
- bromocyanoacetylene cation in ground and electronic states, vibr. struct., emission and laser excitation spectra 7—50228
- chlorin, ground and excited states normal mode symmetry determ. 7—36588
- chlorophyll and derivatives, spin state in zero field, phosphoresc. emission 7—57124
- crystalline donor-acceptor complexes, vibronic coupling in charge-transfer states 7—52542
- 2,6-difluoropyridine, vibronic band system study, UV spectra anal. 7—42641
- 2,3-dimethylpyrazine, vibronic interaction, vibr. anal., UV spectra 7—31065
- fluorocarbene molecule, $\tilde{A}^1A'(000)$-$\tilde{X}^1A''(010)$ vibronic band, fluorescence study 7—31094
- guaiazulene, excited state dynamics kinetic model, laser-saturated fluoresc. study 7—50220
- halogenated aromatic hydrocarbons, resonant two photon ionization in supersonic beams 7—19961
- α-helical proteins, dynamical struct., vibron solitons description 7—47002
- hexahalo complexes, vibronic coupling and state Jahn-Teller effect 7—19725

molecular vibronic states continued

- impurity liq. cryst. spectra. complex vibron struct., polarisation absorpt. band splitting studies 7−17332
- insulin, UV reson. Raman spectra anal. 7−41481
- lanthanide oxysulphides (oxyhalides), Eu^{3+}-doped, vibronic spectra 7−51968
- methylene, $\tilde{X}^3B_1$, IR rot. transitions, diode laser absorpt. obs. 7−10567
- methylene radical, $^1A_1$ state and $^1A_1$-$^3B_3$ coupling, visible absorpt. and mag.-rot. spectra 7−49903
- methylnitrite, photodissoc. NO photofragment excited state distrib., fluoresc. spectra anal. 7−50225
- naphthazarin, vibronic states relax., fluoresc. spectra study. 7−50221
- one-dimensional polymer, vibronic interactions, HMO calcs. 7−26878
- optical vibronic transitions between mol. states with different geometric configs., probabilities calc. 7−31115
- phenanthrene-d_0(-d_{10}), in supersonic free jet, electronic spectra, intramol. dynamics 7−42672
- phenylalanine, UV reson. Raman spectra anal. 7−41481
- polyatomic molecules, electronic-vibr. states, non-adiabatic effects anal. 7−25485
- polyatomic molecules, spectra of inelastic three-photon light scattering, effects of intermediate vibronic states 7−19826
- polyatomic mols., n-alkane matrix isolated, spectroscopy 7−45979
- rare earth ethyl sulphates, vibronic states 7−38138
- rare earth molybdates, vibronic states 7−38138
- resonance fluorescence stationary spectrum 7−49994
- resorufin adsorbed on γ-Al_2O_3, fluoresc. line narrowing and site-selection expt. 7−10655
- tetrahedral mols., T_2 electronic state vibronic wavefunctions 7−19731
- s-tetrazine, photochem. hole burning, Doppler-free saturation spectrosc. 7−36589
- s-tetrazine-Ar van der Waals complex, vibr. predissoc., RRKM approach, vibronic emission 7−19983
- thiopyrylocyanine dyes, in polymer matrix, hypsochromic shift, solvation, IR spectra 7−42611
- triatomic linear molecules, Renner-Teller effect, exact and approx. symm. 7−62348
- triatomic molecules, bending vibrs., Schrodinger eqn. calcs. 7−36581
- tyrosine, UV reson. Raman spectra anal. 7−41481
- $Ar^+ + N_2$, charge exchange reactions, TEPICO method anal. 7−20076
- Ar_2, radiative lifetime of $A1_u$ states, time-resolved fluoresc. 7−19952
- $BrCN^+$, $\tilde{B}\,^2\Pi$ state, radiationless transition, fluoresc.-photon coincidence study 7−31101
- C $RbCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7−15605
- Cr $(NH_3)_6$ ligands, trigonally distorted, $^4A_{2g}$-^2E_g, $^2T_{1g}$ spectra and ligand field calcs. 7−57077
- CrO_2Cl_2 vibronic anal., CCl_4 and $SnCl_4$ matrices, emission and excitation spectra, MODOR spectra 7−15542
- $CsCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7−15605
- Cu_3, assignment of the 5397 Å system, mol. fluoresc. data anal. 7−50217
- H_2, photoionisation and photodissociation, six photon ionisation, vibrational levels 7−10682
- H_2, vibronic constants, semiempirical determ. 7−42513
- $He^+ + H_2$, elastic and inelastic scatt. mechanisms, energy loss spectra 7−15671
- $KCl{:}Cr(CN)_6{}^{3-}$, phosphorescence spectrum, temp. dependence 7−7742
- Kr_2, radiative lifetime of $A1_u$ states, time-resolved fluoresc. 7−19952
- $KrCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7−15605
- N_2 fluid, eqn. of state and vibron freq. thermodynamics, Monte Carlo, calcs. 7−12231
- $NH_3(ND_3)$ band intensity and symmetry effect on absorpt. spectrum 7−57049
- NO, rot. resolved laser photoelectron spectra, propensity rules 7−31113
- OCS, vibr. excitation, non-Condon anal. 7−50062
- $OH + H_2O$, rot. transfer, time-resolved fluoresc. 7−42664
- Os complexes, OS(VI) nitrido systems, luminesc., excited-state distortion 7−50218
- SO_2, C^1B_2 electronic state, unequal bond lengths, two state vibronic model 7−25531
- SiH_2, intracavity laser absorpt. spectra. 7−15616

molecular weight

- *see also mass spectra; molecular weight determination*
- ARB polymerisation, reversible, mol. wt. distrib. 7−8274
- bisphenol-A polycarbonate, molecular wt. determ. 7−10800
- block copolymer, weight average molecular weight calcs. and Callot inequality 7−50427
- block copolymers, mol. wt. and comp. heterogeneity, determ. 7−6556
- block copolymers, superstructs., equilib. parameters calcs. *(Russian)* 7−63518
- carboxylato-telechelic polyisoprene, mech. props. 7−38096
- chain molecules, self-diffusion coefficients, conc. depend. *(Russian)* 7−62555
- chitin nitrate, sedimentation vel., mol. mass and conform. parameters *(Russian)* 7−10803
- chitozane, sedimentation vel., mol. mass and conform. parameters *(Russian)* 7−10803
- comb-like polymers, with mesogenic side fragments, conform. and optical anisotropy *(Russian)* 7−63516
- epoxy-amine networks, build-up and etherification, statistical structural model 7−13768
- internal pressure in relation to the structure of polymers 7−31195
- methyl xyloglucuronates, mol. wt. and sequence determ. by ^{13}CNMR and mass spectroscopy 7−15625
- oligomers, $\overline{DP}_n$ determ., PMR method 7−930
- PMMA, stress cracking in air, mol. wt. distrib. effect 7−50992
- poly(1,4-dimethylene-trans-cyclohexyl suberate) mol. wt. blends, fracture energy and morphology 7−37899
- poly(ether sulphone)-poly(dimethylsiloxane)-poly(ether sulphone), elastic modulus in glass transition range 7−63722
- polyamide hydrazides, aromatic, p- and m-phenylene units effects on struct.-prop. rels. 7−51604
- polyaryl ether ketone blends, isomorphic behaviour, miscibility, glass transition and melting temps. 7−44416
- polybutyl methacrylate, solns., viscosity-mol. wt. rels. and unperturbed dimensions 7−63425
- polybutyl methacrylate, tensile flow, stress-strain behaviour, temp. depend., mol. wt. 7−6847

molecular weight continued

- polyelectrolyte solutions, small angle X-ray scatt. 7−11886
- polyethylene, continuous melt extrusion, morphology, strength 7−39472
- polyethylene filaments, low and high mol. wt. blend, tensile strength 7−17599
- polyethylene-polyamines, struct., ^{13}C NMR obs. *(Russian)* 7−13047
- polyisobutylene, glass transition, mol. wt., Gibbs-Dimarzio statistical mech. theory 7−44815
- cis-1,4-polyisoprene networks, uniaxial extension, stress-strain relation 7−39605
- polymer, filled, melt, matrix mol. wt. effect on rheological props. 7−16141
- polymer chains, ring shaped, coil props. 7−57198
- polymer melts, crystallisation, localised diffusion, reptation effect 7−44414
- polymers, molecular weight, distrib. between crosslinks 7−50425
- polymers, molecular weight determination by NMR spectroscopy 7−50426
- polysaccharides, in coccoliths of Emiliania huxleyi, molar mass determ. 7−8479
- polystyrene, blend of linear and cyclic, melt viscosity, mol. wt. depend. 7−16794
- polystyrene, monodisperse, fracture, chain scission, mol. wt., temp. depend. 7−33776
- polystyrene, proton-spin-lattice relaxation times, determ. using NMR relaxation, mol. wt. dependence 7−10797
- polystyrene melts, tensile stress, recoverable strain, rubberlike elasticity 7−44884
- polystyrene solns., integrated intensity light scatt., conc., temp., mol. wt. depend. 7−46056
- polystyrene-polybutadiene-toluene, mono- and polydisperse solns., interaction parameter determ. 7−10795
- rubber, gel and mol. wt. influence on mech. props. 7−37904
- sodium polystyrene sulphonate, aq. solns., small-angle X-ray scatt., mol. wt. effects 7−16391
- sulphobetaine polymers, phase behaviour and soln. props. 7−38164

molecular weight determination

- *see also mass spectra*
- melamine+formaldehyde, polymerisation, mol. wt. determ. 7−62552
- poly(methacrylic acid), methanol soln., viscosity, alkali metal cpds. effects 7−38234
- polyethylene glycol, tetrahydrofuran soln., mol. weight determ., size exclusion chromatography 7−50424
- N-trifluoroacetylated poly(ε-caprolactam), gel permeation chromatographic anal., calibration procedure 7−65374

molecule-atom collisions *see atom-molecule collisions*

molecule-atom reactions *see atom-molecule reactions*

molecule-electron collisions *see elastic scattering of electrons by atoms and molecules; molecular electron impact dissociation; molecular electron impact excitation; molecular electron impact ionisation*

molecule-ion collisions *see ion-molecule collisions*

molecule-ion reactions *see ion-molecule reactions*

molecule-molecule reactions

- *see also molecular rotational-vibrational energy transfer*
- 1-acetonaphthone+diphenylamine, micellar soln. photoinduced electron transfer, mag. field effects 7−3579
- benzene+ethylene, isomer group equilib. mole fractions, calcs. 7−13738
- 1,3-butadiene+HCl, addition, internal excitation effect, rate const. meas. 7−17761
- carbazole+4-cyanopyridine (benzonitrile), H bonding interaction 7−17784
- 2-chloro-2-methylpropane, solvolysis in aqueous alcoholic solvents, US effects 7−50898
- complex molecules, effective kinetic diameter determ. 7−26376
- dichlorofluoromethylperoxy radical + NO_2 forming peroxynitrate, rate const. at stratosphere conditions 7−23802
- hematoxylin+$ZrOCl_2$, reaction, spectrophotometric obs. 7−39885
- methanol+fulminic acid (acetonitrile oxide), reaction pathway, MNDO SCF calcs. 7−3582
- methyl thiyl radical+$NO(NO_2)(O_2)$, reaction rate consts., mol. fluoresc. anal. 7−19917
- methyldioxy radical self-reaction, rate constant, flash photolysis and UV spectral study 7−54075
- organophosphorus compounds, gas-phase synthesis rel. to atmospheres of giant planets 7−24058
- peroxynitrate formation rate in stratosphere, $CFCl_2O_2$ + NO_2 reaction kinetics 7−23802
- tetrafluoroethene+O_2, oxidation, laser photosensitised, chemiluminesc. 7−65328
- trimethylsilylium+O_2(aromatic bases), assoc. binding energies meas., mass spectra 7−54096
- $AlCl + CO_2$, rate coefficient meas., HT FFR kinetics study 7−46793
- $BO + O_2$, gas-phase oxidation, rate consts., fluoresc. and chemiluminesc. study 7−22985
- CN, generation by photolysis of NCNO, removal by H_2, HCl and HBr, fluoresc. 7−46812
- $ClO + ClO$ reaction kinetics, implications for Antarctic O_3 7−54090
- $ClO + HNO_3$ in stratosphere, implications for HCl content 7−14363
- $ClONO_2 + HCl$, homogeneous and heterogeneous components, kinetics, implications for stratosphere chem. 7−54091
- $ClONO_2 + HCl(H_2O)$, kinetics, implications for stratospheric O_3 7−54089
- Co-O cluster ions, collision-induced dissoc., struct. calcs., mass spectral anal. 7−54107
- DCl + OH (OD), reaction rates, vibr. excitation and isotopic substitution effect 7−22996
- $F_2 + CS_2$, reaction, mol. electronic emission spectrum 7−3577
- $F_2 + I_2$, room-temp. reaction, obs. of I, IF chemiluminesc. 7−28289
- $HF + H_2(N_2)$, total differential scatt. cross sections 7−13743
- $HO_2 + HO_2$, rate constant, flash photolysis and UV spectral study 7−54075
- HO_2+methyldioxy radical, rate constant, flash photolysis and UV spectral study 7−54075
- $HSiCl + SiH_4(SiH_2Cl_2)$, insertion reaction rate const. meas., laser-excited fluoresc. detect. 7−46813
- $Li_2 + H_2$, ab initio study 7−8257
- $NH_3 + HX$ where X=Cl, Br, I, gas phase charge transfer complexes, pot. curves 7−13733
- $NO + O_3$, chemically reacting mixing layer struct., conc. field meas., entrainment and mixing anal. 7−44006

molecule-molecule reactions continued
$NO+NO_2 \rightleftharpoons N_2O_3$, kinetic meas., time-resolved IR laser absorpt. 7−17771
NO_3+dimethyl sulphide, reaction rate coeff. meas. 7−22987
$NaO+N_2O$, gas phase kinetics, rate const. determ. 7−28272
$NaO+O_2(CO_2)$, assoc. reactions with third body He, N_2 or N_2O, kinetics, atm. appl. 7−59748
$NaO+O_3$, gas phase kinetics, rate const. determ. 7−28272
$No_2O.nSiO_2$+propylene carbonate, gels form., comp. of phases and rheological props. meas. 7−39875
$O_2+SF_5(SF_2)(SOF)$, gas-phase reaction rel. to plasma processing 7−3586
OH + HCl (DCl), reaction rates, vibr. excitation and isotopic substitution effect 7−22996
OH+CO, reaction kinetics at atmospheric conditions 7−40529
$OH+NO(NO_2)(N_2O)$, isotope exchange reactions, LMR detection, rate const. meas. 7−39882
SOF_2, gas-phase hydrolysis, reaction rate consts. 7−13744
SOF_4, gas-phase hydrolysis, reaction rate consts. 7−13744
$UMoO_6+CaO=CaMoO_4+{}^1/_3U_3O_8+{}^1/_6O_2$, free energy of form., thermodynamic feasibility 7−13753
$XeO+N_2O(OCS)(NO_2)(SO_2)(O_2)(CO)$, quenching reaction kinetics investig. 7−46814
$XeS+N_2O(OCS)(NO_2)(SO_2)(O_2)(CO)$, quenching reaction kinetics investig. 7−46814

molecule-neutron interactions *see molecular neutron scattering*

molecule-surface impact
see also sputtering
anthracene surface, collision of N_2 mols. in singlet metastable states, fluoresc. emission 7−19939
bound state existence confirmation for atomic and mol. projectiles inside solid targets, expt. investig. *(French)* 7−22427
n-butane, adsorpt. on Ir (110), activation with translational energy 7−39336
charged particle, interaction with solid surface, general formalism, spherical geometry 7−2652
diatomic molecule-metal surface interaction, multidimensional potential energy surface 7−53490
dynamic investigation by laser beam 7−17385
dynamics, expts., review 7−46267
gas mixture nonequilib. flow through narrow channels, phonon drag effects 7−16253
graphite surface, NO molecule scatt. 7−13316
inelastic gas-surface scattering formalism 7−13305
metal surface, pulsed laser induced desorption 7−58617
molecular Knudsen gas, cross effect between heat and momentum transport 7−26380
nondissociative scattering, processing effect 7−13309
nonequilibrium gas-solid system, transport processes, kinetic theory calcs. 7−16254
oriented molecule scatt., anisotropic charge transfer rates 7−59366
plate, photographic, low energy heavy mol. ions impact, sensitivity estimation 7−61392
polyatomic molecules colliding with nonrigid surfaces, quantum theory of energy exchange 7−64865
rainbow scatt. study in mol. and nucl. physics, and surface science 7−62482
sapphire surface, long range interaction between rare gas atoms/molecules and surfaces, calc. 7−3135
scattered ion energy spectra under mol. bombardment 7−13294
secondary-electron emission, beam-foil experiments with molecular ions, anal. 7−39326
state-to-state molecular beam-surface scattering via laser spectroscopic techniques 7−17386
surface science, modern techniques, book 7−60911
W (100) and (110), O_2 adsorption, low temp. adsorpt. kinetics and weakly-bound states, molecular beam technique studies *(Russian)* 7−16871
Ag surface, CO_2 molecules impact, quantum theory of energy exchange 7−64865
BN surface, long range interaction between rare gas atoms/molecules and surfaces, calc. 7−3135
Br_2, inelastic scatt. from graphite surface, Monte Carlo classical trajectory calcs. 7−27837
CO_2-Ag (111) collision system, energy transfer processes 7−22423
CaF_2 surface, long range interaction between rare gas atoms/molecules and surfaces, calc. 7−3135
Cu (100), $H_2(D_2)$ molecular beam impact, resonant sticking coeff. 7−13308
Cu single cryst. target, atomic and mol. ion surface semichannelling, Lindhard atomic string model calcs. 7−63697
Ge surface, NO scattering, energy distributions, state-resolved measurements 7−53477
H_2 beam diffraction from metal surfaces, multidimensional potential energy surface 7−53490
H_2, diffraction and rot. excitation by collision with solid surfaces, multiple Gaussian wave packet theory 7−10767
H_2-metal impact, density functional approach, dynamic response at metal surfaces, van der Waals interaction, excitation of electron-hole pairs 7−3129
H_2O molecules, scatt. by cryst. surface, rainbow effects, calcs 7−7805
I_2 and ICl collisions with solid surfaces, dissoc. dynamics and energy transfer 7−36803
KCl (100), interaction of NaCl mol. beams with surface, desorption flux meas., SIMS obs. 7−33508
LiF surface, long range interaction between rare gas atoms/molecules and surfaces, calc. 7−3135
LiI impinging Re surface, surface ionisation in high vacuum, work function increases due to adsorpt. 7−46264
MgO, adsorption induced luminescence, O atomic and mol. beams 7−13231
N_2-crystal collisions, alignment, pot. parameters effect 7−64839
NH_3-saturated W (100), rot. inelastic scatt., two-photon reson. three photon laser ionisation spectra 7−10768
NO mol. impact on Ag (111), kinetic energy transfer correl. study 7−22414
NO scattered from Pt (111) surface, vibrational states 7−968
Ni (100), clean and O covered, adsorption and decomposition of N_2O 7−58644
Ni (100), dissociative chemisorption of alkanes studied by supersonic molecular beam techniques 7−52287

molecule-surface impact continued
Ni (100), molecular chemisorption of CO, precursors and trapping 7−58643
Ni-Fe (100) surface, break-up of oxide films by S_2 impingement, LEED and AES meas. 7−46260
Pt surface, CO_2 molecules impact, quantum theory of energy exchange 7−64865
Si (111) surface, H_2 dissoc. chemisorption dynamics 7−54169
Si surface, atomic and mol. F reactions, XPS studies 7−28350
W, interaction of He molecules, Auger anal. 7−64858

molecules
see also excimers; hydrogen neutral molecules; interstellar molecules; macromolecules; mesic molecules; molecular biophysics; molecular energy levels; muonic molecules; quasimolecules
No entries

Mollier diagrams *see thermodynamic properties*

molten metals *see liquid metals*

molten polymers *see polymer melts*

molybdenum
see also nuclei with ......
adsorption of Ba and Cs, bonding energies, thermionic emission studies 7−12463
alpha-particle-induced defects, annealing, positron annihilation studies 7−44633
arc melting, impurity content, mech. props. 7−27980
atom, HF calcs. and spectra 7−10477
bar, bending vibrs., amplitude-dependent internal friction, influence of non-uniformly stressed condition *(Russian)* 7−58410
boriding by immersion process in fused salts *(Japanese)* 7−59663
cathode sputtering, meas. of sticking coeffs. of O_2 and N_2 7−12476
cold worked, defect annealing behaviour, positron annihilation studies 7−37975
corrosion in flowing water, O_2 conc. effect 7−22906
creep, stress factors *(Russian)* 7−33750
creep behaviour, stress relax. expts. 7−46546
CVD coating on graphite, struct., thermal resist. props. 7−52375
cyclic deformation, dislocation substructures and hardening 7−21330
cyclic deformation 7−22719
deformation interaction of incorporation and substitution atoms 7−46556
dislocated lattice, local density of states calcs. in tight binding model, modified recursion method 7−52401
dispersed in Cu, directional solidification in reduced gravity *(German)* 7−22658
dynamic recovery in polycrysts. during rapid dumping of energy from pulsed laser *(Russian)* 7−32495
electrode, interaction with $Li_2S_{3.8}$, cyclic voltammetry study 7−13786
electrodes, porous, role of O in alkali metal thermoelec. convertor 7−13925
electron beam zone melting, temp. distrib. of floating zone 7−13351
electronic struct. of mag. 3d impurities, local density approx. 7−64432
epilayers on MBE GaAs, RHEED study of struct. 7−21755
etching, new method 7−39749
etching by photochem. machining 7−22909
fibre reinforced Cu or Fe matrix composites, extruded, struct. and fractography 7−13595
field evaporated ions, energy distrib. obs. and evidence for post field ionisation 7−46281
film, ion beam mixing of marker atoms, heat of mixing effect 7−21304
film on Si, ion beam mixing, amorphous layer form. 7−21301
Frenkel pair production cross sections, calc. fission-fusion neutron spectrum sensitivity 7−51849
fusion reactor first wall, plasma disruption damage calc. 7−791
high purity single crystal, impurity-induced lattice distortions, diffuse X-ray scatt. studies *(Russian)* 7−6644
high purity single crystals, distortion charact., effect of point defects, diffuse X-ray scatt. meas. 7−51752
high-temp. sp. ht. meas. and eqn. 7−6821
high-temperature corrosion film characterization using Raman microscopy 7−46772
highly ionised atoms injected into PLT and TFTR discharges, spectra 7−19748
hydroextruded single crystals, nonuniformity of texture deform. *(Russian)* 7−33695
ion implantation induced nonequilibrium surface layers, electron emission props. 7−12090
ion plated on austenitic steel, corrosion resist. in flowing Na environment 7−59667
ion trapping of D^+, mechanisms 7−64857
ions, energy levels, radiation effects and corrections 7−49960
Knight shift spin and orbital contribs., real-space formulation, Green's function method 7−2940
laser photochemical etching by surface halogenation 7−46676
low energy ^{4}He ion range and damage distribs. 7−63674
low temperature growth on Al, electron spectra studies 7−12540
metallic glass, one-component, amorphisation and crystallisation *(Russian)* 7−32301
microhardness, temp. depend in coarse-plastic transition region *(Russian)* 7−46638
micrometer-scale line deposition using near UV laser light 7−59438
mirror, absorptance meas. at glancing incidence, photoacoustic calorimetry 7−20380
optical gain following $Mo(CO_6)$ multiple photon dissoc. 7−31124
oxidation-preventing coating, high temperature, low-pressure plasma spraying 7−28182
paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
pion-decay channelling, high and low temps. 7−45866
plastic deformation in conditions of quasihydrostatics *(Russian)* 7−59586
plates, Doppler-shifted cyclotron resonance and skin effect 7−17224
polygonisation under high press. *(Russian)* 7−51939
porous electrodes for alkali metal thermoelec. convertor, voltammetric studies 7−28405
positron trapping by vacancies, loops and voids, positron annihilation studies 7−46216
powder sintering of porous bodies, rate growth and heredity phenomena 7−53652
pulsed laser irradiated, use of LEED for surface damage charact. 7−21592
radiation annealing hardening low temp. peak 7−22739
radiation dislocation loops, clustering 7−12073

- **molybdenum** continued
  - recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7–59546
  - recrystallised, microstruct. and creep charact. *(Russian)* 7–39600
  - resistivity and superconducting transition temp. 7–17013
  - segregation effects in pore-containing materials *(Russian)* 7–59533
  - single cryst., rolling, dynamic recovery rel. to deform. temp. *(Russian)* 7–65095
  - single crystal, cold worked, He pipe diffusion along dislocation, thermal desorption spectra 7–52142
  - single crystal, recrystallised after hydraulic extrusion, wide-angle boundaries of anomalous grain 7–44563
  - single crystals, deform. in US field, var. in angle of misorientation of substruct. *(Russian)* 7–53812
  - single crystals, high temp. deep following ion thermal treatment *(Russian)* 7–53813
  - single crystals, neutron irradiation embrittlement, yield strength 7–51854
  - single crystals, rolling, rel. between dynamic recovery and changes in orientation *(Russian)* 7–53759
  - single crystals, struct. changes during annealing after bending deform. *(Russian)* 7–44446
  - single crystals and polycrystals, high-angle boundaries of deformation origin 7–6712
  - smooth electrodeposits in KF-$Na_2B_4O_7$-Na_2MoO_4 fused salt melts 7–27950
  - solid surface tension, surface-energy comparisons, semi-empirical calcs. 7–2328
  - steel, stainless, laser alloying with Au(Mo), Rutherford backscattering and channelling studies 7–28206
  - structural materials, welling after neutron and ion irrad., comparison 7–58357
  - sub-surface defects, study by variable energy positrons 7–39286
  - surface, (100), adsorption of Ba and O, electron spectroscopy for quantitative anal. 7–13278
  - surface, (100), chemically modified, chemisorption bond energies of Lewis acids and bases 7–23056
  - surface, (100), chemically modified by adsorption of B, C, O, CO, surface atom oxidation states, ESCA meas. 7–28333
  - surface, (100), clean and with S or C overlayers, adsorption and reactions of hydrocarbons 7–28345
  - surface, (110), chemically modified, Au thin film form. study 7–12489
  - surface, (110), O_2 adsorption, temperature-related aspects 7–12464
  - surface, (110), work function, nonstoichiometric UO_2 effects 7–21977
  - surface, high-field corrosion, field-ion microscopy studies 7–33830
  - surface, struct. phase transitions 7–2327
  - surface (001), unoccupied surface states, inverse photoemission study 7–46171
  - surface (100), Na^+ ion elastic scatt., interaction pot. determ. 7–13299
  - surface (110), Au adsorbate struct., Auger electron peak shape study 7–46254
  - surface (111), surface layer relax., low energy Li^+ ion scatt. study 7–6943
  - surface reconstruction phase transformations 7–2326
  - surface structure minimal disturbance under ion bombardment 7–12419
  - surface with Ni/Au bilayer film, Ni out-diffusion 7–12511
  - thermal cond. meas. 7–32983
  - thermodynamic stability in a fusion reactor environment, H, O and C implantation and diffusion 7–49658
  - thin monocryst. plates magnetoresist., Al atoms diffusion annealing effects *(Russian)* 7–7408
  - tokamak limiter material, high heat load tests using 120 kW electron beam 7–26803
  - two dimensional angular correlation spectra studies, band struct. 7–39235
  - Al-Mo multilayered films, struct., elec. props. 7–58863
  - Al_2O_3:Mo, W, Cr, leucosapphire, growth by horizontal directional crystallisation, mass transport of Mo, W 7–22459
  - Cu/Mo multilayered film growth, RHEED intensity oscills. *(Japanese)* 7–63987
  - Cu-Mo multilayer film growth, RHEED intensity obs. 7–7051
  - GaAlAs-Mo junctions, Schottky barrier height, electrical props. 7–64346
  - GaAs:Mo, impurity electronic struct. excitation and ionisation, cluster approach, $X\alpha$ multiple scatt. calcs. 7–2535
  - GaAs-Mo Schottky diodes, elec. characts. and microstruct. study 7–22015
  - He pipe diffusion along dislocations 7–58544
  - Mo I, lifetimes, branching ratios and transition probabilities 7–36692
  - Mo surface, Ta deposition, short range bonding interaction, RBS meas. 7–3142
  - Mo^{2+}, post fluid ionisation and evaporated ion energy distrib. 7–33524
  - Mo:C,O films, growth by laser photolysis of carbonyls, C and O incorporation mechanisms 7–58685
  - Mo:Cu(Re), pulsed ion implantation, surface struct. 7–51867
  - Mo:D, ion implanted, impurity trapping 7–38029
  - Mo/Al-Si interdiffusion kinetics and contact resistance study for VLSI appls. 7–21714
  - Mo/C multilayered structs., high resolution electron microscopy studies 7–63968
  - Mo/Inconel 601 bimetallic strips, explosively welded, thermal effects *(German)* 7–27144
  - Mo/Ni heterostructures, upper critical field, anisotropy studies 7–27479
  - Mo/Ni superlattice, sputtered, struct. anal. 7–45030
  - Mo/Ni superlattices, anisotropic superconds., upper critical field anal. 7–22076
  - Mo/Sb multilayer film, superconductivity and structural characterisation 7–17128
  - Mo/Si, amorphous multilayers, annealing, diffusion, structural relax. 7–52309
  - Mo/Si multilayered structs., high resolution electron microscopy studies 7–63968
  - Mo/Si_3N_4 jointed interface, strain distrib. determ., laser speckle photography *(Japanese)* 7–54037
  - Mo/V quasiperiodic multilayers, growth and superconductivity 7–12927
  - Mo-Al system, diffusion markers in thin film $MoAl_{12}$ formation 7–58549
  - Mo-Ce alloy point contacts, low temp. I-V characts., thermoelec. effects obs. 7–27382
  - Mo-N polycrystalline films, implanted, single defects, X-ray diffr. data anal. 7–38372
  - Mo-Ni superlattices, elastic props., effect of strain 7–52376
  - Mo-Pd-Si, thin film metallisation system, interdiffusion, cpd. formation 7–21538
- **molybdenum** continued
  - Mo-Si multilayer mirror, reflectivity and stimulated emission in XUV spectra region 7–37099
  - Mo-Si(111)(2×1) interface, early formation stage 7–27150
  - Mo-ZrO_2, sintered composites, tetragonal to monoclinic transform. of ZrO_2 *(Japanese)* 7–13450
  - Mo-ZrO_2, sintered composites, mech. props, microstruct. *(Japanese)* 7–13558
  - $Mo+Mo^{q+}$, L-shell ionisation, X-ray yield, threshold behaviour 7–10734
  - Mo_5Si_3-Mo, lowest silicide phase coating, phase changes at high temps. 7–3497
  - N-vacancy interactions, obs. with thermal He desorption spectrometry 7–58311
  - Ni-Mo metallic superlattices, macromag. and micromag. props. 7–2826
  - β-Sb_2O_4:Mo, struct. characterisation, X-ray, neutron, and electron microscopy studies 7–32383
  - Si:B-Mo interface, specimen preparation by chemical etching and polishing, for electron studies 7–29989
  - Ta-Mo superlattices, sputtering prep., struct. charact. 7–3172
  - $Ti_{1-x}B_x$ films deposited onto Mo by co-sputtering, D retention 7–51870
  - TiC coated, H absorption under glow discharge fusion reactor appl. 7–52244
  - TiC coated, low cycle fatigue behaviour 7–53848

- **molybdenum alloys**
  - *see also molybdenum compounds*
  - Cr-MoVW ferritic steel, ductile-brittle transition temp., irrad. flux depend. 7–56825
  - first wall candidate ferrite alloys, Ni doped, postirrad. tensile behaviour 7–56827
  - forging, crystallographic texture, X-ray diffr. *(Russian)* 7–39538
  - grain boundary enrichment by O and C, nonmonotonic temp. depend. *(Russian)* 7–59534
  - Hastelloy alloys, C-4, C-22 and C-276, welding metallurgy 7–46448
  - Hastelloy B-2, polarization effects in galvanic corrosion 7–39706
  - Hastelloy X, H_2 permeation in high temp. alloys, oxide layer effects *(German)* 7–30568
  - Hastelloy X, thermomech. response, viscoplastic constitutive model 7–8059
  - HT-9 martensitic steel, radiation induced segregation 7–56830
  - HTR alloys, carburisation behaviour 7–10234
  - Mo-Ni, activated sintered, sintering behaviour and mech. props. 7–7929
  - Ni addition effect on void formation following irrad. 7–56822
  - Nimonic 86, carburised, heat treatment, creep behaviour rel. to carbide precip. *(Korean)* 7–46560
  - oxidation studies using EELS and EDX in the TEM 7–17734
  - Rene 80, first stage aluminised coating microstruct., STEM obs. 7–17709
  - segregation effects in pore-containing materials *(Russian)* 7–59533
  - steel, Cr-Mo, elevated temp. strength, H attack resistivity and stress relief cracking suscept. improvements 7–13583
  - steel, Mn-Mo-V, reactor piping material, strength, deformation and fracture behaviour 7–13578
  - steel, Ni-Cr-Mo, ΔKth testing method for plastic zone size at fatigue crack tip 7–17748
  - textured sheets, Young's modulus anisotropy, elastic consts. calc. 7–46535
  - Waspaloy, γ-γ' partitioning behaviour, energy dispersive spectrometry 7–17534
  - Al-Mo, molten, thermodynamic props. 7–21450
  - Al-Mo, rapid solidification processed, diffusion-induced dislocation migration 7–65047
  - Al-Mo (11 at.%), rapidly solidified, equilib. phase development 7–46436
  - $Al_{12}Mo$ precipitate microstruct. and orientation, implantation and annealing effects, electron microscopy study 7–16782
  - Co-based amorphous alloys, anisotropic electrical magnetoresistivity at 295 K 7–58796
  - CoFeMoB amorphous thin films, prep. and high-freq. impedance studies 7–53585
  - Cr-Mo, deposited on Fe, surface amorphous alloys, Ar^+ and Xe^+ bombardment *(Chinese)* 7–51885
  - Cr-Mo dilute alloys, magnetoelasticity, antiferromagnetism disappearance effects 7–45789
  - Cr-Mo ferritic steel, 14 MeV neutron irrad., mech. prop. changes 7–56821
  - Cr-Mo ferritic steel, rust chemical reduction 7–30565
  - Cr-Mo-Ni ferritic-martensitic steel, irrad. in RTNS-II, TEM study 7–58345
  - $(Cr_{1-x}Al_x)_{95}Mo_5$, antiferromagnetism disappearance, comp. depend., elec. resist. and sound rel. meas. 7–2843
  - CrMoV ferritic steels, He containing, fatigue behaviour in fusion reactor 7–56828
  - CrMoVNbNi steel, Ni addition effect on void formation following irrad. 7–56822
  - $EuMo_6S_{8-y}Se_y$, mag. field induced supercond. under pressure 7–64414
  - Fe-B-Si-Cr-Mo-W, finely cryst. and amorphous structs. on surface by laser treatment 7–8175
  - Fe-C-Mo, nucleation of proeutectoid ferrite at austenite grain boundaries 7–8003
  - Fe-Co-Cr-Mo alloys, electronic struct. and mag. props., X-ray spectra studies *(Russian)* 7–32902
  - Fe-Co-Mo alloys, liq., H solubility meas. and estimates *(German)* 7–58487
  - Fe-Cr-Co-Mo alloy struct., 2D scatt. X-ray intensity distrib. patterns, anal. by direct variation method 7–64734
  - Fe-Cr-Co-Mo permanent magnet ribbons, mag. props., influence of modulated structure 7–53043
  - Fe-Cr-Mo, oxidation, boric acid coatings effect 7–65197
  - Fe-Cr-Mo, surface segregation, Auger anal. 7–16844
  - Fe-Cr-Mo (9,1 wt.%), initiation of breakaway oxidation in high press. CO_2 atm. 7–33845
  - Fe-Cr-Mo system, phase boundaries of intermetallic compounds *(Japanese)* 7–53697
  - Fe-Cr-Mo-Mn-C-P, sintered, ageing and steam oxidation, effect of P 7–7930
  - Fe-Cr-Mo-Zr amorphous alloys, corrosion resistance *(Japanese)* 7–65194
  - Fe-Mo (14.5 wt.%), ageing, discontinuous dislocational transform., coercivity obs. 7–3305
  - Fe-Mo-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7–59672
  - Fe-Mo-P, sintered atomised powder premixes, mech. props. 7–7931

molybdenum alloys continued
- $Fe_{5.85}Co_{72.15}Mo_2B_{15}Si_5$ amorphous ribbons traversed by DC electric currents excess resistance, collective motion of ferromag. domain walls 7−32989
- FeCrNiWMo alloys, sputtering effects on props 7−36240
- $(FeM)_{80}B_{14}Si_6$, M=Mn, Mo, V, glass, magnetoresistance 7−64203
- $Fe_{75}Mo_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7−11925
- $Fe_{30}Ni_{36}Cr_{12}Mo_2Si_5B_{15}$, amorphous alloy, Curie temp., press. effect 7−52976
- $Fe_{38}Ni_{40}Mo_4B_{18}$, metallic glass, positron annihilation *(Chinese)* 7−64726
- $Fe_{40}Ni_{38}Mo_4B_{18}$, amorphous, positron annihilation studies 7−45859
- $Fe_{40}Ni_{38}Mo_4B_{18}$, amorphous alloys, thermal devitrification kinetics 7−51651
- $Fe_{40}Ni_{38}Mo_4B_{18}$ metallic glasses, corrosion in H_2SO_4, alloying effect 7−28201
- $Fe_{40}Ni_{38}Mo_4B_{18}$, metallic glass, conversion electron Mossbauer spectra 7−48926
- $Fe_{40}Ni_{38}Mo_4B_{18}$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7−64478
- $Fe_{40}Ni_{40}Mo_4B_{16}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
- $(FeNi)_{78}Mo_4B_{17}Si$ metallic glass, mag. shielding props., composition depend. 7−27558
- $Fe_{40}Ni_{38}Mo_4B_{16}Si_2$, ferromag. amorphous ribbons by field quenching technique, mag. anisotropy 7−33164
- $Fe_{39}Ni_{39}Mo_2(SiB)_{20}$ metallic glasses, corrosion in H_2SO_4, alloying effect 7−28201
- Gd-Co-Mo amorphous magnetic thin films, spin wave mode linewidth meas. 7−45826
- GeMo-GaAs ohmic contact, fabrication and characts. study 7−45490
- $MaSi_2$ films, electrical transport props. 7−58908
- Mo permalloy films, mag. domain walls stability, external mag. field, Lorentz microscopy 7−45780
- Mo-Ag, pseudoalloys, Ni and Co effect on interphase interaction 7−27975
- Mo-BN sputtered films, anisotropic lattice strain and grain orientation 7−12516
- Mo-base alloy, welded joint, strain hardening and fracture *(Russian)* 7−53877
- Mo-Bi-Si thermodiffusion coating on Nb-Mo-Zr alloy, oxidation protection, heat resist. 7−8156
- Mo-Cu pseudoalloy obtained by sintering of powdered mixtures, chromising investig. 7−54003
- Mo-Fe dilute alloy, Fe solute atom-screw dislocation interaction force, modified tight-binding recursion method calcs. 7−51814
- Mo-H proton irradiated system, defect annealing, positron lifetime studies 7−38043
- Mo-H system, neutron irrad., H-void interactions 7−44604
- Mo-H system, positron trapping by voids, temp. depend. 7−46217
- Mo-N system, neutron irrad., isochronal annealing, positron annihilation studies 7−46531
- Mo-Nb, a nitride form., particle coalescence *(Russian)* 7−59530
- Mo-Nb-Zr-C, nitrided single crysts., effect of NbN ε to δ phase transition 7−28052
- Mo-Ni, adsorbed S, in acidic medium, destabilizing effect of Mo and passivation consequences *(French)* 7−16858
- Mo-Ni thin films, struct., composition and homogeneity 7−2436
- Mo-Ni-Co-Sn, liq. phase sintering, grain boundary migration, coherency strain effect 7−22604
- Mo-Re (27 wt.%), rolling, reorientation, annealing effect *(Russian)* 7−39598
- Mo-Re alloys, electron struct., X-ray spectra studies *(Russian)* 7−45135
- Mo-Si, quantitative Auger anal., correction factors 7−27831
- Mo-Si amorphous alloys, cluster formation and percolation 7−27455
- Mo-Ti-C system, embrittlement of ingots, role of phase stresses 7−3398
- Mo-Ti-Zr alloy, creep resistabnce, particle strengthening contribution 7−28073
- Mo-TiC eutectic composites, yield strength in temp. range 285 to 2270 K 7−53831
- Mo-V-W, phase diagrams, thermodynamic formalism, computer calcs. 7−3269
- Mo-V(Nb)(Ti)(Zr), solid soln. hardening, alloying element effects, Vickers hardness meas. *(Korean)* 7−3319
- Mo-W, disordered, electron struct. and positron annihilation *(Russian)* 7−45133
- Mo-W, form. by reduction in MoO_3-WO_3-H_2 system 7−3223
- Mo-W (30 wt.%), temp. depend. of crack resist. 7−22808
- Mo-W alloys, creep failure, thermomechanical treatment effects 7−28072
- Mo-W system, reduction and alloy form. in MoO_3-WO_3-H_2 system 7−7923
- Mo-W-Zr-Ti, scale resist. of silicide coatings, influence of Fe and B additions 7−22875
- $Mo_{3.25}Ir$, cryst. struct., X-ray diffr. meas. at 293K and 12.5K 7−16491
- Mo_xNi_{100-x}, x=20, 28, 35, 48, 63, amorphous, struct., short range order, thermal stability 7−21107
- $Mo_{1-x}Re_x$, enhanced superconductivity by electron renormalization of directly obs. Brout-Visscher local phonon 7−38824
- $Mo_{1-x}Re_x$ system, thermal EMF and topological electronic transition 7−45286
- $MoSi_2$, amorphous layer form. on ion beam mixing of Mo films on Si 7−21301
- Mo_3Si, A15 cpd., phonon dispersion and density of states, inelastic neutron spectra, electron-phonon coupling effects 7−2121
- $Mo_3Si(Ge)$, neutron irrad., NMR and mag. suscept. studies *(Russian)* 7−13051
- $Mo_3(SiRe)$, neutron irrad., supercond. investig. *(Russian)* 7−12926
- Nb-Mo-O alloys, internal friction and yield point *(Russian)* 7−59563
- Nb-Mo-Zr, protective props. of thermodiffusion Mo-B-Si coating 7−8156
- Nb-Mo-ZrO_2, dispersion hardening mechanism investig. *(Russian)* 7−13462
- Nb-W-Mo-Zr, corrosion resist. in molten Lr, alloying influence 7−17689
- Nb_xMb_{1-x} alloys and elemental metals, 2D angular correlation spectra studies, band struct. 7−39235
- NbMo based alloys, grain boundary internal friction investig. *(Russian)* 7−13490
- $Nb_{1-y}Mo_yH_x$ random field system, disorder-disorder phase transition, cluster variation calcs. 7−63803
- Ni base superalloys, pressure vessel performance, strength, ductility, comp., struct. 7−3365
- Ni-Al-Mo, precip. in Ni-base superalloys 7−53745

molybdenum alloys continued
- Ni-Al-Mo eutectic high temp. alloy, directional solidification within ZrO_2 supporting skin *(German)* 7−22660
- Ni-Al-Mo-W system, constitution of Ni_3Al-Ni_3Mo-Ni_3W section 7−13434
- Ni-base superalloys, γ' strengthened, creep and microstruct. rel. to refractory elements 7−3364
- Ni-Co-Cr-Mo-Al-Ti prealloyed powder, parts prod. by hot pressing *(French)* 7−13400
- Ni-Cr-Co-Mo superalloys, interphase boundary, FIM atom probe study 7−33683
- Ni-Cr-Co-Mo-Nb-Ti-Al superalloy, microstruct. and mech. props. with high-temp. heating 7−3341
- Ni-Cr-Co-Mo-Ti-Nb-Al, heat-resisting, supersaturated solid soln., isothermal decomp. kinetics 7−33682
- Ni-Cr-Co-Mo-Ti-Nb-Al, heat-resisting, hot strain rate effect on microstruct. and mech. props. 7−39559
- Ni-Cr-Mo-Fe system, pitting corrosion, temp. depend. 7−65186
- Ni-Mo, random alloys, residual electrical resistivity, first-principles calc. 7−2569
- Ni-Mo, struct.-sensitive props., effect of external thermal action 7−46558
- Ni-Mo (20 at.%), ageing, yield strength rel. to prior α grain size 7−39507
- Ni-Mo (6 at.%), oxidation, ESCA study 7−22897
- Ni-Mo_2C eutectic, directional solidification oriented struct., strength, hardening mechanism *(Russian)* 7−59507
- Ni-Mo-B(P), metallic glasses, depth-composition profile, X-ray photoelectron study 7−63928
- Ni-Mo-Cd electrocoated cathodes for water electrolysis, H_2 evolution kinetics 7−3728
- Ni-Mo-Cr-B powders, amorphous and microcrystalline, shock consolidated, wear props. 7−46655
- Ni-Mo-Cu-Fe-Mg, coarse-grained PC permalloys, annealing-twin density *(Japanese)* 7−3330
- Ni-Mo-Fe-Cr alloy, transient phase obs during long range ordering to Ni_4Mo, electron diffr. study 7−63806
- Ni-Mo-P, electroless plating prep., film props. 7−13392
- Ni_3FeMo, atom pair interaction energy and Kurnakov temp. *(Russian)* 7−1938
- Ni_4Mo-Cr, isothermal annealing, structural changes 7−46462
- $Ni_{77}Mo_3B_{20}$, amorphous, mag. scatt. influence on transport props. 7−33001
- $Ni_{52.5}Mo_{38}Cr_8B_{1.5}$ metallic glass, shock consolidated, wear props. 7−28154
- Re-Mo, softening effect, kink nucleation on dislocations 7−44662
- Si-$Co_{50}Mo_{50}$-Au, amorphous $Co_{50}Ta_{50}$ alloys as diffusion barriers 7−44923
- Th-Mo, diffusion and electrotransport of transition metals in BCC Th 7−63888
- Ti-Al-Cr-Mo, VT3-1 mech. props. depend. on decomp. product morphology for metastable phases 7−39655
- Ti-Al-Mo-Cr, VT3-1, struct. changes during US case hardening *(Russian)* 7−53991
- Ti-Al-Mo-Cr, VT3-1, vac. annealing of blanks after isothermal deform., hydrogen plasticising effect 7−8027
- Ti-Al-Mo-Cr and Ti-Al-Mo-Zr, VT3-1 and VT9, two-phase, microstruct. and failure nature correl. 7−8110
- Ti-Al-Mo-Cr VT3-1, cooling regimes in heat treatment effect on mech. props. 7−8026
- Ti-Al-Mo-Fe, struct. changes during phase transitions *(Russian)* 7−53721
- Ti-Al-Mo-V-Cr, VT22, metallographic study of β-solid soln. decomp. 7−39523
- Ti-Al-Mo-Zr(-Si) alloys, superplastic characts., H alloying effect 7−8049
- Ti-Al-Sn-Zr-Mo (6,2,4,2 wt.%) superplastic deform., temp. depend. 7−39588
- Ti-Al-V-Mo-Cr, VT23, gas impregnation influence in heat treatment, rapid heating effect 7−17696
- Ti-Al-Zr-Mo-Si, creep resistance, silicides obs., effect on mechanical props. and fracture 7−8051
- Ti-Al-Zr-V-Mo, VT20, annealing temp. effect on mech. props. of semifinished products 7−39558
- Ti-Mo, electrochemical behaviour in brine, gamma radiolysis effect 7−65185
- Ti-Mo, grain boundaries, interaction with doping atoms *(Russian)* 7−51781
- Ti-Mo, metastable β-phase alloys, mech. twinning TEM obs. 7−6633
- Ti-Mo, omega transition anal. 7−16737
- B-Ti-Mo, single crysts., age and quench hardening, effects of cryst. orientation and surface condition *(Japanese)* 7−22709
- Ti-Mo, VT8, two-phase, microstruct. and failure nature correl. 7−8110
- Ti-Mo (15 wt.%), Young's modulus, cohesive energy, H effect *(Chinese)* 7−8033
- Ti-Mo (30 wt.%) evidence of FCC δ-hydride form. 7−3312
- Ti-Mo alloy, ordering, effect of interstitial trace elements *(Russian)* 7−37928
- TiB_2-Mo electrospark coatings on steel, form. kinetics and high-temp. oxidation 7−65210
- TiC-Mo_2C-Ni hardmetals, high temp. strength 7−3404
- TiC-Ni-Mo sintered carbides, struct. and physicomech. props. 7−3256
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7−3255
- V-Mo, thinning treatment, TEM appls. 7−8190
- V-Mo disordered alloy electron-positron pair momentum density and Fermi surface calc. 7−45129
- V-Mo-Zr-C, oxidation on heating in air, alloying elements influence 7−17687
- V-Nb-Mo system, mutual diffusion *(Russian)* 7−52116
- $(VMo)_3Si$, neutron irrad., supercond. investig. *(Russian)* 7−12926
- $ZrMo_2$ and $ZrMo_2H_{1.8}$, surface composition and state of components, XPS study 7−7818

molybdenum compounds
- *see also molybdenum alloys*
- chlorides, MMo_6Cl_{14}, $M_2{}^IMo_6Cl_{14}$ and $M^{II}Mo_6Cl_{13}$, structural characterisation 7−44493
- glasses, anomalously high bulk cond. meas. in metal-glass structs. 7−17029
- halides, chalcohalides and chalcogenides, Mo_6 octahedral clusters *(French)* 7−32351
- BaO-TiO_2-MoO_3, phase equilib. 7−46430
- $CU_xMo_6Se_{7.6}$, Chevrel phase cpds., positron annihilation studies 7−46201

molybdenum compounds continued
$Ce_xMo_6S_8$, crystal growth and struct., susceptibility and transport props. 7—64889
$CrNbO_4$-VO_2-MoO_2 system, rutile phases, prep. and props. 7—6806
$(Cs^+(H_2O)_n)_xMoO_3^{x-}$, composition and struct. 7—16518
$CuMo_6S_{8-y}$ porous film, prep. on Cu_2S by solid-gas reaction, secondary battery appl. 7—27897
$Cu_xMo_6S_8$, Chevrel cpd., oxidation study 7—3473
Fe-Mo complexes, dinuclear clusters, fine and hyperfine struct. 7—36659
$(FeMo)_{80}B_{14}Si_6$ glass, magnetoresistance and magnetisation 7—45354
Hf-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7—28018
$HoMo_6S_8$ ferromagnetic films, supercond. props., temp. and mag. field depend. 7—45538
$HoMo_6S_8$, quenched superconductivity by rapid cooling to low temps. below T_{c2} 7—45545
$In_xMo_6Se_{8-y}$, insertion cpd., synthesis and props. 7—32407
$(K^+(H_2O)_n)_xMoO_3^{x-}$, composition and struct. 7—16518
$K_{0.3}MoO_3$, (201) plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7—58846
$K_{0.9}Mo_6O_{17}$ electronic struct., room temp. UV photoemission spectra study 7—46272
$La_2Mo_2O_7$, quasi-2D single cryst. struct. and electronic props. studies 7—58238
Li/MoS_2 cell, spirally wound, inductive impedance 7—46931
$Li/MoS_2(Se_2)(Te_2)$ electrochemical cells at low voltages, dichalcogenide decomposition 7—65436
Li-MoS_2, 65 Ah rechargeable batteries, design and testing 7—34010
Li-MoS_2 batteries for space appls., proceeding of NASA/Goddard workshop, Greenbelt, MD, USA (Nov. 1985) 7—29578
$(Li^+(H_2O)_n)_x$ MoO_3^{x-}, composition and struct. 7—16518
$Li_{0.9}Mo_6O_{17}$ purple bronze, cryst. struct. determ. 7—58239
$LiMoS_3$, synthesis, electrochemistry and struct. 7—33619
$Li_xMo_6Se_{8-y}I_y$, Li electrochemical insertion, struct. studies 7—37947
$Li_{0.9}Mo_{6-x}W_xO_{17}$, W substitutional effects on elec. resistivity and transport props. 7—45260
$(Li_{1-x}Na(K)_x)_{0.9}Mo_6O_{17}$ anomalous transport props., resist., mag. suscept., sp. ht., struct. and supercond. transition temp. meas. 7—21913
M_0O_3-P_2O_5 glasses, permittivity, temp. depend., microwave meas. 7—45912
$Mn_xSn_{1-x}Mo_6S_8$, Mn dopant props., supercond. transition temp., EXAFS, XANES, photoemission studies 7—46236
Mo complex, Mo phthalocyanine, struct., IR spectra, powder and liq. soln. EPR spectra study 7—64509
Mo complex, tetraacetomolybdenum, metal–metal quadruple bonds, normal coordinate anal. 7—42578
Mo complexes, isopropylammonium dihydrogenoctamolybdate dihydrate, vibr. spectrum 7—36628
Mo complexes, with dioxo ligands, mol. vibr., IR and Raman spectra anal. 7—50151
Mo-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7—64779
Mo_2As_3, cryst. struct. determ. 7—1979
MoB_2, crystal struct. determ. 7—26713
Mo_2C, interaction of C with reduction products of MoO_3 7—8260
$Mo(CO)_6$, adsorbed on Si(111), laser induced electronic excitation followed by CO desorption 7—12470
$Mo(CO_6)$, optical gain detection following multiple photon dissociation 7—31124
$Mo_2Cl_8^{4-}$, metal–metal quadruple bonds, normal coordinate anal. 7—42578
$Mo_4Cl_8(PEt_3)_4$, metal-metal multiple bonding, cluster electron count and geometries, HMO calcs. 7—25410
$Mo(Co)_6$, electronic struct., X-ray and photoelectron spectra 7—5699
MoI_x, preparation, elec. and optical props. 7—64946
$Mo_6L_8L'_6$, (L, L′ = S, Se, Cl, Br), cluster compounds, electronic struct., 3-band model, tight-binding and extended Huckel method calcs. 7—32913
MoN B1 phase sputtered films, mag. susceptibility and defect struct. 7—53087
MoN_x sputtered coatings, tribological props. in contact with Cu 7—53911
MoO^{n-} (n=6,5,4), surface centres, electronic struct. anal., MO-LCAO calcs. 7—7324
MoO_2+Ar^+, ion-induced decomp., metallisation channels, XPS anal. 7—57149
MoO_3, adsorption of methanol, influence of photoinjected H on adsorptivity 7—63942
MoO_3, amorphous electrochromic films, plasma enhanced CVD 7—22561
MoO_3, amorphous films, X- and γ-irradiated, color center form. 7—44541
MoO_3 crysts., surface structure, implications for catalytic oxidation of hydrocarbons 7—6942
MoO_3, oxidic standard for EELS quantification of M edge in $MoSi_2$ 7—46904
MoO_3, reduction in H_2, interaction with C to form Mo_2C 7—8260
MoO_3 thin films, amorphous, vacuum deposited, struct. 7—51635
MoO_3-P_2O_5 glass, low-temp. internal friction, longit. and transverse two-well systems rel. contrib. 7—12202
MoO_3-P_2O_5 glass, low-temp. acoustic relax. analysis methods 7—12216
MoO_3-P_2O_5 glass system, US relax. studies in temp. range 4 to 300K 7—21366
MoO_3-P_2O_5 glasses, thermal anal. between room temp. and softening point 7—12329
MoO_3-WO_3-H_2 system, reduction and alloy form., reaction products dispersion 7—3223
MoO_3-WO_3-H_2 system, reduction and alloy form. 7—7923
MoO_4^{2-} in aq. soln. struct., X-ray scatt. meas. 7—39883
MoO_x, oxidation and heat of formation 7—65156
MoO_x-WO_x, H insertion, struct. and thermodynamics 7—16506
Mo_8O_{23}, low-dimensional conductors, inelastic neutron scatt. study 7—52701
Mo_8O_{23} low-dimensional conductor, cryst. struct. and commensurate-incommensurate transition, X-ray diffr. study 7—58230
MoS_2, amorphous thin films, elec. resist. meas. at high temps. *(German)* 7—33118
MoS_2 coatings, thickness meas., nondestructive methods performance 7—18751
MoS_2 films, RF magnetron sputtered, elec. and optical props. 7—2747
MoS_2, high press. synthesis, characterisation 7—26716
MoS_2, intercalated with Fe, Ni and Pd, AES, sputtering studies 7—63867
MoS_2, interpretation of AES of sulphide minerals 7—22391

molybdenum compounds continued
2H-MoS_2, photoionisation cross-sections for whole valence band, synchrotron radiation obs. 7—7812
MoS_2, powder and exfoliated samples, temp. programmed desorpt. of CO_2, CO and O_2, adsorpt. sites study 7—2385
MoS_2 semiconductor electrodes for H_2 production by photoelectrolysis of water 7—3723
MoS_2 single crysts. grown in presence of Co, photoelectrochemical props. 7—8294
MoS_2, surface characterisation by neutron inelastic scatt. from adsorbed H 7—7000
MoS_2, surface chemistry and props., photoemission, SIMS and SEM anal. 7—44971
MoS_2-based double layer solid lubricant, friction-reducing coatings 7—46669
MoS_2-Co catalyst-promotor interaction, UPS, XPS, LEED studies *(Chinese)* 7—39913
MoS_x sputtered films, tribological props., ion beam mixing effects 7—3441
$MoS_2(Se_2)$ with Cu alloy powder matrix, self-lubricating, tribotech. characts. 7—28146
MoS_xSe_{2-x} solar cells, performance, illumination intensity effects 7—54325
$MoS_2(0001)$, Ar^+-sputtered, adsorption props., LEED, AES, EELS, and work function studies 7—52275
$MoSe_2$, melt grown layered crysts., optoelectronic props. 7—21946
$MoSe_2$-MoS_2 ultrasharp interfaces grown with van der Waals epitaxy 7—13367
Mo_6Se_8, superconductivity and metal-insulator transition *(Russian)* 7—58742
$MoSe_3S$ cathode for secondary Li batteries, prep. and characterisation 7—64948
$MoSi_2$, band structure 7—27248
$MoSi_2$, high purity monocrystalline metallic cpd., magnetoresistance, resistivity 7—32990
$MoSi_2$:As-poly Si struct., redistribution of As by silicidation tempering 7—51812
$MoSi_2$/Al-Si stable contacts to shallow junctions 7—52847
Mo_5Si_3-Mo, lowest silicide phase coating, phase changes at high temps. 7—3497
Mo_5SiB_2, supercond, investig. 7—22082
$MoW_8O_{19}^{2-}$, valence force field calcs., influence of metal atoms oxidation state 7—17323
$Mo_{n-x}W_xO_{3n-1}$, electrical conductivity, mag. susceptibility and IR spectra 7—38546
$(Na^+(H_2O)_n)_xMoO_3^{x-}$, composition and struct. 7—16518
$Na_xMo_2O_4$ intercalation cpd., struct., mag. suscept., X-ray diffr. and electrochemical anal. 7—46842
$NbSi_2$-$MoSi_2$ composite silicide coatings, oxidation resistance 7—65155
NiO:MoO_3, ratio, effect of mechanical activation of $(NH_4)_2MoO_4$-$Ni(NO_3)_2$ mixture 7—8261
$(Rb^+(H_2O)_n)_xMoO_3^{x-}$, composition and struct. 7—16518
$Rb_{0.3}MoO_3$, (201) plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7—58846
$SnFe_{0.05}Mo_6S_8$, Chevrel-phase superconductor, collinear ordering, EXAFS studies 7—13258
(Ti,Mo)C, solid solution hardening of TiC by Mo 7—46498
$(Ti,Mo)O_2$ solid solution, activity-comp. relationship, 1350 to 1600K 7—28019
Ti-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7—28018
TiB_2-MoB base electrode materials for elec. spark alloying 7—28205
$Ti_xMo_yC_z$-TiO_2-C black mixture, complex carbide interactions on heat treatment, homogenisation 7—53684
$Tl_2Mo_6Se_6$, 1D superconductor, polarised reflectance spectra 7—45554
$V_{3-x}Mo_xS_4$, struct. and phase relations, comp. depend., X-ray powder diffr. study 7—1978
$W_{1-x}Mo_xO_3$, structure parameters *(French)* 7—16507
$Yb_{1.2-x}Eu_xMo_6S_8$, superconductivity and mag. interactions 7—38826
Zr-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7—28018
moments (electric) *see electric moments*
moments (magnetic) *see magnetic moments*
moments (molecules) *see molecular moments*
momentum
see also angular momentum
relativistic, alternate derivation 7—42
$^{154}Sm(^{16}O,X)$, linear and angular momentum transfer in incomplete fusion reactions 7—42054
Monel *see copper alloys; nickel alloys*
monitoring
see also computerised monitoring; patient monitoring; radiation monitoring
automatic time monitor for rate measurement 7—14923
contaminant monitor for fluid power applications 7—37613
environment monitoring system for multiphase and porous media, modelling 7—59904
liquid crystal thermography for wall heat transfer and flow visualisation 7—35520
marine environment monitoring, conference, Texel, Netherlands (June 1984) 7—18472
microbiological objects dielectric props. monitoring, use of microwave bridge *(Slovak)* 7—65896
pollution monitoring equipment, components, materials and operating principles 7—23263
poultry processing plant refrigeration heat recovery system 7—8428
pump cavitation monitoring by single fluid-borne noise meas. 7—37502
seismic monitoring and assessment in Japan, appl. to earthquake prediction and research 7—4000
sheet resistance low dose monitoring using the double implant technique 7—21244
solar-heated farm buildings, short-term monitoring and computer aided performance 7—28413
water pollution monitoring by turbidity meas. 7—28435
wind pumps in Kenya, performance monitoring, results addendum 7—39958
wind pumps in Kenya, performance monitoring of wind pumps in Kenya 7—39957
CO_2 laser spectrum monitoring and displaying instrument 7—5935
He gas recovery system, automatic control of gas purity 7—318
Ni-H_2 cells, lightweight, direct radiating, for space appls. 7—34023

monitoring, computerised *see computerised monitoring*

monitors *see monitoring*

monitors (displays) *see cathode-ray tube displays; display devices*

monochromators
- *see also X-ray monochromators*
- acousto-optic monochromator using tunable acousto-optic filters 7−37119
- compensator for the time dispersion in amonochromator 7−1253
- computer-controlled, for qualitative and semiquantitative ICAP-AES anal. 7−30096
- Czerny-Turner monochromator: astigmatism in the classical and in the crossed beam dispositions 7−20396
- double monochromator, prism-grating, apparatus function 7−20395
- holographic concave gratings for use with off-plane constant-deviation monochromator 7−43336
- holographic gratings, aberration-corrected, design for use with Seya-Namioka monochromators 7−25947
- insertion device Beam Line Wunder design at SSRL 7−42256
- IR monochromator with concave diffraction grating, spread function determ. 7−50725
- multilayer monochromators and supermirrors, X-ray and neutron, controlled sputter deposition 7−33563
- neutron beam spatial condensation by asymmetric diffr. in thermal neutron monochromatisation 7−16363
- photometer, luminesc., monochromator spectral resolution capability, comparison with Fluoricord fluorimeter 7−37121
- predispersive electron gun for an electron monochromator 7−15034
- reflection gratings, grazing incidence, in high resolution scanning spectrometers 7−20401
- spectral measurement for wavelength regions 400 nm to 750 nm and 700 nm to 2500 nm *(Japanese)* 7−351
- synchrotron beam line critical elements, heat transfer studies 7−42255
- undulator radiation, grating monochromators, wave-optical props. 7−36865
- wavelength automatic setting 7−37120

monolayers
- *see also adsorbed layers*
- admolecules on metal particles, giant Raman scatt. effect 7−52255
- adsorbed film, phase diagram, intrinsic and extrinsic ordering forces, density functional theory calcs. 7−63952
- adsorbed monolayer, Ising model, 2D random field, correlations 7−6754
- 4-4′-alkoxybenzoyloxy-4′-cyanoazobenzenes, monolayer smectic A_1-nematic transition, dielec. studies 7−21085
- anthracene crystal monolayer, photodimer disorder effects, UV reflection spectra anal. 7−53362
- arachidic acid, adsorbed layer on Ag, form. and struct., IR spectra, optical ellipsometry 7−44992
- arachidic acid, Langmuir-Blodgett mono-mol. layers, surface-enhanced SHG 7−17355
- arachidic acid Langmuir-Blodgett films, SIMS depth profiling 7−59356
- arachidic acid Langmuir-Blodgett multilayers, profile structs., X-ray diffr. studies 7−21630
- arachidic acid spontaneously adsorbed monolayer on Ag, surface organisation, IR spectra obs. 7−46164
- cadmium arachidate, Langmuir-Blodgett films, struct. disorder and polymerisation competition at elevated temp., IR spectra obs. 7−46163
- cadmium arachidate, Langmuir-Blodgett multilayers, order-disorder transitions, Raman spectra 7−53309
- cadmium stearate Langmuir-Blodgett films on sapphire, thermal disordering, optoacoustic IR spectra anal. 7−52236
- cyanine dyes, Scheibe aggregate monolayers, without long alkyl chains, spectra, dichroism 7−59221
- cyanogen, adsorption on Pd (100), Penning ionisation electron spectroscopy, UPS, TPD studies 7−52268
- 3,3′-dimethyl-9-ethylthiacarbocyanine dyes, adsorption on AgCl, XPS study 7−33964
- dimyristoylphosphatidic acid: cholesterol spiral liq. cryst., fluoresc. microscopic obs. 7−58129
- dioleylphosphatidylcholine monolayer, chlorophyll a pigment, fluoresc. conc. quenching, master eqn. 7−50219
- driven sine-Gordon chain, wave propagation, long-time behaviour 7−27140
- dye, short- and long-range interactions, light refl. and transmission 7−22206
- dye laser molecules adsorbed on optical surface, SHG and THG *(Chinese)* 7−57457
- dyes, mol. sublattice form., linear Stark effect study 7−57108
- epitaxial growth of ferromagnetic monolayers 7−2909
- equilibrium configurations, molecular dynamics simulations 7−21771
- fatty alcohol monolayers at air-H_2O interface, spin model 7−27104
- film, phase diagram, relax. mechanisms, density functional theory calcs. 7−63953
- graphite, on Re surface, struct. and props., AES, TDS and thermionic emission anal. 7−45017
- graphite on Ir (111), adsorbed Cs atoms, photo- and electron-stimulated deformation of monolayer 7−58627
- halide and pseudohalides at Au surface, SERs, metal-adsorbate vibr. freqs., surface bonding 7−12468
- henecosafluoroundecanoic acid, multilayered Langmuir-Blodgett films, prep. 7−6996
- hydrocarbons, cyclic, k-shell excitation, EELS 7−20037
- Kr on graphite, 2-D system with competing interactions, phase transitions 7−6791
- Langmuir monolayers, phase transitions, fluoresc. microscopy 7−32867
- Langmuir-Blodgett hydrophobic water-stable monolayers on mica, interaction meas. 7−32759
- Langmuir-Blodgett monolayer films, exposed mol. ends, Penning ionis. electron spectrosc. 7−63991
- Langmuir-Blodgett multilayer thin films, overlayer-induced surface monolayer ordering 7−32868
- linear Pockels response of a monolayer Langmuir-Blodgett film 7−13131
- liquid flat aggregates embedded in crystal matrix, interfacial free energies per unit area 7−6973
- localised diatomic mol. monolayers, rotational ordering, interaction effects, mean-field treatment 7−16870
- long-chain amphiphile on solid substrate, thermally induced disorder, Fourier transform IR spectra 7−12467
- merocyanine dyes, J aggregate form. in mixed monolayers, visible spectra and surface pressure-area isotherms anal. 7−31059
- methane monolayer on graphite, thermodynamic study 7−16863

monolayers continued
- methanol monolayers, stretch vibr. obs., optical sum-freq. generation 7−58610
- 1-methyl-1′-octadecyl-2,2′-cyanine perchlorate dye, Langmuir-Blodgett multilayers, Ag/glass substrate, distance depend of SERS 7−32801
- microstructure of organic mono- and multilayers 7−52296
- organic, at liquid/solid and gas/solid interfaces, IR external refl. spectroscopy optimisation 7−48883
- pentadecanoic acid monolayers, stretch vibr. obs., optical sum-freq. generation 7−58610
- pentadecanoic acid/H_2O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7−16839
- perylene red film coated on Ge, ATR and refl.-absorpt. IR spectroscopic analysis 7−41510
- phenol adsorbed on ZnO surface, surface CARS spectroscopy 7−46036
- physisorbed film-substrate many-body interaction energy, non-pair-additive contrib. calcs. 7−2383
- PMMA-merocyanine dye Langmuir-Blodgett multilayer mixtures, deposition studies, SHG obs. 7−58715
- poly(α-methylstyrene) adsorbed monolayer on mica, intermolecular force meas. 7−21623
- polymerisation, optical SHG investig. 7−39887
- porphyrins, monolayers, intermolecular interactions 7−8513
- post-deposition cluster growth, nearest-neighbour model, computer simulation 7−58621
- pulsed laser induced desorption from metal surfaces 7−58617
- pyridine, on Ag surface, sub-monolayer adsorbate, SHG, CW diode laser-Maui surface expt. 7−16874
- pyridine adsorbed on ZnO surface, surface CARS spectroscopy 7−46036
- rare gas floating monolayers, dynamics in self-consistent phonon theory 7−2362
- semiconductor microstructure growth by MBE 7−7856
- sodium dodecylnaphthalene sulphonate/H_2O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7−16839
- stearic acid mono- and bi-layers on Al and Au, refl.-absorpt. IR spectra, order-disorder transitions 7−46165
- stearic acid-Langmuir-Blodgett films, boundary lubricant efficiency *(Japanese)* 7−8118
- surface ATR and reflection-absorption IR spectroscopic analysis of thin films 7−41510
- surface EM wave FTIR spectroscopy of very thin films 7−41506
- surface EXAFS, Debye-Waller factor, influence of adsorbed monolayer 7−39316
- surface FTIR-ATR spectroscopy, lower limit of thickness of measurable surface layer 7−41508
- thin supported films, melting 7−44770
- thiolane, gas, solid and monolayers, EELS and XPS study 7−19949
- thiophene, gas, solid and monolayers, EELS and XPS study 7−19949
- water, viscosity determ. by pulse NMR method 7−7604
- water adsorpt. on SiO_2 gels, viscosity determ. by pulse NMR method 7−7604
- Ag (110), Br_2 adsorpt. and reaction, UV photoemission study 7−45014
- Ag films on Al (111), growth and electronic struct., UPS, LEED and AES studies 7−52350
- Ag monolayers, electronic struct. and binding energy, substrate effects, photoemission studies 7−39359
- Ag on Si (111), room temp. oxidation behaviour, XPS study 7−13676
- Al on Si, Schottky barrier formation, local electronic struct., EELS study 7−21975
- Ar, on graphite, fluid-solid monolayer transition, simulation 7−32796
- Ar on ionic crystals, critical temps. 7−21666
- Ar, on MgO (100), LEED anal. *(French)* 7−21620
- Ar physisorbed monolayers on graphite, melting transition, high resolution synchrotron X-ray diffr. study 7−63780
- Au, epitaxial growth on W (100), adsorbate props. 7−38329
- Au on Ni, partial sputtering cross sections 7−59331
- Au on Si laser annealed surfaces, Kapitza anomaly reentry obs. 7−38318
- Au on Si(111), room temp. oxidation behaviour, XPS study 7−13676
- CO, adsorbed on Ni, Raman spectra 7−17324
- CO on Si (111), electronic props., pseudofunction method calcs. 7−2659
- CO, physisorbed on Cu, laser-induced thermal desorption 7−17817
- CdS anodic film growth, initial stages, voltammetry and computer simulation studies 7−28216
- Co on Cu (111), Debye-Waller factor anisotropy, SEXAFS study 7−63936
- Cu monolayer on Au (111), fluoresc. detected surface EXAFS 7−46235
- Cu-Hf multilayers, interface EXAFS study 7−64811
- o-D_2 monolayers, physisorbed on graphite specific heat studies 7−52271
- Fe epitaxial monolayers on the Au (100), surface magneto-optic Kerr effect 7−59080
- Fe phthalocyanine, local electron distrib., Penning ionis. electron spectrosc. 7−62521
- GaAs-AlAs alternate monolayer compounds structures, MBE growth 7−21716
- Gd monolayer on W, ferromag. order and crit. exponent, ESR study 7−45680
- Gd monolayer on W (110), magnetic resonance 7−59113
- H chemisorbed on Cu-Ni alloy, induced surface segregation calcs. 7−21465
- H on Pd (110), selective population of H subsurfaces sites, He diffr., thermal desorption spectra study 7−6958
- H on Pt surface, He atom diffr. intensity calcs. 7−3139
- Hg deposition and stripping props. on Ir electrodes 7−45058
- In liquid on Ga, sputtering, computer simulation studies 7−17387
- In surface diffusion, growth mode and thermal stability on W (100) 7−2386
- K adatoms on Cu (001), two-dimensional condensation, LEED obs. 7−12478
- Kr monolayer adsorbed on graphite, dislocation interactions 7−2357
- Kr on graphite, domain wall modes 7−38333
- Kr on ionic crystals, critical temps. 7−21666
- NbS_2 monolayers, optical absorption spectrum, Slater orbitals two-centre dipole matrix element calcs. 7−46158
- Ni (110), adsorption of O, surface phases, absolute coverages 7−12486
- O monolayer surface on exfoliated graphite, positron annihilation study at low temps. 7−38346
- O_2 adsorpt. on GaAs, UPS 7−59371
- O_2, physisorbed on Cu, laser-induced thermal desorption 7−17817
- O_2, struct. and mag. order, thermodynamic behaviour 7−52242
- Pb, dense monolayer on Cu (100), LEED anal. 7−6989
- Pb on Cu (110), struct. and melting, X-ray scatt. studies 7−7016

monolayers continued
- Pb on Ge (111), photoelectron scatt., temp. depend. 7−13328
- Pb overlayer of Cu (100), growth, phase transitions and struct., thermal energy He atom scatt. study 7−63943
- Pd films on Al (111), growth and electronic struct., UPS, LEED and AES studies 7−52350
- Pd monolayers on Ta(110), morphology and struct. phase transitions 7−38374
- Pd on Ta (110), heat of adsorpt. estimates from core-level shifts 7−52258
- Pt on Ta (110), heat of adsorpt. estimates from core-level shifts 7−52258
- SF$_6$ monolayer on graphite, X-ray diffraction studies 7−6965
- Sb overlayers on GaAs (110) and GaP (110), ARUPS 7−59378
- Si, HF passivated, surface chemistry, XPS and ion scatt. spectra 7−33857
- Sm overlayers on Al (111), homogeneous intermediate valence, photoemission 7−39351
- WO$_3$, supported on γ-Al$_2$O$_3$, dispersion, surface Ni spinel effects 7−59779
- Xe on graphite, dislocation interactions 7−2357
- Xe on graphite, H atom scatt. resonances 7−64864
- Xe on graphite, low temp. phase diagram, striped helical Potts model calcs. 7−38327
- Xe on graphite, low temp. struct. and incommensurate-commensurate transition, electron diffr. study 7−38335
- Xe on Pd and Cs substrates, core-electron binding energies, photoemission studies 7−3146
- Xe on Pt (111), high order commensurate locked phase 7−2349
- Xe on Pt (111), thermal He scatt. data anal., comment 7−21633
- Xe overlayer raft orientation on Pt (111), mol. dynamics study 7−38334

monolithic integrated circuits
- *see also bipolar integrated circuits; field effect integrated circuits; integrated optoelectronics; large scale integration*
- implantable multielectrode array with on-chip signal processing, microprobe for biopotentials recording 7−28495
- integrated circuit subsurface features, detect. by photoacoustic microscopy 7−50873
- magnetic field sensors, features, appl. 7−331
- microtransducer for air flow and differential pressure sensing 7−61329
- solid-state devices and materials, conf., Tokyo, Japan (Aug. 1986) 7−48173
- GaAs/Al$_x$Ga$_{1-x}$As 3D ICs, selection rule for epitaxial growth techniques, LPE, MOVPE and MBE 7−46326
- Si monolithic gas flow sensor with polyimide asthermal insulator 7−6332

monomers *see molecules*

monomolecular films *see monolayers*

monomolecular layers *see monolayers*

Monte Carlo methods
- 1D magnetic materials, quantum Monte Carlo versus exptl. results for *xxz* chains. 7−64427
- 2D three-state chiral clock model, domain-growth kinetics 7−35460
- 3D general geometry Monte Carlo calcs., vectorisation, reactor transport appls. 7−36088
- $\lambda\phi^4$ theory, two-, three-dimensional, finite temp. props., Monte Carlo anal. 7−24798
- Φ^4 field theory on square lattice, finite size scaling anal. 7−9945
- Abelian lattice gauge theories, mean field methods for strings and monopoles 7−24772
- acetone, CS$_2$ soln., Monte Carlo simulation 7−44340
- adsorption, random, sequential, on to surface of small spheres 7−44994
- air pollution, Monte Carlo simulation of plume dispersion in turbulence 7−54396
- airborne radioactive gases inside a nuclear reactor containment building, Monte Carlo program to calc. exposure rate 7−54766
- Ala dipeptide in free space and water, conformational stability and flexibility, Monte Carlo studies 7−8486
- albedo Monte Carlo method for neutron streaming analyses 7−49494
- alkali metal ions in inert gases, energy distribs. 7−20839
- alloys, binary, phase diagrams and short range order, Monte Carlo simulations 7−53704
- alloys, disordered, multi-site correlations, at. size effect 7−16347
- alloys, ion projection ranges and their distrib., personal computer programs *(Japanese)* 7−6659
- alloys, preferential sputtering, segregation, mixing and diffusion 7−59337
- alloys containing lattice vacancies, short-range order investig. using Monte Carlo method *(Russian)* 7−51761
- Anderson model, periodic, ground state props. 7−58972
- anisotropic Heisenberg chain, Monte Carlo study of crossover behaviour and solitons 7−7532
- ANNNI model, two-dimensional, wetting phenomena 7−27064
- antiferroelectric nematic, singlet orientational distrib. fn., Monte Carlo anal. 7−2989
- antiferromagnetic Potts model, simple cubic lattice, critical fluctuations and phase transitions, Monte Carlo simulations 7−35457
- antiferromagnetic quantum spin chains, random exchange effects, Monte Carlo study 7−64475
- apatite, fission track distributions, Monte Carlo simulation 7−19646
- astrometry, statistical model for Tautenburg Schmidt plates 7−66432
- atomic clusters, classical pot. energy surfaces investigated using simulated annealing method 7−62556
- AVSYS code for fusion plant availability calc. 7−19440
- backwards evolved initial state parton showers, Monte Carlo model 7−15128
- Beijing spectrometer, simplified Monte Carlo simulation *(Chinese)* 7−10348
- benzenoid hydrocarbons, polycyclic, aromatic struct. and reactivity anal. correlated to Iball carcinogenicity indices 7−28275
- bimolecular surface reaction kinetics, adsorbate islanding effects, Monte Carlo model 7−65342
- binary alloy, FCC Ising, multiatom interactions, low temp. behaviour and Monte Carlo simulations 7−6755
- binary alloys, Monte Carlo calc. of configurational entropy and combinatory factor 7−63846
- binary crystals, FCC, ordering, Monte Carlo simulation 7−38154
- binary polymer liquids, 2-dimens. films, spinodal decomp. 7−38208
- wide binary stars dynamics in solar neighbourhood, Monte Carlo analysis 7−66663
- biomedical NMR, Monte Carlo simulation of spectrographic imaging data 7−54704
- bipolaron formation, Monte Carlo computer simulation studies 7−27268

Monte Carlo methods continued
- BWR fuel assemblies, pin-to-detector γ-ray transmission function by adjoint Monte Carlo methods *(German)* 7−61984
- carrier transport theory, picosecond processes 7−45342
- CDW, impurity pinning and depinning, quantum effects 7−52464
- chain molecules, 1D, unimolecular reaction dynamics, RRKM theory 7−8246
- chain molecules, eqn. of state, Flory theory, continuous-space analog 7−12229
- charged particles multiproduction in the central region of the soft hadronic interaction, dual parton model 7−61608
- chiral SU(2)×SU(2) lattice theory with spin 3/2 action in 2D, Monte Carlo anal. 7−15067
- classical XY-chain with an in-plane magnetic field 7−58967
- coherently strained Si-like structs., critical layer thickness, atomistic Monte Carlo calc. 7−12498
- cold neutron source for DHRUVA reactor, optimisation calcs. 7−56896
- complex Ge detector systems and Compton suppression spectrometers, Monte Carlo simulation 7−5530
- complex Langevin equation and Monte Carlo simulations of actions with static charges 7−24769
- Compton-sampling surface for photon transport soln. by Monte Carlo methods 7−61281
- concrete shield, fast neutron albedo calcs. 7−30622
- continuous symmetry ferromagnet, Monte Carlo simulations 7−2871
- coronary artery diameter meas. by angiography., Monte Carlo assessment of precision 7−47240
- cosmic ray acceleration in supernova remnants, Monte Carlo simulations and γ-ray evidence 7−18338
- cosmogenic nuclide production in lunar samples, Monte Carlo simulation 7−23961
- criticality safety, Monte Carlo code analysis problems 7−750
- criticality safety, Prescott interaction problem, MONK 6.4 anal. 7−751
- crystal growth, Monte Carlo simulation 7−6568
- crystal shape, equilibrium, numerical evaluation 7−63530
- crystallite growth shape on substrate, Monte Carlo simulation 7−44426
- cyclen mols. in water, Monte Carlo simulation, pot. function, ab initio calcs. 7−21071
- diamond, planar channelled protons, breakthrough angles 7−21308
- diffusion controlled reactions, Monte Carlo study 7−22994
- diffusion-limited aggregation without branching, Monte Carlo group anal. 7−61269
- dilute magnetic systems, environmental percolation, large-cell Monte Carlo renormalisation-group calcs. 7−2861
- dilute random-field Ising model, domain growth, self-similar dynamical scaling breakdown 7−35430
- dipolar hard sphere mixtures, dielectric const., Monte Carlo simulation 7−45911
- direct discharge detector, γ-ray calcs. in output lines using Monte Carlo method *(Russian)* 7−5564
- discharge, electron-beam-sustained, secondary electron thermalisation, attachment effects 7−58080
- discontinuous potentials, mol. dynamics of hard dumbells and vibr. hard dumbells 7−41249
- disordered spin systems, effective susceptibility exponent, nonmonotonic temp. depend. 7−64461
- disordered systems, excitation diffusion and energy relax. 7−21792
- dispersed ionic conductor, conductivity, percolation model 7−6856
- DNA, double helices, electrostatic forces, Monte Carlo simulation 7−42803
- DNA-salt solutions, thermodynamic coeffs., Monte Carlo calcs. 7−54443
- dosimetry, interface phenomena, Monte Carlo prediction 7−56878
- double heterogeneity effects, narrow resonance calcs. 7−30485
- dye lasers, two-mode, first-passage-time problems 7−1097
- EBIC image interpretation using Monte Carlo simulations 7−35640
- effective gauge action on a finite-size lattice, SU(2) theory simulations 7−41620
- Eguchi-Kawai model, triangle-lattice quenched, Monte Carlo study 7−30156
- electric microfield distrib. and radial distrib. function 7−11698
- electron depth-dose curves calc. with EGS and ETRAN codes, differences 7−40301
- electron energy loss in thin films, Monte Carlo program MCSDA 7−51894
- electron Monte Carlo transport, PRESTA algorithm 7−49854
- electron spectroscopy, attenuation of isotropically emitted electron beams 7−13272
- electron swarm in a model gas, diffusion coeffs., Monte Carlo simulation 7−1662
- electronically excited molecules, quantum Monte Carlo calcs. 7−15484
- energy spectra calcs. for 14 MeV n streaming through stainless steel ducts 7−714
- eye plaque therapy, Monte Carlo dosimetry for ^{125}I and ^{60}Co 7−40300
- FCC binary alloys, phase diagrams, frustration effects 7−22114
- Fermi liquid, strongly correlated, props. in valence fluctuation system, variational Monte Carlo anal. 7−2524
- fermion system, Monte Carlo simulations 7−204
- ferrofluid, mag. saturated, particle pair correlation 7−59102
- ferrofluid-polystyrene spheres composite, chain formation 7−59100
- ferromagnetic Ising model, thermodynamics, Monte Carlo simulation 7−29939
- ferromagnetic Ising model, transverse mag. field effects, Monte Carlo simulation 7−64473
- ferromagnets, one-dimensional easy plane, quantum Monte Carlo and transfer-matrix calcs. 7−7468
- ferromagnets, static surface critical behaviour, scaling and renormalisation, book contrib. 7−33183
- films, grain growth phenomena and microstructural evolution during deposition, Monte Carlo simulation 7−52336
- finite temperature deconfinement transition, Monte Carlo renormalisation group calcs. of critical exponent 7−49054
- finite temperature SU(2) gauge theory, correlation length temp. depend., screening, deconfinement 7−41606
- flow simulation, turbulent flow meas., hot-wire anemometry, evaluation of analytical systems 7−16274
- fluids of optically isotropic mols., collision-induced light scatt. 7−33405
- Fourier coeff. path integration, partial averaging approach 7−14809
- fractional quantised Hall states, microscopic wave functions at $v={}^2/_5$ and $^2/_7$ 7−2630
- fully frustrated Ising model, X-Y nature on triangular lattice, Monte Carlo simulation 7−24591

Monte Carlo methods continued
- gamma-families formed at ultrahigh energies, spatial characts., Monte Carlo calcs. 7—14431
- gas flows, high vorticity, computational limitations associated with Monte Carlo and mol. dynamics method 7—57857
- Gaussian chains, principle components of radius of gyration 7—36831
- Gaussian process max. distribution analysis using Monte Carlo method 7—48338
- generalised planar model, chiral and algebraic order, new phase transition scenario, Monte Carlo simulations 7—38877
- generalized diffusion limited aggregation model, Monte Carlo simulations 7—244
- glasses, tiling model, relax. behaviour, Monte Carlo simulation 7—44816
- glassy order in quenched 2D Lennard-Jones systems, Monte Carlo study 7—63494
- glueball (0^{++}), mass scaling, SU(N) Hamiltonian lattice calcs., Monte Carlo anal. 7—35807
- gluon mass in quenched Eguchi-Kawai model, momentum-space Monte Carlo method 7—19065
- grain growth during isothermal annealing, Monte Carlo simulation 7—17561
- graph partitioning and statistical mechanics, Monte Carlo simulation 7—48522
- Group VB metal-H solid solutions, thermodynamic props., Monte Carlo calcs. 7—21487
- hard ellipsoids of revolution, phase diagrams calcs. 7—2192
- hard parallel spherocylinder fluid, smectic order and nematic-smectic transition 7—11905
- hard sphere mixtures, additive and nonadditive, Monte Carlo simulation and integral eqn. results 7—11871
- hard-sphere mixtures interacting through attractive Yukawa tail, phase stability 7—11873
- heat radiation, Monte Carlo method, computing time reduction 7—43638
- heavy quark forces and potentials in SU(2) lattice gauge theory *(Chinese)* 7—35657
- Heisenberg classical easy-plane models, 2D, Monte Carlo studies 7—27542
- Heisenberg ferromagnet, anisotropic, thermodynamic props., Monte Carlo Method calcs. 7—38894
- Heisenberg spin glass, 3D short-range, computer simulation 7—33190
- HETC/LHI/SGS radiation transport code system 7—48637
- heterogeneous media, spatial correlation functions from computer simulations 7—18692
- heterostructure growth by MBE, growth approaches to improve interface quality 7—2421
- high energy electrons, influence of cylindrical air cavities on fluence distribs. 7—62097
- high energy hadron-nucleus interactions, grey particle energy and angular spectra 7—5246
- high energy ion scatt., struct. anal. of surfaces and interfaces 7—22410
- high pressure Xe gas time projection chamber, electron trajectories, Monte Carlo simulation 7—49801
- hopping-controlled reactions with variable hopping range, models 7—33924
- hot-wire data corrections for high intensity turbulence 7—37448
- Hubbard model, three-dimensional half-filled band sector, magnetic props., Monte Carlo simulation 7—58971
- hybrid Monte Carlo-analytical model of neutron coincidence counting 7—30906
- hydrophobic effects in soln. chem., integral eqn., Monte Carlo study 7—59751
- ice Ih, X-ray powder spectrum, temp. depend. simulation, Metropolis Monte Carlo sampling 7—16510
- icosahedral systems, glassy dynamics 7—32294
- identical boson systems, Monte Carlo simulations 7—24537
- immunological tumour escape, Monte Carlo simulation 7—13947
- infinite cluster at percolation threshold, Monte Carlo renormalisation approach to fractal dimensions 7—35439
- interfacial tension, determ. in Monte Carlo simulations 7—63904
- interstellar grain growth, geometrical cross-section of N-mer 7—48016
- interstitial diffusion and trapping, Monte Carlo simulations 7—32720
- interstitial diffusion and trapping, Monte Carlo simulations 7—32721
- ion implantation, TCIS code *(Chinese)* 7—53469
- ion implantation, theoretical problems 7—2034
- ion range and damage 3D distribs. including recoil transport 7—63691
- ionization chamber response analysis, development and testing of Monte Carlo computer code system 7—42433
- Ising model, fractal clusters, scaling, distrib. fn. 7—35462
- Ising model, kinetic two-spin facilitated model on square lattice, Monte Carlo simulation 7—24598
- Ising model, random-field, formation of domains 7—45602
- Ising models, 2D, with competing interactions, Monte Carlo studies, review 7—59043
- Ising multispin interaction system, phase transition order, Monte Carlo simulation 7—18719
- Ising simple cubic lattice, fully frustrated, Monte Carlo simulations 7—53011
- Ising spin dynamics on 2 D fractal lattice, Monte Carlo study 7—2874
- Ising spin glass, three-dimensional, entropy and free energy, Monte Carlo simulation 7—17184
- Ising three-spin interaction model, phase transition order 7—18718
- Ising triangular lattice, 2×1 and 2×2 structures, phase transitions 7—63765
- isotropic fluid, FCC lattice model, Monte Carlo simulation and appl. to collision induced light scatt. 7—16384
- Josephson junction array, positional disorder 7—64408
- JOYO radiation streaming, energy-space dependent error propagation in Monte Carlo coupling calculations 7—19335
- kinetic Ising model dynamics, Monte-Carlo renormalization group study 7—259
- Knudsen flow system, thermal fluctuations 7—63183
- large-N QCD, Eguchi-Kawai approach and Monte Carlo simulations 7—61574
- lattice animals in d dimensions, Monte Carlo methods 7—251
- lattice damage due to dynamic loading, simulation 7—26835
- lattice gas model, Monte Carlo study of propagating fronts 7—48615
- lattice gas of diffusing interacting particles in concentration gradient, Monte Carlo simulation 7—48596
- lattice gas systems, coherent quasielastic neutron scatt. 7—51581
- lattice gauge theory, Monte Carlo renormalization group methods 7—61476

Monte Carlo methods continued
- lattice gauge theory, Monte Carlo renormalization group transformation, β-fn. anal. 7—9957
- lattice gauge theory, Monte Carlo simulations, conf., Wuppertal, Germany, Nov. 1985 7—60883
- lattice gauge theory, topology and instanton struct., Monte Carlo simulation 7—61482
- lattice Higgs model, analytic and Monte Carlo methods 7—61480
- lattice Monte Carlo simulation with Wilson fermions, current algebra, quark masses 7—15069
- lattice Monte Carlo simulations of QCD at finite baryonic density 7—49082
- lattice N=2 Wess-Zumino model, local Hamiltonian Monte Carlo study 7—15052
- lattice QCD, deconfining phase transition and continuum limit 7—61568
- lattice QCD, improved actions, redundant operators and scaling 7—56513
- lattice QCD in 2D, Monte Carlo simulation 7—35782
- lattice QCD sum rules and spontaneous chiral symm. breaking, Monte Carlo simulation 7—61603
- lattice U(1) gauge Higgs model, Monte Carlo study of confinement 7—468
- layered solid, marker evolution on ion irrad., computer simulation 7—21302
- leafy foliage sound propag. simulation 7—50824
- Lebwohl-Lasher lattice model, inhomogeneous, Monte Carlo simulation 7—61261
- Lennard-Jones fluid, self-diffusion constant, Green-Kubo and nonequilib. calcs. comparison 7—52100
- light guides for large area scintillation counters, props. and parameters 7—25311
- liquid-liquid dispersions, time- and event-driven Monte Carlo calcs. 7—54193
- long term variations of galactic cosmic rays, Monte Carlo calcs. 7—34842
- loop gas model, square lattice, critical behaviour, Monte Carlo anal. 7—216
- low energy X-ray fluorescence anal. using annular ^{55}Fe source, Monte Carlo approach 7—8335
- lysophosphatidyl ethanolamine, energetics, hydration struct., ab initio pots. 7—65300
- magnetic scintillation electron spectrometer for cosmic radiation meas., specifications computing 7—40715
- magnetic systems, Monte Carlo simulations, digital dynamics and chaotic behaviour 7—22083
- MARS blanket lifetime prediction, dimensional scaling and material prop. uncertainties 7—5417
- mass transport along surfaces, computer modelling, book contrib. 7—27082
- mathematical physics problems, Monte Carlo method scheme 7—35259
- MBE films, thickness distribution calc. 7—7866
- McMOLDYN/H2O computer simulation package for aqueous systems 7—44330
- membrane, stack structures, fluctuation pressure 7—47014
- metals, twin-boundary energies and entropies, const. press. Monte Carlo calc. 7—2028
- methane, deposition plasma, homogeneous and heterogeneous chemistry, deposition of C:H 7—39424
- methyl chloride dimer, liq. electrostatic induction, thermodynamic and struct. props. 7—57145
- micellar aggregates, packing of semi-flexible chains, statistical thermodynamics approach 7—28357
- microcapillaries, partitioning of hard-sphere fluids, Monte Carlo and mol. dynamics simulations 7—63416
- microvertex detector in FNAL E687 expt., Monte Carlo program and pattern recognition 7—5537
- mixed-stack cpds., electronic states, soliton structs. 7—52451
- molecular crysts., triplet exciton diffusion and capture, Monte Carlo modelling 7—12620
- Monte Carlo simulation flight time, determ. 7—19702
- Monte Carlo simulation of hard hadronic processes, review 7—56563
- MORSE-CG code for pulsed fast reactor problems, Monte Carlo anals. 7—15229
- MPB5 diffuse layer pot. drop 7—13785
- multicomponent mixtures, partial molar props., computer calc., operational definitions 7—28329
- multiplicative correction factor for tissue heterogeneities, radiotherapy dosimetry appl., Monte Carlo calcs. 7—14124
- muonic T, hot atom thermalisation, Monte Carlo simulation 7—17805
- N-city travelling salesman problem, optimisation by simulated annealing 7—48614
- nematogen, surface props. computer simulation 7—37850
- neural network, spin-glass model with Monte Carlo dynamics 7—23292
- neutron penumbral imaging camera, optimisation and simulation 7—1017
- neutron transport equation, nonstatistical Monte Carlo method 7—4796
- neutron transport simulation in low capture medium 7—5311
- noise current spectrum in submicrometer samples 7—27371
- noise-induced neural impulses, rel. to Bonhoeffer-van der Pol model, Monte Carlo calcs. 7—17967
- non-perturbative QCD, algorithm for transport coeffs. using lattice Monte Carlo methods 7—49071
- nonequilib. phase transforms., critical behaviour in fast-ionic-conductor and reaction-diffusion Ising models, Monte Carlo scaling 7—61304
- nonideal fluid mixtures, phase diagrams, Monte Carlo calcs. 7—51989
- nonpositive definite weights, Monte Carlo and Langevin algorithms convergence comparison 7—75
- nonuniversal critical dynamics 7—41323
- nuclear particle flux propagation in atmosphere, model *(Russian)* 7—66413
- nuclear spallation reactions, particle emissions from preequilibrium states 7—10157
- nucleation, Monte Carlo simulation of time lag 7—26902
- nucleon decay, KAMIOKA experiment, atmospheric neutrino background and pion nuclear effect 7—49140
- null-collision technique in the direct-simulation Monte Carlo method, rarefied gas dynamics 7—31841
- oligosaccharides, conformal statistics 7—13958
- one-dimensional degenerate Hubbard model, Monte Carlo simulations 7—45609
- one-dimensional interacting electron systems, charge density and superconducting fluctuations 7—22061
- one-dimensional periodic Anderson model, quantum Monte Carlo simulation 7—52938

Monte Carlo methods continued
- optical images, scene geometry, length determ. 7−41340
- organic crystals, neutral-ionic transition, Monte Carlo simulation of modified Hubbard model 7−2554
- organic molecules, effective π-electron Hamiltonians, Green's function Monte Carlo calcs. 7−25412
- organic sulphur cpds., liq., Monte Carlo simulations, develop. of suitable intermol. pot. fns. 7−31140
- p^+n junctions, impact ionisation rates, field fluctuation effects, Monte Carlo simulation 7−64323
- particle beam fusion accelerator II (PBFA II), vacuum insulator stack failure mechanisms 7−30749
- particle distribution size increase simulation using Monte Carlo technique and renormalisation anal. 7−29731
- path integrals, semiclassically based Monte Carlo evaluation 7−41069
- percolation, clusters, num. methods *(Czech)* 7−4773
- percolation clusters, two-dimensional, fractal dimension of hull, Monte Carlo calcs. 7−241
- phase transitions in two-dimensional uniformly frustrated*XY* spin systems 7−2875
- photochemical reactors, industrial, using transparent particles, Monte Carlo modelling 7−59773
- photon cavity theory, incorporation of Monte Carlo electron interface studies 7−36079
- plasma atomic kinetics, evolutionary problems soln. by Monte Carlo method 7−20864
- plasma confinement in magnetic mirrors, Monte Carlo simulation for space-varying mag. fields *(Chinese)* 7−37719
- plastocyanin, paramag. Cu^{2+} containing, spectroscopic and computer simulation study 7−8494
- polyalanine fragment, solvent struct. hydration, Monte Carlo simulation 7−23299
- polymer, molecularly doped, charge carriers, pseudo-percolation, Monte Carlo study 7−2613
- polymer chain dynamics, temp. depend. cubic lattice model simulation 7−998
- polymer chains, dynamics, reptation, model simulation 7−57197
- polymer chains, internal correlations 7−5797
- polymer crystals, 1D growth, computer simulation 7−16466
- polymers, branched, Monte Carlo and exact series anal. of lattice animals 7−48622
- polymers, quasi-one-dimensional, electron-electron interaction effects 7−64143
- positron imaging, electron gamma shower for Monte Carlo calcs. 7−36424
- positronium, formation and inhibition in cyclohexane, model calcs. 7−17812
- positronium formation probability, Monte Carlo calc. 7−36815
- Potts models, crit. dynamics at percolation threshold 7−29917
- projectile fragmentation, Monte Carlo simulations of anomalon expts. 7−614
- proton beam, intense, energy spectrum meas. with magnetic spectrography 7−42260
- PSPHOT and PVPHOT, parallel algorithms for photon transport Monte Carlo analysis 7−36089
- PWR pressure vessels, fast neutron fluxes using Monte Carlo methods 7−36097
- QCD, finite temperature Monte Carlo simulations 7−61567
- QCD, gauge theories with imaginary chemical potential 7−35781
- QCD lattice gauge theory, updating fermions with Lanczos method 7−49052
- QCD scale fixing, lattice Monte Carlo calcs. 7−30239
- QCD spin-depend. static pots., SPINSUB vectorised code for Monte Carlo computation 7−41721
- quantum field theory, progress, book 7−9602
- quantum many-body systems, Monte Carlo studies of dynamical response 7−14862
- quantum spin system, 1D, 1D, vectorized coding for Monte Carlo simulation 7−45606
- quantum transfer matrix method for finite temp. props. 7−24402
- quasi-1D conductors, Coulomb correlation effects 7−52485
- quasi-random and pseudo-random sequences, integral equation solution, comparative study 7−48560
- quasicrystal equilib. state of two-component 2D Lennard-Jones system, Monte Carlo simulations 7−58148
- radiotherapy, proton beam penumbra: effects of separation between patient and beam modifying devices 7−40276
- RAHAB calc. for lattice parameters of CANDU type reactors 7−36100
- random lattice gauge systems and interacting gaussian surfaces, strong coupling expansion 7−48958
- random nonpercolating conductor networks, insulation breakdown calcs. 7−58744
- random phase screens, light scattering props. 7−57241
- random surfaces, triangulated, intrinsic geometry, mean size fluctuations, Monte Carlo simulation of critical props. 7−61227
- range and damage profile parameter predictions on a microcomputer, analytical approx. 7−62241
- rarefied gases, statistical simulation modelling *(Russian)* 7−63181
- reaction kinetics on clusters and islands, Monte Carlo simulations 7−22977
- reactor probabilistic risk assessment, accuracy and efficiency of the Monte Carlo method 7−15294
- real-space normalisation, Kakutani metric appls. to small Ising systems and gauge-field quantisation 7−41294
- relative diffusion in stochastic fields, Monte Carlo simulation 7−271
- restricted primitive model for electrical double layers: modified HNC theory of density profiles and Monte Carlo study of differential capacitance 7−11868
- RF plasma sheath, ion transport, Monte Carlo modeling 7−37797
- scalar field theory and gauge theory, renormalized coupling constants by Monte Carlo methods 7−41618
- scalar neutron flux, spectral covariance associated with the Monte Carlo method 7−36071
- SCALE, nuclear waste cask analysis, critically safety analysis 7−15411
- Schwinger-Dyson equations, from block-spin expectation values to renormalized couplings 7−56429
- self-avoiding walk, Monte Carlo algorithms, dynamic critical exponents 7−213
- self-avoiding walk, triangular lattice, connective constant, Monte Carlo anal. 7−215

Monte Carlo methods continued
- semiconductor quantum well structure, electric-field-induced optical modulation, theory using Monte Carlo approach 7−17077
- semiconductors, hot-carrier transport, Monte Carlo and Davydov calcs. 7−45341
- semiconductors, narrow gap, spontaneous oscills. under plasma resonance conditions 7−38605
- semiflexible polymers, collapse transition, Monte Carlo simulation 7−10785
- simple cubic lattice, 3D percolation threshold estimates, Monte Carlo simulation 7−35435
- simulation of charged-particle analyser line shapes 7−30803
- simulations, autocorrels. and subservices average 7−41234
- simulations with multispin updatings, effective dynamics 7−18717
- site animals on square lattice, series expansions using Monte Carlo method 7−35426
- skyshine radiation, Monte Carlo solution 7−10302
- SO(3) Georgi-Glashow model, (SU(2) gauge-Higgs), phase structure 7−30188
- solar cosmic rays propagation, Monte Carlo calcs. for interplanetary propag. of relativistic protons 7−66405
- solid solutions, atomic interaction energies, determ. from short-range order coeffs., inverse Monte Carlo methods 7−32653
- solid solutions, atomic interaction energies and short range order coeffs. 7−51675
- source biasing, choice of biasing fn. 7−36070
- spallation breeding facilities, neutronics calcs. using Monte Carlo methods 7−10180
- specific heat critical exponents, LEED meas., Monte Carlo data anal. 7−6824
- Spencer-Lewis eqn. of electron transport theory, moment reconstruction technique 7−61290
- spent nuclear fuel shipping vessel, neutron dose rates, Monte-Carlo anal. 7−25267
- spin glasses, replica Monte Carlo simulation 7−45713
- spin glasses, review, recent developments, characteristic props. and related phenomena 7−59030
- spin-1 Ising model, two and three dimensional, biquadratic exchange interactions, reentrant behaviour, Monte Carlo study 7−12986
- spinodal decomposition, diffusion limited, corrections to late-stage behaviour, Lifshitz-Slyozov scaling and Monte Carlo study 7−38206
- sputtering, energy distribs., Monte Carlo program calcs. 7−59324
- sputtering, preferential, collisional aspects using Monte Carlo method 7−53464
- SSNTD in cylindrical geometry, detection efficiency for fission isomers, Monte Carlo method 7−5545
- standard SU(2) Higgs model, Monte Carlo study on lattices 7−9949
- star-like polymers, swelling in good solvent, Monte Carlo calcs. *(Russian)* 7−63436
- stars, photospheric plasmas, time-dependent radiative transfer, analytical methods 7−55451
- static potentials from bosonic string models, lattice Monte Carlo calcs. 7−61612
- statistical QCD, deconfinement and chiral symm. restoration, Monte Carlo anal. 7−61569
- steady flow dispersion, gently curving tube, low Dean number, Monte Carlo and num. solns. 7−44053
- stochastic algorithms for physical systems 7−61077
- strained layer superlattice interfaces, Monte Carlo stability anal. 7−27165
- strong coupling electron systems, CDW, supercond., effect of randomness 7−27459
- SU(2)×U(1) lattice gauge theory, phase transitions, Monte Carlo anal. 7−406
- SU(2) deconfining phase transition, correlation length and susceptibility, Monte Carlo methods 7−56515
- SU(2) gauge theory, Monte Carlo renormalisation study of deconfining transition 7−15073
- SU(2) lattice gauge Higgs theory, Monte Carlo anal. at finite temp. 7−24796
- SU(2) lattice gauge theory, evidence against asymptotic freedom 7−41631
- SU(2) lattice gauge theory, Monte Carlo renormalization group study 7−19002
- SU(2) lattice gauge theory with dynamical fermions, static quark pot. 7−61478
- SU(2) lattice gauge theory with mixed action, Z(2) monopoles and specific heat 7−48962
- SU(3) lattice gauge theory, Monte Carlo calcs. of gluon propagator 7−61474
- SU(3) lattice gauge theory, Monte Carlo simulation of fermionic fields 7−48964
- SU(3) lattice gauge theory, topological susceptibility Monte Carlo calcs. 7−61455
- SU(3) lattice QCD, β-function at large β, Monte Carlo renormalisation group anal. scaling deviations 7−24781
- SU(N) lattice gauge theories, topological charge in Monte Carlo simulation 7−48938
- submonolayer ordering and multilayer adsorption, simple lattice gas models 7−12490
- superlattice interfaces, two-dimensional Lennard-Jones strained layer systems, Monte Carlo stability anal. 7−2398
- superlattices, hot electron diffusion study by Monte Carlo technique 7−45483
- temperature-driven first-order transitions, finite-size effects, Potts model, Monte Carlo calcs. 7−258
- thermo field Monte Carlo methods 7−9985
- thin film deposition in square groove, Monte Carlo simulation 7−12572
- thin film multilayer design optimisation using Monte Carlo approach 7−37096
- thin layers, laser sputtering, struct-form., Monte Carlo modelling 7−27901
- three-dimensional O(2) model, phase transition, vortex string role, Monte Carlo calcs. 7−264
- threshold percolation density in strongly correlated lattice systems 7−14895
- time of flight small angle neutron scatt., resolution, calc., meas. on biological samples 7−18097
- time projection Compton spectrometer for medium-voltage flash X-ray sources 7−56391
- time-dependent line transport calcs., Monte Carlo scheme 7−20897
- topological charge of lattice gauge fields 7−35663

Monte Carlo methods continued
tracer diffusion and ionic cond., correlation effects 7−6857
transition state identification, statistical method 7−22991
transport theory, radiation field calcs. by Monte Carlo methods, symm. props. 7−30469
transverse BGO compton suppression shield for Ge γ-spectrometer, expt. and Monte Carlo study 7−25300
turbulence simulation using rotational approx. to von Karman spectra 7−31759
twisted Eguchi-Kawai model, complete set of twists 7−41648
two dimensional Heisenberg model, easy-plane exchange anisotropy, Monte Carlo study 7−17196
two-dimensional antiferromagnetic Blume-Capel model, Monte Carlo simulation 7−64471
two-dimensional growth models, interface dynamics, time-reversal invariance and universality 7−63532
two-dimensional Hubbard model, mag. props., mean-field phase diagram and spin-spin correls. 7−64429
two-dimensional lattice gas on triangular net, order-disorder transitions, struct. factors, Monte Carlo simulation 7−56176
two-fluid flow through porous media, Monte Carlo simulation 7−31734
two-sublattice systems, correlated random walks, Monte Carlo simulations 7−4783
U(1) lattice gauge theory, analytical results for average plaquette energy 7−61426
U(1) varied-modular Higgs model, phase struct. simulation 7−18973
van der Waals potentials, clustering, mol. dynamics and Monte Carlo calcs. 7−37829
variance reduction technique for quantum Monte Carlo simulations 7−45605
VENUS central drift chamber, charged particles, pattern recognition algorithm 7−822
viscous liquids, defects and relaxation 7−11877
vorticity distrib. simulation, Monte Carlo techniques 7−37471
water, liquid, intermolecular pot. simulation for interaction models 7−1835
water, quenched to low temp., glassy state, Monte Carlo simulation 7−26633
water between metal walls, Monte Carlo simulation, struct. and thermodynamic props. 7−11881
water phantoms in diagnostic radiology, photon scatt. props., Monte Carlo simulation study 7−54718
Weibull parameters estimation using weight function 7−22934
wind-roughened sea surface, albedos and glitter patterns generation 7−9006
X-ray diffr. phase anal., calibration-free, Monte Carlo error simulation 7−1812
X-ray fluoresc., energy dispersive, 2-variable cumulative distrib. functions, cubic spline representation 7−23073
X-ray fluorescence, rel. intensity for annular source geometry, Monte Carlo calcs. 7−23076
X-ray imaging, rotational aperture synthesis 7−47728
X-ray spectra, energy dispersive, Monte Carlo simulation of backscattered peaks 7−23070
XY model, 3D, critical surface free energy, universal finite scaling amplitude, direct Monte Carlo sampling 7−61305
Z(2) lattice gauge theory, Polyakov loop effective couplings, Monte Carlo calc. 7−41619
Z(3) lattice gauge model, entropy and free energy, Monte Carlo calcs. 7−9956
$e^+e^-\to$jets, hadronic final states, QCD and string model comparisons, review 7−30274
$e^+e^-\to q\bar{q}\tilde{\gamma}\tilde{\gamma}$, scalar quark production, Monte Carlo QCD simulation 7−35888
$e^+e^-\to W^+W^-$, Monte Carlo simulation of multiboson production processes, two and three jet decays 7−30268
$p\to\pi^0e^+$, lattice QCD Monte Carlo simulations 7−35763
Al (100), polycryst., single cryst. and amorphous, ballistic collision cascade anisotropics 7−58379
Al alloy, life prediction for corrosion fatigue 7−39629
Al Auger electron emission by Ar bombardment, Monte Carlo simulations 7−53470
Al film deposition from partially ionised vapour flux, fast ion interactions 7−12531
Al foils, electron absorpt. and scatt. energy spectra, Monte Carlo calcs. 7−22399
Al:Bi-KCl:Bi, bilayer cpd., Bi ion implantation, thermal annealing 7−32474
AlGaAs/GaAs/AlGaAs single quantum well, negative differential mobility and drift vel. overshoot 7−52803
AlGaAs-GaAs, modulation doped heterostructs., high field transient transport 7−12836
AlGaAs-GaAs heterointerface, ballistic transport of quasi-2D electron gas 7−52788
AlGaAs-GaAs-AlGaAs single quantum well heterostruct., negative differential mobility and drift velocity overshoot 7−52787
$Al_{0.3}Ga_{0.7}As$-GaAs quantum well structure, electric-field-induced optical modulation, theory using Monte Carlo approach 7−17077
$Al_{0.25}In_{0.75}As$, transient transport in central-valley-dominated ternaryIII-V alloys 7−7253
Al_2O_3-Na_2O, beta-type ionic cond., mixed alkali effects, percolation model 7−12355
^{26}Al, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
Ar discharge, homogeneous longit. mag. field effects 7−21026
Ar gas, electron beam deposition 7−5771
Ar, high press. eqn. of state, interatomic pots. 7−58431
$As_{0.2}Se_{0.5}Te_{0.3}$ chalcogenide glass, struct. models, X-ray diffr. and Monte Carlo calcs. 7−6548
$As_{0.45}Se_{0.10}Te_{0.45}$ glassy alloy, struct. model and switching props. 7−1904
Au, surface (110), struct. and surface energy, Monte Carlo study 7−6945
Be, electronic energy, Green's fn. calc. 7−10445
Be, second-order energy calcs. using Gaussian-type geminals, Monte Carlo quadrature formulas 7−25363
Br_2, inelastic scatt. from graphite surface, Monte Carlo classical trajectory calcs. 7−27837
C foils, electron absorpt. and scatt. energy spectra, Monte Carlo calcs. 7−22399
CO_2-He-N_2 laser glow discharge, influence of magnetic fields on instability growth 7−5868
CS_2, Ar^+ ion irrad., S_2 sputtered mol. props. 7−936

Monte Carlo methods continued
CaF_2 TLDs, Al- or Ta-encapsulated, non-equilibrated bremsstrahlung dosimetry for 0.75 MeV electrons 7−56876
^{252}Cf neutron calibration flux distrib., Monte Carlo simulation 7−30805
Cs, liq.-vap. interface, electron and ion distribs., self-consistent Monte Carlo simulation 7−52024
Cu foils, electron absorpt. and scatt. energy spectra, Monte Carlo calcs. 7−22399
Cu, vacancy diffusion along (100) twist boundaries *(Russian)* 7−2265
Fe, mag. props., of different phases, modelling using Monte Carlo method *(Russian)* 7−58992
Fe single crystals, Bi ion implantation, high substitutional fractions 7−58299
Fe^{2+}, aq. solvation, Monte Carlo simulation 7−54154
GaAs, electron impact ionisation rate in nonuniform elec. fields, simulation 7−33021
n-GaAs, intervalley processes, nonequilib. phonon spectroscopy and hydrostatic compression, Monte Carlo study 7−58425
GaAs, ion implant depth profiles, channelling, Monte Carlo simulation 7−51811
GaAs Schottky-barrier behaviour, Monte Carlo simulation 7−45491
GaAs/AlGaAs quantum wells, Monte Carlo study of hot electron transport 7−52804
GaAs-$Al_xGa_{1-x}As$ heterostructures, selectively doped, electron transport in strong electric fields 7−38687
GaAs-AlGaAs quantum wells, hot electrons, Monte Carlo study 7−38708
GaAs-GaAlAs superlattice structs., impact ionisation coeff., lucky drift model 7−52793
$Ga_{0.4}In_{0.6}As$, transient transport in central-valley-dominated ternaryIII-V alloys 7−7253
p-Ge, hot electron transport, perturbed acoustic phonon distrib. effects, Monte Carlo anal. 7−64254
p-Ge, solid-state radiation source for submillimeter and far IR waves 7−37079
H, ionisation by electron and position collisions, cross. section calc. 7−15726
H_2O vapour electron impact cross sections electron energy degradation spatial aspects 7−50381
$(H_2O)_n$, $n=4$ to 8, geometries and relative energies, Monte Carlo energy minimisation study, ab initio SCF calcs. 7−30921
H_2S, liq., Monte Carlo simulations, develop. of suitable intermol. pot. fns. 7−31140
^{3}H(d,X), muon catalysed fusion, classical trajectory Monte Carlo method 7−61936
He gas, positron mobility edge, Monte Carlo simulation 7−44086
He^+, ionisation by electron and position collisions, cross. section calc. 7−15726
He-SF_6, low pressure glow discharge, Monte Carlo anal. 7−32161
He-SF_6 glow discharge, mag. control, electron energy distrib. 7−26555
^{3}He, solid, quantum tunnelling in dil. instanton limit, Monte Carlo calcs. 7−21567
^{4}He and ^{3}He liquid drops, ground states, variational Monte Carlo calcs. 7−12383
^{4}He, liquid, impurities, variational theory 7−27045
^{4}He(n,n), alpha-neutron scattering, microscopic Monte Carlo calcs. 7−24991
Hg, static structure factor, neutron diffr. study and Monte Carlo simulation 7−37841
InAlAs, growth by MBE, alloy clustering, surface quality, role of kinetics and thermodynamics 7−32866
InGaAs, high-field autovariance coeff., diffusion coeff., and noise at 300 K 7−64260
InSb, large-k acoustic phonon imaging, freq. selectivity and isotopic defect scatt. effects 7−26885
K, relativistic effective potentials in quantum Monte Carlo calculations 7−49902
Kr gas, electron beam deposition 7−5771
Kr_2, diatomic molecule sputtering, independent binary collision approx. 7−59350
Li, relativistic effective potentials in quantum Monte Carlo calculations 7−49902
LiF TLDs, dose enhancement effects, comparison with 2D Monte Carlo calc. 7−56875
LiH, electronic energy, Green's fn. calc. 7−10445
^{53}Mn, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
Mo surface, struct. phase transitions 7−2327
N_2 fluid, eqn. of state and vibron freq. thermodynamics, Monte Carlo, calcs. 7−12231
Na, carrier scattering, photo- and secondary electron emission studies 7−13324
NaCl, electron-phonon scatt. in XUV induced electron emission, Monte Carlo simulation 7−27861
NaF-AlF_3, cryolite melt, struct.; computer simulation *(Chinese)* 7−6494
NaI π^0 and η^0 detector, energy resolutions by Monte Carlo simulations 7−49816
Na_2O-SiO_2:Yb^{3+} glass struct. model, Monte Carlo method 7−51644
^{22}Na, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
Ne gas, electron beam deposition 7−5771
Ni (110), adsorbed H, order-disorder transitions, theory 7−12492
Ni (111) with adsorbed H, phase diagrams based on model interactions 7−21650
Ni-Cu alloy, equilib. segregation, embedded atom simulation 7−17538
$NiCr_x$, short range order and atomic interactions, neutron studies 7−51707
$Ni_{1-x}P_x$, amorphous glasses, electronic structure, calcs. 7−7101
O_2 monolayers, struct. and mag. order, thermodynamic behaviour 7−52242
Pb foils, electron absorpt. and scatt. energy spectra, Monte Carlo calcs. 7−22399
Pb(p,X), spallation, sensitivity studies of n multiplicity spectrum 7−30416
Pd (111), adsorbed H, order-disorder transitions, theory 7−12492
S, Ar^+ ion irrad., S_2 sputtered mol. props. 7−936
SF_6-Ar_n clusters, spectroscopic obs. of phase coexistence 7−36842
Si cascade branching, Monte Carlo simulation 7−58376
n-Si, complex dielectric fn., carrier interactions, Monte Carlo calcs. 7−33041
Si, crystalline and amorphous, Monte Carlo growth simulation models 7−16470
Si, planar channelled protons, breakthrough angles 7−21308

Monte Carlo methods continued
- Si, recoil implantation of O_2, characterisation by double-crystal X-ray diffraction, TEM, Monte Carlo simulation 7—51807
- Si, self-implantation, damage production kinetics 7—21239
- Si, self-implantation-induced temp. depend. amorphisation, TEM and Monte Carlo simulation studies 7—16595
- Si solar cell simulation by Monte Carlo modelling 7—8405
- Si-SiO_2-Si layered struct., dose calcs. for X-ray and X-ray irrad. 7—58333
- Si-Ta interface, depth profile, Ar^+ ion bombard., Auger electron spectra anal. 7—46261
- β-SiC monocryst. thin films, ion implantation and annealing, amorphisation and recrystn. processes study 7—16596
- SiF, diatomic molecule sputtering, independent binary collision approx. 7—59350
- SiH_4, RF discharge, electron props., Monte Carlo simulation 7—21036
- $SiH_4+Si_2H_6+Ar+H_2$, plasma enhanced CVD of a-Si:H, integrated model 7—39423
- SiO_2, crystalline struct., simulation based on pot. with many-body term 7—21152
- SiO_2, electron ionisation tracks, cluster anal. 7—58387
- SiO_2 films, ballistic electron transport 7—45531
- SiO_2, radial distrib. functions, glassy struct. and bond angles, Monte Carlo method 7—11924
- ^{235}U, aqueous critical assemblies, Monte Carlo anal. with ENDF/B-V data 7—30476
- W (001), surface reconstruction phase transition, energetics 7—52231
- W (001) clean surface, reconstruction transition, effect of surface steps and adsorbate-induced perturbations 7—6935
- W (001) clean surface, surface-reconstruction phase transition and high temp. phase 7—6934
- W (112), K adatoms, density fluctuation simulation 7—32806
- W surface, struct. phase transitions 7—2327
- Xe vacancy cascade following inner-shell ionisation, Monte Carlo simulation 7—30998

Moon
- *see also lunar seismology; lunar structure*
- acceleration and motion, historical obs. (book) 7—41050
- apogees and perigees for 1986 AD and 1500 to 2500 AD *(French)* 7—60582
- λ Cnc occultation by Moon, 1986 November 22 graze event obs. 7—55431
- departure from hydrostatic equilibrium 7—54848
- Earth-Moon system, origin 7—23509
- gravitational field, Earth-Moon system, momentum current picture 7—55934
- gravity, influence on Earth rot. 7—3965
- heat conduction, temp. profile and radial deform. for elastic lunar interior 7—23592
- highland crust composition from IR observations, review 7—24030
- impact cratering events, size-velocity distribution of large ejecta fragments 7—24029
- laser ranging, extended Kalman filter for automatic target following of lunar reflectors *(German)* 7—23521
- laser ranging data, appl. to determ. of Earth rotation parameters *(Chinese)* 7—3959
- laser ranging measurements, implications for tidal energy dissipation 7—14301
- limb darkening of full Moon, optical refl. as operator-eigenvalue problem 7—24032
- lunar calendars, missing date-lines determ. 7—66433
- Meteoritical Society, 49th annual meeting, New York (September 1986) 7—18506
- natural satellites collision orbits with Moon via method of surface of section 7—9387
- occultations of stars (AD 186-567) use for Earth rot. characts. determ. *(Chinese)* 7—3963
- origin in Earth-Mars collision scenario *(French)* 7—60586
- origin theories 7—47740
- palaeomagnetism, implications for problem of planetary dynamo fields 7—34892
- planetary perturbations by Earth-Moon system, effects on motion of asteroids and comets 7—4297
- radar bright rings assoc. with lunar craters, analogy with Venus radar bright rings 7—24028
- radar map of lunar surface, at 70 cm 7—66481
- secular acceleration measurements, implications for tidal energy dissipation 7—14301
- solar cosmic ray inert gases in regolith minerals 7—14507
- tidal deceleration of Earth rot. and lunar mean motion, theoretical estimates 7—18348
- tides in elastic Moon, theory *(Hungarian)* 7—18362
- total eclipse, 1982 July 6, ALPO obs. 7—18361

Moon structure *see lunar structure*

moonquakes *see lunar seismology*

Morin temperature
- *see also weak ferromagnetism*
- $DyLiFeO_3$, orthoferrite, mag. props. 7—2824
- α-Fe_2O_3 powder compacts, shock-modified, Morin transition, Mossbauer and magnetisation studies 7—2852
- α-Fe_2O_3/AgI composite electrolytes, phase transition temperatures *(Chinese)* 7—38244
- $YLiFeO_3$, orthoferrite, mag. props. 7—2824

Morse potential
- *see also intermolecular mechanics; kinetic theory*
- alloys, ordered $L1_2$ superstruct., lattice state near stacking faults *(Russian)* 7—6642
- bound-state problem, Morse pot., Schrodinger eqn. soln. 7—14831
- carbon tetrafluoride, Morse oscillators, Miller's classical path approx. appl. 7—25624
- chain molecules, 1D, unimolecular reaction dynamics, RRKM theory 7—8246
- chloromethane$+Cl^-$, substitution reaction, mol. dynamics, pot. energy surface, frozen solvent theory calcs. 7—54109
- cyclopentene, twist-pucker motion pot. energy determ., inverse perturbation anal. 7—19996
- diatomic mols., Morse oscillator, struct., diagonal matrix elements 7—25629
- diatomic systems, mol. const. determ. from higher harmonic vibr. spectra 7—25481

Morse potential continued
- matrix elements, appl. of 2D harmonic oscillator 7—56071
- matrix elements for rotating Morse oscillators 7—31141
- mode representations, normal and local, equivalence 7—31138
- oscillator coupled to double well, reactions statistical theories 7—65298
- polyatomic mols., localised highly excited anharmonic vibr. anal. 7—50075
- simple cubic lattice, inelastic scatt. and trapping of an atom 7—27122
- van der Waals complex, triatomic, vibr. predissoc., adiabatic approx. model 7—36713
- Ag interfacial surface energy atomistic estimation and adhesion meas. *(Japanese)* 7—58657
- Al (110), Ar ion damage production, mol. dynamics simulation 7—58378
- Au interfacial surface energy atomistic estimation and adhesion meas. *(Japanese)* 7—58657
- $AuCu_3$, ordered alloy, antiphase boundary form. energy, atomic config., Morse pot. approx. *(Russian)* 7—46419
- CCl^+, Born-Oppenheimer pot. fn., mol. rot.-vibr. study, IR spectra anal. 7—36604
- CH, stretching mode, radiationless transition, num. integrated investig. 7—31092
- Ca, cryst., FCC, generalised Morse pot. and mech. stability 7—6575
- Cu interfacial surface energy atomistic estimation and adhesion meas. *(Japanese)* 7—58657
- Cu, vacancy diffusion along (100) twist boundaries *(Russian)* 7—2265
- $GeH^+(GeD^+)$ in He afterglow, $a^3\Pi_{0+,1}-X^1\Sigma^+$ visible band system 7—50152
- H_2, Morse oscillator, struct., diagonal matrix elements 7—25629
- Hg-Ar complex, electronic states struct., pot. energy curves, visible fluoresc. spectra anal. 7—36631
- LiH(D), pot.-energy curves, PMO-RKR-van der Waals pot., Pade approx. method 7—30965
- $Ni_{64}B_{36}$ amorphous alloy, struct., boundary effects, computer simulation study *(Chinese)* 7—11920
- Ni_3Fe, ordered alloy, antiphase boundary form. energy, atomic config., Morse pot. approx. *(Russian)* 7—46419
- PbO, D1-$X^1\Sigma^+$ system, band intensities distrib. 7—50082
- SO_2+Ar, intermol. energy transfer, trajectory study, rovibrational mol. energy depend. 7—31151
- Yb, cryst., FCC, generalised Morse pot. and mech. stability 7—6575

MOS devices *see metal-insulator-semiconductor devices*

MOS integrated circuits *see field effect integrated circuits*

MOS structures *see metal-insulator-semiconductor structures*

MOS transistors *see insulated gate field effect transistors*

mosaic structure (microstructure)
- 4-4′-dimethyl-8,9,10-trinor-spiro-2-2′-borane (1,3-oxazolidine)-3′-oxyl racemic mol. solid soln., phase separation statics and dynamics 7—26737
- microdistortion and mosaic size, calc. with aid of invariable parameter *(Chinese)* 7—6810
- sapphire tube prod. by Stepanov method at high growth rates 7—7837
- X-ray diffractometer, four-crystal, crystallite mosaicity and perfection meas. 7—44302
- $LiBnO_3$, charactn. by γ-ray diffr. 7—54061

MOSFET *see insulated gate field effect transistors*

Mossbauer effect
- actinide chemistry, Mossbauer spectroscopy appl. 7—22172
- albumen, human, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7—59916
- alkali metal iodides, Debye-Waller factors of ^{129}I, Mossbauer study 7—2135
- bis(pentafluorophenyl)telluride and its dihalide, ^{125}Te Mossbauer and NMR chemical shift 7—7615
- bis(trifluoromethyl)telluride and its dihalide, ^{125}Te Mossbauer and NMR chemical shift 7—7615
- bis arene sandwiches, $C_5R_5FeC_6R_6$ where k=H or CH_3, and $(C_6(CH_3)_6)_2Fe^+$, hyperfine and mag. props. 7—12680
- α-brass, Mossbauer spectroscopy 7—59125
- controller for electrodynamic drive of Mossbauer spectrometer 7—35508
- conversion electron Mossbauer spectra, backscattered electron intensities calc. 7—53181
- cubic lattices, diffusing atoms, Mossbauer spectrum studies 7—64552
- cytochrome b, models, EPR and Mossbauer spectra, ligand plane orientation effect 7—17946
- depth-selective conversion-electron Mossbauer spectroscopy, $Fe_{84}B_{16}$ amorphous alloy, layer-by-layer phase anal. 7—17255
- electron relaxation studies, review 7—22158
- $(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, magnetic phase diagram studies 7—2844
- Fe (110) surface, clean and Ag coated, magnetic hyperfine field, local structure 7—21878
- ferritin, first-order phase transition in dynamics 7—59918
- gamma-ray lasers, Mossbauer effect in long-lived nucl. states, observational techniques 7—10124
- gamma-ray lasers, proposals, critical review 7—10945
- glass, absorbed thickness optimisation for Mossbauer study 7—33305
- goodness-of-fit parameters, performance and use, appl. in mineralogical spectroscopy 7—33303
- group IV organotellurides, ^{125}Te and ^{119}Sn Mossbauer and NMR study 7—7614
- haemoglobin, rabbit, EM wave effects, Mossbauer spectra studies 7—13964
- halophosphate:Sb phosphors, Sb location, Mossbauer spectra studies 7—63634
- hyperfine struct. relaxational transformation processes anal. 7—2954
- inelastic Mossbauer scatt. with stepwise phase modulation time depend. 7—22171
- iron porphyrin complexes, mag. moment susceptibility, Mossbauer study 7—22168
- line intensities in limit of slow relaxation 7—38965
- lung tissue, autopsied, from asbestos workers, Mossbauer effect study 7—65849
- lysozyme, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7—59916
- macromolecular systems, gamma-resonance and X-ray investigations of slow motions 7—59927
- magnetically ordered biological materials, Mossbauer spectroscopy 7—60133
- mammalian ferritin, binding of Fe^{2+} 7—59917
- measurement of Mossbauer spectra, with high count rate 7—36425
- metal particles, sintered, low freq. vibr. modes, Mossbauer study 7—45853

Mossbauer effect continued
Mossbauer crystals, multi-beam Borrmann modes, γ-ray lasing conditions 7−10953
myocardial cells, rat, Fe overload 7−59945
nontronite, effects of shock and thermal alteration on physical props., and implications for Martian surfaces 7−55024
nuclear hyperfine interactions, appl. of digital filtering techniques 7−38523
organic crystals, chem. transformations, phase transition effects *(Russian)* 7−28309
oxalate (2,2′-bipyridine) iron polymer, slow paramag. relax., Mossbauer spectra 7−27638
paramagnetic relaxing systems, Mossbauer spectra, review 7−59132
piezoelectric semiconductors, acoustoelectric effects, interaction of ultrasound with Mössbauer gamma rays, effect of conduction electrons 7−33056
polyacetylene:AsF_5, identification of dopant species, X-ray absorpt. and Mossbauer spectra 7−65377
polyacetylene:SbF_5, identification of dopant species, X-ray absorpt. and Mossbauer spectra 7−65377
proportional detector for high temp. conversion electron Mossbauer spectroscopy 7−48926
rare earth alloys, $R_2Fe_{14}B$, R=La-Nd, Sm, Gd-Tm, Lu and Y, ^{57}Fe Mossbauer spectra 7−64551
rare earth iron garnet films, surface-spin orientations, depth-selective Mossbauer spectroscopy 7−2907
recoilless fraction of Mossbauer atoms that are natural constituents of binary cpds. 7−13060
resonant detection, conversion- and Auger-electron spectra 7−42657
restricted hopping diffusion in cubic environment, Mossbauer spectra calc. 7−38964
silicates, sheet, EFG tensor at Fe sites, room temp. Mossbauer study 7−45851
sodium hexacarboxylatoferrates, Mossbauer spectra 7−10639
solutions, f′ problem, Mossbauer effect investig. 7−64548
spectra area meas., use of internal standard 7−36426
spectrometer and data anal. system, IBM PC-based 7−18959
spectroscopy, hydrostatic pressure effect on the minimum temperature of a helium-3 cryostat 7−18970
staurolite, natural, Mossbauer study 7−13067
steel, austenitic, Mn-Al, Al atom short range ordering, Mossbauer studies *(Russian)* 7−16480
steel, austenitic stainless, foil, air oxidation, Cr depletion, Mossbauer spectra 7−39702
steel, boronized low C, conversion electron and X-ray Mossbauer studies under corrosion and oxidation conditions 7−27632
steel, implanted with N ions, physicochem. characters. of surfaces, wear resist. *(French)* 7−28209
steel, Ni, reverse austenite transform., Mossbauer study *(Chinese)* 7−65028
superparamagnets, Mossbauer spectra, many-state relax. model 7−45856
thin films, mag. anisotropy, angular spatial dispersion *(Russian)* 7−2905
trypsin pancreatic inhibitor, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7−59916
unresolved spectra with multiple convolutions, FFT-based processing 7−38972
wire chamber advances for Mossbauer spectroscopy expts. 7−36384
Ag-Sn, internal oxidation kinetics, influence of oxide particles density 7−13722
Ag_2Se:Sn, solid electrolyte, microscopic disorder, Mossbauer spectroscopy 7−58533
Al-Co icosahedral alloys, struct., elec. and mag. props. 7−6583
Al-Fe-Ce-La-Nd-Rr alloys rapidly quenched, positron annihilation studies and Mossbauer spectra 7−46184
Al_2O_3/Fe interface, ion beam mixing, conversion electron Mossbauer spectra studies 7−63679
$(As_2Se_3)_x(As_2Te_3)_{1-x}$, glasses, molecular struct., chemical equivalence of ^{125}Te absorpt. and ^{129}I emission Mossbauer spectroscopy 7−59129
$BaLaFeO_4$, layered cpds., bidimensional mag. coupling, Mossbauer spectra 7−27637
$BaLaFeO_4$, prep. and characterisation 7−1987
$BaNpO_4$, oxo-neptunates, Mossbauer and mag. studies 7−13063
BaO-V_2O_5-Fe_2O_3 semiconducting glasses, elec. props., Mossbauer, EPR and X-ray diffr. studies 7−7236
$Ba_2Sn_2Mn(Ni)(Co)Fe_{10-x}Ga_xO_{22}$ hexagonal ferrites, cryst. and magnetic struct. studies 7−44474
$Ba_{0.1}Sr_{1.1}Ca_{0.8}Fe_{12}O_{19}$-$La_2O_3$, hexagonal ferrites, influence of electric field on struct. and props., Mossbauer study 7−7616
$Ba_{0.4}Sr_{0.4}Ca_{0.2}Fe_{12}O_{19}$, hexagonal ferrites, influence of electric field on struct. and props., Mossbauer study 7−7616
$BaTiO_3$, cryst. dynamics near T_c, Mossbauer diffr. study 7−6733
$BaTiO_3$:^{57}Fe, multiphonon transitions from modulated hyperfine electric field gradients 7−27633
Bi-based metallic glasses, thermal relax. processes 7−51653
Bi-Zn-Fe-O amorphous films, struct. and mag. props. 7−51645
$Bi_{3-2x}Ca_{2x}Fe_{5-x-y}In_yV_xO_{12}$ single crystal, Mossbauer spectroscopy *(Chinese)* 7−17250
$Ca_xCo_{1-x}Fe_2O_4$ substituted ferrite system, mag. props., comp. depend., Mossbauer study 7−7618
CaF_2:^{57}Fe, Mossbauer absorption and emission expts., relax. and after-effect study 7−27635
$CaLaFeO_4$, layered cpds., bidimensional mag. coupling, Mossbauer spectra 7−27637
$(Ca_{1.1}Mg_{0.5}Fe_{0.3}Mn_{0.1})(CO_3)_2$, ankerite, ^{57}Mossbauer spectra relax. rates 7−27640
$(Ca_2Y)Sn_2Fe_3O_{12}$, ion distrib., Mossbauer spectra anal. 7−33306
$CdCr_2(Se_xS_{1-x})_4$ spinel, mag. prop. anomalies 7−64453
$CdSnO_4$:PbO highly conducting films, characterisation 7−22049
Co complex, CO(II)-5′ IMP, struct., hydration. mag. suscept. and Mossbauer emission obs. 7−36660
Co-Cr-Fe sputtered films, dilute, Mossbauer effect 7−22167
$CoAlFeO_4$, cubic spinel, Mossbauer anal. 7−33304
$Co_xFe_{1-x}Cr_2S_4$ mixed spinel system, temp. depend. Mossbauer studies 7−38976
$CoSi_n$, Mossbauer spectroscopy 7−59126
$Cs_2FeCl_5.H_2O$, antiferromagnet, mag. phase diagram, spin wave excitations, Mossbauer spectra 7−45676
Cu-^{57}Co Mossbauer source in low temp. He, oscillations after heating by an RF pulse 7−59128
Cu-Fe, diffusion of Fe studied by Mossbauer spectroscopy 7−2252

Mossbauer effect continued
Cu-Fe, implanted solid solns., Mossbauer study on thermal dynamics of Fe atoms 7−45855
Cu-Fe host-impurity system, O ion bombarded, internal oxidation, Mossbauer spectra studies 7−59131
$Cu_{0.96}Fe_{0.04}SiF_6.6H_2O$ Jahn-Teller cryst., glass transition, calorimetry and Mossbauer studies *(Russian)* 7−26952
CuI, Debye-Waller factors of ^{129}I, Mossbauer study 7−2135
CuI, Debye-Waller factors, Mossbauer scatt. meas. 7−6746
$CuTaS_3$, isomer shift of elec. split 6.2 keV nucl. transition of ^{181}Ta 7−7624
$Dy_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7−27305
$Er_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7−27305
$Eu(Cu_{1-x}M_x)Si_2$ (M=Au, Ag, Ru, Ni), substitution effects on mixed valence behaviour, Mossbauer and XANES studies 7−64183
$EuCu_2Si_2$, Eu valency, effect of Cu or Si replacement by other ions 7−58787
$EuCu_2(Si_{1-x}Sn_x)_2$, substitution effects on mixed valence behaviour, Mossbauer and XANES studies 7−64183
$EuIr_2Si_2$, Eu intermediate valence 7−7188
$EuPd_{2-x}Au_xSi_2$, valence determ., Mossbauer and X-ray absorpt. studies 7−64800
Fe, cementation layer struct., Mossbauer spectra, radioisotope method, microhardness obs. *(Russian)* 7−39741
Fe complex, Fe(hexaphenyl-1,4,7,10-tetraphosphadecane), tetraphenylborate, electronic relax. 7−25578
Fe complexes of pyrazolone derivatives, biological activity, Mossbauer spectra study 7−40098
Fe epitaxial films, mag. size effects 7−59081
Fe films on insulators, H^+ bombardment, Mossbauer and adhesion study 7−32517
Fe films on Ni substrates, magnetism and interface processes, in-situ conversion electron Mossbauer study 7−7571
Fe II complexes, spin transition induced by heat, pressure, light and nuclear decay 7−58785
Fe in strongly alkaline soln., electrochem behaviour, Mossbauer resonance *(French)* 7−59768
Fe, laser irrad., Nb surface alloying, Mossbauer spectra *(Russian)* 7−58580
Fe microcrystals, diffusive motion studied by Mossbauer spectroscopy 7−45857
Fe, passivated, comp., electron backscattering Mossbauer spectra, XPS studies 7−28193
Fe, passivation and spontaneous dissolution in presence of O_2 7−22872
Fe sites in minerals, electronic struct., iterative EHT, multiple scatt. Xα calcs. and Mossbauer meas. 7−17244
Fe sputtered films, mag. perpendicular anisotropy, Mossbauer studies 7−59076
Fe/H_2O interface, pulsed-laser-induced reactive quenching, FeO metastable phase form. studies 7−45005
Fe-Ag sputtered films, thermal stability, X-ray diffr. and Mossbauer studies 7−58679
Fe-Al disordered alloys, electronic struct., mag. props. and Mossbauer spectra 7−64073
Fe-Al metastable alloy sputtered film, mag. props., comp. depend., X-ray diffr. and Mossbauer meas. 7−7559
Fe-Al-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7−59672
Fe-B alloys, metastable crystalline, Mossbauer study of local atomic environments 7−17252
Fe-Co-B powders, amorphous mag. state, Mossbauer spectra study 7−45846
Fe-Cr-B, amorphous, Cr redistribution between phases during crystallisation, Mossbauer spectroscopy 7−21100
Fe-Cu evaporated film, composition distrib. and mag. props., Mossbauer meas. 7−7561
Fe-Cu films, obliquely evaporated, inhomogeneous conc. distrib. 7−38367
Fe-Cu metastable alloy sputtered films, mag. props., X-ray diffr. and Mossbauer meas. 7−7560
Fe-Cu sputtered films, thermal stability, X-ray diffr. and Mossbauer studies 7−58679
Fe-Mn-Al alloy, mag. props., struct. and deform. texture 7−2892
Fe-Mo-N *(Russian)* 7−59672
Fe-Mo(W) complexes, dinuclear clusters, fine and hyperfine struct. 7−36659
Fe-N binary solid solns., interstitial atom ordering, Mossbauer study 7−38974
Fe-Ni, electron irrad., low temp. phase transitions *(Russian)* 7−51832
Fe-Ni, hyperfine mag. fields, temp. dependence 7−12683
Fe-Ni films, γ-phase low temp. precipitation investig. *(Russian)* 7−33666
Fe-Ni thin films, α to γ transform, redistrib. of atoms in submicrostruct. *(Russian)* 7−53722
Fe-Ni-Ti(Al)(Cr), nitrided layers, struct. investig. using Mossbauer spectroscopy *(Russian)* 7−53992
Fe-Ni-Zr metallic glasses, Ni contrib. to magnetism 7−53183
Fe-P, amorphous alloys, electrodeposition and melt spinning prep., struct. anal. 7−11934
Fe-Si (3 wt.%), mag. texture of surface layers 7−13062
Fe-SiO_2 granular films, mag. relax., DC SQUID magnetometry, Mossbauer spectra 7−45761
Fe-Te amorphous thin films, RF sputtered, struct. and elec. meas. 7−12534
Fe-V, amorphous and metastable cryst. alloys prod. by vap. quenching 7−46420
Fe-V-N *(Russian)* 7−59672
Fe-Zn alloys, sputtered, X-ray diffr., magnetisation and Mossbauer studies 7−59075
Fe-Zr alloy formation at Fe/Zr thin film interfaces, Mossbauer study 7−63975
Fe-Zr-B, amorphous, meas. of Curie temp. 7−2853
Fe_2, diatomic molecules, electronic configuration, ^{57m}Fe Mossbauer data 7−10640
$Fe_{2-x}Al_xO_3$.1-8 H_2O substituted ferrihydride, Mossbauer, X-ray diffr. and electron microscopy studies 7−7617
$Fe_{81}B_{19}$ amorphous alloy, thermally activated time fluctuations of nucl. spin orientation 7−7622
$Fe_{81}B_{19}$ amorphous ribbon, averaged spin orientation under uniaxial compression, Mossbauer spectra study 7−45792

Mossbauer effect continued
$Fe_{83}B_{17}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7−13065
$Fe_{84}B_{16}$ amorphous alloy, heterogeneous surface struct., Mossbauer differential conversion electron spectra anal. 7−2319
Fe_3BO_6 crysts., Laue diffracted Mossbauer spectra near spin-reversal phase transition 7−38975
$Fe_{81.5}B_{14.5}Si_4$, amorphous, mag. hyperfine fields under stress, Mossbauer study 7−22166
$FeClMoO_4$ layered compound, struct. and mag. props., Mossbauer effect, mag. suscept., and neutron diffr. studies 7−58981
$Fe(ClO_4)$, frozen aq. solns., short-range order, Mossbauer obs. 7−45844
FeCo alloy, electronic struct., effect of ordering, positron annihilation and Mossbauer effect study 7−45142
$(Fe_{1-x}Co_x)_{77}B_{13}Si_{10}$ amorphous alloys, Mossbauer study 7−7623
$Fe_{74}Co_{10-x}Cr_xB_{16}$, amorphous, prep. by melt spinning, X-ray diffr., DSC, Mossbauer studies 7−46369
$FeCoCr_4S_8$, crystallographic and mag. props., Mossbauer study *(Korean)* 7−33310
$Fe_{85\text{-}x}Cr_xB_{15}(Ni_xB_{15})$ metallic glasses, mag. and elec. props. 7−13002
FeH_x, prep. under high press., Mossbauer obs. 7−33313
$(Fe_{1-x}Mn_x)_2P$ system, Mossbauer study 7−53180
Fe_xN thin films, ion beam deposited, mag. props. and corrosion resistance 7−33231
$Fe_{14}Nd(Y)(Ce)_2B$ fine particles prep. by hydriding, mag. props., recording appls. 7−53660
$Fe_{50}Ni_{50}$ alloy foils, N_2^+ implantation, oxidation behaviour, conversion electron Mossbauer spectra study 7−22877
$(Fe_{65}Ni_{35})_{1-x}$ $(Fe_{84}Mn_{16})_x$ alloys, low field magnetisation and Mossbauer effect studies 7−33311
$(Fe_{1-x}Ni_x)_{80}B_{20}$, amorphous, contribution of Ni to hyperfine fields *(Korean)* 7−27636
$Fe_{40}Ni_{40}P_{14}B_6$ amorphous alloy, relax. struct. transforms., 80 to 300K 7−1890
$Fe_{70}Ni_{10}P_{13}C_7$, amorphous powder, crystallisation *(Russian)* 7−58162
$(Fe_{1-y}Ni_y)TiH_x$, critical study of β-region 7−27634
$Fe_{1-x}O$, double electron exchange, Mossbauer spectroscopy 7−17168
α-Fe_2O_3 crystals, mag. phase transition, Mossbauer study 7−45850
α-Fe_2O_3, hyperfine field changes obs., selective Mossbauer refl. spectrum detection 7−64554
α-Fe_2O_3 powder compacts, shock-modified, Morin transition, Mossbauer and magnetisation studies 7−2852
γ-Fe_2O_3:H, H content, DTA, mag. anal. and Mossbauer studies *(Chinese)* 7−12104
α-Fe_2O_3/AgI composite electrolytes, phase transition temperatures *(Chinese)* 7−38244
Fe_2O_3-BaO-B_2O_3-V_2O_5 glasses, Fe^{3+} site occupancy, Mossbauer studies 7−6541
Fe_2O_3-Na_2O-B_2O_3 glasses, Mossbauer study 7−7619
$Fe_2O_{3-\epsilon}$, hematite, O activity depend., high temp. Mossbauer spectra 7−38978
$Fe_{3-\delta}O_4$, magnetite, O activity depend., Mossbauer spectra 7−38977
Fe_3O_4 particles in magnetic fluid, surface mag. props., Mossbauer spectra study 7−45756
Fe_3O_4-CaO-SiO_2 amorphous oxides, magnetic props. and struct., Mossbauer spectra study 7−7538
FeOCl, anisotropic layer cpd., hyperfine interactions, Mossbauer spectra 7−58786
FeOOH sols, crystallisation, Mossbauer study 7−38970
$Fe_{80}P_{20}$, amorphous ribbons, structural relax., crystallisation, Mossbauer spectra *(Chinese)* 7−11918
$Fe_{82}P_{11}B_7$ metallic glass, mag. anisotropy and correlated hyperfine interactions 7−7505
$FePO_4$-II, high press. phase, mag. props. 7−45852
$Fe(Pd_{1-x}Au_x)_3$ disordered alloys, atomic and mag. structs., Mossbauer studies *(Russian)* 7−17247
$Fe_{0.1}Rh_{0.9}$, saturated absorpt. of gamma radiation, ^{57}Fe Mossbauer study 7−7621
Fe_2SiO_4-Zn_2SiO_4, limited solid soln., cation ordering 7−51709
$Fe_{73}Ti_{27}H_x$ amorphous alloys, Mossbauer spectra 7−33308
$Fe_{84-x}V_xB_{16}$, amorphous alloys, crystn., products and kinetics 7−51677
$Fe_2V_{4-x}Mo_xO_{13}$ type phases, Mossbauer spectra 7−38969
$Fe_{1-x}Zn_xF_2$ diluted Ising antiferromagnet, magnetisation critical exponent crossover, Mossbauer meas. 7−7529
$Fe_{90}Zr_{10}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7−13065
Fe(0) microclusters, in A-type zeolites, mag. props. meas. 7−17256
^{57}Fe, dressed state model of sideband transitions 7−10123
^{57}Fe isomer shifts and the problem of calibration 7−61310
^{57}Fe, Mossbauer effect, inhomogeneous magnetic hyperfine line broadening, nonlinear RF spectra 7−45858
^{57}Fe Mossbauer spectra for Kramers doublets 7−36658
GaAs:Sn LPE layers, heavily doped, Mossbauer study 7−38967
GaN:Sb, antisite dopant incorporation, Mossbauer spectra study 7−12086
$GdCo_2$, ^{155}Gd 105.3 KeV transition, Mossbauer effect study 7−38971
$GeFe_2O_4$, $^{57}Fe^{2+}$ Mossbauer quadrupole splitting and orbit-lattice interaction 7−12684
$Ge_{80-x}Mn_xB_{20}$ amorphous alloy, Curie point and crystallisation temp. 7−17173
$GeSe_2$ glasses, short and medium range order, Mossbauer studies 7−13069
$Ge_{1-x}Sn_x$ amorphous films, structural changes on annealing 7−16422
$Ge_{1-x}Sn_xSe_2$ glasses, elec. cond. rel. to Mossbauer and Raman spectra 7−64250
He-filled proportional counter for low temps. and appl. to cryogenic resonance-electron Mossbauer spectroscopy 7−62234
I, metallisation and struct. transform. under press. 7−44800
InP:Fe, midgap impurity levels, isomer shift and charge state calcs. 7−2538
In_2Te_3:Fe, Fe^{2+} elec. inactivity study, mag. suscept., Mossbauer spectra and XPS anal. 7−52494
$K_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7−64222
$K_{0.3}MoO_3$:Fe, CDW state, Mossbauer studies 7−53112
$K_2Ni_{1-x}Fe_xF_4$, 2D random mixture with competing spin anisotropies, Mossbauer spectroscopy 7−59021
$La(Fe_xAl_{1-x})_{13}$, mag. props. determined via neutron scatt. and Mossbauer spectroscopy 7−2820
$La_2Li_{0.5}Co_{0.5}O_4$:^{57}Co, Ti, $^{57}Fe^{4+}$ anomalous charge state obs., $^{57}Co^{3+}$ nuclear decay studies 7−21881
$LaZnFe_{11}O_{19}$, cation distribution and random spin canting 7−37945
Li spinel insertion compounds, reactions, mag. and elec. props. 7−33920

Mossbauer effect continued
$LiAl_5O_8$:Fe^{3+}, Mossbauer relaxation spectrum, electric quadrupole shifts dependency on mag. field 7−7182
$LiAl_5O_8$:Fe^{3+}, spin-lattice relax. times, Mossbauer spectroscopy 7−45848
$Li_{1+x}FeCl_4$, ionic conductors, Mossbauer spectra studies *(French)* 7−2955
$LiFeClMoO_4$, synthesis, struct. and low temp. magnetism 7−21172
$LiNbO_3$:Fe^{2+}, anomalous phase transitions, Mossbauer spectroscopy studies 7−2992
$LiNbO_3$:Fe^{3+}, Mossbauer spectroscopic evidence of angle-depend. intersystem crossing 7−33312
Li_6NpO_6, oxo-neptunates, Mossbauer and mag. studies 7−13063
$(Mg,Fe)SiO_3$, hypersthene, Mossbauer spectra of Fe^{2+}, electronic spin relax. 7−33307
$MgFe_2O_4$, mag. props., depend. on preparation method 7−13066
MgZnSn, glass forming ability, intermetallic cpd. effect, X-ray and Mossbauer investig. 7−52050
$Mn_{1-y}Fe_y$ sputtered films, mag. props. 7−38915
$MnFeF_5(H_2O)_2$, ferrimag., mag. and Mossbauer study 7−45845
$MnZnFe_2O_4$, struct., Mossbauer, X-ray, and mag. meas. 7−1971
$NaFeClMoO_4$, synthesis, struct. and low temp. magnetism 7−21172
Na_2O-B_2O_3-Fe_2O_3 glass, hyperfine parameter distrib., ^{57}Fe Mossbauer study 7−22170
$(Na_2O.2SiO_2)_{1-x}(Fe_2O_3)_x$ glasses, Fe ions, ionic state and coordination geometry 7−63492
Nd-Fe-B, permanent mag. alloy, Mossbauer spectroscopic study *(Chinese)* 7−7613
$Nd_2(Fe_{0.67}Al_{0.33})_{14}B$, reduction of mag. hyperfine fields and Curie temp. on Al substitution, Mossbauer spectra 7−38859
$Nd_2Fe_{14}B$, EFG tensor for interpretation of Mossbauer effect meas. near spin reorientation temp. 7−38968
$Nd_2Fe_{14}B$ untextured polycrysts., magnetic hyperfine fields, Mossbauer spectra anal. 7−12682
$Nd_2(Fe_{0.67}Si_{0.33})_{14}B$, reduction of mag. hyperfine fields and Curie temp. on Si substitution, Mossbauer spectra 7−38859
$Nd_xY_{3-x}Fe_5O_{12}$, garnets, growth anisotropy, Mossbauer study 7−38973
Ni, ^{57}Ni labelled, ^{57}Fe Mossbauer emission spectroscopy of internal radiation damage 7−13061
Ni epitaxial films and interfaces with Cu and Pd, mag. size effects 7−59081
$NiFeAlO_4$, cation distrib. and canted spin alignment, Mossbauer obs. 7−22169
$NiFe_{2-x}Al_xO_4$ mixed spinels, electric quadrupole interactions, Mossbauer spectra study 7−2552
$(Ni_3Fe)_{1\text{-}x}Cr_x$ alloys, ordering study, comp. depend., electron diffr. and Mossbauer meas. 7−51690
$Ni_{1-x}Fe_xMnSb$, half-metallic ferrimag., mag. and crystallographic props. 7−45672
$Ni_{1-x}Ge_xFe_2O_4$ spinel ferrite, AC susceptibility and Mossbauer studies 7−64441
Np cpds., Mossbauer spectroscopy, appl. to solid state chemistry 7−17248
$NpGeO_4$, oxo-neptunates, Mossbauer and mag. studies 7−13063
NpM_4Al_{8-x}, (M=Cr,Fe,Cu), mag. props., Mossbauer effect and neutron diffr. 7−59127
NpO_2CO_3, crystal chemistry, Mossbauer studies 7−17249
$Np(OH)_4$, cryst. struct., Mossbauer study *(French)* 7−16511
NpOS, mag. props. 7−13064
Pd_3Fe hydrated ordered alloy, mag. behaviour, Mossbauer studies *(Russian)* 7−2890
$Pd_{1-x}Fe_xH_n$ system, isomeric shift, fluctuations of hyperfine interaction, Mossbauer study 7−45843
$Pr_2(Fe_{1-x}Co_x)_{14}B$, mag. props. 7−64549
$Pr_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7−27305
$Pr_xY_{3-x}Fe_5O_{12}$, garnets, growth anisotropy, Mossbauer study 7−38973
$RbAg_4I_5$, solid electrolyte, microscopic disorder, Mossbauer spectroscopy 7−58533
$Rb_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7−64222
$Ru_xFe_{80-x}B_{20}$ amorphous alloys, magnetic phase diagram, magnetisation and Mossbauer studies 7−53042
Sb cpds., Mossbauer isomer shifts, first-principles scalar-relativistic linear muffin-tin orbital method calcs. 7−2957
Si surface, Mossbauer diffraction from rotating single crystal *(Russian)* 7−27071
Si:Sn, ion implanted, annealing behaviour, channelling and conversion electron Mössbauer spectroscopy 7−13485
SiO_2-Na_2O-Al_2O_3-ZnO-Fe_3O_4-Si glass system, Fe behaviour at various compositions and reducing conditions 7−1899
Sn complexes, ESCA, Mossbauer and IR spectrosc. investig. 7−5678
Sn cpds., Mossbauer isomer shifts, first-principles scalar-relativistic linear muffin-tin orbital method calcs. 7−2957
Sn-In-S ternary system, cryst. growth and charact. *(French)* 7−33645
SnF_2-SnF_4 system, Mossbauer reson. studies 7−7625
α-Sn_2F_6, Mossbauer lattice parameters 7−17251
α-Sn_3F_8, Mossbauer resonance 7−45854
SnS_2-Tl_2S phases, ^{119}Su Mossbauer study *(French)* 7−27639
SnTe, Debye-Waller factors of ^{129}I, Mossbauer study 7−2135
SnTe, Mossbauer spectra and microhardness, stoichiometry deviation effects, vacancy conc. and distrib. 7−26973
^{119}Sn compounds, Mossbauer spectra interpretation SCC-Xα-MO calcs. 7−36474
^{119}Sn Mossbauer spectrometry of Sn^{4+} species in stannic acids *(French)* 7−17246
^{119}Sn Mossbauer transition, P parity nonconservation obs. 7−49237
$SrFe_{1-x}Co_xO_3$ ferromag. cpd., mag. props., comp. depend., Mossbauer spectra and neutron diffr. studies 7−7539
$SrFe_{1-x}Co_xO_3$, Mossbauer spectroscopic studies 7−59130
Sr_2FeTiO_{6-x}, defect struct. 7−1992
$SrLaFeO_4$, layered cpds., bidimensional mag. coupling, Mossbauer spectra 7−27637
$SrNpO_3$, oxo-neptunates, Mossbauer and mag. studies 7−13063
$SrO.5.6Fe_2O_3$, doped with kaolin and BaB_2O_4, sintering temp., effect on structural and mag. parameters 7−7543
$Sr_{1/2}Sm_{3/2}Li_{1/2}Fe_{1/2}O_4$, layer cpd., Mossbauer spectra 7−45849
$Tb_{0.3}Dy_{0.5}Er_{0.2}Fe_2$, spin reorientation, Mossbauer study 7−13068
Te cpds., valence electron configs., X-ray chemical shift and Mossbauer isomer shift, SCF anal. 7−32893
^{125}Te, Mossbauer isomer shifts and contact densities 7−38966
^{125}Te, valence electron contact density 7−25457
α-Ti-Fe system, Fe solubility, 360 to 580°C, Mossbauer studies 7−32656
$Ti_xCo_{1+x}Fe_{2-2x}O_4$ spinel solid soln., mag. props., Mossbauer effect study 7−12685

Mossbauer effect continued
- TiFe, H absorpt., Mossbauer obs. 7−27642
- TiNiFe, premartensitic state investig., Mossbauer effect studies *(Russian)* 7−3298
- $TlFe_{2-x}Se_2$ layered cpd. single cryst., magnetic and structural props., Mossbauer and X-ray diffr. studies 7−2848
- VD_x, H distrib. and diffusion near impurities, Mossbauer and PAC obs 7−33314
- VH_x, H distrib. and diffusion near impurities, Mossbauer and PAC obs 7−33314
- W-H system, H diffusion, ^{181}Ta Mossbauer effect studies *(Russian)* 7−32699
- $Y_{100-x}Fe_xH_y$ metallic glasses, mag. props., H content effects 7−33155
- YIG films, H_2 annealed, Mossbauer study 7−45847
- YIG:H, sp. ht. and annealing behaviour, conversion-electron Mossbauer spectroscopy study 7−17253
- $(YLuBi)_3(FeGa)_5O_{12}$, Ne^+ implanted, CEMS study *(Chinese)* 7−7620
- $(YSmLuCa)_3(FeGe)_5O_{12}$ epitaxial layer, conversion electron Mossbauer spectra 7−48926
- $YbBe_{13}$, low temp. Mossbauer study 7−33309
- $Yb_2Fe_{14}B$, exchange and cryst. field interactions 7−27512
- YbPd, magnetic and nonmagnetic charge states 7−33144
- Zn cpds., Mossbauer isomer shifts, first-principles scalar-relativistic linear muffin-tin orbital method calcs. 7−2957
- Zn ferrite, shock-synthesised, Mossbauer spectroscopy 7−38979
- Zn, Mossbauer spectroscopy 7−59125
- $Zn_{0.5}Co_{0.5}FeCrO_4$, cluster spin glass, spin freezing 7−27531
- $ZnFeF_5(H_2O)_2$, cryst. struct., mag. and Mossbauer study 7−45845
- $Zn_{1-x}Ge_xFe_2O_4$, ferrites, atomic, mag. and electronic disorder *(French)* 7−44477
- ZnTe, Debye-Waller factors of ^{129}I, Mossbauer study 7−2135
- ZrF_4-BaF_2-GdF_3-AlF_3-NaF-FeF_3, optical fibre glasses, trace amounts of Fe, characterisation 7−2956
- ZrF_4-based fluoride glasses, Fe ions anal. 7−64672
- $Zr_{75}Fe_{25}$, hydrogenised, positron lifetime and Mossbauer study 7−46198

Mossbauer spectra *see Mossbauer effect*

motion control *see position control*

motion picture photography *see cinematography*

motor industry *see automobile industry*

motors, electric *see electric motors*

Mott insulator *see localised electron states*

Mott transition *see metal-insulator transition*

movements, atmospheric *see atmospheric movements*

moving-coil instruments
- meter, core-magnet type, moving coil, flat, indicating errors caused by external mag. field *(Japanese)* 7−4873

moving coil microphones *see microphones*

moving-magnet instruments
- magnetic field computation, in presence of external magnetic field *(Rumanian)* 7−24642

MPU *see microprocessor chips*

MQW lasers *see semiconductor junction lasers*

MR imaging (biomedical) *see biomedical NMR*

MRP *see operations research; production control*

MRP II *see operations research; production control*

MS SCF calculations *see Xalpha calculations*

MS Xalpha calculations *see Xalpha calculations*

MTF (optical) *see optical transfer function*

μ-mesons *see muons*

mud *see sediments*

muffin-tin potential
- atomic clusters, multiple-scatt. theory, appl. of a non-muffin-tin pot. general pot. develop. 7−36839
- concentrated disordered alloys, positron annihilation in vacancies 7−39290
- diamond crystals, band structure, LMTO calcs. 7−2477
- electron and two-photon momentum distrib., ab initio calc. using LMTO formation 7−46182
- four-centre integrals evaluation with LMTO tight-binding method 7−27227
- Pb, tetrahedral bonding and crystal struct., first-principles theory 7−32355
- quantum wells, electronic struct., interface disorder effects 7−45476
- rare earth metals, ground and excited state props., local density total energy calcs. 7−7141
- surface and interface electronic states calc., tight-binding muffin-tin orbital Green's function method 7−52721
- surface electronic struct., film linearised muffin-tin orbital calcs., implementation and problems 7−27374
- surface electronic structure calc., using linear-muffin-tin orbital method *(Japanese)* 7−17059
- transition metal aluminides (TAl, T=Fe, Co, Ni, V), electronic struct. of vacancies 7−16975
- transition metals, resistivity and superconducting transition temp. 7−17013
- $Ca_5(PO_4)_3OH$, EXAFS spectrum anal., spherical wave theory 7−33485
- Ce, electronic struct. and superconducting transition temp. calcs. *(Chinese)* 7−27244
- CoGa(Al), electronic struct. of vacancies 7−16975
- Cs, positron annihilation and pressure-induced electronic s-d transition 7−22378
- Cu, nearest-neighbour host site elec. field gradient, monovacancy effects, muffin tin pot. calcs. 7−2549
- Dy, band struct., effect of nonspherical pot., warped muffin-tin approx., APW method 7−27246
- Fe (110), chemisorptive bonding of CO, pseudofunctional electron muffin-tin approach 7−2348
- FeAl, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7−64826
- Fe_2P, electronic struct., mag. props., KKR, LMTO methods, LSD approx. 7−64070
- FeRh, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7−64826
- Fe_3Si, electronic struct. and X-ray spectra, disorder effects *(Russian)* 7−32903
- GaAs, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7−2536
- Gd_2Co glasses, electronic struct., photoemission and magnetism 7−64060

muffin-tin potential continued
- Ge crystals, band structure, LMTO calcs. 7−2477
- GeO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7−64077
- InSb conduction band spin splitting, spin reson. interaction obs., LMTO and k.p perturbation calcs. 7−12676
- Li alloys, Zintl phases, binary and ternary, electron densities, sp^3-bonding character, calc. 7−32907
- Mn_2P, electronic struct., mag. props., KKR, LMTO methods, LSD approx. 7−64070
- Mo, electronic struct. of mag. 3d impurities, local density approx. 7−64432
- Nb, electronic struct. of mag. 3d impurities, local density approx. 7−64432
- Nb, Fermi surface, Fermi vel., many-body enhancement and supercond. energy gap anisotropies calcs. 7−58729
- Nb, Fourier transform of 2D angular correlation 7−38439
- NbC, vacancy electronic struct., muffin tin Green's function method calcs. 7−2531
- Ni (001), chemisorptive bonding of CO, pseudofunctional electron muffin-tin approach 7−2348
- Ni (100), adsorption of CO, poisoning in heterogeneous catalysis, role of electronegativity 7−13818
- Ni (111) surface, electronic structure, S effects on heterogeneous catalysis 7−54185
- Ni alloys, core-level shifts anal., LMTO energy band calcs. 7−38487
- Ni, spin polarised positron annihilation 7−46187
- Ni-H system, band structure calcs. 7−45140
- $Ni_{1-x}P_x$ metallic glass, electronic struct. and props., LMTO calcs. 7−52409
- Ni_2P, electronic struct., mag. props., KKR, LMTO methods, LSD approx. 7−64070
- Os single cryst., energy band struct. and optical absorpt. studies 7−16938
- Pd_3Fe, electronic struct. 7−52415
- Rh (111) surface, electronic structure, S effects on heterogeneous catalysis 7−54185
- Sb cpds., Mossbauer isomer shifts, first-principles scalar-relativistic linear muffin-tin orbital method calcs. 7−2957
- Si, charge density, compact orbitals, LMTO tight binding representation 7−21806
- Si crystals, band structure, LMTO calcs. 7−2477
- Si, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7−2536
- Sn cpds., Mossbauer isomer shifts, first-principles scalar-relativistic linear muffin-tin orbital method calcs. 7−2957
- SnO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7−64077
- TeO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7−64077
- TiC_x energy band struct., Fermi energy and density of states, vacancy states effects, LMTO-ASA calcs. 7−64078
- UAu_3, band struct., theoretical XPS intensities 7−39353
- UIr_3, band struct., theoretical XPS intensities 7−39353
- UPt_3, band struct., theoretical XPS intensities 7−39353
- $USi_3(Sn_3)(Ru_3)$, electronic struct. and f hybridisation 7−12600
- V, Fourier transform of 2D angular correlation 7−38439
- VC_x energy band struct., Fermi energy and density of states, vacancy states effects, LMTO-ASA calcs. 7−64078
- Zn cpds., Mossbauer isomer shifts, first-principles scalar-relativistic linear muffin-tin orbital method calcs. 7−2957

multichannel analysers *see pulse height analysers*

multicriterion problems *see operations research*

multifilamentary superconductors *see composite superconductors*

multigroup diffusion *see neutron diffusion*

multimeters
- digital multimeter sophistication and new applications 7−18771
- electrical transients, multimeter obs. 7−41044

multiperipheral models
- No entries

multiphase flow
- *see also two-phase flow*
- adiabatic multiphase fluids, hydrodynamics and EHD 7−1611
- air-water-sand flow in horizontal pipe, heat transfer and pressure drop 7−37515
- bubble columns, turbulent coalescing, gas holdup correl. 7−37516
- bubble-driven flow, fluid and bubble meas., numerical soln. 7−16237
- condensation of flowing vapour on horizontal elliptic cylinder 7−58452
- forces on solid constituent, continuum mechanics 7−37528
- granular materials and dispersions, flow, conf., Blacksburg, VA, USA (Feb. 1985) 7−35086
- heterocoagulation by bubbles in a turbulent multiphase flow. 7−37529
- holography applications in multiphase flow visualisation study 7−51287
- incompressible three-phase flow in porous media, conservation laws 7−51286
- multicomponent multiphase fluid flow in porous media, probability approach 7−44028
- multipressure regularisation 7−1612
- oil displacement from porous rock by micellar solns., analytic and expt. study 7−6278
- oil reservoir flow models, book 7−48219
- particle deposition from gas-disperse flow in vicinity of stagnation point 7−63206
- phase change process in cylindrical annulus with axial fins on inner tube 7−51273
- polydispersed MHD flow in a cylindrical vessel 7−51285
- porous media, nonlinear conservation law, FEM *(French)* 7−44031
- rodlike particles suspended in Newtonian and non-Newtonian fluids, rheological props. 7−37407
- stratified-slug transition in horizontal tubes, inlet and outlet effects 7−57894
- three-phase flow meas., tomographic imaging 7−51355
- toroidal loop, two-phase natural circulation 7−26280
- transient 3D 3-phase 3-component nonequilib. flow in porous bodies by 3-velocity fields. 7−56782
- turbidity currents, self-accelerating 7−26338
- unitary fuel aerosol, burning in closed region, planar problem 7−13833
- viscous fluid, suspended small particle collision with body, critical condition 7−37514

multiphonon process *see phonon-phonon interactions*

multiphoton spectra
see also two-photon spectra
above-threshold ionisation and electron scattering in intense laser fields 7−30992
absorption processes, atom and molecule excitation *(Japanese)* 7−10530
acetylene, vap., REMPI and third harmonic generation 7−25612
admolecular processes, laser induced, energy and phase relax. 7−21610
aligned atom, n-photon absorption, excitation transition probability calc. 7−42714
aligned molecule, n-photon absorption, excitation transition probability calc. 7−42714
n-alkyl benzene chromium tricarbonyls intramolecular vibr. relax. 7−5728
allyl phenyl ether, photoisomerisation reaction mechanisms, IR multiphoton excitation study 7−62372
atomic interferometers, phase-dependence in multilevel atomic transitions 7−36569
atomic multiphoton autoionisation by smooth laser pulses 7−15577
atomic systems, collision-free multiple photon processes 7−62342
atomic two-laser multiphoton ionisation, Raman-type resons. 7−50035
atoms, continuum struct., high optical harmonics 7−50046
atoms, four-level, multiphoton processes, fluoresc. spectra calcs. 7−62318
atoms, multiphoton ionisation theory, review 7−19793
atoms, space charge effect on electron angular distribution after multiphoton ionisation 7−15568
benzene, anharmonic forced Rayleigh scatt. 7−46057
benzene, $B_{2u} \leftarrow A_{1g}$, three-photon transition, condensed phase study 7−5732
benzene, pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7−19958
$(\text{benzene})_n$, multiphoton ionis. by laser, dynamics and spectroscopy *(French)* 7−5730
benzene chromium tricarbonyl-$d_0(d_6)$ deuteration effect on multiphoton dissoc. 7−5727
biphenyl, mol. vibr., supersonic jet spectroscopy, mol. fluoresc. and multiphoton ionisation spectra anal. 7−57129
bromotrifluoromethane, multiphoton dissociation by multifrequency laser radiation 7−42704
bromotrifluoromethane in supersonic free jet, isotope-selective IR multiphoton dissociation 7−5781
bromotrifluoromethane mol., intermolecular and intramolecular vibrational energy distrib. study, IR multiphoton excitation, Raman spectra 7−42594
chlorobenzene, anharmonic forced Rayleigh scatt. 7−46057
chlorodifluoromethane, IR multiphoton dissociation for ^{13}C laser isotope separation using waveguide reactor 7−991
chloroethane, IR multiphoton excitation probed by CARs, vibr. population distribs. 7−10591
chloroethane, IR-multiphoton dissoc., photolytic C deposition 7−62466
chlorotrifluoroethene, IR multiphoton dissoc., press. depend. calc. 7−62467
chlorotrifluoromethane, Ir multiphoton dissociation induced by CO_2 laser pulses 7−992
coherent pulse sequence induced control of selectivity of reactions, exact quantum mechanical calcs. 7−28274
complex scaling method appl. 7−42565
η-cyclopentadienylnickel nitrosyl, dissoc. and multiphoton ionis., photofragment spectroscopy 7−50281
diatomic mols., multiphoton rot. line strengths, intermediate Hund's (a-b) coupling case calcs. 7−62472
1,4-dichlorobenzene, laser multiphoton ionisation fragmentation by linear reflection, kinetic energy release 7−36710
1,4-dichlorobenzene, multiphoton ionisation dissoc. by two-colour picosecond laser mass spectrometry 7−31135
1,4-dichlorobenzene, unimol. ionic form. rates, determ., pulsed laser-line. reflection TOF mass spectrometry 7−15667
dressed bands approach for multi-photon transitions in solids 7−22327
electron scatt. in a laser field, modified perturbation theory 7−36572
electron scattering in nonMarkovian fluctuating fields, high intensity effects 7−25472
ethene, IR-multiphoton dissoc., photolytic C deposition 7−62466
ethenone, dissoc., nonlin. UV excitation 7−19981
fluoroform-d, IR multiple-photon dissoc., difluoromethyl diradical form. obs. 7−28291
impurity combinational absorption of a multiphoton field in a dispersive medium 7−42575
inert gases multiphoton ionization in intense ultraviolet laser fields 7−19797
ionised gases, atomic and mol. physics, conf. Greifswald, Germany (Aug. 1986) 7−18499
isocyanic acid, heat of form., photodissoc. study, time-of-flight and laser-induced fluoresc. spectra anal. 7−31105
laser-assisted collisions, random telegraph noise 7−50044
laser-driven molecules, bistability and chaos 7−15920
methanol, multiphoton ionis., IR laser study 7−62475
methanol, two-colour multiphoton excitation by CO_2 and HF lasers 7−42716
methoxy(-d_3) radicals, gas-phase detection by reson.-enhanced multiphoton ionisation spectroscopy 7−31134
methyl iodide fragmentation and multiphoton ionization 7−10689
methylphosphine, CO_2 laser irradiation, IT multiphoton absorpt. spectra 7−62474
molecular excited state, three-photon photoselection theory, hexagonal point groups, appl. 7−5731
molecular multiple-photon excitation 7−19987
molecules, single-and multi-photon ionisation process dynamics 7−36701
multielectron atoms, multiphoton excitation and ionisation 7−19796
multiphoton excitation techniques for combustion diagnostics 7−17789
nonlinear optics, multiphoton processes of very high order 7−31380
nonlinear processes, high order, multiphoton ionis. investig. 7−10528
phenylsilane vapour, VUV spectra and multiphoton ionisation study, photolysis prod. of Si 7−50172
polyatomic molecules, spectra of inelastic three-photon light scattering, effects of intermediate vibronic states 7−19826
propyne, IR-multiphoton dissoc., photolytic C deposition 7−62466
resonance enhanced multiphoton ionisation spectra, reduction of 1+1 reson., populations and alignment factors 7−25621
restoration of coherence effects in high-powerexcitation of an intramolecular quasicontinuum 7−10692

multiphoton spectra continued
semiconductors, many-photon Franz-Keldysh effect in the field of two electromagnetic waves 7−45987
sensitised organic reactions, IR-laser induced, vibr. energy transfer rate control 7−65336
short wavelength coherent radiation generation and production conf. Monterey, CA, USA (March 1986) 7−18467
trans-stilbene, ground state, torsional motion, two-colour stimulated emission spectroscopy 7−50322
stimulated Raman scattering, off-resonant enhancement investig. 7−50148
1,2,4,5-tetrafluorobenzene in supersonic jet, fluoresc. and five-photon ionisation spectra, tunnelling 7−10659
top molecules, symmetric and spherical, four-photon selection rules and line strengths 7−62468
transition metal tetraphenylporphines, multiphoton ionisation mass spectrometry 7−46885
two-level atoms, multiphoton absorpt. process, higher-order squeezed states 7−25473
van der Waals species, multiphoton ionis. 7−10694
p- xylene, laser ionisation time of flight mass spectra, mass resolution of 10,000 7−9918
AgCl-Ag clusters on Ag electrode surface, optical second harmonic generation, SERS, luminesc. 7−11057
$BaTiO_3$:^{57}Fe, multiphonon transitions from modulated hyperfine electric field gradients 7−27633
CCl, pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7−19958
CH radical, electronic struct., reson. multiphoton ionisation spectra anal. 7−50240
CO_2, high intensity absorpt., mod. rot. effect, lasing transitions 7−62473
CaF_2, multiphoton transitions between nuclear spin Zeeman levels obs. by rotary sat. method 7−38948
Cl, photodissoc., third harmonic interference, polarisation effects, MPI spectra 7−50045
F, multiphoton ionisation spectroscopy 7−10534
Ga atom during trimethylgallium CVD reaction, multiphoton-ionisation/mass spectrometric detection 7−25471
p-Ge, far IR multiphoton absorption 7−27723
GeH_4, CO_2 laser irradiation, IT multiphoton absorpt. spectra 7−62474
H excited states, 1D atom construction using external electric fields 7−19730
H, microwave ionisation of highly excited states, stochastic effects 7−15562
H, multiphoton absorption above ionisation threshold, Sturmian expansion appl. 7−36565
H, multiphoton excitation techniques for combustion diagnostics 7−17789
H, multiphoton ionisation by intense laser field, integral eqn. approach 7−62339
H_2, $B'^1\Sigma_u^+$ and $D^1\Pi_u$ states, REMPI, photoelectron spectra 7−62469
H_2, $E,F^1\Sigma_g^+$ state, REMPI, ab initio calcs. 7−62470
H_2, excited state, multiphoton spectroscopy 7−10695
H_2, photoionisation and photodissociation, six photon ionisation, vibrational levels 7−10682
H_2, resonantly enhanced multiphoton dissociative ionisation, photoelectron spectroscopy 7−15645
H_2, resonantly enhanced multiphoton dissociative ionis. meas. 7−19968
H_2, single-and multi-photon ionisation process dynamics 7−36701
I, four-photon ionisation, three-photon resons., AC Stark broadening 7−57036
I_2, higher electronic states, rot.-vib. anal., mol. fluoresc. study 7−19918
K, Rydberg states, microwave multiphoton transitions obs. 7−25474
K, two- and three-photon ionis. 7−30993
Kr, Rydberg states, four-photon excitation 7−62328
Li, two-photon resonant three photon ionisation, power broadening, laser bandwith and interaction time effect 7−36571
Li_2, isotopes, laser separation, double REMPI spectra 7−42694
Li_2, optical-optical double reson. and double reson. multiphoton ionis. 7−42742
$Mo(CO_6)$, optical gain detection following multiple photon dissociation 7−31124
N_2, $\bar{a}^1\,\Pi_g$ state, REMPI 7−31121
N_2 pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7−19958
NH_3, quantum resolved molecular-beam scattering 7−15695
NH_3-saturated W (100), rot. inelastic scatt., two-photon reson. three photon laser ionisation spectra 7−10768
NO $A^2\Sigma^+$-$X^2\Pi$ system, reduction of 1+1 reson. enhanced multiphoton ionisation spectra 7−25622
NO, autoionisation of ν=3 Rydberg states, branching ratios, multiphoton spectra anal. 7−36718
NO, excited state, circular dichroism in photoelectron ang. distribs. 7−19909
NO, photofragment, REMPI and TOF mass spectra 7−25613
NO predissoc. levels, multiphoton ODR lineshapes 7−31129
NO-Kr, van der Waals species, multiphoton ionis. 7−10694
NO-Ne, van der Waals species, multiphoton ionis. 7−10694
NO_2, multiphoton absorpt., vibr. excited O_2 form. mechanism 7−19989
Na, fluorescence spectra, spontaneous emission, excited state Raman and resonance enhanced three-photon scattering 7−10487
$Ne^{7+}+H_2$ charge exchange collisions, Ne^{6+} excited states, VUV spectra anal. 7−20030
NiCO, single-and multi-photon ionisation process dynamics 7−36701
O_2, $C^3\Pi_g$ Rydberg state, excited-state photoelectron spectra 7−50250
O_3, IR multiphoton excitation probed by CARs, vibr. population distribs. 7−10591
^{87}Rb vapour, multiphoton reson. under hyperfine optical pumping 7−36568
SF_6, IR multiphoton excitation probed by CARs, vibr. population distribs. 7−10591
SF_6, IR radiation degenerate multiphoton parametric scatt. by vibr.-rot. transitions 7−25883
SF_6, supersonic mol. beams, IR-multiphoton excitation characts. 7−50282
SF_6-Ar mixtures vibr. relax. time resolved IR multiphoton absorpt. 7−5752
SiF_4, CO_2 laser irradiation, IT multiphoton absorpt. spectra 7−62474
SiF_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7−62476
SiF_4, stretching vibr. overtone and combination states, multiphoton processes 7−25488
SiH_4, CO_2 laser irradiation, IT multiphoton absorpt. spectra 7−62474

multiphoton spectra continued
SiH_4, collisionally-assisted multiphoton dissoc. reaction mechanisms 7−65338
SiH_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7−62476
SiH_4-NO, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7−62476
Sr, two-photon resonant three photon ionisation, power broadening, laser bandwith and interaction time effect 7−36571
Xe, 6s state, three-photon excitation and four-wave-mixing, two-colour interference effect 7−19812
Xe, above-threshold multiphoton ionisation, circularly and linearly polarised light, PES spectra study 7−62338
Xe, laser-induced third-harmonic generation in forbidden regions, Stark effect in three-photon level 7−37039
Xe multielectron multiphoton ionisation 7−19795
Xe multiphoton ionisation, suppression with circularly polarisation coherent light 7−19792
Xe, multiphoton ionisation 7−62330
Xe, Rydberg states, four-photon excitation 7−62328
Xe, space charge elimination pulse polarisation effects 7−15567
Xe-Ar, laser-induced collisional energy transfer, multiphoton ionisation study 7−57152

multiple processor systems *see computer networks*

multiple quantum well lasers *see semiconductor junction lasers*

multiple quantum well structures *see semiconductor superlattices*

multiple scattering SCF-X-alpha calculations *see Xalpha calculations*

multiple stars
see also binary stars
δ And (K3 III), IRAS source with unusual UV spectrum, IUE obs. 7−55623
IM Aur, eclipsing binary star, light-time effect obs. 7−34999
η Carinae, multiple star model for UV spectrum 7−47942
SU Cyg, classical Cepheid, possible triple system, components masses and motion, IUE spectral characts. 7−55683
40 Eri, gravit. lens effect between primary component and background star 7−47861
formation, role of mass loss from rapidly rotating intermediate-mass stars 7−14558
HD 149162 system, orbit and props. from radical vels. and photometry 7−47978
HD 164270, variable WC9 star, contrib. of third body to neutron star accretion disk precession 7−47925
HD 97950, central object of giant H II region NGC 3603, speckle masking obs. 7−29502
64 Ori (HR 2130), B-type triple system 7−35001
R136a, group of 8 massive stars within Tarantula Nebula 7−55749
SN 1987A in LMC, multiple nature of progenitor star, (Sanduleak −69°202) 7−66636
three-body systems, break-up, effects of total ang. momentum 7−35010
triple and multiple stellar systems, frequency among spectroscopic binary stars 7−55708
triple stars north of +70°, micrometric meas. *(German)* 7−60717

multiplex transmission *see multiplexing*

multiplexed analogue component system *see television standards*

multiplexers *see multiplexing equipment*

multiplexing
see also frequency division multiplexing; time division multiplexing
electrode, implantable, for monitoring evoked responses in cerebral cortex, design 7−47305
fibre optic interferometric sensor system, optically multiplexed 7−25986
fibre optic interferometric sensors multiplexed using partially coherent light, expected noise levels 7−25982
multicore optical fibres for sensors, core division multiplexing 7−25988
multimode fibre, 1D image transmission, holographic optical elements for angular multiplexing 7−62836
optical correlation design, wavelength-angle multiplexing appl. 7−25939
optical fibres, multimode, polaris.-modulated signals transmission and holographic multiplexing 7−37199

multiplexing equipment
composite logic gate element and multiplexer for optical computing and optical communications 7−57421
dielectric guides in integrated optics, wavelength multiplexer/demultiplexer *(German)* 7−62848
fibre optic fused biconical monomode directional couplers, power transfer wavelength selectivity control 7−37159
flat passband birefringent wavelength-division multiplexers 7−57604
holographic optical element wavelength multi-demultiplexer in near IR 7−25756
matrix of gradient microlenses fabricated by electrostimulated diffusion, optical connectors development 7−25967
optical multiplexing techniques and equipment *(German)* 7−1286
optical waveguide horn-grating demultiplexer circuit, single-mode operation 7−62846

multiplier phototubes *see photomultipliers*

multipliers, electron *see electron multipliers*

multiprocessing systems
see also distributed processing; parallel processing; pipeline processing
online FASTBUS processor for LEP 7−19590
parallel proton tracking application 7−19591
SUMMER VME trigger processor 7−19592
VME/VMX parallel multiprocessor system for the data acquisition of the UA1 streamer tubes 7−19665
zooplankton population analysis, multiple microprocessor system using image processing 7−18103

multivalley semiconductors *see many-valley semiconductors*

multivariable control systems
active anti-vibration platform, multivariable control 7−29991
fixed-bed reactor, robust multivariable control system design 7−54256
nonisothermal continuous stirred tank reactor, multivariable, global control using moving model 7−13729
nuclear multivariable control system design using CAD package 7−10211

multiwire proportional chamber *see position sensitive particle detectors; proportional counters*

multiwiring *see printed circuits*

muon absorption
No entries

muon capture
see also muonic atoms; muonic molecules; radioactivity
radiative muon capture and the induced pseudoscalar coupling in nuclei 7−56655
weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
weak coupling consts. from beta ray ang. distrib. 7−56654
^2H, muon capture rate 7−56657
$^2H(\mu,)^2H$, approx. Bethe-Salpeter wavefunctions 7−654
$^3H(\mu,X)$, NN interactions for bound state wave function calcs. 7−5162
$^3He(\mu,X)$, NN interactions for bound state wave function calcs. 7−5162
^{165}Ho, muon energy transfer *(Korean)* 7−24971
$^{237}Pu(\mu^-,\gamma)$, ^{237}Np ground state shapes and structure 7−56656
$^AU(\mu,f)$, A=235,238, muon induced fission yields, fission lifetimes, muon capture 7−5298
$^{238}U(\mu^-, \nu_\mu f)$, p, d, t and α emission obs. ang. and energy distribs. 7−10138

muon decay
charged leptonic weak interaction data from muon decays 7−56535
electroweak model, status in μ decay, experimental review 7−41803
electroweak standard model, 1-loop renormalisation, leptonic processes appl. 7−61512
review of experiments 7−56548
reviews of particle and nuclear physics, book 7−55907
$\mu \to 3e$, anal. in CP violation models 7−436
$\mu \to 3e2\nu$, rare and forbidden decays, review 7−56549
$\mu \to 3e(e\gamma)(e\gamma\gamma)$, rare muon decays, branching ratios 7−56550
$\mu \to e\gamma$, and heavy exotic fermions in E_6 models 7−15153
$\mu \to e\gamma$, lepto-quark effects in E_6 superstring models 7−61651
$\mu \to e\gamma(\gamma\gamma e)$ (eee), electroweak case for EHF 7−49132
$\mu^+ \to e^+\gamma$, branching ratios, experimental upper limits 7−41802
$\mu^+ \to e^+\gamma\gamma$, branching ratios, experimental upper limits 7−41802
$\mu^+ \to e^+\gamma\gamma$ lepton-family-number-nonconserving decay, experimental search 7−41806
$\mu^+ \to e^+l$, search for right-handed currents 7−15151
$\mu^+ \to e^+\nu\tilde{\nu}$, left-right symmetric electroweak models 7−35872
$\mu^+ \to e^+\nu_e\bar{\nu}_\mu e^+e^-$, rare decay meas. and anal. 7−56551
$\mu^+ \to e^+x$, M_x=0-104 MeV, branching ratio calcs. 7−35873
$\mu \to e\nu\nu$, internal asymmetry parameter and nonstandard weak interaction 7−35870

muon detection and measurement
Aleph test hadron calorimeter, pion/muon identification using discriminant analysis 7−15464
beam chopper development at LAMPF 7−49759
chambers of ARGUS detector, design, testing and use 7−36413
hadron shower characteristics in iron and muon identification 7−15466
L3 high resolution muon drift chambers, systematic errors in track position meas. 7−36393
large solid angle μ detector for TeV region 7−42313
muon spin resonance facility at TRIUMF 7−49760
muon spin resonance spectrometer, 500 MHz 7−49844
MuSR, high pressure, low temp. system 7−49843
MuSR measurement in pulsed muon beam, Cherenkov imaging method 7−49842
scintillation detector, active charged-particle protection of neutral-radiation detectors with polymethylmethacrylate scintillator 7−10358
spectrometer with calorimeter dump used in beauty search at CERN SPS 7−49785
trigger and measurement system for small-angle scattering 7−15463
TRIUMF, muon facilities 7−49761
UA1 limited-streamer tubes muon detector, electronics and parallel readout system 7−49795
upgraded muon detection system for UA1 based on limited streamer tubes 7−49794
water Cherenkov counter sensitive to nonwaveshifted ultraviolet Cherenkov photons 7−25314

muon interactions *see lepton-hadron interactions; lepton-lepton interactions; muon-nucleon interactions; muon-nucleus reactions*

muon-nucleon interactions
see also muon-nucleon scattering
deep inelastic scattering expts., implications for nucleon struct. and strong interaction 7−10028
$\mu N \to C\bar{C}X$, nonperturbative, $C\bar{C}$ component in quark fragmentation function 7−30273
μN deep inelastic scatt., struct. function nucl. effects, EMC effect 7−30269
$\mu N \to eN'$, massive neutrino bounds, $SU(2)_L \times U(1)$ anal. 7−19112
$\mu N \to X$, inclusive deep inelastic scatt., structure function meas., QCD comparison 7−529
μp, $4 \leq E_{c.m.} \leq 20$ GeV, unified multiplicity scaling, quantum statistical analysis 7−61709
μp deep inelastic interactions, 280 GeV, Bose-Einstein correlations for pions 7−5102
μp deep inelastic scatt., jet profiles, QCD effects 7−61699
$\mu p \to \omega X$, inclusive distribs. in deep inelastic interactions at 280 GeV/c 7−41862
$\mu p \to \rho^0 X$, inclusive distribs. in deep inelastic interactions at 280 GeV/c 7−41862

muon-nucleon scattering
see also muon-nucleon interactions
$\mu N \to X$, quark-gluon structure study 7−49156

muon-nucleus reactions
for inelastic muon-nucleus scattering, see "muon-nucleus scattering"
see also muon capture; muon-nucleon interactions
fusion, muon catalysed DT, reaction kinetics study, muon-sticking prob. anal. 7−25016
muon catalysed DT fusion, $\mu\alpha$ sticking probabilities 7−713
muon-catalysed fusion, physics and prospects for power prod. 7−62080
(μ,X) total capture rate calcs., sum rule approach 7−656
μN deep inelastic scatt., struct. function nucl. effects, EMC effect 7−30269
$C(\mu,X)$, high Q^2 deep inelastic scatt. nucleon struct. function meas. 7−61792
$^3H(d,X)$, muon catalysed fusion, classical trajectory Monte Carlo method 7−61936
$^3H(d_1X)$, muon catalysed fusion, muon sticking, low energy resonance effects 7−49488
$^{16}O(\mu-,\nu_\mu)^{16}N$, 0^+-0^- transitions, exchange currents and configuration mixing effects 7−56649

muon-nucleus reactions continued
^{48}Ti(μ^-,e$^-$), experimental upper limits, anal. of generation problem 7−41979
Ti(μ,x), muon-electron conversion search at TRIUMF 7−56671
^{A}U(μ,f), A=235,238, muon induced fission yields, fission lifetimes, muon capture 7−5298
U(μ^-,X), muon absorption, emission of charged particles 7−42087

muon-nucleus scattering
see also muon-nucleon scattering
No entries

muon probes
alkali halides, muonium centres 7−45901
alkali halides, trapped atomic H and muonium 7−45900
carbon tetrachloride, liq. and solid, μSR 7−53208
carbon tetrachloride, missing fractions, positive muon spin polaris., μSR meas. 7−50411
conference, Uppsala, Sweden (June 1986) 7−48141
cycloheptatriene, muonium addition, ring inversion kinetics of radicals, μSR obs. 7−42792
diamagnetic systems, muon level crossing resonance, general considerations 7−53185
diamond, interstitial H or muonium, Hartree-Fock analysis 7−32947
diamond, Mu* hyperfine parameters, absolute sign, muon polarisation studies 7−53204
diamond, muonium, anomalous, model as body-centered interstitial muonium, HF calc. 7−45899
diamond, muonium-related paramagnetic centres, UHF calcs. 7−38980
dipole field distributions at muon sites 7−53189
ferromagnetic metals, structural defects studies muon depolarisation method calcs. 7−45898
free radicals, muon spin rotation spectroscopy, compliment to ESR spectroscopy 7−42787
heavy-fermion materials, characteristic props., muon spin rotation studies 7−45883
ionic solids, positron ejection and the possibility of moderators for slow muons 7−64732
lattice random walks, transverse spin rotation depolarisation 7−48558
level crossing resonance, muon polarisation function for longitudinal fields 7−53187
lost muon polarisation, longit. spin decoupling and muon spin reson. investig. 7−17369
metals, light interstitial motion, recent expts. 7−52114
metals, muon arrhenius jump rates, neutrino emission 7−27643
metals, positive muon diffusion and hopping rate 7−52111
metals, quantum diffusion, path integral approach 7−52112
metals, reaction rate approach to e$^+$, μ^+ and π^+ trapping 7−45229
micelle-water system, muonium localisation, spin relax. rate studies 7−50408
muon-containing species in organic liqs., delayed form., spin reson. obs. 7−50416
muonium, anisotropic, random hyperfine distortions, static relaxation theory 7−13071
muonium energy profiles, unrestricted Hartree-Fock cluster calcs., comment and reply 7−45907
muons in metals, valence-electron-only molecular orbital calcs. of Knight shift 7−2961
organic free radicals, avoided level crossing muon spin rotation 7−42789
paramagnetic systems involving a muon, level crossing resonance 7−45905
polarisation function and spin dynamics 7−53188
polyacetylene, muon spin resonance studies 7−53202
cis-polyacetylene, muonium substituted radical, hyperfine coupling constant 7−50407
positive muon diffusion, spin dynamics, strong collision model corrections 7−52107
positive particle thermalisation, reaction and kinetics 7−51896
quartz, fused, muonium formation, RAHD relax. theory 7−53201
α-quartz, muonium atoms, diffusion and quadrupole interactions, temp. depend. 7−52138
rare earth-Al alloys, RAl$_2$, paramagnetic fluctuations, muon spin rotation studies 7−12941
recent experiments in spin glasses, review 7−45686
resonance spin spectroscopy, general framework 7−53184
semiconductors, muonium defect centres, muon spin resonance studies 7−52502
simple magnets and spin glasses, zero field muon spin relax. 7−53193
TRIUMF, muon facilities 7−49761
type II superconductors, muon-spin rotation, diffusion of positive muons 7−7627
Al atomic cluster, trapping regions around impurity atoms, charge density 7−53195
Al, muon trapping and diffusion after electron irradiation, μSR study 7−45864
Al, nuclear quadrupole interactions in the presence of muons 7−53192
Al-Cu(Mg)(Ag) system, trapping and diffusion mechanism, μSR study 7−45863
Al-Mn, electron wind-induced muon drift 7−52115
Al-Si(Ge)(Ga), low temp. diffusion and trapping of muons 7−45865
α-Al$_2$O$_3$, muon spin relaxation, muon bonding versus muonium formation 7−45902
Al$_2$O$_3$, thermally activated muonium formation 7−53200
BaF$_2$, thermally activated muonium formation 7−53200
Bi, muon Knight shift anisotropy study 7−45893
Bi, rhombohedral, lattice relax. and muon$^+$ sites 7−53190
CdMg dilute alloys, muon Knight shift temp. depend. study 7−45892
Cd$_{1-x}$Mn$_x$Te, muon spin precession freq. shift and relax. meas. 7−45881
CeB$_6$ heavy fermion system, muon Knight shift study 7−45886
CeCu$_2$Si$_2$ heavy fermion superconductor, magnetic field penetration, muon spin relax. studies 7−45886
CeH$_{2.7}$ heavy electron system, muon spin rot., Knight shift and relax. studies 7−45885
CePb(Al)$_3$ heavy fermion system, muon Knight shift study 7−45886
Co, thermal equilibrium vacancies, muon spin resonance studies 7−51757
Cr, zero field muon spin rotation study 7−45871
Cu, muon hopping rates, low longitudinal mag. field muon spin relax. studies 7−53198
Cu, nuclear quadrupole interactions in the presence of muons 7−53192
Cu, ultra-pure samples, diffusion of positive muons, detection by zero-field muon spin resonance 7−45862
Cu-Fe system, diffusion of positive muons, detection by zero-field muon spin resonance 7−45862

muon probes continued
CuMn and CuMnAu alloys, homogeneous and inhomogeneous spin freezing, μSR studies 7−45687
Cu$_{10}$Zr$_7$, cryst. and amorphous, muon spin resonance studies 7−53196
Dy, antiferromagnetic phase transition, second order, μSR study 7−45880
Dy, positive muon diffusion in helicoidally-ordered antiferromagnets 7−45870
DyAg, antiferromag. crystalline and ferromag. amorphous alloys, spin dynamics, μSR study 7−45873
DyAl$_2$, monocrystalline, longitudinal μSR studies, ferromag. and paramag. phases 7−45876
DyAl$_2$, muon spin relax. in paramag. and ferromag. regimes 7−45879
DyM$_2$ (M=Al, Ni), paramag. fluctuations, μSR study 7−45878
ErFeO$_3$, muon bonding sites, muon spin rot. study 7−45896
Fe alloy ferromagnets, magnetic texture and inhomogeneity, muon polarisation and spin relax. rate meas. 7−45895
Fe, mono- and poly-crystalline, positive muon studies, low temp., dipolar fields, jump freqs. 7−45861
Fe, negative muon spin precession and hyperfine field anomaly study 7−45894
Fe, negative muon spin precession and the hyperfine anomaly 7−45906
α-Fe, paramag. and ferromag., critical mag. phenomena, results from μSR studies 7−45872
Fe, thermal equilibrium vacancies, muon spin resonance studies 7−51757
Fe-Au(Sb)(Cu), dilute alloys, electron irradiated, vacancy-solute interaction, positron lifetime, muon spin rotation studies 7−39288
Fe-Co, thermal equilibrium vacancies, muon spin resonance studies 7−51757
FeCo alloys, critical mag. phenomena, results from μSR studies 7−45872
Fe$_3$O$_4$ Mott-Wigner glass, polaronic order-disorder transition, muon spin rot. meas. 7−44787
Fe$_{2-x}$Ti$_{1+x}$O$_5$, pseudo-brookite, anisotropic spin-glass transition, transverse spin ordering, μSR study 7−45688
Fe$_{0.91}$Zr$_{0.09}$ amorphous alloys, critical mag. phenomena, results from μSR studies 7−45872
Gd, μSR studies, Knight shifts and relax. above Curie temp. 7−45877
GdM$_2$ (M=Al, Ni), paramag. fluctuations, μSR study 7−45878
H$_2$, solid, muon depolarisation and relax. rate 7−52183
Ho, antiferromagnetic phase transition, second order, μSR study 7−45880
In, muon trapping and diffusion after electron irradiation, μSR study 7−45864
KCl, muonium to diamagnetic muon conversion, time-differential muon spin reson. meas. 7−13070
KCl(Br), longitudinal field quenching studies, precursor muonium state 7−53199
MnF$_2$ and site-diluted (Mn$_{0.5}$Zn$_{0.5}$)F$_2$, μ^+SR studies above and below Neel temp. 7−45875
MnF$_2$, antiferromag., muon level crossing resonance 7−53186
MnF$_2$, antiferromag., muon level-crossing reson. 7−59133
Mo, pion-decay channelling, high and low temps. 7−45866
NaCl, muonium to diamagnetic muon conversion, time-differential muon spin reson. meas. 7−13070
NaF, single cryst., positive muon relax. 7−27644
NaF, single cryst., positive muon relax 7−45904
NaF, thermal hopping of μ^+ between FμF centres 7−45903
Nb, ultra-pure type II superconductor, diffusivity of positive muons, μSR study 7−45869
Nb-H systems, muon diffusion, μSR study 7−45868
Nb$_3$Al, supercond. transition and mag. fields, muon spin resonance studies 7−52878
Nb$_3$Al superconducting state, zero-field muon spin relax. rate 7−53203
Pd$_{75}$Fe$_5$Si(P)$_{20}$ amorphous spin glasses, muon spin relax., temp. depend. meas. 7−45882
PdH$_{0.64}$ hydride, superlattice ordering, implanted muon study 7−51689
PdH$_{0.74}$ single cryst., local H arrangement around muons, μSR studies 7−51788
Pt, catalysts, SiO$_2$ supported, muon relax. rate rel. to temp. and loading 7−33315
Sb, muon Knight shift press. depend. meas. and mol. cluster calcs. 7−45890
SbSn dilute alloys, muon Knight shift and trapping, comp. and temp. depend. 7−45889
Si, muonium, anomalous, model as body-centered interstitial muonium, HF calc. 7−45899
SiC, paramag. muonium centres, hyperfine freqs. 7−52503
SiO$_2$, surface, muon and muonium interactions 7−53209
SmFeO$_3$, muon bonding sites, muon spin rot. study 7−45896
Ta, electron irrad., transverse muon-spin relax. functions 7−53197
Ta, pion-decay channelling, high and low temps. 7−45866
TiH$_x$, sites and diffusion for muons and H 7−45867
UAl$_2$, μSR meas. 7−45874
UAs muon spin rot., relax. rate, freq. shift, and magnetic transitions 7−45891
UBe$_{13}$, heavy-fermion superconductor, muon Knight shift study 7−7628
UCd$_{11}$ heavy electron system, antiferromag. phase transition, muon spin rot. and relax. meas. 7−45668
UCu$_5$ magnetic heavy electron materials, muon spin rotation studies 7−45884
UPt$_3$ heavy fermion supercond., muon spin relax. and Knight shift meas. 7−45888
UPt$_3$ heavy fermion system, muon Knight shift study 7−45886
U$_{0.967}$Th$_{0.033}$Be$_{13}$, heavy-fermion superconductor, muon Knight shift study 7−7628
U$_{1-x}$Th$_x$Be$_{13}$ heavy fermion superconds., muon Knight shift and zero-field relax. meas. 7−45887
U$_2$Zn$_{17}$ magnetic heavy electron materials, muon spin rotation studies 7−45884
V$_2$O$_3$, muon-O bonding, muon spin rot., site search calcs. 7−45897
V$_3$Si, muon diffusion and localisation, transverse field muon spin resonance studies 7−53194
W, pion-decay channelling, high and low temps. 7−45866
Xe, missing fractions, positive muon spin polaris., μSR meas. 7−50411
YFeO$_3$, muon bonding sites, muon spin rot. study 7−45896

muon production
quark-gluon plasma, ($\mu^+\mu^-\gamma$), ($\pi^{0\pm}.\mu,^+\mu^-$) production rates as phase transition signals 7−24951
e$^+$e$^-$→e$^+$e$^-$, $\mu^+\mu^-$, two photon muon pair process, QED comparison *(Chinese)* 7−10050
$\vec{e}^+\vec{e}^-$→Hγ($\mu^+\mu^-$), helicity amplitudes, cross section calcs. 7−61641

muon production continued
- $e^+e^-\rightarrow\mu^+\mu^-$, radiative corrections to charge asymmetry in supersymmetric theories 7−5081
- $\vec{p}\vec{p}\rightarrow(\gamma,Z^0)\rightarrow\mu^+\mu^-X$, spin-spin asymmetry anal., inclusion of Z^0 effects, relevance to sea-quark polarization 7−19134
- $\bar{p}p\rightarrow$trimuons, production rate calcs. 7−19136
- $\pi^-N\rightarrow\mu^+\mu^-$, 194 GeV/c, $\mu^+\mu^-$ angular distrib. meas., QCD comparisons 7−563
- $\tau\rightarrow\mu\nu\bar{\nu}$, branching ratio determ. 7−15142
- $K_L\rightarrow\mu^+\mu^-$, muon polarization, effect of left-right squark flavour mixing 7−35737

muon scattering *see lepton-hadron scattering; lepton-lepton scattering; muon-nucleon scattering; muon-nucleus scattering*

muon spin rotation in solids *see muon probes*

muonic atoms
- complexes with atoms and molecules, chem. stability calcs. 7−36827
- electroweak effects, measurement possibilities 7−57191
- formation and decay, collisional processes and Coulomb capture 7−5790
- nuclear fusion, quasiresonance charge exchange of muonic atoms with resonance isotopic defect 7−5306
- weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
- ^{209}Bi, muonic, repolarisation of μ^- after capture, μ-e decay asymmetry 7−15183
- Dμ formation cross section in radiative capture processes *(Chinese)* 7−50419
- H, mesic 2 s state, elastic and inelastic slow electron scatt. 7−10781
- H+ muonic H, low energy collisions, isotopic derivatives, cross sections, electron screening effect 7−31143
- He, muonic, ionisation, transfer and excitation cross sections 7−61936
- ^{4}He, muonic, Lamb shift at low temps. 7−57192
- $He^+(25)$, muonic, binding in He gas, quenching mechanism study 7−36812
- ^{237}Np, X-ray spectra meas., 3d→1s radiationless transition, probability calc. 7−31188
- T, muonic, hot atom thermalisation, Monte Carlo simulation 7−17805

muonic molecules
- acetone, positive muon irrad., radiolysis, radical form. 7−17813
- complexes with atoms and molecules, chem. stability calcs. 7−36827
- ethyl radical, muonated, first detection in gas phase 7−42790
- muon-containing species in organic liqs., delayed form., spin reson. obs. 7−50416
- organic radicals, muonium-containing, H^+-Mu isotope effects 7−15745
- three-body problem, generalised exponential expansion, binding energy calcs. 7−15747
- AsH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
- H_2^+, ground and excited states binding energies, variational calcs. 7−25684
- $MuH+H_2$, low energy scatt. 7−15674
- PH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
- SbH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997

muonium
- adducts of carbonyl bond, hyperfine coupling consts. 7−50409
- alkali halides, muonium centres 7−45901
- alkali halides, trapped atomic H and muonium 7−45900
- anisotropic, random hyperfine distortions, static relaxation theory 7−13071
- benzene, in liq. isopentane soln., quantum tunnelling of muonium reactions 7−50414
- bicyclooctene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7−53207
- carbon tetrachloride, missing fractions, positive muon spin polaris., μSR meas. 7−50411
- cycloheptatriene, muonium addition, ring inversion kinetics of radicals 7−42792
- diamond, Mu* hyperfine parameters, absolute sign, muon polarisation studies 7−53204
- diamond, muonium, anomalous, model as body-centered interstitial muonium, HF calc. 7−45899
- diamond, muonium-related paramagnetic centres, UHF calcs. 7−38980
- diamond, normal muonium, lattice relax. calcs. 7−51789
- diamond anomalous muonium, vacancy-associated model 7−51758
- formation in liquid water, mechanism 7−15743
- formation in nonpolar liquids, model 7−15742
- free radicals, muon spin rotation spectroscopy, compliment to ESR spectroscopy 7−42787
- gas-phase reaction dynamics 7−54092
- hot atom chemistry in gases 7−15746
- hydrazyl radicals, muonium substituted hyperfine coupling constants 7−42793
- hyperfine splitting, electron-line radiative recoil correction calcs. 7−5792
- micelle-water system, muonium localisation, spin relax. rate studies 7−50408
- muonium, hot atom chemistry in gases 7−15746
- muonium+aromatic cpds., reaction rate consts. 7−50415
- muonium+benzoic acid derivatives, addition reaction in aq. solns., Hammett free energy 7−15744
- muonium+ethylene, reaction, on amorphous SiO_2 7−54166
- muonium-aromatic radical systems, struct., muon spin rot. studies 7−50410
- norbornene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7−53207
- organic free radicals, avoided level crossing muon spin rotation 7−42789
- organic liquids, detection of short-lived muonium via spin trapping 7−42791
- paramagnetic systems involving a muon, level crossing resonance 7−45905
- cis-polyacetylene, muonium substituted radical, hyperfine coupling constant 7−50407
- positive particle thermalisation, reaction and kinetics 7−51896
- positronium, hot atom chemistry in gases 7−15746
- quartz, fused, muonium formation, RAHD relax. theory 7−53201
- α-quartz, muonium atoms, diffusion and quadrupole interactions, temp. depend. 7−52138
- radicals in allyl benzene and styrene, resulting from insertion, role of substituents 7−42788
- semiconductors, muonium defect centres, muon spin resonance studies 7−52502
- thermal muonium emission into vacuum 7−36810
- triplet, spin precession in near-resonance oscill. field 7−50417

muonium continued
- zincblende-structure semiconductors; muonium states, muon spin resonance studies 7−53206
- α-Al_2O_3, muon spin relaxation, muon bonding versus muonium formation 7−45902
- Al_2O_3, thermally activated muonium formation 7−53200
- Ar-NO_2 system, muon spin relax. in transverse and longit. mag. fields 7−50413
- BaF_2, thermally activated muonium formation 7−53200
- Ge, anomalous muonium, vacancy-associated model 7−51758
- KCl, muonium to diamagnetic muon conversion, time-differential muon spin reson. meas. 7−13070
- KCl(Br), longitudinal field quenching studies, precursor muonium state 7−53199
- $Mu+F_2(Cl_2)$, kinetic isotope effects, dynamics calcs. 7−54098
- $Mu+H_2(D_2)$ reaction, rate consts., 480 to 675K 7−50412
- Mu+hydrocarbons, chem. dynamics in liq. phase 7−54093
- NaCl, muonium to diamagnetic muon conversion, time-differential muon spin reson. meas. 7−13070
- Pt, catalysts, SiO_2 supported, muon relax. rate rel. to temp. and loading 7−33315
- Si, anomalous muonium, vacancy-associated model 7−51758
- Si, electron irrad., Mu to Mu* transition, strain field induced 7−53205
- Si, muonium, anomalous, model as body-centered interstitial muonium, HF calc. 7−45899
- Si, normal muonium, location and hyperfine props., Hartree-Fock cluster calcs. 7−52539
- SiC, paramag. muonium centres, hyperfine freqs. 7−52503
- SiO_2, surface, muon and muonium interactions 7−53209
- T, hot atom chemistry in gases 7−15746
- Xe, missing fractions, positive muon spin polaris., μSR meas. 7−50411

muons
- *see also cosmic ray muons; muon probes*
- anomalous mag. moment, supersymmetry corrections in N=1 supergravity 7−35876
- evolution of meson science in Japan, review 7−566
- fermion mass determination, Weinberg model 7−49021
- lepton spectrum derivation using the TLVP EM model 7−61638
- mass, gauge field theory 7−61433
- VME/VMX parallel multiprocessor system for the data acquisition of the UA1 streamer tubes 7−19665
- $\mu\rightarrow3e$, anal. in CP violation models 7−436
- μ anomalous magnet moment meas., proposed precision expt. 7−36349
- μ decay, status of standard model, experimental review 7−41803
- $\mu^+\rightarrow e^+\gamma$, branching ratios, experimental upper limits 7−41802
- $\mu^+\rightarrow e^+\gamma\gamma$, branching ratios, experimental upper limits 7−41802
- $\mu^+\rightarrow e^+x$, M_x=0-104 MeV, branching ratio calcs. 7−35873

muscle
- actin layer-lines, intensity increases on activation of Limulus muscle 7−40096
- airway smooth muscle responsiveness to elec. field stimulation, K^+-induced alterations 7−8548
- antagonist muscles, elec. stimulated, control algorithms testing, cat model, neural prosthesis appl. 7−8770
- back and trunk musculature, devices for dynamic evaluation and rehabilitation, review 7−3923
- cardiac action potentials and twitches, real time acquisition and analysis 7−65737
- cardiac muscle, contracting, nonlinear viscoelastic behaviour 7−8642
- cardiac myocytes, single isolated, simple technique to meas. rate and magnitude of shortening 7−23494
- carpal tunnel syndrome, electrophysiological aspects of 639 symptomatic extremities 7−3761
- conference on biomechanics, Mons, Belgium (Sept. 1986) *(French)* 7−9578
- contractility, computerised experimental set-up 7−54649
- cycling, analytical and experimental biomechanics 7−54666
- EEG frequency analysis, filtering and aliasing of muscle activity 7−3894
- electrically stimulated muscle, discrete-time model 7−3779
- EMG, clinical, basic problems of automatic analysis 7−8737
- EMG, computer based method for automated meas. of muscular activity periods 7−54818
- EMG, computerised, conf., New York, USA (April 1981) 7−4621
- EMG, pre- and postoperative comparison in children with cerebral palsy 7−3774
- EMG, quantitative, diagnostic yield of automated method 7−8742
- EMG, real-time FFT to monitor muscle fatigue 7−28734
- EMG, short time Fourier anal.: fast movements and constant contraction 7−54537
- EMG, surface and intramuscular, from the temporalis muscle, study of methods 7−3899
- EMG activity recording technique for lumbar multifidus in man 7−3772
- EMG automatic analysis with ANOPS computer, monopolar electrode use 7−8738
- EMG feedback and motor control restoration, controlled group study of 12 hemiparetic patients 7−13984
- EMG fine wire connections technique 7−23468
- EMG from human first dorsal interosseous muscles, Fourier and factor analysis 7−8545
- EMG measurements during bicycle pedalling, anal. 7−23380
- EMG of marine animals in situ, US biotelemetry system to obtain 7−3955
- EMG signal numerical analysis; three parameters for functional muscular values 7−3775
- EMG signal on-line analysis, microcomputer based neurophysiological measurementsystem 7−8739
- EMG study of side step for development of elec. stimulation patterns 7−28570
- EMG-force model of elbow's antagonistic muscle pair 7−59966
- energy expenditure minimisation during inspiration in linear models of respiratory system 7−54647
- envelope EMG spectral analysis in the studies ofphysiological and pathological tremor 7−3897
- evoked muscle potential amplitude ratio at distal/proximal stimulation, subclinical neuropathy diagnosis 7−8539
- extracellular potentials of single muscle fibres, fibre end influence 7−8540
- extraocular muscle sideslip and orbital geometry in monkeys 7−59975
- fatigue in isometric contraction in a single muscle fibre: compartmental Ca^{2+} flow model 7−34179

muscle continued
- fibre, frog, action potential parameter changes at different temps., math. modelling 7—3773
- fibre conduction velocity calc. from EMG power spectra analysis 7—8546
- fibre conduction velocity meas. with surface EMG, cross-correlation method 7—3763
- fibre membrane, K cond., gramicidin A interaction, heating effect 7—8496
- fluorescent light, lack of effects on human muscle strength by kinesiology testing 7—23406
- force enhancement in muscle, simulation 7—34172
- force predictions, sensitivity to changes in physiological cross-sectional area 7—3820
- force-interval relationship in heart muscle of mammals, Ca^{2+} compartment model 7—54648
- functional neuromuscular stimulation, parameter selection and upper limb characterisation 7—3764
- functional neuromuscular stimulation to augment walking, develop. stages 7—34333
- glycerinated muscle fibres, orientation of spin-labelled nucleotides bound to myosin 7—59925
- grasp control during functional neuromuscular stimulation, force/position feedback 7—28764
- heart, left ventricle over cardiac cycle, simulation model *(Japanese)* 7—47146
- heat resistance changes in muscle tissue and contractile muscle models of Salamandra salamandra larvae 7—40106
- hip joint motion during normal walking, state variable approach to function of muscular system 7—40200
- implants for nerve stimulation in paraplegic patients, gate array appls. 7—34339
- insect flight muscle, time-resolved struct. studies after photolysis of caged-ATP 7—28456
- integrated EMG for different isometric tension levels, digital and manual surface spike counting 7—8543
- integro-differential equation describing muscle contraction, soln. 7—59911
- interference pattern analysis, clinical uses, effect of load, dynamic studies 7—8740
- intramuscular EMG signal estimation from surface EMG signal anal. 7—47035
- knee, effect of muscular activity on valgus/varus laxity and stiffness 7—3819
- lateral prehension-release grasp charact. using functional neuromuscular stimulation 7—28576
- lattice shrinkage with increasing resting tension in stretched, single skinned fibres of frog muscle 7—8485
- lower limb, quantitative functional anatomy with appl. to human gait 7—54658
- mammalian muscle fibres, rate constants for contractile cycle 7—60021
- microcomputer system for muscle function anal. 7—40320
- midmotoraxonal reexcitation in human peripheral nerve 7—8530
- motor control performance tracking accuracy quantification system 7—28572
- motor unit action pot., model for decomposition, algorithm 7—3780
- motor unit action pot., model for decomposition, simulated pots. 7—3781
- motor unit action pots., reliable myoelec. signal detector based on propag. characts 7—3902
- motor unit potentials with varying loads, automatic analysis 7—8741
- movement-related brain pots., synchronisation rel. to computer detect of EMG edges 7—14027
- muscle receptors and the regulation of muscle contractions 7—65808
- musculoskeletal model of the human lower extremity 7—28575
- musculotendon actuator models for neuromuscular stimulation system CAD 7—28573
- myocardial electrical propag., 3D anisotropic model 7—40131
- myocardial proton spin-lattice relaxation time in vitro: effect of elapsed time after excision 7—47136
- myoelectric control, amplifier input impedances 7—3937
- myoelectric elbows proportional control mode selection, cocontraction approach 7—28776
- myoelectric signal of elec. stimulated muscle during recruitment, rel. to closed-loop control 7—3777
- myoelectric signal processing effect on muscle force-EMG relation 7—8544
- myoelectric signals of neck and head, speech information 7—34164
- myoglobin, thermal spin equilib., high-resolution XANES study 7—65702
- myosin heads crosslinked to actin, ATP induced μs rot. motions 7—28443
- myosin helix-coil transitions, possible role in the microscopic mechanism of muscle contraction 7—59923
- n. tibialis muscle activity, effect of local microwave irrad. of rat foot *(Russian)* 7—47165
- neuromuscular diseases, computerised electromyographic signal processing 7—54541
- neuromuscular motor control system *(Japanese)* 7—13982
- neuromuscular system bioengineering 7—65735
- ocular-hypertensive subjects, muscular and intraocular press. responses 7—54553
- oculomotor and skeletal motor systems, sharing of 1 visual space map 7—59972
- papillary muscle, method for generation of rapid step in temp. 7—3753
- paraplegics, EMG-controlled stimulation limb function discrimination using Karhunen-Loeve expansions 7—54540
- periodontal mechanoreceptor mediation of short latency excitatory reflex in human masseter muscle 7—3808
- planar musculoskeletal model for studying posture induced by functional neuromuscular stimulation 7—28574
- pressure sore prevention by functional electrical stimulation of gluteus maximus muscle 7—34335
- psoas fibres, rabbit, Ca^{2+}-sensitive cross-bridge dissociation in the presence of $Mg_2P_2O_7.3H_2O$ 7—40088
- psoas fibres, skinned, rabbit, stiffness in MgATP and $MgPP_i$ soln. 7—23377
- quantitative EMG rel. to noise 7—3898
- relaxing agents, homologous series, motional and conformational dynamics, NMR investig. 7—54439
- sarcoplasmic reticulum from rabbit skeletal muscle, single-channel Ca^{2+} and Ba^{2+} currents 7—28476
- self-adaptive myoelectric processor, automatic calibration to amputee's muscle movements 7—47291
- skeletal muscle, cultured, rat, single apamin-blocked Ca-activated K^+ channels 7—23317

muscle continued
- skeletal muscle, developing rat, functional differences between 2 classes of Na^+ channels 7—3759
- skeletal muscle, effect of cross-bridge clustering and head-head competition on mech. response 7—28548
- skeletal muscle, frog, effect of a sub-ms temp. jump on the mech. tension of demembranised fibres 7—40180
- skeletal muscle, frog, external $[K^+]$ and the block of the K^+ inward rectifier by external Cs^+ 7—23325
- skeletal muscle, frog, small angle equatorial reflections of diffr. pattern rel. to sarcomere length 7—40215
- skeletal muscle, multi-ion cond. and selectivity in the high-cond. Ca^{2+}-activated K^+ channel 7—40126
- skeletal muscle, NMR relax. times, dependence on fibre type and diet, rabbit obs. 7—18003
- skeletal muscle and thyroid gland of rats injected with ^{131}I, postirrad. changes *(Russian)* 7—14059
- skeletal muscle fibres, frog, quick-freezing following electrical stimulation 7—28798
- skeletal muscle sinusoidal oscills., energy stored and dissipated, frog obs. 7—40113
- sounds produced by healthy and diseased human muscular contraction 7—23508
- spinal muscular atrophy patients, tremor power spectra, statistical anal. 7—8529
- spinotrapezius muscle, rat, viscoelastic props. of microvessels 7—8630
- strength simulation using articulated total body model 7—40207
- surface electrical stimulation of quadriceps in patients with spinal injury, response 7—34334
- surface EMG quantification, use of digital discriminators 7—8542
- surface myoelectric power spectral density as function of biceps brachii static load 7—8541
- temperature and metabolism during short-term exercise in the goat 7—54487
- time-resolved studies using multiwire proportional chambers 7—47144
- tissue, fresh, propane-jet freezing without ice form. 7—40379
- tissue equivalent phantom materials for negative pions 7—65850
- torso models for pushing and pulling, two and three dimensional 7—40206
- triceps surae muscle-tendon complex, human, estimation of power output and work done in jumping 7—34175
- triceps surae muscle-tendon complex, human, model, jumping appl. 7—34174
- trunk muscle and moments, relationship in sagittal and frontal planes 7—3784
- US meas. of trunk muscle atrophy produced by lumbar spin orthoses 7—28639
- uterine electrohysterogram processing for obstetrical monitoring 7—54791
- uterine myoma, human, quantitative PIXE anal. 7—23497
- vascular muscle cells, spontaneously contracting, Ca^{2+} and Na^+ channels 7—3760
- walking using long leg braces or functional neuromuscular electrodes, relative energy cost 7—34336

muscovite *see mica*

music
- natural flicker noise, 1/f noise 7—61229
- phosphabenzene, photoelectron spectrum, musical transcription technique appl. 7—50243

music, electronic *see electronic music*

musical acoustics
- aliasing components, psychoacoustic tests on audibility *(German)* 7—1332
- annoyance levels of musical signals 7—37297
- bells, their design and tuning 7—1329
- bells, vibrational modes 7—50865
- broadcast and recording studio, electronic architecture 7—6063
- clarinet playing, vocal tract resonance 7—50863
- consonance judgements of musical chords by musicians and untrained listeners 7—37296
- deafness due to exposure to music, Japanese study *(Japanese)* 7—47113
- feedback oscillations in reed woodwind and brasswind instruments 7—57643
- guitar, vibration geometry and radiation fields 7—1331
- guitar string tone quality, subjective evaluation *(French)* 7—43576
- harmonic laws, raga evol. 7—31588
- harmonic progression law governing natural scale of musical octave 7—31587
- hearing impairment caused by loud music *(Japanese)* 7—47109
- instruments, nonlinearity in acoustic behaviour 7—50864
- interval tempering and beat rate 7—50867
- interval tuning expts. 7—14020
- Japanese music, effect on performers' hearing *(Japanese)* 7—47111
- listening levels of reproduced stereo sound in a house *(Japanese)* 7—43521
- loud music, effect on hearing *(Japanese)* 7—47112
- orchestral instruments, performed transitions anal. 7—43579
- piano, model analysis of a hammer-string interaction 7—37298
- piano soundboard vibration and sound radiation characts. 7—43577
- piano string excitation, general solution for hard narrow hammer 7—62925
- piano string excitation, general solution for soft narrow hammer 7—62926
- pitch and rhythm paradoxes 7—6064
- recorder, acoustic analysis 7—1330
- shakuhachi, Japanese wooden flute, pitch temperament correction *(Japanese)* 7—43578
- singer's high formant associated with different larynx position in styles of singing 7—50860
- sound program signals, stochastic process model 7—37267
- source separation and note identification in polyphonic music 7—37261
- transitions between notes, discrete short-time Fourier analysis 7—62927
- violin, acoustical props. anal. 7—43575
- violin bow motion and bow force meas. 7—31589
- wind instruments, aerodynamic analysis of playing methods 7—54645
- wind instruments, sound intonation characts. 7—50866

musical instruments
- bells, their design and tuning 7—1329
- bells, vibrational modes 7—50865
- bowed string vibration, friction-vel. characts. 7—50943
- clarinet playing, vocal tract resonance 7—50863
- electronic organ sound synthesis expts. *(Hungarian)* 7—50868
- feedback oscillations in reed woodwind and brasswind instruments 7—57643
- guitar, vibration geometry and radiation fields 7—1331

- **musical instruments** continued
  - guitar string tone quality, subjective evaluation *(French)* 7—43576
  - nonlinearity in acoustic behaviour 7—50864
  - orchestral instruments, performed transitions anal. 7—43579
  - piano, model analysis of a hammer-string interaction 7—37298
  - piano soundboard vibration and sound radiation characts. 7—43577
  - piano string excitation, general solution for hard narrow hammer 7—62925
  - piano string excitation, general solution for soft narrow hammer 7—62926
  - recorder, acoustic analysis 7—1330
  - shakuhachi, Japanese wooden flute, pitch temperament correction *(Japanese)* 7—43578
  - violin, acoustical props. anal. 7—43575
  - violin bow motion and bow force meas. 7—31589
  - wind instruments, aerodynamic analysis of playing methods 7—54645
  - wind instruments, sound intonation characts. 7—50866
- **myoelectricity** *see bioelectric potentials; muscle*
- **myopia** *see vision defects*
- **N-body problems**
  - *see also celestial mechanics; many-body problems*
  - apocentric librators and the reducing transform. 7—23981
  - artificial satellites, relativistic eqns. of motion about finite-size rotating Earth 7—34826
  - asteroid orbits near 3:1 resonance, hyperbolic twist mapping model 7—34909
  - comet-Sun-Galaxy system, solar system boundary radius from King-Innanen formula 7—4357
  - comet-Sun-solar companion system, outer boundary radius for solar system 7—34890
  - Dynamical Astronomy Division, 17th regular meeting, Santa Barbara, California (April 1986) 7—29571
  - dynamical system parameters estimation from obs. appl. of local polynomials 7—34887
  - Earth-Moon-lunar satellite system, collision orbits with Moon via method of surface of section 7—9387
  - elliptical restricted three-body problem, periodic solns., arc solns, and double collision orbits 7—34838
  - four-body problem, restricted case, periodic orbits 7—23978
  - galactic disks, perturbed models rel. to tidal triggering of Seyfert galaxies and quasars 7—9537
  - galaxies large-scale clustering, two-point correl. functions for galaxies with massive dark halos 7—29544
  - generalised problem of two fixed centres, coordinates trigonometric expansions 7—4298
  - hierarchical force calc. algorithm with N log N growth 7—47673
  - interstellar giant molecular clouds in galaxies, N-body simulation of random vel. generation and accel. 7—18445
  - Kepler problem spinor regularization andpre-quantization of the negative-energy manifold 7—4304
  - Kirkwood gaps origins *(French)* 7—4359
  - minimum distance between two Keplerian orbits with common focus 7—23982
  - multibody equations of motion, generation using computer technique *(German)* 7—29739
  - off-shell two-particle scatt. function, three-body problem, phase function method generalization *(Russian)* 7—41163
  - planetary N-body problem, Hamiltonian eqns. in post-Newtonian approximation 7—47672
  - restricted three-body problem, generating soln. in three dimensions 7—4302
  - satellite three-body problem, connection between Tisserand's polynomials and inclination functions 7—47664
  - stellar open clusters, dynamical evolution of N-body clusters 7—55748
  - Sun-planet-satellite system, limiting orbits for satellites of Mercury and Venus 7—24035
  - Szebehely's problem extended to holonomicsystems with a given integral of motion 7—4303
  - three-body problem, averaged elliptical case, internal variant nearly circular orbits family 7—55435
  - three-body problem, case of third body scatt. off hard binary, approx. 7—48000
  - three-body problem, elliptic restricted case, appl. to Sun-Jupiter-asteroid system 7—34908
  - three-body problem, elliptic restricted case, critical orbits, appl. to planets in binary systems 7—23979
  - three-body problem, generalized photogravitational restricted problem 7—29385
  - three-body problem, generalized two-fixed centres problem Poisson series expansion 7—29382
  - three-body problem, photogravitational restricted circular case, coplanar libration point stability *(Russian)* 7—14475
  - three-body problem, restricted case, rotation of rigid body at libration point 7—40675
  - three-body problem, restricted elliptical case, planetary motion about nearby binary stars 7—29517
  - three-body problem, restricted elliptical case, satellite stability at triangular libration point 7—66436
  - three-body Stormer problem, equilibr. points stability in field of two rotating mag. dipoles 7—34839
  - three-particle problems with homogeneous pots., completely integrable case 7—48351
  - two triaxial rigid body problems, existence and stability of equilib. points 7—34840
  - two-body problem, motion about rotationally symmetric primary 7—40676
- **N/D method**
  - $e^+e^- \to \pi\pi\pi\pi$, cross sections, N/D model anal. 7—61739
  - $\pi\pi$ scattering, three channel N/D model anal., π form factors and vertex fns. 7—61739
  - $qq \to qq$, $(q=u,d,s)$, low-energy amplitudes, meson masses, N/D dispersion method anal. 7—61549
- **NAND gates** *see logic gates*
- **narrow band gap semiconductor materials** *see narrow band gap semiconductors*
- **narrow band gap semiconductors**
  - gapless semiconductor, low temp. density of states near Fermi surface 7—64042
  - intermediate valence, theory 7—38526
  - IR detectors, non-equilibrium modes of operation 7—9898
  - magnetic semiconductors, anisotropic, narrow-band, elementary excitations 7—59001
- **narrow band gap semiconductors** continued
  - MIS narrow gap structures, evaluation theory of C-V meas. 7—64355
  - multilayer isotypic n^+-n heterostructures, S-type current-voltage characts. 7—52758
  - p-i-n diode structures, low gap, Auger suppression and negative resist. 7—12812
  - pinch effect with symm. electron and hole spectra 7—17047
  - radiative heat pumps using narrow-bandgap semiconductors 7—40019
  - refractive indices of some narrow and wide bandgap materials 7—13118
  - spontaneous oscills. under plasma resonance conditions 7—38605
  - weak-coupling polarons, band nonparabolicity effects, comment 7—21830
  - zero gap semiconductors near inversion point, solitons 7—64100
  - zero-gap, carrier temp. and density, nonequilib. fluctuations 7—38576
  - α-Ag$_2$S, energy gap, EMF consts. determ. by SALS program *(Japanese)* 7—16943
  - Bi$_{1-x}$Sb$_x$ narrow-gap semicond., intraband breakdown, current-voltage characts., size effect conditions 7—52624
  - n-CdSnAs$_2$, photoluminescence 7—53393
  - CrNbO$_4$-VO$_2$-MoO$_2$ system, rutile phases, prep. and props. 7—6806
  - p-HgCdTe, minority carrier characterisation using light-modulated Hall effect 7—21934
  - Hg$_{0.79}$Cd$_{0.21}$Te, metal-insulator transition, mag. field induced, low temps. 7—45158
  - Hg$_{1-x}$Cd$_x$Te, zero gap, acceptor levels 7—27287
  - Hg$_{1-x}$Mn$_x$Se, zero gap semimag. semiconductor, inversion asymmetry spin level splitting 7—58784
  - HgTe-based solid solns., low temp. electron mobility, resonance scatt. 7—38558
  - InSb, metal-insulator transition, mag. field induced, low temps. 7—45158
  - InSb, narrow-gap semiconductor, bound excitons, magneto-absorption studies 7—45168
  - (NbSe$_4$)$_3$I, phase transition props. 7—44803
  - P, black, interplanar forces caused by electron-lattice interaction 7—63547
  - Pb$_{1-x}$Cd$_x$Se, inter-band transitions, thermoreflectance study 7—3029
  - Pb$_{0.93}$Ge$_{0.07}$Te, glassy and cryst., defect struct., positron annihilation studies 7—46221
  - PbS/PbSe heterostructure, band offsets, photovoltaic study 7—58872
  - PbSe, energy band structure, thermoreflectance study 7—3028
  - PbSnSe, IR optical bistability at mW powers 7—57436
  - Pb$_{1-x}$Sn$_x$Te narrow-gap semicond., electron-electron interaction, effect on permitt., two-band model 7—52420
  - PbTe, narrow gap semiconductors, Knight shift 7—53166
  - PbTe-type narrow gap semicond., with antiphase boundary, physical realisation of parity anomaly 7—38432
  - a-SiGe:H,F films, glow discharge deposition and elec. props. 7—64917
  - a-Si$_{1-x}$Ge$_x$:H, F, light-induced degradation meas. 7—45397
  - Zn$_x$Hg$_{1-x}$Se, far IR spectra study 7—22262
- **natural gas technology**
  - buried metallic structures, cathodic protection methods *(Italian)* 7—28175
  - energy recovery by expansion of high pressure natural gas 7—65388
  - global energy shortages, forecast energy consumption compared to world supplies *(German)* 7—59826
  - magnetic flaw detection of pipelines, eddy currents as interfering factor 7—39822
  - natural gas separation using supported liquid membranes 7—11526
  - open access transportation implications 7—65389
  - trunk-line transportation, math. model including turbulence and heat conduction 7—63220
- **natural languages**
  - intonation patterns synthesis in fluent British English 7—11227
- **natural resources**
  - *see also agriculture; dams; energy resources; mining; water supply*
  - energy technology substitution, mathematical models 7—65382
  - environmental problems, mathematical models, book 7—60890
  - forest decline, acid rain and other contributory factors, report 7—28419
  - forestry and range applications of high altitude reconnaissance technology 7—23905
  - gas reservoirs seismic response 7—9194
  - groundwater pollution protection in developing countries, aquifer-oriented policy 7—3731
  - marine mineral resources in USA exclusive economic zone, geological distrib. and potential development 7—66096
  - remote sensing of Earth resources, imaging spectropolarimeter-photometer for satellite 7—40604
  - resource inventory and assessment tasks, data base approach to Landsat data appls. 7—4223
  - resources management master planning, GIS and remote sensing role 7—4072
  - subterranean thermal water resources *(Rumanian)* 7—9054
  - USA Water Supply Computerised Information Directory 7—66204
  - Verkhoyany folded zone, eastern USSR, fault dislocations and petroleum prospect 7—28918
  - water management in humid and arid areas, use of thermal IR remote sensing 7—34696
  - water resources engineering, research projects, computer support 7—18215
  - Au placer deposits in upper Yukon River, Alaska 7—66042
  - ^{40}K in Makhmur Plain soil, N Iraq, α-ray spectroscopical analysis 7—34487
- **natural rubber** *see rubber*
- **natural sciences**
  - *see also astronomy and astrophysics; biology; biophysics; chemistry; geology; geophysics; physics*
  - teaching, integrated approach 7—14731
- **natural sciences applications of computers** *see natural sciences computing*
- **natural sciences computing**
  - *see also astronomy computing; astrophysics computing; biology computing; chemistry computing; geophysics computing; mathematics computing; medical computing; physics computing*
  - Atmospheric Release Advisory Capability for radioactive materials, contour-to-grid methods 7—40078
  - Fishnet graphs generation and character-mapped contour plots on IBM PC 7—24629
  - physical sciences databases, new developments 7—24325
- **Navier-Stokes equations**
  - 2D viscous flows, time-dependent, incompressible, finite element anal. 7—26165
  - adaptive mesh finite difference solution method 7—57785
  - air, laminar flow and heat transfer in tube bank, finite element calcs. 7—51313

Navier-Stokes equations continued
arbitrarily convex quadrilateral elements for Navier-Stokes eqns. *(Chinese)* 7—16144
asymptotic expansion of steady-state solns. for large Reynolds numbers 7—43835
axisymmetric body, force in linearised time-depend. motion 7—26303
axisymmetric flow in rot. spherical shell, numerical expts. 7—20733
axisymmetric flows in swirlers, difference method 7—51166
boundary conditions on pressure 7—9674
boundary element spectral method for nonstationary Stokes eqn. 7—37421
brinkman equation, fractal model for porous media, and viscosity renormalization 7—44042
Burgers' eqn., local small-scale chaotic solns., large-scale effects 7—51064
Cauchy problem for linearised Navier-Stokes eqns. with allowance for compressibility 7—43964
cellular automation fluid models, continuum eqns. for large-scale behaviour 7—35286
channel flow, instabilities and bifurcations 7—26352
coherent vortices and subharmonic interactions in 2D 7—16146
compressible flow, boundary layer excitation by surface heating or cooling, numerical simulation 7—6181
compressible flows, vectorised finite element codes 7—37488
compressible isentropic Navier-Stokes eqns. in one space dimension with nonsmooth initial data, solns. 7—26244
compressible Navier-Stokes eqns., pseudo-time algorithm for integration to steady state 7—26302
compressible turbulent flows, 2D, Navier Stokes eqns. solved using finite element method 7—43960
conservation laws for Navier-Stokes equations 7—4694
crystal growth, thermocapillary free boundaries 7—46309
decomposition method 7—26238
decomposition method anal. 7—4696
dielectric liquids, stressed, transient EHD motion, computer simulation 7—1643
driven flow in square cavity, Navier-Stokes eqns., finite difference scheme 7—20795
duct flow, 3D laminar, use of curvilinear coordinates 7—16269
dynamic processes in turbulent flows 7—51063
equal order velocity-pressure formulation 7—16142
Euler and Navier-Stokes eqns., finite element flux corrected transport algorithm 7—43959
film flow on a rotating disk 7—31749
film-splitting flows in forward roll coating 7—26291
finite element stream function-vorticity solns. 7—63104
flame, premixed, struct. and extinction limit, Lewis no. effects *(Chinese)* 7—11559
flows interacting with vortex and acoustic oscillations 7—43958
free convection at high Reynolds number, spectral Chebyshev solns. 7—37466
free vortex dissolution with inertia, anal. using linearized Navier-Stokes equations 7—41106
gas flows, slow, viscous, heat conducting, calc. 7—51025
glass fibre processing, spinning process in liq. state 7—3258
hydraulic turbine, draft tube, 3D turbulent flow anal. 7—51026
idealised spiral wound membrane module, fluid flow 7—6312
incompressible flow, viscous, variational formulation 7—37422
incompressible flow in forward-facing step geometries, Navier-Stokes solns. 7—6180
incompressible fluid eqns., oscillations and concentrations in weak solns. 7—57802
incompressible fluid flow, 3D Navier-Stokes eqn. FEM 7—63103
incompressible fluid flow, attractors, fractal dimension 7—9677
incompressible fluid flow, implicit finite difference method 7—37416
incompressible Navier-Stokes eqns., artificial boundary conditions, Cauchy problems *(French)* 7—63101
incremental multigrid strategy for fluid dynamic eqn. soln. 7—51019
industrial turbulent flow, 3D, computation by FEM 7—43876
internal flow, Navier-Stokes eqn. num. soln. *(French)* 7—57872
internal turbulent flow, separated flow region, Navier-Stokes solver 7—51069
inverse energy cascade, 2D turbulence, vortices meas. in a square box 7—16190
isothermal fluid film lubrication, asymptotic anal. 7—11362
iterative solutions 7—37425
jet supersonic and subsonic mixing, parabolised Navier-Stokes anal. 7—11481
jets, modulated, numerical modeling 7—63190
laminar boundary layers, active stabilisation, turbulence transition, drag reduction 7—20683
laminar convective gas flow in vertical slots, steady Navier-Stokes eqns. 7—37461
laminar end-wall vortex and boundary layer, numerical simulation 7—51181
laminar flow past short, heated cylinder, finite element soln. 7—57789
laminar flow past sudden expansions, Navier-Stokes solns. 7—43846
laminar flow through abrupt expansions, planar and axisymm., finite element anal. 7—37428
laminar heat transfer and flow in curved square channels, elliptic nature, numerical visualisation 7—37432
laminar mixed convection flow about horizontal cylinder *(French)* 7—1552
Landau-Square jet flow, momentum-flux condition 7—31852
liquid film on a rotating disk, slip effect 7—57849
low Mach number flow, spectral method 7—9676
magnetic fluid, thin layer coating, hydrodynamic drag, num. investig. 7—51061
meandering channels, flow and pollutant dispersion, 3D modelling 7—44052
micro-organisms, swimming, individual and collective fluid dynamics 7—47141
multicomponent gas mixtures, interaction with wall, Navier-Stokes boundary condition 7—51233
Newtonian fluid in a pipe, Navier-Stokes eqn. soln. 7—11551
nonequilibrium gas dynamics, chem. kinetics and turbulence 7—1647
nonlinear viscous flow, 3D separation patterns, Navier-Stokes eqn. soln. 7—43837
numerical study of swirling flow field in a vortex device 7—20682
orbital flow past cylinder, vorticity-transport and stream function eqns. 7—43929
penalty FEM, iterative methods convergence 7—51024
penalty finite-element analysis of coupled fluid flow and heat transfer for in-line bundle of cylinders in cross flow 7—31792

Navier-Stokes equations continued
periodic motion of a nonlinearly-viscous fluid *(Russian)* 7—63102
plate, uniform and shear flows at high Reynolds numbers, boundary value technique appl. 7—63126
propane-air flames, explosion venting, 2D Navier-Stokes eqns. 7—51340
reacting shock waves, theoretical and num. structure 7—20759
reattachment of flow downstream of sudden pipe expansion, turbulent heat transfer 7—51134
rectangular tube, oscillatory flow of incompressible viscous fluid, exact solns. *(Chinese)* 7—51308
reduced form, single- and multi-sweep techniques 7—16153
rigid body-viscous flow interaction, finite element anal. 7—37424
rotating shrouded disc enclosed flow, Navier-Stokes eqn. soln. 7—20735
semi-infinite bodies, turbulent flow, Navier-Stokes eqn. soln. 7—16166
sharp-fin-induced shock wave-turbulent boundary layer interactions 7—20693
sink-flow boundary layers, num. simulations 7—43882
slightly viscous flows, FEMs 7—14785
slow nonisothermal gas flow between parallel plates 7—11471
sphere in cylindrical tube, fluid flow and heat transfer 7—20706
sphere in free convective flow, heat transfer, Navier-Stokes eqns. soln. 7—20705
stationary vapour on corrugated surface of horizontal tube, heat transfer, condensation 7—50919
Stoke's flow in plane multiply connected domains, computation method 7—57783
Stokes and Navier-Stokes eqns. with pressure boundary conditions *(French)* 7—56045
stratified fluid pressure-strain term, influence of buoyancy, numerical calc. 7—44005
supersonic flow around semi-infinite plate, Navier-Stokes eqns. 7—11456
supersonic laminar flow with strong viscous-inviscid interaction 7—51212
supersonic viscous flow, parabolised Navier-Stokes eqn. 7—20753
Taylor's vortex array, spectral stability 7—37473
Taylor-Couette flow, stability limits, flow visualisation and numerical study 7—43844
Taylor-Couette flows, computation of anomalous modes 7—63108
thermal transport problem modelling using boundary element methods 7—51149
thermally stratified fluid, vertical through-flow between flows, Navier-Stokes eqn. 7—31857
trailing-edge mesh influence on skin friction, Navier-Stokes calcs. 7—20740
transonic flow, Navier-Stokes computations with two-eqn. turbulence model 7—31829
transonic viscous flow, 3D Euler/Navier-Stokes zonal approach 7—20744
tube, periodically constricted, transition to inertial and nonsteady flows 7—11541
turbulence near a wall, limiting behaviour, Navier-Stokes computational models 7—16170
turbulent channel flow 7—57926
turbulent flow and mass transfer of unstabilised stream in channel with obstacle 7—11391
turbulent flow in 2D labyrinth, simulation 7—43873
turbulent flowfield visualisation, computer generated, for flow around cubic model 7—37447
turbulent swirling flow in diffusers, Navier-Stokes eqn. soln. 7—6222
two dimensional, soln. using pseudospectral method, primitive variable formulation 7—29762
two-phase pipe flow, flooding behaviour anal. using Navier-Stokes eqn. 7—11494
two-sphere hydrodynamic interactions and mobilities in a porous medium 7—26340
unsteady compressible viscous flow over airfoils, integro-differential and finite-difference methods 7—31821
viscous compressible heat conducting fluid, 1D motion, Navier-Stokes weak soln. *(French)* 7—37486
viscous flow, Navier-Stokes eqns., 3D elliptic soln. 7—51318
viscous flow boundary element analysis by penalty function formulation 7—37415
viscous flow in transonic nozzles, Navier-Stokes eqn. 7—31827
viscous fluid, heat-conducting, relax., variational principle 7—51027
viscous gas flow, intense heat release in channels 7—31797
viscous gas jet flowing from a conical nozzle, density fluid, num. soln. 7—51252
viscous incompressible flow, steady Navier-Stokes eqn. soln. 7—11425
viscous incompressible flow in 2D flat torus, stability props. 7—57801
viscous incompressible flow in rectangular pipe, soln. of unsteady Navier-Stokes equations, vorticity/velocity vector anal. *(French)* 7—63216
viscous incompressible flows, time-depend. incompressible Navier-Stokes eqn. 7—20677
viscous incompressible fluid in half-plane, Chorin-Marsden product formula convergence 7—11372
vortex and particle methods, higher-order accurate versions 7—26236
vortex breakdown, num. study 7—26283
vortex dynamics and singularities, simulation, appl. to Navier-Stokes eqns. 7—51183
vortex growth in bounded rectangular jet, numerical anal. 7—37469
weak solns. in exterior domains, kinetic energy asymptotic behaviour 7—1525
CO_2-H_2O-N_2, laminar and turbulent mixing, vibr. relax. 7—11459

navigation
see also computerised navigation; inertial navigation; radar applications; radionavigation; sonar; tracking
autonomous satellite navigation using observations of starlight atmospheric refraction 7—60418
short-base acoustic ranging systems, source location accuracy, receivers comparison 7—43511
Voyager Uranus mission, in-flight engineering changes, navigational and communication problems 7—55430

NDO calculations
see also CNDO calculations; INDO calculations; MINDO calculations; PCILO calculations
1- acetylcyclohexene, rot. barrier, conform. stability, MINDO/3 and MNDO calcs., UV spectra anal., CNDO calcs. 7—25405
aniliniums, long range interactions, near UV spectra, MNDO and CNDO calcs. 7—19879
L-ascorbic acid radical, stability and props. MIND and MNDO calcs. 7—15514

- **NDO calculations** continued
  - ascorbic acid radicals, stability, semiempirical MNDO calcs. 7−36480
  - benzofurans, UV spectra, substituent influence 7−50170
  - bicyclo (1.1.1) pentane, bonding and geometry, quasi ab-initio PRDDO method, GVB-type correl. 7−25404
  - borate glasses, basicity and geometry studies, MNDO calcs. 7−6529
  - 1-cyanoaziridine, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7−15516
  - 2-dimethylamino-6-propionylnaphthalene, twisted charge transfer state, fluoresc. quantum chem. study 7−863
  - dipyridopyrazinium and related cations, MNDO calcs. 7−25394
  - ethane, vibr. anal. IR and Raman spectra, MNDO calcs. 7−10543
  - ethanediazonium ions, unimol. dissoc., ab initio and semiempirical MNDOC calcs. 7−15513
  - fluorobenzenes, bond orders, MNDO evaluation 7−56981
  - formylaziridine, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7−15516
  - 1-formylcyclopropane, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7−15516
  - hexanitroethane, crystallographic and vibrational study 7−38131
  - malonic acid, in dioxane, dipole moment, solvent effect eval. 7−25399
  - methane, vibr. anal. IR and Raman spectra, MNDO calcs. 7−10543
  - methanediazonium ions, unimol. dissoc., ab initio and semiempirical MNDOC calcs. 7−15513
  - methanol+fulminic acid (acetonitrile oxide), reaction pathway, MNDO SCF calcs. 7−3582
  - N- methyl-N′-nitro-N-nitrosoguanidine, conform. struct. and stability, ab initio MNDO calcs. 7−25406
  - methylene, low-lying singlet and triplet states, substituent effects 7−10429
  - molecular systems, semiempirical MNDOC calcs., size consistency corrections 7−62292
  - organic radical cations, electronic visible-UV spectra, LNDO/s PERTCI calcs. 7−50169
  - polyaniline, conducting polymer, electronic and electrochem. props., MNDO calc. 7−2462
  - polyaniline, geometries, bond struct., electrochemistry, MNDO calcs. 7−15750
  - polyaniline, geometry, MNDO calcs. and NMR studies 7−32314
  - polycyclic benzenoid hydrocarbons, bond orders, MNDO study 7−10425
  - polydiacetylenes, electronic struct., substituent-induced strain effect, MNDO calcs. 7−10427
  - polyemeraldine, defect states, MNDO calcs. 7−25398
  - polymers elastic moduli, semiempirical method calc. 7−51908
  - polysilane model compounds, struct., electronic props., MNDO calc. 7−44403
  - propane, vibr. anal. IR and Raman spectra, MNDO calcs. 7−10543
  - propanediazonium ions, unimol. dissoc., ab initio and semiempirical MNDOC calcs. 7−15513
  - I(1.1.1) propellane, bonding and geometry, quasi ab-initio PRDDO method, GVB-type correl. 7−25404
  - purines, tautomeric equilib., gas phase and aq. soln., HF calcs., MNDO calcs. 7−25403
  - pyrimidines, tautomeric equilib., gas phase and aq. soln., HF calcs., MNDO calcs. 7−25403
  - squaraine dye, struct. and electronic props., NDO CI calcs. 7−857
  - thiouracil, tautomers, MNDO calcs. 7−56984
  - transition metal compounds, resonance integrals from Heisenberg eqn. of motion, NDO calcs. 7−62287
  - N-vinylcarbazole, halogeno and nitro derivatives, struct., PMR, MNDO calcs. 7−933
  - p-xylene, resonant multiphoton ionisation dissoc. mechanism 7−8295
  - BO_4^- anion clusters, hard basicity 7−25402
  - C_{60}, localised mol. orbitals and electronic struct., PRDDO calcs. 7−49925
  - C_n^+-$D_2(O_2)$ cluster ions, ion+mol. reactions 7−50432
  - Cu complex, bis(dithiocarbamate) copper II, struct., NDDO calcs. 7−15515
  - $(H_2O)_n$, H-bond strengths, MNDO calcs. 7−15519
  - N_2BH_3, struct., ab initio calcs. 7−49887
  - Ni complex, bis(dithiocarbamate) nickel II, struct., NDDO calcs. 7−15515
  - $(SN)_x$, molecular orbits, various chain sizes, MNDO calcs. 7−15517
  - Si (100), chemisorption of water, MNDO calcs. 7−63963
  - Si (111), surface reconstruction, benzene-like ring model 7−16851
  - Si surfaces, (111) and (100), chemisorption of halogen atoms, MNDO method 7−6979
  - (SnH_3) groups containing inorganic compounds, struct. and acid-base props. MNDO calcs. 7−10424
- **NDT** *see nondestructive testing*
- **near edge structure, X-ray absorption** *see XANES*
- **nearly-free-electron approximation**
  - Ag, surface states, phase shifts, image planes 7−21962
  - Cu, surface states, phase shifts, image planes 7−21962
  - Hg-In, liq., mag. susceptibility, conc. and temp. depend. 7−27492
  - Hg-Na, liq., mag. susceptibility, conc. and temp. depend. 7−27492
  - Ni, surface states, phase shifts, image planes 7−21962
- **nebulae**
  - *see also galaxies; planetary nebulae; supernova remnants*
  - B 335, compact bipolar outflow source, EHF obs. 7−47893
  - B 361, Bok globule distance determ. 7−48052
  - bipolar nebulae, nature of collimating mechanism 7−40816
  - bipolar nebular and jets from young stars Calar Alto obs. 7−48027
  - bipolar outflows, unbiased survey discoveries 7−55771
  - Bok globules, characts. determ. from background giants IR obs. 7−35027
  - η Car, visual features and IR emission characts. 7−60769
  - Chamaeleon dark cloud, extinction and distance from photometry and spectroscopy 7−60763
  - Cir X-1, 843-MHz obs. of assoc. extended radio nebula 7−35012
  - collimated outflows in interstellar mol. clouds, model for Herbig-Haro objects (HH 7-11) 7−55775
  - cometary nebulae, thin jets, pinch effect mechanism and spectral characts. 7−29473
  - Conference on nebulae and abundances, Austin, TX, USA (April 1986) 7−35096
  - Crab Nebula, EAS, composition anal., distribs. functions 7−14461
  - V645 Cyg-Duck Nebula complex, characts. and obs. 7−60655
  - cold dark clouds, chemical model 7−24195
  - dust clouds, activity centres, spectral study (0.3-1300 μm) 7−48029
  - Egg Nebula (CRL 2688), NH_3 and cyanotriacetylene mapping 7−4540
  - emission nebulae, improved radiative transition probabilities for O II forbidden lines 7−66442
- **nebulae** continued
  - Gum Nebula, globules, dark clouds and T Tau stars 7−55750
  - H_2 reflection nebula in OMC-1, discovery from IR line polarisation obs. 7−14633
  - Haro 6-5 complex, struct., polarisation obs. 7−48049
  - Heiles Cloud 2, magnetic field structure from K-band polarimetry 7−60762
  - Herbig-Haro object 2 condensations, observational parameters correlation 7−24192
  - Herbig-Haro objects, bipolar sources formation in dense mol. clouds 7−24182
  - Herbig-Haro objects, monochromatic images prediction 7−14626
  - Herbig-Haro objects, thin jets 7−29473
  - Herbig-Haro objects and related stars, optical spectrophotometry 7−14630
  - Herbig-Haro objects and role of FU Ori stars 7−66580
  - Herbig-Haro objects exciting stars, evolutionary characts. determ. from spectral and lumin. meas. 7−40898
  - Herbig-Haro objects near Cep A star-formation region 7−35026
  - HH 1-2, nature of IR emission from exciting star 7−60661
  - HH 6, H_2O maser emission detect. 7−4539
  - IC 443, supernova remnant, obs. in coronal [Fe X] 6374 Å line 7−48051
  - IR reflection nebulae in Orion Molecular Cloud 2, photometry, polarimetry and spectrophotometry 7−55765
  - IR reflection nebulae near molecular outflow sources 7−66696
  - IRA 03134+5958, optical identification as possible Herbig-Haro object 7−66720
  - IRc 1 in M17, bipolar outflow source and nebulosity, spectral characts. 7−60748
  - jets from young stars, CCD obs. 7−55617
  - L1551 IRS 5, IR polarimetry of nearby refl. nebula 7−24186
  - L183, cold dark cloud, chemical model 7−24195
  - L 1551 bipolar flow, extended IR radiation 7−40890
  - LDN 1551, bipolar nebula IR emission characts. 7−48061
  - LDN 1551-IRS 5, bipolar outflow source, EHF obs. 7−47893
  - LDN 1642, high-latitude cloud, IRAS mapping, visible surface brightness and extinction 7−48062
  - M16, star-forming complex, obs. of giant stellar wind shell assoc. with H II region 7−18446
  - M17 (Omega Nebula), Hα vel. field 7−66704
  - molecular cloud fragmentation, IMF and star formation efficiency 7−48030
  - molecular clouds, chemical composition and molecular abundances 7−14635
  - molecular clouds, shock waves, theoretical models 7−14643
  - molecular clouds and stellar kinematics 7−48025
  - molecular outflow sources, NH_3 obs. anal. 7−66576
  - Mon R2 star form. region, IR sources and polarisation obs. 7−60753
  - nearby molecular clouds, proceedings, Toulouse, France (September 1984) 7−24299
  - NGC 1333 (HH12), star-forming cloud, obs. of shocked H_2 and interstellar jets 7−55760
  - NGC 2071, refl. nebula, nearby bipolar flow source NH_3 obs. 7−24181
  - NGC 2071 star-forming cloud, obs. of shocked H_2 and supersonic jets 7−55760
  - NGC 7023, outflow source, CO mapping 7−60772
  - NGC 7635 (Bubble Nebula), monochromatic obs. of ring nebula 7−55755
  - NS3, NS12, possible bipolar nebulae, optical polarisation study 7−48047
  - observational physics and astrophysics, book 7−55916
  - ρ Oph dark cloud, multi-freq. obs. 7−48024
  - Orion, ionization structure, IR line obs. and models 7−60757
  - Orion, photometry and spectroscopy of Trapezium cluster 7−66688
  - Orion hot core, methyl cyanide excitation, 1.3 mm obs. 7−60758
  - Orion KL, NH_2D detect. and abundance 7−60754
  - Orion molecular cloud, HCN/HNC abundance ration vars. 7−48033
  - Orion Nebula, continuum mapping 7−48011
  - Orion Nebula, element abundance determs. from IUE lines 7−55784
  - Orion Nebula intense 6.7-keV Fe X-ray emission line detect. from high-temp. plasma 7−55780
  - Orion southern giant molecular cloud, CO bipolar outflow 7−55771
  - Perseus globules, physical and chem. conditions, NH_3 and cyanoacetylene obs. 7−35021
  - radiative transfer in spherical dust cloud, isotropic scattering 7−66440
  - Red Rectangle (HD 44179), role of visible luminesc. from polycyclic aromatic hydrocarbons 7−48008
  - reflection and emission nebulae in outer Galaxy, catalogue for vel. field in Southern Hemisphere 7−18359
  - reflection nebulae, CCD surface photometry of bright nebulae 7−55773
  - reflection nebulae, IUE obs. review 7−66726
  - Serpens Nebula, IR emission characts. 7−48061
  - Sh2-155, emission region, blue refl. nebula detect. 7−66723
  - Sharpless 140, unipolar bubble in star-forming region 7−55770
  - Tarantula Nebula, massive star system of R136a 7−55749
  - DG Tau B knot system, CCD spectra, jet obs. 7−55767
  - Taurus Molecular Cloud-1, observations of pentynylidyne radical hyperfine struct. 7−60749
  - TMC-1, cold dark cloud, chemical model 7−24195
  - very low excitation compact nebulae in LMC, UV and optical spectra of exciting stars 7−47883
  - O-rich nebulosities in supernova remnants, nonsteady shock model for O I line emission 7−55779
- **necking**
  - alloys, superplastic, necking, fracture, strain rate sensitivity, cavity growth 7−28087
  - branching conditions in plane stress 7−43702
  - elasto-plastic anisotropic media, necking and forming limit diagrams, instability problem *(French)* 7−31665
  - local strain hardening and nonuniformity of plastic deformation 7−22751
  - Luders bands, phenomenological theory 7−21328
  - metal sheet, forming limit diagram in negative minor strain region 7−65090
  - metals, sheet, history depend. forming limits, hardening models 7−59542
  - plastic composites, layered, periodic necking instability 7−43709
  - polycarbonate-polystyrene-acrylonitrile, coextruded multilayer composites, tensile props. 7−59572
  - polyethylene, extended under press., hydrostatic press. effect on damage accumulation, struct. reorganisation 7−8065
  - polymers, neck propag., plane strain 7−44658

necking continued
- porous ductile material, yield surface curvature and void nucleation effect on plastic flow 7−51919
- porous plastic solids, necking and failure, effect of yield surface curvature 7−43715
- power law materials, neck form. invariance to strength and strain rate 7−17597
- sheets, thin voided viscoplastic, instabilities during tension 7−16076
- steel, C and alloy, tensile ductility limit calc. *(Russian)* 7−39597
- steel, HSLA, high strain-rate behaviour, Bodner-Partom viscoplastic constitutive model description 7−33754
- superplastic alloys, plastic instabilities and uniaxial tensile ductilities, effect of grain growth 7−53820
- tensile flow stress beyond necking, determ. at very high strain rate 7−63726
- tensile properties, determ. by three-point method 7−13699
- tensile test, creep failure by microstruct. degradation and grain boundary cavitation 7−65117
- uniaxial tensile deform., strain hardening, geometric defects, elongation to failure 7−33742
- Cu, single crysts., with different orientations, strain localisation during high temp. deform. 7−13506

Neel temperature
- antiferromagnetic metals and alloys, 4f-local moments, SDW instability 7−58970
- bisethylammonium copper tetrachloride rhombic antiferromagnet, magnetic phase diagram, press. effects study *(Russian)* 7−52981
- $Cd(Cu_{1-x}Al_x)_2$, mag. and cryst. props. 7−27506
- $Cd(Cu_{1-x}Ni_x)_2$, mag. and cryst. props. 7−27506
- $CeRh_2Si_2$ Neel temp., chem. press. effects, partial substitution depend. meas. 7−59011
- $Co_xMg_{1-x}O$, Neel temp., var. with mag. dilution 7−27516
- CoO, heat capacity in vicinity of strong fluctuations, nonpower-law behaviour 7−2865
- Cr alloys, charge and spin density waves *(Russian)* 7−2514
- Cr, Neel temp. and thermal expansion press. depend., strain gauge meas. 7−6724
- Cr, single crysts., single modulating mag. state form., neutron obs. *(Russian)* 7−58982
- Cr single crysts., thermoelec. power near the Neel temp., precursor behaviour 7−64209
- Cr, surface EM wave absorpt., 4-350K 7−33354
- Cr-Ge dilute alloys, elec. resist. temp. and press. depend. studies 7−32980
- Dy, antiferromagnetic phase transition, second order, μSR study 7−45880
- Dy thin films, influence of thickness on mag. phase transitions 7−38860
- Dy-Y highly dil. alloys, mag. props. 7−7483
- Er-H solid soln., mag. props., H addition effects 7−7510
- Fe-Ni Invar, high-field hysteresis and ferromag.-antiferromag. coexistence 7−22122
- $FeCl_2$ metamagnet, spin-lattice coupling and tricritical behaviour 7−2849
- $Fe_{1-x}Co_xCl_2$, random-field and competing-anisotropy effects, sp. ht. study 7−2872
- $Fe_{1-x}O$, double electron exchange, Mossbauer spectroscopy 7−17168
- Fe_3O_4, magnetite, cryst. struct. under press., rel. to Neel temp. 7−16524
- ^3He, BCC solid, nuclear magnetism, molar volume depend. 7−58565
- Ho, antiferromagnetic phase transition, second order, μSR study 7−45880
- $LiFeClMoO_4$, synthesis, struct. and low temp. magnetism 7−21172
- X-Mn, Neel temp. and thermal expansion press. depend., strain gauge meas. 7−6724
- Mn-Sn, homogenised, mag. props., thermal expansion 7−2900
- $Mn^{2+}Mn_6{}^{3+}SiO_{12}$:Fe(Ca)(Al), antiferromagnetism and spin glass order, mag. meas. 7−27518
- $MnTe_2$, mag. phase transition, neutron powder diffr. study 7−64456
- $Mn_{0.5}Zn_{0.5}F_2$, sp. ht. meas. in random fields 7−33178
- $Mn_xZn_{1-x}F_2$, 3D site-random Ising magnet, crit. behaviour 7−17186
- NpAs single crystal, neutron diffr. study 7−17158
- PdMnTe, magnetisation and neutron diffr. study 7−27499
- $Pd_2Y_{1-x}Dy_xSn$, Heusler alloy system, field-induced reentrant superconductivity 7−2765
- $Pt_3Mn_xFe_{1-x}$, mag. state near critical composition *(Russian)* 7−17170
- PuSb, moderately delocalised f-electrons,, anisotropic mag. behaviour 7−12968
- Sm, phase transitions at high pressures 7−64457
- $TbGe_{1-x}Si_x$, first-order mag. phase transition, neutron diffr., mag. struct. study 7−45673
- $Ti_xCo_{1+x}Fe_{2-2x}O_4$ spinel solid soln., mag. props., Mossbauer effect study 7−12685
- Tm, polycrystalline, electrical resistivity, mag. struct. effect 7−52564
- $TmCu_2$, magnetic phase transitions, suscept., sp. ht., elec. resist. and magnetisation meas. 7−2857
- $U_{1-x}Np_xO_2$, $x=0.25$, 0.75, magnetic structure, neutron diffraction study 7−58978

negative feedback *see feedback*

negative feedback control systems *see closed loop systems*

negative ions
- acetaldehyde, electronic struct. and decay channels, negative ion mass and electron impact spectroscopy 7−50383
- acrylonitriles, ion form. by dissoc. electron attachment, mechanism 7−42754
- ascorbic acid radical anion, Ca^{2+} exchange, ESR line broadening meas. of rate const. 7−28270
- atmosphere, radar obs. of negative-ion photodetachment at sunrise in auroral-zone mesosphere 7−66376
- atmosphere negative ion generator and collector system for dispersion studies 7−29314
- atom-ion collisions, excited state prod. by negative ion detachment 7−15686
- atomic, Yukawa pots., bound-state and scatt. props. calcs. 7−30927
- atomic electron detachment, overview 7−15563
- atoms, autodetaching states, electron correl. effects 7−19789
- beam extraction and acceleration from low field surface produced sources 7−15445
- beam extraction and acceleration from volume prod. sources 7−15446
- Belousov-Zhabotinsky reaction, catalysed, ion induced oscills. 7−65301
- benzonitrile, ion form. by dissoc. electron attachment, mechanism 7−42754
- bis(η^6-hexamethylbenzene) (η^4,η^6-[2_4](1,2,4,5)cyclophane)-diruthenium(0,II) bis(tetrafluoroborate), mixed-valence ion 7−52544
- CN^-—H_2O, quantum-chem. MO SCF calcs. 7−5597

negative ions continued
- conference on natural and man-made ions in atm., London, England (October 1985) 7−24304
- crown ether-anion radical salt complexation, electrical cond. investig. 7−58842
- dimethylphosphinic acid cation, geometry optimisation, approximate Hessian 7−25345
- fluorenone ketyl radical cation, single channel quadrature FT ESR spectra 7−25570
- fluoroethylene radical anions, dissoc. electron attachment 7−50349
- hexahalo complexes, vibronic coupling and state Jahn-Teller effect 7−19725
- hydrocarbons, temporary negative ion states, electron transmission 7−42586
- lower ionosphere, effect of negative ions on use of whistlers as diagnostic technique 7−66381
- light ion sources, conf., Palaiseau, France, March 1986 7−9601
- light negative ion formation using Rydberg atoms 7−10707
- metal depassivation in neutral aq. solns., anion type effects 7−13627
- metalloporphyrin dianions, electronic struct., RHF calcs. 7−56946
- molecular-ion collisions, excited state prod. by negative ion detachment 7−15686
- 2-naphtholate, H^+recomb. and H^+ induced quenching, temp. depend. 7−57135
- nitriles, sat., ion form. by dissoc. electron attachment, mechanism 7−42754
- PIG, ion source for negative ions 7−36704
- plasma diagnostics using anodic wall probe 7−16339
- polyheterocyclic $4n\pi$-electron dianions, paratropicity, charge delocalisation and reactions 7−49896
- positronium negative ion, hyperspherical coordinates adiabatic study 7−50420
- positronium negative ion, photodetachment 7−36818
- positronium negative ion, photodetachment and electron elastic scatt., variational techniques calc. 7−50363
- radical anions, single cryst., dissoc., struct. investig. 7−33275
- surfactants, anionic, in wastewater, indirect at. absorpt. determ. using liquid-liquid extraction 7−17925
- tandem volume sources, extracted current density depend. on discharge parameters 7−10330
- transverse field focusing 180 keV negative ion accelerator, design and fabrication 7−15439
- transverse field focusing matching/pumping system for beam injection 7−15440
- trifluoroacetonitrile, isomers, anion form. and dissoc., electron attachment 7−10740
- trifluoroisocyanide, isomers, anion form. and dissoc., electron attachment 7−10740
- troposphere, negative ion composition, chemical model 7−55210
- ^{3} He rotating A-phase, negative ion focusing by vortices 7−21562
- $(Ag)_n{}^-$ clusters, mass distribs., mass spectra 7−50431
- Ar-SF_6 plasma, negative ion detect., wall probe method appl. 7−20960
- $(Au)_n{}^-$, mass distribs., mass spectra 7−50431
- $B_3H_6X_2{}^-$, ^{11}B-^{11}B COSY NMR, substituent effects 7−19898
- $B_3H_7X^-$, ^{11}B-^{11}B COSY NMR, substituent effects 7−19898
- $BO_4{}^-$ anion clusters, hard basicity 7−25402
- Be^-, metastable ion, shape resons. scaled local density calcs. 7−42464
- Br^-, in ethylene-glycol (ethylene glycol-water), primary medium effects 7−12313
- Br^-, solns., positronium form. and hydrated positron reactions 7−17809
- Br^- solutions, anodic oxidation of anodic Cu 7−52052
- $Br_3{}^-$, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7−52546
- $C_n{}^-$, clusters, mass resolution, photofragmentation and photodetachment spectroscopy 7−15795
- CN^-, oxidation at Pt electrode, polarisation modulation IRRAS 7−17836
- $((CO)_5W\text{-}H\text{-}W(CO)_5)^-$, struct., H atom dynamics, spectrosc. investig. 7−15613
- $CaO{:}OH^{2-}$, EPR spectrum 7−17217
- $C_N{}^a$(a=+or−), abundance distrib., magic numbers, photoionis. mass spectroscopic investig. 7−15759
- Cl^-, effect on anodic process at C electrodes in LiF-NaF-KF eutectic melt 7−23028
- Cl^- laser photodetachment spectroscopy 7−19790
- Cl^-+chloromethane, substitution reaction, mol. dynamics, pot. energy surface, frozen solvent theory calcs. 7−54109
- Cl^-+chloromethane, substitution reaction, solvent effects nonadiabatic solvation, frozen solvent model study 7−54110
- $ClO_4{}^-$, effect on Raman bands of dimethyl sulphoxide (acetonitrile) 7−5686
- $(Co(CN)_5)^{3-}$, soln., electronic struct., ESR investig. 7−31081
- $Cu_n{}^-$ (n=1-10), cluster, photoelectron spectra 7−62561
- $(Cu)_n{}^-$ clusters, mass distribs., mass spectra 7−50431
- $(Cu_2Cl_6)^{2-}$ dimers, electronic struct., mag. props., $X\alpha$-SW calcs. 7−10419
- F^--He, van der Waals mol., interaction pot., MBPT calcs. 7−42721
- FDF^-, IR spectrum, ab initio calcs. 7−25506
- FHF^-, IR spectrum, ab initio calcs. 7−25506
- FeO^-, rot., autodetachment spectroscopy 7−62462
- F^{n-}(n=0 or 1), MBPT and coupled cluster calc., comparison with CI 7−49899
- $GaAs_n{}^-$ semicond. cluster anions, photodetachment and photofragmentation 7−36837
- $Ge_n{}^-$ semicond. cluster anions, photodetachment and photofragmentation 7−36837
- H^- ion prod., dependence on plasma and wall parameters 7−25288
- H^- multicusp ion source, wall effect on volume prod. 7−25289
- H^-, $^1P^0$ symmetry, Wannier two-electron ionis. ladder, wave fn. calc. 7−62274
- H^-, 30 kV accelerator for negative ion beams 7−18916
- H^- beam from pulsed magnetically insulated diodes 7−10343
- H^- beamline, pressure in transverse field focusing matching/pumping system 7−15441
- H^-, D^- vol. prod. ion source by sheet plasma, proton accelerator and thermonuclear fusion research applications *(Japanese)* 7−5511
- H^- density in large mag. multipole source 7−10329
- H^- discharge, atomic processes investig. 7−51527
- H^- extraction, effect of weak mag. field in front of plasma electrode 7−10341
- H^- extraction from volume sources 7−15447
- H^- formation by H^+ bombardment of cesiated W surface 7−17390

negative ions continued

H^- formation in H^+-surface collisions 7−17389
H^-, free-free absorpt. coeff., R-matrix method 7−62524
H^- generation and cathode plasma formation in magnetically insulated diode 7−10342
H^-, ground state energy calcs. using hyperspherical coords. 7−49880
H^- hybrid and tandem sources, high resolution VUV light emission meas. 7−10346
H^- hybrid volume source, ion and electron density profiles 7−10340
H^- ion beam, steady-state, production from plasma source 7−36365
H^- ion extraction from mirror ECR source 7−10334
H^- ion form. on low work function surfaces 7−15444
H^- ion high current density accelerator, design and diagnostics 7−15429
H^- ion volume prod., effect of chamber volume and gas pressure 7−10347
H^- ion volume prod. in hybrid multicusp sources 7−10331
H^- magnetic multicusp discharges, e^- energy distrib. function modelling 7−10337
H^- multipole plasma source, neutral H level populations, spectroscopic meas. 7−817
H^- plasma ion source, wall material effects 7−62155
H^-, positron impact electron detachment, with excitation, threshold law calcs. 7−25668
H^- production in multicusp source, effect of gas mixing 7−10332
H^- source, H_2 rovibrational population, CARS time-resolved meas. 7−10605
H^- source development at BNL 7−10333
H^- surface conversion source with hot walls 7−15443
H^- tandem multipole ion source, Langmuir probe meas. 7−10336
H^- tandem multipole ion source, plasma parameter meas. by Langmuir probe anal. 7−10339
H^- tandem multipole source, plasma parameter meas. using Langmuir probe technique 7−10338
H^-, two-electron doubly excited states, quantum number classification 7−49886
H^- volume ion sources, modelling of vibrational population distrib. 7−10344
H^- volume prod. ion source, model 7−10335
H^-+He, collisional detachment neutralization at high energy 7−15685
H^-+He, electron detachment, energy and ang. distrib. 7−20013
H^-+Xe, collisional excitation and decay of ^1P shape resonance 7−5616
H_2 discharge, diagnostics by resonant multiphoton ionization 7−15657
HCl^-, bound electronic states, ab initio Born-Oppenheimer calcs. 7−42469
$H^-(NH_3)$ cluster, struct., stability, ab initio MO calcs. 7−56965
$H^-(NH_3)_2$ cluster, struct., stability, ab initio MO calcs. 7−56965
H_2O^-, Fourier transform ion cyclotron reson. mass spectrometry 7−13734
H_3O^-, Fourier transform ion cyclotron reson. mass spectrometry 7−13734
$H_2Si_2^-$, electronic struct., MC SCF CI and CEPA calcs. 7−56992
He^- tandem multipole ion source, Langmuir probe meas. 7−10336
$HoCl_6^{3-}$, $^5I_5$ cryst. field levels, assignment 7−27766
I^-, solns., positronium form. and hydrated positron reactions 7−17809
I^-, solvation struct. in formamide (formamide-H_2O), NMR relax. obs. 7−15539
I_3^-, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7−52546
KrF electron beam sustained discharge excimer lasers, discharge constriction, photodetachment, ionisation instabilities 7−10920
Li^- ion form. on low work function surfaces 7−15444
LiH^-, ground and first excited state electron affinities, extended-Koopman's-theorem, ab initio calcs. 7−25352
Mg^-, metastable ion, shape resons. scaled local density calcs. 7−42464
$Mo_2Cl_8^{4-}$, metal–metal quadruple bonds, normal coordinate anal. 7−42578
N_3^-, spectroscopic props. ab initio GTO CEPA study 7−15525
NH^-, IR rot.-vibr. spectrum, high-resolution meas. 7−62373
NH^-, metastable states, autodetachment, vibr.-rot. spectrum meas. 7−31006
$^{15}NH^-$, $X^2\Pi$ state, IR rot.-vibr. spectrum, isotopic shifts and equilib. consts. 7−50107
NH_2^- struct., velocity modulation IR laser spectroscopy 7−15599
NH_4^-, Fourier transform ion cyclotron reson. mass spectrometry 7−13734
NO_2^-, electron deform. density, basis set depend. 7−62252
NO_3^-, in $UO_2(NO_3)_2$, vibr. spectrosc. investig. 7−10548
NO_3^- production in negative corona discharge, mass spectra 7−32175
N_2O, negative ion form., thermal electron attachment 7−15704
O^-, angular distrib. following dissoc. electron attachment to CO 7−25674
O^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7−25602
O_2^-, ads. on silica gel, photoform., rot. dynamics, ESR obs. 7−25566
O_2^- and O_4^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7−25602
P halide complexes, single halide anions, Raman shift investig. 7−19869
$(PMo_{10}V_2O_{40})^{5-}$, Keggin struct. 7−51732
$(PMo_9V_3O_{40})^{6-}$, Keggin struct. 7−51732
Pd^-, core size role in photoelectron spectra 7−15571
$Pt_2(P_2O_5H_2)_4^{4-}$, electronic struct., bonding and spectra SCF EHT calcs. 7−42489
$Re_2Cl_8^{2-}$, metal–metal quadruple bonds, normal coordinate anal. 7−42578
SCN^-solutions, anodic oxidation of anodic Cu 7−52052
SF_6 ions, densities, mobilities, Gerdien ion counter meas. 7−11581
SF_6^-, negative ionis. source for quadrupole mass analyser 7−35620
SH^-, IR spectra, laser modulation 7−62363
$SPCl_2F^-$, radical, ESR and ab initio quantum chem. study 7−42654
Sc^-, core size role in photoelectron spectra 7−15571
Se^-, resolved Zeeman thresholds in photodetachment in mag. field 7−42549
Si_n^-, semicond. cluster anions, photodetachment and photofragmentation 7−36837
$SiH_3(D_3)$, ions and radicals, pot. energy curves and electron affinities determ., photoelectron spectra anal. 7−25603
$Tc_6Cl_{12}^{2-}$, metal-metal multiple bonding, cluster electron count and geometries, HMO calcs. 7−25410
U_2^-, superslow mol. motions, EPR spectra 7−62421
Y^-, core size role in photoelectron spectra 7−15571

negative resistance

double barrier heterostructure diodes, resonant tunnelling effect *(Japanese)* 7−12828
double quantum well structs., parallel electron transport studies 7−45474
hot-hole cyclotron resonance maser with negative effective hole masses 7−15838
2-(2-hydroxy-4-alkoxybenzylideneamino)-9-methylcarbazoles, photocond, props. 7−38631
III-V semiconductors, negative magnetoresistance and nonequilib. electron cooling 7−17042
modulation mass superlattice, negative resistance, quantum mechanical reflection 7−52763
transition metal compounds, cond. phenomena, intersite correl. and orbital degeneracy effects calcs. *(Russian)* 7−21921
vaporization and breakdown of thin columns of water 7−59145
Al, induction-heated conductor, relax. temp.-electric self-oscillations *(Russian)* 7−52665
Al-Al_2O_3-Au sandwich struct., forming process in high elec. field *(Japanese)* 7−22028
$Ga_{1-x}Al_xAs/Ga_{1-y}Al_yAs/GaAs$ double barrier tunnelling struct., negative resist. calcs. 7−45451
GaAs-GaAlAs resonant injection quantum well diodes and lasers 7−43104
p-Ge, nonlinear I-V characts. and spontaneous current oscillations 7−52631
HCl-Ar gas mixtures, electron irrad., negative differential conductivity 7−63243
a-$Si_{1-x}Ge_x$:H/a-Si:H/Al Schottky barrier form. and characts. 7−12787
TaS_3 quasi-1-D conductor, nonlinear effects in small samples 7−17020
TaS_3, small orthorhombic samples, nonlinear effects 7−64220

negative resistance effects

see also Gunn effect
double barrier reson. tunnelling, perpendicular quantum transport in superlattices 7−12811
MIM structures, electroformed, filamentary system, rupture potential 7−45517
p-i-n diode structures, low gap, Auger suppression and negative resist. 7−12812
S-shaped negative differential conductivity material, pattern formation 7−58817
semiconductor heterostructures, ultrafast switching mechanism 7−38693
semiconductor superlattice, miniband structure, carrier transport props. 7−12849
semiconductor superlattices, surface EM waves, amplification 7−17075
semiconductors, negative differential resistance, scattering-induced, plasmon-phonon coupling and phonon reabsorption effects 7−2626
semiconductors, photoelectrons subjected to parallel elec. and quantising mag. fields 7−64280
AlAs-GaAs double-barrier structures, resonant tunnelling, room temp. effects 7−21985
$CdGeAs_2$:Ni amorphous films, elec. cond., low temp. impurity breakdown, high field effects 7−52625
n-GaAs, oscillations and chaotic current fluctuations 7−64253
GaAs/AlAs quantum wells, photoexcited transport 7−2674
GaAs-AlAs double barrier heterostructures, resonant tunnelling through quantum well states 7−58870
GaAs-AlGaAs superlattices, magnetotransport 7−45471
GaAs-AlGaAs-InGaAs strained-layer quantum well heterostructures, negative differential resistance 7−45443
GaInAs-InP double-barrier heterostructs., room temp. resonant tunnelling, neg. resist. effects 7−58814
HgTe-$Hg_{1-x}Cd_xTe$ double barrier, single quantum well heterostructures, resonant tunnelling 7−33068
InAlAs-InGaAs resonant tunnelling barrier struct., MBE grown, NDR characts. 7−52796
InSb, coherent spontaneous oscills. under transverse breakdown conditions, high frequencies 7−17046
ZnS:Mn thin films, DC electrolum. and local destructive dielec. breakdown model calcs. 7−59147
ZnS:Mn thin films, local destructive breakdown and DC electrolum., film prep. and test conditions depend. 7−59146

negative temperature coefficient thermistors *see thermistors*

nematic liquid crystals

alignment on inorganic solid, parallel to surface 7−51617
alkenyl esters, nematic liq. crystals, influence of rigid cores, side-chains and polarity on props. 7−16405
6-n-alkoxy-3-pyridinecarboxaldehyde derivatives, liquid crystalline phases 7−1847
alkoxyazoxybenzenes, mol. reorientation, far IR study 7−33383
4-4′-alkoxybenzoyloxy-4′-cyanoazobenzenes, monolayer smectic A_1-nematic transition, dielec. studies 7−21085
4-n-alkyl-4′-cyanobiphenyl, mol. conformation and orientational order, nematic-isotropic transition, reson. Raman probe 7−21082
4-n-alkyl-4′-cyanobiphenyls, nCBs, methyl red binary mass diffusion consts., forced Rayleigh scatt. 7−64661
4-n-alkyl-4′-cyanobiphenyls, nematic ordering, off magic angle spinning ^{13}C NMR 7−22153
alkylcyanobicyclohexyls and related cpd. optical anisotropies, Rayleigh light scatt. 7−39131
alkylcyanobiphenyl-phenylcyclohexanecarboxylate mesomorphic mixtures, binary phase diagrams, fluoresc. spectral determ. 7−27765
4-(trans-4′-n-alkylcyclohexyl) isothiocyanatobenzenes, mesogenic props. 7−1852
trans-4″-alkylcyclohexylethyl- and 4″-alkylphenylethyl-4,4′-disubstituted biphenyls, liq. cryst. behaviour 7−11901
aminoxyl(nitroxide) radicals, orientation in nematic liq. cryst., ESR obs. 7−36654
ammonium perfluorononanoate-H_2O system, micellar nematic phase, conductivity, relax. times 7−38230
anisotropic viscous behaviour, transport phenomena 7−32272
anthraquinone dyes, α-substituted, order parameters in nematic liq. cryst. 7−36633
antiferroelectric nematic, singlet orientational distrib. fn., Monte Carlo anal. 7−2989
biaxial, elastic continuum theory 7−1877
biaxial particles, soln. of excluded vol. problem 7−32645
bicyclo(2.2.2)octane esters, mesogenic, transition temps., viscosity, birefr., electro-optical characts. 7−1863
binary nematic systems, anisotropic droplet observation in phase separation 7−52054

nematic liquid crystals continued
3,3′-biselenienyl derivatives, conform. anal., optical twisting powers, dipole moments meas. 7—36697
bis[1-(p-n-decylbiphenyl) 3-(p-methoxy-phenyl)propane-1,3-dionato] copper (II), paramagnetic nematic liquid crystal 7—32284
3,3′-bithienyl derivatives, conform anal., optical twisting powers, dipole moments meas. 7—36697
block copolymer macromol. liq. cryst. melt. nematic-smectic-A transition, mean-field approx. calcs. 7—16743
N-(p-n-butoxybenzylidene)p-n-butylaniline, nematic, mol. alignment, permitt. meas. 7—1875
butoxybenzylidene phenylazoaniline, liq. cryst. transitions, density and US vel. studies 7—32266
4-butoxycarbonylmethylurethane chains, nematic phase, induced rigidity study 7—57195
p-N-butyl-N-methoxy-azoxybenzene-isooctane stratified soln., orientational relax. time, light scatt. 7—51624
caesium pentadecafluorooctanoate-water discoid micelle solns., order-disorder transitions, X-ray scatt., elec. cond., NMR meas. 7—26949
caesium perfluoro-octanoate, lyotropic liq. cryst., press. depend. of nematic-isotropic transition 7—32647
cell with cholesteric additive, electro-optic twist effect, structural effects 7—63449
cetyltrimethylammonium bromide-decyl alcohol-D_2O nematic amphiphilic systems, orientation in mag. field, NMR study 7—63447
cholesteric and nematic to isotropic phase transitions, dynamic effects of elec. fields 7—16740
cholesteric-nematic phase transition, appl. in CO_2 laser light modulation, liq. crystal cell. 7—62745
cholesteric-nematic transition, electrooptic characteristics, control *(Russian)* 7—16741
condis crystal concepts for small mols. 7—37908
cyano derivatives, mesomorphic phases, polymorphism 7—2193
4- cyanobiphenyl and 4-cyanophenyl benzoate derivatives, thermotropic liquid crystalline props. 7—26629
4-cyanobiphenyls, fluorine derivatives, liquid crystalline phases 7—1848
4-cyanophenyl-trans-4-((trans-4-n-butylcyclohexyl)methyl)-cyclohexanoate, nematogenic, cryst. struct., X-ray diffr., conformational anal. 7—2006
cybotactic nematics, structural features 7—16403
1-cyclohexyl-phenyl-2-methyl ethylenes, synthesis and phys. props. 7—1870
defect motion in EHD cell with two free lateral side-walls 7—63444
defects in liquid crystals, structures, energies and interactions, review 7—63441
degenerate four-wave mixing in isotropic phase, influence of molecular structure 7—11068
di-4′-substituted phenyl-trans-cyclohexane-1,4-dicarboxylates, mesomorphic props., effect of inserting ketone groups in terminal chains 7—21088
4,4′-di-n-alkoxy-2-hydroxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7—1866
4,4′-di-n-alkoxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7—1866
4,4′-di-n-pentyloxyazoxybenzene, nematic and rotary phases, molecular reorientation 7—32278
diamagnetic anisotropy meas. 7—38845
dioxans with dimethylene linking groups, liquid crystalline props. 7—1854
disc-like mols. Frank consts. ratio meas. at mag. Frederiks transition to columnar phase 7—58136
discotic liquid crystals, phase diagram 7—2197
disodium cromoglycate in water, nematic lyotropic liq. crystal, struct. and order parameter, FTIR spectra 7—11899
display, SBE type, fundamental characteristics *(Japanese)* 7—7670
display, SBE type, supertwisted nematic, display characts., effects of various parameters *(Japanese)* 7—7669
displays, multiplexed twisted, elastic constants of hybrid mixtures 7—2078
4-4′-disubstituted phenylbenzoates, mesomorphic props., effect of inserting ketone groups in terminal chains 7—21088
droplet, light scatt. 7—22274
dyes, fluorescence, in nematic liq. crystals, spectra props. 7—935
dynamic gratings, self diffractions and wavefront conjugation processes 7—11067
dynamic self-diffraction effects 7—11033
EBBA, nematogen, diffr. and spectroscopic study of solid states 7—64645
EBBA melting and crystn. processes, Raman spectroscopy, X-ray and thermal anal. 7—63777
EHD instabilities *(Japanese)* 7—1879
EHD oscillatory instability *(Russian)* 7—6323
elastic constants calc. 7—63703
elastic constants of nematic solutions of rod-like and semi-flexible polymers 7—32537
electrohydrodynamics, director oscill. process, scaling props. 7—58139
film, optical limiting using self-focusing and self-bending 7—20373
film, quasi-static elec. field enhanced optical propag. effects 7—27702
films, collective rotation of molecules driven by the angular momentum of light 7—27686
films, disinclinations, textures, four-state clock model description 7—257
films, four wave mixing with gain 7—20366
films, laser-induced distortion, cavityless optical bistability due to thermal effects 7—57441
films, power limiting and optical switching 7—43266
flexoelectric effect, statistical theory 7—21083
flexoelectric instability 7—63460
fluoro-1,1′:4′,1″-terphenyls, lateral, 4,4″-disubstituted, liquid crystalline phases 7—1849
fluorobiphenylalkane nematics, physical and mol. props. 7—38983
fourth order tensors with $D_{\infty h}$ symmetry, stat. representations 7—32267
Frank constants, effects of compression 7—63702
Freedericksz effect in crossed elec. and mag. fields 7—63446
Freedericksz transitions in nematic liquid crystals, first- and second-order, EM fields effects 7—1839
generalised Freedericksz transition, weak anchoring effects 7—32273
global phase diagrams, second-order nematic-isotropic transitions 7—12274
guest-host liq. crystals, pretilt angle determ. 7—21081
guided modes and surface plasmon-polaritons obs. with attenuated total refl. 7—64664
hard ellipsoids of revolution, phase diagrams calcs. 7—2192
hard parallel spherocylinder fluid, smectic order and nematic-smectic transition 7—11905
hard-core models, computer simulation 7—58468

nematic liquid crystals continued
helicoidal instability of A $\chi+1$ disclination line in a cholesteric *(French)* 7—16398
N-(p-n-heptyloxybenzylidene) p-n pentylaniline, liq. cryst. transitions, density meas. 7—26821
N(p-n-heptyloxybenzylidene) p-n-pentylaniline, liq. cryst. phase transitions, density, US vel. meas. 7—1874
4-n-hexylphenyl-4-butylbenzoate liq. cryst., isotropic phase, Kerr effect studies 7—33364
hexylphenylbutylbenzoate nematic, isotropic phase, Kerr effect dispersion, mol. dipole relax. study 7—63448
homeotropically oriented, light induced Freedericksz transition 7—51623
homeotropically oriented crystal, director-light wave interaction, orientational self-focusing 7—6510
hydrocarbon mesogens, nematic phases, fluorination 7—1840
2-(2-hydroxy-4-alkoxybenzylideneamino)-9-methylcarbazoles, photocond, props. 7—38631
impurity liq. cryst. spectra. complex vibron struct., polarisation absorpt. band splitting studies 7—17332
impurity-molecule luminescence, rotational depolarisation kinetics 7—51629
initially splayed NLC layer, applied electric field, induced metastable state 7—21093
interaction, with anisotropic polyvinyl alcohol films 7—11907
IR dichroism, mol. interactions effects 7—45981
light scattering in elec. field 7—1843
line defect dynamics, viscous damping effects study 7—44365
linear polyester, mainchain nematic polymer, viscoelastic coeffs., meas. by NMR 7—17231
liquid crystalline polymers, cross linked, shape variation by elec. fields 7—32280
localised deform. near surface defects, birefringence study 7—45978
lyotropic, nonequilib. periodic reorientation induced by mag. field 7—58138
lyotropic, nonequilibrium periodic structures induced rotating and static fields 7—44364
lyotropic liquid crystal, smectic-nematic transition, electron-microscope obs. 7—32648
lyotropic liquid crystals studied by positron annihilation techniques 7—38194
lyotropic nematic mesophase with benzenesulphonate solute, induced diamag. anisotropy sign reversal, PMR 7—21089
lyotropic nematic mesophases doped with different conc. of ferromag. grains 7—21091
lyotropic nematic with discotic micelles, orientation in mag. field 7—44357
MBBA, isotropic-nematic phase transform., order parameter kinetics 7—26950
MBBA, liquid crystal, electric field effects, cell for optical studies 7—44360
MBBA, nematic, electrochemistry, orientational effects 7—26622
MBBA, nematic, orientational order, third harmonic generation susceptibility investig. 7—43235
MBBA, nematic, surface tension anisotropy, Freedericksz transition in mag. field. 7—63443
MBBA, nematic liquid crystal, temp. depend. of cubic susceptibility, Raman study 7—22237
MBBA hybrid nematic liq. cryst. cell, flexo-electric effect study 7—11904
MBBA-EBBA nematic liq. cryst., acoustooptic effects 7—45984
mesogen nematic and isotropic phases, rotational relax. 7—44355
mesogenic chiral esters, helical twisting power *(German)* 7—21095
methoxybutyl azobenzene, nematic, electrochemistry, orientational effects 7—26622
methyl fluoride -^{13}C,nematic liq. cryst. soln., chem. shieldings and spin-spin coupling 7—5703
methyldichlorophosphine, struct., and orientation in mixed nematic liq. crystals, NMR spectra anal. 7—53165
micelle solutions, isotropic-nematic phase transition, micellar flexibility effects 7—58467
microscopic theory, statistical props., prediction of new phases 7—51612
mixtures of liquid crystals and polymers, phase diagrams, nematic-isotropic phase equilibria versus liq.-liq. demixing 7—16739
molecular association, influence on dielectric and electro-optic props. 7—16407
molecular fluids and multicomponent mixtures, interfacial phase transitions 7—32755
negative dielec. anisotropy, near IR light scatt. 7—1844
nematic flows, unit-sphere description 7—20688
nematic liq. cryst., laser-induced mol. reorientation, nonlocal radial depend. 7—58131
nematic liq. crystals, light scatt. and. propag. characts. 7—39078
nematic liquid-substrate interface, orientational transitions, wetting, Landau-de Gennes theory 7—63914
nematic phase creation in smectic A_1 binary mixtures, phase diagram, transition enthalpy comp. depend. study 7—12269
nematic-cholesteric liq. cryst. mixtures, optically active additive, optical storage 7—36901
nematic-cholesteric mixtures, supermolecular structure, spiral pitch 7—44356
nematocholesteric mixtures with two-freq. control, electro-optical props. 7—59183
nematogen, surface props. computer simulation 7—37850
nerve propag. and wall behavior in tilted magnetic field, comment 7—37853
nitrobenzyloxy derivatives, mesomorphic phases, polymorphism 7—2193
nonequilibrium polar pyroelec. state obs. 7—1837
4-nonyloxyphenyl-4′-nitrobenzoyloxybenzoate, DB_9ONO_2, multiply reentrant polar mesogen, X-ray scatt. study 7—6505
4-n-octyl-4′-cyano-biphenyl nematic liq. cryst., torsional shear flow, tumbling instability obs. 7—11386
octylcyanobiphenyl, liq. cryst., elastic consts., permitt., birefr. meas. 7—21314
4-octyloxy-4′-heptyl-α-cyanostilbene, excimer fluorescence *(Russian)* 7—3093
octyloxycyanobiphenyl reentrant nematic, preferred density model, P-V-T test 7—12271
optical modulation, high-speed 7—37131
orientation, air flow effects, vel. gradient meas. appl. 7—32283
orientation and induction interaction effects on IR dichroism 7—39079
orientational aberrational self-focusing, temperature effects 7—62804

nematic liquid crystals continued
orientational distribution coefficients, rel. to asym. orientational distrib. function 7—26621
orientational fluctuations, light scatt. *(Russian)* 7—16415
orientational optical nonlinearity, critical behaviour flowing on inclined plane 7—21080
orientational order in systems with HCP symmetry, model Hamiltonian 7—51625
orientational self-focusing, aberration pattern polarisation asymmetry 7—11077
PAA uniaxial nematic liquid crystals, orientational order using ESR of solute molecules 7—1872
para-azoxy-anisole-d$_2$-4-4′-diacetoxy-2-2′-dimethyl azoxybenzene nematic mixture, phase diagram, component order parameters, D and proton NMR study 7—21086
para-azoxyanisole nematogenic liq. cryst., mol. ordering studies 7—37848
parallel-aligned, phase retardation depend. optical response time 7—3018
4-pentyl-4′-cyanobiphenyl, nematic, electrochemistry, orientational effects 7—26622
4′-n-pentyl-4-cyanobiphenyl, well induced orientational order in isotropic phase, evanescent wave ellipsometry study 7—37857
p-n-pentyl-p′-cyanobiphenyl and dil. solns. with tetraethylmethane, nematic and isotropic phases, density meas. 7—2079
pentylcyanobiphenyl, ionic mobility, viscosity, Walden's rule 7—21498
N-(p-n-pentyloxybenzylidene) p-n-butylaniline, phase transitions, mag. susceptibility meas. 7—1873
4-(4-n-pentyloxybenzylideneamino)azobenzene, liq. cryst. transitions 7—63812
phase transitions, mean-field theory of isotropic, uniaxial and biaxial phases 7—21440
phenyl 4′-alkylcyclohexanecarboxylates, 4-alkoxymethylene and 4-alkoxy substituted, synthesis, phys. props. 7—1861
photoinduced chirality 7—44352
poly γ-benzyl-L-glutamate, alignment, liq. cryst. phase transition, surface treatment effect 7—32644
polymer, periodic Freedericksz transition investig. 7—32282
polymer encapsulated nematic liquid crystals for use inhigh resolution and color displays 7—6511
polymer liq. cryst. solns., optical microscopy, Freedericksz transition, permitt. meas. 7—1864
polymeric, giant dielectric response and hairpins 7—58140
polymeric nematics, electrohydrodynamic instabilities, comment 7—11557
polymeric nematics, external field effects and critical end point calcs. 7—37854
positive dielectric anisotropic liquid crystals, far display appls., material props. 7—1838
potassium laurate-1,decanol-D$_2$O, reentrant nematic-isotropic phase transition, pretransitional behaviour 7—21444
prism-metal film-nematic liq. cryst. system, excitation of nonlinear surface EM waves 7—25866
pyrimidines with dimethylene linking groups, liquid crystalline props. 7—1854
refractive indices, mol. statistical theory 7—37852
relaxation modes of order parameter fluctuations in vicinity of uniaxial-biaxial phase transition 7—26948
rigid molecule, orientation in nematic liq. cryst., NMR study 7—62414
rotational viscosity under high press. 7—32695
S^3 blue phase, disclination, elastic energy calcs. 7—58135
S^3 blue phase, double twist connection calcs. 7—58134
siloxane nematogenic side chain polymer, director alignment, dielec. relax. spectra study 7—63457
small-angle light scatt. subhertz anisotropy fluctuations detection 7—64662
smectic C films, phase winding and flow alignment 7—26628
smectic mixtures of A_1 and A_d phases, nematic gap obs. 7—6792
solid surface topography, electric breakdown effects obs. using nematic liquid crystals 7—18744
solvent, induced cholesteric mesophases 7—2195
spatial light modulator, differentiating mode 7—25956
supertwisted, hysteresis effect 7—16408
surface anchoring energy, validity of Rapini-Papoular form 7—26625
surface tension and mol. orientation at nematic-isotropic interface, statistical theory 7—51619
surface-aligned, interfacial region, optical study 7—58132
switched DC electric field, time response 7—32271
symmetric realignment, refl. of a plane TM wave 7—44367
symmetry properties of nematic liquid crystals with simple curvature strain 7—32268
tangentially anchored nematic droplets, parity breaking transition 7—26626
terminal nonpolar cpd. binary systems, reentrant nematic phases, phase diagrams, X-ray diffr. 7—21442
terminal phenyl ring liq. crysts., nematic-isotropic transition, even-odd effects 7—38192
thermoelectrical effects, temp. depend., contact pot. effects *(Russian)* 7—21945
thermotropic biaxial nematic study *(French)* 7—32270
thin nematic liquid crystal cells, electro-optic behaviour 7—25957
tobacco mosaic virus in water, freeze-fracture imaging of ordered phases 7—3751
torsional anchoring on substrates, birefringence study 7—1858
4-C(trans-4′-n-hexylcyclohexyl)isothiocyanatobenzene, nematic and isotropic phases, dielec. relax. 7—53229
transient processes in mag. field 7—11908
transition to isotropic liquid, dimensional effects *(Russian)* 7—2202
twisted, with smectic C ordering, textures 7—51626
twisted configurations with nonzero pretilt angles, director patterns, numerical calcs. 7—11898
twisted nematic liquid cryst. cell, polarisation anal. using Poincare sphere *(Japanese)* 7—64603
twisted thin films, light propagation, beam polarisation rotation calcs. 7—13245
viscous fingering patterns transitions in nematic liq. crysts., depend. on effective anisotropy 7—12273
visualisation of domain-structure dynamics in ferroelec. $Pb_5Ge_3O_{11}$ 7—53250

NEMP *see electromagnetic pulse*

neodymium
see also nuclei with ......
Aegean arc, recent magmatism, geodynamics and isotope geochemistry 7—23589
atom, reson. ionisation photoelectron spectroscopy 7—19799
Black Hills of S Dakota, USA, Precambrian rock origin, isotope geochemical constraints 7—60205
borate glass: Cr^{3+}, Nd^{3+}, energy transfer, emission spectra 7—33440
clusters isolated in solid Ar, size-dependent valence change 7—20089
Colorado Peaks volcanic rocks, USA, isotope and trace element geochemistry 7—60203
ethylsulphate:Nd^{3+}, high press. spin-lattice relax. and ground state 7—38934
fibre laser, laser-diode pumped, optical chaos and hysteresis 7—62713
GEKKO XII high power Nd:glass laser, harmonic conversion 7—50571
glass:Nd, transition metal doped, fluorescence and absorption spectra 7—13229
glass:Nd absorption thermometer with fluorescent referencing, fibre optic temp. sensor 7—25996
glass, energy transfer rate, luminesc. 7—13192
Grenville Front, Labrador, Canada, Sr, Nd, Pb isotope geochemistry 7—60199
ions, Ne-like, precision wavelength meas. in X-ray spectra 7—36525
L$\gamma'_{2,3}$ satellite, X-ray emission spectra anal. 7—36523
laser beam coherence props. control with plasma filter 7—1209
laser with positive electro-optic feedback, mode-locked generation of transverse modes 7—1204
magnetic structure studies, free energy anal. 7—2821
mixed valent clusters, X-ray absorpt. studies 7—64791
SW Pacific islands, Pb, Sr, Nd isotope and element abundances study 7—8874
rare earth trifluorides:Nd^{3+}, absorption and luminescence spectra, Stark sublevels 7—3077
solubility in Fe, positron annihilation study 7—46208
Tariat Depression, Mongolia, Nd, Sr isotope study and subcontinental lithosphere evolution 7—60201
thermal desorption from W (100), anomalous kinetics 7—45010
β''-Al_2O_3:Nd^{3+}, solid state laser host, optical props. 7—57343
Ba_3LaNb_3:Nd^{3+}(Eu^{3+}) single crystals, spectral-luminesc. props. 7—39169
$BaTiO_3$:Nd, ceramics, diffuse phase transform 7—16731
$Bi_{5.8}PO_{11.2}$:Nd^{3+}, cryst. growth, spectroscopic props. of Nd^{3+} ions 7—46131
CaF_2:Nd single cryst., thermoluminescence and X-ray fluorescence studies 7—33463
CaF_2:Nd single crystals, ionic conductivity study 7—21521
CaF_2:Sm^{2+},Nd^{3+} energy transfer efficiency 7—7734
CaF_2-Nd single crystals, thermolum., spectra and X-ray luminesc. spectra 7—64704
$Ca_3Ga_4O_9$:Nd^{3+}, luminescence and absorption spectra and stimulated emission 7—7732
$Ca_3(NbGa)_2Ga_3O_{12}$:Nd^{3+}, Nd^{3+} ions, two channels of stimulated emission 7—22285
Cr,Nd: $(Gd,Sc)_3Ga_5O_{12}$ laser crystals, growth and quality 7—13346
Cr,Nd:$GdScGa_5O_{12}$ laser Q switching for optimising use of stored energy 7—25851
Cr,Nd:$GdScGa_5O_{12}$ laser rods losses and efficiency meas. 7—43106
Cr,Nd:$LaMgAl_{11}O_{19}$ laser material, optical props. 7—10958
LaF_3:Nd^{3+}, energy value calc. of Stark sublevels *(Chinese)* 7—38519
LaF_3:Pr^{3+},Nd^{3+}, energy up-conversion, UV fluoresc. obs. 7—53401
$La_3Ga_{5.5}Ta_{0.5}O_{14}$:$Nd^{3+}$, luminescence and absorption spectra and low-threshold stimulated emission 7—7731
$LaMgAl_{11}O_{19}$:Nd(Eu), single cryst., phys. chem. and spectrosc. props. 7—13185
La_2O_2S:Er, Nd, mag. susceptibility, dielec. const. and dielec. losses 7—2810
LaP_5O_{14}:Nd^{3+} degenerate four-wave mixing spectroscopy 7—11039
$LiLaP_4O_{12}$:Nd^{3+},Yb^{3+}, metaphosphate glasses, Nd^{3+} to Yb^{3+} energy transfer, luminesc. study 7—22323
$LiLuF_4$:Nd^{3+}, stimulated emission spectroscopy 7—13179
$LiYbP_4O_{12}$:Nd^{3+}, metaphosphate glasses, Nd^{3+} to Yb^{3+} energy transfer, luminesc. study 7—22323
Lu_2Si_xOy: Nd^{3+}, spontaneous and stimulated emission 7—39171
$NaLa(MoO_4)_2$: Nd^{3+}, Raman and IR spectra study 7—46046
Nb:YAG picosec. laser pulse characterisation by self diffraction 7—10965
Nd,Ce:YAG, single crysts., luminesc. and laser props. 7—10967
Nd,Cr:$(Gd,Sc)_3Ga_5O_{12}$, spectroscopic, optical and thermo-mechanical props. and laser performance 7—10963
Nd^{3+}, Sm^{2+}: CaF_2 lasers, Sm^{2+} sensitisation 7—10962
Nd: glass laser, moving slab, design 7—15901
Nd: glass rod amplifiers for high-brightness lasers, parameters 7—62708
Nd:glass 30 Hz moving-slab laser, 40 W average power 7—31345
Nd:glass fibre laser, spectral characts. 7—36967
Nd:glass free running laser radiation, phase conjugation characts. *(Russian)* 7—57481
Nd:glass laser, CW, diode pumping 7—43118
Nd:glass laser, double-pulse, use in holographic interferometry 7—15829
Nd:glass laser, passively Q-switched, output-parameter control 7—1104
Nd:glass laser, stimulated Brillouin and thermal scatt. of μs pulses in fluids 7—62777
Nd:glass laser, technology developments, higher performance standards 7—50585
Nd:glass laser amplifying system, pulse profile by saturable filters 7—43184
Nd:glass laser system, appl. of diffraction grating to increase tuning range 7—5916
Nd:glass lasers, pumping by double discharge Xe lamp 7—11002
Nd:$La_2Be_2O_5$ laser rods with greatly reduced thermal lensing 7—10959
Nd:$LiYF_4$, two-step excitation and fluoresc. at 587.4 nm under CW pumping 7—25824
Nd:$Ln_2(AlO_3)_6$ laser CW tunable in 1.05 to 1.08 μm region 7—10985
Nd:phosphate glass, colliding pulse mode locking study 7—20286
Nd:phosphate glass laser, dual slab, zigzag, high average power 7—20264
Nd:phosphate glass laser rods, thermal effects 7—50566
Nd:YAG, colliding pulse mode locking study 7—20286
Nd:YAG, regenerative amplification of temporarily compressed picosecond pulses at 2 kHz 7—43108
Nd:YAG, single crysts., luminesc. and laser props. 7—10967
Nd:YAG CW laser, high power 1.34 μm, oscillation eigenmode 7—43112

neodymium continued
Nd:YAG CW mode locked laser, simultaneous amplification and compression 7−10966
Nd:YAG fibre lasers, superfluorescent, anal. 7−31329
Nd:YAG frequency-doubled mode locked laser, synchronous pumping of femtosec. dye laser 7−31346
Nd:YAG injection-seeded laser, polarisation feedback stabilisation, spectroscopy appls. 7−57338
Nd:YAG laser, 1.06 μm Cs_2 reference for freq. stabilisation 7−57403
Nd:YAG laser, actively mode locked Q-switched as stimulated Raman source at 1.54 μm 7−20350
Nd:YAG laser, CW mode-locked, modulator freq. detuning effects 7−62712
Nd:YAG laser, deep levels in GaAs, scanning optical fibre microscope 7−48846
Nd:YAG laser, diode-pumped intracavity doubled, large amplitude fluctuations due to longitudinal mode coupling 7−5894
Nd:YAG laser, energy characts., effect of γ-irrad. of ceramic reflectors 7−50575
Nd:YAG laser, mode locked, with intracavity phase conjugate mirror 7−50606
Nd:YAG laser, mode-locked, CW, design 7−43164
Nd:YAG laser, multidisciplinary use 7−47199
Nd:YAG laser, passively mode-locked using half-symmetric unstable resonator 7−20282
Nd:YAG laser, pulse periodic emitting variable duration pulses 7−43148
Nd:YAG laser, Q-switching by PTM method *(Korean)* 7−25853
Nd:YAG laser, SHG in four-layer waveguide struct. using 2-methyl-4-nitroaniline in high index top layer *(Japanese)* 7−43240
Nd:YAG laser, soft X-ray production for Li^+ pumping 7−20196
Nd:YAG laser, technology developments, higher performance standards 7−50585
Nd:YAG laser and sapphire contact probe, surgical appls. 7−34228
Nd:YAG laser at 1.06 μm, high average power, design and charactn. 7−20265
Nd:YAG laser materials processing, plume generation and influence on processing phenomena 7−12148
Nd:YAG laser pulse compression in optical fibre 7−50643
Nd:YAG laser pulse narrowing by spectral windowing of self-phase modulated picosecond pulses 7−5928
Nd:YAG laser resonator, phase-conjugate using stimulated Brillouin scattering 7−43165
Nd:YAG laser rods, losses and efficiency meas. 7−43106
Nd:YAG laser UV Raman spectrometer, H_2 Raman-shifted output, wavelengths down to 184 nm 7−41481
Nd:YAG laser unstable resonator output coupler based on Fabry-Perot interferometer 7−43166
Nd:YAG lasers, flashlamp pumped, spike-mode oscillations 7−57384
Nd:YAG lasers, injection-seeded, fast resonance-detection technique for single-frequency operation 7−36969
Nd:YAG miniature oscillator, freq. doubled, laser diode pumped 7−15876
Nd:YAG mode locked laser, timing fluctuations reduction by electronic feedback 7−31371
Nd:YAG Q-switched laser for ophthalmology, obs. on optical construction 7−47203
Nd:YAP CW laser, 1.3414 μm high power output 7−36970
Nd:$YAlO_3$ laser, CW, tuning characts. of 1079.5 and 1084.5 nm lines 7−15871
Nd:YGG waveguide laser amplifiers for fibre-optic communication 7−31359
Nd:$YLiF_4$ laser, ultrashort pulse active/passive mode-locking 7−62741
Nd^{3+}:SiO_2 narrow-linewidth single-mode fibre laser 7−5904
Nd^{3+}:silica fibre laser, tunable CW at 0.900 to 0.945 and 1.070 to 1.135 μm 7−36983
Nd^{3+}:YAG laser, reproducible generation of ultrashort pulses 7−11016
Nd^{3+}:YAG laser passively mode-locked by saturable absorpt. filter, ultrashort pulse generation 7−31368
Nd^{3+}:YAG laser radiation generation, influence of unstable defects 7−1103
Nd-glass laser, slow mechanical Q-switching, σ parameter effects *(Rumanian)* 7−15915
$Nd+H^+$, K-shell ionisation cross sections 7−50326
PbF_2-ZnF_2-GaF_3-AlF_3-YF_3-LaF_3:Mn II, Nd III, energy transfer 7−1889
$PbWO_4$:Nd^{3+}, optical spectra 7−39146
$Sc_2Si_xO_y$;Nd^{3+}, spontaneous and stimulated emission 7−39171
$TlGaSe_2(S_2)$:Nd^{3+}, photoluminescence spectrum *(Russian)* 7−64682
YAG:Nd, Ce, energy transfer mechanisms between Ce^{3+} and Nd^{3+} at low temp. 7−64691
YAG:Nd activated crysts. coherent propag. of small-area pulses 7−43038
YAG:Nd crystals, high quality, growth by temp. gradient technique 7−22464
YAG:Nd^{3+}, impurity two-photon absorpt. cross section meas. 7−53375
YAG:Nd^{3+}, luminescence decay 7−17342
$YAlO_3$:Nd^{3+}, sub-levels R_1 and R_2, thermal shifts 7−32940
$YLiF_4$:Nd^{3+}, impurity two-photon absorpt. cross section meas. 7−53375
Y_2O_2S:Er, Nd, mag. susceptibility, dielec. const. and dielec. losses 7−2810
Y_2Si_xOy:Nd^{3+}, spontaneous and stimulated emission 7−39171

neodymium alloys
Al-Fe-Ce-La-Nd-Rr alloys rapidly quenched, positron annihilation studies 7−46184
Fe-Nd-B magnets, microstructure and mag. props. 7−53049
Fe-Nd-B permanent magnets, prep. by liquid dynamic compaction 7−53661
Fe-Nd-B system, phase relations 7−46422
Fe-Nd-B-Al sintered magnets, TEM studies 7−51999
$(Fe-B)_{85}Nd_{15}$ amorphous films, soft mag. props. 7−53077
$Fe_{70}(CeNdPr)_{20}B_{10}$, rapidly quenched ribbons, hard mag. props. 7−27562
$Fe_{14}Nd_2B$ fine particles prep. by hydriding, mag. props., recording appls. 7−53660
$Fe_{14}Nd_2B$ magnets, high-field magnetostriction 7−53104
$Fe_{14}Nd_2B$ permanent magnet, Dy substituted positron annihilation studies 7−3108
$Fe_{76}Nd_{16}B_8$ plasma sprayed permanent magnets, characts. 7−45754
$Fe_{77}Nd_{15}B_8$, sintered permanent magnets, domain wall obs. 7−27544
$Fe_{77}Nd_{15}B_8$-based melt spun ribbons, crystallisation and mag. props. 7−26662
$La_{0.8}Nd_{0.2}Ni_{2.5}Co_{2.4}Si_{0.1}$ electrode, storage capacity investig. 7−33946
$(Nd,Tb)_{16.7}Fe_{75.5}B_{7.8}$, magnetisation meas., spin reorientation temp. 7−17161

neodymium alloys continued
Nd-Dy-Fe-B-based sintered magnet, microstruct., heat treatment effects 7−53767
Nd-Fe-B, metastable amorphous alloys, crystn., thermal stability 7−39482
Nd-Fe-B, microstructure, scanning tunnelling microscopic studies 7−58494
Nd-Fe-B, permanent mag. alloy, Mossbauer spectroscopic study *(Chinese)* 7−7613
Nd-Fe-B, phase diagram, permanent mag. anal. 7−39486
Nd-Fe-B amorphous ribbons, effect of crystallisation conditions on hard mag. props. 7−27561
Nd-Fe-B based permanent magnets, hysteresis loop and mag. anisotropy 7−53031
Nd-Fe-B liquid-quenched alloys, mag. props. 7−27550
Nd-Fe-B permanent magnet, microstructure and coercivity 7−27559
Nd-Fe-B permanent magnets, prod. by hydrogen decrepitation/attritor milling route 7−22606
Nd-Fe-B permanent magnets, BCC phase mag. props. at grain boundaries 7−53044
Nd-Fe-B rapidly solidified permanent magnet materials, magnetisation processes and domain wall motion 7−38902
Nd-Fe-B rapidly solidified ribbons, magnetisation, quench rate depend. 7−53034
Nd-Fe-B sintered magnets, hysteresis loops, anal. 7−33215
Nd-Fe-B system, permanent magnet, mag. props *(Korean)* 7−7554
Nd-Fe-B system, temp. depend. of coercive force, effect of annealing, aging and sintering 7−27560
Nd-Fe-B-Co-Al based permanent magnets. mag. props. and temp. characts. 7−53045
Nd-Fe-C(Si)(Ge)(Pb)(Sn) ternary phase studies. X-ray anal. and Curie temp. meas. 7−7508
Nd-Fe-Co, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7−64496
$NdAl_2$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7−32900
NdB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7−39241
$NdCo_5$, magnetocrystalline anisotropy, rare earth contribution 7−45659
$Nd_2Co_{14}B$, NMR study 7−64544
$Nd_2Co_{14}B$, spin arrangements, 4.2-1100K 7−22094
$Nd_x(Co_xFe_{1-x})_{14}B$ alloys, mag. struct., preferential site occupation 7−45619
$Nd_6Co_5Ge_{2.2}$, cryst. struct., X-ray diffr. studies 7−44450
$NdCu_6$, powder and single cryst., magnetic struct. and ordering, neutron diffr. studies 7−33146
$NdDyFe_{14}B$ spin orientation and preferential 4f site occupation, powder neutron diffr. study 7−22100
NdFe alloys, magnetic moment irreversibility from temperature cycling 7−33194
NdFe-steel hybrid permanent magnet wiggler development for SPEAR ring 7−42250
$Nd_2(Fe_{0.67}Al_{0.33})_{14}B$, reduction of mag. hyperfine fields and Curie temp. on Al substitution, Mossbauer spectra 7−38859
$Nd_2(Fe_{1-x}Al_x)_{14}B$, intrinsic and permanent mag. props. *(Chinese)* 7−13003
NdFeB, anisotropic permanent magnet, prep. and investig. 7−52969
$Nd_{15}Fe_{77}B_8$ based pseudobinary alloys, sintered permanent magnets, depend. of coercivity on anisotropy field 7−45744
$Nd_{15}Fe_{77}B_8$ permanent mag., rotational hysteresis energy and magnetisation reversal 7−64492
$Nd_2Fe_{14}B$ alloys, magnetic anisotropy and spin reorientations 7−38855
$Nd_2Fe_{14}B$, cryst. field effects 7−45598
$Nd_2Fe_{14}B$, EFG tensor for interpretation of Mossbauer effect meas. near spin reorientation temp. 7−38968
$Nd_2Fe_{14}B$, elastic props. between 120 to 300K 7−27529
$Nd_2Fe_{14}B$, magnetic props., H_2 absorption effects 7−38906
$Nd_2Fe_{14}B$ permanent magnet materials, prep. and props., book contrib. 7−27981
$Nd_2Fe_{14}B$ permanent magnet, magnetic anisotropy consts. determ. from unsaturated torque curves 7−52973
$Nd_2Fe_{14}B$ single crystals. mag. anisotropy and magnetisation 7−27547
$Nd_2Fe_{14}B$ sputtered films, perpendicular anisotropy 7−53073
$Nd_2Fe_{14}B$ untextured polycrysts., magnetic hyperfine fields, Mossbauer spectra anal. 7−12682
$Nd_2Fe_{23}B_3$, struct., Curie temp., X-ray diffraction anal. 7−11994
NdFeBCoAl magnets, Curie temp., coercive force and magnetisation 7−52982
$Nd_2Fe_{14-x-y}Co_xAl_yB$ alloys, permanent mag. props. 7−45755
$Nd_2Fe_{14-x}Co_xB$, spin reorientations 7−64484
$Nd_2Fe_{14-x}Co_xB$ system, mag. phase transitions and anisotropy 7−27524
$Nd_2Fe_{14-x}M_xB$, (M=Co,Ni,Cu,V,Al,Cr,Mn), crystallographic and mag. props. 7−27522
$Nd_2Fe_{14-x}Mn_xB$ system, mag. characts. 7−27523
$Nd_2Fe_{12-x}Mn_xCo_2B$, mag. props. 7−52946
$Nd_2Fe_{14-x}Ru_xB$ alloys, mag. props., comp. depend. study 7−7547
$Nd_2(Fe_{0.67}Si_{0.33})_{14}B$, reduction of mag. hyperfine fields and Curie temp. on Si substitution, Mossbauer spectra 7−38859
$NdGe_5$ Czochralski single cryst. growth using tri-arc furnace 7−7836
NdHoDyFeB permanent magnets with zero temp. coeff. of induction 7−53047
$NdIn_3$ antiferromagnetic alloys, thermoelec. power meas., band gap form. 7−38543
$Nd_{2-x}R_xFe_{12}Co_2B$, mag. characts. 7−45670
$NdRuSn_3$, cage-like void structures *(German)* 7−32365
NdZn, antiferromag. skew scatt. Hall effect 7−52578
Sn-Nd binary system, phase diagram and equilib. 7−7961

neodymium compounds
see also neodymium alloys
concentrated crystals, interionic interaction, stimulated emission 7−27744
$BaNd_2O_4$-TiO_2, phase props., X-ray and elec. meas. 7−2220
$BaNd_2Ti_4O_{12}$, dielectric props. at low temps. 7−45909
BaO-La_2O_3-Nd_2O_3-Al_2O_3 systems, synthesis, characterisation and spectroscopic investigations of mixed hexa-aluminates 7−63827
BaO-Nd_2O_3-Al_2O_3 system, synthesis, characterisation and spectroscopic investigations of mixed hexa-aluminates 7−63827
$BaO.Nd_2O_3.5TiO_2$, ceramics, matrix phase struct. 7−39488
$Ca_{2-x}Nd_xGa_{2+x}Si_{1-x}O_7$, Ga gehlenite, cryst. struct. and optical props. 7−16525
$Ca_2Nd_5(SiO_4)_6O_2$:Cm, radiation effects, appl. for nuclear waste disposal 7−32522

neodymium compounds continued
- $Ca_2Nd_8(SiO_4)_6O_2$:Cm ceramic simulated nuclear waste forms, radiation effects on microstruct. and fracture props. 7—58373
- HfO_2-Nd_2O_3, solid solution single crystal growth 7—7838
- $K_{1.5}Bi_{1-x}Nd_xNb_{5.1}O_{15}$, cryst. growth, spectral props. of Nd^{3+} ions 7—53405
- $KNd_xGd_{1-x}P_4O_{12}$, isolated ion pair interaction, fluoresc. quenching study 7—46117
- $K_5Nd(MoO_4)_4$, palmierite-type cpd., cryst. struct. determ. 7—21174
- $LiNdP_4O_{12}$:Yb^{3+}, metaphosphate glasses, Nd^{3+} to Yb^{3+} energy transfer, luminesc. study 7—22323
- Na_2O-Nd_2O_3-Al_2O_3 system, struct. of single cryst. with magnetoplumbite struct. 7—6602
- Nd complex, tetra dimethyl sulphoxide neodymium nitrate, vibr., Raman. IR and luminesc. study 7—33392
- Nd^{3+} complex with amino acids, visible absorpt. spectra 7—31057
- $Nd_2Ba_2(Si_4O_{13})$, cryst. struct. 7—37934
- $Nd_{30}Ce_6Li_{24}O_{69}$ and $Nd_{24}Ce_{12}Li_{24}O_{72}$, cubic and tetragonal phases, structures 7—26725
- $NdCl_3$ complexes in alcohols, absorpt. spectra study 7—33408
- $Nd_xCo_4P_{12}$, synthesis, cryst. struct., X-ray diffr. study 7—32387
- $Nd_xCr(Ce)_{1-x}P_5O_{14}$ cryst. growth and characterisation, X-ray diffr., Raman scatt., visible and IR absorpt. meas. 7—44423
- Nd_2CuO_4, thermal cond. meas. in semiconducting and metallic phases 7—16830
- $Nd_{2-y}Cu_yRu_2O_{7-y}$ pyrochlore type phases, elec. and cryst. characts., X-ray fluoresc. anal. *(French)* 7—45325
- $NdCu_3Ru_xTi_{4-x}O_{12}$ and $Nd_{(2+x)/3}Cu_3Ru_xTi_{4-x}O_{12}$, electrical conductivity and crystallographic characterisation *(French)* 7—17057
- NdF_3, epitaxial growth on Si (111), photoluminescence, Raman scattering Rutherford backscattering/channeling 7—59437
- $NdFe_4B_4$, cryst. struct. and interatomic distances 7—32380
- $NdFe(Mn)Si_2$, struct. and mag. props. studies *(French)* 7—37950
- $Nd_3Ga_5O_{12}$ garnet, cryst. field studies of excited states 7—33407
- $Nd_3Ga_5O_{12}$, photoelectret, photoconductivity 7—45919
- NdIG, mag. props. 7—45662
- $NdLiGe_2$, crystal structure *(Ukrainian)* 7—12009
- Nd_2MgTiO_6, cryst. struct., Rietveld refinement of neutron powder diffr. data 7—26705
- Nd_2O_3 7—30014
- Nd_2O_3 films epitaxial growth by a reactive-evaporation method 7—59429
- Nd_2O_3-P_2O_5-GeO_2, phase equilibria, X-ray diffr., thermal anal., fluoresc. spectra 7—6758
- Nd_2O_3-Y_2O_3-ZrO_2, phase relations, solubilities, 1100-1600°C 7—46435
- $NdPO_4$, cryst. struct. determ. 7—58244
- NdP_5O_{14} crystals, dynamics of population gratings studied by four-wave mixing 7—11038
- NdP_5O_{14}, ferroelastic domain walls, X-ray topography studies *(Chinese)* 7—58493
- NdP_5O_{14} single crysts., growth from pyrophosphoric acid soln., cold finger technique, defect struct. 7—59389
- Nd_3RuO_7, crystal struct. determ. 7—16520
- $Nd_2(SO_4)_3.8H_2O$, soln. complex, $^4F_{3/2}$ excited state lifetime 7—5614
- $NdSc_3(BO_3)_4$, preparation, struct. and props. 7—1968
- $Nd_{0.7}Sr_{0.3}CoO_3$ cathodes for CO_2 waveguide lasers, electrical and emission characts. 7—59383
- $Nd_xY_{3-x}Fe_5O_{12}$, garnets, growth anisotropy, Mossbauer study 7—38973
- $Nd_xY_{1-x}PO_4$, excitation energy transfer and ion-ion interaction 7—33421
- $(Pu, Nd)O_2$, reactor fuels, thermal conductivity 7—19352
- $SrNd_2S_4$-Nd_2S_3 solid solns., vacancy disorder charactn., Raman spectra study 7—58270
- $(UPuNd)O_2$, reactor fuels, thermal conductivity 7—19352

neon
- *see also nuclei with ......*
- adsorbed layers on Si, phonon scatt. at crystal surface 7—21609
- ALGOCS II He-Ne laser alignment equipment *(Rumanian)* 7—11001
- atom, $2p^53d$ level population in Hf discharge afterglow, press. depend. 7—20853
- atom, $3s_2$-$2p_4$ transition, linear absorpt. coeff., mag. field effect 7—57030
- atom, σ and π fluoresc. profiles, population trapping and Zeeman coherences study 7—25447
- atom, Auger process, relativistic close-coupling approach 7—62340
- atom, correl. energy calc. using basis set of explicitly correl. Gaussian geminals 7—5609
- atom, diatomic coupled cluster method, MBPT 7—56996
- atom, dielectric satellite lines of X resonance line, calcs. 7—5621
- atom, dipole (e,2e) cross sections, plane-wave Born calcs. 7—30935
- atom, dipole-quadrupole dispersion coefficients, ab initio coupled HF calcs. 7—11986
- atom, electron (positron) elastic scatt., calcs. 7—977
- atom, electron impact excitation, metastable state, laser induced fluoresc. 7—50372
- atom, electron impact induced post-collisional $KL_{2,3}L_{2,3}$ Auger decay 7—5773
- atom, electron impact ionisation, cross sections, fast-neutral beam method, TOF spectra 7—42769
- atom, electron scatt., cross section meas. 7—31171
- atom, electronic kinetic energy, energy-density functional calcs. 7—42465
- atom, four-wave mixing, backward sat., parallel pump polarisation effect 7—37055
- atom, g-Hartree ab initio calcs. 7—15488
- atom, ionisation cross section determ., correction factor 7—19701
- atom, kinetic energy density, nonlocal correl. fn., CI wave fns. and HF calcs. 7—42496
- atom, MBPT and coupled cluster calc., comparison with CI 7—49899
- atom, photoelectron satellites at threshold, photoelectron spectra anal. 7—36564
- atom, photoionis. with synchrotron radiation, angle-resolved electron spectra 7—905
- atom, self-consistent exchange parameters, radial depend. anal. 7—49920
- atom, small angle differential cross sections for electron elastic scatt. 7—15713
- atoms, $1S_5$ metastable states, non-radiative lifetimes 7—37772
- atoms, dressed by optical photons, spectra meas., nearly degenerate four-wave mixing 7—10517
- atoms, metastable, spectral condensation in dye laser intracavity spectroscopy 7—50551
- atoms, multiple ionisation by intense laser pulse 7—62332
- atoms, transition energies, X-ray spectra, Xα theory, X-ray transition energies 7—10422

neon continued
- compact H II regions, S and N abundances 7—66695
- Dirac operators, consistency of use in basis set variational solns. with Dirac hole theory 7—19692
- discharge, high-current, low-pressure, radial distrib. of neutral gas density 7—20952
- discharge, optogalvanic spectra using tunable laser radiation 7—61389
- discharge, positive column, ionisation-diffusion waves, Kolmogorov entropy 7—44277
- electron thermalisation processes obs. by pulse-radiolysis microwave cond. method 7—20051
- excimer states, photoionisation cross sections 7—57137
- field absorbed on metal surfaces, atom-probe spectroscopy studies 7—32803
- film on Ag, triple-point wetting 7—32760
- gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7—62320
- gas, electron beam deposition 7—5771
- gas, optogalvanic effect, role of Ar impurity, kinetic eqns. anal. 7—30970
- gas, thermalised free positron annihilation rate studies 7—50390
- gas, transport phenomena, multiparametric potential models 7—6344
- gas puff Z-pinch implosions, X-ray emission, appl. to X-ray lasers 7—26483
- He-Ne lasers, single frequency, anal. *(Chinese)* 7—5870
- He-Ne lasers stabilized to $^{127}I_2$ at 605 nm 7—20309
- He-Ne/ZZ 7—18761
- HeNe/methane laser, absolute frequency meas. at 88 THz 7—18762
- high-frequency discharge, dissoc. recomb. of excited atoms in afterglow 7—10456
- imploding Z pinch for X-ray laser research 7—20918
- impurity immersed in liq. metallic H, polarisation effects on core levels 7—64158
- ion bombardment of thin films, secondary emission yield, incident charge state depend. 7—59319
- ion irradiation of Ni, yield stress studies *(Russian)* 7—12162
- ions, multiple scatt. at TaC (001) surfaces 7—22426
- laser, superradiance under delayed excitation, asymmetry 7—1076
- laser 3.39 μm line, diaphragmed laser near field *(French)* 7—43180
- laser based on 3p-3s transitions with electron beam excitation 7—20185
- lasing action, output pulse lengths achieved with electron beam pumping 7—15843
- liquid, thermodynamic stability and viscosity behaviour or melting curve 7—12247
- matrix isolation of NH(ND), radiative decay and radiationless relax., lifetime meas. 7—10653
- Moon, solar cosmic ray inert gases in regolith minerals 7—14507
- Ne, elastic scatt. of electrons, phaseshifts and differential cross sections, local-density approx. 7—19695
- Nova Vul 1984 No.1 (PW Vul) slow nova, abundances, visible and IR obs. 7—40850
- optical saturable absorpt. in difference magnetooptic reson., relax. const. calc. 7—62793
- plasma, Stark broadening and shift parameters, visible spectra anal. 7—62310
- plasma, Z-pinch, quantitative X-ray spectroscopy 7—37723
- plasma parameters, electronic device for taking probe current second derivative *(Czech)* 7—32080
- positron thermalisation and annihilation 7—63245
- pulsed transverse discharge, population inversion, secondary process influence 7—58084
- Raman scattering of laser radiation to far UV by excited states of He and Ne 7—25886
- rare gas floating monolayers, dynamics in self-consistent phonon theory 7—2362
- solid, curved interface, quasi-2D quantum electron states 7—17066
- solid, electron beam-induced luminescence, time-resolved studies 7—64702
- solid, pair potential, effective medium approach 7—45201
- solid crystalline films, electron stimulated desorption, exciton mechanism calcs. *(Russian)* 7—27096
- solid films, erosion by keV electrons 7—3124
- solid moderator for slow positrons 7—18908
- stilbene-He(Ne), coherent photodissoc., picosec. polaris. obs. 7—36715
- total positronium formation cross sections 7—42795
- triple point, thermodynamic temp. determ. 7—18791
- Ar/Ne mixtures, electron swarm, Penning ionisation effects, Boltzmann eqn. anal. 7—1802
- Ar/Ne mixtures, Townsend first ionisation coeff. Penning ionisation effects 7—37776
- Ar-Ne discharge, steady-state cataphoretic density profile, collapse 7—44287
- CdS:Ne^+, ion implantation damage 7—26812
- Cu:Ne, single crystal, ion implantation, damage profile anal. using Auger electron spectroscopy 7—51802
- He-Ne green laser, I_2 saturated absorption lines identification at 543 nm 7—20372
- He-Ne laser, automatic calibration system for laser power standard, expt. and performance eval. *(Japanese)* 7—11019
- He-Ne laser, damage to $LiNbO_3$:Fe, linear electro-optic effect *(Korean)* 7—27698
- He-Ne laser, fibre optic evanescent-wave coupling force transducer 7—41367
- He-Ne laser, internal mirror, freq. and power stabilisation using fan *(Korean)* 7—25849
- He-Ne laser, methane stabilized, frequency meas. of methane hyperfine line 7—20190
- He-Ne laser, mode-crossing reson., intracavity distance and mode-locking quality anal. 7—31373
- He-Ne laser, performance assessment of laser wavemeter *(Korean)* 7—24692
- He-Ne laser, photothermal deflection, trace gas anal. appls. 7—61381
- He-Ne laser, stabilised by saturated absorption of methane, frequency shifts obs. 7—20192
- He-Ne laser, stabilised by external absorption cell 7—20270
- He-Ne laser, stabilised by I_2 external absorption cell 7—20308
- He-Ne laser, standardisation for metrological purposes 7—5909
- He-Ne laser, three-mode, frequency resonance 7—36937
- He-Ne laser, transportable, methane stabilized 7—20191
- He-Ne laser as light source in schlieren optics methods 7—57503
- He-Ne laser at 0.633 μm, frequency stabilisation, using polarisation modulation 7—20295

neon continued
He-Ne laser beam divergence meas. using $LiNbO_3$ SAW interaction 7−1211
He-Ne laser beam meas. using direct looking apparatus for light intensity distribution *(Japanese)* 7−56314
He-Ne laser for optical fibres fault location 7−31545
He-Ne laser stabilised by methane saturable absorption, effects leading to frequency shifts 7−50540
He-Ne laser stabilised by Lamb dip, emission frequency scatter, causes 7−62667
He-Ne laser tuned by axial mag. field, mode competition 7−50539
He-Ne laser wavelength meas. using 0.63 μm transition 7−1208
He-Ne laser with high specific output power *(German)* 7−20187
He-Ne lasers, pumping by CO_2-laser induced optical break-down 7−62668
He-Ne lasers as sources of stable subnanosecond pulses 7−43060
He-Ne mixtures collision induced far IR translational absorpt. 7−10563
He-Ne Q-switched laser, radiation laser, radiation growth 7−15842
He-Ne Zeeman laser, nearly degenerate four wave mixing and high order effects 7−1078
He-Ne Zeeman lasers for coherent optical fibre system 7−50786
He-Ne/methane ring lasers stabilised using FM resonances, frequency reproducibility 7−1206
^{3}He-Ne gas laser, neutron pumping from tokamaks 7−62666
ICl-Ne, A, E and X states, binding energies, optical-optical double reson. 7−62425
LiF:Ne^+, defect and colloid production by ion implantation 7−26746
N_2-Ne mixture, depolarized Rayleigh light scattering, temp. dependence 7−31053
NO-Ne, van der Waals species, multiphoton ionis. 7−10694
Na+Rg optical collisions, (RG = He, Ne, Ar, Kr, Xe), fine struct. branching ratio determ. 7−10704
Ne + CO^+ + CO, association reactions, third-order kinetics, temp. depend. 7−46817
Ne + Ca^+ (Eu^+), collisional lasers, high specific output energy 7−43078
Ne + Li, electric field effect, fluoresc. and radiative decay rate determ. 7−20009
Ne + Ti, Ti excited state total ang. momentum charge, radiation quenching 7−42735
Ne + Ti, triplet state quenching and excitation transfer processes 7−19761
Ne I lines, laser generation in water cooled helical hollow cathode discharge 7−57299
Ne II, Stark parameters meas. 7−36538
Ne V, theoretical emission line ratios and solar obs. 7−886
Ne VII, spontaneous radiative transition probabilities, ab initio CI calcs. 7−50261
Ne VII, transitions between n=2 and n=3 levels in solar spectrum 7−19747
Ne^+ + Au, impact ionisation, L_3 subshell alignment, coupled states anal. 7−25643
Ne^+ + tetrafluoromethane, absolute excitation cross sections 7−20010
Ne^+ bombard. of target atoms, shadow cone form. calc. 7−36731
Ne^+, bombardment of Ni (111), temp. depend. of secondary ion emission 7−64856
Ne^{2+} in Ar plasma afterglow, ambipolar diffusion coeff. meas. 7−20949
Ne:Ar(Kr)(Xe), solid, local phase transition near impurity center 7−26945
Ne-Ar mixture, density meas. up to 8000 bar, Lennard-Jones comparison 7−1669
Ne-Ar mixtures, transient cataphoretic segregation in a discharge tube 7−20988
Ne-He van der Waals mol. pot., ab initio HF SCF calcs. 7−36459
Ne-N_2 interaction, intermol. pot. fns., ab initio calc. 7−57146
Ne-OCS, mol. beams, IR absorpt. and microwave-IR double reson. spectra 7−62427
Ne+Ar, ionis., fine struct. depend. product branching 7−15673
Ne+Ar^+, time of flight energy spectra, long lived excited Ar^+ state 7−62486
Ne+Cs^-, low-energy collisions, absolute total cross section meas., curve-crossing model anal. 7−36749
Ne+F^{8+}(F^{9+}), k-k charge transfer, excitation patterns, Auger spectra 7−15682
Ne+H, electron capture cross sections 7−10747
Ne+$H_2{}^+$ collisions, dissociation and electron capture cross section meas. 7−31156
Ne+H^+, electron capture probabilities at large scatt. angles 7−62517
Ne+H^+(He^+), multiple ionisation, charge transfer cross sections 7−15706
Ne+H-like ions projectile ionisation cross section 7−969
Ne+He excitation transfer processes, quasimolecule form. 7−5758
Ne+$He_2{}^+$, charge transfer reaction rate consts. 7−22983
Ne+He^+, analytic repulsive pot. calc. 7−50308
Ne+He^+ (Ar^+), charge exchange into excited states in collisions 7−31155
Ne+He^+($H_2{}^+$), electron loss to the continuum, absolute cross sections 7−50304
Ne+He* collisions, nonadiabatic transitions 7−62487
Ne+He(Ar), electronically excited atoms, beam sources 7−20008
Ne+Kr^{4+}, state-selective electron capture, translational energy spectra 7−50337
Ne+Na, fine-struct. branching ratios, meas. 7−15676
Ne+Na, Na D lines, far wings obs. using fluoresc. excitation method 7−62317
Ne+Na_2, state selected rot. transitions, scatt. induced ang. momentum alignment 7−20005
Ne+Ti, quenching and excitation transfer processes, fluoresc. 7−10725
Ne+Tm, excited state transition cross sections, nonreson. fluoresc. 7−42540
Ne+Zn, 307.6 nm line absorpt. and collision cross section 7−30975
Ne^++H_2(D_2), rate const. determ. 7−17774
Ne^++He(Ar), charge exchange into excited states in collisions 7−31155
Ne^++Na, impact excitation cross sections, spin exchange, fluoresc. spectra anal. 7−25450
Ne^++Na, Rydberg electrons removal, cross section meas. 7−36742
Ne^++tetrafluoromethane, excitation cross sections 7−62501
Ne^{10+}+He, electron capture, bound and continuum states, impulse approx. 7−50329
Ne^{2+}+He collisional transition probabilities, avoided crossing, nonadiabatic effects *(French)* 7−10727

neon continued
Ne^{3+}+Pt(Yb), L subshell ionisation probabilities vacancy sharing 7−15697
Ne^{7+}+H_2 charge exchange collisions, Ne^{6+} excited states, VUV spectra anal. 7−20030
Ne^{7+}+He, transfer excitation in low-energy collisions, spectroscopic meas. 7−15696
Ne^{9+}+H^+, Fine-struct. excitation, plasma screening effects, ion-sphere and Debye-Huckel models 7−62509
Ne^{q+}+D_2(D), collision parameters, energy-gain spectra meas., multichannel Landau-Zener model anal. 7−36752
Ne^{q+}+Ne(O), low Z ion-atom collisions, relativistic, SCF calcs. 7−10409
$Ne_2{}^+$ glow discharge, time depend. of spectral line intensities from afterglow plasma 7−32142
^{20,22}Ne, specific mass isotope shift, laser optogalvanic spectra 7−19771
^{20}Ne effective reson. form. in stars 7−695
$^{20}Ne^+$ and $^{22}Ne^+$, ion implantation in elemental solids, range profile, gamma-ray spectra 7−2959
Ne*+He, collisions, nonadiabatic transitions 7−62487
Ne**, He-like, X-ray and Auger transition rates 7−36507
Ne**+He, polarization effects in collision-induced intramultiplet mixing 7−5749
Si:Ne, ground state one-electron energies, SCF MS X_α calcs. 7−44582
Ta, Ne implanted, annealing behaviour of H traps 7−46506
YIG:Ne^+ ferrite films, surface magnetostatic wave damping, ion implantation effects *(Russian)* 7−33242
$(YLuBi)_3(FeGa)_5O_{12}$, Ne^+ implanted, CEMS study *(Chinese)* 7−7620
$(YLuBi)_3(FeGa)_5O_{12}$:Ne^+ films, stripe domain stabilisation by ion implantation 7−53100
neon compounds
$NeCl_2$ photodissociation, product state distrib. 7−50277
NeH^+, orbital energies, multipole moments and electric field gradients, HF calcs. 7−62270
NeH^+, vibr.-rot. spectra obs. using FTIR 7−50139
NeXe excited states, photoionisation and predissoc. 7−19959
nephelometry *see turbidimetry*
Neptune
albedo variations, modulation by solar cycle 7−66502
arc rings theory, satellite corotation resonances model 7−4363
geometric albedos of Uranus and Neptune, determ. between 2100 and 3350 Å 7−24062
long-term orbit evol. and mass 7−34929
magnetic field prediction 7−40758
Neptune, magnetic field and magnetosphere struct. 7−24064
oblateness and stratospheric methane mixing ratio, determ. from occultation obs. 7−34927
submillimetre and millimetre observations, photometric results from 0.35 to 3.5 mm 7−24063
Triton, surface volatiles 7−34923
Voyager 2, encounter plans 7−29375
NH_3 ice layers, cryogenic high press. shock temp. meas. 7−32566
neptunium
see also nuclei with ......
aqueous soln., reaction rate consts. of radiation-produced transients 7−60903
biological behaviour, consequence for radiation protection *(French)* 7−40223
diffusion and distrib. in $CaCO_3$ deep ocean sediment samples 7−36273
diffusion in simulated high level waste glass 7−49684
salt brine aquifers, Np migration 7−40056
solid state and thermodynamic props., f-electron bonding and struct., review 7−12321
solubility, influence for nuclear waste repositories 7−36271
valence state adjustment using laser photochem. in nucl. fuel reprocessing *(Japanese)* 7−61971
B_2O_3-SiO_2 : Np, doped glasses, optical spectroscopy study 7−39145
^{237}Np, determ. using crystallophosphor photoluminesc. 7−33981
^{235}Np, tracer props. for environmental ^{237}Np anal. 7−49771
^{237}Np, amount in environment *(French)* 7−40315
^{237}Np determination in sediments from Sellafield, UK, by neutron activation anal. 7−28731
^{237}Np from global fallout after atm. testing, human tissue sample obs. 7−34291
^{237}Np inhalation in rats 7−54768
^{237}Np, nuclear fuel cycle chemistry 7−19384
^{237}Np, plant uptake under field conditions 7−28729
ThO_2:Np^{4+}, absorption and emission spectra of Np^{4+} 7−27763
$ThSiO_4$:Np^{4+}, absorption and emission spectra of Np^{4+} 7−27763
neptunium alloys
$NpAl_2$, high press. studies 7−16689
$NpCr_4Al_{8-x}$, mag. props., Mossbauer effect and neutron diffr. 7−59127
$NpCu_4Al_{8-x}$, mag. props., Mossbauer effect and neutron diffr. 7−59127
$NpFe_4Al_{8-x}$, mag. props., Mossbauer effect and neutron diffr. 7−59127
neptunium compounds
$Am_{0.25}Np_{0.25}U_{0.5}O_{2-x}$, thermal conductivity at elevated temperatures 7−21551
$NH_4Np(OH)_5$, cryst. struct. determ. *(French)* 7−16511
Np cpds., Mossbauer spectroscopy, appl. to solid state chemistry 7−17248
NpAs single crystal, neutron diffr. study 7−17158
$NpAs_2$, J=9/2 multiplet, tetragonal symmetry, crystal field wavefunction, Hamiltonian 7−12931
$NpAs_2$, single crystals, Hall resistivity 7−12739
NpB_x, synthesis and crystallographic studies *(French)* 7−17487
NpF_6, IR-active fundamentals and combination bands, vibr. force consts. 7−25511
$NpGeO_4$, oxo-neptunates, Mossbauer and mag. studies 7−13063
NpO_2, high press. studies 7−16689
NpO_2, photoacoustic-spectroscopy 7−27731
NpO_2 radioactive layers, bremsstrahlen isochromat spectroscopy 7−39210
NpO_{2-x}, hypostoichiometric, O dissociation press., partial thermodynamic functions 7−17520
NpO_2CO_3, crystal chemistry, Mossbauer studies 7−17249
$Np(OH)_4$, cryst. struct., Mossbauer study *(French)* 7−16511
NpOS, mag. props. 7−13064
NpOS, synthesis and crystallographic studies *(French)* 7−17487
NpOSe, synthesis and crystallographic studies *(French)* 7−17487
$Np_{0.5}U_{0.5}O_{2-x}$, thermal conductivity at elevated temperatures 7−21551
$U_{1-x}Np_xO_2$, x=0.25, 0.75, magnetic structure, neutron diffraction study 7−58978

Nernst effect *see thermomagnetic effects*

Nernst-Ettingshausen effect *see thermomagnetic effects*

nerve conduction *see neurophysiology*

nervous system *see brain; neurophysiology*

network analysers
- PROTO II crossover network, time domain reflectometry meas. 7—30759

network analysis
- *see also circuit analysis computing; linear network analysis; nonlinear network analysis*
- functions, recovery in noisy network data by local splines *(Russian)* 7—61059
- system theory, conf., Knoxville, TN, USA (Apr. 1986) 7—14714

network analysis (management) *see management science*

network equalisers *see equalisers*

network operating systems
- IKONET, distributed accelerator and experiment control applications 7—19560

network synthesis
- *see also circuit CAD; frequency-domain synthesis*
- DC arcs, equivalent circuits synthesis, math. modelling based on MHD description of plasma *(Russian)* 7—57986

network theory *see circuit theory*

network topology
- central nervous system topological models 7—13980

networks *see networks (circuits)*

networks (circuits)
- *see also specific network and circuit headings e.g. communication networks, pulse circuits, oscillators*
- vibroscopes, electrostatic self-resonating, cct. design 7—56226

Neumann algebra *see algebra*

neural nets
- *see also brain models*
- 3D reconstruction and display using pattern recognition 7—65734
- associate recognition and storage in model network of physiological neurons 7—47028
- associative memory models, interaction asymmetry and pattern hierarchy 7—65730
- autoassociative neural network, influence of noise on behaviour 7—54525
- central nervous system topological models 7—13980
- computer simulation of neutral networks for perceptual psychology 7—60007
- computing with neural circuits: a model 7—13983
- conf., Los Alamos, New Mexico, USA (May 1985) 7—48157
- content addressable memories, storage capacity increase by unlearning 7—54516
- coupled-mode theory 7—54513
- evolutionary learning and intraneuronal dynamics 7—54434
- Hopfield model, memory and learning props., numerical simulation 7—61215
- Hopfield neural network model used as nearest-neighbour algorithm 7—23318
- Kohonen's self-organising sensory mapping, stationary state equation 7—23319
- layered neural network model applied to the auditory system 7—54581
- memories, working, solvable models 7—8533
- memory, associative recall by neural network, biological system appl. 7—54521
- memory, hierarchical multilayer model 7—65731
- motor programs generation model 7—59965
- neocognitron, biocybernetic approach to visual pattern recognition 7—57258
- neural networks, statistical props. 7—8534
- nonlinear optical associative memories, neural network model 7—57408
- nonlinear synapses and static noise in neural networks, theory 7—3768
- olfactory discrimination, dynamic models 7—54160
- optical holographic associative memory using a phase conjugate resonator 7—25733
- optical resonators and neural networks 7—54512
- pattern recognition in rabbits, oscillating network model 7—54618
- quantum field theory, progress, book 7—9602
- self-optimizing nonsymmetrical neural net for content addressable memory and pattern recognition 7—54522
- self-stabilisation of neuronal nets, compensation for synaptogenesis 7—47027
- sensorimotor hierarchies of gaze, tensor network modelling 7—54552
- sigmoid nonlinearity in neural computation, rat olfactory bulb obs. 7—54619
- spectral information coding by IR photoreceptors, colour vision and neural network analogues 7—35593
- spin-glass model with Monte Carlo dynamics 7—23292
- teachable neural network model based on unorthodox neuron system 7—54435
- temporal association in asymmetric neutral networks 7—34122
- ultrametric organization of memories in a neural network 7—28488
- ultrametric structures, introduction and appls. 7—48332
- visual motion direction perception, hysteresis as evidence for neural cooperativity 7—34152

neuristor networks *see neural nets*

neuron models *see neural nets*

neurophysiology
- *see also brain; neural nets*
- acetylcholine receptor channel, gating kinetics and permeation, appls. of statistical methods for model discrimination 7—59961
- acetylcholine receptor channel, location of δ-subunit region determining ion transport 7—47025
- action potential elimination for blocking of struct. development of retinogeniculate synapses 7—3767
- action potential in lobster giant axon, effect of time-varying mag. fields 7—3766
- action potential propag. in septated nerve fibres, computerised numerical simulation 7—59960
- action potential propagation in demyelinated frog nerve, optical recordings 7—59962
- action potentials, unidirectionally propagating, generation using a monopolar electrode cuff 7—54514
- active fibres, line source models 7—54526
- anastomosis of nerves with low-power CO_2 laser, rat model 7—23421

neurophysiology continued
- associate recognition and storage in model network of physiological neurons 7—47028
- auditory brain stem responses from human adults and infants: wave V tuning curves 7—65766
- auditory brainstem response using excitatory and inhibitory neuron elements *(Japanese)* 7—8597
- auditory midbrain of grassfrog, sensitivity of neurons to temporal characts. of sound 7—40167
- auditory neural temporal coding of low pitch, human freq.-following responses to complex tones 7—54589
- auditory system, in vivo elec. stimulation using multichannel photolithographic electrode arrays, cat obs. 7—3799
- auditory-nerve fibres, rapid adaptation: fine struct. at high stimulus intensities in gerbils 7—40171
- axon, squid, modulation of aminopyridine block of K^+ currents 7—23324
- axon equations, branching of single pulse to double pulse solns. 7—59909
- axons, anal. of models or external stimulation 7—23329
- behavioural choice in crayfish, neural mechanisms 7—59963
- behavioural plasticity in crayfish, structure-function considerations in developmental expression 7—59964
- binocular vision, neural mechanisms, review 7—17982
- biological/medical engineering, Fort Worth, Texas, USA (Nov. 1986) 7—65870
- brainstem auditory evoked pots. in rhesus monkey, neural generators 7—8581
- cardiac Purkinje fibres, rabbit, voltage-dependent block by tetrodotoxin of Na^+ channel 7—54527
- carpal tunnel syndrome, electrophysiological aspects of 639 symptomatic extremities 7—3761
- cell membrane physiology and neutral connections *(Japanese)* 7—13975
- central nervous system connections determ. by physiological methods 7—47037
- chromatin domains and nucleoli in neuronal interphase nuclei, curvilinear 3D motion 7—65726
- circular conducting cylinder, infinite- and finite-length, pots. prod. by arbitrary current sources 7—59969
- cochlear frequency selectivity, effects of section of medial efferent tracts in guinea pigs 7—40170
- cochlear frequency selectivity and efferent tracts in guinea pigs 7—40169
- computer simulation of neutral networks for perceptual psychology 7—60007
- cortical neurons in superior temporal sulcus of monkey, responses to band-pass spatial freq. filtered faces 7—59980
- cutaneogalvanic reaction parameters, automated recording system 7—40353
- dentate gyrus, long-term potentiation: induction by asynchronous volleys in separate afferents 7—65733
- dorsal root ganglion cells, chick, activation of a transient inward current by step reductions in extracellular Ca^{2+} 7—23326
- dynamical Q-analysis of the structural variation influence on the central nervous system 7—13981
- echo delay discrimination by bats, phase evaluation in hypothetical receivers 7—47133
- electrode, multiplexed implantable, for monitoring evoked responses in cerebral cortex, design 7—47305
- electromyographic signal processing by computer for neuromuscular diseases 7—54541
- ELF electric fields, effects on neuronal activity in rat brain 7—28583
- emesis induced by ^{60}Co γ-rays in dogs, effects of lesions and drugs, neurophysiological aspects 7—60055
- EMG, clinical, basic problems of automatic analysis 7—8737
- EMG, computerised, conf., New York, USA (April 1981) 7—4621
- EMG, pre- and postoperative comparison in children with cerebral palsy 7—3774
- EMG, quantitative, diagnostic yield of automated method 7—8742
- EMG activity recording technique for lumbar multifidus in man 7—3772
- EMG automatic analysis with ANOPS computer, monopolar electrode use 7—8738
- EMG feedback and motor control restoration, controlled group study of 12 hemiparetic patients 7—13984
- EMG from human first dorsal interosseous muscles, Fourier and factor analysis 7—8545
- EMG signal numerical analysis; three parameters for functional muscular values 7—3775
- EMG signal on-line analysis, microcomputer based neurophysiological measurementsystem 7—8739
- entrainment in pacemakers characterised by V-shaped PRC 7—47029
- evoked muscle potential amplitude ratio at distal/proximal stimulation, subclinical neuropathy diagnosis 7—8539
- evoked potential components, mid and long latency, law of 3.5 c/sec 7—3771
- extracellular neural recording with multichannelmicroelectrodes 7—8780
- extracellular potentials around active excitablestructures with short geometric inhomogeneities 7—8538
- extracellular potentials of single muscle fibres, fibre end influence 7—8540
- F-response parameters in upper extremity, ulnar and median nerves, height influence 7—3762
- forearm, blood flow response to local temp., effect of nerve block 7—8532
- functional neuromuscular control schemes for the upper limb 7—3748
- functional neuromuscular stimulation, parameter selection and upper limb characterisation 7—3764
- ganglia of cockroach, effect of temp. changes on spontaneous activity 7—54480
- gap junction channel, its aq. nature as indicated by D_2O effects, temp. coeff. obs. on earthworm 7—28492
- gating current harmonics, dynamic props. of secondary activation kinetics in Na^+ channel gating 7—59967
- gating current harmonics, dynamic transients and steady states with Na^+ inactivation gating 7—8528
- hearing temporal resolution capacity for various hearing loss types, clinical investigation *(German, English)* 7—60018
- heart rate and arterial blood press. variability signals, auto-spectral and cross-spectral anal. 7—47270
- horizontal cells, c-type, in bowfin retina, response props. 7—47053
- horizontal cells in eyecup and isolated retina, differing effects of excitatory amino acids 7—47056
- IC realisation of a neuronal model 7—3919
- implantable multielectrode array with on-chip signal processing, microprobe for biopotentials recording 7—28495

neurophysiology continued
implants for nerve stimulation in paraplegic patients, gate array appls. 7—34339
inferior colliculus, guinea pig, spontaneous activity of single units, salicylate-induced changes 7—47120
inferior colliculus, rat, dynamic props. of responses of single neurons 7—40163
integrated EMG for different isometric tension levels, digital and manual surface spike counting 7—8543
interference pattern analysis, clinical uses, effect of load, dynamic studies 7—8740
Kohonen's self-organising sensory mapping, stationary state equation 7—23319
large-scale neuron-glia network dynamics, rel. to brain functions 7—23327
laser repair of severed nerves 7—23420
lateral geniculate nucleus cells, macaque, mesopic spectral responses and Purkinje shift 7—47054
LF auditory fibre responses in 2 anuran amphibians, freq. and time domain comparison 7—54594
light-dependent synaptic delay between photoreceptors and horizontal cells in the tiger salamander retina 7—59983
lumbar nerve root lesions diagnosis, electronic comparison of toe strengths 7—3926
medial geniculate body, cat, functional props. and interactions of neuron pairs simultaneously recorded 7—54592
memory, molecular and cellular basis 7—54520
microelectrode resistance meter, improved, neuroscience appl. 7—28791
microwave effects on nerve vitality, elimination after blockage of active transport 7—60038
midmotoraxonal reexcitation in human peripheral nerve 7—8530
motor cortex, primate, neuronal population coding of movement direction, arm appl. 7—28489
motor programs generation model 7—59965
motor unit potentials with varying loads, automatic analysis 7—8741
movement-sensitive neuron in blowfly visual system, transient responses adaptation 7—47045
multimicroelectrode fabrication by Si dry etching *(Japanese)* 7—23504
muscle fibre, frog, action potential parameter changes at different temps., math. modelling 7—3773
muscle fibre conduction velocity calc. from EMG power spectra analysis 7—8546
muscle fibre conduction velocity meas. with surface EMG, cross-correlation method 7—3763
musculotendon actuator models for neuromuscular stimulation system CAD 7—28573
myoelectric signal processing effect on muscle force-EMG relation 7—8544
myotonia, recessive congenital, electrophysiological evaluation 7—8531
nerve activity measurement and analysis, conf., London, England (Nov. 86) 7—41014
nerve axon eqns., travelling wave trains 7—54523
nerve cell, membrane pot. clamping, cyclic nucleotride injection, intraneurone information processing 7—8527
nerves and molecules 3D reconstruction and display using pattern recognition 7—65734
neural cell adhesion mol., differentiation state-dependent surface mobilities 7—47019
neural network model, teachable, based on unorthodox neuron system 7—54435
neural networks, statistical props. 7—8534
neurofunction laboratory for quantitative assessment of movement disorders for spastic cerebral palsy patients 7—3918
neurological disorders, meas. of sensory-motor integrated function, 3 computerised tracking tasks 7—3912
neuromagnetic activity, synchronised spontaneous, data anal. technique 7—54633
neuromuscular motor control system *(Japanese)* 7—13982
neuron activity analysis program based on estimation of change point 7—23321
neuron and axon growth, connections between nerve cells and brain 7—17968
neuron tracing system, CARTOS-ACE, 3D reconstruction of electron micrographs 7—23502
neuronal activity in human brain, feasibility of developing a method, theoretical review 7—65901
neuronal membrane parameters, passive, comparison of optimisation and peeling methods 7—54517
neurosurgery, excimer lasers in medicine 7—60073
neurosurgical intensive care unit, computerised monitoring system 7—34320
noise-induced neural impulses, rel. to Bonhoeffer-van der Pol model, Monte Carlo calcs. 7—17967
non-directional edge specific cells response 7—47046
nonlinear analysis: math. theory and biological appls. 7—3747
nonlinear biological oscillator, periodic pulsatile stimulation 7—34093
nystagmus induced by off vertical axis rotation, three-dimensional model 7—47047
Onchidium pacemaker neuron, harmonic response instability 7—23330
online spike form discriminator for extracellularrecordings based on an analog correlation technique 7—3952
pattern vision, neural mechanisms *(Japanese)* 7—28527
periodontal mechanoreceptor mediation of short latency excitatory reflex in human masseter muscle 7—3808
peripheral nervous system, diagnosis of type of lesion by graduated pots. of median nerve 7—3925
physics, biological computation and complementarity 7—54524
polarisation of neurons by extrinsically applied elec. fields, model 7—40132
pontine reticular neurons, mediation of firing pattern alterations by low threshold Ca^{2+} spike 7—65732
psychic illness, information basis *(French)* 7—34121
radiolabelled pulse for the simultaneous study ofanterograde and retrograde axonal transport 7—3951
radiologic automated diagnosis (RAD) of neuroimages interpretation 7—65857
rapid-eye-movement brain state optimal monitor 7—23323
retinal circuitry, retrospective review 7—17976
retinal electrical activity imbalance rel. to ocular dominance shift in kitten visual cortex 7—28517
retinal ganglion cell processing of spatial information in cats 7—54560
retinal ganglion cells, turtle, photoreceptor input and temporal summation 7—17984
retinal glial cells, higher density of ion channels that mediate K^+ buffering in endfeet 7—47048
retinal horizontal cells, changes in response waveform during dark and light adaptation 7—47060
retinal neural cell, physiological intensity transform function andlightness scale *(Japanese)* 7—3787
rod-cone interaction in monocular but not binocular pathways 7—59985
scrotal afferents, significance within the general thermoafferent system 7—40108
self-stabilisation of neuronal nets, compensation for synaptogenesis 7—47027
sensory information processing mechanisms *(Japanese)* 7—14003
sensory receptors of cat's hindlimb, response to a transient, step-function DC elec. field 7—28581
shape knowledge, use in improving performance of neuron tracing through serial sections 7—3954
shoulder position evaluation for quadriplegics using neural prosthetic devices 7—28779
sleep investig., reaction time meter *(Dutch)* 7—23322
somatosensory evoked potentials after stimulation of digital nerves in upper limbs: normative data 7—34168
somatosensory evoked potentials recording, short latency, with median nerve stimulation 7—3807
somatosensory evoked responses, short latency, increased latencies used for defining abnormality 7—8607
somatosensory potentials in hemiplegics, intrahemispheric cond. delay 7—3806
somatosensory system, cat, effect of cortical ablation on afferent activity 7—3805
spectral information coding by IR photoreceptors, colour vision and neural network analogues 7—35593
spike-output systems, minimum-order Wiener modelling 7—23320
spinal motoneurones, dynamic effects of inputs upon outputs of γ-motoneurones 7—54515
spinal muscular atrophy patients, tremor power spectra, statistical anal. 7—8529
squid axons, voltage clamped, Na^+ current rel. to physico-chem. props. and struct. changes, disopyramide effects obs. 7—54529
stereological advances, recent, impact on quantitative studies of the nervous system 7—34357
stimulus-response process in central nervous system, model for trained movement 7—54519
striate cortex of cat, directional and orientational tuning for contrast and textured stimuli 7—34141
surface EMG quantification, use of digital discriminators 7—8542
surface myoelectric power spectral density as function of biceps brachii static load 7—8541
surgery microscope use in microneurosurgery 7—8756
synapses numerical density estimation, crit. evaluation of methods 7—34358
synaptic integration, neuronal structure and behaviour 7—59970
synchronised responses of primary auditory fibre-populations in caimans to single tones and clicks 7—8584
temperature and nerve conduction velocity, time for warming-up cold extremity 7—3752
thick specimens, computer-assisted video technique for preparing high resolution pictures and stereograms 7—28789
threshold characteristics of the human auditory brain stem response 7—54600
transmitter binding sites, quantitative autoradiography with an image analyser 7—34359
utricular afferents response to sinusoidal vibrations, simulation using spike generator mechanism model 7—47132
vertebrate retina, physiological and morphological differences between On- and Off-centre bipolar cells 7—47050
vision, colour deficients, colour discrimination and neural coding 7—59995
visual neurons of macaques, reconstruction of equidistant colour space from responses 7—28514

neutral currents
axial-vector current, contrib. to plasma neutrino energy loss rate in stellar interiors 7—55608
E_6 gauge group, gauge bosons and neutral currents 7—451
E_6 superstring-inspired models, neutral current anal. 7—61543
electroweak Glashow-Weinberg-Salam theory, one-loop effects 7—61509
electroweak interactions with the nucleon and tests of the standard model 7—61513
hypercolour, flavour changing neutral currents, chiral hierarchies 7—465
neutrino deep inelastic scattering, neutral current struct., review 7—19096
Skyrme model, expressions for various currents using gauge transformations 7—30162
solar-neutrino problem, self-contained soln. 7—18398
SU(3) × SU(2) × U(1) model, addition of vector-like quarks, flavour-changing neutral currents 7—35753
universality of ν_e and ν_μ coupling to neutral weak currents 7—24830
e^- weak neutral current coupling constant meas. from $e^-\nu_\mu \to e^-\nu_\mu$ 7—56438
$h_1h_2 \to V(t\bar{t})X$, $V(t\bar{t}) \to \gamma$, Z^0, $Z^0 \to l\bar{l}$, weak neutral currents, expt. possibilities, lepton longitudinal polarization 7—5098
$\mu \to e\gamma$, and heavy exotic fermions in E_6 models 7—15153
$\nu(\bar{\nu}P)$, 400 GeV, neutral to charged current cross section ratios 7—15144
$\nu N \to \pi^0 X$, neutral current coherent π^0 prod. 7—41780
$\nu_\mu N$ semileptonic interactions, electroweak mixing angle determ. 7—5084
$\bar{\nu}_\mu p \to \bar{\nu}_\mu p$, elastic scatt., absolute differential cross-sections 7—41779
υ neutral-current interactions, possibility of changing υ identity 7—61648
υ quarks, possible signatures at e^+e^- colliders 7—5032
$H(\nu, \pi^0)$, neutral current coherent π^0 prod. 7—41780
$Ne(\nu, \pi^0)$, neutral current coherent π^0 prod. 7—41780

neutrino detection and measurement
background effects of reactor antineutrinos and underground detectors 7—56916
bubble chamber, holographic recording techniques 7—25321
Bugey neutrino oscillation experiment status and a new neutrino detector 7—56491
CHARM II neutrino detector, test results of streamer-tube system 7—30851
Kamioka solar neutrino search 7—40694

neutrino detection and measurement continued
low energy neutrino detection with the Mont Blanc LSD experiment 7−56915
neutrino-induced EAS, detection possibilities 7−9349
reactor core antineutrino spectra 7−56492
Sudbury D_2O neutrino detector 7−56914
underground low background laboratories of the Baksan Neutrino Observatory 7−24333
D_2O Cherenkov detector for solar neutrinos 7−40695
Ga solar neutrino detector, ^{8}B neutrino captive rate effective interaction depend. 7−56913
Ga(ν,e) solar neutrino detector, implications for neutrino oscill. and solar models 7−56912

neutrino-electron interactions
see also neutrino-electron scattering
resonant-solar-neutrino-oscillation experiments, electron-neutrino survival probability 7−29459
$\bar{\nu}e \to$gaugino+X, poss. μ prod. from Cyg X-3 7−23962
$\nu_\mu e \to \nu_e \mu$, right-handed neutrinos in scalar leptonic interactions 7−509

neutrino-electron scattering
see also neutrino-electron interactions
$e^- \nu_\mu \to e^- \nu_\mu$, weak neutral current coupling constant meas. 7−56438
$\bar{\nu}_\mu(\nu_\mu)e$, electroweak mixing angle determ. 7−56536
$\nu_\mu(\bar{\nu}_\mu)e$ elastic scattering, expt. problems for CHARM II detector 7−24874
$\bar{\nu}e$ scattering and neutrino mixing, data anal. 7−61647
$\bar{\nu}_e e$ elastic scatt., single-loop corrections to cross section, SU(2)×U(1) theory 7−41784
$\nu_e e^-$ elastic scattering, cross section meas. 7−35851

neutrino interactions
see also neutrino-electron interactions; neutrino-neutrino interactions; neutrino-nucleon interactions; neutrino scattering
antineutrino flux from nuclear reactor, interactions 7−61650
atmospheric ν-induced backgrounds in N decay search 7−19109
deep inelastic scattering, neutral current struct., review 7−19096
event classification with the BEBC internal picket fence 7−49798
particle and nucl. physics intersections conf., Lake Louise, Canada, May 1986 7−29569
stressed medium, acoustic response anal. using neutrino beam 7−14397
ν_μ, $\nu_e \to \nu_\tau$ oscillations limits, $\nu_\mu,\nu_e \to \tau^-$ direct coupling 7−35768
υ neutral-current interactions, possibility of changing υ identity 7−61648

neutrino-neutrino interactions
see also neutrino-neutrino scattering
$\bar{\nu}\nu \to$hadrons, sub-Poissonian hadronic multiplicity distribs. 7−19121

neutrino-neutrino scattering
see also neutrino-neutrino interactions
No entries

neutrino-nucleon interactions
see also neutrino-nucleon scattering
deep inelastic scattering expts., implications for nucleon struct. and strong interaction 7−10028
electroweak interactions with the nucleon and tests of the standard model 7−61513
$\nu(\bar{\nu}P)$, 400 GeV, neutral to charged current cross section ratios 7−15144
$\nu(\bar{\nu})N \to \pi X$, diffractive PCAC dominated π-production 7−15143
$\nu_e(\nu_\mu)N$, ν_e,ν_μ coupling to charged weak currents, universality test 7−24872
$\nu A \to pX$, cumulative proton production, cascade-model calcs. 7−41782
$\nu_e d \to e^- pp$, cross section calcs., exchange current effects, relevance to solar neutrino problem 7−508
$\nu_e d \to e^+ nn$, cross section calcs., exchange current effects, relevance to solar neutrino problem 7−508
νN, deep inelastic, quark-confining pot. models 7−507
νN in fine-grain calorimeter, anomalous electron prod. $\nu_\mu \to \nu_e$ oscillations 7−30264
$\bar{\nu}n(p)$, 35 GeV, R_{Ne} $(x)=(d\sigma^{\bar{\nu}n}/dx)/(d\sigma^{\bar{\nu}}/dx)$ meas., comparison with $R_D(x)$, EMC effect anal. 7−5085
$\nu N \to \pi^0 X$, neutral current coherent π^0 prod. 7−41780
$\nu N \to X$, multiplicity of charmed mesons and baryons, quark parton model 7−41783
$\nu_\mu N$ semileptonic interactions, electroweak mixing angle determ. 7−5084
$\nu_\mu N \to$strange particles, inclusive production rates 7−528
$\bar{\nu}_e p \to e^+ n$, ν-oscillation expt., $\bar{\nu}$ spectra meas., two-neutrino oscillation model anal. 7−19095
$\bar{\nu}_e p \to ne^+$, count rates outside Rovno nuclear power plant 7−61649
$\bar{\nu}_\mu P \to \mu^+ \Lambda$, quasielastic production, comparison with Cabibbo scheme 7−41781
$\bar{\nu}N \to \rho^0$, tensor polarization meas. of ρ^0, charged current interaction 7−5083

neutrino-nucleon scattering
see also neutrino-nucleon interactions
quarks in a crystal, coherent scattering of neutrinos and antineutrinos 7−35849
νN, electroweak mixing angle determ. 7−56536
$\nu N \to \nu N$, abnormally large coherent cross-section 7−49130
$\bar{\nu}_\mu p \to \bar{\nu}_\mu p$, elastic scatt., absolute differential cross-sections 7−41779

neutrino-nucleus reactions
for inelastic neutrino-nucleus scattering, see "neutrino-nucleus scattering"
see also neutrino-nucleon interactions
$^{81}Br(\nu,e^-)^{81}Kr$ solar neutrino expt. 7−14498
$^{12}C(\nu_\mu,\mu^- X)$, charged current interactions, cross section meas. 7−35852
Ga solar neutrino detector, ^{8}B neutrino captive rate effective interaction depend. 7−56913
$^{A}Ga(\nu,e)$, A=69,71, capture rates, solar and galactic neutrino detection 7−56670
Ga(ν,e) solar neutrino detector, implications for neutrino oscill. and solar models 7−56912
$^{2}H(\nu,e^+nn)$, exchange currents effects, solar neutrino problem soln. 7−56537
$^{2}H(\nu,ep)^{1}H$, exchange currents effects, solar neutrino problem soln. 7−56537
$^{2}H(\nu_\mu, K)$, 1-5 GeV, nucleon decay search implications 7−19116
$H(\nu, \pi^0)$, neutral current coherent π^0 prod. 7−41780
^{20}Ne $(\bar{\nu},x)$, 35 GeV, R_{Ne} $(x)=(d\sigma^{\bar{\nu}n}/dx)/(d\sigma^{\bar{\nu}}/dx)$ meas., comparison with $R_D(x)$, EMC effect anal. 7−5085
$Ne(\nu, \pi^0)$, neutral current coherent π^0 prod. 7−41780

neutrino-nucleus scattering
see also neutrino-nucleon scattering
coherent neutrino scattering from crystals, theory 7−24871
$^{12}C(\bar{\nu}, \bar{\nu}')$, cross sections, anal. of $(0+0 \to 1+0)$ isoscalar transition, hadron current structure 7−5228
$^{14}N(\bar{\nu}, \bar{\nu}')$, cross sections, anal. of $(1+0 \to 2+0)$ isoscalar transition, hadron current structure 7−5228

neutrino oscillations
see also neutrino interactions
antineutrino flux from nuclear reactor, interactions 7−61650
Bugey neutrino oscillation experiment status and a new neutrino detector 7−56491
buildup in Earth 7−10051
CP violation in neutrino oscillations 7−19027
experiments at nuclear reactors 7−56490
Fermilab narrow band beam, limits on neutrino oscillations 7−15106
geophysical investigations 7−5033
indices of refraction, quantum loop corrections 7−41680
lepton mixing matrix knowledge from oscillation expts. 7−56493
lepton mixing ratio constraints 7−49020
liquid Ar solar neutrino detector, spectrum from direction of Sun, oscillation effects 7−18340
matter-enhanced ν oscillations, fundamental interaction studies in nuclei 7−41908
Mikheyev-Smirnov-Wolfenstein solar ν_e regeneration in the Earth 7−40661
neutrino masses and mixings, review 7−61531
nonuniform matter, effect of flavour dependent elastic scatt. 7−35766
nuclei, weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
properties and physics of neutrinos, review 7−30218
pseudo-Dirac ν as possible explanation of solar ν puzzle 7−56481
reactor ν-oscillation experiments, review 7−35749
reactor core antineutrino spectra 7−56492
resonant ν oscillations, nonadiabatic level crossing 7−5031
resonant amplification of three-neutrino oscillations in matter 7−61526
resonant-solar-neutrino-oscillation experiments, electron-neutrino survival probability 7−29459
solar ^{8}B neutrinos, oscillations, possible expt. using D_2O detector 7−40656
solar ν_e, adiabatic conversion via Mikheyev-Smirnov-Wolfenstein mechanism 7−5030
solar ν problem, Mikheyev-Smirnov-Wolfenstein mechanism and pseudo-Dirac ν 7−24819
solar neutrino correlation with reactor expts. 7−41689
solar neutrino oscillations, matter effects 7−29372
solar neutrino problem, matter enhanced oscillations 7−61521
solar neutrino problem, MSW mechanism of neutrino oscillations 7−41675
solar neutrinos, oscillations, effect of transmission through the Earth 7−41677
solar-neutrino problem, self-contained soln. 7−18398
solar-neutrino problem, three-neutrino oscillations 7−18399
Sudbury D_2O neutrino detector 7−56914
supersymmetric inflationary cosmology in supergravity framework 7−48514
tachyonic muon neutrinos, consequences for neutrino oscillations 7−24827
terrestrially enhanced neutrino oscillations 7−450
three state mixing, practical approximation 7−56494
ν mixing and $\bar{\nu}e$ scattering, data anal. 7−61647
ν-oscillations in matter 7−49041
ν_e mass, weak forces and oscillations *(Danish)* 7−440
ν_e-ν_τ oscillations prediction in SO (10) model 7−61525
ν_μ, $\nu_e \to \nu_\tau$ oscillations limits, $\nu_\mu,\nu_e \to \tau^-$ direct coupling 7−35768
ν_μ, postulated superluminal particle, relevance to neutrino oscillations 7−10088
$\nu_\mu \to \nu_e$ oscillations, experimental limits 7−24873
νN in fine-grain calorimeter, anomalous electron prod. $\nu_\mu \to \nu_e$ oscillations 7−30264
$\bar{\nu}_e p \to e^+ n$, ν-oscillation expt., $\bar{\nu}$ spectra meas., two-neutrino oscillation model anal. 7−19095
$\bar{\nu}_e p \to ne^+$, count rates outside Rovno nuclear power plant 7−61649
Ga(ν,e) solar neutrino detector, implications for neutrino oscill. and solar models 7−56912

neutrino production
cosmic ray neutrinos production in atmosphere, energy spectrum calc. 7−40660
neutron star formation, neutrino signature of collapse 7−55699
solar neutrino problem, implications of binding energies of Q-nuclei 7−55445
stellar interiors, axial-vector contrib. to plasma neutrino energy loss rate 7−55608
$e^+e^- \to \upsilon\bar{\upsilon}\gamma$, υ counting effects from light υ's and gauge bosons in E_6 models 7−19094
$e^+e^- \to \gamma\nu\bar{\nu}$, superstring effects, contrib. of ν and right handed neutrino to cross section 7−30263
$e^+e^- \to \bar{\nu}\nu$, mag. field effects, Glashow-Weinberg-Salam model study 7−41778
$e^+e^- \to Z^0 \to H(\to q\bar{q})\nu\bar{\nu}$, minimal standard model anal. 7−19120
$\bar{p}p \to l^\pm N \to l^\pm$ +jets, N=heavy neutrino, event signature anal. 7−19137
$\tau \to \mu\nu\bar{\nu}$, branching ratio determ. 7−15142
$Z \to \bar{\nu}\nu\gamma$, composite model study 7−24886
$Z^0 \to q\bar{q}\nu\bar{\nu}$, minimal standard model anal. 7−19120
$\mu \to e\nu\nu$, internal asymmetry parameter and nonstandard weak interaction 7−35870
$Z \to \bar{\nu}\nu H$, composite model study 7−24886

neutrino scattering
see also neutrino-electron scattering; neutrino interactions; neutrino-neutrino scattering; neutrino-nucleon scattering
coherent low energy neutrino scattering from macroscopic objects 7−35850
coherent neutrino scattering from crystals, theory 7−24871
$E_8 \times E_8$ superstring theory, extra U(1) phenomenology 7−41688
electroweak standard model, 1-loop renormalisation, leptonic processes appl. 7−61512
massive Dirac neutrino scatt. in magnetic dipole field 7−10052
υ_μ neutral-current scattering, υ_τ, υ_e bounds, possibility of changing υ identity 7−61648

neutrinos
see also cosmic ray neutrinos
black holes, neutrino and γ-Ray emission due nucl. reactions of accreting matter *(Russian)* 7—24160
boson-fermion duality in 4D, photon construction from neutrino pairs 7—41585
charge radius and dipole moment, limits from $e^-\nu_\mu \to e^-\nu_\mu$ 7—56438
cold dark matter candidates, limits from deep underground detectors 7—23998
cosmological neutrino number, effect on cosmic nucleosynthesis 7—40979
dark matter candidates, scatt. and annihilation cross sections 7—15089
Dirac and Majorana V, symmetry tests, review 7—30205
Dirac neutrinos and techniphotons, minimal model in technicolour framework 7—10020
double β-decay rates and ν mass calcs. 7—41943
$E_8 \times E'_8$ superstring theory, p mass constraints 7—41686
early Universe, time variation of fundamental constants, primordial nucleosynthesis and extra dimens. size 7—9567
electroweak signals in circuits, chiral anomaly induced spin waves as QED probes 7—460
fermion fields in the soliton background of Kaluza-Klein theories 7—41202
fermion mass determination, Weinberg model 7—49021
galactic halo study using γ-rays from WIMP annihilation 7—9542
Gelmini-Roncadelli model, one-loop renormalisation group anal., ν mass generation 7—24817
high intensity neutrino beam prod. at meson factories, focusing device, magnets 7—5517
left-right symmetric models, light scalar indications 7—15099
light ν masses and mixing angles in SO(10) 7—61525
light Dirac neutrino in left-right-symmetric models 7—41681
Majorana neutrinos in Kobayashi-Maskawa hard-CP-violation model 7—19027
mass, lepton flavour and lepton number nonconservation 7—9989
mass determination from ^{169}Yb, β-decay, natural widths meas. 7—49322
mass determination from T beta-decay, molecular effects in alkane cpds. 7—49310
mass in superstring models 7—48499
mass limits from ^{76}Ge neutrinoless double beta decay 7—49340
mass limits from neutrinoless double beta decay expts. 7—49335
mass matrix in E_6 model 7—56474
mass measurement from ^{3}H bound-state β-decay 7—56643
masses, superstring model calcs. 7—453
masses in extended Weinberg model 7—15104
masses in Fritzsch-Stech quark model in SO(10) 7—61547
massive neutrinos, electroweak model anal. 7—56488
massive neutrinos nonthermal distrib. 7—9557
neutral weak currents, universality of ν_e and ν_μ coupling 7—24830
neutrino masses and mixings, review 7—61531
neutrinoless double beta-decay, neutrino mass, interaction properties 7—41947
neutron stars, neutrino emissivity and opacity 7—66650
particle and nucl. physics intersections conf., Lake Louise, Canada, May 1986 7—29569
Plebanski metric perturbations in general relativity, fermion field perturbations 7—18645
polarization loss and induced electric charge in plasmas 7—41685
properties, review 7—30218
rest mass meas., anal. from ^{3}H beta-spectra meas. 7—5201
right-handed neutrinos, mass limits in left-right symmetric models 7—56498
SO(10) GUT, neutrino see-saw and mass matrix 7—24815
SO(18), fermion families, symmetry breaking scheme, neutrino masses 7—452
solar neutrino detection, workshop, Tsukuba-gun, Japan (August 1986) 7—48193
solar neutrino energy spectra calcs. from supersymmetric relics 7—34814
solar neutrino problem, effects of cosmions in solar interior and globular cluster stars 7—55436
solar neutrino problem, feasibility of $^{81}\mathrm{Br}(\nu,e^-)^{81}\mathrm{Kr}$ expt. 7—14498
space dimensionality and the number of possible neutrino types 7—35829
species limit $(n \leq 7)$ from missing transverse events, $W^\pm \to$heavy leptons 7—61680
stability tests, consequences for solar problem 7—35758
$SU(2)\times U(1)$ gauge theory, Majorana D and CP violation in leptonic sector 7—24790
superstring neutrino mass problem without high intermediate energy scale, soln. search 7—15096
superstring-induced mass and mag. moment 7—35824
tachyonic muon neutrinos, consequences for neutrino oscillations 7—24827
TeV neutrino beams, physical bases and geophysical appls., review 7—40587
unified left-right symmetric model of massive neutrinos with conserved lepton number 7—30224
unstable heavy neutrinos, constraints from cosmology 7—34860
wavelike solutions to the Einstein equations coupled to neutrino and gauge fields 7—35349
$\mu N \to eN'$, massive neutrino bounds, $SU(2)_L \times U(1)$ anal. 7—19112
n beta-decay, mag. field effects, spin effects and ν mass 7—41800
$\nu \to \gamma X$, heavy ν, lifetime constraints from primordial light-element photodestruction anal. 7—10059
ν mass and nuclear beta-strength, cosmological and astrophysical consequences 7—48129
ν mass experiments 7—35748
$\nu \to \nu\gamma$, lifetime in left-right models 7—35764
$\nu \to W^+W^-e$, massive neutrino decay probability calcs. in steady magnetic field, polarization effects 7—5089
ν_e, ν_μ coupling to charged weak currents, universality test 7—24872
$\bar{\nu}_e$ mass, upper limit determ., ^{3}H beta spectrum meas. 7—35975
$\bar{\nu}_e$ mass, upper limit determ. from ^{3}H beta spectrum endpoint meas. 7—35976
ν_e mass, upper limit determ. from ^{3}H beta spectra meas. *(German)* 7—35978
ν_e mass, weak forces and oscillations *(Danish)* 7—440
ν_e mass upper limit, ^{163}Ho electron capture expt. 7—56645
ν_e mass using ^{163}Ho electron capture 7—30383
ν_e masses and L parity in E_6 superstrings 7—19048
$\nu_e \to \nu_\mu$+majoron, Sun-Earth decay problem, triplet majoron model anal. 7—61673
ν_μ, postulated superluminal particle, exptl. predictions 7—10088
$\nu_\mu \to \nu_e$ oscillations, experimental limits 7—24873

neutrinos continued
ν_τ mass in E_6 superstrings 7—30266
ν_τ mass limits 7—24884
υ, Majorana type, mass limits in ^{76}Ge O$\upsilon\beta\beta$-decay expts. 7—61841
υ neutral-current interactions, possibility of changing υ identity 7—61648
υ_e, Majorana mass upper limit from ^{76}Ge double beta decay experiments 7—41942
$\bar{\nu}_e$, mass limit in free molecular tritium decay 7—56652
$\bar{\nu}_e$, mass upper limit from tritium beta decay 7—56651
ν_e mass meas. using ^{163}Ho electron capture 7—56653
$\nu \to \nu'\gamma$, decay rate calc. in E_6 superstrings 7—30266
T_2, β-decay energy spectra, HeT^+ electronic reson., and neutrino mass depend. 7—61840

neutron absorption
fission reactor materials, effective neutron absorption cross section determ. 7—56708
fusion blanket, self-cooled water-based, tritium breeding performance, neutronics anal. 7—56840

neutron activation analysis
see also radioactive chemical analysis
Ain-Franin geothermal water, Algeria, instrumental neutron activation anal. 7—60289
Alzheimer's disease, trace element imbalance meas. using sequential neutron activation anal. 7—34257
atmospheric deposition of inorganic contaminants, anal. using nuclear techniques 7—34092
CR-39 track detectors, impurity content, PIXE and neutron activation studies 7—36406
electronics materials, neutron activation anal., book contrib. 7—46914
environmental monitoring of marine bivalves and sediments using X-ray fluorescence and neutron/prompt gamma activation anal. 7—34077
environmental standard reference materials, determ. of sampling constants 7—34748
environmental standard reference materials, instrumental neutron activation anal. results 7—34747
environmental standard reference materials, role of neutron activation anal. in certification 7—34746
gamma-ray emission rate effects on cross section meas. 7—30672
geochemical sample analysis, calc. for case when sample contains strong absorbers 7—23851
high sensitivity, using underground laboratory for gamma spectroscopy 7—24743
human nails as trace-element monitor, neutron activation anal. study 7—34258
impurity profiling in mixed diffusion by neutron activation analysis 7—59810
infinite slab, self-shielding correction for the resonance activationdetectors Na, Mn, and Co 7—8336
instrumental elementary anal., fission research reactor equipment complex 7—39932
low neutron flux neutron activation analysis 7—54212
microelectronic devices and materials, characterisation methods, book 7—41028
monocomparator method for reactor neutron activation anal., radionuclide K_0-values, reference material anal. *(Chinese)* 7—8338
multilayered structures, physical and chemical charact. 7—38376
radioisotope production, anal. and appl., conf., Banff, Canada, Sept. 1985 7—24254
rheumatic disease patients, seasonal variation in total body Ca, in vivo neutron activation anal. obs. 7—40251
selenoproteins in bovine kidneys, anal. using gel chromatography and neutron activation 7—34363
semiconductor materials characterisation, electron, ion, X-ray and optical probe methods 7—27203
single comparator method for reactor neutron activation anal. 7—8331
trace elements in atmosphere of Ankara, neutron activation anal. 7—3739
trace-element concentration meas. in air masses, neutron activation appl. 7—34086
urine metabolites containing radioactive elements, determ. using molecular neutron activation anal. 7—34259
volcanic samples, neutron activation analysis meas. 7—34745
^{198}Au, activity meas., thermal neutron flux density meas. using liquid scintillation technique 7—17844
B irradiation vessel for S,Cl,Zn NAA cross section determ. 7—23116
Ca, total body meas. by neutron activation analysis, in vivo precision 7—65851
Cl, total body, meas. by prompt γ in vivo neutron activation analysis 7—65848
^{60}Co, activity meas., thermal neutron flux density meas. using liquid scintillation technique 7—17844
I determination in biological materials by epithermal neutron activation analysis 7—34364
^{123}I, high-purity, prod. and specific activity meas. 7—28696
^{131}I, specific activity meas. in commercial samples 7—28698
$In_xGa_{1-x}As$, photoluminescence determ. of effects due to In alloying 7—46096
IrLa(Ce) cathodes, thermal emission and sublimation 7—13317
^{40}Kr, sedimentary processes and metal depth profiles 7—55010
Na, total body meas. by neutron activation analysis, in vivo precision 7—65851
^{237}Np determination in sediments from Sellafield, UK, by neutron activation anal. 7—28731
^{210}Pb, sedimentary processes and metal depth profiles 7—55010
Si, element analysis, neutron activation and capture method 7—17846
U, determ. of isotope ratio, simultaneous anal. with Th, delayed neutron counting method 7—3615
W monocrystals, with P impurities, removal during chem. and metallurgical treatments 7—6645

neutron angular distribution
see also neutron spectra
^{2}H(γ,pn), nucleon angular distn., polarization meas., isolation of EI-MI interference contributions 7—56664
^{26}Mg(^{3}He,n)^{28}Si, 23, 45 MeV, neutron angular distribs., DWBA, coupled channel comparisons, ^{28}Si level anal. 7—42036
^{208}Pb(^{20}Ne,nX), 390 MeV/nucleon, low-energy neutron angular distribs. meas. 7—19284

neutron beam effects *see neutron effects*

neutron detection and measurement
see also neutron spectrometers
ΔE-E telescope system using plastic scintillation detector for n beam flux monitor 7—825
absorbed dose component determ. in mixed field *(Chinese)* 7—5560
accidental-coincidence corrections, discrepancies determ. 7—49858
accidental-coincidence corrections 7—30908
calibration field from moderated ^{252}Cf source, design and calcs. 7—49852
calibration field from moderated ^{252}Cf source, expt. characterization 7—49853
conf., Smolenice, Czechoslovakia, June 1985 7—41005
conference on radiation protection physics, Bad Schandau, Germany (Feb. 1986) 7—24267
correlation assay, third factorial moment meas. 7—30907
correlation counter calibration by calorimetry and γ-ray meas. 7—30905
CR39 plastic track detector, calibration for 2.45 MeV neutrons 7—49817
CR-39, electrochemically etched, proton response 7—42416
CR-39 detector, fast neutron fluence meas. technique 7—30885
CR-39 electrochemically etched n dosimeters, pre-etching time effects on response characts. 7—30871
CR-39 fast neutron dosimeter, nearly flat dose equivalent response 7—42418
CR-39 manufacture for neutron dosimetry appl. 7—42412
CR-39 neutron dosimeters, electrochemically etched 7—42422
CR-39 neutron recoil track detectors, etching optimization up to 1 MHz 7—30874
CR-39 neutron recoil track etch dosimetry 7—42419
CR-39 plastic, neutron response, background, ageing and fading props. 7—42417
CR-39 polymer dosimeters, electrochemical development of particle tracks 7—30873
CR-39 spark counting, electrochem. etching for ^{6}Li(n,α) 7—42421
CR-39/radiator dosimeter, neutron response 7—30723
dose equivalent conversion coeffs., instruments and dosimeter responses for a set of neutron radiation fields 7—54761
dosimeter, multielement neutron track design 7—30722
dosimeter, proton build-up calc. 7—65860
dosimetry in high intensity fields, SSNTD limitations, review 7—42234
dosimetry standard for fission track dating 7—36433
double scatter in time of flight spectrometer for fusion plasma, electronics implementation 7—15368
double scatter neutron time-of-flight spectrometer for fusion plasma measurements 7—15450
error analysis in reactor-core neutron beam density measurements by gold-foil activation 7—36181
fast neutron dosimetry using CR-39 with scintillator filled etched pit method 7—42410
fast-neutron spectrometry using the triple-α reaction in the CR-39 detector 7—42408
fast-neutron-induced track formation in LR-115 and CR-39 7—42428
fission track age determination, neutron dosimetry, neutron energy effects 7—47570
gaseous, scintillation, semiconductors and fission detectors *(Rumanian)* 7—10362
high-pressure ionisation chamber, appl. to meas. mean neutron energy or γ-ray dose fraction in a mixed neutron-γ field 7—34280
high-pressure ionisation chamber to meas. mean neutron energy and γ-ray dose fraction 7—34281
in-plant neutron coincidence counting in nucl. materials processing plants, status 7—30904
integral neutron detectors, spectral sensitivity estimation 7—49845
IRT-2000 reactor, α-quantity meas. at thermal point by multiplicity spectroscopy *(Russian)* 7—42123
Little-Boy replica neutron spectrum, meas. using nuclear research emulsions 7—30903
low energy neutron detection, recent progress 7—42443
LWR pressure vessel mock-ups, fission rate meas. using SSNTD 7—42124
MA-ND type nuclear track detectors, neutron radiographic characts. 7—36404
magnetic shielding of a large volume for quasi-free neutron oscillation expt. 7—42314
Makrofol E, particle registration studies and etching techniques 7—30875
Makrofol-E neutron recoil track detectors, etching optimization up to 1 MHz 7—30874
Makrofol-polycarbonate detector, neutron induced tracks 7—42420
moderated activation neutron detector, photon sensitivity 7—40302
molecular fraction method for personnel radiation dose meas. 7—62096
MOS neutron sensors, detection props. depend. on radiation field 7—25305
multiple neutron event detector 7—19635
multiplicity measurements with shift registers, dead-time error reduction method 7—25331
NE104 and NE110 aged large vol. scintillators, response to fast n, p and e 7—5538
neutron backscatter effects from photomultiplier assembly in TOF spectrometry at 144 keV 7—49786
neutron doses in nuclear power plants, need for personnel dosimeters 7—25263
neutron dosimetry, track detector characteristics 7—30884
neutron dosimetry system based on the chemical etch of CR-39 7—42411
neutron induced fission rate meas. at high fluence and temp. by SSNTD 7—42081
neutron penumbral imaging camera, optimisation and simulation 7—1017
neutron-activation detectors, activity meas. by gamma spectrometry, systematic errors 7—49793
neutron-activation detectors with fissionable nuclides 7—56907
nuclear power plant, neutron dosimetry using Kodak LR 115 II B 7—30718
Paks Unit 2, noise meas. using in-core self-powered neutron detector strings 7—62012
personnel neutron dosimetry using hot, low-frequency electrochemical etching 7—42414
position sensitive scintillation detector for fragment correlations 7—62212
prompt self-powered neutron detectors, reactor noise anal., REND code calcs. 7—36193
pulsed source experiments, use of ex-core epithermal detectors, kinetic distortion 7—56771

neutron detection and measurement continued
reactor pressure vessel neutron dosimetry using solid-state track recorder 7—36305
reactor radiation fields, intense, neutron-activation measurements, standar disation 7—49846
remote sensing neutron dosimetry using prompt γ-ray spectrometry 7—49727
simulated basalt geological radwaste repository, SSNTD neutron dosimetry 7—42199
single element neutron personal dosemeter using poly allyl diglycol carbonate 7—42415
solid state nuclear track detectors, conference, Rome, Italy (Sept. 1985) 7—40991
spent nuclear fuel assemblies, nondestructive burnup meas. at reprocessing plant *(Japanese)* 7—17753
spent nuclear fuel shipping vessel, neutron dose rates, Monte-Carlo anal 7—25267
thermal in coincidence counting, rejection of outliers 7—30909
thermal neutron dosimetry using CR-39 with scintillator etch pit method 7—42409
thermal neutron flux, device for calorimetric meas. 7—5552
thermal neutron imaging using position sensitive photomultiplier 7—49819
thermal neutron monitoring using cellulose nitrate track detectors and spark counter 7—30902
thermal-neutron registration channel 7—36414
three-dimensional He-recoil MWPC for fast polarizedneutrons 7—5542
threshold-type neutron detector with hydrogen-containing scatterer 7—36180
time-resolved 14-MeV neutron detector for tritonconfinement studies 7—11733
tissue equivalent radiochromic waveguide dosimeters for X, γ and fast neutron meas. 7—34279
TMI-2 reactor cavity, neutron dosimetry using solid-state track detectors 7—30717
unfolding method for neutron spectra based on max. likelihood method 7—5531
water and chloride content meas. using neutron counting 7—56291
water velocity meas. in porous medium by fast neutron transmission 7—37584
wire chambers, use in structural biology 7—47294
WWER-440, fast neutron dose meas. for pressure vessel using ^{93}Nb(n,n')^{93}Nb^{m} 7—56780
γ-ray source radiation field near interface of different density material 7—36361
n-γ radiation field dosimetry using miniature Si photodiodes 7—25262
BeO thermoluminescent phosphor, γ and in dosimetry using electrical conductivity 7—62095
CaF$_2$:Mn thermoluminescent phosphor, γ and in dosimetry using electrical conductivity 7—62095
CaF$_2$:Tm Teflon TLD discs of different thicknesses, fast neutron responses 7—54757
^{252}Cf radiation, phys. and biological dosimetries 7—28711
Li$_2$B$_4$O$_7$:Mn thermoluminescent phosphor, γ and in dosimetry using electrical conductivity 7—62095
LiF thermoluminescent dosimeter appl. in n-γ mixed field dosimetry in TRIGA reactors 7—49733
Si surface barrier detector for fusion neutron spectroscopy 7—11727
V self-powered neutron detectors, sensitivity 7—42316

neutron diffraction
see also neutron diffraction crystallography; neutron diffraction examination of materials
causal theory for neutron diffraction 7—41138
superlattices, diffraction and channelling of photons and neutrons 7—6480

neutron diffraction crystallography
see also crystal atomic structure
1D position sensitive detector used in time of flight method, data evaluation 7—11846
2D position sensitive gas detector data, appl. of stat. methods, detector response charact. 7—11840
2D scattering distrib. anal. 7—11844
asymmetric small angle scatt., optimum geometry 7—1819
Bragg data collection with flat-cone diffractometer 7—1818
coherent quasielastic neutron scatt. 7—51581
cooling device for operation at 10K, mounting without rot. seals on four-circle diffractometer 7—14954
cryorefrigerator for neutron diffractometer, unit for holding and centering on a Eulerian cradle 7—30019
data reduction from area detectors used withcontinuous wavelength neutron sources 7—11842
distorted crystals, 1D, reflectivity, wavelength depend. 7—32226
double crystal diffractometer procedures 7—51580
dynamic property studies using neutron scatt., book contrib. 7—26897
effective mass of neutrons diffracting in crystals 7—44312
heterogeneities, very cold neutron elastic scattering, integral cross sections 7—63405
integration of single cryst. neutron data using position sensitive detector 7—11841
Laue indexing, orientation matrix approach 7—16346
Laue-Laue interferometry 7—11831
N-crystal spectrometer 7—51566
neutron interferometric double-resonance experiment 7—15046
nonisotropic inhomogeneities, inclination angle, small angle neutron scatt. determ. 7—16362
position-sensitive-detector data, integration of overlapping peaks by least-squares fitting 7—11843
protein crystallography, neutron, data-collection facility equipped with linear detector 7—14168
quasielastic neutron scatt., nonlinear effects and lineshape calcs. 7—63403
single cryst. neutron scattering, diffr. obs. in widely divergent beams, Kossel effect analogue 7—63404
single crystal diffr data evaluation from 2 D PSDs workshop, Grenoble, France (Nov. 1985) 7—9581
small-angle neutron scatt. data, absolute calibration 7—51579
small-angle neutron scatt. spectrometer 7—32227
solid state reactions, real-time neutron powder diffr. 7—16361
sound velocity determ. by time of flight neutron diffr. 7—32575
spallation time of flight data from 2D position sensitive detector, anal. 7—11847
spatial condensation by asymmetric diffr. in thermal neutron monochromatisation 7—16363

neutron diffraction crystallography continued
- spin dynamics above the Curie temp. studied by neutron scatt. 7−45685
- SXD, the single crystal facility at ISIS 7−11848
- thermal neutrons dynamical diffraction, effects of apertures 7−44301
- time of flight small angle neutron scatt., resolution, calc., meas. on biological samples 7−18097
- very cold neutrons, dispersion in different heterogeneities 7−11851
- vitamin B_{12} coenzyme crysts., water struct., neutron and X-ray solvent densities anal. 7−28454
- white beam Laue diffr. technique on photographic film, rel. to struct. phase transitions 7−11845
- Zwischenreflex scattering, from point defects 7−51766
- Ge, fast neutron scatt. in crystals *(Russian)* 7−1820

neutron diffraction examination of liquids
- *see also liquid structure*
- bovine serum albumin- lithium dodecyl sulphate complexes, struct. and fractal dimension 7−40093
- n-butane, liq., mol. dynamics simulations, mean square displacement and vel. autocorrel. functions 7−6497
- carbon tetrachloride-$SnCl_4$ liq. mixture, struct., neutron diffr. exam., RISM integral eqn. calcs. 7−63432
- coupled oscillators in convective flow, neutron scatt. obs. 7−44366
- 4,4′-di-n-pentyloxyazoxybenzene, nematic and rotary phases, molecular reorientation 7−32278
- diblock copolymers under steady flow, nonequilib. struct., neutron and X-ray scatt. 7−20763
- dilute solutions, randomly broken chains, small angle neutron, X-ray and light scatt. data 7−10788
- liquid mixtures, transport processes, mutual diffusion, microscopic description 7−58514
- liquid state, isotope-induced quantum-phase transitions 7−12295
- metals, dielectric function, neutron and X-ray scatt. methods 7−52481
- methanol-d_4, mol. struct., pulsed neutron diffr. study 7−63427
- micellar solns., intermicellar struct. factors, hypernetted chain Percus-Yevick approx. 7−3611
- molecular dynamics, neutron scattering and collective oscillations under thermal fluctuations 7−16381
- oil-water three component microemulsion, interfacial curvature studies 7−39930
- polyelectrolyte solns., small-angle scatt. 7−44338
- polymer liquid crystal, neutron scatt., appl. of 2D scattering distrib. anal. 7−11844
- polymer melts, strained, chain retraction, length fluctuations, small angle neutron scatt. 7−51606
- polymethacrylic acid, salt-free solns., chain dimensions, small-angle scatt. 7−11885
- polymethacrylic acid, solns., chain dimens., small-angle scatt. obs. 7−16389
- polymethacrylic acid, solns., hydration and conform. obs. 7−5802
- polystyrene, solns., static screening length behaviour 7−20078
- polystyrene sulphonate, ionomers, in soln., dynamics, neutron spin echo obs. 7−51607
- polystyrene-b-(ethylene-co-propylene) diblock copolymers, micelle form., small angle neutron scatt. 7−11887
- quantum liquids and solids, scaling and deep inelastic neutron scatt. 7−58558
- smectic liq. cryst. polymer, comb-like macromolecule conformation, determ. from neutron scatt. data 7−26623
- water, liquid, OH stretching vibr. spectrum, mol. dynamics study, IR, Raman and neutron diffr. spectra 7−44329
- CuTi molten alloys, evidence of chemical short range order 7−21077
- Ga, liq., electron distrib., struct. factors, neutron diffr. determ. 7−26620
- Ge-Te liq. eutectic alloys, elec. resist. and struct., 600 to 900 K *(German)* 7−45334
- Hg, static structure factor, neutron diffr. study and Monte Carlo simulation 7−37841
- $SiCl_4$-$TiCl_4$, liq. mixtures, neutron diffr., RISM anal. 7−44342
- $SnCl_4$-$TiCl_4$, liq. mixtures, neutron diffr., RISM anal. 7−44342
- Tl, liq., electron distrib., struct. factors, neutron diffr. determ. 7−26620

neutron diffraction examination of materials
- *see also neutron diffraction crystallography; neutron diffraction examination of liquids*
- actinides, elastic neutron scatt. and diffr. studies, review 7−12945
- alloys, amorphous, hierarchial structs., SANS studies 7−51643
- alloys, atomic diffusion via vacancies, quasielastic coherent scatt. studies 7−58527
- alloys, phase separation, low Q SANS studies 7−52066
- alloys, structurally superplastic flow, texture, neutron and X-ray obs. 7−46589
- bacteriorhodopsin, location of chem. modified lysine 41 in struct. by neutron diffr. 7−23295
- β-$(BEDT\text{-}TTF)_2I_2Br$, low temp. struct., superconductivity suppression 7−44518
- β^*-$(BEDT\text{-}TTF)_2I_3$, cryst. struct. in high-T_c phase 7−44519
- β^*-$(BEDT\text{-}TTF)_2I_3$, struct. order and disorder, neutron diffr. obs. 7−58253
- 1,4-benzoquinone, solid, optically inactive modes, vibr. spectroscopy 7−32585
- block copolymer, heterogeneous, single-chain neutron scatt., de Gennes scatt. formalism calcs. 7−44418
- bronzes, structs., sliding motion of CDW 7−64129
- t-butyl cyanide, disordered phase, cooperative dynamics 7−58195
- carbon tetrachloride, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7−31145
- catalyst surfaces, characterisation by neutron inelastic scatt. from adsorbates 7−7000
- classical spin chains, dil., effects of mag. field on thermodynamics 7−38840
- colloidal grains with adsorbed polymer layers, neutron scattering anal. 7−21621
- conducting antiferromagnets, collective excitations *(Russian)* 7−58998
- α-cyanoacetohydrazide, crystal struct., neutron diffr. anal., ab initio MO calcs. 7−36458
- 1-cyanodamantane, glassy phase, study of molecular reorientations, high resolution quasi-elastic, neutron scatt. 7−51636
- cyclohexyl ammonium copper tribromide-d_{14}, $S={}^1/_2$ ferromag. chain system, short and long range correlations 7−17159
- defects, neutron and synchrotron radiation studies, comparisons 7−51754
- defects, stress- and fatigue-induced, small angle neutron scatt. studies 7−58273

neutron diffraction examination of materials continued
- dimethyl oxalate, solid, ^{13}C NMR, X-ray and neutron diffr., chemical shielding tensors 7−13041
- dimethyl tin dichloride, methyl group rotational tunnelling, librations and coupling, inelastic neutron scatt. study 7−12218
- 2,3-dimethylnaphthalene, rotational excitations of methyl 7−2117
- disordered monatomic solid, dynamics, force constants distribution 7−12222
- dynamic property studies using neutron scatt., book contrib. 7−26897
- EBBA, nematogen, diffr. and spectroscopic study of solid states 7−64645
- experiment planning and eval. based on stat. consideration 7−619
- ferromagnet, Debye-Waller factor anomaly and diffuse scatt. studies *(Russian)* 7−12973
- graphite, pyrolytic, highly oriented, intercalation reaction with K vapour, neutron diffr. study 7−1999
- graphite, sound velocity determ. by time of flight neutron diffr. 7−32575
- graphite, velocity of sound meas. by pulsed neutron diffraction 7−38125
- graphite surface, layering and mixing in coadsorbed Xe-ethylene films 7−58624
- graphite-HNO_3 intercalation cpd., $C_{20}HNO_3$, low-temp. struct. 7−51721
- graphite-K intercalation cpd., KC_{24}, 2D layer melting dynamics, neutron scatt. meas. 7−21420
- graphite-Rb intercalation cpd., RbC_{24}, 2D layer melting dynamics, neutron scatt. meas. 7−21420
- Group VII hydrides, high-press. cryst. struct. 7−21183
- Heisenberg ferromagnets, paramagnetic neutron scatt. temp. depend. anal. 7−38848
- ice, amorphous high-density struct. by neutron diffr. 7−37865
- incommensurately modulated phases, scatt. theory 7−26938
- kaersutite, cation distrib. and proton location, neutron diffr. studies 7−63569
- latt. dynamics, phonon line shapes at high temp. 7−2122
- magnetised plasma, neutron excitation of Landau and collective modes 7−7134
- metal-H system, surface props. investig. 7−33487
- metal-H systems, Jahn-Teller relax. effects in inelastic neutron scatt. spectra 7−58781
- metallic glasses, defects, SANS studies 7−51659
- metallic glasses-H_2, prep., struct. and props. 7−26663
- metals, degenerate excited H states, Jahn-Teller effects calcs. 7−52535
- metals, ferromagnetic, spin fluctuations above T_c *(Japanese)* 7−22113
- metals, neutron scattering studies, conf., Julich, Germany (Oct. 1985) 7−48178
- metals, point defects in thermal equilibrium, laser interferometry-neutron diffr. studies 7−58274
- metals, proton tunneling, neutron scattering studies 7−6646
- metals, texture and internal stress determ. using ultrasonic Rayleigh waves and neutron diffraction 7−46767
- microelectronic materials processing, appl. of neutron depth profiling, book contrib. 7−44595
- multilayers for neutrons and X-rays, disorder and diffusion 7−32872
- $NaNO_2$ aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7−32692
- naphthalene-tetracyanobenzene complex, mol. motions, neutron scatt. obs. 7−44709
- neutron scatt., impulse approx. derivation, ground-state momentum distrib. deduction 7−44311
- $Ni_3Al_{0.8}$-based alloys, magnetic and structural props. studies 7−45635
- Nimonic superalloy, PE16, decomposition kinetics, TEM, FIM and SANS studies 7−53748
- norbornane, plastic cryst. phases, mol. reorientations, incoherent quasielastic neutron scatt. 7−63527
- pancreatic trypsin inhibitor, bovine, low freq. motion, inelastic neutron scatt. 7−17937
- perfluorosulfonated ionomer membranes, interpretation of small-angle X-ray and neutron scatt. 7−32310
- PET, ester interchange reactions, small-angle neutron scatt. obs. 7−23004
- physisorbed atoms on anisotropic rectangular lattice, struct. factor of incommensurate phases 7−52250
- poly(dimethylsiloxane)/polystyrene interpenetrating networks, size of phase separated regions, small-angle neutron scatt. anal. 7−11961
- poly(ethylene terephthalate), changes in molecular conformations produced by crystallization and drawing, neutron scatt. anal. 7−10799
- polyacetylene, laminated, neutron scatt., appl. of 2D scattering distrib. anal. 7−11844
- polyphenyls, hydrogenated p-terphenyl and deuterated biphenyl, structural transitions *(French)* 7−12256
- polystyrene, compressed, shear bands, macromolecular orientation, small-angle neutron scatt. 7−53821
- polystyrene, inclination angle, small angle neutron scatt. determ. 7−16362
- polystyrene-polybutadiene block copolymer, single-chain neutron scatt., de Gennes scatt. formalism calcs. 7−44418
- polystyrene-polyvinylmethylether blends, phase decomp., small angle neutron scatt. 7−28021
- potassium hydrogen malonate, crystn., inelastic neutron scatt. 7−32419
- propylammonium tetrachloromanganate, incommensurate γ phase, elastic neutron and X-ray scatt. 7−16538
- proteins in membranes, powder samples, label positions, determ. by neutron and anomalous X-ray diffr. 7−3755
- PVC, crystallinity, small-angle neutron scatt. investig. 7−63510
- PVC, plasticized, small-angle neutron scattering structure anal. 7−11963
- quantum liquids and solids, scaling and deep inelastic neutron scatt. 7−58558
- quartz, phonon dispersion and mode coupling near incommensurate phase transition 7−58421
- random magnets, spin relax., spin glasses and reentrant alloys 7−33265
- rare earth metals and intermetallics, Cryst. pot. model for description of cryst. elec. field effects 7−45599
- rubber, crosslinked chain entanglement and orientational effect, form factor, deform. depend. 7−6711
- steel, austenitic stainless heterogeneities, small angle neutron scatt. studies 7−51580
- steel, Ni-Cr-Mo, autofrettaged tubes, residual stress determ. by neutron and X-ray diffr. 7−33743
- steel, pressure vessel, neutron irrad., defect microstruct., SANS and TEM studies 7−58351
- steel, pressure vessel, small angle neutron scatt. technique studies 7−59735
- superlattices, magnetism at interfaces and surfaces, neutron scatt. studies 7−2822
- susceptibility meas., PMR, X-ray and neutron diffr. 7−45244

neutron diffraction examination of materials continued
tetrachloromethane, in porous SiO_2, structural features, neutron-diffr. studies 7—16536
tetramethyl tin isolated in Ar, inelastic neutron scatt., intermol. interaction, rot. tunnelling 7—20067
tetraphenylarsonium pentakis(nitrato)ytterbate(III), crystal field levels determ. by neutron spectroscopy 7—45238
$(TMTSF)_2PF_6$, cryst. struct., neutron low temp. and X-ray high press. diffr. studies 7—44502
toluene, α-crystallised, temp. and press. effects on methyl tunnelling, inelastic neutron scatt. 7—38133
transition metal systems, induced magnetic form factors, neutron scatt. calcs. 7—7470
urea inclusion cpds. with n-paraffins, phase transitions and ordering 7—32634
V-Hf-Zr-Ta C-15 phase superconducting alloys, phonon props., inelastic neutron scatt. spectra 7—51969
vitamin B_{12} coenzyme crysts., water struct., neutron and X-ray solvent densities anal. 7—28454
Vycor leached porous glass, fractal struct., SANS, SAXS, and energy transfer meas., comment and reply 7—44398
α-AgI, ionic motions and neutron inelastic scatt., mol. dynamics studies 7—27004
AgO, tetragonal, struct. and mag. props. 7—32399
Al-Mn-Cr-Si quasicryst. atomic struct., pulsed neutron scatt. meas. 7—51639
Al-transition metal quasicrystalline alloys, isomorphism, neutron diffr. meas. 7—51638
$Al_{0.8}Mn_{0.2}$, icosahedral and crystalline phases, vibr. density of states, neutron scatt. study 7—44726
Al_4Mn, diffraction approach to the structure of decagonalquasi-crystals 7—6586
Al_2O_3, sintered, small-angle neutron scatt. from porosity 7—39825
AuCr, competing antiferromagnet, mag. phase diagram 7—59023
$Ba_xAl_{2x}Ti_{8-2x}O_{16}$, with K, Rb and Cs substitution, cryst. struct., neutron diffr. study 7—63563
$BaCa_{1/2}Sr_{1/2}Fe_4O_8$, mag. ordering 7—45624
$BaCo_2Fe_{16}O_{27}$, hexagonal ferrites, neutron diffr. studies 7—45622
$BaCo_2Fe_{16}O_{27}$, W-type hexagonal ferrite, cryst. struct. and Co location 7—6605
$BaCuFe_{17}O_{27}$ W-type hexagonal ferrite, intermediate valency, oxidation annealing, magnetisation and neutron diffr. studies 7—7187
$BaFe_{12}O_{19}$, hexagonal ferrites, neutron diffr. studies 7—45622
$Ba_{1-x}La_xF_{2+x}$ solid solutions, thermally stimulated depolarisation currents 7—53226
$BaMg_2Fe_{16}O_{27}$, hexagonal ferrites, neutron diffr. studies 7—45622
$Ba_{0.73}Pr_{0.27}F_{2.27}$ nonstoichiometric phase struct., neutron diffr. study 7—63587
$Ba_2Sn_2Mn(Ni)(Co)Fe_{10-x}Ga_xO_{22}$ hexagonal ferrites, cryst. and magnetic struct. studies 7—44474
$(Ba_{1-x}Sr_x)_2Zn_2Fe_{12}O_{22}$ helimagnet single cryst., neutron diffr. study 7—52942
$Ba_{1-x}U_xF_{2+x}$ solid solutions, thermally stimulated depolarisation currents 7—53226
$BaVS_3$, low temp. phase transitions, powder neutron diffr. 7—38181
Be-Ti multilayer interference system, struct. and phase composition, electron microscopy, X-ray and neutron diffr. meas. 7—63984
Bi-Zn liquid alloys with miscibility gaps, struct. 7—51611
$Bi_{12}GeO_{20}(SiO_{20})$, acoustical activity, inelastic neutron scatt. study 7—32577
Ca, FCC and BCC, lattice dynamics 7—38134
Ce cpds. and alloys, kondo effect versus crystal field 7—2602
CeAs, antiferromag., anisotropic exchange and spin dynamics, neutron study 7—33147
$Ce_{1-x}Pr_xNi_5$ mixed valence cpd., cryst. field at paramag. Pr^{3+} ions 7—45241
CeSb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7—33147
CeSb, mag. ordering and critical fluctuations, uniaxial pressure effects 7—33174
$CeSn_3$, comparison of polarised and unpolarised inelastic neutron scatt. data 7—7478
$CeSn_3$, comparison of polarised and unpolarised neutron inelastic scatt., comment 7—7479
CoNi equiatomic ferromag. alloy, local mag. form factor determ., neutron scatt. study 7—38849
γ-CoNiMn alloys, mag. phase diagram, neutron diffr. methods *(Russian)* 7—45667
$Co_{25}Ti_{75}$, amorphous struct., neutron and X-ray diffr. 7—58149
Cr, single crysts., single modulating mag. state form., neutron obs. *(Russian)* 7—58982
Cr-Si dilute alloys, magnetic phase diagram near tricritical point, neutron diffr. meas. 7—2856
CrTe-CrSe system, mag. phase diagram 7—22105
Cs BCC single cryst., lattice dynamics, coherent inelastic neutron scatt. study 7—21376
CsCl aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7—32692
$Cs_3Cr_2I_9$ critical singlet ground-state magnet, dimer excitations, inelastic neutron scatt. study 7—7477
$Cs_3Cr_2X_9$ (X=Cl,Br,I), synthesis, struct., mag. props. 7—6601
CsSCN, thermal vibrs. below structural phase transition at 470 K, neutron diffr. 7—63759
$CsVCl_3$, one-dimens. Heisenberg antiferromag., mag. excitations, neutron scatt. study 7—7482
Cu-Co alloy decomposition, TEM, FIM and SANS studies 7—53749
Cu-Ni-Fe, alloy decomposition and periodic struct. coarsening 7—53735
Cu-Ti, early stage precipitation kinetics, SANS studies 7—53746
CuCo, Cu-rich alloy, precipitation, critical nuclei size, neutron scatt. studies 7—12294
CuNiFe, electron irrad., decomposition kinetics and morphology 7—58491
Cu_xTi_{1-x} amorphous alloys, neutron diffr., computer simulation studies 7—21109
$CuTiH_x$, amorphous hydrides, quasi elastic and inelastic neutron scatt. 7—21382
CuTiH(D) amorphous hydrides, neutron diffr., computer simulation studies 7—21109
$Cu_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7—63486
α-Fe single crystals, plastically deformed, dislocation arrangement anal. using magnetic small-angle neutron scatt. 7—2021

neutron diffraction examination of materials continued
Fe-Co-V, atomic ordering mechanism, neutron diffr. study *(Russian)* 7—46459
Fe-Co(V) alloys 7—51708
Fe-Cu, neutron irrad., defect microstruct., SANS and TEM studies 7—58351
Fe-Cu alloys, phase transformations, SANS studies 7—53747
Fe-Ni, electron irrad., low temp. phase transitions *(Russian)* 7—51832
Fe_{50} Ni_{22} Cr_{10} P_{18} and Fe_{48} Ni_{34} P_{18} metallic glasses, spin waves, study by polarised neutron scatt. 7—12962
$Fe_{70.4}$ $Al_{29.6}$, reentrant spin glass, field induced modulated spin structure 7—38882
$Fe_{83}B_{17}$, metallic glass, struct. relax. X-ray and neutron diffr. study 7—6521
$Fe_{78}B_{12}Si_{10}$, amorphous, very small angle neutron scatt. 7—44392
$FeClMoO_4$ layered compound, struct. and mag. props., Mossbauer effect, mag. suscept., and neutron diffr. studies 7—58981
$Fe_{1-x}Co_xCl_2$, random-field and competing-anisotropy effects, sp. ht. study 7—2872
$Fe_{76}Cr_4P_8C_{12}$, amorphous alloy, mag. short range order above T_c, paramag. phase 7—45623
$(Fe_{1-x}Mn_x)Pt$ alloys, mag. phase diagram 7—64434
$FeNb_2O_6$, cryst. struct., determ. by neutron diffr. 7—6599
$Fe_{65}Ni_{35}$, Invar, paramagnetic spin fluctuations 7—52937
$Fe_{40}Ni_{40}B_{20}$ metallic glass, neutron diffr. struct. factors determ. 7—51654
$Fe_{48.5}Ni_{34}P_{17.5}$, small-angle polarized neutron scattering study 7—52939
γ-Fe_2O_3:H, H content, DTA, mag. anal. and Mossbauer studies *(Chinese)* 7—12104
γ-Fe_2O_3:H, hydrogen probe using thermal neutron transmission gauge *(Chinese)* 7—6666
Fe_3Pt, Invar, paramag. phase, inelastic neutron scatt. meas. 7—27493
$Fe_7Si_8O_{22}(OH)_2$, grunerite, mag. order, quasi-one dimensional antiferromag. with spin canting transition 7—58983
$FeTiO_3$, oblique easy-axis antiferromag. neutron scatt. study of mag. excitations 7—45643
$Fe_{1-x}V_x$, polarised neutron study 7—52940
$Fe_{91}Zr_9$, amorphous, long-range mag. order, neutron scatt. and AC susceptibility studies 7—58979
$Fe_{91}Zr_9$, amorphous, long-range mag. order, small-angle neutron scatt. 7—58980
Ge, fast neutron scatt. in crystals *(Russian)* 7—1820
$GeCl_4$, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7—31145
H-metal disordered systems, neutron vibr. spectroscopy, review 7—21381
$HfTe_5$, unit cell dimensions and positional parameters, powder X-ray and neutron diffr. studies 7—16527
InSb single cryst., neutron acoustic effect, neutron diffr. study 7—26875
$Ir_{2.7}Se_8$, synthesis, powder diffr. characterisation 7—64956
$K_2Co_xFe_{1-x}F_4$, oblique antiferromag. phase, spin waves, inelastic neutron scatt. study 7—64443
K_2CuF_4, 2D ferromagnet, polarised neutron studies of forbidden magnons 7—45693
$KH_2(IO_3)_3$, proton cond. and cryst. struct., X-ray and neutron diffr. studies 7—12026
$K_2H(IO_3)_2Cl$, cryst. struct., neutron diffr. studies *(Chinese)* 7—12005
$K_6LiFe_{23}S_{26}Cl$, djerfisherite, electrochemically synthesised, cryst. struct., neutron diffr. study 7—58224
$K_{1-x}Rb_xAlF_4$, shear structural phase transition, temp. behavior 7—63809
$KTaO_3$:Li, time depend. phase transform., neutron diffr. meas. 7—44799
$KZnF_3$, high temp. mean square ionic displacements 7—2259
$La(Fe_xAl_{1-x})_{13}$, mag. props. determined via neutron scatt. and Mossbauer spectroscopy 7—2820
α-$LaNi_5$-H, multiply cycled, inelastic neutron scatt. 7—32835
$LaNi_4AlH_x$ and $LaNi_{4.5}Al_{0.5}H_x$, dynamical disorder of H, quasi-elastic neutron scatt. study 7—21535
$LaNi_4MH_x$ (M=Mn, Cu), dynamical disorder of H, quasi-elastic neutron scatt. study 7—21535
Li halides, thermal parameters, cryst. struct. determ. 7—12020
Li, stacking faults, X-ray and neutron diffr. patterns 7—16580
Li-Al(Si) glasses, short-range struct., pulsed neutron and X-ray diffraction 7—1912
$Li_{0.25}Co_{0.25}Zn_{0.5}Fe_2O_4$, mixed ferrites, neutron diffr. study 7—52943
$LiFeClMoO_4$, synthesis, struct. and low temp. magnetism 7—21172
$Li_2Fe_2(MoO_4)_3$, insertion cpd., struct., from neutron powder diffr. data 7—1985
$LiKSO_4$, low temp. phase transitions, kinetics and symm. changes 7—2164
$Li_2SO_4H_2O$, charge density at 80 and 298 K, X-ray and neutron diffr. 7—21166
LiV_2O_5, Li inserted, struct., neutron and X-ray powder diffr. anal. 7—32391
β-M_2O_3-Na_2O, study of Na^+ motion by quasi-elastic neutron scatt. 7—63875
$MgSO_3.6H_2O$, deform. electron density, X-ray and neutron diffr. studies 7—44459
$MnAs_{0.9}P_{0.1}$, struct. and mag. props. 7—12948
$MnAs_{1-x}P_x$, paramag. diffuse scatt. studies, neutron diffr. method 7—52933
$Mn_{0.615}CR_{0.385}As$, press.-induced helimagnetic-ferromagnetic transition 7—52984
$Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7—6784
MnP, spin-waves, neutron inelastic scatt. study 7—64444
$MnTe_2$, mag. phase transition, neutron powder diffr. study 7—64456
$MnTiO_3$, quasi-2D antiferromag., spin dynamics 7—52987
$(Mn_{0.5}Zn_{0.5})F_2$ diluted antiferromag. spin-wave-quasilocalised excitation crossover 7—22101
$Mn_xZn_{1-x}F_2$, 3D site-random Ising magnet, crit. behaviour 7—17186
MoO_x-WO_x, H insertion, struct. and thermodynamics 7—16506
Mo_8O_{23}, low-dimensional conductors, inelastic neutron scatt. study 7—52701
Mo_3Si, A15 cpd., phonon dispersion and density of states, inelastic neutron spectra, electron-phonon coupling effects 7—2121
$NH_4H_2(IO_3)_3$, proton cond. and cryst. struct., X-ray and neutron diffr. studies 7—12026
$(NH_4)_2PdCl_4$, NH_4^+ rot. pot., inelastic neutron scatt. study 7—26676
$(NH_4)_2PtCl_4$, NH_4^+ rot. pot., inelastic neutron scatt. study 7—26676
$Na_8(AlSiO_4)_6(OH)_2$, cryst struct., powder neutron diffr. study 7—58209
NaCl aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7—32692
$NaFeClMoO_4$, synthesis, struct. and low temp. magnetism 7—21172
NaH(D)SeO_3, neutron diffr., DMR investigation 7—21178

neutron diffraction examination of materials continued
- $NaNO_2$, incommensurate ferroelec., in transverse elec. field, virtual Lifshitz point 7−45947
- $NaNi_2OH.H_2O.(MoO_4)_2$, H atom location, Rietveld refinement, neutron powder time of flight meas. 7−26707
- $Na_{1+4y+x}Zr_{2-y-x}Si_xP_{3-x}O_{12-2z}$ nonstoichiometric monoclinic NASICONs, X-ray powder Rietveld refinements 7−12304
- Nb, interstitial N, O, H, D, Zwischenreflex scattering 7−51766
- Nb, interstitial point defects, diffuse neutron and X-ray scatt. studies 7−51765
- Nb, light interstitial motion, recent expts. 7−52114
- NbD_x, microscopic density fluctuations of deuterium, Huang diffuse X-ray and neutron scatt. anal. 7−2215
- NbH_x, interstitial H total cross-section determ., localised modes and diffusion, neutron transmission meas. 7−12061
- NbO_x, ω phase, point defect induced nucleation 7−1923
- $NbO_xH_y(D_y)$, H tunnelling, isotope and temp. depend. 7−27474
- $Nb_{99}Ti_1H_1(D_1)$, localised H vibrs., inelastic neutron scatt. studies 7−58426
- Nd, magnetic structure studies, free energy anal. 7−2821
- $NdCu_6$, powder and single cryst., magnetic struct. and ordering, neutron diffr. studies 7−33146
- $NdDyFe_{14}B$ spin orientation and preferential 4f site occupation, powder neutron diffr. study 7−22100
- Nd_2MgTiO_6, cryst. struct., Rietveld refinement of neutron powder diffr. data 7−26705
- Ni complex, $Ni(NH_3)_6Cl_2$, NH_3 reorientation rel. to phase transition, quasielastic neutron scatt. method 7−32316
- Ni complex, $Ni(NH_3)_6(NO_3)_2$, Bragg data collection with neutron flat-cone diffractometer 7−1818
- Ni-Al alloys, premartensitic behaviour, neutron scatt. study 7−44717
- Ni-B amorphous and crystalline alloys, vibr. density of states 7−38146
- Ni-Fe-Mn system, coexistence of $Ni_3(FeMn)$ and Ni(MnFe) superstructures *(Russian)* 7−1946
- Ni-He bubble system, He densities, SANS and TEM studies 7−58266
- Ni-Mo metallic superlattices, macromag. and micromag. props. 7−2826
- Ni-Si, spatial correl. to γ' precipitates 7−46484
- NiAlTi, decomposition kinetics, TEM, FIM and SANS studies 7−53748
- $Ni_{64}B_{36}$, metallic glass, struct. relax. X-ray and neutron diffr. study 7−6521
- $NiCr_x$, short range order and atomic interactions, neutron studies 7−51707
- $Ni_3(Fe_{1-x}Mn_x)$ magnetic alloys, impurities, ordering 7−51995
- Ni_3Mn-NiCr tie line, disordering kinetics, neutron diffr. investig. *(Russian)* 7−32347
- $Ni_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7−63486
- $Ni_{63.7}Zr_{36.3}$ amorphous alloy, short-range order and struct. relax. 7−51642
- $Ni_{64}Zr_{36}$ amorphous alloy, local struct., EXAFS and neutron diffr. studies 7−64813
- NpAs single crystal, neutron diffr. study 7−17158
- NpM_4Al_{8-x}, (M=Cr,Fe,Cu), mag. props., Mossbauer effect and neutron diffr. 7−59127
- NpOS, mag. props. 7−13064
- β-O_2 solid, rhombohedral Heisenberg antiferromag., neutron scatt. 7−7480
- Pb_3UO_6 struct. refinement, neutron powder diffr. study 7−32370
- Pd_{80} $Si_{20}H_3$, metallic glass, H diffusion, quasielastic neutron scatt. study 7−21534
- $Pd_{0.9}Ag_{0.1}D_{0.61}$, lattice dynamics and phonon line shapes 7−2120
- $PdD_{0.8}$, β-phase, interatomic pots. and lattice distortions 7−21372
- PdMn, atomic and mag. short range order 7−52941
- Pd_2MnSn, cubic ferromagnet, high temp. spin dynamics 7−2881
- PdMnTe, magnetisation and neutron diffr. study 7−27499
- $Pd_{15}P_2D_{0.46}$, cryst. struct., neutron powder diffraction investig. 7−32416
- $Pd_{80}Si_{20}H_3$ metallic glass, H diffusion, quasielastic neutron scatt. studies 7−52119
- $PdT_{0.7}$, quasiharmonic phonon dispersion relation, coherent neutron scatt. study 7−38141
- Pr, longitudinally polarised antiferromagnetic phase, magnetic excitations, neutron scatt. interpretation 7−64445
- $Rb_{1-x}Cs_xFeCl_3$, random singlet-magnetic ground state system, mag. ordering effects 7−33167
- Rb_2MnCl_4, quasi-2D uniaxial antiferromagnet, mag. phase diagram 7−7517
- $Rb_2Mn_{0.7}Cr_{0.3}Cl_4$, randomly disordered mag. system, mag. cluster excitations and wave-like magnons 7−38881
- $Rb_{1-x}(NH_4)_xH_2(P,As)O_4$, mixed system, proton localisation, obs. by incoherent neutron scatt. 7−12224
- β-Sb_2O_4:V(Mo), struct. characterisation, X-ray, neutron, and electron microscopy studies 7−32383
- $ScD_{1.8}$, neutron diffr. study 7−38254
- Se-Te liquid alloys, struct. study by neutron diffr. 7−51610
- Si:H films, H content meas. 7−12553
- Si:O, C, low temp. precipitation, IR and SANS meas. 7−32666
- Si:O, Czochralski crystals, O precipitates, small-angle neutron scattering 7−58484
- Si/Ge amorphous multilayer films, interdiffusion, neutron scatt. meas. 7−32722
- $SiCl_4$, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7−31145
- SiO_2, amorphous, neutron diffr. meas., inelastic scatt. corrections 7−11850
- SiO_2, vitreous, low-frequency vibr. modes 7−21378
- Si_xSe_{1-x} glass system, diffr. isosbestic points and structural systematics 7−44390
- Si_xSe_{1-x} glasses, intermediate range order 7−11938
- $SnCl_4$, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7−31145
- SnSe(S), second order displacive transition and soft mode behaviour, neutron diffr. study 7−26895
- $SrFe_{1-x}Co_xO_3$ ferromag. cpd., mag. props., comp. depend., Mossbauer spectra and neutron diffr. studies 7−7539
- $Sr_{0.69}La_{0.31}F_{2.31}$, nonstoichiometric phase, atomic struct. 7−21175
- Ta-T system, distortion by He form. 7−51717
- $TaH_{0.5}(D_{0.5})$, localised H vibrs., inelastic neutron scatt. studies 7−58426
- $(TaSe_4)_2I$, low-dimensional conductors, inelastic neutron scatt. study 7−52701
- TaT_x, lattice deformation due to ^3He production 7−21237
- $TbCu_{3.54}$, seedy mag. order, neutron scatt. study, mag. meas. 7−33145

neutron diffraction examination of materials continued
- $TbGe_{1-x}Si_x$, first-order mag. phase transition, neutron diffr., mag. struct. study 7−45673
- $(Tb_{1-x}Y_x)_3Co$, magnetoelastic interactions and thermal expansion *(Russian)* 7−17211
- ThNX (X=Se, Te), heat capacity, neutron diffr. and crystal field models 7−12976
- $ThZr_2D_x$, D distrib., neutron diffr. study 7−16512
- Ti-N system, short-range order 7−63570
- $TiCl_4$, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7−31145
- $Ti_{1.2}Mn_{1.8}H_3$ hydride, H diffusion, quasielastic neutron scatt. studies 7−52135
- TiNi-Ge, premartensitic effects *(Russian)* 7−53692
- $Ti_{84}S_{16}$ metallic glass, total struct. factors, neutron and X-ray diffr. studies 7−6546
- $Ti_5Si_3H(D)_{1-x}$, site occupation and local vibration of H isotopes *(Japanese)* 7−12012
- $Ti_5Si_3H(D)_{1-x}$, site occupation and local vibration of H isotopes 7−12028
- $U_{0.95}$ $Th_{0.05}$ Pt_3, ground state antiferromag. order, neutron diffr. meas. 7−38847
- $UAs_{0.95}Se_{0.05}$, disappearance of type-I antiferromag. struct., neutron diffr. study 7−45620
- $UAs_{1-x}Se_x$ system, mag. phase diagram, neutron diffr. study 7−12971
- UBe_{13}, obs. of antiferromag. correlations 7−22093
- $UBr(Cl)(I)_3$, magnetic transitions, antiferromag. order and cryst. field splitting, neutron scatt. study 7−12974
- UCl_4, cryst. field spectroscopy by neutron inelastic scatt. 7−27304
- UCl_4, spin-density study, covalency effects 7−12947
- UNX (X=Se, Te), heat capacity, neutron diffr. and crystal field models 7−12976
- UNi_2, polarised neutron diffr. study 7−12946
- $U_{1-x}Np_xO_2$, x=0.25, 0.75, magnetic structure, neutron diffraction study 7−58978
- UO_2, nonstoichiometric, n diffraction meas. of struct. factors *(Rumanian)* 7−12027
- UPt_3 heavy-fermion superconductors, induced moment mag. form factors 7−12909
- UPt_3, heavy-fermion system, development of antiferromag. correlations 7−64435
- USb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7−33147
- V/Ni multilayered superlattice, microstruct., X-ray and neutron diffr. 7−32849
- V-N system, metastable ordered phases, cryst. struct. *(Russian)* 7−44447
- VCl_4, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7−31145
- β-V_2D, single cryst., neutron diffraction investig. 7−32415
- β_1-V_2H, single cryst., neutron diffraction investig. 7−32415
- $YH_{0.18}(D_{0.18})$, H pairing and anisotropic pot. for H isotopes, neutron spectroscopy study 7−38144
- YIG, superexchange interactions, inelastic neutron scatt. studies 7−33161
- $Y(Mn_{1-x}Al_x)_2$, spin glass behaviour 7−52996
- $Yb_2Fe_{14}B$, exchange and cryst. field interactions 7−27512
- Zn, phonon spectrum fine structure 7−16702
- ZnO-Na_2O-Al_2O_3-SiO_2, zeolite, partially exchanged, IR and neutron scatt. studies of adsorbed ethene 7−7001
- Zr-Co (2 at.%), Co fast diffusion, quasielastic neutron scatt. study 7−63883
- β-Zr-Co system, fast Co diffusion, quasielastic neutron scatt. studies 7−52120
- ZrO_2, partially stabilised, phase stability, elec. cond., fusion reactor elec. insulator appl. 7−52618
- ZrO_2-Y_2O_3 solid solutions, vibrational spectra 7−6738
- $ZrTe_5$, unit cell dimensions and positional parameters, powder X-ray and neutron diffr. studies 7−16527
- $ZrTiO_4$ and $Zr_5Ti_7O_{24}$, cryst. struct., determ. by neutron diffr. 7−6599

neutron diffusion

see also neutron flux; neutron transport theory
- coarse-mesh nodal methods for n diffusion and transport neutron diffusion reviews 7−5314
- conf., London, England (September 1985) 7−18492
- elliptic and parabolic systems for neutron flux reaction-diffusion 7−25018
- FEMSYN code for multigroup diffusion theory 7−10183
- FENDER, finite element diffusion code, extension to 3D problems 7−19343
- finite element method for diffusion theory including nodal and difference methods 7−19317
- Hamilton-Jacobi approach to neutron diffusion reactor theory 7−61937
- hexagons, finite element diffusion program, trial function 7−49491
- homogenization techniques in reactor lattices 7−10182
- isotropic multigroup problems in half-space geometry, convergence of F_N method 7−61288
- iteration scheme convergence in nodal expansion method 7−30465
- lattice homogenization procedure using the nodal expansion method and equivalence theory for LWR 7−49533
- Legendre polynomial nodal model for 2D diffusion problems 7−30466
- multidimensional diffusion calcs., nested element method 7−10185
- multigroup multiregion 1D steady state n diffusion, variational methods 7−10181
- multigroup neutron diffusion equation, 3D, soln. using finite element method 7−19344
- multigroup processes, transport theory conf., Montecatini Terme, Italy, June 1985 7−60874
- multigroup spherical harmonics eqns. in r-z geometry, analytical-numerical methods 7−61941
- nodal diffusion and transport methods for fast reactor critical expt. anal. 7−19325
- nodal discrete ordinates methods, three-dimensional, development and testing 7−19328
- nodal expansion diffusion method, hexagonal geometry, fast reactor calculation appl. 7−19326
- nonsymmetric slabs, environment independ. homogenised parameters for neutron diffusion 7−15223
- PUMA adjustments to core parameters and rational flux mapping procedure 7−10257
- radiation streaming in duct, anal. using FENDER diffusion code 7−19331
- reactor in-core flux data, rational mapping technique 7−10256
- reactor seed/blanket core, power-sharing formula 7−30603

neutron diffusion continued
spheroidal, bispherical and toroidal absorbing bodies, n. diffusion study 7−36068
static equation, modal expansion method, accuracy improvement using finite-difference scheme 7−15224
thermal scatt. meas. by n wave propag. method 7−42105
two-dimensional diffusion critical problem in hexagonal geometry, soln. using SIXTUS-2 code 7−19327
B/H, thermal absorption cross-section ratios 7−49490
^{56}Fe(n,n′), double differential cross section meas., neutron transmission anal. 7−42106
Mn/H, thermal absorption cross-section ratios 7−49490
^{232}Th, space-dependent fast neutron spectra, eigenvalue and eigenfunction study 7−30532

neutron economy *see neutron flux*

neutron effects
see also biological effects of neutrons; irradiation induced creep
alumina, neutron irrad., permittivity and dielec. loss studies 7−33321
BWR top-guide structure, integrity eval., irradiation induced SCC 7−54012
CR-39 track detector, neutron, proton response, semi-empirical model 7−30886
Cr-MoVW ferritic steel, ductile-brittle transition temp., irrad. flux depend. 7−56825
data compilation for radiation effects on ceramic insulators 7−58350
DEMO fusion reactor blanket, time-depend neutron effects, burnup calcs. 7−797
diamond, radiation damage prod. of 5RL centres, phonons, absorpt. spectra, cathodoluminescence studies 7−33461
FCC pure metals, neutron irradiated, thermal stability of cascade defects, annealing expt. 7−51856
first wall candidate alloys, HFIR irrad. microstruct. development 7−56824
first wall candidate ferrite alloys, Ni doped, postirrad. tensile behaviour 7−56827
fusion devices, plasma interactive components, neutron damage, sputter erosion 7−49623
fusion materials, neutron irrad., dosimetry and damage calcs. 7−51847
fusion reactor materials, neutron irrad., defect struct. 7−51844
fusion reactor materials, neutron irradiation effects *(Japanese)* 7−19424
fusion reactor structural materials, irradiation, He effects control 7−51845
fusion reactor structural materials, welling after neutron and ion irrad., comparison 7−58357
graphite, AGR fuel sleeves, irrad., bending, AE obs. 7−723
graphite, neutron irradiation, macrostruct. and porosity studies 7−2069
graphite, nucl. grade, pitchcoke, irrad., mech. props., radiolytic oxidation effect 7−25032
graphite, nucl. grade, polycryst., deform. under press., elastic moduli rel. to struct., neutron irrad. effect 7−28069
graphite, nuclear material, corrosion and irrad. induced porosity 7−51836
graphite, pyrolytic, neutron irrad., ESR studies, exchange coupling model 7−7590
graphite, reactor, thermal expansion, effect of rad. 7−26804
graphite, siliconized, property variation during neutron irrad. 7−36105
HT-9 martensitic steel, radiation induced segregation 7−56830
insulators, high dose radiation damage, voids and dislocations 7−32502
LR-115 track detector, change of etching condition after high n flux irradiation 7−30867
LWR pressure vessel surveillance using solid state track recorder neutron dosimetry 7−36199
metals, bubble nucleation and growth under neutron and proton irrad., nonequilib. statistics 7−51848
metals, neutron irradiation damage *(Japanese)* 7−32508
Millstone-2 PWR, wear and neutron activation of positioning pins, ^{60}Co buildup 7−15247
Ni addition effect on void formation following irrad. 7−56822
nuclear plant irradiated steel handbook 7−38069
plasma diagnostic equipment, irradiation effects, conf., Nagoya, Japan (Jan. 1986) 7−18503
pMOS dosimeters, long-term annealing and neutron response 7−56880
polycarbonate track detectors, electron spin resonance studies 7−33276
polyethylene film, low density, elec. props. rel. to nuclear irrad., 5K 7−53232
PWR fuel element, activation of end section using WIMS-E program *(German)* 7−56752
pyrographite, highly irrad., property change on thermal annealing 7−63665
quartz, absorbed dose in plane two-layer samples irradiated with fast neutrons 7−38066
quartz, crystalline, neutron and electron irrad., glassy props. 7−63664
α-quartz, neutron damaged, static paramag. susceptibility studies 7−33140
quartz, neutron irrad., electron spin-lattice relax., effect of exchange interaction 7−45794
quartz, neutron irradiated, US attenuation, glassy behaviour 7−32580
α-quartz, neutron irradiated and annealed, positron annihilation and mag. susceptibility meas. 7−39274
quartz crystal, low temp. sound velocity, fast neutron irradiation effects study 7−12160
sapphire laser crystal, with colour centres, radiation generation 7−10968
steel, austenitic stainless, cold-worked, irrad. and unirrad., liq. Cs, Te-induced fatigue embrittlement 7−46637
steel, austenitic stainless, fatigue crack growth in FBR castings and weldments, fast neutron irradiation effects 7−28127
steel, austenitic stainless, fusion reactor first wall, fast neutron irrad., microstruct. evolution model 7−51846
steel, austenitic stainless, grain boundary microstruct., He embrittlement resistance 7−56829
steel, austenitic stainless, in-reactor deform. 7−56826
steel, austenitic stainless, Ti-stabilised, high temp. embrittlement modification of rad. induced He distrib. by thermo mech. pretreatment *(German)* 7−17643
steel, Cr, ferritic, neutron irrad., isochronal annealing, elec. resist. recovery 7−58348
steel, Cr-Mo, normalised, tempered, neutron irrad., 390-550°C, tensile props. 7−17621
steel, ferritic, reactor material, neutron irrad., positron annihilation studies 7−46215

neutron effects continued
steel, high Ni, reactor irrad., dislocation struct. and steady-state creep *(Russian)* 7−2068
steel, Ni-Cr, ductile-to-brittle transition temp. shift due to temper embrittlement and neutron irrad. evaluation by small-punch test 7−28114
steel, Ni-Mo, LWR pressure vessel cladding, irradiation effects and flaw structs. 7−53888
steel, pressure vessel, neutron irrad., defect microstruct., SANS and TEM studies 7−58351
steel, pressure vessel and stainless, low dose neutron irradiation, spectral effects on yield stress 7−51850
steel, reactor pressure vessel, neutron irrad. effect on mechanical and physical props. *(German)* 7−19358
steel, simulated void-box-capsule charpy impact test results, neutron irrad. effects 7−10231
steel, stainless, ferritic-martensitic, high-Cr, fast reactor irrad., phosphide phases 7−22700
steel, stainless, heavy section, fracture studies, welds, neutron irradiation, crack arrest 7−13587
steel, stainless, neutron irradiated, defect clusters, positron annihilation lifetime meas. 7−51853
steel, stainless, neutron irradiated, microstruct. and swelling, Si and N impurity effects *(Russian)* 7−2217
steel, stainless, neutron irradiation effects on mech. props., damage and yield stress 7−51865
steel, stainless, repair welds, neutron irradiation embrittlement 7−5328
steel, stainless, type 316, neutron damage USA-Japan studies 7−56834
SUS316, 40 keV Cu^+, Fe^+ and fission neutron irrad. effects. 7−56823
triglycine sulphate, single cryst., neutron irrad., elec. cond. 7−7227
Zircalloy, mech. eqns. of state of material irrad. at 573K in deform. in working direction 7−8064
Ag, Frenkel pair production cross sections, calc. fission-fusion neutron spectrum sensitivity 7−51849
Al, neutron irrad., positron trapping rates, temp. depend. 7−46218
Al-Mg-Li, 14 MeV neutron irrad., mech. props. microscopic struct. 7−56820
Al_2O_3, neutron irrad., microstruct., mech. props. 7−51843
AlON, neutron irrad., permittivity and dielec. loss studies 7−33321
$AlSi_9Ni$, reactor fuel cladding, corrosion resistance, rupture strength, neutron irradiation effects testing 7−59670
Au, cascade overlap effect on defect struct. after repeated neutron irradiation 7−51859
Au, defect development from displacement cascade damage in low temp. neutron irradiation 7−51851
Au, defect struct. evolution following DT neutron irrad. 7−58346
Au, neutron irradiated, recoil energy effects on cascade defect structures 7−51855
B_4C, fast neutron irradiated, thermal cond. meas. 7−6900
B_4C, neutron irrad., damage effect 7−36104
Be, energy multiplier in fusion reactor blanket, costs and benefits 7−49625
BeO, optical props. of F^+ centres 7−7717
CO_2, slow neutron interaction near vaporisation crit. point, cross section temp. depend. 7−52021
Cr, cryst. and mag. states, effect of neutron irrad. in reactor *(Russian)* 7−51866
Cr, He production in HFIR neutron irradiated pure elements 7−51852
Cr-Mo ferritic steel, 14 MeV neutron irrad., mech. prop. changes 7−56821
Cr-Mo-Ni ferritic-martensitic steel, irrad. in RTNS-II, TEM study 7−58345
CrMoV ferritic steels, He containing, fatigue behaviour in fusion reactor 7−56828
CrMoVNbNi steel, Ni addition effect on void formation following irrad. 7−56822
Cu alloys, candidate materials for high heat load appl. in neutron environments 7−49636
Cu alloys, irrad. in FFTF to 16 dpa at 450°C, microstruct. eval. 7−51837
Cu alloys, neutron damage microstructs. 7−58347
Cu alloys, neutron irrad., cond. changes, porosity swelling and transmutation contrib. 7−51838
Cu alloys, neutron irrad., 13 dpa, mech. prop. and elec. cond. changes 7−51839
Cu alloys, rapidly solidified powder metallurgy, irrad. to 13.5 dpa with neutrons, microstruct. evolution and swelling 7−51840
Cu and alloys, neutron irrad. effects, elec. cond., fusion reactor appl. 7−51835
Cu, cascade overlap effect on defect struct. after repeated neutron irradiation 7−51859
Cu commercial alloys, low neutron dose effects on tensile props., yield stress 7−51863
Cu, damage correlation of high energy neutron and ion irradiation, subcascades 7−51860
Cu, defect development from displacement cascade damage in low temp. neutron irradiation 7−51851
Cu, Frenkel pair production cross sections, calc. fission-fusion neutron spectrum sensitivity 7−51849
Cu, He production in HFIR neutron irradiated pure elements 7−51852
Cu, low dose neutron irradiation, spectral effects on yield stress 7−51850
Cu, low neutron dose effects on tensile props., yield stress 7−51863
Cu, neutron-irradiated single crysts., plastic deform. and stress inhomogeneity 7−22746
Cu, polycrystalline, US and neutron irrad., struct. and mech. props. *(Russian)* 7−3402
Cu stabiliser, supercond. mag. material, fusion reactor conditions simulation 7−52922
Cu_3Au, irradiation disordering and reordering by fusion neutrons, electrical resistivity meas. 7−51864
CuB:He, neutron irradiated, annealing behaviour of defects, positron annihilation study 7−39291
Fe, Armco, annealed and cold worked, neutron irrad. damage 7−2067
Fe, He production in HFIR neutron irradiated pure elements 7−51852
Fe, neutron irradiated, defect clusters, positron annihilation lifetime meas. 7−51853
Fe, neutron irradiation effects on mech. props., damage and yield stress 7−51865
Fe, zone refined, radiation hardening by 14 MeV neutrons, temp. depend. 7−51857
Fe-9Cr ferritic steel, 40 keV Cu^+, Fe^+ and fission neutron irrad. effects. 7−56823

neutron effects continued
Fe-B-based amorphous alloys, struct. evolution during heating *(Russian)* 7−16418
Fe-Cr, neutron irradiated, defect clusters, positron annihilation lifetime meas. 7−51853
Fe-Cr-Ni alloys, local ordering, neutron irrad. effects, elec. resist. meas. 7−2070
Fe-Cu, neutron irrad., defect microstruct., SANS and TEM studies 7−58351
Fe-Cu alloy, neutron irradiation, magnetoacoustic and Barkhausen emission study 7−45749
Fe-H system, electron and neutron irrad., positron lifetime meas. 7−44603
Fe-Ni-Cr (25,15 wt.%), MC stabilized, fatigue life, effects of implanted He 7−53852
$Fe_{40}Ni_{40}B_{20}$, amorphous alloy, Barkhausen noise, neutron irradiation effect 7−53029
GaAs CCD, high resistivity gate struct., radiation effects 7−6683
GaAs, fast-neutron irradiated, electrical behaviour during thermal recovery 7−13029
GaAs, neutron transmutation doped, thermal annealing effects, channelling anal. *(Chinese)* 7−12178
GaAs, neutron-damaged, photoconducting flat response detectors from UV to X-ray region 7−5563
GaAs, neutron-irradiated, vacancy annealing, positron-lifetime study 7−64727
GaAs, plastically deformed or electron or neutron irradiated, antisite defects 7−37987
GaP, neutron irradiated and as-grown, vacancy defects, positron studies 7−2012
InAs, nuclear transmutation doping 7−38025
Li based ceramics, fusion breeder blanket, irrad., high burnup, large temp. gradients 7−49644
Li compounds, inorganic, neutron irradiated, tritium release anal. 7−38070
$LiAlO_2$, ceramic breeder material, post irrad. T recovery 7−49647
$LiAlO_2$, ceramics, fast neutron irrad., T and He retention, high temp. vacuum extraction 7−49649
$LiAlO_2$, fabrication, irrad., in-pile T release, EXOTIC expts. 7−49648
γ-$LiAlO_2$, neutron irrad. effects 7−51841
$Li_2B_4O_7$:Cu, TLD, thermal neutron response 7−5491
LiF:Mg(Ni)(Co) R′ colour centres, spectral holeburning props., depend. on doping and irradiation 7−26743
Li_2O, ceramic breeder material, post irrad. T recovery 7−49647
Li_2O, ceramics, fast neutron irrad., T and He retention, high temp. vacuum extraction 7−49649
Li_2O, fabrication, irrad., in-pile T release, EXOTIC expts. 7−49648
Li_2O, neutron and ion irrad. damage, ESR and optical absorption studies 7−32509
Li_2SiO_3, fabrication, irrad., in-pile T release, EXOTIC expts. 7−49648
Li_2ZrO_3, ceramics, fast neutron irrad., T and He retention, high temp. vacuum extraction 7−49649
^6Li $(n,\alpha)^3H$, chemical effect in $Li_2C_2O_4$ and Li_2CO_3 mixed with iron compounds 7−21289
$MgAl_2O_4$, neutron irrad., microstruct., mech. props. 7−51843
$MgAl_2O_4$, spinel single cryst., low dose neutron irrad., swelling, defect interaction 7−51842
Mo, Frenkel pair production cross sections, calc. fission-fusion neutron spectrum sensitivity 7−51849
Mo, radiation annealing hardening low temp. peak 7−22739
Mo single crystals, neutron irradiation embrittlement, yield strength 7−51854
Mo-H system, neutron irrad., H-void interactions 7−44604
Mo-N system, neutron irrad., isochronal annealing, positron annihilation studies 7−46531
Mo_6Se_8, superconductivity and metal-insulator transition *(Russian)* 7−58742
$Mo_3Si(Ge)$, neutron irrad., NMR and mag. suscept. studies *(Russian)* 7−13051
$Mo_3(SiRe)$, neutron irrad., supercond. investig. *(Russian)* 7−12926
$(Nb,Ti)_3$ Sn, supercond. mag. material, fusion reactor conditions simulation 7−52922
Nb, cold neutron irradiated, interaction cross sections 7−58349
Nb, He production in HFIR neutron irradiated pure elements 7−51852
Nb, neutron irradiated, effect of irradiation temp. and O impurity on yield strength 7−58344
Nb-Ti, supercond. mag. material, fusion reactor conditions simulation 7−52922
NbTi alloy, neutron and γ-ray irrad. effects near supercond. transition temp. *(Russian)* 7−33119
Ni defect development from displacement cascade damage in low temp. neutron irradiation 7−51851
Ni, defect struct. evolution following DT neutron irrad. 7−58346
Ni, He production in HFIR neutron irradiated pure elements 7−51852
Ni-Fe-Cr, Inconel 600 and Incoloy 800, fracture toughness 7−59596
PLZT ferroelectric ceramics, gamma, electron and neutron irrad. effects study 7−6677
PLZT, transparent ferroelectric ceramic, irradiation effects 7−59157
$Pb(Sc_{0.5}Nb_{0.5})O_3$ ferroelectric ceramics, gamma, electron and neutron irrad. effects study 7−6677
$Pb(Sc_{0.5}Nb_{0.5})O_3$, transparent ferroelectric ceramic, irradiation effects 7−59157
Pd, cold neutron interactions, total cross sections meas. 7−63666
PdH_x, cold neutron interactions, total cross sections meas. 7−63666
Si, neutron doping in RBMK-1000 power reactors 7−38068
Si, neutron irrad. induced IR absorpt. bands 7−46004
Si, neutron irradiated, recovery 7−39567
Si neutron irradiated float zone crysts., triclinic symm. defect, EPR study 7−53134
Si, neutron transmutation doped p-n-p-n structs., fast electron irradiated, minority carrier lifetime variations 7−45352
Si, neutron transmutation doped, optical current deep level transient spectroscopy 7−52525
Si, neutron-irradiated, photoluminescence study of annealing process 7−51833
Si, neutron-irradiated, relax. space-charge-limited current spectroscopy 7−38493
Si, neutron-transmutation doped, spatially resolved carrier lifetime meas. 7−7257
Si, neutron-transmutation-doped, elec. resist. inhomogeneity form. characts. estimation 7−38026

neutron effects continued
Si, radiation-induced deep centres due to fast neutrons *(Czech)* 7−12661
Si wafers, doped by neutron transmutation, minority carrier lifetime, photocond., annealing 7−38785
Si:B, cold neutron irradiated, interaction cross sections 7−58349
Si:C, neutron irradiated, EPR study on C_2 symmetry defect 7−27602
Si:Er(Dy)(Yb)(Ho)(Gd), neutron irrad., Hall effect, elec. cond., IR absorpt. spectra 7−51834
Si:H, impurity effects on IR absorpt. bands of Si-H centres, irrad. and unirrad. crysts. 7−53379
Si:H floating zone single crysts., neutron irrad., isochronal annealing behaviour, positron annihilation studies 7−21288
Si:P, transmutation doped, deform. pot. shear const. determ. 7−38086
Si:Pd, inelastic relax., neutron irrad, effects 7−44689
SiC fibre reinforced Al composite wires, neutron irrad., mech. props., fusion reactor appl. 7−49628
SiC fibres, neutron irrad., mech. props., fusion reactor appl. 7−53794
6H-SiC neutron-radiated crysts., green luminesc., electron-vibrational interaction study *(Russian)* 7−59255
6H-SiC, positron and positronium states, neutron irradiation effects 7−45232
SiC-Al composites, heat treatment and neutron irrad. effects on mech. props. 7−65081
Ti, electron beam welded, neutron irrad. effects 7−56832
Ti, He production in HFIR neutron irradiated pure elements 7−51852
Ti-6Al-4V, electron beam welded, neutron irrad. effects 7−56832
TiB_2, neutron bombardment, nature of rad. damage *(Russian)* 7−38067
UO_2 fuel, irrad., fission products chemical state 7−724
US, magnetic character, effects of fission damage, neutrons 7−13000
V alloys, neutron irradiation effects 7−53750
V, radiation hardening by 14 MeV neutrons, athermal effects 7−51858
V-20Ti pressurized tubes, creep response to neutron irrad. 7−56831
VB, 14 MeV neutron irrad., TEM dislocation obs. 7−56819
$(VCr)_3Si$, neutron irrad., supercond. investig. *(Russian)* 7−12926
$(VMo)_3Si$, neutron irrad., supercond. investig. *(Russian)* 7−12926
W, Frenkel pair production cross sections, calc. fission-fusion neutron spectrum sensitivity 7−51849
Zn, neutron irradiated, yield-stress recovery 7−22720
Zr, neutron irradiated, solute effects on damage production and recovery 7−51861
Zr-Ti (Sn)(Dy)(Au), neutron irradiated, solute effects on damage production and recovery 7−51861
Zr-Ti(Sn)(Au), low temp. damage prod. and recovery after fusion neutron irradiation 7−51862
ZrNb1, fuel cladding, radiation induced embrittlement *(German)* 7−19359

neutron electric moment
dipole moment, P invariance 7−56557
dipole moment from cloudy bag model, CP-violating effects 7−24889
electric dipole moment, CP invariance 7−56558
electrical dipole moment, effect of left-right squark flavour mixing 7−35737

neutron flux
AMB-200 reactor, neutron flux control algorithms and monitoring system 7−49497
cold neutron source for DHRUVA reactor, optimisation calcs. 7−56896
conf., Dresden, Germany (March 1985) 7−24266
CR-39 detector, fast neutron fluence meas. technique 7−30885
cylinder of finite height, neutron transport problems with anisotropic scatt., integral transform method 7−15225
elliptic and parabolic systems for neutron flux reaction-diffusion 7−25018
error analysis in reactor-core neutron beam density measurements by gold-foil activation 7−36181
fissile material, critical soln., heating-up, nucleation and boiling 7−19368
fission reactor criticality problems, 3-dimensional, soln. by simplified response matrix technique 7−49531
fission reactor materials, effective neutron absorption cross section determ. 7−56708
fluence rate meas for monoenergetic fast neutrons using $^{115}In(n,\gamma)$ 7−56902
fluidised bed power reactor, transient neutron flux modelling 7−62017
GRENADE, coarse mesh program for static neutron diffusion eqns., flux and power distribs. 7−42107
heterogeneous reactor polycell, fuel multirod cluster, neutron flux 7−61950
hexagons, finite element diffusion program, trial function 7−49491
homogenization techniques in reactor lattices 7−10182
interface flux nodal method 7−10184
IRT-2000 reactor, α-quantity meas. at thermal point by multiplicity spectroscopy *(Russian)* 7−42123
LMFBRs, angular depend. of neutron-noise transmission through shields 7−42139
monoenergetic neutron fluence standards 7−30508
multigroup spherical harmonics eqns. in r-z geometry, analytical-numerical methods 7−61941
multiscattered neutron flux in spherical cavity, albedo analytical method 7−49495
one-group transport theory for criticality of reflected spherical reactors 7−30464
optimal external source distribution in subcritical slab reactors 7−61938
perturbation theory appl. to critical parameters and fundamental mode 7−718
PUMA adjustments to core parameters and rational flux mapping procedure 7−10257
PWR, fuel element vibration effects on neutron flux fluctuations 7−25019
PWR pressure vessels, fast neutron fluxes using Monte Carlo methods 7−36097
PYTHIA code for global burnup and flux calcs. in WWER-type reactors *(German)* 7−56714
reactivity temp. coeff. meas. by noise method 7−5366
reactor core transients, neutron flux wave excitation, Green's fn. anal. 7−30601
reactor cores, spectral disturbance influence on macroscopic few-group parameters *(German)* 7−56713
reactor in-core flux data, rational mapping technique 7−10256
scalar neutron flux, spectral covariance associated with the Monte Carlo method 7−36071
spheroidal, bispherical and toroidal absorbing bodies, n. diffusion study 7−36068
thermal neutron flux, device for calorimetric meas. 7−5552

neutron flux continued
threshold-type neutron detector with hydrogen-containing scatterer 7—36180
TMI-2 reactor cavity, neutron dosimetry using solid-state track detectors 7—30717
track detectors, thermal neutron calibration curves from ^{252}Cf irradiation facilities 7—30719
VVRS reactor, neutron flux spectra in channels 7—56718
BeO, neutron multiplication study by shift register coincidence technique 7—30467
^{252}Cf neutron calibration flux distrib., Monte Carlo simulation 7—30805
D-T neutron energy determination 7—30671
neutron flux density *see neutron flux*
neutron interactions *see neutron-nucleus reactions; nucleon-nucleon interactions*
neutron magnetic moment
No entries
neutron matter *see nuclear matter*
neutron moderation
see also neutron transport theory
cold neutron source for DHRUVA reactor, optimisation calcs. 7—56896
graphite, shielding effect on 14 MeV neutrons, meas. and calcs. 7—42104
pulsed spallation neutron source, moderating assembly 7—42265
LiF, shielding effect on 14 MeV neutrons, meas. and calcs. 7—42104
Pb, shielding effect on 14 MeV neutrons, meas. and calcs. 7—42104
U, shielding effect on 14 MeV neutrons, meas. and calcs. 7—42104
neutron-nucleus reactions
for inelastic neutron-nucleus scattering, see "neutron-nucleus scattering"
see also neutron radiative capture; nucleon-nucleon interactions
absolute measurements of fission cross sections 7—30408
conf., Smolenice, Czechoslovakia, June 1985 7—41005
Czubek's method for neutron cross section meas., accuracy 7—36065
effective $\bar{\sigma}_f^{8}/\bar{\sigma}_f^{5}$ cross section ratio meas. in BTS-4 critical assembly *(Russian)* 7—5302
fission-product cross section evaluation, integral tests and adjustment based on integral data 7—30504
integral test for heavy nuclides 7—30509
monoenergetic neutron fluence standards 7—30508
neutron induced fission rate meas. at high fluence and temp. by SSNTD 7—42081
neutron resonance averaging with filtered beams 7—42021
nuclear data conference, Tokai, Ibaraki, Japan (Nov. 1985) 7—29600
nuclear data evaluation for heavy nuclides 7—30461
Wood-Saxon pot. radial path integral, path integration over SU(2) manifold 7—35958
$^{27}\vec{A}$l($\vec{n}$,X), 5-17 MeV, spin-spin pots., nuclear Ramsauer effect, optical pots. 7—24966
(n,α), thermal and resonance n, meas. and appls., review 7—42026
(n,d), anal. using singular integral eqns. 7—42019
(n,f), ternary fission, thermal and resonance n, meas. and appls., review 7—42026
(n,p), isovector excitations and spin-flip transitions at intermediate energy 7—41989
(n,p), thermal and resonance n, meas. and appls., review 7—42026
(n,p), universal Gamow-Teller quenching 7—49419
(n,X), parity effects at low energy, Hauser-Feshbach model 7—30426
(n,xnγ), 14 MeV, neutron-gamma coincident calculations within the pre-equilibrium model 7—42024
^{27}Al(n,α)^{24}Na, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7—10155
^{27}Al(n,p)^{27}Mg, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7—10155
^{27}Al(n,t+n,nt), excitation function calcs. from neutron flux meas. 7—42017
^{241}Am(n,f), cross section meas. at 14.7 MeV 7—30458
^{75}As(n,α)^{72}Ga, fast neutron reaction cross sections, simulation technique 7—19242
^{10}B(n,α), keV standard cross sections 7—30433
^{10}B(n,α), parity nonconservation observation 7—42009
^{10}B(n,$\alpha\gamma$), keV standard cross sections 7—30433
^{138}Ba(n,α)^{135m,g}Xe, fast neutron reaction cross sections, simulation technique 7—19242
^{138}Ba(n,p)^{138}Cs, fast neutron reaction cross sections, simulation technique 7—19242
^{9}Be(n,2n), reaction mechanisms 7—42018
^{12}C(n,Λ_c^+) 40-70 GeV/c, Λ_c^+ polarization meas. 7—5088
^{12}C(n,X), 545 MeV, π, p, d and t emission in cluster excitation processes 7—49396
^{13}C(n,2n)^{12}C, 8.09, 8.24, 9.27 MeV, time-of-flight neutron spectra, sequential 2n decay of ^{14}C* states 7—56659
^{40}Ca(n,X), total cross section meas. and optical model calcs. 7—5242
^{A}Ce(n,2n), 12-18 MeV, cross sections using activation method for A=even 136-142 *(Chinese)* 7—5233
^{140}Ce(n,p), 12-18 MeV, cross sections using activation method *(Chinese)* 7—5233
^{A}Cf(n,X), A=250, 251, neutron nuclear data evaluation 7—56681
^{252}Cf(n, X), spectral investigations for biological shield labyrinth calc. 7—36298
^{252}Cf(sf), neutron emission, double-diff. probability 7—42098
^{37}Cl(n,p), cross section for NAA appl. 7—23116
^{242}Cm(n,f), 0.1 eV-100 keV, fission cross section meas. for reactor appls. 7—42083
C(n,X), 40-70 GeV/c, $\bar{D}$ mesons prod. 7—30418
^{59}Co(n,X), pre-equilibrium reaction anal. 7—42012
^{52}Cr(n,xnγ), 14.6 MeV, coincident in-beam study, γ-transitions, γ-multiplicities 7—42025
Cr(n,X), parity effects at low energy, Hauser-Feshbach model 7—30426
Cr(n,X)^{52}V, 14.6 MeV, cross section meas. 7—42007
^{54}Fe(n,X), few MeV range, total, scatt., and γ-prod. cross sections, reactor appl. 7—41993
^{56}Fe(n,n′), double differential cross section meas., neutron transmission anal. 7—42106
^{2}H(n,2n)^{1}H, absolute cross-section in star geometry 7—61890
^{2}H(n,2np), 12 MeV, n-p final state interaction, analyzing power meas. 7—61887
^{2}H(n,2np), Fadeev calcs. 7—61884
^{165}Ho(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
^{115}In(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
neutron-nucleus reactions continued
^{6}Li (n,α)^{3}H, chemical effect in $Li_2C_2O_4$ and Li_2CO_3 mixed with iron compounds 7—21289
^{6}Li(n,α), absorpt. cross section meas. 7—30417
^{6}Li(n,α) keV standard cross sections 7—30433
^{6}Li(n,α)^{3}H, triton spectroscopy approach to neutron spectroscopy 7—30830
^{A}Li(n,X), 15 MeV, a=6, 7 ^{4}He prod. cross sections, fusion reactor appl. 7—36006
^{A}Mo(n,p), prod. cross section meas. for ^{94}Nb, ^{95}Nb 7—42000
^{92}Mo(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
^{95}Mo(n,α), 3 meV, cross-section meas. 7—42016
^{98}Mo(n,α), prod. cross section meas. 7—42000
Mo(n,X), prod. cross section meas. for ^{94}Nb, ^{91}Nb 7—42000
N (n,X), 27.4-60.7 MeV, double differential inclusive p, d, t, ^{3}He and α spectra 7—36008
^{14}N(n,^{7}Li)^{8}Be, 6-nucleon transfer, cross section meas. 7—659
^{93}Nb(n,2n)^{92m}Nb, cross section meas. for E_n=14 MeV 7—5238
^{93}Nb(n,α), cross section meas. for E_n=14 MeV 7—5238
^{93}Nb(n,nα), cross section meas. for E_n=14 MeV 7—5238
^{143}Nd(n,α), 3 MeV, cross-section meas. 7—42016
^{58}Ni(n,2n)^{57}Ni, fast neutron reaction cross sections, simulation technique 7—19242
^{58}Ni(n,p), 17.3 MeV, giant dipole resonance excitation, p ang. distribs. 7—41962
^{236}Np^{1}(n,X), fission cross-section for thermal neutrons 7—25010
^{236}Np(n,f), isomer thermal neutron-induced fission cross sections, spin depend. 7—42100
^{237}Np(n,2n)^{236}Np, 22.5 h isomer prod. cross section 7—5231
^{237}Np(n,f), cross section meas. at 14.7 MeV 7—30458
^{237}Np(n_{th},f), cross section, resonant fission integral meas. 7—61929
O(n,X), 27.4-60.7 MeV, double differential inclusive p, d, t, ^{3}He and α spectra 7—36008
^{208}Pb, gamow-Teller sum rules and ground-state correlations for (n,p) and (p,n) 7—49406
Pb(n,X), 14 MeV, neutron multiplication, leakage rate from sphere, fusion reactor appls. 7—62061
^{105}Pd(n,e), E0 strength and E0/E2 ratio determ. 7—61834
^{A}Pu, A=23, 241, reactor parameters, uncertainties in scientific measurements 7—42085
^{A}Pu(n,f), A=239, 241, fragment energy and mass characts., shell effects, static scission point model anal. 7—42099
^{A}Pu(n,f), A=240-2, 244, cross section meas. at 14.7 MeV 7—30458
^{239}Pu(n, X), resolved resonance region, total cross section 7—61930
^{239}Pu(n,f), fission product sum beta spectra, absolute meas. 7—56707
^{239}Pu(n,f), prompt neutron emission, energy depend. 7—61933
^{239}Pu(n,f), resolved resonance region, multilevel parameter calcs. 7—61930
^{28}Si(n,p)^{28}Al, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7—10155
^{29}Si(n,p), cross section for NAA appl. 7—23116
^{230}Th(n,eγ), nuclear struct. study and binding energy determ. 7—41902
^{232}Th(n, f), fission cross section meas. relative to ^{235}U(n, f) 7—61928
^{232}Th(n,f), fission mass distrib. from degraded fission spectrum neutrons 7—61934
Ti(n,X), X=p, np, 2n, threshold-20 MeV, cross sections, hybrid and Hauser-Feshbach anals. 7—61870
^{A}U, A=233, 235, reactor parameters, uncertainties in scientific measurements 7—42085
^{A}U(n, f), A=234, 236, fission cross section meas. relative to ^{235}U(n, f) 7—61928
^{A}U(n,f), A=233, 235, prompt neutron emission, energy depend. 7—61933
^{234}U(n,f), 0.8 MeV, mean kinetic energy depend. of fission fragments, vibr. resonance 7—42097
^{234}U(n,f), E_n~0.8 MeV, fission fragment average kinetic energy meas., effect of vibrational state in second potential well 7—61935
^{235}U(n,X), neutron induced pion emission from ground state 7—15206
^{235}U(n,f), <200 keV, fission of oriented nuclei, spin depend. 7—36063
^{235}U(n,f), average cross section meas. 7—30417
^{235}U(n,f), delayed neutron activity, few-group anal. 7—42084
^{235}U(n,f), fission product sum beta spectra, absolute meas. 7—56707
^{235}U(n,f), fragment mass, kinetic energy and ang. distrib. meas. 7—61931
^{235}U(n,f), γ-multiplicity and total energy meas. 7—10176
^{235}U(n,f), international fission foil mass intercomparison, α-decay rates 7—42086
^{235}U(n,f), prompt fission neutron spectrum tail 7—30457
^{235}U(n,f), thermal-6 MeV, fragments mass, kinetic energy and ang. distribs. 7—42101
^{235}U(n,f) thermal fission, composite delayed neutron energy spectra 7—61932
^{51}V(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
^{176}Yb(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
^{232}Yh(n,f), 14.7 MeV, Rh, Ag, In, Sb yield charge distrib. 7—19313
^{66}Zn(n,p), cross section for NAA appl. 7—23116
^{A}Zr(n,α)$^{A-3}$Sr, A=90,91 α-spectra meas., pick-up and knock-on theories 7—49408
^{A}Zr(n,p)^{A}Y, A=90,91, cross-section values for nuclear applications 7—24976
^{90}Zr(n,2n)^{89}Zr, cross-section values for nuclear applications 7—24976
^{90}Zr(n,α)^{87}Sr, cross-section values for nuclear applications 7—24976

neutron-nucleus scattering
see also nucleon-nucleon scattering
conf., London, England (September 1985) 7—18492
conf., Smolenice, Czechoslovakia, June 1985 7—41005
dense bounded plasma, fusion neutron scatt., recoil nuclei energy transport props. 7—63344
differential elastic cross-sections, optical model potentials 7—49409
neutron diffraction experiment planning and eval. based on stat. consideration 7—619
(n,n), 1-26 MeV for A=12-240, diff. cross section anal. using microscopic optical pot. *(Chinese)* 7—5235
($\vec{n}$,$\vec{n}'$), high sensitivity search for T-violation in slow neutron resonances 7—49424
(n,n′), nuclear level density determ. 7—41905
NN interactions in nuclei, time-reversal symmetry test using (n,n′) 7—30347
^{109}Ag(n,n′γ), temperature shift of neutron resonances 7—41960
^{197}Au(n,n′γ), cross section calcs., spectrum fitting method 7—30425
^{12}C(n,n), analyzing powers and ^{13}C level struct. determ. 7—61797

neutron-nucleus scattering continued
^{52}Cr(n,n'), direct contributions, DWBA anal. 7−42014
Cu(n,n), fast neutron forward scatt., absolute cross sections 7−5230
^{A}Dy(n,n'), A=160, 162, 164, 0.4-4 MeV, cross section meas. statistical Hauser-Feschbach model, comparisons 7−42013
^{A}Dy(n,n'γ), A=161, 163, temperature shift of neutron resonances 7−41960
^{168}Er(n,n'), cross section calcs., direct processes and compound nuclei 7−30420
^{A}Fe(n,n'γ), A=54, 56, 58, gamma distribs., excited level schemes, B(E2) values 7−30419
^{54}Fe(n,X), few MeV range, total, scatt., and γ-prod. cross sections, reactor appl. 7−41993
^{56}Fe(n,n'), direct contributions, DWBA anal. 7−42014
^{2}H(n,n'), three-nucleon force effects 7−61885
^{2}H(n,n), Fadeev calcs. 7−61884
^{2}H(n,n), three-nucleon force effects 7−61885
^{2}H(n,n)^{2}H, elastic scatt., analysing power distribs. 7−61892
^{2}H($\vec{n}$,n)^{2}H*, analysing power meas. 7−61891
^{4}He(n,n), alpha-neutron scattering, microscopic Monte Carlo calcs. 7−24991
Hg(n,n'), differential cross section, energy spectra and model calcs. 7−15213
I(n,n'), differential cross section, energy spectra and model calcs. 7−15213
In(n,n'), differential cross section, energy spectra and model calcs. 7−15213
(n,n) <0.5 MeV, scatt. anisotropy, resonances, diff. cross sections, spin channels 7−41995
^{93}Nb(n,n'), 14 MeV, double differential cross-sections calcs. *(Japanese)* 7−49414
^{93}Nb(n,n')^{93}Nb^{m}, meas. of neutron fluence on WWER-440 pressure vessel 7−56780
^{58}Ni(n,n'), direct contributions, DWBA anal. 7−42014
Ni(n, n'), 14 MeV, double differential cross-sections calcs. *(Japanese)* 7−49414
^{31}P(n,n'), 2.2 eV-7 MeV, total cross section meas. 7−49403
^{208}Pb(n,n'), neutron emission spectra meas., comparisons with equilibrium, pre-equilibrium neutron emission calcs. 7−42015
^{208}Pb(n,n), optical pot., dispersion relation approach to extrapolation to negative energy 7−41958
^{208}Pb(n,n)^{208}Pb, empirical evidence of an energy dependence of the radial shape of the real part of the optical potential 7−49411
Pb(n,n), fast neutron forward scatt., absolute cross sections 7−5230
^{A}Pu(n,n'), A=240,242,244 collective band scheme and statistical S-matrix formalism 7−61874
^{239}Pu(n,n), cross section determ. using multilevel parameters 7−61930
^{239}Pu(n,n), fast neutron forward scatt, cross sections 7−5229
^{239}Pu(n,n)^{239}Pu, differential elastic cross-sections, optical model potentials 7−49409
^{103}Rh(n,n'γ), temperature shift of neutron resonances 7−41960
^{A}S(n,n'), A=32,34, 20-26 MeV, cross sections, rotation-vibration, anharmonic vibration collective model anal., transition matrix element calcs. 7−19244
^{A}Se(n,n), A=76, 78, 80, 82, elastic scatt., differential cross sections, optical anal. 7−10152
^{28}Si(n,n'), 20-26 MeV, cross sections, rotation-vibration, anharmonic vibration collective model anal., transition matrix element calcs. 7−19244
^{28}Si(n,n')^{28}Si, excited states and direct reaction mechanism 7−36003
Sn(n,n'), differential cross section, energy spectra and model calcs. 7−15213
Te(n,n'), differential cross section, energy spectra and model calcs. 7−15213
^{232}Th(n,n)^{232}Th, differential elastic cross-sections, optical model potentials 7−49409
^{48}Ti (n,n)^{48}Ti, total and elastic cross-sections 7−42008
^{238}U(n,n,)^{238}U, differential elastic cross-sections, optical model potentials 7−49409
^{238}U(n,n'), resolved resonance parameters, 1-10 keV 7−30396
^{238}U(n,n), fast neutron forward scatt, cross sections 7−5229
U(n,n'γ), chemically induced shifts of neutron resonances 7−41961
^{89}Y(n,n'γ), level struct. study, statistical determ. of spins and parities 7−30344
^{89}Y(n,n), 4-10 MeV, diff. cross sections, search for Fermi surface anomaly 7−36010
^{89}Y(n,n), differential cross section and analyzing powers, optical model study 7−5243
^{A}Yb(n,n'), A=172,174 ang. distribs. studies 7−10143
^{A}Zn(n,n'γ), A=64, 66, 68, 70, gamma distribs., excited level schemes, B(E2) values 7−30419
^{90}Zr(n,n'), second 0^{+} state excitation, form factors and transitions, CC anal. 7−30369

neutron oscillations
baryon number violation 7−56495

neutron polarisation
polarised cold and ultracold neutron production from universal liq. H source 7−62173
np elastic scattering, n-p analyzing powers, difference meas. 7−30434

neutron production
$\nu_e d \to e^{+} nn$, cross section calcs., exchange current effects, relevance to solar neutrino problem 7−508
^{252}Cf(SF), neutron emission behaviour in light charged particle accompanied fission *(Chinese)* 7−5299

neutron-proton interactions
see also neutron-proton scattering
many-body problems of proton-neutron interaction, HF theory 7−30350
np, 1-5 GeV/c, cross sections for interaction channels 7−35902
$\bar{n}p$ annihilation cross section meas. close to $\bar{N}N$ threshold 7−49169
np→da, search for short lived axions 7−56685
np→dγ, total capture cross section meas. at 25 MeV 7−30281
np→dπ, charge symmetry breaking in the n-p system 7−30434
$\bar{n}p$ interactions, total, annihilation cross sections, narrow state search 7−49173
np→X, multiplicity of γ-rays and π^{0}, additive quark model comparison 7−42010
pn→p^{0}, 25 GeV, anal. of particle-cluster production 7−56575
pn→particle clusters, 25 GeV, cross-section for two-cluster production 7−56575
$\bar{p}n \to \pi^{-}\pi^{-}\pi^{-}\pi^{+}\pi^{+}$, evidence for quasinuclear bound states in broad struct. 7−5117

neutron-proton scattering
see also neutron-proton interactions
$\vec{n}\vec{n}$, 50 MeV, spin correlation meas., relevance to NN force models 7−61731
np, elastic scatt. energy-depend. phase shift anal. 7−56564
$\vec{n}p$, low energy scatt., anal. power, spin depend. 7−24904
np elastic scattering, intermediate energies, spin meas. 7−30278
np elastic scattering, n-p analyzing powers, difference meas. 7−30434
np scattering, E_{n}=189 MeV, charge symmetry breaking search 7−5112
np scattering, spin and isospin nonconservation by a colour force 7−30285
$\vec{p}\vec{n}$→pn, A_{nn} parameter meas. expt., progress report 7−5109
np scattering, medium energy, Schrodinger operator construction 7−61724

neutron radiative capture
A=9-136, direct neutron capture, channel-capture formalism 7−42023
fission product neutron capture transformation effects on decay power after reactor LOCA 7−49587
gamma-ray emission rate effects on cross section meas. 7−30672
orientation spin tensors of fissioning compound nuclei produced through neutron capture 7−42095
p-wave neutron resonance near neutron binding energy *(Chinese)* 7−10146
s-process nucleosynthesis, neutron capture cross section meas. rel. to branching at ^{79}Se 7−23990
thermal neutron capture for A≤80 odd-odd nuclei, dipole transition strengths and level densities 7−49410
(n,γ), determ. of absolute intensities, time-of-flight γ- and neutron-spectra meas. 7−56678
(n,γ), E1 giant resonance excitation, partial cross sections in optical shell model 7−30421
(n,γ), fast n, expt. data review, direct-semidirect model anal. 7−42022
($\vec{n}$,γ), j-dependence, direct-semidirect model study 7−49394
^{1}H(n,γ), total capture cross section meas. at 25 MeV 7−30281
^{197}Au(n,γ), cross section calcs., spectrum fitting method 7−30425
^{197}Au(u,γ), low-lying levels, average resonance capture study 7−24937
Au(n,γ), pygmy resonance in spectra for nuclei with N≈82-126 7−687
B/H, thermal absorption cross-section ratios 7−49490
^{9}Be(n,γ), radiative transition and direct capture anal., optical pot. model 7−41996
^{A}C(n,γ), A=12, 13, radiative transition and direct capture anal., optical pot. model 7−41996
^{13}C(n,γ), low-energy, E2 effective charge 7−5236
^{40}Ca(n,γ), constructive interference effect *(Chinese)* 7−49404
^{40}Ca(n,γ), high energy levels, resonant excitation with neutron-capture γ quanta 7−10107
^{111}Cd(n,γ)^{112}Cd, 10 to 150 keV, radiative transitions and cross sections 7−10151
^{56}Fe(n,γ), capture in 1.15 keV resonance using Moxon-Rae detectors, reactor appl. 7−36004
^{A}Gd(n,γ), determ. of absolute intensities, time-of-flight γ-and neutron-spectra meas. 7−56678
^{1}H(n, axion)^{2}H, search for short lived axions 7−56685
^{1}H($\vec{n}$,γ), 180-270 MeV, diff. cross section and anal. power meas. 7−19245
^{1}H(n,γ), parity violating observables with weak interaction model and Paris pot. 7−689
^{2}H($\vec{n}$, γ), photon asymmetry meas. and parity violation 7−30424
^{2}H(n,γ), thermal n, parity nonconserving effects 7−19164
^{2}H(n,γ)^{3}H, three-nucleon force effects 7−61885
Ho(n,γ), pygmy resonance in spectra for nuclei with N≈82-126 7−687
^{115}In(n,γ)^{116m}In, cross section for fast n, absolute meas. 7−36007
^{A}Kr(n,γ), 4-250 keV, capture cross sections for A=78-86, reactor appl. 7−36005
^{85}Kr, neutron capture and β-decay, s-process abundances 7−55461
^{175}Lu(n,γ), 24.3 keV, isomeric capture cross section 7−19258
Lu(n,γ), pygmy resonance in spectra for nuclei with N≈82-126 7−687
^{25}Mg(n,γ), low-energy, E2 effective charge 7−5236
Mn/H, thermal absorption cross-section ratios 7−49490
Mn(n,γ), capture cross sections for thermal neutrons 7−41994
^{98}Mo(n,γ), recoil effects, indirect meas. from ^{99m}Tc behaviour 7−49309
(n,γ), gamma-ray spectra, P-violating effects 7−49425
^{A}Ne(n,γ)$^{A+1}$Ne, A=20,21,22 γ-ray spectra 7−30431
^{20}Ne(n,γ), low-energy, E2 effective charge 7−5236
^{A}Os(n,γ), A=186-8, resonance parameters and optical model pot. for stellar nucleosynthesis 7−5244
^{189}Os(n,γ) cross section, characts. and implications for stellar nucleosynthesis duration 7−49393
^{105}Pd(n,γ), E0 strength and E0/E2 ratio determ. 7−61834
Pr(n,γ), pygmy resonance in spectra for nuclei with N≈82-126 7−687
^{239}Pu(n, γ), cross section determ. using multilevel parameters 7−61930
^{151}Sm, neutron capture and β-decay, s-process abundances 7−55461
S(n,γ), capture cross sections for thermal neutrons 7−41994
^{A}Sr(n,γ), A=86,87 capture cross-section at stellar temps. 7−55462
^{86}Sr(n,γ), level struct. and transition strength study 7−41899
Ta(n,γ), pygmy resonance in spectra for nuclei with N≈82-126 7−687
Tb(n,γ), pygmy resonance in spectra for nuclei with N≈82-126 7−687
^{128}Te(n,γ), high energy levels, resonant excitation with neutron-capture γ quanta 7−10107
^{230}Th(n,γ), nuclear struct. study and binding energy determ. 7−41902
^{89}Y(n,γ), ^{90}Y isovector E2 resonance observation 7−49361
^{173}Yb(n,γ)^{174}Yb, energy levels and EM transitions of ^{174}Yb 7−49397

neutron radiography
damaged fuel assemblies, neutron tomography 7−30555
developments and applications 7−33900
MA-ND type nuclear track detectors, neutron radiographic characts. 7−36404
nuclear fuel pin, dimensions determ. by neutron radiography, moments anal. method 7−25035
pipe flow, visualization in steel pipes using real-time neutron radiography 7−37583
real-time neutron radiography applications in dynamic fluid flow studies 7−33903
real-time neutron radiography for solving industrial problems 7−33902
real-time neutron radiography system, quantitative density meas. 7−33901
thermal neutron imaging device with low-pressure multistep avalanche chamber 7−46763
NbH$_{x}$, coherent phase transition, neutron radiography study 7−32629
NbH$_{x}$, spinodal decomposition, neutron radiography studies 7−58489

neutron reflection
No entries

neutron scattering *see neutron-nucleus scattering; nucleon-nucleon scattering*
neutron scattering (crystallography) *see neutron diffraction; neutron diffraction crystallography; neutron diffraction examination of materials*
neutron sources
24.5 keV neutron beam prod. for radiobiological applications 7−818
calibration field from moderated ^{252}Cf source, design and calcs. 7−49852
calibration field from moderated ^{252}Cf source, expt. characterization 7−49853
Cockcroft-Walton neutron generator research 7−30783
cold neutron source for DHRUVA reactor, optimisation calcs. 7−56896
cold/ultracold neutron source, polarized, time-of-flight spectra, yields 7−56904
conf., Smolenice, Czechoslovakia, June 1985 7−41005
dosimetric characteristics for biology and medicine 7−56894
dosimetric meas. on pulsed reactor sources 7−56895
emission rates, intercomparison 7−62158
few-body reaction facility at Bochum University 7−62164
fluence rate meas for monoenergetic fast neutrons using ^{115}In(n,γ) 7−56902
Fusion Neutronics Source (FNS) Facility 7−30819
fusion reaction kinetics in plasma focus, gyrating particle model 7−63345
fusion subcomponent testing 7−15442
KUR neutron guide tubes 7−30825
Kyoto University Reactor fission plate (energy converter) 7−30823
monoenergetic neutron production problems at NPL van de Graaff accel. 7−56901
monoenergetic neutron sources for 2.5-25.7 MeV range 7−62166
multi-purpose intense neutron generator, concept and design 7−42272
multipurpose intense 14 MeV D-T neutron source of Bratislava, recent developments 7−42273
NG-150 generators, flux stabilisation 7−5507
nonthermal ion collisions in mag. field, PF-150 plasma focus device neutron source 7−63365
OKTAVIAN neutron TOF and irradiation facility 7−30827
Pelletron 3.2 MV accelerator for neutron cross section meas. 7−30782
polarised cold and ultracold neutron production from universal liq. H source 7−62173
pseudo-monoenergetic neutron beam course from 15 to 40 MeV for activation cross section measurements 7−30820
pulsed source with reduced delayed γ-ray background 7−42264
pulsed spallation neutron source, moderating assembly 7−42265
radioactive neutron source, switchable design 7−30116
Rikkyo University fast-neutron facility 7−30781
RTNS-II, neutron irradiation damage on metals *(Japanese)* 7−32508
RTNS-II fusion materials irradiation facility, status 7−49667
scaling law based on plasma focus model for neutron yield 7−49762
SINQ spallation neutron flux for radiation damage meas. 7−56893
SNQ target station materials investigation 7−5524
standard 1/E spectrum neutron field installed in UTR-KINKI 7−30826
thermal neutron standard field using the KUR heavy water facility 7−30824
total cross section meas. using TOF and filtered beam facilities 7−30821
vacuum system for multipurpose 14 MeV neutron source 7−35529
^{252}Cf neutron calibration flux distrib., Monte Carlo simulation 7−30805
^{252}Cf(SF), noise equivalent source for freq. domain meas. 7−42135
D-T neutron energy determination 7−30671
TiT$_4$, T depth profiling using the T(d,α)n reaction, neutron source target 7−23084
neutron spectra
see also neutron spectrometers
activation meas. for spectra restoration 7−5312
activation measurement, error anal. 7−49493
Bonner sphere dose equivalent determ. neutron spectra, fluence response data effect 7−30728
covariance matrix of neutron spectra used in the REAL 84 exercise 7−36307
energy spectra calcs. for 14 MeV n streaming through stainless steel ducts 7−714
graphite, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
hot inhomogeneous plasma, time-depend. neutron spectra 7−63349
infinite slab, self-shielding correction for the resonance activationdetectors Na, Mn, and Co 7−8336
Little-Boy replica neutron spectrum, meas. using nuclear research emulsions 7−30903
nuclear power plant, neutron dosimetry using Kodak LR 115 II B 7−30718
organic scintillators, neutron spectrum unfolding by differentiation 7−42319
scalar neutron flux, spectral covariance associated with the Monte Carlo method 7−36071
unfolding method for neutron spectra based on max. likelihood method 7−5531
VVRS reactor, neutron flux spectra in channels 7−56718
WWER fuel assemblies, fresh and irradiated, neutron spectrum estimation *(Russian)* 7−49550
(n,γ), determ. of absolute intensities, time-of-flight γ- and neutron-spectra meas. 7−56678
^{27}Al($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
^{12}C($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
^{13}C(K$^-$,π^-), $s^4p^8 \otimes s_\Lambda$, $s^4p^8 \otimes p_\Lambda$ state spectra, baryon decays, neutron spectra, nuclear and hypernuclear γ-spectra 7−56634
^{13}C(n,2n)^{12}C, 8.09, 8.24, 9.27 MeV, time-of-flight neutron spectra, sequential 2n decay of ^{14}C* states 7−56659
^{14}C*$\rightarrow$^{12}C+2n, time-of-flight neutron spectra meas., obs. of constant narrow peak for ^{13}C(n,2n)^{12}C, 8.9-9.27 MeV 7−56659
^{252}Cf, spontaneous fission prompt neutron spectra 7−5297
^{252}Cf(sf), neutron spectrum description in generalised Madland-Nix model 7−36062
^{252}Cf(sf) neutron spectrum, meas. and theoretical calc., review 7−42096
^{69}Cu($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
^{A}Gd(n,γ), determ. of absolute intensities, time-of-flight γ-and neutron-spectra meas. 7−56678
Hg(n,n′), differential cross section, energy spectra and model calcs. 7−15213
^{165}Ho, muon capture, energy transfer *(Korean)* 7−24971
^{165}Ho(^{14}N, X), neutron emission from high temp. region 7−36045
I(n,n′), differential cross section, energy spectra and model calcs. 7−15213
In(n,n′), differential cross section, energy spectra and model calcs. 7−15213
neutron spectra continued
LiF, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
Ni(^{14}N, X), neutron emission from high temp. region 7−36045
Pb, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
^{208}Pb(n,n′), neutron emission spectra meas., comparisons with equilibrium, pre-equilibrium neutron emission calcs. 7−42015
^{208}Pb($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
Sn(n,n′), differential cross section, energy spectra and model calcs. 7−15213
Te(n,n′), differential cross section, energy spectra and model calcs. 7−15213
^{232}Th, space-dependent fast neutron spectra, eigenvalue and eigenfunction study 7−30532
U, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
neutron spectrometers
double scatter in time of flight spectrometer for fusion plasma, electronics implementation 7−15368
double scatter neutron time-of-flight spectrometer as aplasma diagnostic 7−11719
double scatter neutron time-of-flight spectrometer for fusion plasma measurements 7−15450
fast neutron spectrometry based on proton detection in CR-39 detector 7−42407
fast-neutron spectrometry using the triple-α reaction in the CR-39 detector 7−42408
few-body reaction facility at Bochum University 7−62164
high resolution, for quasielastic scatt., which combine spin echo and mag. resonance 7−41572
JAERI linac TOF facility 7−30779
JET neutron spectrometry 7−11713
neutron TOF spectrometer at KURRI electron linac 7−30831
Nova, ICF, neutron spectroscopy 7−11715
PRISMA, pulsed spallation neutron source spectrometer 7−62197
small angle neutron scatt. time of flight spectrometer, config., performance, design principles 7−382
small-angle neutron scatt. spectrometer 7−32227
tandem fast neutron TOF facility 7−30780
thermal-neutron registration channel 7−36414
time of flight spectrometer for gamma correlated neutron spectra meas. 7−42277
triton spectroscopy approach to neutron spectroscopy using ^{6}Li(n,α)^{3}H 7−30830
U-150 cyclotron neutron time of flight spectrometer 7−36376
neutron stars
see also pulsars
A0535+26, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7−55712
A0535+26/HDE 245770, X-ray/Be transient system, X-ray, UV and optical monitoring 7−55734
AC 211, X-ray binary system in globular cluster M15, emission-line spectrum obs. 7−14596
acceleration of protons and electrons in EM field of rot. orthogonal mag. dipole, theory 7−9339
accretion disks, general Eulerian formulation of comoving-frame radiative transfer equation 7−55441
accretion from inhomogeneous medium, general case and observational consequences 7−9460
Aql X-1, persistent X-ray emission and bursts obs. by Einstein 7−66661
birth of neutron stars, theory of Kelvin-Helmholtz phase 7−40858
Cas γ-1 (=4U 0115+63), transient gamma-ray source, obs. of 3.6-s pulses at TeV energies 7−60838
ω Cen, globular cluster, percentage of massive remnants from multimass dynamical model 7−9520
2CG 006−00 (=PSR 1802−23), COS B source, pulsed very high energy gamma ray emission obs. 7−66788
Cir X-1, 843-MHz obs. of assoc. extended radio nebula 7−35012
cooling problem, collective excitations in nucleonic matter 7−66650
core phase transformations, equilib. configurations in general relativity 7−60705
Cyg X-3, evidence for free precession of neutron star from obs. of 12.59 ms γ-ray pulse period 7−66649
Cyg X-3, obs. of very-high-energy gamma rays 7−47916
envelopes thermal struct., effects of rapid rot. 7−47965
formation, neutrino signature of collapse 7−55699
formation by He star evolution, lower mass limit determ. 7−24122
formation evolution of single and binary He stars up to Ne ignition 7−4430
g-modes of nonradially pulsating relativistic stars, slow-motion formalism 7−9463
gamma-ray burst sources, one-quantum annihilation of polarised electron-positron pairs in strong mag. fields 7−47674
Geminga, hour-mass binary model and 59 s periodicity 7−55855
gravitational wave emission from 2-neutron star binary coalescence, and Hubble const. determ. 7−9559
GX 17+2, time-dependent spectral anal. of X-ray bursts 7−14607
GX 1+4, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7−55712
HD 153919 (=4U 1700−37), massive X-ray binary star, orbital variability in stellar wind ionisation from IUE obs. 7−55737
HD 164270, variable WC9 star, model of close binary with precessing disk 7−47925
HD 191765, Wolf-Rayet star, precessing neutron star companion model for light vars. 7−66615
HZ Her (=Her X-1), UV spectroscopy rel. to line emission site 7−55736
Her X-1, γ-ray emission mechanism 7−47975
Her X-1, companion-star beam steering of high-energy particles rel. to gamma-ray emission 7−14611
her X-1, evolutionary history, low-mass and high-mass models 7−35000
hyperons in neutron stars 7−49277
limiting mass in general relativity for neutron stars with solid internal shell 7−47966
low-mass close binary stars, evolution with orbital ang. momentum losses 7−24121
magnetic field and lumin. modelling 7−4496
magnetic moments of stars with different eqns. of state 7−40857
MXB 1730−335, X-ray burster, accretion disc behaviour and neutron star size 7−60709
neutrino luminosity, implications of collective effects of nucleon medium 7−47967
NNN-interaction effects in neutron stars 7−61804

neutron stars continued
- nonmagnetised low-mass X-ray binary stars, X-ray spectra from accretion disk 7—60719
- nuclear compression modulus, lower limit from neutron star masses 7—592
- origin and characts. (book) 7—60914
- pair formation in neutron star magnetosphere 7—40860
- polar cap plasma flow 7—37654
- positron annihilation, gamma-ray burst events 7—40859
- PSR 0531+21 (Crab pulsar), obs. of very-high-energy gamma rays 7—60916
- PSR 1937+214, neutron star spin-up and previous evol. 7—29499
- pulsars, theory, discovery, and astronomical impact 7—47964
- Sco X-1, UV continuum vars. obs. 7—55735
- soft X-ray transients, relaxation to evolution of low-mass X-ray binaries 7—55707
- stability, nuclear matter equation of state anal. 7—35969
- strange matter neutron stars, detection possibilities 7—36019
- strange stars, global props. and surface characts. 7—29495
- transient X-ray source model involving neutron star accretion disk 7—29513
- 47 Tuc, globular cluster, percentage of massive remnants from multimass dynamical model 7—9520
- 4 U 162—67 X-ray pulse profile rel. to anisotropic X-ray transfer in strongly magnetised plasma 7—55727
- 4U 1700—37 (HD 153919), EXOSAT search for X-ray periodicities 7—14610
- 4U 1820—30, confirmation of 685-s period from SAS-3 obs. 7—9511
- 4U 1820—30, in globular cluster NGC 6624, 685-s orbital period discovery from X-ray light curve 7—66666
- 4U 1820—30, X-ray burst source, neutron star component size 7—60703
- 4U 1907+09, X-ray binary pulsar, high-resolution spectrum of peculiar optical counterpart 7—18440
- ultrashort period binary stars in globular clusters, form. mechanism 7—66667
- Vel X-1, neutron star orbit and rot. characts. 7—66659
- Vel X-1 (4U 0900—403), X-ray probing of circumstellar matter during eclipse phase 7—55726
- Vel X-1/HD 77581 system, circumstellar matter characts. from X-ray energy spectra 7—24168
- vortex creep and internal temperature, effect on pulsars timing 7—60699
- white dwarf star collapse in binary star systems 7—60704
- wide binary radio pulsar systems, neutron star mass determ. 7—60733
- X1735—444, low-mass X-ray burst source, X-ray and optical variability obs. 7—24165
- X1735—444 (V926 Sco), optical/X-ray burster, orbital period from CCE photometry 7—9515
- X-ray binaries, QPO power spectra as signatures of ang. position and radial vel. of boundary layer clumps 7—47986
- X-ray binary pulsars, short-period temporal studies with IUE 7—55494
- X-ray binary stars, free precession in quasi-periodic oscillators 7—55713
- X-ray binary stars, quasi-periodic oscillations 7—60734
- X-ray binary systems, mechanism for ultra-high-energy gamma-ray emission 7—47971
- X-ray burst sources, influence of Comptonisation on radiation spectra *(Russian)* 7—55724
- X-ray burster, radiation angular distrib. and polarization 7—4506
- X-ray bursters, neutron star characts. 7—60725
- X-ray source in M15, EXOSAT obs. 7—60732
- X-ray sources in galactic bulge and globular clusters, radio obs. 7—29511
- X-ray transient, recurrent, of Population II, similarities to SU UMa cataclysmic variables 7—14604

neutron transport theory
- *see also neutron diffusion; neutron moderation*
- 1D homogeneous plane slab, spectral anal. of multigroup neutron transport operator 7—715
- 3D general geometry Monte Carlo calcs., vectorisation, reactor transport appls. 7—36088
- albedo Monte Carlo method for neutron streaming analyses 7—49494
- angular integral evaluation in transfer matrix generation 7—30471
- CANDU/GCR clusters, collision probability calcs. using interface current method 7—19332
- cell parameters, sensitivity coeffs., calc. method, neutronic props. 7—19389
- Chinese Atomic Energy Institute nuclear data work 7—30502
- classical slowing down problem, anal. soln. 7—42103
- coarse-mesh nodal methods for n diffusion and transport neutron diffusion reviews 7—5314
- concrete shield, fast neutron albedo calcs. 7—30622
- conf., London, England (September 1985) 7—18492
- critical slabs, P_N approx., modified boundary conditions, neutron conservation 7—5310
- critical slabs, P_N approx., neutron conservation and conservation eqn. rel. 7—5309
- cylinder of finite height, neutron transport problems with anisotropic scatt., integral transform method 7—15225
- Czubek's method for neutron cross section meas., accuracy 7—36065
- diffusion equation, modal expansion method, accuracy improvement using finite-difference scheme 7—15224
- dimensional analysis, use in neutron transport theory 7—36066
- direct and indirect computation of the transport equation eigenvalues 7—61939
- discontinuous finite elements for neutron transport analysis 7—19320
- discrete ordinates transport methods, 3D, synthetic acceleration, interface current approach 7—36073
- dynamics transport codes, analytical benchmarks 7—61943
- elliptic and parabolic systems for neutron flux reaction-diffusion 7—25018
- energy dependent neutron transport eqn., numerical soln., finite element approach 7—716
- energy spectra calcs. for 14 MeV n streaming through stainless steel ducts 7—714
- even parity transport equation, multigroup finite element soln., scatt. anisotropy 7—5308
- FBR energy independent adjoint flux method, SEG-V configuration perfection 7—19337
- FELTRAN finite element code, appl. to multigroup neutron transport 7—19345
- FEM transport methods, generalized least squares as generator of variational principles and weighted residual methods 7—19321
- finite element, nodal and response matrix methods 7—19322

neutron transport theory continued
- finite element methods, relation to nodal methods in transport theory 7—19318
- finite element neutron transport methods, inclusion of voids 7—19323
- finite element response matrix soln. of transport eqn. 7—19334
- first order neutron transport eqn., finite element response matrix method 7—36075
- fission-product cross section evaluation, integral tests and adjustment based on integral data 7—30504
- fusion neutron multi-group double-differential cross-sections using PROF-DD code system 7—56852
- fusion reactor self-cooled heavy water breeding blanket concept 7—15364
- general next event surface crossing estimators for Monte Carlo methods 7—30470
- graphite, shielding effect on 14 MeV neutrons, meas. and calcs. 7—42104
- GRENADE, coarse mesh program for static neutron diffusion eqns., flux and power distribs. 7—42107
- Hamilton-Jacobi approach to neutron diffusion reactor theory 7—61937
- heterogeneous reactor polycell, fuel multirod cluster, neutron flux 7—61950
- hexagons, finite element diffusion program, trial function 7—49491
- homogenization techniques in reactor lattices 7—10182
- hybrid Monte Carlo-analytical model of neutron coincidence counting 7—30906
- Indonesian nuclear data activities 7—30503
- Kolmogorov eqn. for fission chain-reacting system, approx. soln. 7—35992
- lattice homogenization procedure using the nodal expansion method and equivalence theory for LWR 7—49533
- linear nodal S_n calculations, acceleration using diffusion-synthetic method 7—36072
- linear particle transport eqns., duality in transport theory 7—56710
- LMFBR calculations in hexagonal geometry, nodal expansion method 7—56709
- LMFBR flux group const. generation Doppler effect calcs. 7—19336
- LWR lattice problems, 2D neutron transport, ang. current approx. choices, RICANT program 7—15270
- MARC/PN neutron transport code, recent developments 7—19341
- modified diffusion synthetic acceleration algorithms 7—36067
- monoenergetic integral transport eqn. across a plane boundary, improved soln. 7—15226
- monoenergetic neutron transport, solution to a parametric equation in transport theory 7—10179
- Monte Carlo simulation in low capture medium 7—5311
- Monte Carlo source biasing, choice of biasing fn. 7—36070
- MORSE-CG code for pulsed fast reactor problems, Monte Carlo anals. 7—15229
- multigroup finite element neutron transport, inclusion of anisotropic scattering in FELICIT code 7—19324
- multigroup neutron transport with anisotropic scatt., finite element method anal. 7—19333
- multigroup spherical harmonics eqns. in r-z geometry, analytical-numerical methods 7—61941
- multiscattered neutron flux in spherical cavity, albedo analytical method 7—49495
- neutron shields for medium-energy accelerators, use of neutron transport codes 7—42258
- NF-6 program complex for multigroup diffusion network calcs. *(Russian)* 7—49526
- nodal diffusion and transport methods for fast reactor critical expt. anal. 7—19325
- nodal discrete ordinates methods, three-dimensional, development and testing 7—19328
- nodal expansion diffusion method, hexagonal geometry, fast reactor calculation appl. 7—19326
- nodal transport method on general triangular meshes, (x,y) geometry 7—19330
- nodal transport theory in hexagonal geometry for fast reactor appl. 7—19329
- nonstatistical Monte Carlo method 7—4796
- nonsymmetric slabs, environment independ. homogenised parameters for neutron diffusion 7—15223
- nuclear data conference, Tokai, Ibaraki, Japan (Nov. 1985) 7—29600
- one-group transport theory for criticality of reflected spherical reactors 7—30464
- optimal external source distribution in subcritical slab reactors 7—61938
- P_3 approximation for gas-cooled reactor fuel pins 7—49492
- Pade approximations for subgroup const. calcs. 7—5313
- perturbation theory appl. to critical parameters and fundamental mode 7—718
- PWR safety anal. using B1K 1D neutron kinetics program 7—5319
- radiation field calcs. by Monte Carlo methods, symm. props. 7—30469
- RBMK reactors, neutron physics considerations for fuel use efficiency improvements 7—30513
- reactor neutronic and thermal-hydraulic problems, solns. using engineering workstation 7—36084
- reactor neutronics, numerical methods conf., Montreal, Canada, Sept. 1983 7—9600
- reactor seed/blanket core, power-sharing formula 7—30603
- Rvachev method for solns. in complex geometry with inhomogeneities 7—61942
- self-cooled heavy water fusion breeding blanket, neutronics anal. in 1D 7—15365
- single group approx. for n transport, perturbation theory method 7—30468
- spallation breeding facilities, neutronics calcs. using Monte Carlo methods 7—10180
- spectra restoration from activation meas. 7—5312
- spherical harmonics method for the multigroup transport equation in *x-y* geometry 7—49489
- stochastic discrete model, transport theory conf., Montecatini Terme, Italy, June 1985 7—60874
- stochastic discrete model for neutron transport in multiplying media 7—61940
- synthetic acceleration of transport calcs. 7—36074
- synthetic coarse mesh few group diffusion calcs., finite difference formulation 7—61947
- thermal neutron elastic scatt., electrical model anal. 7—25020
- thermal scatt. meas. by n wave propag. method 7—42105
- third order Taylor series expansion, nonuniform cell thermal utilization 7—61949
- time independent 2D neutron transport problems with voids, discrete cones method 7—15227

neutron transport theory continued
transport eqn. in X-Y, R-Z geometry, soln. using phase space finite element method 7−19319
TRISM, finite element transport code, spatial and angular flux approximations and accelerations 7−19342
two-group critical problems in the F_N method 7−36069
variance reduction under exponential and scatt. angle biasing 7−62099
VVER reactors, neutron physics considerations for fuel use efficiency improvements 7−30513
^{252}Cf neutron calibration flux distrib., Monte Carlo simulation 7−30805
LiF, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
Pb, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
^{232}Th, space-dependent fast neutron spectra, eigenvalue and eigenfunction study 7−30532
U, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104

neutrons
see also cosmic ray neutrons; delayed neutrons; neutron oscillations
beta-decay, mag. field effects, spin effects and ν mass 7−41800
electric dipole moment from cloudy bag model, CP-violating effects 7−24889
electric form factor from $\vec{e}d \to e'np$ 7−35880
low-mass AGB and post-AGB stars, neutron synthesis 7−47855
mean decay rate, composite model 7−19078
Skyrme model of proton-neutron mass difference 7−49145
$\vec{e}^+\vec{e}^- \to \gamma X$, identification of missing neutrals using long. pol., ν, $\tilde{\nu}$, $\tilde{\gamma}$ and $\tilde{H}^0$ 7−49127
$\bar{n}$ mass determ. from $\bar{p}p \to \bar{n}n$ interactions 7−542
$n \to pe\nu_e$, g_A/g_V meas. from beta-asymmetry meas. 7−35866
$n \to pe\bar{\nu}_e$, neutron lifetime meas. techniques 7−56544
$n \to pe\bar{\nu}_e$, recent expt. developments 7−56543
$^2H(\vec{e},e'n)$, d disintegration by pol e^-, neutron electric form factor 7−61862

Newtonian fluids *see fluids*

nickel
see also nuclei with ......
adsorbed on Si (001)-(2×8), surface structure 7−21586
adsorbed on W (110), thermal desorption spectroscopy 7−27119
adsorption, of N_2, on (110) surface, FT IR refl-absorpt. spectrosc. obs. 7−27100
adsorption of Si, surface geometry, low energy ion scatt. determ. 7−53474
adsorption-desorption of CO on polycryst. surface, kinetics 7−16873
anode, electrochemical behaviour in H_2SO_4 solns., halide ions effect 7−39758
anodes for molten carbonate fuel cells, stabilisation 7−39988
anodic polarisation, film identification by Raman spectra 7−28194
Apollo 16 highland breccia, komatiite component, abundance characts. 7−60583
atom, $L_{2,3}M_{4,5}M_{4,5}$ Auger process, meas. 7−57038
atom, low-lying states, MBPT/CC calcs. 7−10388
Auger electron spectra, deconvolution calcs. 7−24728
Auger spectra, extended fine structures 7−64831
band structure calcs. 7−45140
band structure occupancy determ. using Fourier-transformed Compton profile 7−21801
BCC and FCC forms, ferromag. phases investig. 7−2851
bilayers, amorphisation in single crystal by Zr 7−63463
braced joint, corrosion process, involvement of thermophilic bacterium 7−39730
carbonaceous films, prod. in situ in Tokamak TEXTOR, depth profiling 7−22893
catalyst on γ-Al_2O_3 surfaces, reaction, studies by positron annihilation 7−39309
chemisorption of H, tight-binding approach, s-orbital hopping parameters calc. 7−21625
close packed polytypic struct., stacking order, mol. dynamics computer simulation studies 7−51691
clusters, (n=1 to 6), electronic struct., ab initio SCF and CI calcs. 7−10446
clusters, Ni_n (n=25 and 41), O chemisorption, cluster model convergence 7−12461
clusters with surface adsorbed CO, surface electronic and mag. struct. 7−21969
coadsorbed with K on W (110), field emission flicker noise 7−32807
coated Al wire connections, contact resist., effect of fretting 7−21980
coating on ultrahigh strength maraging steels, H embrittlement 7−28137
corrosion, microbiologically induced 7−46683
creep, electron bombardment effect, 200 to 500°C 7−8062
creep, T charging, He bubble migration and coalescence 7−65102
crystal, anomalous ion-photon and secondary ion emission mean Curie pt. 7−39343
defect development from displacement cascade damage in low temp. neutron irradiation 7−51851
defect struct. evolution following DT neutron irrad. 7−58346
defects caused by implanted He atoms, study by monoenergetic positron beam 7−39293
defects created by low-energy ion bombardment, investig. by slow electron diffr. *(Russian)* 7−58374
deformed, microtwin formation 7−38095
deuteron irrad., multiple fracture planes, bubble growth 7−58372
dislocation arrangements in single crystals fatigued at low temps. 7−12068
dislocation assemblies, parameter linking change in internal energy and vol. in creation *(Russian)* 7−58279
dislocation structure after US deformation, physical props. *(Russian)* 7−44699
dislocation structure evolution during creep, alternating mag. field effects study *(Russian)* 7−58286
dislocation-impurity C interstitial interaction, computer simulation studies 7−2046
dissolution in molten NaCl-KCl at 700°C, appl. of rotating ring disc electrode technique 7−23025
dynamically deform., polygonisation, recrystallisation *(Russian)* 7−46504
electrical resistivity, high temp. and press. 7−38534
electrodeposit on steel turbine disc, pot.-pH diagram 7−39699
electrodeposited films, occurrence of multiply twinned particles 7−38373
electrodeposition from aromatic solvents 7−33611
electrodeposition on Pt microelectrodes in the Watts bath, role of boric acid 7−46357
electroless plated mirrors, diamond-turned, surface finish meas. 7−37218

nickel continued
electroless plating, outdoor exposure, accelerated atmospheric corrosion *(Japanese)* 7−13633
electron core states overlap at very high compressions 7−21849
electron irradiated, H-defect interactions, positron annihilation study 7−6674
electroplated on ultrahigh strength maraging steel, H embrittlement 7−28136
electroplating basics, electroforming, surface prep. and quality control procedures 7−13638
environmentally assisted cracking at high vel. 7−65213
epitaxial films and interfaces with Cu and PD, mag. size effects 7−59081
epitaxial growth on Fe (001), LEED and AES studies 7−64022
fatigue cycling, lattice defect characterisation 7−37978
fatigue fractures, faceted, occurrence 7−53879
fatigue life in const. mag. field and ultrasonic field, 4.2-273K *(Russian)* 7−46639
fatigued, crystal defects, positron annihilation studies 7−46213
FCC, defects and radiation damage, computer simulation studies 7−2048
Fermi surface change near the mag. transition 7−16935
ferromagnetic, critical point phenomenology and neglect of irrelevant variables, renormalisation group results anal. 7−64468
ferromagnetic, magneto optical effects and band struct. *(Russian)* 7−59188
ferromagnets, spin-resolved photoemission and bremsstrahlung calcs. and data anal., book contrib. 7−33523
fibre, porous, physicomech. props. and model prediction 7−3353
film on Cu, SIMS meas. of interdiffusion coeffs., SIMS analysing depth 7−27853
film on sapphire substrate, adhesion, mechanical resonance spectra 7−21712
film on Si, evaporated, silicide formation studies 7−21696
films, adsorption of benzonitrile and alkyl cyanides, XPS 7−52288
films, ethane and ethylene adsorpt. and reaction, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
films, vacancy migration, impurity quenching, complex bonding energy *(Russian)* 7−44531
films on Mo or Cu surfaces, out-diffusion through Au overlayers 7−12511
fine particles, surface free energy anisotropy determ. 7−32783
foil, N ion energy loss meas. and calcs. 7−63694
foils, H charged, internal friction, quasi-molecular state *(Russian)* 7−59561
fusion reactor first wall, plasma disruption damage calc. 7−791
gamma-irradiated, point defect migration 7−6893
geological Cu-Ni sulphide deposits, formation conditions 7−23599
grain boundaries in very clean tips, SEM, FEM obs. 7−52148
Hall effect, anomalous, and energy band struct. *(Russian)* 7−52414
He production in HFIR neutron irradiated pure elements 7−51852
high-speed plating on Cu substrates, deposition rate rel. to temp. and flow 7−27952
Hubbard model, degeneracy and quantum effects 7−7469
hydrodynamic effects during electrochem. and exposure pitting tests with passive films 7−46678
hydrogenation, getter effect of Cu substrate 7−13804
impurities in Ge-Sb-Te system, diffusion 7−21527
inelastic electron scatt., spin-depend. energy loss processes, book contrib. 7−33500
intergranular cavitation in high temp. creep, fractographic techniques appl. 7−53804
intergranular corrosion, inhibition mechanism of S-containing additives 7−53946
intergranular H embrittlement kinetics 7−65134
ion implantation, of Si, struct. and phase modifications 7−12095
ion implantation and pulsed laser melt quenching, metastable phase and defect struct. form. studies 7−16625
ion irradiation-induced implant diffusion and segregation, synergistic effects, kinetic model calcs. 7−16658
irradiated with energetic ions, defect prod. and recovery 7−58370
itinerant electron ferromagnetism, mag. susceptibility, Curie-Weiss law, temp. depend. 7−27501
itinerant ferromagnets, electronic struct. determ., spin depend. inverse photoemission studies, book contrib. 7−33479
lattice dynamics 7−51972
liquid, O solubility 7−12284
liquid, thermoelectric power calc. 7−12704
long-range oscillatory surface relaxations simulation 7−2317
low-field mag. hysteresis 7−64483
magnetic biaxial anisotropy induced by plastic deformation 7−59006
magnetic field effect on wear 7−7582
magnetic phase location, total energy spin polarised band calcs. 7−17176
magnetic properties, influence of low-temp. US deform. *(Russian)* 7−53878
magnetic props., Hubbard model 7−2806
magnetic surfaces, elastic spin-polarised low-energy electron scatt., book contrib. 7−33494
magnetic surfaces, spin polarised Auger electrons 7−53456
metallic glass, one-component, amorphisation and crystallisation *(Russian)* 7−32301
monolayers on Cu (111), CO adsorption studies 7−21658
neutron irradiated, thermal stability of cascade defects, annealing expt. 7−51856
Ni+Ni collisions, quasimol. form., X-ray spectra study 7−31157
nucleation and growth of He platelets, computer simulation 7−58269
overlayer, on SiC, Si_3N_4, Al_2O_3, SiO_2, mixing phenomena 7−58330
overlayers on α-SiC, non-equilib. surface conditions and microstruct. changes following pulsed laser irrad. and ion beam mixing 7−65170
oxidation, EELS studies 7−3128
oxidation, oxide epitaxy depend. on growth temp., LEED, AES, ellipsometry studies 7−22869
paramagnetic ground state props. and pair potentials 7−32352
particles, ultra fine, ferromag., growth rel. to mag. field 7−53515
passive, kinetics from VLF impedance meas. 7−53948
permeation of H(D), oscill. press. effects 7−27025
photoemission above Curie temp., cluster calcs. 7−7814
polycrystalline, electron emission and projectile scatt. during Ne^+ ion bombardment, coincidence method 7−7806
polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7−59575
polycrystalline target, sputtering by 40 keV Ar^+ ions, computer simulation 7−64848

nickel continued
polymer-Pd system, enhanced ATR spectra of polymer surface layers 7−22266
positronium work function, temp. depend. 7−58859
powder, heredity phenomenon in sintering, pore vol. reduction rate increase in temp. jump 7−53655
powder, ultradisperse, recrystallisation inhibition at high press. *(Russian)* 7−59481
powder, ultrafine, produced by thermolysis of nickel formate complexes, particle struct. 7−64965
powder plastically worked articles, annealing effect in temp. jump and substruct. 7−27961
power metallurgy coatings obtained by impact wave method, struct. form. 7−65211
pure, aluminised coatings, high temp. oxidation, TEM obs. 7−28202
quasi-particle and band-calc. spectra, w.r.t. valence band photoemission meas. 7−2474
radionuclide deposition on Ni and stainless steel from Na fusion reactor coolant 7−62060
recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
reinforced Al, matrix crystn. and sintering, role of reinforcing phase 7−33625
reinforced LiF-NaF, matrix crystn. and sintering, role of reinforcing phase 7−33625
segregation to surface of MgO 7−21593
siliconised layer form. by diffusion and CVD, oxidation and corrosion resist. 7−59659
single and multiple defect props., mol. dynamics simulations 7−12060
single cryst. films, quasi-localised spin-wave modes obs. 7−2830
single crystal, elastic scatt. of slow electrons over surface, effect of mag. transform. *(Russian)* 7−52549
single crystal films, resistivity ratio and mean free path length 7−52857
single crysts., low temp. recrystallisation characts. *(Russian)* 7−17546
spin polarised electronic struct., mag. and bonding props. 7−32904
spin polarised positron annihilation 7−46187
spin wave excitations and magnetisation temp. depend. 7−45642
static paramag. spin susceptibility at finite temps. 7−33138
stepped (100) surface, H_2 chemisorpt. obs. 7−21632
strip, drawing after annealing at various heating rates 7−28071
structural materials, welling after neutron and ion irrad., comparison 7−58357
structure evolution during strong plastic deformation *(Russian)* 7−3358
substrate, Ag monolayer electronic struct. and binding energy, photoemission studies 7−39359
substrates for Fe films, magnetism and interface processes, in-situ conversion electron Mossbauer study 7−7571
substructure at accelerated high temp. creep *(Russian)* 7−65096
surface, {100}, adsorption of I, surface phases, SEXAFS, breakdown of Fourier filtering single shell anal. 7−59304
surface, {100}, adsorption of I, surface phases, SEXAFS, multishell simulation anal. 7−59303
surface, (001), adsorbed CO, 7−52235
surface, (001), hyperfine fields 7−58847
surface, (100), adsorbed ethylene, hybridisation, Auger lineshape determ. 7−15576
surface, (100), adsorbed N, surface phonon dispersion, adsorbate induced reconstruction 7−52225
surface, (100), adsorbed O_2, p(2×2) structures, surface phonons, bond-stretching interactions 7−21607
surface, (100), adsorpt. of CO and D, diffusion, investig. 7−6960
surface, (100), adsorption of CO, C_2H_4, O_2 or H_2, X-ray induced secondary electron emission 7−27866
surface, (100), adsorption of CO, poisoning in heterogeneous catalysis, role of electronegativity 7−13818
surface, (100), adsorption of ethylene, determ. of adatom abundance using elastic recoil detect. anal. 7−33984
surface, (100), chemisorbed H and D, vibr. motion, high resolution EELS 7−12458
surface, (100), chemisorption and decomposition of ethylene 7−59785
surface, (100), clean and O covered, adsorption and decomposition of N_2O 7−58644
surface, (100), CO chemisorption, cluster model calcs. 7−23058
surface, (100), coadsorption of H_2 and CO 7−27117
surface, (100), Cu overlayer growth, X-ray induced secondary electron emission meas. 7−27865
surface, (100), dissociative chemisorption of alkanes studied by supersonic molecular beam techniques 7−52287
surface, (100), H_2 dissociation dynamics, quantum mechanical study 7−54168
surface, (100), K treated, rare gas physisorption, wetting, photoemission spectra 7−32822
surface, (100), molecular chemisorption of CO, precursors and trapping 7−58643
surface, (100), O chemisorption, cluster model convergence 7−12461
surface, (100), surface vibrs., EELS, surface and bulk phonon contribs. 7−44986
surface, (100), with adsorbed C, electronic struct. 7−7315
surface, (100), with adsorbed S, angle-resolved photoemission extended fine-structure oscillations 7−64873
surface, (100) and (110), He^+ Rutherford backscatt., continuum approx. parameter effects 7−46271
surface, (110), adsorbed H, order-disorder transitions, theory 7−12492
surface, (110), adsorption and reaction of Co_2 and CO_2/O co-adsorption 7−52289
surface, (110), adsorption of D_2, LEED, TDS, RBS, nucl. reaction anal., work function meas. 7−58638
surface, (110), adsorption of O_2, surface phases, absolute coverages 7−12486
surface, (110), adsorption of O, electron stimulated ion desorption O^+ yield meas. 7−12487
surface, (110), azimuthally depend. XANES of adsorbed S 7−64773
surface, (110), chemisorbed H induced (1×2) reconstruction 7−58851
surface, (110), coadsorption of O and water, EELS study 7−32821
surface, (110), defects developed by epitaxial growth of Ni film or ion bombardment 7−63924
surface, (110), valence band satellite, obs. in photoelectron spectra 7−59377
surface, (110), with adsorbed CO, bremsstrahlung isochromat spectroscopy 7−27379

nickel continued
surface, (110), with chemisorbed O_2 or CO, mag. props. investigated by spin-polarised electron beams 7−58994
surface, (111), adsorption and reactions of methyl thiocyanate 7−21640
surface, (111), adsorption of Cl, surface struct., SEXAFS, photoelectron diffr. studies 7−64775
surface, (111), adsorption of Te, adsorbate induced C segregation and dissolution 7−12477
surface, (111), chemisorption of acetonitrile or benzonitrile, XPS 7−21641
surface, (111), coadsorbed CO and K, adsorbates electrostatic interaction, IR reflection-absorption spectra, TPD, LEED obs. 7−32824
surface, (111), coadsorption of NH_3 and CO, multilayer formation studied by metastable quenching spectroscopy 7−21639
surface, (111), effect of adsorbed K on mol. orientation of chemisorbed CO, ESDIAD study 7−32825
surface, (111), electron capture spectroscopy 7−59368
surface, (111), electronic structure, S effects on heterogeneous catalysis 7−54185
surface, (111), isothermal adsorption/desorption parameters of CO, EELS meas. 7−6971
surface, (111), ordering of acetylene and ethylene, LEED, EELS 7−52269
surface, (111), secondary ion emission near Curie point 7−64856
surface, (111), with adsorbed H, phase diagrams based on model interactions 7−21650
surface, adsorbed S, field electron emission props. 7−33529
surface, clean and Ba covered, adsorbed O, XPS and UPS studies 7−2373
surface, clean and oxidised, laboratory ReflEXAFS spectrometer studies 7−61408
surface, H_2, dissoc. chemisorpt. dynamics, morphology and surface temp. effects 7−13808
surface, ion desorbed and reflected D charge state fractions study 7−46268
surface, large angle scattering of H, D and He atoms 7−64854
surface, monolayer Au atoms, partial sputtering cross sections 7−59331
surface, Ni_5OH model for OH chemisorption, bonding study 7−52240
surface, scattering of He ions and atoms 7−64855
surface, with adsorbed N_2 or coadsorbed N_2 and Al or Ba, N(1s) spectrum 7−21968
surface (001), adsorbed Na, photoelectron diffraction spectrum calc. and Fourier transform anal. *(Chinese)* 7−13326
surface (001), chemisorptive bonding of CO, pseudofunctional electron muffin-tin approach 7−2348
surface (001), O chemisorbed layer, self-consistent field He scatt. cluster model calcs. 7−53471
surface (001), S c(2×2) adsorbate geometry determ. angle-resolved-photoemission extended-fine struct. studies 7−27111
surface (011), adsorbed S, struct., angle-resolved-photoemission extended fine struct. studies 7−63950
surface (100), adsorbed S, segregation kinetics, AES and LEED studies *(Chinese)* 7−58607
surface (100), epitaxial growth of Cu, angle-resolved XPS study 7−7823
surface (100), S-covered, adsorption of NO 7−6990
surface (100), tunneling current calcs. 7−52742
surface (100) with adsorbed O_2 overlayers, elastic diffuse and inelastic electron scatt. 7−22402
surface (110), adsorbed H, competing surface reconstruction mechanisms 7−7004
surface (110), adsorbed H, struct. determ., LEED studies 7−45004
surface (110), adsorption and thermal decomposition of NH_3, isolation and identification of NH_2 and NH 7−6986
surface (110), H adsorption and overlayer ordering, embedded-cluster model anal. 7−52256
surface (110), O(2×1) chemisorbed layer, SAXAFS study 7−64768
surface (110), O adsorbed layer, struct. anal., low energy ion recoil spectra study 7−2384
surface (111), adsorbed CO, molecular orbital anal. of precursor state, activation barrier for chemisorption 7−21654
surface (111), CO adsorption, well defined gas-solid interphase, statistical rate theory approach 7−21655
surface (111), desorption of CO and CO_2 molecules, Ni atom evaporation during laser bombardment 7−58628
surface (111), H_2 and D_2 adsorpt. isotope effects, kinetic investig. 7−21624
surface (111), H_2 desorption, ang. distribs., rel. to coverage 7−27103
surface (111), N_2 adsorption, XPS, UPS, work function and TPD studies 7−52272
surface (115), H_2 adsorpt., surface corrugation effects, He diffr. study 7−2381
surface characterisation by neutron inelastic scatt. from adsorbed H 7−7000
surface lattice dynamics of ordered overlayers 7−2342
surface magnetism, effect of adsorbed O 7−58973
surface modification, boronisation, pack method 7−46718
surface modified by Al, electronic struct. and oxidation of surface 7−22443
surface oxide films, spectral polarised directional emissivity meas., stratified media theory interpretation 7−17291
surface oxide struct., XANES study 7−64771
surface phonon generation and picosecond light pulse detection 7−12456
surface phonons, HREELS study 7−13291
surface roughening transition, He beam diffr. study 7−52202
surface states, phase shifts, image planes 7−21962
surfaces, (100), (111) and (110), N_2 chemisorption, molecular cluster calcs. 7−52280
surfaces, (110) and (111), adsorbed S, surface struct., SEXAFS, XANES studies 7−64770
surfaces, (111) and (001), EELS studies 7−3127
surfaces, chemical cleaning by NO 7−22886
surfaces, fluorination, XPS study 7−22887
surfaces, low energy positron diffr. pattern calcs., scatt. processes anal. 7−39331
surfaces (001) and (110), adsorbed O, He diffr. results 7−7809
surfaces (100) and (110), adsorbed S, surface struct. determ. using angle-resolved photoemission extended fine struct. 7−7822
target, He^{2+} electron capture and stripping cross sections 7−10753
thermal diffusivity determ., temp. wave modified method 7−12352
thermal expansion, electron correl. effects 7−2238

nickel continued
thermoelectric amplification of acoustic waves, CO_2 laser irradiation 7−33055
thin film temp. sensor *(German)* 7−61332
thin film temperature sensors 7−35519
thin films, formed by laser breakdown CVD, metastable phase form. 7−38377
thin films, X-ray telescope mirrors, surface scatt. meas. by triple axis spectrometer 7−37104
thin strips, cryst. growth 7−53580
total angular momentum, atomic mag. moments, calc. 7−62540
ultradisperse powders, recrystallisation induced dilatation effect 7−39537
vacancy clustering, positron annihilation 7−44534
void stability, effect of O 7−58262
X-ray emission K$\alpha_{1,2}$ spectra 7−64825
X-ray photoabsorption cross sections 7−46240
X-ray reson. Raman cross section and yield 7−46237
Young's modulus, H_2 effects *(Chinese)* 7−39569
Al-Ni multilayered films, struct., elec. props. 7−58863
As_2Se_3:Ni films, electronic struct. and transport props. 7−12595
Au/Ni thin film diffusion couples *(French)* 7−12576
Au-Ge/Ni/GaAs ohmic contacts, ion implantation and metallisation prep. 7−22014
Au-Ge-Ni-GaAs, non-alloyed ohmic contact, solid phase epitaxy 7−27423
Au-Ni-Au-Ge-Ni-GaAs, ohmic contacts, alloying, specific contact resistivity 7−27425
Au-Ni-Cu, diffusion of Au and Cu through Ni layer, depend. on ambient 7−38266
Au-TiB_2-Au-Ge-Ni-GaAs, ohmic contacts, alloying, specific contact resistivity 7−27425
AuGe-Ni/n-GaAs, ohmic contact fabrication RBS anal. 7−32840
$BaTiO_3$:Ni ceramic, H defect diffusion 7−58545
$BeAl_2O_4$:Ni^{2+}, chrysoberyl, laser induced fluoresc. and decay lifetime 7−46135
$CdGeAs_2$:Ni amorphous films, elec. cond., low temp. impurity breakdown, high field effects 7−52625
Cr/Ni interface broadening and topography of Auger sputtered profiles 7−53485
Cr-Ni multilayer thin films structures, AES depth profiling during sample rotation 7−27829
Cu/Ni/Cr, multilayer deposits, corrosion protective props. 7−8187
Cu-Ni, compositionally modulated thin films, double positioning twinning 7−38351
Cu-Ni interface, emission spectrochemical anal. using glow discharge, appl. to in-depth anal. *(Japanese)* 7−63886
Cu-Ni multilayer thin film system, low temp. mutual diffusion *(Russian)* 7−58551
Cu-Ni superlattices, mech. props. and diffusion 7−52377
Cu-Ni-CoW-Cr system, Cr plating, roughness and wear *(Russian)* 7−33801
D permeation rel. to surface impurities and Ar sputtering 7−52141
Fe-Ni-Au trilayer film, structural depth profiling by glancing angle X-ray diffraction 7−26593
GaAs (100)-Ni interface, effect of O on diffusion and compounding 7−21539
GaAs:Ni, acceptor like electron trap, DLTS study 7−7166
GaP:Ni^{2+}, absorpt. spectrum of Ni^{2+} 7−53373
Ge:Ni, inhomogeneously photoexcited, cond. random spontaneous oscills. 7−52675
n-Ge:Ni, photocond., spontaneous oscills. in an electric field 7−52670
H permeation, diffusion and surface rate coeff., press.-modulated absorpt.-desorpt. 7−58612
H trapping phenomena, meas. by desorption thermal anal. technique 7−6673
H_2O-Ni complexes, binding, SCF CI calcs. 7−56958
InP:Ni, single crystals, LEC growth, precipitate identification 7−16754
LiF:Mg(Ni)(Co) R′ colour centres, spectral holeburning props., depend. on doping and irradiation 7−26743
$LiNbO_3$:Ni, γ-irradiated, ESR spectra of impurity centres 7−17218
$MgAl_2O_4$:Ni^{2+}, Czochralski growth and optical props. 7−59406
MgO:Ni, positron lifetime spectra, impurity effects 7−39278
Mo/Ni heterostructures, upper critical field, anisotropy studies 7−27479
Mo/Ni superlattice, sputtered, struct. anal. 7−45030
Mo/Ni superlattices, anisotropic superconds., upper critical field anal. 7−22076
Mo-Ni superlattices, elastic props., effect of strain 7−52376
NH_4Cl:Ni, TSC, polarisation meas., 150-500K 7−52645
Ne ion irrad. samples, yield stress studies *(Russian)* 7−12162
Ni + He$^+$, L shell X-ray prod. cross sections meas., first Born approx. and ECPSSR theory anal. 7−36526
Ni 201 discs, H-induced rupture 7−3418
Ni (100), adsorbed ^{12}CO and ^{13}CO, surface charactn. by Raman spectroscopy 7−42625
Ni (110), adsorbed H, order-disorder transitions, theory 7−12492
Ni ion irrad., 14 MeV, void form., gas effects 7−58360
Ni ion irradiated, pore conc., effect of pre-implanted He *(Russian)* 7−32513
Ni XVII, electron impact excitation, LS coupling, distorted wave approx. 7−42767
Ni XXI-XXII, tokamak plasmas, inner-shell X-ray line spectra 7−6371
Ni XXVII plasma, X-ray spectral diagnostics 7−20931
Ni:B, ion implanted, high temp. oxidation, defect diffusion 7−33846
Ni:B(s), grain-boundary cohesion, impurity segregation effects, density-functional cluster model calcs. 7−44835
Ni:H, diffusivity, diffusion-elastic effect and Gorsky effect 7−27023
Ni:Ne$^+$, ion implantation in elemental solids, range profile, gamma-ray spectra 7−2959
Ni:P plated mirrors, diamond-turned, surface finish meas. 7−26047
Ni/a-SiGe:H,F, Schottky barrier height, internal photoemission meas. 7−45501
Ni/Ag multilayer thin films, enhanced magnetisation 7−17204
Ni/Al multilayers, RBS spectra, automatic iterative fitting 7−22428
Ni/Al thin film interactions, phase formation sequence 7−21701
Ni/Al/Si system, contact structure formation by rapid thermal melting 7−45019
Ni/Al-W thin film reactions, W diffusion marker studies 7−2277
Ni/Cr multilayer films, AES sputter profiling, depth resolution 7−59358
Ni/Cr(Nb) alternating layers, ion beam mixing 7−21303
Ni/GaAs film/surface reaction, TEM 7−39920
Ni/GaAs Schottky barrier, current-voltage characts. under electron distrib. disturbance 7−52733

nickel continued
Ni/Ni_3AlHfB, couples, up-hill Hf interdiffusion studies 7−12378
Ni/Ni-P compositionally modulated films, electrodeposition 7−3209
Ni/NiO interface, scanning tunnelling microscopy studies 7−21054
Ni/NiO/ZrO_2, partially stabilised, bonding, stresses, shear strength 7−39845
Ni/Pd interface, strongly paramagnetic layer, magnetisation distrib. 7−7475
Ni/Si interfaces, silicide form. kinetics during thermal annealing 7−16897
Ni/Zr thin film diffusion couples, amorphisation, DSC studies 7−26639
Ni-Ag multilayer films, magnetisation and FMR studies 7−22147
Ni-Ag overlayers, pulsed electron beam irradiation, heat flow model 7−38062
Ni-Ag(001), Au doped, thin films, interphase boundaries, struct. and composition 7−27158
Ni-Al system, diffusion markers in thin film Ni_3Al formation 7−58549
Ni-Al_2O_3, diffusion processes and interphase boundary morphology 7−16817
Ni-Al_2O_3 composites, small metal particles, high resolution electron microscopy and X-ray diffr. meas. 7−46376
Ni-AuGe-GaAs, ion beam induced phenomena 7−12166
Ni-AuGe-GaAs, ohmic contacts, interface reactions, elec. behaviour 7−27031
Ni-C multilayer monochromator characterization using 200-900 eV synchrotron radiation 7−41558
Ni-C multilayers, X-ray reflectivity and photoelectron yield 7−13321
Ni-Cd accumulators, examination of graphite additive to electrodes 7−39984
Ni-Cd advanced aerospace cell design 7−34014
Ni-Cd aerospace cells, 34 Ah, voltage-temperature charge verification testing 7−34019
Ni-Cd aerospace cells, flood starved design 7−34015
Ni-Cd aerospace cells, low Earth orbit life cycle characterisation testing 7−34020
Ni-Cd aerospace cells, separator qualification testing 7−34013
Ni-Cd aerospace cells, study of long term storage effects 7−34018
Ni-Cd alkaline accumulator develop. in Hungary *(Hungarian)* 7−17855
Ni-Cd batteries, design for consumer electronics appls. 7−59834
Ni-Cd batteries, Goddard model for aerospace appls., alterations using computer simulation 7−34017
Ni-Cd batteries for space appls., proceeding of NASA/Goddard workshop, Greenbelt, MD, USA (Nov. 1985) 7−29578
Ni-Cd cell, electrode kinetics and failure-mode prediction, internal short equiv. resist. estimation 7−54288
Ni-Cd cell containing Pellon 2536 separator, life testing, satellite appl. 7−65446
Ni-Cd cell failure mechanism and rate, reliability studies using Weibull statistics 7−65450
Ni-Cd cell separator with Pellon 2536, space qualification program 7−65445
Ni-Cd cells, additive effects on anodic behaviour of negative Cd electrode in KOH solutions 7−3637
Ni-Cd cells, O_2 recombination rate on plastic-bonded Cd electrode doped with Ni(OH)$_2$ 7−54287
Ni-Cd cells for spacecraft, self-discharge characts. at elevated temperatures 7−34016
Ni-Cd geosynchronous orbit satellite batteries, life prediction 7−65447
Ni-Cd high-capacity battery *(Japanese)* 7−65433
Ni-Cd high-performance battery *(Japanese)* 7−65434
Ni-Cd lightweight space battery, reliability and life testing 7−65449
Ni-Cd secondary cell performance effect of Cd electrode sinter, cell testing 7−65448
Ni-Cd secondary storage batteries, computerised management system for space vehicle appls. 7−34021
Ni-Cd storage batteries, structural features and additives effects on elec. props. of Ni active materials *(Hungarian)* 7−17857
Ni-Cr multilayer structures, Auger depth profiles using a dual ion gun system 7−22429
Ni-Cr multilayers, interface resolution in Auger depth profiles 7−27830
Ni-Cu diffusion contact, mass transfer at grain boundaries in fields ofdiffusion-concentration stresses 7−2272
Ni-Fe (100), layered struct. reflectivity and EXAFS study 7−59292
Ni-Fe alkaline accumulator develop. in Hungary *(Hungarian)* 7−17855
Ni-Fe alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
Ni-GaAs, barrier height meas., UV-ozone cleaning of GaAs (100) 7−28228
Ni-GaAs, interphase contact and interaction 7−16880
Ni-GaAs, lateral reactions, hot-stage TEM 7−27030
Ni-GaAs, metallurgical reactions, heavy ion Rutherford backscattering spectrometry 7−53488
Ni-GaAs interfacial reactions, contact elec. props. 7−12504
Ni-$GeCl_4$, binding energy rel. to Ni chem. state, XPS 7−17820
Ni-H_2 aerospace batteries, low Earth orbit test program 7−34025
Ni-H_2 aerospace cells for low Earth orbit appls., research technology advances 7−34022
Ni-H_2 alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
Ni-H_2 batteries, 40 Ah, bipolar, for space appls., parametric testing 7−34027
Ni-H_2 batteries for space appls., proceeding of NASA/Goddard workshop, Greenbelt, MD, USA (Nov. 1985) 7−29578
Ni-H_2 cell for space appls., 4.5 inch IPV development program 7−34026
Ni-H_2 cells, lightweight, direct radiating, for space appls. 7−34023
Ni-H_2 cells technology for RADARSAT spacecraft appls., test program 7−34024
Ni-H_2 secondary cells for low-Earth-orbit satellites, reliability and life testing 7−65451
Ni-H_2 secondary cells heat generation and transfer rates 7−65452
Ni-He, electronic state or interstitial He atoms, MO calcs. of model clusters 7−16969
Ni-He bubble system, He densities, SANS and TEM studies 7−58266
Ni-MgO, diffusion processes and interphase boundary morphology 7−16817
Ni-Mo metallic superlattices, macromag. and micromag. props. 7−2826
Ni-NiAl, formation of NiAl coatings by CVD, kinetics 7−59451
Ni-NiO interface struct., TEM study 7−21692
Ni-polyethylene, adhesion of metal films, effects of Ar$^+$ bombardment 7−28267
Ni-Si, interphase contact and interaction 7−16880

nickel continued
Ni-Si bilayered films, chem., elec., and struct. charges upon annealing 7−22037
Ni-Si interface, silicide formation, electronic struct. 7−21972
Ni-Si interface, struct., RHEED, Rutherford backscattering spectrometry 7−27143
Ni-Si interface reactions induced by pulsed incoherent light, silicide formation 7−32725
Ni-Si thin film diffusion couples, lateral silicide formation 7−21540
Ni-SnPbBi system, crack form. in diffusion zone 7−3397
Ni-TiC-Si, TiC as mixing barrier for Ni-Si ion beam mixing 7−44922
Ni-Zn alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
Ni-ZnO/ZnS, selective Ni black coating, struct. and optical response 7−58697
Ni-ZnSe-SiO_2-Si struct., energy barriers for photocharging of trapping sights in ZnSe layer 7−52844
Ni-Zr, amorphous phase formation by solid state reaction, evidence for nucleation barrier 7−58146
Ni+Ni, projectile and target K X-ray prod., target thickness fn. anal. 7−30978
Ni_2 molecules, magnetic moment formation and mag. susceptibility 7−58995
Ni_6 cluster, metal-metal bonding *(German)* 7−1002
Ni_9 cluster, magnetic moment formation and mag. susceptibility 7−58995
Ni_n (n=3 and 5) clusters, spin states and magnetism quenching, MO INDO calcs. 7−62557
NiAl/Ni thin film interactions, phase formation sequence 7−21701
^{57}Ni labelled, ^{57}Fe Mossbauer emission spectroscopy of internal radiation damage 7−13061
^{63}Ni in Columbia River sediment below the Hanford Reservation 7−13936
O_2 chemisorpt., influence of Ar^+ ion bombardment *(Russian)* 7−52253
Si:Ni, deep levels elec. props. study 7−64156
Si:Ni, diffusion of Ni under action of concentrated luminous flux 7−44913
Si:Ni, thermal cond., impurity effect 7−44929
Si:Ni reverse-biased p^+nn^+ junctions, electron thermal emission rates 7−7169
Si:P, Ni^+, ion implantation and annealing 7−21245
Si/Ni system, silicide formation, ion beam induced, embedded markers and moving species 7−21298
Si-Ni interfacial atomic struct. and cpd. form., FIM studies 7−32846
Si-SiO_2-Ni, light induced deposition of Ni 7−46354
Sn grain boundary diffusion, temp. depend. 7−63877
T-induced He bubbles on grain boundaries migration and coalescence 7−58289
V/Ni multilayered superlattice, microstruct., X-ray and neutron diffr. 7−32849
V-Ni superlattices, elastic props., effect of strain 7−52376
W-Ni, point contact, harmonic mixing props. in 30-120 THz freq. region 7−17072
W-Ni MIM diode as difference frequency IR detector, long-term stability 7−24700
Y-Pd-Ni, intermetallides, interaction characts. and props. 7−46414
YAG:Ni, defect and optical props. 7−59258
YAG:Ni, Zr, defect and optical props. 7−59258
ZnO:Ni, impurity electron states, optical spectroscopy 7−46127
ZnS-CdS:Ag,Ni,Co phosphors, photolum., energy level model 7−59245

nickel alloys
see also Elinvar; Invar; nickel compounds; Permalloy
Alloy 600, intergranular SCC, in aq. soln. containing dissolved H_2, activation energy 7−59683
Alloy 600, reactor steam generator material, properties and performance 7−30556
alloy 600 nuclear steam generator tubes, local pitting conditions using Pourbaix diagrams 7−46716
Alloy 600 PWR steam generator tubing, intergranular attack and SCC remedial methods 7−8199
alloy 600 tubes, intergranular attack, cause evaluation 7−59685
alloy 600 tubes in PWR steam generators, localised electrochem. corrosion 7−39760
alloy 600 tubing in nuclear steam generators, intergranular attack, environmental effects eval. 7−39761
Alloy 690, thermally treated nuclear steam generator tubes 7−5334
Alloy 718, Ni-base superalloy, fatigue crack propag. under hold-time cycling, effect of grain size 7−28106
Alloy 800 H, high temp. fatigue, damage mechanism *(German)* 7−17604
Alnico 5, Fe-Co-Ni-Al-Cu, microstruct. and mag. props., effects of heat treatment *(Korean)* 7−8138
amorphous alloys, cold shortness *(Russian)* 7−39649
amorphous alloys, corrosion behaviour in boiling conc. HNO_3 and HCl 7−3511
Astrology, LC, Nirbase superalloy, hot isostatic pressing, powder metallurgy, second phase particle anal. 7−17497
Astroloy, fatigue crack growth, closure anomalies 7−3403
core-level shifts anal., LMTO energy band calcs. 7−38487
corrosion behaviour in formic acid *(German)* 7−3526
dilute, with 3d impurities, X-ray absorpt. edges *(German)* 7−46241
dilute alloys with 3d elements, electronic struct., K-edge XAS study 7−64066
fatigue life prediction, new method, high temp. low cycle conditions 7−39797
$(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, magnetic phase diagram studies 7−2844
Fe-Ni-B metallic glasses, struct. and crystn. kinetics, DSC and X-ray diffr. meas. 7−16436
first wall candidate alloys, HFIR irrad. microstruct. development 7−56824
first wall candidate ferrite alloys, Ni doped, postirrad. tensile behaviour 7−56827
Hastelloy alloys, C-4, C-22 and C-276, welding metallurgy 7−46448
Hastelloy B-2 and G-3, polarization effects in galvanic corrosion 7−39706
Hastelloy X, H_2 permeation in high temp. alloys, oxide layer effects *(German)* 7−30568
Hastelloy X, thermomech. response, viscoplastic constitutive model 7−8059
heat-resisting, hot strain rate effect on microstruct. and mech. props. 7−39559

nickel alloys continued
heat-resisting, supersaturated solid soln., isothermal decomp. kinetics 7−33682
high temp. ductility, H and He effects 7−5406
HTR alloys, carburisation behaviour 7−10234
IN738LC, Ni base superalloy, low cycle and thermal fatigue, small crack initiation and growth *(Japanese)* 7−13567
IN 100, cast superalloy, creep strain and life prediction 7−33741
IN 100, rheocasting and vacuum are double electrode remelting, solidification struct. 7−39497
IN 100 superalloy, MC carbide props. rel. to transition element doping 7−13456
Incoloy 800 H, oxidation, EMPA profiles in depletion zone 7−17727
Incoloy 800 H, permeability of ^{3}H and H in heat exchanger tubes *(German)* 7−56759
Incoloy 800H, corrosion protection by plasma assisted vapour deposited and laser fused silica coatings 7−28208
Incoloy 800H, multilayer oxide scales in gas atmosphere, Ti distribution 7−53972
Incoloy 904, precipitate size, magnetoacoustic and Barkhausen emission study 7−45749
Inconel 600, corrosion resist., effects of BF_2^+ ion implementation 7−39734
Inconel 600, H permeation studies for fusion reaction 7−5435
Inconel 600, recovery kinetics, X-ray determ. 7−22722
Inconel 600, specific heat capacities *(German)* 7−2228
Inconel 600 and 690, SCC under high temp. NaOH, comp. and annealing effect 7−39710
Inconel 600 in direct absorption received, optical props. at high temp. 7−40042
Inconel 601/Mo bimetallic strips, explosively welded, thermal effects *(German)* 7−27144
Inconel 617, H_2 permeation in high temp. alloys, oxide layer effects *(German)* 7−30568
Inconel 617, oxidation, EMPA profiles in depletion zone 7−17727
Inconel 625 matrix-carbide particle composite surface layers, wear resistance improvement 7−53912
Inconel 718, Ni-base superalloy, creep deform., back stress determ. 7−46564
Inconel GH39, thermal desorption study *(Chinese)* 7−52295
Inconel MA 6000, oxide dispersion strengthened superalloy, cyclic creep, HF effect, anelastic model 7−53827
Inconel MA 6000, oxide-dispersion hardened superalloy, cyclic creep and anelastic relax anal. 7−17596
Inconel welds joining dissimilar metals, radiographic evaluation 7−39828
Inconel X-750, air environment/creep interactions, prior exposure times effect 7−13499
Inconel X-750, elevated temp. fatigue crack growth under displacement contol conditions 7−46608
Inconel X-750, Ni-base superalloy, SCC susceptibility in high-temp. water, effect of chloride 7−39729
Khrovangal alloy, phonon thermal cond., heat treatment effects 7−12696
LWR, corrosion product release, radiation build-up effects 7−10225
LWR, pressure vessel materials, environmental sensitive cracking *(German)* 7−10214
magnetic props. under high press., effects on s and d band electrons 7−7542
manganin foil stress gauges, piezoresist. response meas. 7−29998
mechanical alloying, development of strong alloys 7−39534
metallic glasses, quenched-in excess vol. and structural relax. 7−6531
microcrystalline powders, shock consolidated, microshear bonding 7−22745
Mo-Ni, activated sintered, sintering behaviour and mech. props. 7−7929
monel, plasma simulator, first wall damage, H recycling models 7−801
Monel 400, embrittlement by Hg, effect of prestress 7−3431
Monel K-500, precip. of intermetallic γ' phase and carbide phases 7−33678
$Ni_3Al_{0.8}$-based alloys, magnetic and structural props. studies 7−45635
Ni addition effect on void formation following irrad. 7−56822
Nimonic 105, Ni-base superalloys, precip. and tensile deform. behaviour 7−65078
Nimonic 75, creep-fatigue interaction, SEM and TEM studies *(Chinese)* 7−13543
Nimonic 80, coupled plastic and creep damage at finite deform. *(Japanese)* 7−33736
Nimonic 80A, coupled effect of plastic damage and creep damage at finite deform. 7−46599
Nimonic 80A, crack growth under sulphidising conditions, metallography 7−59680
Nimonic 86, carburised, heat treatment, creep behaviour rel. to carbide precip. *(Korean)* 7−46560
Nimonic PE16, grain boundary crystallography, practical approach to determ. 7−21224
Nimonic PE 16, Ni-base superalloy, duplex γ' particle hardening 7−28053
Nimonic superalloy, PE16, decomposition kinetics, TEM, FIM and SANS studies 7−53748
oxidation studies using EELS and EDX in the TEM 7−17734
$Pd(Fe,Co,Ni)_{0.05-0.15}Si_{0.17}$ metallic glasses, crystallization kinetics, elec. resist. obs. *(Chinese)* 7−11919
powder metallurgical superalloy, intermetallic phase 7−16503
rare earth alloys, RNi_2 Laves phase (R=Y, La, Ce, Pr, Sm, Gd, Tb, Dy, Ho, Er), H induced amorphisation 7−51641
reactor steam generator pitting, electrochemical effects on Ni-base alloys 7−10228
Rene 80, aluminised coatings, high temp. oxidation, TEM obs. 7−28202
Rene 80, first stage aluminised coating microstruct., STEM obs. 7−17709
Rene 80, Ni-base superalloy, creep rupture props., influence of coating treatment and directional solidification 7−28116
spin wave excitations and magnetisation temp. depend. 7−45642
steel, Ni-Cr-Mo, ΔK_{th} testing method for plastic zone size at fatigue crack tip 7−17748
steel, X8CrNiTi18.10, corrosion product layers in PWRs at pH 7 *(German)* 7−19356
Super Invar-$Ta_{16}W_{18}O_{94}$ composite, thermal expansion coeff. 7−12331
superalloy, MAR M002, borides analysis using convergent beam electron diffr. 7−22699
superalloy, Mar-M247, high-temp. fatigue crack propag. characts. 7−22836
superalloy IN738LC, creep modelling for engng. design 7−22776
superalloy powder, IN-100, shock consolidation 7−39459

nickel alloys continued
superalloy powders, Ar atomised, dendritic struct. 7—46451
superalloy power, mach stem characterisation during shock wave loading 7—38117
superalloys, life time prediction in crop-fatigue interaction regime *(German)* 7—53905
superalloys stiffness consts., dislocation line energy and tension, ultrasonic vel. meas. 7—63719
surface plastic deformation by microballs, low-cycle damage 7—17698
thermodynamic anal. of gas phase in thermal diffusion alumosiliconising 7—1660
Tokamak de Varennes, disruption-induced currents in Inconel vessel liner 7—15352
Udimet 700, Ni-base alloy, solidified, dendrite arm spacing rel. to cooling rate 7—53713
Waspaloy, γ-γ' partitioning behaviour, energy dispersive spectrometry 7—17534
Ag-Ni systems, amorphisation induced by ion mixing 7—21300
Al-Al_3Ni eutectic alloys, chill cast, directionally solidified, hot rolling microstruct. 7—46447
Al-Ni binary system., solid soln. types study by positron annihilation 7—46207
Al-Ni powder mixtures, shock-induced chemical reactions, optical meas. 7—39463
Al-Ni quasicrystalline alloys, isomorphism, neutron diffr. meas. 7—51638
Al-Ni-Fe(-Co) powders, cold sintering 7—64972
Al-Ni-Pt, high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7—53987
Al-Zn-Mg-Cu-Ni-Zr, modified 7075, prod. by liq. dynamic compaction, struct. and props. 7—46437
AlNi-Si, interfacial interactions, Rutherford backscattering spectrometry, TEM 7—12505
Al_3Ni-Al eutectic alloy, Bauschinger effect, influence of Al_3Ni dispersion state *(Japanese)* 7—22761
$AlNiFe_{0,5}$, reactor fuel cladding, corrosion resistance, rupture strength, neutron irradiation effects testing 7—59670
$AlSi_9Ni$, reactor fuel cladding, corrosion resistance, rupture strength, neutron irradiation effects testing 7—59670
AuGeNi-GaAs contacts, interface composition and barrier heights 7—58891
Au_xNi_{1-x}, Al-K_α XPS intensities 7—27870
AuNiGe-GaAs interfaces, struct. and elec. props.Z 7—22013
AuNiGe-GaAs ohmic contacts, microstruct. anal. and contact resist. meas. 7—2393
Bi_3Ni, α-irrad. and H implanted, elec. resist. and superconducting T_c 7—7202
$Cd(Cu_{1-x}Ni_x)_2$, mag. and cryst. props. 7—27506
Ce-Ni, amorphous, electronic configuration of Ce 7—7191
$CeCu_{2-x}Ni_xSi_2$, Kondo-lattice system, resist. anomalies 7—58799
$CeNi_2$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7—32900
$CeNi_5$ based hydride systems, hydriding characts. and stability 7—40051
$CeNi_5$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7—32900
$CeNi_5$, intermediate-valence intermetallic cpd., point contact spectroscopy 7—38139
$Ce(Ni_xCu_{1-x})_2Si_2$, mag. susceptibility, scaling behaviour, cryst. field effects 7—45616
$CeNi_{5-x}Fe_x$, mag. and cryst. props., effect of H absorpt. 7—33168
$CeNi_{5-x}Mn_x$, mag. and cryst. props., effect of H absorpt. 7—33168
$CeNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7—22154
$Ce_{1-x}Pr_xNi_5$ mixed valence cpd., cryst. field at paramag. Pr^{3+} ions 7—45241
Co-Al-Ni, B2, slow plastic flow props. between 1100 and 1400 K 7—46565
Co-Fe-Ni-V alloys, Invar props. and mag. field distribs. *(Russian)* 7—45733
Co-Ni, aq. and atmospheric corrosion 7—39696
Co-Ni 1D disordered structural states, form., quenching, X-ray diffr. study 7—44784
Co-Ni evaporated recording media, improvement of mag. props. and corrosion resistance by Pr additions 7—33825
Co-Ni-As mixtures, phase diagram isothermal sections, binding 7—46418
Co-Ni-Fe underlayer for double-layer perpendicular media, vacuum deposition and mag. props. 7—27577
Co-Ni-Mn system, thermodynamics and phase equilib. 7—65008
Co-Ni-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7—27581
Co-Ni-Re-P films for perpendicular mag. recording media, electroless deposition and mag. props. 7—27580
Co-Ni-Ti-based alloys, critical shear stress asymmetry during stretching and compression *(Russian)* 7—8054
Co-Pt, order-disorder transformation kinetics 7—52047
$(Co_{0.85}Fe_{0.06}Ni_{0.08}Nb_{0.01})_{75}Si_{10}B_{15}$ amorphous alloys, structural relax. and crystn., positron annihilation studies 7—37869
$Co_{57}Fe_5Ni_{10}Si_{11}B_{17}$, metallic glasses, superplastic deform. *(Russian)* 7—39599
$Co_{58}Fe_5Ni_{10}Si_{11}B_{16}$, metallic glasses, multiplet splitting, XPS study 7—27858
$Co_{68}Fe_7Ni_{13}Si_7B_5$, amorphous alloy, superplasticity 7—3368
CoNi equiatomic ferromag. alloy, local mag. form factor determ., neutron scatt. study 7—38849
CoNi sputtered films on Cr and polyimide, mag. props., relation to struct. 7—33228
CoNi thin films, oblique-deposited, mag. props., O impunity effects 7—33244
$Co_{80}Ni_{20}$ magnetic thin films, obliquely deposited, oxidation behaviour 7—65217
CoNiCr-Cr sputtered thin films, film struct., mag. props. 7—33227
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$, metallic glass, reversible struct. transformation 7—1907
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromag. alloy struct., shock loading effects, mag. struct. anal. 7—2100
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromagnet, prep. and struct. 7—22605
γ-CoNiMn alloys, mag. phase diagram, neutron diffr. methods *(Russian)* 7—45667
CoNiReP alloy films for perpendicular mag. recording, thickness depend. of perpendicular coercivity 7—59066
$(Co_{0.6}Ni_{0.4})_{78}Si_8B_{14}$, amorphous, itinerant electron charact., current induced reson. mag. field shift obs. 7—27590

nickel alloys continued
$(Co_{1-x}Ni_x)_{75}Si_{15}B_{10}$ amorphous alloys, magnetostriction and other mag. props. 7—45787
CoO-NiO system, immiscibility 7—38202
Cr-Ni, electrodeposition, role of Cr(II) 7—33614
Cr-Ni (45 wt.%) amorphous free-standing thin films, struct. transformations, pulse laser irradiation 7—38382
Cr_3C_2-Ni-P hard metal, Cr_3C_2 solution in Ni matrix, liq. phase influence 7—53689
CrMoVNbNi steel, Ni addition effect on void formation following irrad. 7—56822
CrMoVWNi steel, Ni addition effect on void formation following irrad. 7—56822
CrNi corrosion resistant coating on GdTbFe, mag. props. 7—53952
CrNi porcelain dental prostheses, strength rel. to surface roughness of metal frames 7—40365
Cu/NiPd multilayered film, atomic level structural characterisation 7—16900
Cu/PdNi, single cryst. multilayers, sputter deposition 7—53582
Cu-Al-Ni, β-phase alloys, fracture rel. to grain boundary precip. and Ni content 7—59604
Cu-Al-Ni, cryst. struct. of α''_1 martensite formed during deform. *(Russian)* 7—53814
Cu-Al-Ni, shape memory alloys, polycrystalline, cyclic deform., fatigue above transform temp. 7—3434
Cu-Al-Ni, stacking fault energy determ. *(Russian)* 7—12082
Cu-Al-Ni shape memory alloys, polycrystalline, cyclic deform. and fatigue above transform. temp. 7—3433
Cu-Al-Ni-Fe bronze, laser glazing, microstruct. 7—52197
Cu-Al-Ni-Fe bronzes, microstruct., corrosion 7—39697
Cu-Al-Ni-Fe-Mn bronze, cast, laser surfacing, improved corrosion resist., microstruct. characteris. 7—13651
Cu-Al-Ni-Ti-Zr, shape memory alloy, grain refinement, fracture mode, Ti and Zr additions effect 7—3301
Cu-Al-Zn-Mn-Ni shape memory alloy, positron annihilation study 7—46206
Cu-Fe-Mg-Ni-Al alloy, stress relaxation in tension and creep in torsion 7—44667
Cu-Ni, corrosion inhibition by Schiff bases in acid media 7—22892
Cu-Ni, dynamic recrystallisation, grain boundary bulging 7—39540
Cu-Ni, external surface adsorption isotherm 7—6978
Cu-Ni alloy surface segregation, H chemisorbed monolayer effects calcs. 7—21465
Cu-Ni alloy surfaces, composition, low energy ion scatt. study 7—32771
Cu-Ni alloys, chemisorpt.-induced surface segregation, time-of-flight atom probe and AES studies 7—32657
Cu-Ni alloys, dislocation vel. determ., stress pulse etch pit and slip line cinematography techniques 7—63627
Cu-Ni alloys, surface segregation, tight-binding Hartree Hamiltonian, cluster-Bethe-lattice approx. calcs. 7—38665
Cu-Ni electrodeposition, comp. modulated alloy form. 7—59468
Cu-Ni-Al, two-step ageing, microstruct., mech. props. 7—39565
Cu-Ni-Al (7.5, 2.5 at.%), thermomech. treatment *(Japanese)* 7—8013
Cu-Ni-Cr, spinodal decomp., X-ray diffr. and TEM study 7—22732
Cu-Ni-Fe, alloy decomposition and periodic struct. coarsening 7—53735
Cu-Ni-Fe, irrad., stability of periodic decomp. struct. 7—58366
Cu-Ni-Fe, specific heat capacities *(German)* 7—2228
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7—12698
Cu-Ni-P, P addition effect on struct. and strength 7—53669
2-Cu-Ni-Sn solid solutions, ternary diffusion and thermodynamic interactions 7—52159
Cu-Zn-Ni, liq. alloys, activity of Zn *(Japanese)* 7—53698
CuAlNi deformed single cryst., internal friction amplitude depend. *(Russian)* 7—13491
$CuMn_{0.05}Ni_{0.03}$, spin glass, long-time low temp. relaxation 7—38870
CuNi dilute alloys, electron struct., X-ray Lα emission spectra studies 7—12598
CuNi random alloys, positron state, rel. to 2D ang. correlation 7—45230
CuNi, substitutionally disordered, electronic struct., LCAO-CPA calcs. 7—64067
CuNiFe, electron irrad., decomposition kinetics and morphology 7—58491
CuNiSn, high-strength heterophase cryst., deform. mechanism investig. *(Russian)* 7—13509
DgTb amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7—7206
Dy-Ni-Re, intermetallide-based solid solns., phase equilib. and mag. props. 7—22639
a-DyNi, critical props. and universality class of disordered systems 7—2884
$DyNi_2$, paramag. fluctuations, μSR study 7—45878
$ErCo_3Ni_2$, ferrimag. cpds., mag. anisotropy, temp. depend. 7—64450
$EuNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7—22154
$EuNi_2P_2$, mixed valence system, interconfiguration fluctuation model 7—64188
$EuNi_{2-x}Si_{2+x}$, Eu valency 7—58787
(Fe,Co,Ni)-P layers, electrochemical deposition, struct. *(Chinese)* 7—7037
Fe/Ni Reed blades, Au coated, AES/SEM study 7—44972
Fe-C-Ni, ferrite nucleation at austenite grain edges, kinetics 7—7991
Fe-C-Ni, nucleation of proeutectoid ferrite at austenite grain boundaries 7—8003
Fe-Co-Ni amorphous alloys, anisotropic magnetoresist. studies 7—58793
Fe-Co-Ni based alloys, crystalline and amorphous, magnetoresistance 7—38538
Fe-Co-Ni cryst. alloys, anisotropic magnetoresist. studies 7—58794
Fe-Co-Ni powder, fine, corrosion resist. and mag. prop. changes, surface-active agent use in prep. 7—54001
Fe-Co-Ni-Al-Cu metallic alloy ordering and spinodal decomposition, atom probe FIM study 7—33676
Fe-Co-Ni-Ti (34.9, 20.0, 10.2 wt.%), thermoelastic martensite transformation 7—52032
Fe-Cr-Mn-Ni-C system, phase relationships at solidification temps. 7—28014
Fe-Cr-Ni, austenitic, electron irrad., conversion of stacking fault tetrahedra to voids 7—58342
Fe-Cr-Ni, Ferralium 255, polarization effects in galvanic corrosion 7—39706
Fe-Cr-Ni, hardening at low temp. *(Russian)* 7—39554
Fe-Cr-Ni, intergranular corrosion, inhibition mechanism of S-containing additives 7—53946

nickel alloys continued
Fe-Cr-Ni, low temp. mag. susceptibility and mag. transitions *(Russian)* 7−45628
Fe-Cr-Ni alloys, FCC, dilation by interstitial C and N 7−44451
Fe-Cr-Ni alloys, local ordering, neutron irrad. effects, elec. resist. meas. 7−2070
Fe-Cr-Ni-Al-Si-Mn, oxidation from 700 to 1000°C 7−65207
Fe-Cr-Ni-C system, phase relationships at solidification temps. 7−7969
Fe-Cu-Ni, FCC ternary alloys, mag. props. 7−22852
Fe-Mn-Ni system, melting diagram 7−3278
Fe-Ni, austenite form. during continuous heating *(Russian)* 7−17557
Fe-Ni, austenitic, Mag. ordering and mech. props. *(Russian)* 7−58280
Fe-Ni, austenitic crystals, nitrided, phase comp. of diffusion layers *(Russian)* 7−63922
Fe-Ni, creep in vacuum and air, relationships governing deform. and failure 7−28097
Fe-Ni, electron irrad., low temp. phase transitions *(Russian)* 7−51832
Fe-Ni, hyperfine mag. fields, temp. dependence 7−12683
Fe-Ni, intergranular corrosion, inhibition mechanism of S-containing additives 7−53946
Fe-Ni, liq. alloys, density of electron states, calc. *(Russian)* 7−45110
Fe-Ni, liquid alloy, N activity coeff., soln. model for nonmetallic solutes 7−65043
Fe-Ni, martensitic transform., defect form., positron annihilation study *(Chinese)* 7−39213
Fe-Ni, thin oxide film form., XPS study 7−22898
Fe-Ni alloy, mag. remanence at low-temperature 7−24088
Fe-Ni alloy, X-ray fluoresc. determ. using NRLXRF programme 7−59800
Fe-Ni alloy surfaces, sputter-cleaned, work function and dipole barrier 7−38673
Fe-Ni alloys, diffusion, plastic deformation effects *(Russian)* 7−58531
Fe-Ni alloys, martensitic transform., positron annihilation study of defects 7−39266
Fe-Ni austenitic alloys, martensitic transformations, grain size effects *(Russian)* 7−46465
Fe-Ni based metallic glasses, quenched-in excess vol. and structural relax. 7−6531
Fe-Ni conc. determ. by electron probe microanal. in energy dispersive system, ZAF factor approx. 7−28369
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, prep. 7−27908
Fe-Ni FCC alloys, low temp. phase equilib., mag. effects 7−26914
Fe-Ni films, γ-phase low temp. precipitation investig. *(Russian)* 7−33666
Fe-Ni glassy alloys magnetostriction values from stress depend. of Young's modulus 7−33251
Fe-Ni martensite crystals, positions, external stress effects *(Russian)* 7−46409
Fe-Ni soft magnetic film single-pole readout head, induced RF permeability variation 7−53072
Fe-Ni system, liq., phase equilib., above 1200K, mag. contrib., thermodynamic analysis 7−7966
Fe-Ni system, phase equilibria, mag. contrib. to thermodynamic functions, below 1200K 7−7965
Fe-Ni thin films, α to γ transform, redistrib. of atoms in submicrostruct. *(Russian)* 7−53722
Fe-Ni-Al, sintered, ageing, precip. strengthening, tensile strength 7−39536
Fe-Ni-Al-C (22, 8, 2.4 wt.%), rapidly quenched, metastable modulated struct., analytical STEM study 7−46450
Fe-Ni-Al-Co system, miscibility gap, phase decomp. in Alnico mag. alloys 7−17537
Fe-Ni-B, amorphous, shock loading, inclusions dissolving, domain struct. *(Russian)* 7−63487
Fe-Ni-B metallic glasses, crystallisation, microhardness *(Russian)* 7−59617
Fe-Ni-B system, distrib. equilib. in two-phase fields 7−22641
Fe-Ni-C alloys, martensitic transform., effect of soln. strengthening of austenite 7−53728
Fe-Ni-C and Fe-C, bainite reaction kinetics, austenitising temp. effect 7−13453
Fe-Ni-Co alloy, H damage, lattice distortion, defect and crack generation, positron lifetime study 7−39675
Fe-Ni-Cr, high-purity, irrad., void swelling and nucl.-induced phase transforms. 7−58340
Fe-Ni-Cr, oxidation, TEM study, nonprotective oxide growth 7−8180
Fe-Ni-Cr, oxidation study, protective oxide growth 7−8179
Fe-Ni-Cr, reactor bolting material A-286, failure analysis 7−30536
Fe-Ni-Cr, structural materials, welling after neutron and ion irrad., comparison 7−58357
Fe-Ni-Cr (25,15 wt.%), MC stabilized, fatigue life, effects of implanted He 7−53852
Fe-Ni-Cr alloys, internal carburisation, effect of S 7−33839
Fe-Ni-Cr-Mo-Ti-C, JPCA, He injected and creep ruptured, microstruct. obs. 7−53853
Fe-Ni-Cr-P, ion irrad., swelling suppression, effect of P modification 7−58358
Fe-Ni-Cr-Ti-B, constant elastic alloy, torsion reson. freq. temp. coeff. rel. to B content *(Chinese)* 7−13488
Fe-Ni-Nb, martensitic transform. and shape memory effect *(Russian)* 7−46470
Fe-Ni-Nb alloys, shape memory effect, effect of phase hardening *(Russian)* 7−53809
Fe-Ni-P, sintered atomised powder premixes, mech. props. 7−7931
Fe-Ni-P-B amorphous powders, flame-spray quenching process for continuous prod. 7−53679
Fe-Ni-P-C, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
Fe-Ni-Sb, grain boundary segregation of Ni and Sb 7−22689
Fe-Ni-Si-B glass, liq.-quenched, cooling condition depend. of saturated mag. flux density 7−58991
Fe-Ni-Si-B glass alloy, liq. quenched, saturated mag. flux density, effect of peening 7−13611
Fe-Ni-Si-B metallic glasses, imperfection struct., positron annihilation studies 7−37885
Fe-Ni-Ti, austenitic crystals, nitrided, phase comp. of diffusion layers *(Russian)* 7−63922
Fe-Ni-Ti(Al)(Cr), nitrided layers, struct. investig. using Mossbauer spectroscopy *(Russian)* 7−53992
Fe-Ni-V, alloying with N under high press. 7−3266
Fe-Ni-W system, phase equilib., expt. and theoretical study 7−28013

nickel alloys continued
Fe-Ni-Zr metallic glasses, Ni contrib. to magnetism 7−53183
Fe-Ni-based alloys, amorphous and crystalline, mag. phase transitions 7−52983
Fe-Ni-based amorphous alloys, relax. spectra, effect of pulse treatment 7−46536
Fe-Ni(-C), martensite nucleation, dislocations, grain boundaries, plastic accommodation 7−28040
Fe-Si-Ni, atomic ordering and mechanical props. 7−11990
Fe-Si-Ni, high-Si, alloy elements influence on plasticity and mag. props. 7−8067
Fe-Si-Ni (6.5, 2 wt.%), development of Goss texture, lowering of core loss 7−33693
Fe_{50} Ni_{22} Cr_{10} P_{18} and Fe_{48} Ni_{34} P_{18} metallic glasses, spin waves, study by polarised neutron scatt. 7−12962
FeAlNiCoCu permanent magnetic material, phase decomposition kinetics, atom probe FIM study 7−33669
$Fe_{79}B_{21}$, amorphous alloy, elec. resist. and crystn. on hardening from different temps. 7−44380
$Fe_{85-x}Cr_xB_{15}(Ni_xB_{15})$ metallic glasses, mag. and elec. props. 7−13002
FeCrNi, oxide film thin overlayers, quantitative AES depth profiling studies 7−7796
$Fe_{82-x}Cr_{18}Ni_x$, single cryst. alloys, short range atomic ordering *(Russian)* 7−63558
$Fe_{43}Cr_{25}Ni_{20}B_{12}$ glass, devitrification, mag. meas. and X-ray diffr. studies 7−21128
FeCrNiW amorphous alloys SCC behaviour 7−39727
FeCrNiWMo alloys, sputtering effects on props 7−36240
FeNi metallic mag. film, mag. anisotropy field freq. dispersion 7−33240
$(Fe_{0.15}Ni_{0.85})_{75}$ $P_{16}B_6Al_3$, static scaling in an amorphous metallic spin glass 7−38871
$Fe_{1-x}Ni_x$ bulk melts, containerless undercooling, solidification 7−26916
$Fe_{50}Ni_{50}$ alloy foils, N_2^+ implantation, oxidation behaviour, conversion electron Mossbauer spectra study 7−22877
$Fe_{50}Ni_{50}$, Deltamax, magnetic ribbons, inverse Wiedemann effect for very low torsions 7−45786
$(Fe_{65}Ni_{35})_{1-x}$ $(Fe_{84}Mn_{16})_x$ alloys, low field magnetisation and Mossbauer effect studies 7−33311
FeNiAlCoTiCuS permanent magnetic material, phase comp. and ordering, atom probe FIM and TEM studies 7−33635
$(Fe_{1-x}Ni_x)_{80}B_{20}$, amorphous, contribution of Ni to hyperfine fields *(Korean)* 7−27636
$(Fe_{1-x}Ni_x)_{84}B_{16}$, amorphous alloy, temp. depend. of the resistivity *(Chinese)* 7−27314
$Fe_{40}Ni_{40}B_{10}$, $Fe_{30}Cr_{10}Ni_{40}B_{20}$ metallic glass, fracture toughness rel. to prep. and struct. 7−53870
$Fe_{40}Ni_{40}B_{20}$, amorphous, positron annihilation studies 7−45859
$Fe_{40}Ni_{40}B_{20}$ amorphous thin films, coercive field, annealing effects 7−7553
$Fe_{40}Ni_{40}B_{20}$, amorphous and crystalline, elec. resistivity, temp. dependence 7−21892
$Fe_{40}Ni_{40}B_{20}$, amorphous metallic films, SAX investig. *(Russian)* 7−51576
$Fe_{40}Ni_{40}B_{20}$, amorphous alloys, domain wall motion, SEM obs. 7−52978
$Fe_{40}Ni_{40}B_{20}$, amorphous alloy, Barkhausen noise, neutron irradiation effect 7−53029
$Fe_{40}Ni_{40}B_{20}$ amorphous alloy, effect of plastic deform. on mech. and mag. props. *(Russian)* 7−53810
$Fe_{40}Ni_{40}B_{20}$, concentration dependence of surface insulating coating, influence on magnetic props. 7−64479
$Fe_{40}Ni_{40}B_{20}$ metallic glass ribbon, failure mechanics and atom probe study correlations 7−28139
$Fe_{40}Ni_{40}B_{20}$ metallic glasses, corrosion in H_2SO_4, alloying effect 7−28201
$Fe_{40}Ni_{40}B_{20}$ metallic glass, neutron diffr. struct. factors determ. 7−51654
$Fe_{45.5}Ni_{44.5}B_{10.3}$, amorphous, internal friction, thermo-EMF struct., annealing effect *(Russian)* 7−59560
$Fe_{50}Ni_{30}B_{20}$, amorphous alloys, domain wall motion, SEM obs. 7−52978
$Fe_xNi_{80-x}B_{20}$ amorphous ferromagnets, elec. resist. and thermopower meas., comp. and temp. depend. 7−45263
$Fe_xNi_{80-x}B_{20}$, XRF and PIXE surface anal. 7−12411
$Fe_{40}Ni_{38}B_{18}Mo_4$, Metglass 2826 MB, surface crystn. behaviour 7−58154
$Fe_xNi_{80-x}B_{18}Si_2$, glassy alloys, variation of mag, inhomogeneity 7−45634
$(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, ferromagnetism onset, magnetovolume effect study 7−2845
FeNiCr disordered FCC alloys, paramagnetic-antiferromagnetic-spin glass reentrant transition obs. 7−17175
FeNiCr, grain boundary solute segregation 7−56833
FeNiCr spin glass, Edwards-Anderson order parameter temp. depend. meas. *(Russian)* 7−2866
FeNiCr, strain measurement in convergent beam electron diffraction 7−16562
FeNiCr:Sb,P, grain boundary segregation, Auger and energy dispersive X-ray mapping 7−16571
$FeNiCr_{0.20}$, spin glass, phase transition, mag. suscept. study 7−53004
$Fe_cNi_{0.8-c}Cr_{0.2}$ spin glasses, critical dynamics 7−45683
FeNiCr(Mn) spin glasses, nonlinear mag. suscept. study 7−52991
$Fe_{30}Ni_{36}Cr_{12}Mo_2Si_5B_{15}$, amorphous alloy, Curie temp., press. effect 7−52976
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$ metallic glasses, corrosion in H_2SO_4, alloying effect 7−28201
$FeNiMn_{0.15}$, spin glass, phase transition, mag. suscept. study 7−53004
$Fe_xNi_{85-x}Mn_{15}$, low temp. sp. ht. near ferromag.-antiferromag. transition *(Russian)* 7−7512
$Fe_{38}Ni_{40}Mo_4B_{18}$, metallic glass, positron annihilation *(Chinese)* 7−64726
$Fe_{40}Ni_{38}Mo_4B_{18}$, amorphous, positron annihilation studies 7−45859
$Fe_{40}Ni_{38}Mo_4B_{18}$, amorphous alloys, thermal devitrification kinetics 7−51651
$Fe_{40}Ni_{38}Mo_4B_{18}$, metallic glasses, corrosion in H_2SO_4, alloying effect 7−28201
$Fe_{40}Ni_{38}Mo_4B_{18}$, metallic glass, conversion electron Mossbauer spectra 7−48926
$Fe_{40}Ni_{38}Mo_4B_{18}$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7−64478
$Fe_{40}Ni_{40}Mo_4B_{16}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
$(FeNi)_{78}Mo_4B_{17}Si$ metallic glass, mag. shielding props., composition depend. 7−27558
$Fe_{40}Ni_{38}Mo_4B_{16}Si_2$, ferromag. amorphous ribbons by field quenching technique, mag. anisotropy 7−33164
$Fe_{39}Ni_{39}Mo_2(SiB)_{20}$ metallic glasses, corrosion in H_2SO_4, alloying effect 7−28201

nickel alloys continued
  $Fe_{40}Ni_{40}P_{20}$ amorphous alloy, electron struct. and surface struct., XPS and UPS studies 7−27238
  $Fe_{48.5}Ni_{34}P_{17.5}$, small-angle polarized neutron scattering study 7−52939
  $Fe_{40}Ni_{40}P_{14}B_6$ amorphous alloy, relax. struct. transforms., 80 to 300K 7−1890
  $Fe_{40}Ni_{40}P_{14}B_6$, amorphous material behaviour in friction 7−28151
  $Fe_{40}Ni_{40}P_{14}B_6$ amorphous alloys, annealing, positron annihilation parameters anal. 7−39303
  $Fe_{40}Ni_{40}P_{14}B_6$, amorphous ribbon, magnetoelastic, Matteucci effect meas. *(Spanish)* 7−53103
  $Fe_{40}Ni_{40}P_{14}B_6$, ferromag. amorphous alloy, struct. relax., effect of surface 7−28062
  $Fe_{40}Ni_{40}P_{14}B_6$ metallic glass, heterogeneous struct., EXAFS study 7−27816
  $Fe_{40}Ni_{40}P_{14}B_6$, metallic glasses, multiplet splitting, XPS study 7−27858
  $Fe_{40}Ni_{40}P_{14}B_6$ metallic glasses, corrosion in H_2SO_4, alloying effect 7−28201
  $Fe_{40}Ni_{40}P_{14}B_6$, metallic glasses, superplastic deform. *(Russian)* 7−39599
  $Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, magnetic ribbons, inverse Wiedemann effect for very low torsions 7−45786
  $Fe_{40}Ni_{40}P_{14}B_6$, Metglass 2826, crystn. behaviour, influence of annealing atm. 7−53768
  $Fe_{40}Ni_{40}P_{16}B_4$, amorphous and crystallised alloys, surface oxidation behaviour 7−59666
  $(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, amorphous spin glasses, relaxation 7−53000
  $(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, metallic spin glass, time decay of saturated remanent magnetisation 7−59058
  $(Fe_{0.5}Ni_{0.5})_{75}P_{16}B_6Al_3$, metallic glass, struct. relax., theory *(Russian)* 7−44397
  $Fe_{70}Ni_{10}P_{13}C_7$, amorphous powder, crystallisation *(Russian)* 7−58162
  $(FeNi)_xPd_{1-x}$, atomic mag. moments, magnetisation meas. *(Russian)* 7−17198
  $Fe_{50}Ni_{25}Pd_{25}$, surface oxidation, X-ray $L\alpha,\beta$ emission spectra studies 7−13265
  $Fe_{70}Ni_8S_{10}B_{12}$, amorphous and cryst. states., oxidation *(Russian)* 7−53993
  $Fe_{0.20}Ni_{0.58}Si_{0.08}B_{0.14}$, amorphous viscoelastic behaviour 7−21348
  $(Fe_{0.6}Ni_{0.4})_{82}Si_8B_{10}$ amorphous alloys, structural relax. and crystn., positron annihilation studies 7−37869
  $(Fe_{1-x}Ni_x)_{77}Si_{10}B_{13}$, amorphous, structural anal. *(Korean)* 7−26655
  $(Fe_{1-x}Ni_x)_{77}Si_{10}B_{13}$, amorphous, effective mag. moment, Curie temp. *(Korean)* 7−27503
  $Fe_{10}Ni_{65}Si_{10}B_{15}$ spin glass, amorphous, effect of phase segregation during struct. relax. 7−39517
  $Fe_{40}Ni_{40}Si_{16}B_4$ metallic glass, positron trap depth distrib. determ., lifetime and Doppler effect meas. 7−39304
  $Fe_{70}Ni_8Si_{10}B_{12}$, amorphous alloys, thermal devitrification kinetics 7−51651
  $Fe_{75}Ni_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7−11925
  $(Fe_7Ni_{93})_{77}Si_{10}B_{13}$ amorphous spin glass, dynamic mag. susceptibility and critical phenomena *(Russian)* 7−7511
  $Fe_{0.44}Ni_{76.87}Si_{7.88}B_{14.56}C_{0.25}$, amorphous filler metal, struct. props. *(Korean)* 7−32292
  p-GaAs/AuZnNi/Ti/Au ohmic contacts, low-resistance 7−7385
  GdNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7−7206
  $GdNi_2$, paramag. fluctuations, μSR study 7−45878
  $GdNi_3$, paramag. suscept. studies 7−52935
  HfNi, amorphous phase form. by solid-state reaction, dominant moving species 7−21706
  HoNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7−7206
  InSb-NiSb eutectic composite, rel. between metal fibre morphology and elec. props. 7−59644
  $La_{1-x}Ce_xNi$, Kondo lattice form., elec. resist. and susceptibility meas. 7−21899
  $La_{0.8}Nd_{0.2}Ni_{2.5}Co_{2.4}Si_{0.1}$ electrode, storage capacity investig. 7−33946
  $LaNi_5$, adsorpt. rate at H_2-$LaNi_5$ interphase, diffusion coeff. eval. 7−32696
  $LaNi_5$, amorphous, short range order 7−37858
  $LaNi_5$, anisotropic H migration, deposition potentials, hardness, brittleness meas. 7−6873
  $LaNi_5$, diffusion of H and D, temp. depend. 7−6874
  $LaNi_5$ oxide surface layers, H_2 adsorpt. kinetics 7−32833
  $LaNi_5$:H films, resist. rel. to hydrogenation 7−58910
  α-$LaNi_5$-H, multiply cycled, inelastic neutron scatt. 7−32835
  $LaNi_{4.77}Al_{0.22}$-$LaNi_5$, hydride chem. heat pump, thermodynamics 7−13926
  $LaNi_{4.7}Al_{0.3}H_x$-n-undecane suspension, H_2 absorpt. kinetics 7−33966
  $LaNi_{5-x}Fe_x$, spin freezing props. 7−64464
  $La_{11}Ni_4Ge_6$, cryst. struct., trigonal-prismatic coordination of atoms 7−21159
  $LaNi_5H_n$:O, dissociation press., O content depend. 7−63825
  $LaNi_5H_x$-n-octane suspension, H_2 absorpt. kinetics 7−33966
  Mg_2Ni dehydriding kinetic rates, use as H_2 storage material 7−54363
  Mg_2NiH_x, structural transition, DSC obs. 7−59510
  Mn-Ni alloys, γ-phase decomposition, annealing and quenching, X-ray phase anal. 7−17510
  Mn_3Ni_2Si, rapidly solidified, Friauf-Laves phase related quasicrystal, TEM obs. 7−51706
  Mo-Ag pseudoalloys, Ni and Co effect on interphase interaction 7−27975
  Mo-Ni, adsorbed S, in acidic medium, destabilizing effect of Mo and passivation consequences *(French)* 7−16858
  Mo-Ni thin films, struct., composition and homogeneity 7−2436
  Mo-Ni-Co-Sn, liq. phase sintering, grain boundary migration, coherency strain effect 7−22604
  Mo_xNi_{100-x}, x=20, 28, 35, 48, 63, amorphous, struct., short range order, thermal stability 7−21107
  Nb-Sb alloys, B8 phase, diffusion studies 7−12354
  $Nd_2Fe_{14-x}Ni_xB$, crystallographic and mag. props. 7−27522
  Ni alloys, thin oxide films for H barriers, growth study 7−2434
  Ni base alloys, rapid solidification technology 7−39493
  Ni base high temp. alloys, corrosion in simulated HTGR He environments 7−17703
  Ni base superalloys, hot deformed, matrix dislocations, weak beam electron microscopy obs. *(French)* 7−21210
  Ni base superalloys, pressure vessel performance, strength, ductility, comp., struct. 7−3365
  Ni base superalloys, techniques for required props. prod. *(Turkish)* 7−59657

nickel alloys continued
  Ni based alloys, positron localisation, affinity to solute clusters and size limitations 7−46200
  Ni binary alloys, solid soln. hardening, flow stress, Young's modulus 7−13465
  Ni steel, coercivity and Barkhausen noise power spectrum, stress depend. meas. 7−7548
  Ni/Ni-P compositionally modulated films, electrodeposition 7−3209
  Ni-Ag amorphous thin films, crystallisation and internal constraints *(French)* 7−2433
  Ni-Al, aged γ/γ' alloys, He^{2+} implantation studies 7−22690
  Ni-Al, heterophase structures, nonequilib. state diagrams *(Russian)* 7−17555
  Ni-Al (20 wt.%), planar flow cast, cooling rates and microstruct. 7−59505
  Ni-Al alloy phase transforms. during ion beam mixing, electron diffr. and microscopy studies 7−16655
  Ni-Al alloys, premartensitic behaviour, neutron scatt. study 7−44717
  Ni-Al alloys, rapidly solidified, mech. props. 7−22839
  Ni-Al dilute alloys, oxide growth and microstruct. at high temp. 7−17735
  Ni-Al intermetallic cpds., charge redistrib., L-edge XANES study 7−64816
  Ni-Al liq. alloys, enthalpies of mixing 7−46487
  Ni-Al ordered alloys, long-range oscillatory surface relaxations simulation 7−2317
  Ni-Al powder system, cpd. formation during shock wave loading 7−39460
  Ni-Al powders, gasless combustion synthesis, particle size 7−46368
  Ni-Al synthesis by shock compression of composite particles 7−39462
  Ni-Al system, diffusion interaction of the β and γ' phases 7−38242
  Ni-Al-B-based alloys, site occupations, APFIM and channelling studies 7−32367
  Ni-Al-Co-Cr-Ta, polycrystalline superalloys, microstruct. rel. to Ta content 7−46446
  Ni-Al-Co-Nb superalloy, interphase boundary, FIM atom probe study 7−33683
  Ni-Al-Cr, melt spun ribbons, microstruct., mech. props., Cr conc. effect 7−28031
  Ni-Al-Cr based alloy plasma-sprayed thermal barrier coatings, sp. ht. and thermal cond. meas. and 2D computer simulation 7−7076
  Ni-Al-Fe system, phase equilibria in the Ni-rich region 7−39487
  Ni-Al-La, defect form., disordering, strengthening effect of La addition 7−22708
  Ni-Al-Mo, precip. in Ni-base superalloys 7−53745
  Ni-Al-Mo eutectic high temp. alloy, directional solidification within ZrO_2 supporting skin *(German)* 7−22660
  Ni-Al-Mo-W system, constitution of Ni_3Al-Ni_3Mo-Ni_3W section 7−13434
  Ni-Au (110), Au-enriched by surface segregation, LEED 7−27080
  Ni-B, electroless, heat induced struct. changes 7−13639
  Ni-B, implanted, mech. props., disorder and amorphicity 7−53819
  Ni-B, precipitation and B grain boundary segregation studies 7−33673
  Ni-B, with transition metal additives, amorphous, mag. scatt. influence on transport props. 7−33001
  Ni-B amorphous alloys, crystallisation produced by ion implantation, TDPAC study 7−32288
  Ni-B amorphous and crystalline alloys, vibr. density of states 7−38146
  Ni-B amorphous films, ion implanted and sputtered, elec. props. 7−22032
  Ni-B based electrochemical coatings, heat resistance, oxidation 7−3499
  Ni-B-C-based alloys, γ' phase, prolonged ageing effects *(Russian)* 7−59551
  Ni-B-Si alloy liquid metal ion sources, ion formation 7−64878
  Ni-B-Si ternary system, liq.-solid equilib. in Ni-rich region *(French)* 7−65004
  Ni-base alloy 718, cast, weld heat-affected zone liquation morphology 7−53715
  Ni-base alloys, N and H solubility, equivalent influence of alloying elements 7−59495
  Ni-base self-fluxing alloys, wear resist. of detonation coatings 7−28152
  Ni-base superalloy, CMSX-2 creep anisotropy, TEM anal. *(French)* 7−22764
  Ni-base superalloy, carbide precip., influence of alloy chem. 7−46481
  Ni-base superalloy, cast, high Al-Ti, eutectic form. and σ-phase control *(Chinese)* 7−7983
  Ni-base superalloy, IN 939, high Cr, effects of heat treatment on mech. props. 7−13526
  Ni-base superalloy, IN-100, rheocast, processing-struct. charactn. 7−46449
  Ni-base superalloy, oxidation in steam at 800°C, role of Al and Ti 7−65203
  Ni-base superalloy, single cyst., SRR99, creep behaviour 7−17587
  Ni-base superalloy, single cryst., MAR-M200, with bimodal γ' distrib., low cycle fatigue at 750 and 870°C 7−17627
  Ni-base superalloys, age hardening, ordered strengthening phase characts., electron microscopy *(French)* 7−22710
  Ni-base superalloys, cast, solidification behaviour w.r.t. Hf additions *(Chinese)* 7−7984
  Ni-base superalloys, creep resist. improvement, role of Re additions, APFIM study 7−22772
  Ni-base superalloys, fatigue endurance at high temps., influence of struct. and surface oxidation 7−59626
  Ni-base superalloys, γ' strengthened, creep and microstruct. rel. to refractory elements 7−3364
  Ni-base superalloys, mag. clusters, calorimetrically determined 7−12977
  Ni-base superalloys, single cryst. and directionally solidified, oxidation in air at 1093 °C 7−65179
  Ni-base superalloys, stability of lamellar γ-γ' struct. 7−46566
  Ni-base superalloys and intermetallics, rapidly solidified, mech. props. 7−22839
  Ni-base ternary alloys and superalloys, hot corrosion in SO_2/O_2 atm. 7−65175
  Ni-base ternary alloys and superalloys, hot corrosion mechanism in SO_2/O_2 atm. 7−65176
  Ni-base weld metals, SCC in simulated BWR environments 7−46682
  Ni-base wrought superalloy, thermal fatigue resist. improvement by laser-glaze 7−22840
  Ni-based consolidated rapidly solidified alloys, strengthening mechanisms 7−22712
  Ni-Be (2 wt.%), ageing, lattice rearrangement *(Russian)* 7−39553
  Ni-C, C-vacancy binding 7−44601
  Ni-CO, limitations of dynamic recovery as revealed by temp. change tests at large strains 7−22723

nickel alloys continued

- Ni-Ce(Pr) liquid alloys, variable valency investig. 7−7192
- Ni-Co based refractory alloys, γ'-phase strengthening rel. to comp 7−46496
- Ni-Co-Cr-Al-Y, plasma sprayed, high temp. tensile and creep behaviour 7−28083
- Ni-Co-Cr-Al-Y coatings, electron beam deposition, oxidation rel. to pretreatment 7−46702
- Ni-Co-Cr-Mo-Al-Ti prealloyed powder, parts prod. by hot pressing *(French)* 7−13400
- Ni-Cr, bonding to dental glass 7−39844
- Ni-Cr, carburisation, kinetics, diffusion and precipitation *(German)* 7−8194
- Ni-Cr, form. by ion beam mixing of alternating layers 7−21303
- Ni-Cr, high temp. alloys, carburisation, finite difference model of C diffusion 7−39712
- Ni-Cr, high temp. corrosion in sulphidising/oxidising environments, review 7−39737
- Ni-Cr, Inconel superalloy, substrates for Au/CeO_2 thin films, diffusional processes 7−45098
- Ni-Cr, oxidation, laser surface treatment and its influence on development of healing Cr_2O_3 scales 7−65204
- Ni-Cr, wrought, Hf effect on struct. and mech. props. 7−33689
- Ni-Cr (1 wt.%), internal oxidation, two-phase region form. kinetics in diffusion zone *(Russian)* 7−46497
- Ni-Cr alloy, surface segregation, scanning Auger microprobe study 7−22703
- Ni-Cr alloys, phase transformations, C, B, Nb alloying effects *(Russian)* 7−7989
- Ni-Cr based alloys, low impurity content, microanalytical charactn. of microscopic defects 7−58261
- Ni-Cr fibre, porous, physicomech. props. and model prediction 7−3353
- Ni-Cr films, sputter deposition and ion beam mixing, microstruct. 7−44630
- Ni-Cr Inconel alloy, SiO_x corrosion protective coatings 7−39754
- Ni-Cr superalloy, heat-resistant, heat treatment effect on ductile props. in cold deform. 7−46584
- Ni-Cr superalloy, high-temp. material, microstruct. and mech. props. with high-temp. heating 7−3341
- Ni-Cr vacuum deposition for reproducible thin film resistors, book contrib. 7−46332
- Ni-Cr wire, irreversible magnetisation, effect of plastic deformation 7−53041
- Ni-Cr-Al (20, 12.5 wt.%), coatings containing dispersed oxides, high temp. oxidation 7−33842
- Ni-Cr-Al films, thin film resistor appl., struct., temp. coeff. of resist. props. 7−58912
- Ni-Cr-Co-Mo superalloys, interphase boundary, FIM atom probe study 7−33683
- Ni-Cr-Co-Mo-Ti-Nb-Al, heat-resisting, supersaturated solid soln., isothermal decomp. kinetics 7−33682
- Ni-Cr-Co-Mo-Ti-Nb-Al, heat-resisting, hot strain rate effect on microstruct. and mech. props. 7−39559
- Ni-Cr-Mo-Fe system, pitting corrosion, temp. depend. 7−65186
- Ni-Cr-Si thin films, influence of Si on props. 7−22493
- Ni-Cr-Ti-Al(-Mo), dendritic single crysts., microsegregation 7−46477
- Ni-Cr-W superalloy, experimental, tensile props., effect of carburisation and aging 7−59576
- Ni-Cr-W-Si-Al-C, heat resistant coatings on Ni alloys 7−3498
- Ni-Cu, gamma-irradiated, point defect migration 7−6893
- Ni-Cu, heterodiffusion, effect of γ-rad. *(Russian)* 7−44617
- Ni-Cu, liq. alloys, density of electron states, calc. *(Russian)* 7−45110
- Ni-Cu (10 at.%), stepped X-ray K absorpt. spectra *(Russian)* 7−39313
- Ni-Cu alloy, equilib. segregation, embedded atom simulation 7−17538
- Ni-Cu binary alloys, surface segregation *(Japanese)* 7−12422
- Ni-Cu binary alloys, surface segregation studied by atom-probe 7−44966
- Ni-Cu-Pd ternary system, state-state composition determ. from binary system under sputtering 7−22421
- Ni-Cu-Si, γ' precip. coarsening, bifurcation theory appl. *(Japanese)* 7−53734
- Ni-Er metallic glass form. by near-isothermal cold rolling 7−22610
- Ni-Fe (100) surface, break-up of oxide films by S_2 impingement, LEED and AES meas. 7−46260
- Ni-Fe film, ion beam sputter deposition, ion bombardment effect on preferred orientation 7−64010
- Ni-Fe films, ion beam sputtered, magnetoresistance props. 7−22033
- Ni-Fe-Cr, age hardenable, SCC in PWR coolant water, heat treatment and Zr additions effect 7−39708
- Ni-Fe-Cr, Inconel 600 and Incoloy 800, fracture toughness 7−59596
- Ni-Fe-Cu, mag. props., hardness, elec. resist., V, Nb and Ta additions effect *(Japanese)* 7−12998
- Ni-Fe-Mn system, coexistence of Ni_3(FeMn) and Ni(MnFe) superstructures *(Russian)* 7−1946
- Ni-Ge amorphous and cryst. layers, short range order and valence bands 7−13266
- Ni-H proton irradiated system, defect annealing, positron lifetime studies 7−38043
- Ni-H system, band structure calcs. 7−45140
- Ni-H system, H-defect interactions, positron annihilation studies 7−39256
- Ni-In liq. alloys, enthalpies of mixing 7−46487
- Ni-Kr system, Kr bubble growth, positron annihilation studies 7−39247
- Ni-Mn, microtwinning, $\beta \rightarrow \theta$ martensitic transform 7−32455
- Ni-Mn disordered alloys, ferro-spin-glass domain model calcs. 7−59025
- Ni-Mn disordered alloys, magnetic phase diagram near multicritical point 7−59024
- Ni-Mn-Al, martensitic transform. *(German)* 7−46471
- Ni-Mo, random alloys, residual electrical resistivity, first-principles calc. 7−2569
- Ni-Mo (20 at.%), ageing, yield strength rel. to prior α grain size 7−39507
- Ni-Mo (6 at.%), oxidation, ESCA study 7−22897
- Ni-Mo_2C eutectic, directional solidification oriented struct., strength, hardening mechanism *(Russian)* 7−59507
- Ni-Mo-B(P), metallic glasses, depth-composition profile, X-ray photoelectron study 7−63928
- Ni-Mo-Cd electrocoated cathodes for water electrolysis, H_2 evolution kinetics 7−3728
- Ni-Mo-Cr-B powders, amorphous and microcrystalline, shock consolidated, wear props. 7−46655
- Ni-Mo-Cu-Fe-Mg, coarse-grained PC permalloys, annealing-twin density *(Japanese)* 7−3330

nickel alloys continued

- Ni-Mo-Fe-Cr alloy, transient phase obs during long range ordering to Ni_4Mo, electron diffr. study 7−63806
- Ni-Mo-P, electroless plating prep., film props. 7−13392
- Ni-Mo(Cr), struct.-sensitive props., effect of external thermal action 7−46558
- Ni-Nb, form by ion beam mixing of alternating layers 7−21303
- Ni-Nb amorphous films, early stages of reaction with cryst. Au films 7−21703
- Ni-Nb-C system, directionally solidified, phase equilib. and struct. 7−46416
- Ni-NbC eutectic, directed crystallisation, comp. growth laws *(Russian)* 7−65021
- Ni-NiAl, formation of NiAl coatings by CVD, kinetics 7−59451
- Ni-P, amorphous electrodeposited alloys, short-range order *(Russian)* 7−32291
- Ni-P, electrodeposition, pulse plating, corrosion resist. *(Japanese)* 7−53643
- Ni-P, electroless coating on ultrahigh strength maraging steels, H embrittlement 7−28136
- Ni-P, electroless coatings, wear rel. to counterface materials and heat treatment 7−33802
- Ni-P, glassy, dissolution in H_2SO_4 and HCl electrolytes 7−28189
- Ni-P, implanted, mech. props., disorder and amorphicity 7−53819
- Ni-P alloy electroless deposits, hardening by baking treatments *(Japanese)* 7−33759
- Ni-P amorphous alloy electrodeposition and corrosion obs. 7−27953
- Ni-P coating, electrolytic, electron microscope obs. of struct., P content depend., amorphous layer form. 7−8157
- Ni-P electrodeposited amorphous alloy, prep. and characterisation 7−22598
- Ni-P electroless coatings, electronics components, thickness meas. 7−14920
- Ni-P electroless coatings, corrosion resistance 7−17484
- Ni-P electroless deposited amorphous coatings, wear resistance, crystallisation effects 7−53913
- Ni-P films, electroless deposited, struct., electron microscopy studies 7−7041
- Ni-P glasses, local atomic struct., NMR and EXAFS studies 7−63504
- Ni-P ion-implanted and melt spun amorphous alloys, crystn., TEM, RBS and DTA meas. 7−16439
- Ni-P metallic glasses, electronic struct., XPS study 7−39357
- Ni-P-B electroless coatings, prep. and deposit characts. 7−59671
- Ni-Pt, surface segregation, composition anal., AES studies 7−7999
- Ni-rich alloys, vacancy swelling suppression mechanism 7−46511
- Ni-Si, aged γ/γ' alloys, He^{2+} implantation studies 7−22690
- Ni-Si, ductility, influence of rad.-induced segregation 7−53798
- Ni-Si, spatial correl. to γ' precipitates 7−46484
- Ni-Si alloy, Ni_3Si precipitation during electron and ion irradiation 7−51876
- Ni-Si system, phase diagram, thermodynamics 7−46424
- Ni-Si-B, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7−3354
- Ni-Si-B amorphous alloy films, electrical resistance and activation energy 7−27315
- Ni-Si-B amorphous powders, flame-spray quenching process for continuous prod. 7−53679
- Ni-Si-B amorphous ribbons, surface charactn. 7−12420
- Ni-Si-Mg, high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7−53987
- Ni-SiO_2 films, dispersion strengthened, flow stress, temp. depend. *(Russian)* 7−53815
- Ni-Sn, ageing, discontinuous coarsening of cellular precipitate at grain boundary 7−39528
- Ni-Sn (8.5 at.%), cellular precipitate, discontinuous coarsening kinetics 7−65037
- Ni-Sn highly undercooled droplets, rapidly solidified, microstruct. studies 7−22670
- Ni-Ta amorphous alloy, struct. changes and crystallization during heating *(Russian)* 7−16419
- Ni-Te, vapour deposited thin films, annealing behaviour 7−3345
- Ni-Ti, electrodeposition from aq. $(NH_4)_2$ TiF_6 bath 7−7902
- Ni-Ti, nitinol, memory alloy, martensitic transformations 7−39513
- Ni-Ti, nitinol, shape memory alloy, phase transitions, thermal energy conversion appl. 7−39514
- Ni-Ti, Nitinol, thermodynamics 7−58506
- Ni-Ti composite powder, prod. and processing props. 7−3230
- Ni-Ti films, sputter deposition and ion beam mixing, microstruct. 7−44630
- Ni-Ti metallic alloy ordering and spinodal decomposition, atom probe FIM study 7−33676
- Ni-Ti metallic glass, ion beam mixing, diffusion and phase separation meas. 7−16659
- Ni-Ti-H, α/β miscibility gaps, X-ray diffr. study 7−13430
- Ni-Ti-Nb, shape memory alloy, cast microstruct. 7−7988
- Ni-Ti(Ta)(Cr), amorphous and cryst. reaction with Si studied by RBS and TEM 7−21704
- Ni-V-H, α/β miscibility gaps, X-ray diffr. study 7−13430
- Ni-W-Co-Cr superalloy single crystals, fatigue crack propag. under multiaxial cyclic loads 7−28122
- Ni-W-Co-Cr superalloys, creep rupture and tensile props. rel. to hot pressing or aluminising 7−3363
- Ni-Zn, intermetallic phase, reversible electrode 7−17802
- Ni-Zr amorphous alloy, Ni and Zr mobilities 7−32698
- Ni-Zr amorphous powder, prep. by mechanical alloying 7−33623
- $(Ni\text{-}Pd)_{82}Si_{18}$ amorphous alloys, corrosion behaviour, struct. relax, effects. 7−8166
- Ni_xAg_{1-x} amorphous thin film, RF sputtered, real-time crystallization kinetics *(French)* 7−52349
- β-NiAl alloys, structural vacancies and T-antistruct. atoms, positron trapping study 7−39300
- β'NiAl, electron charge distrib., HEED meas. 7−16502
- NiAl, electronic struct. of vacancies 7−16975
- NiAl, high temp. oxidation, alumina scales, markers and tracer anal. 7−17724
- NiAl, Ni_2Al_3, combustive synthesis, physicochemical props. 7−7918
- NiAl single crystal, surface oxide softening 7−39751
- NiAl, slow plastic creep props. between 1200 and 1400 K, effect of comp. and grain size 7−65084
- NiAl thin films, ion irrad. induced amorphisation studies rel. to cascade parameters 7−63671

nickel alloys continued
NiAl/Ni thin film interactions, phase formation sequence 7—21701
$NiAl_M$ phases, binding anal. 7—44445
Ni_3Al,, molten, wetting of TiC-WC, compact (Ti,W)C-Ni_3Al, composites prep. 7—64987
Ni_3Al and NiAl, positron annihilation and DSC studies of diffusion mechanisms 7—46204
Ni_3Al, atomic struct. of alloy surface, LEED study 7—38306
Ni_3Al, computer simulation of grain boundaries, effect of comp. 7—21228
Ni_3Al, dislocation bowing and partial separation during in situ straining, TEM obs. 7—63617
Ni_3Al, dislocation line stability 7—21212
Ni_3Al, $L1_2$ ordered alloys, grain boundary strength and fracture, electronic and struct. studies 7—33756
Ni_3Al, $L1_2$ ordered intermetallic cpds., symm. tilt boundaries, geometrical models 7—32454
Ni_3Al, $L1_2$ struct., grain boundary ordering configs. 7—32456
Ni_3Al, polycrystalline, grain boundary fracture model 7—53896
Ni_3Al produced by shock compaction, TEM 7—39480
Ni_3Al, rapidly solidified, B segregation to grain boundaries, atom probe FIM 7—22688
Ni_3Al, rapidly solidified, C segregation to grain boundaries 7—46483
Ni_3Al, solid soln. hardening with ternary additions, Young's modulus 7—13464
Ni_3Al, stiffness consts., dislocation line energy and tension, ultrasonic vel. meas. 7—63719
Ni_3Al surface, atomic struct., LEED study 7—38307
Ni_3Al, thermal and elec. cond., temp. and comp. depends. 7—64200
Ni_3Al-B, elevated temp. ductility, effect of testing environment 7—39614
Ni_3Al-B, grain boundary adhesion 7—16350
Ni_3Al-B, with and without Hf additions, dynamic embrittlement at 600°C 7—65112
Ni_3Al-B rapidly solidified alloy, B distrib. at grain and antiphase boundaries, atom probe FIM and TEM studies 7—33637
Ni_3Al-B-Hf alloys, B and Hf grain boundary segregation, ductility, atom probe FIM study 7—33675
Ni_3Al-Be, ductility, strength, grain boundary segregation, solid soln. strengthening, Be addition effect 7—39608
Ni_3Al(B,Ti), rapidly solidified powders, struct. of consolidated products 7—3222
NiAlCrY, high temp. oxidation, alumina scales, markers and tracer anal. 7—17724
Ni_3Al(Ga)(Ge), alloying addition lattice location, phenomenological description 7—32463
Ni_3AlHfB/Ni couples, up-hill Hf interdiffusion studies 7—12378
$Ni_3(Al_{0.52}Mn_{0.48})$, $L1_2$ ordered alloys, grain boundary strength and fracture, electronic and struct. studies 7—33756
NiAlTi, decomposition kinetics, TEM, FIM and SANS studies 7—53748
NiAlY alloys, alumina scale growth mechanism, ^{18}O tracer study 7—33840
Ni_3B, amorphisation by ion implantation, RBS/channelling studies 7—11912
Ni_3B, amorphous, surface electronic struct. during crystallisation and O_2 and CO adsorption 7—7308
Ni_3B/Ni eutectic, SEM and HREM struct. and chem. anal. 7—17515
$Ni_{64}B_{36}$ amorphous alloy, struct., boundary effects, computer simulation study *(Chinese)* 7—11920
$Ni_{64}B_{36}$, metallic glass, struct. relax. X-ray and neutron diffr. study 7—6521
$Ni_{30}B_{54}C_{16}$, B-rich amorphous alloy prep. by rapid quenching, crystn., hardness and elec. resist. 7—13441
$Ni_{75}B_{15}Si_{10}$ amorphous alloy, metalloid redistribution, scanning Auger microprobe study 7—32655
$Ni_{75}B_{17}Si_8$, ultrafine fine-grained, prep. from amorphous ribbon, creep deform. 7—22748
$Ni_{75}B_{17}Si_8$, ultrafine grained, creep deformation mechanisms 7—22781
NiCoCrAlY, plasma sprayed coatings, low cycle fatigue behaviour 7—22793
NiCoGa, thermal vacancies 7—51764
NiCoP onefold layer, domain propag. along hard axis 7—45727
NiCr, oxide film thin overlayers, quantitative AES depth profiling studies 7—7796
NiCr-CuFe thermocouple, mag. field effects *(Chinese)* 7—24646
$NiCr_x$, short range order and atomic interactions, neutron studies 7—51707
Ni_2Cr, order-disorder transform. kinetics, P content effect 7—13446
Ni_2Cr, recrystn. kinetics and mech. props., influence of P 7—22718
$Ni_{66}Cr_{34}$ alloy, plastic strain rate difference with Cr_2O_3 oxide *(French)* 7—17682
NiCrAlTi, sputter ion plated coatings for gas turbines 7—53971
NiCrAlY, Al_2O_3 adhesion mechanism 7—33843
$Ni_{70}Cr_7Fe_3Si_8B_{12}$ ribbon, rapidly quenched from melt, struct. inhomogeneity and crystallised metastable phase *(Chinese)* 7—63477
$Ni_{83}Cr_7Fe_3Si_4B_3$, amorphous alloy, crystallisation *(Chinese)* 7—6518
NiCrSiB alloy coatings, sputter deposition, microstruct. variations 7—46351
$Ni_{69.2}Cr_{6.6}Si_{13.7}B_{7.9}Fe_{2.6}$, amorphous alloy, 70 MeV Ni^{+6} ion irrad., surface swelling 7—16646
$(Ni_{1-x}Cu_x)_5$ Zr alloys, cryst. struct. study *(French)* 7—26698
$(Ni_{1-x}Cu_x)_{77}B_{13}Si_{10}$ pseudobinary metallic glass, low-temp. sp. ht. studies 7—12309
$(Ni_{1-x}Cu_x)_{80}P_{20}$ pseudobinary metallic glass, low-temp. sp. ht. studies 7—12309
Ni_3(FEM) alloys, (M=Nb, V, Ta), atomic short range order, pseudopot. calcs. *(Russian)* 7—44448
Ni_3(Fe,M) (M=Cr, Mn, W, Mo), atom pair interaction energy and Kurnakov temp. *(Russian)* 7—1938
Ni_3(Fe,Nb), order-disorder transformation, positron annihilation study 7—39509
NiFe-Co-Au trilayer film, structural depth profiling by glancing angle X-ray diffraction 7—26593
$Ni_{0.64}Fe_{0.36}$ intermetallic cpds., charge redistrib., L-edge XANES study 7—64816
Ni_3Fe, dislocation annihilation and strain hardening *(Russian)* 7—46500
Ni_3Fe, order-disorder transformation, positron annihilation study 7—39509
Ni_3Fe, ordered alloy, antiphase boundary form. energy, atomic config., Morse pot. approx. *(Russian)* 7—46419
Ni_3Fe, ordered and disordered, mag. permeability studies 7—59053
$Ni_{50}Fe_{50}$ (100) alloy, segregation and adsorption of S 7—21617
$Ni_{60}Fe_{40}$ (100), initial oxidation and sulphidation, LEED study 7—58641

nickel alloys continued
$(Ni_3Fe)_{1-x}Cr_x$ alloys, ordering study, comp. depend., electron diffr. and Mossbauer meas. 7—51690
$Ni_3(Fe_{1-x}Mn_x)$ magnetic alloys, impurities, ordering 7—51995
$Ni_{1-x}Fe_xMnSb$, half-metallic ferrimag., mag. and crystallographic props. 7—45672
$Ni_{4.15}Fe_{0.85}$R-Al matrix, (R = Mischmetal), H sorption, nonequilib. parameter 7—32836
Ni_3Ga, 2D electron-positron momentum density and Fermi surface 7—45127
Ni_3Ga, atomic ordering, strain disruption *(Russian)* 7—53808
Ni_3Ga, $L1_2$ ordered alloys, grain boundary strength and fracture, electronic and struct. studies 7—33756
Ni_3Ga, momentum density distribs., Compton scatt., positron annihilation, symmetrised APW method 7—64069
NiGeAuAgAu alloyed ohmic contacts to AlInAs-GaInAs heterostruct., charact. 7—22016
NiH, spin polarised electronic struct., mag. and bonding props. 7—32904
Ni_xH clusters, charge distrib., Hartree-Fock SCF INDO calcs. 7—52411
$NiMn_{0.27}$, spin glass, phase transition, mag. suscept. study 7—53004
Ni_3Mn-NiCr tie line, disordering kinetics, neutron diffr. investig. *(Russian)* 7—32347
$Ni_{78}Mn_{22}$ reentrant alloy, struct. sensitive mag. props. 7—7496
$Ni_2MnIn(Sn)(Sb)$ Heusler alloys, galvanomag. props. and magnetisation meas., fermi level shift effects 7—7207
Ni_2MnM (M=Al,Ga,In,Sn,Sb), Heusler alloys, Curie temp., effect of hydrostatic press. 7—64455
NiMnSb, half-metallic ferromagnet, positron-annihilation study 7—21802
NiMnSb Heusler alloys, positron annihilation studies of solids 7—64728
Ni_4Mo-Cr, isothermal annealing, structural changes 7—46462
$Ni_{52.5}Mo_{38}Cr_8B_{1.5}$ metallic glass, shock consolidated, wear props. 7—28154
$Ni_{60}Nb_{40}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
$Ni_{60}Nb_{40}$ glass ribbons, H embrittlement susceptibility, effects of cold working 7—46503
$Ni_{60}Nb_{40-x}Al_x$ metallic glasses, form. and stability, X-ray diffr., DSC obs. 7—58155
$Ni_{1-x}P_x$, amorphous glasses, electronic structure, calcs. 7—7101
$Ni_{1-x}P_x$ metallic glass, electronic struct. and props., LMTO calcs. 7—52409
Ni_2P, electronic struct., mag. props., KKR, LMTO methods, LSD approx. 7—64070
$Ni_{77}P_{23}$ amorphous alloy, struct. relax. and crystn., elec. resist. and X-ray diffr. obs. 7—1894
$Ni_{82}P_{18}$, amorphous state, electrical resistance meas. in gaseous H_2 7—32978
$Ni_{40}Pd_{40}P_{20}$ alloy glass, solid-liq. interfacial energy 7—2208
$Ni_{40}Pd_{40}P_{20}$, glass transition, internal friction by Collette torsion pendulum 7—38199
$Ni_{45}Pd_{35}P_{20}$ metallic glass, decomposition, crystallisation and embrittlement, atom-probe FIM study 7—33639
NiSb intermetallic cpds., charge redistrib., L-edge XANES study 7—64816
$Ni_{93.35}Sb_{6.65}$ and $Ni_{78.5}Sb_{21.5}$ alloys, characterisation studies *(French)* 7—28010
NiSi layer on Si (111), solid phase epitaxial growth from Si/Ni multilayer structure 7—7071
$NiSi_2$/Si heterojunction, interface states, DLTS and hydrogenation studies 7—12777
$NiSi_2$-Si (111) interface struct., X-ray standing-wave analysis 7—58661
$Ni_{77}Si_{10}B_{13}$, amorphous, structural anal. *(Korean)* 7—26637
$Ni_{77}Si_8B_{15}$, amorphous, tensile strength, elastic stiffness *(Japanese)* 7—3346
$Ni_{78}Si_{10}B_{12}$, metallic glass, shear crack propag. 7—65113
$Ni_{80}Si_{10}B_{10}$, $Ni_{80}Si_5B_{15}$ metallic glass, fracture toughness rel. to prep. and struct. 7—53870
NiSn-SiC composite coatings, electrodeposition, wear resist., hardness, porosity 7—33613
NiSnInSb dilute alloys, local lattice relax. around impurity, K-edge EXAFS study 7—64159
NiTa, quenched amorphous alloy, thermal stability and crystn. *(Russian)* 7—11911
NiTa-GaAs, phase separation, cross-sectional TEM 7—27152
NiTi alloy powder, shock compaction 7—59480
NiTi, electronic phase diagram for B2-R transition 7—52388
NiTi, martensitic transform. rel. to d-transition element alloying *(Russian)* 7—59519
NiTi sputtered films on glass substrates, interfacial reaction, Auger study 7—22395
NiTi-Si, interfacial interactions, Rutherford backscattering spectrometry, TEM 7—12505
$Ni_{35}Ti_{65}$, amorphous, internal friction of H 7—39577
Ni_xTi_{1-x}, liquid and amorphous, chemical short-range order, electronic theory 7—44349
Ni_2V-Cu alloys, discontinuous precipitation and ordering *(Russian)* 7—59523
Ni_3V alloys with periodic antiphase boundary struct., dislocation motion 7—63620
$Ni_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7—63486
NiZr-H_2, metallic glass, pressure-concentration isotherms 7—26665
$NiZr_2$ metallic glasses, crystallisation, influence of O and other trace impurities 7—51633
$Ni_{100-x}Zr_x$ metallic glasses, low temp. sp. ht. study, density of states and Debye temp. determ. 7—2226
$Ni_{100-x}Zr_x$ metallic glasses, H storage, press.-conc. isotherms, site occupation, binding energies 7—58153
$Ni_{33}Zr_{67}$, glassy metals, peak effect, flux pinning *(Chinese)* 7—12929
$Ni_{33}Zr_{67}$ metallic glasses, flux pinning and critical current peak effect studies 7—22079
$Ni_{61}Zr_{39}$, preparation by grinding, diffraction anal., crystallization behaviour and magnetic props. 7—3219
$Ni_{63.7}Zr_{36.3}$ amorphous alloy, short-range order and struct. relax. 7—51642
$Ni_{64}Zr_{36}$, amorphous, short range order, EXAFS 7—44388
$Ni_{64}Zr_{36}$ amorphous alloy, local struct., EXAFS and neutron diffr. studies 7—64813
$Ni_{64}Zr_{36}$, amorphous state, electrical resistance meas. in gaseous H_2 7—32978

nickel alloys continued
Pd-Ni alloys, formation enthalpies and lattice parameters, embedded atom calc. 7−44455
Pd-Ni dilute alloys, Fermi surface exchange splitting, de Haas-van Alphen effect studies 7−52405
PdNi alloys, magnetic clusters interaction energy calcs. 7−45652
$Pd_{40}Ni_{40}P_{20}$ metallic glass, structural relax., shear and longitudinal sound. vel. meas. 7−51655
$Pd_{82-y}Ni_ySi_{18}$, (y = 10, 20, 32), amorphous alloy, electrical resistance meas. in gaseous H_2 7−32978
PdRhPSi(SiNi), amorphous laser processed surface alloy on cryst. Ni in NaOH soln., anodic characts. 7−28317
$PrNi_5$ based hydride systems, hydriding characts. and stability 7−40051
$PrNi_5$, nucl. demagnetisation and enhanced nucl. cooling 7−30018
$PrNi_5$, paramag.-ferromag. phase transition, external mag. field, spin ordering model 7−52988
Pt-Ni alloys, surface segregation, ISS study 7−52208
Pt-Pd-Cu_2S-Ni_3S system, annealing, phase comp., DTA 7−46412
$Sc_6Nc_{18}Si_{11}$, cryst. struct. determ. 7−58205
Si_3N_4/Al/Invar ceramic/metal joints, rel. between tensile and three-point bending strengths 7−39583
TbNi amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7−7206
(Ti,W)C-Ni_3Al, composite prep. by liq. phase sintering, wettability of carbide by molten Ni_3Al, 7−64987
Ti clusters, electronic props., CNDO method 7−27247
Ti-Cu-Ni-Si amorphous alloys, structural relax. annealing, X-ray diffr. studies 7−6537
Ti-Ni, ageing and thermal cycling effects in shape memoryalloys 7−3336
Ti-Ni, amorphous phases, mechanical alloying 7−27972
Ti-Ni, crystalline to amorphous transitions, struct. anal. 7−44375
Ti-Ni, H storage, theory 7−34074
Ti-Ni, shape memory alloys, metastable X-phase, cryst. struct., morphology, TEM, X-ray diffr. 7−37926
Ti-Ni (51 at.%), aged shape memory alloy, precip. morphology, comp., cryst. struct. 7−28049
Ti-Ni conc. determ. by electron probe microanal. in energy dispersive system, ZAF factor approx. 7−28369
Ti-Ni-Al rapidly quenched amorphous alloys, thermal stability studies 7−21123
Ti-Ni-Cu system metallic glasses, superplastic props. in vitrification temp. range 7−3356
Ti-Ni-Cu(Au), martensite cryst. lattice distortions, comp. depend. 7−22679
TiC-Mo_2C-Ni hardmetals, high temp. strength 7−3404
TiC-Ni hard metal, Ni-Ti-C phase diagram analysis 7−28016
TiC-Ni-Mo sintered carbides, struct. and physicomech. props. 7−3256
TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7−3255
TiN-Ni heterophase materials, strength rel. to sintering characts. and components conc. 7−53822
TiNi, adsorption of O, AES study 7−59312
TiNi alloy, amorphisation by high press. shear deform. *(Russian)* 7−8053
TiNi alloy, shape memory and reversibility effects, deform. effects *(Russian)* 7−13508
TiNi, mono- and polycryst., elastic props. and internal friction, premartensitic anomalies *(Russian)* 7−59564
TiNi rapidly solidified alloys, shape memory behaviour 7−22780
TiNi, reverse memory of form, effect of thermal cycling 7−33660
TiNi shape memory alloys, non-equiatomic, precip. processes 7−17535
TiNi shape memory alloys, wear resist. and hardness, influence of heat treatment *(Korean)* 7−17647
TiNi-Ge, premartensitic effects *(Russian)* 7−53692
TiNi-TiAu alloys, martensitic transformations and shape memory effects *(Russian)* 7−17529
TiNi-TiCu amorphous alloy, thermal devitrification kinetics, DSC obs. 7−21116
TiNi-TiFe alloys, martensitic transform. and props. *(Russian)* 7−39511
TiNi-X, X=Fe, Ge, Re or Ni, struct. transitions in premartensitic range *(Russian)* 7−39504
Ti_2Ni, giant cells, polyhedral packing 7−11992
$Ti_{50}Ni_{40}Au_{10}$, martensitic transform., TEM study 7−59522
$Ti_{50}Ni_{45}Au_5$ martensite, interstitial H-induced extra reflection, TEM and electron diffr. study 7−59521
TiNiCu alloys, martensitic transformations, kinetic and morphological laws 7−52031
TiNiFe, premartensitic state investig., Mossbauer effect studies *(Russian)* 7−3298
$Ti_{50}Ni_{47}Fe_3$, intermetallic cpd., martensitic transform. at high press. *(Russian)* 7−59520
$Ti_{75}Ni_{20}Ge_5$ metallic glasses, corrosion rates in the H_2SO_4 and HCl solns. 7−28199
$Ti_{75}Ni_{20}Si_5$ metallic glasses, corrosion rates in the H_2SO_4 and HCl solns. 7−28199
TiNiSn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7−1952
$(Ti_{1-x}V_x)_2Ni$, orientation relationship between the icosahedral and crystalline phases 7−16477
$TmNi_2$, singlet ground-state cpd., induced-moment ferromagnetic ordering meas. 7−38866
UAl(Ga)(Sn)Ni ternary alloys, magnetic behaviour, elec. resist. and sp. ht. meas., 5f electron effects 7−12999
UNi_2, polarised neutron diffr. study 7−12946
UNiAl, surface segregation behaviour 7−33519
V-Ni, thinning treatment, TEM appls. 7−8190
$V_{41}Ni_{36}Si_{23}$, rapidly solidified, quasicrystalline and Frank-Kasper phases, tenfold electron diffr. pattern obs. 7−65022
W wire reinforced amorphous $Ni_{75}B_{17}Si_8$ matrix composite ribbons, melt spinning prep. 7−46373
W-Ag pseudoalloys, Ni and Co effect on interphase interaction 7−27975
W-Cu-Ni contact materials, elec. props., particle size effect 7−2672
W-Fe-Co-Ni system, isotherms of solidus and phase comp. above 1200°C 7−65006
W-Fe-Co-Ni system, phase equil., peritectic transform. 7−53701
W-Ni, sintering, liq. phase and solid-state, influence of dislocation density 7−64969
W-Ni dilute alloy, Ni enrichment at screw dislocations, atomistic calcs. and atom probe FIM meas. 7−33638
W-Ni powder compact, activated sintering process, electrical resistance meas. 7−27969

nickel alloys continued
W-Ni-Cu(Fe)(Cr), sintered heavy alloys, contiguity var. in W spheroids 7−53668
W-Ni-Fe, sintered, ductility and precip. 7−17589
W-Ni-Fe system, matrix and interfacial precip. 7−46478
WC-FeNi cemented carbides, abrasion, controlling mechanism 7−3460
WC-Ni, wear resist., comparative study of hard materials 7−3457
WC-Ni hard metal parts, sintered, local alloying 7−27997
$Y(Co_xNi_{1-x})_5$, magnetocrystalline anisotropy studies *(Russian)* 7−45656
Y_5Ni_{95}, sputtered amorphous film, Hall effect *(Chinese)* 7−64202
YNiAl, surface segregation behaviour 7−33519
$Y_5Ni_{95}H_x$ amorphous thin films, mag. and elec. transport props., H content effect, 1.5 to 400K *(Chinese)* 7−38909
$YbNiB_4$, $YCrB_4$-type structure, formation in Yb-Ni-B ternary systems 7−6581
$YbNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7−22154
Zn-Ni alloys, high-current density electroplating 7−17485
Zn-Ni bright coatings deposited from weak acid electrolytes *(German)* 7−39441
Zr-Ni, amorphous alloys, microhardness and struct. relax. *(Chinese)* 7−65069
Zr-Ni amorphous superconductors, struct. and supercond. props. 7−27482
Zr-Ni dil. alloy, Auger electron anal. of oxides 7−22907
Zr-Ni metallic glass, crystallisation, metastable crystalline phase form. 7−21126
Zr-Ni metallic glasses, crystn. 7−21111
$Zr_{1-x}Ni_x$ amorphous alloys, itinerant electron magnetism, AC susceptibility meas. *(Chinese)* 7−27490
ZrNiAl, surface segregation behaviour 7−33519

nickel compounds
see also nickel alloys
acetate soln., ion exchange with 2,9-dimethyl-1,10-phenanthroline intercalated in α-$Zr(HPO_4)_2$ 7−65305
cobaltite, coordination and oxidation states, XPS and XANES studies 7−63583
diffusivity, conc. and temp. depend. 7−21518
dithiolenes, struct., elec. and optical props. 7−44516
finite films, sputtered, struct. and compositional studies 7−64024
hydroxy-mica intercalation complexes, mag. props. 7−17162
intercalation cpd. with MOS_2, AES, sputtering studies 7−63867
ionic cpds., ground state studies, multiplet effects, near-edge XAS 7−64803
silicide formation in thin film Ni-Si lateral diffusion couples 7−21540
sulphides, electrochemical transfer characts. in Western Australia localities, nonlinear complex resist. anal. 7−47553
Ag(Ni, S) ternary alloys, surface cosegregation props. 7−52206
B-Ni, ion beam mixing, effects of Xe^+ implantation *(Chinese)* 7−51886
$BaNi_2Sc_8O_{15}$, metastable, cryst. struct., X-ray diffr. study *(German)* 7−16514
$CeNi_2H_x$, stoichiometry deviation and structural disorder, H content depend., EXAFS study 7−64815
Co-Ba-Ni-O_2 thermal resistance thermometer study *(Chinese)* 7−24650
$CsNiF_3$, dynamical critical slowing down, spin fluctuation relax. time, mag. suscept. meas. 7−38897
$CsNiF_3$, easy-plane ferromag. chain, quantum sp. ht. 7−7522
$CsNiF_3$, easy-plane ferromagnetic chains, sp. ht. and spin Hamiltonians, quantum statistics calcs. 7−64469
$Cu_{1-x}Ni_xCr_2O_4$, heat capacity anomalies, cooperative Jahn-Teller effect 7−6823
$Eu(Cu_{1-x}Ni_x)Si_2$, substitution effects on mixed valence behaviour, Mossbauer and XANES studies 7−64183
Fe_2B-Ni_2B, distrib. equilib. in two-phase fields 7−22641
$Fe_{5-x}Ni_xC_2$, prep. and characterisation 7−17490
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, magnetic susceptibility appl. of dynamic scaling 7−59019
$(Fe_{1-y}Ni_y)TiH_x$, critical study of β-region 7−27634
$K_2Ni_{1-x}Fe_xF_4$, 2D random mixture with competing spin anisotropies, Mossbauer spectroscopy 7−59021
$KNi_xMg_{1-x}F_3$, nuclear spin-lattice relax., NMR studies 7−64542
$LaNi_5$-H_2 system, γ-phase hydride, in situ X-ray diffractometry study 7−26712
$LaNi_4AlH_x$ and $LaNi_{4.5}Al_{0.5}H_x$, dynamical disorder of H, quasi-elastic neutron scatt. study 7−21535
$LaNiAl_{11}O_{19}$, magnetoplumbite type cpd., synthesis, cryst. growth and struct., electronic spectra 7−44476
$LaNi_2H_x$, stoichiometry deviation and structural disorder, H content depend., EXAFS study 7−64815
$LaNi_4MH_x$ (M=Mn, Cu), dynamical disorder of H, quasi-elastic neutron scatt. study 7−21535
Mg_2NiH_4, twinning at unit cell level, low temp. phase, electron microscopy study 7−26762
Mn-Ni-P, equilib. phase diagram at 1070K, X-ray anal. 7−46429
$Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7−6784
$Mn_{1-x}Ni_xAs$, phase transitions, effect of external press. and chemical substitutions 7−63798
$(NH_4)_2MoO_4$-$Ni(NO_3)_2$, interaction, effect of mechanical activation on NiO:MoO_3 ratio 7−8261
Na/β-Na_2O-Al_2O_3/NiCl secondary cell, characterisation 7−65428
$Na_2B_4O_2$-NiO, tetraborate glass, optical absorpt. effects of NiO additions and annealing 7−22851
$NaNi_2OH.H_2O.(MoO_4)_2$, H atom location, Rietveld refinement, neutron powder time of flight meas. 7−26707
Na_2O-(MgO, NaO)-GeO_2-H_2O system, crystallisation of fibrous (Mg, Ni) germanates 7−2153
Ni $(IO_3)_2.2H_2O$, electronic absorption spectra, energy splittings 7−64625
Ni complex, bis (S-ethylthiosemicarbazide) nickel (II) iodide, cryst. and mol. struct., X-ray diffr. study 7−2005
Ni complex, bis(dimethylglyoximato)nickel(II), EXAFS meas. under high press. by diamond anvil cell 7−64754
Ni complex, bis(dithiocarbamate) nickel II, struct., NDDO calcs. 7−15515
Ni complex, bis(π-allyl) nickel, photoelectron spectrum, semi-empirical and ab initio Green's Function methods 7−30950
Ni complex, bis(triphenylphosphine) adduct of $Ni(NCS)_2$, cryst. struct., X-ray study 7−12025
Ni complex, $Ni(NH_3)_6Cl_2$, NH_3 reorientation rel. to phase transition, quasielastic neutron scatt. method 7−32316
Ni complex, $Ni(NH_3)_6(NO_3)_2$, Bragg data collection with neutron flat-cone diffractometer 7−1818

nickel compounds continued
Ni complex, Ni(nonamethylimidodiphosphoramide)$_3$(ClO$_4$)$_2$, stereochemically nonrigid, proton NMR study 7—25551
Ni complex, Ni(octamethylpyrophosphoramide)$_3$(ClO$_4$)$_2$, stereochemically nonrigid, proton NMR study 7—25551
Ni complex, nickel(II) acyl hydrazones, X-ray structural anal. 7—51729
Ni complex, tetrakistrimethylphosphine Ni(0), synthesis and mol. vibr. study, Raman and IR spectra anal. 7—42627
Ni complex, tetraphenylarsonium-bis(maleonitriledithiolato)nickel(II), Rh complex dopant, hyperfine interactions, EPR-ENDOR study 7—53124
Ni complex, tris(ethylenediamine)ethylenediaminetetraacetic acid nickel(II), X-ray structural anal. 7—51728
Ni II complex, (salicylaldehyde)(acetylacetone)ethylenediimino nickel(II), mixed and non-mixed complexes, PMR 7—31075
Ni silicides, oxidation, catalytic effect of near-noble metal on Si oxidation 7—3545
Ni^{2+}, complexes, IR spectra, coordination bond length correlation 7—13160
Ni/NiO/ZrO_2, partially stabilised, bonding, stresses, shear strength 7—39845
Ni-H_2O complexes, bonding, intermolecular electron correl. 7—10449
Ni-hydride cell, hermetically sealed rechargeable battery with stable electrode material, expt. study 7—54290
Ni-NiO interface struct., TEM study 7—21692
Ni-P contacts, phase formation 7—63983
Ni-Zn ferrite and Ni ferrite films, prep., mag. props. 7—13378
Ni_x M_{1-x} PS_3 where M = Cd, Zn, Mg, IR, visible and UV spectra, dilution and intercalation effects 7—13175
$NiAl_2O_4$, cation distribution, temp. depend. normality *(Korean)* 7—32404
$NiAl_2O_4$, spinel growth, thin film Al_2O_3 substrate, topotactic relationships 7—58717
NiAs-type compounds, electronic band struct., magnetism and structural phase transitions *(Japanese)* 7—21815
$Ni(BF_4)_2.6H_2O$, EPR lineshape function 7—38930
NiCO, single-and multi-photon ionisation process dynamics 7—36701
$Ni(CO)_4$, electronic struct., X-ray and photoelectron spectra 7—5699
$Ni(CO)_4$, shock pyrolysis, homogeneous nucleation, spectroscopic investig. 7—46823
$Ni_3(CO)_m$ (M=2,4,6) clusters, spin states and magnetism quenching, MO INDO calcs. 7—62557
$Ni_5(CO)_m$ (m=9 and 12) clusters, spin states and magnetism quenching, MO INDO calcs. 7—62557
$Ni_xCd_{1-x}Mn_2O_4$ spinels, cation distrib., structural transitions and Jahn-Teller distortion 7—58227
$Ni_xCd_{1-x}PS_3$, crystalline lamellar cpds. EXAFS studies of disorder 7—59295
$NiCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7—53495
$NiCl_2$, in NaCl-KCl-UO_2Cl_2, fusibility, differential thermal anal. study 7—61972
$Ni(ClO_4)_2.6H_2O$, EPR lineshape function 7—38930
$NiCl_2.6H_2O$, liquid optical filter anal. for hybrid solar energy conversion 7—50724
NiCoFe ferrite, perminvar, wall displacements, induced anisotropy effect. 7—52968
$Ni_{1-x}Co_xFe_2O_4$ polycryst. magnetostrictive ferrite, long-term bulk acoustic wave memory 7—59099
$NiCo_2O_4$, fine-particles, low temp. prep. by solid solution precursor method 7—59486
$Ni_yCo_{3-y}O_4$ spinels, prep. by thermal decomposition of mixed hydroxide nitrates 7—13424
$Ni_{0.97}Cu_{0.03}Fe_2O_3$, ferrite, domain-acoustic echo 7—13014
$NiCuNbO_4$, cryst. data and conductance investig. 7—38550
$NiFeAlO_4$, cation distrib. and canted spin alignment, Mossbauer obs. 7—22169
$NiFe_{2-x}Al_xO_4$ mixed spinels, electric quadrupole interactions, Mossbauer spectra study 7—2552
$NiFe_{1.96}O_{4+\gamma}$ electrodes in aq. electrolytes, photoelectrochem. characts. meas. 7—46854
$NiFe_2O_4$ films, amorphous, uniaxial perp. mag. anisotropy, substrate temp. depend; 100 to 573K *(Japanese)* 7—53091
$NiFe_2O_4$ films, crystn. kinetics 7—45090
$NiFe_2O_4$ sputtered films, struct., comp., AES study 7—22478
$NiFe_2O_4$, Trans-Tech 2-111, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7—7632
$NiFe_2O_4$-MgO sputtered films, struct., comp., AES study 7—22478
$Ni_xFe_{3-x}O_4$, elec. cond., thermoelec. power meas., 10-300K 7—38648
Ni_2Ge, chemical bond, struct., short range order 7—32350
$Ni_{1-x}Ge_xFe_2O_4$ spinel ferrite, AC susceptibility and Mossbauer studies 7—64441
$NiMn_2O_4$, elec. cond. and cation distrib. 7—33009
$Ni(NO_3)_2.6H_2O$, liquid optical filter anal. for hybrid solar energy conversion 7—50724
NiO (100), adsorption of CO, ethylene and H_2O, surface reactions 7—23055
NiO, adsorpt. of pyridine, gas chromatography and IR spectro study 7—39917
NiO, adsorption of NO, IR transmission spectra, calorimetry studies 7—58640
NiO ceramics, grain boundary struct., TEM obs. 7—21225
NiO, coincidence boundary migration, calc. of activation energy for defect movement using computer simulation techniques 7—21218
NiO, diffusion, isotope effect, quasi-harmonic calcs. 7—26996
NiO, diffusion processes down coincident tilt boundaries 7—38253
NiO film form. on Fe alloys, XPS study 7—22898
NiO, on Ni surface, struct., XANES study 7—64771
NiO porous cathode model for molten carbonate fuel cell 7—3640
NiO, spinel growth, interface struct. investig. 7—16566
NiO, substoichiometric, positron annihilation meas. 7—37981
NiO surface, Al_2O_3 substrate, $NiAl_2O_4$ form. investig. 7—16877
NiO surface structure and rearrangements, atomic imaging 7—27078
NiO thin films, electrochromic switching props determ. 7—39089
NiO, two-phase mixture, effect of dispersoid on elec. transport 7—2621
NiO:MoO_3, ratio, effect of mechanical activation of $(NH_4)_2MoO_4$-$Ni(NO_3)_2$ mixture 7—8261
NiO/Ni interface, scanning tunnelling microscopy studies 7—21054
NiO-based aligned eutectics, microstruct., crystallography and interfaces 7—65025
NiO-CaO eutectic, directionally solidified, struct. imperfections 7—65026
NiO-CuO solid solutions, tweed microstruct., investig. using TEM 7—44756

nickel compounds continued
NiO-CuO solid solutions, evidence for long-range cation order, TEM investig. 7—44757
NiO-La_2O_3-Al_2O_3, phase transformations and solid soln. form. 7—2176
NiO_x electrochromic hydrated coatings for energy efficient windows 7—45986
$Ni_{1-x}O$, defect cluster energies, MO calc. 7—2010
$Ni_{1-x}O$, dopant cations interaction with 4:1 defect clusters, theoretical study 7—63644
$Ni(OH)_2$, adsorpt. of pyridine, gas chromatography and TR spectro study 7—39917
$Ni(OH)_2$ doped plastic-bonded Cd electrode, O_2 recombination rate in Ni-Cd cells 7—54287
$Ni(OH_2)$, EXAFS spectra, vacant cationic site model *(French)* 7—64783
Ni_5OH, model for OH chemisorption on Ni surface, bonding study 7—52240
NiOOH-Zn cells, KOH conc. effects on shape change and cycle life 7—28393
$NiPS_2$, absorpt. spectra of transition metal ion 7—33411
$NiPS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7—38450
$NiPS_3$, near IR, visible, and near UV optical absorpt. spectra studies 7—46068
$Ni(PX_3)_4$ mols., force consts. calc. from vibr. spectroscopic data 7—50068
$Ni_8Pb(P_2O_7)_2$, cryst. struct. determ. 7—1970
NiS thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7—32870
$NiSO_4.6H_2O$, liquid optical filter anal. for hybrid solar energy conversion 7—50724
$NiSO_4.6H_2O$ crystals, soln., grown, steps on {001} faces, screw dislocations glide 7—58181
$NiS_{1-y}Se_y$, effect of Se substitution on mag. and electrical transition 7—2846
$NiSb_2O_4$, thermodynamics studies, 10 to 300K 7—2231
NiSe thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7—32870
NiSi and $NiSi_2$ form. by ion implantation in Si, RBS and X-ray diffr. studies 7—16656
NiSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7—2263
$NiSi_2$ (111)/Si, intrinsic interface states and defect states 7—22011
$NiSi_2$, epitaxial growth on Si (111) inside miniature size oxide openings 7—58673
$NiSi_2$ epitaxial layer on Si (001), surface struct., ion-scatt. studies 7—27075
$NiSi_2$ formation by reaction of filament evaporated Ni with Si substrate 7—38268
$NiSi_2$, heat of form. evaluation from X-ray emission spectra *(Russian)* 7—59776
$NiSi_2$, MBE growth, struct. props. and device appls. 7—21738
$NiSi_2$, thin film, electrical transport props. 7—27442
$NiSi_2$-Si, epitaxial growth of silicide layers by electron beam annealing 7—27213
$NiSi_2$-Si, epitaxy of $NiSi_2$, study using an MBE system with automatic ellipsometer, nondestructive anal. 7—7058
$NiSi_2$-Si, interface electronic states *(Chinese)* 7—58845
$NiSi_2$-Si, interface states, barrier height, Fermi level 7—27430
$NiSi_2$-Si, Schottky barrier, interfacial defect states 7—27428
$NiSi_2$-Si, Schottky barrier height, structural characterisation 7—27429
$NiSi_2$-Si, stability of MBE grown thin $NiSi_2$ layers on Si (111) 7—38380
$NiSi_2$-Si (111), Schottky barrier height, rel. to Fermi level positions 7—27427
$NiSi_2$-Si (111) epitaxial interface, strain meas. by MeV ion channelling 7—27157
$NiSi_2$-Si epitaxial interface, extended defects, geometrical character 7—6640
$NiSi_2$-Si heterostructures, epitaxial growth 7—39387
$NiSi_2$-Si interfaces, convergent beam electron diffr. patterns 7—27156
$NiSi_2$-Si Schottky barrier heights, study by electron beam induced current 7—27381
$NiSi_2$-Si:B(BF_2), epitaxial growth of $NiSi_2$, influence of dopant atoms 7—45039
$NiSi_2$-Si(111) interface struct. charactn. by X-ray diffr. *(Japanese)* 7—63399
Ni_2Si growth kinetics from Ni and Ni-V films on Si surfaces, TEM, AES, X-ray diffr. and backscatt. studies 7—45032
Ni_2Si, $L_{2,3}$ absorpt. edges, EELS study 7—3125
Ni_2Si, oxidation, catalytic effect of near-noble metal on Si oxidation 7—3545
Ni_2SiO_4, spinels, cryst. struct. as function of temp. and heating duration 7—16522
$Ni_2Ta_9S_6$, channel structs., 3d metal pairing 7—26719
$NiTe_2$, electronic struct. determ. by self-consistent LMTO-ASA method 7—7111
Ni_xTiS_2, intercalation cpd., elec. resist. and thermopower studies 7—45331
$NiWO_4$ monoclinic biaxial antiferromagnet, antiferromag. reson. study near spin-flop transition 7—53138
$Ni_{0.5}Zn_{0.5}Fe_2O_4$ ferrites, mag. spectra with temp. dependent mag. permeability *(Russian)* 7—27554
U-Ni-As(P), ternary particles, cryst. struct. and mag. props. 7—12955
$UNiGa_5$, structural chemistry, mag. behaviour 7—16513

night sky *see sky brightness*

nightglow
300 to 700 nm spectra obs., using grating spectrometer with imaging photon detector 7—34722
continuum altitude profiles and origin 7—47605
EUV O I nightglow near magnetic equator and neutral particle precipitation from ring current 7—29325
mesosphere Na nightglow, applicability of steady-state model 7—9281
near-IR continuum theory incorrect 7—55344
thermosphere dynamics influenced by ion drag in winter 7—55336
Hα emission, intensity meas. rel. to H dissipation flux and thermosphere temp. 7—23922
NO in upper atmosphere, near-midnight nightglow and vertical profile 7—9283
O and O_2 quenching parameters for precursors 7—47604
O nightglow, energy transfer characts. 7—47603
O_2 ($A^3\Sigma_u{}^+$) vibrational populations, altitude dependence 7—47606
O_2 nightglow, rotationally-resolved bands obs. at 373 to 474 nm in O_2-Ar afterglow 7—29326

- **Nilsson's model** *see nuclear shell model*
- **Nimonic** *see nickel alloys*
- **niobium**
  - *see also nuclei with ......*
  - adsorption, of H_2, kinetic model *(Korean)* 7—32814
  - adsorption of Ba and Cs, bonding energies, thermionic emission studies 7—12463
  - Appalachians of Quebec and Nova Scotia; Ti, P, Zr, Nb, Y geochemistry 7—23587
  - BCC, H-dislocation interaction mechanism, embrittlement and dislocation motion 7—44600
  - BCC, thermodynamic props. 7—6828
  - clusters ionisation threshold, photoionisation TOF mass spectra 7—20085
  - cold neutron irradiated, interaction cross sections 7—58349
  - Compton profiles 7—59281
  - corrosion behaviour in HBr solns. 7—39725
  - corrosion resistance in molten Lr, alloying influence 7—17689
  - cyclic deformation of single crystals, dislocation behaviour 7—63729
  - DC transport 7—17010
  - diffusion and trapping of H(T), NMR obs. 7—27616
  - elastic aftereffect due to O, press. effect and clustering 7—32548
  - electron beam heating, vaporisation and melting meas. 7—26929
  - electronic struct. of mag. 3d impurities, local density approx. 7—64432
  - electronic structure, positron annihilation wavefunction effects 7—7092
  - etching by photochem. machining 7—22909
  - Fermi surface, Fermi vel., many-body enhancement and supercond. energy gap anisotropies calcs. 7—58729
  - field evaporation in Ne and H, temp. and field depend. 7—33526
  - film, elec. props., temp. cycling effects 7—38804
  - film. supercond. props., α particle bombardment and thermal cycling effects 7—33704
  - film microstruct., nonnormal incidence ion bombardment effects 7—12174
  - films, epitaxial growth and superconducting props. 7—3181
  - films, oriented, electron beam evaporation in ultrahigh vacuum onto GaAs 7—3175
  - films, superconducting, synthesis under Mbar dynamic pressures 7—2757
  - films and coatings, sputter deposition method 7—27902
  - foil, He bubbles, magnetic flux pinning, temp. and field depend. studies 7—2794
  - Fourier transform of 2D angular correlation 7—38439
  - He production in HFIR neutron irradiated pure elements 7—51852
  - interstitial point defects, diffuse neutron and X-ray scatt. studies 7—51765
  - interstitials, N, O, H, D, Zwischenreflex scattering 7—51766
  - ion trapping of D^+, mechanisms 7—64857
  - Josephson tunnelling junctions for α-particle detection 7—56910
  - Knight shift spin and orbital contribs., real-space formulation, Green's function method 7—2940
  - light interstitial motion, recent expts. 7—52114
  - muon arrhenius jump rates, neutrino emission 7—27643
  - Nb-Ti compositionally modulated films, low-temp. interdiffusion 7—38269
  - neutron irradiated, effect of irradiation temp. and O impurity on yield strength 7—58344
  - oxidised, sputtered atoms and monoxide mols., energy distribs. 7—59335
  - point contact Josephson junction, I-V characteristics *(Rumanian)* 7—17141
  - polycrystalline, deformation under H absorption 7—46549
  - polycrystalline, US excitation, critical current, dislocation struct., flow limit *(Russian)* 7—58966
  - positron annihilation, electron momentum distrib. calc 7—46188
  - positron annihilation Doppler broadening studies 7—39255
  - pure, tensile deform., brittle fracture, H effect, SEM obs. *(Chinese)* 7—8078
  - quartz:Nb^+, ion implanted, coloration and transparency *(Japanese)* 7—7656
  - radioactivation monitoring based on local activation by p,d,α 7—49726
  - resistivity and superconducting transition temp. 7—17013
  - shape-memory effect and microstrain during hydride form. 7—16670
  - shock-synthesised superconductor, characterisation 7—38116
  - single crystals, reverse lattice nodes form rel. to N diffusion *(Russian)* 7—58201
  - single crystals, twinned interlayers, superconductivity at fields higher than H_{c2} *(Russian)* 7—52917
  - sintering with transient liquid oxide phases *(German)* 7—27958
  - solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
  - sputtering, SIMS depth profiling 7—13314
  - steel, HSLA, Ti and Nb additions effect on coarse grained heat affected zone 7—16765
  - substrate, heat resistant coatings, review 7—13644
  - superconducting, nondestructive inspection by scanning laser acoustic microscope 7—3566
  - superconducting 1D filaments 7—27470
  - superconducting bicrystal, flux pinning by special grain boundary 7—64420
  - superconducting bicrystals, flux pinning by symmetrical grain boundaries 7—64419
  - superconducting thin films, T_c suppression and critical fields 7—2762
  - surface, (100), H_2 chemisorption, LEED, EELS and work function meas. 7—32815
  - surface, sputtered neutral atoms, energy distribs. 7—59336
  - surface (110), vacancy formation, positron studies 7—44537
  - surfaces 7—33531
  - thin film, microstrip line, parameter change during superconducting to normal conducting state switching 7—22075
  - thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7—52918
  - thin whiskers, struct., heat treatment effects, SEM study 7—12579
  - two dimensional angular correlation spectra studies, band struct. 7—39235
  - unstable plastic deformation at low temp., superconducting transition effects *(Russian)* 7—6709
  - Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7—31424
  - Au-TiO_2:Nb diodes, trapping states, admittance spectra study 7—45494
  - AuGe-Nb-GaAs, ohmic superconducting contacts to GaAs 7—33088
  - $BaTiO_3$:Nb, ferroelec. domains, SEM and TEM obs. 7—2998
  - Cu-Nb microcomposite superconductors, in situ, nature of connection *(Russian)* 7—45585
  - Fe_2O_3:Ti(Sn,Nb), γ-ray damage, impurity effects on annealing 7—6679
  - GaAs:Nb photolum., Zeeman spectra study 7—39175
  - GaAs-Nb Schottky barriers 7—58856
- **niobium** continued
  - H embrittlement, crack propag., 120-300K, hydride form. 7—33757
  - H permeability, effective 7—44918
  - Nb, ultra-pure type II superconductor, diffusivity of positive muons, μSR study 7—45869
  - Nb^{n+}, (n=14, 15, 16), metastable ion beams, forbidden lines, visible spectrum 7—57022
  - Nb:$He^+(H^+)$ films, radiation defects produced by ion implantation 7—7059
  - Nb:Ne^+, ion implantation in elemental solids, range profile, gamma-ray spectra 7—2959
  - Nb:O, H and D trapping, perturbed ang. correl. obs. 7—27641
  - Nb:O^- polycrystal collector in thermionic converter, output characts. study 7—44271
  - Nb/a-Si/Nb structures, AC Josephson effect 7—12919
  - Nb/Cu artificial superconductive metallic superlattices, electron density, pair tunnelling studies 7—58959
  - Nb/Cu Fibonacci 1D quasiperiodic superlattice struct., X-ray diffr. meas. 7—52307
  - Nb/n-InAs/GaAs/Nb SNS heterostructure weak link 7—52898
  - Nb/Nb_2O_3/Pb film struct., Josephson and tunnel junctions, scanning tunnelling microscope study 7—64410
  - Nb/NbO_x/Pb system, pseudo-inverse AC Josephson effect 7—7454
  - Nb/Si multilayered thin films, supercond. props. *(Japanese)* 7—64405
  - Nb/Yb-YbO_x/Nb all-refractory Josephson junction 7—38818
  - Nb-a-Nb_2O_5, heterostructure, morphology, electrophysical parameters 7—13394
  - Nb-a-Si-Nb Josephson junctions, for IR laser radiation response near plasma reson. freq. 7—58958
  - Nb-Al thin film diffusion couples, Nb_3Al A15 phase form. during annealing, XPS and Auger studies 7—58548
  - Nb-Al_2O_3, diffusion processes and interphase boundary morphology 7—16817
  - Nb-Al_2O_3, high temp. interactions, X-ray diffr., DTA studies 7—8259
  - Nb-Al_2O_3 interface, grain boundary struct., elemental comp. determ., TEM obs. 7—21225
  - Nb-Ce-Nb epitaxial film sandwiches, metastable phases 7—32857
  - Nb-Cr_2O_3, high temp. interactions, X-ray diffr., DTA studies 7—8259
  - Nb-Cu, superlattices, elastic props., effect of strain 7—52376
  - Nb-H system 7—44919
  - Nb-In point contact, observation of chaotic noise 7—7445
  - Nb-InAs-Nb proximity system, Josephson current, field effect 7—45573
  - Nb-La-Nb epitaxial film sandwiches, metastable phases 7—32857
  - Nb-N polycrystalline films, implanted, single defects, X-ray diffr. data anal. 7—38372
  - Nb-NbO_x-Pb Josephson tunnel junctions, bifurcations, noise and near-reson. perturbations influence 7—58957
  - Nb-NbO_x-PbInAu, Josephson tunnelling current depend. on normal state tunnelling resist. 7—22073
  - Nb-NbO_x-PbInAu Josephson junction fabrication by ion beam oxidation 7—22074
  - Nb-O(N)-H(D) supercond. systems, tunnelling of H and D trapped by O(N), anelastic relax. meas. 7—39572
  - Nb-Si multilayers, electron beam deposited, characts. 7—27456
  - Nb-Si*-Nb high quality Josephson end junctions, characts. 7—12920
  - Nb-Ta multilayered films, critical field studies 7—64416
  - Nb-Ta superlattice single crystals, MBE growth 7—39385
  - Nb-Ti compositionally modulated films, struct. study 7—7056
  - Nb-Ti multilayered thin films, superconducting and struct. 7—64384
  - Nb-V sinusoidally modulated superlattice, growth and charact. 7—21741
  - Nb-W, superconductor-normal metal point contacts in field of CO_2 laser 7—38684
  - Nb-Y_2O_3, high temp. interactions, X-ray diffr., DTA studies 7—8259
  - Nb+Nb, projectile and target K X-ray prod., target thickness fn. anal. 7—30978
  - Nb_2, metal cluster in solid Kr and Xe matrices, absorption and reson. Raman spectroscopy 7—31055
  - NbD_x, microscopic density fluctuations of deuterium, Huang diffuse X-ray and neutron scatt. anal. 7—2215
  - O solubility 7—21451
  - PZT:Nb ceramics, sintering, pair doping, elec. characts. 7—39469
  - Pb/Nb_3O_5/Nb/Nb/Cu junction, 2D superconductor, pair tunnelling study 7—12916
  - Si/Nb, proximity effect, superconducting transition temp. meas. 7—45566
  - Ta-Nb bimetal, accelerated mutual diffusion during thermal cycling *(Russian)* 7—44926
  - U/Nb diffusion couples, analytical electron microscopy 7—39946
  - V epitaxial film (110), elastic strain generation and relax. *(Russian)* 7—16916
  - VO_2:Nb for optical switching films 7—39198
- **niobium alloys**
  - *see also niobium compounds*
  - borosilicide coatings, X-ray obs. *(Russian)* 7—45066
  - Nb_3Ir films, supercond. transition temp., effect of radiation induced disordering 7—45540
  - PWR fuel cladding, plastic deformation behaviour for Zircaloy and Zr-Nb, EPSI-MOD2 code *(German)* 7—19339
  - Zircalloy, mech. eqns. of state of material irrad. at 573K in deform. in working direction 7—8064
  - Al-Nb, molten, thermodynamic props. 7—21450
  - Al-Nb amorphous films, elec. props. and charactn. *(Japanese)* 7—32977
  - $(Co_{0.85}Fe_{0.06}Ni_{0.08}Nb_{0.01})_{75}Si_{10}B_{15}$ amorphous alloys, structural relax. and crystn., positron annihilation studies 7—37869
  - $Co_{84}Nb_{10}B_6$ fully crystallised metallic glass, fracture processes 7—22841
  - CoNbTi/SiO_2 amorphous layered films, high freq. permeability 7—53078
  - $Co_{80}Nb_{10}Ti_{10}$ two-layered films, mag. domain structures, transmission Lorentz microscopy 7—53096
  - $Co_{80}Nb_{10}Ti_{10}$-SiO_2, amorphous multi-layered films, mag. props. rel. to film thickness 7—2912
  - CoNbZr films, deposition by DC opposing-target sputtering method 7—13352
  - CoTi-CoNb amorphous alternating layers, magnetic and diffusional props. study 7—7563
  - CrMoVNbNi steel, Ni addition effect on void formation following irrad. 7—56822
  - Cu-Nb, castings, strength and elec. props. 7—27971
  - Cu-Nb, composite struct., filamentary medium, cond. anisotropy and crit. current 7—22081
  - Cu-Nb, supercond. composites, low temp. plasticity, annealing hardening, strength *(Russian)* 7—59579

niobium alloys continued
- Cu-Nb composite superconductors, critical parameters and surface flux pinning studies 7–38830
- Fe-Cr-Al, C solubility, influence of Ti and Nb, high-temp. oxidation resist. 7–22876
- Fe-Nb, coercive field meas. 7–64491
- Fe-Nb-C system, austenite-nonstoichiometric precip. equilib. 7–3303
- Fe-Ni-Nb, martensitic transform. and shape memory effect *(Russian)* 7–46470
- Fe-Ni-Nb alloys, shape memory effect, effect of phase hardening *(Russian)* 7–53809
- Fe-Si-Nb, atomic ordering and mechanical props. 7–11990
- Fe-Si-Nb, high-Si, alloy elements influence on plasticity and mag. props. 7–8067
- $Fe_{83-x}Nb_xB_{17}$, amorphous, mag. contrib. to thermopower 7–45287
- Mo-Nb, a nitride form., particle coalescence *(Russian)* 7–59530
- Mo-Nb, solid soln. hardening, alloying element effects, Vickers hardness meas. *(Korean)* 7–3319
- Mo-Nb-Zr-C, nitrided single crysts., effect of NbN ε to δ phase transition 7–28052
- $(Nb,Ti)_3$ Sn, supercond. mag. material, fusion reactor conditions simulation 7–52922
- Nb base alloys, substrate, heat resistant coatings, review 7–13644
- Nb-Al, fig. quenched, supercond. transition temp., cooling rate depend. 7–45537
- Nb-Al alloys, struct. and supercond. props. *(Russian)* 7–1945
- Nb-Al-Ge superconductors, pinning force, mech. meas. 7–64417
- Nb-B-C system, struct. and phase equilib. of Nb 7–22638
- Nb-based alloys, grain boundary internal friction investig. *(Russian)* 7–13490
- Nb-C alloy, thermotransport of C 7–46479
- Nb-D, implanted, lattice distortion, channelling method 7–58382
- Nb-Ge alloys, processed in inert gas in 100 m drop tube 7–7986
- Nb-H, interstitial atom motion and lattice dynamics, quantum mechanical model 7–58528
- Nb-H system, alpha-particle irrad., defect annealing behaviour 7–44605
- Nb-H system, electron irrad., vacancy recovery, positron lifetime studies 7–37972
- Nb-H system, thermal wave propag. props. meas. 7–2572
- Nb-H systems, muon diffusion, μSR study 7–45868
- Nb-Hf-B system, phase equilib. in Nb corner 7–46415
- Nb-Hf-Ta-O dilute alloy system, O-induced nonaxially symmetric elec. field gradient, TDPAC meas. 7–12686
- Nb-Li alloys, interstitial impurity distrib., thermodynamic anal. *(Russian)* 7–32430
- Nb-Mo-O alloys, internal friction and yield point *(Russian)* 7–59563
- Nb-Mo-Zr, protective props. of thermodiffusion Mo-B-Si coating 7–8156
- Nb-Mo-ZrO_2, dispersion hardening mechanism investig. *(Russian)* 7–13462
- Nb-N, internal friction rel. to quenching temp. *(Russian)* 7–46543
- Nb-Pb and Nb-Sn film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7–21705
- Nb-Si films, sputtered, superconducting props. 7–17126
- Nb-Si films, superconducting fluctuations weak localisation and electron interactions 7–2783
- Nb-Sn alloy film, scanning tunnelling microscopy study 7–4918
- Nb-Sn composite wires, effectiveness of V as diffusion barrier material 7–15353
- Nb-Sn liq.-infiltrated superconducting composite wire, T_c and sp. ht. meas. studies 7–45560
- Nb-Ti, supercond. mag. material, fusion reactor conditions simulation 7–52922
- Nb-Ti, superconducting composites, critical current distributions 7–38833
- Nb-Ti composite superconductors, influence of heat transfer on current carrying capability 7–64422
- Nb-Ti multifilamentary superconductors develop. 7–7456
- Nb-Ti-H(D), anomalous anelastic relax., statistical model 7–28065
- Nb-Ti-H(D), substitutional alloys, intermediate temp. relax., Fermi-Dirac model 7–26858
- Nb-Ti-H(D) alloys, anomalous anelastic relax., statistical model anal. 7–8036
- Nb-Ti-O, struct. state obs. by internal friction, oxide precip. *(French)* 7–13494
- Nb-Ti-W (30, 20 wt.%), nitriding, hardness, wear and corrosion resist. 7–46713
- Nb-V:O system, solute atom trapping, O diffusivity, kinetics and thermodynamics 7–12368
- Nb-W, corrosion resist. in molten Lr, alloying influence 7–17689
- Nb-W-Mo-Zr, corrosion resist. in molten Lr, alloying influence 7–17689
- Nb-Zr, corrosion resist. in molten Lr, alloying influence 7–17689
- Nb-Zr, mixed dislocations, nuclei atomic configs., computer modelling *(Russian)* 7–58281
- Nb-Zr, structural materials, welling after neutron and ion irrad., comparison 7–58357
- Nb-Zr (1 wt.%), hydroextruded, optimum degree of deform., microstruct. 7–3325
- Nb-ZrO_2, dispersion hardening mechanism investig. *(Russian)* 7–13462
- Nb-Zr(Ti)(Mo)(W), O solubility 7–21451
- Nb_{3+x} Ge_{1-x} and Nb_5Ge_3, superconducting alloys, thermoreflection spectra, electron struct. 7–33370
- Nb_3Al, supercond. transition and mag. fields, muon spin resonance studies 7–52878
- Nb_3Al superconducting state, zero-field muon spin relax. rate 7–53203
- Nb_3Al superconducting tape prepared by CO_2 laser beam irradiation 7–17145
- Nb_3(Al-Ge), high T_c supercond., Raman spectra studies 7–7699
- Nb_3Al(Ge)/Pb magnetron sputtered Josephson tunnel junction props., film deposition conditions dependence 7–58955
- $Nb_{73}Al_{12}Si_{14.5}B_{0.5}$, A-15 superconducting tapes for high mag. fields, fabrication 7–33133
- $Nb_{76}Au_{24}$, with Cr and Fe impurities, supercond. transition temp., impurity conc. depend. 7–2768
- $Nb_{100-x}B_x$ alloy films, sputtered, elec. cond., hardness, amorphous and crystal struct. 7–13354
- NbC_xN_y, nonstoichiometric, supercond. transition temp. and band struct. *(Russian)* 7–58935
- Nb_3(Ge,Si), A15 phase, Si stabilisation, supercond. transition temp., sp. ht. meas. 7–45532
- Nb_3Ge A15 material, displacement correl. functions temp. depend. calcs. 7–51962
- Nb_3Ge films, obtained by joint evaporation technique, microstruct. *(Russian)* 7–59435
- Nb_3Ge, high supercond. transition temp., struct. instabilities and electronic props. 7–58943
- Nb_3Ge tape conductors, CVD deposited, compositional distrib. and superconducting props. 7–58936
- NbH_2, Compton profiles 7–59281
- NbH_x, H transfer integral renormalisation 7–12085
- NbH_x, interstitial H total cross-section determ., localised modes and diffusion, neutron transmission meas. 7–12061
- NbH_x, spinodal decomposition, neutron radiography studies 7–58489
- NbIr molecules, magnetic moment formation and mag. susceptibility 7–58995
- Nb_3Ir, A15 cpds., 2D angular correlation of positron annihilation radiation 7–39238
- Nb_3Ir films, lattice-stiffness changes due to ion irradiation, Brillouin scatt. 7–52379
- Nb_xMb_{1-x} alloys and elemental metals, 2D angular correlation spectra studies, band struct. 7–39235
- NbNi(Co)Sn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7–1952
- Nb_3Sb A15 material, displacement correl. functions temp. depend. calcs. 7–51962
- Nb_3Si, superconducting critical temp., review 7–38795
- $Nb_{79}Si_{21}$, N^+ implantations, effect on A15 phase formation 7–63480
- Nb_3Sn, A15 compounds, martensitic and supercond. phase transitions 7–58942
- Nb_3Sn A15 material, displacement correl. functions temp. depend. calcs. 7–51962
- Nb_3Sn bronze process multifilamentary wire, cooling stress and supercond. *(Chinese)* 7–12894
- Nb_3Sn coil, high field performance 7–15354
- Nb_3Sn filamentary superconductor with high bending strength, fabrication *(Slovak)* 7–58965
- Nb_3Sn film, grain size, grain boundaries and diffusion, TEM study 7–21222
- Nb_3Sn films, superconducting critical temp., effect of ion beam irradiation 7–7430
- Nb_3Sn fine filament internal-tin superconductors, hysteresis losses 7–2778
- Nb_3Sn, heat treatment for in-situ processing, Cu, Nb, Sn, distrib. *(Chinese)* 7–12924
- Nb_3Sn, low-temp field vaporisation *(Russian)* 7–52028
- Nb_3Sn multifilamentary composite superconductor, bronze processed, global pinning force, critical mag. field, grain size 7–22078
- Nb_3Sn multifilamentary superconductor, AC props. 7–38834
- Nb_3Sn multifilamentary wire superconductors, development at SLE 7–64421
- Nb_3Sn, phonon spectrum, temp. depend. *(Chinese)* 7–64413
- Nb_3Sn strips with high current-carrying capacity, surface relief *(Russian)* 7–52198
- Nb_3Sn, superconducting composites, critical current distributions 7–38833
- Nb_3Sn superconductor, sp. ht. meas. in mag. fields up to 19 T 7–17134
- Nb_3Sn tape, Cu-coated, effect on crit. bending diameter *(Russian)* 7–33747
- Nb_3Sn, thermoelectric power, 4.2-273K meas. *(Chinese)* 7–12705
- Nb_3Sn thin films, X-ray diffr. spectra, processing methods 7–44308
- Nb_3Sn, Ti-alloyed, cryst. growth from soln. by top seeded soln. growth 7–46293
- Nb_3Sn-NbTi hybrid superconducting magnet, Meissner magnetic image effect, magnetisation and susceptibility meas. appl. 7–4869
- Nb_3Sn-Ti(In) multifilamentary superconducting composites, growth dynamics, struct. and props., additive and heat treatment effects 7–22056
- Nb_5Sn_2Ga, crystal growth and superconductivity 7–27451
- $Nb_3Sn_{1-x}Sb_x$ A15 pseudobinary alloy, structural transitions and related anomalies 7–38182
- $NbT_{0.59}$, acoustic emission and swelling, ageing effects 7–33708
- NbTi alloy, neutron and γ-ray irrad. effects near supercond. transition temp. *(Russian)* 7–33119
- NbTi/Cu stabilised wires, wiggler design for ESRF 7–42253
- NbTi-Cu Al stabilised superconducting detector magnet technology for high energy accelerators, review 7–49779
- NbTi-Cu dipole superconducting magnet for accelerators, develop. 7–5510
- $Nb_{99}Ti_1H_1(D_1)$, localised H vibrs., inelastic neutron scatt. studies 7–58426
- $(NbTi)_3Sn$ multifilamentary superconductors develop. 7–7456
- $Nb_{0.93}V_{0.07}$ alloys, H impurity trapping, precipitation and nucleation, localised vibr. mode meas. 7–2133
- $Nb_{1-y}V(Mo)_yH_x$ random field system, disorder-disorder phase transition, cluster variation calcs. 7–63803
- Ni-Al-Co-Nb superalloy, interphase boundary, FIM atom probe study 7–33683
- Ni-Cr-Co-Mo-Nb-Ti-Al superalloy, microstruct. and mech. props. with high-temp. heating 7–3341
- Ni-Cr-Co-Mo-Ti-Nb-Al, heat-resisting, supersaturated solid soln., isothermal decomp. kinetics 7–33682
- Ni-Cr-Co-Mo-Ti-Nb-Al, heat-resisting, hot strain rate effect on microstruct. and mech. props. 7–39559
- Ni-Fe-Cu-Nb, mag. props., hardness, elec. resist. *(Japanese)* 7–12998
- Ni-Nb, form by ion beam mixing of alternating layers 7–21303
- Ni-Nb amorphous films, early stages of reaction with cryst. Au films 7–21703
- Ni-Nb-C system, directionally solidified, phase equilib. and struct. 7–46416
- Ni-Nb-(P), amorphous , corrosion behaviour in boiling conc. HNO_3 and HCl 7–3511
- Ni-NbC eutectic, directed crystallisation, comp. growth laws *(Russian)* 7–65021
- Ni-Ti-Nb, shape memory alloy, cast microstruct. 7–7988
- Ni_3(Fe,Nb), order-disorder transformation, positron annihilation study 7–39509
- Ni_3FeNb, atomic short range order, pseudopot. calcs. *(Russian)* 7–44448
- $Ni_{60}Nb_{40}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7–39302
- $Ni_{60}Nb_{40}$ glass ribbons, H embrittlement susceptibility, effects of cold working 7–46503
- $Ni_{60}Nb_{40-x}Al_x$ metallic glasses, form. and stability, X-ray diffr., DSC obs. 7–58155

niobium alloys continued
$Ni_{77}Nb_3B_{20}$, amorphous, mag. scatt. influence on transport props. 7−33001
Ti-Al-Nb, rapidly solidified, microstructural studies 7−22668
Ti-Al-Nb (6,2 wt.%), fusion weld, defect regions, cracking, porosity, interstitials analysis 7−28109
Ti-Al-Nb-Zr, plastic deform., elect. resist. oscills. 7−20605
Ti-Nb, metastable β-phase alloys, mech. twinning TEM obs. 7−6633
Ti-Nb alloys, struct. and precipitation under high energy electron irrad. *(Russian)* 7−44620
Ti_3Al-Nb alloys, ductility and fracture toughness, dispersoid modification effects 7−22779
Ti_3Al-Nb-Er rapidly solidified alloy, microstruct. effects and dispersoid stability 7−22669
U-Nb-Zr (7.5, 2-5 wt.%), SCC in gaseous O_2 and H_2 *(French)* 7−17619
V-Nb-Mo system, mutual diffusion *(Russian)* 7−52116
V-Nb-Zr-C, dispersion hardened, strength changes and recrystn. 7−17545
V-Nb-Zr-C, oxidation on heating in air, alloying elements influence 7−17687
Y-Nb, T release in Ar gas flow, 973-1173 K 7−56836
Zr-Nb, high press. $\beta \rightarrow \omega$ transformation *(Russian)* 7−16727
Zr-Nb (1 wt.%), laser irrad., hardness, struct., corrosion resist. 7−3400
Zr-Nb (20 wt.%), ageing behaviour, effect of H 7−46527
Zr-Nb (2.5 wt.%) H and D profiling at surface, effect of surface prep. 7−59668
Zr-Nb (2.5 wt.%) pressure tubes, remote field through wall EM inspection 7−46759
ZrNb1, fuel cladding, radiation induced embrittlement *(German)* 7−19359

niobium compounds
see also niobium alloys
hydride, electronic density of states from press.-composition isotherm 7−7088
$Ag_{0.25}NbSe_2$:Li, Li diffusion and intercalation 7−16806
Ag_xNbSe_2 intercalation cpds., crystal structures and staging 7−12023
Al/NbN/Al sputtered thin film system, tunnelling characts., comment 7−45575
Al-a-Nb_2O_5, heterostructure, morphology, electrophysical parameters 7−13394
Al_2O_3-Nb_2O_5-rich material from Nb_2O_5-Al_2O_3-B_2O_3-Na_2O glass 7−51658
$Ca_3(NbGa)_2Ga_3O_{12}$:Nd^{3+}, Nd^{3+} ions, two channels of stimulated emission 7−22285
$Cr_{1/3}NbS_2$, long-period helical spin struct. *(Japanese)* 7−45626
$Cr_{1+x}Nb_{3-x}Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
CsO-Nb_2O_5-Ga_2O_3 glass structure, Raman spectroscopy 7−1902
Cu_xNbSe_2 intercalation cpds., crystal structures and staging 7−12023
$Fe_{1+x}Nb_{3-x}Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
$Fe_{1+x}Nb_{3-x}Se_{10-y}S_y$, struct. mag. suscept. and ESR meas. 7−58228
GaAs-NbN Schottky barriers 7−58856
Gd_2O_3-ZrO_3-Nb_2O_5 structure investig. 7−46427
K_2O-Nb_2O_5-Ga_2O_3 glass structure, Raman spectroscopy 7−1902
$KT_{i2-x}Nb_{5+x}O_{17}$, mixed-valence rutile structures 7−27329
Li_2-WO_3-Nb_2O_5 sputtered amorphous films, electrochromic props. study 7−22221
$LiNbGeO_5$, luminesc. and cryst. struct. 7−32403
Li_2O-Nb_2O_5-$(TiO_2)_2$ system, vicinity of $LiNbO_3$, solid solns., crystal chemical and ferroelectric props. 7−6805
Li_xWO_3-$LiClO_4$-Nb_2O_5 electrochromic cells, electrochromic window development, materials and devices 7−50664
$NaNbO_3$-Nb_2O_5-WO_3 system, crystal struct., twinning, fourling and antiphase boundary operations 7−63567
$Na_4Nb(PO_4)_3$, struct. evolution by vitreous state formation *(French)* 7−21164
Nb/Nb_2O_3/Pb film struct., Josephson and tunnel junctions, scanning tunnelling microscope study 7−64410
Nb/NbO_x/Pb system, pseudo-inverse AC Josephson effect 7−7454
Nb-a-Nb_2O_5, heterostructure, morphology, electrophysical parameters 7−13394
Nb-B-C system, struct. and phase equilib. of Nb 7−22638
Nb-Ge films, formation of high T_c A15 phase 7−58948
Nb-NbO_x-Pb Josephson tunnel junctions, bifurcations, noise and near-reson. perturbations influence 7−58957
Nb-NbO_x-PbInAu, Josephson tunnelling current depend. on normal state tunnelling resist. 7−22073
Nb-NbO_x-PbInAu Josephson junction fabrication by ion beam oxidation 7−22074
Nb-Ti-O ceramic coatings, synthesis by reactive ion plating and sputter deposition, struct., electrophysical props. 7−64031
NbC (001), surface phonon dispersion, double shell-model anal. 7−21608
NbC, amorphous films, prep. and characts. 7−7885
NbC, elastic constants meas. 7−6703
NbC, electrospark alloying with steel, electron nature of interaction, phase comp. 7−8182
NbC heaters use in α-SiC single cryst. growth 7−27881
NbC, vacancy electronic struct., muffin tin Green's function method calcs. 7−2531
$NbC_{0.72}$, atomic displacements, X-ray determ. 7−32584
$NbC_{0.97}$, single cryst., mechanical stresses, thermo-EMF 7−21944
NbC_{1-x}, thermodynamic props., 1200-2500 K 7−44849
NbC_x, ordering behaviour, superstruct, refl. obs. 7−3267
NbC_x, ordering processes, slip transition 7−7990
Nb_2C lower carbide, rhombic modification, X-ray diffr. obs. of cell type and dimens. 7−51725
$NbCl_5(Br_5)$, vibr. anal., GF matrix method calcs. 7−42593
NbH, β- and γ-phases, electronic struct. and phonon anharmonicity 7−45199
NbH_4, mag. spin susceptibility and Knight shift 7−33141
NbH_x, coherent phase transition, neutron radiography study 7−32629
NbN composites, fusion reactor magnet appls., sputter deposition, critical props. 7−49627
NbN Josephson tunnel junctions, appl. to DC-SQUIDs 7−7449
NbN microbridges, current-voltage characts., magnetic field effects *(Russian)* 7−7460
NbN, sputtered films, transverse TEM study 7−21731
NbN, superconducting 2D films 7−27470
NbN/Pb-In Josephson junctions, fabrication by Ar^+ ion bombardment 7−2787

niobium compounds continued
NbN/Pb(In) Josephson junction, Ar^+ irrad., characts. *(Japanese)* 7−22071
NbN-Nb_2O_5-NbN trilayer structure, TEM studies 7−7018
NbN(C) sputtered films on Nb substrates, surface props. 7−64833
NbN_xC_y superconducting thin films, dual ion-beam sputter deposition 7−2758
NbO, hyperfine struct., intensity cancellation effects, microwave and fluoresc. spectra 7−50088
NbO_2, semicond., AC cond. meas., 4-196K, 5-92 kHz 7−45327
NbO_x, ω phase, point defect induced nucleation 7−1923
$Nb_{0.94}O_2$ form. by shock reduction of Nb_2O_5 powder, rutile struct. study 7−2102
Nb_2O_4, gaseous, atomisation energy determ., mass spectrometric study 7−28331
Nb_2O_5 and Nb oxide cpds., synthesis of fine particles, struct. studies 7−59212
Nb_2O_5, anodic amorphous oxide films, short-range order 7−28200
Nb_2O_5, defect structure, Raman spectroscopy 7−63604
a-Nb_2O_5, film, by alkoxide method on Nb and Al substrates 7−13394
Nb_2O_5, gaseous, atomisation energy determ., mass spectrometric study 7−28331
Nb_2O_5-Al_2O_3-B_2O_3-Na_2O-SiO_2, phase separable glass, heat treatment leaching, X-ray diffraction anal. 7−51658
Nb_2O_5-Ta_2O_5-ZnS multilayered films, waveguide-type acousto-optic separators 7−62825
$Nb_2O_5+Ar^+$, ion-induced decomp., metallisation channels, XPS anal. 7−57149
Nb_4O_{10}, gaseous, atomisation energy determ., mass spectrometric study 7−28331
Nb_4O_9, gaseous, atomisation energy determ., mass spectrometric study 7−28331
NbO_xH_y, H tunnelling and local diffusion 7−58529
$NbO_xH_y(D_y)$, H tunnelling, isotope and temp. depend. 7−27474
$NbPO_5$, β-form, bronzoid, struct. and stability 7−44478
$Nb_2Pd_{0.74}Cu_{0.22}S_5$, reactivity, intercalation structural changes, X-ray diffr. exam. 7−46839
NbS_2 intercalated with transition metals, EXAFS 7−53446
NbS_2 monolayers, optical absorption spectrum, Slater orbitals two-centre dipole matrix element calcs. 7−46158
NbS_3 cathode, prep. under high press., use in Li secondary battery, performance 7−13853
NbS_3, stacking disorder 7−44573
$NbSE_3$, CDW motion and relax., thermally initiated phase-slip 7−38544
NbSe single crystals, vapour transport growth, superficial charactn., AES 7−46253
$NbSe_2$, 2H polymorph, electronic density of states, phase matching of CDWs, NMR study 7−64538
$NbSe_2$, 2H polytype, CDW phase transition study by means of positron annihilation 7−38476
$NbSe_2$ (2H), surface struct., scanning tunnelling microscopy obs. 7−52212
$NbSe_2$ intercalated with transition metals, EXAFS 7−53446
2H-$NbSe_2$ surface, atomic image, scanning tunneling microscopy study 7−12423
$NbSe_2$, thin film fabrication on MoS_2 by van der Waals epitaxy *(Japanese)* 7−12547
$NbSe_2$:Li, Li diffusion and intercalation 7−16806
$NbSe_3$, CDW and magnetotransport, mag. field effects to 230 kG 7−64215
$NbSe_3$, CDW coherence, breaking under inhomogeneous conditions 7−64125
$NbSe_3$, CDW conduction and periodic current noise 7−21896
$NbSe_3$, CDW conductor, nonlinear charge transport mechanism 7−2599
$NbSe_3$, CDW conductor, interference effects with AC+DC excitations 7−52475
$NbSe_3$, CDW conductor, broken coherence, chaos, noisy precursors 7−64126
$NbSe_3$ CDW conductor, magnetothermopower studies 7−64226
$NbSe_3$, CDW conductors, mode locking phenomena and routes to chaos 7−52474
$NbSe_3$, CDW depinning under mag. field 7−64216
$NbSe_3$, CDW gap, tunnel junction spectra 7−21897
$NbSe_3$, CDW magnetodynamics, complex AC cond. meas. 7−32998
$NbSe_3$, chain-like conductors, electrical anisotropy 7−52593
$NbSe_3$, charge density waves, formation and characts. 7−2515
$NbSe_3$, conduction noise obs., pulsed electric field, nonohmic regime 7−64219
$NbSe_3$, current oscillations in CDW transport 7−32999
$NbSe_3$, differential resist., expt. versus classical model of deformable CDWs, interference phenomena and mode locking 7−64212
$NbSe_3$, harmonic mixing at large microwave power levels 7−64141
$NbSe_3$, inertial dynamics of pinned CDW condensates 7−7217
$NbSe_3$, microwave harmonic mixing below threshold 7−64140
$NbSe_3$, NMR study of CDW struct. and motion 7−2518
$NbSe_3$, nonlinear effects and inductive response of dissipative incommensurate chain 7−52471
$NbSe_3$, scaling behaviour, high field CDW transport, role of free carrier damping 7−64224
$NbSe_3$, sliding CDW systems, dielectric relax. freq. 7−45293
$NbSe_3$, thermally initiated phase-slip in CDWs 7−64123
$NbSe_3$-I-Pb, tunnel junctions under press. 7−52594
$NbSe_2H_x$, heat capacity, Debye temp., electron-phonon coupling, electronic contrib. meas. *(Russian)* 7−6820
$NbSe_4I_{0.33}$, vapour grown, cryst. growth by microsteps 7−58176
$(NbSe_4)_{10/3}I$, AC conductivity, dielectric constant 7−52591
$(NbSe_4)_2I$, lattice vibrs. at CDW transitions 7−51973
$(NbSe_4)_3I$, long-range order formation near the second-order phase transition temp. 7−44802
$(NbSe_4)_3I$, phase transition props. 7−44803
$(NbSe_4)_3I$, quasi-1D, sp. ht., phason and low-energy excitation contribs. 7−21479
$(NbSe_4)_3I$, quasi-1D cpd., metal-insulator transitions 7−45408
$NbSi_2$ film form. by scanning electron beam annealing 7−21285
$NbSi_2$, heat of form. evaluation from X-ray emission spectra *(Russian)* 7−59776
$NbSi_2$ sputtered films, rapid thermal annealing 7−21739
$NbSi_2$-$MoSi_2$ composite silicide coatings, oxidation resistance 7−65155
NbT, disorder induced by aging 7−21199
$NbTe_4$, charge density waves, formation and characts. 7−2515

niobium compounds continued
$NbTe_4$, discommensurate distortion waves, struct. changes on cooling 7−1996
$NbTe_4$, discommensurate state microstruct., electron diffr. pattern obs. 7−6598
$NbTe_4$, quasi-1D conductivity, CDW state effects 7−64213
NbTi-Cu superconducting magnet for NMR field cycling 7−41412
$NbW_5O_{19}^{3-}$, valence force field calcs., influence of metal atoms oxidation state 7−17323
$NiCuNbO_4$, cryst. data and conductance investig. 7−38550
$Pb/Nb_3O_5/Nb/Nb/Cu$ junction, 2D superconductor, pair tunnelling study 7−12916
Pb/NbN/Pb sputtered thin film system, tunnelling characts., reply to comment 7−45576
$PbO\text{-}Nb_2O_5$ oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
$PbO\text{-}Nb_2O_5\text{-}Sc_2O_3$ oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
$Pb(Zr_{0.58}Fe_{0.20}Nb_{0.20}Ti_{0.02})_{0.995}U_{0.005}O_3$ ferroelec. ceramic, TEM study 7−17272
$Re_xNb_{1-x}Se_2$ layered system, cryst. struct., X-ray diffr. studies 7−44486
$(Ti,Nb)O_2$ rutile solid solns., charge transfer and ligand fields, XANES studies 7−64782
TiNb oxide electrodes, photoelectrochemical characts., zero point of charge effect on flat band potential and O_2 evolution 7−33943
$Ti_{1-x}Nb_xCo_{0.5}N_{0.5}$ solid solns., prod. factors influence on struct. parameters of variable comp. phases 7−7940
$WO_3\text{-}Nb_2O_5$ sputtered amorphous films, electrochromic props. study 7−22221
$ZrO_2\text{-}Nb_2O_5$ films, composition and struct., X-ray emission and ESCA studies 7−22385

nitriding *see surface hardening*

nitrogen
see also nuclei with ......
absorbed layer on graphite basal plane, computer simulation 7−52297
abundances in nebulae, far-IR emission-lines anal. 7−40722
adsorbed on clean or Ba or Al-promoted Ni surface, N(1s) spectrum 7−21968
adsorbed on graphite, mol. zero-point energies, out-of-plane orientation, nucl. reson. photon scatt. study 7−32819
adsorbed on graphite, pinwheel and herringbone structs. 7−7015
adsorbed on graphite, positronium formation 7−33483
adsorbed on graphite surface, positron lifetime studies 7−39269
adsorbed on Ni (100), surface phonon dispersion, adsorbate induced reconstruction 7−52225
adsorbed on W, Mo, Re, high-field corrosion, field-ion microscopy studies 7−33830
adsorption and dissociation on Fe and Re crystals, EHT calcs. 7−56988
adsorption on Fe, pulsed laser atom probe studies 7−32811
adsorption on graphite, second surface virial coefficient 7−6970
adsorption on mineral adsorbents, isotherm calc. 7−6969
adsorption on Ni(111), XPS, UPS, work function and TPD studies 7−52272
adsorption on Pt-Rh, temp. depend. and work function studies 7−33960
afterglow, U cpd. interaction, appl. to laser isotope separation 7−39898
aggregates, in solid Xe matrix, time resolved energy transfer and relax., rate const. meas. 7−50313
atom, spin and charge densities, HF and UHF calcs. 7−19684
atom, threshold double photoionisation 7−19804
atomic and mol. ion scatt. from Cu (001), 2D pattern obs. 7−46269
atoms, transition energies, X-ray spectra, $X\alpha$ theory, X-ray transition energies 7−10422
Bencubbin, stony-Fe meteorite, ^{15}N enrichment 7−4387
breakdown plasma, Zr and Ti nitridation due to TEA CO_2 laser irrad. 7−2052
breakdown voltage distribution meas. 7−31922
CARS temperature meas. precision using single-mode and multimode pump lasers 7−41376
channelled cryogenic liquids, heat transfer and hydrodynamics 7−16261
chemisorbed on Pd (110), EELS, LEED and AES 7−63960
chemisorption, dissociative, activated, on W (110), dynamics, mol. beam obs. 7−38323
chemisorption on graphite finite cluster models, HF calcs. 7−16869
chemisorption on Ni (100), (111) and (110), molecular cluster calcs. 7−52280
$CO_2\text{-}N_2$ laser containing isotopically substituted molecules, active medium props. 7−43055
coherent anti-Stokes Raman spectra, two-colour, theoretical modelling 7−25879
compact blue dwarf galaxies, N and O conc. 7−48078
cooling systems for apparatus, cooldown mass flow requirements calc. 7−56281
crystals, molecular-to-nonmolecular transformation at high press., theory 7−21432
diamond:N, voidites, electron microscopy study 7−32425
diamond, thermal cond., C-defect effects 7−27035
diffusion in Nb single crysts., reverse lattice nodes form *(Russian)* 7−58201
discharges, electron-beam-controlled, maximum input energy and field intensity 7−44285
distribution meas. using CR-39 track detectors 7−36406
electron avalanche simulation using Monte Carlo technique and renormalisation anal. 7−29731
electron beam controlled discharges, charactn. and switching performance 7−26533
ethylene-N_2 laminar jet, velocimetry using photothermal deflection spectroscopy 7−31901
film, solid, quasielastic hot-electron transport 7−39327
flashover at dielectric interfaces: the interaction of surface and volume processes 7−51549
flowing and post discharge, vibr. level, CARS spectroscopy *(French)* 7−11810
FT IR refl-absorpt. spectrosc. obs. 7−27100
fuse jets, high-temp., rot. relax. 7−62500
gas, cross effect between heat and momentum transport 7−26380
gas, supercontinuum generation with femtosecond pulses 7−25908
gas breakdown by 13.56 MHz electric field 7−1806
gas laser, peak power and starting voltage 7−15851
gaseous, induced vibr.-rot. and vibr.-translational spectra 7−31037
glow discharge, 1^+ absorpt. system, gas heating dynamics 7−37790

nitrogen continued
glow discharge, pulsed, time-resolved Fourier transform spectra of IR emission 7−51538
glow discharge, shock wave acceleration 7−6478
HD 109995, field horizontal branch A-type star, CNO comp., UV spectral obs. 7−47862
HD 46703, Population II supergiant, N and S overabundances 7−66578
high press. electron beam drives discharge, cathode sheath dynamics 7−1706
horizontal gas jet submerged in liq., penetration study 7−62052
impulse breakdown voltage of slightly nonuniform field gaps, wavefront effect 7−32145
injection from capillary plasmatron to composite discharge 7−1798
interstitials, in Nb, Zwischenreflex scattering 7−51766
ion implantation, of Fe and steel, migration effect during wear *(Chinese)* 7−53998
ionosphere, thermal electron quenching of $N(^2D)$, implications for photoelectron flux and thermal electron temp. 7−14412
Lake Hoare, Antarctica, N_2 supersaturation in lakewater 7−55103
laminar and turbulent mixing, vibr. relax. 7−11459
laser, atmospheric pressure, asynchronic progress of excitation across glow 7−44286
laser, design and optimisation for pumping of dye lasers for optogalvanic spectroscopy 7−61389
laser, effect of organic additives 7−5874
laser, four-channel TEA, for interferometric meas. on plasma focus 7−43188
laser, freq. conversion by H_2 stimulated Raman scatt. 7−57452
laser, plasma electrode, discharge characteristics, optimisation 7−43138
laser, subnanosecond, transient photoconductivity meas. of amorphous semiconductors 7−18806
laser at 337.1 nm, design 7−36979
lasing, electron beam induced, at atmospheric pressures 7−15845
lateral diffusion coefficient to electron mobility ratio meas. 7−20829
liquid, compressed, far IR absorpt. spectrum, density effects and rel. diffusion 7−39112
liquid, electrical breakdown in presence of thermally induced bubbles 7−63377
liquid, forced flow in horizontal pipe, film boiling 7−51277
liquid, mobility of positive ion 7−26576
liquid, molecular dissociation and shock-induced cooling at high densities and temperatures 7−28307
liquid, Raman susceptibility in mid IR 7−15932
liquid, shock compressed, elec. cond. meas. 7−33019
microwave nonself-sustained discharge, instability 7−37791
molecular, liq. and fluid press., intermol. pots. comparison, mol. dynamics simulation 7−63419
molecular, nonequilibrium weakly ionised discharge, energy balance 7−10711
molecular cation, photoion, resonant excitation, rot. distrib. 7−31122
molecular dilute gas thermophysical props. correl. and extrapolation, SSR-MPA pot. model calcs. 7−16294
molecular fluid, eqn. of state and vibron freq. thermodynamics, Monte Carlo, calcs. 7−12231
molecular fluid, high temp. and press. vibrational spectra, CARS study 7−53326
molecular gas, thermalised free positron annihilation rate studies 7−50390
molecular ion, effusive molecular beam crossed by an electron beam and the optical model of this effect 7−10738
molecular metastable states in gas discharge, vibr. level population dynamics 7−37754
molecular photoionisation discharge plasma, decay characts. 7−21038
molecular plasma, electron velocity distrib., self-consistent determ. 7−20859
molecular vibrationally nonequilibrium jet, Na impurity radiation 7−42744
molecule, 7−26268
molecule, $A^3\Sigma_u{}^+$ state, electron impact excitation 7−25669
molecule, $\bar{a}^1\,\Pi_g$ state, REMPI 7−31121
molecule, bond lengths and force consts., LR CI calcs. 7−56990
molecule, chem. bonding, kinetic energy anisotropy investig. 7−10396
molecule, elec. field gradients, finite field MBPT 7−5603
molecule, elec. polarisabilities, ab initio calcs. 7−5585
molecule, electron and photon collision cross section 7−18513
molecule, electron elastic scatt. and vibr. excitation, differential cross section meas. 7−36798
molecule, electron excitation of metastable levels 7−50389
molecule, electron impact ionis. cross section calc. 7−50380
molecule, electron impact ionisation efficiency curves, reson. struct. 7−5774
molecule, electron scatt., high energy, X-ray incoherent scatt. factor 7−36757
molecule, electron-impact ionisation, double differential cross section, TOF spectra anal. 7−42774
molecule, glow discharge, electron kinetics, Boltzmann and vibr. rate balance eqns., self-consistent solns. 7−21035
molecule, ground state, pot. curves, MR CI and MC SCF calcs. 7−49936
molecule, high energy electron scatt. cross sections calcs., revised Bethe theory 7−42507
molecule, hyperpolarisabilities, vibr. contribs., CARS 7−57074
molecule, ionisation spectra calc., Green's function method 7−36684
molecule, isotope abundance ratio determ., mol. emission spectrometry 7−17835
molecule, low energy elastic positron collisions, R-matrix method 7−50361
molecule, low-energy electron scatt., static exchange calcs. 7−988
molecule, metastable states, HFS, laser-induced fluoresc. study 7−42678
molecule, momentum-space props., Compton profiles 7−42505
molecule, nonequilib. vibrational states distrib. kinetics, wide-band CAR study 7−31154
molecule, nonequilib. weakly ionised plasma, electron transport coeffs. 7−6365
molecule, on polycryst. Fe surface, electron spectrosc. obs. 7−7794
molecule, photoionis. cross section, HF calcs. 7−42693
molecule, pot. energy surfaces, multireference coupled cluster theory calc. 7−49970
molecule, potential energy curves, numerical basis function calcs. 7−25438
molecule, pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7−19958
molecule, quenching rate coeff. by NO 7−5713

nitrogen continued
molecule, reson. electron impact, vibr. energy loss selection rules 7−15725
molecule, rotational CARS generation through multiple four-colour interaction 7−50632
molecule, rotational Raman linewidths and line shifts, temp. and density depend. 7−924
molecule, Rydberg states, SCF and CI calcs. 7−19715
molecule, soft X-ray absorpt., at. ion yield 7−949
molecule, spin and charge densities, HF and UHF calcs. 7−19684
molecule, stretching force consts., inner-shell polarisation, HF calcs. 7−15588
molecule, transition moments and pot. energy curves, ab initio calcs. 7−42472
molecule, triplet Rydberg state, autoionis., TOF mass spectra 7−19963
molecule, valence virtual MOs for CI calcs. 7−860
molecule, vibr. transition, inhomogeneously broadened, nonstationary active spectroscopy 7−48857
molecule soft X-ray-induced fragmentation, Auger electron-ion coincidence studies 7−42697
molecule-crystal collisions, alignment, pot. parameters effect 7−64839
molecules, Hopfield series, autoionisation, ab initio theory 7−10408
molecules, in gas discharge, vibr. levels excitation , CARS obs. 7−20021
molecules, self-broadening at high temp. with inverse Raman spectroscopy 7−5723
molecules, short range interactions 7−19999
molecules, vibrational excitation by electrons, electron spectra 7−57181
molecules in singlet metastable states, colliding with anthracene surface, fluoresc. emission 7−19939
neutral atoms, high freq. excitation, vac. UV spectra 7−10476
overlayer on Cu(100), surface phonon dispersion, LEED, AES and EELS studies 7−12459
physisorbed multilayer, near-threshold electronic excitation, EELS spectra anal. 7−45001
planetary nebulae, abundances of C III and N IV, C II and N III recomb. lines anal. 7−4538
plasma, particle-gas mass transfer, Knudsen effect 7−31937
plasma, thermal, nonequilibrium, total rate coeffs. calc. 7−1672
plasma flow, destruction and heat transfer of heat-shielding coating 7−63263
plasma in hollow-cathode discharge, diagnostics using CARS and scanned probe laser 7−16333
plasma jet, post-discharge, radical spatial distrib. 7−20969
plasma jet, subsonic flow at reduced press., temp. study 7−51520
polyimide surface, in situ anal. of H,C,N and O using direct recoil time-of-flight technique 7−54242
quasisteady glow discharges, current contraction study 7−32152
reaction with Fe (III) surface, promotion by precoverage with K 7−13807
RF discharge, low press., pulsed laser optogalvanic spectroscopy 7−37769
role in oxidation of Ti and Ti-Al(Si)(Cr) alloys 7−28198
shock-induced molecular dissociation 7−23022
solar wind C, N and O ions in magnetosheath of Earth 7−9318
solubility in molten stainless steel 7−3304
sound wave propagation 7−44092
steel, low alloy XC06, N implanted, grazing incidence X-ray diffraction 7−16591
sticking coefficient, on Mo, W, V, meas. by cathode sputtering 7−12476
streamers, 2D numerical simulation 7−32190
subnormal glow discharge, instability study 7−32181
surface layer on graphite, motion investig. 7−32792
synchronized ruby/N_2 laser system for plasma prod. and diagnostics 7−31356
TEA-TE laser, high power, spectrosc. appls. 7−36954
vapour nonequilibrium homogeneous condensation in rarefaction waves 7−51280
Al-SiO_2 : N interface traps and effective barrier height, nitriding effects obs. 7−38790
Al_2O_3:N_2^+, ion implantation, ion-acoustic microscopy 7−51792
Ar-N_2, rot. inelastic scatt., forward and inverse functional var. 7−5753
Ar-N_2 laser, energy and efficiency, effect of Ne and He impurities 7−50545
Ar-N_2 laser, proton beams angle and energy characts. determ. appl. 7−36368
Ar-N_2 laser pumping by plasma focus generated charged particle beams, num. calcs. 7−63367
Ar-N_2 mixtures adsorbed on graphite, ordering and phase separation 7−21651
Ar-N_2(CO) molecular beams, shock heated, vibrational relaxation 7−10717
$Ar^+ + H_2(N_2)$ collisions, ion energy-loss spectroscopy 7−50324
B/N coatings, ion plating, amorphous struct., wear resist. 7−22580
C/N ratio in Lake Karewa sediment, India, palaeoclimate characts. determ. 7−4175
CNO abundances evol. in galaxies 7−40934
CO_2-He-N_2, vibr. nonequilib. flow in axisymmetric channel with glow discharge 7−20741
CO_2-N_2-H_2 gasdynamic laser with 2D nozzles, gain optimisation 7−50541
CO_2-N_2-He mixtures, self-sustained and nonself-sustained glow discharges 7−44290
Co-Cr-N_2 films, sputter deposited, effects of additive gases on mag. props. 7−27575
Co_2-N_2-He laser mixture, beam-driven discharge, gasdynamic processes 7−50538
$GaAs_{0.12}P_{0.88}$:N, Te and GaP:N, Si(Te) epitaxial layers, minority carrier lifetimes, surface and interface recombination effects 7−7424
$GaAs_{1-x}P_x$:N, bound excitons, energy spectrum, optical absorpt. cross section, two-band model 7−16945
$GaAs_{1-x}P_x$:N, cathodoluminesc. efficiency, N-bound excitons influence 7−7768
$GaAs_{1-x}P_x$:N epitaxial layers, N conc. determ. 7−63989
GaP:N diodes, electroluminescence, high press. effects 7−27787
GeO_2-SiO_2:N optical fibres, N-related absorpt. bands 7−59226
H_2-O_2-N_2 flames, one-dimensional simulation, mathematical and numerical aspects 7−39893
He-N_2 laser, pulsed electric-discharge, laser props. investig. 7−62675
He-N_2 mixtures, metastable the electron impact excitation coeffs. 7−20059
HeN^{7+} quasi-molecule, autoionisation 7−62459
Li-rich supergiant stars HR 7008 and HD 174104, CNO abundances 7−4453
N II pulsed arc, Stark broadened lines 7−36534

nitrogen continued
N IV, spontaneous radiative transition probabilities, ab initio CI calcs. 7−50261
N^{5+}, intrashell autoionis. levels, electron scatt. 7−50030
N^{6+}, electron scatt., plasma screening effect, distorted wave approach study 7−62532
N^{6+}, intrashell autoionis. levels, electron scatt. 7−50030
N+Fe(Ti), thick target bombardment, X-ray production cross sections 7−20025
N^++tetrafluoromethane, excitation cross sections 7−62501
N^{2+}+Kr(Xe), energy loss spectra 7−50334
$N^{3+}+H_2$, electron transfer rate const. calc. 7−33917
N^{7+}+Ar, transfer ionization, differential cross section meas. 7−50325
N^{7+}+Xe, transfer ionization, differential cross section meas. 7−50325
N_2 + K, electronic and vibr. excitation, cross section meas. 7−36735
N_2 + Ti, triplet state quenching and excitation transfer processes 7−19761
N_2 + vinylidene radical, collisional quenching, rate consts., time resolved spectra 7−31104
N_2, chemisorbed on Fe (111) surface, adsorbate geometry, angle resolved XPES anal. 7−45009
N_2, chemisorption on W (100), free carrier surface scatt., IR obs. of adsorbate induced changes 7−22268
N_2, coherent anti-Stokes Raman spectra calcs. 7−50145
N_2, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2, molecule, dissociative single and double photoionisation, photoion spectra anal. 7−19984
N_2, photoelectron ang. distribs. including effects of coupling to $N_2(3\sigma g)^{-1}$ 7−36690
N_2 solid films, Fourier transform IR spectra 7−59214
N_2 TEA laser, traveling wave excited, investig. 7−20200
N_2 thermometry, CARS 7−62377
N_2, w for 150 MeV protons, dosimetry appl. 7−14133
N_2^+ + Au, impact ionisation, L_3 subshell alignment, coupled states anal. 7−25643
N_2^+ laser, pulse shortening in active media 7−43196
N_2^+ laser, quasiperiodicity criterion of the spectral structure of pulsed radiation 7−43067
N_2^+, Meinel bands, charge transfer, spectroscopy 7−15702
N_2^{2+}, Rydberg electron binding energy, UPS 7−872
N_2/dichlorodifluoromethane gas mixtures, electron transport, collision cross section and dielectric strength 7−63244
N_2/SF_6 gas mixtures, electron transport, collision cross section and dielectric strength 7−63244
N_2-Ar mixture, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2-Ar solid mixtures, orientational ordering, collective versus noncollective behaviour 7−21103
N_2-Ar solid mixtures, sp. ht. due to N_2 mol. rot. 7−32680
N_2-CO, vibr. relax. in N_2 post discharge 7−20023
N_2-CO_2-CS_2 mixture, calc. of gains for vibrational transitions 7−1087
N_2-H_2, gaseous mixture, far IR absorpt. spectrum 7−19858
N_2-H_2O, gas/vapour mixtures in porous medium, natural convection 7−1554
N_2-H_2O mixture in a vertical pipe, automatic identification of two-phase flow regimes 7−6295
N_2-HF, IR spectrum and vibr. predissoc. 7−50106
N_2-He mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect 7−16287
N_2-He mixture, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2-He-SF_6 laser, high power, UV preionised, characts. 7−25805
N_2-methane gaseous mixture, collision-induced absorpt., IR and microwave Fourier transform spectra anal. 7−50097
N_2-Ne mixture, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2-O_2 solid soln., thermal expansion anomaly 7−6838
N_2+Ar, electron transfer, state-to-state study 7−10714
$N_2+Ar_2^+$, charge-transfer, mol. dynamics study 7−50335
N_2+Ar^+, charge exchange reactions, TEPICO method anal. 7−20076
N_2+Ar^+, charge transfer collision, Franck-Condon principle at low collision energies study 7−62511
N_2+Ar^+ collisions, low energy charge transfer reactions, time-of-flight spectra studies 7−31163
N_2+CO, nonequilibr. vibr. kinetics, IR spectra 7−57158
N_2+CO nonequilibr. vibr. kinetics study 7−57157
N_2+CO+Ar, submonolayer mixtures physisorbed on graphite, LEED study 7−2364
N_2+Cs^-, low-energy collisions, absolute total cross section meas., curve-crossing model anal. 7−36749
N_2+H, differential scatt. cross-sections for neutral particle precipitation 7−5739
N_2+H, Rydberg atom depopulation, scattering cross section, 7−10732
N_2+H_2O, rot.-vibr. lines, collisional broadening 7−42743
N_2+H-like ions projectile ionisation cross section 7−969
N_2+HF, total differential scatt. cross sections 7−13743
N_2+He, bimolecular and termolecular, deexcitation reactions *(French)* 7−10724
N_2+He, potential energy surface, multiproperty obs. 7−25633
N_2+He, scatt., total differential cross-sections 7−39865
$N_2+He_2^+$, charge transfer reaction rate consts. 7−22983
N_2+He^+, metastable state, collisional quenching cross section 7−62315
$N_2+He(He_2^+)$, reaction kinetics at atm. press., three-body processes 7−22984
N_2+Hg, excitation transfer between fine struct. states, fluoresc. spectroscopy 7−62504
N_2+Li^+, vibr. rot. energy transfer, collisional time-correl. functions 7−50316
N_2+N_2, collision induced rototranslational absorpt. spectra 7−60521
$2N_2+N_2^+\ (NO^+)(O_2^+)$, assoc., temp. depend. 7−13742
$N_2+N_2^+(Ar^+)$, charge transfer, crossed mol. beam study 7−57166
$N_2+N_2(O_2)(CO)$, vibr. transition probabilities, semiclassical algebraic description 7−25636
N_2+Na, rot. excitation in exothermic process 7−50311
N_2+Na^+, dissoc., rot. rainbow effect, time-of-flight spectra 7−54117
N_2+Na^*, quenching, classical trajectory calcs. 7−50300
$N_2+O_2(CO)$, vibr. excitation, operator algebra study 7−20018
N_2+OH, $A^2\Sigma^+-X^2\Pi$ band pressure broadening 7−50305
$N_2+O \rightarrow NO+N$, reaction rate const., vibr. excitation effect, information theory approx. 7−46832
n_2+Ti, quenching and excitation transfer processes, fluoresc. 7−10725

nitrogen continued
$N_2^+ + 2N_2$, assoc., temp. depend. 7−13742
$N_2^+ + Ar$, absolute state to state total cross sections meas. 7−46825
$N_2^+ + Ar$, charge transfer collision, Franck-Condon principle at low collision energies study 7−62511
$N_2^+ + Ar \rightarrow N_2 + Ar^+$, electron transfer reaction, state-to-state study 7−36746
$N_2^+ + He$, electron beam excitation at 391.4 and 427.8 nm 7−10917
$N_2^+ + He$, rot. transfer coeff. determ. *(French)* 7−10708
N_2^+ + inert gas, high Rydberg fragments, kinetic energy spectra 7−42745
$N_2^+ + N_2$ charge transfer reaction, calc. of vibr. levels for neutral mols. 7−42759
$N_2^+ + O_2$, charge exchange reaction in temp. range 8 to 163 K, rate coeff. meas. 7−46810
N_2^+ + tetrafluoromethane, excitation cross sections 7−62501
N_3, electron affinities evaluation 7−5591
N_3^-, rots. in aqs. soln., ^{14}N NMR, spin-lattice relax. 7−27620
N_3^-, spectroscopic props. ab initio GTO CEPA study 7−15525
NH_2, MBPT and coupled cluster calc., comparison with CI 7−49899
NH_3-N_2, excess molar enthalpy and heat capacity 7−44825
$N_2O + OH$, collisional quenching of OH, rate const. meas. 7−10654
$N^+(^5S)$ state production by electron impact on N_2, excitation function, quenching and aurora emissions 7−29328
^{14}N, antiprotonic atom, 4f strong interaction level width 7−31191
$^{15}N/^{14}N$ in basaltic glasses rel. to mantle degassing and structure 7−60193
$^{15}N/^{14}N$ ratios, appl. to detect. of N pollution in hydrosphere and atmosphere 7−28422
$Nb_{79}Si_{21}$, N^+ implantations, effect on A15 phase formation 7−63480
Ne-N_2 interaction, intermol. pot. fns., ab initio calc. 7−57146
O_2-N_2 equimolar liq. mixture, excess props. and struct., mol. dynamics simulation 7−32246
Si, dopant diffusion under thermal nitridation conditions 7−32716
Si surface, 100, in situ anal. of H,C,N and O using direct recoil time-of-flight technique 7−54242
Si:C,N, ion implanted, C surface contamination, AES and XPS studies 7−38312
a-Si:H,N thin films, activated reactive evaporation 7−13355
Si:N, conf., Boston, MA, USA (Dec. 1985) 7−14711
Si:N, deep level generation and annihilation 7−16612
Si:N, high dose implanted, swelling, saturation, and sputtering effects 7−16648
Si:N, host-impurity interactions, transferability of tight-binding parameters 7−58773
Si:N, impurity-dislocation interactions, review 7−16610
Si:N, N incorporation and behaviour 7−16598
Si:N, O, impurity complexes as shallow donors, optical absorpt. study 7−39147
Si:N, oxidation-inhibiting behaviour after N implantation, thermogravimetric anal. 7−59697
Si:N, pseudo Jahn-Teller effect and chemical rebonding 7−16992
Si:N, small particles, elemental and chem. anal., EELS method 7−17379
a-Si:N,H, annealing of metastable defects 7−3343
Si:N,O, impurity interactions in optical defects 7−17348
Si:N_2^+, N_2^+ implantation, local inhibition of oxidation 7−59688
Si:N^+, dose and dose rate of ion implantation, Si_3N_4 formation 7−32533
Si:O,C,N, precipitation phenomena, TEM studies 7−16768
Si-Si_3N_4, SOI structs. formed by N^+ implantation EPR of defects 7−33273
21R-SiC:N, shallow donor bound electronic transitions, light scatt. study 7−38494
α-SiC:N, single carrier SCL flow, computer calcs. 7−21925
β-SiC:N films, ion implanted, rapid thermal annealing 7−17569
β-SiC:N single crystals, CVD grown, elec. props., temp. dependence 7−2740
SiC:N thin films, impurity 7−27192
SiC:Tc, N, 6H polytype, ESR of $(TiN)^0$ impurity pairs 7−2926
SiH_4-Ar-N_2, gas mixture, DC discharge plasma creation, spectroscopic meas. 7−20946
SiO_2 : N ultrathin films, carrier conduction, nitriding effects obs. 7−38790
SiO_2:N thin films on Si, surface nitridation in low NH_3 press. 7−46721
SiO_x:N,H/a-Si:H heterostruct. transport props. 7−38768
ZnSe:N, MBE growth and doping, photoluminescence studies 7−27749
ZrO_2:N_2^+, ion implantation, ion-acoustic microscopy 7−51792

nitrogen compounds
see also ammonia; ammonium compounds
acidic nitrogen species as pollutant in atm. of NW Europe, long-range transport and deposition in rain 7−34085
NH vibr. transition probabilities and r-centroids 7−50262
nitrates in Antarctic snow, tropospheric and stratospheric source 7−55227
nitroxyl radicals, in aq. glycerol soln., superslow rotation investig. 7−62422
nitryl halides and their isotopes, vibr. anal. 7−50051
scavenging from atm. 7−55192
scavenging in narrow cold-frontal rainbands, numerical model 7−55191
Zeeman modulated radiometer for remote detection 7−55313
Ar-N_2O van der Waals complex, mol. beam IR spectra 7−31030
Ar-NO_2 system, muon spin relax. in transverse and longit. mag. fields 7−50413
HNO_3 solar production system, conceptual design 7−65588
K-Ca-NO_3-H_2O glasses, low temp. dielectric study 7−38999
N-HO bond complexes, association equilib. const. using dielectric relax. data 7−65291
N_2-ethylene-Li complexes, in solid Ar, IR spectra 7−31033
N_2BH_3, struct., ab initio calcs. 7−49887
NCO, MODOR and intermodulated fluoresc., hyperfine coupling consts. 7−50206
NCl, $b^1\Sigma^+$ and $a^1\Delta$ state, radiative lifetimes 7−50259
NCl, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7−42492
NF, $(b^1\Sigma^+, a^1\Delta) \rightarrow X^3\Sigma^-$ radiative decay processes 7−42522
NF, $b^1\Sigma^+$-$X^3\Sigma^-$ system, line assignments, transition moments, visible Fourier-transform spectra anal. *(French)* 7−50153
NF, metastable radical, microwave spectrum 7−42603
NF, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7−42492
NF singlet states, quenching in IF hybrid chemical-laser 7−43081
NF-IF, electronic energy transfer, long-range interaction model 7−62478

nitrogen compounds continued
NF+IF, electronic-to-electronic energy transfer rate, temp. depend. 7−36740
NF_3, high temperature absorpt. of laser radiation 7−51385
NF_3, integrated intensities and IR absorpt. bands, ab initio (3.1) calcs. 7−56953
NF_3, plasma etching of Si, kinetic model 7−39786
NF_3, use as in-situ tube clean for W LPCVD equipment 7−17463
NF_3^+, inversion barrier heights, SCF and CI calcs. 7−62289
$NF_3 + O_2$, plasma etching of Si, kinetic model 7−39787
NH, $A^3\Pi - X^3\Sigma^-$ transition, Fourier transform spectroscopy, vibr. levels, fine struct., rot. consts. 7−50080
NH, collision-induced intersystem crossing investigated using ArF laser photolysis 7−42692
NH, Fourier transform spectroscopy of $c^1\Pi$-$a^1\Delta$ transition 7−5786
NH, metastable $a^1\Delta$ state, quenching rate coeffs. 7−62441
NH radical, rot.-vibr. anal. for $X^3\Sigma^-$ state, IR Fourier transform spectra 7−19847
NH radicals, in plasma jet, spatial distrib. 7−20969
NH^-, IR rot.-vibr. spectrum, high-resolution meas. 7−62373
NH^-, metastable states, autodetachment, vibr.-rot. spectrum meas. 7−31006
NH^+, rot. transition obs. with resolved hyperfine struct. 7−42508
$^{15}NH^-$, $X^2\Pi$ state, IR rot.-vibr. spectrum, isotopic shifts and equilib. consts. 7−50107
NH+NO(NO_2), reaction rate consts. 7−3578
$NH^+ + C$, fast mol. ion dissoc., charged fragment wake effects *(French)* 7−50345
NH_2 + NO reaction, kinetic spectroscopy using a color center laser 7−9901
NH_2, electron affinities evaluation 7−5591
NH_2, excited radical, fluoresc., Einstein coeff. and oscillator strength calc. 7−42668
NH_2^-, electron affinity calc. with fourth order many body perturbation theory 7−42471
NH_2^- struct., velocity modulation IR laser spectroscopy 7−15599
NH_3, new rigid motion algorithm for MD simulations 7−50284
N_2H, MCSCF equilib., transition struct. and reaction path determ. 7−8251
N_2H^+, dissociative recombination at interstellar cloud conditions 7−23009
$N_2H^+ + H_2$, ion-molecule reaction rate at low-temp. conditions of interstellar space 7−23007
N_2H_2, MCSCF equilib., transition struct. and reaction path determ. 7−8251
N_2H_4, electron impact, excited NH radical form. 7−36800
N_2H_4, hydrazine, intercalation with $HUO_2PO_4.4H_2O$ 7−65304
$N_2H_4^+$, radical ion, trapping site geometry, ENDOR and EPR spectra of hydrazinium hydrogen oxalate 7−7609
NH_4Cl, propagation and dephasing of phonon polariton pulses 7−16954
NH(ND), isolated in solid Ne(Ar)(Kr)(Xe), radiative decay and radiationless relax., lifetime meas. 7−10653
NH(ND), photolysis product of NH_3, laser induced fluoresc. 7−62442
NH_2NO, struct. and vibr. freqs. calc. using basis sets ranging from STO-3G to 6-311G** 7−10385
NH_2NO_2, electronic ground and first triplet states struct., SCF calcs. *(French)* 7−15498
NH_2OH, N-methyl substitution, bond dissoc. energies ab initio calcs. 7−15503
NO, $^2\Delta$ states, radiative lifetime meas., fluoresc. spectra 7−62439
NO $A^2\Sigma^+$-$X^2\Pi$ system, reduction of 1+1 reson. enhanced multiphoton ionisation spectra 7−25622
NO, $A(^2\Sigma^+)$ state, two-photon ionis., non-Franck-Condon behaviour 7−25615
NO adsorbed on Pt, high-speed ramped field desorption spectra 7−32810
NO, adsorpt. and reduction on C:K 7−63946
NO, adsorpt. on Rh (111), dissoc., EELS and LEED study 7−16859
NO, adsorption and desorption from Rh surfaces, effect of surface struct. 7−6994
NO adsorption and desorption on Pt (111) 7−21643
NO, adsorption and desorption on clean and S covered Pd (100), surface reactions, TPD, EELS, LEED 7−58639
NO, adsorption on NiO, IR transmission spectra, calorimetry studies 7−58640
NO, adsorption on S-covered Ni (100) 7−6990
NO and NO_2 in air pollution plume, chemistry model 7−14335
NO and NO_2 removal from flue gases in heat and power generation from coal *(German)* 7−65653
NO, autoionisation of $\nu=3$ Rydberg states, branching ratios, multiphoton spectra anal. 7−36718
NO, autoionising levels, two-photon spectra 7−10688
NO chemisorption on Pd (111), photoemission study using synchrotron radiation 7−22446
NO, coadsorbed on Rh (111) with CO and O, EELS 7−16860
NO concentrations in thermosphere and nightglow continuum 7−47605
NO dimer, ionisation phenomena, ab initio wave functions 7−36444
NO dimer, vibr. predissoc. lifetimes, time-resolved meas. 7−31126
NO dimer and cluster, UPS using pulsed gaseous free jets 7−36685
NO, dissociative single and double photoionisation, photoion spectra anal. 7−19984
NO electronically stimulated adsorbate rotation and desorpt. studies 7−45006
NO, excited state, circular dichroism in photoelectron ang. distribs. 7−19909
NO, fundamental band, heterodyne freq. meas. 7−5664
NO, $\gamma(A^2\Sigma^+ - X^2\Pi_{1/2})$ system, electronic transition moment variation 7−50257
NO, high resolution laser threshold photoelectron spectroscopy 7−10669
NO, in atmosphere, conc. prediction via regression model 7−40063
NO in disturbed heated thermosphere, energetics and IR radiation 7−4247
NO in upper atmosphere, geomagnetic latitudinal conc. distrib. 7−9278
NO in upper atmosphere, near-midnight nightglow and vertical profile 7−9283
NO in upper atmosphere, vertical profile and UV dayglow 7−29324
NO, linewidth broadening and strengths, tunable diode laser IR spectroscopy 7−5676
NO, low-energy electron scatt., R-matrix method, close-coupling expansion study 7−36490
NO mol. impact on Ag (111), kinetic energy transfer correl. study 7−22414

nitrogen compounds continued
- NO molecule scatt. from graphite surface 7—13316
- NO, NO_2 and other N cpds., troposphere conc. observations in Colorado, USA 7—18288
- NO, paramagnetic molecule,. magnetically modulated Fourier transform spectroscopy 7—48856
- NO, photodesorption from Si (100) 7—52290
- NO, photoexcitation and ionisation cross sections, Stieltjes-orbital representations, HF calcs. 7—19677
- NO, photofragment, REMPI and TOF mass spectra 7—25613
- NO predissoc. levels, multiphoton ODR lineshapes 7—31129
- NO, rot. resolved autoionising levels, wavelength depend. photoelectron spectra 7—25605
- NO, rot. resolved laser photoelectron spectra, propensity rules 7—31113
- NO scattered from Pt (111) surface, vibrational states 7—968
- NO scattering from Ge surface, energy distributions, state-resolved measurements 7—53477
- NO, sp. ht. extremum behaviour, electronic contrib., one low lying excited state model 7—16058
- NO, state to state excitation by NO quenching 7—5713
- NO, surface impact, dynamic investigation by laser beam 7—17385
- NO, vibr. excited, energy transfer processes during scatt. 7—62496
- NO vibr. levels, lifetimes, semi-theoretical evaluation 7—15649
- NO^+ + NO, association reactions, third-order kinetics, temp. depend. 7—46817
- NO^+ rel. to ionospheric E-layer height vars. and daytime valley 7—40625
- NO^{2+}, $^2\Sigma^+$ and $^2\Pi$ states, ab initio MC SCF CI calcs. 7—49937
- NO-Kr, van der Waals species, multiphoton ionis. 7—10694
- NO-Ne, van der Waals species, multiphoton ionis. 7—10694
- NO+Ar(He), rot. inelastic cross section determ. sudden approx. 7—25637
- NO+He, scatt., total differential cross-sections 7—39865
- $NO+He^+$, metastable state, collisional quenching cross section 7—62315
- NO+methyl thiyl radical, reaction rate consts., mol. fluoresc. anal. 7—19917
- NO+NH, reaction rate consts. 7—3578
- $NO+NH_3{}^+$, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7—20028
- $NO+NO_2 \rightleftharpoons N_2O_3$, kinetic meas., time-resolved IR laser absorpt. 7—17771
- $NO+O_3$, chemically reacting mixing layer struct., conc. field meas., entrainment and mixing anal. 7—44006
- NO+OH, isotope exchange reactions, LMR detection, rate const. meas. 7—39882
- NO^++benzene, struct. and energetics, calc. by ab initio MO computations 7—8267
- NO^++iodomethane (NO_2), charge exchange, ground state radiative lifetimes, ion cyclotron reson. spectra anal. 7—31114
- NO^++NH_3, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7—20028
- NO_2 + dichlorofluoromethylperoxy radical forming peroxynitrate, rate const. at stratosphere conditions 7—23802
- NO_2, adsorbed on Ag (110) with physisorbed Kr, EPR, LEED AES studies 7—53116
- NO_2 adsorption on Ag (110), surface nitrate formation 7—52286
- NO_2, adsorption on Ru (001) clean and O covered surfaces, EELS, thermal desorption mass spectrometry 7—52267
- NO_2, air pollution in W Germany 7—54389
- NO_2 amounts, transport and photochemical effects in stratosphere 7—47487
- NO_2 and ions, deform. densities, d function role in ab initio calcs. 7—62260
- NO_2 coadsorbed with Kr on Ag (110), magnetic resonance 7—59113
- NO_2, dissoc. to give NO photofragments, REMPI and TOF mass spectra 7—25613
- NO_2, electron affinities evaluation 7—5591
- NO_2, electron attachment temp. depend. 7—10755
- NO_2, excited state rot.-vibr. anal., supersonic jet fluoresc. excitation spectra 7—19919
- NO_2, form. from N_2O_5 photolysis, fluoresc. 7—36672
- NO_2 in Antarctic stratosphere, dynamically and chemically controlled vars. 7—55157
- NO_2 in stratosphere, obs. by ground-based and balloon-borne techniques at Syowa Station (69.0°S, 39.6°E) 7—55158
- NO_2 in stratosphere, var. (1979 to 1984) 7—29205
- NO_2 in stratosphere above USSR, concentration variations *(Russian)* 7—60331
- NO_2 in vehicle exhaust gases, emission control equipment 7—59905
- NO_2, MODOR spectra 7—15632
- NO_2, multiphoton absorpt., vibr. excited O_2 form. mechanism 7—19989
- NO_2, optical selection in double resonant two-photon photodissoc. 7—23034
- NO_2, photodissoc. REMPI study of photofragment energy 7—42709
- NO_2, Rydberg state, high resolution two-photon spectra 7—31133
- NO_2 sorption on Na_2O-$11Al_2O_3$, effect on electrical conductivity 7—21511
- $NO_2{}^-$, electron deform. density, basis set depend. 7—62252
- $NO_2{}^-$ molecular luminescence centre in nitrites and nitrates, struct. and electron-phonon interaction 7—3088
- NO_2+Ba, chemiluminescent reactions; spin orbit state effect 7—13781
- NO_2+methyl thiyl radical, reaction rate consts., mol. fluoresc. anal. 7—19917
- NO_2+NH, reaction rate consts. 7—3578
- NO_2+NO^+, charge exchange, ground state radiative lifetimes, ion cyclotron reson. spectra anal. 7—31114
- NO_2+O, stratospheric reactions, rate const. meas. 7—8265
- NO_2+OH, isotope exchange reactions, LMR detection, rate const. meas. 7—39882
- NO_3 role in nighttime chem. of clouds, reevaporation effects 7—55198
- NO_3, visible and UV absorpt. spectra, temp. depend. 7—10608
- $NO_3{}^-$, aq. soln., band shape anal., Raman and IR spectra 7—57067
- $NO_3{}^-$ content in aq. atmospheric aerosols in Japan *(Japanese)* 7—47511
- $NO_3{}^-$, in $UO_2(NO_3)_2$, vibr. spectrosc. investig. 7—10548
- $NO_3{}^-$ production in negative corona discharge, mass spectra 7—32175
- $(NO)_3{}^+$, photodissoc. dynamics mechanisms and product energy disposal 7—20083
- NO_3+dimethyl sulphide, reaction rate coeff. meas. 7—22987
- NO_x from coal-fired power plants, environmental control systems using integrated design strategy 7—28438
- NO_x in-furnace reduction, reburning, bench scale process evaluation 7—17798
- N_2O + Ba 7—13780
- N_2O adsorption and decomposition on clean and O covered Ni (100) 7—58644
- N_2O adsorption and decomposition on Si (100)2×1 7—63962
- N_2O, band intensities, IR absorpt. 7—36619
- N_2O downstream mixing gasdynamic laser, numerical simulation 7—36940
- N_2O, electronic autoionisation studies using vibr. resolved const. ionic spectroscopy, dispersed fluoresc. 7—25592
- N_2O, energy loss spectra, window reson., momentum transfer depend. 7—57173
- N_2O formation in irreversible dissociation of nitrine coolant *(Russian)* 7—49549
- N_2O, fragmentation by monochromatic soft X-rays, time-of-flight mass spectra 7—25610
- N_2O high-pressure laser, direct optical pumping with pulsed HF pump laser 7—50533
- N_2O IR transmittance, band models comparison 7—19860
- N_2O in atmosphere, emission from tropical forest soils 7—40528
- N_2O in atmosphere, mixing ratio trends at Palmer Station, Antarctica (1982-1985) 7—55159
- N_2O, in liq. SF_6, rot. self-correl. functions, mol. dynamics simulation 7—44343
- N_2O in troposphere near to Florida, day and night vertical profiles 7—40537
- N_2O, laser dissociation, laser enhanced oxidation of InP 7—39780
- N_2O, mol. solid, lattice vibr., IR active modes *(Japanese)* 7—6731
- N_2O, negative ion form., thermal electron attachment 7—15704
- N_2O, photoionis. dynamics and vibr. branching ratios, fluoresc. spectra 7—15653
- N_2O, photoionisation cross sections, ground state inversion pot./diffr. theory 7—946
- N_2O, protonated, IR spectra, vibr. and rot. anal., struct. 7—10566
- N_2O, protonated, struct. determ. by ab initio MP2 gradient method 7—25343
- N_2O, protonation site and energies, N_2OH^+ struct. ab initio MO calcs., SCF calcs., CI calcs. 7—15480
- N_2O, rot. spectrum, vibr.-rot. transitions 7—50066
- N_2O spectra in 1100 to 1440 cm^{-1} region 7—19854
- N_2O, submm spectroscopy 7—31041
- N_2O, thermal diffusivity around crit. point along liquid-gas coexistence curve, light scatt. meas. 7—52098
- N_2O, threshold electron impact spectrum 7—50385
- N_2O^+, $A^2\Sigma^+$-$^2\Phi$ transition obs., visible spectra 7—62389
- N_2O-CO mixtures, adsorption on ZnO-supported Cu particles, vibr. spectra, operation of metal surface selection rule 7—53350
- N_2O-CO-Ar, superequilibrium pumping, Ar dilution effects 7—25611
- N_2O-CO-H_2-Ar, superequilibrium pumping, Ar dilution effects 7—25611
- N_2O+Ba, chemiluminescent reactions; spin orbit state effect 7—13781
- N_2O+Ba, oriented reactants, product polarised emission, chemiluminesc. 7—22992
- N_2O+Ba reaction, chemiluminesc. study, N_2O electric dipole moment sign meas. 7—54116
- N_2O+Cs^-, low-energy collisions, absolute total cross section meas., curve-crossing model anal. 7—36749
- N_2O+H, hot atom reaction, chem. laser, nonequilib. processes 7—1092
- N_2O+H^+, collision excitation, photon emission spectra 7—15678
- N_2O+Mg, reaction dynamics, high resolution laser fluoresc. spectra 7—8252
- N_2O+Na, gas phase kinetics, rate const. determ. 7—28272
- N_2O+NaO, gas phase kinetics, rate const. determ. 7—28272
- N_2O+OH, isotope exchange reactions, LMR detection, rate const. meas. 7—39882
- N_2O+SF_6, vibr. energy transfer and relax. study, kinetic model, IR fluoresc. spectra 7—50227
- N_2O_4 condensation in equilibrium maintaining chemical reaction, heat and mass transfer *(Russian)* 7—51341
- N_2O_5, photolysis, NO_2 fluoresc. 7—36672
- N_2OH^+ isomers, struct. and energy levels, ab initio MO, SCF and CI calcs. 7—15481
- N_2OH^+, protonation site and energies, N_2OH^+ struct. ab initio MO calcs., SCF calcs., CI calcs. 7—15480
- NS, low-lying valence and Rydberg states obtained by CI studies 7—49947
- NS, spin-orbit coupling consts. calc. using restricted HF wavefunctions 7—56949
- NS^+, electronic states study, CI calcs. 7—19714
- NSCl, struct. and bonding investigated at SCF level, electron correl. effects 7—10439
- $NSCl_3$, NSOF and NSF_3 and their isomers, ab initio calcs. at SCF level, equilib. geometries and population anal. 7—10382
- NSF, struct. and bonding investigated at SCF level, electron correl. effects 7—10439
- NSO^-, struct. and bonding investigated at SCF level, electron correl. effects 7—10439
- NaI:Tl,OH^-, $NO_3{}^-$, $CO_3{}^{2-}$ crysts., scintillation props., vibrational spectra, anion impurity effects *(Russian)* 7—22348
- No-Ar, van der Waals species, multiphoton ionis. 7—10694
- No^++2N_2, assoc., temp. depend. 7—13742
- SiH_4-N_2O, deposition of polycrystalline Si:O and SiO_2 7—17447
- SiH_4-NO, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7—62476
- ZnO-SiO_2-Si SAW chemosensor for NO_2 gas concentration meas. 7—3621

NMOS integrated circuits *see field effect integrated circuits*

NMOS transistors *see insulated gate field effect transistors*

NMR *see nuclear magnetic resonance*

NMR imaging (biomedical) *see biomedical NMR*

NMR line breadth
- acetyl chymotrypsin in cryosolvent, ^{13}C NMR relax. 7—10792
- alkali metal cyanide-halide mixed crysts., orientational glass state dynamic props., microscopic model calcs. 7—63756
- amorphous systems, spin Hamiltonian, resonance 7—2922
- 1-azabicyclo[2.2.2]octane, binary solvent system, solute-solvent interactions, ^{13}C and ^{14}N spin-lattice relax. study 7—31069
- aziridine, bond inversion rate determ., PMR line shape anal. 7—19892
- dl-borneole, mol. reorientation dynamics, proton NMR study under hydrostatic press. 7—50175
- o-carborane, B quadrupole coupling, NMR study 7—5704

NMR line breadth continued

- cobaltocenium hexafluorophosphate-d_{10}, ^2H MAS NMR spinning sideband spectra study 7−33282
- copper phthalocyanine iodide, anomalies in proton NMR spin-lattice relaxation 7−2815
- diazosesquibicyclo[2.2.2]octane, inner shell Marcus terms, MO calcs. 7−62258
- 4,4-dioxy-4-thia-1-acetyl-1,4-dihydropyridine, heteroaromaticity, p−d bonding, NMR, crystallography and calcs. 7−15623
- dipalmitoyl phosphatidyl chloride, low temp. phase, headgroup mobility, NMR study 7−1856
- ferromagnetic ferroelectrics, dynamic characteristics, soft modes saturation *(Russian)* 7−27672
- l-histidine hydrochloride monohydrate, single cryst., ^{14}quadrupole coupling, NMR spectra 7−13042
- lithium dodecyl sulphate, micellar dynamics, ^{13}C-^2H scalar relax., NMR 7−27622
- longitudinal magnetisation recovery curve, chemical exchange effects 7−38957
- magnetically concentrated crysts., NMR lineshape theory 7−33288
- 2-methylaziridine, bond inversion rate determ., PMR line shape anal. 7−19892
- polycrystalline samples, overtone NMR spectroscopy 7−64535
- polyethylene, low-density, amorphous phase, ^1H NMR meas. in temp. range 270 to 385K 7−37890
- polyethylene, struct., spin dynamics, NMR study 7−59124
- polyethylene-d_4, NMR quadrupole spectra, orientation motional correl. times, T_2 meas. 7−45834
- polymer gels, NMR line shape 7−17229
- polyurethane-polysiloxane interpenetrating polymer network, morphology, dynamic mech. investig. 7−37901
- powdered systems, spin Hamiltonian, resonance 7−2922
- shifts meas., resonance line shape effect determ. 7−30056
- susceptibility meas., PMR, X-ray and neutron diffr. 7−45244
- tetramethylammonium salts, D NMR, reorientations 7−19884
- $(TMTSF)_2PF_6$, SDW characts., ^1H NMR anal. 7−45699
- $(TMTSF)_2PF_6(ClO_4)$, nesting vector, SDW amplitude and anisotropy 7−45125
- transition metals-H_2, disordered, NMR studies 7−27618
- trimethylamine-d_9, solid, mol. reorientation, NMR quadrupole echo spectra 7−62411
- AlH_3, ^1H and ^{27}Al NMR investig. 7−27615
- ^{13}C NMR spectral line broadening, lanthanide paramagnetic systems, magnetic suscept. anisotropy effects 7−27624
- $Ca_5F(PO_4)_5$, struct., spin dynamics, NMR study 7−59124
- EuSe ferromagnet, ^{151}Eu and ^{153}Eu NMR lineshape, mag. field depend. 7−22151
- Fe-Br, mag. hyperfine field of ^{82}Br, NMR nuclear orientation study 7−13049
- a-GeSi:D,F, D NMR lineshapes and spin-lattice relax. studies 7−45836
- H_2 solid, NMR line shapes, low temp. nuclear polarisation effects anal. 7−38295
- K, CDW phason anisotropy, NMR linewidth 7−27614
- $LiTmF_4$, Van Vleck paramagnet, 4f electron excitations, mag. relax. of ^{169}Tm nuclei 7−7601
- $LiZr_2(PO_4)_3$ superionic conductor, Li^+ motion, NMR study, phase transition obs. 7−32709
- $NbSe_2$, 2H polymorph, electronic density of states, phase matching of CDWs, NMR study 7−64538
- $Rb_{0.3}MoO_3$, sliding motion of CDW, NMR study 7−64134
- a-Si:D,F, D NMR lineshapes and spin-lattice relax. studies 7−45836
- a-Si:H, ^{29}Si and ^1H NMR spectra, peak position and line shape 7−2934
- Ti complexes, mono- and bis-cyclopentadienyltitanium halides, wide line PMR investig. 7−5707
- YIG, γ-irradiated, amplification effects and nuclear relax. in domain walls 7−7603

NMR spin echo *see spin echo (NMR)*

nobelium

- physicochemical props. 7−21488

nobelium compounds

- No entries

noble gases *see inert gases*

noctilucent clouds *see clouds*

noise

- *see also acoustic noise; atmospherics; electron device noise; interference; random noise; white noise*
- active rotator systems subject to noise, two-dimensional, cooperative phenomena and phase transitions 7−4673
- breakable CDWs in quasi-1D systems 7−64124
- CARS, single-pulse, noise props. with multimode pump sources 7−48866
- CDW, kink dynamics, breathers, narrow band noise 7−52463
- conducting polymer films produced by Ar^+ irradiation of HPR-204, physical and elec. props. 7−26808
- correlation function props. of Langevin-type eqns. 7−234
- coupled Langevin eqns., asymptotic props. 7−35406
- cross-borehole electrical surveys, geological noise effects 7−28825
- diffusion coefficient, coloured noise, projection approach calcs. 7−35412
- dispersive optical bistability, noise effects 7−62753
- dye laser, coloured noise induced first-order phase transition 7−57309
- dynamical systems describing turbulence, moments calc. 7−20692
- electromagnetic wave pulse, multiple scattering noise in 1D, universality through localisation length scaling 7−1315
- electron microscopy, high resolution, digital image processing 7−4931
- fibre optic interferometric sensors multiplexed using partially coherent light, expected noise levels 7−25982
- fibre optic system using laser source with arbitrary coherence time, phase noise anal. 7−15979
- field fluctuations of laser oscillator, electrical circuit theory 7−15886
- field fluctuations of laser oscillator, quantum mechanical Langevin treatment 7−15885
- Fourier transform IR spectroscopy, dynamic range considerations in ultimate sensitivity 7−48890
- functions, recovery in noisy network data by local splines *(Russian)* 7−61059
- Handel's quantum 1/f noise model, proof of invalidity based on quantum electrodynamics 7−7299
- harmonic oscillator with small noise, instability 7−4770
- HF power spectra for systems subject to noise 7−61247
- hierarchical structures, complexity and relax. 7−18702
- information content of images degraded by speckle noise 7−50508

noise continued

- intermittency caused by chaotic modulation, anal. using multiplicative noise model 7−35416
- laser modes, intensity correlations; effective eigenvalue charactn. 7−50531
- laser noise reduction with power stabilizers 7−5900
- Laser-noise analysis by first-passage-time techniques 7−20178
- length measurement, improving sensitivity, noise removal *(Japanese)* 7−48690
- liquid metal ion source, residual gas and secondary electron bombardment effects 7−30800
- membrane noise, spectral anal., variances 7−13971
- microchannel plate X-ray detectors, dark noise sources 7−62218
- molecular systems, disordered, influence of noise on density of states and absorption 7−16949
- nonMarkovian processes driven by dichotomic Markov noise, first-passage times 7−24558
- observer internal noise 7−23332
- open-flow systems, rel.-depend. Lyapunov exponents as measure of chaos 7−61240
- optical bistable elements, Kerr-type medium device, noise-induced switching theory 7−62803
- optical Fabry-Perot interferometer, incoherent, phase-induced intensity noise 7−56328
- optically bistable systems, holding-field noise effects on optical switching 7−62754
- periodic nonlinear media, nonperturbative bistability 7−20320
- photoacoustic spectroscopy, near-, mid- and far-IR, noise sources and reduction strategies 7−48888
- processing images, conf. London, England (Jan. 1987) 7−60884
- pump-noise suppressed laser oscillator, amplitude squeezing 7−36928
- quantitative EMG rel. to noise 7−3898
- quantum noise in spectral filtering of light 7−20170
- quantum noise of modulation and squeezed states 7−43028
- quantum noise reduction *(French)* 7−56087
- radiographs, correl. between meas. noise and its visual perception 7−23360
- radiography, effect of noise on edge determination 7−33893
- randomly diluted resistor network, resistance fluctuations calcs. 7−64193
- Rayleigh-Benard instability, external noise influence 7−43853
- relaxation problem with quadratic noise 7−29899
- ring laser, two-mode, with backscatter, freq. depend. 7−37000
- ring laser gyroscope, doubly dithered, harmonic mixing signal 7−42872
- ring laser gyroscope, skewed probability densities, coloured noise effect 7−41369
- scaling theory of transient phenomena 7−29908
- seismic geophone differencing to attenuate horizontally propagating noise 7−23862
- semiconductor electron-hole plasma, noise spectrum calcs. near slow recomb. wave excitation threshold 7−38649
- semiconductors, zero-gap, carrier temp. and density, nonequilib. fluctuations 7−38576
- SQUID, DC, noise effect on instabilities and chaotic solns. 7−52908
- SQUID, DC, noise effect on instabilities and chaotic solns. 7−52909
- stationary state, noise-induced, stability and dynamics 7−227
- steady-state hot electron transport, quantum theory of thermal noises 7−33024
- steel flatpack soil stress gauge, shock loading, elec. noise anal. 7−30001
- stimulated Raman scatt., solitons, spontaneous generation from quantum noise 7−43237
- stochastic Hamiltonian systems, scaling, renormalisation approach 7−41263
- submicrometer samples, noise current spectrum, Monte Carlo method calc. 7−27371
- superconducting-normal metal networks, noise exponent 7−38652
- visual contrast discrimination in noise 7−59988
- weakly coloured noise, effective Fokker-Planck eqn. uniform convergence 7−24557
- whisker mapping, 1/f noise spectrum of chaotic motion 7−4765
- Ag_2O-Al_2O_3 ceramics and single crysts., cond. fluctuations and contact noise meas. 7−58840
- CdTe crystals, resistive element defect electromigration, flicker noise enhancement. 7−63889
- GaAlAs lasers, polarisation-resolved low-frequency noise 7−15863
- GaAs-AlGaAs, noise, localised states, quantum Hall effect 7−45413
- He-Cd laser, noise reduction by discharge current modulation 7−31348
- ^3He in superfluid ^4He, correcting dil. solns., superfluid turbulence 7−44946
- InGaAs, high-field autovariance coeff., diffusion coeff., and noise at 300 K 7−64260
- $K_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7−64222
- $K_{0.3}MoO_3$, blue bronze, broadband noise 7−64223
- $K_{0.3}MoO_3$, nonlinear conduction below 4.2K 7−52588
- Nb-NbO_x-Pb Josephson tunnel junctions, bifurcations, noise and near-reson. perturbations influence 7−58957
- $NbSe_3$, CDW conductor, broken coherence, chaos, noisy precursors 7−64126
- $NbSe_3$, conduction noise obs., pulsed electric field, nonohmic regime 7−64219
- $Rb_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7−64222
- $Rb_{0.3}MoO_3$, sliding motion of CDW, NMR study 7−64134
- Si epitaxial film, with current filament radiation temp. coordinate distrib. 7−38650
- Si, temperature depend. of 1/f noise 7−33058
- a-Si:H, intrinsic glow-discharge, elec. noise meas. 7−64297
- SiFe, grain oriented, Barkhausen noise behaviour, effect of local strain 7−33205
- TaS_3 sliding CDW conductor, narrow-band noise freq. modulation and AC-DC mixing 7−52711
- TaS_3, small orthorhombic samples, nonlinear effects 7−64220
- TaS_3, uniaxially deformed, DC induced voltage oscillations 7−52589
- W tip, field emission noise *(French)* 7−13337

noise abatement

- *see also acoustic wave absorption*
- 1-D sound and vibration isolators based on periodic structures, connecting waveguide length optimization 7−62908
- active acoustic reduction of a plate 7−16030
- active noise attenuator tests 7−62911
- active noise attenuators, loudspeaker operating conditions 7−20517
- adaptive lattice noise canceller and optimal step size 7−43528
- adaptive noise cancellation, variable length lattice filter use 7−43527

noise abatement continued
- advanced turbo propeller, active control of interior noise 7—50846
- broadband, active attenuation 7—20503
- buildings, noise and vibration control 7—6040
- cancellation of sound by opposite signature generated noise using active noise attenuator 7—20501
- circular reversing chamber mufflers, transmission loss calcs. 7—50842
- community noise control program at Raritan RiverSteel Company 7—8470
- double doors, sound transmission charact. 7—43531
- ear protectors, theory and tests *(Spanish)* 7—11215
- factories, effect of taking fluctuation probability density into consideration *(Japanese)* 7—43522
- floating floors for impact and airborne noise control 7—37245
- hearing protector test procedures 7—37244
- helmet sound attenuation characts., meas. using acoustic manikin 7—62910
- highway noise barriers, insertion loss model 7—6038
- hydraulic waste compactor, modifications to skip 7—43523
- induction motor acoustic noise reduction using optimum PWM waveforms of invertor 7—20499
- laboratory sound-reducing enclosure 7—18770
- noise propag., effect of sound absorption by air 7—50839
- railway brake squeal damping 7—57635
- reactive mufflers, shape optimisation 7—20504
- reactive silencers, analytical model based on Bragg scattering 7—50845
- REDMASK noise reduction filtering for the hearing-impaired 7—34162
- silencer joints, acoustical insulation props. *(German)* 7—57631
- single wall insulation, statistical energy analysis *(Japanese)* 7—43535
- slow-waveguide barrier on finite impedance ground, expt. study 7—6039
- sound absorbing panel calcs. 7—50840
- sound insulation system, dynamical identification method, conditioned obs. based 7—43526
- speech, acoustic noise reduction by two dimensional spectral smoothing and spectral amplitude transformation 7—37246
- stepper motor systems, acoustic noise reduction method 7—16031
- stochastic noise reduction of sound absorbing materials 7—50835
- synchrophasing, noise control characts. 7—6037
- tube muffler, nonlinear acoustic resistance effects *(Chinese)* 7—20486
- two probabilistic evaluation methods for single and double wall type sound insulation systems with arbitrary random noise excitation 7—50849
- vegetative barriers for highway noise abatement 7—23261

noise control (acoustic) *see noise abatement*

noise control (interference) *see interference suppression*

noise elimination *see interference suppression*

noise generators
- arbitrary waveform generator for turbulence experiments, computer-controlled 7—9846
- RF noise meas. in radioastronomy *(Spanish)* 7—4336

noise levels, acoustic *see acoustic noise*

nomenclature
- *see also units (measurement)*
- asteroids, Minor Planet Circulars, 19 new names 7—40743
- asteroids, Minor Planet Circulars 10781-10884, 35 new names 7—9399
- asteroids, Minor Planet Circulars 11095-11198, 50 new names 7—9402
- asteroids, Minor Planet Circulars 11561-11680 11 new names 7—66495
- comets in 1984, observations and designations 7—47790
- crystal classes, four-dimensional, crypto-rotation planes, nomenclature and graphic representation 7—11979
- desertification, review and definitions of concept 7—9157
- optical spectroscopy, names, symbols, definitions and units 7—48208
- remote sensing, different meanings and definitions of concept 7—29301
- sintering thermodynamics, problems in nomenclature and symbols 7—64962
- terminological system for solar engineering 7—29648
- undersea features name file for personal computer, database description 7—65927

nomograms
- *see also graphs*
- developing machines, film-drive system design 7—41521
- GaAs, mixed electron-hole conductivity 7—58808

nomographs *see nomograms*

non-Newtonian flow
- *see also non-Newtonian fluids*
- 7—46438
- anisotropic fluids, viscous behaviour, transport phenomena 7—32272
- Boger fluids, rheological props. 7—51236
- buoyancy effects, magnetic field parameter 7—6257
- Carbopol-934 turbulent non-Newtonian mass transfer in circular tube 7—63187
- Carreau fluid creeping flow past Newtonian drops 7—63188
- concentrated dispersions, shear viscosity, shear-dependent packing fraction, nonNewtonian behaviour 7—8309
- creeping viscous flows followed by finite element meshes using pseudo-concentrations 7—43987
- cylindrical layers of viscous and rheologically complex fluids, radial expansion 7—57886
- dense systems of spherical particles under shear dynamics 7—6258
- diblock copolymers under steady flow, nonequilib. struct., neutron and X-ray scatt. 7—20763
- duct, cross shaped cross section, parametric study of friction and heat transfer 7—26276
- existence theorem for flow past infinite porous plate 7—4695
- fibre reinforced polymer composites, fibre orientation developments in moulding 7—3264
- films, dimpled, drainage 7—26321
- finite element calculation of viscoelastic flow 7—37499
- finite element methods in flow problems, conference, Antibes, France (June 1986) 7—41009
- forced convection of drag reducing fluids in vertical pipes, buoyancy effect on heat transfer 7—26278
- Hele-Shaw flows in $n\geq 2$ dimens. 7—57912
- high water fluid properties, determ. using capillary viscometer 7—57929
- Hookean dumbbells with anisotropic hydrodynamic drag and Brownian motion, Giesekus model 7—16216
- incompressible stationary flow, free boundary calcs. 7—43994
- kaolin suspensions, rheological behaviour at high shear rates 7—6226
- Lame-type potentials 7—6255

non-Newtonian flow continued
- Lennard-Jones fluid, shear thinning, mol. dynamics method calcs. 7—21059
- liquid crystal polymer rods, thermotropic, flow and orientation behaviour during extrusion 7—57887
- low-grade coal-liquid CO_2 slurry plastic viscosity and yield stress obs. 7—39952
- Maxwell fluid flow, extra-stress eigenvalues sign *(French)* 7—31844
- natural rubber/polybutadiene elastomers, C black distrib., flow behaviour depend. 7—43832
- Oldroyd fluid through circular pipe, unsteady flow 7—63112
- oven-curing high solids white enamels, flow props. 7—11371
- polydimethylsiloxane melt, molecular orientation induced by elongational and shearing strains 7—44347
- polyethylene, crosslinkable, EPDM rubber blends, rheology., mixing torque obs. 7—43825
- polymer composites containing anisometric particles, flow and flow orientation 7—37498
- polymer melts, elongational flow, thermodynamics nonlinear theory 7—43991
- polymer solutions, dil., flow modification in strong elongational flows 7—16212
- polymer solutions, dumbbell kinetic theory, structural approach, vector model *(French)* 7—6259
- polymer solutions, phase changes during elongational flow 7—51237
- polymeric granular solids on hot moving interface, melting, approx. soln., nonNewtonian boundary layers 7—32614
- polymers, dilute viscous theta solns., internal viscosity model, viscometric predictions 7—6173
- polypropylene melt viscosity in shearing flow, mathematical models 7—44882
- polypropylene melts, fibre filled, rheological behaviour under steady and oscillatory shear 7—37413
- polystyrene melt viscosity in shearing flow, mathematical models 7—44882
- power-law fluid, flow anal., finite element formulations *(Japanese)* 7—51238
- PVC compounds, nonplasticised, slip flow 7—6260
- Rivlin-Ericksen fluid MHD flow in open inclined channel 7—1639
- rock flow due to gravity, use of Newtonian and non-Newtonian fluid dynamics scaling without inertia 7—8939
- seawater, oceanographic implications of non-Newtonian rheology of phytoplankton cultures 7—14299
- second-order fluid flow through channel with porous walls under mag. field 7—20762
- soap-mineral oil lubricating grease, 12 Li-hydroxysterate greases, thick film, ambient pressure, shear flow transient tests *(French)* 7—6169
- solution of rodlike molecules, flow, phase separation, orientation distrib. 7—43989
- styrene-isoprene diblock copolymer solns., visco-plastic flow 7—11477
- surfactant systems, drag reduction, physico-chem. props., rheology 7—43992
- transient mass and heat transfer from drops or bubbles 7—11473
- viscoelastic fingering, time effects 7—57800
- viscoelastic flow problems, integral constitutive models 7—16213
- viscoelastic fluid flow between rot. plates 7—43939
- viscoelastic fluids, flow phenomena, statistical study 7—31845
- viscoelastic liquid discharge influences 7—57930
- viscoelastic Maxwell fluid, MHD oscillatory motion between 2 plates or 2 coaxial cylinders 7—6319
- viscous flow past array of cylinders, numerical predictions 7—43986
- viscous fluid outside rot. horizontal cylinder, coating flows 7—51156
- viscous incompressible fluid, homogenisation method, force free particles *(French)* 7—8304
- viscous Newtonian and non-Newtonian heat transfer for helical ribbon mixers 7—6208
- in ZZ 7—43988
- Na_2O-P_2O_5 glasses, viscous flow meas. 7—11475

non-Newtonian fluids
- *see also colloids; polymer melts; polymer solutions; rheology*
- 3D boundary layer eqns., similarity solns. 7—37497
- acoustic wave propag. 7—6351
- bifurcation phenomena in curved rectangular ducts 7—16154
- Boger fluids, rheological props. 7—51236
- diblock copolymers under steady flow, nonequilib. struct., neutron and X-ray scatt. 7—20763
- films, dimpled, drainage 7—26321
- finite element methods in flow problems, conference, Antibes, France (June 1986) 7—41009
- freezing liquid, buried pipeline wall icing investig. 7—63189
- Hookean dumbbells with anisotropic hydrodynamic drag and Brownian motion, Giesekus model 7—16216
- hydrodynamics and heat transfer 7—43985
- inverse solutions 7—37496
- Lame-type potentials 7—6255
- laminar falling liquid film, thermal entrance region, heating and evaporation 7—51235
- liquid phase mixing in bubble columns withNewtonian and nonNewtonian fluids 7—6256
- Maxwell fluid between eccentric rot. cylinders, spectral/finite element calcs. 7—51176
- non-Newtonian liquid-air stratified flow through tubes 7—37510
- phytoplankton cultures, non-Newtonian props. and oceanographic implications 7—14299
- poly-γ-methyl L-glutamate, non-Newtonian viscosity in helix-coil transition region 7—51605
- polymeric colloidal suspensions in polymeric suspending fluids, dichroism and birefringence meas. 7—11478
- polymers, dilute viscous theta solns., internal viscosity model, viscometric predictions 7—6173
- power law fluid, multiple drop slow motion, drag and mass transfer 7—11472
- power-law fluid, flow anal., finite element formulations *(Japanese)* 7—51238
- power-law fluid in horizontal ducts, laminar mixed convection heat transfer 7—37427
- Rivlin-Ericksen fluid, viscoelastic, unsteady flow through rectilinear tube 7—57884
- rodlike particles suspended in Newtonian and non-Newtonian fluids, rheological props. 7—37407
- slurries, laminar pulsatile flow, numerical study 7—51035

non-Newtonian fluids continued
suspensions, shear viscosity behavior at low and high shear-rates 7—43993
Sutterby fluid, steady laminar flow in rectangular duct inlet region 7—43990
thermodynamic restrictions calc. 7—11476
viscoelastic films, surface driven leveling of surface irregularities 7—51017
viscoelastic fluid, unsteady flow through ducts, impulsive pressure gradient 7—57885
viscoelastic liquids, bubble velocity and coalescence 7—16232
viscous fluid outside rot. horizontal cylinder, coating flows 7—51156
viscous Newtonian and nonNewtonian fluids, power and Taylor nos., Taylor vortices 7—51158

noncrystalline state structure
see also amorphous state; glass structure; polymer structure; vitreous state
alloys, amorphous, hierarchial structs., SANS studies 7—51643
alloys, amorphous, partial pair distribution function determ. 7—51640
alloys, amorphous, struct. features, HREM 7—1883
alloys, amorphous, unresolved Mossbauer spectra with multiple convolutions, FFT-based processing 7—38972
alloys, amorphous and liquid, internal press. kinetic component, eqn. of state calc. *(Russian)* 7—2139
alloys, icosahedral and amorphous structures, fractal coefficients 7—26646
alloys, local atomic struct., computer simulation 7—58160
amorphous, molecular dynamics simulation, struct. of solid phases 7—32293
amorphous alloys, double-layer struct. unit model 7—16423
amorphous alloys, radial distrib. fn., analytical determ. of area below first peak 7—32289
amorphous compositionally modulated superlattices, growth and struct. 7—27168
amorphous films, grazing incidence X-ray scatt. 7—26592
amorphous hydrogenated semiconductors, NMR studies, rel. to growth process 7—38405
amorphous materials, structural anal., maximum entropy method 7—32285
amorphous materials, vapour phase growth, mol. dynamics study 7—1886
amorphous polymers, microstruct., diffusion, positron annihilation investig. *(Russian)* 7—63524
2-azido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7—36608
bonding and struct., conf., Reston, VA, USA (May 1983) 7—60879
2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7—46018
coke, metallurgical, microstruct. analysis and intercalated species 7—28008
1-cyanodamantane, glassy phase, study of molecular reorientations, high resolution quasi-elastic, neutron scatt. 7—51636
deconvolution of amorphous patterns, Lanczos discriminative window, variant of Mencik method 7—32290
diamond, ion implanted, struct. props., EPR and electron diffr. studies 7—32363
disordered materials, structural characterisation by anomalous X-ray scattering 7—1817
disordered solids, hydrogen absorption, model 7—26970
gas transport, structural implications 7—63870
glass-like, heat treatment, pore growth kinetics 7—58147
graphite, ultrafine, heats of combustion, ESR meas., depend. on exposure to air 7—33266
growth of crystalline and amorphous structures *(French)* 7—63526
hard disk disordered packings, geometrical properties 7—32287
ice, amorphous high-density struct. by neutron diffr. 7—37865
icosahedral crystals from cuts in six-dimensionalspace 7—1929
icosahedral structures and tiling, geometry and crystallography 7—1930
incomplete explosive crystn., linear stability anal. 7—1885
inorganic compounds large angle X-ray scatt., cryst. struct. data anal. 7—63476
magnetic materials, conference, Freudenstadt, Germany (April 1986) 7—48144
neopentane, plastic phase orientational motion, Raman and IR spectra anal. 7—57067
oxide anodic films on Al, struct., surface EXAFS, magic angle spinning NMR studies 7—22382
packing fractions in random close packing 7—6513
pentacene, vacuum deposited amorphous films, X-ray diffr. and photoelectron spectra anal. 7—22434
polymers, semicrystalline, overcrowding in amorphous state 7—58164
quartz, crystalline, neutron and electron irrad., glassy props. 7—63664
quasi-crystallinity, non-uniformity and nanocomposites 7—1926
quasicrystals, intermediate state between amorphous and crystalline 7—1888
quasiperiodic tilings obtained by projection 7—1931
quenched states, local order of simple atomic substances 7—21104
radial distrib. calcs. using cubic spline 7—58116
reactive dyes, water soluble, lyotropic liq. cryst. mesophases and solid physical form 7—32276
semiconductors, amorphous tetracoordinated, long-range disorder and local order 7—63473
a-Si:H, structural characterisation, hyperfine interaction, ESR, ENDOR 7—53135
STEM technique for quantifying ang. correls. in amorphous specimens 7—21057
transition metal alloys, liquid and amorphous, chemical short-range order, electronic theory 7—44349
transition metal amorphous alloy coatings, microindentation response, microstruct. and composition effects 7—46625
water, quenched to low temp., glassy state, Monte Carlo simulation 7—26633
Al-Co icosahedral alloys, struct., elec. and mag. props. 7—6583
Al-Cr(Mn)(Fe) amorphous films, quasicrystalline transformation by ion irradiation 7—2071
Al-Fe-Si, quasicrystalline phases and amorphous structure 7—51637
Al-Mn, periodic and quasiperiodic crystals 7—1928
Al-Mn quasicrystals, field ion images, computer simulation studies 7—32368
Al-Mn quasicrystals, local struct., EXAFS and XANES studies 7—6582
Al-Mn surface icosahedral phase form., ion beam mixing and interdiffusion 7—16653
Al-Mn system, quasicrystal form., metallurgy 7—3295
Al-Mn-Si, quasicrystalline phases and amorphous structure 7—51637

noncrystalline state structure continued
Al-Mn-Zr (7,1 wt.%), rapidly solidified, quasicrystalline phase precip. 7—3310
Al-Nb amorphous films, elec. props. and charactn. *(Japanese)* 7—32977
Al-V alloy, amorphous and quasicrystalline state, electron diffr. study 7—63562
AlMn films, ion irradiation-induced amorphous to quasicryst. transform., comp. depend. study 7—16654
AlMn icosahedral phase, atomic struct., electron diffr., studies 7—32366
AlMn quasiperiodic material, disorder systematics, X-ray scatt. studies 7—11995
$Al_{1-x}Mn_x$ cryst. and quasicryst. alloys, struct. and mag. props. 7—1949
Al_4Mn alloy, decagonal and icosahedral phase coexistence, electron diffr. studies 7—11991
Al_2O_3 anodic films on Al, struct., magic angle spinning NMR study 7—22382
Al_2O_3-TiO_3 amorphous films, thermal expansion and coordination state of cations 7—44860
Al_2O_3-ZrO_2, Zr environment, EXAFS studies 7—63465
Ar, rapidly quenched, Voronoi polyhedron distrib. calc., mol. dynamics method 7—26636
Bi-Ag, struct. of 10 mole % Ag alloy, liq. and amorphous states 7—6512
C, amorphous, origin of extragraphitic low angle peaks in X-ray diffr. patterns 7—37859
C, amorphous film, modification by inert gas ion irradiation 7—64018
C, graphitic and non-graphitic, amorphous struct., X-ray diffr. studies 7—58143
a-C:H, film, optical and electronic props. rel. to deposition parameters 7—38406
a-C:H, props., review 7—51630
CO_2, amorphous solid, mol. vibr., IR spectra anal. 7—53307
Ca-Al-Ga metallic glasses, electron transport and X-ray struct. factor meas. 7—45264
$Cd_{1-x}Mn_xSe$, powder, stress effects, amorphisation *(Korean)* 7—27960
$CeNi_2H_x$, stoichiometry deviation and structural disorder, H content depend., EXAFS study 7—64815
Co-base amorphous metallic films, SAX investig. *(Russian)* 7—51576
Co_2Ge, chemical bond, struct., short range order 7—32350
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromag. alloy struct., shock loading effects, mag. struct. anal. 7—2100
CoP amorphous films, FMR spectra during crystallisation 7—53142
$Co_{77}Si_{10}B_{13}$, amorphous, structural anal. *(Korean)* 7—26637
$Co_{25}Ti_{75}$, amorphous struct., neutron and X-ray diffr. 7—58149
$Cu_{57}Hf_{43}$ amorphous alloy, local Hf environment, TDPAC spectra study 7—32303
CuTi:H, medium-range structure, ASAXS study 7—58203
Cu_4Ti_3, electron irradiation induced amorphisation, high resolution electron microscopy 7—44373
Cu_xTi_{1-x} amorphous alloys, neutron diffr., computer simulation studies 7—21109
CuTiH(D) amorphous hydrides, neutron diffr., computer simulation studies 7—21109
CuZr, amorphous and cryst., bond length determ. from EXAFS data 7—63553
$Cu_{10}Zr_7$, cryst. and amorphous, muon spin resonance studies 7—53196
$Er_{0.135}Fe_{0.813}B_{0.052}$ melt spun ribbons, mag. and struct. props. 7—59059
Fe, amorphous, elastic constants, relax. effects 7—51910
Fe-B, amorphous metallic films, SAX investig. *(Russian)* 7—51576
Fe-B-based amorphous alloys, struct. evolution during heating *(Russian)* 7—16418
Fe-Ge amorphous and cryst. layers, short range order and valence bands 7—13266
Fe-Te amorphous thin films, RF sputtered, struct. and elec. meas. 7—12534
Fe-Zr, amorphous and microcrystalline, exchange interaction and saturation magnetisation 7—45651
$Fe_{84}B_{16}$ amorphous alloy, layer-by-layer phase anal., depth-selective conversion-electron Mossbauer spectroscopy 7—17255
$FeCr_{10}P_{13}C_7$ amorphous alloy, surface layer chemical bonds, XPS studies 7—12417
Fe_2Ge, chemical bond, struct., short range order 7—32350
$Fe_{0.44}Ni_{76.87}Si_{7.88}B_{14.56}C_{0.25}$, amorphous filler metal, struct. props. *(Korean)* 7—32292
Fe_3O_4-CaO-SiO_2 amorphous oxides, magnetic props. and struct., Mossbauer spectra study 7—7538
$Fe(Pd_{1-x}Au_x)_3$ disordered alloys, atomic and mag. structs., Mossbauer studies *(Russian)* 7—17247
FeSiB amorphous alloy, double-layer struct. unit model 7—16423
$Fe_{77}Si_{10}B_{13}$, amorphous, structural anal. *(Korean)* 7—26637
$Fe_{92}Zr_8$, mag. susceptibility, elec. resist., magnetoresistance meas. 7—52954
Ga film, vac. condensates, struct. and opt. characts. 7—2404
Ge, amorphous and partially crystallised, X-ray absorpt. investig. of struct. *(German)* 7—46241
Ge amorphous films, struct. and crystn., EXAFS study 7—64005
a-GeSi:H, deposition kinetics and structural control 7—45087
$Ge_{1-x}Sn_x$ amorphous films, structural changes on annealing 7—16422
a-H_2O films, low temp. elastic props. 7—45099
K_2O-Ga_2O_3-SiO_2-Al_2O_3-Fe_2O_3-FeO melts, struct. role of Fe^{3+}, Ga^{3+}, Al^{3+}, Fe redox ratio 7—26635
$LaNi_5$, amorphous, short range order 7—37858
$LaNi_2H_x$, stoichiometry deviation and structural disorder, H content depend., EXAFS study 7—64815
MgO-SiO_2 melt, struct. study 7—58142
Mn_3Ni_2Si, rapidly solidified, Friauf-Laves phase related quasicrystal, TEM obs. 7—51706
Mo-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7—64779
Mo_xNi_{100-x}, x=20, 28, 35, 48, 63, amorphous, struct., short range order, thermal stability 7—21107
MoO_3 thin films, amorphous, vacuum deposited, struct. 7—51635
$MoSe_3S$ cathode for secondary Li batteries, prep. and characterisation 7—64948
Nb_2O_5, anodic amorphous oxide films, short-range order 7—28200
Ni-B amorphous alloys, crystallisation produced by ion implantation, TDPAC study 7—32288
Ni-Ge amorphous and cryst. layers, short range order and valence bands 7—13266
Ni-P films, electroless deposited, struct., electron microscopy studies 7—7041
Ni_2Ge, chemical bond, struct., short range order 7—32350

noncrystalline state structure continued
$Ni_{77}Si_{10}B_{13}$, amorphous, structural anal. *(Korean)* 7−26637
NiTa, quenched amorphous alloy, thermal stability and crystn. *(Russian)* 7−11911
$Ni_{63.7}Zr_{36.3}$ amorphous alloy, short-range order and struct. relax. 7−51642
$Ni_{64}Zr_{36}$ amorphous alloy, local struct., EXAFS and neutron diffr. studies 7−64813
$PbTiO_3$, amorphous, with 10 mol.% B_2O_3, radial distrib. function determ., energy dispersive X-ray diffr. method 7−16420
Pd-H_2, Pd-based ternary system, hydrogen absorption, model 7−26970
PdRhPSi(SiNi), amorphous laser processed surface alloy on cryst. Ni in NaOH soln., anodic characts. 7−28317
Pu-Fe(Ta)(Si) alloys, formation amorphous or metastable structures 7−16421
Rb, rapidly quenched, Voronoi polyhedron distrib. calc., mol. dynamics method 7−26636
Ru-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7−64779
a-Se, structural disorder model 7−26641
a-Si alloy development for photovoltaic power devices 7−34045
a-Si, Bragg diffr. from cryst. clusters 7−44374
Si CVD thin film, struct. and elec. props. 7−21730
a-Si, density of states, spectral function, calcs. using eqn. of motion method in k-space 7−27236
a-Si, doped, thermal equilibration struct. 7−1887
Si film, amorphous, small-angle scatt. of electrons in STEM obs. of defects and voids 7−21754
a-Si, lamellate structure 7−21740
a-Si, pure and H-doped, structural props., EXAFS study 7−64760
a-Si:H, configurational models and adiabatic potentials of H 7−51632
a-Si:H, defect structure, ab initio theory 7−32298
a-Si:H, influence of H on defects and instabilities 7−26647
a-Si:H, plasma deposited NMR, Pake doublet 7−27617
a-Si:H films, annealed, structural changes, PMR studies 7−7596
a-Si:H films, bond angle distortions, substrate temp. effects, Raman study 7−7882
a-Si:H films, electronic props., effects of γ-irradiation 7−38584
a-Si:H films, thermal-equilibrium defect processes 7−26640
a-Si:H films and solar cells, light induced effects 7−46954
a-Si:H surfaces and interfaces, microstruct., ellipsometry studies 7−38362
a-Si:H thin films, bulk and interface struct., in situ ellipsometry study 7−27200
a-$Si_{1-x}C_x$:H films prepared by plasma CVD method, props. *(Japanese)* 7−12543
SiAlON composites, interfacial microstruct. 7−16429
a-SiC:H, elec., optical and local structure props. 7−45089
SiC:H (F), amorphous, electronic and structural props. 7−17054
Si_xC_{1-x}:H, amorphous, local atomic arrangement, EELS and electron diffraction 7−44378
SiGe:H, amorphous, electronic and structural props. 7−17054
a-SiGe:H,F glow discharge films, microcrystallinity studies 7−45088
Si_xH_y amorphous alloy films, microstructure, XPS study 7−22436
SiN_x:H films, amorphous, glow discharge deposited, IR absorpt. and Raman scatt. spectra 7−46003
SiO_2, amorphous, intrinsic defects, semiempirical mol. orbital studies 7−63474
SiO_2, amorphous, neutron diffr. meas., inelastic scatt. corrections 7−11850
SiO_2 amorphous film, ionic character, HEED study 7−63468
SiO_2, cryst. and amorphous, point defects and electronic props. 7−64082
SiO_2, natural oxide on a-Si, structure, HEED study 7−63469
SiO_2, pyrogenic, void volume, applied uniaxial pressure *(French)* 7−51631
a-SiO_2 with high surface area, local order 7−52201
SiO_2-Si interface, insulator props. after exposure to H_2+N_2 and NH_3. 7−59693
a-SiO_x:H films, local struct. EXAFS study 7−59291
Ta_2O_5, anodic amorphous oxide films, short-range order 7−28200
TbCo, amorphous sputtered films, mag. props., film struct., comp., internal stress meas. *(Japanese)* 7−7570
$Tb_{21}Fe_{79}$ amorphous films, radial distribution function 7−37860
Te-based materials, reversible optical data storage appl. 7−37068
Te-based thin films, crystn. rate, thermal stability, erasable optical recording appl. 7−37069
TeO_x:Ge,Sn films, optical props., thermal stability 7−39207
Ti-Cu-Ni-Si amorphous alloys, structural relax. annealing, X-ray diffr. studies 7−6537
Ti-Ni, crystalline to amorphous transitions, struct. anal. 7−44375
W/C multilayer films, thermal stability, X-ray diffr. studies 7−27169
W-Si amorphous thin films, DC sputter deposited, crystn. temp., DTA 7−21720
$Zr_{1-x}Cu_x$ amorphous sputtered alloys, low energy excitations, sp. ht. meas., structural relax. effects 7−11913
$Zr_{68}Hf_2Cu_{30}$ amorphous and cryst. alloy, elec. field gradient, TDPAC meas. 7−2958
ZrO_2/Al_2O_3 ceramic incoherent interface struct. 7−16430
ZrO_2/mullite composite ceramic, grain boundary HREM study 7−16427
ZrO_2-SiO_2 optical films, struct. modification by coevaporation 7−45064

nondestructive testing
see also acoustic emission testing; eddy current testing; flaw detection; radiography; ultrasonic materials testing
acoustic and optical nondestructive evaluation techniques for reactor components 7−54071
acoustic microscopy, industrial applications of large-scale 10-100 MHz system 7−43598
atomic imaging of semiconductors, using JEOL 4000 EX TEM 7−32230
ball bearing rolling ring, surface roughness meas. using vibration analysis 7−54060
Barkhausen noise method, induction transducers for magnetic. jump detection, design and computation problems 7−39823
binary mixtures, neutron-gamma transmission based composition meas. 7−54215
boiler tube NDT inspection systems 7−20549
ceramic materials, nondestructive evaluation, converging-surface-acoustic-wave technique investig. 7−54049
ceramic tubes, acoustic anal., nondestructive examination method 7−13705
coating thickness meas. 7−13703
composite material, nondestructive meas. of dielec. permeability by nonsteady frequency-phase method 7−33888

nondestructive testing continued
composite structure analysis using optical fibre modal sensing techniques 7−28259
composites, thermography makes progress in NDT *(French)* 7−39831
crack detection and sizing using AC field meas. 7−46770
crack initiation sites, determ. using digital NDE workstation 7−65277
CT methods use for nondestructive inspection under conditions of insufficient data 7−39818
cultured quartz Al defects, IR and laser spectroscopic charactn. 7−59234
damaged fuel assemblies, neutron tomography 7−30555
demagnetisation system, automatic 7−65260
density gradients in ceramic pellets measured by computed tomography 7−39840
dielectric material, radiation diagnostics of electric potentials, sensitivity and resolution 7−8233
dielectric materials, contactless testing, RF method, linear antennas impedance meas. 7−54054
dielectric waveguides use as sensors for dielec. consts. 7−4863
diffusely scatt. objects, dynamic deform. meas. by holographic moire and speckle interferometry 7−46764
dynamic materials testing using fibre optic sensors 7−46778
elastic wave, diffraction tomography, quantitative, with pulsed waves 7−50878
electric current NDT methods, numerical modelling, appl. to weld testing 7−33882
engineering ceramics evaluation by gamma-ray computerised tomography 7−28258
engineering measurements, optical methods, review 7−30072
EPRI, NDE Center, 1985 annual report 7−10226
fault tree anal. 7−17756
ferrite articles quality monitoring using mag. noise method 7−22963
ferromagnetic cores, magnetisation, odd harmonics and secondary EMF 7−2889
ferromagnetic materials, magnetoacoustic and Barkhausen emission study NDT appl. 7−45749
fibre optic sensors for nondestructive evaluation of composite materials 7−20448
fibre reinforced plastic composites 7−17752
film based industrial computerized tomography 7−54067
fringe compensation in speckle interferometry, NDT appl. 7−18864
E-glass fibre composite interfaces, surface studies using diffuse reflectance and photoacoustic FTIR spectra 7−46044
graphite, fracture criterion, acoustic emission studies *(Japanese)* 7−8088
graphite fibre reinforced epoxy, NDT by OTDR in embedded optical fibres 7−28255
graphite fibre reinforced epoxy laminates, holographic interferometry analysis of bending rigidity loss 7−59733
high-temperature corrosion film characterization using Raman microscopy 7−46772
holographic and speckle image shearing interferometry, NDT appl. 7−30075
holographic contouring appl. to materials testing 7−31283
holographic interferometry, computer-based fringe interpretation 7−31264
holographic NDT, conf., Los Angeles, CA, USA (Jan. 1986) 7−35090
holography and shearography comparison 7−39836
holography market trends, embossed holograms, opt. elements and NDT systems 7−25742
image processing for stress analysis *(Italian)* 7−46777
IR imaging of subsurface structures, using pulse video thermography 7−33899
laminated dielectric, parameters determ. near min. of absolute refl. coeffs., variable freq. radio-interference method 7−65264
laminated dielectric with losses, parameters determ. in broad freq. range, inspection method 7−65263
laser-generated focused acoustic waves, NDT appl. 7−17754
LWBR irradiated fuel assay gauge, qualification 7−42117
macroscopic physical props. relevance, structure-sensitive and structure-insensitive 7−8243
magnetic and thermoelec. methods of phase analysis 7−28240
magnetic materials, nondestructive eval., FMR photothermal-deflection spectroscopy 7−53137
magnetic structurescope based on the Barkhausen effect 7−28241
material stress inspection by digital thermographic image processing 7−33896
medical device industry, holographic testing appls. 7−40366
metals and semiconductor objects, contactless quasioptical resonator inspection 7−54052
microprocessor-aided process meas. and control technology *(German)* 7−65265
microstructure, visible-near UV spectroellipsometry and spectrophotometry studies 7−46758
NDT, scanned local thermal-wave probing 7−46766
nuclear power plant in-service inspection and reliability programme 7−15292
optical filtering, noncoherent, for automating testing of semiconductor structures 7−20153
optical methods in composites, conf., Keystone, USA (Nov. 86) 7−55894
optical nondestructive evaluation at the National Bureau of Standards 7−39835
optical surface contaminants identification, using electron spectroscopy and SEM techniques 7−4935
optical techniques 7−33897
optics in engineering meas., conf., Cannes, France (Dec. 1985) 7−29586
permeable fibre materials, thin sheets, determ. of ave. pore size by optical method 7−22961
phase shifting holographic interferometry 7−31288
photothermal radiometry appl. using IR scanners 7−33898
positron-annihilation apparatus for layerwise analysis of defects in solids 7−39219
pulsed holographic interferometry, NDT appls. 7−39838
radiography, effect of noise on edge determination 7−33893
reactor pressure vessel, crack propag. under cyclic thermal loading, NDT results 7−10219
real-time holographic interferometry 7−28239
reliability estimate for multiparameter NDT 7−3562
remanent life assessment, predictive methods, present status and future developments 7−8217
resistivity based inspection of case hardened parts 7−39842
rotating solids, thermal-wave imaging 7−54047
Russell effect and its use in nondestructive testing 7−46771
sandwich holography appl. to stress anal. of paintings on canvas 7−31284

nondestructive testing continued
- sapphire, sub-surface, defect obs., by Rayleigh wave reflection in scanning acoustic microscope 7—13710
- scanning acoustic microscopy appl., NPL developments 7—22959
- semiconductor materials, electrophysical parameters, local monitoring nondestructive contactless UHF cavity methods 7—48768
- semiconductor materials and devices, characterisation by noise methods, review 7—59720
- semiconductor wafers, integrated circuit metrology with confocal optical microscopy 7—46773
- SIAM, microcomputer aided crack detection system *(French)* 7—13713
- Sizewell B PWR, steam generator design for nondestructive exam. requirements 7—56793
- solid surface, thermal-wave transient behaviour 7—54034
- spacial solar panels, LF noise as nondestructive inspection test 7—39996
- spent nuclear fuel assemblies, nondestructive burnup meas. at reprocessing plant *(Japanese)* 7—17753
- stainless steel, type 304, electrochemical tests for sensitization detection 7—33894
- stainless steel, type 304L, electrochemical tests for sensitization detection 7—33894
- steel, Cr-Si type parts, mag. characts. after isothermal hardening, heat treatment quality inspection method 7—65261
- steel, ferromag., magnetic state inspection, elastic stresses in trans-Rayleigh region 7—3558
- steel, high speed, TiN, ion plasma coatings, struct. and thickness, X-ray inspection method 7—28177
- steel, pressure vessel, small angle neutron scatt. technique studies 7—59735
- steel, structural, heat treated, coercivity in various remanent magnetization states, NDT method development 7—65259
- steel, thermal conductivity profile, inverse determ. from thermal wave surface data 7—46751
- steel reinforcement, hot-rolled, strength characts. eval. using mag. method 7—39824
- stress distribution around surface crack using scattered-light photoelasticity 7—37403
- surface-breaking discontinuities, Rayleigh wave diffr. 7—27084
- Surry steam generator, examination and eval., nondestructive testing 7—54065
- thermal neutron imaging device with low-pressure multistep avalanche chamber 7—46763
- thermal-wave imaging for nondestructive evaluation 7—46754
- thermal-wave lens, ray diagrams, focusing 7—54046
- thermographic methods applied to industrial materials 7—46750
- thin plates, remote meas. of in-plane components 7—62958
- transmission electron spectrometry for void detection in solids 7—39827
- ultrasonic bonders, development of non-destructive bond monitoring techniques 7—20586
- video images, digital enhancement techniques 7—65272
- weld, NDT, elec. current methods modelling 7—3553
- welding seams, photothermal nondestructive radiometric eval. 7—46752
- welds, NDE calibration, prod. and sizing of uniform 2D flows 7—17757
- WWR-SM type fuel assemblies, γ-spectrometric burn-up study method 7—49552
- X-ray computed tomography for nondestructive industrial testing 7—59719
- X-ray microtomography with synchrotron radiation 7—47224
- Zircaloy tube sample eddy current testing 7—56762
- Al, SAW generation by thermoelasticity for nondestructive testing appl. 7—44981
- Al_2O_3, sintered, small-angle neutron scatt. from porosity 7—39825
- C fibre reinforced plastics, NDT, optothermal method, degree of cure 7—59728
- Cu, corrosion inhibition complex study using Raman microscopy 7—46772
- Fe-Si, thermoelec. rapid inspection, contacts temp. effect 7—2580
- $Ga_{1-x}Al_xAs$ solid soln. epitaxial layer composition, Raman determ. 7—64628
- Gd_2O_3-UO_2, nuclear fuel, interdiffusion coeff. study using autoradiographic technique 7—36157
- $LiBnO_3$, charactn. by γ-ray diffr. 7—54061
- $Mg_{1-x}Cr_xFe_2O_4$, Barkhausen noise parameters correl. with strength 7—22963
- Si single crystal, reactive ion etching-induced damage, nondestructive thermal wave monitoring 7—28230
- Si thin wafers, photoacoustic pulses, optical detect. 7—54050
- Si:B(BF_2) wafers, activated carrier density profile and scatt. rate meas., nondestructive IR attenuated total refl. technique 7—22207

nonelectric sensing devices
- *see also fibre optic sensors*
- boundary layer transition detector, using differential interferometer 7—20822
- dew point sensor for gas mixtures and pure gases *(German)* 7—56248
- electro-optic frequency shifters appl. in heterodyne interferometric systems 7—18866
- fibre optic chemical measurements in industry *(French)* 7—46894
- flow measurement utilizing fluidic technology 7—37561
- flow sensor, swirling jet type, and flow field 7—37562
- flow/pressure meas. using oscillating fluidic LPA 7—37563
- flowmeter, hydrodynamic oscillator type 7—37565
- flowmeters, propeller type, vibration effects 7—37597
- grating sensor, moire signal modulation depth under incoherent illum. 7—31447
- light beam detectors for industry *(German)* 7—299
- linear grating sensors, moire signal quality rel. to light source coherence and grating gaps 7—31446
- Microshell-tipped optical fibres, high-press. shock detectors 7—30030
- non-contract high precision optical surface measuring instrument 7—48686
- noninvasive US techniques in process instrumentation and meas. 7—13706
- nonperturbing boundary-layer transition detector for hypersonic wind tunnel, based on laser interferometry 7—20821
- optical waveguide sensors, review 7—50779
- optically activated resonator sensors for environmental appls. 7—23264
- optically excited resonant diaphragm pressure sensor 7—56243
- proximity sensors, flow meas. with beam-scanning LDV 7—37604
- speckle interferometer based remote electro-optic displacement sensor 7—48838
- underwater optical probe for laser Doppler anemometry 7—16279
- US distance detector for industrial appls. *(Spanish)* 7—16043
- US level sensor for liquids under high pressure 7—11235

nonequilibrium flow
- bubbly gas-liquid mixture through nozzles, transient interphase energ transfer 7—6281
- chaotic mixing, two periodic model flows anal. 7—43934
- disperse media flow with internal degree of freedom, nonequilib. gasdynamics, kinetics and catalysis 7—44019
- dynamical structure factor of a fluid in nonequilibrium steady state 7—31752
- nonequilibrium linearised MHD flow over wavy wall 7—63226
- Rayleigh line calcs. for nonequilibrium fluid with constant shear flo 7—26252
- shear flow, statistical methods, conf., Oaxtepec, Mexico, Jan. 198 7—24268
- transient processes, EM radiation field effect, shock wave effect 7—43979
- N_2, vibrationally nonequilibrium jet, Na impurity radiation 7—42744

nonleptonic decays
- *see also baryon hadronic decay; meson hadronic decay*
- S-wave nonleptonic hyperon decays in quantum chromodynamics 7—1514
- $D \to dg$, exotic quark decay in E_6 theories 7—19047
- $S\bar{f}f$, $S\gamma\gamma$, $S\gamma Z^0$ couplings, $S=V_LV_L$, $V_L=W^{\pm}$, Z^0, nonrelativistic boun state calcs. 7—49154

nonlinear acoustics
- acoustic power measurements of focused waves:radiation force an Raman-Nath methods 7—11203
- acoustic turbulence, cavitation effects 7—11206
- acousto-optic signal processing system intermodulation products 7—1041
- air-filled granular media, acoustic slow wave propag. 7—50822
- body fluid bubble oscillations 7—65780
- bubble interactions and radiated pressure waves 7—16018
- bubble sizing using double freq. technique 7—31556
- Cherenkov radiation, excitation in moving relax. media, appls. 7—37237
- circular vibrating membrane, acoustic pressure analysis 7—11211
- coherent combination-frequency reflection of electromagnetic waves from rough interface exposed to acoustic radiation 7—43494
- crystals, acoustic props., defect effects *(Russian)* 7—26069
- damping in liq. with gas bubbles 7—20491
- difference frequency wave appl. to nonlinearity parameter meas *(Japanese)* 7—50883
- elastic/viscoelastic boundary propag. 7—11201
- exact energy corollary for homentropic flow 7—1302
- excitation of surface waves by sound in a liquid containing gas bubble 7—62883
- finite amplitude distortion and dispersion of anonplanar mode in waveguide 7—6029
- focused Gaussian ultrasonic beam in nonlinear medium 7—50821
- focussed wave beam superposition calcs. 7—62881
- frequency weighted sound pressure of a movingpoint source in a nondissipative medium 7—1301
- gas flow distribution meas. system using nonlinear US sounding 7—37586
- Helmholtz resonators, nonlinear tuning curves 7—43497
- high-intensity sound waves generated by supersonic flow, volume heat release source effects 7—16022
- Laval nozzles, acoustic disturbance propag. in transonic zone 7—62882
- liquid-filled resonator tube, influence of gas bubbles 7—62880
- liquids, nonlinear response in acoustic resonance region, determ. by four-wave mixing 7—43216
- liver, acoustic nonlinearity and sound speed, use for composition estimation 7—47157
- long range nonlinear acoustic propagation, geometrical and diffusiv effects 7—26068
- MHD high power generator, stability of nonuniform subsonic flow agains quasi 1D acoustic oscillations 7—44266
- mode conversion in layered structures with magnetic inhomogeneitie 7—62878
- multiple-quantum phase conjugation in microwave acoustics 7—11202
- noise, broadband, active attenuation 7—20503
- nonisentropic propag. in uniform ducts using Euler eqns. 7—6314
- nonlinear random waves, evolution of higher order spectra 7—62886
- parametric reception of acoustic signals with the application of a focuse pump 7—50818
- parametric waveforms and spectra of the primary pulses with two kinds o envelopes 7—26066
- physical acoustics, conf., Varenna, Italy (July 1984) 7—9599
- physics of acoustic cavitation 7—11207
- plane circular sound source, nonlinear radiation *(French)* 7—1300
- plate turbulent boundary layer acoustic pressure spectrum 7—43496
- point source near field propag. 7—20487
- potential flows, linear and nonlinear acoustic wave eqns. 7—16015
- quartz bars, nonlinear electroelastic eqns. of wave propag. and vibr 7—57625
- radiators, nonlinear parameter eqns. 7—62884
- Rayleigh wave nonlinear convolver components 7—1349
- recent theoretical developments 7—11205
- self-sustained deep cavity oscillations induced by grazing flow 7—57622
- shocks instability in astrophysical environment, cosmic ray effect 7—34861
- soliton tank topologically dispersive design 7—26067
- sound beams in a nonlinear isotropic solid 7—62879
- sound scattering by vibrating surface 7—43498
- sound self-focusing, media with negative second viscosity 7—20489
- spatially inhomogeneous pulsed volume source characts. 7—16019
- suspensions, HF acoustic perturbation propag. singularities 7—13832
- synchronous interaction of nonlinear acoustic waves with heat puls 7—43493
- time-harmonic waves in reson. region, inverse scatt. problem 7—6030
- tube muffler, nonlinear acoustic resistance effects *(Chinese)* 7—20486
- ultrasonic field radiation force calculations 7—62877
- ultrasonic levitators, appl. to density meas. 7—50874
- ultrasound, anharmonic props. under intense excitation in diamond-li crystals and quartz plate 7—20488
- viscoelastic body, unidimensional acoustic wave propagation *(Russia* 7—20490
- vortices, compact, sand radiation theory 7—16020
- wave equation, inhomogeneous ID, in lossy medium, soln. using inver scatt. method 7—62885
- weakly nonlinear acoustic instabilities 7—57624

nonlinear acoustics continued
- Al alloy US nonlinearity dependence on second phase precipitates, obs. 7−2111
- Bi, solid-state plasma, microwave harmonics, parametric excitation of hypersound 7−38609

nonlinear control systems
- decomposition and control 7−61025

nonlinear differential equations
- Alekseev variation extension for neutral nonlinear perturbed diff. eqn., rel. asymptotic equivalence appl. 7−61011
- anharmonic motion eqn., series solns. 7−24383
- asymptotic linearity of solutions of nonlinear differential equations 7−24373
- bar, exact soln. of approx. differential eqn. under conditions of nonlinear equilibrium 7−31636
- beams, planar shear indeformable, nonlinear dynamics 7−43755
- Benjamin-Ono eqns., interacting soliton solns. 7−24433
- bifurcation from infinity for Berestycki-type perturbation 7−18577
- bifurcation without eigenvalues, asymptotic props. of solns. to differential equation 7−61043
- Burgers equation, integrability, Painleve test 7−14781
- Burgers equation, low order analogue, truncation effects 7−14782
- comparison theorem for general nonlinear ordinary differential equations 7−24377
- complex and real Lie algebras for nonlinear differential eqns. with superposition principles 7−4655
- complex time-dependent Ginzburg-Landau eqn., asymptotic spatial patterns 7−35310
- composite shell of revolution, flexible, weakened by notches, stress-strain state, num. method 7−16075
- computational continuum dynamics, introduction 7−4800
- conformally flat Riemannian metrics, Schrodinger operators and semiclassical approx. 7−56074
- cooperative systems of differential equations withconcave nonlinearities 7−9651
- coupled stationary bifurcations in non-flux boundary value problems 7−29717
- degenerate parabolic equations, Holder property 7−18601
- diffusion eqns., spectral fn. methods 7−48640
- diffusion equations, time-periodic solutions to semilinear parabolic equations 7−56193
- discrete nonlinear Schrodinger eqn., quasiperiodic solns. 7−48423
- discrete scatt. theory, eigenvalue problems and nonlinear differential-difference evolution eqns. 7−4725
- discrete self-trapping equation, non-steady soln. 7−14821
- divergent parabolic equations, generalized solns. and subsolutions, properties 7−35225
- drop, inviscid, in zero gravity environment, free and forced nonlinear oscills. *(German)* 7−20739
- elliptic equations, degenerate, derivative estimates, existence theorems for Dirichlet and Neumann problems 7−24374
- elliptic equations, global bifurcation of positive solns. 7−35238
- evolution equations, integrable, nonlinear, equivalent classes and generalized Miura transformations 7−55952
- evolution equations, nonlinear, multisoliton solns. 7−48377
- evolution equations, semigroups 7−55982
- explicit bounds for soln. of nonlinear partial differential eqn. 7−29707
- ferromagnetic thin film, precession soliton, nonlinear integro-differential eqn. soln. 7−64500
- fin, rectangular, heat transfer rate, power-law temp. depend. 7−1561
- flows through cascades of profiles in variable thickness layer, finite element solution 7−26307
- fluid mechanics, nonlinear partial differential equations, hybrid boundary integral-Taylor series approach 7−61108
- forced second order differential eqns., periodic solutions, symmetry and bifurcations 7−35236
- Fredholm alternative generalisation for nonlinear diff. operators, boundary value problem 7−9652
- general kinetic synthesis of n-order systems 7−9649
- geometry of differential equations, secondary differential calculus and quantum field theory 7−56408
- glass transition, Kirkpatrick's theory, nonlinear integral equation 7−44814
- Grad-Shafronov equations, isoperimetric inequalities and nonexistence 7−55993
- higher order parabolic eqns. with absorption, finite speed of propagation and asymptotic rates 7−61038
- human gait anal. math. model, quasi-linearisation technique 7−65791
- hydrodynamic eqns., integrability, gradient algorithm and Lax representation 7−61114
- hydromagnetic convection at a heated semi-infinite vertical plate 7−57933
- hyperbolic conservation laws, boundary conditions *(French)* 7−60986
- incremental harmonic balance method and harmonic balance-Newton Raphson method equivalence 7−4677
- injection lasers, bistable, instability studies *(Chinese)* 7−10923
- integrability conditions for systems for two equations of the form $u_t=A(u)u_{xx}+F(u,u_x)$ 7−4662
- inverse scatt. problem, quasiclassical approx. 7−24441
- Ito-type coupled nonlinear wave equation 7−48379
- Kadomtsev-Petviashvili hierarchy, integrable scalar equations 7−41061
- Klein-Gordon equation, nonlinear, modulational instability 7−48382
- Klein-Gordon nonlinear system, quantum tunneling with dissipation in external field 7−48381
- Lax pairs and perturbing time depend. force for Burger's hierarchy 7−29682
- Lax pairs for higher order eqns. of soliton hierarchies 7−29765
- multicomponent generalizations of integrable nonlinear partial differential eqns. 7−74
- narrow trough, solitary waves excited by two frequency modes *(Chinese)* 7−57862
- nerve axon equations, branching of single pulse to double pulse solns. 7−59909
- noninteraction spinless fermions, density functional theory 7−9753
- nonlinear homogeneous Boltzmann eqn., exact similarity solns. 7−61294
- nonlinear lattice with long-range interaction, wave propag. *(Russian)* 7−109
- nonlinear optical amplifier, resolution method for moment eqns. 7−43254
- Olech-Opial-Wazewski oscillation criteria, generalization to second order nonlinear eqns. 7−55991
- one dimensional unsteady flame propagation, nonlinear partial diff. eqn. system *(French)* 7−65320

nonlinear differential equations continued
- operator theory, symposium, Athens, Greece (Aug. 1985) 7−55878
- Painlevé test and integrability of Klein-Fock-Gordon eqns. 7−48309
- Painleve integrability test for nonlinear partial differential eqns. 7−41071
- partial differential equations, integration using Backlund, Darboux transformations and dressing method 7−41072
- partially ionised plasma, periodic nonlinear oscillations with continuity eqn. in Lotka-Volterra form 7−16307
- periodic envelope wave, 1D stability against 2D perturbations, nonlinear Schrodinger eqn. calcs. 7−41160
- periodic nonlinear differential eqns., Massera's convergence theorem 7−24390
- periodic solutions of nonlinear second order vector differential equations 7−61041
- periodic systems, nonlinear, localization of solutions 7−29742
- perturbed sine-Gordon eqn., nonequilibrium-to-equilibrium mapping 7−48319
- plane premixed flame, nonlinear differential system modelling *(French)* 7−28313
- plates, rectangular on linear elastic foundation, nonlinear dynamic response 7−20599
- Pohlmeyer-Lund-Regge equation, hierarchy of nonlinear evolution equations 7−41063
- porous media, degenerate parabolic eqns., difference schemes 7−51306
- predator-prey populations with diffusion, persistence in models 7−9748
- prolongation structures of nonlinear equations and infinite-dimensional algebras 7−41062
- quantum nonlinear optics, dynamic versus static stability 7−1063
- quantum nonlinear Schrodinger equation on lattice, classical and quantum variants 7−29817
- reciprocal auto-Backlund transformations, appl. to nonlinear evolution eqns. 7−41066
- reduced three-wave resonant system with nonconstant coeffs., group props. 7−41067
- Riemann-Hilbert problem, gauge theories, holonomy operator, Yang-Mills fields 7−35672
- Schrodinger equation, discrete, nonlinear, quasi-periodic solns. 7−56080
- Schrodinger equation, nonlinear, interacting soliton equations, inverse method 7−48433
- Schrodinger equation, nonlinear, perturbation-induced radiative losses in soliton collisions 7−24453
- Schrodinger equation with an external field, soliton studies 7−41121
- Schrodinger equations, $L^{\infty}(R^n)$ decay of classical solns. 7−56085
- Schrodinger spectral problem hierarchies of integrable eqns. obtained as nonisospectral deformations 7−61160
- second order, asymptotic behavior 7−48315
- second order, global existence and asymptotic behavior of solns. 7−61015
- second order nonlinear delay equation, asymptotic decay of oscillatory solns., convergence 7−29684
- semi-discrete wave eqns., asymmetric discrete envelope soliton solns. 7−61124
- shells, nonlinear elastic-viscoelastic layered, multi-director FEM formulation 7−43695
- sine-Gordon soliton, damped, mobility, finite temp. correction 7−48378
- singular nonlinear Schrodinger eqns. with polynomial nonlinearities, special spins. 7−29799
- solutions with time depend. velocities 7−29768
- steel, H anomalous diffusion, nonlinear partial differential eqns., C^2 solns. 7−58525
- Stepanov crystallisation method, stationary state existence conditions 7−32323
- Stokes phenomena and monodromy deformation problem for nonlinear Schrodinger equation 7−24445
- symmetries of nonlinear differential equations and linearisation 7−55963
- symmetry reduction systems of three-wave resonant interaction 7−41155
- three point boundary value problems, Liapunov theory appl. 7−29708
- three-wave resonant interaction eqns. in (2+1) dimens., group anal., Lie algebra 7−29769
- time dependent partial diff. eqns., soln. using multi-grid method 7−41080
- transport equations from statistical mechanics 7−48647
- vortex breakdown simulation, multigrid method 7−26284
- Walecka and Friedberg-Lee field theory models, nonlinear coupled diff. eqn. soln. method 7−61444
- wave equation whose solns. decay faster than exponentially 7−61122
- wave equations, two-dimensional, topological vortex dynamics, numerical simulations 7−48380

nonlinear equations
- *see also nonlinear differential equations*
- atomic radii calcs., elementary algebraic method 7−839
- boundary value problems, difference schemes in L_2 net space 7−18565
- conservative nonlinear operator difference scheme, correctness theorems 7−18567
- conservative uniformly accurate difference method for a singular perturbation problem in conservation form 7−48325
- convection-dominated linear and nonlinear parabolic problems, Petrov-Galerkin method 7−18726
- cylinder, nonlinear elastic thick-walled, multi-parameter equations solution 7−26143
- difference equations, critical values 7−61003
- finite element analysis of steady nonlinear harmonicoscillations of axisymmetric shells 7−6133
- global blow-up of a nonlinear heat equation 7−62968
- gravitation, nonlinear eqns., boundary-value problem solns. 7−24507
- Hamiltonian systems with indefinite kinetic energy 7−18594
- Harry Dym eqn. in 2+1 dimensions, reciprocal link with Kadomtsev-Petviashvili eqn. 7−61037
- heat transfer characteristics, of flat plate thermometers, effect of variable fluid property 7−43910
- inverse problems and the Newton-Kantorovich method 7−62596
- monotone techniques for first order boundary value problem 7−55969
- multiple positive solutions of nonlinear integral equations and applications 7−29686
- multiplicity results for nonlinear elliptic equations involving a critical Sobolev exponent 7−24397
- nonlinear dynamical systems, decomposition method for modelling 7−24411
- nonstationary iteration methods of solving nonlinear operator equations 7−60999
- one dimensional porous media, turbulent filtration eqn. 7−31879
- oscillatory excitation of linear and nonlinear systems 7−29720

nonlinear equations continued
  phase problem, complex coherence function, nonlinear integral eqns. 7−9710
  plates, orthogonally stiffened, under lateral and axial loads 7−37360
  plates and envelopes, nonlinear theory and net approx. 7−18597
  predictor-solver continuation methods, convergence cones near bifurcation 7−35203
  random equations. with noncoercive operators in Banach spaces 7−24386
  relative error minimisation, associated nonlinear integral eqn., harmonic mean 7−61014
  semilinear elliptic equation in L^1 with absorbing nonlinearity, optimal soln. conditions 7−60935
  semilinear equations in large balls, set of positive solns. 7−61039
  smoke ring vortex motion, exact soln. to localized induction approx. eqn. 7−6225
  solitons, propagation in a randomly inhomogeneous active medium, Korteweg-de Vries eqn. 7−61128
  space-charge currents, transient decay, description using integro-differential eqns. 7−7643
  Volterra equation with L^2-solution 7−61051
  Volterra equations, asymptotic behaviour of solns. 7−24389
  Volterra integral equations with several kernels, construction method 7−29706

nonlinear field theory
  1+1 dimensional scalar field theory, effective interaction treatment within the Gaussian approx. 7−41614
  (2,2) SUSY σ-models, higher order counterterms, superstring effective action 7−15079
  $\lambda\theta^4$ triviality issue in a Robertson-Walker spacetime 7−30160
  $\lambda\phi^4$ Gaussian effective action, comparison with free vacuum energy, confinement 7−15065
  $\lambda\phi^4$ theory,, nonhomogeneous boson condensation, vacuum structure and temp. effects 7−397
  $\lambda\phi^4$ theory, two-, three-dimensional, finite temp. props., Monte Carlo anal. 7−24798
  $\lambda\phi^4$ theory in N dimensions 7−400
  $\lambda\phi^4$ theory triviality problem in time-dependent space-time 7−18998
  $(\lambda\phi)_{3+1}{}^4$, gaussian effective potential, nontrivial positive λ_B soln. 7−409
  σ model, chiral, meson analysis, coupling to GSW bosons 7−48995
  σ models, minimal R operation in the 1/N expansion 7−35719
  σ-model, appl. of Schwinger-Dyson formulation of coordinate-invariant regularization 7−61464
  σ-model, supersymmetric, nonlinear, constrained Hamiltonian formalism, canonical struct. 7−30153
  σ-model, two-dimensional, four-loop order β fn. calc. 7−12610
  σ-model anomalous dimensions calculation 7−35679
  σ-model simulation of strongly interacting Higgs sector, physical consequences of $J=1$ bound states 7−48975
  Σ-models, electroweak interactions in gauged hidden symmetry 7−48950
  σ-models, momentum mapping construction for quaternionic Kahler manifold 7−48937
  σ-models, renormalization groups flow 7−15050
  σ-models, role of perturbation theory 7−4964
  σ-models, two-dimensional, N=4, existence of solitons 7−61462
  σ-models, two-dimensional, supersymmetric, ultraviolet props. 7−48972
  $\phi_2{}^4$ field theory, Federbush mode decomposition 7−19013
  $\Phi_4{}^4$ Euclidean field theory theory, Lipatov 7−56402
  $\phi_4{}^4$ model with negative coupling constant, necessity-sufficiency problem of renormalisation 7−56455
  $\phi_4{}^4$ theory with negative coupling 7−49005
  $\phi_\nu{}^4$ quantum field theory, coupling constant bound violation 7−9980
  $(\phi^{2N})_2$ field theory, mass gap and mass renormalisation using finite elements method 7−35702
  $\phi^3+\phi^4$ field, quantum fluctuations around soliton at finite temp. 7−41593
  ϕ^4 field theory, critical behaviour and random walk representations 7−48532
  ϕ^4 field theory in (1+1) dimens., post-Gaussian approx. approaching the critical region 7−41615
  Φ^4 field theory on square lattice, finite size scaling anal. 7−9945
  ϕ^4 theory, conformal anomalies, path integral formulation 7−423
  ϕ^4 theory, statistical physics conf., Koszeg, Hungary, Aug.-Sept. 1984 7−48194
  ϕ^4 theory, stochastic quantization simulation with slave eqns. 7−48960
  ϕ^6 field theory, existence of quantum solitons in 1+1 dimensions 7−56443
  $CP_{N-1}1/N$-action by inverse scatteringtransformation in angular momentum 7−384
  AC-driven damped 1D sine-Gordon system, phase-pulling and space-time complexity 7−48440
  asymmetric scalar field theory, soliton soln. 7−9940
  Atiyah-Singer index theorem, boundary conditions and vacuum quantum numbers 7−61447
  axial model in curved space-time 7−61453
  axially symmetric higher-dimensional gravity, Belinsky-Zakharov N-soliton transforms. 7−41207
  axially symmetric higher-dimensional gravity, Neugebauer-Kramer transforms. 7−41206
  baryon resonance photoproduction, helicity amplitudes in Skyrme model 7−19118
  Bose field, symmetric group characters and Young diagrams 7−401
  bosonic σ-model, two-dimensional, defined on curved two-space, conformal anomaly anal. 7−9953
  bosonic nonlinear σ-models, nonrenormalizable ultraviolet divergences 7−4977
  bosonic strings, dilaton coupling to σ-model and BRST 7−10040
  BRST charge operator as nonlinear transformation generator of constraint superalgebra 7−61450
  chiral σ-model, vacuum instability 7−48982
  chiral bag plus Skyrmion model, axial coupling g_A at large bag radius 7−10035
  chiral field, Bethe-ansatz soln., complete S-matrix and bootstrapping props. 7−48961
  chiral field theory, low momentum penguin loop contribs. and $\Delta I=1/2$ rule 7−41647
  chiral gauge theories, anomalies and Weyl modes 7−56447
  chiral gauge theories, gauge-invariant point-splitting procedure 7−56425
  chiral soliton model, baryons as rotating excitations 7−5066
  chiral soliton models, axial vector coupling constant and quark confinement 7−24835

nonlinear field theory continued
  classical Toda lattice, sine-Gordon thermodynamics, Bethe-ansatz eqn. anal. 7−61272
  closed strings in background fields, β-functions and vertex operators 7−49118
  colour-dielectric model, numerical solns. 7−469
  compactified bosonic string and topological solitons 7−49036
  compactified superstrings and torsion, nonlinear & model 7−35816
  complex sine-Gordon theory, one-soliton solns., virial approach 7−30195
  complex supersymmetry and the supersymmetric skyrmion 7−56458
  composite Nambu-Goldstone superfield, dynamical aspects of minimal realisation 7−4999
  constrained fermionic system, equivalence with free parafermionic and sigma models 7−19018
  constraint and functional methods in field theory 7−56452
  CP^1-like models, classical eqns. of motion, actions, and stability 7−48953
  CP^{N-1} model, deconfinement by minimally coupled massless fermions 7−56516
  CP^{n-1} model, two dimensional, mass gap in finite volume, two-loop calcs. 7−15062
  CP^N models, homotopy theory applications, review 7−24793
  d=11 supergravity, S^7 truncation consistency 7−41222
  d=2 conformally invariant SU(2) σ-model with Wess-Zumino term, primary operator 4-point correls. 7−56418
  degenerate systems, finiteness of soliton mass 7−56444
  dilaton β-function on a Kahler manifold 7−61208
  double-sine-Gordon kink, eigenfunctions of small oscillations 7−18995
  effective coupling constant, finite temp., one-loop approximation calcs. 7−41577
  effective Lagrangians for the chiral quark phase and the Skyrmion parameters 7−19069
  Einstein-Maxwell-σ theory, 6D, spontaneous breaking of global and local symmetries 7−35369
  electroweak interaction with two quark generations, chiral bosonisation *(Russian)* 7−24825
  Euclidean boson quantum field theory, existence and props. 7−4948
  exact 2D Q-ball configurations near kink phase 7−404
  gauge theory, dimensional reduction, spontaneous symm. breaking and absence of chiral fermions 7−41594
  gauged SUSY σ-model in 4D, visualisation by Killing pots. 7−4988
  Gross-Neuveu model, Gaussian anal., ground and bound states, analogy with $\lambda\phi^4$ 7−35698
  Gross-Neveu model, generalisation for several coupling constants 7−30201
  Gross-Neveu model, lattice actions, effects of one-loop improvement on scaling behaviour 7−410
  Gross-Neveu model, necessity-sufficiency problem of renormalisation 7−56455
  harmonic mapping actions and the nonlinear σ-model 7−56421
  hedgehog baryon state, soliton bag model with scalar mesons 7−18990
  hedgehog Skyrmions, massive Yang-Mills approach 7−30203
  Heisenberg spin model, classical version, spin waves and soliton solns. 7−2886
  hidden supersymmetry and spectral asymm., fermion number fractionization and anomalies 7−24800
  holonomy and the Wess-Zumino term 7−48955
  hybrid soliton model of dense nuclear matter 7−5181
  hyperkahler manifolds and nonlinear supermultiplets 7−56403
  hyperkahler metrics, constructions and supersymmetry 7−56404
  hyperon radiative decays, Skyrme model predictions 7−61696
  hyperons, bound kaon-skyrmion anal., baryon number distn. calcs., nonsphericity of baryonic density 7−41599
  infrared divergences in the ϕ^4 and Wess-Zumino models 7−30198
  instantons and Yang-Mills theories, Hamiltonian structure, phase space determ. 7−30194
  instantons and Yang-Mills theories, Hamiltonian structure of constrained systems 7−30193
  instantons on a space-time lattice 7−4985
  interacting field theory of open superstrings 7−5071
  K-balls in chiral lagrangian 7−35692
  Kac-Moody algebras, exact realization 7−4995
  Kac-Moody algebras, Yang-Baxter-Zamolodchikov-Faddeevalgebras and integrable field theories 7−411
  Kaluza-Klein compactification scheme induced by general nonlinear sigma model 7−29845
  Klein-Gordon equation, nonlinear, maximal symmetry group 7−391
  KSFR relation and strength of the nonSkyrme term 7−4968
  large-Z nucleus, approximation procedures for QED 7−19060
  lattice SU(2) chiral model, complex Langevin simulation on non Abelian group 7−61479
  lattice SU(N)×SU(N) chiral models, two-loop coupling constant renormalization 7−424
  lattice theory, Hamiltonian formulation for gauged nonanomalous chiral theories 7−19001
  local Euclidean gravity coupled to σ-model, harmonic maps and submersion 7−14843
  low energy meson action from QCD, extended Skyrme model, anomaly terms 7−5052
  massive ϕ^4 theory, dimensional regularisation, mass independence of minimal subtraction scheme 7−41626
  massless $\lambda\phi^4$ model, infrared dimensional singularities 7−56400
  meson-baryon system, Skyrme model results using chiral Lagrangian 7−41576
  metastable vacuum decay, presence of soliton localized soft fermionic and bosonic modes 7−4986
  model independent exchange current determ. in e^- scatt. and baryons as topological solitons 7−35743
  multiflavour QCD, nonAbelian bosonization and baryon mass formulae 7−61579
  N=1 conformal supergravity, 2D and 3D, constraints and actions, spinning strings, SUSY σ-models 7−4756
  N=1 supersymmetric nonlinear σ-model in 2D, four loop divergences 7−15058
  N=2 harmonic superspace with central charges, appl. to self-interacting massive hypermultiplets 7−19020
  N=2 supersymmetric σ models, perturbative treatment of infrared divergences 7−56435
  N=2 twisted supersymmetric σ models, four loop divergence 7−30158
  Nambu-Jona-Lasinio model, dynamical chiral symmetry breaking 7−437
  nonAbelian O(N)-invariant σ models, origin of asymptotic freedom 7−41634

nonlinear field theory continued
- nonlinear σ-model coupled to metric tensor field, spontaneous compactification 7—165
- nonlinear Schrodinger model in strong coupling regime, nonperturbation scheme for S-matrix 7—4991
- nonlinear Schrodinger model in strong coupling regime, S-matrix nonperturbative calc. 7—4992
- nonperturbative method in field theory, gauge technique, infrared region solns. 7—41616
- nuclear matter, chiral invariant fermionic field theory 7—61831
- nuclear matter, thermodynamic properties, anal using saturating chiral field theory 7—24948
- nuclear soliton scatt. in 1D, $\psi^4-\psi^6$ theory 7—49271
- nucleon-black hole interaction, Skyrme model anal. 7—9504
- O_N invariant self-interacting theory, Gaussian quantisation and symmetry breaking, Goldstone theorem 7—24775
- O(2) and O(3) nonlinear σ-models on 2D lattice at large β 7—61457
- O(3) σ model, possible fractional spin phase transition 7—56436
- O(3) nonlinear σ model, numerical simulation by Parisi-Wu stochastic quantization 7—19008
- O(3) sigma model, anal. with nuclear shell model code 7—35802
- O(4) nonlinear σ-model with Wess-Zumino term, two-dimensional, IR fixed point and renormalizability 7—9967
- O(N) σ model, 1/N expansion, essential singularity in analytic regularization 7—56445
- O(N) σ models, homotopy theory applications, review 7—24793
- O(N) σ-model, lattice actions, effects of one-loop improvement on scaling behaviour 7—410
- O(n) $(0^2)^2{}_{d=4}$ model, 1/N expansion, essential singularity in analytic regularization 7—56445
- O(N) model, composite operator formalism, finite temperature anal. 7—24778
- O(N) nonlinear σ-model, hierarchical, continuum limit 7—9939
- O(N) nonlinear σ-models, conformal invariance and parastatistics in 2D 7—18991
- o-model, supersymmetric with torsion 7—9936
- operator ordering in nonlinear Lagrangian formalism of relativistic quantum field theory 7—30180
- Polyakov string theory from Φ^3 theory 7—61631
- Prasad-Sommerfield monopoles at wide separation, dynamics 7—48930
- QCD nonperturbative effects modelling, 2D sigma models and 4D gauge theories 7—35664
- QCD sum rules and the Skyrme model at large N_c 7—61583
- quantum commutating operators rel. to soliton eqns., field theoretical construction 7—56405
- quantum Gel'fand-Levitan-Marchenko solns. for sine-Gordon model in soliton sector 7—35718
- quantum sine-Gordon system with single impurity, dielectric constant 7—38530
- quantum symmetries from quantum phases, fermions from bosons, a Z_2 anomaly and Galilean invariance 7—48970
- real 0^3+0^4 field in (1+1) dimens. at finite temp., soliton solns. 7—9944
- Ricci-flat supersymmetric σ-models, counterterm counterexamples. 7—61446
- rotating skyrmions and pion radiation 7—35687
- S^2 nonlinear σ-model with Abelian gauge field, string-like solns. 7—61437
- scalar field theory with matrix fields, renormalisability in 1/N expansion 7—61470
- Schwinger model, chiral, path integral quantization 7—56427
- sigma model, doubly graded with torsion 7—30184
- sigma model, geometrostasis and current algebra on supergroup manifolds 7—56411
- sigma model, O(∞) approximation, asymptotic freedom 7—48998
- sigma model, SU(2), Wess-Zumino term calcs., chiral currents, Kac-Moody algebraic props. 7—61427
- sigma model, two-dimensional, formulation in (2,0) superspace 7—30185
- sigma model beta fns. and string theory effective actions 7—15061
- sigma-model superstring corrections to theEinstein-Hilbert action 7—4961
- sine-Gordon *S*-matrix, heuristic derivation Landau singularities due to soliton loop diagrams 7—35727
- sine-Gordon equation, broken affine algebras and Backlund transformation 7—48952
- sine-Gordon field theory, mass gap and mass renormalisation using finite elements method 7—35702
- sine-Gordon model, 1D, quantum Brownian motion of solitons, numerical simulation 7—24768
- sine-Gordon model, exact Bethe-ansatz thermodynamics, long string effects 7—35393
- sine-Gordon model, the Dobrushin-Lanford-Ruelle equation in 2D 7—41591
- sine-Gordon soliton, mass in the Hartree approx., quantum corrections, coupling const. 7—4972
- sine-Gordon system, space-independent, horseshoe chaos 7—56451
- sine-lattice eqn., nearly integrable soliton props. of kink solns. 7—392
- Skyrme model, Δ contribution to Adler-Weisberger sum rule 7—49093
- Skyrme model, baryon masses 7—418
- Skyrme model, expressions for various currents using gauge transformations 7—30162
- Skyrme model, incorporation of ρ, ω mesons as dynamical gauge bosons, consistency with QCD, vector-meson dominance 7—9965
- Skyrme model, recent developments in context of QCD, review 7—414
- Skyrme model and future directions in hadron spectroscopy 7—35659
- Skyrme model for baryons, hybrid model and Wess-Zumino-Witten action 7—30197
- Skyrme model NN interaction, polarization effects 7—49254
- Skyrme parameter calcs. from QCD sum rules 7—30186
- Skyrmion equation of motion, semiclassical 7—61466
- skyrmion scattering in an axially symmetric system 7—61445
- Skyrmion-Skyrmion interacting system, Skyrmion size and shape in static approximation 7—416
- skyrmions in flat space and curved space 7—30190
- skyrmions with vector and axial-vector mesons 7—61461
- SO(5)×SO(5) chiral model, two-dimensional, magnetic props. 7—9968
- SO(N)×SO(N) chiral model, two-dimensional, Bethe-ansatz procedure 7—9968
- soliton bag model, one-gluon exchange, self-consistent anal. 7—49095
- solitons, inverse scattering methods and quantum field theory limit 7—9682
- spinor fields, two-dimensional, exact localized solutions 7—18982
- string action, scale invariant term, σ-model 7—15095

nonlinear field theory continued
- SU(2)×SU(2) 2D chiral Wess-Zumino model, operator algebra and correl. functions 7—19016
- SU(2)×SU(2) algebraic description of the skyrmion, SU(4) quark model recovery 7—56440
- SU(2)×SU(2) chiral σ model, phase structure of fermionic system 7—15074
- SU(2) chiral model in external field, complex stochastic process on nonAbelian group 7—393
- SU(2) lattice gauge theory, instanton density calcs. 7—4985
- SU(2) Skyrme Lagrangian, collective-coordinate quantization and new mass term 7—56439
- super-Yang-Mills fields in noncovariant supergauges 7—48965
- superconformal algebras, relation to integrable nonlinear systems and quantum string theory 7—56463
- superstring compactification on Calabi-Yau manifolds, conformal invariance 7—10047
- superstring modifications of Einstein's equations 7—9727
- supersymmetric σ-models, finite two-dimensional field theories 7—61422
- supersymmetric σ-models based on E-type groups 7—48940
- supersymmetric σ-models on Calabi-Yau manifolds, central charge of virasoro algebra 7—9960
- supersymmetric σ-models on Ricci-flat Kahler manifolds, finiteness 7—15057
- supersymmetric chiral model with Wess-Zumino term, integrability 7—4962
- supersymmetric nonlinear σ-models, construction and geometry of graded supermanifolds 7—61448
- supersymmetric O(N) nonlinear sigma models, spectra in 0+1 dimens. 7—4953
- SUSY σ model, (1,0), action calc. using supergravity tensor calculus 7—56137
- SUSY σ models and world-sheet supersymmetry 7—19005
- SUSY σ-models in 4D as quantum theories, vacua and effective lagrangians 7—48967
- SUSY nonlinear σ-models based on $E_l(l=6, 7, 8)$ groups, global anomalies 7—9969
- SUSY O(N) model, coupling constant behavior at high temp. 7—41664
- SUSY theories, two-dimensional, SUSY breaking to next-to-leading order in 1/N expansion 7—5002
- symmetric ϕ^4-model, saddle-point config. 7—421
- Thirring model, derivative coupling model equivalence and fermionic Green's fns. 7—48993
- Thirring model at non-zero temp., family of exact solns. 7—48980
- three-dimensional field theory, construction from ϕ^6 Lagrangian 7—9972
- two-dimensional gravit. coupled to chiral fermions, Lorentz anomaly cancellation 7—18674
- vibrating skyrmions; quantum corrections to masses 7—15054
- Weinberg, chiral model, saddle points and skyrmion solns. 7—15100
- Wess-Zumino model, coupling constant behavior at high temp. 7—41664
- Wess-Zumino term in the chiral bag model 7—49091
- $e^+e^-\to X$, effects of Z'-bosons from superstring or nonlinear σ models 7—444
- $K^+\to\pi^+\pi^-e^+\nu$, gauged nonlinear σ model with Wess-Zumino condition 7—41790
- $\bar{K}N\to\phi_{ps}B$, partial wave anal., Skyrme model comparison 7—15171
- $\pi^+\to ae^+\nu$, a=axion, branching ratio calc., chiral Lagrangian anal. 7—511
- $\pi N\to\phi_{ps}B$, partial wave anal., Skyrme model comparison 7—15171
- $NN(N\bar{N})$ potentials, skyrmion-skyrmion interaction and meson exchange model 7—19129
- π field around static source, chiral invariant model 7—10034

nonlinear network analysis
- random resistor fractal networks, infinite set of exponents 7—236
- randomly diluted nonlinear resistor networks, series anal. 7—4787
- resistor networks, resistance noise 7—56162

nonlinear optical phase conjugation *see optical phase conjugation*

nonlinear optical susceptibility
- atoms, resonant, nonlinear susceptibility, radiation pressure effects 7—1219
- bistable systems, holding-field noise effects on optical switching 7—62754
- book, laser-induced dynamic gratings 7—9605
- chlorophyll in vivo, exciton states and exciton interaction processes, nonlinear transmission effects 7—59931
- degenerate four-wave mixing for nonlinear props. of excited states 7—43195
- dye vapour, four-wave frequency mixing 7—43219
- FIR nonlinear optics in bulk solids 7—37043
- glass, femtosecond nonlinearities using opt. Kerr effect 7—50660
- glass, semiconductor-doped, high-speed intensity-dependent refractive index 7—37071
- intensity-dependent guided wave phenomena 7—25872
- linear Pockels response of a monolayer Langmuir-Blodgett film 7—13131
- liquids, third-order nonlinear optical susceptibility meas. 7—11048
- MBBA, nematic liquid crystal, temp. depend. of cubic susceptibility, Raman study 7—22237
- merocyanine dye Langmuir-Blodgett films, optical third-harmonic generation 7—20329
- molecular optoelectronics theory, effect of molecular elongation 7—50618
- nematic liquid crystals, degenerate four-wave mixing in isotropic phase, influence of molecular structure 7—11068
- organic cpds., third-order nonlinear optical props. 7—5585
- organic media, nonlinear optical processes, large non-resonant third order electronic responses in liq. cryst. polymers 7—25874
- organic nonlinear optical materials 7—25870
- plasma, gaseous, cubic optical nonlinearities 7—1703
- trans-polyacetylene, third order nonlinear optical susceptibility, meas. by third harmonic generation 7—57471
- trans-polyacetylene, third order optical susceptibility, $2A_g$ excited state obs. 7—62782
- polydiacetylene, nonlinear optical processes, time-resolved degenerate four-wave mixing meas. 7—20370
- polydiacetylene crystals, nonlinear optical applications 7—37023
- polydiacetylenes, third order nonlinear optical susceptibilities 7—57439
- polydiacetylenes as nonlinear waveguide materials 7—25871
- polymer films as nonlinear optical materials 7—37021
- polymers, conducting, nonlinear optical processes 7—62781
- polysilane thin films, nonlinear optical props. 7—31392
- prism-metal film-nematic liq. cryst. system, excitation of nonlinear surface EM waves 7—25866
- quantum theory of nonlinear mixing in multimode fields 7—36929

nonlinear optical susceptibility continued
- ring cavity, twin photon beam generation, intracavity four-wave mixing 7−62733
- saturation in strong amplitude-modulated fields, matrix continued fractions anal. 7−20371
- third-order nonlinear susceptibility, dispersion formula validity 7−15929
- Au colloidal particles, optical nonlinearities, surface resonances and quantum size effects 7−50648
- BiI_3, layered semiconductor clusters, degenerate four-wave mixing, quantum size effects 7−20358
- CdS_xSe_{1-x} doped filters, femtosecond nonlinearities using opt. Kerr effect 7−50660
- GaSe, subpicosecond relax., nonlinear susceptibility 7−43198
- H_2, third order nonlinear susceptibility, electronic hyperpolarisability dispersion 7−20316
- H_3BO_3:fluorescein glass, nonlinear optical interactions 7−1239
- H_2O, third-order nonreson. susceptibility relative value, CARS meas. 7−50633
- Hg atomic vapour, oscillator strength meas. by four-wave mixing 7−19773
- InSb, four-wave mixing, degenerate and nondegenerate 7−11069
- $LiIO_3$ crystal, coherent four-photon scatt. by polaritons 7−22273
- PbO-SiO_2 glass, femtosecond nonlinearities using opt. Kerr effect 7−50660
- SF_6, IR radiation degenerate multiphoton parametric scatt. by vibr.-rot. transitions 7−25883
- Si:Ar laminated structure formed by Ar ion doping, electroreflectance 7−7676
- Xe, laser-induced third-harmonic generation in forbidden regions, Stark effect in three-photon level 7−37039
- ZnS, hexagonal, four-photon spectroscopy 7−5948

nonlinear optics
- *see also nonlinear optical susceptibility; optical bistability; optical coherent transients; optical frequency conversion; optical hole burning; optical parametric devices; optical phase conjugation; optical saturation; optical self-focusing; quantum optics; self-induced transparency; stimulated scattering; thermal blooming*
- 3m-symmetry crystals, self-oscill. and vectorial self-diffr. of orthogonal-polarised light waves *(Russian)* 7−43207
- alkanes, isomers study, depolarised Rayleigh-Brillouin scatt. investig. 7−62386
- 4-(4′-(4″-n-alkoxypiperidino)-trans-styrl)pyridine-N-oxides, highly polarisable mesogens, synthesis, appl. in nonlinear optics 7−63451
- 4-amino-4′-nitrodiphenyl sulphide, nonlinear optical props. 7−25880
- amplifier, nonlinear optical type, resolution method for moment eqns. 7−43254
- anharmonic oscillator, squeezed light interaction, SU (1,1) coherent states appl. 7−62655
- associative memories using nonlinear thresholding devices and volume hologram 7−57408
- asymmetric waves in a highly nonlinear symmetric layered structure 7−50470
- atomic, multi-quantum, interactions at high electric field strengths 7−20165
- atomic resonant medium, parametric absorpt., sub-Poisson light statistics 7−57285
- atomic systems, collision-free multiple photon processes 7−62342
- atoms, classical stimulated emission freq. depend. susceptibility 7−57402
- atoms, four-level, multiphoton processes, fluoresc. spectra calcs. 7−62318
- bistable and tristable systems, self pulsing and chaos 7−11049
- book, laser-induced dynamic gratings 7−9605
- chlorophyll-a, S_1 and T_1 spectra in visible region and S_1 bypassing relax. from two-photon excited states 7−47004
- cholesteric liq. crysts., photoinduced periodic grating obs. 7−37127
- collision-induced four-wave mixing signal frequency non-mutuality 7−5945
- collision-induced processes effects *(French)* 7−11025
- conference, Los Angeles, CA, USA (1986) 7−18488
- control of σ^+ beam propagation by a σ^- beam 7−62799
- crystal, nonlinear bleaching and domain formation, exciton part of spectra 7−45161
- crystals, nonlinear polarisation spectroscopy, two-wave case 7−50624
- degenerate two-wave and four-wave mixing, nonlinear coupled wave eqn. soln. with FEM 7−43191
- diatomic crystals, second-order scattering, nonlinear polarisabilities 7−59210
- diffraction grating, light induced, formed by free charge carriers in external elec. field, dynamics 7−62819
- directional coherent coupler, nonlinear, instabilities, all-optical phase-controlled switching 7−11027
- directional coupler, beam-propag. method anal. 7−37148
- directional coupler, coherently mismatched, nonlinear nonreciprocity 7−11105
- directly modulated semicond. lasers, gain nonlinearity effects calcs. 7−20218
- distortion compensation of light beams with restricted deform. of control mirror 7−50622
- dye laser, CW, with intracavity photorefractive element, mode selection 7−43167
- dye molecules, Raman and IR meas., quantum beat data interpretation 7−42591
- dye solutions for transient polarisation holography, photoinduced anisotropy 7−11085
- dynamic gratings induced by electrostrictive compression of critical microemulsions 7−11032
- dynamic hologram writing, nonsymmetric beam interactions, nonstationary energy exchange obs. *(Russian)* 7−31289
- dynamic holography of ultrashort light pulses 7−62648
- enhanced optical nonlinearities in small particles and composite materials 7−50631
- exciton-biexciton two-oscillator model, chaos 7−31390
- Fabry-Perot interferometer as medium for waves travelling parallel to reflecting planes 7−62748
- femtosecond laser pulse generation and appls. 7−15884
- fibre optic modulator and logic gate using nonlinear refr. and absorpt. 7−37174
- fibre optic sensors, nonlinear, synchronous sampling demodulation scheme 7−31508
- fibres, birefringent, nonperiodic power coupling 7−43379
- fibres, GRIN, nonlinear inhomogeneous, solitons transmission 7−20463

nonlinear optics continued
- fibres, nonlinear, with loss, soliton broadening compensation 7−43398
- fibres, nonlinear optics for fibre meas. and special device functions 7−11139
- fibres single-mode, nonlinear propag. at zero dispersion wavelength 7−15987
- fibres twisted birefringent, intensity discrimination 7−31503
- for polarisation meas. in ellipsometer optical nonlinear media 7−14993
- four-beam mixed dynamic gratings, diffraction characts. in Na vapour *(Russian)* 7−57406
- four-mode squeezing and parametric mixing 7−43036
- four-wave mixing, use in intracollision dynamics anal. 7−10509
- four-wave mixing and dynamic gratings, basic considerations, review 7−11029
- four-wave mixing techniques for studying orientational relaxation, comparison 7−10779
- glass:Eu^{3+}, erasable holographic grating obs. at room temp. 7−31276
- glass, weak picosec. laser pulse, induced spectral broadening by intense picosecond pulse 7−31370
- glass core fibre with crystal cladding, fibre system fabrication for nonlinear optics 7−37188
- glass photochromic diffusion waveguides., absorbing-mask mode selectors automatically matched to mode field 7−50739
- guided wave phenomena, review 7−57422
- hemicyanine Langmuir-Blodgett films, electron diffr. study 7−51584
- hole quasienergy spectrum, anisotropic photocond. and nonlinear optical props. calcs. 7−38619
- hologram, aperture-limited in-line far-field, nonlinearities 7−36911
- holographic correlator, signal parameters, medium nonlinearity and filter spatial limitations effect 7−50514
- holographic grating excitation by ultrashort light pulses in nonlinear cubic media 7−10888
- homogeneous medium, selective laser heating and nonlinear light scattering 7−5938
- III-V semiconductor integrated waveguides as all-optical logic devices 7−25869
- image correlation by four-wave mixing in photorefractive media, computational model 7−42950
- induced rotation of light polarisation plane under one- and two-photon reson. conditions 7−50623
- induced thermal lens, spatial Fourier spectrum anal., for studying thermal conductivity and diffusivity 7−12379
- inert gas atoms ionisation by CO_2 laser, nonlinearity 7−62335
- infinitesimal discontinuities in nonlinear dielectric media, wave front propagation 7−50627
- integrated optics use in telecommunications *(German)* 7−43446
- intensity-dependent guided wave phenomena 7−25872
- interferometric technique for precise meas. of optical dispersion 7−9886
- inverse scattering and three-wave interaction in nonlinear optics, review 7−11030
- laser beam, phase modulation, spectral filtering for ultrashort pulse formation 7−62743
- laser nonlinear resonator mode behaviour radiation power depend. on geometry 7−43160
- laser resonator Q-factor modulation using methods of adaptive nonlinear optics *(Russian)* 7−50604
- laser science advances, conf., Dallas, TX, USA (Nov. 1985) 7−9573
- laser spectroscopy, conf., Maui, HI, USA, June 1985 7−9586
- laser-induced damage in solids, review 7−38054
- laser-induced effects in semiconductor and metal surfaces, nonlinear optical diagnostics 7−2061
- lasers, chaotic dynamical behaviour 7−10907
- lasers and optical fibres, technology, theory, propagation and nonlinear optical phenomena, review 7−43437
- lasers with plane-parallel resonators, Lamb dip asymmetry 7−5917
- latent symmetry of system of equations, hysteresis 7−43194
- Lie optics, nonlinear canonical transformations in optical phase space 7−20315
- liquid crystalline nonlinear optical materials 7−57437
- liquid in DC electric field, polarisation variations of intense optical wave 7−20317
- material advances, book contrib. 7−25914
- matrix vector multiplication by four-wave mixing in photorefractive media 7−42991
- molecules, electrooptical anharmonism, parametric reson. generation 7−42660
- MQW structures, linear and nonlinear optical constants 7−64721
- multisoliton emission from a nonlinear waveguide 7−31461
- multiwave mixing, quantum coupled mode eqns. soln., sideband fields 7−31292
- n-i-p-i heterostructures, luminesc. and nonlinear optical props. 7−7756
- nematic liquid crystal film, quasi-static elec. field enhanced optical propag. effects 7−27702
- nonlinear dielec. film, optical reflectivity and transmissivity power depend. calcs. 7−53429
- nonlinear Fabry-Perot system, output-input characts. 7−15923
- nonlinear surface polaritons 7−2507
- oppositely directed waves, self-diffraction in medium with nonlocal response 7−42907
- optical Bloch equation 7−15925
- optical computing and nonlinear optics 7−25875
- optical nonlinearity near the bandgap in semiconductors, review 7−62747
- optical tristability with multilayer interference laserlight modulator 7−5939
- organic crystals, polymorphism and nonlinear optical activity 7−57400
- organic media, nonlinear optical processes, large non-resonant third order electronic responses in liq. cryst. polymers 7−25874
- organic molecular crystals, growth, quadratic nonlinearities 7−53569
- organic molecules, nonlin. optical props. prediction, PPP calcs. and perturbation theory 7−25408
- organic molecules as nonlinear electro-optical materials 7−37024
- organic nonlinear optical materials 7−25870
- oscillator strength meas., linear and nonlinear optical methods, review 7−893
- parametric oscillations in semiconductor lasers 7−50647
- pentanol isomers, n-heptane solvent, mol. assoc., optical Kerr effect study 7−62429
- phosphate glass:Nd laser rods, thermal effects 7−50566
- photonic material developments 7−25912
- picosecond four-wave mixing for orientational relaxation times meas. 7−11072

- **nonlinear optics** continued
  - picosecond light pulse changes in a GaAs filled nonlin. Fabry-Perot resonator *(Russian)* 7—50620
  - planar optical waveguides, stability and instability of nonlinear standing waves 7—57554
  - planar waveguide, self-interaction and bistability 7—43375
  - polarisation spectroscopy, normal waves, light-induced anisotropy 7—48858
  - polyacetylene, semiconducting polymer, fast response nonlinear optical props. 7—1241
  - polydiacetylenes, analogies to inorganic semiconductors and graphite 7—2592
  - polydiacetylenes as nonlinear waveguide materials 7—25871
  - polymers, nonlinear optical processes 7—37022
  - polythiophene, semiconducting polymer, fast response nonlinear optical props. 7—1241
  - 2-(N- prolinol)-5-nitropyridine, nonlinear optical props., mol. and cryst. struct. 7—11056
  - propagation effects in strong pump-weak probe interactions 7—11076
  - propanol-2 radical+CdS, photochemistry and radiation chemistry, nonlinear optical effects 7—46858
  - pulse propagation in a two-component relaxing nonlinear heterogeneous medium 7—43200
  - pulse shortening in nonlinear amplifier 7—43196
  - quadratic media, longit. homogeneous, with absorpt. or amplification, correlated coherent states 7—50621
  - quantum electronics, conf., San Francisco, CA, USA (June 1986) 7—48147
  - quantum nondemolition detection of optical quadrature amplitudes in optical fibre, nonlinear optical interaction effects 7—25789
  - quantum nonlinear optics, dynamic versus static stability 7—1063
  - radiation absorpt., high-power, generalised nonlinear master eqns. with finite correlation time. 7—25863
  - radiation coherence influence on nonlinear optical phenomena *(Rumanian)* 7--15924
  - refractive index, measurement using monochromatic spatially modulated wave 7—62750
  - resonant optical medium surface, nonlinear refl. and refraction of scanning laser beam, integrodifferential eqns. method calcs. 7—43209
  - rhodamine 590 droplet, micrometer size, high intensity laser interaction 7—43210
  - ruby rod, small-area pulse duration reduction during coherent propag. across absorber 7—50654
  - semiconductor doped glass, integrated nonlinear optical device fabrication 7—25873
  - semiconductor doping superlattices, physics and applications 7—52826
  - semiconductor laser amplifier, static and dynamic props. 7—15912
  - semiconductor lasers, nonlinear dynamics and chaos 7—62703
  - semiconductor microcrystallites, laser-excited, absorption blue shift 7—33409
  - semiconductor spectrum, exciton region, optical nonlinearity 7—52433
  - semiconductors, highly excited nonlinear optical and transport props. of many-exciton system 7—32920
  - semiconductors, light beam dynamic transformation by conduction electrons 7—11043
  - semiconductors, nonlinear excitation, picosecond laser induced 7—11024
  - sine-Gordon solitons under double coherent pulse excitation dynamics 7—37018
  - stimulated Wood's anomalies on laser-illuminated surfaces 7—11040
  - subpicosecond transient excitation of atomic vapor and the measurement of optical phase 7—18851
  - super-Gaussian optical pulses, frequency-chirped, propag. along fibre 7—6013
  - superlattices, gap solitons and nonlinear optical response 7—43204
  - surface probe appls. 7—11064
  - symmetric planar waveguide, degenerate nonlinear modes 7—57399
  - TE polarised surface plasmon polaritons guided by metal films 7—5946
  - thin film waveguides deposited onto semiconductor-doped glasses, nonlinear optical props. 7—5941
  - three-level atoms in laser cavity, dual-frequency radio optical resonance with nonlinear optical indication, line profile 7—57024
  - three-level system, collinear nondegenerate four-wave mixing 7—1213
  - three-pulse nonstationary scattering method for investig. fast dephasing processing, stochastic theory 7—37015
  - time-resolved fluoresc. polarisation and four-wave mixing processes, study 7—36667
  - TM mode propagation in nonlinear media 7—20110
  - TM-polarized nonlinear slab-guided waves in saturable media 7—31407
  - transient four-wave mixing, diagrammatic density matrix theory and transient phenomena meas. 7—11031
  - transparent biaxial crystals, nonlinear refr. in conical refr. region 7—31382
  - trends in nonlinear optics, review 7—31380
  - tunable-laser-induced gratings for the measurement of ultrafast phenomena 7—11041
  - turbulent atmosphere, thermal self-interaction of partially coherent laser beam 7—31376
  - two-beam self-diffr. conditions stability in cubic nonlinear medium *(Russian)* 7—57407
  - two-level molecular medium, optical nonlinearity 7—43258
  - two-photon multiwave mixing Doppler broadening effects 7—15578
  - ultrafast phenomena conf., Snowmass, CO, USA (June 1986) 7—24
  - ultrashort laser pulses, intensity profile anal. using four-wave mixing or third harmonic generation 7—25891
  - ultrashort optical pulse propagation in a dispersive medium 7—25862
  - ultrasonic wave generation with picosecond holographic grating 7—10889
  - usage transmission through distorting medium, four-wave mixing appl. *(Chinese)* 7—36885
  - Vavilov-Cherenkov radiation, bistability in nonlinear media 7—42871
  - waveguide, soliton propagation with dissipation and damping 7—62828
  - waveguide coupler nonlinear structure 7—57555
  - weakly nonlinear dispersive media, three-wave interaction including frequency doubling effects 7—43215
  - Al alloys, photothermal-optical-beam-deflection imaging, nonlin. effects 7—48722
  - Al, photothermal-optical-beam-deflection imaging, nonlin. effects 7—48722
  - Ba, three-level system, dynamic Stark effect 7—42548
  - Ba_2NaNb_5-O_{15}, parametric light scattering, nonlinear diffraction 7—37044
  - $BaTiO_3$, ferroelectric, optical switching 7—37020
  - $BaTiO_3$ photorefractive crystals, image amplification by two- and four-wave mixing 7—11042
- **nonlinear optics** continued
  - $Bi_{12}siO_{20}$, photorefractive effect, simplified band transport model, four-wave mixing expts. 7—27700
  - CS_2, use in nonlinear light guides of nonresonant type *(German)* 7—57609
  - $Cd_{0.23}Hg_{0.77}Te$, time-resolved self-defocusing 7—43267
  - CdS, absorpt. optical bistability, lattice heating study 7—43205
  - CdS, refractive index nonlinearity due to excitonic molecule resonance state 7—11044
  - CdS/polymer composites, degenerate four-wave mixing 7—62795
  - CdS(Se), wide-gap semiconductors, room-temperature optical nonlinearity 7—57440
  - CdS_xSe_{1-x} doped glasses, optical nonlinearities 7—57431
  - Cs_2 reference for freq. stabilisation of 1.06 μm Nd:YAG laser 7—57403
  - CuCl, optical bistability and pulse shaping 7—57433
  - CuCl, time-resolved degenerate four-wave mixing under nanosecond pulsed excitation 7—43206
  - D_2, hyperpolarisabilities, vibr. contribs., CARS 7—57074
  - GaAS-GaAlAs MQW waveguides, nonlinear propag. 7—26033
  - GaAlAs strip waveguides, optical transistor effects, expt. study 7—37026
  - GaAs bulk and MQW structures, nonlinear channel waveguides 7—57553
  - GaAs, giant exciton resonance in nonlinear optical activity 7—45167
  - GaAs, nonlinear refractive index, dispersive nonlinearities meas. 7—43192
  - GaAs, optical nonlinearities, freq. depend. 7—25867
  - GaAs photorefractive, enhanced two-beam mixing gain using alternating electric fields 7—43203
  - GaAs, photorefractive beam coupling with picosec. pulses 7—31386
  - GaAs, picosecond phase coherence, orientational relax. of excitons 7—16948
  - GaAs quantum wells, optical Stark effect on excitons 7—31384
  - GaAs single quantum wells, free excitons, phase coherence and line broadening 7—45170
  - GaAs waveguide, thermal index changes by optical absorpt., all-optical signal processing 7—31381
  - GaAs:Cr, photorefractive behaviour using two-beam coupling 7—31387
  - GaAs-$Al_xGa_{1-x}As$ quantum wells, homogeneously broadened 2D excitonic transitions, optical dephasing 7—45461
  - GaAs-AlGaAs MQW optical NOR gate, exciton and carrier dynamics, time resolved obs. 7—50628
  - GaAs-GaAlAs MQW optical waveguides, nonlinear props. 7—37027
  - GaAs-GaAlAs MQW structures, exciton-exciton interaction 7—52439
  - GaAs-GaAlAs quantum wells, nonlinear optics and electro-optics 7—52809
  - GaInAs/InP, nonlinear optical absorpt. at room temp. 7—59169
  - p-Ge, nonlinear light absorpt. coeff., IR intensity study 7—53258
  - H_2, hyperpolarisabilities, vibr. contribs., CARS 7—57074
  - He-Ne Zeeman laser, nearly degenerate four wave mixing and high order effects 7—1078
  - HgCdTe, IR nonlinear absorpt., dynamic Burstein-Moss effect *(Chinese)* 7—50615
  - $HgIn_2Te_4$, props. in mid-IR 7—37061
  - InP waveguide, thermal index changes by optical absorpt., all-optical signal processing 7—31381
  - InSb, time-resolved self-defocusing 7—43267
  - InSb, transient grating formation under two-photon excitation 7—11037
  - KCl:Li, self-induced light polarisation oscills., stochastic field effects *(Russian)* 7—43208
  - $LiNbO_3$:Fe crysts., biharmonic pumping, photoinduced light dispersion *(Russian)* 7—31391
  - Li_2O-P_2O_5:Eu^{3+}, laser-induced refractive-index gratings, four-wave-mixing techniques 7—11102
  - $LiTaO_3$ crysts., parametric holographic-type light scatt. processes 7—1215
  - N_2, hyperpolarisabilities, vibr. contribs., CARS 7—57074
  - Na CW self oscillation, four wave mixing 7—37049
  - Na vapour, CW phase conjugate self oscillation 7—37048
  - Na vapour, nonlinear parametrical wave interactions, Stark shift and multipole radiation effects *(Russian)* 7—30988
  - Na vapour, time-delayed four wave mixing 7—10778
  - Na_2O-SiO_2:Eu^{3+}, laser-induced refractive-index gratings, four-wave-mixing techniques 7—11102
  - Nd:phosphate glass laser rods, thermal effects 7—50566
  - NdP_5O_{14} crystals, dynamics of population gratings studied by four-wave mixing 7—11038
  - Ne, four-wave mixing, backward sat., parallel pump polarisation effect 7—37055
  - O_2, hyperpolarisabilities, vibr. contribs., CARS 7—57074
  - P_2O_5:Eu^{3+}, laser-induced refractive-index gratings, four-wave-mixing techniques 7—11102
  - $Pb_5Cr_3F_{19}$, nonlinear optic, lattice consts., ferroelec. Curie temp., phase transition obs. at 555K 7—17275
  - SF_6, degenerate four-wave mixing 7—37016
  - Si, crystalline, ion-implanted and amorphous, light diffraction by transient gratings 7—11034
  - Si monocrystalline, light-induced grating measurements 7—11035
  - n-Si:P, nonlinear optics near metal-insulator transition 7—20322
  - Xe, 6s state, three-photon excitation and four-wave-mixing, two-colour interference effect 7—19812
  - ZnS wavelength prism coupling, nonlinear coupler example 7—31385
- **nonlinear programming**
  - *see also quadratic programming*
  - axial-turbine cascade, subsonic profile shape optimisation 7—11453
  - Gibbs free energy calc., symmetric minimum-norm updates 7—39912
- **nonlinear symmetries**
  - degenerate (super) conformal models, equivalence 7—56446
  - dilation, specialconformal and superconformal symmetries at finite temperature, tree level symmetry breaking 7—56465
- **nonlinear systems**
  - *see also bang-bang control; nonlinear control systems*
  - arbitrary Lagrangian-Eulerian finite element method for path-dependent materials 7—14766
  - burns patients, dynamic analysis of reanimation treatment effects 7—40202
  - macroscopic EM field in nonlinear or time-variant media, energy and momentum theorems 7—25701
  - respiratory mechanics, structural model of thorax and abdomen 7—54663
  - solar collector/heat exchanger system, differential game control 7—65578
- **nonparametric statistics**
  - No entries
- **nonradiative transitions**
  - acridine dyes, PVA matrices, luminesc. spectra anal., external heavy-atom effect 7—42680

nonradiative transitions continued
- acyclic azines, substituted, fluorescence props. 7–62444
- alkali halide crysts., self-trapped exciton recomb. luminesc.-recomb. induced F-centre form. anticorrel. calcs. 7–13201
- alkali halides, RbCl, KCl, KBr, CsBr, luminescing solids, nonradiative decay channels of electronic excitations 7–27760
- alkali iodide crystals, luminesc. induced by photo-generated excitons, excitation spectra struct. 7–46103
- anthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7–50212
- aromatic thiones, thermally activated delayed fluoresc., solvent effects, visible spectra anal. 7–31106
- benzaldehyde, vap., phosphoresc. quantum yield meas., excitation energy depend. 7–57119
- benzene, anharmonic forced Rayleigh scatt. 7–46057
- borate glass: Cr^{3+}, Nd^{3+}, energy transfer, emission spectra 7–33440
- 9-bromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7–50212
- t-butyl nitric oxide, singlet and triplet surfaces, unimol. reactions, spectroscopy, rate meas. 7–28300
- chalcogenide glasses, nonequilibrium phonons and photostruct. transforms., energy transfer characts. 7–6742
- chlorobenzene, anharmonic forced Rayleigh scatt. 7–46057
- 9-cyanoanthracene, intramol. radiationless transitions, rot. effects 7–57116
- cytochrome c, nonradiative decay, absorpt. and reson. light scatt. 7–62440
- dialkylanilines, para-substituted, dual fluoresc. 7–10649
- 9,10-dibromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7–50212
- 9,10-diphenylanthracene, energy transfer from mesitylene and benzene 7–22316
- diphenylmethylene, excited triplet state, mag. field effects, fluoresc. 7–10657
- disordered systems, spin-lattice relax. and vibr. mode localisation 7–64541
- excited states near a small metal particle, nonradiative lifetime 7–45422
- glassy media, irradiated, excess electron capture, radiative and nonradiative mechanisms 7–27339
- glyoxal, collision-induced intersystem crossing, gate states participation 7–25583
- hematoporphyrin.2HCl, dye, energy transfer excitation *(Japanese)* 7–22342
- molecular systems, nonlinear absorpt. optical bistability, eikonal approx. 7–62797
- multi-phonon transition rate from different electronic bases, numerical evaluation 7–22326
- nitromethane, shocked, condensed, ignition, rate determining step 7–54124
- nonadiabatic effects and fast radiationless transitions, transition probability calcs. 7–19953
- ordered perovskites, Cr impurity photolum. thermal quenching, linear and quadratic coupling model calcs. 7–3085
- organic mols., electronically excited states, radiative decay and nonradiative conversion processes 7–50235
- phenanthrene-d$_0$(-d$_{10}$), in supersonic free jet, electronic spectra, intramol. dynamics 7–42672
- polymethine dyes, fluoresc. quenching 7–36680
- pseudoisocyanine, quantum yield, fluoresc. lifetimes and intensities, temp. depend. 7–19920
- pyrazine S$_1$(^{1}B$_{3u}$) state, rot. induced vibr. energy redistrib. and K selectivity model 7–10710
- radiationless carrier surface recomb. model calcs. 7–52646
- rhodamine B in submono-, mono- and multilayer systems, fluoresc. decays and spectral props. 7–19938
- ruby laser material, nonradiative relaxation, picosecond time resolved studies 7–10956
- scintillator dye solutions, excited state absorpt. measurements 7–42516
- semiconductors, Auger recombination via deep double-charged centres *(Ukrainian)* 7–12732
- solvent effects, on quantum yields, multiparameter model *(German)* 7–871
- trans- stilbenes, poly(vinyl alcohol) films, photophysics study, visible spectra anal. 7–36632
- symmetric heavy ion collisions, K X-ray prod., target thickness fn., X-ray spectra anal. 7–30978
- 2,6,N,N-tetramethylcyanoaniline, charge transfer states, solvent effects, fluoresc. 7–31111
- triplet-doublet systems, spin polarisation memory, time-resolved ESR cts. 7–62418
- two-state system, strong nonadiabatic interactions and fast radiationless transitions 7–57128
- N-vinylcarbazole, lowest triplet state props., AgClO$_4$ influence, phosphoresc. spectra 7–62435
- As$_2$Se$_3$ single crystals, geminate pair recomb., photocond., photoluminescence meas. 7–38581
- BeA1$_2$O$_4$: Cr^{3+}, alexandrite, laser material, nonradiative relaxation, picosecond time resolved studies 7–10956
- Be$_3$Al$_2$(SiO$_3$)$_6$:Cr^{3+}, emerald, spectral energy transfer, fluorescence line narrowing 7–33441
- BrCN$^+$, $\tilde{B}$ $^2\Pi$ state, radiationless transition, fluoresc.-photon coincidence study 7–31101
- CH, stretching mode, radiationless transition, num. integrated investig. 7–31092
- CO$_2$ waveguide laser, Cohen model 7–20183
- CaO, self-trapped hole centres, ODMR and spin coherence studies 7–7612
- CdS, carrier transport, defect effects, photoacoustic and photocurrent spectra 7–38626
- Cr^{23+}, dielectronic satellite spectra CI HFS calcs. 7–42506
- Cr^{3+}:BeAl$_2$O$_4$, alexandrite, nonradiative transition dynamics 7–1102
- Cr(III) complexes coordinated with macrocyclic tetraamine ligands, low-temp. luminesc. 7–22330
- CsCl(Br)(I), luminescence quenching in *F* centers under pressure 7–22334
- Cs$_2$NaYCl$_6$:Cr, impurity photolum. spectra and lifetimes, thermal quenching and temp. depend. studies 7–3084
- GaAs, deep level nonradiative carrier capture press. depend. calcs. 7–12735
- GaAs nonradiative states of optically illuminated sample, phonon detection by superconducting tunnel junction 7–3074

nonradiative transitions continued
- GaAs, surface and bulk nonradiative recombinations, photoacoustic study 7–33438
- GaAs-GaAs:Cr(Te), VPE grown, photoluminescence study, effect of substrate doping 7–27771
- He+Ar, 2^{1}P$_1$ state quenching 7–62319
- InGaAsP BH lasers, radiative, Auger and nonradiative currents 7–57312
- KA(WO$_4$)$_2$:Ho^{3+}, A=Y, Gd, Lu, luminesc. kinetics, visible and UV spectra anal. 7–46144
- KCl:Tl, luminescence, intensive KrF laser irradiation *(Russian)* 7–17340
- KCl(Br)(I), luminescence quenching in *F* centers under pressure 7–22334
- K$_2$NaSc(Ga)F$_6$:Cr, impurity photolum. spectra and lifetimes, thermal quenching and temp. depend. studies 7–3084
- MnCl$_2$(MnBr$_2$), liq. solns. and cryst. hydrates, luminesc. quenching mechanism 7–53399
- N$_2$ A$^3\Sigma_u{}^+$ state, electron impact excitation 7–25669
- N$_2$, aggregates, in solid Xe matrix, time resolved energy transfer and relax., rate const. meas. 7–50313
- NO predissoc. levels, multiphoton ODR lineshapes 7–31129
- Ne atoms, 1S$_5$ metastable states, non-radiative lifetimes 7–37772
- Ne$_2{}^+$ glow discharge, time depend. of spectral line intensities from afterglow plasma 7–32142
- Os complex, excited-state decay, glass to fluid transition effect, energy gap law appl. 7–21418
- RbCl, self-trapped excitons, excitation-induced atomic motion 7–21822
- a-Si:H, charge transport and relax., luminesc. long-time tail distribs. anal. 7–39185
- a-Si:H, photolum. and photoconductivity studies 7–33456
- Sm^{3+} complexes, samarium (III) 4,7,13,16,21-pentaoxa-1,10-diazabicyclo-8,8,5-tricosane cryptand, luminesc. 7–13191
- Sm^{q+}+Xe collisions, q=34 to 52, resonant electron transfer and L-shell excitation, X-ray spectra study 7–30979
- Tb^{3+} complexes, terbium (III) 4,7,13,16,21-pentaoxa-1,10-diazabicyclo-8,8,5-tricosane cryptand, luminesc. 7–13191
- Tl, 6^{2}P$_{3/2}$ metastable and 6^{2}P$_{1/2}$ ground state relax. 7–36505
- YAG:Mn^{4+}, luminesc. and fluoresc. line narrowing studies 7–46105
- YAG:Nd, Ce, energy transfer mechanisms between Ce^{3+} and Nd^{3+} at low temp. 7–64691
- YBO$_3$:Ho^{3+}(Er^{3+}), nonradiative energy transfer, activator ion interactions, laser-excited luminesc. study *(Russian)* 7–22345
- ZnS:Ho^{3+}, radiative transitions and nonradiative processes *(Chinese)* 7–59235
- ZnS:In epitaxial films, photoluminescence. decay props. 7–39166

NOR gates *see logic gates*

normalising
- steel, alloy, impact behaviour, influence of grain boundary carbide density 7–13574
- steel, Cr-Mo, normalised, tempered, neutron irrad., 390-550°C, tensile props. 7–17621
- steel, Cr-Mo, normalised heavy section plate, weld cold cracking susceptibility *(Japanese)* 7–3425
- steel, die, preliminary heat treatment schedule 7–8023
- steel, low-C, cost, failure micromechanism in fatigue crack propag. after different heat treatments 7–46641
- steel, low-C, wrought, thermal strengthening methods effectiveness 7–46524
- steel, Mn-V, low-pearlitic, normalized, struct. and mech. props., sheet thickness depend. 7–8006
- steel, tool and struct., nitrided, prior heat treatment effect on mech. props. 7–46707
- Fe-Si-B, normalising, decarburisation, secondary recrystallisation, mag. induction obs. 7–8020

NOT gates *see logic gates*

notch brittleness
- polycarbonate, impact props. and residual stress state, thermal treatment effects 7–32557

notch ductility
- acrylic resin, fracture toughness, effect of notch sharpness and plate thickness *(Japanese)* 7–51007
- fatigue crack growth at notch root in elastic-plastic region *(Japanese)* 7–58404

notch sensitivity *see notch strength*

notch strength
  see also fracture toughness
- crack, notch-emanated, small, stress intensity factors 7–63063
- cyclically loaded bodies, size calc. of permissible notches 7–8103
- elastic-plastic loading, notch root stress/strain prediction 7–63017
- laminates, centrally notched, residual strength determ. *(Chinese)* 7–13557
- plate, elliptically notched semi-infinite, fatigue limits of crack initiation and propag. 7–1500
- polyether sulphone, flexed plate impact testing, moulded notch effect 7–59713
- polyethersulphone, flexed plate impact testing of notched specimens 7–22799
- steel, austenitic stainless, notch effect in low-cycle fatigue at elevated temps., life prediction 7–53899
- steel, Cr, high C, notched rods, breaking by heating process, elastic-plastic stress analysis *(Japanese)* 7–33777
- steel, Cr-Mo type, temp. and deform. rate conditions influence on mech. props. 7–33752
- steel, Cr-Ni-Co VKS6, struct. and mech. characts., effects of Ni, Co and heat treatment 7–8108
- steel, ferritic and austenitic welded joints, thermally loaded, struct. and mech. props. 7–8102
- steel, managing, precip. and notch toughness, effect of Cr *(Japanese)* 7–22798
- steel, Ni-Co-Mo, maraging, ultrahigh strength, H embrittlement rel. to coatings 7–28136
- steel, Ni-Co-Mo, maraging, ultrahigh strength, H embrittlement rel. to Ni or Cu coating 7–28137
- steel, Ni-Cr A286, crack initiation and propag. characts. under high-temp. fatigue 7–22834
- steel, notched specimens, cyclic deform., thermoelastic effect *(German)* 7–33746
- stress singularity at tips of plane notches 7–26220
- superalloys, stress rupture notch sensitivity, grain boundary precip. *(Chinese)* 7–13541
- Al-Li-Cu(-Mg), fracture, effect of subgrain struct. and ageing practice 7–13563

notch strength continued
Al-Zn-Mg, 7090, fracture, stress intensity rel. to notch root radius 7−17635
Al-Zn-Mg, small fatigue crack growth from a keyhole notch 7−65133
C fibre reinforced epoxy, failure in static and fatigue loading 7−17632
Ni superalloy, Mar-M247, high-temp. fatigue crack propag. characts. 7−22836
Ti-Al-V alloys, VT20 and VT6, annealing temp. effect on mech. props. of semifinished products 7−39558

notch testing
see also fracture toughness testing
brittle material, through cracked-starter notched beam specimen, crack stability 7−65252
epoxy polymers, compact tension specimen casting, fatigue crack growth rate testing 7−13681
fibre reinforced concrete, shear test specimen geometry 7−46738
glassy epoxy polymer V notched specimens, quasi brittle fracture *(Polish)* 7−46744
high-strength steels, corrosion-fatigue strength, notch effect 7−26842
noise emission analysis for determining crackinitiation during instrumental notched bar impact testing *(German)* 7−8216
polyether sulphone, flexed plate impact testing, moulded notch effect 7−59713
sharp edge notches, estimations of elastic stress distrib. and stress conc. factors 7−20648
Stripa granite drill cores, fracture toughness meas. 7−55017
Al-Cu-Mg r-curve behaviour of double edge notched tensionspecimens in plane stress 7−13701
SiC, stress intensity factor meas. using notched and surface flaw specimens 7−65251

novae
And 1986, astrometric position and Dec. 1986 magnitudes 7−40843
And 1986, BV photometric data 7−55656
And 1986, chart, magnitude sequence, magnitudes (1986 Dec. 8-10) 7−55645
And 1986, discovery, approximate position, magnitudes and spectrum (1986 December 4 to 8) 7−40841
And 1986, finding chart and extended magnitude sequence 7−55647
And 1986, photometric and spectral obs. 7−47912
And 1986, precise position spectroscopic obs., and visual magnitude estimates 7−47907
And 1986, spectral features (1986 December) 7−47909
And 1986, visual magnitude estimates (1986 December 16 to 1987 January 12) 7−47914
atmospheric vel. fields, conf., Trieste, Italy (August-September 1982) 7−35118
Cen 1986, BV photometry and visual magnitude estimates (1986 Nov.-Dec.) 7−40837
Cen 1986, discovery, position, magnitudes, photometry, prenova identifications 7−24146
Cen 1986, IR photometry and visual magnitude estimates (1986 December 30 to 1987 January 13) 7−47913
Cen 1986, spectra, photometry, and magnitudes (1987 Jan.-Feb.) 7−66606
Cen 1986, spectral observations 7−55654
Cen 1986, visual magnitude estimates 7−34991
Cen 1986, visual magnitude estimates (1986 December) 7−47904
Cen 1986, visual magnitude estimates (1986 December) 7−47911
Cen 1986, visual magnitude estimates (1987 February 21 to 22) 7−66607
classical novae detected in the IRAS survey 7−40829
CrA 1981 (V693 CrA), IUE echelle spectrum analysis 7−34985
T CrB, recurrent nova, UBV photometry rel. to short-term light vars. 7−55660
T CrB, recurrent nova, UV obs. by IUE (1978 to 1986) 7−47941
Cyg 1986, August and September 1986 magnitudes 7−4482
Cyg 1986, discovery, magnitudes, spectrum, and finding chart 7−18418
Cyg 1986, IR and visible obs. (1986 August to September) 7−9481
Cyg 1986, Oct. and Nov. 1986 magnitudes 7−34994
Cyg 1986, spectra and magnitude estimates 7−18409
Cyg 1986, two-colour photometric study (July to October 1986) 7−66611
Cyg 1986, UBV obs. (1986 October) 7−18413
Cyg 1986, UBV photoelectric photometry (1986 Dec.-1987 Feb.) 7−66609
Cyg 1986, UBV photometry and visual magnitude estimates (1986 November and December) 7−47902
Cyg 1986, visual magnitude estimates (1986 October 17 and 23) 7−24145
Del 1967 (HR Del), spatial shell struct. 7−4462
evolution model taking mass and momentum loss into account 7−60672
evolution of classical nova model through complete cycle, theory 7−29493
Her 1934 (DQ Her), spatial shell struct. 7−4462
Her 1987, Hα emission, position, and magnitude estimates (1987 Jan-Feb.) 7−55657
Her 1987, prediscovery photo and Feb. 1987 visual magnitudes 7−60687
in Hercules, January 1987, possible nova discovery 7−60686
Lac 1986, discovery (1986 November 22), position and visual magnitude 7−34990
Lac 1986, object at α=22h22m07s, δ=+48°12′41″ which is not a nova 7−34993
Liller's nova-like object in Centaurus, patrol/atlas magnitudes 7−18415
RS Oph, recurrent nova, optical spectrum and photometry in quiescence 7−24139
RS Oph, recurrent nova, radio obs. rel. to conditions in nova remnant 7−60695
Oph 1938, optical candidate (in M14) 7−60678
RS Oph (Nova 1985), coronal lines obs. in post-maximum spectrum 7−9499
Per 1901 (GK Per), 1986 November outburst 7−47900
Per 1901 (GK Per), IUE spectra and visual magnitude estimates (November to December 1986) 7−47905
GK Per (=Nova Per 1901), IR magnitudes of outbursts 7−40844
preoutburst history, rapid accretion and hibernation 7−60673
Pyx 1966 (T Pyx), recurrent nova, UV continuum and spectra 7−34992
Sagittarii 1986, possible nova, identification with Mira variable LR Sgr 7−4479
SMC, Nova 1986, discovery, position and visual magnitude estimates 7−47910
SMC, Nova 1986, discovery, spectra and visual magnitude estimates 7−47901
SMC, Nova 1986, October 1986 magnitude estimates 7−55655

novae continued
space density of classical nova in The Galaxy 7−40832
TA observations (1986 August) 7−14588
TA observations (1986 December) 7−55646
TA observations (1986 July) 7−24143
TA observations (1986 June) 7−14586
TA observations (1986 November) 7−55644
TA observations (1986 September) 7−34987
UK patrol report (1986 no.5) 7−24142
UK patrol report (1986 no.6) 7−14587
UK patrol report (1986 no.7) 7−34988
UK patrol report (1986 no.9) 7−55643
UV studies of galactic novae, review 7−47940
Vul 1968 No.1 (LV Vul), post-max. spectral evolution 7−29490
Vul 1984 No.1, photometry and spectral obs. *(Russian)* 7−40848
Vul 1984 No.1 (PW Vul) slow nova, abundances, visible and IR obs. 7−40850
Vul 1984 no.2, visual magnitude estimates 7−4483
Vul 1984 No.2, visual magnitude estimates (1986 September 10 to November 21) 7−40842
PW Vul (Nova Vul 1984 No.1), visual magnitude estimates (1986 May-November) 7−40839

nozzles
2D jet impinging on a wedge, mean flow props., skin friction coeffs. 7−16224
ablation controlled arcs, stagnation press. elec. field strength 7−26332
alkali metal-mol. gas mixture, cooling in supersonic nozzle, population inversion of electronic states 7−31304
annular nozzle cascade, endwall contour effect on performance 7−20772
annular premixed propane flame, mass transfer, residence time in recirculation zone 7−17790
asymmetric dual-flow interrupter nozzles, flow field study 7−26331
atomised liquid fuel, turbulent diffusion flame, fine struct., using pneumatic nozzle 7−17791
atomiser electrostatic spray nozzle, aerodynamically shaped for insecticide selective deposition 7−51262
axisymmetric free jets having parabolic profiles at nozzle exit, hot-wire turbulence meas. 7−51260
axisymmetric opposed turbulent jet study 7−43995
bounded jet flow, initial turbulence vel. distrib. function 7−26323
bubbly gas-liquid mixture through nozzles, transient interphase energy transfer 7−6281
by-passing flow in a supersonic nozzle with optical windows *(Japanese)* 7−51263
CAD system with Denton scheme for flow program, comparison with expt. results 7−63177
confined air-water jets flow-field measurmeents and physical processes 7−37527
drop formation from single nozzles under pulsed flow conditions 7−11496
drop generation from capillary streams 7−57913
drop interactions, condensation particles, lag, growth rate, Laval nozzle flow 7−1619
dye jet laser, continuous, liquid-circulation systems 7−31312
dye ring laser, 580 nm, CW, single-mode, dye circulation system 7−1201
external turbulence effect on boundary layer flow in nozzle 7−1542
ferrofluid jet in mag. field, droplet form. using capillary nozzles 7−37553
flow rate meas. by speed-area method using convergent nozzles 7−57959
flowmeter, hydrodynamic oscillator type 7−37565
free-vortex nozzle, supersonic jet struct. study using pulse holographic interferometry 7−51256
fuel drops combustion, stability loss mechanism in stream of oxidising gas 7−31892
gas beam source, electromagnetically driven 7−48915
gas-blast circuit breaker, nozzle arc dynamic behaviour 7−26556
gas/particle nozzle flows, quasi 1D, shock waves 7−6238
glass fibre processing, spinning process in liq. state 7−3258
high temperature pulsed nozzle for supersonic jet spectrometry, gas chromatographic appls. 7−15005
ideal gas flows in plane and axisymmetrical nozzles *(Russian)* 7−44003
impulse steam turbine nozzles, angles and speed coeffs. relationships, blade efficiency 7−20773
jet force reduction, Coanda effect appl. 7−43998
jet impingement on wedge, edge-tone flowfield 7−11483
jets, initially circular, flow development and control, shear layer growth 7−11482
laser Doppler velocimetry, multi-pt. system using phase diffraction grating 7−37605
Laval nozzle with equilibrium crystallisation of condensed particles, two-phase flow 7−31864
Laval nozzles, acoustic disturbance propag. in transonic zone 7−62882
MHD high power generator, stability of nonuniform subsonic flow against quasi 1D acoustic oscillations 7−44266
micronozzles for flow rate meas., calibration system 7−51347
multiple steady states for characteristic initial value problems 7−26330
nonequilibrium homogeneous condensation in rarefaction waves 7−51280
nonuniform flow effects on base pressure at supersonic flight speeds 7−6264
plane turbulent jet propagating in transverse flow, rarefaction 7−11487
power plant combustion chamber, combustion stability 7−31890
propane jet flames, near-nozzle region, flow struct. 7−8280
proximity sensors, flow meas. with beam-scanning LDV 7−37604
pulse jet structure, energy balance in transient zone, turbulence 7−20768
pulsed supersonic He free-jet expansions, time-of-flight characterisation 7−11457
radial reattachment turbulent jet flow, press. distrib. 7−26324
rectangular 3D jet, reattachment to side wall, oscillations from nozzle 7−20770
steady liquid compound jet flow, num. treatment 7−37506
superheated water flow, vaporisation, heterogeneous mechanism 7−6265
supersonic air ejector, primary flow oscill. 7−37492
supersonic expansion, corona excited for cold radicals or ions production 7−9926
supersonic Laval nozzle separated regions, heat transfer investig. 7−31831
supersonic radical flowfield created by ring-type source nozzle, time-depend. 2D viscous anal. 7−31830
swirling pipe flow with air suction, fluid mech. fundamentals 7−16187
transonic flow, Euler eqn. finite vol. flux vector splittings 7−20745
transonic flow, implicit time-marching scheme 7−26310
underexpanded jet flow into subsonic counterflow, propag. laws 7−57890
vertical liquid jet system with downcomers, flow characts. 7−16226

nozzles continued
- viscous flow in transonic nozzles, Navier-Stokes eqn. 7−31827
- viscous gas jet flowing from a conical nozzle, density fluid, num. soln. 7−51252
- water-air ejector, free-rotating three-slot feedwater nozzle, expt. investig. 7−43997
- wind tunnels with perforated test sections equipped with subsonic nozzles 7−43965
- wind-tunnel diffuser operating at Mach no.4.4 to 8.5, press. recovery 7−43973
- CO_2-N_2-H_2 gasdynamic laser with 2D nozzles, gain optimisation 7−50541
- DF chemical lasers, mixing enhancement using supersonic nozzle design 7−5878
- Na particles in N_2 flow, size determ. by optical method, radiation loss 7−17837
- SF_6 puffer-type circuit breakers, effects of aerodynamic shocks on performance 7−51223
- U, isotope separation using nozzle effects, fluid dynamic analysis 7−61975

NTC thermistors *see thermistors*

ν **(neutrino)** *see neutrinos*

nuclear acoustic resonance *see acoustic nuclear magnetic resonance*

nuclear alignment *see nuclear polarisation*

nuclear binding energy
- *see also nuclear forces*
- A=4-90, single particle energies as functions of binding energies, HF sum rules 7−56588
- axially deformed nuclei, rel. Hartree calcs., energies and deformations 7−35940
- colour dielectric model for nuclear binding and quark confinement 7−35936
- continuous mosaic nuclear energy surface, new mass formula 7−30313
- EMC effect of nuclear spectral function normalization 7−56596
- excess and hole 4*N*-nuclei, binding energies, quad. deformation parameters 7−5147
- four-body excitations in heavy nuclei, microscopic description 7−5172
- hadrons flux tube model in nucl. matter, EMC effect 7−49272
- hypernuclei, Λ and Ξ binding energy, semi-empirical formulae 7−30362
- light nuclei, NNN-interaction effects on binding energies 7−61804
- matter, binding energy, dependence on number of colours 7−61828
- momentum distribution and the mean free path of nucleons in nuclear matter 7−41923
- nuclear matter, two, three and four body correlations for soft core pots., binding energy 7−61825
- Q-nuclei, binding energies and effects on stellar H burning 7−55445
- radiative muon capture and the induced pseudoscalar coupling in nuclei 7−56655
- saturation density and Skyrme functional, Hartree-Fock calcs. 7−49276
- sharp radius, interaction range and volume integral of shell model pot. for A=36-65 7−49258
- symmetric and asymmetric nuclear matter, LOCV calcs. of binding energies 7−5176
- Tucson-Melbourne force, role in binding energies and charge form factors 7−61805
- (l,l′), deep inelastic process, colour conductivity model anal., nuclear shadowing phenomenon and binding energy comparisons 7−49385
- (l,l′), deep inelastic process, nuclear binding, two body short range correlation effects 7−49386
- Λp low energy scattering and p-shell hypernuclei pots., binding energies 7−49280
- ^{9}Be$_{\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
- ^{10}Be$_{\Lambda\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
- ^{2}H, breakup and three body forces 7−61813
- ^{3}H binding energy, configuration space calcs. 7−61790
- ^{3}H(π,π'), charge symmetry breaking in ^{3}He-^{3}H system, anal. using n-p binding energies 7−56706
- ^{3}He(π,π'), charge symmetry breaking in ^{3}He-^{3}H system, anal. using n-p binding energies 7−56706
- ^{4}He, binding energy calcs., non-unitary model anal. using Reid soft-core potential 7−24932
- ^{4}He(p,X), 8.6 GeV/c, fragmentation, momentum characts. of spectators, binding energy 7−36012
- ^{5}He$_{\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
- ^{6}He$_{\Lambda\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
- Hf, even isotopes, neutron s-wave force function calcs. 7−30314
- ^{28}Si(d, d), distortion effects and binding energy calcs. 7−49229
- ^{28}Si(d, p), distortion effects and binding energy calcs. 7−49229
- ^{86}Sr(d,p), level struct. and transition strength study 7−41899
- ^{86}Sr(n,γ), level struct. and transition strength study 7−41899
- ^{230}Th(d,p), nuclear struct. study and binding energy determ. 7−41902
- ^{230}Th(n,eγ), nuclear struct. study and binding energy determ. 7−41902
- ^{230}Th(n,γ), nuclear struct. study and binding energy determ. 7−41902
- W, even isotopes, neutron s-wave force function calcs. 7−30314
- ^{89}Y(n,n), 4-10 MeV, diff. cross sections, search for Fermi surface anomaly 7−36010

nuclear bombardment targets
- *see also nuclear reactions and scattering*
- accelerator breeder reactor, vortex flow target system, temp. distrib. for proton irradiation 7−19526
- charge state of material sputtered by fissionfragments from ultradisperse gold targets 7−7802
- ethylene-1,2-^{13}C$_2$ glycol, ^{13}C dynamic polarization for nucl. target appl. 7−820
- internal supersonic gas jet targets for circular accelerators 7−5518
- PEP storage ring, gas-target expt. using TPC/2γ facility 7−36358
- rotating target holder 7−62162
- SNQ target station materials investigation 7−5524
- tilted multifoil assembly for nuclear polarisation 7−49769
- Ar beam, use in production of tagged photon beam 7−61853
- D target, dynamically polarized, nuclear spin orientation enhancement by RF irradiation 7−15435
- ^{1}H target polarisation determ. using polarised neutron beam 7−62167
- ^{2}H, polarised frozen spin target 7−62161
- ^{2}H, tensor polarisation of polarised target 7−62163
- ^{3}He polarised target 7−10328
- ^{3}He target, polarized, EM physics 7−56919

nuclear bombardment targets continued
- Os thick targets prod. for electron scatt. expts., electroplating 7−25282
- Si internal target of 1.3 GeV synchrotron, coherent bremsstrahlung generation and meas. 7−15434
- ^{30}Si target preparation using fine W gauze 7−49773
- ^{44}Ti, radioactive target preparation by high yield electrodeposition 7−819

nuclear branching and mixing ratios
- ^{128}Xe, *M*1 transitions between collective levels, proton-neutron IBM anal. 7−19197
- ^{175}Lu, energy level anal. from ^{175}Yb β-decay level transitions, J^{P} values, branching ratios, Nilsson model anal. 7−49313
- compound nucleus excited states, EM transitions, radiative strength fns., E1, M1 contributions. 7−5190
- neutron-proton IBM, F-spin symmetric limits 7−10114
- ^{164}Dy, g-factors and effective boson charges for M1-, E2-, M3-IBA transition operators 7−49299
- ^{156}Gd, M1 strength distn. anal. 7−49299
- ^{10}B, axion to γ-ray branching ratios 7−24957
- ^{44}Ca(γ,γ'), 1^{+} level obs. *M*1 strength, *E*2-*M*1 transition obs., E2 strength determ. 7−19170
- ^{A}Cd, A=123-130, strongly neutron rich fusion products, decay props 7−19210
- ^{110}Cd, angular correlation meas., gamma-transitions, multipole mixing ratio determ. 7−49314
- ^{A}Cu, A=74-78, strongly neutron rich fusion products, decay props 7−19210
- ^{A}Ga, A=77-81, strongly neutron rich fusion products, decay props 7−19210
- ^{3}He(e,e′), M1, M2 transition strength search using 180° scattering 7−61864
- ^{A}In, A=123,131, strongly neutron rich fusion products, decay props 7−19210
- ^{41}K, bound level study, branchings and excitation energies 7−30345
- ^{41}K(p,p′), 6 MeV, low-lying levels, EM props. and spin values, mixing ratios, lifetimes 7−19171
- ^{29}Mg, level struct. study, β and gamma decays, shell model comparison 7−49328
- ^{A}O, A=18-20, energy levels and EM transitions, shell model calcs. *(Korean)* 7−30342
- ^{30}P, second excited state, *M*1 branching ratio meas., lifetime calcs. for 709 keV level 7−19198
- ^{202}Pb, transition multipolarity anal., meas. of ^{202}Bi conversion electron spectra 7−30375
- ^{208}Pb, giant resonances, γ-decay probabilities and branching ratios 7−49305
- ^{195}Pt(^{32}S, ^{32}S′), 125 MeV, levels and transitions, B(E2) values, SUSY classification in IBFM 7−30310
- ^{96}Ru, level struct. and decay props., directional correlation and Doppler shift meas. 7−5159
- ^{233}U, E2/M1 multipole mixing ratios, ang. correlations 7−19194
- ^{238}U(e,e′f), 5-23 MeV, coincidence cross section meas. 7−19240
- ^{51}V, multiple mixing ratios of de-excitation radiation from ^{48}Ti(α,pγ) 7−30370
- ^{184}W 921 keV γ-transition, determ. of E1+E2+E3 multipolarity mixture, anal. of 1285 keV 5^{-} level 7−30364
- ^{128}Xe, excitation energies and branching ratios, F-spin structure of eigenstates, IBM-2 appl. 7−49300
- ^{A}Zn, A=75-80, strongly neutron rich fusion products, decay props 7−19210

nuclear charge
- *see also form factors (nuclear)*
- ^{A}O(e,e′), A=16, 18, form factors and transition charge densities 7−35942
- distribution, central depression 7−19160
- field shift and generalised moments of nuclear chargedistribution 7−10105
- nuclear mean-square charge radius formula, inclusion of shell effects *(Russian)* 7−576
- nuclear-charge distribution near symmetry for low-energy fission reactions 7−19232
- trinucleon charge densities and three-nucleon forces, form factor calcs. 7−19161
- (e,e′), model independent DWBA anal., recoil corrections 7−658
- ($\vec{e}$,e′$\vec{p}$), many-body theory calcs. 7−41983
- ^{12}C(e,e′), longitudinal charge response in quasielastic region, RPA approach 7−61861
- ^{40}Ca(e,e′), longitudinal charge response in quasielastic region, RPA approach 7−61861
- Cd isotopes, mean square charge radii, N dependence for 54≤N≤72 7−41885
- ^{56}Fe(e,e′), longitudinal charge response in quasielastic region, RPA approach 7−61861
- ^{2}H(e,e)^{2}H, EM radii determ., tensor polarisation meas. 7−49383
- ^{2}H(p,π^{0})^{3}He, precision test of charge independence 7−36002
- ^{2}H(p,π^{+})^{3}H, precision test of charge independence 7−36002
- ^{3}H(π,π'), charge symmetry breaking in ^{3}He-^{3}H system, anal. using n-p binding energies 7−56706
- ^{3}He(π,π'), charge symmetry breaking in ^{3}He-^{3}H system, anal. using n-p binding energies 7−56706
- ^{A}He(e,e)^{A}He, A=3,4 effect of hidden colour 7−49382
- ^{A}Hg, A=181-206 isotope shift, nuclear moments and charge radii 7−30333
- ^{127}I, level excitation during charge nonconservation 7−41903
- ^{A}Nd, A=even 142-150, effective charges in IBM, mass depend., B(E2) values 7−30321
- ^{A}Pb(e,e), A=204, 206-208, 502 MeV, charge density differences meas. 7−41890
- ^{208}Pb charge density shape, influence of ground state correlations 7−30318
- ^{A}Se(e,e), A=78,80, differential cross section meas. and phase shift anal. 7−41985
- Sn, charge radii and electromagnetic moments by laser spectroscopy 7−5189
- ^{A}Sr, A=80, 82, optical isotope shifts from spectroscopy coincidence laser 7−574
- ^{82}Sr, mean square charge radius, droplet model comparison 7−5635
- U(n,n′γ), chemically induced shifts of neutron resonances 7−41961
- ^{90}Zr, charge radius, charge and spin densities, Woods-Saxon shell model calcs. *(Chinese)* 7−5150

nuclear chemistry
see also chemical effects of nuclear reactions and scattering; radiation chemistry; radiochemistry
actinide coordination chemistry, ligand site matching 7−19366
conference, nuclear and radiochemistry, Beijing, China (Sept. 1986) 7−18494
conference heavy ion reaction, nuclear chemistry, with tandem accelerators, Tokai, Japan (Jan. 1986) 7−35116
hot atoms produced by nucl. transformations 7−48250
ion exchange separation of short-lived transplutonium nuclides 7−36806

nuclear cluster model
A=5-8, breathing cluster model for two s-wave clusters, charge form factors 7−24942
Fermi liquid model anal. of α-clustering and α-decay 7−41922
four-body excitations in heavy nuclei, microscopic description 7−5172
heavy cluster spontaneous emission rates, odd-even staggering 7−49269
heavy ion incomplete fusion reactions, fragment emission, influence of projectile cluster props. 7−19315
high spin states, cranked cluster wave function 7−41921
microscopic form factor for cluster transfer reaction 7−30319
multi three-cluster coupling model of nuclear reactions 7−19216
multi-cluster model, comparison with Sp(6,R) model 7−5170
U(6)×U(11) α-cluster and collective excitation model *(Chinese)* 7−24941
^{7} Be, electromagnetic props., resonating group model description 7−30330
^{9}Be$_{\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
^{9}Be$_{\Lambda}$, glue-like role of Λ, microscopic three-cluster model 7−41934
^{9}Be(γ,X), 3-body photodisintegration using hybrid method, $\alpha+\alpha+$n clusters 7−35996
^{10}Be$_{\Lambda\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
^{12}C levels, spectroscopic strength, ^{3}He cluster struct., Hauser-Feshbach anal. of ^{9}Be(^{6}Li,t) 7−35965
^{12}C(n,X), 545 MeV, π, p, d and t emission in cluster excitation processes 7−49396
^{40}Ca, deformed excited 0^{+} states, HF and α-cluster calcs. 7−41879
^{3}H+α cluster, distortion effects, multichannel resonating group method 7−5171
^{4}He(d,d), multi three-cluster coupling model anal., polarisation 7−588
^{4}He(π^{-},d), fast d prod., cluster model anal. 7−49472
^{5}He$_{\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
^{6}He$_{\Lambda\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
^{6}Li ground state, α-d momentum distrib. from ^{6}Li(e,e′d) 7−24975
^{6}Li, quantification of nucl. state clustering props. 7−49268
^{7}Li, Coulomb excitation, cluster model anal. 7−24955
^{A}Li, A=6,7, electromagnetic props., resonating group model description 7−30330
^{24}Mg, highly-excited states, cluster structure 7−10108
^{24}Mg, positive parity state struct., cranked alpha-cluster model 7−24943
^{16}O, deformed excited 0^{+} states, HF and α-cluster calcs. 7−41879
^{16}O, ground-, one-body states, three-body cluster effects, unitary-model operator anal. 7−10116
^{16}O(α, γ), forbidden E1 transitions, microscopic calcs. using generator coord. method 7−30373
(p,X), backward p prod. at low and intermediate energy 7−41999
^{208}Pb region, four-body correlations in heavy nuclei 7−30357
^{83}Rb, level lifetimes and structure meas., comparisons with Alaga-Paar cluster-vibration model 7−30371
^{44}Ti, evidence for α-clustering, local pot. approach 7−5173
^{65}Zn* compound system, preequilibrium α-emission, angular momentum effects 7−56693

nuclear collective model
see also generator coordinate method; interacting boson approximation; nuclear cranking model; nuclear liquid drop model
*M*3 transition in the two-rotor model 7−19199
anharmonic γ-vibrations, microscopic description using self-consistent coordinate method 7−10097
asymmetric nuclear shapes in structure, fission and cluster radioactivity, unified description 7−49228
ATDHF theory, non-uniqueness of the collective submanifold 7−15195
autonomous quantal dissipation and the wall formula 7−5146
collective motions and collisions, TDHF and other theories 7−49270
collective submanifolds, integrability conditions, validity of maximally decoupled theory 7−15194
core polarization effects in odd nuclei, HF and RPA schemes 7−61821
damping of nuclear rotational motion at modest temperatures 7−35923
deformed nuclei, giant resonances on lowest excited states, quasiparticle-phonon model 7−49363
deformed nuclei, vibr.-rot. quadrupole-octupole excitations, self-consistent model 7−41868
dipole and octupole pairs in deformed actinide nuclei 7−49201
dissipative collective nuclear motion, selfconsistent diabatic anal. 7−49267
E4 anomaly in the IBA, kinematical considerations 7−593
even-even nuclei, backbending and evidence for particle-core coupling 7−61789
fast rotating nuclei, macroscopic description of collective motion 7−585
fermion matter, single particle widths induced by axially symmetric vibrations 7−30360
four-body excitations in heavy nuclei, microscopic description 7−5172
giant monopole and quadrupole states in the relativistic σ-ω model 7−61827
giant resonance damping, stochastic two-level model 7−10133
heavy nuclei, valence p-n interactions and development of collectivity 7−56626
IBM, electromagnetic and hadronic form factors and operators 7−5154
large amplitude collective motion in adiabatic limit, generalized monopole shell model 7−10095
liquid characteristics of the nucleus *(Danish)* 7−583
low lying M1 strengths in IBM calcs. 7−5192
macroscopic-microscopic calculations of collective pot. energy, consistency condition 7−61788
many-fermion system, TDHF extension with Grassmann variables, formulation using Dirac's canonical theory of constraints 7−56629
microscopic model with 1p1h and 2p2h configurations, Green's function methods 7−41919
N$_{p}$N$_{n}$ systematics for $132 \leq A \leq 208$, subshell closure at Z=76 7−61820
neutron-proton IBM, F-spin symmetric limits 7−10114

nuclear collective model continued
nonrotational excited states in semiphenomenological nucl. theory 7−30341
odd spherical nuclei, mag. moments in quasiparticle-phonon model 7−41897
odd-spin rotation aligned band existence 7−35964
quadrupole phonon model, SU(3) supersymmetric limit, renormalization for nonsemisimple and semisimple algebra 7−41911
quantum shock wave in nuclei, semimicroscopic model 7−35963
rotational damping and quadrupole deformations, NMR analog model 7−41870
sd shell, comparison of SU(3) phenomenologies, band structure 7−56621
self-organisation in nuclei, collective states from quantum fluctuations 7−49196
shape parameter estimates from IBM wave functions 7−575
Sp(6,R) model, comparison with multi-cluster model 7−5170
spin-isospin excitations in nuclei, differential cross-sections 7−49208
superconducting nuclei, nucleon-number conservation in self-consistent collective-coord. method 7−19180
superfluid-normal state phase transition in two-level R(4) pairing force model 7−41927
TDHF theory, dynamical collective submanifold for large-amplitude collective motion 7−19181
TDHF theory, quantum theory of dynamical collective subspace for large-amplitude motion 7−19182
two-level solvable model involving competing pairing interactions 7−35962
U(6)×U(11) α-cluster and collective excitation model *(Chinese)* 7−24941
well-deformed nuclei, pair transition density, macroscopic anal. 7−56624
^{105}Ag, energy level anal. using particle-rotor model 7−19169
^{40}Ca, correlations in the Sp(1,*R*) model for the monopole oscillations 7−49263
^{A}Cd, A=110,111, collective coupling to low energy excitations 7−35919
^{A}Dy, A=154,156,158 backbending in neutron-proton IBA plus two-quasiparticle model 7−573
^{161}Dy (t,p) ^{163}Dy, anomalous L=0 transfer, population of non-coherent intrinsic states 7−42030
^{166}Er, gyromagnetic ratios of excited states in ground and gamma bands 7−30335
^{167}Er(t,p) ^{169}Er, anomalous L=0 transfer, population of non-coherent intrinsic states 7−42030
Eu, M2 transition probability between low-lying states, mag. core polarization 7−30372
^{56}Fe(γ,γ), dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
^{A}Gd, A=154, 156, 158, 160, energy levels and transition props., extended rotation-vibration model 7−49290
^{146}Gd, collective excitation spectrum in the quasiparticle phonon model 7−30305
^{155}Gd, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{156}Gd, deformed nucleus, collective pair struct. of K=0 and K=1 bands 7−24928
^{158}Gd, $K^{\pi}=1^{+}$ isovector states, generalised coherent state model 7−15185
^{179}Hf(t,p) ^{181}Hf, anomalous L=0 transfer, population of non-coherent intrinsic states 7−42030
^{157}Ho, quadrupole polarisation from quasiparticle S-band configuration, triaxiality, yrast energy 7−24929
^{173}Lu, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{24}Mg, positive parity state struct., cranked alpha-cluster model 7−24943
^{92}Mo(γ,γ), dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
^{A}Nd, A=132, 134, low-lying level lifetimes, transition strengths and collectivity 7−61835
^{29}Ne, parity nonconserving alpha decay widths, Fermi liquid model and RPA model 7−15204
^{60}Ni(γ,γ), dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
^{16}O, correlations in the Sp(1,*R*) model for the monopole oscillations 7−49263
^{17}O, dipole states, particle hole model anal. 7−35948
^{182}Os, high-spin isomer, p-n interaction in high-j orbitals, particle-γ-soft-rotor model anal. 7−24927
^{208}Pb, damping of nuclear excitations at finite temperature 7−35961
^{209}Pb, M2 transition probability between low-lying states, mag. core polarization 7−30372
^{A}Pm, A=133, 135, low-lying level lifetimes, transition strengths and collectivity 7−61835
Pn, M2 transition probability between low-lying states, mag. core polarization 7−30372
Pr, M2 transition probability between low-lying states, mag. core polarization 7−30372
^{A}Pu(n,n′), A=240,242,244 collective band scheme and statistical S-matrix formalism 7−61874
^{83}Rb, level lifetimes and structure meas., comparisons with Alaga-Paar cluster-vibration model 7−30371
^{A}S(n,n′), A=32,34, 20-26 MeV, cross sections, rotation-vibration, anharmonic vibration collective model anal., transition matrix element calcs. 7−19244
Sb, M2 transition probability between low-lying states, mag. core polarization 7−30372
^{28}Si(n,n′), 20-26 MeV, cross sections, rotation-vibration, anharmonic vibration collective model anal., transition matrix element calcs. 7−19244
^{A}Sm, A=134, 136, low-lying level lifetimes, transition strengths and collectivity 7−61835
^{145}Sm states from ^{145}Eu decay, struct. and parity levels 7−19193
^{151}Sm, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{152}Sm, pair transition density, Nilsson+BCS anal. 7−56624
^{154}Sm, boson mapping of particle-particle operators indeformed nuclei 7−586
Sn, M2 transition probability between low-lying states, mag. core polarization 7−30372
Te, even-mass isotopes, dynamic deformation model appl. 7−61818
^{124}Te, E0 transitions, dynamic deformation model, 0^{+} levels 7−594
^{44}Ti, evidence for α-clustering, local pot. approach 7−5173
^{50}Ti, level spectrum in rotational-particle coupling model 7−49197
^{235}U(^{84}Kr,^{84}Kr′), 370, 450 MeV, band structs., moments of inertia, multipole moments, transition probabs. 7−35922
^{99}Y, $K=3/2_{1}^{+}$ side-band, observation and IBFM/PTQM model description 7−49211

nuclear collective model continued
  ^{170}Yb, multiple occurrence of 0^+ excited bands, SU(3) multiplets of high spin bosons 7−49195
  ^{171}Yb, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
  ^{90}Zr, damping of nuclear excitations at finite temperature 7−35961

nuclear collective motion *see nuclear collective model*

nuclear collective states and giant resonances
  see also isobaric analogue resonances
  2s-1d shell nuclei, high-spin state excitation using (α,d) 7−19151
  ^{128}Xe, *M*1 transitions between collective levels, proton-neutron IBM anal. 7−19197
  ^{163}Dy, ground-state rotational band anal. using ^{163}Dy(^{35}Cl,X), ^{163}Dy(^{58}Ni,X) M1 transitions, excited state anal., level lifetime meas. 7−56640
  ^{72}Se, lowest three yrast transitions, lifetime meas. 7−10099
  ^{A}Au, A=189-195, $h_{11/2}$ bands, particle-core coupling calcs., IBM core testing and negative parity states 7−56590
  (α,α'), giant resonance, RPA transition density 7−25007
  Δ_{33}-N interaction, microscopic calcs. and Gamow-Teller strength quenching 7−49221
  *M*3 transition in the two-rotor model 7−19199
  A=122, nuclear data sheets, levels J$^\pi$, transitions, decays 7−41024
  A=124-146, beta-delayed proton emission, ground state spins and rot. bands 7−49349
  A=12-40, strangeness exchange reactions with the recoil corrected continuum shell model 7−19190
  A=133, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−60906
  A=143, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−14720
  A=145, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−29604
  A=156, nuclear data sheets, levels J$^\pi$, transitions, decays 7−41025
  A=16, 17, energy levels, EM transitions, J$^\pi$, and resonances 7−35132
  A=201, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−60907
  A=216, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−29605
  A=220, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−29605
  A=224, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−29605
  A=228, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−29605
  A=237, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−29606
  A=244, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−60908
  A=46, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−41023
  A=49, nuclear data sheets, levels, J$^\pi$ transitions, decays 7−14718
  A=5-8, breathing cluster model for two s-wave clusters, charge form factors 7−24942
  A=83, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−60905
  A=99, nuclear data sheets, levels, J$^\pi$, transitions, decays 7−14719
  anharmonic γ-vibrations, microscopic description using self-consistent coordinate method 7−10097
  autonomous quantal dissipation and the wall formula 7−5146
  backbending, moment of inertia, excitation and threshold energy 7−35925
  band sequences and interbandhead E2 transitions, IBM SU(3) limit 7−10122
  bandcrossing effects on M1 transition probabilities in high spin states 7−35926
  closed shell nuclei, high-spin particle-hole states, transition strength calcs. 7−49218
  collective motions and collisions, TDHF and other theories 7−49270
  collective shell model states, IBM-2 boson state mapping 7−19150
  collective states, F-spin analysis, global study of groups of nuclei, IBM analysis 7−49223
  compound nucleus, γ-decay evolution with spin and temp. 7−49214
  conf., Leningrad, USSR, April 1985 7−29574
  core polarization effects of giant resonances on transition densities of open-shell nuclei 7−61847
  damping of giant resonances, stochastic two-level model 7−10133
  damping of nuclear rotational motion at modest temperatures 7−35923
  deformed nuclei, evaporative emission calcs. 7−5152
  deformed nuclei, giant resonances on lowest excited states, quasiparticle-phonon model 7−49363
  deformed nuclei, isoscalar and isovector giant resonances, gas-droplet model anal. 7−56592
  deformed nuclei, low-lying collective M1 states, microscopic calcs. 7−49224
  deformed nuclei, rotational state excitation, anal. using two-dimensional model 7−24964
  deformed nuclei, vibr.-rot. quadrupole-octupole excitations, self-consistent model 7−41868
  dipole and octupole pairs in deformed actinide nuclei 7−49201
  E1 transitions in lead region nuclei 7−49294
  electromagnetic properties of high-spin isomers 7−35928
  electromagnetic properties of nuclei at high spins 7−49297
  even-even nuclei, backbending and evidence for particle-core coupling 7−61789
  excited nuclei, systematic behaviour of giant dipole resonance, moderate temp. and spin 7−49362
  fast rotating nuclei, macroscopic description of collective motion 7−585
  finite nuclei, symmetry violation and interplay between giant resonances and background 7−49257
  forward Compton amplitude in GDR and Δ regions, dispersion relation anal. 7−49377
  gamma-ray lasers, interlevel transfer mechanisms 7−10948
  Gamow-Teller β-decay of even nuclei near ^{100}Sn, struct. model calcs. 7−49330
  Gamow-Teller strength from spin-isospin saturated nuclei 7−49226
  giant dipole resonance, statistical decay, role of isospin 7−5210
  giant dipole resonances, deformation effects on expt. widths 7−49206
  giant monopole and quadrupole states in the relativistic σ-ω model 7−61827
  giant resonances, spectroscopic strength determ. 7−570
  giant resonances in excited nuclei, review 7−56595
  giant Resonances in Hot and rotating nuclei 7−35933
  heavy nuclei, Gamow-Teller resonance in β^+ decay and delayed proton emission 7−49327
  heavy-ion spectroscopy viewed from the IBM 7−35931
  high energy gamma rays emitted from highly excited states in the continuum 7−36043
  high spin levels, g-factor determ. using tilted-multifoil hyperfine interaction 7−56604
  high spin states, cranked cluster wave function 7−41921
  hot nuclei, dipole oscillation modes of giant resonances 7−612

nuclear collective states and giant resonances continued
  hot nucleus, correlation effects on the level density, finite temp. extension 7−24936
  hot rotating nuclei, cooling by mag. and electric dipole radiation 7−49359
  hot rotating toroidal nuclei, influence of ang. momentum on threshold temp. 7−5153
  IBM, g boson signature from g-factor variations 7−41917
  IBM, quadrupole sum rule violation and E2 matrix elements 7−61819
  isovector magnetic mode in deformed nuclei 7−24954
  large amplitude collective motion in adiabatic limit, generalized monopole shell model 7−10095
  low-lying collective mag. dipole excitations, IBM appl. 7−41910
  low-lying states of A=6 nuclei 7−41909
  macroscopic-microscopic calculations of collective pot. energy, consistency condition 7−61788
  mixed symmetry states in pn-systems, systems for U(5), SU(3), O(6) symmetries, M1, E2 decay props. 7−49222
  multipole resonance decay, collective and statistical doorways 7−19222
  negative parity bands in collective pair approach 7−24930
  nuclear data sheets, recent references May-August 1986 7−35131
  nuclear data sheets, recent refs. Jan. to April 1986 7−31
  nuclear shapes studied by Coulomb excitation, review 7−56598
  odd-odd deformed nuclei, odd-even shifts in rot. nuclei, residual interaction studies 7−19156
  odd-spin rotation aligned band existence 7−35964
  parity dependent NBCS formalism at finite nuclear temp. using NUCPAR program 7−49256
  particle decay of resonant state generated by direct reaction 7−49366
  peripheral relativistic HI collisions, multistep fragmentation and high-lying state EM excitation 7−36034
  phase space description of collective nucl. vibr. using Vlasov eqn. plus quantum corrections 7−30306
  photon strength functions, E1 strength M1 giant resonance 7−41938
  proton-rich nuclei, superallowed β-decay and axial-vector strength renormalisation 7−49329
  quadrupole deformation parameters for even-even nuclei 7−49234
  rapidly rotating nuclei, nuclear struct. studies, review 7−56594
  rare earths, octupole states and bandhead energies in deformed nuclei, IBM calc. 7−30312
  relativistic heavy ion collisions, EM processes, giant resonances, π and e^+e^- prod. 7−19270
  reviews of particle and nuclear physics, book 7−55907
  rotating nuclei, microscopic description of collective excitations 7−41867
  rotational damping and quadrupole deformations, NMR analog model 7−41870
  self-consistent transport coefficients for damped large scale collective motion 7−35934
  self-organisation in nuclei, collective states from quantum fluctuations 7−49196
  spin-isospin excitations in nuclei, differential cross-sections 7−49208
  superconducting nuclei, nucleon-number conservation in self-consistent collective-coord. method 7−19180
  superfluid and normal phases in nuclei, Coriolis antipairing effect *(Danish)* 7−590
  superfluid-normal state phase transition in two-level R(4) pairing force model 7−41927
  surface spin-isospin modes, RPA calcs. 7−56589
  TDHF theory, dynamical collective submanifold for large-amplitude collective motion 7−19181
  TDHF theory, quantum theory of dynamical collective subspace for large-amplitude motion 7−19182
  thermal linear response theory for dissipative high spin quantum states 7−19223
  transient magnetic field acting on swift nuclei moving in magnetized solids 7−49243
  weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
  (n,γ), E1 giant resonance excitation, partial cross sections in optical shell model 7−30421
  (n,p), isovector excitations and spin-flip transitions at intermediate energy 7−41989
  ($\bar{p}$,$\bar{n}$), analysis of isovector excitations, comparisons with (p,n) 7−49391
  ($\bar{p}$,p^1) on A=152-192, γ-vibr. band, hexadecapole excitation, mass no. depend. 7−49202
  (p,p$'$), Dirac distorted wave fn. approx. anal. 7−49398
  ($\pi^\pm$, π^0) on A=40-208, isovector monopole and dipole giant resonances, RPA-DWIA anal. 7−30398
  ^{124} Ce, structure investigation, deformation parameters 7−569
  ^{16}($\bar{p}$,p$'$)^{16}O, excitation of T=1 and T=0 0^- states 7−670
  ^{104}Ag, spin determ. by nucl. orientation and NMR 7−41893
  ^{36}Ar, isovector M1 collective excitations, strength function meas. 7−5144
  (α,α'), isovector dipole mode duplication of monopole mode signature 7−5211
  ^{11}B(^{7}Li,^{7}Li$'$), state excitations, DWBA and coupled channels calcs. 7−42051
  ^{A}Ba, A=142,144,146, neutron-rich, octupole deform., fast electric dipole transitions obs. 7−41889
  ^{128}Ba, band crossings, IBM calcs. 7−10096
  ^{138}Ba, microscopic struct. of semimagic nuclei 7−30304
  ^{140}Ba levels and transitions, spin assignments, multipole mixing ratios from ^{140}Cs β decay 7−595
  ^{148}Ba, level structure, test of N_pN_n scheme far off stability 7−49205
  ^{7}Be(γ,X), giant resonances from microscopic approach 7−35988
  ^{8}Be, transitions to ground and excited states from ^{11}B(^{3}He, ^{6}Li) and ^{12}C(d, ^{6}Li) reactions 7−19153
  ^{A}Br, A=72,73, rot. states, level energies and lifetimes, evaporation residue study 7−49215
  ^{12}C levels, spectroscopic strength, ^{3}He cluster struct., Hauser-Feshbach anal. of ^{9}Be(^{6}Li,t) 7−35965
  ^{12}C(d,^{7}Li)^{7}Be, ang. distribs. to ground and first excited states 7−30435
  ^{12}C($\bar{p}$,p$'$)^{12}C, analysing power meas. 7−682
  ^{12}C($\bar{p}$,p$'$)^{12}C, mixing of breathing oscillation into β-vibrationalstates 7−671
  ^{12}C($\bar{p}$,p$'$)^{12}C, spin transfer in 1^+ states excitations 7−679
  ^{13}C(^{7}Li,^{7}Li$'$), state excitations, DWBA and coupled channels calcs. 7−42051
  ^{A}Ca, A=40,48, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
  ^{A}Ca($\bar{p}$,$\bar{n}$), 134 MeV, A=40,48, Gamow-Teller and spin-dipole strength, spin-flip 7−30407
  ^{40}Ca, deformed excited 0^+ states, HF and α-cluster calcs. 7−41879

nuclear collective states and giant resonances continued
- ^{40}Ca($\pi^{\pm},\pi^{0}$), isovector giant resonance excitations 7−49478
- ^{48}Ca, multipole depend. of giant resonance spreading width, RPA calcs. 7−49357
- ^{A}Cd, A=110,111, collective coupling to low energy excitations 7−35919
- ^{A}Cd($\vec{p}$,p)^{A}Cd, A=112, 114, 116 elastic and inelastic scatt., nuclear structure 7−667
- ^{A}Cd(p,t), A=106,108,110,112,114,116, test for ground state intruder config. admixture 7−5245
- Ce, odd-mass isotopes, backbending, IBA anal. 7−19149
- ^{A}Ce, A=124,126, B(E2) anomaly in ground state bands 7−35974
- ^{132}Ce, rotational band lifetime meas. within superdeformed second minimum 7−41871
- ^{134}Ce(10^{+}), prolate deformation of isomeric states 7−30309
- ^{140}Ce, microscopic struct. of semimagic nuclei 7−30304
- ^{140}Ce($\tilde{\gamma},\gamma$), 6.7-8.7 MeV, giant M1 resonance, M1 transition strength distrib. 7−30400
- ^{248}Cm, E2 properties of ground state band using ^{136}Xe and ^{58}Ni projectiles 7−10093
- ^{55}Co medium spin structure, shapes and transitions, HF and shell anals. of ^{54}Fe(^{3}He,X) 7−41873
- ^{52}Cr(n,xnγ), 14.6 MeV, coincident in-beam study, γ-transitions, γ-multiplicities 7−42025
- ^{133}Cs(^{22}Ne,X), complete fusion, excitation functions and high-spin isomeric species 7−5266
- ^{145}Cs, β-decay study and octupole deformed rot. struct. 7−5198
- ^{63}Cu(p,γ), direct-semidirect capture in the giant dipole resonance region 7−49417
- ^{63}Cu(p,γ)^{64}Zn, 6.5-11 MeV, capture cross section meas., excitation fn. anal. using CN/DSD models 7−10153
- ^{A}Dy, A=154,156,158 backbending in neutron-proton IBA plus two-quasiparticle model 7−573
- ^{148}Dy, giant Gamow-Teller excitations populated in β^{+} decay 7−49364
- ^{152}Dy, discrete superdeformed states up to $60\hbar$ and shape coexistence. 7−49213
- ^{152}Dy, quasicontinuum γ-rays from collective high-spin states, internal conversion coeff., multipolarity meas. 7−56639
- ^{152}Dy, superdeformed and other collective bands 7−24931
- ^{155}Dy, coexistence between band terminations and collective configs. 7−5140
- ^{161}Dy (t,p) ^{163}Dy, anomalous L=0 transfer, population of non-coherent intrinsic states 7−42030
- ^{161}Dy, multiple Coulomb excitation of deformed odd nuclei 7−35927
- ^{164}Dy, M1 states as low-frequency neutron-proton vibrations, energies, reduced transition probabilities 7−49225
- ^{A}Er, A=156,158, terminating band props., high spin spectra, shell model anal. of N=88 isotones 7−41872
- ^{A}Er, A=164, 166, 168, double γ vibrational states, anal. using self-consistent coordinate method 7−10097
- ^{150}Er, giant Gamow-Teller excitations populated in β^{+} decay 7−49364
- ^{166}Er, gyromagnetic ratios of excited states in ground and gamma bands 7−30335
- ^{167}Er(t,p) ^{169}Er, anomalous L=0 transfer, population of non-coherent intrinsic states 7−42030
- ^{168}Er($\vec{p}$,p′)^{168}Er, γ-vibration band excitation, hexadecapole degree of freedom 7−676
- ^{170}Er, deformations, pair gaps and giant resonances, temp. depend., finite temp. HFB calcs. 7−30320
- ^{153}Eu, 83.4 and 103.2 keV levels, lifetimes meas. 7−5191
- ^{19}F positive parity levels, ang. distribs., DWBA and shell anals. of ^{17}O(^{3}He, p) 7−15181
- ^{54}Fe medium spin structure, shapes and transitions, HF and shell anals. of ^{54}Fe(^{3}He,X) 7−41873
- ^{56}Fe(γ,γ), dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
- ^{A}Ga, A=76,78,80, structure and Q_{β} values 7−49318
- ^{67}Ga $15/2^{+}$ 3578 keV level, mag. moment meas. from ^{56}Fe(^{16}O,αp) 7−35946
- ^{A}Gd (A=156, 158, 160), (e,e′) form factor and BM1 probability calcs. 7−56591
- ^{A}Gd, A=160,162, ground state and γ-vibr. bands, L=0 strengths from Gd(t,p) 7−41875
- ^{144}Gd, superdeformed shape study and deduced moment of inertia 7−41887
- ^{146}Gd, collective excitation spectrum in the quasiparticle phonon model 7−30305
- ^{156}Gd, deformed nucleus, collective pair struct. of K=0 and K=1 bands 7−24928
- ^{156}Gd(e,e′), diff. cross section, $K^{\pi}=1^{+}$ mode structure from DWBA anal. 7−41876
- ^{158}Gd, $K^{\pi}=1^{+}$ isovector states, generalised coherent state model 7−15185
- ^{158}Gd, M1 states as low-frequency neutron-proton vibrations, energies, reduced transition probabilities 7−49225
- ^{160}Gd, nucleon transfer reactions to rot. states induced by ^{206}Pb, ^{208}Pb 7−49210
- ^{160}Gd(Pb,Pb′), rotational state population close to Coulomb barrier 7−49210
- Ge, high spin states, B(E2) values, g-factors IBM coupled calcs. 7−35930
- ^{A}Ge, A=68,70,72,74, high spin yrast levels, microscopic study 7−5143
- ^{68}Ge, g-factor meas., evidence for higher multipole forces and states 7−49240
- ^{A}H, A=4,5,6 bound and unbound levels from ^{9}Be(^{11}B,O) reactions 7−36027
- ^{4}He, collective excitation, generalised R-matrix calcs. 7−15184
- ^{4}He, effect of high-lying states on ground and O^{+} levels 7−571
- ^{6}He(γ,X), giant resonances from microscopic approach 7−35988
- Hf, generalisation of $\hat{Q}.\hat{Q}$ Hamiltonian for IBM 7−61816
- ^{A}Hf($\vec{p}$,p′)^{A}Hf, A=178, 180 multipole moment relation in optical potential 7−677
- ^{179}Hf(t,p) ^{181}Hf, anomalous L=0 transfer, population of non-coherent intrinsic states 7−42030
- Hg, shape coexistence and shape transitions 7−49203
- ^{180}Hg nuclear shape coexistence, γ-decay, energy levels from ^{90}Zr(^{90}Zr,γ) 7−19163
- ^{A}Ho, A=152,153, M1 quasicontinuum and high spin states 7−49216
- ^{150}Ho, yrast level structure, shell model anal. 7−10098
- ^{157}Ho, quadrupole polarisation from quasiparticle S-band configuration, triaxiality, yrast energy 7−24929
- ^{125}I, K-capture, limits on neutrino-mixing from internal Bremsstrahlung 7−49317
- ^{A}In, A=106, 108, spin determ. by nucl. orientation and NMR 7−41893

nuclear collective states and giant resonances continued
- ^{A}In, A=123,125,127 level schemes, search for intruder states from Cd β-decay 7−19152
- ^{195}Ir low-spin positive-parity states identification U(6/4) supersymm. representations 7−41869
- ^{A}Kr, A=74, 76, rot. states, level energies and lifetimes, evaporation residue study 7−49215
- ^{75}Kr, signature splitting of EM transitions 7−49287
- ^{81}Kr, M1 transition rates at high spin, cranking model appl. 7−30368
- ^{A}Li(γ,X), A=6,7, giant resonances from microscopic approach 7−35988
- ^{165}Lu, electromagnetic props. through two band crossings 7−5142
- ^{165}Lu, M1 transition rates at high spin, cranking model appl. 7−30368
- ^{24}Mg, approximate angular momentum states, thermal response in finite temp. HF approximation 7−19155
- ^{24}Mg, excitation energies from ^{12}C(^{12}C,^{12}C)^{12}C scatt. 7−36030
- ^{24}Mg, obs. of high spin γ-decaying state at 16.9 MeV from ^{12}C(^{16}O,$\alpha\gamma$)^{24}Mg 7−5139
- ^{24}Mg($\vec{p}$,p′)^{24}Mg, mixing of breathing oscillation into β-vibrationalstates 7−671
- ^{26}Mg stretched states, spectroscopic factors and strength from ^{25}Mg(α,^{3}He) 7−35920
- ^{29}Mg, level struct. study, β and gamma decays, shell model comparison 7−49328
- ^{92}Mo(γ,γ), dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
- ^{100}Mo, yrast states 7−24926
- ^{29}Na, Gamow-Teller β-decay, shell model comparison 7−49328
- ^{A}Nd, A=132, 134, low-lying level lifetimes, transition strengths and collectivity 7−61835
- ^{144}Nd(^{16}O,γ)^{160}Er, E_{lab}=76-105 MeV, ^{160}Er statistical decay, giant dipole resonance effects, statistical model comparisons 7−10173
- ^{20}Ne, excited states, low-lying bands from ^{12}C(^{12}C,$\alpha\alpha$) reaction 7−61911
- ^{20}Ne, isovector M1 collective excitations, strength function meas. 7−5144
- ^{58}Ni(n,p), 17.3 MeV, giant dipole resonance excitation, p ang. distribs. 7−41962
- ^{58}Ni($\vec{p}$,p′)^{58}Ni, inelastic scatt. to 1^{+} states in M1 resonance region 7−673
- ^{60}Ni(γ,γ), dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
- ^{60}Ni($\vec{p}$,p′)^{60}Ni, inelastic scatt. to 1^{+} states in M1 resonance region 7−673
- ^{60}Ni($\pi^{\pm},\pi^{0}$), isovector giant resonance excitations 7−49478
- ^{237}Np, ground state shapes and structure from ^{237}Pu (μ^{-},γ) 7−56656
- ^{A}O(e,e′), A=17,18,15-23 MeV, excitation of M4 transitions, form factor meas. 7−19238
- ^{16}O, deformed excited 0^{+} states, HF and α-cluster calcs. 7−41879
- ^{16}O, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
- ^{16}O, effect of high-lying states on ground and O^{+} levels 7−571
- ^{16}O, high spin, highly excited states from ^{12}C(^{12}C, ^{8}Be) 7−35932
- ^{16}O(^{12}C,^{12}C′)^{16}O, intermediate width structures, angular momenta 7−49456
- ^{16}O(γ,p), continuum shell model anal. in Δ isobar region 7−35995
- ^{A}Os, A=186, 188, deformations, pair gaps and giant resonances, temp. depend., finite temp. HFB calcs. 7−30320
- ^{182}Os, high-spin isomer, p-n interaction in high-j orbitals, particle-γ-soft-rotor model anal. 7−24927
- ^{189}Os(n,γ), giant resonance constraints, implications for stellar nucleosynthesis duration 7−49393
- ^{208}PB, thermal props., constrained Hartree-Fock calcs. 7−19183
- ^{A}Pb, A=194-196, energy level conversion coeff. meas. from ^{184}W(^{16}O, xn) 7−19206
- ^{A}Pb, A=194-197, meas. of isomeric $33^{+}/2\rightarrow29^{+}/2$ and $12^{+}\rightarrow10^{+}$ transition energies 7−24956
- ^{202}Pb, high-spin isomers, half-life meas. 7−10094
- ^{203}Pb, g-factor of $21/2^{+}$ isomer, meas. using time differential perturbed ang. distrib. technique 7−41896
- ^{208}Pb, damping of nuclear excitations at finite temperature 7−35961
- ^{208}Pb, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
- ^{208}Pb, giant multipole resonance decay, collective and statistical doorways 7−19222
- ^{208}Pb, giant resonances, γ-decay probabilities and branching ratios 7−49305
- ^{208}Pb(^{17}O,^{17}O′), high energy continuum excitation 7−42049
- ^{208}Pb(^{32}S,^{32}S′), high energy continuum excitation 7−42049
- ^{208}Pb(α,^{3}He)^{209}Pb, 183 MeV, neutron response fns., high-spin single particle strengths, DWBA anal. 7−19154
- ^{208}Pb(e,e′), high spin state form factor calcs. 7−49218
- ^{208}Pb(e,e′), isoscalar quadrupole giant resonance, electron spectra statistical anal. 7−49380
- ^{208}Pb(p,p′), multipole matrix elements for low-lying states 7−41990
- ^{208}Pb($\pi^{\pm}$, $\pi^{\pm}$′) isoscalar 10.5 MeV giant 2^{+} state, diff. cross sections, RPA calcs 7−25007
- ^{A}Pm, A=133, 135, low-lying level lifetimes, transition strengths and collectivity 7−61835
- ^{143}Pm, microscopic struct. of semimagic nuclei 7−30304
- ^{206}Po yrast structure, transitions, $T_{1/2}$ and isomer from (α,4n) and (^{3}He,3n) 7−41878
- ^{214}Po, mixing parameters of γ-ray transitions 7−49289
- ^{141}Pr, microscopic struct. of semimagic nuclei 7−30304
- Pt, shape coexistence and shape transitions 7−49203
- ^{A}Pt, A=176, 178, 180, pot. energy surface calcs. of shape transitions and coexistence 7−15186
- ^{A}Pt, A=194,196,198 electric quadrupole moments of first excited states 7−10103
- ^{184}Pt, yrast band, lifetime meas. and shape coexistence 7−30308
- ^{195}Pt(^{32}S, ^{32}S′), 125 MeV, levels and transitions, B(E2) values, SUSY classification in IBFM 7−30310
- ^{A}Pu(n,n′), A=240,242,244 collective band scheme and statistical S-matrix formalism 7−61874
- ^{218}Ra, collective vibr. study via ^{208}Pb(^{13}C, 3n) reaction 7−30307
- ^{219}Ra, low-lying structure, coincidence meas. 7−49199
- ^{A}Rb, A=91,93, low lying level struct., lifetimes, J^{π} assignments 7−19205
- ^{77}Rb, rot. states, level energies and lifetimes, evaporation residue study 7−49215
- ^{177}Re single quasi-proton states, deformation depend., level scheme, cranking model anal. of ^{165}Ho(^{16}O,4n) 7−41877
- ^{100}Rh, yrast bands, parity meas. 7−56587
- ^{A}Rn, A=208,210,211, quadrupole moment sensitivity to small deformations 7−35947
- ^{215}Rn, low-lying structure, coincidence meas. 7−49199
- ^{A}Ru, A=97,103, excited states, level schemes, spins and transitions from ^{94}Mo(^{6}Li,p2n) and (α,n) 7−35921

nuclear collective states and giant resonances continued
^{34}S(γ,np), cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7−41971
^{34}S(γ,p), cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7−41971
^{34}S($\vec{p}$,p′)^{34}S, investigation of first three 2^+ states 7−672
^{38}S, level spectrum and E2, M1 transition rates from ^{36}S(t,p) reaction 7−49428
^{A}Se, A=70, 72, rot. states, level energies and lifetimes, evaporation residue study 7−49215
^{A}Se, A=70,72,74,76, high spin yrast levels, microscopic study 7−5143
^{70}Se, yrast states, lifetime meas. using ^{0}Ca(^{36}Ar,2pα) 7−10099
^{72}Se, yrast states, lifetime meas. using ^{58}Ni(^{14}N,pn) 7−10099
^{80}Se levels, J^{π}, ang. distribs., DWBA anal. of ^{78}Se(t,p) 7−35949
^{28}Si, giant dipole resonance decay, isospin mixing effects 7−41881
^{28}Si, highly excited spin states from ^{12}C(^{20}Ne,α) reaction 7−705
^{28}Si, isospin mixing during decay of giant dipole resonance 7−10092
^{28}Si, unbound levels, resonance and decay mode determ. from ^{27}Al(p,γ) reaction 7−49413
^{28}Si(^{16}O,^{16}O′), 29-35 MeV, optical model, coupled-channel method anal., role of collective excitations 7−56700
^{28}Si(e,e′P), coincidence studies in the giant resonance region 7−49384
^{28}Si(e,e′α), coincidence studies in the giant resonance region 7−49384
^{28}Si(n,n′)^{28}Si, excited states and direct reaction mechanism 7−36003
^{A}Sm, A=134, 136, low-lying level lifetimes, transition strengths and collectivity 7−61835
^{136}Sm, strong deformation, single particle character and collectivity 7−49217
^{142}Sm(7^-), prolate deformation of isomeric states 7−30309
^{144}Sm, lifetime meas. and particle core coupling calcs. using ^{142}Nd(α,2n) reaction 7−30438
^{144}Sm, microscopic struct. of semimagic nuclei 7−30304
^{145}Sm single particle config. splitting, J assignments from ^{144}Sm($\vec{d}$,p) 7−572
^{145}Sm states from ^{145}Eu decay, struct. and parity levels 7−19193
^{148}Sm, deformations, pair gaps and giant resonances, temp. depend., finite temp. HFB calcs. 7−30320
^{150}Sm, octupole deformation at high spin 7−49207
^{152}Sm, nucleon transfer reactions to rot. states induced by ^{206}Pb, ^{208}Pb 7−49210
^{152}Sm(Pb,Pb′), rotational state population close to Coulomb barrier 7−49210
^{154}Sm, M1 states as low-frequency neutron-proton vibrations, energies, reduced transition probabilities 7−49225
^{154}Sm(^{12}C,^{14}C), pair transfer, macroscopic description, form factor 7−25000
^{154}Sm(p,p′), 800 MeV, collective state excitations, Glauber model, IBM anal. 7−24981
^{A}Sn, A=109, 111, microscopic struct. of semimagic nuclei 7−30304
^{A}Sn, A=110, 112, high spin states 7−35929
^{119}Sn(p,d), nuclear response probing with pick-up reactions, giant pairing resonance 7−41964
^{120}Sn(p,t), nuclear response probing with pick-up reactions, giant pairing resonance 7−41964
^{120}Sn($\pi^{\pm}$,π^{0}), isovector giant resonance excitations 7−49478
^{124}Sn(^{208}Pb,X), quasi-elastic recoil and elastoplasticity in central collisions 7−5258
^{86}Sr, yrast decay schemes, gamma-ray data and shell model calcs. 7−15198
^{88}Sr($\vec{p}$,p′)^{88}Sr, effective interactions, analysing power and structure 7−675
^{98}Tc, yrast bands, parity meas. 7−56587
Te, even-mass isotopes, dynamic deformation model appl. 7−61818
^{A}Te, A=114-17, vibrational and quasiparticle structs. coexistence, states and spectra, shell model anal. of Sn(^{3}He,X) 7−41874
^{124}Te, E0 transitions, dynamic deformation model, 0^+ levels 7−594
^{230}Th(d,p), nuclear struct. study and binding energy determ. 7−41902
^{230}Th(n,eγ), nuclear struct. study and binding energy determ. 7−41902
^{230}Th(n,γ), nuclear struct. study and binding energy determ. 7−41902
^{232}Th, nucleon transfer reactions to rot. states induced by ^{206}Pb, ^{208}Pb 7−49210
^{232}Th(Pb,Pb′), rotational state population close to Coulomb barrier 7−49210
^{A}Ti, A=44, 46, 48, IBM description of energy spectra *(Chinese)* 7−10115
^{A}Ti, A=46, 48, spin-orbit contribs. to collective M1 transitions 7−56637
^{43}Ti, β-decay, expt. and shell model study 7−49331
^{50}Ti, level spectrum in rotational-particle coupling model 7−49197
^{A}Tl, A=191-197, $h_{9/2}$ bands, particle-core coupling calcs., IBM core testing and negative parity states 7−56590
^{152}Tm, yrast level structure, shell model anal. 7−10098
^{168}Tm, evidence for 17 keV level from ^{169}Tm(γ,n) 7−30311
^{232}U, gamma-ray spectroscopy up to spin 20 7−15200
^{234}U(n,f), 0.8 MeV, mean kinetic energy depend. of fission fragments, vibr. resonance 7−42097
^{235}U(^{84}Kr,^{84}Kr′), 370, 450 MeV, band structs., moments of inertia, multipole moments, transition probabs. 7−35922
^{238}U(^{40}Ar,^{40}Ar′), multiple Coulomb nucl. excitation to high spin states, iteration method of soln. 7−42056
^{238}U(^{84}Kr,^{84}Kr′), multiple Coulomb nucl. excitation to high spin states, iteration method of soln. 7−42056
^{238}U(e,e′f), 5-23 MeV, coincidence cross section meas. 7−19240
U(e,e′f), fission decay of giant multipole resonances, coincidence study 7−49360
^{A}W($\vec{p}$,p′)^{A}W, A=182, 184 multipole moment relation in optical potential 7−677
^{168}W, g-factor above the first backbend, 12^+ state, stretched neutron config. 7−15191
^{184}W, 1285 5^- level, decay props., parity mixing anal. 7−30364
^{120}Xe, yrast band and backbending using in-beam γ-ray spectroscopy of ^{110}Cd(^{13}C,3n) and ^{111}Cd(^{12}C,3n) reactions 7−36028
^{122}Xe, neutron and proton bands at high spins 7−49198
^{A}Y, A=87-90, yrast decay schemes, gamma-ray data and shell model calcs. 7−15198
^{89}Y(n,n), 4-10 MeV, diff. cross sections, search for Fermi surface anomaly 7−36010
^{90}Y isovector E2 resonance observation in ^{89}Y(n,γ) reaction 7−49361
^{99}Y, K=$3/2_1^{+}$ side-band, observation and IBFM/PTQM model description 7−49211
^{A}Yb(n,n′), A=172,174 ang. distribs. studies 7−10143
^{152}Yb, giant Gamow-Teller excitations populated in β^+ decay 7−49364
^{166}Yb high spin states, lifetimes meas., B(E2) values from ^{130}Te(^{40}Ar,X) 7−35924

nuclear collective states and giant resonances continued
^{170}Yb, multiple occurrence of 0^+ excited bands, SU(3) multiplets of high spin bosons 7−49195
^{174}Yb, energy levels and EM transitions from ^{173}Yb(n,γ) reaction 7−49397
^{64}Zn giant dipole resonances built on excited states, Brink hypothesis verification from ^{63}Cu(p,γ) 7−41959
^{A}Zr, A=83, 85, from ^{58,60}Ni(^{28}Si, 2pn), in beam γ-ray spectroscopy 7−35989
^{A}Zr, A=87,89, yrast decay schemes, gamma-ray data 7−15198
^{90}Zr, damping of nuclear excitations at finite temperature 7−35961
^{90}Zr, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{90}Zr giant dipole resonances built on excited states, Brink hypothesis verification from ^{89}Y(p,γ) 7−41959
^{90}Zr, thermal props., constrained Hartree-Fock calcs. 7−19183
^{90}Zr(^{3}He,t), 600 MeV, Gamow-Teller strength, Δ-isobar quenching effects 7−49422
^{90}Zr(p,n), 200 MeV, Gamow-Teller strength, Δ-isobar quenching effects 7−49422
^{90}Zr($\vec{p}$,$\vec{p}$′), 319 MeV, Gamow-Teller strength, Δ-isobar quenching effects 7−49422
^{98}Zr, alpha-correlated excitations, coexisting intruder excitation 7−49212
^{98}Zr, coexisting intruder excitations, multiparameter in-beam spectroscopy studies 7−5141

nuclear coupling, molecular *see molecular nuclear coupling*

nuclear cranking model
hedgehog models with vector mesons, cranking calculation 7−587
high spin states, cranked cluster wave function 7−41921
rotating nuclei, microscopic description of collective excitations 7−41867
^{132}Ce, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
^{81}Kr, M1 transition rates at high spin, cranking model appl. 7−30368
^{165}Lu, M1 transition rates at high spin, cranking model appl. 7−30368
^{134}Nd, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
^{136}Nd, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
^{177}Re single quasi-proton states, deformation depend., level scheme, cranking model anal. of ^{165}Ho(^{16}O,4n) 7−41877
^{122}Xe, neutron and proton bands at high spins 7−49198

nuclear decay schemes *see radioactive decay schemes*

nuclear decay theory
see also alpha decay theory; beta decay theory
hypernuclei, pionic decay rate calcs. using DDHF single-particle wave functions 7−5183
hypernuclei decay, shell model anal. 7−41933
pionic radioactivity from nuclear ground state 7−10129
Δ(1232) decay, no. of nucleons involved 7−61842
^{12}C$_{\Lambda}$, lifetime for nonmesonic Λ decays 7−41798
^{4}H$_{\Lambda}\to{}^{3}$H+pπ^-, energy spectra, angular correlation calcs. 7−56635
^{4}H$_{\Lambda}\to{}^{3}$He$\to$nπ^-, energy spectra, angular correlation calcs. 7−56635

nuclear deformation *see nuclear shape*

nuclear density
centre-of-mass free density matrix, appl. to many-body wave functions 7−19162
composite particle scatt., nuclear parameter extraction, Fourier-Bessel anal. 7−611
Dirac sea effects on finite nuclei, rel. model anal 7−49253
nucleon momentum and density distribs., general functional relation 7−24934
saturation density and Skyrme functional, Hartree-Fock calcs. 7−49276
(e, e), model independent densities from scatt. data, form factors 7−657
(N,N), Pauli distortion effect on the first-order optical potential 7−30395
^{12}C, dynamic and static longitudinal structure factors, RPA anal. 7−41884
^{40}Ca, dynamic and static longitudinal structure factors, RPA anal. 7−41884
^{56}Fe, dynamic and static longitudinal structure factors, RPA anal. 7−41884
^{208}PB, thermal props., constrained Hartree-Fock calcs. 7−19183
^{208}Pb charge density shape, influence of ground state correlations 7−30318
^{90}Zr, charge radius, charge and spin densities, Woods-Saxon shell model calcs. *(Chinese)* 7−5150
^{90}Zr, thermal props., constrained Hartree-Fock calcs. 7−19183

nuclear electric moment
axially deformed nuclei, rel. Hartree calcs., energies and deformations 7−35940
electromagnetic props., resonating group model description 7−30330
even-even nuclei, ground-first excited 2^+ state transition probability B(E2) 7−48204
high-spin isomers, quadrupole moment determ. using tilted-multifoil hyperfine interaction 7−56604
N=88-90, shape transition and internal quadrupole moment calcs. 7−5179
p-shell nuclei, nuclear moments 7−49245
sd-shell nuclei, electric quadrupole moments 7−49242
^{7} Be, electromagnetic props., resonating group model description 7−30330
^{132}Ce, rotational band lifetime meas. and quadrupole moment 7−41871
^{A}Ge, A=68,70,72,74, high spin yrast levels, static quadrupole moments 7−5143
^{2}H(α,γ) ^{6}Li stellar reaction rate, influence of ^{2}H and ^{6}Li quadrupole moments 7−24126
^{3}He, electric dipole moment, contributions from CP-violating NN interaction 7−49247
^{A}Hg, A=181-206 isotope shift, nuclear moments and charge radii 7−30333
^{A}Pt, A=194,196,198 electric quadrupole moments of first excited states 7−10103
^{A}Rn, A=208,210,211, quadrupole moment sensitivity to small deformations 7−35947
^{A}Se, A=70,72,74,76, high spin yrast levels, static quadrupole moments 7−5143
Te, even-mass isotopes, dynamic deformation model appl. 7−61818
^{232}Th($\vec{p}$,p′)^{232}Th, quadrupole and hexadecapole moments 7−678
^{238}U($\vec{p}$,p′)^{238}U, quadrupole and hexadecapole moments 7−678

nuclear electric shielding *see nuclear screening*

nuclear electromagnetic pulse *see electromagnetic pulse*

nuclear electromagnetic transitions *see nuclear energy level transitions*

nuclear electron capture
- *see also beta-decay*
- K X-ray fluorescence yield ratio meas. for $55 \leq Z \leq 82$ 7−10128
- stellar collapse, electron capture effects 7−55614
- V+A search in β^+ decay, validity test of $SU(2)_L \times U(1)$ model 7−56646
- weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
- ν_e mass using ^{163}Ho electron capture 7−30383
- ^{106}Ag, Q_{EC} value determ. 7−19209
- ^{26}Al, electron capture to positron emission ratios 7−19207
- ^{133}Ba→^{133}Cs, nuclear quadrupole interaction freq. in Ba compounds 7−10628
- ^{76}Br EC decay, ^{76}Se electric monopole transitions, IC electrons, level lifetimes 7−19202
- ^{41}Ca, forbidden electron capture, IS component of internal bremsstrahlung 7−49321
- ^{105}Cd, Q_{EC} value determ. 7−19209
- ^{57}Co EC decay chemical effects in Co(III) complexes 7−23048
- ^{57}Co^{3+}, nuclear decay, ^{57}Fe^{4+} anomalous charge state obs. 7−21881
- ^{153}Gd, combined electron-nuclear emission after K-capture 7−30381
- ^{196}Hg neutrinoless double electron capture branching ratio, experimental limits determ. 7−35980
- ^{163}Ho, electron capture, ν_e mass meas. 7−56653
- ^{163}Ho, electron capture decay, neutrino mass meas. using inner bremsstrahlung 7−56645
- ^{125}I, K-capture, limits on neutrino-mixing from internal Bremsstrahlung 7−49317
- ^{125}I-^{3}H, dual isotope liquid scintillation counting *(Chinese)* 7−5197
- ^{A}In, A=105-108, beta$^+$-decay energies determ., Q_{EC} values 7−19209
- ^{258}Md^{m}→^{258}Fm, Z, A and half-life meas. 7−19159
- ^{22}Na, electron capture to positron emission ratios 7−19207
- Ni, ^{57}Ni labelled, ^{57}Fe Mossbauer emission spectroscopy of internal radiation damage 7−13061
- ^{103}Pd decay studies, half-life and γ-spectrum, ^{103}Rh states and transitions *(Russian)* 7−41948
- ^{44}Sc, electron capture to positron emission ratios 7−19207
- ^{88}Y, electron capture to positron emission ratios 7−19207

nuclear emulsions *see nuclear track emulsions*

nuclear energy *see nuclear power*

nuclear energy level lifetimes
- ^{163}Dy, ground-state rotational band anal. using ^{163}Dy(^{35}Cl,X), ^{163}Dy(^{58}Ni,X) M1 transitions, excited state anal., level lifetime meas. 7−56640
- ^{72}Se, lowest three yrast transitions, lifetime meas. 7−10099
- accuracy of half-lives determined by γ-ray spectrometry 7−24958
- B(E2), IBM expressions for inter-representation transitions in deformed nuclei *(Chinese)* 7−24960
- even-even nuclei, ground-first excited 2^+ state transition probability B(E2), 2^+ state lifetimes 7−48204
- gamma-ray lasers, Mossbauer effect in long-lived nucl. states, observational techniques 7−10124
- Gamow-Teller l-forbidden β-transitions in 2p-1f shell nuclei, lifetimes effects of NN interaction 7−5202
- IBM, diagonalization procedure and E2 transition probability calcs. 7−49261
- transfer levels for isomeric deexcitation in γ-ray lasers 7−10908
- U(12) systematics in IBA Hamiltonian, level energies and B(E2) ratios 7−41914
- ^{105}Ag excited states, lifetimes meas. from ^{105}Pd(p,nγ) 7−30374
- ^{9}Be, T=3/2 state, width analysis and isospin mixing 7−41900
- ^{A}Br, A=72,73, rot. states, level energies and lifetimes, evaporation residue study 7−49215
- ^{73}Br, γ-transitions, energies, levels 7−19204
- ^{A}Ce, A=124,126, B(E2) anomaly in ground state bands 7−35974
- ^{132}Ce, rotational band lifetime meas. within superdeformed second minimum 7−41871
- Eu, M2 transition probability between low-lying states, mag. core polarization 7−30372
- ^{153}Eu, 83.4 and 103.2 keV levels, lifetimes meas. 7−5191
- ^{117}In, 589 keV state, lifetime and g-factor 7−49304
- ^{41}K(p,p′), 6 MeV, low-lying levels, EM props. and spin values, mixing ratios, lifetimes 7−19171
- ^{A}Kr, A=74, 76, rot. states, level energies and lifetimes, evaporation residue study 7−49215
- ^{A}Nd, A=132, 134, low-lying level lifetimes, transition strengths and collectivity 7−61835
- ^{30}P, second excited state, *M*1 branching ratio meas., lifetime calcs. for 709 keV level 7−19198
- ^{A}Pb, A=194-196, energy level conversion coeff. meas. from ^{184}W(^{16}O, xn) 7−19206
- ^{209}Pb, M2 transition probability between low-lying states, mag. core polarization 7−30372
- ^{A}Pm, A=133, 135, low-lying level lifetimes, transition strengths and collectivity 7−61835
- Pn, M2 transition probability between low-lying states, mag. core polarization 7−30372
- ^{206}Po yrast structure, transitions, $T_{1/2}$ and isomer from (α,4n) and (^{3}He,3n) 7−41878
- Pr, M2 transition probability between low-lying states, mag. core polarization 7−30372
- ^{184}Pt, yrast band, lifetime meas. and shape coexistence 7−30308
- ^{A}Rb, A=91,93, low lying level struct., lifetimes, J$^{\pi}$ assignments 7−19205
- ^{76}Rb, 3.2 μs isomer, obs. in ^{40}Ca(^{40}Ca,γ)^{30}Zr, decay level scheme 7−10109
- ^{77}Rb, rot. states, level energies and lifetimes, evaporation residue study 7−49215
- ^{83}Rb, level lifetimes and structure meas., comparisons with Alaga-Paar cluster-vibration model 7−30371
- Sb, M2 transition probability between low-lying states, mag. core polarization 7−30372
- ^{47}Sc decay: half-life, γ-emission probability, transition probability, end-point energy and internal conversion coeff. 7−24959
- ^{A}Se, A=70, 72, rot. states, level energies and lifetimes, evaporation residue study 7−49215
- ^{70}Se, yrast states, lifetime meas. using ^{0}Ca(^{36}Ar,2pα) 7−10099
- ^{72}Se, yrast states, lifetime meas. using ^{58}Ni(^{14}N,pn) 7−10099

nuclear energy level lifetimes continued
- ^{76}Se electric monopole transitions, IC electrons, level lifetimes from ^{76}Br EC decay 7−19202
- ^{A}Si, A=28-30, level mean lifetimes using two-target Doppler shift attenuation meas. 7−41940
- ^{A}Sm, A=134, 136, low-lying level lifetimes, transition strengths and collectivity 7−61835
- Sn, M2 transition probability between low-lying states, mag. core polarization 7−30372
- ^{110}Sn, $9^- - 8^+$E2 transitions, level lifetime meas. 7−5187
- ^{112}Sn, $9^- - 8^+$E2 transitions, level lifetime meas. 7−5187
- ^{160}Tb→^{160}Dy, decay investig. 7−49307
- ^{166}Yb high spin states, lifetimes meas., B(E2) values from ^{130}Te(^{40}Ar,X) 7−35924

nuclear energy level transitions
- *see also internal conversion; Mossbauer effect; nuclear branching and mixing ratios; nuclear energy level lifetimes*
- ^{128}Xe, *M*1 transitions between collective levels, proton-neutron IBM anal. 7−19197
- ^{163}Dy, ground-state rotational band anal. using ^{163}Dy(^{35}Cl,X), ^{163}Dy(^{58}Ni,X) M1 transitions, excited state anal., level lifetime meas. 7−56640
- ^{175}Lu, energy level anal. from ^{175}Yb β-decay level transitions, J^{P} values, branching ratios, Nilsson model anal. 7−49313
- ^{72}Se, lowest three yrast transitions, lifetime meas. 7−10099
- ^{A}O(e,e′), A=16, 18, form factors and transition charge densities 7−35942
- *M*3 transition in the two-rotor model 7−19199
- A=122, nuclear data sheets, levels J$^{\pi}$, transitions, decays 7−41024
- A=133, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−60906
- A=137-144 exotic neutron-deficient nuclei, shape and γ-decay 7−19201
- A=143, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−14720
- A=145, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29604
- A=156, nuclear data sheets, levels J$^{\pi}$, transitions, decays 7−41025
- A=16, 17, energy levels, EM transitions, J$^{\pi}$, and resonances 7−35132
- A=201, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−60907
- A=216, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29605
- A=220, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29605
- A=220 region, triaxiality and reflection asymmetry, γ-correlations 7−49231
- A=224, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29605
- A=228, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29605
- A=237, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29606
- A=244, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−60908
- A=46, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−41023
- A=49, nuclear data sheets, levels, J$^{\pi}$ transitions, decays 7−14718
- A=4-90, single particle energies as functions of binding energies, HF sum rules 7−56588
- A=83, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−60905
- A=99, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−14719
- A=9-136, direct neutron capture, channel-capture formalism 7−42023
- accuracy of half-lives determined by γ-ray spectrometry 7−24958
- axially deformed nuclei, rel. Hartree calcs., energies and deformations 7−35940
- band sequences and interbandhead E2 transitions, IBM SU(3) limit 7−10122
- bandcrossing effects on M1 transition probabilities in high spin states 7−35926
- beta-decay, Fermi and Gamow-Teller transitions, comparison of beta-ray polarization with $SU(2)_L \times SU(2)_R \times U(1)$ models 7−35977
- closed shell nuclei, high-spin particle-hole states, transition strength calcs. 7−49218
- composite particle scatt., nuclear parameter extraction, Fourier-Bessel anal. 7−611
- compound nucleus, γ-decay evolution with spin and temp. 7−49214
- compound nucleus excited states, EM transitions, radiative strength fns. 7−5190
- conf., Leningrad, USSR, April 1985 7−29574
- core polarization effects in odd nuclei, HF and RPA schemes 7−61821
- core polarization effects of giant resonances on transition densities of open-shell nuclei 7−61847
- damping of nuclear rotational motion at modest temperatures 7−35923
- deformed nuclei, vibr.-rot. quadrupole-octupole excitations, self-consistent model 7−41868
- E1 transitions in lead region nuclei 7−49294
- E2 form factor, continuity-equation constraint and the non-uniqueness of the vector potential decompositions 7−49296
- E4 anomaly in the IBA, kinematical considerations 7−593
- Eλ transition operators, two-phonon component effects on nuclear states 7−49303
- electromagnetic properties of nuclei at high spins 7−49297
- even-even $f_{7/2}$ shell nuclei, convection current for $0^+ \rightarrow 1^+$ excitations 7−49301
- even-even nuclei, ground-first excited 2^+ state transition probability B(E2) 7−48204
- F-spin and collective M1 transitions 7−49300
- first-forbidden β-decays, constraints on parity mixing matrix elements from hard pion exchange 7−61836
- gamma-ray lasers, interlevel transfer mechanisms 7−10948
- Gamow-Teller l-forbidden β-transitions in 2p-1f shell nuclei, lifetimes effects of NN interaction 7−5202
- gauge-invariant nuclear Compton amplitude manifesting low-energy theorems 7−49288
- giant dipole resonance, statistical decay, role of isospin 7−5210
- giant multipole resonance decay, collective and statistical doorways 7−19222
- heavy-ion spectroscopy viewed from the IBM 7−35931
- high energy gamma rays emitted from highly excited states in the continuum 7−36043
- hot rotating nuclei, cooling by mag. and electric dipole radiation 7−49359
- hybrid quark-hadron model of nuclear magnetic moments 7−61815
- hypernuclei, electromagnetic transitions, hyperon-nucleon forces 7−49285
- IBM with boson surface-dealt interaction, energy levels and relative B(E2) values 7−15193
- interlevel transfer, resonant electronic states, gamma-ray laser possibilities 7−10119
- isomeric states for gamma ray laser appl. 7−10951
- isovector magnetic mode in deformed nuclei 7−24954
- K X-ray fluorescence yield ratio meas. for $55 \leq Z \leq 82$ 7−10128

nuclear energy level transitions continued
laser driven coherent outer shell electron oscillation, gamma-ray laser appl. 7−10121
low lying M1 strengths in IBM calcs. 7−5192
M1 transitions, empirical description, quenching of spin matrix elements 7−577
magnetic transitions, l-forbidden, core polarisation effects 7−49293
mixed symmetry states in pn-systems, systems for U(5), SU(3), O(6) symmetries, M1, E2 decay props. 7−49222
negative parity bands in collective pair approach 7−24930
neutron resonance averaging with filtered beams 7−42021
neutron-proton IBM, F-spin symmetric limits 7−10114
nuclear data sheets, recent references May-August 1986 7−35131
nuclear data sheets, recent refs. Jan. to April 1986 7−31
nuclear deexcitation via inelastic electronic bridge mechanism 7−19196
nuclear internal-pair-transitions, restrictions on 1.7 MeV axion production 7−19200
nuclear structure properties for gamma-ray lasers 7−10946
octupole deformed nuclei, EM transitions 7−49295
odd-mass nuclei, high-lying state decays, role of quasiparticle ⊗ phonon wave fn. components 7−56638
peripheral relativistic HI collisions, multistep fragmentation and high-lying state EM excitation 7−36034
photon strength functions, E1 strength M1 giant resonance 7−41938
quadrupole deformation parameters for even-even nuclei 7−49234
rare earth nuclei, high excitation energy low spin states, structure and decay 7−41904
rare earths, octupole states and bandhead energies in deformed nuclei, IBM calc. 7−30312
spectra deconvolution using the least squares method 7−19203
statistical nuclear spectroscopy for quasiparticles and boson systems 7−41936
superdeformed states in Z=66 and 68 isotopes, γ-ray energy correlations 7−49298
superradiance kinetics for gamma-ray lasers 7−10949
thermal linear response theory for dissipative high spin quantum states 7−19223
thermal neutron capture for A≤80 odd-odd nuclei, dipole transition strengths and level densities 7−49410
two-level solvable model involving competing pairing interactions 7−35962
e^+e^- peaks, constraints on nuclear transitions, axions and particle interpretation 7−35776
(γ,$\pi^\pm$), nuclear spin-isospin excitations 7−49302
(n,γ), determ. of absolute intensities, time-of-flight γ- and neutron-spectra meas. 7−56678
(n,p), universal Gamow-Teller quenching 7−49419
(p,n), intermediate energies, microscopic anal. 7−49421
(p,n), spin-isospin excitations 7−49420
(p,n), universal Gamow-Teller quenching 7−49419
(p,p′), 800 MeV, transition densities from inelastic scatt., Glauber model calcs. 7−49395
($\vec{p}$,p^1) on A=152-192, γ-vibr. band, hexadecapole excitation, mass no. depend. 7−49202
($\vec{p}$,$\vec{p}'$), universal Gamow-Teller quenching 7−49419
(π^+, π^-), A=12-56, nonanalogue double charge exchange, cross sections, form factors, transitions, shell model 7−30456
^{124} Ce, structure investigation, deformation parameters 7−569
^{105}Ag, energy level anal. using particle-rotor model 7−19169
^{107}Ag(^{32}S,X), 715 MeV, inclusive fragment cross sections, γ-ray transition cross sections from fragment decays 7−42047
^{27}Al(n,α)^{24}Na, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7−10155
^{27}Al(n,p)^{27}Mg, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7−10155
^{27}Al(n,t+n,nt), excitation function calcs. from neutron flux meas. 7−42017
^{36}Ar, isovector M1 collective excitations, strength function meas. 7−5144
^{40}Ar, bound dipole state parities, nucl. resonance fluorescence expts. 7−5188
^{A}Au, A=196, 198, Bose-Fermi symmetry chain for the description of odd-odd nuclei 7−30367
^{197}Au^{m}, isomer state half-life meas. 7−56636
(α,α′), isovector dipole mode duplication of monopole mode signature 7−5211
^{10}B, ΔT=0 transition, constraints on variant axion models 7−30237
^{10}B, isoscalar M1 transitions, short-lived axions 7−56641
^{A}Ba, A=142,144,146, neutron-rich, octupole deform., fast electric dipole transitions obs. 7−41889
^{128}Ba, band crossings, γ-ray and conversion electron spectroscopy 7−10096
^{140}Ba levels and transitions, spin assignments, multipole mixing ratios from ^{140}Cs β decay 7−595
^{7}Be(p,γ), differential and total cross section calcs., direct capture model 7−42004
^{209}Bi(γ,n)^{208}Bi, angular distributions, E1-E2 interference effects 7−49371
^{73}Br, γ-transitions, energies, levels 7−19204
^{12}C(α,γ)^{16}O, 0.94-2.84 MeV, absolute cross sections, γ-ray distribs., excitation fn. meas. 7−42037
^{12}C($\bar{\nu}$, $\bar{\nu}'$), cross sections, anal. of (0+0→1+0) isoscalar transition, hadron current structure 7−5228
^{13}C, 3.68 MeV state decay, light neutral particle search 7−30366
^{13}C(^{12}C, ^{12}C′), Landau-Zener transition due to molecular orbitals, coupled channels model 7−42060
^{13}C(K^-,π^-), $s^4p^8\otimes s_\Lambda$, $s^4p^8\otimes p_\Lambda$ state spectra, baryon decays, neutron spectra, nuclear and hypernuclear γ-spectra 7−56634
^{13}C(e,e′), 78-338 MeV, M4 excitations, cross section meas., shell model anal. 7−19195
^{13}C(n,γ), low-energy, E2 effective charge 7−5236
^{14}C(e,e′), form factors and stretched M4 configurations, shell model comparisons 7−41981
^{A}Ca, A=40,48, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{40}Ca isospins level-widths, 9.5 to 10.5 MeV, from ^{39}K(p,γ) *(Chinese)* 7−35972
^{40}Ca(α,X), 10-27 MeV, fusion excitation fn. oscillations, optical model anal. 7−19268
^{40}Ca(α,α), 12-18 MeV, excitation fn. calcs., optical model anal. 7−19268
^{40}Ca(p,p′), 500 MeV, proton polarization observable meas., 3^-, 5^- level transitions 7−49399
^{44}Ca(γ,γ′), 1^+ level obs. *M*1 strength, *E*2-*M*1 transition obs., E2 strength determ. 7−19170

nuclear energy level transitions continued
^{110}Cd, angular correlation meas., gamma-transitions, multipole mixing ratio determ. 7−49314
^{111}Cd(n,γ)^{112}Cd, 10 to 150 keV, radiative transitions and cross sections 7−10151
Ce, odd-mass isotopes, backbending, IBA anal. 7−19149
^{A}Ce, A=124,126, B(E2) anomaly in ground state bands 7−35974
^{140}Ce($\vec{\gamma}$,γ), 6.7-8.7 MeV, giant M1 resonance, M1 transition strength distrib. 7−30400
^{248}Cm, E2 properties of ground state band using ^{136}Xe and ^{58}Ni projectiles 7−10093
^{55}Co medium spin structure, shapes and transitions, HF and shell anals. of ^{54}Fe(^{3}He,X) 7−41873
^{57}Co $d_{5/2}$ isobaric analogue resonance fragments, γ-decay schemes, M1 strength from (p,γ) and (p,p′γ) 7−35987
^{A}Cr, A=48, 50, single particle spectra and shape from deformed HF calcs. *(Chinese)* 7−5186
^{52}Cr(n,xnγ), 14.6 MeV, coincident in-beam study, γ-transitions, γ-multiplicities 7−42025
^{133}Cs(^{22}Ne,X), complete fusion, excitation functions and high-spin isomeric species 7−5266
^{137}Cs decays, X- and γ-ray intensity meas. 7−61838
^{63}Cu(p,γ)^{64}Zn, 6.5-11 MeV, capture cross section meas., excitation fn. anal. using CN/DSD models 7−10153
^{152}Dy, multipolarities and γ-ray energy correlations 7−49298
^{152}Dy, quasicontinuum γ-rays from collective high-spin states, internal conversion coeff., multipolarity meas. 7−56639
^{164}Dy, M1 states as low-frequency neutron-proton vibrations, energies, reduced transition probabilities 7−49225
^{A}Er, A=156,158, terminating band props., high spin spectra, shell model anal. of N=88 isotones 7−41872
^{165}Er, effect of recoil term on average potential, level energies, reduced E1 probabilities 7−61796
^{166}Er, gyromagnetic ratios of excited states in ground and gamma bands 7−30335
^{167}Er^{m}, isomer state half-life meas. 7−56636
^{139}Eu decay props., γ-ray and internal conversion meas. 7−49306
^{153}Eu, 83.4 and 103.2 keV levels, lifetimes meas. 7−5191
$^{11}\vec{F}$ parity nonconserving asymmetry in decay transitions from ^{22}Ne($\vec{p}$,α) 7−61794
^{18}F, validity of M-3Y force equivalent G-matrix element for s-d shell calcs. *(Chinese)* 7−5185
^{A}Fe(n,n′γ), A=54, 56, 58, gamma distribs., excited level schemes, B(E2) values 7−30419
^{54}Fe, internal pair conversion probability ratios for E0 transitions from K-shell 7−30379
^{54}Fe medium spin structure, shapes and transitions, HF and shell anals. of ^{54}Fe(^{3}He,X) 7−41873
^{56}Fe, gamma-ray competition in the continuum, thermodynamic model anal. 7−41939
^{57}Fe, dressed state model of sideband transitions 7−10123
^{A}Ga, A=76,78,80, structure and Q_β values 7−49318
^{A}Gd, A=154, 156, 158, 160, energy levels and transition props., extended rotation-vibration model 7−49290
^{A}Gd, A=160,162, ground state and γ-vibr. bands, L=0 strengths from Gd(t,p) 7−41875
^{A}Gd(n,γ), determ. of absolute intensities, time-of-flight γ-and neutron-spectra meas. 7−56678
^{144}Gd, superdeformed shape study, γ-γ transition energy correlation meas. 7−41887
^{146}Gd, collective excitation spectrum in the quasiparticle phonon model 7−30305
^{153}Gd, combined electron-nuclear emission after K-capture 7−30381
^{156}Gd(e,e′), diff. cross section, $K^\pi=1^+$ mode structure from DWBA anal. 7−41876
^{156}Gd(e,e′), orbital mag. dipole strength distrib., resonance fluoresc. meas. 7−10104
^{158}Gd, $K^\pi=1^+$ isovector states, generalised coherent state model 7−15185
^{158}Gd, M1 states as low-frequency neutron-proton vibrations, energies, reduced transition probabilities 7−49225
Ge, high spin states, B(E2) values, g-factors IBM coupled calcs. 7−35930
^{A}Ge, A=64, 65, level scheme, transitions and octupole deformations 7−56610
^{A}Ge, A=68,70,72,74, high spin yrast levels, reduced E2 transition probabilities 7−5143
^{70}Ge, internal pair conversion probability ratios for E0 transitions from K-shell 7−30379
^{76}Ge→^{76}Se, neutrinoless, double beta-decay, $0^+\to0^+$ study, prelim. meas. 7−49342
γ-ray enhanced emission, oriented nuclei, MQNMR study 7−49286
^{2}H(d,γ)^{4}He, M1, E1, M2, E2 transitions, ^{4}He D state anal. 7−19262
^{2}H(γ,pn), nucleon angular distn., polarization meas., isolation of EI-MI interference contributions 7−56664
^{2}H(μ,)^{2}H, approx. Bethe-Salpeter wavefunctions 7−654
^{5}He(^{3}He,α)^{4}He, virtual reaction, use in anal. of ^{9}Be(^{3}He,αα)^{4}He, excitation fn. meas. 7−19266
^{176}Hf, El, E2, E3 transitions, two-phonon component effects on nuclear states 7−49303
^{177}Hf, K-allowed E1 transitions ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{180}Hg nuclear shape coexistence, γ-decay, energy levels from ^{90}Zr(^{90}Zr,γ) 7−19163
^{197}Hg, nuclear isomer separation, for gamma-ray laser 7−10091
^{203}Hg decays, X- and γ-ray intensity meas. 7−61838
^{125}I, K-capture, limits on neutrino-mixing from internal Bremsstrahlung 7−49317
^{195}Ir low-spin positive-parity states identification U(6/4) supersymm. representations 7−41869
^{39}K, hole state excitations, using (γ,γ′) and (d,τ′), correlations 7−61833
^{41}K(p,p′), 6 MeV, low-lying levels, EM props. and spin values, mixing ratios, lifetimes 7−19171
^{A}Kr, A=78, 80, negative-parity states, E2 transition probabilities, IBM anal. 7−30340
^{75}Kr, signature splitting of EM transitions 7−49287
^{81}Kr, M1 transition rates at high spin, cranking model appl. 7−30368
^{7}Li (γ,xn), 7.25-19.5 MeV, cross section meas., obs. of M1 transition 7−19234
^{7}Li, Coulomb excitation, cluster model anal. 7−24955
^{A}Lu, A=175,177, K-allowed E1 transitions ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{165}Lu, electromagnetic props. through two band crossings 7−5142

nuclear energy level transitions continued
^{165}Lu, M1 transition rates at high spin, cranking model appl. 7−30368
^{24}Mg, 10.71 MeV bound state, γ resonant absorption 7−30363
^{24}Mg, obs. of high spin γ-decaying state at 16.9 MeV from ^{12}C(^{16}O,$\alpha\gamma$)^{24}Mg 7−5139
^{24}Mg, pionic 4f-3d transition for precision π^- mass determ. 7−596
^{24}Mg($\vec{p}$,d), 30-40 MeV, l=0 transition, anal. powers and diff. cross sections 7−623
^{25}Mg(n,γ), low-energy, E2 effective charge 7−5236
^{14}N, isospin allowed M2 γ-ray transition 7−35973
^{14}N(e,e′), 2.313 MeV state, transverse scatt. form factors and phenomenological wave fn. 7−41982
^{14}N(e,e′), form factors and stretched M4 configurations, shell model comparisons 7−41981
^{14}N($\bar{\nu}$, $\bar{\nu}'$), cross sections, anal. of (1+0→2+0) isoscalar transition, hadron current structure 7−5228
^{15}N, hole state excitations using (γ,γ') and (d,τ), correlations 7−61833
^{16}N→^{16}O, 0^+-0^- transitions, exchange currents and configuration mixing effects 7−56649
^{21}Na, isospin allowed M2 γ-ray transition 7−35973
^{90}Nb^m, threshold effect in conversion transition M2+E3 7−41937
^{A}Nd, A=even 142-150, effective charges in IBM, mass depend., B(E2) values 7−30321
^{144}Nd(^{16}O,γ)^{160}Er, E_{lab}=76-105 MeV, ^{160}Er statistical decay, giant dipole resonance effects, statistical model comparisons 7−10173
^{144}Nd(p,α)^{141}Pr, 25 MeV, level excitation, α-particle distribs., knock-on contributions 7−10154
^{20}Ne, isovector M1 collective excitations, strength function meas. 7−5144
^{20}Ne(n,γ), low-energy, E2 effective charge 7−5236
^{60}Ni, internal pair conversion probability ratios for E0 transitions from K-shell 7−30379
^{237}Np, ground state shapes and structure from ^{237}Pu (μ^-,γ) 7−56656
^{A}O, A=18-20, energy levels and EM transitions, shell model calcs. *(Korean)* 7−30342
^{A}O(e,e′), A=17,18,15-23 MeV, excitation of M4 transitions, form factor meas. 7−19238
^{16}O, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{16}O, isospin allowed M2 γ-ray transition 7−35973
^{16}O(α, γ), forbidden E1 transitions, microscopic calcs. using generator coord. method 7−30373
^{16}O(α,α')^{16}O, microscopic investigation of bremsstrahlung reaction 7−36016
^{16}O(γ,p), electric and mag. transitions, continuum shell model anal. 7−35995
^{16}O(μ-,ν_μ)^{16}N, 0^+-0^- transitions, exchange currents and configuration mixing effects 7−56649
^{17}O, isovector magnetic quadrupole strengths 7−30329
^{18}O, validity of M-3Y force equivalent G-matrix element for s-d shell calcs. *(Chinese)* 7−5185
^{A}Os(^{32}S,^{32}S^1), A=190, 192, 100 MeV, nuclear deorientation during recoil in vacuum, γ-ray ang. correls. 7−10135
^{30}P, second excited state, *M*1 branching ratio meas., lifetime calcs. for 709 keV level 7−19198
^{A}Pb, A=194-196, energy level conversion coeff. meas. from ^{184}W(^{16}O, xn) 7−19206
^{A}Pb, A=194-197, meas. of isomeric $33^+/2 \rightarrow 29^+/2$ and $12^+ \rightarrow 10^+$ transition energies 7−24956
^{202}Pb, transition multipolarity anal., meas. of ^{202}Bi conversion electron spectra 7−30375
^{208}Pb, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{208}Pb, giant multipole resonance decay, collective and statistical doorways 7−19222
^{208}Pb(^{100}Mo,^{100}Mo′), 350 MeV, Coulomb excitation, $8^+ \rightarrow 6^+$ transition, B(E2) meas. 7−24926
^{208}Pb(e,e′), isoscalar quadrupole giant resonance, electron spectra statistical anal., E2 strength calcs. 7−49380
^{208}Pb(p,p′), 500 MeV, proton polarization observable meas., 3^- level transitions 7−49399
^{208}Pb(p,p′), multipole matrix elements for low-lying states 7−41990
^{208}Pb(p,t), 22 MeV, j-shell depend. signature of anal. power for 3^+ excitations 7−626
^{208}Pb($\vec{p}$,t), anal. powers and cross sections for unnatural parity transitions 7−624
^{A}Pd(p,p′), E_p=15, 25 MeV, A=104, 104, 108, 110, transition matrix element calcs., coupled-channels, IBA=2 anal. 7−10148
^{103}Pd decay, absolute photon intensities determ. by coincidence method 7−5569
^{105}Pd(n,e), E0 strength and E0/E2 ratio determ. 7−61834
^{105}Pd(n,γ), E0 strength and E0/E2 ratio determ. 7−61834
^{206}Po yrast structure, transitions, $T_{1/2}$ and isomer from (α,4n) and (^{3}He,3n) 7−41878
^{214}Po, mixing parameters of γ-ray transitions 7−49289
^{A}Pt(^{32}S,^{32}S^1), A=194, 196, 100 MeV, nuclear deorientation during recoil in vacuum, γ-ray ang. correls. 7−10135
^{195}Pt, transition multipolarities from ^{194}Pt(n,e) 7−61832
^{195}Pt(^{32}S, ^{32}S′), 125 MeV, levels and transitions, B(E2) values, SUSY classification in IBFM 7−30310
Ra isotopes, low-lying negative parity states, unified interpretation for lanthanide and actinide regions 7−41901
^{219}Ra, low-lying structure, coincidence meas. 7−49199
^{76}Rb, 3.2 μs isomer, obs. in ^{40}Ca(^{40}Ca,γ)^{30}Zr, decay level scheme 7−10109
^{177}Re single quasi-proton states, deformation depend., level scheme, cranking model anal. of ^{165}Ho(^{16}O,4n) 7−41877
^{103}Rh states and transitions from ^{103}Pd decay studies, half-life and γ-spectrum *(Russian)* 7−41948
^{107}Rh, level scheme study via γ-ray spectrum following β-decay, IBM comparison 7−41944
^{A}Rn, A=223, 226, 227, halflife meas. 7−49291
^{215}Rn, low-lying structure, coincidence meas. 7−49199
^{A}Ru, A=97,103, excited states, level schemes, spins and transitions from ^{94}Mo(^{6}Li,p2n) and (α,n) 7−35921
^{104}Ru(d,d), 23 MeV, neutron-proton moment differences in a triaxial nucleus 7−644
^{A}S(n,n′), A=32,34, 20-26 MeV, cross sections, rotation-vibration, anharmonic vibration collective model anal., transition matrix element calcs. 7−19244
^{32}S, isospin allowed M2 γ-ray transition 7−35973
^{38}S, level spectrum and E2, M1 transition rates from ^{36}S(t,p) reaction 7−49428

nuclear energy level transitions continued
^{45}Sc(p,γX), 2-4 MeV, gamma-ray ang. distribs., low-lying levels anal. 7−19168
^{47}Sc decay: half-life, γ-emission probability, transition probability, endpoint energy and internal conversion coeff. 7−24959
^{A}Se, A=70,72,74,76, high spin yrast levels, reduced E2 transition probabilities 7−5143
^{A}Se, A=76, 78, negative-parity states, E2 transition probabilities, IBM anal. 7−30340
^{76}Se electric monopole transitions, IC electrons, level lifetimes from ^{76}Br EC decay 7−19202
^{77}Se^m, isomer state half-life meas. 7−56636
^{28}Si, giant dipole resonance decay, isospin mixing effects 7−41881
^{28}Si, unbound levels, resonance and decay mode determ. from ^{27}Al(p,γ) reaction 7−49413
^{28}Si(n,n′), 20-26 MeV, cross sections, rotation-vibration, anharmonic vibration collective model anal., transition matrix element calcs. 7−19244
^{28}Si(n,p)^{28}Al, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7−10155
^{A}Sm, A=150,152, electromagnetic decay of $0_2{}^+$ and $0_3{}^+$ states 7−15199
^{144}Sm, lifetime meas. and particle core coupling calcs. using ^{142}Nd(α,2n) reaction 7−30438
^{145}Sm states from ^{145}Eu decay, struct. and parity levels 7−19193
^{154}Sm, M1 states as low-frequency neutron-proton vibrations, energies, reduced transition probabilities 7−49225
^{154}Sm(p,p′), 800 MeV, collective state excitations, Glauber model, IBM anal. 7−24981
^{139m}Sm decay props., γ-ray and internal conversion meas. 7−49306
Sn, charge radii and electromagnetic moments by laser spectroscopy 7−5189
^{110}Sn, $9^- - 8^\$$E2 transitions, level lifetime meas. 7−5187
^{112}Sn, $9^- - 8^\$$E2 transitions, level lifetime meas. 7−5187
^{119}Sn, internal conversion rate changes due to lower multipole admixtures 7−10126
^{119}Sn Mossbauer transition, P parity nonconservation obs. 7−49237
^{86}Sr, yrast decay schemes, gamma-ray data and shell model calcs. 7−15198
^{86}Sr(d,p), level struct. and transition strength study 7−41899
^{86}Sr(n,γ), level struct. and transition strength study 7−41899
^{A}Ta, A=179,181, K-allowed E1 transitions ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{159}Tb(γ,n)^{158}Tb, angular distributions, E1-E2 interference effects 7−49371
^{160}Tb→^{160}Dy, decay investig. 7−49307
Te, even-mass isotopes, dynamic deformation model appl. 7−61818
^{A}Te, A=114-17, vibrational and quasiparticle structs. coexistence, states and spectra, shell model anal. of Sn(^{3}He,X) 7−41874
^{124}Te, E0 transitions, dynamic deformation model, 0^+ levels 7−594
Th isotopes, low-lying negative parity states, unified interpretation for lanthanide and actinide regions 7−41901
^{A}Ti, A=44, 46, 48, 50, single particle spectra and shape from deformed HF calcs. *(Chinese)* 7−5186
^{A}Ti, A=46, 48, spin-orbit contribs. to collective M1 transitions 7−56637
^{A}Tm, A=167,169,171, K-forbidden E1 transitions, ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{232}U, gamma-ray spectroscopy up to spin 20 7−15200
^{235}U, 73 eV first excited state, nuclear excitation, graser possibilities 7−10120
^{235}U(^{84}Kr,^{84}Kr′), 370, 450 MeV, band structs., moments of inertia, multipole moments, transition probabs. 7−35922
^{A}W (^{32}S,^{32}S^1), A=182, 184, 186, 100 MeV, nuclear deorientation during recoil in vacuum, γ-ray ang. correls. 7−10135
^{184}W, 1285 5^- level, decay props., parity mixing anal. 7−30364
^{184}W 921 keV γ-transition, determ. of E1+E2+E3 multipolarity mixture, anal. of 1285 keV 5^- level 7−30364
^{120}Xe, yrast band and backbending using in-beam γ-ray spectroscopy of ^{110}Cd(^{13}C,3n) and ^{111}Cd(^{12}C,3n) reactions 7−36028
^{133}Xe, activity determination by γ-ray spectrometry, nuclear plant effluent air check 7−25298
^{A}Y, A=87-90, yrast decay schemes, gamma-ray data and shell model calcs. 7−15198
^{A}Yb(n,n′), A=172,174 ang. distribs. studies 7−10143
^{166}Yb high spin states, lifetimes meas., B(E2) values from ^{130}Te(^{40}Ar,X) 7−35924
^{171}Yb, K-forbidden E1 transitions, ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{174}Yb, energy levels and EM transitions from ^{173}Yb(n,γ) reaction 7−49397
^{A}Zn(n,n′γ), A=64, 66, 68, 70, gamma distribs., excited level schemes, B(E2) values 7−30419
^{64}Zn giant dipole resonances built on excited states, Brink hypothesis verification from ^{63}Cu(p,γ) 7−41959
^{64}Zn, internal pair conversion probability ratios for E0 transitions from K-shell 7−30379
^{A}Zr, A=83, 85, from ^{58,60}Ni(^{28}Si, 2pn), in beam γ-ray spectroscopy 7−35989
^{A}Zr, A=87,89, yrast decay schemes, gamma-ray data 7−15198
^{90}Zr, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{90}Zr giant dipole resonances built on excited states, Brink hypothesis verification from ^{89}Y(p,γ) 7−41959
^{90}Zr, second 0^+ state excitation, form factors and transitions, CC anal. of (n,n′), (p,p′) and (α,α') 7−30369
^{90}Zr($\vec{p}$,$\vec{p}'$), 319 MeV, spin-flip spectra, microscopic anal. 7−10147
^{98}Zr, alpha-correlated excitations, coexisting intruder excitation 7−49212

nuclear energy levels
see also isobaric analogue states; nuclear collective states and giant resonances; nuclear resonances; nuclear spectroscopic factors
^{175}Lu, energy level anal. from ^{175}Yb β-decay level transitions, J^P values, branching ratios, Nilsson model anal. 7−49313
A=122, nuclear data sheets, levels J^π, transitions, decays 7−41024
A=133, nuclear data sheets, levels, J^π, transitions, decays 7−60906
A=143, nuclear data sheets, levels, J^π, transitions, decays 7−14720
A=145, nuclear data sheets, levels, J^π, transitions, decays 7−29604
A=156, nuclear data sheets, levels J^π, transitions, decays 7−41025
A=16, 17, energy levels, EM transitions, J^π, and resonances 7−35132
A=201, nuclear data sheets, levels, J^π, transitions, decays 7−60907
A=216, nuclear data sheets, levels, J^π, transitions, decays 7−29605
A=220, nuclear data sheets, levels, J^π, transitions, decays 7−29605
A=224, nuclear data sheets, levels, J^π, transitions, decays 7−29605
A=228, nuclear data sheets, levels, J^π, transitions, decays 7−29605

nuclear energy levels continued
A=237, nuclear data sheets, levels, J^{π}, transitions, decays 7–29606
A=244, nuclear data sheets, levels, J^{π}, transitions, decays 7–60908
A=46, nuclear data sheets, levels, J^{π}, transitions, decays 7–41023
A=49, nuclear data sheets, levels, J^{π} transitions, decays 7–14718
A=4-90, single particle energies as functions of binding energies, HF sum rules 7–56588
A=83, nuclear data sheets, levels, J^{π}, transitions, decays 7–60905
A=99, nuclear data sheets, levels, J^{π}, transitions, decays 7–14719
conf., Leningrad, USSR, April 1985 7–29574
conf., Smolenice, Czechoslovakia, June 1985 7–41005
core polarization effects in odd nuclei, HF and RPA schemes 7–61821
deformed nuclei, Gamow-Teller resonance anal. using quasiparticle-phonon model 7–49333
$E\lambda$ transition operators, two-phonon component effects on nuclear states 7–49303
excited nuclei, pairing energy determ. 7–41906
exotic radioactive decay into excited states via heavy ion emission 7–15205
finite nuclei, symm. violation caused by boundary conditions 7–30336
future prospects for struct. studies with high energy projectiles and probes 7–56611
harmonic oscillator shell model, spin cutoff parameter calc., exciton model, state density angular momentum dependence 7–35960
heavy nuclei, α-like superfluid phase 7–15192
hot nucleus, correlation effects on the level density, finite temp. extension 7–24936
hypernuclei, pionic decay rate calcs. using DDHF single-particle wave functions 7–5183
IBM with boson surface-dealt interaction, energy levels and relative B(E2) values 7–15193
many-body effects due to finite lifetime of excited states 7–5166
many-fermion systems, microscopic theory of one-body dissipation, TDHF calcs. 7–61822
medium and heavy weight nuclei, two-boson spectra 7–41898
microscopic optical pot., radial shape, real part modification by second order diagrams, appl. to ^{40}Ca 7–41926
neutrinoless double beta and 2ν decays, nuclear structure effects on matrix elements 7–49335
nonrotational excited states in semiphenomenological nucl. theory 7–30341
nuclear data sheets, recent references May-August 1986 7–35131
nuclear data sheets, recent refs. Jan. to April 1986 7–31
nuclear shapes studied by Coulomb excitation, review 7–56598
number projection-shell model method comparisons, level analysis 7–56622
odd-deformed nuclei, effect of recoil term on average potential, excited state calcs. using quasi-particle phonon interaction 7–61796
one-nucleon spectroscopic amplitudes for 1p-shell nuclei excited states 7–61795
(p,n), nuclear level density determ. 7–41905
particle-hole level density in Thomas-Fermi approximation 7–35954
rare earth nuclei, high excitation energy low spin states, structure and decay 7–41904
sd shell, comparison of SU(3) phenomenologies, band structure 7–56621
sd-shell, struct., props. and three-body forces 7–30355
shell model density of states, Cornish-Fisher representation 7–49249
single particle levels, homogeneous spectrum, particle-hole level density calcs. 7–41880
Sp(6,R) model, comparison with multi-cluster model, overlap of states 7–5170
surface tension and nuclear low-lying vibrations in afluid-dynamical approach 7–5178
temperature depend. of level density parameter, Hartree-Fock and Thomas-Fermi approx. 7–61826
U(5) classification of molecular states of light nuclei 7–56609
(γ,K^{+}), relativistic bound state wave functions, nuclear/hypernuclear shell model states 7–42073
(n,n′), nuclear level density determ. 7–41905
(n,X), parity effects at low energy, Hauser-Feshbach model 7–30426
(p,n), intermediate energies, microscopic anal. 7–49421
(π,π'), angular distrib., and vibr. level virtual excitation, optical pot. calcs. *(Chinese)* 7–25009
π^{-}p atom, accuracy of Deser-Goldberger-Baumann-Thirring formula 7–56608
Ag, odd-A nuclei, low-lying $7/2^{+}$ states, quadrupole interaction calcs. 7–19167
Ag(^{14}N,X), effect of ^{8}Be decay on nucl. temp. meas. 7–5261
^{105}Ag, energy level anal. using particle-rotor model 7–19169
^{27}Al(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7–42057
^{197}Au(d,^{3}He), E_d=108.4 MeV proton-hole response fns., low-lying level analysis 7–42028
^{198}Au, low-lying levels, average resonance capture study 7–24937
^{10}B(γ,π^{+}), low-lying state prod. cross section and π^{+} ang. distrib. 7–5223
^{9}Be, T=3/2 state, width analysis and isospin mixing 7–41900
^{73}Br, γ-transitions, energies, levels 7–19204
^{12}C levels, spectroscopic strength, ^{3}He cluster struct., Hauser-Feshbach anal. of ^{9}Be(^{6}Li,t) 7–35965
^{12}C, stability of ground state against π^{0} condensation 7–5182
^{12}C(^{6}Li,p)^{17}O, energy level study and Hauser-Feshbach calcs. 7–15218
^{12}C(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7–42057
^{13}C, excitation energies, spin and parity from ^{12}C$(\vec{n},n)$ 7–61797
^{13}C, ground state wave fn. calcs., electromagnetic and weak constraints 7–49248
^{40}Ca isospins level-widths, 9.5 to 10.5 MeV, from ^{39}K(p,γ) *(Chinese)* 7–35972
^{40}Ca, single particle and single-hole spectra *(Chinese)* 7–49200
^{40}Ca(n,γ), high energy levels, resonant excitation with neutron-capture γ quanta 7–10107
^{44}Ca(γ,γ'), 1^{+} level obs. *M*1 strength, *E*2-*M*1 transition obs., E2 strength determ. 7–19170
Cr(n,X), parity effects at low energy, Hauser-Feshbach model 7–30426
^{165}Er, effect of recoil term on average potential, level energies, reduced E1 probabilities 7–61796
^{18}F, low-lying levels, Skyrme interaction microscopic study 7–30337
^{18}F, parity mixing of $0^{\pm}$ states, γ-ray polarization meas. 7–5155
^{19}F positive parity levels, ang. distribs., DWBA and shell anals. of ^{17}O(^{3}He, p) 7–15181

nuclear energy levels continued
^{A}Fe$(n,n'\gamma)$, A=54, 56, 58, gamma distribs., excited level schemes, B(E2) values 7–30419
^{A}Fr, A=207-228, g-factors ground state spin and single particle structure 7–49244
^{152}Gd, 2_1^{+} state mag. moment meas. 7–56605
^{A}Ge, A=64, 65, level scheme, transitions and octupole deformations 7–56610
^{64}Ge, identification of first excited state 7–5160
^{2}H$(\vec{d},\gamma)^{4}$He, M1, E1, M2, E2 transitions, ^{4}He D state anal. 7–19262
^{7}He, excited state search in ^{9}Be(^{6}Li,^{8}B)^{7}He, ^{9}Be(^{6}Li,^{8}B)^{7}He 7–30338
^{8}He, excited state search in ^{9}Be(^{7}Li,^{8}B)^{8}He 7–30338
^{A}He, A=6,7, excited state anal. from ^{A}Li$(\gamma,\pi^{+})^{A}$He,A=6,7 7–49250
Hf, even isotopes, neutron s-wave force function calcs. 7–30314
Hf, neutron s-wave force function calcs. 7–30339
^{127}I, level excitation during charge nonconservation 7–41903
^{A}Ir, A=182,184, doubly decoupled struct. study 7–5145
^{39}K, hole state excitations, using (γ,γ') and (d,τ'), correlations 7–61833
^{41}K(p,p′), 6 MeV, low-lying levels, EM props. and spin values, mixing ratios, lifetimes 7–19171
^{A}Kr, A=78, 80, negative-parity states, E2 transition probabilities, IBM anal. 7–30340
^{6}Li, quantification of nucl. state clustering props. 7–49268
^{180}Lu, isomeric levels, decay curve examination, relevance to ^{180}Ta^{m} nucleosynthesis 7–49204
^{24}Mg, 10.71 MeV bound state, γ resonant absorption 7–30363
^{24}Mg, highly-excited states, cluster structure 7–10108
^{24}Mg, positive parity state struct., cranked alpha-cluster model 7–24943
^{92}Mo$(\vec{p},p')$, 2^{+} state excitation and azimuthal asymmetry meas. 7–42011
^{13}N, ground state wave fn. calcs., electromagnetic and weak constraints 7–49248
^{15}N, excited state population in ^{12}C(^{3}He,π^{+})^{15}N 7–19269
^{15}N, hole state excitations using (γ,γ') and (d,τ), correlations 7–61833
^{16}N, multiparticle-multihole strength, DWBA calcs. and spin-parity assignments 7–30343
^{A}Nd, A=144-150, 2_1^{+} state mag. moment measurement 7–56605
^{20}Ne, molecular states in excited spectra 7–56609
^{A}O, A=16,17,18, antiprotonic, strong interaction isotope effects, 3d level shifts and widths 7–5791
^{A}O, A=18-20, energy levels and EM transitions, shell model calcs. *(Korean)* 7–30342
^{16}O ground state, one body energies, unitary-model-operator anal. of nuclear many-body problem 7–5164
^{16}O, ground-, one-body states, three-body cluster effects, unitary-model operator anal. 7–10116
^{16}O, stability of ground state against π^{0} condensation 7–5182
^{17}O, dipole states, particle hole model anal. 7–35948
^{18}O, low-lying levels, Skyrme interaction microscopic study 7–30337
^{18}O, molecular states in excited spectra 7–56609
^{208}Pb isoscalar 1^{+} state, proton and neutron contribs. constraints from (d,^{3}He) and $(\tilde{\gamma},\gamma')$ 7–19172
^{208}Pb(e,e′), isoscalar quadrupole giant resonance, electron spectra statistical anal., level density calcs. 7–49380
^{209}Pb, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7–41882
^{196}Pt(d,^{3}He), E_d=108.4 MeV, proton-hole response fns., level analysis 7–42028
^{240}Pu(n,f), neutron width and level distance distribs., resonance width calcs. *(Russian)* 7–5161
Ra isotopes, low-lying negative parity states, unified interpretation for lanthanide and actinide regions 7–41901
^{A}Rb, A=91,93, low lying level struct., lifetimes, J^{π} assignments 7–19205
^{76}Rb, 3.2 μs isomer, obs. in ^{40}Ca(^{40}Ca,γ)^{30}Zr, decay level scheme 7–10109
^{83}Rb, level lifetimes and structure meas., comparisons with Alaga-Paar cluster-vibration model 7–30371
Rh, odd-A nuclei, low-lying $7/2^{+}$ states, quadrupole interaction calcs. 7–19167
^{103}Rh states and transitions from ^{103}Pd decay studies, half-life and γ-spectrum *(Russian)* 7–41948
^{A}Sb, A=130, 132, odd-odd transitional and near closed shell nuclei 7–19173
^{A}Sc, A=44,46, spin-parity meas. from (d,α) cross section anal. 7–19165
^{45}Sc$(p,\gamma X)$, 2-4 MeV, gamma-ray ang. distribs., low-lying levels anal. 7–19168
^{A}Se, A=76, 78, negative-parity states, E2 transition probabilities, IBM anal. 7–30340
^{80}Se levels, J^{π}, ang. distribs., DWBA anal. of ^{78}Se(t,p) 7–35949
^{28}Si level analysis from ^{26}Mg(^{3}He,n)^{28}Si, 23, 45 MeV 7–42036
^{145}Sm, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7–41882
^{148}Sm, 2_1^{+} state mag. moment meas. 7–56605
^{150}Sm, γ-ray angular correlations and mag. moment of 2_1^{+} state 7–56605
^{A}Sn, A=117, 121, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7–41882
^{117}Sn, gyromagnetic ratio of $3/2^{+}$ state 7–30334
^{87}Sr(d,p), differential cross sections for transitions to particle-hole states 7–61897
^{159}Tb(^{19}F,X), 181 MeV, particle-bound excited state yields 7–5269
Tc, odd-A nuclei, low-lying $7/2^{+}$ states, quadrupole interaction calcs. 7–19167
^{A}Te, A=122, 125, 130, energy level g factor meas., transitional-field method anal. 7–30327
^{128}Te(n,γ), high energy levels, resonant excitation with neutron-capture γ quanta 7–10107
Th isotopes, low-lying negative parity states, unified interpretation for lanthanide and actinide regions 7–41901
^{235}U(n,f), neutron width and level distance distribs., resonance width calcs. *(Russian)* 7–5161
W, even isotopes, neutron s-wave force function calcs. 7–30314
W, neutron s-wave force function calcs. 7–30339
^{89}Y$(n,n'\gamma)$, level struct. study, statistical determ. of spins and parities 7–30344
Yb, neutron s-wave force function calcs. 7–30339
^{A}Zn$(n,n'\gamma)$, A=64, 66, 68, 70, gamma distribs., excited level schemes, B(E2) values 7–30419
^{A}Zr$(\vec{p},p')$, A=90, 92, 2^{+} state excitation and azimuthal asymmetry meas. 7–42011
^{90}Zr, second 0^{+} state excitation, form factors and transitions, CC anal. of (n,n′), (p,p′) and (α,α') 7–30369

nuclear energy levels continued
^{91}Zr, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7—41882
^{91}Zr(^{3}He,α), matrix element determ. allowing for l_n mixing 7—61897
^{91}Zr(p,d), matrix element determ. allowing for l_n mixing 7—61897

nuclear engineering
see also fission reactors; fusion reactors
Bilibinsk reactor, fuel recharging modes with varying fraction of unloaded fuel assemblies 7—61959
CANDU reactor, fuel channel replacement program 7—10269
conf., Toronto, Ont., Canada (1986) 7—9587
Czechoslovakian power engineering development *(Czech)* 7—56884
Forsmark-2 PWR, preventive maintenance during operation 7—15282
German BWRs, experience in exchanging recirculation, class 1 piping systems 7—49574
MINIMARS, engineering overview 7—15326
power plant mechanical components, stress and strain limitation 7—10187
reactor piping systems, strain limitation calcs. 7—10188
reactor pressure vessel, thermoplastic stress calcs. from stress-relief up to thermal shock 7—10216
valve manufacture in Czechoslovakia, valves for nuclear power stations 7—56804
welding advances in nuclear plants 7—30638

nuclear engineering computing
see also computerised control; computerised instrumentation
3D general geometry Monte Carlo calcs., vectorisation, reactor transport appls. 7—36088
adaptive control methods, appl. to PWR power plants 7—36191
ADEP code for two-dimensional space-time kinetics benchmarks 7—15239
ADINA program use in nuclear plant CAD appls. 7—49505
advanced boiling water reactor core supervision and analysis using 3D-core simulator 7—61993
AEROSIM-S code for dry aerosols, FBR containment appls., user manual 7—56723
AGR, Xe and temp. transients, 3D model anal. 7—15300
alarm-filtering system for advanced test reactor 7—62054
ALPA, diagnosis expert system for nuclear reactor supervision 7—25153
ANEXDI code for fast reactor HCDA anal., two phase flow aspects 7—15302
ARKAS code, mechanical analysis of LMFBR core 7—30479
ASDEX data acquisition system, local area network 7—19464
ASSERT and COBRA codes for flow distrib. in vertical bundles 7—10208
ATHOS3 code for PWR steam generator thermohydraulic anal. 7—10244
automatic monitoring of nuclear wastes *(French)* 7—36299
automatic software generation and validation for nuclear power plant status monitoring 7—42136
AVSYS code for fusion plant availability calc. 7—19440
BELTEM code for transient electromagnetic and structure analysis of bellows type vacuum vessels 7—25181
BODYFIT codes for thermal hydraulic analysis, boundary-fitted coordinate transform. 7—15240
BWR, ADMIX reactor control system from Toshiba 7—36200
BWR, assessment of the heat transfer models in the TRACBO2 code 7—62006
BWR core meltdown accident, estimate of fission product release 7—777
BWR fuel assemblies, pin-to-detector γ-ray transmission function by adjoint Monte Carlo methods *(German)* 7—61984
BWR LOCA, two bundle loop tests, SAFER03 and TRAC-BD1 anals. 7—36210
BWR nuclear power plant simulation 7—49530
BWR simulations at high speed using parallel processors 7—36085
BWR spent fuel, heat generation rate, meas. and ORIGEN2 code anal. 7—812
CADD/CAE use for remote vehicle system mission planning at nuclear facilities 7—49608
CAE, embedding of finite elements, prerequisites for software 7—15231
CAE-nuclear engineering analysis on 32-bit work-station computers 7—36083
CALIF computer code for fusion reactor first wall lifetime anal. 7—25188
CANAL code, subchannel void fraction predictions using drift-flux anal. 7—30605
CANDU horizontal subchannels, numerical simulation of two-phase flow 7—10207
CANDU neutronics analysis, alternative approach using GAM, GATHER and CITATION 7—15269
CANDU thermohydraulic codes, transient two-phase velocity difference model for drift calcs. 7—30608
CANDU-600 heat transport system flow stability, modelling using computer codes 7—30607
CASMO-2 spent-fuel-rack criticality analysis 7—36176
ceramic cylindrical nuclear fuels, computer modelling, review 7—720
CLUB code for PHWR fuel cluster geometry, interface current method 7—15238
CODAS large scale multicomputer control system for JET 7—56846
colour graphics display system 7—25122
computer aided PWR power plant operation, control and meas. *(German)* 7—19394
computer-assisted instruction for nuclear criticality safety 7—35186
computer-graphic visualization of dynamics 7—30484
computerised information processing for control room staff in FRG nuclear power plants 7—19407
COMTA code for fuel performance, convergence behaviour of nonlinear eqn. solvers 7—15241
conference on nuclear engineering, Zittau, Germany (Apr. 1985) 7—18483
conference on the safety and reliability of reactor pressure components, Stuttgart, Germany, (Oct. 1985) 7—9583
CONTAIN code for severe core damage accidents, containment response, integrated phenomenological anal. 7—36220
continuum dynamics, parallel algorithms 7—4683
CRACUK code, dosimetric models modifications 7—19349
CRACUK user's guide (appendix to the CRAC2 user guide) 7—19348
DAT-K thermal analysis code for fusion reactor first walls 7—62068
DELPHI code for Hanford N Reactor, core simulation, development and appls. 7—42112
Diablo Canyon PWR plant, integrated control and communications system 7—42130
digital upgrades for nuclear plant control and instrumentation 7—30597
DIII-D tokamak, data acquisition and control system 7—36252

nuclear engineering computing continued
distributed data base systems, control and application 7—36091
disturbance analysis using artificial intelligence, SAAP-2 system 7—19338
documentation, archival and retrieval 7—36094
Doublet III-D tokamak, computerised operation of neutral beams 7—19466
DUPLEX code, use in solving one-group problems 7—19320
EBR-II, delineations of power and power-to-flow feedback components 7—42132
EBR-II, ramped power transients, feedback simulation using transfer functions in EROS code 7—42188
emergency classification system at nuclear power plants, expert system application 7—15265
EPSI-MOD2 code for PWR fuel cladding, plastic deformation behaviour for Zircaloy and Zr-Nb *(German)* 7—19339
ESCORE code for LWR steady-state core reload eval. 7—25027
expert system for USNRC emergency response 7—62053
expert systems and accident management 7—62055
fast reactor core analysis, 3D transport anal., TRITAC and TWOTRAN-II calcs. 7—49569
FBR above-core structures, finite element anal. using SAFE/RAS program 7—15230
FBR reprocessing plant using remote maintenance, Japanese design 7—61977
FEAT3D code for CANDU fuel bearing pad thermal design 7—15274
flow induced valve operation and pressure wave propag. in single and two-phase flows 7—10239
FTU tokamak machine, vacuum vessel thermal and mechanical problems 7—25179
fusion engineering database 7—19441
fusion reactor computer codes for engineering design 7—56849
fusion reactor T-cycle process modelling 7—62082
FUTURE code for fuel cycle variables calc. 7—30480
gas cooled rod bundles, pressure drop and heat transfer, fuel design 7—36190
GRENADE, coarse mesh program for static neutron diffusion eqns., flux and power distribs. 7—42107
GRESS automated procedure for adding sensitivity calc. capability to ORIGEN2 point depletion code, HLW appl. 7—36290
Hanford N Reactor, flux flattening programme, core physics calcs. 7—42133
HEATRAN program for LMFBR wire-wrapped fuel bundle, local heat transfer anal. 7—15271
heterogeneous dispersed data bases, organization and management 7—36090
hydraulic network, large-scale, nonlinear conservation laws 7—10196
IAEA-SPE-1, pre-test calcs. for the PMK-NVH standard problem exercise 7—62045
IAEA/INIS online database 7—42446
JET, MHD equilibrium profile depend. on p and q profiles, ESCO code anal. 7—25161
JOYO radiation streaming, energy-space dependent error propagation in Monte Carlo coupling calculations 7—19335
JT-60, computer system for neutral beam injection equipment 7—25237
large steam-line break LOCAs, similarity study for ROSA-III, FIST and BWR-6 7—49593
large-scale reprocessing plant, near real-time material accountancy, computer simulation 7—25044
LMFBR 37-pin bundle, low heat flux Na boiling test using SABENA code 7—25110
LMFBR steam generators, thermohydraulic instabilities, nonlinear and linear anal. models 7—5381
LMR, ATWS calc. using SASSYS/SAS4A, effects of radial core expansion reactivity feedback model 7—36222
LOCA with severe fuel damage, radiation heat transfer model for SCDAP code 7—36216
LWHCR lattices, effects of WIMS data library changes on calc. results 7—5316
LWR, reflooding, bubbly-slug interfacial shear, effect on liquid carryover using RELAP5/MOD2 7—62001
LWR fuel under degraded core conditions, fission gas release prediction, FASTGRASS-VFP model 7—790
LWR heavy section steel technology, crack arrest studies overview, reactor pressure vessels 7—53885
LWR in-core fuel management using CASMO-3 and SIMULATE-3 7—5323
LWR LOCA, reflood simulation, numerical anal. based on KREWET code 7—15299
LWR neutronics and thermal-hydraulics, NTHAD code for scoping appls. 7—36086
LWR severe core damage accident, uncovered core thermal-hydraulics, model dev. 7—30624
LWR small break LOCA expts. at LOFT, RETRAN-03 anal. of LP-SB-1 and LP-SB-2 7—36237
LWR structured sensitivity anals. for severe accidents using MAAP 2.0 code 7—42189
LWR System Analysis and Risk Assessment system 7—15289
LWR thermal-hydraulics after a severe accident, Power Burst Facility anal. with SEFDAN code 7—49586
MAAP 2.0 and 3.0 codes for LWR accidents, empirical aerosol correlations 7—56722
MFTF-B, diagnostic control, data acquisition and data processing 7—5422
MFTF-B, Q-bus local control computers, upgraded redesign 7—36256
MFTF-B, structural mechanics methods for design optimisation 7—5411
microcomputer appl. in nuclear engineering 7—30499
MICROSHIELD, microcomputer program for dose rate, gamma shielding anal. 7—42109
Mirror Fusion Facility, local control station development 7—19463
molten reactor core/concrete interactions in HCDA, mass and heat transfer simulation 7—25138
monitoring system for nuclear reactors, reliability improvements *(Russian)* 7—25101
MORSE-CG code for pulsed fast reactor problems, Monte Carlo anals. 7—15229
MPA thermoshock expt. anal. using TRAC PF 1 code, PTS in reactor ECC conditions 7—13588
Multichannel far infrared interferometer, MIRI, signal processing for electron density meas. 7—25232
multidimensional thermal hydraulic anal. of reactor components, computer codes 7—10199
multivariable control system design using CAD package 7—10211

nuclear engineering computing continued
Mutsu, ship propulsion reactor, thermal-hydraulic transient characts. from safety anal. *(Japanese)* 7—25128
neutron flux mapping data collection system for reactor core monitoring, personal computer based 7—42128
noise monitoring, digital generation of stochastic signals of arbitraryspectral shape 7—5341
nuclear criticality safety training, interactive computer-based simulator 7—35188
nuclear power plant Risk Management Query System 7—15291
numerical methods in nuclear engineering, conf., Montreal, Canada, Sept. 1983 7—9600
OCEAN code for fuel reinsertion strategies for out-of-core fuel management 7—30542
OEKFAK factual database on nuclear technology *(Russian)* 7—35133
Particle Beam Fusion Accelerator II (PBFA II), computer model of vacuum system design 7—30773
Particle Beam Fusion Accelerator II (PBFA II), energy transport meas. and computer simulation 7—30764
pellet injectors, control and data acquisition system, design 7—36254
pellet-cladding interaction, bamboo ridge deformation, FEMAXI-III code anal. 7—36108
PHOENICS code for LWR meltdown accident, fuel-coolant mixing, unsteady 1D 2-fluid model 7—5395
plasma control on the Tokamak de Varennes 7—15336
plasma fluctuations meas., integrated data acquisition and handling system based on digital time series anal. 7—25231
PNP-500 pebble bed reactor, massive water ingress accidents, computer anal., graphite corrosion *(German)* 7—5371
poloidal field coil design from plasma equilibrium parameters, Green's fn. computer code anal. 7—15318
power plant, availability impact of limiting conditions for operation 7—10272
power plant, probabilistic risk assessment microcomputer software 7—10271
power plant, UNIRAM modelling for availability improvement 7—10274
power plant availability improvement by reactor trip prediction software 7—10275
power plant reliability and availability enhancement, generic software package 7—15467
power plants, enhanced inspection using expert systems 7—36087
power station simulation, parallel-processing modular system 7—10197
probabilistic risk assessment, accuracy and efficiency of the Monte Carlo method 7—15294
prompt self-powered neutron detectors, reactor noise anal., REND code calcs. 7—36193
PSPHOT and PVPHOT, parallel algorithms for photon transport Monte Carlo analysis 7—36089
PULCO code for Purex process in pulsed sieve plate column, solvent extraction calc. model 7—49554
PUMA model for conc. profiles in the Purex process 7—36170
PWR, direct heating containment vessel interaction code DHCVIC 7—62043
PWR, fluid and thermal mixing in model cold leg and downcomer, COMMIX-1A anal. 7—15268
PWR, instrument failure detection, nonlinear filtering appl. 7—25141
PWR, multi-loop, power plant accident anal., digital simulator for transients and accidents 7—15301
PWR, soluble B reactivity control system substitution by Gd burnable poisons, BGUCORE anal. 7—36197
PWR CHF predictions, EPRI-1 correlation effects under normal and abnormal fuel conditions 7—36198
PWR fault identification systems, model-based, development, nuclear reactor appl. 7—19412
PWR fuel element, activation of end section using WIMS-E program *(German)* 7—56752
PWR LOCA, FLECHT and FLECHT-SEASET reflood tests anal. with RELAP5/MOD2 7—25025
PWR LOCA, two-phase flow during bottom reflooding, computer modelling 7—49599
PWR power plant, auxiliary feedwater system anal. using dynamic logical analytical methodology 7—25114
PWR pressuriser, on-line instrument failure detection using improved likelihood ratio method and suboptimal control 7—25139
PWR secondary system, automated derivation of failure symptoms for diagnosis 7—5370
PWR steam generator tube rupture transients, thermal-hydraulics in simulated 4-loop facility 7—49571
PWR steam generators, correlation of tube support struct. studies, corrosion 7—10246
PWR turbulence modeling during high pressure coolant injection, COMMIX-1B code 7—10255
PWR U-tube steam generator, FAUST 3D 2-fluid code for thermal design anal. 7—36082
PYTHONS code for PWR LOCA fuel deformation and rupture simulation 7—56720
radio-frequency heating apparatus for JT-60, controlling system 7—19503
radioactive disposal, chemical modelling 7—10297
radioactive waste containers store, radiation minimisation 7—10290
radionuclide spills and discharge plumes, Lake Ontario, microcomputer-based model 7—13942
RAMA and CHAN II codes for CANDU LOCA, radial heat transfer from fuel to moderator 7—15297
RAS III, modular noise diagnostics system for reactor primary circuit monitoring *(German)* 7—56787
Reactor Analysis Support Package, guidelines for LWR thermohydraulic safety anals. 7—42190
reactor core cal. code, 3D simulating Xe transient state, develop. *(Japanese)* 7—56778
reactor neutronic and thermal-hydraulic problems, solns. using engineering workstation 7—36084
reactor pressure vessel manipulators, functions and basic concepts *(German)* 7—56807
reactor simulation for operator training, use of computer graphics 7—55940
RELAP5/MOD1, LOCA predictions, ROSA IV expt. 7—19410
RELAP5/MOD2 code for PWR transient anal. 7—10201
research reactors, computer codes for operational control 7—15232
RETRAN-02 code, anal. of PWR turbine trip transient, pressurizer sizing effects 7—30604

nuclear engineering computing continued
RICANT program for LWR lattice problems, 2D neutron transport, ang. current approx. choices 7—15270
RKFB, reactor kinetic code with feedback for materials testing reactors 7—36099
ROCS/MC code system for coarse mesh reactor anal. 7—10204
SAF: a sophisticated engineering simulator mainly devoted to emergency guidelines testing and crisis situation analysis 7—62056
safety analysis codes for shipping casks in Japan 7—15414
SCALE, criticality safety analysis appl. on mainframe and microcomputer 7—15413
SCALE, nuclear waste cask analysis, critically safety analysis 7—15411
SCALE, nuclear waste cask analysis software, heat transfer analysis capabilities 7—15412
SCALE, nuclear waste cask analysis software, implementation, validation and application 7—15424
SCALE, spent fuel cask analysis, cross-section processing techniques 7—15421
SCALE, spent fuel cask analysis software, conf., Saclay, France, (June 1986) 7—14700
SCALE, spent fuel cask analysis software 7—15410
SCALE, spent fuel casks analysis software, isotopics, radiation spectra and decay heat 7—15423
SCOPERS-2 program for LWRs, static core performance simulator, user's manual 7—19347
seismic hazard methodology for central and eastern USA, EQHAZARD code 7—19417
Sellafield nuclear reprocessing plant, computer-based training for criticality safety 7—35187
sensitivity anal. using computer calculus 7—30477
shell-and-tube heat exchangers, velocity distribs. comparison for expt. and predictions 7—15275
shielding analysis methods available in the SCALE computational system 7—15422
SIPA, French simulator for PWR post-accident training and anal. 7—42110
SOPHT verification for parallel channel flow stability 7—10206
source term composition effects on offsite doses after reactor accidents 7—782
sphere-pac fuels for LWRs and LMFBRs, analytical and expt. performance, review 7—36158
sputtering, preferential, collisional aspects using Monte Carlo method 7—53464
SSYST-3 fuel rod behaviour analysis program *(Hungarian)* 7—56724
stability-enhancing two-step method for Transient Reactor Analysis Code 7—10200
STARE code for MARS blanket lifetime prediction, dimensional scaling and material prop. uncertainties 7—5417
structural dynamic models for nuclear plant design, CAE appl. 7—25023
subchannel anal., numerical technique using finite difference method 7—10209
SUPERCOIL code for tokamak design NET and ASDEX upgrade appls. 7—5413
TANDEM program for axisymmetric tandem mirror device magnetic configs. 7—42192
testing strategies and testing environment for reactor safety system software 7—19418
TEXT, digital spectral anal. diagnostic for transport, turbulence and scatt. 7—25233
TFTR, power system, electrical characteristics, computer simulation 7—19478
TFTR bumper limiter and protective plate graphite tile, computer aided design/manufacture 7—25196
TFTR computer support system, configuration and performance 7—36251
TFTR neutral beam computer control system 7—19465
thermal hydraulic anal. on mini- and microcomputers 7—30500
thermalhydraulic aspects of natural circulation loop 7—10195
TMX-U, Ti-Ta sublimation getter pumping system and performance, computer control 7—25184
TMX-U diagnostic computer system, improvements 7—36255
tokamak fusion devices, superconducting poloidal field coils design, CAD program system development 7—5412
Tokamak ignition devices, physics parameter space anal. using physics systems code 7—25214
tornado missile hazard to nuclear plants, numerical methods for risk assessment 7—15293
toroidal resistive MHD instabilities, time stepping code calc., INTOR appl. 7—11621
TUF two-phase flow code for reactor thermal-hydraulics anal. 7—15237
TWOLAY program for heat transfer in stratified molten pools after PWR or LMFBR accidents 7—30501
very high temperature gas cooled reactor, control system design and dynamics 7—768
WAM-E code for reactor safety fault tree anal. and risk assessment, user's manual 7—19346
water level and pressure perturbations using Oyster Creek RETRAN model 7—62037
water reactor fuel performance code PROFESS, D-Com blind problem 7—721
WWER fuel, power ramping performance using STOFFEL-1 code *(German)* 7—15246
WWER-440, cold leg break LOCA, fuel rod thermomech. eval. under blowdown conditions *(Russian)* 7—49598
WWER-440 basic principle simulator, data presentation 7—25026
WWER-440 nuclear power station, model of secondary circuit, computer program *(German)* 7—19388
DT ion-beam inertial fusion targets, simulation using MEDUSA-KA, compression and burn results 7—10282
^{232}U and ^{236}U effects on U recycling in BWRs, simultaneous eval. using TGBLA 7—36155

nuclear explosions
see also weapons
air pollution following nucl. explosions, nitrate record in glacier ice cores 7—46982
body-wave magnitudes variability, anal. of RULISON/GASBUGGY anomaly 7—3990
comprehensive test ban, seismic monitoring 7—47376
fissile materials and nuclear weapons proliferation 7—55945
ionosphere, effects of lower atm. nucl. explosion *(Chinese)* 7—29257

- **nuclear explosions** continued
  - E Kazakhstan, Lg magnitudes of selected underground explosions 7−28858
  - seismic monitoring, compressional wave amplitudes at antipodes 7−28864
  - seismic monitoring, discrimination capabilities anal. using regional data from W United States events 7−3989
  - seismic monitoring, layered elastic medium response to explosive point source using leaking modes 7−54895
  - seismic Rayleigh phase-reversed waves from underground nuclear explosions, apparent time delays 7−60177
  - Shagan River test site, USSR, phase anal. of Rayleigh waves 7−54894
  - simulation with Double-EAGLE two-molecular pulsed power machine, X-ray prod. to drive imploding plasma loads 7−30151
  - simulations in fusion physics 7−5307
  - smoke injection into atmosphere during nuclear war, protracted climatic effects 7−66297
  - smoke source term for nuclear winter studies, effects of uncertainties on climatic predictions 7−34668
  - underground explosions-earthquakes discrimination using discriminant functions, examples for Eurasia and North America 7−28849
  - USSR, yield of nuclear tests at Novaya Zemlya from seismic data 7−47349
  - weapons, Microsoft BASIC programs showing local effects 7−30676
- **nuclear fission** *see fission*
- **nuclear fission of plutonium** *see fission of plutonium*
- **nuclear fission of uranium** *see fission of uranium*
- **nuclear fission piles** *see fission reactors*
- **nuclear fission products** *see fission products*
- **nuclear forces**
  - *see also meson field theory; nuclear binding energy*
  - A=208 region, nucl. struct. effects from at. optical spectra 7−19768
  - axial exchange currents in nuclear physics 7−10110
  - boson-fermion hybrid representation for antisymmetrizer, many-body forces 7−61817
  - colour dielectric model for nuclear binding and quark confinement 7−35936
  - conf., Washington, DC, USA, April 1986 7−60881
  - deformed nuclei, Gamow-Teller resonance anal. using quasiparticle-phonon model 7−49333
  - desaturation effects in densities and energies of nuclei 7−19179
  - Dirac sea effects on finite nuclei, rel. model anal 7−49253
  - effective nuclear interactions in relativistic and nonrelativistic microscopic calcs. 7−61824
  - finite nuclei, symm. violation caused by boundary conditions 7−30336
  - future prospects for struct. studies with high energy projectiles and probes 7−56611
  - Gamow-Teller l-forbidden β-transitions in 2p-1f shell nuclei, lifetimes effects of NN interaction 7−5202
  - Gamow-Teller strength quenching and the Δ_{33}-N interaction 7−49221
  - hadrons flux tube model in nucl. matter, EMC effect 7−49272
  - heavy ion potentials, factorized density-dependent interaction in the folding model 7−30393
  - hidden colour dynamics in the flip-flop model of confinement for 2N systems 7−24836
  - hyperon-nucleon forces and electromagnetic transitions in hypernuclei 7−49285
  - IBA, Majorana force calcs. from M1 mode anal. 7−49299
  - inverse nuclear problem 7−30352
  - light nuclei, antiprotonic bound states, microscopic calcs. 7−579
  - major shell and spin-orbit splitting in relativistic nucl. struct. theory 7−41894
  - many-body problems of proton-neutron interaction, HF theory 7−30350
  - many-nucleon system, wave fn. analysis using Fadeev formalism 7−61810
  - matter, binding energy, dependence on number of colours 7−61828
  - microscopic optical pot., radial shape, real part modification by second order diagrams, appl. to ^{40}Ca 7−41926
  - microscopic three-boson force in a six-fermion system 7−41915
  - momentum distribution and the mean free path of nucleons in nuclear matter 7−41923
  - NN interaction, P nonconserving, SU(3)×SU(2)×U(1) anal. 7−49040
  - NN interaction, Skyrme model anal., polarization effects 7−49254
  - NN potential without repulsive core, appl. to deuteron props. 7−5165
  - NNN system, properties and electromagnetic observables, form factors 7−61803
  - nuclear many-body problem, unitary-model-operator anal. 7−5164
  - nuclear matter effective interaction, Dirac-Brueckner HF/Brueckner HF calcs. 7−24938
  - nucleon-nucleon and nucleon-Δ-isobar forces in a Skyrme model with higher derivative terms 7−35953
  - nucleons, static interaction potential 7−61800
  - Overhauser state of nuclear and neutron star matter 7−15196
  - parity nonconservation in NN interaction, fundamental interaction studies 7−41908
  - parity-nonconserving nuclear forces in SU(2)×U(1)×SU(3) standard model 7−19174
  - Pauli nuclear mean field equation 7−56613
  - pionic retardation effects in two-pion-exchangethree-nucleon forces 7−5163
  - quark cluster model of NN interaction 7−30346
  - quark compound bag model anal. of NN interaction 7−61723
  - relativistic effects in nuclear physics 7−61798
  - saturation density and Skyrme functional, Hartree-Fock calcs. 7−49276
  - sd-shell, struct., props. and three-body forces 7−30355
  - semiclassical kinetic equation and the WKB approximation 7−35951
  - shell model anal., weak and EM data, many body and single nucleonic features 7−49255
  - Skyrme model, isobar contribs. to the NN interaction 7−580
  - skyrmion-skyrmion interaction struct., zero-range boson-exchange interpretation 7−581
  - superfluid-normal state phase transition in two-level R(4) pairing force model 7−41927
  - temperature-dependent optical potential and mean free path based on Skyrme interactions 7−19185
  - three nucleon forces 7−61801
  - three-body effects in nucleon-nucleon scattering at medium energy 7−61732
  - three-body forces in Fadeev eqns., perturbation anal. 7−61807
  - three-body forces in nuclei 7−24939
  - three-body forces in three-nucleon systems 7−41907
  - three-body potentials originating from cluster distortion 7−56612
- **nuclear forces** continued
  - three-nucleon bound state, struct. function calcs. using Faddeev wave function 7−5151
  - three-nucleon system, interpolating scatt. amplitude study 7−41953
  - trinucleon charge densities and three-nucleon forces, form factor calcs. 7−19161
  - Tucson-Melbourne force and nuclear problems 7−61805
  - two nucleon effective interaction, direct reaction modelling, medium corrections 7−613
  - two-level solvable model involving competing pairing interactions 7−35962
  - two-pion exchange three-nucleon potential, modifications 7−49251
  - virtual mesons and strong interactions, HFR exptl. program *(Dutch)* 7−19175
  - weak axial nuclear exchange current and the many-body force 7−56614
  - 3-N scattering, separable expansion method for Paris potential 7−19218
  - (d,d), three body model using multiparticle scatt. theory, optical pot. 7−36015
  - (d,pn), three body model using multiparticle scatt. theory, optical pot. 7−36015
  - (e,e′X), deep inelastic scatt., nuclear binding and Fermi motion effects on $R_A=\sigma_L/\sigma_T$ 7−49232
  - Λ-N potential, anal. of ^{4}He$_{\Lambda}$, ^{4}H$_{\Lambda}$ 7−30348
  - ΛN-interaction, correlations between free and intranuclear interaction, Brueckner G-matrix anal. 7−41931
  - Λp low energy scattering and p-shell hypernuclei pots., binding energies 7−49280
  - ($\vec{N}$,N), density depend, of effective NN interaction, optical pot. radius parameters 7−49252
  - $\vec{n}\vec{n}$, 50 MeV, spin correlation meas., relevance to NN force models 7−61731
  - NN central pot. derived from Skyrmions, absence of attraction 7−19176
  - NN interaction, parity and time-reversal violation in nuclei and atoms 7−30325
  - NN interaction and nuclear equation of state at high densities 7−41929
  - NN interaction in extended quark model, RGM study 7−61799
  - NN interaction model with π-exchange, overlapping nucleon form factors 7−35952
  - NN interactions, time-reversal symmetry test using (n,n′) 7−30347
  - NN scattering and bound state, Dirac eqn. with separable pot., rel. effects 7−30351
  - NN scattering lengths, charge dependence due to pion mass differences 7−19177
  - NNN force, anal. using Δ-isobar and pion degrees of freedom 7−61806
  - NNN forces, classification and quark models 7−56618
  - NNN system, minimum relativistic model 7−56617
  - NNN system, three-body forces, relativistic quantum dynamics 7−56616
  - NNN system at low and intermediate energies, NN and πN interactions 7−61802
  - NNN three-body force, derivation using πNN, πNNN system eqns. 7−61809
  - NNN-interaction in nuclei, nuclear and neutron matter 7−61804
  - $\vec{p}$-p polarization, Coulomb effects 7−5108
  - πNN system at low and intermediate energies, NN and πN interactions 7−61802
  - t 7−41892
  - ^{9}Be$_{\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
  - ^{9}Be$_{\Lambda}$, glue-like role of Λ, microscopic three-cluster model 7−41934
  - ^{10}Be$_{\Lambda\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
  - Dy isotopes, proton-pair energies, neutron-number dependence 7−30349
  - ^{145}Eu, force function for subbarrier one-proton states, optical phonon model 7−30392
  - Gd isotopes, proton-pair energies, neutron-number dependence 7−30349
  - ^{1}H(n,γ), parity violating observables with weak interaction model and Paris pot. 7−689
  - ^{2}H, breakup and three body forces 7−61813
  - ^{2}H, NN pot. and phase shifts with quark degrees of freedom 7−41886
  - ^{2}H wave function, large momentum components, Reid soft core and Paris pots. 7−35950
  - ^{2}H wave functions, exact rel. theory of two-body bound state wave functions 7−30353
  - ^{2}H(N,N′), doublet scattering lengths with three-nucleon forces 7−61886
  - ^{2}H(N,N)^{2}H, scatt. with Paris N-N potential 7−61893
  - ^{2}H(n,γ)^{3}H, three-nucleon force effects 7−61885
  - ^{2}H(n,n′), three-nucleon force effects 7−61885
  - ^{2}H(n,n), three-nucleon force effects 7−61885
  - ^{2}H($\vec{p}$,2pn), 14.1 MeV, three-body force effects 7−61888
  - ^{2}H(p,γ)^{3}He, two-body decay channels, photon and pion asymmetries 7−61895
  - ^{2}H(p,p), anal. of three-body interactions using spin observable meas. 7−30280
  - ^{2}H(p,p), relativistic spin effects and three-body forces 7−56568
  - ^{3}H, properties using two-, three nucleon potentials 7−61808
  - ^{3}H(e,e′), NN interactions for bound state wave function calcs. 7−5162
  - ^{3}H(γ,X), three-body forces, low energy understanding 7−61858
  - ^{3}H(γ,pnn), NN interactions for bound state wave function calcs. 7−5162
  - ^{3}H(μ,X), NN interactions for bound state wave function calcs. 7−5162
  - ^{3}He, electric dipole moment, contributions from CP-violating NN interaction 7−49247
  - ^{3}He, quark induced three body forces in 3N systems, nonrelativistic potential model anal. 7−56615
  - ^{3}He, Schrodinger equation hard core anal. 7−61812
  - ^{3}He(e,e′), NN interactions for bound state wave function calcs. 7−5162
  - ^{3}He(γ,X), three-body forces, low energy understanding 7−61858
  - ^{3}He(γ,2pn), three-nucleon force effects, meson exchange 7−61856
  - ^{3}He(γ,ppn), NN interactions for bound state wave function calcs. 7−5162
  - ^{3}He(μ,X), NN interactions for bound state wave function calcs. 7−5162
  - ^{4}He, binding energy calcs., non-unitary model anal. using Reid soft-core potential 7−24932
  - ^{4}He, quark induced three body forces in 3N systems, nonrelativistic potential model anal. 7−56615
  - ^{4}He(n,n), alpha-neutron scattering, microscopic Monte Carlo calcs., anal. using Reid and Urban model interactions 7−24991
  - ^{5}He$_{\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
  - ^{6}He$_{\Lambda\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
  - NN($\bar{N}$N) potentials, skyrmion-skyrmion interaction and meson exchange model 7−19129

nuclear forces continued
np scattering, medium energy, Schrodinger operator construction 7−61724
^{16}O(^{12}C, ^{12}C), optical pot. determ. using quasi-classical inversion 7−61905
^{32}S($\vec{d}$,d), 52 MeV, effective interaction and mass distribs., Fourier-Bessel anal. 7−647
Sm isotopes, proton-pair energies, neutron-number dependence 7−30349
^{238}U+^{238}U interaction potential, real part, orientational dependence 7−19178

nuclear fusion
see also nuclear reactions involving few nucleon systems
^{60}Ni(^{14}N,pn), lowest three yrast transitions in ^{72}Se, lifetime meas. 7−10099
^{A}Sn(^{58,64}Ni,X), A=112-124 fusion fission, excitation functions 7−49450
adiabatic model for heavy-ion fusion, geometric interpretation 7−5265
conf., Copper Mountain, Colorado, USA (Feb. 1986) 7−4634
dense bounded plasma, fusion neutron scatt., recoil nuclei energy transport props. 7−63344
evaporation residues, limiting angular momenta in heavy ion fusion reactions 7−36050
heavy ion fusion in terms of Rutherford trajectories in elastic model 7−25014
heavy ion incomplete fusion reactions, fragment emission, influence of projectile cluster props. 7−19315
heavy ion reactions, fusion process in Landau-Vlasov dynamics 7−25002
heavy-ion collisions, orbiting and fusion processes, statistical model anal. 7−5278
hot nuclei, fusion-like processes, Hartree-Fock and Thomas-Fermi approx. 7−61826
incomplete fusion in light heavy-ion induced reactions 7−19301
incomplete-fusion reactions, projectile cluster property effects on fragment spectra. direct-transfer model anal. 7−49436
local-scale point transformations within the generator coordinate method 7−56623
magnetic fusion program, economic aspects 7−15426
muon catalysed DT, reaction kinetics study, muon-sticking prob. anal. 7−25016
muon catalysed DT fusion, $\mu\alpha$ sticking probabilities 7−713
muon catalysis, quasiresonance charge exchange of muonic atoms with resonance isotopic defect 7−5306
muon catalyzed fusion parameters, constraints from $(d+d)\mu$ data at low temps. 7−25015
muon-catalysed fusion, physics and prospects for power prod. 7−62080
nonresonant thermonuclear reaction rates, analytic representations 7−30463
reviews of particle and nuclear physics, book 7−55907
simulations in fusion physics 7−5307
sub-barrier fusion reactions, multiphonon and isotope effects 7−35984
sub-barrier fusion reactions, review 7−56703
sub-barrier fusion-fission reactions, anomalously broad spin distrib., comment with reply 7−10178
subbarrier fusion reactions, neck formation model 7−35985
superheavy elements, nuclear properties and laboratory synthesis, review 7−61904
thermonuclear reaction rates, resonant and nonresonant 7−25017
very-heavy-ion collisions, critical distance for fusion, fusion barriers 7−19316
Z-pinches, neutron prod. mechanism 7−63329
(p,n) reactions on A=92-122, thermonuclear reaction rates 7−34859
^{27}Al(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7−42057
^{197}Au(^{40}Ar,X), 27 MeV/nucleon, nuclei deexcitation near nuclear matter instability temp. 7−19279
^{11}B(p, 3α), cross section meas., 140-500 keV *(Korean)* 7−30422
^{12}C (^{12}C,X), low energy fusion, coupled channel formalism 7−707
^{12}C(^{14}N,X), correlations between α particles and evaporation residues in complete and incomplete fusion 7−42052
^{12}C(^{16}O,X), fusion channels, intermediate resonances 7−36049
^{12}C(^{3}He,π^{+})^{15}N, 181.4 MeV, obs. using recoil detection technique 7−19269
^{12}C(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7−42057
^{A}Ca(^{16}O,X), 69.3-87.3 MeV, A=40, 44 fission-like yields, fusion-fission reaction mech. 7−36038
^{40}Ca(^{23}Na,X), 260, 287 MeV, complete and uncomplete fusion-evap. residue cross-sections, limiting ang. momenta effects 7−30462
^{40}Ca(^{28}Si,X), 298, 327 MeV, complete and uncomplete fusion-evap. residue cross-sections, limiting ang. momenta effects 7−30462
^{40}Ca(^{36}Ar,2pα), 115 MeV, ^{70}Se lifetime meas. 7−10099
^{40}Ca(^{36}Ar,4p), lowest three yrast transitions in ^{72}Se, lifetime meas. 7−10099
^{40}Ca(^{40}Ca,γ)^{80}Zr*, 55-79 MeV, ^{76}Rb isomer obs., half-life meas., level structure 7−10109
^{40}Ca(α,X), 10-27 MeV, fusion excitation fn. oscillations, optical model anal. 7−19268
^{133}Cs(^{22}Ne,X), complete fusion, excitation functions and high-spin isomeric species 7−5266
^{1}H(p,e$^{+}\nu$)^{2}H, stellar process, energy generation rates 7−10139
^{2}H($\vec{d}$,n)^{3}He, E_{cm}=20-150 keV, polarized and unpolarized cross section calcs. DWBA anal. 7−10159
^{3}H(α,γ), astrophysical energies, resonating group study 7−42033
^{3}H(d,X), muon catalysed fusion, classical trajectory Monte Carlo method 7−61936
^{3}H(d,n)^{4}He, muon-catalyzed fusion at 23-35 K 7−42102
^{3}He(α,γ), astrophysical energies, resonating group study 7−42033
^{165}Ho(^{40}Ar,X), 27 MeV/nucleon, nuclei deexcitation near nuclear matter instability temp. 7−19279
^{24}Mg(^{12}C,X), excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
^{93}Nb(^{20}Ne,X), complete and incomplete fusion, inclusive fragment spectra meas. 7−42055
^{144}Nd(^{16}O,γ)^{160}Er, E_{lab}=76-105 MeV, ^{160}Er statistical decay, giant dipole resonance effects, statistical model comparisons 7−10173
^{20}Ne(^{12}C,X), excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
^{58}Ni(^{14}N,pn), 39 MeV, ^{72}Se lifetime meas. 7−10099
^{58}Ni(^{36}S,X), 94-112 MeV, quasi-elastic transfer cross section meas., effects on sub-barrier fusion 7−61915
^{58}Ni(^{54}Fe,X)^{112}Xe*, groundstate proton radioactivity meas. 7−49350

nuclear fusion continued
^{58}Ni(^{58}Ni,X)^{116}Ba*, groundstate proton radioactivity meas. 7−49350
^{64}Ni(^{32}S,X), 94-112 MeV, quasi-elastic transfer cross section meas., effects on sub-barrier fusion 7−61915
^{A}O(^{16}O,X), elastic transfer effects in subbarrier fusion, barrier penetration model 7−42061
^{16}O(^{7}Li,xγ), 4-10 MeV, complete fusion in Coulomb threshold region, total cross section 7−19314
^{206}Pb($^{23}\vec{N}$,X), subbarrier fusion cross sections and tensor analyzing powers 7−19293
^{208}Pb(^{48}Ti,X), 300 MeV, transition between quasi-elastic and deep-inelastic reactions 7−5277
^{32}S(^{12}C,X), excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
^{28}Si(^{12}C,X), excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
^{28}Si(^{12}C,x), 43-70.5 MeV, complete fusion excitation function *(Chinese)* 7−49443
^{144}Sm(^{12}C,X), ^{156}Er production, evaporation residue cross sections and average neutron multiplicities, stat. anal. 7−30445
^{144}Sm(^{16}O,γ), E_{lab}=63-72 MeV, fusion cross section meas. at sub-barrier energies 7−5257
^{154}Sm(^{16}O,X), linear and angular momentum transfer in incomplete fusion reactions 7−42054
^{124}Sn(^{58}Ni,f), cross sections and compound nucleus angular distribs., elastic fusion model comparisons 7−56694
^{181}Ta(^{22}Ne,α), DWBA anal., exptl. comparisons 7−56699
^{232}Th (^{40}Ar,X), 240 MeV, cross section for evaporative α-particles, α-yield 7−36042
^{232}Th(^{16}O,f), 77-86 MeV, ^{248}Cf compound nucleus spin determ. from fragment angular distribs. 7−19286
Ti(Zr,X), subbarrier fusion, adiabatic representation 7−702
^{48}Ti($^{23}\vec{N}$a,X), subbarrier fusion cross sections and tensor analyzing powers 7−19293
^{236}U(^{12}C,f), 60-68 MeV, ^{248}Cf compound nucleus spin determ. from fragment angular distribs. 7−19286
^{90}Zr(^{90}Zr,γ) ^{180}Hg nuclear shape coexistence, γ-decay, energy levels 7−19163
^{92}Zr(^{64}Ni,X), ^{156}Er production, evaporation residue cross sections and average neutron multiplicities, stat. anal. 7−30445

nuclear fusion reactors *see fusion reactors*

nuclear giant resonances *see nuclear collective states and giant resonances*

nuclear induction *see nuclear magnetic resonance*

nuclear instrumentation
see also angular correlation techniques; beam handling equipment; counters; counting circuits; nuclear reactor instrumentation; particle accelerators; particle detectors; particle track visualisation
CMOS charge sensitive amplifier-cable driver, monolithic detector readout electronics 7−42438
conf., Vienna, Austria, February 1986 7−40989
data acquisition systems, automatic fault monitoring system 7−833
direct coupled linear gate, high energy physics appls. 7−5565
electron linac, control system for Photon Factory 7−5498
FB tube time digitiser for DELPHI expt. 7−42436
Harwell oxygen sensors, description, operating conditions, performance 7−56920
integrated detector electronic with CMOS compatible devices 7−42437
LTD, FASTBUS time digitiser for LEP detectors 7−42307
modeling response variation for radiometric calorimeters 7−30573
multi-ADC data acquisition and transfer system for nuclear physics expts. 7−25335
nondestructive coating thickness meas. 7−13703
nonextended dead time determ., comparisons between methods 7−15459
OPAL detector, fast track trigger processor 7−832
pion stopping density increase in hydrogen, simple magnetic system 7−49768
random pulse generator, uniform amplitude for testing MCA pulse rates 7−15460
semiconductor detector electronics for measurements in heavy overload conditions 7−42439
SGS digital strip readout electronics for streamer tubes 7−62238
solid state nuclear track detectors, conference, Rome, Italy (Sept. 1985) 7−40991
UA2 vertex detector, FASTBUS based 100 MHz FADC system for drift chambers 7−42306

nuclear interactions *see nuclear reactions and scattering*

nuclear internal conversion *see internal conversion*

nuclear isobaric analogue resonances *see isobaric analogue resonances*

nuclear isobaric analogue states *see isobaric analogue states*

nuclear isomerism
see also nuclear energy levels
deformed nuclei, vibr.-rot. quadrupole-octupole excitations, self-consistent model 7−41868
electromagnetic properties of high-spin isomers 7−35928
fission product isomeric yields 7−19157
gamma-ray laser based on upconversion, need for nuclear props. 7−10952
gamma-ray lasers, interlevel transfer mechanisms 7−10948
high-spin isomers, quadrupole moment determ. using tilted-multifoil hyperfine interaction 7−56604
isomeric states for gamma ray laser appl. 7−10951
LLNL expts. for gamma-ray laser development 7−10950
transfer levels for isomeric deexcitation in γ-ray lasers 7−10908
^{A}Ni(γ,X), A=60, 61, 62, 4.5 GeV, fragment yields, dependence on target, residual nuclear isotopic spins 7−56665
^{197}Au^{m}, isomer state half-life meas. 7−56636
^{138}Ba, microscopic struct. of semimagic nuclei 7−30304
^{134}Ce(10^{+}), prolate deformation of isomeric states 7−30309
^{140}Ce, microscopic struct. of semimagic nuclei 7−30304
^{133}Cs(^{22}Ne,X), complete fusion, excitation functions and high-spin isomeric species 7−5266
^{167}Er^{m}, isomer state half-life meas. 7−56636
Gd isotopes, even-even, projected quadrupole coherent states model 7−56597
^{180}Hf^{m}, ^{180}Lu β-decay, fractional population, astrophysical consequences 7−49315
^{197}Hg, nuclear isomer separation, for gamma-ray laser 7−10091
^{115}In, isomeric level, nonreson. excitation, secondary photon-atom contribs. 7−568
^{115}In(n,γ)^{116m}In, cross section for fast n, absolute meas. 7−36007

nuclear isomerism continued
^{175}Lu(n,γ), 24.3 keV, isomeric capture cross section 7−19258
^{180}Lu, isomeric levels, decay curve examination, relevance to ^{180}Ta^{m} nucleosynthesis 7−49204
^{24}Mg, positive parity state struct., cranked alpha-cluster model 7−24943
^{98}Mo(n,γ), recoil effects, indirect meas. from ^{99m}Tc behaviour 7−49309
^{90}Nb^{m}, threshold effect in conversion transition M2+E3 7−41937
^{93}Nb(n,2n)^{92m}Nb, cross section meas. for E_n=14 MeV 7−5238
^{93}Nb(n,α), cross section meas. for E_n=14 MeV 7−5238
^{93}Nb(n,nα), cross section meas. for E_n=14 MeV 7−5238
^{236}Np(n,X), fission cross-section for thermal neutrons 7−25010
^{236}Np(n,f), isomer thermal neutron-induced fission cross sections, spin depend. 7−42100
^{182}Os, high-spin isomer, p-n interaction in high-j orbitals, particle-γ-soft-rotor model anal. 7−24927
^{A}Pb, A=194-196, energy level conversion coeff. meas. from ^{184}W(^{16}O, xn) 7−19206
^{A}Pb, A=194-197, meas. of isomeric $33^+/2 \rightarrow 29^+/2$ and $12^+ \rightarrow 10^+$ transition energies 7−24956
^{202}Pb, high-spin isomers, half-life meas. 7−10094
^{203}Pb, g-factor of $21/2^+$ isomer, meas. using time differential perturbed ang. distrib. technique 7−41896
^{143}Pm, microscopic struct. of semimagic nuclei 7−30304
^{201}Po, m and g isomers, decay scheme construction from time-sequenced spectra 7−30365
^{206}Po yrast structure, transitions, $T_{1/2}$ and isomer from (α,4n) and (^{3}He,3n) 7−41878
^{141}Pr, microscopic struct. of semimagic nuclei 7−30304
^{76}Rb, 3.2 μs isomer, obs. in ^{40}Ca(^{40}Ca,γ)^{30}Zr, decay level scheme 7−10109
^{A}Rn, A=208,210,211, quadrupole moment sensitivity to small deformations 7−35947
^{116}Sb^{g}, on-line NMR study, mag. moment determ. 7−578
^{77}Se^{m}, isomer state half-life meas. 7−56636
^{79}Se^{m}, stellar β-decay rate 7−49344
^{142}Sm(7^-), prolate deformation of isomeric states 7−30309
^{144}Sm, microscopic struct. of semimagic nuclei 7−30304
^{139m}Sm decay props., γ-ray and internal conversion meas. 7−49306
^{A}Sn, A=109, 111, microscopic struct. of semimagic nuclei 7−30304
^{119}Sn, internal conversion rate changes due to lower multipole admixtures 7−10126
^{152}Tm, low-spin isomer, radioactivity study using mass-separated sources 7−41945
^{A}Xe^{M}, A=129, 131, mag. dipole moment meas. by spin exchange with optically pumped Rb 7−30331

nuclear isospin
beta-decay, superallowed, isospin-mixing corrections to Fermi matrix element 7−56648
compound-nucleus reactions, isospin breaking 7−5212
E=54-70 MeV, isospin nonconservation 7−5272
Gamow-Teller strength from spin-isospin saturated nuclei 7−49226
giant dipole resonance, statistical decay, role of isospin 7−5210
heavy ion collisions, isospin correlated nucleon exchange, mass, charge distribs. 7−10172
nuclear matter, one-dimensional, simultaneous eigenstates of spin, isospin and energy 7−56631
nuclear probes of isospin parity and time-reversal symmetry 7−49016
(p,p′), spin-isospin response in nuclei 7−56682
random phase approx. spin-isospin nuclear response in deep inelastic region 7−5157
spin-isospin excitations in nuclei, differential cross-sections 7−49208
surface spin-isospin modes, RPA calcs. 7−56589
Δ isobar Landau-Migdal parameters and high momentum props. of spin-isospin response functions 7−5180
(γ,$\pi^{\pm}$), nuclear spin-isospin excitations 7−49302
^{A}Ni(γ,X), A=60, 61, 62, 4.5 GeV, fragment yields, dependence on target, residual nuclear isotopic spins 7−56665
NNN form factors, isospin structure 7−61793
(p,n), spin-isospin excitations 7−49420
(p,p), surface effects and the spin-isospin nuclear response function 7−30326
(p,p′), 201 MeV, spin-isospin excitation 7−49418
(p,p′), nuclear spin-isospin response fns., Fermi-RPA calc. 7−56683
^{11}B(p,n)^{11}C, 14.3 MeV, isospin mixing, DWBA, Hauser-Feshbach anal. 7−19243
^{8}Be$\rightarrow$d+^{6}Li, isospin forbidden decay, spin dependence meas. using ^{6}Li($\vec{d}$,α)^{4}He 7−5204
^{9}Be, second T=3/2 state width, isospin mixing from ^{7}Li(d,γ) 7−30399
^{9}Be, T=3/2 state, width analysis and isospin mixing 7−41900
^{A}C($\vec{p}$,$\pi^{\pm}$), A=12,13 analysing power behaviour and isospin dependence of cross-sections 7−42006
^{12}C(^{14}N, ^{10}B)^{16}O, E=54-70 MeV, isospin nonconservation 7−5272
^{40}Ca isospins level-widths, 9.5 to 10.5 MeV, from ^{39}K(p,γ) *(Chinese)* 7−35972
(N,X), low energy interactions in semimicroscopic approach 7−10142
^{16}O(α, γ), forbidden E1 transitions and isospin mixing rates 7−30373
^{34}S(γ,np), cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7−41971
^{34}S(γ,p), cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7−41971
^{28}Si, giant dipole resonance decay, isospin mixing effects 7−41881
^{28}Si, isospin mixing during decay of giant dipole resonance 7−10092

nuclear liquid drop model
deformed nuclei, isoscalar and isovector giant resonances, gas-droplet model anal. 7−56592
Gamow-Teller β-decay of even nuclei near ^{100}Sn, struct. model calcs. 7−49330
Rayleigh criterion for neck stability in heavy ion reactions and fission 7−5268
rotating finite range fission barriers from nonrotating nuclei 7−49369
scission, fragment-separation barrier, liquid-drop model anal. 7−5220
surface diffuseness of deformed and rotating nuclei, energy density formalism 7−30322
^{82}Sr, mean square charge radius, droplet model comparison 7−5635

nuclear magnetic acoustic resonance *see acoustic nuclear magnetic resonance*

nuclear magnetic moment
see also g-factor; gyromagnetic ratio
A=208 region, nucl. struct. effects from at. optical spectra 7−19768
beta-NMR magnetic moment measurement using on-line mass separation and tilted foil polarization 7−49241

nuclear magnetic moment continued
Dirac approach to anomalous magnetic moment calculations, contribution of nucleon moment to μ 7−19166
electromagnetic props., resonating group model description 7−30330
empirical description, quenching of spin matrix elements 7−577
hybrid quark-hadron model of nuclear magnetic moments 7−61815
isoscalar magnetic moments and gauge invariance 7−49246
major shell and spin-orbit splitting in relativistic nucl. struct. theory 7−41894
odd spherical nuclei, mag. moments in quasiparticle-phonon model 7−41897
p-shell nuclei, nuclear moments 7−49245
quark shell model calcs. 7−56606
radioactive isotopes, at. HFS and isotope shift meas. for nucl. props. 7−19769
($\vec{p}$,p′), hexadecapole moments of medium weight transitional nuclei 7−674
^{7}Be, electromagnetic props., resonating group model description 7−30330
^{104}Ag, spin determ. by nucl. orientation and NMR 7−41893
^{142}Ba, 2_1^+ state g-factor, hydrodynamic model and IBA-2 anals. 7−30332
^{33}Cl, mag. moment meas. by on-line β-NMR 7−5158
^{A}Fr, A=207-228, g-factors ground state spin and single particle structure 7−49244
^{67}Ga $15/2^+$ 3578 keV level, mag. moment meas. from ^{56}Fe(^{16}O,αp) 7−35946
^{152}Gd, 2_1^+ state mag. moment meas. 7−56605
^{156}Gd(e,e′), orbital mag. dipole strength distrib., resonance fluoresc. meas. 7−10104
^{68}Ge, g-factor meas., evidence for higher multipole forces and states 7−49240
^{2}H, magnetic moment, quark corrections using compound quark bag anal. 7−56523
^{2}H, magnetic moments of multiquark systems, chiral bag model 7−41816
^{A}In, A=106, 108, spin determ. by nucl. orientation and NMR 7−41893
^{6}Li, L-S coupling and mag. moment from three-body models 7−49239
^{A}Nd, A=144-150, 2_1^+ state mag. moment measurement 7−56605
^{17}O, isovector magnetic quadrupole strengths 7−30329
^{203}Pb, g-factor of $21/2^+$ isomer, meas. using time differential perturbed ang. distrib. technique 7−41896
^{85}Rb^{m}, isomer shift, mag. moment, laser induced nuc. orientation 7−10106
^{116}Sb^{g}, on-line NMR study, mag. moment determ. 7−578
^{148}Sm, 2_1^+ state mag. moment meas. 7−56605
^{150}Sm, γ-ray angular correlations and mag. moment of 2_1^+ state 7−56605
^{232}Th($\vec{p}$,p′)^{232}Th, quadrupole and hexadecapole moments 7−678
^{238}U($\vec{p}$,p′)^{238}U, quadrupole and hexadecapole moments 7−678
^{168}W, g-factor above the first backbend, 12^+ state, stretched neutron config. 7−15191
^{A}Xe^{M}, A=129, 131, mag. dipole moment meas. by spin exchange with optically pumped Rb 7−30331

nuclear magnetic resonance
see also acoustic nuclear magnetic resonance; biomedical NMR; chemical shift; double nuclear magnetic resonance; ENDOR; Knight shift; molecular nuclear coupling; NMR line breadth; nuclear magnetic resonance spectroscopy; nuclear quadrupole resonance; nuclear spin-lattice relaxation; proton magnetic resonance; spin echo (NMR); spin-spin relaxation
2D fluid translational diffusion, spin relax, pair correl. fn. dynamic effects 7−50186
n-alkanes, urea inclusion cpds., chemical shift chain length depend, CPMAS NMR spectra anal. 7−25557
acetonitrile, dissolved in rapidly spinning nematic matrix, mol. orientation in strong external mag. field *(Russian)* 7−15626
acetonitrile-d_3, ^{2}H and ^{14}N spin-lattice relaxation rates, solvent effects 7−19897
acetophenone derivatives, NMR, spin-spin coupling interactions, INDO MO FPT calcs. 7−25395
N- acetylaspartate complexes with lanthanide cations, struct., ^{13}C NMR and PMR *(French)* 7−19883
acyl cholesteryl esters, mol. motions, temp. depend., ^{12}C NMR obs. 7−38950
aliphatic bis-phenylhydrazones, stereoisomerism 7−50183
alkaline earth metasilicate glasses, P_2O_5 added, struct., ^{31}P and ^{29}Si NMR 7−32302
alkanes, prediction of ^{13}C NMR spectra, rigid hydrocarbons geometrical parameters anal. 7−31068
4-n-alkyl-4′-cyanobiphenyls, nematic ordering, off magic angle spinning ^{13}C NMR 7−22153
alkynyl(trimethyl)mercurials, synthesis, ^{13}C, ^{29}Si and ^{199}Hg NMR 7−31071
aluminosilicate glasses, magic-angle spinning NMR, review 7−64536
aluminosilicates, at. charges, SCF and semiempirical calcs. 7−2942
aminosilanes, coupling consts., chem shift, ^{15}N NMR study 7−31072
aminostannanes, coupling consts., chem shift, ^{15}N NMR study 7−31072
amorphous hydrogenated semiconductors, NMR studies, rel. to growth process 7−38405
ampere reproduction from proton gyromag. ratio and quantum magneto resonance phenomena 7−61309
anthracene solute alignment in uniaxial liq. cryst. solvents, Saupe ordering matrix calcs. 7−11902
L-asparagine.H_2O, ^{15}N chemical shift tensor, MASS NMR spectra anal. 7−53164
8-azabicyclo[3.2.1]octan-3-ones, derivatives, conform. study, ^{1}H and ^{13}C NMR spectra anal. 7−36647
azole-borane adducts, natural abundance ^{15}N NMR study 7−25552
basic pancreatic trypsin inhibitor, amino acid spin systems, MQF 2D correlated NMR spectro anal. 7−25543
B-(BEDT-TTF)$_2$I$_3$, supercond., AC susceptibility and NMR studies 7−45543
benzaldehyde derivatives, NMR, spin-spin coupling interactions, INDO MO FPT calcs. 7−25395
benzene, adsorbed on graphite (BN), rot. dynamics and orientation, NMR spectra 7−53161
benzene, isotopic mixture in liq. crysts., dipolar coupling consts., 2D multiple quantum NMR 7−57090
benzo(a)pyrene 7,8-diol 9,10-epoxides, solvolytic props., 6-fluoro substituent effects 7−62409
benzophenone derivatives, NMR, spin-spin coupling interactions, INDO MO FPT calcs. 7−25395

nuclear magnetic resonance continued
benzyl alcohol, ordering, phospholipid order in bilayer membranes 7—10619
benzyl chloride, ^{1}H NMR, internal rot. pot., long-range coupling consts. 7—19885
benzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7—50178
benzyllithium, structures, NMR investig. 7—10621
beta-NMR magnetic moment measurement using on-line mass separation and tilted foil polarization 7—49241
bicalicene, cyclic, electronic structure, SCF CI calcs., NMR and PMR 7—50185
biological samples, NMR relax. time anal. 7—13961
biologically active peptides in soln., NMR and IR studies 7—28471
bis(pentafluorophenyl)telluride and its dihalide, ^{125}Te Mossbauer and NMR chemical shift 7—7615
bis(trifluoromethyl)telluride and its dihalide, ^{125}Te Mossbauer and NMR chemical shift 7—7615
bleomycin A$_2$, ^{15}N NMR resonance assignments, ^{1}H-^{15}N shift correlation spectra anal. 7—25548
borane tetrahydrofuran, form. of borane adducts, ^{11}B NMR study. 7—50199
borate esters, in aq. solns. and wine, ^{11}B NMR 7—934
borate glasses, structural groupings, NMR studies 7—11940
borate glasses, structure and bonding, NMR studies 7—63503
borate minerals, unoccupied mol. orbitals of B—O bond mol. orbital calcs., XANES, NMR and electron transmission spectra 7—33281
bronzes, structs., sliding motion of CDW 7—64129
n-butyl lithium, ^{7}Li multiexponential relaxation, multiple-quantum coherence transfer study 7—38956
caesium pentadecafluorooctanoate-water discoid micelle solns., order-disorder transitions, X-ray scatt., elec. cond., NMR meas. 7—26949
calcium formate, rot- solid, heteronucl. dipolar powder patterns separation, dipolar SASS NMR spectroscopy 7—10622
d1-camphene, methyl reorientation, high press. NMR study 7—27609
o-carborane, B quadrupole coupling, NMR study 7—5704
P-carborane, plastic cryst. phases, mol. notions 7—63528
cellulose, particle size and order changes, ^{13}C NMR and NIR diffuse reflectance spectroscopy responses 7—27610
cellulose acetates, units distrib., NMR spectrosc. obs. *(Russian)* 7—15757
cellulose derivatives, substituents, distrib., ^{13}C NMR obs. 7—31197
cetyltrimethylammonium bromide-decyl alcohol-D$_2$O nematic amphiphilic systems, orientation in mag. field, NMR study 7—63447
chalcocarbonyl(5,10,15,20-tetraphenylporphinato) iron II complexes, IR and NMR spectra 7—33394
chemical exchanges, zero field NMR, two-site flips 7—22149
chloroform-d, ^{3}H spin-lattice relaxation rates, solvent effects 7—19897
chlorotrimethyl-1,2-bis(methylthio)ethane platinum (IV), multisite exchanging system, 2D NMR exchange spectroscopy 7—25554
cholesteric liq. crystals, solitons, D NMR spectra 7—21096
clustering in solids, time-resolved multiple-quantum NMR investig. 7—59115
cyclohexyl halides, thiourea inclusion compounds, substituted cyclohexane conform., ^{13}C CP/MAS NMR spectra 7—19889
cyclophosphazenes, linked to spermine, synthesis, struct. NMR, IR and mass spectro, antitumoural activity anal. 7—23291
cytidylyl-(3′-%′)-guanasine-methylmercuric cation, aq. soln. interaction, NMR chem. shifts and coupling consts. determ. 7—50179
decapeptide, cyclic, correlation of connected transitions, 2D NMR 7—35543
deoxycytidylyl-(3′-5′)-guanasine-methylmercuric cation, aq. soln. interaction, NMR chem. shifts and coupling consts. determ. 7—50179
dextran-magnetite particles as relax. enhancer in biological systems 7—28466
dicarboxylic acids undergoing conformational transitions, ionisation equilibria, ^{1}H NMR 7—13757
2,6-dichlorobenzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7—50178
dichloromethylbenzene-do(d$_1$)(d$_6$), internal rot., ^{13}C spin-lattice relax. times and NOE factors 7—50189
2,6-difluorobenzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7—50178
N,N′-dihydroxyethyldithiooxamide-do(d$_4$), vibr. anal., X-ray diffr., NMR, Raman, IR, visible and UV spectra 7—51741
dimethyl oxalate, solid, ^{13}C NMR, X-ray and neutron diffr., chemical shielding tensors 7—13041
dimethyl sulfone, rotating solid, NMR, chem. exchange effects 7—17227
dimethyl sulphone, powder, mol. reorientations, rot. angle determ. 7—17226
dimethyl tin diacetate, solid-state and soln. struct., ^{2}H and ^{3}C NMR spectra study 7—25431
dimethyl tin diacetate hydrolyzate, solid-state and soln. struct., ^{2}H and ^{3}C NMR spectra study 7—25431
1-D-3,3-dimethyl-1-butyne, acetylenic deuteron quadrupole coupling const. determ. 7—62410
dimethyldioxirane, electronic struct. and geometry, NMR chem. shifts 7—62406
dimethylsiloxane-ethylene oxide copolymer containing Na salt, ionic conductivity, ^{23}Na NMR study 7—2255
dimethylthallium(II) cation, aq. soln., mol. motion, NMR spin relax. time meas. 7—57088
2,4-dinitro-6-diazophenol, and analogues, struct. investig. 7—57087
4,4-dioxy-4-thia-1-acetyl-1,4-dihydropyridine, heteroaromaticity, p—d bonding, NMR, crystallography and calcs. 7—15623
1,3-diphenylthioureas, ^{13}C NMR spectra, chemical shifts and mol. conform. study 7—42650
1,3-dipyridyl thioureas, ^{13}C NMR spectra, chemical shifts and mol. conform. study 7—42650
electron relaxation studies, review 7—22158
enamides, conjugated s-skew-forms, conform. anal., spectra data anal. 7—19894
epoxyamine network glassy polymers, mol. motions, impulse NMR obs. *(Russian)* 7—13048
erythrocyte membrane, effects of γ-irrad. as shown by ESR, NMR and biochem. studies 7—60041
ethanes, substituted, NMR conformation studies, rot. energetics about C-C bond 7—31067
field cycling device using GTOs and MOSFETs 7—35546
flowmeter, NMR, front sampling parameters effect on systematic error 7—57952
flowmeter, relax. error elimination method 7—57953

nuclear magnetic resonance continued
flowmeter, tagging type, error structure 7—57950
fluorocarbon solid-liquid ^{3}He interface, ^{19} nuclear relax. rate, freq. depend., NMR meas. 7—38958
fluorocyclohexane, thiourea inclusion compounds, substituted cyclohexane conform., ^{13}C CP/MAS NMR spectra 7—19889
fractal pores, nucl. mag. relax. 7—27625
gradient time-shape measurement by NMR 7—14985
graphite-HNO$_3$ intercalation cpds., absolute Pauli spin suscept. meas., Fermi level density of states determ., ESR/NMR method 7—12940
group IV organotellurides, ^{125}Te and ^{119}Sn Mossbauer and NMR study 7—7614
halocarbons, solubility, interaction with human serum albumin, NMR and microcalorimetric obs. *(French)* 7—65701
halothane, anaesthetic, in green pepper, ^{19}F NMR imaging 7—28468
2,2′, 4,4′, 5,5′-hexachlorobiphenyl, crystal struct., X-ray and NMR studies 7—12036
1,2,8,9,10,11-hexafluoro-endo-tetracyclo [6.3.0.0^{2,11}.0^{3,7}]undec-9-ene, struct. elucidation, NMR COSY technique 7—25556
hexakis(dimethylsilyl)benzene, rot. isomerisation mechanism and barriers, ^{4}H and ^{13}C NMR spectra anal., EFF calcs. 7—25359
hexakis(trimethylelementyl)benzenes, synthesis and crystal mol. struct., X-ray spectra anal., EFF calcs. 7—25360
n-hexane, partially oriented in liq. crystal, dipolar coupling consts., NMR methods study 7—25547
hexane-d$_6$, oriented, proton multiple quantum NMR spectra 7—19887
hydrides, first and second row, NMR chem. shift bond length derivatives 7—42644
$I=3/2$ nuclei, quadrupole coupling const., NMR pulse response 7—36645
III-V semiconductor, resonant photovoltaic effect during NMR 7—53158
[IN-(2-l] furylidene)-β(z-furyl)serine methyl ester, diastereomeric forms, tautomeric equilib., solvent effects ^{1}H and ^{13}C NMR spectra 7—19893
intramolecular nuclear magnetic relaxation, correlation time 7—31070
iodotrimethyl-1,2-bis(methylthio)ethane platinum (IV), multisite exchanging system, 2D NMR exchange spectroscopy 7—25554
isotropic liquids, broadband spin decoupling investig. 7—18848
laser, modulated near to bifurcation used as small signal detector 7—15911
LiH:Sb^{3+} single crysts., nuclear spin-lattice relax. time anisotropy anomaly studies *(Russian)* 7—33290
linear polyester, mainchain nematic polymer, viscoelastic coeffs., meas. by NMR 7—17231
magic angle spinning technique, chem. shift tensor anal. 7—24665
magic-angle rot. frame methods of solids 7—27611
Mansfield-Ware-4 multipulse sequence, nucl. spin relax. in solids 7—7600
Meldrum's acid, chem. shielding tensors, mol. motion, ^{13}C NMR obs. 7—53149
metal particles, quantum size effects 7—7597
methanol-n-hexane, equilibr. assoc. consts., NMR 7—932
2-methoxy-2-oxo-1,3,2-oxazaphosphorinane, conformer struct. and populations, IR, NMR and X-ray spectra anal. 7—25509
methyl alcohol, ^{13}C NMR chem. shifts, intermol. interactions effects 7—50193
methyl ammonium boron trifluoride, nucl. quadrupole coupling, electronic struct. NMR 7—13043
methyl carbons, chemical shielding, struct. effects, ^{13}C NMR spectra anal., ab initio IGLO calcs. 7—25358
methyl fluoride -^{13}C,nematic liq. cryst. soln., chem. shieldings and spin-spin coupling 7—5703
methyl xyloglucuronates, mol. wt. and sequence determ. by ^{13}CNMR and mass spectroscopy 7—15625
3-methyl-2-phenyl-5-(3-methyl-2-phenyl-1-acetyl-3,4-dehydro-6-piperidyl)piperidine, restrained rot., NMR line form anal. 7—10630
2-methyl-2-propanol, solid, mol. dynamics and phase transitions, NMR study 7—36649
methylcyclohexane, thiourea inclusion compounds, substituted cyclohexane conform., ^{13}C CP/MAS NMR spectra 7—19889
monosubstituted ammonium compounds, ^{1}H NMR chemical shifts of solvent water 7—36648
multilayer ferromag. thin films, NMR freq. anisotropy *(Russian)* 7—45830
multimethylammonium perchlorates, ClO$_4^-$ ion motion, ^{35}Cl NMR 7—59114
multiple-quantum spin transitions, appls. in NMR spectroscopy 7—335
naphthalene solubilities in supercritical CO$_2$ near upper critical end point, NMR 7—12293
NMR enhancement effects in antiferromagnets with two nuclear spin systems 7—38947
NMR spectroscopy, numerical treatment of models arising 7—14928
noncrystalline solids, bonding and struct., conf., Reston, VA, USA (May 1983) 7—60879
nuclei acids, three-dimens. struct., two-dimens. NMR anal. 7—13959
octaethylsilsesquioxane, mol. mobility and phase transitions 7—37917
1,2,3,4,5,6,7,8-octahydroanthracene and rel. hydroaromatics, ^{13}C NMR, line splittings 7—13044
oil crops, oil and water content meas., standard specimens for checking NMR analysers 7—54823
organic ring systems, edge inversion at trivalent phosphorus centre; NMR spectra anal., ab initio SCF calcs. 7—25362
organic systems, ^{1}H- and ^{13}C-NMR chemical shifts, elucidation of structures 7—50181
orthophosphates, ^{31}P NMR chem. shift, anisotropies, struct. and cation effects 7—50187
oxide anodic films on Al, struct., surface EXAFS, magic angle spinning NMR studies 7—22382
para-azoxy-anisole-d$_2$-4-4′-diacetoxy-2-2′-dimethyl azoxybenzene nematic mixture, phase diagram, component order parameters, D and proton NMR study 7—21086
paraffins, cyclic, with long chain lengths, ^{3}C NMR chem. shift meas., cryst. structures 7—64537
peptides, plane orientations, fundamental and overtone ^{14}N NMR 7—10618
peptides, struct. anal., NMR meas. 7—54452
phenol-formaldehyde resins, sequence struct. anal., NMR spectra 7—50177
1-phenyl-2-pyrrolidinone, substituted, nucl. coupling consts., NMR chem. shifts 7—931
phosphates, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
phosphites, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
phospholipid membranes, multipulse dynamic NMR 7—17956

nuclear magnetic resonance continued
podocarpane derivatives, rotation barriers of interacting axial methyl groups, mol. dynamics study, ^{13}C NMR 7−10626
poly(4-(3-pyridyl), 8-methyl, 2,3-6,7-quinolino), soluble aromatic ladder polymer, preparation and props. 7−2593
poly(γ-benzyl L-glutamate), α-helical, conformational and dynamic props., 2D nucl. Overhauser expts. 7−15749
poly(acrylic acid-co-vinylamine), sequence distrib. and ionis. const., C-13 NMR 7−10793
poly-ε-caprolactone, crystallisation from melt, real-time pulse NMR meas. 7−27621
poly-cis-isoprene, highly entangled, spin-spin relax. time, NMR meas. and model calcs. 7−33291
poly-p-phenylene sulphide, conducting polymer solution, chemical structure, EPR and ^{19}F NMR studies 7−2938
poly-p-phenylene sulphide, SO$_3$-doped, mol. structure, ^{1}H NMR, ^{13}C CP/MAS NMR and IR studies 7−2939
polyalkyl α-bromoacrylates, tacticity anal. using 19 mHz ^{13}C NMR 7−53155
polyamide hydrazides, aromatic, p- and m-phenylene units effects on struct.-prop. rels. 7−51604
polyaniline, geometry, MNDO calcs. and NMR studies 7−32314
polyaniline and aniline oligomers, spectroscopic and elec. props. 7−64653
polyatomic ions in soln., rot., Hubbard-Onsager-Felderhof's dielectric friction theory 7−17281
1,2-polybutadiene, mol. motion, glass transition, loss curve, NMR, ^{13}C spin-lattice relax. 7−17234
polybutadiene, sequence distribs., polymerisation kinetics, IR spectra, NMR 7−16444
polycrystalline samples, overtone NMR spectroscopy 7−64535
polydiacetylenes, analogies to inorganic semiconductors and graphite 7−2592
polydialkoxyphosphazenes, mol. mobility, NMR investig. *(Russian)* 7−25693
polydimethylsiloxane elastomeric networks, ^{29}Si NMR 7−44402
polyethylene, low-density, amorphous phase, ^{1}H NMR meas. in temp. range 270 to 385K 7−37890
polyethylene oxide, aq. solns., dynamics, nucl. mag. relax. obs. 7−57194
polyethylene terephthalate, partially oriented solid, struct. and order, 2D-MAS-NMR 7−51661
polyethylene-polyamines, struct., ^{13}C NMR obs. *(Russian)* 7−13047
polyheterocyclic 4nπ-electron dianions, paratropicity, charge delocalisation and reactions 7−49896
polyisoprene, sequence distribs., polymerisation kinetics, IR spectra, NMR 7−16444
polymers spin diffusion effects on NMR spin-lattice relax. 7−27623
polypeptides, vibr. circular dichroism, 3_{10}-helix form., chain length depend., IR spectra, PMR 7−15633
polypropylene, spin diffusion effects on NMR spin-lattice relax. 7−27623
polystyrene, highly entangled, spin-spin relax. time, NMR meas. and model calcs. 7−33291
polystyrene, incorporation of stilbene (p-fluorostilbene) during radical polymerisation, NMR investig. 7−39890
polystyrene, proton-spin-lattice relaxation times, determ. using NMR relaxation, mol. wt. dependence 7−10797
polyurethanes, molecular struct., morphology, phase mixing, mech. props. 7−51664
potassium-laurate water, lyotropic liq. crystalline system, mol. motions, proton spin relax. study 7−64543
powder spectra generation algorithm, NMR spectra phase distortion 7−24664
programmable pulse train generator for expts. in relaxation analysis 7−9864
DL-(4,4-^{2}H$_2$) proline, solid state, ring dynamics, crystal struct. and temp. dependence, ^{2}H NMR study 7−26602
DL-(4,4-^{2}H$_2$)proline hydrochloride, solid state, ring dynamics, crystal struct. and temp. dependence, ^{2}H NMR study 7−26602
proteins, struct. anal., NMR meas. 7−54452
proton gyromagnetic ratio in H$_2$O determ., by low field method 7−14916
PVC-oligoesteracrylate, impulse NMR investig. *(Russian)* 7−5804
pyridazine derivatives, synthesis and liq. crystalline phases, PMR, NMR and DTA studies 7−63456
1,3-pyridylphenylthioureas, ^{13}C NMR spectra, chemical shifts and mol. conform. study 7−42650
quadrupole interaction parameters, 2D solid state nutation NMR, density-matrix calcs. 7−53153
quasi-1D conductors, conf., Yamanashi, Japan (May 1986) 7−60868
β-quinol-methanol clathrate, rot- solid, heteronucl. dipolar powder patterns separation, dipolar SASS NMR spectroscopy 7−10622
rare earth metals and intermetallics, Cryst. pot. model for description of cryst. elec. field effects 7−45599
rare earth nuclei in solids, selective intensified spin diffusion, NMR spectra *(Russian)* 7−17232
rigid molecule, orientation in nematic liq. cryst., NMR study 7−62414
rotating and principal-axis frames in multipole NMR 7−9853
Schiff's bases, neutral and protonated, C=N stretching freq. 7−31008
sediments of seafloor, NMR imaging, method for organic rich layers 7−9198
selective spin exchange in high-resolution solid-state NMR 7−53152
short-chain molecules, liquid-phase, motion, ^{13}C and ^{1}H NMR investig. 7−15624
silicate glasses, magic-angle spinning NMR, review 7−64536
silicate glasses, structure and bonding, NMR studies 7−63503
silicates, bonding ^{17}O NMR, d-orbitals 7−13055
smooth muscle relaxing agents, homologous series, motional and conformational dynamics, NMR investig. 7−54439
sodium carboxyl methyl cellulose, ^{13}C NMR spectrosc. 7−62550
spectra, two-dimensional, simulation 7−35544
spectrometer, solid-state, tomographic expts. 7−30052
spin diffusion induced by paramag. impurities in magic angle conditions 7−27619
spin generator signal in an inhomogeneously expanded line 7−59118
spin system, multiexponential longitudinal and transverse relax. in 2D NMR 7−25539
spins S=1, NMR spectra, modified Jeener-Broekaert sequences 7−45829
steroids, unsaturated, methyl group rot. barrier studied by NMR and force-field calcs. 7−10627
styrene-n-butyl acrylate emulsion copolymers, microstruct., ^{13}C NMR 7−11958
styrene-n-butyl acrylate emulsion copolymers, microstruct., ^{13}C NMR 7−16390

nuclear magnetic resonance continued
sulphanilamides, electronic struct. and chem. activity, NQR spectra 7−10631
sulphone derivatives, α,β-unsaturated, substituent induced chem. shift, NMR 7−19900
sulphones, ^{33}S NMR spectrosc 7−5700
symmetrisation order transform. to nucl. spin magnetisation 7−42649
tetraethyl ammonium MX$_4$ compounds (MzCo,Zn,Mn;X=Cl,Br), structural phase transitions 7−44801
tetraglycidyl methylene dianiline, ^{1}H spectrum, FT 2D NMR obs. 7−19899
tetramethylammonium salts, D NMR, reorientations 7−19884
tetramethylsilane, ^{13}C NMR chemical shifts, solvent effects 7−50198
tetraphenyloxalamidine, double H transfer, conforms., tautomerism, NMR and IR obs. 7−57083
2-thio-1,3,2-oxazaphosporinane, conformer struct. and populations, IR, NMR and X-ray spectra anal. 7−25509
thioanisole and its derivatives, long range spin-spin coupling consts., NMR and mass spectra 7−19886
thiophosphates, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7−25544
thiourea-ferrocene, inclusion cpd., orientation and dynamic behaviour, ^{13}C NMR chem. shielding spectra 7−50180
tissues, animal, metabolic heterogeneity rot.-frame imaging NMR 7−13963
(TMTSF)$_2$ReO$_4$, ^{13}C high resolution NMR study, temp. effects, semiconductor-metal transition 7−53157
(TMTSF)$_2$X, (X=ClO$_4$, ReO$_4$), organic conductors, high resolution NMR study 7−53169
triatomic anions, rots. in aqs. soln., ^{14}N NMR, spin-lattice relax. 7−27620
triethyl phosphate, internal ^{31}P NMR reference in biological samples 7−54465
1,4,10-trioxa-7,13-diazacyclopentadecane-N,N′-diacetic acid metal complexes, NMR investig. 7−57091
Tween 81-hexadecane-H$_2$O, props. in low-temp. region, struct., ^{1}H, ^{2}H and ^{13}C NMR 7−8318
two-dimensional NMR, T$_1$ relaxation meas. 7−48800
urea-trans-4-octene clathrate, rot- solid, heteronucl. dipolar powder patterns separation, dipolar SASS NMR spectroscopy 7−10622
vitamin B$_1$, in H$_2$O, 2D solvent suppressed COSY NMR spectra, pulse shaping 7−57086
water, liq., three-body forces and single-molecule dynamics 7−11880
water, viscosity determ. by pulse NMR method 7−7604
^{104}Ag, spin determ. by nucl. orientation and NMR 7−41893
Al-Mn alloys, icosahedral symmetry versus local icosahedral environments, NMR spectra meas. 7−63536
Al$_2$O$_3$ anodic films on Al, struct., magic angle spinning NMR study 7−22382
Al$_2$O$_3$ SiO$_2$ gel, IR and ^{27}Al NMR.MAS spectra AlO$_6$, AlO$_4$ vibr. freq. *(French)* 7−64534
AuAl alloys, Al diffusion, NMR study 7−33287
B$_{10}$C$_2$H$_{12}$, spin-lattice relax., ^{13}C, ^{10}B and ^{11}B NMR 7−10623
B$_3$H$_6$X$_2^-$, ^{11}B-^{11}B COSY NMR, substituent effects 7−19898
B$_3$H$_7$X$^-$, ^{11}B-^{11}B COSY NMR, substituent effects 7−19898
B$_2$O$_3$-SiO$_2$ glass, borosiloxane bond formation, sol-gel process, spectroscopic study 7−59117
Ba(ClO$_3$)$_2$.H$_2$O, polycryst., librational motions, zero-field NMR 7−15622
BaFe$_{12}$O$_{19}$, Bloch domain boundary, Neel boundary transition in mag. field, NMR study *(Russian)* 7−33195
BaPO$_3$F, polycryst., chem. shielding and dipolar coupling, NMR investig. 7−57089
a-C thin films, bonding core-EELS and ^{13}C NMR studies 7−21099
C$_2$F, six-spin system, mol. diffusion of acetone, NMR 7−7598
CO, chem. shifts meas. in zero-press. limit 7−62408
^{13}C spin-exchange dynamics in solids 7−38949
Ca^{2+}, binding to bile salts, NMR investig. 7−54442
CaF$_2$, multiphoton transitions between nuclear spin Zeeman levels obs. by rotary sat. method 7−38948
Cd(BrO$_3$)$_2$. 2H$_2$O(D$_2$O), H bonding, crystal struct., ^{1}H and ^{2}D NMR anal. 7−22156
CdO-B$_2$O$_3$-Si(Ge)O$_2$ network struct., coordination and bonding, comp. depend., NMR study 7−6535
Cd$_2$P$_2$S$_6$ intercalated with pyridine, D NMR study 7−33279
CeNi$_2$P$_2$, 4f-magnetism study by susceptibility and NMR 7−22154
Co complex, Co (II) nonamethylimidodiphosphoramide, struct., mag. props., NMR 7−50197
Co complex, Co (II) octamethylpyrophosphoramide, struct., mag. props., NMR 7−50197
Co single cryst., NMR freq. temp. depend. anomaly, spin-wave stiffness const. determ. 7−53154
Co-Sb superlattices, NMR study *(Japanese)* 7−13046
Co^{2+}-carboxypeptidase A, polarised single-crystal absorpt. spectra, NMR 7−17945
Co$_{80}$P$_{20}$, amorphous films, electrodeposited, optical and NMR spectra, annealing effect *(Russian)* 7−45831
CsDSO$_4$, superionic transition, NMR 7−38951
CsSD, mol. reorientation, elec. field gradient ^{2}H NMR 7−13052
Cu II complexes, interligand interaction, spectrosc. props. *(Japanese)* 7−57093
D$_2$, HCP solid, orientational ordering, NMR 7−38293
ErFeO$_3$, antiferromag. domain struct., spin reorientation region 7−45723
EuNi$_2$P$_2$, 4f-magnetism study by susceptibility and NMR 7−22154
EuS ferromagnetic single cryst., elec. field gradient and magnetic hyperfine interaction, NMR meas. 7−52540
EuSe, mag. phases, press., alloying effects, NMR and mag. studies 7−2847
Fe-Au system, low Au conc., low temp. nucl. orientation and NMR-ON studies 7−2936
Fe-Co dil. alloy, ^{56,57,60}Co isotopes, hyperfine anomalies, α-factors NMR/ON obs. 7−33278
Fe-Mn superlattices, NMR study *(Japanese)* 7−13046
Fe-Sc alloys, struct. and mag. props., NMR and X-ray diffr. studies *(Russian)* 7−6578
Fe-V superlattices, NMR study *(Japanese)* 7−13046
FeBO$_3$, NMR of ^{57}Fe domains and domain walls 7−7593
GaAs:In, lattice distortions, NMR study 7−2933
Gd$_3$Fe$_5$O$_{12}$ garnet, spin-reorientation phase transition, NMR obs. 7−38861
a-Ge:D,H, plasma deposited, deuteron magnetic resonance 7−27626
H$^+$, exchangeable, NMR using uniform excitation solvent suppression pulse sequences 7−50192

nuclear magnetic resonance continued
  H^+/D^+ fractionation, NMR investig. with various probe nuclei 7—56312
  H_2, solid, ortho-para mixture, local order parameters distrib., NMR line shapes, relax. times 7—27052
  H_2, solid ortho-para mixtures, nonexponential relax. of nucl. magnetisation, NMR absorption spectrum 7—27053
  H_2O, in biological systems, protein dynamics and NMR relax. time 7—25555
  H_2O-DMSO-1,4-dioxan, chem. shift, NMR spectroscopy 7—25559
  $H_3PMo_{12}O_{40}.nH_2O$, polycryst., NMR and H^+ conductivity investig. 7—17230
  ^1H- and ^{13}C-NMR spectra analysis, structure elucidation, computer assisted 7—50182
  $^3He+^3He(^4He)$, elastic scatt. cross section ratio, nucl. spin lattice relax. time anal. 7—42652
  ^3He spins on exfoliated graphite surface, detection of ferromag. domains 7—38291
  ^3He, superfluid, driven longitudinal nuclear spin resonance, Smale's horseshoes 7—2292
  ^3He, superfluid A phase, vortex phenomena in narrow gaps, surface spin waves probe 7—58562
  ^{199}Hg, optically pumped, limits on spatial anisotropy 7—49991
  ^{201}Hg, optically pumped, limits on spatial anisotropy 7—49991
  I^-, solvation struct. in formamide (formamide-H_2O), NMR relax. obs. 7—15539
  ^AIn, A=106, 108, spin determ. by nucl. orientation and NMR 7—41893
  Ir complexes, Vaska's cpd., ^{17}O NMR study 7—10625
  KC_8/D_2O intercalation cpd., X-ray diffr., NMR, EPR and gas phase mass spectra anal. 7—46843
  $KCl(Br):Cu^{2+}$, diffusion, nuclear spin-lattice relax. rate meas. *(German)* 7—6885
  $KNi_xMg_{1-x}F_3$, nuclear spin-lattice relax., NMR studies 7—64542
  K_2O-SiO_2 glass melts, structure 7—1831
  K_2PO_3F, polycryst., chem. shielding and dipolar coupling, NMR investig. 7—57089
  $K_2P_2O_5F_2$, polycryst., chem. shielding and dipolar coupling, NMR investig. 7—57089
  K_2TiF_6, ion motions and cond., NMR relax. time meas. 7—38246
  ^{39}K NMR, in vivo tissue K meas., rat obs. 7—60131
  Li adatoms on W (110) nuclear quadrupole interactions, NMR study 7—2937
  $LiClO_4$, solns., chem. shift, NMR 7—57085
  LiW_3O_9F, ordered O-F distrib., NMR, Raman spectra, electrostatic energy, site pot. calcs. *(French)* 7—32390
  $LiZnF_3$ prep. and X-ray and NMR structural study 7—37953
  MgH_2-$LaH_{2.8}$ hydrides, H diffusion coeff., NMR studies 7—32705
  N_2-Ar solid mixtures, orientational ordering, collective versus noncollective behaviour 7—21103
  ND_4SCN, phase transitions, spin lattice relax. study 7—33286
  NH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7—62413
  Na adatoms on W (110), nuclear quadrupole interactions, NMR study 7—2937
  Na^+, binding to bile salts, NMR investig. 7—54442
  Na^+, solvation struct. in formamide (formamide-H_2O), NMR relax. obs. 7—15539
  Na-Y zeolite, Li-exchanged, thermal transform. to Li aluminosilicates, X-ray and NMR studies 7—44794
  $NaMoO_3F$, ordered O-F distrib., NMR, Raman spectra, electrostatic energy, site pot. calcs. *(French)* 7—32390
  Na_2O-Al_2O_3, ^1H, ^{27}Al and ^{23}Na NMR studies 7—22148
  β-Na_2O-Al_2O_3, struct. at 5K, ^{23}Na NMR 7—7595
  β''-Na_2O-Al_2O_3, structure at 5K, ^{23}Na NMR 7—7594
  Na_2O-Al_2O_3-SiO_2-H_2O, zeolite ASM-5, framework site resolution and assignment by X-ray and NMR meas. correl. 7—25541
  Na_2O-B_2O_3-Al_2O_3 glass struct., NMR and computer simulation 7—1898
  Na_2O-SiO_2 binder solns., ester curing, equilibria and kinetics, NMR study 7—8311
  Na_2O-SiO_2 glass melts, structure 7—1831
  NaOD, ^{23}Na critical longitudinal relax. time near antiferroelec. transition 7—17235
  Na_2PO_3F, polycryst., chem. shielding and dipolar coupling, NMR investig. 7—57089
  $Na_2WO_2F_4$, ordered O-F distrib., NMR, Raman spectra, electrostatic energy, site pot. calcs. *(French)* 7—32390
  $Na_{1+x}Zr_{2-x}In_x\ (PO_4)_3$ solid soln., Na^+ ion motion, NMR study 7—44904
  Nb, diffusion and trapping of H(T), NMR obs. 7—27616
  $NbSe_3$, NMR study of CDW struct. and motion 7—2518
  Ni-P glasses, local atomic struct., NMR and EXAFS studies 7—63504
  PF_5, ^{19}F NMR chem. shifts and NQR coupling consts. 7—50188
  PH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7—62413
  P_2O_4-B_2O_3-SiO_2 CVD glass films, components characterization 7—45085
  Pr^{3+}, excited state, NMR meas. by indirect optical detect. 7—15545
  Pt clusters in Y-zeolite, atomic and electronic struct. and chemical reactivity 7—32677
  Pt complex, $[Pt(NH_3)_2(OH)_2(C_5H_7N_3O)_2](NO_3)_2.2H_2O$, metal stabilised cytosine iminooxo tautomer, form. and geometry 7—26710
  Pt complexes, ^{17}O NMR study 7—10625
  Pt complexes, binuclear with bis(dimethylphosphino)methane ligands, NMR study 7—13045
  Pt, surface structure and adsorbate bonding, NMR studies 7—13050
  $PtBr_6{}^{2-}$, NMR chemical shift, nuclear shielding, rovibr. averaging 7—25550
  $PtCl_6{}^{2-}$, NMR chemical shift, nuclear shielding, rovibr. averaging 7—25550
  $Rb_2Mn_{1-x}Cr_xCl_4$, reentrant spin glass state, quasi-2D XY system, Cl^{35} NMR spectra study 7—27613
  $Rb_{0.3}MoO_3$, NMR evidence of Frohlich mode 7—53156
  $Rb_{1-x}(ND_4)_xD_2PO_4$, NMR in random fields, cluster formation and local dynamics of D glass 7—38959
  RbSD, mol. reorientation, elec. field gradient ^2H NMR 7—13052
  SF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
  SF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7—25550
  SO_2-containing cpds., Cl effect on ^{33}S and ^{17}O NMR 7—36646
  $^{116}Sb^g$, on-line NMR study, mag. moment determ. 7—578
  SeF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
  SeF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7—25550

nuclear magnetic resonance continued
  Si:B(P), microcrystalline, LPCVD production, anal and solar cell appls. 7—17452
  a-Si:D,F, plasma deposited, deuteron magnetic resonance 7—27626
  a-Si:D(D,H), deuteron mag. resonance, annealing effects 7—33292
  α-Si:H, cross-polarisation dynamics, NMR 7—53151
  a-Si:H, NMR props. of ortho-H_2 centres 7—2935
  a-Si:H, plasma deposited NMR, Pake doublet 7—27617
  Si:P polycrystalline films, segregation at grain boundaries, NMR study 7—38953
  a-SiGe:D,F, plasma deposited, deuteron magnetic resonance 7—27626
  a-SiGe:H films, NMR, ESR and IR studies 7—45833
  SiH_aF_b (a+b=4), NMR shielding consts., ab initio coupled HF calcs. 7—42646
  a-SiN_x:H CVD film, IR and ^{29}Si NMR studies 7—38952
  SiO_2 surface, adsorbed trimethylsilyl groups, ^2H NMR spectra investig. 7—2375
  SiO_2:F, quartz glass, struct. study using ^{19}F-NMR *(Japanese)* 7—21122
  SiO_2-Al_2O_3 glass, roller-quenched, NMR evidence for 4-, 5- and 6-fold Al sites 7—44384
  $Si_5O(PO_4)_6$, chem. shift meas., solid-state ^{29}Si MAS NMR 7—53163
  Sn IV complex, form. in mixed Na pyrophosphate/$SnCl_2$ soln., ^{119}Sn NMR 7—10624
  $Sr(BrO_3)_2.H_2O(D_2O)$, EFG parameters, H bonding, PMR, deuteron mag. reson. 7—27612
  $TbCo_2$, NMR of ^{159}Tb *(Russian)* 7—45832
  $Tb_{0.05}Gd_{0.95}Al_2$, NMR of ^{159}Tb *(Russian)* 7—45832
  TeF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
  TeF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7—25550
  Ti-V-H alloys, struct., X-ray diffr. and ^1H and ^{51}V NMR studies 7—32364
  TiO_2-SiO_2, synthetic, surface struct., XPS, NMR and mass spectra 7—58596
  Tl oxides and halides, covalency and NMR chem. shift correls. 7—2941
  Tl_4MnI_6, paramag. suscept. w.r.t. NMR chem. shift, hyperfine coupling const. determ. 7—2941
  $UAuCu_4$ magnetic props., X-ray diffr., NMR and mag. suscept. meas. 7—52948
  $UPdCu_4$ magnetic props., X-ray diffr., NMR and mag. suscept. meas. 7—52948
  W complex, W (VI)-mannitol, IR and NMR spectrosc. 7—50136
  W complex, W (VI)-sorbitol, IR and NMR spectrosc. 7—50136
  W complexes, W (VI) isopropylimido, cryst. and mol. structs. 7—51722
  W surfaces, chemisorbed ^{23}Na, nuclear-spin-polarized thermal atom scattering 7—53476
  WF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
  WF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7—25550
  $Xe(H_2O)_n$, NMR and thermodynamic parameter determ. 7—50195
  Y-Si-Al-O-N glasses, Si coordination, NMR studies 7—1906
  Y_9Co_7 mag. supercond., ^{59}Co NMR and nuclear relax. studies 7—64401
  $Y_3Fe_{4.5}Ga_{0.5}O_{12}$, single cryst., NMR, ang. depend. 7—53148
  $YFeO_3$, orthoferrite, Dzyaloshinskii-Morii electron-nuclear interaction, NMR data anal. 7—53162
  $YbNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7—22154
  Zn, electric quadrupole interaction of ^{67}Zn, mag. reson. meas. 7—53167
  ZrF_4-BaF_2-ThF_4-LiF quaternary glasses, ionic cond. and NMR studies 7—6865

nuclear magnetic resonance imaging (biomedical) *see biomedical NMR*

nuclear magnetic resonance spectroscopy
  2D ^1H NMR spectra, editing using X half-filters appl. to labelled proteins 7—48808
  2D NMR technique transform. into 1D technique using Gaussian pulses 7—24678
  2D pulse techniques for RF field strengths and ^1H multiplicities 7—61363
  10/3 effect, second-moment tensor and vector 7—48802
  300-1200 MHz spectrometer with AFC and continuous tuning 7—30055
  advanced laboratory data analysis systems 7—18767
  apodisation functions, estimation of peak areas and NOE factors 7—48814
  aqueous solutions, 2D J-resolved PMR, elimination of H_2O reson. 7—48820
  automated analysis of two-dimensional NMR spectra of mixtures by pattern recognition 7—24635
  B_1 field distribution in linear mag. field gradient 7—48803
  bilinear rotation pulses, effects of long-range and homonuclear couplings 7—48813
  biomedical NMR, Monte Carlo simulation of spectrographic imaging data 7—54704
  broadband decoupled zero-quantum coherence for NMR spectroscopy and imaging 7—9858
  chemical shift-specific slice selection, imaging in high mag. field 7—48819
  composite pulses, analytical expressions, multipole theory 7—48815
  composite pulses in zero-field NMR 7—48810
  composite RF pulses, num. design for NMR spectroscopy appl. 7—24676
  continuously variable phase shift anal. 7—24666
  COSY-2D spectra of solids, *D* quadrupole coupling consts., signs 7—48801
  CP/MAS, pulse sequence to minimise artifacts from long RF pulses 7—35554
  cylindrical rotor system for solid-state NMR in controlled atmosphere 7—24669
  DEFT with 2D pulse sequence, solvent reson. suppression or differentiation 7—48798
  DIGGER, in vivo vol. selected NMR spectrosc. technique 7—35556
  disease, understanding by use of NMR spectroscopy 7—14103
  ENDOR electron spin echo resonator, variable temp., for single-crystal studies 7—30059
  ENDOR/TRIPLE spectra of matrix-isolated molecules, appl. to methyl radical in Ar 7—30058
  field cycling with superconducting magnet 7—41412
  Fourier imaging appls. using modified Carr-Purcell-Meiboom-Gill sequence 7—28646
  FT NMR, pulse sequence for acoustic ringing suppression 7—35553
  gradient time-shape measurement by NMR 7—14985
  heteronuclear correlation spectroscopy with cross polarisation 7—61362
  heteronuclear relayed coherence transfer NMR spectroscopy, 2D, sensitivity enhanced 7—9857

nuclear magnetic resonance spectroscopy continued
- heteronuclear shift-correlation spectra, pure absorpt. lineshapes, time reversal appl. 7—48804
- high-pressure measurements in diamond anvil cell 7—56301
- imaging of temperature profiles 7—35542
- imaging technique for flow measurements 7—1653
- in vivo spatially localised surface-coil NMR using Fourier series window function and two coils 7—24674
- indirect detection experiments, computer-controlled attenuator 7—24679
- INEPT expt., heteronuclear coherence transfer over coupling const. range 7—9854
- intermolecular fast exchange equilib., NMR spectroscopy 7—28332
- intracellular water volume, NMR meas. 7—54505
- large spin systems, product operator formalism, INEPT and DEPT expts. 7—9855
- low-noise preamplifier design for NMR 7—61364
- magic angle spinning, high speed techniques 7—35561
- magic angle spinning technique, chem. shift tensor anal. 7—24665
- magic-angle rot. frame methods of solids 7—27611
- magnetic field meter, high-field meas. at liquid He temp. 7—18849
- magnetisation inversion and phase reversal, selective 180° RF pulses 7—48816
- Mansfield-Ware-4 multipulse sequence, nucl. spin relax. in solids 7—7600
- MAS rotor insert, for liquids, gels and air-sensitive solids, sealing 7—48817
- maximum entropy method calcs. 7—48797
- microcomputer-controlled two-pulse generator, for use in NQR spectroscopy 7—9863
- multinuclear CP/MAS NMR of solids, using rotor with ultrahigh spinning rates 7—48805
- multiple-quantum NMR, tensor operator formalism for spin-1 nuclei, asymm. term 7—48796
- multiple-quantum NMR spectroscopy, theory and appls. 7—335
- multipulse experiments, BOWMAN simulation program 7—35552
- multisite magnetization transfer experiments 7—48822
- (n-1) spin filtration assignment technique 7—48818
- nMR imaging with a rotary field gradient 7—24682
- NMR spectrometer, computer control of magnetic field homogeneity 7—48795
- numerical treatment of models arising in NMR spectroscopy 7—14928
- nyquist frequency extension by interleaved data acquisition, Fourier transform NMR spectroscopy 7—24680
- oversampling technique improvement of dynamic range 7—24667
- parallel image acquisition from noninteracting local coils 7—54697
- passive screening of switched magnetic field gradients 7—14987
- phase-sensitive spectral analysis by maximum entropy extrapolation 7—48809
- polymers, molecular weight determination by NMR spectroscopy 7—50426
- powder spectra generation algorithm, NMR spectra phase distortion 7—24664
- pulse pair filter, pure-phase 2D NMR spectroscopy 7—24681
- pulse sequence for in vivo ^{1}H NMR with surface coil 7—14166
- pulsed NMR preamplifier protection at UHF 7—9866
- quadrupole echo NMR, chem. exchange effects during RF pulses 7—13058
- Raman magnetic resonance spectroscopy, continuous coherence transfer method 7—41413
- real-time NMR measurement system for study of nonequilibrium phenomena in polymers 7—2944
- relayed nuclear Overhauser effects, direct identification 7—35557
- resolution, in 1D, phase- and freq. encoded imaging, transverse relax. time constraints 7—48811
- RF field strengths and proton multiplicities, determ. by 2D NMR pulse techniques 7—24677
- RF technology for NMR imaging spectroscopy 7—34233
- rotating and principal-axis frames in multipole NMR 7—9853
- rotating solids, inhomogeneous interactions investig. 7—35547
- rotating-frame zeugmatography data, maximum entropy reconstruction 7—14165
- selective inversion radiofrequency pulses by optimal control 7—35555
- sensitivity enhancements in 2D scaling expts., resol. anal. 7—24663
- shifts meas., resonance line shape effect determ. 7—30056
- simulation by numerical density matrix calcs. 7—35550
- single quantum J resolved spectra, zero-quantum coherences 7—9859
- slice selection in the presence of chemically shifted species 7—48821
- solid samples, NMR techniques, review 7—61361
- solvent suppression pulse sequence for biomolecule ^{1}H NMR spectroscopy 7—28788
- spatial localization with surface coils using multiple-pulse chemical-shift scaling 7—24671
- spatially localised spectroscopy, selected vol. excitation using stimulated echoes 7—48806
- spin-lattice relaxation time meas., rapid scan correlation NMR method 7—53168
- static magnetic field and gradient fields estimation 7—14986
- triangular voltage generator controlled by NTA-1024 multichannel analyser 7—10368
- tumour metabolism determ., pot. of NMR and PET 7—23424
- two dimensional spectroscopy, mixed-mode representation 7—24668
- two-dimensional, correlation of connected transitions 7—35543
- two-dimensional, four-quadrant pure-phase representation, fully automated 7—24670
- two-dimensional, pure phase detection method 7—9861
- two-dimensional correlation of directly and remotely connected transitions by 2-filtered COSY 7—24672
- two-dimensional spin-echo correlated spectroscopy, J scaling, small coupling correls. 7—35545
- uniform excitation solvent suppression pulse sequences for NMR of exchangeable H^{+} 7—50192
- variable temperature solid-state CP/MAS NMR, rel. to temp. meas. and control 7—48793
- zero-quantum-coherence correlation spectroscopy 7—24675
- D quadrupole echo NMR spectroscopy, artifact suppression 7—48799
- H-C-C relay investig. of unprotonated C atoms 7—35558
- ^{7}Li precision meas., spatial anisotropy limits 7—14988
- ^{31}P NMR spectroscopy, in vivo, brain tumour photoradiation effects appl. 7—14101

nuclear magnetic shielding *see nuclear screening*

nuclear mass
- *see also atomic mass; nucleus*
- ^{264}108, decay and synthesis expts. 7—49347
- continuous mosaic nuclear energy surface, new mass formula 7—30313
- future prospects for struct. studies with high energy projectiles and probes 7—56611
- heavy and superheavy nuclei, masses and decay properties 7—5149
- heavy ion elastic collisions, nuclear masses, energy density formalism 7—25006
- neutron-rich light nuclei near N=20, direct mass meas. with recoil spectrometer 7—41883
- spherical nuclei, Thomas-Fermi approach to nuclear mass formula 7—10111
- ^{33}Al mass excess from ^{48}Ca(S, ^{33}Al) 7—49227
- ^{57}Cu ground state Q-value and mass excess, cross section from ^{58}Ni(^{7}Li,^{8}He) 7—35935
- ^{32}S($\vec{d}$,d), 52 MeV, effective interaction and mass distribs., Fourier-Bessel anal. 7—647
- ^{181}Ta(^{40}Ar,X), 44 MeV/A, X=^{14}N,^{16}O,^{19}F, mass meas. of fragmentation products 7—5148
- ^{A}Zn, A=75-80, decay props. and Q_β values 7—49318

nuclear materials safeguards
- activated perimeter barrier 7—30730
- advanced NDA workstation for integrated safeguards 7—36132
- AI/Robotics role in physical security 7—36314
- alarm and emergency management consoles, software development for intelligent interfaces 7—36316
- alarm Multiplexer Communication System 7—30731
- aqueous foam to reduce radioactive material dispersed in sabotage incidents 7—30518
- Argonne Bulk Calorimeter, Pu assay, safeguards tool 7—36167
- authentication method for safeguards instruments securing data transmission 7—36136
- Automated Material Accounting Statistics System at Rockwell Hanford operations 7—36145
- automated risk assessment, LVA code 7—30735
- biometrics and Smart Cards combine to offer high security 7—30729
- control and accounting by process simulation and small talk 7—36135
- DAVID, video motion sensor for outdoor perimeter appl. 7—36326
- decision analysis in physical protection planning 7—30734
- density meter algorithm and system for estimating sampling/mixing uncertainty 7—30528
- density meters for sample validation at Savannah River Plant 7—30527
- designing physical protection technology for insider protection 7—36334
- distributed computer processing in control and accounting systems 7—36133
- DoE Inspection and Evaluation program, development and current activities 7—36319
- DoE Inspection and Evaluation program 7—36320
- DTR, Taut Wire System—an alarm barrier with experience 7—36328
- error propagation as a tool for evaluating process performance 7—30524
- ESARDA point of view for NDA, DA, C/S measures 7—36113
- expanded safeguards role for the DOE Safeguards Analytical Laboratory 7—36152
- expert system characteristics and potential applications in safeguards 7—36315
- facility model for the Los Alamos Plutonium Facility 7—30572
- FAID/SPAR fuel integrity seal tests 7—36138
- fuel assembly identification in French reprocessing plants 7—36169
- Hanford PUREX facility, input Pu accountability meas. 7—36165
- heavy water physical verification in power plants 7—30523
- holdup materials accounting and control problems 7—36125
- Human Reliability Program, components and effects 7—36332
- IAEA, safeguards analytical services, verification role 7—61960
- IAEA safeguards, Member States technical support programmes 7—61961
- IAEA safeguards role in international transfers of nuclear material 7—61962
- IAEA twin Minolta camera surveillance system, QA procedures 7—36131
- INEL Human Reliability Program, experience 7—36333
- insider protection, report card 7—36331
- insider protection, safeguards evaluation method 7—36312
- insider threat, facility vulnerability anal. 7—36336
- integrated high security physical protection system design 7—36322
- integrated Taut Wire Sensor alarm monitoring system 7—36330
- integrating safeguards and security 7—36323
- international safeguards, problems and progress 7—36110
- international safeguards profession 7—36116
- intrusion detection systems, problem avoidance 7—36327
- JNF automatic storage during PIV, attributes verification 7—36117
- knowledge-based system for estimating physical inventories in MBA's involving complex chemical processes 7—36124
- laboratory assays for Pu and U for Savannah River purification and finishing 7—30519
- large-scale reprocessing plant, near real-time material accountancy, computer simulation 7—25044
- leaky cable intrusion detection sensors 7—36308
- limits of error on inventory differences 7—36146
- Load-Cell-Based Weighing System for weighing 9.1- and 12.7-tonne UF$_6$ cylinders 7—36120
- low Enriched Uranium Fabrication Plant, physical inventory verification 7—36118
- MACSSA (Macinintosh Safeguards Systems Analyzer), accountancy system 7—36313
- materials accounting system for an IBM PC 7—36134
- materials control and accountability, QA appl. 7—36143
- materials management conf. New Orleans, LA, USA, (June 1986) 7—35087
- measurement control, lab. QA 7—30525
- methodology for NDA performance assessment 7—30530
- MINISTAR Surveillance System, Cobra Optical Fibre Seal System, EURATOM full experience 7—36127
- modeling response variation for radiometric calorimeters 7—30573
- modified inspection procedure for light water reactor safeguards 7—36115
- monitor for characterization of leached hulls and dissolver sludges 7—36163
- monostatic microwave sensor for outdoor perimeter protection 7—36309
- multi-camera multiplexed CCTV system for safeguards surveillance 7—36128
- near real time material accountancy, meas. method effects 7—36149

nuclear materials safeguards continued
NRC licensed facilities, safeguards levels 7−36111
nuclear fuel plant, use of portable counter for in-plant fuel inventory verification 7−30587
nuclear fuel plants, holdup measurement 7−30583
nuclear fuel plants, statistical sampling for holdup measurement 7−30584
nuclear fuel plants, uranium holdup in concrete floors, comparison of non-destructive methods 7−30586
nuclear materials accounting, helping the facility operator 7−30521
physical protection needs, function of attractiveness to theft or division 7−36126
physical security, sampling plan for the Israeli Taut Wire System 7−36329
planning a radar system for protection from the airborne threat 7−30738
Portsmouth Gaseous Diffusion Plant, process holdup material characterisation 7−36161
process monitoring concepts for safeguards and demonstrations at an Oak Ridge National Laboratory Test Facility 7−30522
PROFF materials accounting code, variance and covariance calcs. 7−36147
program plan for the Modular Integrated Video System 7−36129
protecting material control and accounting systems from falsification by insiders 7−36338
QA, success and failure applied to R&D 7−36144
QA programs for research, development, production 7−36321
quality assurance for packaging of radioactive and hazardous materials 7−36277
quality assurance for TAEA inspection planning 7−36141
radiological dispersion patterns following explosive sabotage incidents 7−36300
reprocessing input analytical meas., NDA technology demonstration 7−36166
reprocessing plants near-real-time material accounting 7−36119
safeguards, comparing corrective actions with anomaly resolution 7−36142
safeguards data acquisition system for reprocessing facility process monitoring 7−36162
Safeguards Evaluation Method for evaluating vulnerability to insider threats 7−36335
safeguards resource management 7−30733
safeguards sealing system for multi-element fuel casks 7−36139
safeguards techniques, PERA lab. for training and performance assessment 7−36151
safeguards test statistics, flow verification necessity 7−36150
sampling plans in attribute mode with multiple levels of precision 7−36148
security and safeguards in a changing world 7−36109
security effectiveness evaluation program SEAPATH 7−30732
security robots for nuclear materials management 7−36318
security system installation, project management 7−36324
self navigating mobile interior robot appl. as security guard/sentry 7−36317
SENLEX, sensor layout expert system for security designs 7−30737
Smart Card concept applied to access control 7−36325
SNM soln. standards, preparation techniques 7−30529
spent fuel, international safeguards, containment and surveillance 7−36112
spread spectrum microwave bistatic intrusion detection sensor performance update 7−36310
storage tank holdup measurements to reduce ion exchange process inventory differences 7−36123
Structural Assessment Approach, insider vulnerability anal. tool 7−36337
subtractive approach to interior intrusion detection system design 7−30736
TRUPACT transport defense wastes, puncture panel optimisation 7−36280
US arc seal signatures from NPD fuel bay demonstration 7−36140
user-friendly Interactive Control Module for safeguards equipment 7−36130
VAK III sealing system for LWR fuel assemblies 7−36137
vehicle barrier systems 7−36311
zone approaches to international safeguards of a nuclear fuel cycle 7−36114
^{3}H inventory differences, sampling, U-getter pump holdup 7−36121
^{3}H inventory differences, molecular sieve holdup 7−36122
Pu isotopic γ-ray system measurement control program 7−30531
Pu processing facility, holdup measurements 7−30585
U accountancy in atomic vapour laser isotope separation 7−30520
U control and accountability at Savannah River Plant 7−30526
U enrichment in gas centrifuge piping, NDA meas. 7−36168
U/Pu assay in reprocessing input solns. using isotope dilution mass spectrometry 7−30574
^{233}U-Pu hybrid cycle power system, growth, anal. calcs. 7−49681
^{233}U-Pu hybrid fuel cycle systems, reactor strategy *(Japanese)* 7−49682

nuclear matter
Abelian quark-gluon plasma, gauge invariant eqns. of motion, QED derivation 7−61823
baryon rich quark-gluon plasma produced in rel. heavy ion collisions, decay 7−5175
baryon-quark phase transition effects on nuclear matter flow, oblique shock wave production 7−24949
baryonic matter, mean field anal. of critical behaviour, QCD system anal. 7−61830
baryonless strongly interacting matter, shock phenomena, bag-model anal. 7−49092
binding energy, dependence on number of colours 7−61828
bubble formation in hot nuclei induced by statistical fluctuations 7−49274
chiral invariant fermionic field theory for nuclear matter 7−61831
cold nuclear matter at high densities 7−56502
collective flow of nuclear matter 7−5217
colour dielectric model for nuclear binding and quark confinement 7−35936
compression modulus, lower limit from neutron star masses 7−592
compression modulus of a nucleus as function of mass number 7−584
cooling problem, collective excitations in nucleonic matter 7−66650
critical external fields for nuclear matter, localized hadronic states 7−56632
dilepton emission and the QCD phase transition inultrarelativistic nuclear collisions 7−5219

nuclear matter continued
dinotor model for anomalous nuclei 7−24940
Dirac-Hartree-Fock calcs. for relativistic description of nucl. ground state props. 7−5174
droplet formation dynamics in heavy ion collisions 7−30359
early Universe, bubble growth and droplet decay in quark-hadron phase transition 7−9562
effective interaction, Dirac-Brueckner HF/Brueckner HF calcs. 7−24938
effective nuclear interactions in relativistic and nonrelativistic microscopic calcs. 7−61824
electronuclear structure functions and quark deconfinement in nuclear matter 7−5177
equation of state, relationship to relativistic heavy ion collisions 7−35969
event generator model, collective flow in central Ca+Ca and Nb+Nb collisions 7−5214
fermion matter, single particle widths induced by axially symmetric vibrations 7−30360
finite nuclei, symm. violation caused by boundary conditions 7−30336
first order chiral transition in QCD 7−41729
giant monopole and quadrupole states in the relativistic σ-ω model 7−61827
giant quark nuclei, bag model anal. 7−19186
gluon condensate modification in nuclei 7−49279
gluons in nuclei and pions 7−30250
hadrons flux tube model in nucl. matter, EMC effect 7−49272
heavy ion collisions, backward flow of mesonic fluid at ultra-high energy 7−19295
heavy ion collisions, bremsstrahlung in the incoherent limit, simplified fireball model 7−61907
heavy ion collisions, isotopically resolved intermediate-mass fragment emission, thermodynamic quantities 7−30444
heavy ion collisions, relativistic, metastable strange-quark droplet production 7−36019
heavy ion collisions, relativistic hydrodynamics, entropy, π prod., quark-gluon plasma, review 7−615
heavy ion elastic collisions, nuclear masses, energy density formalism 7−25006
heavy ion nucleus elastic scattering and energy storing in compressed nuclear matter 7−706
hot nuclei, dipole oscillation modes of giant resonances 7−612
hot nuclei, semiclassical calcs. using Hartree-Fock and Thomas-Fermi approx. 7−61826
hybrid soliton model of dense nuclear matter 7−5181
Landau-Vlassov transport theory anal. of heavy ion collisions, medium effects 7−56696
low mass dilepton production in heavy ion collisions, background from quark-gluon plasma 7−35795
major shell and spin-orbit splitting in relativistic nucl. struct. theory 7−41894
microcanonical simulation of nuclear disassembly 7−5292
microscopic optical pot., radial shape, real part modification by second order diagrams, appl. to ^{40}Ca 7−41926
momentum distribution and the mean free path of nucleons in nuclear matter 7−41923
multi-quark correlations in nuclei, quark cluster model anal. 7−56633
N=88-90, shape transition and internal quadrupole moment calcs. 7−5179
neutrino oscillations, matter-enhanced, fundamental interaction studies in nuclei 7−41908
neutron matter, low-density, pairing 7−24952
neutron stars, core phase transformations, equilib. configurations in general relativity 7−60705
neutron stars, effects of hyperons 7−49277
neutron stars, magnetic moments of stars with different eqns. of state 7−40857
non-interacting quarks and gluons in a slab, thermodynamics, plasma in HI collisions 7−49444
nuclear equation of state at high densities 7−41929
nuclear fragmentation, cluster distributions, lattice model anal. 7−24950
nuclear temperature and excitation 7−19158
nuclear/quark matter and heavy ion physics 7−35968
nucleon size, density dependence of f_π in nuclear medium, QCD sum rule anal. 7−480
nucleus-nucleus collisions, ultrarelativistic, dilepton emission and the QCD phase transition 7−19290
nucleus-nucleus collisions, ultrarelativistic, hydrodynamical evolution of matter, transverse momentum distribs. 7−19188
one-dimensional nuclear matter, simultaneous eigenstates of spin, isospin and energy 7−56631
optical model, radial shape for protons 7−49354
Overhauser state of nuclear and neutron star matter 7−15196
Pauli quenching effects in a simple string model of quark/nuclear matter 7−35828
percolation description of nuclear fragmentation 7−5216
pion absorption in nuclei, review 7−56704
pion condensation in hot nuclear matter 7−24953
pion stars, characts. and obs. manifestations 7−40794
QCD SU(N) quark Wigner operator, transport equations 7−475
quark cluster model through variational approach 7−49065
quark matter, conference, Pacific Grove, CA, USA (April 1986) 7−55881
quark matter, nuclear-like states in QCD 7−41924
quark matter as ground state in Universe 7−56503
quark percolation in finite size nuclei 7−591
quark plasma theory 7−24947
quark-gluon fluid, relativistic, hydrodynamical evolution, effective temp. anal. 7−10117
quark-gluon plasma, $(\mu^+\mu^-\gamma)$, $(\pi^{0\pm}.\mu,^+\mu^-)$ production rates as phase transition signals 7−24951
quark-gluon plasma, gluon jet propagation, transverse-momentum imbalance 7−19187
quark-gluon plasma, perturbative and nonperturbative theory, review 7−56510
quark-gluon plasma, possible manifestation in multiplicity distributions 7−19189
quark-gluon plasma, rehadronisation, thermodynamical considerations 7−49278
quark-gluon plasma and EMC effect studies at CERN 7−49273
quark-gluon plasma droplets, finite size effects, partition function 7−24839
quark-gluon plasma undergoing a phase transition, rel. hydrodynamic eqns. 7−19184

nuclear matter continued

- quark-gluon plasma-hadron resonance gas phase transition, q; $\bar{q}$ hadronisation 7−24946
- Rayleigh criterion for neck stability in heavy ion reactions and fission 7−5268
- real part of the neutron and proton optical potentials at 11 MeV for mass numbers $40 \leq A \leq 76$ 7−49353
- relativistic effects in nuclear physics 7−61798
- relativistic heavy ion collisions, nuclear matter compression and expansion 7−19297
- relativistic heavy-ion collisions, subthreshold kaon production and compression effects 7−49448
- saturation density and Skyrme functional, Hartree-Fock calcs. 7−49276
- short-range rapidity fluctuations in high energy collisions 7−61781
- soliton scatt. in 1D, $\psi^4-\psi^6$ theory 7−49271
- stars of strange matter, energy and chemical potential 7−61829
- strange matter, physics and astrophysics 7−49050
- strange quark decay rates in quark matter at high temp. 7−49067
- strange quark matter, radioactive decay modes, Fermi gas model 7−41928
- strange stars, global props. and surface characts. 7−29495
- strangeness in relativistic heavy ion collisions, review 7−5260
- structure cognition, particle props. *(Rumanian)* 7−15197
- superfluid and normal phases in nuclei, Coriolis antipairing effect *(Danish)* 7−590
- superfluid-normal state phase transition in two-level R(4) pairing force model 7−41927
- supernovae, Type II, general relativistic and nuclear matter equation of state anal. 7−47960
- supernovae and high density nuclear matter 7−55693
- surface diffuseness of deformed and rotating nuclei, energy density formalism 7−30322
- surface spin-isospin modes, RPA calcs. 7−56589
- surface tension and nuclear low-lying vibrations in afluid-dynamical approach 7−5178
- symmetric and asymmetric nuclear matter, LOCV calcs. of binding energies 7−5176
- temperature-dependent optical potential and mean free path based on Skyrme interactions 7−19185
- thermodynamic properties, anal using saturating chiral field theory 7−24948
- three-body forces in nuclei 7−24939
- three-nucleon bound state, struct. function calcs. using Faddeev wave function 7−5151
- Tucson-Melbourne force, role in saturation props. of nuclear matter 7−61805
- two, three and four body correlations for soft core pots., binding energy 7−61825
- ultra-relativistic heavy ion collisions, strangeness in the central region 7−56691
- ultra-relativistic nucleus collisions, dilepton production 7−56690
- ultrarelativistic heavy ion collisions, strangeness evolution in central region with transverse flow effects 7−15220
- ultrarelativistic heavy-ion collisions, flavour composition in scaling hydrodynamics 7−15178
- ultrarelativistic nuclear collisions, baryon recoil and fragmentation regions, hydrodynamical model anal., quark-gluon plasma production 7−49402
- ultrarelativistic nuclear collisions, initial temp. 7−61918
- ($\bar{d}$,X), X-mesons, baryons, quark-gluon phase transition and strangeness anal. 7−49390
- Δ(1232)-nucleus, Δ decay, no. of nucleons involved 7−61842
- Δ isobar Landau-Migdal parameters and high momentum props. of spin-isospin response functions 7−5180
- Δ-excitations in nuclei 7−49365
- (e,e′p), quasi-free knockout, nucl. medium effects on photon-proton vertex 7−35997
- η-mesic nuclei, experimental signatures 7−41925
- (γ, π^0), Pauli exclusion effects on form factors and s-wave repulsion 7−24968
- γγ pair production in quark-gluon, hadron plasmas 7−49275
- Λ-well depth in nuclear matter 7−30348
- ΛN and NN wave functions in nuclear matter, comparisons 7−41931
- N polarizability study in nuclear matter using (γ,γ) 7−61857
- N size, nuclear medium effects 7−56599
- NNN-interaction in nuclear and neutron matter 7−61804
- ($\bar{p}$,X), X-mesons, baryons, quark-gluon phase transition and strangeness anal. 7−49390
- π dispersion relation in nuclear matter, test using $(\gamma,\pi^+\pi^-)$ 7−56666
- $\bar{q}q$ plasma near equilibrium, kinetic coeffs., colour density matrix 7−10023
- Ag(^{14}N,X), effect of ^{8}Be decay on nucl. temp. meas. 7−5261
- ^{107}Ag(^{12}C,X), 4.5 GeV/c/nucleon, proton emission multiplicity distribution, Koba-Neilsen-Olesen scaling 7−49438
- ^{107}Ag(^{12}C,X) 7−49437
- ^{107}Ag(^{132}Xe,X), in AgBr, 0.5-1.2 GeV/nucleon, collective flow in nuclear matter, transverse-momentum anal. 7−19277
- ^{107}Ag(^{197}Au,X) in AgBr, 0.5-1.2 GeV/nucleon, collective flow in nuclear matter, transverse-momentum anal. 7−19277
- ^{27}Al(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7−42057
- ^{197}Au(^{40}Ar,X), 27 MeV/nucleon, nuclei deexcitation near nuclear matter instability temp. 7−19279
- ^{79}Br(^{12}C,X), 4.5 GeV/c/nucleon, proton emission multiplicity distribution, Koba-Neilsen-Olesen scaling 7−49438
- ^{79}Br(^{12}C,X), in AgBr, 4.5A GeV/c, central collisions, comparative pseudorapidity spectra study, quark matter formation 7−42045
- ^{79}Br(^{12}C,X) 7−49437
- ^{79}Br(^{132}Xe,X), in AgBr, 0.5-1.2 GeV/nucleon, collective flow in nuclear matter, transverse-momentum anal. 7−19277
- ^{79}Br(^{197}Au,X) in AgBr, 0.5-1.2 GeV/nucleon, collective flow in nuclear matter, transverse-momentum anal. 7−19277
- ^{107}Br(^{12}C,X), in AgBr, 4.5A GeV/c, central collisions, comparative pseudorapidity spectra study, quark matter formation 7−42045
- ^{12}C, stability of ground state against π^0 condensation 7−5182
- ^{12}C(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7−42057
- ^{12}C(e,e′), relativistic RPA response function for quasielastic scatt. in local density approx. 7−41984
- ^{A}Ca(e,e′), A=40, 48, relativistic RPA response function for quasielastic scatt. in local density approx. 7−41984
- ^{35}Cl(^{40}Ar,X), 1.2, 1.89 A GeV, in KCl, collective flow and stiffness in compressed nuclear matter 7−36021
- ^{3}H, charge form factors, hybrid quark hadron model anal. 7−24933
- ^{3}He, charge form factors, hybrid quark hadron model anal. 7−24933
- ^{165}Ho(^{40}Ar,X), 27 MeV/nucleon, nuclei deexcitation near nuclear matter instability temp. 7−19279
- ^{39}K(^{40}Ar,X), 1.2, 1.89 A GeV, in KCl, collective flow and stiffness in compressed nuclear matter 7−36021
- ^{139}La(^{139}La,X), π^- multiplicity and nucl. matter response 7−42066
- ^{16}O, stability of ground state against π^0 condensation 7−5182
- ^{208}PB, thermal props., constrained Hartree-Fock calcs. 7−19183
- ^{A}Pb(e,e), A=204, 206-208, 502 MeV, charge density differences meas. 7−41890
- W(π^-,Υ), 286 GeV/c, high statistics study and cross section calcs. 7−15222
- ^{90}Zr, thermal props., constrained Hartree-Fock calcs. 7−19183

nuclear medicine *see radioisotope scanning and imaging*

nuclear medicine (treatment) *see radiation therapy*

nuclear models

- *see also nuclear cluster model; nuclear collective model; nuclear reaction and scattering models; nuclear shell model*
- centre-of-mass free density matrix, appl. to many-body wave functions 7−19162
- decay mode predictions for spontaneous α-particle and heavy ion emission *(Rumanian)* 7−15207
- deformed nuclei, Gamow-Teller resonance anal. using quasiparticle-phonon model 7−49333
- deformed nuclei, low-lying collective M1 states, microscopic calcs. 7−49224
- dinotor model for anomalous nuclei 7−24940
- future prospects for struct. studies using high energy projectiles and probes 7−56611
- heavy nuclei, α-like superfluid phase 7−15192
- hybrid soliton model of dense nuclear matter 7−5181
- many-body effects due to finite lifetime of excited states 7−5166
- odd-mass nuclei, high-lying state decays, role of quasiparticle ⊗ phonon wave fn. components 7−56638
- quark cluster model of NN interaction 7−30346
- quasiparticle-phonon model, effect of two-phonon component of Eλ operators on nuclear states 7−49303
- Skyrme model, isobar contribs. to the NN interaction 7−580
- skyrmion-skyrmion interaction struct., zero-range boson-exchange interpretation 7−581
- soliton scatt. in 1D, $\psi^4-\psi^6$ theory 7−49271
- Sp(4) boson realizations from seniority-dictated similarity transformations 7−41920
- surface tension and nuclear low-lying vibrations in afluid-dynamical approach 7−5178
- ^{12}C (π^-,pp), multiple-scatt. processes obs., intranuclear cascade model calcs. 7−42079
- ^{12}C, realistic many-body wave functions and nucleonmomentum distributions in finite nuclei 7−582
- ^{40}Ca, realistic many-body wave functions and nucleonmomentum distributions in finite nuclei 7−582
- Cd, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{2}H wave function, large momentum components, Reid soft core and Paris pots. 7−35950
- ^{3}H(α,γ), astrophysical energies, resonating group study 7−42033
- ^{3}He(α,γ), astrophysical energies, resonating group study 7−42033
- In, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{6}Li(π^-,pp), multiple-scatt. processes obs., intranuclear cascade model calcs. 7−42079
- ^{16}O, realistic many-body wave functions and nucleonmomentum distributions in finite nuclei 7−582
- ^{208}Pb, isobaric analogue state width determ. using TDA Green function 7−61848
- ^{209}Pb, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7−41882
- ^{98}RU, supersymmetric U(6/2) scheme *(Rumanian)* 7−15189
- ^{99}Rh, supersymmetric U(6/2) scheme *(Rumanian)* 7−15189
- ^{A}Rn, A=208,210,211, quadrupole moment sensitivity to small deformations 7−35947
- ^{145}Sm, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7−41882
- Sn, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{A}Sn, A=117, 121, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7−41882
- ^{91}Zr, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7−41882

nuclear moment of inertia

- backbending, moment of inertia, excitation and threshold energy 7−35925
- deformed nuclei, vibr.-rot. quadrupole-octupole excitations, self-consistent model 7−41868
- even-even nuclei, backbending and evidence for particle-core coupling 7−61789
- hedgehog models with vector mesons, cranking calculation 7−587
- ^{27}Al(^{40}Ar,X), energy spectra and ang. distrib. meas., statistical model comparison 7−42062
- ^{132}Ce, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
- ^{132}Ce, rotational band lifetime meas. and energy-level spacing 7−41871
- ^{144}Gd, superdeformed shape study and deduced moment of inertia 7−41887
- ^{134}Nd, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
- ^{136}Nd, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
- ^{235}U(^{84}Kr,^{84}Kr′), 370, 450 MeV, band structs., moments of inertia, multipole moments, transition probabs. 7−35922
- ^{168}W, g-factor above the first backbend, 12^+ state, stretched neutron config. 7−15191
- ^{166}Yb high spin states, lifetimes meas., B(E2) values from ^{130}Te(^{40}Ar,X) 7−35924

nuclear moments

- *see also nuclear electric moment; nuclear magnetic moment; nuclear moment of inertia*
- apparatus parameters for nuclear moment meas. using laser spectrometer 7−30328
- asymmetric nuclear shapes in structure, fission and cluster radioactivity, unified description 7−49228
- electromagnetic properties of high-spin isomers 7−35928
- field shift and generalised moments of nuclear chargedistribution 7−10105
- ground state, gas discharge, longit. nucl. relax. time, temp. depend. 7−20997
- neutron-proton IBM, F-spin symmetric limits 7−10114
- rare-earth nuclei, multipole moments, generator coordinate method anal. 7−41895
- sd-shell, struct., props. and three-body forces 7−30355
- time-reversal odd nucl. moments, fundamental interaction studies 7−41908
- ^{40}Ca, average potential of nucleons, empirical and theoretical investigation 7−10101
- Cd, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{103}Cd, nuclear moments determ. 7−41885
- ^{133}Cs, nuclear quadrupole interaction freq. meas. in Ba compounds 7−10628
- ^{2}H, quadrupole moment, rms radius and form factors from local NN potential 7−5165
- In, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{208}Pb, average potential of nucleons, empirical and theoretical investigation 7−10101
- ^{104}Ru($\vec{d}$,d), 23 MeV, neutron-proton moment differences in a triaxial nucleus 7−644
- Sn, charge radii and electromagnetic moments by laser spectroscopy 7−5189
- Sn, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{235}U(^{84}Kr,^{84}Kr′), 370, 450 MeV, band structs., moments of inertia, multipole moments, transition probabs. 7−35922

nuclear muon capture *see muon capture*

nuclear optical model

- analogue resonances, relaxation parameters, shell optical approach 7−35957
- charge distribution, central depression 7−19160
- composite particle scatt., nuclear parameter extraction, Fourier-Bessel anal. 7−611
- conference on nuclear scatt. data eval. methods, Berlin, Germany (June 1985) 7−21
- elastic transfer between similar nuclei, parity dependent contribution to optical potential 7−10131
- energy dependence of central real optical pot. parameters 7−49356
- heavy ion fragmentation, abrasion model differences, optical/geometric model anal. 7−19289
- heavy ion optical potential analyses, stat. regularisation method appl. 7−620
- heavy ion potentials, factorized density-dependent interaction in the folding model 7−30393
- heavy ion scattering, absorptive potential, closure approximation 7−703
- inelastic scatt., optical potential deformation 7−49442
- inversion method and statistical regularisation procedure for optical pots. 7−609
- inversion method for nuclear pots., iterative-perturbative method 7−610
- light nuclei, antiprotonic bound states, microscopic calcs. 7−579
- microscopic optical pot., radial shape, real part modification by second order diagrams, appl. to ^{40}Ca 7−41926
- nonlocal optical potentials, linear energy dependence, errors 7−49355
- nucleus-nucleus scattering, interaction radii of stable and unstable nuclei 7−49452
- proton optical-model potential, pickup contribution, finite-range coupled channel calcs. 7−10132
- radial shape for protons 7−49354
- real part of the neutron and proton optical potentials at 11 MeV for mass numbers $40 \leq A \leq 76$ 7−49353
- relativistic scattering operators for Dirac particles, struct., symmetries and reconstruction 7−30394
- S-wave pion-nucleus optical potential, rescattering contribution in nuclear medium polarization model 7−5296
- sharp radius, interaction range and volume integral of shell model pot. for A=36-65 7−49258
- temperature-dependent optical potential and mean free path based on Skyrme interactions 7−19185
- ^{27}Al($\vec{n}$,X), 5-17 MeV, spin-spin pots., nuclear Ramsauer effect, optical pots. 7−24966
- (α,α), optical model description up to 200 MeV, review 7−42039
- (d,d), 400 MeV, coupled channel anal., Woods-Saxon, optical potential comparisons 7−42029
- ($\vec{d}$,$\vec{d}$), Fourier-Bessel anal. for optical pot. 7−648
- ($\vec{d}$,$\vec{d}$), on A=40-110, anal. powers, data for optical pots. 7−643
- (d,d), three body model using multiparticle scatt. theory, optical pot. 7−36015
- ($\vec{d}$,p), direct stripping anal. powers, DWBA anal., optical pots. 7−634
- (d,pn), three body model using multiparticle scatt. theory, optical pot. 7−36015
- (γ, K^{+}), anal. with Coulomb, optical distortions, hypernuclear excitations 7−41973
- (n,γ), E1 giant resonance excitation, partial cross sections in optical shell model 7−30421
- (n,n), 1-26 MeV for A=12-240, diff. cross section anal. using microscopic optical pot. *(Chinese)* 7−5235
- ($\vec{N}$,N), density depend, of effective NN interaction, optical pot. radius parameters 7−49252
- ($\vec{N}$,N), microscopic optical model potential, density matrix expansion 7−19250
- (N,N), nuclear self-energies, real and imaginary optical pots. 7−36009
- (n,n), parity nonconserving effects at thermal energies 7−686
- (N,N), Pauli distortion effect on the first-order optical potential 7−30395
- ($\vec{N}$,$\vec{N}$), reaction cross section and forward scatt. amplitude, optical pot. effects 7−36013
- (N,N′) optical model potential, global parameterization 7−61881

nuclear optical model continued

- ($\vec{p}$, $\vec{p}$), low energy scatt., model independent versus model dependent optical pots. 7−712
- ($\vec{p}$,$\vec{p}$), on ^{12}C, ^{24}Mg,^{28}Si, ^{40}Ca, ^{58}Ni, ^{90}Zr, ^{208}Pb analysing powers and cross-sections, optical potential shape 7−662
- ($\vec{p}$,p), recoil corrections to coordinate space Dirac eqn. 7−42005
- $\bar{p}$p interaction, ρ parameter/optical model comparisons, sources for discrepancies 7−10069
- (π,π), low energy scatt., model independent versus model dependent optical pots. 7−712
- (π, π),≤80 MeV, dispersive effects in low energy scatt., diff. cross sections 7−49476
- (π,π'), angular distrib., and vibr. level virtual excitation, optical pot. calcs. *(Chinese)* 7−25009
- π-nucleus optical potential, variational anal. 7−24965
- ^{27}Al($\vec{p}$,$\vec{p}$)^{27}Al, depolarisation parameter meas., optical model effects 7−663
- ^{27}Al(p,p)^{27}Al, spin-spin potential determ. in optical model from depolarisation 7−660
- ^{9}Be(n,γ), radiative transition and direct capture anal., optical pot. model 7−41996
- ^{A}C(n,γ), A=12, 13, radiative transition and direct capture anal., optical pot. model 7−41996
- ^{12}C(^{12}C, ^{12}C), 1016 MeV, optical pot. using inverse scatt. method 7−49440
- ^{12}C(^{12}C,^{12}C)^{12}C, elastic scattering angular distribs., total reaction cross-section 7−49451
- ^{12}C(t,t), optical model anal. 7−15215
- ^{40}Ca(^{12}C,^{12}C)^{40}Ca, elastic scattering angular distribs., total reaction cross-section 7−49451
- ^{40}Ca(N,N′), nucleon optical pot. study 7−10145
- ^{40}Ca(α,X), 10-27 MeV, fusion excitation fn. oscillations, optical model anal. 7−19268
- ^{40}Ca(α,α), 104 MeV, comparison of model independ. optical pot. anals. 7−699
- ^{40}Ca(α,α), 12-18 MeV, excitation fn. calcs., optical model anal. 7−19268
- ^{40}Ca(α,α)^{40}Ca, resonating rays in ion-ion scattering from an optical potential 7−49435
- ^{40}Ca(n,X), total cross section meas. and optical model calcs. 7−5242
- ^{40}Ca(n,γ), constructive interference effect *(Chinese)* 7−49404
- ^{40}Ca(p,2p), 76.1, 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
- ^{40}Ca(p,p), optical pot., dispersion relation approach to extrapolation to negative energy 7−41958
- ^{40}Ca(p,p)^{40}Ca, empirical evidence of an energy dependence of the radial shape of the real part of the optical potential 7−49411
- ^{A}Cd($\vec{p}$,$\vec{p}$), A=106, 110, 114 isospin dependence on optical potential 7−661
- ^{59}Co(p,X), 20-48 MeV, total cross sections, nuclear transparency, optical anal. 7−5232
- ^{145}Eu, force function for subbarrier one-proton states, optical phonon model 7−30392
- ^{A}Fe(p,X), A=54,56,57, E=22 7−5232
- ^{54}Fe(^{28}Si,X), angular-momentum limitations in the high-spin gamma-decay of medium-mass evaporation residues 7−10170
- ^{54}Fe(n,X), few MeV range, total, scatt., and γ-prod. cross sections, reactor appl. 7−41993
- ^{54}Fe($\vec{p}$,^{3}He), 65 MeV, reaction mech. investigation, optical pots. 7−627
- ^{A}Ge($\vec{p}$,p)^{14}Ge, A=70, 72, 74, 76 elastic and inelastic scatt. optical model fitting 7−669
- (^{3}He, ^{3}He), 10-220 MeV, optical model anal. 7−42035
- (^{3}He, ^{3}He), 12 MeV, angular distributions, optical, DWBA and CC anals. 7−24990
- (^{3}He, d), 12 MeV, angular distributions, optical, DWBA and CC anals. 7−24990
- ^{A}Hf($\vec{p}$,p′)^{A}Hf, A=178, 180 multipole moment relation in optical potential 7−677
- ^{25}Mg($\vec{p}$,$\vec{p}$)^{25}Mg, depolarisation parameter meas., optical model effects 7−663
- ^{26}Mg(t,t), optical model anal. 7−15215
- ^{A}Mo($\vec{p}$,$\vec{p}$), A=92-98, 100 isospin dependence on optical potential 7−661
- (N,X), low energy interactions in semimicroscopic approach 7−10142
- ^{A}Ni(α,α), 25.4, 26 MeV, A=58, 60, 62, optical and ZR DWBA anals., optical pot. ambiguities *(Chinese)* 7−5250
- ^{A}Ni(α,p), 25.4, 26 MeV, A=58, 60, 62, optical and ZR DWBA anals., optical pot. ambiguities *(Chinese)* 7−5250
- ^{58}Ni($\vec{p}$,^{3}He), 65 MeV, reaction mech. investigation, optical pots. 7−627
- ^{60}Ni(^{16}O, ^{16}O)^{60}Ni, polarisation potential in optical model 7−19271
- ^{16}O(^{12}C, ^{12}C), optical pot. determ. using quasi-classical inversion 7−61905
- ^{16}O(^{7}Li,xγ), 4-10 MeV, complete fusion in Coulomb threshold region, total cross section 7−19314
- ^{16}O(p,2p), 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
- ^{16}O(t,t), optical model anal. 7−15215
- ^{18}O(^{58}Ni, ^{58}Ni′), 60 MeV, optical-potential phase-shifts, phase-integral calcs. 7−19278
- ^{A}Os(n,γ), A=186-8, resonance parameters and optical model pot. for stellar nucleosynthesis 7−5244
- ^{189}Os(n,γ), optical pot. constraints, implications for stellar nucleosynthesis duration 7−49393
- ^{208}Pb, shell model pot. calc. from optical pot. 7−35959
- ^{208}Pb(^{12}C,^{12}C)^{208}Pb, elastic scattering angular distribs., total reaction cross-section 7−49451
- ^{208}Pb(^{16}O, ^{16}O)^{208}Pb, polarisation potential in optical model 7−19271
- ^{208}Pb(N,N′), nucleon optical pot. study 7−10145
- ^{208}Pb(N,N), optical pot., dispersion relation approach to extrapolation to negative energy 7−41958
- ^{208}Pb(d,d), polarizability and breakup, cross section calcs. 7−15214
- ^{208}Pb(n,n)^{208}Pb, empirical evidence of an energy dependence of the radial shape of the real part of the optical potential 7−49411
- ^{208}Pb(p,p)^{208}Pb, empirical evidence of an energy dependence of the radial shape of the real part of the optical potential 7−49411
- ^{A}Pu(n,n′), A=240,242,244 collective band scheme and statistical S-matrix formalism 7−61874
- ^{239}Pu(n,n)^{239}Pu, differential elastic cross-sections, optical model potentials 7−49409
- ^{A}Se(n,n), A=76, 78, 80, 82, elastic scatt., differential cross sections, optical anal. 7−10152
- ^{A}Se($\vec{p}$,p)^{A}Se, A=76, 78, 80 elastic and inelastic scatt. optical model fitting 7−669

nuclear optical model continued
- ^{A}Si(t,t), A=28,30, optical model anal. 7−15215
- ^{28}Si(^{14}N, ^{14}N), spin-orbit term in optical pot. 7−36047
- ^{28}Si(^{16}O,^{16}O′), 29-35 MeV, optical model, coupled-channel method anal., role of collective excitations 7−56700
- ^{28}Si(^{16}O,^{16}O), 21.1, 34.8 MeV, optical model pots. from pot. inversion at fixed energy 7−5208
- ^{28}Si(^{18}O,^{18}F), 19.6 MeV/N, one-step direct contrib., cross-sections, double folding DWA anal. 7−30401
- ^{28}Si(α,α), 5-12 MeV, resonances and quasimolecular states, optical anal. 7−19224
- ^{152}Sm($\vec{p}$,p)^{152}Sm, optical model for polarisation data 7−668
- ^{154}Sm(p,p′), 800 MeV, collective state excitations, Glauber model, IBM anal. 7−24981
- ^{A}Sn(p,n), 24.5 MeV, A=116, 124, optical and isospin-coupling pots., microscopic anal. *(Chinese)* 7−5234
- ^{A}Sn(p,p), 24.5 MeV, A=116, 124, optical and isospin-coupling pots., microscopic anal. *(Chinese)* 7−5234
- ^{116}Sn($\vec{d}$,d), 23 MeV, dynamical deuteron pol. pot., Fourier-Bessel anal. 7−645
- ^{232}Th(n,n)^{232}Th, differential elastic cross-sections, optical model potentials 7−49409
- ^{44}Ti, evidence for α-clustering, local pot. approach 7−5173
- ^{238}U+^{238}U interaction potential, real part, orientational dependence 7−19178
- ^{238}U(n,n,)^{238}U, differential elastic cross-sections, optical model potentials 7−49409
- ^{51}V(p,X), 20-48 MeV, total cross sections, nuclear transparency, optical anal. 7−5232
- ^{A}W($\vec{p}$,p′)^{A}W, A=182, 184 multipole moment relation in optical potential 7−677
- ^{89}Y(n,n), 4-10 MeV, diff. cross sections, search for Fermi surface anomaly 7−36010
- ^{89}Y(n,n), differential cross section and analyzing powers, optical model study 7−5243
- ^{A}Zr($\vec{p}$,$\vec{p}$), A=90, 92, 94, 96 isospin dependence on optical potential 7−661
- ^{90}Zr(^{12}C,^{12}C)^{90}Zr, elastic scattering angular distribs., total reaction cross-section 7−49451
- ^{90}Zr(e,e′p), 2p proton knockout, momentum distribs., optical pot. anal. 7−61849

nuclear orientation *see nuclear polarisation*

nuclear Overhauser effect
- N-acetyl-1-aminocyclohexanecarboxylic acid N′-methylamide, conformations, PMR and NOE studies 7−62424
- ATP-CdCl$_2$(Cd(ClO$_4$)$_2$), aq. solns., ^{13}C and ^{113}Cd spin-lattice relax. 7−28465
- 1-azabicyclo[2.2.2]octane, binary solvent system, solute-solvent interactions, ^{13}C and ^{14}N spin-lattice relax. study 7−31069
- biomacromolecules, aq. solns., 2D NOE spectra, solvent effects 7−36656
- cross-relaxation rates, determ. method 7−48807
- DEFT with 2D pulse sequence, solvent reson. suppression or differentiation 7−48798
- dichloromethylbenzene-do(d$_1$)(d$_6$), internal rot., ^{13}C spin-lattice relax. times and NOE factors 7−50189
- globoside, oligosaccharide headgroup, soln. conform. study, ^{1}H NMR spectral methods anal., pot. energy calcs. 7−25361
- (−)α-hydrastine, negative effect detection in heteronuclear 2D NOE spectroscopy 7−25574
- 2,4-methanoproline, L-proline analogue in small peptides study, ^{1}H NMR and NOE spectra anal. 7−25545
- myoglobin, sperm whale, equilib. heme orientation, nucl. Overhauser effect 7−13960
- myoglobin, sperm whale, H$_2$O soln., homonuclear Overhauser effect obs. 7−17944
- NMR spectra, apodisation functions, estimation of peak areas and NOE factors 7−48814
- oligosaccharides, blood group A, conformation, NOE and ^{1}H NMR spectra 7−62423
- organic molecules, in soln., mixing time role in 2D heteronuclear NOE expt. 7−10634
- poly(γ-benzyl L-glutamate), α-helical, conformational and dynamic props., 2D nucl. Overhauser expts. 7−15749
- 1,2-polybutadiene, mol. motion, glass transition, loss curve, NMR, ^{13}C spin-lattice relax. 7−17234
- relayed nuclear Overhauser effects, direct identification 7−35557
- rigid molecule, quantitative 2D heteronuclear NOE spectroscopy 7−25575
- viomycin polypeptide, H exchange rate, NOESY expt. 7−10790

nuclear particle track visualisation *see particle track visualisation*

nuclear photoeffect *see photon-nucleus reactions*

nuclear physics
- *see also fission; fission reactors; nuclear bombardment targets; nuclear decay theory; nuclear reactions and scattering; nuclear structure; radioactivity*
- conference, Japanese Physical Soc., Kobe, Japan (Oct. 1986) *(Japanese)* 7−55897
- meson science in Japan, implications for nuclear physics 7−566

nuclear polarisation
- *see also dynamic nuclear polarisation; magnetic double resonance; nuclear polarisation in liquids and solids*
- beta-NMR magnetic moment measurement using on-line mass separation and tilted foil polarization 7−49241
- conf., Leningrad, USSR, April 1985 7−29574
- core polarization effects in odd nuclei, HF and RPA schemes 7−61821
- core polarization effects of giant resonances on transition densities of open-shell nuclei 7−61847
- heavy-ion collisions, nuclear polarization potential due to single-particle transfer 7−5276
- hypernuclei, lepton and radiation decompositions, final-state interaction and polarisation effects *(Russian)* 7−19191
- magnetic transitions, l-forbidden, core polarisation effects 7−49293
- nuclear paramagnetic susceptibility, dispersive effects 7−49375
- SPIN, oriented radioactive nuclei facility *(Czech)* 7−5138
- tilted multifoil assembly for nuclear polarisation 7−49769
- tilted-multifoil hyperfine interaction in nuclear spectroscopy 7−56604
- (γ,γ) scattering amplitude, low-energy theorems for nuclear polarizabilities 7−650
- ^{104}Ag, spin determ. by nucl. orientation and NMR 7−41893
- ^{12}B, aligned nucleus, beta-ray angular distribution anal. 7−5195

nuclear polarisation continued
- ^{12}B, alignment-correlation meas., G-parity conservation, limitation of validity 7−5156
- ^{10}Be(γ,π^+)^{10}Be*, recoil nuclear polarization study, γ-circular polarization asymmetry meas. 7−24969
- ^{209}Bi, muonic, repolarisation of μ^- after capture, μ-e decay asymmetry 7−15183
- H, atomic, electron- and nuclear-spin polarised, in liq. He covered cells 7−32748
- ^{157}Ho, quadrupole polarisation from quasiparticle S-band configuration, triaxiality, yrast energy 7−24929
- ^{A}In, A=106, 108, spin determ. by nucl. orientation and NMR 7−41893
- Li, spin polarised beams, production and acceleration 7−49766
- ^{12}N, aligned nucleus, beta-ray angular distribution anal. 7−5195
- ^{12}N, alignment-correlation meas., G-parity conservation, limitation of validity 7−5156
- Na, spin polarised beams, production and acceleration 7−49766
- ^{A}Pb(e,e), A=204, 206-208, 502 MeV, charge density differences meas. 7−41890
- ^{85}Rb^{m}, isomer shift, mag. moment, laser induced nuc. orientation 7−10106
- ^{235}U(n,f), <200 keV, fission of oriented nuclei, spin depend. 7−36063

nuclear polarisation in liquids and solids
- *see also dynamic nuclear polarisation*
- Fe-Au system, low Au conc., low temp. nucl. orientation and NMR-ON studies 7−2936
- H$_2$ solid, NMR line shapes, low temp. nuclear polarisation effects anal. 7−38295
- NaClO$_3$, nuclear electric quadrupole induction of atomic polarisation 7−33296
- W surfaces, chemisorbed ^{23}Na, nuclear-spin-polarized thermal atom scattering 7−53476

nuclear power
- Canadian fusion research 7−10305
- Canadian nuclear regulatory process and future directions 7−10307
- Chernobyl accident, social and political consequences 7−39970
- conf., Toronto, Ont., Canada (1986) 7−9587
- conference, ANS winter meeting, Washington, DC, USA, (Nov. 1986) 7−29591
- cost-effectiveness of utility sponsored energy conservation programs 7−34004
- district heating, nuclear power station use in the German Democratic Republic *(German)* 7−23126
- district heating plants, thermal design, AST-500 plant appl. *(German)* 7−23127
- Duke Power Company, excellence standards 7−42245
- Electricite de France, nuclear power development and economics 7−46928
- energy supply, future possibilities *(German)* 7−54279
- energy system model with requirements for elec. and thermal energy 7−65418
- Finland, nuclear power programme 7−54280
- high-temperature pebble-bed reactor development and inherent safety 7−10273
- IAEA safeguards, Member States technical support programmes 7−61961
- impact on world energy supply *(German)* 7−65416
- Japan, experience, prospects, plans 7−65417
- JET project, energy from fusion 7−56817
- least cost utility planning, Michigan Electric Options Study 7−34001
- NFCIS, IAEA's directory of nuclear fuel cycle facilities 7−62101
- nuclear safety after Chernobyl 7−34000
- Ontario Hydro nuclear generation experience 7−42244
- organic Rankine cycle electric generator with nuclear reactor heat source 7−65569
- peak-power crisis, residential energy storage systems 7−34005
- prudence concept for nuclear power regulation 7−39975
- prudence reviews for regulatory purposes 7−39976
- public confidence, environmental compatibility 7−39969
- radiation impact of Chernobyl in Western Europe 7−30714
- rate base treatment of large power plants 7−39974
- rate regulation 7−39978
- rate-of-return regulation 7−39973
- ratemaking and rate shock reduction 7−39971
- regulation and decision making in the nucl. power industry, review 7−8367
- relative proliferation risks from nuclear fuel cycles 7−5493
- renunciation consequences and arguments *(German)* 7−39968
- Seabrook power station, supply-side alternative 7−34003
- SNR 2 fast breeder reactor development project *(German)* 7−15303
- technology breakout in energy conversion, conf., San Diego, CA, USA (Aug. 1986) 7−60875
- Virginia Power's alternative energy study 7−34002

nuclear power stations
- *see also power station control*
- accident confinement systems, vapour condensation in underheated non-flowing liquid 7−30621
- ASME code for nuclear plant component in-service inspection, 1984-5 revisions 7−5404
- automatic software generation and validation for nuclear power plant status monitoring 7−42136
- availability impact of limiting conditions for operation 7−10272
- Beaver Valley PWR, water chemistry control with morpholine 7−5362
- blackout rule, effects on nuclear plants 7−62032
- Bohunice V1, dose measurements in operation and overhead situations *(Czech)* 7−62093
- Bohunice V-1 power plant, safety related operational features *(Czech)* 7−56805
- Browns Ferry Unit 1 BWR, stability tests under single-loop operating conditions 7−25135
- Brunswick Steam Electric Plant, visual weld acceptance criteria 7−36098
- BWR, ADMIX reactor control system from Toshiba 7−36200
- BWR, commercial load following operation with KWU design 7−5347
- BWR, power distribution minimum variance estimation 7−5369
- BWR at Gundremmingen nuclear power station with twin 1300 MW units, corrosion products *(German)* 7−10241
- BWR plant longevity, General Electric's approach 7−30598
- Calder Hall, 30 years of operation, design, procedures and requirements 7−56795
- Calder Hall, 30 years of operation, overview 7−56794
- Calder Hall, safety, inspection and maintenance 1956-86, review 7−56809
- Calder Hall, water chemistry control, corrosion prevention 7−56796

nuclear power stations continued
Calder Hall and Chapelcross reactor pressure circuits, in-service inspection 7−56810
Calder Hall fuel elements, 30 years of metallurgical experience 7−56758
cascaded state feedback control 7−56776
centrifugal separators for PWR power stations *(French)* 7−25102
Chernobyl, lessons for Western Europe 7−30628
Chernobyl, Soviet information evaluation 7−30627
Chernobyl accident, causes and effect in Spain/Italy *(Spanish)* 7−5373
Chernobyl accident, event sequence, consequences, anal. *(German)* 7−25147
Chernobyl fallout, detecting and meas. in Nordic countries 7−30715
Chernobyl power station, nuclear accident and comparison with Daya Bay power station design 7−15277
Chernobyl reactor surface temp. analysis using Landsat TM images 7−49585
colour graphic display systems for power station control rooms 7−56811
components, design, construction and safety codes 7−49512
computer aided PWR power plant operation, control and meas. *(German)* 7−19394
computerised information processing for control room staff in FRG nuclear power plants 7−19407
conf., Toronto, Ont., Canada (1986) 7−9587
conference on nuclear engineering, Zittau, Germany (Apr. 1985) 7−18483
control rooms, appl. of embedded training 7−34006
Creys-Malville (France) nuclear power station maintenance QA *(French)* 7−25127
Crystal River-3, time-line technique for station blackout core-melt anal. 7−42181
Czechoslovak nuclear power stations diagnostic subsystems *(Czech)* 7−19386
Czechoslovakian power engineering development *(Czech)* 7−56884
dependent event data classification system 7−15290
Diablo Canyon PWR plant, integrated control and communications system 7−42130
digital upgrades for nuclear plant control and instrumentation 7−30597
district heating, nuclear power station use in the German Democratic Republic *(German)* 7−23126
district heating plants, thermal design, AST-500 plant appl. *(German)* 7−23127
disturbance analysis using artificial intelligence, SAAP-2 system 7−19338
electric power industry Inter-RAM conference, Syracuse, NY, USA (June 1986) 7−9592
Embalse power station, weekend cycling performed during 1985, data collection program 7−10252
emergency classification system at nuclear power plants, expert system application 7−15265
emergency diesel generator reliability at US nuclear power plants 7−42183
emergency procedures and remote monitoring of nuclear power stations *(German)* 7−25148
emergency response and security system 7−42141
energy system model with requirements for elec. and thermal energy 7−65418
enhanced inspection using expert systems 7−36087
equipment-structure systems, eigenproperties, perturbation anal. 7−25130
evaluating the safety of nuclear plant changes 7−42242
expert systems for PWR diagnostics 7−56798
Finland, nuclear power programme 7−54280
fire detection and suppression anal. 7−36213
fire protection, licensing comparisons between USA and BRD *(German)* 7−10266
fire protection at German nuclear power stations *(German)* 7−25146
French nuclear power plants, adaption for grid requirements 7−5348
French PWRs, load following experience 7−15425
fuel management for the RWE nuclear power plants *(German)* 7−36103
fuel utilisation time factor, power plant discrete mode of consumption 7−61963
Gundremmingen power plant, operating experience with automatic dosage metering *(German)* 7−49725
Hartlepool/Heysham I AGRs, re-ferruling of pod boilers, boiler performance effects 7−56792
human factors in risk assessment 7−30637
human factors reliability *(Czech)* 7−61990
hydraulic network, large-scale, nonlinear conservation laws 7−10196
in-service inspection and reliability programme 7−15292
incentive regulation program and its relationship with safety 7−49597
La Crosse BWR, 1986 viewpoint of emergency preparedness in USA 7−30632
large scale fast breeder nuclear power stations, Superphenix description 7−19387
LaSalle-1 BWR, water chemistry, corrosion products and radiation-field buildup 7−36206
Lepreau nuclear power station, innovative measures in operation, maintenance, commissioning and staffing 7−10251
licenced radioactivity release levels from French nuclear facilities *(German)* 7−56873
LMFBR operational and fuel cycle experience worldwide *(German)* 7−5342
low probability event treatment, appl. to nuclear power plant incidents 7−36217
LWR, core damage frequency from internal initiators, PRA level-1 study 7−42145
LWR in-core fuel management using CASMO-3 and SIMULATE-3 7−5323
LWR load-following operation, fuel performance aspects, pellet-clad interactions 7−5350
McGuire Nuclear Station, reliability centred maintenance of feedwater system 7−36207
mechanical components, stress and strain limitation 7−10187
Millstone-2 PWR, wear and neutron activation of positioning pins, ^{60}Co buildup 7−15247
mobile robot use in nuclear power plants, TMI-2, Hope Creek, Salem 7−49613
modular HTGR, very high temp. capability exploitation 7−61955
molten salt latent thermal energy storage for load following generation 7−65633
monitoring system for nuclear reactors, reliability improvements *(Russian)* 7−25101

nuclear power stations continued
Monticello BWR, technical feasibility of life extension, preventative maintenance 7−30599
Muhleberg BWR, extra decay heat removal, back-up protection system 7−30626
multivariable control system design using CAD package 7−10211
natural versus artificial aging of nuclear power plant components 7−56765
Netherlands nuclear power plant air filter testing and monitoring 7−3741
neutral oxygenated water conditions appl. efficiency for corrosion protection *(Russian)* 7−765
neutron doses in nuclear power plants, need for personnel dosimeters 7−25263
noise diagnosis techniques for nuclear power station fault detection *(German)* 7−19403
nuclear class 1 pressure boundary components, requalification status 7−56812
nuclear power plant piping, technical and economical incentives behind strain limitation 7−10221
nuclear safety after Chernobyl 7−34000
nuclear utility industry, long range goal setting 7−42243
Ontario Hydro nuclear stations, innovations in design, operation, and construction 7−10194
Oyster Creek emergency off-site dose assessment, ocean breeze inclusion 7−30725
Paks Unit 2, noise meas. using in-core self-powered neutron detector strings 7−62012
Peach Bottom 3 BWR, creviced safe ends, US inspection for cracks 7−46781
performance incentives for nucl. power plants 7−39977
phase-in, load forecasting and utility regulation 7−39972
piping criteria and construction costs 7−61953
piping systems, dynamic test data, comparison with analytical methods 7−10191
plant availability improvement by reactor trip prediction software 7−10275
plant life extension, baseline characterization of electrical circuits 7−36096
plant operation simplification by reliability data collection 7−10276
plant status monitor design and operation 7−15267
Poisson earthquake occurrence model, nuclear power plant site anal. 7−25150
power plant advanced concepts reviews, Chernobyl accident implications 7−62049
probabilistic risk assessment microcomputer software 7−10271
PWR, loss of pressurizer water level during station blackout 7−42182
PWR, multi-loop, power plant accident anal., digital simulator for transients and accidents 7−15301
PWR load following operation control 7−5353
PWR plant-specific availability modelling 7−10198
PWR power plant, auxiliary feedwater system anal. using dynamic logical analytical methodology 7−25114
PWR power plant design for optimum load following capability 7−5317
PWR power plants, analytical control of hydrazine conc. in cooling circuits *(German)* 7−15262
PWR power plants, load following operation, PCI failure criterion 7−25145
PWR secondary water chemistry, corrosion reduction *(German)* 7−62010
PWR secondary water chemistry, corrosion reduction *(German)* 7−62011
qualification concepts for instrumentation and control systems of nuclear power plants 7−19419
radiation impact of Chernobyl in Western Europe 7−30714
radiological emergencies, mobilisation of robotic and teleoperated mobile vehicles at accidents 7−30633
RBMK-1000/LWR comparison, differences in fuel coolant and moderator, Chernobyl accident *(Dutch)* 7−10213
reactor pressure vessel manipulators, functions and basic concepts *(German)* 7−56807
reinforced concrete shear walls in nuclear power plants, probab.-based design criteria 7−36078
reinspection methods implemented for quality 7−36231
reliability and availability enhancement, generic software package 7−15467
removal from operation *(Russian)* 7−56816
Risk Management Query System 7−15291
risk studies of accidents *(German)* 7−62018
safety equipment and emergency power supply *(Hungarian)* 7−25126
safety of reactors from earthquakes, seismic research 7−36209
safety prediction technique for power plants 7−19414
safety principles during operation and accidents *(Dutch)* 7−10263
safety related systems, basis for setting technical specs. and limiting conditions of operation 7−42185
safety system design and anal. 7−15288
safety system reliability, design stage quantitative anal. 7−62020
safety systems eval. for Zarnowiec nuclear power station *(Polish)* 7−19413
safety systems reliability investigation for 440 MW nuclear power stations *(German)* 7−19402
Santa Maria de Garona BWR, upgrade modifications to safety equipment 7−30625
schedule reconciliation tests for management prudency determination 7−39979
seismic ground motion in Central Europe and nuclear power station design *(German)* 7−19404
seismic hazard methodology for the central and eastern USA 7−15285
seismic risk quantification for design and construction errors 7−15280
Sequoyah PWR, low leakage fuel management 7−30543
severe reactor accidents, sequences and consequences 7−30629
simulation, parallel-processing modular system 7−10197
single-loop nuclear power station, saturated steam characts. over variable part of load curve *(Russian)* 7−25103
siting criterion, social radiation risk in presence of large pop. centre 7−49584
sizewell B PWR, degraded core anal., accident risks 7−62033
Sizewell B PWR, steam generator design for nondestructive exam. requirements 7−56793
small HTR in underground silo, concept for urban siting 7−15233
Soviet nuclear power industry, cost reduction of power *(Russian)* 7−25269
special events in nuclear power plants, exchange of experience *(German)* 7−25100

nuclear power stations continued
station blackout events, determ. of frequency/duration relationships 7−42184
steam generator submerged perforated screens, hydrodynamics *(Russian)* 7−5352
steel component surface treatment, detonation-deposition method *(Russian)* 7−39736
Surry 1 PWR, life extension study, near-term benefits from better reliability 7−30600
Surry steam generator, examination and eval., nondestructive testing 7−54065
technical specification optimisation programme for nuclear plant engineered safety features 7−42186
Terry turbine equipment and procedure modification for reliability improvements 7−36202
testing strategies and testing environment for reactor safety system software 7−19418
thermal power section, parameter sampling *(Russian)* 7−49527
THTR-300, operating experiences *(German)* 7−62009
THTR-300 power operation *(German)* 7−5318
TMI-1 availability management programme, pilot demonstration phase 7−15304
tornado missile hazard to nuclear plants, numerical methods for risk assessment 7−15293
two-stage coolant system, hydraulic and mechanical transients *(Russian)* 7−5351
UNIRAM modelling for availability improvement 7−10274
Unterweser nuclear power plant, performance under grid control *(German)* 7−5349
use of neutral/oxygen water treatment 7−30537
utility prudency issues 7−39980
valve manufacture in Czechoslovakia, valves for nuclear power stations 7−56804
valve stem packing improvements and gland adjustment for leakage reduction 7−10265
vital area determination techniques at nuclear power plants 7−30640
VVER 440 and VVER 1000 nuclear power plants, coolant compensation processes *(Czech)* 7−766
VVER 440 reactor, control element drives, diagnostics 7−36239
VVER-1000 reactor, pre-operational cleaning, acidic and hydrazino-ammonium flushing *(Russian)* 7−56774
water-level measuring system for drum separators in nuclear power-plant with RBMK-1000 reactor *(Russian)* 7−764
Wolsung power plant, administration and management system 7−10304
WWER pressure vessel safety analyses by SKODA Plzen *(Czech)* 7−56806
WWER-440 basic principle simulator, data presentation 7−25026
WWER-440 nuclear power station, model of secondary circuit, computer program *(German)* 7−19388
Zion Probabilistic Safety Study, methodology for PRA reviews 7−15295
Xe oscillations in load follow of large reactor, optimal control 7−30620

nuclear pumped lasers
interfaces with nuclear fuel energy sources 7−15892
X-ray laser using grazing angle method, SDI appls. 7−5866
^{3}He-Ne gas laser, neutron pumping from tokamaks 7−62666
Xe gas laser, neutron pumping from tokamaks 7−62666
XeF laser, gain of $^3He/Xe/NF_3$ mixtures pumped by $^3He(n,p)^3H$ reaction 7−1083
XrF nuclear pumped lasers 7−25794

nuclear quadrupole moments *see nuclear electric moment*

nuclear quadrupole resonance
amino acids, ^{14}N pure quadrupole resonance calcs. 7−57092
amino group containing mols., double quadrupole reson., solid effect 7−59123
crystals, acoustic props., defect effects *(Russian)* 7−26069
2,6-dichloroacetanilide, X-ray diffr. and NQR study, struct. and bond props. 7−12041
2,6-dichlorophenol, NQR frequencies, temp. var. 7−33293
diethylterephthalate, high resol. time domain zero field NQR 7−13056
diglycine nitrate, ferroelec. transition mechanism, mol. reorientation, ^{14}N and ^{17}O quadrupole coupling meas. 7−53245
ethylenediammonium hexachlorometallates, struct., H bonds and phase transitions 7−16535
ferroelectric transitions, electric field perturbed NQR 7−17276
high resol. time domain zero field NQR 7−13056
inorganic Cl compounds, NQR freqs., SCF MOLCAO CNDO/2 calcs. 7−30952
iodomethane-d_1, IR and NQR spectra 7−5706
methylammonium mercury chloride, ^{35}Cl NQR study of low temp. phase transition 7−22160
methylammonium mercury chloride, ferroelec. phase transition, proton-^{14}N double reson. study 7−7653
microcomputer-controlled two-pulse generator, for use in NQR spectroscopy 7−9863
observation using sequences of coherent pulses 7−33294
organic Cl compounds, NQR freqs., SCF MOLCAO CNDO/2 calcs. 7−30952
organic molecular crystals, ^{35}Cl NQR, quadrupole spin-lattice relaxation 7−17238
organic molecular crystals, ^{79}Br NQR frequencies and field constants, intermolecular interactions 7−17239
pyridine-chloroform complex, D NQR meas. 7−50194
silicates, bonding ^{17}O NMR, d-orbitals 7−13055
sulphanilamides, electronic struct. and chem. activity, NQR spectra 7−10631
thermometers, freq.-temp. conversion *(Russian)* 7−41385
thiosemicarbazide, bonding and struct., effect of protonation, ^{14}N quadrupole reson. spectra anal. 7−33295
thiosemicarbazide hydrochloride, bonding and struct., effect of protonation, ^{14}N quadrupole reson. spectra anal. 7−33295
2,2,4-trichloro-5-cyano-6-trichloromethyl-1,5-diazaphosphorine, NQR parameters, semiempirical calcs. 7−57094
1,2,3-trichlorobenzene, single cryst., order-disorder, ^{35}Cl NQR study 7−17237
trifluoroiodomethane, IR RF double reson. spectra, rot. levels, nuclear quadrupole transitions 7−50205
Ag_3SbS_3, ferroelectric transition, electric field perturbed NQR 7−17276
Ag_3SbS_3, pyrargyrite, incommensurate phase, NQR study 7−45837
BF_3, electric-field gradients, NMR shielding tensors, NQR coupling consts., ab initio HF calcs. 7−19693
$BiBr_3$, NQR frequencies, electrical effects 7−17240
α-Bi_2O_3, local mag. fields, ^{209}Bi NQR spectra 7−17241
CsI, cryst., γ-irrad., acoustic nucl. reson. *(Russian)* 7−22152
D quadrupole echo NMR spectroscopy, artifact suppression 7−48799
$Ho_2Fe_{14}B$ spin reorientation, NQR meas. 7−52960
$K_3Fe(CN)_6$, polytype phase transforms., ^{14}N NQR study 7−26690
K_2OsCl_6, mode softening and phase transition, press. depend., NQR study 7−26896
Mg_2SiO_4 single cryst., ^{17}O nuclear quadrupole coupling tensors determ. 7−13057
N_2, elec. field gradients, finite field MBPT 7−5603
$(NH_4)_2Pb(Cu(NO_2)_6)$ struct. phase transform., ESR study 7−13026
$NaClO_3$, nuclear electric quadrupole induction of atomic polarisation 7−33296
$NaNO_2$ single crystal, ^{14}N quadrupolar polarization, two-quantum coherence study 7−53173
PF_5, ^{19}F NMR chem. shifts and NQR coupling consts. 7−50188
$PbHAsO_4$, ferroelec. phase transitions, proton tunnelling effect, NQR study 7−53172
SiF_4, electric-field gradients, NMR shielding tensors, NQR coupling consts. ab initio HF calcs. 7−19693
Ti, HCP, ^{47}Ti and ^{49}Ti NMR studies, spin-echo profiles 7−7599
VPO_5 glass, NMR quadrupole interactions study 7−45838
$YAlO_3{:}Eu^{3+}$, Van Vleck paramagnet, low field Raman heterodyne study 7−53179
$Zr_2PdD_{2\text{-}9}$, metallic glass, deuteron mag. resonance study 7−22159

nuclear radius *see nuclear size*

nuclear reaction and scattering models
see also nuclear optical model
adiabatic model for heavy-ion fusion, geometric interpretation 7−5265
exciton model, correspondence of random walk and Markovian master eqns. 7−41969
exciton model, pre-equilibrium light particle emission anal. 7−41955
hadron-nucleus reactions, cross section calcs. using quasieikonal approximation 7−5206
heavy ion collisions, isotopically resolved intermediate-mass fragment emission, thermodynamic quantities 7−30444
heavy ion fragmentation, abrasion model differences, optical/geometric model anal. 7−19289
heavy-ion reactions, neutron emission in large amplitude collective motions 7−42072
incomplete-fusion reactions, projectile cluster property effects on fragment spectra. direct-transfer model anal. 7−49436
ion projectile break-up, Serber model 7−42069
quasiparticle phonon model, neutron and radiative strength fn. calcs. 7−41957
ultrarelativistic nuclear collisions, baryon recoil and fragmentation regions, hydrodynamical model anal. 7−49402
$(\alpha,cxn\gamma)$, c=charged particle, model description for particle-γ coincidences, inclusion of direct/compound phases 7−10162
(d,p), antisymmetrization corrections to three-body models 7−41963
$(\gamma,\pi^{\pm})$, intermediate energies, model anal. 7−49370
(K_L,K_S), differential K_S regeneration cross sections, inelastic screening effects, diffractive model anal. 7−10175
(N,N′), surface response model anal., comparison with intermediate energy (p,p′) spectra 7−19254
(p,π^+), relativistic stripping model anal. in Δ resonance region 7−49400
$^{209}Bi(\gamma,n)^{208}Bi$, angular distributions, E1-E2 interference effects 7−49371
$(^{12}C,X)$, spectra of p, d. and t, comparison with coalescence model 7−42070
$^ADy(n,n')$, A=160, 162, 164, 0.4-4 MeV, cross section meas. statistical Hauser-Feschbach model, comparisons 7−42013
$^3H(\pi,X)$, two-nucleon absorption model anal. 7−56705
$^AH(\alpha,\gamma)^{A+4}Li$, A=2,3 microscopic potential model studies of light nuclearcapture reactions 7−697
$^3He(\alpha,\gamma)^7Be$, microscopic potential model studies of light nuclearcapture reactions 7−697
$^3He(\pi,X)$, two-nucleon absorption model anal. 7−56705
$^4He(p,X)$, quasioptical cascade model for fragmentation channel at intermediate energy 7−35986
$^4He(p,p)$, Chou-Yang model in 45-393 GeV region 7−41991
$^4He(p,p)$, quasioptical cascade model at intermediate energy 7−35986
$^{24}Mg(^{12}C,X)$, excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
$^{24}Mg(p,p')$, 40 MeV, cross sections, IBM approximation anal. 7−19253
$^{20}Ne(^{12}C,X)$, excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
$^{16}O(p,\pi^+)^{17}O_{g.s.}$, relativistic stripping model anal. in Δ resonance region 7−49400
$^{32}S(^{12}C,X)$, excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
$^{32}S(p,p')$, 29.4 MeV, cross sections, IBM approximation anal. 7−19253
$^{28}Si(^{12}C,X)$, excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
$^{28}Si(^{16}O,^{16}O)$, E_{Lab}=94 MeV/nucleon, angular distrib., double-folded potential comparisons 7−61916
$^{118}Sn(^{64}Ni, X)$, compound nucleus angular distribs. and fission cross sections, elastic fusion model comparisons 7−56694
$^{124}Sn(^{58}Ni,f)$, cross sections and compound nucleus angular distribs., elastic fusion model comparisons 7−56694
$^{181}Ta(^{12}C,X)$, 4.2 GeV/c, central collisions, anal. using data and cascade-evaporation model 7−56701
$^{159}Tb(\gamma,n)^{158}Tb$, angular distributions, E1-E2 interference effects 7−49371
Ti(Zr,X), subbarrier fusion, adiabatic representation 7−702

nuclear reaction and scattering theory
see also nuclear reaction and scattering models; statistical theory of nuclear reactions and scattering
2jth rank tensor polarization in reactions involving a spin j particle 7−41952
A=9-136, direct neutron capture, channel-capture formalism 7−42023
amplitude reconstruction in charged particle scatt., forward short-range amplitude 7−607
anomalous positron peaks and Dirac eqn., comment and reply 7−56697
antiparticle role in Dirac phenomenology for nuclei 7−19215
charm hadroproduction in H and Be, nuclear depend. 7−61719
cluster transfer reaction, microscopic form factor 7−30319
collective motions and collisions, TDHF and other theories 7−49270
collision term in heavy ion collisions 7−5207

nuclear reaction and scattering theory continued
compound nucleus formation, dynamical hindrance 7−19272
compound nucleus scattering, max. entropy method 7−618
conf., Washington, DC, USA, April 1986 7−60881
conference on nuclear scatt. data eval. methods, Berlin, Germany (June 1985) 7−21
coupled discretized continuum channel eqn., asymptotic conditions for 3-body scatt. 7−19219
deformed nuclei, rotational state excitation, anal. using two-dimensional model 7−24964
dinotor model for anomalous nuclei 7−24940
Dirac vacuum structure in nuclei, nucleon bound states, nucleon-nucleus reactions 7−49405
dissipative collective nuclear motion, selfconsistent diabatic anal. 7−49267
dissipative nuclear collisions, Ericson fluctuations 7−49352
double differential cross-section, momentum and energy distribs. 7−36029
effective dynamics of quantum subsystems 7−145
exciton model and multistep compound reactions 7−41956
Faddeev-Noyes equations, configuration-space continuum calcs. 7−61846
Fadeev equation calcs., continuum form, status 7−61845
fermion emission, coherent effects, quantum mechanical description 7−14834
few-nucleon systems, relativistic calcs. 7−61843
finite range effects in multi-dimensional barrier penetration problems 7−56661
fission in a narrow J-window and J-dependent fission barriers 7−19231
hadron-nucleus reactions, superhigh energy cross sections in critical and supercritical Pomeron models 7−19090
heavy ion collisions, anisotropic hydrodynamics and isotropization of momentum 7−42053
heavy ion collisions, deep inelastic scattering, ambiguities in the description of nucleon transfer 7−5279
heavy ion collisions, energetic photons at intermediate energies 7−49412
heavy ion collisions, equation of state from subthreshold kaon prod. 7−5293
heavy ion collisions, isospin correlated nucleon exchange, mass, charge distribs. 7−10172
heavy ion collisions, leading particle explanation for linear momentum transfer systematics 7−49463
heavy ion collisions, nonspectator nucleons, increase due to energy and baryon stopping 7−42067
heavy ion elastic scatt., parity depend., two-centre harmonic oscillator model 7−42046
heavy ion fusion in terms of Rutherford trajectories in elastic model 7−25014
heavy ion incomplete fusion reactions, fragment emission, influence of projectile cluster props. 7−19315
heavy ion induced reactions, model description of neutron emission 7−42071
heavy ion reaction duration meas. using e^+ and e^- spectra and product distribs., review 7−42044
heavy ion-nucleus collisions, relativistic, impact parameter dependence of specific entropy and fragment yield 7−19280
heavy-ion collisions, dissipative diabatic dynamics 7−49466
heavy-ion collisions, pion production, microscopic anal. 7−49467
heavy-ion collisions, quantal model 7−49464
heavy-ion collisions, relativistic, heavy lepton production, cross section calcs. using equivalent photon method 7−56695
heavy-ion collisions, ultrarelativistic, one-dimensional hydrodynamics 7−19291
heavy-ion reactions, direct, quasiclassical DWBA anal. 7−56699
heavy-ion scattering, quantised adiabatic time-dependent Hartree-Fock theory 7−61900
high energy particle emission from heavy ion collisions at energies up to 10 MeV/N 7−10165
high-energy collisions based on Boltzmann's theory 7−61844
high-energy scattering approximation, reformulation 7−10130
inclusive breakup reactions, coupled channels Born approximation formalism 7−49351
inclusive reactions, high-momentum component and short-range correlations 7−603
inelastic coupling potential, microscopic anal. based on coupled channel resonating group method 7−56688
inverse problems and their regularisation in nuclear data eval. 7−605
inversion method for nuclear pots., iterative-perturbative method 7−610
isovector transition densities and isobar spin potential deformation, semimicroscopic approach 7−30389
linear and nonlinear least squares computing for nuclear data eval. 7−606
low energy charged particle reactions, breakup reactions as indirect study method for nuclear astrophysics 7−18353
many-fermion systems, microscopic theory of one-body dissipation, TDHF calcs. 7−61822
meson-nucleus reactions, flavour transfer reactions 7−49474
multi three-cluster coupling model of nuclear reactions 7−19216
multistring models, test of hadron-nucleus and nucleus-nucleus interactions 7−41771
nonresonant thermonuclear reaction rates, analytic representations 7−30463
nuclear excitation energy-temperature relation, correlation effects, RPA anal. 7−19214
nuclear matter droplet formation dynamics in heavy ion collisions 7−30359
nucleus-nucleus collisions, deformed nuclei, form-factor calcs. using proximity-plus-Coulomb potential 7−19285
nucleus-nucleus collisions, high energy, Boltzmann eqn. anal. 7−19282
nucleus-nucleus collisions at high energy, flattening of distrib. of large transverse energy prod. 7−42068
P-A theorem and time symmetry in nuclear reactions 7−5205
particle emission from static nucleus, energy depend. of source sizes in nuclear interferometry 7−36039
peripheral relativistic HI collisions, multistep fragmentation and high-lying state EM excitation 7−36034
photon interferometry for heavy ion collisions 7−49446
potentials of interaction between medium energy particles and nuclei *(Russian)* 7−15209
proton optical-model potential, pickup contribution, finite-range coupled channel calcs. 7−10132
rainbow scatt. study in mol. and nucl. physics, and surface science 7−62482
relativistic heavy ion collisions, EM processes, giant resonances, π and e^+e^- prod. 7−19270

nuclear reaction and scattering theory continued
relativistic scattering operators for Dirac particles, struct., symmetries and reconstruction 7−30394
resonances and surface waves in nuclear and particlephysics 7−608
scattering data evaluation, ill-posed aspects of inverse problems 7−604
scattering theory for SUSY hamiltonians, nonstationary approach, quantum mech., nuclear interactions 7−30214
Schrodinger equation, continuum wave solution, expansion in resonant states 7−18626
screened non-resonant nucl. reaction rates, astrophysical appl. 7−34848
self-consistent transport coefficients for damped large scale collective motion 7−35934
semi-classical scattering amplitude 7−19217
semiempirical nuclear fragmentation model 7−56689
single particle levels, homogeneous spectrum, particle-hole level density calcs. 7−41880
SO(2,3) S-matrix, strong factor, heavy ion appls., phase shifts 7−30391
spin correlation parameter for reactions of the type $\bar{1}/2+\bar{1}/2\rightarrow 1+0$ 7−622
sub-barrier fusion reactions, multiphonon and isotope effects 7−35984
subbarrier fusion reactions, neck formation model 7−35985
thermonuclear reaction rates, resonant and nonresonant 7−25017
three point charges, Schrodinger eqn. soln. in hyperspherical basis 7−30390
three-nucleon system, interpolating scatt. amplitude study 7−41953
three-particle Coulomb effects for p- and α-transfer reactions, diff. cross sections 7−35983
three-particle system, low-energy scatt. parameters, limiting model-independent correlations 7−5013
tidal symmetry in scatt. of polarised projectiles. 7−15208
tilting mode in nuclear reactions 7−5274
time independent mean field theory of collisions, on- and off-shell convergence 7−41951
trinucleon systems, transitions to continuum 7−61850
two-body bound state problem and nonsingular scattering equations 7−35955
very-heavy-ion collisions, critical distance for fusion, fusion barriers 7−19316
3-N scattering, separable expansion method for Paris potential 7−19218
(α,α'), coupled-channels formalism up to 200 MeV, review 7−42039
(d,d), 400 MeV, coupled channel anal., Woods-Saxon, optical potential comparisons 7−42029
(d,d), polarizability and breakup model for heavy nuclei 7−15214
(d,d), three body model using multiparticle scatt. theory, optical pot. 7−36015
(d,d), three-body formalism with Coulomb interaction 7−42027
(d,d) on spinless nuclei, elastic high energy scatt., polarisation effects, multiple diffr. scatt. theory calcs. *(Russian)* 7−56686
$(\vec{d},p)$, direct stripping anal. powers, DWBA anal., optical pots. 7−634
(d,pn), three body model using multiparticle scatt. theory, optical pot. 7−36015
$\vec{d}p$ elastic scattering, backward angle T_{20} values and the $\Delta\Delta$ deuteron wave fn. component 7−56567
(e, e), model independent densities from scatt. data, form factors 7−657
(e,e′), many quark effects, phenomenological anal. 7−49387
(e,e′), model independent DWBA anal., recoil corrections 7−658
$(\vec{e},e'\vec{p})$, many-body theory calcs. 7−41983
(e,e′X), deep inelastic scatt., nuclear binding and Fermi motion effects on $R_A=\sigma_L/\sigma_T$ 7−49232
(γ,K^+), relativistic bound state wave functions, impulse approximation anal. 7−42073
(γ,X), polarized e^+e^- pair prod. cross section calcs. with recoil effects 7−30411
$(l,\phi X)$, nuclear enhancement effect, colour oscillation mechanism 7−41987
(l,X), deep inelastic scatt., two-photon collisions 7−19115
(μ,X) total capture rate calcs., sum rule approach 7−656
(n,d), anal. using singular integral eqns. 7−42019
$(\vec{n},\gamma)$, j-dependence, direct-semidirect model study 7−49394
(N,N′), consistent treatment of nonlocality correction 7−56660
NN scattering, quark cluster model, on-shell equivalent transforms. for CC eqn. energy depend. elimination 7−35900
(p,d), anal. using singular integral eqns. 7−42019
(p,n), intermediate energies, microscopic anal. 7−49421
(p,p), Dirac and Schrodinger approach, scatt. model 7−41988
$(\bar{p},\bar{p})$, relativistic impulse approx. anal. at intermediate energies 7−688
(p,p), 800 MeV, transition densities from inelastic scatt., Glauber model calcs. 7−49395
(p,p′), Dirac distorted wave fn. approx. anal. 7−49398
(p,p′), on light nuclei, two-stage knockout processes, t-matrix DWBA calcs. 7−41954
(p,t) excitations, anal. power through one- and two-step mechanisms 7−625
(p,X), on light nuclei, two-stage knockout processes, t-matrix DWBA calcs. 7−41954
$\bar{p}$-nucleus annihilation, two-nucleon mechanism, cross section, $\bar{p}$ atoms 7−61880
(π^+,π^-), $\pi\Delta$ interaction as dominant reaction mechanism 7−25008
$(\pi^\pm,\pi^0)$ on A=40-208, isovector monopole and dipole giant resonances, RPA-DWIA anal. 7−30398
^{28}Si(^{16}O,^{16}O), stochastic regularisation appl. to phase shift anal. 7−709
Ag(p,X), 300 MeV, correlating fragment emission 7−19259
^{A}Ar β^+ decay, A=34, 35, Gamow-Teller resonance calcs. using shell-model wave fns. 7−49334
^{34}Ar(^{3}He,n)^{36}K, structure studies using time-of-flight spectrometer 7−696
(Au,X), 1 GeV/N in emulsion, multifragmentation, reaction mech., exclusive expt. results 7−36033
Au(Kr,X), 35,44 MeV/u, correlated sources of heavy fragments 7−36040
^{197}Au(^{20}Ne,^{20}Ne), quasi-elastic reactions, partition of excitation energy 7−25001
^{197}Au(^{40}Ar,X), 60 MeV/N, multiplicity depend. light particle correls., participant-spectator anal. 7−30446
^{11}B(^{7}Li,^{7}Li′), state excitations, DWBA and coupled channels calcs. 7−42051
^{11}B($\vec{d}$,n)^{12}C, 4.44 MeV, finite-range calcs., anomalous anal. power 7−49367
^{11}B(p,n)^{11}C, 14.3 MeV, isospin mixing, DWBA, Hauser-Feshbach anal. 7−19243
^{7}Be(γ,X), giant resonances from microscopic approach 7−35988
^{9}Be(n,2n), reaction mechanisms 7−42018

nuclear reaction and scattering theory continued
- ^{9}Be(p,d), spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
- ^{12}Be$_{\Sigma}$, yield from ^{12}C(K^{-},π^{+}), DWIA calcs. 7−5184
- Be(p,X), 300 MeV, correlating fragment emission 7−19259
- Bi($\pi^{\pm}$,2N), 165, 245 MeV, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
- C(^{14}N,X), 20-40 MeV/N, high energy γ-ray prod., intranuclear NN collision model 7−36041
- ^{12}C (^{12}C,X), low energy fusion, coupled channel formalism 7−707
- ^{12}C levels, spectroscopic strength, ^{3}He cluster struct., Hauser-Feshbach anal. of ^{9}Be(^{6}Li,t) 7−35965
- ^{12}C$_{\Lambda}$, yield from ^{12}C(K^{-},π^{-}), DWIA calcs. 7−5184
- ^{12}C(^{12}C,^{12}C), 1449 and 2400 MeV, phase shift anal. 7−30447
- ^{12}C(^{19}F,α)^{27}Al, intermediate structure excitation functions and ang. distribs. 7−49453
- ^{12}C(^{3}He, ^{7}Be), 41 MeV, ang. distribs. and α spectroscopic factors, DWBA anal. 7−15190
- ^{12}C(^{3}He,X), diffraction dissociation at 90 MeV by nuclei with a diffuse edge 7−42043
- ^{12}C(^{6}Li,p)^{17}O, energy level study and Hauser-Feshbach calcs. 7−15218
- ^{12}C(K^{-},π), hypernuclear yield calcs. using DWIA 7−5184
- ^{12}C(N,N), 100 GeV, quasicoherent scatt., inelastic screening and correl. corrections calc. *(Russian)* 7−30428
- ^{12}C(α,α), elastic scattering, hard core effect 7−42031
- ^{12}C(e,e$'$), relativistic RPA response function for quasielastic scatt. in local density approx. 7−41984
- ^{12}C(e,e$'$)m nuclear structure fns., anal. using multiple scatt. theory 7−24972
- ^{12}C(γ,n), data processing algorithms 7−10136
- ^{12}C(γ,π^{0}), 10 MeV above threshold, total cross sections, PWIA anal. 7−15210
- ^{12}C(π,π'), 800 MeV/c, Glauber transition density method anal. *(Chinese)* 7−49475
- ^{12}C(π^{+}, π^{+}p)^{11}B, angular and momentum distribs. 7−61921
- ^{12}C(π^{+},K^{+})^{12}C, scattering DWIA calcs., shell model configuration features 7−711
- ^{13}C(^{12}C, ^{12}C$'$), Landau-Zener transition due to molecular orbitals, coupled channels model 7−42060
- ^{13}C(^{7}Li,^{7}Li$'$), state excitations, DWBA and coupled channels calcs. 7−42051
- ^{13}C(α,p), differential cross section meas. and DWBA calcs. 7−30343
- ^{13}C(p,d), spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
- ^{14}C(e,e$'$), form factors and stretched M4 configurations, shell model comparisons 7−41981
- ^{14}C(γ,n), inclusive, partial cross sections, comparisons with shell model calcs. 7−41972
- ^{14}C(π^{+}, π^{-}), energy dependence of the six-quark bag mechanism 7−42077
- ^{14}C(π^{+},π^{-})^{14}O, sequential nature of charge exchange, multiple scatt. anal. 7−36055
- ^{14}C(π^{+},π^{0})^{14}N, sequential nature of charge exchange, multiple scatt. anal. 7−36055
- ^{A}Ca(^{16}O,X), 69.3-87.3 MeV, A=40, 44 fission-like yields, fusion-fission reaction mech. 7−36038
- ^{A}Ca(e,e$'$), A=40, 48, relativistic RPA response function for quasielastic scatt. in local density approx. 7−41984
- ^{38}Ca(^{3}He,n)^{40}Sc, structure studies using time-of-flight spectrometer 7−696
- ^{40}Ca(α,αp), quasifree knockout, DWIA calcs. and spectroscopic factors 7−42038
- ^{40}Ca(α,p)^{43}Sc, 25.8 MeV, α-nucleus ALAS potential, diff. cross sections 7−30436
- ^{40}Ca($\vec{d}$,^{3}He), analyzing powers, tensor pots. and D-state amplitudes 7−56662
- ^{40}Ca($\vec{d}$,α), analyzing powers, tensor pots. and D-state amplitudes 7−56662
- ^{40}Ca($\vec{d}$,t), analyzing powers, tensor pots. and D-state amplitudes 7−56662
- ^{40}Ca($\vec{p}$,2p), 200 MeV, analyzing powers, cross section calcs., DWIA anal. 7−19251
- ^{40}Ca(p,2p), 76.1, 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
- ^{A}Cf(n,X), A=250, 251, neutron nuclear data evaluation 7−56681
- ^{252}Cf(sf) neutron spectrum, meas. and theoretical calc., review 7−42096
- ^{59}Co(n,X), pre-equilibrium reaction anal. 7−42012
- C($\pi^{\pm}$,2N), 165, 245 MeV, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
- ^{52}Cr(n,n$'$), direct contributions, DWBA anal. 7−42014
- Cu(n,n), fast neutron forward scatt., absolute cross sections 7−5230
- ($\vec{d}$,N), 23 MeV on A=16-209, 1f7/2 transfer, DWBA problems 7−629
- ^{19}F positive parity levels, ang. distribs., DWBA and shell anals. of ^{17}O(^{3}He, p) 7−15181
- ^{56}Fe(n,n$'$), direct contributions, DWBA anal. 7−42014
- Fe($\pi^{\pm}$,2N), 165, 245, MeV, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
- ^{156}Gd(e,e$'$), diff. cross section, K$^{\pi}$=1^{+} mode structure from DWBA anal. 7−41876
- ^{1}H(^{3}He,tΔ^{++}), one-pion exchange model anal. 7−24988
- ^{1}H(n,γ), parity violating observables with weak interaction model and Paris pot. 7−689
- ^{2}H(K^{-},N$\pi\Lambda(\Sigma)$), three-body multichannel, two body interaction anal. 7−36057
- ^{2}H(N,N$'$), momentum space Faddeev calcs. below breakup threshold 7−19252
- ^{2}H(N,N), N-body quantum problem in configuration space 7−10141
- ^{2}H(N,N)^{2}H, scatt. with Paris N-N potential 7−61893
- ^{2}H(α,γ) ^{6}Li stellar reaction rate, influence of ^{2}H and ^{6}Li quadrupole moments 7−24126
- ^{2}H(d,X), many-particle rapidity correlations, cluster model framework 7−19220
- ^{2}H(d,nd)^{1}H, complete breakup in four body AGS theory 7−693
- ^{2}H(h,pX), π rescattering contrib. to p cumulative prod. 7−41861
- ^{2}H(n,2np), Fadeev calcs. 7−61884
- ^{2}H(n,n), Fadeev calcs. 7−61884
- ^{2}H(p,2pn), Fadeev calcs. 7−61884
- ^{2}H($\vec{p}$,$\vec{n}$)2p, K$_{y}^{y}$ meas. at 0° 7−690
- ^{3}H(d,X), muon catalysed fusion, muon sticking, low energy resonance effects 7−49488
- ^{3}H(γ,X), three-body forces, low energy understanding 7−61858
- ^{4}H$_{\Lambda}$$\rightarrow$^{3}H+p$\pi^{-}$, energy spectra, angular correlation calcs. 7−56635

nuclear reaction and scattering theory continued
- ^{4}H$_{\Lambda}$$\rightarrow$^{3}He$\rightarrow$n$\pi^{-}$, energy spectra, angular correlation calcs. 7−56635
- (^{3}He, ^{3}He), 12 MeV, angular distributions, optical, DWBA and CC anals. 7−24990
- (^{3}He, d), 12 MeV, angular distributions, optical, DWBA and CC anals. 7−24990
- ^{3}He(e,e$'$X), electrodisintegration coincidence cross section, final state interaction anal. 7−36000
- ^{3}He(e,e$'$X), electrodisintegration, PWIA 7−61865
- ^{3}He(e,e$'$), longitudinal spectra in the low-energy scheme 7−41986
- ^{3}He(e,e$'$)^{3}He, quasielastic scatt., y-scaling function from PWIA 7−61868
- ^{3}He(e,e$'$d)^{1}H, 500 MeV, ^{3}He spectral fn. dependence on relative p-d energies, ^{3}He(e,e$'$p) comparisons 7−56672
- ^{3}He(e,e$'$p)^{2}H, 500 MeV, ^{3}He spectral fn. dependence on relative p-d energies, ^{3}He(e,e$'$d) comparisons 7−56672
- ^{3}He(γ,X), three-body forces, low energy understanding 7−61858
- ^{3}He(π,X), four-body wave function for the threshold energy 7−36061
- ^{3}He(π^{-},nn) cross section, partial wave anal. and quark cluster calcs. 7−36054
- ^{4}He(K^{-},π^{-}), hypernucleus production cross section calcs., PWIA anal. 7−10118
- ^{4}He(α,X), many-particle rapidity correlations, cluster model framework 7−19220
- ^{4}He(α,α), high energy elastic scatt., Chou-Yang conjecture 7−61743
- ^{4}He(n,n), alpha-neutron scattering, microscopic Monte Carlo calcs. 7−24991
- ^{4}He(p,K^{+}), hypernucleus production cross section calcs., PWIA anal. 7−10118
- ^{4}He(p,p), high energy elastic scatt., Chou-Yang conjecture 7−61743
- ^{4}He(π^{+}, K^{+}), hypernucleus production cross section calcs., PWIA anal. 7−10118
- ^{6}He(γ,X), giant resonances from microscopic approach 7−35988
- ^{A}Hf($\vec{p}$,p$'$)^{A}Hf, A=178, 180 multipole moment relation in optical potential 7−677
- Hg(n,n$'$), differential cross section, energy spectra and model calcs. 7−15213
- ^{165}Ho(^{58}Ni,X), 5.9, 6.5 MeV/N, mass asymmetry degree-of-freedom relaxation, fragment correls. 7−30448
- I(n,n$'$), differential cross section, energy spectra and model calcs. 7−15213
- In(n,n$'$), differential cross section, energy spectra and model calcs. 7−15213
- ^{6}Li (π^{+}, π^{+}p)^{5}He, angular and momentum distribs. 7−61921
- (^{6}Li, αd), coupled channel study 7−36048
- ^{6}Li(e,e)^{6}Li, cluster distortion effects on EM props. 7−49381
- ^{6}Li(γ,π^{0}), 10 MeV above threshold, total cross sections, PWIA anal. 7−15210
- (^{7}Li, αt), coupled channel study 7−36048
- ^{7}Li(p,d), spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
- ^{A}Li(γ,X), A=6,7, giant resonances from microscopic approach 7−35988
- Li(α,α), exchange processes contrib., finite range distorted wave anal. 7−36017
- ^{22}Mg(^{3}He,n)^{24}Al, structure studies using time-of-flight spectrometer 7−696
- ^{24}Mg(^{3}He, ^{7}Be), 41 MeV, ang. distribs. and α spectroscopic factors, DWBA anal. 7−15190
- ^{24}Mg(d,d$'$), 10-15 MeV, comp.-nucleus effects 7−36014
- ^{24}Mg($\vec{p}$,^{3}He), 89.6 MeV, diff. cross section and anal. power ang. distribs. 7−628
- ^{24}Mg(π^{+}, N), 200 MeV, single nucleon removal, γ-rays, diff. cross sections, PWIA, intranuclear cascade 7−30455
- ^{26}Mg(^{3}He,n)^{28}Si, 23, 45 MeV, neutron angular distribs., DWBA, coupled channel comparisons, ^{28}Si level anal. 7−42036
- (N,N$'$), isovector effective interaction anal. 7−42020
- (N,X), low energy interactions in semimicroscopic approach 7−10142
- N (n,X), 27.4-60.7 MeV, double differential inclusive p, d, t, ^{3}He and α spectra 7−36008
- ^{14}N(^{7}Li,t)^{18}F*, α clustering. DWBA anal. 7−700
- ^{14}N(e,e$'$), form factors and stretched M4 configurations, shell model comparisons 7−41981
- ^{14}N(γ,π^{+}), unitarized impulse amplitude from threshold to Δ-region 7−653
- ^{14}N(n,^{7}Li)^{8}Be, 6-nucleon transfer, cross section meas. 7−659
- ^{16}N, multiparticle-multihole strength, DWBA calcs. and spin-parity assignments 7−30343
- ^{20}Ne(π^{+},π^{+})^{20}Ne, effective cluster interaction test 7−49471
- ^{A}Ni(α,p), 25.4, 26 MeV, A=58, 60, 62, optical and ZR DWBA anals., optical pot. ambiguities *(Chinese)* 7−5250
- ^{58}Ni(n,n$'$), direct contributions, DWBA anal. 7−42014
- ^{64}Ni(Li,d), DWBA anal., exptl. comparisons 7−56699
- ^{A}O(^{16}O,X), elastic transfer effects in subbarrier fusion, barrier penetration model 7−42061
- ^{A}O($\pi^{\pm}$,2N), 165 MeV, A=16, 18, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
- ^{16}O(^{16}O,πX), π-production cross section calcs., TDHF anal. 7−24998
- ^{16}O(^{7}Li, ^{7}Be)^{16}N, direct and sequential processes 7−10167
- ^{16}O(α,αp), quasifree knockout, DWIA calcs. and spectroscopic factors 7−42038
- ^{16}O(γ,p), coupled channels calc. based on continuum shell model at medium energies 7−35995
- ^{16}O(p,2p), 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
- ^{16}O($\vec{p}$,2p), 200 MeV, analyzing powers, cross section calcs., DWIA anal. 7−19251
- O(n,X), 27.4-60.7 MeV, double differential inclusive p, d, t, ^{3}He and α spectra 7−36008
- (p,K^{+}), subthreshold K^{+} meson production, cascade mechanism 7−692
- (p,n), on light nuclei, two-stage knockout processes, t-matrix DWBA calcs. 7−41954
- (p,p), spin observables at intermediate energy 7−41992
- (p,X), backward p prod. at low and intermediate energy 7−41999
- (p,X) energetic photons at intermediate energies 7−49412
- (p,X), very hot nuclei, decay processes, canonical Metropolis sampling of multifragmentation 7−61876
- Pb(^{14}N,X), 20-40 MeV/N, high energy γ-ray prod., intranuclear NN collision model 7−36041
- Pb(Pb,X), 5.7 MeV/n, e^{-} and e^{+} spectra, sudden rearrangements of electronic shells 7−49441
- ^{207}Pb($\vec{t}$,p), analyzing power and cross section meas. and DWBA calcs. 7−5248

nuclear reaction and scattering theory continued
^{208}Pb (^{58}Ni, ^{57}Ni), quasielastic transfer meas. and DWBA anal. 7−42065
^{208}Pb (^{58}Ni, ^{59}Ni), quasielastic transfer meas. and DWBA anal. 7−42065
^{208}Pb(^{12}C,^{12}C), 1449 and 2400 MeV, phase shift anal. 7−30447
^{208}Pb(^{16}O,^{15}N), transfer to discrete levels, semiclassical selection rules and DWBA formalism 7−36032
^{208}Pb(^{16}O,^{15}O), transfer to discrete levels, semiclassical selection rules and DWBA formalism 7−36032
^{208}Pb(^{16}O,^{16}O′), DWBA anal., exptl. comparisons 7−56699
Pb(n,n), fast neutron forward scatt., absolute cross sections 7−5230
^{A}Pd(p,p′), E_p=15, 25 MeV, A=104, 104, 108, 110, transition matrix element calcs., coupled-channels, IBA=2 anal. 7−10148
^{108}Pd(d,^{3}He), proton-hole states and spectroscopic factors, DWBA comparison 7−41944
^{239}Pu(n,n), fast neutron forward scatt, cross sections 7−5229
^{32}S($\vec{d}$,d), 52 MeV, effective interaction and mass distribs., Fourier-Bessel anal. 7−647
^{A}Se(e,e), A=78,80, differential cross section meas. and phase shift anal. 7−41985
^{80}Se levels, J^{π}, ang. distribs., DWBA anal. of ^{78}Se(t,p) 7−35949
^{26}Si(^{3}He,n)^{28}P, structure studies using time-of-flight spectrometer 7−696
^{28}Si(^{18}O,^{18}F), 19.6 MeV/N, one-step direct contrib., cross-sections, double folding DWA anal. 7−30401
^{28}Si(^{32}S,^{36}Ar)^{24}Mg, ang. distribs. meas., energy dependence 7−10166
^{28}Si(d, d), distortion effects and binding energy calcs. 7−49229
^{28}Si(d, p), distortion effects and binding energy calcs. 7−49229
^{28}Si($\vec{d}$,$\vec{p}$), 18 MeV, polarisation transfer meas., d D-state effects 7−633
^{28}Si($\vec{p}$,^{3}He), 89.6 MeV, diff. cross section and anal. power ang. distribs. 7−628
^{29}Si(α,d)^{31}P, 25 MeV, microscopic DWBA anal. 7−19265
^{29}Si($\vec{d}$,α)^{27}Al, 12.3 MeV, microscopic DWBA anal. 7−19265
^{30}Si($^{3}\vec{\mathrm{He}}$,α), CCBA, DWBA anal. 7−42034
^{30}Si(α,d)^{32}P, 25 MeV, microscopic DWBA anal. 7−19265
^{30}Si($\vec{d}$,α), 12.3 MeV, microscopic DWBA anal. 7−19265
^{30}Si($\vec{t}$,α), CCBA, DWBA anal. 7−42034
Si(π^-, $\pi^+\pi^-\pi^-$), diffraction dissociation at 40 GeV, partial-wave anal. 7−42080
^{154}Sm(^{12}C,^{14}C), pair transfer, macroscopic description, form factor 7−25000
^{154}Sm(^{16}O,X), linear and angular momentum transfer in incomplete fusion reactions 7−42054
^{154}Sm(^{24}Mg, ^{24}Mg′), 150 MeV, DWBA anal. using proximity-plus-Coulomb potential calculated form factors 7−19285
^{A}Sn(p,n), 24.5 MeV, A=116, 124, optical and isospin-coupling pots., microscopic anal. *(Chinese)* 7−5234
^{A}Sn(p,p), 24.5 MeV, A=116, 124, optical and isospin-coupling pots., microscopic anal. *(Chinese)* 7−5234
^{116}Sn(d,p), 79 MeV, far-side dominance in large-l transfer, anal. powers, cross sections 7−640
^{116}Sn(d,p), 79 MeV, vector and tensor anal. powers, j-depend., DWBA anal. 7−637
^{116}Sn(d,p), intermediate energy, l=0 reaction mech., DWBA anal., anal. powers 7−641
^{120}Sn ($^{7}\vec{\mathrm{Li}}$, ^{7}Li), differential cross section and analysing power meas., coupled channels calcs. 7−15219
^{120}Sn($^{7}\vec{\mathrm{Li}}$, ^{7}Li′), analyzing power and spin-orbit interaction, coupled channels formalism 7−61908
Sn(d,p), low energy, vector anal. power and pol., d D-state effects, DWBA anal. 7−635
Sn(n,n′), differential cross section, energy spectra and model calcs. 7−15213
^{86}Sr($\vec{d}$,p)^{87}Sr, DWBA anal., differential cross-sections and vector analysing powers 7−694
^{87}Sr(d,p), differential cross sections for transitions to particle-hole states 7−61897
^{181}Ta(^{22}Ne,α), DWBA anal., exptl. comparisons 7−56699
^{130}Te(^{28}Si,X), transfer reactions, optimum Q-values *(Korean)* 7−24997
Te(n,n′), differential cross section, energy spectra and model calcs. 7−15213
Ti(n,X), X=p, np, 2n, threshold-20 MeV, cross sections, hybrid and Hauser-Feshbach anals. 7−61870
^{238}U(^{40}Ar,^{40}Ar′), multiple Coulomb nucl. excitation to high spin states, iteration method of soln. 7−42056
^{238}U(^{84}Kr,^{84}Kr′), multiple Coulomb nucl. excitation to high spin states, iteration method of soln. 7−42056
^{238}U(n,n), fast neutron forward scatt, cross sections 7−5229
^{238}U(p,X), decay of very hot nuclei, Microcanonical Metropolis sampling of multifragmentation 7−61877
^{51}V(^{3}He,X), diffraction dissociation at 90 MeV by nuclei with a diffuse edge 7−42043
^{A}W($\vec{p}$,p′)^{A}W, A=182, 184 multipole moment relation in optical potential 7−677
W(p,X), 1 GeV, nuclide cross-sections from proton spallation, calc. 7−56675
^{64}Zn giant dipole resonances built on excited states, Brink hypothesis verification from ^{63}Cu(p,γ) 7−41959
^{68}Zn(^{40}Ar,X), inclusive variables, random walk model calcs. 7−42050
^{90}Zr giant dipole resonances built on excited states, Brink hypothesis verification from ^{89}Y(p,γ) 7−41959
^{90}Zr, second 0^+ state excitation, form factors and transitions, CC anal. of (n,n′), (p,p′) and (α,α') 7−30369
^{90}Zr(^{3}He, t), 200 MeV/nucleon, collective mode excitations, DWIA anal. 7−56687
^{90}Zr(^{3}He,X), diffraction dissociation at 90 MeV by nuclei with a diffuse edge 7−42043
^{90}Zr(p,n), 200 MeV/nucleon, collective mode excitations, DWIA anal. 7−56687

nuclear reactions and scattering
see also alpha particle-nucleus reactions; alpha particle-nucleus scattering; chemical effects of nuclear reactions and scattering; deuteron-nucleus reactions; deuteron-nucleus scattering; direct nuclear reactions and scattering; fission; form factors (nuclear); hadron-nucleus reactions; hadron-nucleus scattering; heavy ion-nucleus reactions; heavy ion-nucleus scattering; helium 3-nucleus reactions; helium 3-nucleus scattering; lepton-nucleus reactions; lepton-nucleus scattering; muon-nucleus scattering; nuclear fusion; nuclear reaction and scattering theory; nuclear reactions involving few nucleon systems; nuclear resonance reactions and scattering; nuclear scattering involving few nucleon systems; nuclear spallation; nuclear spectroscopic factors; nucleosynthesis; photon-nucleus reactions; photon-nucleus scattering; polarisation in nuclear reactions and scattering; triton-nucleus reactions; triton-nucleus scattering
reviews of particle and nuclear physics, book 7−55907

nuclear reactions involving few nucleon systems
for nuclear inelastic scattering involving few nucleon systems see "nuclear scattering involving few nucleon systems"
^{4}He(α,X), $\sqrt{S_{NN}}$=31.2 GeV, nuclear stopping power, Lund model comparisons 7−10161
conf., Washington, DC, USA, April 1986 7−60881
fusion, muon catalysed DT, reaction kinetics study, muon-sticking prob. anal. 7−25016
muon-catalysed fusion, physics and prospects for power prod. 7−62080
three nucleon states, transitions from bound to continuum state 7−61852
three-body effects in nucleon-nucleon scattering at medium energy 7−61732
trinucleon systems, transitions to continuum 7−61850
^{1}H($\vec{d}$,2pn), 95 MeV, tensor analyzing power meas. 7−61898
(N,X), sensitivities of N, π probes to reaction mechanisms and nuclear props. 7−61872
($\bar{p}$,X), $E_{\bar{p}}$=0-600 MeV, exptl. review 7−61873
^{1}H(n,γ), total capture cross section meas. at 25 MeV 7−30281
^{1}H(^{3}He,X)^{2}H, high resolution search for narrow dibaryons 7−5209
^{1}H($\vec{d}$,γ)^{3}He, tensor analyzing powers, anal. of ^{3}He,^{4}He wavefunction D-state components 7−30415
^{1}H(n,γ), parity violating observables with weak interaction model and Paris pot. 7−689
^{1}H(p,$e^+\nu$)^{2}H, stellar process, energy generation rates 7−10139
^{2}H(^{2}H,X)^{2}H, high resolution search for narrow dibaryons 7−5209
^{2}H(N,N)^{2}H, scatt. with Paris N-N potential 7−61893
^{2}H(d,X), $\sqrt{S_{NN}}$=31.2 GeV, nuclear stopping power, Lund model comparisons 7−10161
^{2}H(d,X), many-particle rapidity correlations, cluster model framework 7−19220
^{2}H(d,X), multiplicity dependence of transverse momentum spectra at ISR energies 7−56581
^{2}H(d,X), singlet d intermediate state in four-body breakup reaction *(Chinese)* 7−24985
^{2}H($\vec{d}$,γ)^{4}He, M1, E1, M2, E2 transitions, ^{4}He D state anal. 7−19262
^{2}H($\vec{d}$,γ)^{4}He, tensor analyzing powers, anal. of ^{3}He,^{4}He wavefunction D-state components 7−30415
^{2}H($\vec{d}$,n)^{3}He, E_{cm}=20-150 keV, polarized and unpolarized cross section calcs. DWBA anal. 7−10159
^{2}H(d,πp^{0}X), $\sqrt{S_{NN}}$=31 GeV, high p_T invariant cross section meas. 7−35907
^{2}H($\vec{n}$, γ), photon asymmetry meas. and parity violation 7−30424
^{2}H(n,2np), 12 MeV, n-p final state interaction, analyzing power meas. 7−61887
^{2}H(n,2np), Fadeev calcs. 7−61884
^{2}H(n,n)^{2}H, elastic scatt., analysing power distribs. 7−61892
^{2}H($\vec{n}$,n)^{2}H*, analysing power meas. 7−61891
^{2}H($\vec{p}$,2pn), 14.1 MeV, three-body force effects 7−61888
^{2}H(p,2pn), 508 MeV, differential cross section meas. 7−24983
^{2}H(p,2pn), Fadeev calcs. 7−61884
^{2}H($\vec{p}$,γ), 100-200 MeV, differential cross section and analyzing power meas. 7−41997
^{2}H($\vec{p}$,γ)^{3}He, analyzing powers, anal. of quasi-deuteron effect 7−30415
^{2}H($\vec{p}$,np), cross section and transverse polarization transfer at 160 MeV 7−42003
^{2}H(p,π^0)^{3}He, precision test of charge independence 7−36002
^{2}H(p,π^+)^{3}H, precision test of charge independence 7−36002
^{3}H($^{3}\vec{\mathrm{He}}$,d)^{4}He, 18-33 MeV, analyzing power meas., charge symmetry violation anal. 7−5252
^{3}H(α,γ), astrophysical energies, resonating group study 7−42033
^{3}H(d,n)^{4}He, muon catalysed fusion, $\mu\alpha$ sticking probabilities 7−713
^{3}H(d,n)^{4}He, muon-catalyzed fusion at 23-35 K 7−42102
^{3}He(α,γ), astrophysical energies, resonating group study 7−42033
^{3}He(d,p), 18-22 MeV, forward angle cross sections and anal. powers 7−632
^{3}He(p,X)^{2}H, high resolution search for narrow dibaryons 7−5209
^{3}He(p,2p)^{2}H, knockout reactions, spectral function 7−61894
^{3}He(p,pd)^{1}H, knockout reactions, spectral function 7−61894
^{4}He(α,X), $\sqrt{S_{NN}}$=31 GeV, neutral energy spectra, obs. of KNO scaling 7−35897
^{4}He(α,X), many-particle rapidity correlations, cluster model framework 7−19220
^{4}He(α,X), multiplicity dependence of transverse momentum spectra at ISR energies 7−56581
^{4}He(α,π^0X), $\sqrt{S_{NN}}$=31 GeV, high p_T invariant cross section meas. 7−35907
^{4}He(p,X), 8.6 GeV/c, fragmentation, momentum characts. of spectators, binding energy 7−36012
^{4}He(p,X), fast deuteron prod. study 7−10140
^{4}He(p,X), quasioptical cascade model for fragmentation channel at intermediate energy 7−35986

nuclear reactor fuel *see fission reactor fuel; fusion reactor fuel*

nuclear reactor instrumentation
see also fission reactor instrumentation; fusion reactor instrumentation
acoustic and optical nondestructive evaluation techniques for reactor components 7−54071
alarms, handling and presentation 7−62030
CFT displays of plant operation 7−49567
control information, provision in presence of instrument failures 7−5367
debris collection from implosion of microballoons 7−11717
DIII-D tokamak, data acquisition and control system 7−36252
DIII-D tokamak, vacuum control system, design 7−36253
double scatter neutron time-of-flight spectrometer as aplasma diagnostic 7−11719
dynamic materials testing using fibre optic sensors 7−46778
expert systems for PWR diagnostics 7−56798
fault detection procedure for faulty sensors, implementation 7−5368
in-core self-powered neutron detectors, burnout determ. of Rh emitters 7−62239
IVV-2M reactor, thermoelectric temp. transducers, transient effects 7−5345
JT-60, plasma feedback control system 7−36250
Langmuir calorimeter probe heads in TFTR, use of graphite 7−1768
LOFT pressurizer, on-line instrument failure detection, Kalman gain approach 7−5354
magnetic confinement expt. control system, design 7−5427

- **nuclear reactor instrumentation** continued
  - MFTF-B, diagnostic control, data acquisition and data processing 7−5422
  - MFTF-B, Q-bus local control computers, upgraded redesign 7−36256
  - mirror loop system for TFTR 7−1771
  - monitoring system for nuclear reactors, reliability improvements *(Russian)* 7−25101
  - multichannel tangential bolometer on PBX, operation 7−1774
  - neutron diagnosis of compressed ICF targets 7−11718
  - particle balance meas. using diagnostic system in TMX-U 7−1767
  - pellet injectors, control and data acquisition system, design 7−36254
  - Photogrammetry applied to nuclear reactor inspection 7−30610
  - poloidal β meas. in JET with diamagnetic loop 7−1772
  - Princeton Large Torus data acquisition and analysis system 7−5424
  - probe measurements of the density and temperature profiles inthe JET plasma boundary 7−5431
  - PWR failed fuel rod, pellet-cladding interaction, in-pile eddy current test 7−19354
  - TFTR, electron cyclotron meas. with fast scanning heterodyne radiometer, temp. meas. 7−11747
  - TFTR CAMAC data-acquisition system 7−5426
  - TFTR computer support system, configuration and performance 7−36251
  - TFTR data management system 7−5425
  - TFTR high accuracy cryogenic temperature measuring system 7−15402
  - TFTR plasmas, Faraday rotation and line electron density meas. using FIR interferometer 7−11754
  - TMX-U data analysis, database tools 7−5428
  - TMX-U diagnostic computer system, improvements 7−36255
  - TMX-U diagnostic data base, evolution 7−5423
  - toroidal variation of power radiated from TFTR 7−1769
  - VVER, in-reactor monitoring systems 7−5343
  - water-level measuring system for drum separators in nuclear power-plant with RBMK-1000 reactor *(Russian)* 7−764
  - X-ray imaging system for TFTR, MHD studies 7−1786
  - X-ray imaging systems for TFTR 7−1785
  - ZENKEI, JT-60 central control system, design and testing 7−36249
  - ^{10}B/^{11}B ratio, determ. in nucl. reactor moderator 7−56753
- **nuclear reactor materials** *see fission reactor materials; fusion reactor materials*
- **nuclear reactor operation** *see fission reactor operation*
- **nuclear reactor theory and design** *see fission reactor theory and design; fusion reactor theory and design*
- **nuclear reactors** *see fission reactors; fusion reactors; nuclear power stations*
- **nuclear resonance reactions and scattering**
  - *see also nuclear resonances*
  - conf., Smolenice, Czechoslovakia, June 1985 7−41005
  - depth profile meas. by reson. nucl. reactions 7−3617
  - excited nuclei, pairing energy determ. 7−41906
  - forward Compton amplitude in GDR and Δ regions, dispersion relation anal. 7−49377
  - Gamow-Teller resonance relaxation, interacting and independently damping quasiparticle model anal. 7−19221
  - heavy-ion collisions, Gamow states in realistic two-centre pot. 7−10168
  - neutron resonance averaging with filtered beams 7−42021
  - p-wave neutron resonance near neutron binding energy *(Chinese)* 7−10146
  - particle decay of resonant state generated by direct reaction 7−49366
  - resonances and surface waves in nuclear and particlephysics 7−608
  - vibrational modes of solids, nuclear reaction spectroscopy 7−21371
  - weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
  - △ production in nuclei by electrons and photons 7−49358
  - Δ-excitations in nuclei 7−49365
  - ($e^{+}e^{-}$) resonance as possible source for anomalous e^{+} peak in HI collisions 7−49445
  - (γ,γ'), resonant γ-ray absorption, method of observation 7−30409
  - (l,X), deep inelastic scatt., quasi-elastic peak as unstable state 7−10137
  - (n,γ); E1 giant resonance excitation, partial cross sections in optical shell model 7−30421
  - ($\vec{n}$,γ), j-dependence, direct-semidirect model study 7−49394
  - ($\vec{n}$,$\vec{n}'$), high sensitivity search for T-violation in slow neutron resonances 7−49424
  - ($\vec{N}$,X), parity nonconservation in resonance interaction 7−5240
  - (p,p), proton strength function meas. 7−49416
  - ^{109}Ag(n,n$'\gamma$), temperature shift of neutron resonances 7−41960
  - ^{27}Al(p,γ)^{28}Si, unbound levels, resonance and decay mode determ. 7−49413
  - ^{11}C(p,p); 0^{+} level formation $\Delta I=0$ parity mixing in ^{14}N, expt., status 7−49238
  - ^{12}C(^{12}C,^{12}B)^{12}N, Δ excitations and shell-model information 7−49457
  - ^{12}C(p,p), 1.7 MeV, ^{13}N* compound nucleus, lifetime determ. from bremsstrahlung meas. 7−56679
  - ^{14}C(e,e$'$), form factors and stretched M4 configurations, shell model comparisons 7−41981
  - ^{40}Ca(n,γ), high energy levels, resonant excitation with neutron-capture γ quanta 7−10107
  - ^{40}Ca($\pi^{\pm}$,π^{0}), isovector giant resonance excitations 7−49478
  - ^{111}Cd(n,γ)^{112}Cd, 10 to 150 keV, radiative transitions and cross sections 7−10151
  - ^{63}Cu(p,γ), direct-semidirect capture in the giant dipole resonance region 7−49417
  - ^{A}Dy(n,n$'\gamma$), A=161, 163, temperature shift of neutron resonances 7−41960
  - ^{56}Fe(n,γ), capture in 1.15 keV resonance using Moxon-Rae detectors, reactor appl. 7−36004
  - ^{2}H(γ,pp)π^{-}, dibaryon resonance evidence 7−49372
  - ^{2}H(π,X), absorption form factor and off-shell behaviour, perturbative approach 7−5295
  - ^{3}H(d_{1}X), muon catalysed fusion, muon sticking, low energy resonance effects 7−49488
  - ^{24}Mg(p,p$'$), excitation of ^{12}C+^{12}C quasimolecular resonances by symmetric fission 7−42002
  - (n,n) <0.5 MeV, scatt. anisotropy, resonances, diff. cross sections, spin channels 7−41995
  - ^{14}N(e,e$'$), form factors and stretched M4 configurations, shell model comparisons 7−41981
  - ^{15}N(p,$\alpha\gamma$) resonance reaction for surface depth profiling, energy and width 7−59812
  - ^{60}Ni($\pi^{\pm}$,π^{0}), isovector giant resonance excitations 7−49478
  - ^{16}O(^{12}C,^{12}C^{-})^{16}O, intermediate width structures, angular momenta 7−49456
- **nuclear resonance reactions and scattering** continued
  - ^{16}O(^{16}O,α)^{24}Mg, small angle cross-sections, resonances and compound fluctuations 7−49449
  - ^{16}O(^{16}O,α)^{28}Si, small angle cross-sections, resonances and compound fluctuations 7−49449
  - ^{16}O(α,γ)^{20}Ne, resonant reaction rates, stellar appl. 7−695
  - ^{A}Os(n,γ), A=186-8, resonance parameters and optical model pot. for stellar nucleosynthesis 7−5244
  - ^{208}Pb(^{17}O,^{17}O$'$), high energy continuum excitation 7−42049
  - ^{208}Pb(^{32}S,^{32}S$'$), high energy continuum excitation 7−42049
  - ^{208}Pb(e,e$'$), isoscalar quadrupole giant resonance, electron spectra statistical anal. 7−49380
  - ^{239}Pu(n, X), resolved resonance region, total cross section 7−61930
  - ^{239}Pu(n,f), resolved resonance region, multilevel parameter calcs. 7−61930
  - ^{240}Pu(n,f), neutron width and level distance distribs., resonance width calcs. *(Russian)* 7−5161
  - ^{103}Rh(n,n$'\gamma$), temperature shift of neutron resonances 7−41960
  - ^{28}Si(α,α), 5-12 MeV, resonances and quasimolecular states, optical anal. 7−19224
  - ^{120}Sn($\pi^{\pm}$,π^{0}), isovector giant resonance excitations 7−49478
  - ^{128}Te(n,γ), high energy levels, resonant excitation with neutron-capture γ quanta 7−10107
  - ^{234}U(n,f), 0.8 MeV, mean kinetic energy depend. of fission fragments, vibr. resonance 7−42097
  - ^{234}U(n,f), $E_{n}\sim0.8$ MeV, fission fragment average kinetic energy meas., effect of vibrational state in second potential well 7−61935
  - ^{235}U(n,f), neutron width and level distance distribs., resonance width calcs. *(Russian)* 7−5161
  - ^{238}U(n,n$'$), resolved resonance parameters, 1-10 keV 7−30396
  - U(n,n$'\gamma$), chemically induced shifts of neutron resonances 7−41961
- **nuclear resonances**
  - *see also nuclear collective states and giant resonances*
  - A=16, 17, energy levels, EM transitions, J^{π}, and resonances 7−35132
  - Gamow-Teller resonance relaxation, interacting and independently damping quasiparticle model anal. 7−19221
  - Skyrme model, isobar contribs. to the NN interaction 7−580
  - Δ isobar Landau-Migdal parameters and high momentum props. of spin-isospin response functions 7−5180
  - (l,X), deep inelastic scatt., quasi-elastic peak as unstable state 7−10137
  - (μ,X) total capture rate calcs., sum rule approach 7−656
  - ^{9}Be, second T=3/2 state width, isospin mixing from ^{7}Li(d,γ) 7−30399
  - ^{1}H(^{3}He,X)^{2}H, high resolution search for narrow dibaryons 7−5209
  - ^{2}H(^{2}H,X)^{2}H, high resolution search for narrow dibaryons 7−5209
  - He, antikaonic, evidence for narrow nucl. $\bar{K}\alpha$ bound state 7−5788
  - ^{3}He(p,X)^{2}H, high resolution search for narrow dibaryons 7−5209
  - (n,n) <0.5 MeV, scatt. anisotropy, resonances, diff. cross sections, spin channels 7−41995
  - ^{23}Na(p, α)^{20}Ne, below 500 keV, resonance energies, J^{π}, stellar reaction *(Korean)* 7−30423
  - ^{20}Ne, T=1 states as compound resonances in ^{19}F(p,p) 7−30397
  - ^{238}U(n,n$'$), resolved resonance parameters, 1-10 keV 7−30396
  - U(n,n$'\gamma$), chemically induced shifts of neutron resonances 7−41961
- **nuclear scattering** *see nuclear reactions and scattering*
- **nuclear scattering involving few nucleon systems**
  - nonrelativistic few body scatt. in SAM approach 7−61851
  - three-particle system, low-energy scatt. parameters, limiting model-independent correlations 7−5013
  - ^{2}H(N,N$'$), anal. using separable expansion method for Paris potential 7−19218
  - ^{1}H($\vec{p}$, $\vec{p}^{1}$), 800 MeV parity nonconservation meas. 7−10149
  - ^{1}H($\vec{p}$,$\vec{p}'$), 500 MeV, pN analyzing powers, spin-rotation-depolarization parameters 7−19255
  - ^{1}H($\bar{p}$,$\bar{p}'$), $\bar{p}$ asymmetry meas., LEAR expt. 7−49170
  - ^{2}H(N,N$'$), doublet scattering lengths with three-nucleon forces 7−61886
  - ^{2}H(N,N), N-body quantum problem in configuration space 7−10141
  - ^{2}H(n,n$'$), three-nucleon force effects 7−61885
  - ^{2}H(n,n), Fadeev calcs. 7−61884
  - ^{2}H(n,n), three-nucleon force effects 7−61885
  - ^{2}H($\vec{p}$,$\vec{p}'$), 500 MeV, pN analyzing powers, spin-rotation-depolarization parameters 7−19255
  - ^{A}H($\vec{d}$,d), A=1,2, vector and tensor analysing power meas. 7−10158
  - ^{4}He(α,α), high energy elastic scatt., Chou-Yang conjecture 7−61743
  - ^{4}He(d,d), multi three-cluster coupling model anal., polarisation 7−588
  - ^{4}He(n,n), alpha-neutron scattering, microscopic Monte Carlo calcs. 7−24991
  - ^{4}He($\vec{p}$,p), 46 MeV, parity nonconservation, longitudinal anal. power 7−35944
  - ^{4}He(p,p), Chou-Yang model in 45-393 GeV region 7−41991
  - ^{4}He(p,p), high energy elastic scatt., Chou-Yang conjecture 7−61743
  - ^{4}He(p,p), quasioptical cascade model at intermediate energy 7−35986
- **nuclear screening**
  - atoms, electron bremsstrahlung energy spectra 7−24319
  - dimethyl oxalate, solid, ^{13}C NMR, X-ray and neutron diffr., chemical shielding tensors 7−13041
  - electronic struct. and dynamics, conf., Snowbird, UT, USA (April 1986) 7−55877
  - lanthanide and scandinide contractions 7−9633
  - Meldrum's acid, chem. shielding tensors, mol. motion, ^{13}C NMR obs. 7−53149
  - methyl carbons, chemical shielding, struct. effects, ^{13}C NMR spectra anal., ab initio IGLO calcs. 7−25358
  - methyl fluoride -^{13}C,nematic liq. cryst. soln., chem. shieldings and spin-spin coupling 7−5703
  - molecular nucl. mag. shielding consts. ab initio wave function calcs. 7−5594
  - organic compounds, dipole moment geometric derivatives from nucl. electric screening 7−25428
  - Al, hot dense plasma, at. props. and transition probabilities 7−57032
  - BF_{3}, electric-field gradients, NMR shielding tensors, NQR coupling consts., ab initio HF calcs. 7−19693
  - ^{13}C shielding tensors, individual gauge for localised orbital contrib. 7−57005
  - CaF_{2}:Eu^{3+}, O^{2-}, quadrupole coupling and crystal-field shielding under hydrostatic press. 7−2551
  - H+pμ elastic scatt., electron screening effects 7−5741
  - HCN, dipole moment geometric derivatives from nucl. electric screening 7−25428
  - He, N-electron atom, electronic energy in a space of constant curvature *(French)* 7−36500
  - ^{3}He, hyperfine struct., relativistic contribs. contribs. 7−42509

nuclear screening continued
Li, N-electron atom, electronic energy in a space of constant curvature *(French)* 7−36500
SO_2-containing cpds., Cl effect on ^{33}S and ^{17}O NMR 7−36646
SiF_4, electric-field gradients, NMR shielding tensors, NQR coupling consts. ab initio HF calcs. 7−19693
Tl^+, shielding of external elec. field, Hartree-Fock calcs. 7−15532

nuclear shape
see also nuclear collective states and giant resonances; nuclear energy levels; nuclear resonances
^{264}108, decay and synthesis expts. 7−49347
A=137-144 exotic neutron-deficient nuclei, shape and γ-decay 7−19201
A=220 region, triaxiality and reflection asymmetry, γ-correlations 7−49231
asymmetric nuclear shapes in structure, fission and cluster radioactivity, unified description 7−49228
axially deformed nuclei, rel. Hartree calcs., energies and deformations 7−35940
B(E2), IBM expressions for inter-representation transitions in deformed nuclei *(Chinese)* 7−24960
compound nucleus, γ-decay evolution with spin and temp. 7−49214
damping of nuclear rotational motion at modest temperatures 7−35923
deformed even-even nuclei, s-d-g model quadrupole operator *(Chinese)* 7−49230
deformed nuclei, evaporative emission calcs. 7−5152
deformed nuclei, Gamow-Teller resonance anal. using quasiparticle-phonon model 7−49333
deformed nuclei, giant resonances on lowest excited states, quasiparticle-phonon model 7−49363
deformed nuclei, isoscalar and isovector giant resonances, gas-droplet model anal. 7−56592
deformed nuclei, low-lying collective M1 states, microscopic calcs. 7−49224
deformed nuclei, rotational state excitation, anal. using two-dimensional model 7−24964
deformed nuclei, vibr.-rot. quadrupole-octupole excitations, self-consistent model 7−41868
deformed rare earth nuclei, Coulomb displacement energy systematics 7−15182
dipole and octupole pairs in deformed actinide nuclei 7−49201
excess and hole 4*N*-nuclei, binding energies, quad. deformation parameters 7−5147
four-body excitations in heavy nuclei, microscopic description 7−5172
giant dipole resonances, deformation effects on expt. widths 7−49206
giant resonances in excited nuclei, review 7−56595
heavy nuclei, valence p-n interactions and development of collectivity 7−56626
heavy-ion spectroscopy viewed from the IBM 7−35931
hot rotating toroidal nuclei, influence of ang. momentum on threshold temp. 7−5153
IBM wave functions for shape parameter estimates 7−575
interacting boson-fermion approximation, inertial parameters 7−41913
isovector magnetic mode in deformed nuclei 7−24954
macroscopic-microscopic calculations of collective pot. energy, consistency condition 7−61788
N=88-90, shape transition and internal quadrupole moment calcs. 7−5179
negative parity bands in collective pair approach 7−24930
octupole deformed nuclei, EM transitions 7−49295
odd spherical nuclei, mag. moments in quasiparticle-phonon model 7−41897
odd-deformed nuclei, effect of recoil term on average potential, excited state calcs. using quasi-particle phonon interaction 7−61796
odd-odd deformed nuclei, odd-even shifts in rot. nuclei, residual interaction studies 7−19156
quadrupole deformation parameters for even-even nuclei 7−49234
radioactive isotopes, at. HFS and isotope shift meas. for nucl. props. 7−19769
rare earths, octupole states and bandhead energies in deformed nuclei, IBM calc. 7−30312
review, nuclear shapes studied by Coulomb excitation 7−56598
rotational damping and quadrupole deformations, NMR analog model 7−41870
superdeformed states in Z=66 and 68 isotopes, γ-ray energy correlations 7−49298
surface diffuseness of deformed and rotating nuclei, energy density formalism 7−30322
well-deformed nuclei, pair transition density, macroscopic anal. 7−56624
(K^+,K^+), elastic and inelastic scatt. on deformed nuclei 7−61922
^{124} Ce, structure investigation, deformation parameters 7−569
^{27}Al(^{40}Ar,X), energy spectra and ang. distrib. meas., deformation effects 7−42062
^{A}Ba, A=142,144,146, neutron-rich, octupole deform., fast electric dipole transitions obs. 7−41889
^{148}Ba, level structure, test of N_pN_n scheme far off stability 7−49205
^{12}C($\vec{p}$,p′)^{12}C, mixing of breathing oscillation into β-vibrationalstates 7−671
^{40}Ca, average potential of nucleons, empirical and theoretical investigation 7−10101
^{40}Ca, deformed excited 0^+ states, HF and α-cluster calcs. 7−41879
^{132}Ce, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
^{132}Ce, rotational band lifetime meas. within superdeformed second minimum 7−41871
^{134}Ce(10^+), prolate deformation of isomeric states 7−30309
^{252}Cf, nucl. fission channels, Strutinsky-type calcs. 7−49484
^{55}Co medium spin structure, shapes and transitions, HF and shell anals. of ^{54}Fe(^{3}He,X) 7−41873
^{A}Cr, A=48, 50, single particle spectra and shape from deformed HF calcs. *(Chinese)* 7−5186
Dy isotopes, proton-pair energies, neutron-number dependence 7−30349
^{152}Dy, discrete superdeformed states up to $60\hbar$ and shape coexistence. 7−49213
^{152}Dy, superdeformed and other collective bands 7−24931
^{155}Dy, coexistence between band terminations and collective configs. 7−5140
^{158}Er, deformation parameters at high excitation energies 7−15187
^{168}Er($\vec{p}$,p′)^{168}Er, γ-vibration band excitation, hexadecapole degree of freedom 7−676

nuclear shape continued
^{170}Er, deformations, pair gaps and giant resonances, temp. depend., finite temp. HFB calcs. 7−30320
^{153}Eu, 83.4 and 103.2 keV levels, lifetimes meas. 7−5191
^{54}Fe medium spin structure, shapes and transitions, HF and shell anals. of ^{54}Fe(^{3}He,X) 7−41873
Gd isotopes, even-even, projected quadrupole coherent states model 7−56597
Gd isotopes, proton-pair energies, neutron-number dependence 7−30349
^{144}Gd, superdeformed shape study, γ-γ transition energy correlation meas. 7−41887
^{155}Gd, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{156}Gd, deformed nucleus, collective pair struct. of K=0 and K=1 bands 7−24928
^{158}Gd, $K^{\pi}=1^+$ isovector states, generalised coherent state model 7−15185
^{A}Ge, A=64, 65, level scheme, transitions and octupole deformations 7−56610
^{3}H+α cluster, distortion effects, multichannel resonating group method 7−5171
Hg, shape coexistence and shape transitions 7−49203
^{180}Hg nuclear shape coexistence, γ-decay, energy levels from ^{90}Zr(^{90}Zr,γ) 7−19163
^{187}Hg, prolate and oblate shape coexistence 7−30324
^{157}Ho, quadrupole polarisation from quasiparticle S-band configuration, triaxiality, yrast energy 7−24929
^{165}Lu, electromagnetic props. through two band crossings 7−5142
^{173}Lu, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{24}Mg($\vec{p}$,p′)^{24}Mg, mixing of breathing oscillation into β-vibrationalstates 7−671
^{A}Nd, A=132, 134, low-lying level lifetimes, transition strengths and collectivity 7−61835
^{134}Nd, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
^{136}Nd, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
^{16}O, deformed excited 0^+ states, HF and α-cluster calcs. 7−41879
^{A}Os, A=186, 188, deformations, pair gaps and giant resonances, temp. depend., finite temp. HFB calcs. 7−30320
^{192}Os, self-consistent study of triaxial deformations in heavy nuclei 7−35939
^{208}Pb, average potential of nucleons, empirical and theoretical investigation 7−10101
^{A}Pm, A=133, 135, low-lying level lifetimes, transition strengths and collectivity 7−61835
Pt, shape coexistence and shape transitions 7−49203
^{A}Pt, A=176, 178, 180, pot. energy surface calcs. of shape transitions and coexistence 7−15186
^{184}Pt, yrast band, lifetime meas. and shape coexistence 7−30308
^{186}Pt, self-consistent study of triaxial deformations in heavy nuclei 7−35939
^{A}Pu(n,n′), A=240,242,244 collective band scheme and statistical S-matrix formalism 7−61874
^{177}Re single quasi-proton states, deformation depend., level scheme, cranking model anal. of ^{165}Ho(^{16}O,4n) 7−41877
^{A}Rn, A=208,210,211, quadrupole moment sensitivity to small deformations 7−35947
^{28}Si(d, d), distortion effects and binding energy calcs. 7−49229
^{28}Si(d, p), distortion effects and binding energy calcs. 7−49229
Sm isotopes, proton-pair energies, neutron-number dependence 7−30349
^{A}Sm, A=134, 136, low-lying level lifetimes, transition strengths and collectivity 7−61835
^{17}Sm($\vec{p}$,p)^{A}Sm, A=148, 150, 152, 154, elastic and inelastic scatt., nuclear structure 7−667
^{136}Sm, strong deformation, single particle character and collectivity 7−49217
^{138}Sm, self-consistent study of triaxial deformations in heavy nuclei 7−35939
^{142}Sm(7^-), prolate deformation of isomeric states 7−30309
^{148}Sm, deformations, pair gaps and giant resonances, temp. depend., finite temp. HFB calcs. 7−30320
^{150}Sm, octupole deformation at high spin 7−49207
^{151}Sm, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{152}Sm, pair transition density, Nilsson+BCS anal. 7−56624
^{154}Sm, boson mapping of particle-particle operators indeformed nuclei 7−586
^{154}Sm(^{12}C,^{14}C), pair transfer, macroscopic description, form factor 7−25000
^{A}Sn, A=110, 112, high spin states 7−35929
^{110}Sn, nuclear shape study using γ-α angular correlations 7−41891
^{A}Sr, A=80, 82, optical isotope shifts from spectroscopy coincidence laser 7−574
Te, even-mass isotopes, dynamic deformation model appl. 7−61818
^{124}Te, E0 transitions, dynamic deformation model, 0^+ levels 7−594
^{A}Ti, A=44, 46, 48, 50, single particle spectra and shape from deformed HF calcs. *(Chinese)* 7−5186
^{170}Yb, nuclear shape study using γ-α angular correlations 7−41891
^{171}Yb, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354

nuclear shell model
^{175}Lu, energy level anal. from ^{175}Yb β-decay level transitions, J^P values, branching ratios, Nilsson model anal. 7−49313
A=12-40, strangeness exchange reactions with the recoil corrected continuum shell model 7−19190
analogue resonances, relaxation parameters, shell optical approach 7−35957
boson images of fermion operators 7−5169
chaotic motion in nuclei, statistical props., shell model 7−30402
closed shell nuclei, high-spin particle-hole states, transition strength calcs. 7−49218
density of states, Cornish-Fisher representation 7−49249
electromagnetic properties of high-spin isomers 7−35928
even-even $f_{7/2}$ shell nuclei, convection current for $0^+ \rightarrow 1^+$ excitations 7−49301
fission charge distribution yields, fine structure, coupling of charge asymmetry coordinates and relative motion 7−24967
harmonic oscillator shell model, spin cutoff parameter calc., exciton model, state density angular momentum dependence 7−35960

nuclear shell model continued
heavy ion elastic scatt., parity depend., two-centre harmonic oscillator model 7−42046
heavy-ion collisions, Gamow states in realistic two-centre pot. 7−10168
heavy-ion reactions, neutron emission in large amplitude collective motions 7−42072
hot nuclei, thermal response 7−24945
hybrid quark-hadron model of nuclear magnetic moments 7−61815
hypernuclei decay, shell model anal. 7−41933
IBFM Hamiltonian, exchange term, shell-model origin 7−41916
IBM, electromagnetic and hadronic form factors and operators 7−5154
interaction radii of stable and unstable nuclei 7−35943
large amplitude collective motion in adiabatic limit, generalized monopole shell model 7−10095
magnetic moments, quark shell model calcs. 7−56606
magnetic moments and M1 transitions, empirical description, quenching of spin matrix elements 7−577
N_pN_n systematics for $132 \leq A \leq 208$, subshell closure at $Z=76$ 7−61820
number projection-shell model method comparisons, level analysis 7−56622
one-nucleon spectroscopic amplitudes for 1p-shell nuclei excited states 7−61795
p-shell nuclei, nuclear moments 7−49245
particle-hole interactions near closed shells 7−5168
product tensor operators action between pure and mixed configurations 7−5167
pseudo-*L* scheme in strongly deformed Bose-Fermi systems and its relation to the Nilsson model 7−49260
sd shell, comparison of SU(3) phenomenologies, band structure 7−56621
sd-shell, struct., props. and three-body forces 7−30355
sd-shell nuclei, electric quadrupole moments 7−49242
sharp radius, interaction range and volume integral of shell model pot. for A=36-65 7−49258
superheavy nuclei, synthesis, shell stabilised island of α-active heavy deformed nuclei 7−35956
Tucson-Melbourne force, role in shell model effective interaction 7−61805
weak and EM data, many body and single nucleonic features 7−49255
Wood-Saxon pot. radial path integral, path integration over SU(2) manifold 7−35958
(γ,K^+), relativistic bound state wave functions, shell model states 7−42073
(n,γ), E1 giant resonance excitation, partial cross sections in optical shell model 7−30421
(π^+, π^-), A=12-56, nonanalogue double charge exchange, cross sections, form factors, transitions, shell model 7−30456
Ag, odd-A nuclei, low-lying $7/2^+$ states, quadrupole interaction calcs. 7−19167
^{A}Ar β^+ decay, A=34, 35, Gamow-Teller resonance calcs. using shell-model wave fns. 7−49334
^{128}Ba, band crossings, cranked shell model calcs. 7−10096
^{138}Ba, microscopic struct. of semimagic nuclei 7−30304
$^{12}C_{\Lambda}$, lifetime for nonmesonic Λ decays 7−41798
$^{12}C(\pi^+,K^+)^{12}C$, scattering DWIA calcs., shell model configuration features 7−711
$^{13}C(e,e')$, 78-338 MeV, M4 excitations, cross section meas., shell model anal. 7−19195
$^{14}C(e,e')$, form factors and stretched M4 configurations, shell model comparisons 7−41981
$^{14}C(\gamma,n)$, inclusive, partial cross sections, comparisons with shell model calcs. 7−41972
^{A}Ca, A=40,48, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{42}Ca, f-p shell struct. M-3Y force equivalent G-matrix elements *(Chinese)* 7−49259
^{140}Ce, microscopic struct. of semimagic nuclei 7−30304
^{38}Cl, β-decay and shell crossing, expt. study and shell model calcs. 7−5199
^{55}Co medium spin structure, shapes and transitions, HF and shell anals. of $^{54}Fe(^3He,X)$ 7−41873
^{A}Er, A=156,158, terminating band props., high spin spectra, shell model anal. of N=88 isotones 7−41872
^{19}F positive parity levels, ang. distribs., DWBA and shell anals. of $^{17}O(^3He, p)$ 7−15181
^{54}Fe medium spin structure, shapes and transitions, HF and shell anals. of $^{54}Fe(^3He,X)$ 7−41873
^{155}Gd, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{150}Ho, yrast level structure, shell model anal. 7−10098
$^{41}K(p,p')$, 6 MeV, low-lying levels, EM props. and spin values, mixing ratios, lifetimes 7−19171
^{6}Li, L-S coupling and mag. moment from three-body models 7−49239
^{165}Lu, electromaghetic props. through two band crossings 7−5142
^{173}Lu, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{29}Mg, level struct. study, β and gamma decays, shell model comparison 7−49328
$^{14}N(e,e')$, form factors and stretched M4 configurations, shell model comparisons 7−41981
^{29}Na, Gamow-Teller β-decay, shell model comparison 7−49328
^{A}O, A=18-20, energy levels and EM transitions, shell model calcs. *(Korean)* 7−30342
^{16}O, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
$^{16}O(\gamma,p)$, coupled channels calc. based on continuum shell model at medium energies 7−35995
^{35}P, β-decay and shell crossing, expt. study and shell model calcs. 7−5199
^{208}Pb, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{208}Pb, shell model pot. calc. from optical pot. 7−35959
^{208}Pb, sum rule approach to 3s proton occupancy 7−56620
$^{208}Pb(e,e')$, high spin state form factor calcs. 7−49218
^{143}Pm, microscopic struct. of semimagic nuclei 7−30304
^{141}Pr, microscopic struct. of semimagic nuclei 7−30304
^{A}Pt, A=176, 178, 180, pot. energy surface calcs. of shape transitions and coexistence 7−15186
$^{A}Pu(n,f)$, A=239, 241, fragment energy and mass characts., shell effects, static scission point model anal. 7−42099
$^{A}Pu(sf)$, A=238, 240, 242 7−42099
Rh, odd-A nuclei, low-lying $7/2^+$ states, quadrupole interaction calcs. 7−19167
^{A}S, A=37, 38, β-decay and shell crossing, expt. study and shell model calcs. 7−5199

nuclear shell model continued
^{A}Sb, A=130, 132, odd-odd transitional and near closed shell nuclei 7−19173
^{42}Sc, f-p shell struct. M-3Y force equivalent G-matrix elements *(Chinese)* 7−49259
^{144}Sm, microscopic struct. of semimagic nuclei 7−30304
^{151}Sm, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{A}Sn, A=109, 111, microscopic struct. of semimagic nuclei 7−30304
Tc, odd-A nuclei, low-lying $7/2^+$ states, quadrupole interaction calcs. 7−19167
^{A}Te, A=114-17, vibrational and quasiparticle structs. coexistence, states and spectra, shell model anal. of $Sn(^3He,X)$ 7−41874
^{43}Ti, β-decay, expt. and shell model study 7−49331
^{205}Tl, forbidden β-decays 7−49320
^{152}Tm, yrast level structure, shell model anal. 7−10098
^{171}Yb, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{90}Zr, charge radius, charge and spin densities, Woods-Saxon shell model calcs. *(Chinese)* 7−5150
^{90}Zr, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925

nuclear size
composite particle scatt., nuclear parameter extraction, Fourier-Bessel anal. 7−611
interaction radii of stable and unstable nuclei 7−35943
microscopic optical pot., radial shape, real part modification by second order diagrams, appl. to ^{40}Ca 7−41926
nuclear mean-square charge radius formula, inclusion of shell effects *(Russian)* 7−576
radioactive isotopes, at. HFS and isotope shift meas. for nucl. props. 7−19769
sharp radius, interaction range and volume integral of shell model pot. for A=36-65 7−49258
Cd, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
^{2}H, quadrupole moment, rms radius and form factors from local NN potential 7−5165
$^{2}H(e,e)^{2}H$, EM radii determ., tensor polarisation meas. 7−49383
In, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
$^{28}Si(d, d)$, distortion effects and binding energy calcs. 7−49229
$^{28}Si(d, p)$, distortion effects and binding energy calcs. 7−49229
Sn, charge radii and electromagnetic moments by laser spectroscopy 7−5189
Sn, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
^{A}Sr, A=80, 82, optical isotope shifts from spectroscopy coincidence laser 7−574
^{82}Sr, mean square charge radius, droplet model comparison 7−5635

nuclear spallation
projectile fragments in relativistic heavy ion reactions, nuclear chemistry anal. 7−19299
$^{133}Cs(\gamma,X)$, 100-1000 MeV, photospallation reactions 7−19235
$^{127}I(\gamma,X)$, 100-1000 MeV, photospallation reactions 7−19235
$^{A}In (\gamma,X)$, A=113,115 cross-sections for deep-spallation reactions 7−41976
$^{A}In(e,X)$, A=113,115 cross-sections for deep-spallation reactions 7−41976
La(p, X), 800 GeV, deep spallation and fragmentation products, ang. distribs. systematics 7−30427
Lu(p, X), 800 GeV, deep spallation and fragmentation products, ang. distribs. systematics 7−30427
Tb(p, X), 800 GeV, deep spallation and fragmentation products, ang. distribs. systematics 7−30427
$^{51}V(\gamma,X)$, 100-1000 MeV, photospallation reactions 7−19235
W(p,X), 1 GeV, nuclide cross-sections from proton spallation, calc. 7−56675
$^{89}Y(\gamma,X)$, 100-1000 MeV, photospallation reactions 7−19235

nuclear spectroscopic factors
one-nucleon spectroscopic amplitudes for 1p-shell nuclei excited states 7−61795
tilted-multifoil hyperfine interaction in nuclear spectroscopy 7−56604
$^{9}Be(p,d)$, spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
^{12}C levels, spectroscopic strength, ^{3}He cluster struct., Hauser-Feshbach anal. of $^{9}Be(^{6}Li,t)$ 7−35965
^{12}C, longitudinal struct. factors, RPA calc. 7−35945
$^{12}C(^3He, ^7Be)$, 41 MeV, ang. distribs. and α spectroscopic factors, DWBA anal. 7−15190
$^{13}C(p,d)$, spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
^{40}Ca, longitudinal struct. factors, RPA calc. 7−35945
$^{40}Ca(\alpha,\alpha p)$, quasifree knockout, DWIA calcs. and spectroscopic factors 7−42038
$^{40}Ca(p,2p)$, 76.1, 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
Cd, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
^{113}Cs, groundstate proton radioactivity, half-life meas., spectroscopic factor calcs. 7−49350
^{56}Fe, longitudinal struct. factors, RPA calc. 7−35945
^{109}I, groundstate proton radioactivity, half-life meas., spectroscopic factor calcs. 7−49350
In, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
^{6}Li, quantification of nucl. state clustering props. 7−49268
$^{7}Li(p,d)$, spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
$^{24}Mg(^3He, ^7Be)$, 41 MeV, ang. distribs. and α spectroscopic factors, DWBA anal. 7−15190
^{26}Mg stretched states, spectroscopic factors and strength from $^{25}Mg(\alpha,^3He)$ 7−35920
$^{16}O(\alpha,\alpha p)$, quasifree knockout, DWIA calcs. and spectroscopic factors 7−42038
$^{16}O(p,2p)$, 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
^{208}Pb, sum rule approach to 3s proton occupancy 7−56620
$^{108}Pd(d,^3He)$, proton-hole states and spectroscopic factors. DWBA comparison 7−41944

nuclear spectroscopic factors continued
- Sn, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{64}Zn giant dipole resonances built on excited states, Brink hypothesis verification from ^{63}Cu(p,γ) 7−41959
- ^{90}Zr giant dipole resonances built on excited states, Brink hypothesis verification from ^{89}Y(p,γ) 7−41959

nuclear spin and parity
- *see also nuclear isospin*
- 2jth rank tensor polarization in reactions involving a spin j particle 7−41952
- 2s-1d shell nuclei, high-spin state excitation using (α,d) 7−19151
- ^{175}Lu, energy level anal. from ^{175}Yb β-decay level transitions, J^P values, branching ratios, Nilsson model anal. 7−49313
- ^{A}Au, A=189-195, $h_{11/2}$ bands, particle-core coupling calcs., IBM core testing and negative parity states 7−56590
- A=122, nuclear data sheets, levels J^{π}, transitions, decays 7−41024
- A=124-146, beta-delayed proton emission, ground state spins and rot. bands 7−49349
- A=133, nuclear data sheets, levels, J^{π}, transitions, decays 7−60906
- A=143, nuclear data sheets, levels, J^{π}, transitions, decays 7−14720
- A=145, nuclear data sheets, levels, J^{π}, transitions, decays 7−29604
- A=156, nuclear data sheets, levels J^{π}, transitions, decays 7−41025
- A=201, nuclear data sheets, levels, J^{π}, transitions, decays 7−60907
- A=216, nuclear data sheets, levels, J^{π}, transitions, decays 7−29605
- A=220, nuclear data sheets, levels, J^{π}, transitions, decays 7−29605
- A=224, nuclear data sheets, levels, J^{π}, transitions, decays 7−29605
- A=228, nuclear data sheets, levels, J^{π}, transitions, decays 7−29605
- A=237, nuclear data sheets, levels, J^{π}, transitions, decays 7−29606
- A=244, nuclear data sheets, levels, J^{π}, transitions, decays 7−60908
- A=46, nuclear data sheets, levels, J^{π}, transitions, decays 7−41023
- A=49, nuclear data sheets, levels, J^{π} transitions, decays 7−14718
- A=83, nuclear data sheets, levels, J^{π}, transitions, decays 7−60905
- A=99, nuclear data sheets, levels, J^{π}, transitions, decays 7−14719
- collective states, F-spin analysis, global study of groups of nuclei, IBM analysis 7−49223
- compound nucleus, γ-decay evolution with spin and temp. 7−49214
- conf., Leningrad, USSR, April 1985 7−29574
- electromagnetic properties of nuclei at high spins 7−49297
- excited nuclei, systematic behaviour of giant dipole resonance, moderate temp. and spin 7−49362
- F-spin and collective M1 transitions 7−49300
- first-forbidden β-decays, constraints on parity mixing matrix elements from hard pion exchange 7−61836
- Gamow-Teller strength from spin-isospin saturated nuclei 7−49226
- giant resonances in excited nuclei, review 7−56595
- heavy ion elastic scatt., parity depend., two-centre harmonic oscillator model 7−42046
- heavy-ion spectroscopy viewed from the IBM 7−35931
- high spin states, cranked cluster wave function 7−41921
- neutron-proton IBM, F-spin symmetric limits 7−10114
- nuclear data sheets, recent references May-August 1986 7−35131
- nuclear data sheets, recent refs. Jan. to April 1986 7−31
- nuclear forces, parity nonconserving, in SU(2)×U(1)×SU(3) standard model 7−19174
- nuclear matter, one-dimensional, simultaneous eigenstates of spin, isospin and energy 7−56631
- odd spherical nuclei, mag. moments in quasiparticle-phonon model 7−41897
- odd-odd deformed nuclei, odd-even shifts in rot. nuclei, residual interaction studies 7−19156
- orientation spin tensors of fissioning compound nuclei produced through neutron capture 7−42095
- oriented nuclei far from stability, weak interaction studies 7−56601
- (p,p'), spin-isospin response in nuclei 7−56682
- parity dependent NBCS formalism at finite nuclear temp. using NUCPAR program 7−49256
- parity nonconservation in NN interaction, fundamental interaction studies 7−41908
- parity nonconserving potentials in atomic and nuclear physics *(Rumanian)* 7−15084
- random phase approx. spin-isospin nuclear response in deep inelastic region 7−5157
- spin-isospin excitations in nuclei, differential cross-sections 7−49208
- surface spin-isospin modes, RPA calcs. 7−56589
- weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
- $^{27}\vec{A}$l$(\vec{n},X)$, 5-17 MeV, spin-spin pots., nuclear Ramsauer effect, optical pots. 7−24966
- Δ isobar Landau-Migdal parameters and high momentum props. of spin-isospin response functions 7−5180
- (e,e'), model independent exchange current determ. for few nucleon systems 7−35743
- $(\vec{e},e'\vec{p})$, many-body theory calcs. 7−41983
- $(\gamma,\pi^{\pm})$, nuclear spin-isospin excitations 7−49302
- (n,n), parity nonconserving effects at thermal energies 7−686
- (n,p), isovector excitations and spin-flip transitions at intermediate energy 7−41989
- (n,X), parity effects at low energy, Hauser-Feshbach model 7−30426
- $(\vec{N},X)$, parity nonconservation in resonance interaction 7−5240
- NN interaction, parity and time-reversal violation in nuclei and atoms 7−30325
- (p,p), proton strength function meas. 7−49416
- (p,p), strong interaction effects in parity violation 7−49426
- (p,p), surface effects and the spin-isospin nuclear response function 7−30326
- (p,p'), 201 MeV, spin-isospin excitation 7−49418
- (p,p'), nuclear spin-isospin response fns., Fermi-RPA calc. 7−56683
- ^{104}Ag, spin determ. by nucl. orientation and NMR 7−41893
- ^{105}Ag, energy level anal. using particle-rotor model 7−19169
- ^{40}Ar, bound dipole state parities, nucl. resonance fluorescence expts. 7−5188
- $^{10}B_{\Lambda}$, spin-dependent interaction parameters 7−30361
- ^{10}B(n,α), parity nonconservation observation 7−42009
- ^{12}B, alignment-correlation meas., G-parity conservation, limitation of validity 7−5156
- ^{128}Ba, band crossings, spin and parity assignments 7−10096
- $^{8}Be \rightarrow d + {}^{6}Li$, isospin forbidden decay, spin dependence meas. using ^{6}Li$(\vec{d},\alpha)^{4}$He 7−5204
- ^{9}Be, T=3/2 state, width analysis and isospin mixing 7−41900

nuclear spin and parity continued
- $^{9}Be_{\Lambda}$, spin-dependent interaction parameters 7−30361
- ^{9}Be(e,e'), parity violation meas. in quasielastic electroweak scattering 7−49388
- ^{13}C, excitation energies, spin and parity from ^{12}C$(\vec{n},n)$ 7−61797
- ^{14}C(p,n), isovector effective interaction strengths, cross section meas. 7−19248
- ^{A}Ca$(\vec{p},\vec{n})$, 134 MeV, A=40,48, Gamow-Teller and spin-dipole strength, spin-flip 7−30407
- ^{45}Ca beta-decay, longitudinal electron polarization meas., relevance to deviations from parity violation 7−56650
- Cd, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- Ce, odd-mass isotopes, backbending, IBA anal. 7−19149
- Cr(n,X), parity effects at low energy, Hauser-Feshbach model 7−30426
- ^{145}Cs, β-decay study, spin and parity assignments 7−5198
- ^{152}Dy, quasicontinuum γ-rays from collective high-spin states, internal conversion coeff., multipolarity meas. 7−56639
- ^{168}Er, 0^{+} bands, microscopic anal. using the projection before variation method 7−56607
- ^{139}Eu decay props., γ-ray and internal conversion meas. 7−49306
- $^{11}\vec{F}$ parity nonconserving asymmetry in decay transitions from ^{22}Ne$(\vec{p},\alpha)$ 7−61794
- ^{18}F, parity mixing of $0^{\pm}$ states, $\vec{\gamma}$-ray polarization meas. 7−5155
- ^{A}Fr, A=207-228, g-factors ground state spin and single particle structure 7−49244
- Ge, high spin states, B(E2) values, g-factors IBM coupled calcs. 7−35930
- ^{A}Ge, A=64, 65, level scheme, transitions and octupole deformations 7−56610
- γ-ray enhance emission, oriented nuclei, MQNMR study 7−49286
- ^{1}H(n,γ), parity violating observables with weak interaction model and Paris pot. 7−689
- ^{1}H$(\vec{p},\vec{p}^{1})$, 800 MeV parity nonconservation meas. 7−10149
- ^{2}H(e^{-},e^{-}), tensor polarisation and spin observables as perturbative QCD test 7−35998
- ^{2}H$(\vec{n},\gamma)$, photon asymmetry meas. and parity violation 7−30424
- ^{2}H(n,γ), thermal n, parity nonconserving effects 7−19164
- ^{2}H(π,π), approx. symmetries of spin observables 7−36058
- ^{4}He$(\vec{p},p)$, 46 MeV, parity nonconservation, longitudinal anal. power 7−35944
- In, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{A}In, A=106, 108, spin determ. by nucl. orientation and NMR 7−41893
- ^{41}K(p,p'), 6 MeV, low-lying levels, EM props. and spin values, mixing ratios, lifetimes 7−19171
- ^{A}Kr, A=78, 80, negative-parity states, E2 transition probabilities, IBM anal. 7−30340
- ^{75}Kr, signature splitting of EM transitions 7−49287
- $(^{6}Li,^{6}He)$, on A=7-90, 210 MeV, spin-transfer strength probe, Gamow-Teller transitions 7−25003
- $^{7}Li_{\Lambda}$, spin-dependent interaction parameters 7−30361
- ^{24}Mg, obs. of high spin γ-decaying state at 16.9 MeV from ^{12}C$(^{16}O,\alpha\gamma)^{24}$Mg 7−5139
- ^{24}Mg, positive parity state struct., cranked alpha-cluster model 7−24943
- (n,γ), gamma-ray spectra, P-violating effects 7−49425
- (n,n) <0.5 MeV, scatt. anisotropy, resonances, diff. cross sections, spin channels 7−41995
- ^{12}N, alignment-correlation meas., G-parity conservation, limitation of validity 7−5156
- ^{14}N, ΔI=0 parity mixing meas. from ^{13}C(p,p) 0^{+} level formation, exptl. status 7−49238
- ^{16}N, multiparticle-multihole strength, DWBA calcs. and spin-parity assignments 7−30343
- ^{23}Na$(p,\alpha)^{20}$Ne, below 500 keV, resonance energies, J^{π}, stellar reaction *(Korean)* 7−30423
- ^{19}Ne, parity nonconserving alpha decay widths, Fermi liquid model and RPA model 7−15204
- ^{A}O$(^{16}O,X)$, elastic transfer effects in subbarrier fusion, barrier penetration model 7−42061
- ^{A}O(e,e'), A=17,18,15-23 MeV, excitation of M4 transitions, form factor meas. 7−19238
- $^{16}O_{\Lambda}$, spin-dependent interaction parameters 7−30361
- ^{16}O$(^{7}Li,^{7}Be)^{16}$N, direct and sequential processes 7−10167
- ^{17}O, isovector magnetic quadrupole strengths 7−30329
- (p,p), spin observables at intermediate energy 7−41992
- ^{208}Pb$(\alpha,^{3}He)^{209}$Pb, 183 MeV, neutron response fns., high-spin single particle strengths, DWBA anal. 7−19154
- Pd, A≈100 isotopes, positive parity states in IBA-1 model *(Rumanian)* 7−15189
- ^{147}Pm beta-decay, longitudinal electron polarization meas., relevance to deviations from parity violation 7−56650
- Ra isotopes, low-lying negative parity states, unified interpretation for lanthanide and actinide regions 7−41901
- ^{218}Ra, collective vibr. study via ^{208}Pb$(^{13}C, 3n)$ reaction 7−30307
- ^{A}Rb, A=91,93, low lying level struct., lifetimes, J^{π} assignments 7−19205
- ^{100}Rh, yrast bands, parity meas. 7−56587
- Ru, A≈100 isotopes, positive parity states in IBA-1 model *(Rumanian)* 7−15189
- ^{A}Ru, A=97,103, excited states, level schemes, spins and transitions from ^{94}Mo$(^{6}Li,p2n)$ and (α,n) 7−35921
- ^{A}Sc, A=44,46, spin-parity meas. from (d,α) cross section anal. 7−19165
- ^{A}Se, A=76, 78, negative-parity states, E2 transition probabilities, IBM anal. 7−30340
- ^{80}Se levels, J^{π}, ang. distribs., DWBA anal. of ^{78}Se(t,p) 7−35949
- ^{28}Si, highly excited spin states from ^{12}C$(^{20}Ne,\alpha)$ reaction 7−705
- ^{145}Sm single particle config. splitting, J assignments from ^{144}Sm$(\vec{d},p)$ 7−572
- ^{145}Sm states from ^{145}Eu decay, struct. and parity levels 7−19193
- ^{139m}Sm decay props., γ-ray and internal conversion meas. 7−49306
- Sn, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{A}Sn, A=110, 112, high spin states 7−35929
- ^{116}Sn(d,p), 80 MeV, far-side dominance for spin-depend. observables, theoretical implications 7−639
- ^{119}Sn Mossbauer transition, P parity nonconservation obs. 7−49237
- $^{160}Tb \rightarrow {}^{160}Dy$, decay investig. 7−49307
- ^{93}Tc, parity nonconservation study using tilted-multifoil hyperfine interaction 7−56604
- ^{98}Tc, yrast bands, parity meas. 7−56587
- Th isotopes, low-lying negative parity states, unified interpretation for lanthanide and actinide regions 7−41901

nuclear spin and parity continued
^{A}Ti, A=46, 48, spin-orbit contribs. to collective M1 transitions 7−56637
^{A}Tl, A=191-197, h$_{9/2}$ bands, particle-core coupling calcs., IBM core testing and negative parity states 7−56590
^{204}Tl beta-decay, longitudinal electron polarization meas., relevance to deviations from parity violation 7−56650
^{235}U(n,f), <200 keV, fission of oriented nuclei, spin depend. 7−36063
^{184}W, 1285 5^{-} level, decay props., parity mixing anal. 7−30364
^{89}Y(n,n′γ), level struct. study, statistical determ. of spins and parities 7−30344
^{A}Yb(n,n′), A=172,174 ang. distribs. studies 7−10143
^{65}Zn* compound system, preequilibrium α-emission, angular momentum effects 7−56693
^{A}Zr(α,α'), A=92,94, spin assignments, ang. distribs. meas. 7−10160
^{90}Zr, charge radius, charge and spin densities, Woods-Saxon shell model calcs. *(Chinese)* 7−5150

nuclear spin echo *see spin echo (NMR)*

nuclear spin-lattice relaxation
2D fluid translational diffusion, spin relax, pair correl. fn. dynamic effects 7−50186
acetonitrile-d$_3$, ^{2}H and ^{14}N spin-lattice relaxation rates, solvent effects 7−19897
acetyl chymotrypsin in cryosolvent, ^{13}C NMR relax. 7−10792
alkali silicates, aq. solns., longit. ^{29}Si nucl. mag. relax. 7−33285
9-aminotriptycene, 9-substituents, cct. barriers 7−64539
anthraquinone anion radicals, frozen soln., ENDOR spectra, temp. depend. 7−7610
antiferromagnets with easy-axis, nuclear spin relax. 7−17233
ATP-CdCl$_2$(Cd(ClO$_4$)$_2$), aq. solns., ^{13}C and ^{113}Cd spin-lattice relax. 7−28465
1-azabicyclo[2.2.2]octane, binary solvent system, solute-solvent interactions, ^{13}C and ^{14}N spin-lattice relax. study 7−31069
β-(BEDT-TTF)$_2$I$_3$, electronic and struct. props., ^{1}H NMR meas. 7−53170
β-(BEDT-TTF)$_2$I$_3$, molecular motion, proton spin-lattice relax. meas. *(Russian)* 7−17236
B-(BEDT-TTF)$_2$I$_3$, supercond., AC susceptibility and NMR studies 7−45543
β-bis(ethylenedithiolo)tetrathiofulvalene iodide, organic superconductor, ^{2}H spin-lattice relax., temp. depend. study 7−53171
blood and blood clots, paramag. effect of Fe on T$_1$ 7−17949
bovine fibrinogen solns., proton spin-lattice relax. 7−34111
brain oedema, infarction and tumours, significance of proton relax. time meas. 7−18049
o-carborane, B quadrupole coupling, NMR study 7−5704
chalcogenide intercalation compounds with NH$_3$ guest species, NMR 7−53160
chloroform-d, ^{3}H spin-lattice relaxation rates, solvent effects 7−19897
chlorotrimethyl-1,2-bis(methylthio)ethane platinum (IV), multisite exchanging system, 2D NMR exchange spectroscopy 7−25554
copper phthalocyanine iodide, anomalies in proton NMR spin-lattice relaxation 7−2815
D$_2$, solid, cubic phase, orientational ordering, NMR 7−38294
decylammonium-D$_2$O, surfactant aggregates, correl. time determ., relax. meas. 7−25540
DEFT with 2D pulse sequence, solvent reson. suppression or differentiation 7−48798
di(2-pyridyl)dichalcogenides, conform. and rot. isomerism ^{13}C NMR spin-lattice relaxation study 7−19888
dichloromethylbenzene-do(d$_1$)(d$_6$), internal rot., ^{13}C spin-lattice relax. times and NOE factors 7−50189
dimethylammonium manganese chloride, 1D antiferromagnet, nuclear spin-lattice relax., effect of nonlinear excitations 7−59122
dimethylthallium(II) cation, aq. soln., mol. motion, NMR spin relax. time meas. 7−57088
O,O′-dipheniioxydimethylsilane, internal rot., steric struct. influence, T$_1$ meas. 7−10629
disordered systems, spin-lattice relax. and vibr. mode localisation 7−64541
DMSO-water mixture, spin relax. ^{17}O and ^{2}H NMR study 7−38961
electron relaxation studies, review 7−22158
extracellular water vols. in tissue, meas. by Gd modification of ^{1}H-NMR spin lattice relax. 7−18100
ferrocene, azaferrocene and ruthenocene, struct. phase transitions and mol. dynamics. ^{1}H NMR 7−13053
ferromagnets, electron and nuclear spin wave attenuation coeffs., scatt. by two-level systems *(Russian)* 7−27508
ferromagnets, nuclear spin-lattice relax., one-magnon process effects *(Russian)* 7−33284
fibrin gels, proton spin-lattice relax. 7−34112
fluorocarbon solid-liquid ^{3}He interface, ^{19} nuclear relax. rate, freq. depend., NMR meas. 7−38958
fractal pores, nucl. mag. relax. 7−27625
heavy-fermion superconducting state, temp. depend. of nucl. spin-lattice relax. 7−17136
2,2,4,4,7,7-hexamethyl-2-sila-1,3-dioxepane, internal rot., steric struct. influence, T$_1$ meas. 7−10629
homonuclear mol. conversion in atomic cryomatrices *(Russian)* 7−5702
9-hydroxytriptycene, 9-substituents, cct. barriers 7−64539
iodotrimethyl-1,2-bis(methylthio)ethane platinum (IV), multisite exchanging system, 2D NMR exchange spectroscopy 7−25554
lecithin, aq. soln., bilayer liposomes, radiation damage PMR relax. time determ. 7−34200
LiH:Sb^{3+} single crysts., nuclear spin-lattice relax. time anisotropy anomaly studies *(Russian)* 7−33290
lithium dodecyl sulphate, micellar dynamics, ^{13}C-^{2}H scalar relax., NMR 7−27622
localized T_1 measurements using volume-selective excitation 7−25553
malonic acid, H dynamics, spin-lattice relax., ^{1}H NMR 7−59120
2-methyl-2-propanol, solid, mol. dynamics and phase transitions, NMR study 7−36649
9-methyltriptycene, 9-substituents, cct. barriers 7−64539
NMR longitudinal magnetisation recovery curve, chemical exchange effects 7−38957
NMR relax. time anal. for biological samples 7−13961
optical polarisation of nuclear moments in Si with 1D defects 7−7602
organic molecular crystals, ^{35}Cl NQR, quadrupole spin-lattice relaxation 7−17238
organic molecules, in soln., mixing time role in 2D heteronuclear NOE expt. 7−10634

nuclear spin-lattice relaxation continued
podocarpane derivatives, rotation barriers of interacting axial methyl groups, mol. dynamics study, ^{13}C NMR 7−10626
poly(γ-benzyl L-glutamate), α-helical, conformational and dynamic props., 2D nucl. Overhauser expts. 7−15749
poly-ε-caprolactone, crystallisation from melt, real-time pulse NMR meas. 7−27621
poly-p-phenylene sulphide: SO$_3$, electron motion, proton NMR T$_1$ studies 7−33289
trans-polyacetylene, neutral soliton diffusion, EPR, PMR meas. 7−64513
1,2-polybutadiene, mol. motion, glass transition, loss curve, NMR, ^{13}C spin-lattice relax. 7−17234
polymers, nonequilibrium phenomena, real-time NMR measurement system 7−2944
polymers spin diffusion effects on NMR spin-lattice relax. 7−27623
polypropylene, spin diffusion effects on NMR spin-lattice relax. 7−27623
polystyrene, proton-spin-lattice relaxation times, determ. using NMR relaxation 7−10797
potassium-laurate water, lyotropic liq. crystalline system, mol. motions, proton spin relax. study 7−64543
DL-(4,4-^{2}H$_2$) proline, solid state, ring dynamics, crystal struct. and temp. dependence, ^{2}H NMR study 7−26602
DL-(4,4-^{2}H$_2$)proline hydrochloride, solid state, ring dynamics, crystal struct. and temp. dependence, ^{2}H NMR study 7−26602
rapid scan correlation NMR method for relaxation time meas. 7−53168
short-chain molecules, liquid-phase, motion, ^{13}C and ^{1}H NMR investig. 7−15624
siloxane-silica network-like structs., mag. relax. PMR study 7−38960
smectic A phase, nuclear spin relax. due to order director fluctuations 7−51615
smooth muscle relaxing agents, homologous series, motional and conformational dynamics, NMR investig. 7−54439
spin diffusion induced by paramag. impurities in magic angle conditions 7−27619
susceptibility meas., PMR, X-ray and neutron diffr. 7−45244
tetahedral group reorientation in solids, deuteron spin-spin and spin-lattice relax. 7−22157
1,2,3,4-tetrahydro-5,6-dimethyl-1,4-methanonaphthalene, liq., motional dynamics, spin-lattice relax. time meas. 7−36650
tetramethyl ammonium tetrachlorozincate, internal motions and phase transitions, PMR studies 7−2993
4,4,7,7-tetramethyldioxepane, internal rot., steric struct. influence, T$_1$ meas. 7−10629
tissue T$_1$, numerical computation from NMR intensity ratios 7−18050
(TMTSF)$_2$ClO$_4$, transverse spin susceptibility and nuclear spin-lattice relax. rate of field-induced spin-density waves 7−45611
(TMTSF)$_2$PF$_6$, SDW characts., ^{1}H NMR anal. 7−45699
transition metals-H$_2$, disordered, NMR studies 7−27618
triatomic anions, rots. in aqs. soln., ^{14}N NMR, spin-lattice relax. 7−27620
1,2,3-trichlorobenzene, single cryst., order-disorder, ^{35}Cl NQR study 7−17237
tumour models, expt., ^{1}H-NMR relax. times and water compartmentalisation 7−17950
two-dimensional NMR, T$_1$ relaxation meas. 7−48800
water, molecular motion in small reversed micelles 7−59791
water, viscosity determ. by pulse NMR method 7−7604
Ag$_3$SbS$_3$, pyrargyrite, incommensurate phase, NQR study 7−45837
AlH$_3$, ^{1}H and ^{27}Al NMR investig. 7−27615
AuAl alloys, Al diffusion, NMR study 7−33287
B$_{10}$C$_2$H$_{12}$, spin-lattice relax., ^{13}C, ^{10}B and ^{11}B NMR 7−10623
^{13}C NMR spectral line broadening, lanthanide paramagnetic systems, magnetic suscept. anisotropy effects 7−27624
CeNi$_2$P$_2$, 4f-magnetism study by susceptibility and NMR 7−22154
Co, powder and thin film samples, nuclear spin-lattice relax. studies 7−38955
CsSD, mol. reorientation, elec. field gradient ^{2}H NMR 7−13052
CsSn$_2$F$_5$, F^{-} motion, NMR and electrical conduction 7−52132
Cu II complexes, interligand interaction, spectrosc. props. *(Japanese)* 7−57093
D$_2$, HCP solid, orientational ordering, NMR 7−38293
EuNi$_2$P$_2$, 4f-magnetism study by susceptibility and NMR 7−22154
Fe-Co alloys, powder and thin film samples, nuclear spin-lattice relax. studies 7−38955
a-Ge:D,H, plasma deposited, deuteron magnetic resonance 7−27626
a-GeSi:D,F, D NMR lineshapes and spin-lattice relax. studies 7−45836
H$_2$, in solid nonmagnetic hosts, nucl. spin relax. times and line shapes 7−42648
H$_2$, solid, orientationally ordered, spectral inhomogeneity of nuclear spin-lattice relax. 7−38292
H$_2$, solid, ortho-para mixture, local order parameters distrib., NMR line shapes, relax. times 7−27052
H$_2$O, in biological systems, protein dynamics and NMR relax. time 7−25555
H$_2$O-DMSO, mol. dynamics, PMR relax. study 7−36651
^{3}He+^{3}He(^{4}He), elastic scatt. cross section ratio, nucl. spin lattice relax. time anal. 7−42652
KCl(Br):Cu^{2+}, diffusion, nuclear spin-lattice relax. rate meas. *(German)* 7−6885
KH$_2$AsO$_4$, paraelectric, cluster distrib., proton spin-lattice relax. time 7−2946
KH$_2$AsO$_4$, paraelectric, cluster distrib., ^{75}As spin-spin and spin-latt. relax. 7−2947
KNi$_x$Mg$_{1-x}$F$_3$, nuclear spin-lattice relax., NMR studies 7−64542
KPF$_6$, octahedral anion anisotropic reorientation, nuclear spin-lattice relax. meas. 7−2943
KSn$_2$F$_5$, F^{-} motion, NMR and electrical conduction 7−52132
K$_2$TiF$_6$, ion motions and cond., NMR relax. time meas. 7−38246
LiAl$_5$O$_8$:Fe^{3+}, spin-lattice relax. times, Mossbauer spectroscopy 7−45848
LiZr$_2$(PO$_4$)$_3$ superionic conductor, Li^{+} motion, NMR study, phase transition obs. 7−32709
Mo$_3$Si(Ge), neutron irrad., NMR and mag. suscept. studies *(Russian)* 7−13051
ND$_4$SCN, phase transitions, spin lattice relax. study 7−33286
NH$_4$ClO$_4$, rotational diffusion of rare spin ^{17}O, NMR *(Japanese)* 7−45835
NH$_4$Sn$_2$F$_5$, F^{-} motion, NMR and electrical conduction 7−52132
(NH$_4$)$_2$ZnCl$_4$, internal motions and phase transitions, PMR studies 7−2993
NaCl:Cu, nuclear quadrupole spin-phonon interaction 7−22155
NaF:Cu, nuclear quadrupole spin-phonon interaction 7−22155

nuclear spin-lattice relaxation continued
NaOD, ^{23}Na critical longitudinal relax. time near antiferroelec. transition 7−17235
$NaSn_2F_5$, F^- motion, NMR and electrical conduction 7−52132
$Na_xTa_yW_{1-y}O_3$, NMR study of metal-insulator transition 7−2484
Nb, diffusion and trapping of H(T), NMR obs. 7−27616
$NbSe_2$, 2H polymorph, electronic density of states, phase matching of CDWs, NMR study 7−64538
$Nb_3Sn_{1-x}Sb_x$ A15 pseudobinary alloy, structural transitions and related anomalies 7−38182
$Rb_{1-x}(ND_4)_xD_2PO_4$, NMR in random fields, cluster formation and local dynamics of D glass 7−38959
RbSD, mol. reorientation, elec. field gradient ^{2}H NMR 7−13052
$RbSn_2F_5$, F^- motion, NMR and electrical conduction 7−52132
$ScH_x(D_x)$, H diffusion 7−52117
a-Si:D,F, D NMR lineshapes and spin-lattice relax. studies 7−45836
a-Si:D,F, plasma deposited, deuteron magnetic resonance 7−27626
a-SiGe:D,F, plasma deposited, deuteron magnetic resonance 7−27626
$TlClO_4$, rotational diffusion of rare spin ^{17}O, NMR *(Japanese)* 7−45835
$TlSn_2F_5$, F^- motion, NMR and electrical conduction 7−52132
W surfaces, chemisorbed ^{23}Na, nuclear-spin-polarized thermal atom scattering 7−53476
Y_9Co_7 mag. supercond., ^{59}Co NMR and nuclear relax. studies 7−64401
YIG, γ-irradiated, amplification effects and nuclear relax. in domain walls 7−7603
$YbNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7−22154
$Zr_2PdD_{2.9}$, metallic glass, deuteron mag. resonance study 7−22159

nuclear spin-spin relaxation *see spin-spin relaxation*

nuclear structure
see also EMC effect; form factors (nuclear); nuclear binding energy; nuclear charge; nuclear density; nuclear energy level transitions; nuclear energy levels; nuclear forces; nuclear isomerism; nuclear isospin; nuclear matter; nuclear moments; nuclear polarisation; nuclear shape; nuclear size; nuclear spectroscopic factors; nuclear spin and parity; nuclear structure theory
low Z nuclei, anomalously heavy isotopes, search results 7−35971
nuclear temperature and excitation 7−19158
rapidly rotating nuclei, nuclear struct. studies, review 7−56594
reviews of particle and nuclear physics, book 7−55907
scattering of electrons, nucleons, and pions as probes of nuclear structure, review 7−56593
(Ar,X), far from stable nuclei, props. and prod. 7−49220
(Ca,X), far from stable nuclei, props. and prod. 7−49220
^{71}Ga(p,n), Gamow-Teller strength functions 7−56684
(Ni,X), far from stable nuclei, props. and prod. 7−49220

nuclear structure theory
see also HF calculations; nuclear models; nuclear reaction and scattering theory; RPA calculations
A=220 region, triaxiality and reflection asymmetry, γ-correlations 7−49231
asymmetric nuclear shapes in structure, fission and cluster radioactivity, unified description 7−49228
axial exchange currents in nuclear physics 7−10110
axially deformed nuclei, rel. Hartree calcs., energies and deformations 7−35940
bosonic reservoirs at finite temp., master equation based on second RPA dynamics 7−35967
broken symmetry bases, RPA approx. 7−589
collective motions and collisions, TDHF and other theories 7−49270
constituent quark mass and nucleon properties in nuclei 7−49088
deformed even-even nuclei, s-d-g model quadrupole operator *(Chinese)* 7−49230
deformed rare earth nuclei, Coulomb displacement energy systematics 7−15182
desaturation effects in densities and energies of nuclei 7−19179
Dirac sea effects on finite nuclei, rel. model anal 7−49253
Dirac vacuum structure in nuclei, nucleon bound states, nucleon-nucleus reactions 7−49405
Dyson boson mapping, physical and spurious states, algebraic anal. 7−56628
energy density functionals, construction using local-scale point transformation method 7−10113
ENSDF, structure, organisation, file contents 7−10090
eta-mesic nucleus expt. signature for (π^+, p) reactions 7−31190
finite nuclei, symm. violation caused by boundary conditions 7−30336
finite nuclei, symmetry violation and interplay between giant resonances and background 7−49257
hot nucleus, correlation effects on the level density, finite temp. extension 7−24936
inverse nuclear problem 7−30352
liquid characteristics of the nucleus *(Danish)* 7−583
low-lying states of A=6 nuclei 7−41909
magnetic transitions, l-forbidden, core polarisation effects 7−49293
momentum distribution and the mean free path of nucleons in nuclear matter 7−41923
nuclear many-body problem, unitary-model operator anal. 7−10116
nuclear many-body problem, unitary-model-operator anal. 7−5164
nuclear matter, chiral invariant fermionic field theory 7−61831
nuclear matter, two, three and four body correlations for soft core pots., binding energy 7−61825
nucleon momentum and density distribs., general functional relation 7−24934
nucleon structure functions in nuclei, EMC-SLAC effect calcs. *(Russian)* 7−30323
nucleon-nucleon and nucleon-Δ-isobar forces in a Skyrme model with higher derivative terms 7−35953
periodic TDHF solutions, physical interpretation and quantisation 7−30358
rare earth nuclei, high excitation energy low spin states, structure and decay 7−41904
relativistic effects in nuclear physics 7−61798
Skyrme model, recent developments in context of QCD, review 7−414
statistical nuclear spectroscopy for quasiparticles and boson systems 7−41936
superfluid and normal phases in nuclei, Coriolis antipairing effect *(Danish)* 7−590
symmetric and asymmetric nuclear matter, LOCV calcs. of binding energies 7−5176
two-body bound state problem and nonsingular scattering equations 7−35955

nuclear structure theory continued
two-body model, three body implications 7−10112
Walecka and Friedberg-Lee field theory models, nonlinear coupled diff. eqn. soln. method 7−61444
Z=56 to 66 neutron-deficient nuclei, nucleon stability, Hartree-Fock method calcs. *(Russian)* 7−30384
NN scattering and bound state, Dirac eqn. with separable pot., rel. effects 7−30351
π^-p atom, accuracy of Deser-Goldberger-Baumann-Thirring formula 7−56608
^{A}Au, A=196, 198, Bose-Fermi symmetry chain for the description of odd-odd nuclei 7−30367
^{158}Er, deformation parameters at high excitation energies 7−15187
^{168}Er, 0^+ bands, microscopic anal. using the projection before variation method 7−56607
^{18}F, low-lying levels, Skyrme interaction microscopic study 7−30337
^{18}F, validity of M-3Y force equivalent G-matrix element for s-d shell calcs. *(Chinese)* 7−5185
^{2}H, magnetic form factor, topological exchange current contrib. 7−35941
^{2}H wave functions, exact rel. theory of two-body bound state wave functions 7−30353
^{3}H, charge form factors, hybrid quark hadron model anal. 7−24933
^{3}H, N-body quantum problem in configuration space 7−10141
^{3}H, wave functions, asymptotic D to S state normalisation 7−61814
^{3}He, charge form factors, hybrid quark hadron model anal. 7−24933
^{3}He, N-body quantum problem in configuration space 7−10141
^{3}He, wave functions, asymptotic D to S state normalisation 7−61814
Hf, even isotopes, neutron s-wave force function calcs. 7−30314
^{18}O, low-lying levels, Skyrme interaction microscopic study 7−30337
^{18}O, validity of M-3Y force equivalent G-matrix element for s-d shell calcs. *(Chinese)* 7−5185
^{208}Pb, gamow-Teller sum rules and ground-state correlations for (n,p) and (p,n) 7−49406
^{208}Pb isoscalar 1^+ state, proton and neutron contribs. constraints from (d,^{3}He) and $(\vec{\gamma},\gamma')$ 7−19172
W, even isotopes, neutron s-wave force function calcs. 7−30314

nuclear track emulsions
anomalous correl. between hadrons and electromagnetic particles, Chacaltaya emulsion chamber obs. 7−34816
beauty particles, CERN obs. 7−42397
CERN facility for pouring photographic emulsions 7−42399
charge identification by grain calc. in nuclear emulsions 7−42389
computer aided emulsion analysis system for nanobarn cross section events 7−19647
computerised video-electronic device for particle track measurements 7−19651
cosmic radiation characteristics, Salyut-7 meas. 7−42401
digital microscopes, nuclear emulsions appl. in hybrid expts. 7−42400
hybrid emulsion-SSNTD detectors for high energy physics 7−42395
hypernuclei identification in nuclear emulsions, review *(Polish)* 7−30887
JACEE emulsion chambers for high energy cosmic ray proton/He energy spectra meas. 7−15455
Kodak LR 115 II B, use in nuclear power plant dosimetry 7−30718
microprocessor controlled microscope for nuclear emulsion meas. 7−19648
nuclear research emulsions, anal. of Little-Boy replica neutron spectrum 7−30903
penetrative high energy showers, Chacaltaya emulsion chamber obs. 7−34815
picture analysis systems for nuclear emulsion track meas. 7−19649
plastic detectors/Ilford emulsion comparison for Rn and daughter activity 7−49821
K^- reemission from light emulsion nuclei 7−42398
AgCl-detectors in space biophysics, biological effects of cosmic ray HZE particles, evaluation methods 7−34295
^{12}C-emulsion interactions intergroup azimuthal correlation between different tracks 7−42278

nucleation
see also crystal growth; crystallisation
2D grain structures, topology, geometry, nucleation conditions 7−32853
2D nucleation in elec. field, form. free energy 7−58434
amorphous film, crystallisation kinetics, statistical model 7−16426
atmospheric ions 7−29230
austenitic steels, small precips., moire imaging in TEM 7−46490
bistable cholesteric twist cell, anisotropic domain growth 7−1865
calcium oxalates, precip. from high ionic strength solns., nucleating phase, additives effect 7−59774
carbide nucleation, precipitation growth in nonoxidable austenitic steel *(Spanish)* 7−53732
chondrule melts of porhyritic and radial pyroxene comp., dynamic crystallisation 7−9368
cloud pt. and nucleation theory 7−26906
colloidal crystals, nucleation and growth 7−12243
condensed nucleation systems, size effects on glass temp., percolation theory 7−58473
crystal growth, hill formation by 2D nucleation 7−44427
crystal growth from soln., nucleation in small liq. volumes, high saturation change rate 7−53536
crystal nucleation and growth, crystal defects 7−58169
deeply quenched liquids, crystalline nucleation 7−32607
deposit layer formation with two-dimens. nucleation and growth 7−22590
diamond nucleation and growth at high press., colloidal theory 7−46301
disordering transitions, nucleation mechanism, review 7−44743
elastic and viscoelastic bodies, state of stress and strain during phase transitions 7−29961
electrocrystallisation, kinetics, computer simulation studies 7−58173
electrocrystallisation processes, excluded nucleation zones 7−32318
films, grain structures and grain growth 7−16903
fissile material, critical soln., heating-up, nucleation and boiling 7−19368
fusion materials, gas diffusion and temperature dependence of bubble nucleation during irradiation 7−51874
gas-bubble nucleation in supersaturated solns., gas diffusion into cavity 7−52095
gas-bubble nucleation in supersaturated solns. during electrolysis, electrode surface effects 7−54139
glass ceramic materials, liq. phase separation, nucleation and crystn., book 7−24327
glass temp. derivation, condensed nucleation, percolation theory appl. 7−6794
grain boundary cavity-growth kinetics determ. from cavity-size distribs. during creep and continuous nucleation 7−26767

nucleation continued
grain boundary ledges, cavity nucleation 7−21217
graphite intercalation cpd., stage transformation, stochastic model 7−21433
horizontal soap film, transformation process *(French)* 7−32752
ice, nucleation activity of AgI particles 7−26918
ice, nucleation mechanism under elec. effect 7−52005
ice, nucleation on AgI-AgCl solid solns. 7−58179
ice nucleation by AgI-AgBr-CuI system, UV irrad. effect 7−66247
inert gases, condensation in free jets, scaling laws, similarity relations 7−42825
interfacial reactions, realistic modelling 7−21698
ionised cluster beams, form. and kinetics 7−15771
laser-irradiated materials, nonequilib. melting and solidification, computational modeling 7−2059
liquid metal turbulent jet, mixing and solidification in co-flowing stream 7−51250
magnetic bubble devices, ion-implanted, bubble generation mechanism 7−59082
metal-Si (SiO_2), silicidation reactions, rapid thermal annealing/TEM technique 7−52156
metals, bubble nucleation and growth under neutron and proton irrad., nonequilib. statistics 7−51848
metals, condensation in free jets, scaling laws, similarity relations 7−42825
metals, void nucleation, non-steady state theory *(Russian)* 7−63606
methanol, vapour, homogeneous nucleation rates, heat of assoc. effects 7−26926
minimum crystal size producing secondary nuclei 7−21143
$Nb_{0.93}V_{0.07}$ alloys, H impurity trapping, precipitation and nucleation, localised vibr. mode. meas. 7−2133
Nimonic superalloy, PE16, decomposition kinetics, TEM, FIM and SANS studies 7−53748
nonequilibrium homogeneous condensation in rarefaction waves 7−51280
nonequilibrium supercond. thin films, multigap state density instability, kinetic eqns. 7−52891
nonmetallic crysts., radiation-induced struct. changes, mechanisms and criteria 7−63651
organic vapours, thermally induced nucleation 7−23051
overlayer nucleation and growth, surface defects, characterisation by surface-sensitive diffr. 7−21614
phase transition, transient problem steady-state problem 7−12236
poly(ϵ-caprolactone), crystn. nucleation and spherulitic growth rates 7−37905
polyethylene, single cryst., regime II growth from dil. soln. in n-octane 7−21133
polyethylene, single cryst. growth mode and lateral habit, impurity effects 7−26668
polyethylene crystals, twinned, nucleation controlled growth 7−44401
polyethylene oxide, single cryst. growth mode and lateral habit, impurity effects 7−26668
polymer-substrate interfaces, electron diffraction 7−16378
polyvinylidene fluoride, Form I, ferroelectric switching characts., microdomain nucleation and growth model 7−22197
porous ductile material, yield surface curvature and void nucleation effect on plastic flow 7−51919
powder, internal structure of solidified aerosol droplets, etching method 7−7920
precipitation hardening, creep and reverse mechanical aftereffect processes *(Russian)* 7−3317
semiconductors, ion beam induced epitaxial crystn., kinetics, mechanisms and microstruct. 7−12171
silicide formation on Si, epitaxial nature, initial nucleation processes and effect 7−21767
silicide thin films, nucleated, thickness oscillations 7−32865
solid solution softening effect, kink nucleation on dislocations 7−44662
sphere, diffusion controlled growth from finite size, numerical solns. 7−44889
steel, alloy, trace element precipitation and segregation, hot brittleness effects *(French)* 7−17608
steel, austenite nuclei growth *(Russian)* 7−59515
steel, austenitic stainless, creep cavitation rel. to S and P impurity segregation 7−39587
steel, austenitic-ferritic stainless, weld metal deposits, final microstruct. form., role of thermal contraction stresses assoc. with inclusions 7−59738
steel, HSLA, submerged arc welds, acicular ferrite nucleation by inclusion phases 7−17525
steel, low C, resulphurised, free-machining, MnS precip. 7−46482
steel, martensitic, intergranular crack nucleation, fractographic and acoustic emission meas. *(Russian)* 7−33766
steel, Si, recrystallised grain growth, 650 to 850°C 7−46509
supercooled vapour, unsteady nucleation study 7−54157
superheated liq., flashing in glass capillaries 7−13797
superheated water flow, vaporisation, heterogeneous mechanism 7−6265
sympathetic, morphology, crystallography and kinetics 7−65035
thin films, nucleation and growth modes 7−38384
thin supercond. films, parallel nucleation field determ., quasiclassical BCS theory calcs. 7−7458
time lag in nucleation, Monte Carlo simulation 7−26902
triglycine sulphate nucleation in supersaturated solns.; induction period meas. 7−26680
vapour phase homogeneous nucleation, interfacial tension rel. to droplet size 7−58435
void nucleation as vacancy diffusive instability 7−21198
voids, in ternary solid soln. of vacancies, interstitial atoms and gas, self-consistent model 7−44525
weakly first-order transition, delayed nucleation 7−26904
York, England (Jul. 1986) 7−48142
zeolite ZSM-5, hydrothermal synthesis, nucleation and growth 7−33537
zinc oxalate, crystallisation, precip. kinetics 7−53537
Ag thin film form., nucleation and growth processes 7−2419
Al, plastic deformation under impact loading, metallography, SEM and TEM studies *(Russian)* 7−3361
Al-Li-Cu-Zr, Al-Li-Zr, nucleation of δ' and β' precipitates 7−59527
Al-Li-Cu-Zr, nucleation of precipitates 7−46476
Al-Mn surface icosahedral phase form., ion beam mixing and interdiffusion 7−16653
Al-Zn, homogeneous nucleation of precipitates 7−53733
Al-Zn-Mg, 7075, grain boundary precip., crystallographic orientation depend. 7−22686

nucleation continued
α-Al_2O_3, hexagonal, plate-like, synthesis using hydrated $Al_2(SO_4)_3$ as starting material *(Japanese)* 7−22454
$AlPO_4$, modulated phase, electron microscopy study 7−26937
Al_2TiO_5 ceramics, form. by solid state reaction ofAl_2O_3 and TiO_2 powders 7−46385
As_2Se_3 single cryst. growth from vapour phase, crucible diameter and sealing press. depend. 7−27877
Au-Cu alloys, vapour deposition on NaCl single crystals, nucleation and growth 7−39391
Au-Si, liq., thermodynamic analysis of conc. fluctuations and homogeneous nucleation, glass form. 7−44852
$BaSO_4$, precip. growth, nucleation process, light scatt. obs. 7−16465
Bi, solidification of undercooled liquid, nucleation, pressure effects 7−38169
Bi-Sn, liq., thermodynamic analysis of conc. fluctuations and homogeneous nucleation, glass form. 7−44852
C layers, nucleation in HF hydrocarbon plasma 7−17476
$CaPO_3$ crystal formation in tissues, SEM studies 7−28445
$CaSO_3.^1/_2H_2O$ crystal nucleation and growth from simulated FGD liquors 7−63534
$Cd_xHg_{1-x}Te$, photo-epitaxy, free radical mechanism 7−53612
CdS surfaces, electron-beam-stimulated processes, real-time atomic-resolution electron microscopy 7−7798
CdTe, epitaxial growth on GaAs (100) 7−21779
CdTe homoepitaxy on CdTe (111) by laser MBE, nucleation kinetics 7−22499
CdTe, MOVPE on {111}CdTe, twin nucleation 7−33579
Ce, isostruct. transforms., EMF pulses *(Russian)* 7−52038
Ce plate, isostructural $\gamma \rightleftarrows \alpha$ transformation, shape changes *(Russian)* 7−46464
Co-Ni-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7−27581
Co-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7−27581
Cu, electrocrystallisation processes, excluded nucleation zones 7−32318
Cu, recrystallisation texture, deformation temp. effects *(Russian)* 7−8007
Cu-Co, dynamic fracture characts., void nucleation at incoherent precipitates 7−17628
Cu-Fe (0.6 to 2.2 at.%), solid solns., decomp. processes, effect of O_2 *(Russian)* 7−33681
Cu-Fe-Al, cold rolled, γ to α transform. of fine α-Fe precipitates, mag. props. 7−3300
Cu_3Pt ordering kinetics, comp. depend., X-ray and DTA studies 7−26940
$Cu_{60}Zr_{40}$, amorphous, isothermal crystallisation, nucleation activation energy, DSC obs. 7−11926
α-Fe, dislocation pair jog, energy characts., mol. dynamics method anal. *(Russian)* 7−32440
Fe-C, ferrite nucleation at austenite grain edges, kinetics 7−7991
Fe-C-Mn(Ni)(Co)(Si), ferrite nucleation at austenite grain edges, kinetics 7−7991
Fe-C-Mn(Ni)(Co)(Si)(Mo), nucleation of proeutectoid ferrite at austenite grain boundaries 7−8003
Fe-Cr-C, martensite nucleation, dislocations, grain boundaries, plastic accommodation 7−28040
Fe-M-B metallic glasses (M=Ti,V,Cr,Mn,Co,Ni,Cu,Pd,C,Si,Ge,Sn), formation kinetics, thermal stability 7−58474
Fe-Mn-C critical nucleus comp. of ferrite 7−7967
Fe-Ni(-C), martensite nucleation, dislocations, grain boundaries, plastic accommodation 7−28040
Fe-Si-B alloy glass, crystn., effect of solid-liq. interfacial energy 7−16437
$Fe_{83}B_{12}Si_5$ metallic glasses, crystn., magnetisation, scaling, mag. relax. meas. 7−63496
$(Fe_{1-x}Co_x)_{80}B_{20}$, amorphous alloy, crystallisation kinetics *(Korean)* 7−26638
$Fe_{67}Co_{18}B_{14}Si$, amorphous mag. alloy, crystallisation, elec. resist., TEM obs. 7−11927
$Fe_{1-x}Ni_x$ bulk melts, containerless undercooling, solidification 7−26916
Ga, thin evaporated films, nucleation and growth mechanism 7−46327
GaAs epitaxial nucleation and growth kinetics, substrate orientation depend., numerical anal. 7−64020
GaAs, nucleation and growth on Ge, antiphase boundary struct. 7−2420
GaAs-Si, nucleation and growth of GaAs 7−45038
GaAs-ZnSe, MBE growth on GaAs epilayers, nucleation and characterisation 7−45046
GaP on Si substrate, MOCVD growth and characterisation 7−27926
Ge, MBE growth on CaF_2/Si (111), structural and electrical characteristics 7−45051
GeSi-Si heterostructures, MBE grown, structural props., quality, electron diffr., imaging obs. 7−7036
$In_{0.53}Ga_{0.47}As$-W-InP structures, LPE growth on structured substrates 7−46353
$K_2Cr_2O_7$ crystals grown from soln., enantiomorphism 7−51682
KH_2PO_4 crystals, contact nucleation on (100) face 7−51680
KH_2PO_4 crystals grown at boiling point, surface microtopography 7−21581
KH_2PO_4, precip. growth, nucleation process, light scatt. obs. 7−16465
K_2SO_4, cryst. growth, nucleation kinetics, habit, Cr(III) effect, soln. pH 7−53539
LiBr-LiCl binary mixed crystal system, critical nucleus, melt comp. 7−58445
Li_2O-Al_2O_3-SiO_2 glass., cryst. phase nucleation, DTA, X-ray diffr. 7−58156
Li_2O-SiO_2 glass, phase nucleation, melting temp. depend. 7−6549
Mg-SiO-H_2, nucleation, physical spinodal theory 7−21428
MgO-Al_2O_3-SiO_2 glass-ceramics, nucleation crystallisation, modulus of rupture, acousto-US obs. 7−59723
Mn allotropic phases nucleation during laser annealing, melting, solidification and regrowth 7−12143
MnAs, paramagnetic-ferromagnetic transition, nucleation model calcs. 7−52992
$NH_4Al\ (SO_4)_2.\ 12H_2O$ secondary nucleation from soln., effect of insoluble additives 7−26681
$(NH_4)_2SO_4$, crystal growth, contact nucleation rel. to Cr ion conc. 7−16462
$NaBO_3.4H_2O$, primary nucleation in aq. solns. 7−32336
NaCl, secondary nucleation rate under different stirring conditions 7−44742
NbO_x, ω phase, point defect induced nucleation 7−1923
Ni (110), defects developed by epitaxial growth of Ni film or ion bombardment 7−63924

nucleation continued
- Ni-Sn highly undercooled droplets, rapidly solidified, microstruct. studies 7−22670
- $(Ni\text{-}Pd)_{82}Si_{18}$ amorphous alloys, corrosion behaviour, struct. relax, effects. 7−8166
- NiAlTi, decomposition kinetics, TEM, FIM and SANS studies 7−53748
- $Ni(CO)_4$, shock pyrolysis, homogeneous nucleation, spectroscopic investig. 7−46823
- Pb-Sn (2 wt.%), high temp. fatigue, dynamic recrystallisation 7−39667
- $PbO\text{-}B_2O_3$, glass form., crystallisation 7−37875
- $PbO\text{-}Fe_2O_3\text{-}B_2O_3$ glass ceramics, mag. props. and EPR spectra of precipitated mag. phases 7−45748
- Pd-U-Si, growth of quasicrystalline phase from glassy state 7−58144
- Pd-U-Si glassy alloys, glassy-to-icosahedral polymorphous crystn. transform., X-ray and electron diffr. studies 7−6515
- $Pd_{77.5}Cu_6Si_{16.5}$ glass, cryst. nucleation and growth kinetics 7−11917
- Pt/SiN/Si structure, nucleation kinetics and spatial distribution of spherulotic PtSi clusters 7−21675
- Sb liquid droplets, undercooling and crystallisation 7−39496
- Si (111), MBE, ordered and disordered growth modes 7−12558
- Si, amorphisation and crystallisation 7−11914
- Si, amorphous to crystalline transformation, TEM in situ technique 7−44376
- a-Si, ion implanted, 2D model of nucleation and regrowth 7−38408
- Si, ion implanted, laser beam melting and resolidification 7−12126
- Si islands, selective epitaxial deposition on SiO_2, morphology 7−38402
- Si, local autoepitaxial layers, packing defect density, depend. on crystallographic orientation of side boundaries 7−58701
- Si, MBE growth on CaF_2/Si (111), structural and electrical characteristics 7−45051
- Si:Au, supersaturated low-temp. substitutional impurities, annealing 7−6665
- a-Si:H, glow discharge deposited, nucleation, substrate temp. effects 7−22504
- a-Si:H, photo-CVD deposition, initial processes *(Japanese)* 7−7053
- a-Si:H films, glow-discharge-deposition, initial nucleation and growth 7−63997
- a-Si:H surfaces and interfaces, microstruct., ellipsometry studies 7−38362
- a-Si:H thin films, bulk and interface struct., in situ ellipsometry study 7−27200
- Si:In, nucleation of internal melt during pulsed laser irradiation 7−12129
- Si:O, C, precipitation, microstructures, TEM studies 7−32668
- Si:O, ion implanted, octahedral oxide particle nucleation and growth 7−16776
- Si:O, O precipitation, exigent-accommodation-volume factor 7−16771
- Si:O, oxide precipitate nucleation, thermal donor formation kinetics 7−32667
- Si:O, precipitation phenomena, growth law for disc precipitates 7−16770
- Si:O,C,N, precipitation phenomena, TEM studies 7−16768
- Si/metal film interface, silicide nucleation, kinetic model 7−63970
- β-SiC, ultrafine powder synthesis in thermal arc plasmas 7−27916
- $SiO\text{-}H_2$, nucleation, physical spinodal theory 7−21428
- SiO_2, modulated phase, electron microscopy study 7−26937
- Ti-Co (3.2 at.%), grain boundary allotriomorphs, nucleation, growth and transform. kinetics 7−28035
- Ti-Cr (6.6 at.%), grain boundary allotriomorphs, nucleation, growth and transform. kinetics 7−28035
- Ti-Si interface, nucleation and growth of $TiSi_2$, influence of O_2 7−21541
- $TiO_2\text{-}SnO_2$ system outside coherent spinodal, phase transform. kinetics, role of aliovalent dopants 7−46432
- U-Si-Fe, β to α phase transform., dilatometry, metallography 7−28036
- U-V (0.2 wt.%), hydriding reaction kinetics *(French)* 7−23062
- $V_{75}Si_{25}$ amorphous films, crystallisation and elec. props. 7−21102
- W CVD films, nucleation on insulators and surface reaction with Si 7−16911
- W-Si, sputter deposition on Si (100), rapid thermal annealing 7−21548
- $WO_3\text{-}Na_2O(NaF)$, nucleation and flux growth 7−44430
- YAG powders, hydrothermal growth, controlled nucleation, CRT phosphor prep. 7−13412
- Zn, electrodeposition kinetics on Zn single crystals, pot. step method, SEM anal. 7−27189
- ZrO_2 ceramics, displacive transform. mechanism 7−65031

nuclei *see nucleus*

nuclei with mass number 1 to 5
- $^{4}He(\alpha,X)$, $\sqrt{S_{NN}}=31.2$ GeV, nuclear stopping power, Lund model comparisons 7−10161
- A=5-8, breathing cluster model for two s-wave clusters, charge form factors 7−24942
- conf., Washington, DC, USA, April 1986 7−60881
- EMC effect, quark exchange in nuclei for A=3 7−61791
- excess and hole 4*N*-nuclei, binding energies, quad. deformation parameters 7−5147
- few-nucleon systems, relativistic calcs. 7−61843
- heavy isotopes of low Z nuclei, search results 7−35971
- lightest elements formation in cosmological nucleosynthesis 7−24252
- NNN system, properties and electromagnetic observables, form factors 7−61803
- NNN-interaction effects in light nuclei 7−61804
- Q-nuclei, binding energies and effects on stellar H burning 7−55445
- relativistic three-nucleon equations 7−61811
- three-body forces in three-nucleon systems 7−41907
- three-nucleon system, interpolating scatt. amplitude study 7−41953
- triton spectroscopy approach to neutron spectroscopy using $^{6}Li(n,\alpha)^{3}H$ 7−30830
- (e,e′), model independent exchange current determ. for few nucleon systems 7−35743
- $^{1}H(\vec{d},2pn)$, 95 MeV, tensor analyzing power meas. 7−61898
- ^{2}H, quark compound bag model anal. 7−61723
- $^{2}H(N,N')$, anal. using separable expansion method for Paris potential 7−19218
- Λp low energy scattering and p-shell hypernuclei pots., binding energies 7−49280
- (N,X), sensitivities of N, π probes to reaction mechanisms and nuclear props. 7−61872
- NN scattering and bound state, Dirac eqn. with separable pot., rel. effects 7−30351
- NNN bound state, quark compound bag model anal. 7−61723
- NNN form factors, isospin structure 7−61793
- NNN system, minimum relativistic model 7−56617
- NNN system, three-body forces, relativistic quantum dynamics 7−56616

nuclei with mass number 1 to 5 continued
- NNN system at low and intermediate energies, NN and πN interactions 7−61802
- NNN three-body force, derivation using πNN, πNNN system eqns. 7−61809
- $(\bar{p},X)$, $E_{\bar{p}}=0\text{-}600$ MeV, exptl. review 7−61873
- $(\pi,\pi'X)$, pion interactions with few-body systems, expts. at SIN 7−61919
- (π,X), pion interactions with few-body systems, expts. at SIN 7−61919
- (π,X), sensitivities of N, π probes to reaction mechanisms and nuclear props. 7−61872
- $^{1}H(n,\gamma)$, total capture cross section meas. at 25 MeV 7−30281
- $^{1}H(^{3}He,X)^{2}H$, high resolution search for narrow dibaryons 7−5209
- $^{1}H(^{3}He,t\Delta^{++})$, one-pion exchange model anal. 7−24988
- $^{1}H(\vec{d},\gamma)^{3}He$, tensor analyzing powers, anal. of ^{3}He,^{4}He wavefunction D-state components 7−30415
- $^{1}H(\vec{d},\pi^{0})^{3}He$, 500-2200 MeV, tensor anal. power and diffr. cross section 7−30406
- ^{1}H(n, axion)^{2}H, search for short lived axions 7−56685
- $^{1}H(\vec{n},\gamma)$, 180-270 MeV, diff. cross section and anal. power meas. 7−19245
- $^{1}H(n,\gamma)$, parity violating observables with weak interaction model and Paris pot. 7−689
- $^{1}H(\vec{p}, \vec{p}^{1})$, 800 MeV parity nonconservation meas. 7−10149
- $^{1}H(p,e^{+}\nu)^{2}H$, stellar process, energy generation rates 7−10139
- $^{1}H(\vec{p},\vec{p}')$, 500 MeV, pN analyzing powers, spin-rotation-depolarization parameters 7−19255
- $^{1}H(\bar{p},\bar{p}')$, $\bar{p}$ asymmetry meas., LEAR expt. 7−49170
- $^{2}\vec{H}$ (π,π), dynamical observables determ. for vector and tensor pol. targets 7−49368
- $^{2}\vec{H}$ (π^{+}, π^{+}), vector analyzing power meas. at 0.74 GeV/c 7−42076
- ^{2}H, breakup and three body forces 7−61813
- ^{2}H charge form factor in perturbative QCD 7−41719
- ^{2}H, dynamical model for six-quark admixture 7−467
- ^{2}H, EM form factors in quark based model 7−41888
- ^{2}H, electromagnetic structure of the deuteron in the Skyrme model 7−49235
- ^{2}H, magnetic form factor, topological exchange current contrib. 7−35941
- ^{2}H, magnetic form factor meas. at high Q^{2} 7−35938
- ^{2}H, magnetic moments of multiquark systems, chiral bag model 7−41816
- ^{2}H, muon capture rate 7−56657
- ^{2}H, NN pot. and phase shifts with quark degrees of freedom 7−41886
- ^{2}H wave function, large momentum components, Reid soft core and Paris pots. 7−35950
- ^{2}H wave functions, exact rel. theory of two-body bound state wave functions 7−30353
- $^{2}H(^{2}\vec{H},X)^{2}H$, high resolution search for narrow dibaryons 7−5209
- $^{2}H(^{6}\vec{L}i,\alpha)^{4}He$, off-resonance analyzing power meas. 7−5204
- $^{2}H(K^{-},N\pi\Lambda(\Sigma))$, three-body multichannel, two body interaction anal. 7−36057
- $^{2}H(N,N')$, doublet scattering lengths with three-nucleon forces 7−61886
- $^{2}H(N,N)$, N-body quantum problem in configuration space 7−10141
- $^{2}H(N,N)^{2}H$, scatt. with Paris N-N potential 7−61893
- $^{2}H(\alpha,\gamma)$ ^{6}Li stellar reaction rate, influence of ^{2}H and ^{6}Li quadrupole moments 7−24126
- $^{2}H(d,X)$, $\sqrt{S_{NN}}=31.2$ GeV, nuclear stopping power, Lund model comparisons 7−10161
- $^{2}H(d,X)$, many-particle rapidity correlations, cluster model framework 7−19220
- $^{2}H(d,X)$, multiplicity dependence of transverse momentum spectra at ISR energies 7−56581
- $^{2}H(d,X)$, singlet d intermediate state in four-body breakup reaction *(Chinese)* 7−24985
- $^{2}H(d,\alpha\pi^{0})$, charge symmetry breaking in the n-p system 7−30434
- $^{2}H(\vec{d},\gamma)^{4}He$, cross-sections, tensor and vector analysing powers 7−61896
- $^{2}H(\vec{d},\gamma)^{4}He$, M1, E1, M2, E2 transitions, ^{4}He D state anal. 7−19262
- $^{2}H(\vec{d},\gamma)^{4}He$, tensor analyzing powers, anal. of ^{3}He,^{4}He wavefunction D-state components 7−30415
- $^{2}H(\vec{d},\gamma)^{4}He$, tensor force effects 7−49433
- $^{2}H(\vec{d},n)^{3}He$, $E_{cm}=20\text{-}150$ keV, polarized and unpolarized cross section calcs. DWBA anal. 7−10159
- $^{2}H(d,nd)^{1}H$, complete breakup in four body AGS theory 7−693
- $^{2}H(d,\pi p^{0}X)$, $\sqrt{S_{NN}}=31$ GeV, high p_T invariant cross section meas. 7−35907
- $^{2}H(d,\gamma)^{4}He$, analysing powers and cross-sections 7−49427
- $^{2}H(e,e,)^{2}H$, transverse quasielastic scattering, cross-sections 7−49379
- $^{2}H(e,e'N)$, nucleon momentum distribs. using y-scaling 7−5226
- $^{2}H(e,e')$, nucleon momentum distribs. using y-scaling 7−5226
- $^{2}H(\vec{e},e'n)$, d disintegration by pol e^{-}, neutron electric form factor 7−61862
- $^{2}H(\vec{e},e'n)^{1}H$, neutron electric form factor 7−35880
- $^{2}H(\vec{e},e'\vec{p}n)$, proton polarisation and neutron electric form factor *(Russian)* 7−15212
- $^{2}H(e,e)$, future experiment at ELSA stretcher ring 7−61860
- $^{2}H(e,e)^{2}H$, EM radii determ., tensor polarisation meas. 7−49383
- $^{2}H(e,epn)$, final state interaction effects 7−5100
- $^{2}H(e,pn)$, hybrid-quark-hadron model anal. 7−56673
- $^{2}H(e^{-},e^{-})$, tensor polarisation and spin observables as perturbative QCD test 7−35998
- $^{2}H(\gamma, pn)$, forward and backward cross section meas. 7−61853
- $^{2}H(\gamma,n)$, total cross section meas. between 15 and 75 MeV 7−5224
- $^{2}H(\gamma,n)^{1}H$, asymmetry and angular distribution of deuteron photodisintegration in the 20-60 MeV range 7−49376
- $^{2}H(\vec{\gamma},\vec{p}n)$, 300-500 MeV, photodisintegration by linearly pol. γ, pol. parameters 7−35991
- $^{2}H(\gamma,pn)$, future experiment at ELSA stretcher ring 7−61860
- $^{2}H(\gamma,pn)$, nucleon angular distn., polarization meas., isolation of EI-MI interference contributions 7−56664
- $^{2}H(\gamma,pp)\pi^{-}$, dibaryon resonance evidence 7−49372
- $^{2}H(\gamma,\pi n)$, threshold photoproduction in break-up reactions, cross sections 7−49162
- $^{2}H(\gamma,x)$, future experiment at ELSA stretcher ring 7−61860
- $^{2}H(\gamma,n)$, 50-100 MeV, differential cross section asymm. meas. 7−49374
- $^{2}H(h,pX)$, π rescattering contrib. to p cumulative prod. 7−41861
- $^{2}H(\mu,)^{2}H$, approx. Bethe-Salpeter wavefunctions 7−654
- $^{2}H(\vec{n}, \gamma)$, photon asymmetry meas. and parity violation 7−30424
- $^{2}H(n,2n)^{1}H$, absolute cross-section in star geometry 7−61890
- $^{2}H(n,2np)$, 12 MeV, n-p final state interaction, analyzing power meas. 7−61887
- $^{2}H(n,2np)$, Fadeev calcs. 7−61884
- $^{2}H(n,\gamma)$, thermal n, parity nonconserving effects 7−19164
- $^{2}H(n,\gamma)^{3}H$, three-nucleon force effects 7−61885

nuclei with mass number 1 to 5 continued

^{2}H(n,n′), three-nucleon force effects 7−61885
^{2}H(n,n), Fadeev calcs. 7−61884
^{2}H(n,n), three-nucleon force effects 7−61885
^{2}H(n,n)^{2}H, elastic scatt., analysing power distribs. 7−61892
^{2}H($\vec{n}$,n)^{2}H*, analysing power meas. 7−61891
^{2}H(ν,e^{+}nn), exchange currents effects, solar neutrino problem soln. 7−56537
^{2}H(ν,ep)^{1}H, exchange currents effects, solar neutrino problem soln. 7−56537
^{2}H(ν_{μ}, K), 1-5 GeV, nucleon decay search implications 7−19116
^{2}H($\vec{p}$,2pn), 14,1 MeV, three-body force effects 7−61888
^{2}H(p,2pn), 508 MeV, differential cross section meas. 7−24983
^{2}H(p,2pn), Fadeev calcs. 7−61884
^{2}H($\vec{p}$,γ), 100-200 MeV, differential cross section and analyzing power meas. 7−41997
^{2}H($\vec{p}$,γ)^{3}He, analyzing powers, anal. of quasi-deuteron effect 7−30415
^{2}H(p,γ)^{3}He, two-body decay channels, photon and pion asymmetries 7−61895
^{2}H($\vec{p}$,$\vec{n}$)2p, K_{y}^{y} meas. at 0° 7−690
^{2}H($\vec{p}$,np), cross section and transverse polarization transfer at 160 MeV 7−42003
^{2}H(p,np)^{1}H, collinearity peak, comparison with Faddeev calcs. 7−61889
^{2}H($\vec{p}$,$\vec{p}'$), 500 MeV, pN analyzing powers, spin-rotation-depolarization parameters 7−19255
^{2}H(p,p), anal. of three-body interactions using spin observable meas. 7−30280
^{2}H(p,π^{0})^{3}He, precision test of charge independence 7−36002
^{2}H($\vec{p}$,π^{+})^{3}H, 1 GeV region, backward angles anal. power, large variations 7−30405
^{2}H(p,π^{+})^{3}H, precision test of charge independence 7−36002
^{2}H(π,X), absorption form factor and off-shell behaviour, perturbative approach 7−5295
^{2}H(π,π), approx. symmetries of spin observables 7−36058
$^{2}\vec{H}$(π,π), tensor analyzing power meas., resolution of dibaryon resonance production problem 7−30451
^{2}H(π^{-},$\mu^{+}\mu^{-}$), high mass dimuon prod., scaling violation, differential nuclear effects 7−61924
$^{2}\vec{H}$(π^{+},π^{+}pn), 180, 228, 294 MeV, vector analyzing power meas., relativistic Fadeev calc. comparisons 7−30452
^{3}H, atomic effects in low energy β-decay 7−599
^{3}H, beta decay, $\bar{\nu}_{e}$, mass upper limit 7−56651
^{3}H, beta decay, $\bar{\nu}_{e}$ mass limit meas. 7−56652
^{3}H beta spectra meas., exclusion of electron energy loss uncertainty in ν rest mass meas. 7−5201
^{3}H beta spectra meas., ν_{e} mass, upper limit determ. *(German)* 7−35978
^{3}H beta spectrum, endpoint meas., $\bar{\nu}_{e}$ mass, upper limit determ. 7−35976
^{3}H beta spectrum meas., $\bar{\nu}_{e}$ mass, upper limit determ. 7−35975
^{3}H beta-decay, molecular effects, neutrino mass determ. 7−49310
^{3}H beta-decay, molecular final-state interactions 7−49311
^{3}H binding energy, configuration space calcs. 7−61790
^{3}H, bound-state β-decay and ν mass meas. 7−56643
^{3}H, charge form factors, hybrid quark hadron model anal. 7−24933
^{3}H, EM form factors, hybrid-quark-hadron model anal. 7−56673
^{3}H, electromagnetic struct., nonnucleonic degrees of freedom and relativity effects 7−35937
^{3}H, N-body quantum problem in configuration space 7−10141
^{3}H, properties using two-, three nucleon potentials 7−61808
^{3}H, three-body potentials originating from cluster distortion 7−56612
^{3}H, wave functions, asymptotic D to S state normalisation 7−61814
^{3}H-^{125}I, dual isotope liquid scintillation counting *(Chinese)* 7−5197
^{3}H+α cluster, distortion effects, multichannel resonating group method 7−5171
^{3}H($^{3}\vec{H}$e,d)^{4}He, 18-33 MeV, analyzing power meas., charge symmetry violation anal. 7−5252
^{3}H(d,n)^{4}He, muon catalysed fusion, $\mu\alpha$ sticking probabilities 7−713
^{3}H(d,n)^{4}He, muon-catalyzed fusion at 23-35 K 7−42102
^{3}H(d$_{1}$X), muon catalysed fusion, muon sticking, low energy resonance effects 7−49488
^{3}H(e,X), inclusive electron scatt. expts. 7−61867
^{3}H(e,2np), longitudinal and transverse response fn. meas. 7−61863
^{3}H(e,e′), EMC effect and high Q^{2} three body physics at SLAC 7−56674
^{3}H(e,e′), NN interactions for bound state wave function calcs. 7−5162
^{3}H(e,e), cross section meas. 7−61863
^{3}H(γ,X), three-body forces, low energy understanding 7−61858
^{3}H(γ,pnn), NN interactions for bound state wave function calcs. 7−5162
^{3}H(γ,x), future experiment at ELSA stretcher ring 7−61860
^{3}H(μ,X), NN interactions for bound state wave function calcs. 7−5162
^{3}H(π,X), two-nucleon absorption model anal. 7−56705
^{3}H(π,π'), charge symmetry breaking in ^{3}He-^{3}H system, anal. using n-p binding energies 7−56706
^{3}H(π,π), 142, 180, 217 MeV, matter form factors, comparisons with ^{3}He(π,π) 7−56600
^{3}H(π,π)^{3}H, elastic scatt., form factor determ. 7−61926
^{4}H$_{\Lambda}$, Λ-separate energies, spectra, s-wave phase shifts 7−30348
^{4}H$_{\Lambda}$→^{3}H+pπ^{-}, energy spectra, angular correlation calcs. 7−56635
^{4}H$_{\Lambda}$→^{3}He→nπ^{-}, energy spectra, angular correlation calcs. 7−56635
^{A}H, A=4,5,6 bound and unbound levels from ^{9}Be(^{11}B,O) reactions 7−36027
^{A}H(α,γ)$^{A+4}$Li, A=2,3 microscopic potential model studies of light nuclearcapture reactions 7−697
^{A}H($\vec{d}$,d), A=1,2, vector and tensor analysing power meas. 7−10158
$_{\Lambda}^{3}$H (γ,K^{+})^{3}H, hybrid method using hyperspherical functions 7−41977
He, antikaonic, evidence for narrow nucl. $\bar{K}\alpha$ bound state 7−5788
He, muonic, ionisation, transfer and excitation cross sections 7−61936
^{2}He(e,e′n) cross section calcs., six-quark cluster effects 7−655
^{3}He, charge form factors, hybrid quark hadron model anal. 7−24933
^{3}He, EM form factors, hybrid-quark-hadron model anal. 7−56673
^{3}He, electric dipole moment, contributions from CP-violating NN interaction 7−49247
^{3}He, electromagnetic struct., nonnucleonic degrees of freedom and relativity effects 7−35937
^{3}He, N-body quantum problem in configuration space 7−10141
^{3}He, quark induced three body forces in 3N systems, nonrelativistic potential model anal. 7−56615
^{3}He, Schrodinger equation hard core anal. 7−61812
^{3}He, wave functions, asymptotic D to S state normalisation 7−61814
^{3}He(Π,pn), diproton (^{1}S$_{0}$) Π-absorption, partial-wave anal. 7−19306
^{3}He(α,γ)^{7}Be, microscopic potential model studies of light nuclearcapture reactions 7−697

nuclei with mass number 1 to 5 continued

^{3}He(d,p), 18-22 MeV, forward angle cross sections and anal. powers 7−632
^{3}He(e, e′2p), role of correlations, final state interactions and meson exchange 7−56668
^{3}He(e,X), inclusive electron scatt. expts. 7−61867
^{3}He(e,X), many-body effects in inclusive and exclusive scatt. 7−61866
^{3}He(e,2pn), longitudinal and transverse response fn. meas. 7−61863
^{3}He(e,e′N), nucleon momentum distribs. using y-scaling 7−5226
^{3}He(e,e′X), electrodisintegration coincidence cross section, final state interaction anal. 7−36000
^{3}He(e,e′X), electrodisintegration, PWIA 7−61865
^{3}He(e,e′), EMC effect and high Q^{2} three body physics at SLAC 7−56674
^{3}He(e,e′), longitudinal spectra in the low-energy scheme 7−41986
^{3}He(e,e′), M1, M2 transition strength search using 180° scattering 7−61864
^{3}He(e,e′), NN interactions for bound state wave function calcs. 7−5162
^{3}He(e,e′), nucleon momentum distribs. using y-scaling 7−5226
^{3}He(e,e′)^{3}He, quasielastic scatt., y-scaling function from PWIA 7−61868
^{3}He(e,e′d)^{1}H, 500 MeV, ^{3}He spectral fn. dependence on relative p-d energies, ^{3}He(e,e′p) comparisons 7−56672
^{3}He(e,e′p)^{2}H, 500 MeV, ^{3}He spectral fn. dependence on relative p-d energies, ^{3}He(e,e′d) comparisons 7−56672
^{3}He(e,e), cross section meas. 7−61863
^{3}He(γ,X), three-body forces, low energy understanding 7−61858
^{3}He(γ,2pn), three-nucleon force effects, meson exchange 7−61856
^{3}He(γ,pd), differential cross sections, $\Sigma(\theta)$ meas. 7−56667
^{3}He(γ,ppn), NN interactions for bound state wave function calcs. 7−5162
^{3}He(γ,x), future experiment at ELSA stretcher ring 7−61860
^{3}He(k^{-},π^{+}nD$_{s}$), strangeness-1 dibaryon search expt. 7−36056
^{3}He(μ,X), NN interactions for bound state wave function calcs. 7−5162
^{3}He(p,X)^{2}H, high resolution search for narrow dibaryons 7−5209
^{3}He(p,2p)^{2}H, knockout reactions, spectral function 7−61894
^{3}He(p,pd)^{1}H, knockout reactions, spectral function 7−61894
^{3}He(π,X), four-body wave function for the threshold energy 7−36061
^{3}He(π,X), two-nucleon absorption model anal. 7−56705
^{3}He(π,γ)^{3}He, direct 3N pion absorption processes 7−61925
^{3}He(π,π'), charge symmetry breaking in ^{3}He-^{3}H system, anal. using n-p binding energies 7−56706
^{3}He(π,π), 142, 180, 217 MeV, matter form factors, comparisons with ^{3}H(π,π) 7−56600
^{3}He(π,π)^{3}He, elastic scatt., form factor determ. 7−61926
^{3}He(π^{-},nn) cross section, partial wave anal. and quark cluster calcs. 7−36054
^{3}He(π^{-},π^{+}), cross section meas. and model comparisons 7−710
^{4}He, antiprotonic bound states, microscopic calcs. 7−579
^{4}He, binding energy calcs., non-unitary model anal. using Reid soft-core potential 7−24932
^{4}He, collective excitation, generalised R-matrix calcs. 7−15184
^{4}He, effect of high-lying states on ground and O^{+} levels 7−571
^{4}He, finite temperature Hartree Fock calcs. with quasiparticle (nucleon, Δ(1232) isobar) basis 7−35966
^{4}He, quark induced three body forces in 3N systems, nonrelativistic potential model anal. 7−56615
^{4}He$_{\Lambda}$, Λ-separate energies, spectra, s-wave phase shifts 7−30348
^{4}He(K^{-},π^{-}), hypernucleus production cross section calcs., PWIA anal. 7−10118
^{4}He(α,X), $\sqrt{S_{NN}}$=31 GeV, neutral energy spectra, obs. of KNO scaling 7−35897
^{4}He(α,X), many-particle rapidity correlations, cluster model framework 7−19220
^{4}He(α,X), multiplicity dependence of transverse momentum spectra at ISR energies 7−56581
^{4}He(α,α), high energy elastic scatt., Chou-Yang conjecture 7−61743
^{4}He(α,π^{0}X), $\sqrt{S_{NN}}$=31 GeV, high p_{T} invariant cross section meas. 7−35907
^{4}He(d,d), multi three-cluster coupling model anal., polarisation 7−588
^{4}He(γ,γ)^{4}He, differential cross-section 7−652
^{4}He(n,n), alpha-neutron scattering, microscopic Monte Carlo calcs. 7−24991
^{4}He(p,K^{+}), hypernucleus production cross section calcs., PWIA anal. 7−10118
^{4}He(p,X), 8.6 GeV/c, fragmentation, momentum characts. of spectators, binding energy 7−36012
^{4}He(p,X), fast deuteron prod. study 7−10140
^{4}He(p,X), quasioptical cascade model for fragmentation channel at intermediate energy 7−35986
^{4}He($\vec{p}$,p), 46 MeV, parity nonconservation, longitudinal anal. power 7−35944
^{4}He(p,p), Chou-Yang model in 45-393 GeV region 7−41991
^{4}He(p,p), high energy elastic scatt., Chou-Yang conjecture 7−61743
^{4}He(p,p), quasioptical cascade model at intermediate energy 7−35986
^{4}He(π^{-},d), fast d prod., cluster model anal. 7−49472
^{4}He(π^{+}, K^{+}), hypernucleus production cross section calcs., PWIA anal. 7−10118
^{4}He(π^{+},π^{-}), cross section meas. and model comparisons 7−710
^{4}He($\pi^{\pm}$,$\pi^{\mp}$), inclusive double charge exchange, pion spectra shapes 7−49481
^{5}He(^{3}He,α)^{4}He, virtual reaction, use in anal. of ^{9}Be(^{3}He,$\alpha\alpha$)^{4}He, excitation fn. meas. 7−19266
^{A}He$_{\Lambda}$, A=4,5, hypernuclear lifetimes, neutron stimulated fraction meas., weak decay 7−41932
^{A}He(e,e)^{A}He, A=3,4 effect of hidden colour 7−49382
^{A}He(π,η), A=3,4, expt. results 7−36053
H(ν, π^{0}), neutral current coherent π^{0} prod. 7−41780
^{6}Li(α,X), inelastic coupling potential, microscopic anal. based on coupled channel resonating group method 7−56688
W(π^{-},$\mu^{+}\mu^{-}$), high mass dimuon prod., scaling violation, differential nuclear effects 7−61924

nuclei with mass number 6 to 19

^{7}Li($\vec{p}$,π^{-})^{8}B, E_{p}=200 MeV, cross section, analyzing power angular distrib. meas. 7−56677
^{A}O(e,e′), A=16, 18, form factors and transition charge densities 7−35942
A=12-40, strangeness exchange reactions with the recoil corrected continuum shell model 7−19190
A=16, 17, energy levels, EM transitions, J^{π}, and resonances 7−35132
A=5-8, breathing cluster model for two s-wave clusters, charge form factors 7−24942

nuclei with mass number 6 to 19 continued
excess and hole 4*N*-nuclei, binding energies, quad. deformation parameters 7−5147
heavy isotopes of low Z nuclei, search results 7−35971
light neutron-rich isotopes, β-decay half life determ. 7−49325
lightest elements formation in cosmological nucleosynthesis 7−24252
low-lying states of A=6 nuclei 7−41909
neutron-rich light nuclei near N=20, direct mass meas. with recoil spectrometer 7−41883
Λp low energy scattering and p-shell hypernuclei pots., binding energies 7−49280
^{7} Be, electromagnetic props., resonating group model description 7−30330
^{16}($\vec{p}$,p′)^{16}O, excitation of T=1 and T=0 0^- states 7−670
B/H, thermal absorption cross-section ratios 7−49490
^{8}B(ν,e), effective interaction depend. in Ga solar neutrino detector 7−56913
^{10}B, axion to γ-ray branching ratios 7−24957
^{10}B, ΔT=0 transition, constraints on variant axion models 7−30237
^{10}B, electromagnetic struct., Cohen-Kurath wave functions *(Korean)* 7−24935
^{10}B, isoscalar M1 transitions, short-lived axions 7−56641
^{10}B$_\Lambda$, spin-dependent interaction parameters 7−30361
^{10}B(^{3}He,α)^{9}B, excitation energy and width of state 7−15216
^{10}B(γ,π^+), low-lying state prod. cross section and π^+ ang. distrib. 7−5223
^{10}B(n,α), keV standard cross sections 7−30433
^{10}B(n,α), parity nonconservation observation 7−42009
^{10}B(n,$\alpha\gamma$), keV standard cross sections 7−30433
^{11}B, electromagnetic struct., Cohen-Kurath wave functions *(Korean)* 7−24935
^{11}B$_\Lambda$, hypernuclear lifetimes, neutron stimulated fraction meas., weak decay 7−41932
^{11}B$_\Lambda$ ground state, nonmesonic lifetimes and branches 7−30361
^{11}B(^{3}He, ^{6}Li), ^{8}Be, transitions to ground and excited states 7−19153
^{11}B(^{7}Li,^{7}Li′), state excitations, DWBA and coupled channels calcs. 7−42051
^{11}B($\vec{d}$,n)^{12}C, 4.44 MeV, finite-range calcs., anomalous anal. power 7−49367
^{11}B(p, 3α), cross section meas., 140-500 keV *(Korean)* 7−30422
^{11}B($\vec{p}$,γ)^{12}C, analysing powers and differential cross-sections 7−685
^{11}B(p,n)^{11}C, 14.3 MeV, isospin mixing, DWBA, Hauser-Feshbach anal. 7−19243
^{12}B, aligned nucleus, beta-ray angular distribution anal. 7−5195
^{12}B, alignment-correlation meas., G-parity conservation, limitation of validity 7−5156
^{7}Be(γ,X), giant resonances from microscopic approach 7−35988
^{7}Be(γ,α)^{3}He, photodisintegration, relevance to nucleosynthesis in stars 7−49378
^{7}Be(p, γ)^{8}B, cross section, implications for solar neutrino problem 7−66452
^{7}Be($\vec{p}$,$\vec{\Lambda}$X), 13, 18 GeV/c, polarization transfer meas. 7−30294
^{7}Be(p,γ), differential and total cross section calcs., direct capture model 7−42004
^{8}Be, transitions to ground and excited states from ^{11}B(^{3}He, ^{6}Li) and ^{12}C(d, ^{6}Li) reactions 7−19153
^{8}Be($\vec{p}$,$\vec{p}$′), 303 MeV, backward-angle scatt., inclusive analyzing power and scattering mechanisms 7−56676
^{8}Be$\rightarrow$d+^{6}Li, isospin forbidden decay, spin dependence meas. using ^{6}Li($\vec{d}$,α)^{4}He 7−5204
^{9}Be, second T=3/2 state width, isospin mixing from ^{7}Li(d,γ) 7−30399
^{9}Be, T=3/2 state, width analysis and isospin mixing 7−41900
^{9}Be$_\Lambda$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
^{9}Be$_\Lambda$, glue-like role of Λ, microscopic three-cluster model 7−41934
^{9}Be$_\Lambda$, spin-dependent interaction parameters 7−30361
^{9}Be(^{11}B,O)H, bound and unbound levels in ^{4}H, ^{5}H, ^{6}H 7−36027
^{9}Be(^{3}He,$\alpha\alpha$)^{4}He, 3-12 MeV, anal. of quasi-free process using virtual ^{5}He(^{3}He,α)^{4}He 7−19266
^{9}Be(^{6}Li,^{8}B)^{7}He, 72 MeV, excited state search in ^{8}He, ^{7}He 7−30338
^{9}Be(^{7}Li,^{8}B)^{8}He, 82 MeV, excited state search in ^{8}He, ^{7}He 7−30338
^{9}Be(e,e′), parity violation meas. in quasielastic electroweak scattering $\bar{\beta}$, $\tilde{\delta}$ coupling constant calcs. 7−49388
^{9}Be(γ,X), 3-body photodisintegration using hybrid method, $\alpha+\alpha+$n clusters 7−35996
^{9}Be(γ,γ′), quasimonochromatic γ-line formation mechanism, calc. for 2.22 MeV line 7−5225
^{9}Be(n,2n), reaction mechanisms 7−42018
^{9}Be(n,γ), radiative transition and direct capture anal., optical pot. model 7−41996
^{9}Be($\vec{p}$, $\pi^\pm$), ang. distrib. of differential cross section and analyzing power 7−5241
^{9}Be(p,X), 400 GeV/c, inclusive hadronic production cross section meas. 7−19256
^{9}Be(p,d), spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
^{9}Be(π,η), expt. results 7−36053
^{10}Be$_{\Lambda\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
^{10}Be(γ,π^+)$^{10}\vec{\mathrm{B}}$e*, recoil nuclear polarization study, γ-circular polarization asymmetry meas. 7−24969
^{12}Be$_\Sigma$, yield from ^{12}C(K$^-$,π^+), DWIA calcs. 7−5184
Be(p,K$^+$), subthreshold K$^+$ meson production, 800 to 1000 MeV 7−691
Be(p,X), 300 MeV, correlating fragment emission 7−19259
Be(p,X), light nucleus prod., coalescence model comparison 7−5237
C(^{14}N,X), 20-40 MeV/N, high energy γ-ray prod., intranuclear NN collision model 7−36041
^{A}C(d,^{2}He)^{A}B, A=12,13 analysing power meas. 7−49430
^{A}C(n,γ), A=12, 13, radiative transition and direct capture anal., optical pot. model 7−41996
^{A}C($\vec{p}$,$\pi^\pm$), A=12,13 analysing power behaviour and isospin dependence of cross-sections 7−42006
^{A}C(π,η), A=12,13, expt. results 7−36053
^{11}C(p,p); 0^+ level formation ΔI=0 parity mixing in ^{14}N, expt., status 7−49238
(^{12}C,X), 4.5 GeV/c/N, comparison with p-Em 7−49439
^{12}C (^{12}C,X), low energy fusion, coupled channel formalism 7−707
^{12}C (π^-,pp), multiple-scatt. processes obs., intranuclear cascade model calcs. 7−42079
^{12}C, antiprotonic bound states, microscopic calcs. 7−579
^{12}C, dynamic and static longitudinal structure factors, RPA anal. 7−41884

nuclei with mass number 6 to 19 continued
^{12}C levels, spectroscopic strength, ^{3}He cluster struct., Hauser-Feshbach anal. of ^{9}Be(^{6}Li,t) 7−35965
^{12}C, longitudinal struct. factors, RPA calc. 7−35945
^{12}C, realistic many-body wave functions and nucleonmomentum distributions in finite nuclei 7−582
^{12}C, stability of ground state against π^0 condensation 7−5182
^{12}C$_\Lambda$, hypernuclear lifetimes, neutron stimulated fraction meas., weak decay 7−41932
^{12}C$_\Lambda$, lifetime for nonmesonic Λ decays 7−41798
^{12}C$_\Lambda$, weak decay, AGS data 7−49282
^{12}C$_\Lambda$, yield from ^{12}C(K$^-$,π^-), DWIA calcs. 7−5184
^{12}C$_\Lambda$ ground state, nonmesonic lifetimes and branches 7−30361
^{12}C$_\Sigma$, interaction parameters and continuum state prod. 7−30361
^{12}C-emulsion interactions intergroup azimuthal correlation between different tracks 7−42278
^{12}C* 4.43 MeV emission from solar flares, linear polarisation as indicator of particle directions 7−66563
^{12}C(^{12}C, ^{12}C), 1016 MeV, optical pot. using inverse scatt. method 7−49440
^{12}C(^{12}C,^{12}B)^{12}N, Δ excitations and shell-model information 7−49457
^{12}C(^{12}C,^{12}C$^-$)^{12}C, ^{24}Mg symmetric fission following inelastic scatt. 7−36031
^{12}C(^{12}C,^{12}C′)^{12}C, ^{24}Mg decay, excitation energies 7−36030
^{12}C(^{12}C,^{12}C), 1449 and 2400 MeV, phase shift anal. 7−30447
^{12}C(^{12}C,^{12}C)^{12}C, elastic scattering angular distribs., total reaction cross-section 7−49451
^{12}C(^{12}C,^{12}C)^{12}C, effects of vacuum polarisation on sub-Coulomb scatt. 7−49469
^{12}C(^{12}C,^{12}C)^{12}C, elastic scatt., surface transparency 7−61912
^{12}C(^{12}C,X), 40 MeV/nucleon, large angle p-p correlations 7−5287
^{12}C(^{12}C,α)^{20}Ne, g-factor meas., critical assessment 7−10102
^{12}C(^{12}C,$\alpha\alpha$)^{16}O, ^{20}Ne, excited states, low-lying bands 7−61911
^{12}C(^{12}C,$\pi^-\Lambda$), 4.2, 4.5 A GeV/c, reaction analysis 7−708
^{12}C(^{14}N, ^{10}B)^{16}O, E=54-70 MeV, isospin nonconservation 7−5272
^{12}C(^{14}N, ^{6}Li)^{20}Ne, E=54-70 MeV, isospin nonconservation 7−5272
^{12}C(^{14}N,X), correlations between α particles and evaporation residues in complete and incomplete fusion 7−42052
^{12}C(^{14}N,γX), 20, 30, 40 MeV/nucleon, gamma-ray energies, angular distrib. meas. 7−5286
^{12}C(^{16}O,^{16}O′), 608 MeV, elastic, inelastic scatt., angular dist. meas. 7−19288
^{12}C(^{16}O,X), fusion channels, intermediate resonances 7−36049
^{12}C(^{16}O,X), light particle inclusive cross section meas. 7−5262
^{12}C(^{16}O,α), doorway states and cross-section fluctuations 7−19287
^{12}C(^{16}O,$\alpha\gamma$)^{24}Mg, 40-67 MeV, obs. of high spin γ-decaying state at 16.9 MeV 7−5139
^{12}C(^{19}F,α)^{27}Al, intermediate structure excitation functions and ang. distribs. 7−49453
^{12}C(^{20}Ne,α), ^{28}Si highly excited spin states 7−705
^{12}C(^{24}Mg,X), 15 MeV/nucleon, 3-body final states, nuclear clustering and projectile excitation 7−5281
^{12}C(^{3}He, ^{3}He), 12 MeV, angular distributions, optical, DWBA and CC anals. 7−24990
^{12}C(^{3}He, ^{7}Be), 41 MeV, ang. distribs. and α spectroscopic factors, DWBA anal. 7−15190
^{12}C(^{3}He,X), diffraction dissociation at 90 MeV by nuclei with a diffuse edge 7−42043
^{12}C($^{3}\vec{\mathrm{H}}$e,pp), differential cross sections and analysing powers 7−42032
^{12}C(^{3}He,π^+)^{15}N, 181.4 MeV, obs. using recoil detection technique 7−19269
^{12}C(^{3}He,$\pi^\pm$), 263 MeV, angular distribs., total cross sections 7−24989
^{12}C(^{6}Li,p)^{17}O, energy level study and Hauser-Feshbach calcs. 7−15218
^{12}C(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7−42057
^{12}C(A,X)^{11}C, A=^{4}He,^{12}C, 3.65 GeV/nucleon, cross-section meas. *(Russian)* 7−24987
^{12}C(K$^-$,π), hypernuclear yield calcs. using DWIA 7−5184
^{12}C(N,N), 100 GeV, quasicoherent scatt., inelastic screening and correl. corrections calc. *(Russian)* 7−30428
^{12}C(α,α), elastic scattering, hard core effect 7−42031
^{12}C(α,γ)^{16}O, 0.94-2.84 MeV, absolute cross sections, γ-ray distribs., excitation fn. meas. 7−42037
^{12}C(d, ^{6}Li), ^{8}Be, transitions to ground and excited states 7−19153
^{12}C($\vec{d}$,^{6}Li)^{8}Be, vector analysing power meas. 7−49431
^{12}C(d,^{7}Li)^{7}Be, ang. distribs. to ground and first excited states 7−30435
^{12}C(d,d)^{12}C, cross-section meas., excitation functions *(German)* 7−30430
^{12}C($\vec{d}$,p), 12 MeV, anal. powers for stripping reaction leading to bound and unbound states 7−630
^{12}C($\vec{d}$,p), 56 MeV, polarisation transfer, anal. power ang. distribs. 7−636
^{12}C(e,e′), longitudinal charge response, RPA calcs. 7−56669
^{12}C(e,e′), longitudinal charge response in quasielastic region, RPA approach 7−61861
^{12}C(e,e′), relativistic RPA response function for quasielastic scatt. in local density approx. 7−41984
^{12}C(e,e′)m nuclear structure fns., anal. using multiple scatt. theory 7−24972
^{12}C(e,e), dispersive effects in form factor meas. 7−5227
^{12}C(γ,γ)^{12}C, Compton scatt., low-lying states, seagull terms, pion condensation 7−649
^{12}C(γ,n), data processing algorithms 7−10136
^{12}C(γ,pX), inclusive photoproton spectra meas. at intermediate energies 7−651
^{12}C(γ,p), 60, 80 MeV, cross section meas., θ_p=30-135° 7−24970
^{12}C(γ,π^0), 10 MeV above threshold, total cross sections, PWIA anal. 7−15210
^{12}C(γ,π^0), 135.8-190 MeV, cross section meas. 7−61855
^{12}C(hadron, X), 20 MeV, hadron yield meas. for ^{69}Cu(A,X), A=^{4}He,^{12}C *(Russian)* 7−24987
^{12}C(l,l′), inclusion of two body short range correlation effects 7−49386
^{12}C(n,Λ_c^+) 40-70 GeV/c, Λ_c^+ polarization meas. 7−5088
^{12}C(n,X), 545 MeV, π, p, d and t emission in cluster excitation processes 7−49396
^{12}C($\vec{n}$,n), analyzing powers and ^{13}C level struct. determ. 7−61797
^{12}C($\bar{\nu}$, $\bar{\nu}'$), cross sections, anal. of (0+0$\rightarrow$1+0) isoscalar transition, hadron current structure 7−5228
^{12}C(ν_μ,μ^-X), charged current interactions, cross section meas. 7−35852
^{12}C(p,^{3}Heα), 72 MeV, comparison with stopped π^- induced reactions 7−24980
^{12}C($\vec{p}$,γ)^{13}N 7−685
^{12}C(p,$\mu^+\nu$X), cross section calcs. 7−42001

nuclei with mass number 6 to 19 continued
- ^{12}C($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
- ^{12}C(p,$\nu^{+}\nu$), cross section calcs. for energy 1060 to 1080 MeV 7−36001
- ^{12}C($\vec{p}$,$\vec{p}'$), 303 MeV, backward-angle scatt., inclusive analyzing power and scattering mechanisms 7−56676
- ^{12}C($\bar{p}$,$\bar{p}'$), $\bar{p}$ asymmetry meas., LEAR expt. 7−49170
- ^{12}C($\vec{p}$,p$'$)^{12}C, analysing power meas. 7−682
- ^{12}C($\vec{p}$,p$'$)^{12}C, mixing of breathing oscillation into β-vibrationalstates 7−671
- ^{12}C($\vec{p}$,p$'$)^{12}C, spin transfer in 1^{+} states excitations 7−679
- ^{12}C(p,p), 1.7 MeV, ^{13}N* compound nucleus, lifetime determ. from bremsstrahlung meas. 7−56679
- ^{12}C($\vec{p}$,$\vec{p}$)^{12}C, analysing powers and cross-sections, optical potential shape 7−662
- ^{12}C(p,p)^{12}C, cross-section meas., excitation functions *(German)* 7−30430
- ^{12}C(π,π'), 800 MeV/c, Glauber transition density method anal. *(Chinese)* 7−49475
- ^{12}C(π,$\pi'\gamma$), 116-226 MeV, π-γ angular correlation meas., Δ-hole model predictions 7−19307
- ^{12}C(π^{-},X), 40 GeV/c, hadron jet production, jet props., quark, diquark fragmentation 7−61753
- ^{12}C(π^{-},X), comparison with (p,^{3}Heα) reactions 7−24980
- ^{12}C(π^{-},ρ^{0}), 5 GeV/c, total cross section meas. for ρ^{0}N interactions 7−5106
- ^{12}C(π^{+}, π^{+}p)^{11}B, angular and momentum distribs. 7−61921
- ^{12}C(π^{+},K^{+})^{12}C, scattering DWIA calcs., shell model configuration features 7−711
- ^{12}C(π^{+},π^{-}p), 250 MeV, proton angular distn. meas. 7−42075
- ^{12}C(t,t), optical model anal. 7−15215
- ^{13}C, 3.68 MeV state decay, light neutral particle search 7−30366
- ^{13}C, excitation energies, spin and parity from ^{12}C(n,n) 7−61797
- ^{13}C, ground state wave fn. calcs., electromagnetic and weak constraints 7−49248
- ^{13}C(^{12}C, ^{12}C$'$), Landau-Zener transition due to molecular orbitals, coupled channels model 7−42060
- ^{13}C(^{3}He,$\vec{p}$)^{15}N, 13.7 MeV, polarization comparisons with ^{15}N($\vec{p}$,^{3}He)^{13}C analyzing power meas. 7−5251
- ^{13}C(^{7}Li,^{7}Li$'$), state excitations, DWBA and coupled channels calcs. 7−42051
- ^{13}C(K^{-},π^{-}), $s^{4}p^{8}\otimes s_{\Lambda}$, $s^{4}p^{8}\otimes p_{\Lambda}$ state spectra, baryon decays, neutron spectra, nuclear and hypernuclear γ-spectra 7−56634
- ^{13}C(α,p), differential cross section meas. and DWBA calcs. 7−30343
- ^{13}C(e,e$'$), 78-338 MeV, M4 excitations, cross section meas., shell model anal. 7−19195
- ^{13}C(γ,π^{-})^{13}N$_{\mathrm{g.s.}}$, cross section calcs. from ^{13}C, ^{13}N ground state wave fns. 7−49248
- ^{13}C(n,2n)^{12}C, 8.09, 8.24, 9.27 MeV, time-of-flight neutron spectra, sequential 2n decay of ^{14}C* states 7−56659
- ^{13}C(n,γ), low-energy, E2 effective charge 7−5236
- ^{13}C(p,d), spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
- ^{14}C*$\rightarrow^{12}$C+2n, time-of-flight neutron spectra meas., obs. of constant narrow peak for ^{13}C(n,2n)^{12}C, 8.9-9.27 MeV 7−56659
- ^{14}C(^{6}Li,^{6}He)^{14}N, angular distributions of elastic, inelastic and charge exchange reactions 7−61910
- ^{14}C(^{6}Li,^{6}He)^{14}N charge exchange reaction, differential cross section meas., refraction effects study 7−49462
- ^{14}C(^{6}Li,^{6}Li) elastic scatt. differential cross section meas., refraction effects study 7−49462
- ^{14}C(^{6}Li,^{6}Li)^{14}C, angular distributions of elastic, inelastic and charge exchange reactions 7−61910
- ^{14}C(e,e$'$), form factors and stretched M4 configurations, shell model comparisons 7−41981
- ^{14}C(γ,n), inclusive, partial cross sections, comparisons with shell model calcs. 7−41972
- ^{14}C(p,n), isovector effective interaction strengths, cross section meas. 7−19248
- ^{14}C(π^{+}, π^{-}), energy dependence of the six-quark bag mechanism 7−42077
- ^{14}C(π^{+},π^{-})^{14}O, sequential nature of charge exchange, multiple scatt. anal. 7−36055
- ^{14}C(π^{+},π^{0})^{14}N, sequential nature of charge exchange, multiple scatt. anal. 7−36055
- C(d,X), vector and tensor analysing power meas. 7−10158
- C(μ,X), high Q^{2} deep inelastic scatt. nucleon struct. function meas. 7−61792
- C(n,X), 40-70 GeV/c, $\bar{D}$ mesons prod. 7−30418
- C(p,K^{+}), subthreshold K^{+} meson production, 800 to 1000 MeV 7−691
- C(π^{-},X), pion and proton pair formation at 5 GeV, correlations 7−61920
- C(π^{-},X), search for H^{0} strangeness −2 dibaryon at 40 GeV/c 7−30453
- C($\pi^{\pm}$,2N), 165, 245 MeV, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
- $^{11}\vec{\mathrm{F}}$ parity nonconserving asymmetry in decay transitions from ^{22}Ne($\vec{p}$,α) 7−61794
- ^{17}F, beta-ray asymmetry meas., sin θ_{v}, C_{A}/C_{V} limits 7−56647
- ^{18}F, low-lying levels, Skyrme interaction microscopic study 7−30337
- ^{18}F, parity mixing of $0^{\pm}$ states, γ-ray polarization meas. 7−5155
- ^{18}F, validity of M-3Y force equivalent G-matrix element for s-d shell calcs. *(Chinese)* 7−5185
- ^{19}F positive parity levels, ang. distribs., DWBA and shell anals. of ^{17}O(^{3}He, p) 7−15181
- ^{19}F(^{12}C,^{12}C$'$), back-angle anomalous scatt. 7−10171
- ^{19}F(^{16}O, ^{16}O), phase anomaly for elastic and inelastic scatt. 7−36046
- ^{19}F(e,e), form factor calcs. using projected Hartree-Fock function 7−30413
- ^{19}F(p,p), T=1 states of ^{20}Ne as compound resonances 7−30397
- ^{A}H, A=4,5,6 bound and unbound levels from ^{9}Be(^{11}B,O) reactions 7−36027
- (^{3}He, ^{3}He), 10-220 MeV, optical model anal. 7−42035
- ^{5}He$_{\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
- ^{6}He$_{\Lambda\Lambda}$, exchange force effects on binding energy, microscopic α-cluster model 7−41935
- ^{6}He(γ,X), giant resonances from microscopic approach 7−35988
- ^{7}He, excited state search in ^{9}Be(^{6}Li,^{8}B)^{7}He, ^{9}Be(^{6}Li,^{8}B)^{7}He 7−30338
- ^{8}He, β-delayed triton emission 7−41950
- ^{8}He, excited state search in ^{9}Be(^{7}Li,^{8}B)^{8}He 7−30338
- ^{A}He, A=6,7, excited state anal. from ^{A}Li(γ,π^{+})^{A}He,A=6,7 7−49250
- (^{6}Li,^{6}He), on A=7-90, 210 MeV, spin-transfer strength probe, Gamow-Teller transitions 7−25003

nuclei with mass number 6 to 19 continued
- ^{6}Li (n,α)^{3}H, chemical effect in Li$_2$C$_2$O$_4$ and Li$_2$CO$_3$ mixed with iron compounds 7−21289
- ^{6}Li (π^{+}, π^{+}p)^{5}He, angular and momentum distribs. 7−61921
- (^{6}Li, αd), coupled channel study 7−36048
- ^{6}Li ground state, α-d momentum distrib. from ^{6}Li(e,e$'$d) 7−24975
- ^{6}Li, L-S coupling and mag. moment from three-body models 7−49239
- ^{6}Li, quantification of nucl. state clustering props. 7−49268
- ^{6}Li($\vec{d}$,α)^{4}He, 6.88-7.04 MeV, meas. of spin dependences for isospin forbidden decay ^{8}Be$\rightarrow$d+^{6}Li 7−5204
- ^{6}Li(e,e)^{6}Li, cluster distortion effects on EM props. 7−49381
- ^{6}Li(e,π^{+}e)^{6}He, elastic pion electroproduction, differential cross section 7−41980
- ^{6}Li(γ,d)^{4}He, photodisintegration, relevance to nucleosynthesis in stars 7−49378
- ^{6}Li(γ,π^{0}), 10 MeV above threshold, total cross sections, PWIA anal. 7−15210
- ^{6}Li(n,α), absorpt. cross section meas. 7−30417
- ^{6}Li(n,α) keV standard cross sections 7−30433
- ^{6}Li(π^{-},pp), multiple-scatt. processes obs., intranuclear cascade model calcs. 7−42079
- ^{7}Li (γ,xn), 7.25-19.5 MeV, cross section meas. 7−19234
- (^{7}Li, αt), coupled channel study 7−36048
- ^{7}Li, Coulomb excitation, cluster model anal. 7−24955
- ^{7}Li$_{\Lambda}$, spin-dependent interaction parameters 7−30361
- ^{7}Li(^{3}He,$\alpha\alpha$)^{2}H, low energies, ^{7}Li(p,d)^{4}He contributions 7−10156
- ^{7}Li(^{7}Li,^{7}Be)^{7}He, 70 MeV, excited state search in ^{8}He, ^{7}He 7−30338
- ^{7}Li(α,Λ), 3.7 GeV/A, Λ polarization study 7−5253
- ^{7}Li(α,$\pi^{-}\Lambda$), 4.5 A GeV/c, reaction analysis 7−708
- ^{7}Li(d,γ)^{9}Be, 361 keV, T=3/2 state width anal., isospin mixing 7−41900
- ^{7}Li(γ,γ'), quasimonochromatic γ-line formation mechanism, calc. for 2.22 MeV line 7−5225
- ^{7}Li(p,d), spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
- ^{7}Li(p,d)^{4}He contributions to ^{7}Li(^{3}He,$\alpha\alpha$)^{2}H, low energies 7−10156
- ^{7}Li($\vec{p}$,p), 1.9-2.6 MeV, analyzing powers and angular distributions, T-invariance test 7−5239
- ^{7}Li($\vec{p}$,π^{+})^{8}Li, E_{p}=200 MeV, cross section, analyzing power angular distrib. meas. 7−56677
- ^{7}Li(π,η), expt. results 7−36053
- ^{A}Li, A=6,7, electromagnetic props., resonating group model description 7−30330
- ^{A}Li, A=6.7, antiprotonic bound states, microscopic calcs. 7−579
- ^{A}Li(γ,X), A=6,7, giant resonances from microscopic approach 7−35988
- ^{A}Li(γ,π^{+}), A=6,7, anal. of ^{6,7}He excited states 7−49250
- ^{A}Li(n,X), 15 MeV, a=6, 7 ^{4}He prod. cross sections, fusion reactor appl. 7−36006
- Li(α,α), exchange processes and spin-orbit pot. effects 7−30437
- Li(α,α), exchange processes contrib., finite range distorted wave anal. 7−36017
- Li(d,X), vector and tensor analysing power meas. 7−10158
- N (n,X), 27.4-60.7 MeV, double differential inclusive p, d, t, ^{3}He and α spectra 7−36008
- ^{12}N, aligned nucleus, beta-ray angular distribution anal. 7−5195
- ^{12}N, alignment-correlation meas., G-parity conservation, limitation of validity 7−5156
- ^{13}N, ground state wave fn. calcs., electromagnetic and weak constraints 7−49248
- ^{13}N* compound nucleus, lifetime determ. in ^{12}C(p,p), 1.7 MeV, bremsstrahlung meas. 7−56679
- ^{14}N, ΔI=0 parity mixing meas. from ^{13}C(p,p) 0^{+} level formation, exptl. status 7−49238
- ^{14}N, isospin allowed M2 γ-ray transition 7−35973
- ^{14}N(^{28}Si,X), forward-angle yield, equilibration in orbiting reactions 7−5270
- ^{14}N(^{7}Li,t)^{18}F*, α clustering. DWBA anal. 7−700
- ^{14}N(d,^{2}He)^{14}C, analysing power meas. 7−49430
- ^{14}N(e,e$'$), 2.313 MeV state, transverse scatt. form factors and phenomenological wave fn. 7−41982
- ^{14}N(e,e$'$), form factors and stretched M4 configurations, shell model comparisons 7−41981
- ^{14}N(e,e), ground state, transverse scatt. form factors and phenomenological wave fn. 7−41982
- ^{14}N(γ,d)^{12}C, differential cross-sections and momentum distribs. 7−61854
- ^{14}N(γ,γ'), quasimonochromatic γ-line formation mechanism, calc. for 2.22 MeV line 7−5225
- ^{14}N(γ,π^{+}), unitarized impulse amplitude from threshold to Δ-region 7−653
- ^{14}N(n,^{7}Li)^{8}Be, 6-nucleon transfer, cross section meas. 7−659
- ^{14}N($\bar{\nu}$, $\bar{\nu}'$), cross sections, anal. of $(1+0\rightarrow 2+0)$ isoscalar transition, hadron current structure 7−5228
- ^{15}N, excited state population in ^{12}C(^{3}He,π^{+})^{15}N 7−19269
- ^{15}N, hole state excitations using (γ,γ') and (d,τ), correlations 7−61833
- ^{15}N($\vec{p}$,^{3}He)^{13}C, analyzing power meas., comparisons with ^{13}C(^{3}He,$\vec{p}$)^{15}N polarization data 7−5251
- ^{15}N(p,$\alpha\gamma$) resonance reaction for surface depth profiling, energy and width 7−59812
- ^{16}N, multiparticle-multihole strength, DWBA calcs. and spin-parity assignments 7−30343
- ^{16}N$\rightarrow^{16}$O, 0^{+}-0^{-} transitions, exchange currents and configuration mixing effects 7−56649
- ^{A}O, A=16,17,18, antiprotonic, strong interaction isotope effects, 3d level shifts and widths 7−5791
- ^{A}O, A=16-18, antiprotonic bound states, microscopic calcs. 7−579
- ^{A}O, A=18, 19, energy levels, electromagnetic transitions *(Korean)* 7−30342
- ^{A}O(^{16}O,X), elastic transfer effects in subbarrier fusion, barrier penetration model 7−42061
- ^{A}O($\pi^{\pm}$,2N), 165 MeV, A=16, 18, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
- ^{16}O, correlations in the Sp(1,R) model for the monopole oscillations 7−49263
- ^{16}O, deformed excited 0^{+} states, HF and α-cluster calcs. 7−41879
- ^{16}O, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
- ^{16}O, effect of high-lying states on ground and O^{+} levels 7−571
- ^{16}O ground state, one body energies, unitary-model-operator anal. of nuclear many-body problem 7−5164
- ^{16}O, ground-, one-body states, three-body cluster effects, unitary-model operator anal. 7−10116
- ^{16}O, high spin, highly excited states from ^{12}C(^{12}C, ^{8}Be) 7−35932
- ^{16}O, isospin allowed M2 γ-ray transition 7−35973

nuclei with mass number 6 to 19 continued
^{16}O, realistic many-body wave functions and nucleonmomentum distributions in finite nuclei 7−582
^{16}O, relativistic self-consistent field calculations for some closed-nuclei 7−56627
^{16}O, stability of ground state against π^0 condensation 7−5182
$^{16}O_{\Lambda}$, spin-dependent interaction parameters 7−30361
^{16}O* 6.13 MeV emission from solar flares, linear polarisation as indicator of particle directions 7−66563
^{16}O(^{12}C, ^{12}C), optical pot. determ. using quasi-classical inversion 7−61905
^{16}O(^{12}C,^{12}C')^{16}O, intermediate width structures, angular momenta 7−49456
^{16}O(^{16}O,^{12}C)^{20}Ne, ang. distribs. at energies near Coulomb barrier 7−36026
^{16}O(^{16}O,^{16}O)^{16}O, ang. distribs. at energies near Coulomb barrier 7−36026
^{16}O(^{16}O,X), fusion cross-sections in classical microscopic equations of motion approach 7−56698
^{16}O(^{16}O,α)^{24}Mg, small angle cross-sections, resonances and compound fluctuations 7−49449
^{16}O(^{16}O,α)^{28}Si, small angle cross-sections, resonances and compound fluctuations 7−49449
^{16}O(^{16}O,πX), 40-80 MeV/nucleon, microscopic anal. 7−49467
^{16}O(^{16}O,πX), π-production cross section calcs., TDHF anal. 7−24998
^{16}O(^{3}He, ^{3}He), 12 MeV, angular distributions, optical, DWBA and CC anals. 7−24990
^{16}O(^{3}He, d), 12 MeV, angular distributions, optical, DWBA and CC anals. 7−24990
^{16}O(^{7}Li, ^{7}Be)^{16}N, direct and sequential processes 7−10167
^{16}O(^{7}Li,xγ), 4-10 MeV, complete fusion in Coulomb threshold region, total cross section 7−19314
^{16}O(α, γ), forbidden E1 transitions, microscopic calcs. using generator coord. method 7−30373
^{16}O(α,α')^{16}O, microscopic investigation of bremsstrahlung reaction 7−36016
^{16}O(α,αp), quasifree knockout, DWIA calcs. and spectroscopic factors 7−42038
^{16}O(α,γ)^{20}Ne, resonant reaction rates, stellar appl. 7−695
^{16}O($\vec{d}$,^{6}Li)^{12}C, vector analysing power meas. 7−49431
^{16}O(γ,N), transition matrix elements, differential cross-section 7−49373
^{16}O(γ,α)^{12}O, photodisintegration, relevance to nucleosynthesis in stars 7−49378
^{16}O(γ,p), coupled channels calc. based on continuum shell model at medium energies 7−35995
^{16}O(γ,π^+), ang. distrib. meas. at 320 MeV 7−41975
^{16}O(μ-,ν_μ)^{16}N, 0^+-0^- transitions, exchange currents and configuration mixing effects 7−56649
^{16}O(p,2p), 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
^{16}O($\vec{p}$,2p), 200 MeV, analyzing powers, cross section calcs., DWIA anal. 7−19251
^{16}O($\vec{p}$,2p)^{15}N, cross-sections and analysing powers 7−684
^{16}O(p,π^+)$^{17}O_{g.s.}$, relativistic stripping model anal. in Δ resonance region 7−49400
^{16}O(π^+,π^0p) cross section, coincidence meas. 7−42078
^{16}O(t,t), optical model anal. 7−15215
^{17}O, dipole states, particle hole model anal. 7−35948
^{17}O, isovector magnetic quadrupole strengths 7−30329
^{18}O, low-lying levels, Skyrme interaction microscopic study 7−30337
^{18}O, molecular states in excited spectra 7−56609
^{18}O, validity of M-3Y force equivalent G-matrix element for s-d shell calcs. *(Chinese)* 7−5185
^{18}O(^{3}He,d)^{19}F, sub threshold resonance in red giants 7−698
^{18}O(^{58}Ni, ^{58}Ni'), 60 MeV, optical-potential phase-shifts, phase-integral calcs. 7−19278
O(n,X), 27.4-60.7 MeV, double differential inclusive p, d, t, ^{3}He and α spectra 7−36008

nuclei with mass number 20 to 38
^{24}Mg(^{24}Mg,^{24}Mg)^{24}Mg, R-matrix formalism with physical boundary conditions 7−36025
^{25}Mg(p,p') resonances for E_p=0.31-1.84 MeV 7−19246
A=12-40, strangeness exchange reactions with the recoil corrected continuum shell model 7−19190
excess and hole 4*N*-nuclei, binding energies, quad. deformation parameters 7−5147
light neutron-rich isotopes, β-decay half life determ. 7−49325
mass 22 nuclei, gamma-ray-imposed constraint on origin in astrophysical environments 7−35069
neutron-rich light nuclei near N=20, direct mass meas. with recoil spectrometer 7−41883
sharp radius, interaction range and volume integral of shell model pot. for A=36-65 7−49258
^{27}Al($\vec{n}$,X), 5-17 MeV, spin-spin pots., nuclear Ramsauer effect, optical pots. 7−24966
^{28}Si(^{16}O,^{16}O), stochastic regularisation appl. to phase shift anal. 7−709
Al(^{6}Li,^{6}Li), scatt. study using LR-115 SSNTD 7−19274
^{26}Al, electron capture to positron emission ratios 7−19207
^{26}Al in the interstellar medium, review 7−48050
^{26}Al, interstellar, near galactic centre, common origin for gamma-ray lines at 0.51 and 1.81 MeV 7−24238
^{26}Al production by Wolf-Rayet stars, galactic yield and gamma-ray line emissivity 7−47830
^{26}Al, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
^{27}Al(^{16}O,X), coincidence meas. of light particles and evaporation residues 7−61906
^{27}Al(^{16}O,X), light particle inclusive cross section meas. 7−5262
^{27}Al(^{16}O,α), 62, 84.5 MeV, α energy spectra and ang. distribs., direct emission mech. 7−30440
^{27}Al(^{19}F,X), deep inelastic transfer reactions at 64-88 MeV *(Rumanian)* 7−15221
^{27}Al(^{3}He,d)^{28}Si, proton threshold states in ^{28}Si*, astrophysical significance 7−19267
^{27}Al(^{3}He,$\pi^\pm$), 263 MeV, angular distribs., total cross sections 7−24989
^{27}Al(^{40}Ar,X), 600 MeV, composite system formation and decay, multifragmentation and light particle emission 7−36036
^{27}Al(^{40}Ar,X), cross-sections and angular distribs. 7−36024
^{27}Al(^{40}Ar,X), energy spectra and ang. distrib. meas., statistical model comparison 7−42062
^{27}Al(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7−42057

nuclei with mass number 20 to 38 continued
^{27}Al(A,X), A=^{4}He,^{12}C, 3.65 GeV/nucleon, cross-section meas. *(Russian)* 7−24987
^{27}Al(A,X)^{18}F, A=^{4}He,^{12}C, 3.65 GeV/nucleon, cross-section meas. *(Russian)* 7−24987
^{27}Al(α,t)^{28}Si, proton threshold states in ^{28}Si*, astrophysical significance 7−19267
^{27}Al(γ,2pn)^{24}Na, photodisintegration cross sections, excitation functions 7−19233
^{27}Al(γ,4p5n)^{18}F, photodisintegration cross sections, excitation functions 7−19233
^{27}Al(hadron, X), 45 MeV, hadron yield meas. for ^{69}Cu(A,X), A=^{4}He,^{12}C *(Russian)* 7−24987
^{27}Al(n,α)^{24}Na, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7−10155
^{27}Al(n,p)^{27}Mg, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7−10155
^{27}Al(n,t+n,nt), excitation function calcs. from neutron flux meas. 7−42017
^{27}Al(p,γ)^{28}Si, unbound levels, resonance and decay mode determ. 7−49413
^{27}Al($\vec{p}$,$\vec{n}$), 550 MeV/c, inclusive $\vec{n}$ spectra meas. 7−19241
^{27}Al($\vec{p}$,$\vec{p}$)^{27}Al, depolarisation parameter meas., optical model effects 7−663
^{27}Al(p,p)^{27}Al, spin-spin potential determ. in optical model from depolarisation 7−660
^{27}Al(π,η), expt. results 7−36053
^{33}Al mass excess from ^{48}Ca(S, ^{33}Al) 7−49227
Al(p,X), light nucleus prod., coalescence model comparison 7−5237
^{A}Ar β^+ decay, A=34, 35, Gamow-Teller resonance calcs. using shell-model wave fns. 7−49334
^{34}Ar(^{3}He,n)^{36}K, structure studies using time-of-flight spectrometer 7−696
^{36}Ar, isovector M1 collective excitations, strength function meas. 7−5144
^{36}Ar(α,α)^{36}Ar, T=2 state in ^{40}Ca, alpha-particle decay width 7−49434
^{22}C, observation of exotic nucleus in ^{181}Ta(^{40}Ar,X) fragmentation 7−10164
^{38}Ca(^{3}He,n)^{40}Sc, structure studies using time-of-flight spectrometer 7−696
Cl(Ar,X), 1.5 GeV/N, three pion correlations in relativistic collisions 7−36035
^{33}Cl, mag. moment meas. by on-line β-NMR 7−5158
^{35}Cl(^{40}Ar,X), 1.2, 1.89 A GeV, in KCl, collective flow and stiffness in compressed nuclear matter 7−36021
^{37}Cl(n,p), cross section for NAA appl. 7−23116
^{38}Cl, β-decay and shell crossing, expt. study and shell model calcs. 7−5199
^{19}F nuclei in single-electron ions, Coulomb excited, γ-angular correls. 7−49292
(^{3}He, ^{3}He), 10-220 MeV, optical model anal. 7−42035
^{24}MG(^{19}F,X), deep inelastic transfer reactions at 64-88 MeV *(Rumanian)* 7−15221
^{A}Mg(^{28}Si, ^{28}Si), A=24, 26, backward-angle excitation functions and ang. distribs. 7−30443
^{22}Mg(^{3}He,n)^{24}Al, structure studies using time-of-flight spectrometer 7−696
^{24}Mg, 10.71 MeV bound state, γ resonant absorption 7−30363
^{24}Mg, approximate angular momentum states, thermal response in finite temp. HF approximation 7−19155
^{24}Mg, charge dependent matrix element between 4^+ T=1 level and 4^+ T=0 level 7−601
^{24}Mg, excitation energies from ^{12}C(^{12}C,^{12}C)^{12}C scatt. 7−36030
^{24}Mg, highly-excited states, cluster structure 7−10108
^{24}Mg, obs. of high spin γ-decaying state at 16.9 MeV from ^{12}C(^{16}O,$\alpha\gamma$)^{24}Mg 7−5139
^{24}Mg, pionic 4f-3d transition for precision π^- mass determ. 7−596
^{24}Mg, positive parity state struct., cranked alpha-cluster model 7−24943
^{24}Mg, symmetric fission following inelastic scatt. of ^{12}C+^{12}C 7−36031
^{24}Mg(^{12}C,X), excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
^{24}Mg(^{16}O,X), deep inelastic transfer reactions at 64-88 MeV *(Rumanian)* 7−15221
^{24}Mg(^{3}He, ^{7}Be), 41 MeV, ang. distribs. and α spectroscopic factors, DWBA anal. 7−15190
^{24}Mg(d,d'), 10-15 MeV, comp.-nucleus effects 7−36014
^{24}Mg($\vec{p}$,^{3}He), 89.6 MeV, diff. cross section and anal. power ang. distribs. 7−628
^{24}Mg($\vec{p}$,d), 30-40 MeV, l=0 transition, anal. powers and diff. cross sections 7−623
^{24}Mg(p,p'), 40 MeV, cross sections, IBM approximation anal. 7−19253
^{24}Mg(p,p'), excitation of ^{12}C+^{12}C quasimolecular resonances by symmetric fission 7−42002
^{24}Mg($\vec{p}$,p')^{24}Mg, mixing of breathing oscillation into β-vibrationalstates 7−671
^{24}Mg($\vec{p}$,$\vec{p}$)^{24}Mg, analysing powers and cross-sections, optical potential shape 7−662
^{24}Mg(π^+, N), 200 MeV, single nucleon removal, γ-rays, diff. cross sections, PWIA, intranuclear cascade 7−30455
^{25}Mg(n,γ), low-energy, E2 effective charge 7−5236
^{25}Mg(p,γ)^{26}Al resonances for E_p=0.31-1.84 MeV 7−19246
^{25}Mg($\vec{p}$,$\vec{p}$)^{25}Mg, depolarisation parameter meas., optical model effects 7−663
^{26}Mg stretched states, spectroscopic factors and strength from ^{25}Mg(α,^{3}He) 7−35920
^{26}Mg(^{3}He,n)^{28}Si, 23, 45 MeV, neutron angular distribs., DWBA, coupled channel comparisons, ^{28}Si level anal. 7−42036
^{26}Mg($\vec{d}$,d), 52 MeV, elastic and inelastic scatt., struct. depend. of anal. powers 7−646
^{26}Mg(p,n), total cross section meas. 7−41998
^{26}Mg(t,t), optical model anal. 7−15215
^{29}Mg, level struct. study, β and gamma decays, shell model comparison 7−49328
^{A}Na(p,γ)$^{A+1}$Mg, A=21,22 reaction rate under hydrogen burning conditions 7−30429
^{21}Na, isospin allowed M2 γ-ray transition 7−35973
^{22}Na, electron capture to positron emission ratios 7−19207
^{22}Na, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
^{23}Na(α,n), total cross section meas. 7−41998
^{23}Na(p, α)^{20}Ne, below 500 keV, resonance energies, J*, stellar reaction *(Korean)* 7−30423
^{23}Na($\vec{p}$,α_0)^{20}Ne, analysing power meas. 7−61875

nuclei with mass number 20 to 38 continued
^{23}Na(p,γ)^{24}Mg, gamma-ray angular distrib. *(Korean)* 7−24978
^{29}Na, Gamow-Teller β-decay, shell model comparison 7−49328
^{A}Ne(n,γ)$^{A+1}$Ne, A=20,21,22 γ-ray spectra 7−30431
^{20}Ne, 4^{+} g-factor meas., critical assessment 7−10102
^{20}Ne ($\bar{\nu}$,x), 35 GeV, R$_{Ne}$ (x)=(d$\sigma^{\bar{\nu}n}$/dx)/(d$\sigma^{\bar{\nu}}$/dx) meas., comparison with R$_{D}$(x), EMC effect anal. 7−5085
^{20}Ne, excited states, low-lying bands from ^{12}C(^{12}C,$\alpha\alpha$) reaction 7−61911
^{20}Ne, isovector M1 collective excitations, strength function meas. 7−5144
^{20}Ne, molecular states in excited spectra 7−56609
^{20}Ne, T=1 states as compound resonances in ^{19}F(p,p) 7−30397
^{20}Ne(^{12}C,X), excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
^{20}Ne(α,α')^{20}Ne, g-factor meas., critical assessment 7−10102
^{20}Ne(n,γ), low-energy, E2 effective charge 7−5236
^{20}Ne($\bar{p}$,ΛK$_{s}$^{0}), strange particle production expt. 7−49392
^{20}Ne(p,X), multiplicity of γ-rays and π^{0}, intranuclear cascade model comparison 7−42010
^{20}Ne(π^{+},π^{+})^{20}Ne, effective cluster interaction test 7−49471
^{29}Ne, parity nonconserving alpha decay widths, Fermi liquid model and RPA model 7−15204
Ne(ν, π^{0}), neutral current coherent π^{0} prod. 7−41780
^{20}O, energy levels, electromagnetic transitions *(Korean)* 7−30342
^{30}P, occurrence in O(6) multiplet with ^{30}Si, IBM4 dynamical symmetry anal. 7−56625
^{30}P, second excited state, *M*1 branching ratio meas., lifetime calcs. for 709 keV level 7−19198
^{31}P(n,n′), 2.2 eV-7 MeV, total cross section meas. 7−49403
^{32}P, induced beta activity determ. *(Czech)* 7−61837
^{35}P, β-decay and shell crossing, expt. study and shell model calcs. 7−5199
^{A}S(n,n′), A=32,34, 20-26 MeV, cross sections, rotation-vibration, anharmonic vibration collective model anal., transition matrix element calcs. 7−19244
^{30}S β^{+} decay strength calcs. 7−19198
^{32}S, isospin allowed M2 γ-ray transition 7−35973
^{32}S(^{12}C,X), excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
^{32}S($\vec{d}$,d), 52 MeV, effective interaction and mass distribs., Fourier-Bessel anal. 7−647
^{32}S(γ,5p3n)^{24}Na, photodisintegration cross sections, excitation functions 7−19233
^{32}S(γ,7p7n)^{18}F, photodisintegration cross sections, excitation functions 7−19233
^{32}S(p,p′), 29.4 MeV, cross sections, IBM approximation anal. 7−19253
^{34}S(γ,np), cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7−41971
^{34}S(γ,p), cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7−41971
^{34}S($\vec{p}$,p′)^{34}S, investigation of first three 2^{+} states 7−672
^{36}S(t,pγ)^{38}S, level spectrum and E2, M1 transition rates 7−49428
^{38}S, level spectrum and E2, M1 transition rates from ^{36}S(t,p) reaction 7−49428
^{A}Si, A=28-30, level mean lifetimes using two-target Doppler shift attenuation meas. 7−41940
^{A}Si(t,t), A=28,30, optical model anal. 7−15215
^{26}Si(^{3}He,n)^{28}P, structure studies using time-of-flight spectrometer 7−696
^{28}Si, giant dipole resonance decay, isospin mixing effects 7−41881
^{28}Si, highly excited spin states from ^{12}C(^{20}Ne,α) reaction 7−705
^{28}Si, isospin mixing during decay of giant dipole resonance 7−10092
^{28}Si level analysis from ^{26}Mg(^{3}He,n)^{28}Si, 23, 45 MeV 7−42036
^{28}Si, unbound levels, resonance and decay mode determ. from ^{27}Al(p,γ) reaction 7−49413
^{28}Si(^{12}C,X), excitation fns., intermediate structures, comparisons with orbiting-cluster model 7−56692
^{28}Si(^{12}C,x), 43-70.5 MeV, complete fusion excitation function *(Chinese)* 7−49443
^{28}Si(^{14}N, ^{14}N), spin-orbit term in optical pot. 7−36047
^{28}Si(^{16}O,^{16}O′), 29-35 MeV, optical model, coupled-channel method anal., role of collective excitations 7−56700
^{28}Si(^{16}O,^{16}O), 21.1, 34.8 MeV, optical model pots. from pot. inversion at fixed energy 7−5208
^{28}Si(^{16}O,^{16}O), E$_{Lab}$=94 MeV/nucleon, angular distrib., double-folded potential comparisons 7−61916
^{28}Si(^{28}Si,N), E$_{lab}$=151.25 MeV, cross section meas. 7−19281
^{28}Si(^{28}Si,xnxp), E$_{lab}$=151.25 MeV, cross section meas. 7−19281
^{28}Si(^{32}S,^{36}Ar)^{24}Mg, ang. distribs. meas., energy dependence 7−10166
^{28}Si(^{3}He, ^{3}He), 12 MeV, angular distributions, optical, DWBA and CC anals. 7−24990
^{28}Si(^{3}He, d), 12 MeV, angular distributions, optical, DWBA and CC anals. 7−24990
^{28}Si(^{58}Ni, ^{59}Ni), transfer cross section meas., isotopic dependence, DWBA anal. 7−5256
^{28}Si(^{62}Ni, ^{63}Ni), transfer cross section meas., isotopic dependence, DWBA anal. 7−5256
^{28}Si(α,α), 5-12 MeV, resonances and quasimolecular states, optical anal. 7−19224
^{28}Si(d, d), distortion effects and binding energy calcs. 7−49229
^{28}Si(d, p), distortion effects and binding energy calcs. 7−49229
^{28}Si($\vec{d}$,d), 52 MeV, elastic and inelastic scatt., struct. depend. of anal. powers 7−646
^{28}Si($\vec{d}$,$\vec{p}$), 18 MeV, polarisation transfer meas., d D-state effects 7−633
^{28}Si($\vec{d}$,p), 56 MeV, polarisation transfer, anal. power ang. distribs. 7−636
^{28}Si(e,e′P), coincidence studies in the giant resonance region 7−49384
^{28}Si(e,e′α), coincidence studies in the giant resonance region 7−49384
^{28}Si(γ,3pn)^{24}Na, photodisintegration cross sections, excitation functions 7−19233
^{28}Si(γ,5p5n)^{18}F, photodisintegration cross sections, excitation functions 7−19233
^{28}Si(n,n′), 20-26 MeV, cross sections, rotation-vibration, anharmonic vibration collective model anal., transition matrix element calcs. 7−19244
^{28}Si(n,n′)^{28}Si, excited states and direct reaction mechanism 7−36003
^{28}Si(n,p)^{28}Al, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7−10155
^{28}Si($\vec{p}$,^{3}He), 89.6 MeV, diff. cross section and anal. power ang. distribs. 7−628
^{28}Si($\vec{p}$,p′)^{28}Si, analysing power and differential cross-section 7−666
^{28}Si($\vec{p}$,$\vec{p}$)^{28}Si, analysing powers and cross-sections, optical potential shape 7−662
^{28}Si($\vec{p}$,$\vec{p}$)^{28}Si, energy dependence of β_{2} and β_{4} 7−665
^{29}Si(α,d)^{31}P, 25 MeV, microscopic DWBA anal. 7−19265
^{29}Si($\vec{d}$,α)^{27}Al, 12.3 MeV, microscopic DWBA anal. 7−19265

nuclei with mass number 20 to 38 continued
^{29}Si(n,p), cross section for NAA appl. 7−23116
^{30}Si, occurrence in O(6) multiplet with ^{30}P, IBM4 dynamical symmetry anal. 7−56625
^{30}Si($^{3}\vec{\mathrm{H}}$e,α), CCBA, DWBA anal. 7−42034
^{30}Si(α,d)^{32}P, 25 MeV, microscopic DWBA anal. 7−19265
^{30}Si($\vec{d}$,α), 12.3 MeV, microscopic DWBA anal. 7−19265
Si(π^{-}, $\pi^{+}\pi^{-}\pi^{-}$), diffraction dissociation at 40 GeV, partial-wave anal. 7−42080
S(n,γ), capture cross sections for thermal neutrons 7−41994

nuclei with mass number 39 to 58
A=12-40, strangeness exchange reactions with the recoil corrected continuum shell model 7−19190
A=46, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−41023
A=49, nuclear data sheets, levels, J$^{\pi}$ transitions, decays 7−14718
excess and hole 4*N*-nuclei, binding energies, quad. deformation parameters 7−5147
light neutron-rich isotopes, β-decay half life determ. 7−49325
sharp radius, interaction range and volume integral of shell model pot. for A=36-65 7−49258
^{40}Ar, bound dipole state parities, nucl. resonance fluorescence expts. 7−5188
^{40}Ar, inverse β^{-} decay for neutrino detection 7−15203
^{40}Ar(p,2px), 1 GeV, cross section meas., obs. of low-lying dibaryon resonances 7−56680
^{40}Ar(p,γ), bound level study of ^{41}K product nucleus 7−30345
^{41}Ar, beta-decay, half-life determ. 7−49308
Ca-Ti-Cr isotopic anomalies in Allende meteorite, correlation with solar ^{48}Ca/^{46}Ca abundance 7−55586
^{A}Ca, A=40, 48 relativistic self-consistent field calculations for some closed-nuclei 7−56627
^{A}Ca, A=40,48, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{A}Ca(^{16}O,X), A=40,44, nuclear clustering effects in colliding N=Z and N≠Z nuclei 7−49468
^{A}Ca(e,e′), A=40, 48, relativistic RPA response function for quasielastic scatt. in local density approx. 7−41984
^{A}Ca($\vec{p}$,$\vec{n}$), 134 MeV, A=40,48, Gamow-Teller and spin-dipole strength, spin-flip 7−30407
^{40}Ca, average potential of nucleons, empirical and theoretical investigation 7−10101
^{40}Ca, correlations in the Sp(1,*R*) model for the monopole oscillations 7−49263
^{40}Ca, deformed excited 0^{+} states, HF and α-cluster calcs. 7−41879
^{40}Ca, dynamic and static longitudinal structure factors, RPA anal. 7−41884
^{40}Ca isospins level-widths, 9.5 to 10.5 MeV, from ^{39}K(p,γ) *(Chinese)* 7−35972
^{40}Ca, longitudinal struct. factors, RPA calc. 7−35945
^{40}Ca, microscopic optical pot., radial shape, real part modification by second order diagrams 7−41926
^{40}Ca, realistic many-body wave functions and nucleonmomentum distributions in finite nuclei 7−582
^{40}Ca, single particle and single-hole spectra *(Chinese)* 7−49200
^{40}Ca, T=2 state alpha-particle decay width from ^{36}Ar(α,α)^{36}Ar 7−49434
^{40}Ca(^{12}C,^{12}C)^{40}Ca, elastic scattering angular distribs., total reaction cross-section 7−49451
^{40}Ca(^{20}Ne, ^{20}Ne*)^{40}Ca, at 92, 149 and 213 MeV, projectile breakup processes 7−30442
^{40}Ca(^{23}Na,X), 260, 287 MeV, complete and uncomplete fusion-evap. residue cross-sections, limiting ang. momenta effects 7−30462
^{40}Ca(^{28}Si,X), 298, 327 MeV, complete and uncomplete fusion-evap. residue cross-sections, limiting ang. momenta effects 7−30462
^{40}Ca(^{36}Ar,2pα), 115 MeV, ^{70}Se lifetime meas. 7−10099
^{40}Ca(^{36}Ar,4p), lowest three yrast transitions in ^{72}Se, lifetime meas. 7−10099
^{40}Ca(^{40}Ca,X), dissipative diabatic dynamics 7−49466
^{40}Ca(^{40}Ca,γ)^{80}Zr*, 55-79 MeV, ^{76}Rb isomer obs., half-life meas., level structure 7−10109
^{40}Ca(N,N′), nucleon optical pot. study 7−10145
^{40}Ca(α,X), 10-27 MeV, fusion excitation fn. oscillations, optical model anal. 7−19268
^{40}Ca(α,α), 104 MeV, comparison of model independ. optical pot. anals. 7−699
^{40}Ca(α,α), 12-18 MeV, excitation fn. calcs., optical model anal. 7−19268
^{40}Ca(α,α)^{40}Ca, resonating rays in ion-ion scattering from an optical potential 7−49435
^{40}Ca(α,αp), quasifree knockout, DWIA calcs. and spectroscopic factors 7−42038
^{40}Ca(α,p)^{43}Sc, 25.8 MeV, α-nucleus ALAS potential, diff. cross sections 7−30436
^{40}Ca($\vec{d}$,^{3}He), analyzing powers, tensor pots. and D-state amplitudes 7−56662
^{40}Ca($\vec{d}$,α), analyzing powers, tensor pots. and D-state amplitudes 7−56662
^{40}Ca($\vec{d}$,$\vec{d}$), 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
^{40}Ca($\vec{d}$,t), analyzing powers, tensor pots. and D-state amplitudes 7−56662
^{40}Ca(e,e′), longitudinal charge response, RPA calcs. 7−56669
^{40}Ca(e,e′), longitudinal charge response in quasielastic region, RPA approach 7−61861
^{40}Ca(n,X), total cross section meas. and optical model calcs. 7−5242
^{40}Ca(n,γ), constructive interference effect *(Chinese)* 7−49404
^{40}Ca(n,γ), high energy levels, resonant excitation with neutron-capture γ quanta 7−10107
^{40}Ca($\vec{p}$,2p), 200 MeV, analyzing powers, cross section calcs., DWIA anal. 7−19251
^{40}Ca(p,2p), 76.1, 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
^{40}Ca(p,p′), 500 MeV, proton polarization observable meas., 3^{-}, 5^{-} level transitions 7−49399
^{40}Ca(p,p), optical pot., dispersion relation approach to extrapolation to negative energy 7−41958
^{40}Ca($\vec{p}$,$\vec{p}$)^{40}Ca, analysing powers and cross-sections, optical potential shape 7−662
^{40}Ca(p,p)^{40}Ca, empirical evidence of an energy dependence of the radial shape of the real part of the optical potential 7−49411
^{40}Ca($\pi^{\pm}$,π^{0}), isovector giant resonance excitations 7−49478
^{41}Ca, forbidden electron capture, IS component of internal bremsstrahlung 7−49321

nuclei with mass number 39 to 58 continued
^{42}Ca, f-p shell struct. M-3Y force equivalent G-matrix elements *(Chinese)* 7−49259
^{42}Ca(p,n) threshold determ., ^{42}Sc beta decay energy anal. 7−49332
^{44}Ca(γ,γ'), 1^+ level obs. *M*1 strength, *E*2-*M*1 transition obs., E2 strength determ. 7−19170
^{45}Ca beta-decay, longitudinal electron polarization meas., relevance to deviations from parity violation 7−56650
^{48}Ca, multipole depend. of giant resonance spreading width, RPA calcs. 7−49357
^{48}Ca/^{46}Ca, solar abundance ratio, correlation with Ca-Ti-Cr isotopic anomalies in Allende meteorite 7−55586
^{48}Ca($O_1{}^+$)$\rightarrow$^{48}Ti($O_1{}^+$) $O\nu\beta\beta$ decay, uncertainties in nuclear matrix elements 7−49337
^{48}Ca(π^+,π^-p), 250 MeV, proton angular distn. meas. 7−42075
^{55}Co medium spin structure, shapes and transitions, HF and shell anals. of ^{54}Fe(^{3}He,X) 7−41873
^{57}Co $d_{5/2}$ isobaric analogue resonance fragments, γ-decay schemes, M1 strength from (p,γ) and (p,p$'\gamma$) 7−35987
^{57}Co EC decay chemical effects in Co(III) complexes 7−23048
^{57}Co^{3+}, nuclear decay, ^{57}Fe^{4+} anomalous charge state obs. 7−21881
^{A}Cr, A=48, 50, single particle spectra and shape from deformed HF calcs. *(Chinese)* 7−5186
^{52}Cr(α,X), total cross section meas. 7−42042
^{52}Cr(n,n$'$), direct contributions, DWBA anal. 7−42014
^{52}Cr(n,xnγ), 14.6 MeV, coincident in-beam study, γ-transitions, γ-multiplicities 7−42025
Cr(n,X), parity effects at low energy, Hauser-Feshbach model 7−30426
Cr(n,X)^{52}V, 14.6 MeV, cross section meas. 7−42007
^{57}Cu ground state Q-value and mass excess, cross section from ^{58}Ni(^{7}Li,^{8}He) 7−35935
^{A}Fe(α,X), A=54,58, total cross section meas. 7−42042
^{A}Fe(p,X), A=54,56,57, E=22 7−5232
^{54}Fe, internal pair conversion probability ratios for E0 transitions from K-shell 7−30379
^{54}Fe medium spin structure, shapes and transitions, HF and shell anals. of ^{54}Fe(^{3}He,X) 7−41873
^{54}Fe(^{20}Ne,X), reaction mechanism 7−701
^{54}Fe(^{28}Si,X), angular-momentum limitations in the high-spin gamma-decay of medium-mass evaporation residues 7−10170
^{54}Fe(n,X), few MeV range, total, scatt., and γ-prod. cross sections, reactor appl. 7−41993
^{54}Fe($\vec{p}$,^{3}He), 65 MeV, reaction mech. investigation, optical pots. 7−627
^{56}Fe, dynamic and static longitudinal structure factors, RPA anal. 7−41884
^{56}Fe, gamma-ray competition in the continuum, thermodynamic model anal. 7−41939
^{56}Fe, longitudinal struct. factors, RPA calc. 7−35945
^{56}Fe, proton form factor, valon model *(Chinese)* 7−10100
^{56}Fe(e,e$'$), longitudinal charge response, RPA calcs. 7−56669
^{56}Fe(e,e$'$), longitudinal charge response in quasielastic region, RPA approach 7−61861
^{56}Fe(γ,γ), dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
^{56}Fe(n,γ), capture in 1.15 keV resonance using Moxon-Rae detectors, reactor appl. 7−36004
^{56}Fe(n,n$'$), direct contributions, DWBA anal. 7−42014
^{56}Fe(n,n$'$), double differential cross section meas., neutron transmission anal. 7−42106
^{57}Fe, dressed state model of sideband transitions 7−10123
Fe($\pi^{\pm}$,2N), 165, 245, MeV, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
(^{3}He, ^{3}He), 10-220 MeV, optical model anal. 7−42035
K(Ar,X), 1.5 GeV/N, three pion correlations in relativistic collisions 7−36035
^{39}K, hole state excitations, using (γ,γ') and (d,τ'), correlations 7−61833
^{39}K(^{40}Ar,X), 1.2, 1.89 A GeV, in KCl, collective flow and stiffness in compressed nuclear matter 7−36021
^{41}K, bound level study, branchings and excitation energies 7−30345
^{41}K(p,p$'$), 6 MeV, low-lying levels, EM props. and spin values, mixing ratios, lifetimes 7−19171
Mn/H, thermal absorption cross-section ratios 7−49490
^{53}Mn, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
Mn(n,γ), capture cross sections for thermal neutrons 7−41994
^{40}Ne(B,$\pi^-\Lambda$), B=^{16}O, ^{12}C, 4.5 A GeV/c, reaction analysis 7−708
Ni (^{14}N,X), 35 MeV/N, neutron-fragment coincidence meas. 7−36037
^{A}Ni(^{28}Si,X), A=58,62, transfer cross sections near Coulomb barrier 7−36052
^{A}Ni(α,p), 25.4, 26 MeV, A=58, 60, 62, optical and ZR DWBA anals., optical pot. ambiguities *(Chinese)* 7−5250
^{A}Ni($\vec{d}$,$\vec{d}$), A=58-64, 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
^{54}Ni(^{14}N,γX), 35 MeV/n, bremsstrahlung angular distrib. 7−5254
^{58}Ni(^{14}N,pn), 39 MeV, ^{72}Se lifetime meas. 7−10099
^{58}Ni(^{32}S,X), selective γ-decay of fission-like fragments 7−42059
^{58}Ni(^{36}S,X), 94-112 MeV, quasi-elastic transfer cross section meas., effects on sub-barrier fusion 7−61915
^{58}Ni(^{40}Ar,X), 600 MeV, composite system formation and decay, multifragmentation and light particle emission 7−36036
^{58}Ni(^{54}Fe,X)^{112}Xe*, groundstate proton radioactivity meas. 7−49350
^{58}Ni(^{58}Ni,X)^{116}Ba*, groundstate proton radioactivity meas. 7−49350
^{58}Ni(α,X), total cross section meas. 7−42042
^{58}Ni(n,2n)^{57}Ni, fast neutron reaction cross sections, simulation technique 7−19242
^{58}Ni(n,n$'$), direct contributions, DWBA anal. 7−42014
^{58}Ni(n,p), 17.3 MeV, giant dipole resonance excitation, p ang. distribs. 7−41962
^{58}Ni($\vec{p}$,^{3}He), 65 MeV, reaction mech. investigation, optical pots. 7−627
^{58}Ni($\vec{p}$,p$'$X), q-scaling of continuum analysing powers 7−680
^{58}Ni($\vec{p}$,$\vec{p}'$X), spin excitations in continuum by polarisation transfer 7−681
^{58}Ni($\vec{p}$,p$'$)^{58}Ni, inelastic scatt. to 1^+ states in M1 resonance region 7−673
^{58}Ni($\vec{p}$,$\vec{p}$)^{58}Ni, analysing powers and cross-sections, optical potential shape 7−662
Ni(d,X), vector and tensor analysing power meas. 7−10158
Ni(n, n$'$), 14 MeV, double differential cross-sections calcs. *(Japanese)* 7−49414
^{A}Sc, A=44,46, spin-parity meas. from (d,α) cross section anal. 7−19165
^{40}Sc decay, selected aspects in the structure of beta-delayed particle spectra 7−49346
^{42}Sc beta decay energy anal. from ^{42}Ca(p,n) threshold determ. 7−49332

nuclei with mass number 39 to 58 continued
^{42}Sc, f-p shell struct. M-3Y force equivalent G-matrix elements *(Chinese)* 7−49259
^{44}Sc, electron capture to positron emission ratios 7−19207
^{45}Sc(^{40}Ar,X), 600 MeV, composite system formation and decay, multifragmentation and light particle emission 7−36036
^{45}Sc(p,γX), 2-4 MeV, gamma-ray ang. distribs., low-lying levels anal. 7−19168
^{47}Sc decay: half-life, γ-emission probability, transition probability, end-point energy and internal conversion coeff. 7−24959
^{40}Sn(π,η), expt. results 7−36053
Ti(^{40}Ar, X), cross-sections and angular distribs. 7−36024
Ti(Zr,X), subbarrier fusion, adiabatic representation 7−702
^{A}Ti, A=44, 46, 48, 50, single particle spectra and shape from deformed HF calcs. *(Chinese)* 7−5186
^{A}Ti, A=44, 46, 48, IBM description of energy spectra *(Chinese)* 7−10115
^{A}Ti, A=46, 48, spin-orbit contribs. to collective M1 transitions 7−56637
^{43}Ti, β-decay, expt. and shell model study 7−49331
^{44}Ti, evidence for α-clustering, local pot. approach 7−5173
^{46}Ti(^{35}Cl,X), damped reaction products, coincidence study 7−36051
^{46}Ti($\vec{d}$,α)^{44}Sc, 7-9.75 MeV, spin-parity meas. 7−19165
^{48}Ti (n,n)^{48}Ti, total and elastic cross-sections 7−42008
^{48}Ti($^{23}\vec{\text{N}}$a,X), subbarrier fusion cross sections and tensor analyzing powers 7−19293
^{48}Ti(^{37}Cl,X), damped reaction products, coincidence study 7−36051
^{48}Ti(α,pγ), particle-gamma angular correlation meas. 7−30370
^{48}Ti($\vec{d}$,α)^{46}Sc, 7-9.75 MeV, spin-parity meas. 7−19165
^{48}Ti(μ^-,e$^-$), experimental upper limits, anal. of generation problem 7−41979
^{50}Ti, level spectrum in rotational-particle coupling model 7−49197
^{50}Ti(α,X), total cross section meas. 7−42042
Ti(μ,x), muon-electron conversion search at TRIUMF 7−56671
Ti(n,X), X=p, np, 2n, threshold-20 MeV, cross sections, hybrid and Hauser-Feshbach anals. 7−61870
^{51}V, multiple mixing ratios of de-excitation radiation from ^{48}Ti(α,pγ) 7−30370
^{51}V(^{3}He,X), diffraction dissociation at 90 MeV by nuclei with a diffuse edge 7−42043
^{51}V(e,e$'$p)^{50}Ti, spectroscopic strength of $1f_{7/2}$ transitions 7−15211
^{51}V(γ,X), 100-1000 MeV, photospallation reactions 7−19235
^{51}V(γ,π^-xn)Cr, x=0, 2, 3, isotope yield meas. 7−19236
^{51}V(n,nα), cross section meas. and Hauser-Feshbach comparison 7−10144
^{51}V(p,X), 20-48 MeV, total cross sections, nuclear transparency, optical anal. 7−5232

nuclei with mass number 59 to 89
^{60}Ni(^{14}N,pn), lowest three yrast transitions in ^{72}Se, lifetime meas. 7−10099
^{71}Ga solar-neutrino experiment, possible existence of internal solar-energy sink 7−66547
^{72}Se, lowest three yrast transitions, lifetime meas. 7−10099
A=83, nuclear data sheets, levels, J^{π}, transitions, decays 7−60905
neutrinoless double beta decay, exptl. results and techniques 7−49338
neutron capture cross sections, meas. rel. to s-process branching at ^{79}Se 7−23990
sharp radius, interaction range and volume integral of shell model pot. for A=36-65 7−49258
^{A}Ni(γ,X), A=60, 61, 62, 4.5 GeV, fragment yields, dependence on target, residual nuclear isotopic spins 7−56665
($\vec{p}$,p$'$), hexadecapole moments of medium weight transitional nuclei 7−674
^{75}As(n,α)^{72}Ga, fast neutron reaction cross sections, simulation technique 7−19242
^{A}Br, A=72,73, rot. states, level energies and lifetimes, evaporation residue study 7−49215
^{73}Br, γ-transitions, energies, levels 7−19204
^{76}Br EC decay, ^{76}Se electric monopole transitions, IC electrons, level lifetimes 7−19202
^{79}Br(^{12}C,X), 4.5 GeV/c/nucleon, proton emission multiplicity distribution, Koba-Neilsen-Olesen scaling 7−49438
^{79}Br(^{12}C,X), in AgBr, 4.5A GeV/c, central collisions, comparative pseudorapidity spectra study, quark matter formation 7−42045
^{79}Br(^{12}C,X) 7−49437
^{79}Br(^{132}Xe,X), in AgBr, 0.5-1.2 GeV/nucleon, collective flow in nuclear matter, transverse-momentum anal. 7−19277
^{79}Br(^{197}Au,X) in AgBr, 0.5-1.2 GeV/nucleon, collective flow in nuclear matter, transverse-momentum anal. 7−19277
^{79}Br(^{238}U,X) in AgBr, 0.85 A GeV, projectile-target fragment angular correlations 7−19283
^{79}Br($\bar{p}$,X), 1.4 GeV/c, in AgBr, comparisons with ^{12}C-AgBr data 7−49437
^{79}Br($\bar{p}$,X), 1.4 GeV/c in AgBr, antiproton annihilation, Koba-Neilsen-Olesen scaling 7−49438
^{81}Br(ν,e$^-$)^{81}Kr solar neutrino expt. 7−14498
^{59}Co(n,X), pre-equilibrium reaction anal. 7−42012
^{59}Co(p,^{3}Heα), 72 MeV, comparison with stopped π^- induced reactions 7−24980
^{59}Co(p,X), 20-48 MeV, total cross sections, nuclear transparency, optical anal. 7−5232
^{59}Co(π^-,X) comparisons with (p,^{3}Heα) reactions 7−24980
^{60}Co, absolute activity meas. anticoincidence counting system *(Korean)* 7−25329
^{60}Co irradiator at Hiroshima Univ., dose rate distrib. *(Japanese)* 7−40295
^{52}Cr(p,γ)^{53}Mn, spins of resonance levels 7−19247
^{A}Cu, A=74-78, strongly neutron rich fusion products, decay props 7−19210
^{63}Cu(γ,π^-n)^{62}Zn, isotope yield meas. 7−19236
^{63}Cu(p,γ), direct-semidirect capture in the giant dipole resonance region 7−49417
^{63}Cu(p,γ)^{64}Zn, 6.5-11 MeV, capture cross section meas., excitation fn. anal. using CN/DSD models 7−10153
^{65}Cu(γ,π^-3n)^{62}Zn, isotope yield meas. 7−19236
^{65}Cu(p,γ)^{66}Zn, competition effects in proton induced reactions 7−61871
^{65}Cu(p,n)^{65}Zn, competition effects in proton induced reactions 7−61871
^{69}Cu(^{12}C,X), 3.65 GeV/nucleon, hadron yields, angular distrib. meas. *(Russian)* 7−24987
^{69}Cu(^{4}He,X), 3.65 GeV/nucleon, hadron yields, angular distrib. meas. *(Russian)* 7−24987
^{69}Cu(p, X), 400 GeV/c, inclusive hadronic production cross section meas. 7−19256
^{69}Cu($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
Cu(γ,X), photospallation studies 7−19237

nuclei with mass number 59 to 89 continued

Cu(γ,X), spallation reaction study 7−41974
Cu(n,n), fast neutron forward scatt., absolute cross sections 7−5230
Cu(p,K^+), subthreshold K^+ meson production, 800 to 1000 MeV 7−691
Cu(p,X), light nucleus prod., coalescence model comparison 7−5237
Cu(π^-,X), search for H^0 strangeness −2 dibaryon at 40 GeV/c 7−30453
^{A}Fe(n,n'γ), A=54, 56, 58, gamma distribs., excited level schemes, B(E2) values 7−30419
^{56}Fe(p,γ)^{57}Co, spins of resonance levels 7−19247
^{A}Ga, A=76,78,80, structure and Q_β values 7−49318
^{A}Ga, A=77-81, strongly neutron rich fusion products, decay props 7−19210
^{A}Ga(ν,e), A=69,71, capture rates, solar and galactic neutrino detection 7−56670
^{67}Ga $15/2^+$ 3578 keV level, mag. moment meas. from ^{56}Fe(^{16}O,αp) 7−35946
^{71}Ga(p,n), Gamow-Teller strength functions 7−56684
Ga(ν,e) solar neutrino detector, implications for neutrino oscill. and solar models 7−56912
Ge, high spin states, B(E2) values, g-factors IBM coupled calcs. 7−35930
^{A}Ge, A=64, 65, level scheme, transitions and octupole deformations 7−56610
^{A}Ge, A=68,70,72,74, high spin yrast levels, microscopic study 7−5143
^{A}Ge(^{18}O,X), A=74,76, yrast decay in fusion-evaporation reaction products 7−15198
^{A}Ge($\vec{p}$,p)^{14}Ge, A=70, 72, 74, 76 elastic and inelastic scatt. optical model fitting 7−669
^{61}Ge, beta-delayed proton decay 7−41946
^{64}Ge, identification of first excited state 7−5160
^{70}Ge, internal pair conversion probability ratios for E0 transitions from K-shell 7−30379
^{76}Ge double beta decay experiments, review 7−41942
^{76}Ge, neutrinoless double beta decay calcs. comparison with decay half-life meas. 7−49336
^{76}Ge neutrinoless double beta decay, ν mass limits and right handed current calcs. 7−49340
^{76}Ge, neutrinoless double β-decay 7−41949
^{76}Ge neutrinoless double β-decay, lepton number nonconservation, Milano expt. 7−56644
^{76}Ge O$\nu\beta\beta$-decay, data anal., half-life determ. 7−61841
^{76}Ge$\rightarrow$^{76}Se, neutrinoless, double beta-decay, $0^+\rightarrow0^+$ study, prelim. meas. 7−49342
^{76}Ge$\rightarrow$^{76}Se, neutrinoless double beta-decay, limits on lepton number nonconservation 7−49339
(^{3}He, ^{3}He), 10-220 MeV, optical model anal. 7−42035
^{A}Kr, A=74, 76, rot. states, level energies and lifetimes, evaporation residue study 7−49215
^{A}Kr, A=78, 80, negative-parity states, E2 transition probabilities, IBM anal. 7−30340
^{A}Kr(n,γ), 4-250 keV, capture cross sections for A=78-86, reactor appl. 7−36005
^{75}Kr, signature splitting of EM transitions 7−49287
^{80}Kr(d,p)^{81}Kr, Q-value determ. 7−49429
^{81}Kr, M1 transition rates at high spin, cranking model appl. 7−30368
^{85}Kr, neutron capture and β-decay, s-process abundances 7−55461
Ni (^{14}N,X), 35 MeV/N, neutron-fragment coincidence meas. 7−36037
Ni(^{14}N, X), neutron emission from high temp. region 7−36045
^{A}Ni(^{28}Si,X), A=58,62, transfer cross sections near Coulomb barrier 7−36052
^{A}Ni(α,p), 25.4, 26 MeV, A=58, 60, 62, optical and ZR DWBA anals., optical pot. ambiguities *(Chinese)* 7−5250
^{A}Ni($\vec{d}$,$\vec{d}$), A=58-64, 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
^{60}Ni, internal pair conversion probability ratios for E0 transitions from K-shell 7−30379
^{60}Ni(^{16}O, ^{16}O)^{60}Ni, polarisation potential in optical model 7−19271
^{60}Ni(γ,γ), dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
^{60}Ni($\vec{p}$,p')^{60}Ni, inelastic scatt. to 1^+ states in M1 resonance region 7−673
^{60}Ni($\pi^\pm$,π^0), isovector giant resonance excitations 7−49478
^{64}Ni(^{12}C,X), light particle energy spectrum anal. *(Chinese)* 7−24999
^{64}Ni(^{32}S,X), 94-112 MeV, quasi-elastic transfer cross section meas., effects on sub-barrier fusion 7−61915
^{64}Ni(Li,d), DWBA anal., exptl. comparisons 7−56699
^{64}Ni(α,X), total cross section meas. 7−42042
^{76}Rb, 3.2 μs isomer, obs. in ^{40}Ca(^{40}Ca,γ)^{30}Zr, decay level scheme 7−10109
^{77}Rb, rot. states, level energies and lifetimes, evaporation residue study 7−49215
^{83}Rb, level lifetimes and structure meas., comparisons with Alaga-Paar cluster-vibration model 7−30371
^{85}Rb^{m}, isomer shift, mag. moment, laser induced nuc. orientation 7−10106
^{A}Se, A=70, 72, rot. states, level energies and lifetimes, evaporation residue study 7−49215
^{A}Se, A=70,72,74,76, high spin yrast levels, microscopic study 7−5143
^{A}Se, A=76, 78, negative-parity states, E2 transition probabilities, IBM anal. 7−30340
^{A}Se(e,e), A=78,80, differential cross section meas. and phase shift anal. 7−41985
^{A}Se(n,n), A=76, 78, 80, 82, elastic scatt., differential cross sections, optical anal. 7−10152
^{A}Se($\vec{p}$,p)^{A}Se, A=76, 78, 80 elastic and inelastic scatt. optical model fitting 7−669
^{70}Se, yrast states, lifetime meas. using ^{0}Ca(^{36}Ar,2pα) 7−10099
^{72}Se, yrast states, lifetime meas. using ^{58}Ni(^{14}N,pn) 7−10099
^{76}Se electric monopole transitions, IC electrons, level lifetimes from ^{76}Br EC decay 7−19202
^{77}Se^{m}, isomer state half-life meas. 7−56636
^{79}Se^{m}, stellar β-decay rate 7−49344
^{80}Se levels, J^π, ang. distribs., DWBA anal. of ^{78}Se(t,p) 7−35949
^{82}Se double beta decay meas. 7−41941
^{82}Se double beta-decay, 2$\bar{\nu}$, Oν, half-life limits 7−49341
^{82}Se, double β-decay, half-life determ. from mineral isotopic composition 7−598
^{A}Sr, A=80, 82, optical isotope shifts from spectroscopy coincidence laser 7−574
^{A}Sr(n,γ), A=86,87 capture cross-section at stellar temps. 7−55462
^{82}Sr, mean square charge radius, droplet model comparison 7−5635
^{86}Sr, yrast decay schemes, gamma-ray data and shell model calcs. 7−15198

nuclei with mass number 59 to 89 continued

^{86}Sr(d,p), level struct. and transition strength study 7−41899
^{86}Sr($\vec{d}$,p)^{87}Sr, DWBA anal., differential cross-sections and vector analysing powers 7−694
^{86}Sr(n,γ), level struct. and transition strength study 7−41899
^{87}Sr(d,p), differential cross sections for transitions to particle-hole states 7−61897
^{88}Sr($\vec{p}$,p')^{88}Sr, effective interactions, analysing power and structure 7−675
^{A}Y, A=87-9, yrast decay schemes, gamma-ray data and shell model calcs. 7−15198
^{88}Y, electron capture to positron emission ratios 7−19207
^{89}Y(^{3}He, $\pi^\pm$), 263 MeV, angular distribs., total cross sections 7−24989
^{89}Y(γ,X), 100-1000 MeV, photospallation reactions 7−19235
^{89}Y(γ,π^-xn)Zr, x=0, 1, 2, 3, isotope yield meas. 7−19236
^{89}Y(n,γ), ^{90}Y isovector E2 resonance observation 7−49361
^{89}Y(n,n'γ), level struct. study, statistical determ. of spins and parities 7−30344
^{89}Y(n,n), 4-10 MeV, diff. cross sections, search for Fermi surface anomaly 7−36010
^{89}Y(n,n), differential cross section and analyzing powers, optical model study 7−5243
^{A}Zn, A=75-80, decay props. and Q_β values 7−49318
^{A}Zn, A=75-80, strongly neutron rich fusion products, decay props 7−19210
^{A}Zn(n,n'γ), A=64, 66, 68, 70, gamma distribs., excited level schemes, B(E2) values 7−30419
^{60}Zn, β^+ decay Q-value determ. 7−30382
^{64}Zn giant dipole resonances built on excited states, Brink hypothesis verification from ^{63}Cu(p,γ) 7−41959
^{64}Zn, internal pair conversion probability ratios for E0 transitions from K-shell 7−30379
^{64}Zn(^{14}N,γX), 20, 30, 40 MeV/nucleon, gamma-ray energies, angular distrib. meas. 7−5286
^{65}Zn* compound system, preequilibrium α-emission, angular momentum effects 7−56693
^{66}Zn(n,p), cross section for NAA appl. 7−23116
^{68}Zn(^{40}Ar,X), inclusive variables, random walk model calcs. 7−42050
^{A}Zr, A=83, 85, from ^{58,60}Ni(^{28}Si, 2pn), in beam γ-ray spectroscopy 7−35989
^{A}Zr, A=87,89, yrast decay schemes, gamma-ray data 7−15198

nuclei with mass number 90 to 149
7−61847
^{128}Xe, *M*1 transitions between collective levels, proton-neutron IBM anal. 7−19197
^{A}Sn(^{58,64}Ni,X), A=112-124 fusion fission, excitation functions 7−49450
A=122, nuclear data sheets, levels J^π, transitions, decays 7−41024
A=124-146, beta-delayed proton emission, ground state spins and rot. bands 7−49349
A=133, nuclear data sheets, levels, J^π, transitions, decays 7−60906
A=143, nuclear data sheets, levels, J^π, transitions, decays 7−14720
A=145, nuclear data sheets, levels, J^π, transitions, decays 7−29604
A=92-122, thermonuclear reaction rates from (p,n) reactions cross-sections 7−34859
A=99, nuclear data sheets, levels, J^π, transitions, decays 7−14719
deformed rare earth nuclei, Coulomb displacement energy systematics 7−15182
Gamow-Teller β-decay of even nuclei near ^{100}Sn, struct. model calcs. 7−49330
heavy nuclei, α-like superfluid phase 7−15192
N_pN_n systematics for $132\leq A\leq208$, subshell closure at Z=76 7−61820
neutrinoless double beta decay, exptl. results and techniques 7−49338
rare earth nuclei, high excitation energy low spin states, structure and decay 7−41904
rare-earth nuclei, multipole moments, generator coordinate method anal. 7−41895
Z=56 to 66 neutron-deficient nuclei, nucleon stability, Hartree-Fock method calcs. *(Russian)* 7−30384
(p,f), E_p=190 MeV, target nuclei Nb, Ag, La, Ce, Pr, Nd, Dy, fission mass distribs. 7−5304
($\vec{p}$,p'), hexadecapole moments of medium weight transitional nuclei 7−674
(p,X), 1 GeV, onset of multifragmentation dominance, $A\leq160$ target nuclei 7−49401
^{124} Ce, structure investigation, deformation parameters 7−569
^{147} Sm α-decay, lifetime increase due to monopole field 7−5203
Ag, odd-A nuclei, low-lying $7/2^+$ states, quadrupole interaction calcs. 7−19167
Ag(Ar,X), 1.5 GeV/N, central collisions, kinematics and hydrodynamic effects 7−49447
Ag(^{56}Fe,X), 1.7 GeV/N, anomalon search using plastic SSNTDs 7−19275
Ag(^{14}N,X), effect of ^{8}Be decay on nucl. temp. meas. 7−5261
Ag(^{32}S,X), nuclear temperature measurements and feeding from particle unbound states 7−19305
Ag(^{132}Xe,X), 14 MeV/N, multipronged events, fission and quasi-fission contribs., SSNTD use 7−19273
^{104}Ag, spin determ. by nucl. orientation and NMR 7−41893
^{105}Ag, energy level anal. using particle-rotor model 7−19169
^{105}Ag excited states, lifetimes meas. from ^{105}Pd(p,nγ) 7−30374
^{106}Ag, Q_{EC} value determ. 7−19209
^{107}Ag(^{12}C,X), 4.5 GeV/c/nucleon, proton emission multiplicity distribution, Koba-Neilsen-Olesen scaling 7−49438
^{107}Ag(^{12}C,X) 7−49437
^{107}Ag(^{132}Xe,X), in AgBr, 0.5-1.2 GeV/nucleon, collective flow in nuclear matter, transverse-momentum anal. 7−19277
^{107}Ag(^{197}Au,X) in AgBr, 0.5-1.2 GeV/nucleon, collective flow in nuclear matter, transverse-momentum anal. 7−19277
^{107}Ag(^{238}U,X) in AgBr, 0.85 A GeV, projectile-target fragment angular correlations 7−19283
^{107}Ag(^{32}S,X), 715 MeV, inclusive fragment cross sections, γ-ray transition cross sections from fragment decays 7−42047
^{107}Ag($\bar{p}$,X), 1.4 GeV/c, in AgBr, comparisons with ^{12}C-AgBr data 7−49437
^{107}Ag($\bar{p}$,X), 1.4 GeV/c in AgBr, antiproton annihilation, Koba-Neilsen-Olesen scaling 7−49438
^{109}Ag, first excited state, Mossbauer effect observation techniques 7−10124
^{109}Ag(n,n'γ), temperature shift of neutron resonances 7−41960
^{110}Ag^{m}$\rightarrow$^{110}Cd, gamma-transitions, multipole mixing ratio anal. 7−49314
^{123}Ag, half life meas. for neutron-rich nuclei 7−5200

nuclei with mass number 90 to 149 continued
- ^{110m}Ag decay, relative gamma intensities, gamma-ray spectrometer calibration appl. 7−5568
- Ag(p,X), 300 MeV, correlating fragment emission 7−19259
- ^{197}Au(d,^{3}He), E_d=108.4 MeV proton-hole response fns., low-lying level analysis 7−42028
- ^{A}Ba, A=142,144,146, neutron-rich, octupole deform., fast electric dipole transitions obs. 7−41889
- ^{128}Ba, band crossings, γ-ray and conversion electron spectroscopy 7−10096
- ^{133}Ba decay, relative gamma intensities, gamma-ray spectrometer calibration appl. 7−5568
- ^{133}Ba→^{133}Cs, nuclear quadrupole interaction freq. in Ba compounds 7−10628
- ^{134}Ba(^{24}Mg,nf), 180 MeV, neutron emission prior to fission 7−5273
- ^{138}Ba, microscopic struct. of semimagic nuclei 7−30304
- ^{138}Ba(n,α)^{135m,g}Xe, fast neutron reaction cross sections, simulation technique 7−19242
- ^{138}Ba(n,p)^{138}Cs, fast neutron reaction cross sections, simulation technique 7−19242
- ^{138}Ba(p,p′), K-shell ionization probability, nuclear reaction effect 7−42748
- ^{140}Ba levels and transitions, spin assignments, multipole mixing ratios from ^{140}Cs β decay 7−595
- ^{142}Ba, $2_1{}^+$ state g-factor, hydrodynamic model and IBA-2 anals. 7−30332
- ^{148}Ba, level structure, test of N_pN_n scheme far off stability 7−49205
- Ba(γ,γ), scatt. meas. between 4.5 to 9.0 MeV 7−5222
- ^{209}Bi(p,p′)^{209}Bi*, transition strength to continuum states *(Korean)* 7−24979
- ^{107}Br(^{12}C,X), in AgBr, 4.5A GeV/c, central collisions, comparative pseudorapidity spectra study, quark matter formation 7−42045
- Cd isotopes, mean square charge radii, N dependence for 54≤N≤72 7−41885
- Cd, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{A}Cd, A=110,111, collective coupling to low energy excitations 7−35919
- ^{A}Cd, A=123,125,127 β-decay level schemes, search for intruder states in ^{123,125,127}In 7−19152
- ^{A}Cd, A=123-130, strongly neutron rich fusion products, decay props 7−19210
- ^{A}Cd, A=123-5,127,128, half life meas. for neutron-rich nuclei 7−5200
- ^{A}Cd($\vec{p}$,$\vec{p}$), A=106, 110, 114 isospin dependence on optical potential 7−661
- ^{A}Cd($\vec{p}$,p)^{A}Cd, A=112, 114, 116 elastic and inelastic scatt., nuclear structure 7−667
- ^{A}Cd(p,t), A=106,108,110,112,114,116, test for ground state intruder config. admixture 7−5245
- ^{103}Cd, nuclear moments determ. 7−41885
- ^{105}Cd, Q_{EC} value determ. 7−19209
- ^{110}Cd, angular correlation meas., gamma-transitions, multipole mixing ratio determ. 7−49314
- ^{110}Cd(^{13}C,3n), ^{120}Xe yrast band and backbending using in-beam γ-ray spectroscopy 7−36028
- ^{111}Cd(^{2}C,3n), ^{120}Xe yrast band and backbending using in-beam γ-ray spectroscopy 7−36028
- ^{111}Cd(n,γ)^{112}Cd, 10 to 150 keV, radiative transitions and cross sections 7−10151
- ^{130}Cd, β-decay half-life and importance for r-process 7−49319
- Ce, odd-mass isotopes, backbending, IBA anal. 7−19149
- ^{A}Ce, A=124,126, B(E2) anomaly in ground state bands 7−35974
- ^{A}Ce(n,2n), 12-18 MeV, cross sections using activation method for A=even 136-142 *(Chinese)* 7−5233
- ^{132}Ce, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
- ^{132}Ce, rotational band lifetime meas. within superdeformed second minimum 7−41871
- ^{140}Ce, microscopic struct. of semimagic nuclei 7−30304
- ^{140}Ce($\tilde{\gamma}$,γ), 6.7-8.7 MeV, giant M1 resonance, M1 transition strength distrib. 7−30400
- ^{140}Ce(n,p), 12-18 MeV, cross sections using activation method *(Chinese)* 7−5233
- ^{141}Ce, decay rate meas., in standard solution *(Chinese)* 7−5196
- Ce(γ,γ), scatt. meas. between 4.5 to 9.0 MeV 7−5222
- ^{113}Cs, groundstate proton radioactivity, half-life meas., spectroscopic factor calcs. 7−49350
- ^{133}Cs, nuclear quadrupole interaction freq. meas. in Ba compounds 7−10628
- ^{133}Cs(^{22}Ne,X), complete fusion, excitation functions and high-spin isomeric species 7−5266
- ^{133}Cs(γ,X), 100-1000 MeV, photospallation reactions 7−19235
- ^{133}Cs(γ,π^-xn)Ba, x=0, 2, 4, 5, 7, isotope yield meas. 7−19236
- ^{133}Cs(γ,π^+)^{133}Xe, isotope yield meas. 7−19236
- ^{137}Cs decays, X- and γ-ray intensity meas. 7−61838
- ^{140}Cs, β-decay, ^{140}Ba levels and transitions, spin assignments, multipole mixing ratios 7−595
- ^{145}Cs, β-decay study for intrinsic reflection asymmetry search 7−5198
- ^{144}Dy, exotic neutron-deficient nuclei, shape and γ-decay 7−19201
- ^{148}Dy, giant Gamow-Teller excitations populated in β^+ decay 7−49364
- ^{A}Eu, A=138,139, exotic neutron-deficient nuclei, shape and γ-decay 7−19201
- ^{139}Eu decay props., γ-ray and internal conversion meas. 7−49306
- ^{145}Eu, force function for subbarrier one-proton states, optical phonon model 7−30392
- ^{A}Gd, A=140,141, exotic neutron-deficient nuclei, shape and γ-decay 7−19201
- ^{144}Gd, superdeformed shape study, γ-γ transition energy correlation meas. 7−41887
- ^{146}Gd, collective excitation spectrum in the quasiparticle phonon model 7−30305
- (^{3}He,f), E=270 MeV, target nuclei Nb, Ag, La, Ce, Pr, Nd, Dy, fission mass distribs. 7−5304
- (^{3}He, ^{3}He), 10-220 MeV, optical model anal. 7−42035
- ^{109}I, groundstate proton radioactivity, half-life meas., spectroscopic factor calcs. 7−49350
- ^{125}I, K-capture, limits on neutrino-mixing from internal Bremsstrahlung 7−49317
- ^{125}I-^{3}H, dual isotope liquid scintillation counting *(Chinese)* 7−5197
- ^{127}I, level excitation during charge nonconservation 7−41903
- ^{127}I, M1 transitions, internal conversion coefficient/electron density correlations 7−24961
- ^{127}I(γ,X), 100-1000 MeV, photospallation reactions 7−19235

nuclei with mass number 90 to 149 continued
- ^{127}I(γ,π^-xn)Xe, x=0, 2, 4, 5, 6, isotope yield meas. 7−19236
- ^{127}I(p,X), excitation function and yields for Xe radioisotope prod. 7−28694
- ^{129}I, M1 transitions, internal conversion coefficient/electron density correlations 7−24961
- I(n,n′), differential cross section, energy spectra and model calcs. 7−15213
- In, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
- ^{A}In (γ,X), A=113,115 cross-sections for deep-spallation reactions 7−41976
- ^{A}In, A=105-108, beta$^+$-decay energies determ., Q_{EC} values 7−19209
- ^{A}In, A=106, 108, spin determ. by nucl. orientation and NMR 7−41893
- ^{A}In, A=123,125,127 level schemes, search for intruder states from Cd β-decay 7−19152
- ^{A}In, A=123,131, strongly neutron rich fusion products, decay props 7−19210
- ^{A}In(e,X), A=113,115 cross-sections for deep-spallation reactions 7−41976
- ^{111}In, beta-decay, half-life determ. 7−49308
- ^{114}In, internal conversion coefficients, many-electron and solid-state effects 7−30378
- ^{115}In, isomeric level, nonreson. excitation, secondary photon-atom contribs. 7−568
- ^{115}In(^{12}C,X), residual nuclei recoil study 7−19302
- ^{115}In(n,γ)^{116m}In, cross section for fast n, absolute meas. 7−36007
- ^{115}In(n,nα), cross section meas. and Hauser-Feshbach comparison 7−10144
- ^{117}In, 589 keV state, lifetime and g-factor 7−49304
- In(n,n′), differential cross section, energy spectra and model calcs. 7−15213
- ^{138}La, beta-decay half-life and dating of gneiss rocks from Scotland 7−49312
- ^{139}La(^{139}La,X), 40 MeV/u, fragmentation anal. 7−5284
- ^{139}La(^{139}La,X), π^- multiplicity and nucl. matter response 7−42066
- La(p, X), 800 GeV, deep spallation and fragmentation products, ang. distribs. systematics 7−30427
- ^{A}Mo ($\bar{p}$,X), A=95,98, absolute yields of residual nuclei 7−19249
- ^{A}Mo($\vec{d}$, $\vec{d}$), A=92, 100, 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
- ^{A}Mo(n,p), prod. cross section meas. for ^{94}Nb, ^{95}Nb 7−42000
- ^{A}Mo($\vec{p}$,$\vec{p}$), A=92-98, 100 isospin dependence on optical potential 7−661
- ^{92}Mo(γ,γ), dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
- ^{92}Mo(n,nα), cross section meas. and Hauser-Feshbach comparison 7−10144
- ^{92}Mo($\vec{p}$,p′), 2^+ state excitation and azimuthal asymmetry meas. 7−42011
- ^{94}Mo(^{60}Ni,pn)^{152}Tm, E=240-250 MeV, yrast level anal. 7−10098
- ^{95}Mo(n,α), 3 meV, cross-section meas. 7−42016
- ^{98}Mo(n,α), prod. cross section meas. 7−42000
- ^{98}Mo(n,γ), recoil effects, indirect meas. from ^{99m}Tc behaviour 7−49309
- ^{99}Mo beta decay, chemical effects 7−49309
- ^{100}Mo double beta-decay meas. 7−49343
- ^{100}Mo, neutrinoless double beta-decay, limits on lepton number nonconservation 7−49339
- ^{100}Mo, yrast states 7−24926
- Mo(n,X), prod. cross section meas. for ^{94}Nb, ^{91}Nb 7−42000
- ^{90}Nb^m, threshold effect in conversion transition M2+E3 7−41937
- ^{92}Nb(^{27}Al,X), 8-40 MeV/u, intermediate mass fragment emission 7−5290
- ^{93}Nb(^{12}C,X), 8-40 MeV/u, intermediate mass fragment emission 7−5290
- ^{93}Nb(^{20}Ne,X), complete and incomplete fusion, inclusive fragment spectra meas. 7−42055
- ^{93}Nb(^{60}Ni,2pn)^{150}Ho, E=240-250 MeV, yrast level anal. 7−10098
- ^{93}Nb(^{9}Be,X), 8-40 MeV/u, intermediate mass fragment emission 7−5290
- ^{93}Nb(e,X), spallation cross section meas. using activation methods 7−30412
- ^{93}Nb(γ,X), spallation cross section meas. using activation methods 7−30412
- ^{93}Nb(n,2n)^{92m}Nb, cross section meas. for E_n=14 MeV 7−5238
- ^{93}Nb(n,α), cross section meas. for E_n=14 MeV 7−5238
- ^{93}Nb(n,n′), 14 MeV, double differential cross-sections calcs. *(Japanese)* 7−49414
- ^{93}Nb(n,n′)^{93}Nb^m, meas. of neutron fluence on WWER-440 pressure vessel 7−56780
- ^{93}Nb(n,nα), cross section meas. for E_n=14 MeV 7−5238
- ^{93}Nb(p,p′)^{93}Nb*, transition strength to continuum states *(Korean)* 7−24979
- ^{A}Nd, A=132, 134, low-lying level lifetimes, transition strengths and collectivity 7−61835
- ^{A}Nd, A=144-149, $2_1{}^+$ state mag. moment measurement 7−56605
- ^{A}Nd, A=even 142-150, effective charges in IBM, mass depend., B(E2) values 7−30321
- ^{134}Nd, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
- ^{136}Nd, effective moment of inertia, γ-ray spectra study and cranking model comparison 7−49209
- ^{142}Nd(^{16}O,γ)^{158}Er, 207 MeV, enhancement of pre-fission neutron multiplicities w.r.t. statistical model predictions 7−10174
- ^{142}Nd(^{16}O,nf), 207 MeV, neutron emission prior to fission 7−5273
- ^{142}Nd(^{16}O,nf), 207 MeV, neutron emission prior to fission 7−5300
- ^{142}Nd(α,2n), ^{144}Sm lifetime meas. and particle core coupling calcs. 7−30438
- ^{143}Nd(n,α), 3 MeV, cross-section meas. 7−42016
- ^{144}Nd(^{16}O,γ)^{160}Er, E_{lab}=76-105 MeV, ^{160}Er statistical decay, giant dipole resonance effects, statistical model comparisons 7−10173
- ^{144}Nd(p,α)^{141}Pr, 25 MeV, level excitation, α-particle distribs., knock-on contributions 7−10154
- ^{90}Ni($\vec{p}$,$\vec{p}$)^{90}Ni, analysing powers and cross-sections, optical potential shape 7−662
- ^{208}Pb(^{100}Mo,^{100}Mo′), 350 MeV, Coulomb excitation, 8^+→6^+ transition, B(E2) meas. 7−24926
- Pd, A≈100 isotopes, positive parity states in IBA-1 model *(Rumanian)* 7−15189
- ^{A}Pd($\vec{d}$,$\vec{d}$), A=104-110, 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
- ^{A}Pd(p,p′), E_p=15, 25 MeV, A=104, 104, 108, 110, transition matrix element calcs., coupled-channels, IBA=2 anal. 7−10148
- ^{103}Pd decay, absolute photon intensities determ. by coincidence method 7−5569

nuclei with mass number 90 to 149 continued
^{103}Pd decay studies, half-life and γ-spectrum, ^{103}Rh states and transitions *(Russian)* 7−41948
^{105}Pd(n,e), E0 strength and E0/E2 ratio determ. 7−61834
^{105}Pd(n,γ), E0 strength and E0/E2 ratio determ. 7−61834
^{108}Pd(^{50}Ti,nf), 216 MeV, neutron emission prior to fission 7−5273
^{108}Pd(d,^{3}He), proton-hole states and spectroscopic factors, DWBA comparison 7−41944
^{110}Pd, Coulomb form factors, core polarization effects on transition densities 7−61847
^{A}Pm, A=133, 135, low-lying level lifetimes, transition strengths and collectivity 7−61835
^{143}Pm, microscopic struct. of semimagic nuclei 7−30304
^{147}Pm beta-decay, longitudinal electron polarization meas., relevance to deviations from parity violation 7−56650
Pn, M2 transition probability between low-lying states, mag. core polarization 7−30372
Pr, M2 transition probability between low-lying states, mag. core polarization 7−30372
^{141}Pr, microscopic struct. of semimagic nuclei 7−30304
Pr(n,γ), pygmy resonance in spectra for nuclei with N≈82-126 7−687
^{98}RU, supersymmetric U(6/2) scheme *(Rumanian)* 7−15189
^{A}Rb, A=91,93, low lying level struct., lifetimes, J^{π} assignments 7−19205
^{A}Rb, A=94, 95, P_n values by β-γ spectroscopic method 7−30507
^{A}Rb, A=94,95, P_n values measured by β-γ spectroscopic method 7−5194
Rh, odd-A nuclei, low-lying $7/2^{+}$ states, quadrupole interaction calcs. 7−19167
^{99}Rh, supersymmetric U(6/2) scheme *(Rumanian)* 7−15189
^{100}Rh, yrast bands, parity meas. 7−56587
^{103}Rh states and transitions from ^{103}Pd decay studies, half-life and γ-spectrum *(Russian)* 7−41948
^{103}Rh(n,n′γ), temperature shift of neutron resonances 7−41960
^{107}Rh, level scheme study via γ-ray spectrum following β-decay, IBM comparison 7−41944
Ru, A≈100 isotopes, positive parity states in IBA-1 model *(Rumanian)* 7−15189
^{A}Ru, A=97,103, excited states, level schemes, spins and transitions from ^{94}Mo(^{6}Li,p2n) and (α,n) 7−35921
^{96}Ru, level struct. and decay props., directional correlation and Doppler shift meas. 7−5159
^{104}Ru($\vec{d}$,d), 23 MeV, neutron-proton moment differences in a triaxial nucleus 7−644
Sb, M2 transition probability between low-lying states, mag. core polarization 7−30372
^{A}Sb, A=130, 132, odd-odd transitional and near closed shell nuclei 7−19173
^{116}Sb^{g}, on-line NMR study, mag. moment determ. 7−578
^{A}Sm, A=134, 136, low-lying level lifetimes, transition strengths and collectivity 7−61835
^{17}Sm($\vec{p}$,p)^{A}Sm, A=148, 150, 152, 154, elastic and inelastic scatt., nuclear structure 7−667
^{136}Sm, strong deformation, single particle character and collectivity 7−49217
^{137}Sm, exotic neutron-deficient nuclei, shape and γ-decay 7−19201
^{138}Sm, self-consistent study of triaxial deformations in heavy nuclei 7−35939
^{144}Sm, lifetime meas. and particle core coupling calcs. using ^{142}Nd(α,2n) reaction 7−30438
^{144}Sm, microscopic struct. of semimagic nuclei 7−30304
^{144}Sm(^{12}C,X), ^{156}Er production, evaporation residue cross sections and average neutron multiplicities, stat. anal. 7−30445
^{144}Sm(^{16}O,γ), E_{lab}=63-72 MeV, fusion cross section meas. at sub-barrier energies 7−5257
^{144}Sm($\vec{d}$,p), 19 MeV, ^{145}Sm single particle config. splitting, J assignments 7−572
^{145}Sm, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7−41882
^{145}Sm single particle config. splitting, J assignments from ^{144}Sm($\vec{d}$,p) 7−572
^{145}Sm states from ^{145}Eu decay, struct. and parity levels 7−19193
^{148}Sm, $2_1{}^{+}$ state mag. moment meas. 7−56605
^{148}Sm, deformations, pair gaps and giant resonances, temp. depend., finite temp. HFB calcs. 7−30320
^{139m}Sm decay props., γ-ray and internal conversion meas. 7−49306
Sn, charge radii and electromagnetic moments by laser spectroscopy 7−5189
Sn, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
Sn, M2 transition probability between low-lying states, mag. core polarization 7−30372
Sn(^{58}Ni,X), subbarrier nucleon transfer and doorway fusion states 7−42064
Sn(^{A}O,X), A-16,18, subbarrier nucleon transfer and doorway fusion states 7−42064
^{A}Sn, A=109, 111, microscopic struct. of semimagic nuclei 7−30304
^{A}Sn, A=110, 112, high spin states 7−35929
^{A}Sn, A=117, 121, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7−41882
^{A}Sn(p,n), 24.5 MeV, A=116, 124, optical and isospin-coupling pots., microscopic anal. *(Chinese)* 7−5234
^{A}Sn(p,p), 24.5 MeV, A=116, 124, optical and isospin-coupling pots., microscopic anal. *(Chinese)* 7−5234
^{110}Sn, $9^{-}-8^{\$}$E2 transitions, level lifetime meas. 7−5187
^{110}Sn, nuclear shape study using γ-α angular correlations 7−41891
^{112}Sn, $9^{-}-8^{\$}$E2 transitions, level lifetime meas. 7−5187
^{116}Sn, Coulomb form factors, core polarization effects on transition densities 7−61847
^{116}Sn($\vec{d}$,$\vec{d}$), 23 MeV, dynamical deuteron pol. pot., Fourier-Bessel anal. 7−645
^{116}Sn(d,p), 79 MeV, far-side dominance in large-l transfer, anal. powers, cross sections 7−640
^{116}Sn(d,p), 79 MeV, vector and tensor anal. powers, j-depend., DWBA anal. 7−637
^{116}Sn(d,p), 80 MeV, far-side dominance for spin-depend. observables, theoretical implications 7−639
^{116}Sn(d,p), intermediate energy, l=0 reaction mech., DWBA anal., anal. powers 7−641
^{116}Sn(d,p)^{117}Sn, 79 MeV, antisymmetrization corrections with strong break-up 7−41963
^{117}Sn, gyromagnetic ratio of $3/2^{+}$ state 7−30334
^{118}Sn(^{12}C,X), preequilibrium reactions, coincidence spectra 7−49460

nuclei with mass number 90 to 149 continued
^{118}Sn(^{64}Ni, X), compound nucleus angular distribs. and fission cross sections, elastic fusion model comparisons 7−56694
^{119}Sn, internal conversion rate changes due to lower multipole admixtures 7−10126
^{119}Sn, M1 transitions, internal conversion coefficient/electron density correlations 7−24961
^{119}Sn Mossbauer transition, P parity nonconservation obs. 7−49237
^{119}Sn(p,d), nuclear response probing with pick-up reactions, giant pairing resonance 7−41964
^{120}Sn ($^{7}\vec{\mathrm{Li}}$, ^{7}Li), differential cross section and analysing power meas., coupled channels calcs. 7−15219
^{120}Sn($^{7}\vec{\mathrm{Li}}$, ^{7}Li′), analyzing power and spin-orbit interaction, coupled channels formalism 7−61908
^{120}Sn(p,t), nuclear response probing with pick-up reactions, giant pairing resonance 7−41964
^{120}Sn(π,η), expt. results 7−36053
^{120}Sn($\pi^{\pm}$,π^{0}), isovector giant resonance excitations 7−49478
^{124}Sn(^{208}Pb,X), quasi-elastic recoil and elastoplasticity in central collisions 7−5258
^{124}Sn(^{58}Ni,f), cross sections and compound nucleus angular distribs., elastic fusion model comparisons 7−56694
Sn(d,p), low energy, vector anal. power and pol., d D-state effects, DWBA anal. 7−635
Sn(n,n′), differential cross section, energy spectra and model calcs. 7−15213
Sn(p,K^{+}), subthreshold K^{+} meson production, 800 to 1000 MeV 7−691
^{100}Sr, β-decay, strength function determ. *(Chinese)* 7−10127
^{A}Tb, A=143,144, exotic neutron-deficient nuclei, shape and γ-decay 7−19201
Tc, odd-A nuclei, low-lying $7/2^{+}$ states, quadrupole interaction calcs. 7−19167
^{93}Tc, parity nonconservation study using tilted-multifoil hyperfine interaction 7−56604
^{98}Tc, yrast bands, parity meas. 7−56587
Te, even-mass isotopes, dynamic deformation model appl. 7−61818
^{A}Te, A=114-17, vibrational and quasiparticle structs., coexistence, states and spectra, shell model anal. of Sn(^{3}He,X) 7−41874
^{A}Te, A=122, 125, 130, energy level g factor meas., transitional-field method anal. 7−30327
^{124}Te, E0 transitions, dynamic deformation model, 0^{+} levels 7−594
^{125}Te, M1 transitions, internal conversion coefficient/electron density correlations 7−24961
^{126}Te(^{32}S,nf), 180 MeV, neutron emission prior to fission 7−5273
^{128}Te double beta decay meas. 7−41941
^{128}Te(n,γ), high energy levels, resonant excitation with neutron-capture γ quanta 7−10107
^{130}Te double beta decay meas. 7−41941
^{130}Te, double β-decay, half-life determ. from mineral isotopic composition 7−598
^{130}Te(^{28}Si,X), transfer reactions, optimum Q-values *(Korean)* 7−24997
Te(n,n′), differential cross section, energy spectra and model calcs. 7−15213
^{A}Xe^{M}, A=129, 131, mag. dipole moment meas. by spin exchange with optically pumped Rb 7−30331
^{120}Xe, yrast band and backbending using in-beam γ-ray spectroscopy of ^{110}Cd(^{13}C,3n) and ^{111}Cd(^{12}C,3n) reactions 7−36028
^{122}Xe, neutron and proton bands at high spins 7−49198
^{124}Xe(p,X)^{123}I, statistical calcs. for radioiodine prod. optimization 7−54744
^{128}Xe, excitation energies and branching ratios, F-spin structure of eigenstates, IBM-2 appl. 7−49300
^{133}Xe, activity determination by γ-ray spectrometry, nuclear plant effluent air check 7−25298
^{136}Xe(d,p), D-state to S-state ratio, tensor analysing power meas. 7−24986
Xe(p,X), 1-28 GeV/c, fragment emission 7−19260
Xe(p,X), fragment emission at near threshold energies 7−5247
^{90}Y isovector E2 resonance observation in ^{89}Y(n,γ) reaction 7−49361
^{90}Y, yrast decay schemes, gamma-ray data and shell model calcs. 7−15198
^{99}Y, K=$3/2_1{}^{+}$ side-band, observation and IBFM/PTQM model description 7−49211
^{A}Zr(α,α'), A=92,94, spin assignments, ang. distribs. meas. 7−10160
^{A}Zr(n,α)$^{A-3}$Sr, A=90,91 α-spectra meas., pick-up and knock-on theories 7−49408
^{A}Zr(n,p)^{A}Y, A=90,91, cross-section values for nuclear applications 7−24976
^{A}Zr($\vec{p}$,p′), A=90, 92, 2^{+} state excitation and azimuthal asymmetry meas. 7−42011
^{A}Zr($\vec{p}$,$\vec{p}$), A=90, 92, 94, 96 isospin dependence on optical potential 7−661
^{90}Zr, charge radius, charge and spin densities, Woods-Saxon shell model calcs. *(Chinese)* 7−5150
^{90}Zr, damping of nuclear excitations at finite temperature 7−35961
^{90}Zr, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{90}Zr giant dipole resonances built on excited states, Brink hypothesis verification from ^{89}Y(p,γ) 7−41959
^{90}Zr, second 0^{+} state excitation, form factors and transitions, CC anal. of (n,n′), (p,p′) and (α,α') 7−30369
^{90}Zr, thermal props., constrained Hartree-Fock calcs. 7−19183
^{90}Zr(^{12}C,^{12}C)^{90}Zr, elastic scattering angular distribs., total reaction cross-section 7−49451
^{90}Zr(^{3}He, t), 200 MeV/nucleon, collective mode excitations, DWIA anal. 7−56687
^{90}Zr(^{3}He,X), diffraction dissociation at 90 MeV by nuclei with a diffuse edge 7−42043
^{90}Zr(^{3}He,t), 600 MeV, Gamow-Teller strength, Δ-isobar quenching effects 7−49422
^{90}Zr(^{40}Ar,X), 600 MeV, composite system formation and decay, multifragmentation and light particle emission 7−36036
^{90}Zr(^{90}Zr,X), dissipative diabatic dynamics 7−49466
^{90}Zr($\vec{d}$,$\vec{d}$), 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
^{90}Zr(e,e′p), 2p proton knockout, momentum distribs., optical pot. anal. 7−61849
^{90}Zr(n,2n)^{89}Zr, cross-section values for nuclear applications 7−24976
^{90}Zr(n,α)^{87}Sr, cross-section values for nuclear applications 7−24976
^{90}Zr(p,n), 200 MeV, Gamow-Teller strength, Δ-isobar quenching effects 7−49422

nuclei with mass number 90 to 149 continued
^{90}Zr(p,n), 200 MeV/nucleon, collective mode excitations, DWIA anal. 7−56687
^{90}Zr($\vec{p}$,$\vec{p}'$), 319 MeV, Gamow-Teller strength, Δ-isobar quenching effects 7−49422
^{90}Zr($\vec{p}$,$\vec{p}'$), 319 MeV, spin-flip spectra, microscopic anal. 7−10147
^{91}Zr, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7−41882
^{91}Zr(^{3}He,α), matrix element determ. allowing for l_n mixing 7−61897
^{91}Zr(p,d), matrix element determ. allowing for l_n mixing 7−61897
^{92}Zr(^{60}Ni,pn)^{150}Ho, E=240-250 MeV, yrast level anal. 7−10098
^{92}Zr(^{64}Ni,X), ^{156}Er production, evaporation residue cross sections and average neutron multiplicities, stat. anal. 7−30445
^{96}Zr(^{7}Li,2np)^{100}Mo, 32.5 MeV, yrast states, γ-γ coincidence meas. 7−24926
^{98}Zr, alpha-correlated excitations, coexisting intruder excitation 7−49212
^{98}Zr, coexisting intruder excitations, multiparameter in-beam spectroscopy studies 7−5141

nuclei with mass number 150 to 189
^{163}Dy, ground-state rotational band anal. using ^{163}Dy(^{35}Cl,X), ^{163}Dy(^{58}Ni,X) M1 transitions, excited state anal., level lifetime meas. 7−56640
^{175}Lu, energy level anal. from ^{175}Yb β-decay level transitions, J^P values, branching ratios, Nilsson model anal. 7−49313
^{A}Au, A=189-195, $h_{11/2}$ bands, particle-core coupling calcs., IBM core testing and negative parity states 7−56590
A=156, nuclear data sheets, levels J^π, transitions, decays 7−41025
deformed nuclei, Gamow-Teller resonance anal. using quasiparticle-phonon model 7−49333
deformed rare earth nuclei, Coulomb displacement energy systematics 7−15182
heavy nuclei, α-like superfluid phase 7−15192
heavy rare-earth nuclei, alpha decay widths 7−602
N_pN_n systematics for 132≤A≤208, subshell closure at Z=76 7−61820
neutrinoless double beta decay, exptl. results and techniques 7−49338
rare earth nuclei, high excitation energy low spin states, structure and decay 7−41904
rare-earth nuclei, multipole moments, generator coordinate method anal. 7−41895
Z=56 to 66 neutron-deficient nuclei, nucleon stability, Hartree-Fock method calcs. *(Russian)* 7−30384
^{164}Dy, g-factors and effective boson charges for M1-, E2-, M3-IBA transition operators 7−49299
^{156}Gd, M1 strength distn. anal. 7−49299
ν_e mass using ^{163}Ho electron capture 7−30383
(p,f), E_p=190 MeV, target nuclei Nb, Ag, La, Ce, Pr, Nd, Dy, fission mass distribs. 7−5304
($\vec{p}$,p^1) on A=152-192, γ-vibr. band, hexadecapole excitation, mass no. depend. 7−49202
(p,X), 1 GeV, onset of multifragmentation dominance, A≤160 target nuclei 7−49401
180 W (^{3}He, fission), mass distributions of fission fragments from heated nuclei and the drop model 7−42041
Dy isotopes, proton-pair energies, neutron-number dependence 7−30349
^{A}Dy, A=154,156,158 backbending in neutron-proton IBA plus two-quasiparticle model 7−573
^{A}Dy(n,n'), A=160, 162, 164, 0.4-4 MeV, cross section meas. statistical Hauser-Feschbach model, comparisons 7−42013
^{A}Dy(n,n'γ), A=161, 163, temperature shift of neutron resonances 7−41960
^{152}Dy, discrete superdeformed states up to 60ħ and shape coexistence. 7−49213
^{152}Dy, multipolarities and γ-ray energy correlations 7−49298
^{152}Dy, quasicontinuum γ-rays from collective high-spin states, internal conversion coeff., multipolarity meas. 7−56639
^{152}Dy, superdeformed and other collective bands 7−24931
^{155}Dy, coexistence between band terminations and collective configs. 7−5140
^{161}Dy (t,p) ^{163}Dy, anomalous L=0 transfer, population of non-coherent intrinsic states 7−42030
^{161}Dy, multiple Coulomb excitation of deformed odd nuclei 7−35927
^{162}Dy (^{3}He, fission), mass distributions of fission fragments from heated nuclei and the drop model 7−42041
^{163}Dy(^{35}Cl,X), 160 MeV, ^{163}Dy ground state band study, γ-γ coincidence, angular distn. meas. 7−56640
^{163}Dy(^{58}Ni, X), 250 MeV, ^{163}Dy ground state band study, γ-γ coincidence, angular distn. meas. 7−56640
^{164}Dy, M1 states as low-frequency neutron-proton vibrations, energies, reduced transition probabilities 7−49225
^{A}Er, A=156,158, terminating band props., high spin spectra, shell model anal. of N=88 isotones 7−41872
^{A}Er, A=164, 166, 168, double γ vibrational states, anal. using self-consistent coordinate method 7−10097
^{150}Er, giant Gamow-Teller excitations populated in β^+ decay 7−49364
^{152}Er, radioactivity study using mass-separated sources 7−41945
^{158}Er, deformation parameters at high excitation energies 7−15187
^{165}Er, effect of recoil term on average potential, level energies, reduced E1 probabilities 7−61796
^{166}Er, gyromagnetic ratios of excited states in ground and gamma bands 7−30335
^{167}Er^m, isomer state half-life meas. 7−56636
^{167}Er(t,p) ^{169}Er, anomalous L=0 transfer, population of non-coherent intrinsic states 7−42030
^{168}Er, 0^+ bands, microscopic anal. using the projection before variation method 7−56607
^{168}Er, octupole states and bandhead energies in deformed nuclei, IBM calc., B(E3) transition rates 7−30312
^{168}Er(n,n'), cross section calcs., direct processes and compound nuclei 7−30420
^{168}Er($\vec{p}$,p')^{168}Er, γ-vibration band excitation, hexadecapole degree of freedom 7−676
^{170}Er, deformations, pair gaps and giant resonances, temp. depend., finite temp. HFB calcs. 7−30320
Eu, M2 transition probability between low-lying states, mag. core polarization 7−30372
^{A}Eu, A=152, 154 half-life determ. 7−56642
^{153}Eu, 83.4 and 103.2 keV levels, lifetimes meas. 7−5191
Gd isotopes, even-even, projected quadrupole coherent states model 7−56597
Gd isotopes, proton-pair energies, neutron-number dependence 7−30349

nuclei with mass number 150 to 189 continued
^{A}Gd (A=156, 158, 160), (e,e') form factor and BM1 probability calcs. 7−56591
^{A}Gd, A=154, 156, 158, 160, energy levels and transition props., extended rotation-vibration model 7−49290
^{A}Gd, A=160,162, ground state and γ-vibr. bands, L=0 strengths from Gd(t,p) 7−41875
^{A}Gd(n,γ), determ. of absolute intensities, time-of-flight γ-and neutron-spectra meas. 7−56678
^{152}Gd, $2_1{}^+$ state mag. moment meas. 7−56605
^{153}Gd, combined electron-nuclear emission after K-capture 7−30381
^{155}Gd, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{156}Gd, deformed nucleus, collective pair struct. of K=0 and K=1 bands 7−24928
^{156}Gd(e,e'), diff. cross section, $K^\pi=1^+$ mode structure from DWBA anal. 7−41876
^{156}Gd(e,e'), orbital mag. dipole strength distrib., resonance fluoresc. meas. 7−10104
^{158}Gd, $K^\pi=1^+$ isovector states, generalised coherent state model 7−15185
^{158}Gd, M1 states as low-frequency neutron-proton vibrations, energies, reduced transition probabilities 7−49225
^{158}Gd, octupole states and bandhead energies in deformed nuclei, IBM calc. 7−30312
^{158}Gd(^{40}Ar,X), 44 MeV/N, γ-rays from peripheral and central collisions, fragment stat. decay 7−61917
^{160}Gd, nucleon transfer reactions to rot. states induced by ^{206}Pb, ^{208}Pb 7−49210
^{160}Gd(Pb,Pb'), rotational state population close to Coulomb barrier 7−49210
(^{3}He,f), E=270 MeV, target nuclei Nb, Ag, La, Ce, Pr, Nd, Dy, fission mass distribs. 7−5304
(^{3}He, ^{3}He), 10-220 MeV, optical model anal. 7−42035
Hf, even isotopes, neutron s-wave force function calcs. 7−30314
Hf, generalisation of $\hat{Q}.\hat{Q}$ Hamiltonian for IBM 7−61816
Hf, neutron s-wave force function calcs. 7−30339
^{A}Hf($\vec{p}$,p')^{A}Hf, A=178, 180 multipole moment relation in optical potential 7−677
^{176}Hf (^{3}He, fission), mass distributions of fission fragments from heated nuclei and the drop model 7−42041
^{176}Hf, El, E2, E3 transitions, two-phonon component effects on nuclear states 7−49303
^{177}Hf, K-allowed E1 transitions ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{178}Hf, octupole states and bandhead energies in deformed nuclei, IBM calc. 7−30312
^{179}Hf(t,p) ^{181}Hf, anomalous L=0 transfer, population of non-coherent intrinsic states 7−42030
^{180}Hf (^{18}O, X), 1550 MeV, reaction products study using SSNTD 7−36023
^{180}Hf, longitudinal conversion-electron polarization 7−30377
^{180}Hf^m, ^{180}Lu β-decay, fractional population, astrophysical consequences 7−49315
^{180}Hf(p,n)^{180}Ta, reaction cross section *(Russian)* 7−19257
^{A}Hg, A=181-206 isotope shift, nuclear moments and charge radii 7−30333
^{180}Hg nuclear shape coexistence, γ-decay, energy levels from ^{90}Zr(^{90}Zr,γ) 7−19163
^{187}Hg, prolate and oblate shape coexistence 7−30324
^{A}Ho, A=152,153, M1 quasicontinuum and high spin states 7−49216
^{150}Ho, yrast level structure, shell model anal. 7−10098
^{157}Ho, quadrupole polarisation from quasiparticle S-band configuration, triaxiality, yrast energy 7−24929
^{163}Ho, electron capture, ν_e mass meas. 7−56653
^{163}Ho, electron capture decay, neutrino mass meas. using inner bremsstrahlung 7−56645
^{165}Ho, muon capture, energy transfer *(Korean)* 7−24971
^{165}Ho(^{14}N, X), neutron emission from high temp. region 7−36045
^{165}Ho(^{14}N,X), 35 MeV/N, neutron-fragment coincidence meas. 7−36037
^{165}Ho(^{14}N,X), excitation of discrete particle-unbound states in heavy-ion collisions 7−61914
^{165}Ho(^{40}Ar,X), 27 MeV/nucleon, nuclei deexcitation near nuclear matter instability temp. 7−19279
^{165}Ho(^{56}Fe,X), SOS MeV, fragment analysis 7−5275
^{165}Ho(^{58}Ni,X), 5.9, 6.5 MeV/N, mass asymmetry degree-of-freedom relaxation, fragment correls. 7−30448
^{165}Ho(^{58}Ni,αX), 8.2 MeV/nucleon, signatures for fast α-emission, velocity distribs., angular correlations 7−5282
^{165}Ho(n,nα), cross section meas. and Hauser-Feshbach comparison 7−10144
^{165}Ho(π^-,xn), n-γ coincidence spectra. 7−49477
Ho(n,γ), pygmy resonance in spectra for nuclei with N≈82-126 7−687
^{A}Ir, A=182,184, doubly decoupled struct. study 7−5145
^{A}Lu, A=175,177, K-allowed E1 transitions ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{152}Lu, identification and radioactivity study using mass-separated sources 7−41945
^{165}Lu, electromagnetic props. through two band crossings 7−5142
^{165}Lu, M1 transition rates at high spin, cranking model appl. 7−30368
^{173}Lu, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{175}Lu, longitudinal conversion-electron polarization 7−30377
^{175}Lu(^{12}C,f) *(Chinese)* 7−25013
^{175}Lu(n,γ), 24.3 keV, isomeric capture cross section 7−19258
^{180}Lu, β-decay, ^{180}Hf^m fractional population, astrophysical consequences 7−49315
^{180}Lu, isomeric levels, decay curve examination, relevance to ^{180}Ta^m nucleosynthesis 7−49204
Lu(n,γ), pygmy resonance in spectra for nuclei with N≈82-126 7−687
Lu(p, X), 800 GeV, deep spallation and fragmentation products, ang. distribs. systematics 7−30427
^{A}Nd, A=even 142-150, effective charges in IBM, mass depend., B(E2) values 7−30321
^{150}Nd, $2_1{}^+$ state mag. moment measurement 7−56605
^{150}Nd double beta-decay meas. 7−49343
^{A}Os, A=186, 188, deformations, pair gaps and giant resonances, temp. depend., finite temp. HFB calcs. 7−30320
^{A}Os(n,γ), A=186-8, resonance parameters and optical model pot. for stellar nucleosynthesis 7−5244
^{182}Os, high-spin isomer, p-n interaction in high-j orbitals, particle-γ-soft-rotor model anal. 7−24927

nuclei with mass number 150 to 189 continued
^{189}Os(n,γ) cross section, characts. and implications for stellar nucleosynthesis duration 7−49393
^{A}Pt, A=176, 178, 180, pot. energy surface calcs. of shape transitions and coexistence 7−15186
^{184}Pt, yrast band, lifetime meas. and shape coexistence 7−30308
^{186}Pt, self-consistent study of triaxial deformations in heavy nuclei 7−35939
Re(^{12}C,f), ang. distribs. and excitation functions *(Chinese)* 7−25013
^{177}Re single quasi-proton states, deformation depend., level scheme, cranking model anal. of ^{165}Ho(^{16}O,4n) 7−41877
^{183}Re, subshell fragmentation, quasiparticle-phonon nuclear model 7−41967
^{185}Re, fission, α and p-induced, ang. anisotropy and critical ang. momentum 7−42094
^{187}Re, half-life determ., relevance to fine-structure const. 7−49345
Sm isotopes, proton-pair energies, neutron-number dependence 7−30349
^{A}Sm, A=150,152, electromagnetic decay of $0_2{}^+$ and $0_3{}^+$ states 7−15199
^{17}Sm($\vec{p}$,p)^{A}Sm, A=148, 150, 152, 154, elastic and inelastic scatt., nuclear structure 7−667
^{150}Sm, γ-ray angular correlations and mag. moment of $2_1{}^+$ state 7−56605
^{150}Sm, octupole deformation at high spin 7−49207
^{151}Sm, neutron capture and β-decay, s-process abundances 7−55461
^{151}Sm, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{152}Sm, nucleon transfer reactions to rot. states induced by ^{206}Pb, ^{208}Pb 7−49210
^{152}Sm, pair transition density, Nilsson+BCS anal. 7−56624
^{152}Sm(Pb,Pb′), rotational state population close to Coulomb barrier 7−49210
^{152}Sm($\vec{p}$,p)^{152}Sm, optical model for polarisation data 7−668
^{154}Sm, boson mapping of particle-particle operators indeformed nuclei 7−586
^{154}Sm, heavy fragment production in intermediate energy heavy ion reactions 7−19303
^{154}Sm, M1 states as low-frequency neutron-proton vibrations, energies, reduced transition probabilities 7−49225
^{154}Sm, octupole states and bandhead energies in deformed nuclei, IBM calc. 7−30312
^{154}Sm(^{12}C,^{14}C), pair transfer, macroscopic description, form factor 7−25000
^{154}Sm(^{12}C,X), incomplete and complete fusion in intermediate energy heavy ion reactions 7−49461
^{154}Sm(^{14}N,γX), 20, 35 MeV/nucleon, deflection of non-equilibrium light particles by nuclear mean field, γ-polarization meas. 7−5283
^{154}Sm(^{16}O,X), incomplete and complete fusion in intermediate energy heavy ion reactions 7−49461
^{154}Sm(^{16}O,X), linear and angular momentum transfer in incomplete fusion reactions 7−42054
^{154}Sm(^{24}Mg, ^{24}Mg′), 150 MeV, DWBA anal. using proximity-plus-Coulomb potential calculated form factors 7−19285
^{154}Sm(p,p′), 800 MeV, collective state excitations, Glauber model, IBM anal. 7−24981
^{A}Ta, A=179,181, K-allowed E1 transitions ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{181}Ta (^{3}He, fission), mass distributions of fission fragments from heated nuclei and the drop model 7−42041
^{181}Ta(^{12}C,X), 4.2 GeV/c, central collisions, anal. using data and cascade-evaporation model 7−56701
^{181}Ta(^{12}C,f), ang. distribs. and excitation functions *(Chinese)* 7−25013
^{181}Ta(^{22}Ne,α), DWBA anal., exptl. comparisons 7−56699
^{181}Ta(^{40}Ar,X), 44 MeV/A, X=^{14}N,^{16}O,^{19}F, mass meas. of fragmentation products 7−5148
^{181}Ta(^{40}Ar,X), observation of ^{22}C exotic nucleus 7−10164
^{182}Ta decay, relative gamma intensities, gamma-ray spectrometer calibration appl. 7−5568
Ta(e^+,$e^\pm$), 1.9 MeV, peak structure in kinetic energy spectra 7−30414
Ta(n,γ), pygmy resonance in spectra for nuclei with N$\approx$82-126 7−687
Ta(p,X), light nucleus prod., coalescence model comparison 7−5237
^{159}Tb(^{19}F,X), 181 MeV, particle-bound excited state yields 7−5269
^{159}Tb(α,xnγ X), X=p,d,t, E_α=45,75,110 MeV, preequilibrium mechanism anal., particle-γ coincidence technique 7−19264
^{159}Tb(γ,n)^{158}Tb, angular distributions, E1-E2 interference effects 7−49371
^{160}Tb$\rightarrow$^{160}Dy, decay investig. 7−49307
Tb(n,γ), pygmy resonance in spectra for nuclei with N$\approx$82-126 7−687
Tb(p, X), 800 GeV, deep spallation and fragmentation products, ang. distribs. systematics 7−30427
^{A}Tm, A=167,169,171, K-forbidden E1 transitions, ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{152}Tm, low-spin isomer, radioactivity study using mass-separated sources 7−41945
^{152}Tm, yrast level structure, shell model anal. 7−10098
^{168}Tm, evidence for 17 keV level from ^{169}Tm(γ,n) 7−30311
^{169}Tm (^{3}He, fission), mass distributions of fission fragments from heated nuclei and the drop model 7−42041
^{169}Tm(^{12}C,f), ang. distribs. and excitation functions *(Chinese)* 7−25013
W, even isotopes, neutron s-wave force function calcs. 7−30314
W, neutron s-wave force function calcs. 7−30339
W(^{12}C,f), ang. distribs. and excitation functions *(Chinese)* 7−25013
^{A}W,A=183,185,187 subshell fragmentation, quasiparticle-phonon nuclear model 7−41967
^{A}W (^{32}S,^{32}S^{1}), A=182, 184, 186, 100 MeV, nuclear deorientation during recoil in vacuum, γ-ray ang. correls. 7−10135
^{A}W($\vec{p}$,p′)^{A}W, A=182, 184 multipole moment relation in optical potential 7−677
^{168}W, g-factor above the first backbend, 12^+ state, stretched neutron config. 7−15191
^{182}W, fission, α and p-induced, ang. anisotropy and critical ang. momentum 7−42094
^{184}W 921 keV γ-transition, determ. of E1+E2+E3 multipolarity mixture, anal. of 1285 keV 5^- level 7−30364
^{184}W(p, X), 400 GeV/c, inclusive hadronic production cross section meas. 7−19256
W(p,X), 1 GeV, nuclide cross-sections from proton spallation, calc. 7−56675
W(π^-,Υ), 286 GeV/c, high statistics study and cross section calcs. 7−15222
Yb, neutron s-wave force function calcs. 7−30339
^{A}Yb(n,n′), A=172,174 ang. distribs. studies 7−10143

nuclei with mass number 150 to 189 continued
^{151}Yb, β-delayed proton spectrum structure, peaks from N=81 precursors 7−15202
^{152}Yb, giant Gamow-Teller excitations populated in β^+ decay 7−49364
^{152}Yb, radioactivity study using mass-separated sources 7−41945
^{166}Yb high spin states, lifetimes meas., B(E2) values from ^{130}Te(^{40}Ar,X) 7−35924
^{169}Yb, β-decay, natural widths meas., neutrino mass determ. 7−49322
^{170}Yb, multiple occurrence of 0^+ excited bands, SU(3) multiplets of high spin bosons 7−49195
^{170}Yb, nuclear shape study using γ-α angular correlations 7−41891
^{171}Yb, K-forbidden E1 transitions, ICC anomalies and penetration matrix elements *(Russian)* 7−597
^{171}Yb, subshell fragmentation in deformed and spherical nuclei, quasiparticle phonon model 7−30354
^{172}Yb, octupole states and bandhead energies in deformed nuclei, IBM calc. 7−30312
^{173}Yb(n,γ)^{174}Yb, energy levels and EM transitions of ^{174}Yb 7−49397
^{174}Yb, energy levels and EM transitions from ^{173}Yb(n,γ) reaction 7−49397
^{175}Yb$\rightarrow$^{175}Lu, gamma-spectra, ^{175}Lu level anal. 7−49313
^{176}Yb(n,nα), cross section meas. and Hauser-Feshbach comparison 7−10144

nuclei with mass number 190 to 219
^{A}Au, A=189-195, $h_{11/2}$ bands, particle-core coupling calcs., IBM core testing and negative parity states 7−56590
A=201, nuclear data sheets, levels, J^π, transitions, decays 7−60907
A=216, nuclear data sheets, levels, J^π, transitions, decays 7−29605
A=220 region, triaxiality and reflection asymmetry, γ-correlations 7−49231
heavy nuclei, α-like superfluid phase 7−15192
N_pN_n systematics for 132$\leq$A$\leq$208, subshell closure at Z=76 7−61820
($\vec{p}$,p^{1}) on A=152-192, γ-vibr. band, hexadecapole excitation, mass no. depend. 7−49202
(Au,X), 1 GeV/N in emulsion, multifragmentation, reaction mech., exclusive expt. results 7−36033
Au(Kr,X), 35,44 MeV/u, correlated sources of heavy fragments 7−36040
Au(^{132}Xe,X), 14 MeV/N, multipronged events, fission and quasi-fission contribs., SSNTD use 7−19273
^{A}Au, A=196, 198, Bose-Fermi symmetry chain for the description of odd-odd nuclei 7−30367
^{197}Au, fission, α and p-induced, ang. anisotropy and critical ang. momentum 7−42094
^{197}Au, heavy fragment production in intermediate energy heavy ion reactions 7−19303
^{197}Au^{m}, isomer state half-life meas. 7−56636
^{197}Au(^{12}C,f), ang. distribs. and excitation functions *(Chinese)* 7−25013
^{197}Au(^{14}N,X), 35 MeV/nucleon, source radii and emission temperature meas. 7−5285
^{197}Au(^{14}N,X), linear momentum transfer depend. on source radii and emission temp. 7−19300
^{197}Au(^{16}O,X), light particle inclusive cross section meas. 7−5262
^{197}Au(^{20}Ne,^{20}Ne), quasi-elastic reactions, partition of excitation energy 7−25001
^{197}Au(^{20}Ne,X), 11 MeV/nucleon, 3-body final states, nuclear clustering and projectile excitation 7−5281
^{197}Au(^{40}Ar,X), 27 MeV/nucleon, nuclei deexcitation near nuclear matter instability temp. 7−19279
^{197}Au(^{40}Ar,X), 60 MeV/N, multiplicity depend. light particle correls., participant-spectator anal. 7−30446
^{197}Au(d,np), 9,10.5,12 MeV, sub-Coulomb breakup, tensor anal. power meas., DWBA comparisons 7−19261
^{197}Au(n,γ), cross section calcs., spectrum fitting method 7−30425
^{197}Au(n,n′γ), cross section calcs., spectrum fitting method 7−30425
^{197}Au(p,^{3}Heα), 72 MeV, comparison with stopped π^- induced reactions 7−24980
^{197}Au(π^-X), comparison with (p,^{3}Heα) reactions 7−24980
^{197}Au(u,γ), low-lying levels, average resonance capture study 7−24937
^{198}Au, low-lying levels, average resonance capture study 7−24937
Au(n,γ), pygmy resonance in spectra for nuclei with N$\approx$82-126 7−687
^{202}Bi, conversion electron spectra meas. for anal. of ^{202}Pb transition multipolarities 7−30375
^{209}Bi (^{18}O, X), 1550 MeV, reaction products study using SSNTD 7−36023
^{209}Bi, fission, α and p-induced, ang. anisotropy and critical ang. momentum 7−42094
^{209}Bi, muonic, repolarisation of μ^- after capture, μ-e decay asymmetry 7−15183
^{209}Bi(^{12}C,f), ang. distribs. and excitation functions *(Chinese)* 7−25013
^{209}Bi(^{50}Ti,X), z=102 to 105 isotope synthesis from fusion reactions 7−24996
^{209}Bi(α,xnγ X), X=p,d,t, E_α=45,75,110 MeV, preequilibrium mechanism anal., particle-γ coincidence technique 7−19264
^{209}Bi(e,f), absolute cross section meas. in 43-250 MeV range 7−5301
^{209}Bi(γ,f), photoexcitation and fission mechanisms, threshold to Δ region 7−5301
^{209}Bi(γ,n)^{208}Bi, angular distributions, E1-E2 interference effects 7−49371
Bi(e, fission), fragment activity from delayed fission 7−42092
Bi($\pi^\pm$,2N), 165, 245 MeV, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
^{A}Fr, A=207-228, g-factors ground state spin and single particle structure 7−49244
(^{3}He, ^{3}He), 10-220 MeV, optical model anal. 7−42035
Hg, shape coexistence and shape transitions 7−49203
^{A}Hg (d,pγ), A=202, 204, γ-ray and conversion electron meas., neutron hole states 7−49432
^{A}Hg, A=181-206 isotope shift, nuclear moments and charge radii 7−30333
^{196}Hg neutrinoless double electron capture branching ratio, experimental limits determ. 7−35980
^{197}Hg, nuclear isomer separation, for gamma-ray laser 7−10091
^{203}Hg decays, X- and γ-ray intensity meas. 7−61838
Hg(n,n′), differential cross section, energy spectra and model calcs. 7−15213
^{192}Ir decay, relative gamma intensities, gamma-ray spectrometer calibration appl. 7−5568
^{195}Ir low-spin positive-parity states identification U(6/4) supersymm. representations 7−41869
^{195}Ir spectra, IBM appl. 7−41910

nuclei with mass number 190 to 219 continued
^{A}Os(^{32}S,^{32}S^{1}), A=190, 192, 100 MeV, nuclear deorientation during recoil in vacuum, γ-ray ang. correls. 7−10135
^{192}Os, self-consistent study of triaxial deformations in heavy nuclei 7−35939
PB(π^{-}, X), search for H^{0} strangeness −2 dibaryon at 40 GeV/c 7−30453
^{208}PB, thermal props., constrained Hartree-Fock calcs. 7−19183
Pb(Ar,X), 1.8 GeV/N, three pion correlations in relativistic collisions 7−36035
Pb(^{12}C,f), ang. distribs. and excitation functions *(Chinese)* 7−25013
Pb(^{14}N,X), 20-40 MeV/N, high energy γ-ray prod., intranuclear NN collision model 7−36041
Pb(Pb,X), 5.7 MeV/n, e^{-} and e^{+} spectra, sudden rearrangements of electronic shells 7−49441
^{A}Pb, A=194-196, energy level conversion coeff. meas. from ^{184}W(^{16}O, xn) 7−19206
^{A}Pb, A=194-197, meas. of isomeric $33^{+}/2\rightarrow 29^{+}/2$ and $12^{+}\rightarrow 10^{+}$ transition energies 7−24956
^{A}Pb, A=204, 206, g-factor from recoil in vacuum expt., reanal. 7−10135
^{A}Pb(^{48}Ca,X), A=206,208, Z=102 to 105 isotope synthesis from fusion reactions 7−24996
^{A}Pb(^{50}Ti,X), A=207,208, Z=102 to 105 isotope synthesis from fusion reactions 7−24996
^{A}Pb(e,e), A=204, 206-208, 502 MeV, charge density differences meas. 7−41890
^{202}Pb, high-spin isomers, half-life meas. 7−10094
^{202}Pb, transition multipolarity anal., meas. of ^{202}Bi conversion electron spectra 7−30375
^{203}Pb, g-factor of $21/2^{+}$ isomer, meas. using time differential perturbed ang. distrib. technique 7−41896
^{206}Pb, fission, α and p-induced, ang. anisotropy and critical ang. momentum 7−42094
^{206}Pb($^{23}\vec{N}$,X), subbarrier fusion cross sections and tensor analyzing powers 7−19293
^{207}Pb($\vec{t}$,p), analyzing power and cross section meas. and DWBA calcs. 7−5248
^{208}Pb (^{58}Ni, ^{57}Ni), quasielastic transfer meas. and DWBA anal. 7−42065
^{208}Pb (^{58}Ni, ^{59}Ni), quasielastic transfer meas. and DWBA anal. 7−42065
^{208}Pb, average potential of nucleons, empirical and theoretical investigation 7−10101
^{208}Pb charge density shape, influence of ground state correlations 7−30318
^{208}Pb, damping of nuclear excitations at finite temperature 7−35961
^{208}Pb, E1 GDR and M2 state energies, 1p-1h shell model calcs. 7−24925
^{208}Pb, gamow-Teller sum rules and ground-state correlations for (n,p) and (p,n) 7−49406
^{208}Pb, giant resonances, γ-decay probabilities and branching ratios 7−49305
^{208}Pb, isobaric analogue state width determ. using TDA Green function 7−61848
^{208}Pb isoscalar 1^{+} state, proton and neutron contribs. constraints from (d,^{3}He) and ($\vec{\gamma}$,γ') 7−19172
^{208}Pb region, four-body correlations in heavy nuclei 7−30357
^{208}Pb, shell model pot. calc. from optical pot. 7−35959
^{208}Pb, sum rule approach to 3s proton occupancy 7−56620
^{208}Pb(^{12}C,^{12}C), 1449 and 2400 MeV, phase shift anal. 7−30447
^{208}Pb(^{12}C,^{12}C)^{208}Pb, elastic scattering angular distribs., total reaction cross-section 7−49451
^{208}Pb(^{12}C,X), spallation residues, velocity and ang. distribs. 7−61913
^{208}Pb(^{14}N,γX), 20, 30, 40 MeV/nucleon, gamma-ray energies, angular distrib. meas. 7−5286
^{208}Pb(^{16}O, ^{16}O)^{208}Pb, polarisation potential in optical model 7−19271
^{208}Pb(^{16}O,^{15}N), transfer to discrete levels, semiclassical selection rules and DWBA formalism 7−36032
^{208}Pb(^{16}O,^{15}O), transfer to discrete levels, semiclassical selection rules and DWBA formalism 7−36032
^{208}Pb(^{16}O,^{16}O′), DWBA anal., exptl. comparisons 7−56699
^{208}Pb(^{16}O,^{16}O′)^{208}Pb, Coulomb nuclear interference in excitation 7−10169
^{208}Pb(^{16}O,f), 76.8, 77.3, 80.2 MeV, fragment angular distribs. 7−19286
^{208}Pb(^{17}O,^{17}O′), high energy continuum excitation 7−42049
^{208}Pb(^{20}Ne,nX), 390 MeV/nucleon, low-energy neutron angular distribs. meas. 7−19284
^{208}Pb(^{32}S,^{32}S′), high energy continuum excitation 7−42049
^{208}Pb(^{3}He,$\pi^{\pm}$), 263 MeV, angular distribs., total cross sections 7−24989
^{208}Pb(^{48}Ti,X), 300 MeV, transition between quasi-elastic and deep-inelastic reactions 7−5277
^{208}Pb(^{86}Kr,X), 10, 13, 18.2 MeV/u, quasielastic reactions, role of inelastic excitation and nucleon transfer 7−5280
^{208}Pb(N,N′), nucleon optical pot. study 7−10145
^{208}Pb(N,N), optical pot., dispersion relation approach to extrapolation to negative energy 7−41958
^{208}Pb(α,^{3}He)^{209}Pb, 183 MeV, neutron response fns., high-spin single particle strengths, DWBA anal. 7−19154
^{208}Pb(d,d), polarizability and breakup, cross section calcs. 7−15214
^{208}Pb(d,np), 10.5,12 MeV, sub-Coulomb breakup, tensor anal. power meas., DWBA comparisons 7−19261
^{208}Pb(d,p), 12.3, 15.0 MeV, ang. distribs. of anal. powers and diffr. cross section 7−631
^{208}Pb(d,p), D-state to S-state ratio, tensor analysing power meas. 7−24986
^{208}Pb(e,e′), high spin state form factor calcs. 7−49218
^{208}Pb(e,e′), isoscalar quadrupole giant resonance, electron spectra statistical anal. 7−49380
^{208}Pb(γ,γ)^{208}Pb, Compton scatt., low-lying states, seagull terms, pion condensation 7−649
^{208}Pb(n,n′), neutron emission spectra meas., comparisons with equilibrium, pre-equilibrium neutron emission calcs. 7−42015
^{208}Pb(n,n)^{208}Pb, empirical evidence of an energy dependence of the radial shape of the real part of the optical potential 7−49411
^{208}Pb($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
^{208}Pb(p,p′), 500 MeV, proton polarization observable meas., 3^{-} level transitions 7−49399
^{208}Pb(p,p′), multipole matrix elements for low-lying states 7−41990
^{208}Pb($\vec{p}$,$\vec{p}$)^{208}Pb, analysing powers and cross-sections, optical potential shape 7−662
^{208}Pb(p,p)^{208}Pb, empirical evidence of an energy dependence of the radial shape of the real part of the optical potential 7−49411
^{208}Pb(p,t), 22 MeV, j-shell depend. signature of anal. power for 3^{+} excitations 7−626

nuclei with mass number 190 to 219 continued
^{208}Pb($\vec{p}$,t), anal. powers and cross sections for unnatural parity transitions 7−624
^{208}Pb(π,η), expt. results 7−36053
^{208}Pb($\pi^{\pm}$, $\pi^{\pm\prime}$) isoscalar 10.5 MeV giant 2^{+} state, diff. cross sections, RPA calcs 7−25007
^{209}Pb, high lying single-neutron states, strength fn. calcs. using quasiparticle-phonon model 7−41882
^{209}Pb, M2 transition probability between low-lying states, mag. core polarization 7−30372
Pb(d,X), vector and tensor analysing power meas. 7−10158
Pb(n,X), 14 MeV, neutron multiplication, leakage rate from sphere, fusion reactor appls. 7−62061
Pb(n,n), fast neutron forward scatt., absolute cross sections 7−5230
Pb(p,K^{+}), subthreshold K^{+} meson production, 800 to 1000 MeV 7−691
Pb(p,X), spallation, sensitivity studies of n multiplicity spectrum 7−30416
^{201}Po, m and g isomers, decay scheme construction from time-sequenced spectra 7−30365
^{206}Po yrast structure, transitions, $T_{1/2}$ and isomer from (α,4n) and (^{3}He,3n) 7−41878
^{214}Po, mixing parameters of γ-ray transitions 7−49289
^{218}Po, half-life determ., α-spectrometric method 7−30386
Pt, shape coexistence and shape transitions 7−49203
Pt(^{12}C,f), ang. distribs. and excitation functions *(Chinese)* 7−25013
^{A}Pt (^{12}C, ^{12}C′), A=194,196,198 electric quadrupole moments of first excited states 7−10103
^{A}Pt (^{16}O, ^{16}O′), A=194,196,198 electric quadrupole moments of first excited states 7−10103
^{A}Pt (α,α'), A=194,196,198 electric quadrupole moments of first excited states 7−10103
^{A}Pt, A=194,196,198 electric quadrupole moments of first excited states 7−10103
^{A}Pt(^{32}S,^{32}S^{1}), A=194, 196, 100 MeV, nuclear deorientation during recoil in vacuum, γ-ray ang. correls. 7−10135
^{195}Pt, transition multipolarities from ^{194}Pt(n,e) 7−61832
^{195}Pt(^{32}S, ^{32}S′), 125 MeV, levels and transitions, B(E2) values, SUSY classification in IBFM 7−30310
^{196}Pt(d,^{3}He), E_d=108.4 MeV, proton-hole response fns., level analysis 7−42028
^{218}Ra, collective vibr. study via ^{208}Pb(^{13}C, 3n) reaction 7−30307
^{219}Ra, low-lying structure, coincidence meas. 7−49199
^{A}Rn, A=208,210,211, quadrupole moment sensitivity to small deformations 7−35947
^{215}Rn, low-lying structure, coincidence meas. 7−49199
^{232}Th(^{238}U, $\gamma\gamma$X), 6 MeV/nucleon, two-photon spectrum, correlated narrow-peak structure 7−19294
^{A}Tl, A=191-197, $h_{9/2}$ bands, particle-core coupling calcs., IBM core testing and negative parity states 7−56590
^{204}Tl beta-decay, longitudinal electron polarization meas., relevance to deviations from parity violation 7−56650
^{205}Tl, fission, α and p-induced, ang. anisotropy and critical ang. momentum 7−42094
^{205}Tl, forbidden β-decays 7−49320
W, neutron s-wave force function calcs. 7−30339

nuclei with mass number 220 or higher
^{260}104, bimodal symmetric fission observed in the heaviest elements 7−25012
^{264}108, decay and synthesis expts. 7−49347
^{A}104, A=255,256 isotope synthesis from fusion reactions 7−24996
^{A}105, A=257,258 isotope synthesis from fusion reactions 7−24996
A=220, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29605
A=220 region, triaxiality and reflection asymmetry, γ-correlations 7−49231
A=224, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29605
A=228, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29605
A=237, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−29606
A=244, nuclear data sheets, levels, J$^{\pi}$, transitions, decays 7−60908
dipole and octupole pairs in deformed actinide nuclei 7−49201
effective $\bar{\sigma}_f^{8}/\bar{\sigma}_f^{5}$ cross section ratio meas. in BTS-4 critical assembly *(Russian)* 7−5302
even-even nuclei with Z=104-110, theoretical spontaneous fission and α-decay half-lives 7−49485
heavy nuclei, masses and decay properties 7−5149
integral test for heavy nuclides 7−30509
neutron-rich transuranic nuclei, beta-decay study 7−49323
nuclear data evaluation for heavy nuclides 7−30461
radiochemical studies on fission 7−19312
spherical superheavy nuclei, nucl. and chemical props. and prod. methods 7−49219
superheavy nuclei, spontaneous fission studies using multiple neutron emission 7−42093
^{221}Fr, thermodynamic method of calculating yields of light nuclei in spontaneous decay 7−42091
^{2}4u5^{8}No, bimodal symmetric fission observed in the heaviest elements 7−25012
^{241}Am, α-decay, internal pair production and γ-ray intensities 7−19211
^{241}Am spontaneous fission, search for ^{34}Si from decay events 7−30459
^{241}Am(n,f), cross section meas. at 14.7 MeV 7−30458
^{242m}Am, spontaneous-fission half-life meas., α-spectra, fission fragment spectra 7−61927
^{A}Cf(n,X), A=250, 251, neutron nuclear data evaluation 7−56681
^{252}Cf fission, accidental-coincidence corrections 7−49858
^{252}Cf, neutron spectra from spontaneous fission 7−42088
^{252}Cf, nucl. fission channels, Strutinsky-type calcs. 7−49484
^{252}Cf, spontaneous fission, prompt fission neutron spectrum tail 7−30457
^{252}Cf, spontaneous fission prompt neutron spectra 7−5297
^{252}Cf, spontaneous pion emission from ground state 7−15206
^{252}Cf, ternary fission, neutron and γ-ray emission, kinetic energy correlations 7−19311
^{252}Cf(SF), neutron emission behaviour in light charged particle accompanied fission *(Chinese)* 7−5299
^{252}Cf(SF), noise equivalent source for freq. domain meas. 7−42135
^{252}Cf(n, X), spectral investigations for biological shield labyrinth calc. 7−36298
^{252}Cf(sf), neutron emission, double-diff. probability 7−42098
^{252}Cf(sf), neutron spectrum description in generalised Madland-Nix model 7−36062
^{252}Cf(sf) neutron spectrum, meas. and theoretical calc., review 7−42096
Cm(Th,X), anomalous e^{+} prod. 7−30439
Cm(Th,X), narrow positron peak observation 7−49470

nuclei with mass number 220 or higher continued
Cm(U,X), anomalous e$^+$ prod. 7−30439
^{242}Cm, spontaneous-fission half-life meas., α-spectra, fission fragment spectra 7−61927
^{242}Cm(n,f), 0.1 eV-100 keV, fission cross section meas. for reactor appls. 7−42083
^{243}Cm, half-life determ. 7−30385
^{248}Cm (^{A}Ca,X), A=40,48 actinide yields 7−24994
^{248}Cm (^{48}Ca,X), superheavy element production 7−24993
^{248}Cm, E2 properties of ground state band using ^{136}Xe and ^{58}Ni projectiles 7−10093
^{248}Cm(^{136}Xe, ^{136}Xe′), E2 properties of ground state band 7−10093
^{248}Cm(^{18}O,X), below target yields 7−19304
^{248}Cm(^{40}Ca,X), below target yields 7−19304
^{248}Cm(^{58}Ni, ^{58}Ni′)^{248}Cm, E2 properties of ground state band 7−10093
^{248}Cm(Xe,X), actinide prod. cross section dependence on projectile mass number 7−42058
^{A}Es, A≤247, decay props. 7−35982
^{A}Es, A≤247, neutron deficient isotope decay props. 7−19212
^{254}Es, transactinide production by multinucleon transfer reactions 7−24992
^{A}Fm, A=257-259, anomalous spontaneous fission props. 7−36064
^{258}Fm, bimodal symmetric fission observed in the heaviest elements 7−25012
^{258}Fm, decay properties 7−25011
^{258}Fm, fission channels, rel. to fragment kinetic energies and mass asymmetry 7−19310
^{258}Fm, spontaneous fission, Z, A and half-life meas. 7−19159
^{A}Fr, A=207-228, g-factors ground state spin and single particle structure 7−49244
^{A}Lr, A=253,254 isotope synthesis from fusion reactions 7−24996
^{A}Md, A=259,260, bimodal symmetric fission observed in the heaviest elements 7−25012
^{A}Md^{m,g}, A=258,259 decay properties 7−25011
^{257}Md, anomalous spontaneous fission props. 7−36064
^{258}Md^m→^{258}Fm, electron capture, Z, A and half-life meas. 7−19159
^{259}Md, spontaneous, pion emission from ground state 7−15206
^{260}Md, discovery from heavy ion reactions 7−25011
^{A}Np, A=243,244, separation and identification by centrifuge system 7−24995
^{236}Np^l(n,X), fission cross-section for thermal neutrons 7−25010
^{236}Np(n,f), isomer thermal neutron-induced fission cross sections, spin depend. 7−42100
^{237}Np, amount in environment *(French)* 7−40315
^{237}Np, ground state shapes and structure from ^{237}Pu (μ^-,γ) 7−56656
^{237}Np(γ,X), photonuclear cross-sections, branching 7−49483
^{237}Np(γ,f), 5.60-8.61 MeV, fragment ang. distribs., ang. anisotropies 7−49482
^{237}Np(n,2n)^{236}Np, 22.5 h isomer prod. cross section 7−5231
^{237}Np(n,f), cross section meas. at 14.7 MeV 7−30458
^{237}Np(n$_{th}$,f), cross section, resonant fission integral meas. 7−61929
^{231}Pa→^{24}Ne+X, spontaneous decay obs. 7−30387
^{233}Pa, β-decay using HPGe detectors 7−24962
^{208}Pb, giant multipole resonance decay, collective and statistical doorways 7−19222
^{A}Pu, A=23, 241, reactor parameters, uncertainties in scientific measurements 7−42085
^{A}Pu(n,f), A=239, 241, fragment energy and mass characts., shell effects, static scission point model anal. 7−42099
^{A}Pu(n,f), A=240-2, 244, cross section meas. at 14.7 MeV 7−30458
^{A}Pu(n,n′), A=240,242,244 collective band scheme and statistical S-matrix formalism 7−61874
^{A}Pu(sf), A=238, 240, 242 7−42099
^{237}Pu(μ^-,γ), ^{237}Np ground state shapes and structure 7−56656
^{239}Pu (γ,X), photonuclear cross-sections, branching 7−49483
^{239}Pu(n, γ), cross section determ. using multilevel parameters 7−61930
^{239}Pu(n, X), resolved resonance region, total cross section 7−61930
^{239}Pu(n,f), fission product sum beta spectra, absolute meas. 7−56707
^{239}Pu(n,f), prompt neutron emission, energy depend. 7−61933
^{239}Pu(n,f), resolved resonance region, multilevel parameter calcs. 7−61930
^{239}Pu(n,n), cross section determ. using multilevel parameters 7−61930
^{239}Pu(n,n), fast neutron forward scatt, cross sections 7−5229
^{239}Pu(n,n)^{239}Pu, differential elastic cross-sections, optical model potentials 7−49409
^{240}Pu, compound nucleus, enhanced neutron emission, fission calcs., diffusion model anal. 7−61903
^{240}Pu(n,f), neutron width and level distance distribs., resonance width calcs. *(Russian)* 7−5161
^{241}Pu, half-life determ. 7−30380
^{242}Pu(^{12}C,X), actinide prod. cross section meas. 7−5267
Ra isotopes, low-lying negative parity states, unified interpretation for lanthanide and actinide regions 7−41901
^{A}Ra, A=221-224, 226 thermodynamic method of calculating yields of light nuclei in spontaneous decay 7−42091
^{A}Ra, A=223, 226 half lives of decay, ^{14}C emission 7−49348
^{223}Ra→^{209}Pb+^{14}C, anal. of exotic radioactive decays 7−30388
^{226}Ra→^{212}Pb+^{14}C, anal. of exotic radioactive decays 7−30388
^{A}Rn, A=219, 220, 222 half lives of decay, ^{14}C emission 7−49348
^{A}Rn, A=223, 226, 227, halflife meas. 7−49291
Th isotopes, low-lying negative parity states, unified interpretation for lanthanide and actinide regions 7−41901
Th(Th,X), anomalous e$^+$ prod. 7−30439
Th(Th,X), narrow positron peak observation 7−49470
Th(U,X), anomalous e$^+$ prod. 7−30439
^{230}Th(d,p), nuclear struct. study and binding energy determ. 7−41902
^{230}Th(n,eγ), nuclear struct. study and binding energy determ. 7−41902
^{230}Th(n,γ), nuclear struct. study and binding energy determ. 7−41902
^{232}Th (^{40}Ar,X), 240 MeV, cross section for evaporative α-particles, α-yield 7−36042
^{232}Th (^{40}Ar,X), fragmentation, shell effects in mass asymmetry evolution 7−30449
^{232}Th, nucleon transfer reactions to rot. states induced by ^{206}Pb, ^{208}Pb 7−49210
^{232}Th, photofission, fragment angular and mass distribs. 7−49486
^{232}Th(^{16}O,f), 77-86 MeV, ^{248}Cf compound nucleus spin determ. from fragment angular distribs. 7−19286
^{232}Th(^{3}He,X), 270 MeV, intermediate mass fragment emission 7−5249
^{232}Th(Pb,Pb′), rotational state population close to Coulomb barrier 7−49210
^{232}Th(γ,f), 5.8-12 MeV, cross section meas. 7−19309
^{232}Th(γ,f), cross section and n multiplicity meas. 7−10177

nuclei with mass number 220 or higher continued
^{232}Th(n, f), fission cross section meas. relative to ^{235}U(n, f) 7−61928
^{232}Th(n,f), fission mass distrib. from degraded fission spectrum neutrons 7−61934
^{232}Th(n,n)^{232}Th, differential elastic cross-sections, optical model potentials 7−49409
^{232}Th($\vec{p}$,p′)^{232}Th, quadrupole and hexadecapole moments 7−678
Th(e$^+$,e$^\pm$), 1.9 MeV, peak structure in kinetic energy spectra 7−30414
Th(γ,f), photofission effects in γ-activation anal. 7−54207
U(^{3}He,pf), 21.3 to 90 MeV, backward angle proton emission in central collisions 7−5305
U(^{6}Li,pf), backward angle proton emission in central collisions 7−5305
U(Th,X), anomalous e$^+$ prod. 7−30439
U(Th,X), narrow positron peak observation 7−49470
U(U,X), anomalous e$^+$ prod. 7−30439
^{A}U, A=233, 235, reactor parameters, uncertainties in scientific measurements 7−42085
^{A}U, A=234,236 Coulomb effects in low energy fission 7−30460
^{A}U, A=236,238 7−49486
^{A}U(γ,X), A=233, 234 photonuclear cross-sections, branching 7−49483
^{A}U(μ,f), A=235,238, muon induced fission yields, fission lifetimes, muon capture 7−5298
^{A}U(n, f), A=234, 236, fission cross section meas. relative to ^{235}U(n, f) 7−61928
^{A}U(n,f), A=233, 235, prompt neutron emission, energy depend. 7−61933
^{232}U, gamma-ray spectroscopy up to spin 20 7−15200
^{233}U, E2/M1 multipole mixing ratios, ang. correlations 7−19194
^{233}U→^{208}Pb+^{24}Ne, anal. of exotic radioactive decays 7−30388
^{233}U→^{208}Pb+^{25}Ne, anal. of exotic radioactive decays 7−30388
^{234}U(n,f), 0.8 MeV, mean kinetic energy depend. of fission fragments, vibr. resonance 7−42097
^{234}U(n,f), $E_n \sim 0.8$ MeV, fission fragment average kinetic energy meas., effect of vibrational state in second potential well 7−61935
^{235}U, 73 eV first excited state, nuclear excitation, graser possibilities 7−10120
^{235}U, α value in thermal neutron energy point 7−56658
^{235}U(^{84}Kr,^{84}Kr′), 370, 450 MeV, band structs., moments of inertia, multipole moments, transition probabs. 7−35922
^{235}U(n,X), neutron induced pion emission from ground state 7−15206
^{235}U(n,f), <200 keV, fission of oriented nuclei, spin depend. 7−36063
^{235}U(n,f), average cross section meas. 7−30417
^{235}U(n,f), delayed neutron activity, few-group anal. 7−42084
^{235}U(n,f), fission product sum beta spectra, absolute meas. 7−56707
^{235}U(n,f), fragment mass, kinetic energy and ang. distrib. meas. 7−61931
^{235}U(n,f), γ-multiplicity and total energy meas. 7−10176
^{235}U(n,f), international fission foil mass intercomparison, α-decay rates 7−42086
^{235}U(n,f), neutron width and level distance distribs., resonance width calcs. *(Russian)* 7−5161
^{235}U(n,f), prompt fission neutron spectrum tail 7−30457
^{235}U(n,f), thermal-6 MeV, fragments mass, kinetic energy and ang. distribs. 7−42101
^{235}U(n,f) thermal fission, composite delayed neutron energy spectra 7−61932
^{235}U(p,f), 2-4 MeV, sub-Coulomb cross section meas. using SSNTD 7−19308
^{236}U, fission charge distribution yields, fine structure, coupling of charge asymmetry coordinates and relative motion 7−24967
^{236}U(^{12}C,f), 60-68 MeV, ^{248}Cf compound nucleus spin determ. from fragment angular distribs. 7−19286
^{238}U (p,X), fragment mass yield, comparison with ^{238}U* statistical decay 7−30432
^{238}U+^{238}U interaction potential, real part, orientational dependence 7−19178
^{238}U(^{12}c,f), 81, 90 MeV, fragment angular distribs. 7−5303
^{238}U(^{16}O,X), actinide prod. cross section meas. 7−5267
^{238}U(^{22}Ne,f), 125, 143, 175 MeV, fragment angular distribs. 7−5303
^{238}U(^{238}U, ^{239}U), sub-Coulomb transfer, excitation functions and ang. distrib. 7−5259
^{238}U(^{238}U,X), 50 GeV/nucleon, one-dimensional hydrodynamics anal. 7−19291
^{238}U(^{32}S,X), fragmentation, shell effects in mass asymmetry evolution 7−30449
^{238}U(^{40}Ar,^{40}Ar′), multiple Coulomb nucl. excitation to high spin states, iteration method of soln. 7−42056
^{238}U(^{4}He,f), 25, 35 MeV, fragment angular distribs. 7−5303
^{238}U(^{84}Kr,^{84}Kr′), multiple Coulomb nucl. excitation to high spin states, iteration method of soln. 7−42056
^{238}U(e,e′), 280-500 MeV/c, response fns., Rosenbluth separations 7−19239
^{238}U(e,e′f), 5-23 MeV, coincidence cross section meas. 7−19240
^{238}U(μ^-, $\nu_\mu f$), p, d, t and α emission obs. ang. and energy distribs. 7−10138
^{238}U(n,n,)^{238}U, differential elastic cross-sections, optical model potentials 7−49409
^{238}U(n,n′), resolved resonance parameters, 1-10 keV 7−30396
^{238}U(n,n), fast neutron forward scatt, cross sections 7−5229
^{238}U(p,X), decay of very hot nuclei, Microcanonical Metropolis sampling of multifragmentation 7−61877
^{238}U($\bar{p}$,X), heavy hypernuclei production 7−49284
^{238}U($\bar{p}$,f), delayed fission observation, non-mesonic hypernuclear decay interpretation 7−42082
^{238}U($\vec{p}$,p′)^{238}U, quadrupole and hexadecapole moments 7−678
U(α,X), 100 MeV, neutron cluster search *(Russian)* 7−42040
U(α,pf), 20, 40 MeV, backward angle proton emission in central collisions 7−5305
U(e,e′f), fission decay of giant multipole resonances, coincidence study 7−49360
U(γ,f), photofission effects in γ-activation anal. 7−54207
U(μ^-,X), muon absorption, emission of charged particles 7−42087
U(n,n′γ), chemically induced shifts of neutron resonances 7−41961
U(p,f), 19 MeV, A=110-118 fission product obs. 7−49487
^{232}Yh(n,f), 14.7 MeV, Rh, Ag, In, Sb yield charge distrib. 7−19313

nucleic acids *see macromolecules*

nucleon electric moment
see also neutron electric moment; proton electric moment
No entries

nucleon interactions *see nucleon-nucleon interactions; nucleon-nucleus reactions*

nucleon magnetic moment
see also neutron magnetic moment; proton magnetic moment
momentum contribution to nuclear magnetic moments 7−19166
scaling limits in nuclei 7−56554
(e,e′), 0.1-1.0 GeV^2/c^2, nucleon magnetic moment and effective hadronic degrees of freedom 7−24973
N octet magnetic moments, relativistic chiral quark model calcs. 7−19110

nucleon-nucleon interactions
see also nucleon-nucleon scattering; proton-proton interactions
antiproton physics, review 7−35894
correlations, sensitivity to form of short-range potential 7−30283
Drell-Yan processes, EMC effect *(Chinese)* 7−10070
Fermilab Antiproton Source, physics workshop report 7−49174
isovector transition densities and isobar spin potential deformation, semimicroscopic approach 7−30389
NN interaction, P nonconserving, SU(3)×SU(2)×U(1) anal. 7−49040
QCD based models of hadron structure, book 7−48217
quark matter, conference, Pacific Grove, CA, USA (April 1986) 7−55881
quark-gluon plasma formation, pre-equilibrium plasma dynamics 7−56578
short-range rapidity fluctuations in high energy collisions 7−61781
ultra-relativistic hadronic collisions, pion interferometry 7−56565
ultra-relativistic nucleus collisions, dilepton production 7−56690
ultrarelativistic heavy-ion collisions, flavour composition in scaling hydrodynamics 7−15178
ultrarelativistic nuclear collisions, baryon recoil and fragmentation regions, hydrodynamical model anal. 7−49402
ultrarelativistic nuclear collisions, initial temp. 7−61918
ultrarelativistic nuclear collisions, stopping power in dual parton model 7−61780
$\bar{N}N \to 3$ mesons, quark rearrangement tests 7−49176
$N\bar{N}$ annihilation, dynamical selection rules, quark-gluon model 7−5126
$N\bar{N}$ annihilation and the quark rearrangement model 7−49048
$\bar{N}N$ charge exchange cross sections 7−30277
NN in rel. nuclear collisions, charged particle multiplicity distribs., correl. characts. 7−19140
NN interaction, spatial structure, phenomenological model anal. 7−5069
NN interaction model with π-exchange, overlapping nucleon form factors 7−35952
$\bar{N}N$ interactions, particle and nucl. physics intersections conf., Lake Louise, Canada, May 1986 7−29569
$NN \to$ leptons, dileptons, low p_T and low pair mass anal. 7−35896
$NN \to MN$, unified description of coupled system at intermediate energy 7−41837
$N\bar{N} \to$ mesons, LEAR experiments 7−49166
$NN \to NN\phi$, low-mass pseudoscalar boson production 7−41845
$NN \to NN\pi$, model depend. of unitary isobar model treatments at intermediate energy 7−5116
$NN \to NN\pi$, quark interchange in pion prod. 7−30286
$NN \to \pi NN$, relativistic Fadeev calcs. 7−61733
$NN \to \pi d$, cross-section and polarisation meas. *(Russian)* 7−61736
$NN \to \pi d$, relativistic Fadeev calcs. 7−61733
$\bar{N}N$ spin physics 7−49168
$\bar{n}n \to X$, 6.1 GeV/c, charged particle multiplicity characts. 7−30282
$N\bar{N} \to X$, effect of short range repulsions 7−49177
$nn \to X$, high energy cosmic rays, particle production, multiplicity 7−47652
$NN \to X$, multiplicity and transverse energy flux 7−61758
$NN \to X$, quark cluster model, confinement mechanism and exchange effect 7−49056
$\bar{N}N \to X$, quark-gluon dynamics and selection rules 7−30277
$NN \to X$, quark-gluon plasma formation 7−56579
$NN \to X$ EM production of spinless neutral particles 7−544
$Np(\bar{p}) \to \phi X$, joint hadron prod., parton model comparison 7−19143
$Np(\bar{p}) \to \phi X$, low p_T interactions, Lund model comparison 7−19142
$\bar{n}p \to X$, inclusive ρ^0 and f^0 cross-sections 7−10072
pN, 800 GeV, short- and long-range correlations of produced particles 7−19133
pN, shadow matter production, mass/charge constraints from beam-dump expts. 7−49186
pN,400 GeV, cluster characts., leading particle effects anal. 7−24906
$\bar{p}N \to \bar{\Lambda}X$, 13, 18 GeV/c, polarization transfer meas. 7−30294
$pN \to p\pi$, 100 GeV, momentum distn. calcs., multiple-quark stripping 7−10150
$pN \to X$, in emulsion, parameter summarized cross section meas. 7−41849
$pN \to X$, inclusive charged particle differential cross-section 7−35911
$pN \to X$, primary energy estimation 7−5128
$\bar{p}NN \to Nn\pi$, two-nucleon mechanism 7−35898
$\bar{q}q$ pair exchange transition pot. in constituent quark model *(Chinese)* 7−5057
$NN(\bar{N}N)$ potentials, skyrmion-skyrmion interaction and meson exchange model 7−19129
$pN \to \Lambda^\circ X$, polarisation in inclusive production, A dependence 7−15177
$pN \to X$, inclusive spectra of secondary particles in quark-gluon string model 7−41859

nucleon-nucleon scattering
see also neutron-proton scattering; nucleon-nucleon interactions; proton-proton scattering
elastic scattering in the critical and supercritical Pomeron models 7−41844
NN scattering, 200-1200 MeV, πNN dynamics 7−35901
quark compound bag model anal. 7−61723
radial excitations, RGM and constituent quark model calcs. 7−19125
short-range repulsion and parameters of the NN interaction *(Chinese)* 7−49175
symmetric Lorentz invariant scatt. amplitude, Yukawa representation 7−41830
three-body effects in nucleon-nucleon scattering at medium energy 7−61732
N-d scattering below breakup threshold, momentum space Faddeev calcs. 7−19252
NN, elastic scattering, partial wave anals., SAID computer package 7−550
$\bar{N}N$ elastic scatt. cross sections 7−30277
NN elastic scattering, 1100 MeV, partial-wave analysis 7−61727
NN elastic scattering, new mechanism for spin effects 7−61744
$NN \to NN$, relativistic Fadeev calcs. 7−61733
$NN \to NN$, six-quark resonance structures in QCD 7−545
NN phase shift anal., optimum polynomial expansions 7−548

nucleon-nucleon scattering continued
$\bar{N}N$ scattering, particle and nucl. physics intersections conf., Lake Louise, Canada, May 1986 7−29569
NN scattering, quark cluster model, on-shell equivalent transforms. for CC eqn. energy depend. elimination 7−35900
NN scattering and bound state, Dirac eqn. with separable pot., rel. effects 7−30351
NN scattering lengths, charge dependence due to pion mass differences 7−19177
$NN \to X$, isobar-width effects in the coupling of nucleon to isobarchannels 7−546
pN scattering, parity violation tests at high energy 7−30207

nucleon-nucleus reactions
for inelastic nucleon-nucleus scattering, see "nucleon-nucleus scattering"
see also neutron-nucleus reactions; nucleon-nucleon interactions; proton-nucleus reactions
Dirac vacuum structure in nuclei, nucleon bound states, nucleon-nucleus reactions 7−49405
scattering of electrons, nucleons, and pions as probes of nuclear structure, review 7−56593
spallation reactions, particle emissions from preequilibrium states 7−10157
ultrarelativistic nuclear collisions, baryon recoil and fragmentation regions, hydrodynamical model anal. 7−49402
(N,X), few-nucleon system anal., sensitivities of N, π probes to reaction mechanisms and nuclear props. 7−61872
$(\bar{N},X)$, parity nonconservation in resonance interaction 7−5240
(N,X), low energy interactions in semimicroscopic approach 7−10142

nucleon-nucleus scattering
see also neutron-nucleus scattering; nucleon-nucleon scattering; proton-nucleus scattering
conf., Washington, DC, USA, April 1986 7−60881
differential cross sections, 10-1000 MeV *(Russian)* 7−49415
Pauli distortion effect on the first-order optical potential 7−30395
$^2H(N,N')$, anal. using separable expansion method for Paris potential 7−19218
$(\bar{N},N)$, density depend, of effective NN interaction, optical pot. radius parameters 7−49252
$(\bar{N},N)$, microscopic optical model potential, density matrix expansion 7−19250
(N,N), nuclear self-energies, real and imaginary optical pots. 7−36009
(n,n), parity nonconserving effects at thermal energies 7−686
(N,N), reaction cross section and forward scatt. amplitude, optical pot. effects 7−36013
(N,N′), consistent treatment of nonlocality correction 7−56660
(N,N′), surface response model anal., comparison with intermediate energy (p,p′) spectra 7−19254
(N,N′) optical model potential, global parameterization 7−61881
$^{12}C(N,N)$, 100 GeV, quasicoherent scatt., inelastic screening and correl. corrections calc. *(Russian)* 7−30428
$^{40}Ca(N,N')$, nucleon optical pot. study 7−10145
$^2H(N,N')$, doublet scattering lengths with three-nucleon forces 7−61886
$^2H(N,N')$, momentum space Faddeev calcs. below breakup threshold 7−19252
$^2H(N,N)$, N-body quantum problem in configuration space 7−10141
$^2H(N,N)^2H$, scatt. with Paris N-N potential 7−61893
(N,N′), isovector effective interaction anal. 7−42020
(N,X), low energy interactions in semimicroscopic approach 7−10142
$^{208}Pb(N,N')$, nucleon optical pot. study 7−10145

nucleon scattering *see nucleon-nucleon scattering; nucleon-nucleus scattering*

nucleons
see also neutrons; protons
axial properties, extended Skyrme model 7−24785
axial vector form factor in perturbative QCD 7−522
axial-vector weak coupling constant g_A and quark confinement in nucleons 7−56517
bound quark-meson system, RPA calcs., solitons, chiral model of nucleon 7−18989
chiral invariant colour dielectric model 7−463
core motion effects on static props. 7−15158
decay, KAMIOKA experiment, atmospheric neutrino background and pion nuclear effect 7−49140
decay search, atmospheric ν-induced backgrounds 7−19109
electromagnetic struct. of nuclei and nucleons, review 7−30315
electromagnetic transitions and deformations in nucleons and deltas 7−41812
electroweak interactions with the nucleon and tests of the standard model 7−61513
EMC effect and N size increase in nuclei 7−49152
form factor, QCD anal. 7−61686
form factor, QCD and perturbation theory calcs. 7−61685
form factor zeros, quark model anal. 7−61690
form factors and static props. in relativistic potential model 7−15157
g_s factor, effects of renormalization on anomalous E1 conversion processes *(Russian)* 7−597
gluon distribution from $pp \to \gamma + jet + X$ events, QCD anal. 7−61766
hedgehog baryon state, soliton bag model with scalar mesons 7−18990
hedgehog chiral soliton bags, spin-isospin projection using collective coordinates, nucleons 7−19074
magnetic moment contribution to nuclear magnetic moments 7−19166
nuclear medium effects on nucleon size 7−56599
polarizability study using (γ,γ), 40 MeV-pion threshold 7−61857
QCD, nucleon spin conservation at short distances 7−490
QCD and deep inelastic lepton scatt., nucleon struct. and strong interactions 7−10028
Roper resonance and πN phase shift in the Skyrme model with defect 7−18988
size, density dependence of f_π in nuclear medium, QCD sum rule anal. 7−480
spin-dependent structure fns. for polarized nucleons, perturbative QCD calcs. 7−56553
structure, effects on meson exchange currents, constituent quark model, MIT bag model anal. 7−24845
structure functions from hadronic wave functions *(Chinese)* 7−24888
structure functions in $e(\vec{e})p$ scatt., SUSYQCD anal. 7−61689
SUSY QCD, nucleon spin conservation at short distances 7−490
swelling nucleons in QCD, superconducting state, string tension 7−15124
wave functions and QCD sum rules 7−30248

nucleons continued
$e(\mu,\tau)N$ elastic scattering, nucleon form factors from polarized lepton scatt. 7−56556
N decay in E_6 model 7−56474

nucleosynthesis
asymptotic giant branch stars, intermediate-mass, effects of connective overshooting on He and N abundances 7−40797
big-bang nucleosynthesis, standard model with interacting particle species 7−23997
binary stars as sources of iron and s-process isotopes 7−47835
classical novae, nuclear reaction network for evolution through complete cycle 7−29495
conf., Erice, Italy (April 1986) 7−41001
cosmic nucleosynthesis, relation between ^{4}He, ^{2}H and ^{3}He prod. 7−40979
cosmological nucleosynthesis, effects of quark-hadron transition 7−47677
Coulomb dissociation as a source of information onradiative capture processes of astrophysical interest 7−14485
early Universe, time variation of fundamental constants, primordial nucleosynthesis and extra dimens. size 7−9567
explosive ^{4}He burning, kinetics at constant temp. and density 7−4315
Galaxy age and chemical evolution, general constraints 7−55809
heavy element synthesis in AGB and post-AGB stars 7−47856
lightest elements formation in cosmological nucleosynthesis 7−24252
low energy charged particle reactions, breakup reactions as indirect study method for nuclear astrophysics 7−18353
mass 22 nuclei, gamma-ray-imposed constraint on origin in astrophysical environments 7−35069
massive high-luminosity stars, presupernova nucleosynthesis 7−29461
massive star evolution, late stages and nucleosynthesis 7−47834
nuclear beta-strength and neutrino mass, astrophysical and cosmological consequences 7−48129
nuclear reactions in stars, review 7−60535
nucleochronology, constraints on age of Universe 7−55869
photodisintegration, relevance to nucleosynthesis in stars 7−49378
Population III supernovae, contrib. to metals in primordial Population II stars 7−29470
primordial and stellar nucleosynthesis, nuclear reactions, laboratory analyses 7−47696
primordial nucleosynthesis and photinos 7−66793
r-process, role of delayed neutrons in element production 7−60534
S and MS stars, He burning and s-process 7−60681
s-process nucleosynthesis, implications of stellar β-decay rate of ^{79}Se 7−49344
s-process nucleosynthesis, neutron capture cross section meas. rel. to branching at ^{79}Se 7−23990
s-process of stellar nucleosynthesis 7−47837
screened non-resonant nucl. reaction rates 7−34848
SN 1054, ^{22}Ne nucleosynthesis and mass from element abundances in Crab Nebula 7−40904
solar neutrino problem as a probe for nuclear astrophysics 7−60536
stellar core collapse, electron capture effects 7−55614
stellar nucleosynthesis, He and heavy-element enrichment of interstellar medium 7−40905
superheavy elements, nuclear properties and laboratory synthesis, review 7−61904
supernovae, element abundances from pair creation supernova in massive Wolf-Rayet star 7−29462
supernovae, type Ib, spectra rel. to supernebulae and nucleosynthesis 7−40854
supernovae (book) 7−60914
thermonuclear reaction rates, determ. from (p,n) reactions (on targets with A=92 to 122) 7−34859
time-varying coupling constants and primordialnucleosynthesis 7−4607
Type II supernovae, nucleosynthesis and isotopic anomalies 7−47959
$\nu \rightarrow \gamma X$, heavy ν, lifetime constraints from primordial light-element photodestruction anal. 7−10059
^{26}Al in the interstellar medium, review 7−48050
^{26}Al production by Wolf-Rayet stars, galactic yield and gamma-ray line emissivity 7−47830
^{26}Al, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
^{27}Al(^{3}He,d)^{28}Si, proton threshold states in ^{28}Si*, astrophysical significance 7−19267
^{27}Al(α,t)^{28}Si, proton threshold states in ^{28}Si*, astrophysical significance 7−19267
D, synthesis in stellar atm. in binary systems with accretion disks *(Russian)* 7−24218
^{1}H(p,e$^+\nu$)^{2}H, stellar process, energy generation rates 7−10139
^{85}Kr, neutron capture and β-decay, s-process abundances 7−55461
^{175}Lu(n,γ), 24.3 keV, isomeric capture cross section 7−19258
^{180}Lu, isomeric levels, decay curve examination, relevance to ^{180}Ta^m nucleosynthesis 7−49204
^{53}Mn, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
NCO reaction and He flashes in accreting He white dwarfs 7−66573
^{A}Na(p,γ)$^{A+1}$Mg, A=21,22 reaction rate under hydrogen burning conditions 7−30429
^{22}Na, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
^{20}Ne effective reson. form. in stars 7−695
^{18}O(^{3}He,d)^{19}F, sub threshold resonance in red giants 7−698
^{A}Os(n,γ), A=186-8, resonance parameters and optical model pot. for stellar nucleosynthesis 7−5244
^{189}Os(n,γ) cross section, characts. and implications for stellar nucleosynthesis duration 7−49393
^{151}Sm, neutron capture and β-decay, s-process abundances 7−55461
^{A}Sr(n,γ), A=86,87 capture cross-section at stellar temps. 7−55462

nucleus
see also hypernuclei; nuclear mass; nuclei with mass number 150 to 189; nuclei with mass number 190 to 219; nuclei with mass number 1 to 5; nuclei with mass number 20 to 38; nuclei with mass number 220 or higher; nuclei with mass number 39 to 58; nuclei with mass number 59 to 89; nuclei with mass number 6 to 19; nuclei with mass number 90 to 149
No entries

number theory
see also digital arithmetic
automorphic forms and number theory, conference, Sendai, Japan (Nov. 1983) 7−48196
calibre of a number field *(French)* 7−60932
imaginary Abelian number fields, ideal class group exponents 7−24365

number theory continued
optical computing, medium accuracy, highly redundant number representation 7−10864
surface energy term, particle in cube or square with infinite pot. walls 7−58604
ultrametric structures, introduction and appls. 7−48332

numerical analysis
see also approximation theory; curve fitting; difference equations; error analysis; finite element analysis; function approximation; function evaluation; functional analysis; functional equations; interpolation; iterative methods; molecular dynamics method; Monte Carlo methods
apparatus cooldown using He or N cooling systems, mass flow requirements calc. 7−56281
Born partial wave integrals, numerical evaluation 7−48462
boundary collocation method, boundary integral elements method, water flow in porous media 7−6311
boundary-value problems, nonlinear, numerical soln., ordinary differential eqns. *(Russian)* 7−56005
carburising process for dense and porous materials, math. model 7−39745
ceramic powders, tapping behaviour, numerical analysis 7−46360
Chebyshev collocation methods for parabolic eqns., heat eqn., advection-diffusion eqn. 7−48649
coastal flow, numerical modelling 7−55078
composite shell of revolution, flexible, weakened by notches, stress-strain state, num. method 7−16075
compressible laminar boundary layer eqn's., stream function numerical soln. 7−6183
computability and physical theories 7−18589
dielectric cylinders embedded in two-layer lossy medium, EM scatt. anal. 7−1009
dielectric rod waveguides with flat cross-section, anal. 7−43383
elastic-plastic eqn. analysis and numerical soln. *(French)* 7−41101
elasticity, unilateral boundary value problems, numerical approx. solutions 7−61105
electrodynamics, iterative method of problem soln. *(Russian)* 7−62609
elliptically cored optical fibre for polarisation preservation using mode matching method, accurate numerical anal. 7−11116
equations with power boundary layer, numerical soln. *(Russian)* 7−56023
external nonlinear focusing, appls. to ultrafast optical power limiting 7−50659
eyepiece, two-component, design and correction, calc. process 7−25921
flexible structure, local region, optimum profile of temp. field 7−31652
flow pattern anal. using observed data and numerical anal., appl. to air deflecting device 7−37420
generation of curvilinear co-ordinate systems, boundary fitted grids, control functions, transformation rules 7−6178
gravitational potential determ. for arbitrary mass distrib. Poisson integral expansion method 7−66447
half-space with initial stresses, contact interaction with a finite elastic cylinder 7−63084
hardening process in steel, modelling with allowance for stresses effect on struct. transform. 7−39555
hardness distribution in nitrided layer of steel, prediction model 7−39746
heavy particle in 1D system, mass depend. in diffusive behaviour, numerical simulation 7−29947
initial-boundary value problems, pseudospectral method of soln. *(Russian)* 7−56006
magnetic vortex field, 2D, with boundary conditions of 3rd kind, numerical determ. for tube drawing, inductive heating *(German)* 7−33811
metal-polymer two-layer plates under bending load, strength and stiffness calc. 7−57713
MHD flow in an infinite channel 7−6326
nonautonomous rigid system of ordinary differential equations, difference schemes *(Russian)* 7−61062
panel, composite, min. wt., optimum design w.r.t. arbitrary loads 7−1397
parabolic equations, fourth-order, numerical soln. difference method *(Russian)* 7−56024
planetary potential, representation as convergent series 7−4678
planetary rings, numerical simulation of binary encounters 7−66499
plasma dispersion function, numerical computation 7−44103
plate, damped elastic infinite, adjacent semi-infinite fluid, impulsive force effect study 7−63052
plate, large square, central circular hole, uniaxial loading, elastic stress concs., photoelastic models 7−43682
plate, natural freqs. and forms of vibrs. in own plane, determ. method 7−20642
plate with thin regions, stress conc., theoretical and photoelastic studies 7−57697
porous media with viscoelastic props., fluid eqn. soln. and applic. *(Chinese)* 7−18222
radiation thermometry, exponent factor in extended relation of radiance *(Japanese)* 7−41473
Schrodinger equation, nonlinear, numerical integration 7−29794
shallow water eqns., num. anal. 7−9026
shells, cylindrical, thick-walled, nonlinear cross section, stress state anal. 7−62993
shells, elastic, spherical, with variable rigidity, nonaxisymm. deform., numerical soln. 7−62994
spreadsheet programs, numerical problems soln. 7−24341
square specimen, compressed, with longit. or diagonal crack, stress intensity factors calc. 7−16118
strip, infinite, with cracks and holes, singular integral eqn. soln. 7−26219
transonic cascade, two-dimens., num. computation by time-depend. finite vol. method *(Chinese)* 7−16204
transonic flow, Euler equations, compressible, soln. by time-marching scheme 7−26311
turbulent compressible convection in deep atmosphere, validity of numerical approach 7−47690
vertical Bloch line dynamics, lumped const. model, numerical stability 7−59094
vortex growth in bounded rectangular jet, numerical anal. 7−37469
Al-Cu, solidification, microsegregation in coarsened dendritic microstruct. 7−28048
Si solar cell efficiency improvement simulation analysis 7−13865

numerical methods
see also convergence of numerical methods; predictor-corrector methods
3-D vector-values data visualization method *(Japanese)* 7−51031
adaptive umbrella sampling, self-consistent determ. of nonBoltzmann bias 7−48340
air pollution modelling, num. method and computer simulation 7−54394

numerical methods continued
- Bessel functions product with Gaussian, integral evaluation 7—48304
- cardiac tissue, anisotropic, electronic interactions 7—13989
- circulation, trajectory calculation in finite difference model 7—60285
- classical mechanics problem solving by the numerical integration of Hamilton's equations 7—35173
- computational techniques, conf., Melbourne, Vic., Australia (Aug. 1985) 7—14704
- convection, linear 1D eqn., numerical dispersion by upwind differencing 7—26267
- convection, steady-state, 3D problem, numerical soln. *(Russian)* 7—61296
- convection in viscous fluid, finite difference methods 7—14784
- convection-diffusion eqn., smoothing of numerical soln. by central difference method *(Japanese)* 7—41312
- curved pipes, multiple laminar flows 7—26343
- cyclopropane-1,1-d_2, thermal isomerisation, master eqn. iterative soon., variable successive overrelaxation method 7—33914
- eigenvalue equations, second order, extension of renormalized Numerov method 7—29737
- eigenvalue problems, large scale, conference, Oberlech, Austria (July 1985) 7—48189
- elasticity, unilateral BVPs, num. methods 7—24427
- elastodynamic infinite element for elastic wave anal. 7—6142
- EM particle in cell codes, Maxwell's equations 7—50443
- EM problems soln. using FFT with conjugate gradient method 7—10812
- EM waves, freq. properties of dielectric scatterers in half-space 7—57215
- exponential integral, numerical evaluation throughout complex plane 7—24399
- ferromagnet EM field spatial-temporal distrib. calc. using small parameter method *(Polish)* 7—62580
- fixed bed catalytic reactors, 1D heat transfer coefficient 7—6298
- fluid dynamics, Glimm's method, introduction and FORTRAN listing *(Spanish)* 7—20678
- fluids in porous medium, unsteady interface 7—14319
- flux corrected transport algorithm, first-order hyperbolic equations 7—51402
- Fornberg's numerical method for conformal mapping 7—48342
- Galerkin method appl., displacement in two phase flow in porous media, finite element simulation 7—51295
- gamma radiation transport, numerical integration technique 7—10301
- glass, softening point determ., numerical method, calculator program *(Czech)* 7—6796
- heat conduction equivalent transformations of grid models 7—11250
- heat equation, ill-posed Cauchy problem, error estimates for numerical method 7—50932
- heat exchange between tube and surrounding water-saturated soil 7—63153
- helically symmetric equilibria, numerical computation 7—51411
- horizontal axis wind turbines anal. using vortex lifting line method 7—63171
- hydraulic network, large-scale, nonlinear conservation laws 7—10196
- hyperbolic systems of conservation laws, numerical solution 7—51227
- irregularly shaped bodies, heat and mass transfer, numerical simulation 7—48639
- lagrangian finite element method, velocity correction technique 7—6232
- lake currents, finite difference method 7—60284
- laminar heat transfer and flow in curved square channels, elliptic nature, numerical visualisation 7—37432
- lattice gauge theory, microcanonical ensemble techniques 7—48934
- lattice models, parallel computations in physics 7—48593
- linear asymmetric matrix equations, biconjugate gradient routine ILUBCG2 7—48302
- Markov chain algorithms for canonical ensemble simulation 7—48520
- molecular coupled potential energy surfaces, nuclear dynamics Lanczos algorithm 7—49976
- multidimensional semiconductor equations, LBI techniques 7—58803
- Navier-Stokes equation, decomposition method anal. 7—4696
- Navier-Stokes equations, adaptive mesh finite difference solution method 7—57785
- NDT, elec. current methods, numerical modelling, appl. to weld testing 7—33882
- neutron dynamics transport codes, analytical benchmarks 7—61943
- nonlinear Schrodinger equation with linear damping term, finite difference scheme 7—56073
- optical waveguide mode field and propagation consts., calc. by numerical method 7—31455
- optimization algorithms, simulated annealing and neural network processing 7—47724
- panel method based on special interpolation functions for flow anal. 7—14780
- partial differential equations, nonlinear, time-dependent, soln. using multi-grid method 7—41080
- particle in cell codes, vectorising interpolation routines 7—50462
- phase change material, one-dimensional solidification, charact. dimensionless time 7—63781
- plasticity equations, numerical integration scheme 7—63004
- plates, multiannular, buckling analysis using power series numerical method 7—20607
- plotting probability density function of resultant error with two or more components 7—48673
- Poisson solver in 3D, conjugate gradient iterative method 7—55977
- polyethylene, high density, latent thermal storage unit, heat transfer, numerical anal. 7—65603
- primitive equations, energy conserving Galerkin finite element schemes 7—66346
- quasilinear elliptic equation, numerical solution of first boundary value problem *(Russian)* 7—55975
- running averages, an efficient algorithm 7—8465
- Schrodinger equation, one dimensional, integral equation solution 7—48414
- Schrodinger equation with nonlocal exchange kernel, numerical solution 7—48412
- Schrodinger equation with piecewise constant potential, improved regula falsi method 7—48413
- semiconductor structures, hot electron transient behaviour, numerical model 7—12729
- solar pond simulation using upward flow through storage zone 7—65604
- spectral methods using rational basis functions on an infinite interval 7—61076
- sphere, diffusion controlled growth from finite size, numerical solns. 7—44889

numerical methods continued
- steady flow induced by a rotating circular cylinder in a rectangular tank 7—37475
- Stefan type problems, numerical methods 7—35489
- stochastic differential equations with variable diffusivity, numerical integration 7—35233
- streamlines and pathlines, plotting on microcomputer 7—16272
- supersonic inviscid flow, 3-D characteristics streamlines approach 7—57876
- surface water simulation by MacCormack method 7—55119
- symmetric total variation diminishing schemes, explicit and implicit construction 7—48370
- synthetical radiographs, numerical image computation, high velocity flow anal. appl. 7—44082
- thermal conductivity, NEMD algorithms, comparison 7—4801
- tides, 2D eqns., num. soln. by method of characts. 7—18187
- tides, 2D eqns., soln. by method of characts., adaptation to wind-induced currents and storm surges 7—18188
- time-dependent transition probabilities, quantum dynamics 7—48458
- tomography, optical microscopic type, constrained resolution enhancement 7—47304
- turbulent flow meas., hot-wire anemometry, evaluation of analytical systems 7—16274
- unstable fronts in a porous medium, stochastic numerical scheme 7—57919
- vortex breakdown, num. study 7—26283
- wind-driven circulation 7—9046
- X-ray source number-counts slope estimation in the presence of Poisson noise 7—48104
- XY model, accelerated stochastic algorithms near critical temp. 7—41296
- H_2+F, reactive scattering, hybrid solution to coupled equations 7—57164
- H_2+H, reactive scattering, hybrid solution to coupled equations 7—57164
- Hg electrode-soln. interface, 2-anion simultaneous adsorpt., elec. double laser parameters algorithm 7—54132
- Si detectors, electrical props., numerical simulation 7—42328

numerical methods, convergence *see convergence of numerical methods*

numerical stability *see convergence of numerical methods*

nutation, Earth *see Earth rotation*

Nyquist noise *see thermal noise*

O groups
- σ-model, supersymmetric, nonlinear, constrained Hamiltonian formalism, canonical struct. 7—30153
- charge-monopole interaction, O(3,1) symm. problem 7—48943
- coupled stationary bifurcations in non-flux boundary value problems 7—29717
- de Sitter symm., spontaneous breaking by radiative effects 7—35373
- Debye scalar potentials for the electromagnetic fields, mag. monopoles 7—36850
- gauge theory of gravit. in higher dimensional space-time and dimens. reduction 7—56127
- Kaluza-Klein theory, O(3)×U(1) gauge symm. breaking 7—41192
- mesons, micrononcausal Euclidean wave functions assuming Yukawa type couplings 7—41596
- mixed symmetry states in pn-systems, systems for U(5), SU(3), O(6) symmetries, M1, E2 decay props. 7—49222
- monopoles, self-dual, scattering of gauge and Higgs fields 7—30177
- O(2) and O(3) nonlinear σ-models on 2D lattice at large β 7—61457
- $O(3)\times)T_3$, gauge-invariant Lagrangian, construction technique 7—35707
- O(3) σ model, possible fractional spin phase transition 7—56436
- O(3) nonlinear σ model, numerical simulation by Parisi-Wu stochastic quantization 7—19008
- O(3) sigma model, anal. with nuclear shell model code 7—35802
- O(N) σ model, 1/N expansion, essential singularity in analytic regularization 7—56445
- O(N) σ models, homotopy theory applications, review 7—24793
- O(n) $(0^2)^2_{d-4}$ model, 1/N expansion, essential singularity in analytic regularization 7—56445
- O(N) model, composite operator formalism, finite temperature anal. 7—24778
- O(N) symmetric model, effective pot. in static homogeneous spacetimes 7—18673
- open superstring with O(32) massless gauge bosons, principal-part regularization 7—19046
- Poincare group, group scaling, classical gauge theory and gravit. corrections 7—24762
- QCD nonperturbative effects modelling, 2D sigma models and 4D gauge theories 7—35664
- spin content of string models, O(D−1) representation 7—35823
- Weyl group rotation subgroups, projective representations using O(l) and SO(l) 7—29680
- pp→X, total cross section, energy depend. anal. in terms of O_4 expansions 7—30284
- Hf, generalisation of $\hat{Q}.\hat{Q}$ Hamiltonian for IBM 7—61816
- ^{30}P, occurrence in O(6) multiplet with ^{30}Si, IBM4 dynamical symmetry anal. 7—56625
- ^{30}Si, occurrence in O(6) multiplet with ^{30}P, IBM4 dynamical symmetry anal. 7—56625

O-type tubes *see microwave tubes; travelling-wave-tubes*

observability
- linear rational expectations model, unobserved components and errors in meas. 7—48676

observers *see state estimation*

occultations
- 336 Lacadiera, occultation of SAO 185428 7—66494
- 259 Aletheia, occultation of SAO 160139 on 1986 May 10, Australian obs. 7—14516
- asteroids, implications of stellar occultations for binary asteroids and satellites of asteroids 7—18367
- BD+8°471, stellar occultation by Ceres asteroid, 13 Nov 1984 obs. 7—55432
- 4C 17.43 and 24.11, lunar occultation studies in HF 7—29549
- candidate stars for Uranus' rings (1985-90) and Saturn's rings (1986-91), VI photometry 7—24124
- Ceres (asteroid no.1), occultation of BD+8°471 star on 13 Nov 1984, photoelectric obs. 7—55432
- λ Cnc by Moon, 1986 November 22 graze event obs. 7—55431
- P/Comet Halley (1982i), occultation of PKS 2314+03, scintillation meas. 7—18381

occultations continued
Comet Wilson (19861), predicted occultation of SAO 125375 (1986 October 28) 7−18389
Galilean satellites, anal. of occultation obs. and comparison with theories 7−47754
Galilean satellites, photometric obs. of mutual events (Project Omega 1985/86) 7−18370
Galilean satellites mutual phenomena, conf., Bagneres de Bigorre, France (April 1986) 7−60856
ghosts's shadows and superluminal occultations 7−35154
Jupiter, mutual satellite phenomena, longitude discrepancy resolution 7−40747
lunar occultations of stars (AD 186-567) use for Earth rot. characts. determ. *(Chinese)* 7−3963
Saturn, rings profiling by radio occultation 7−34886
Saturn ring system, appl. of Voyager radio occultation data to bending waves anal. 7−55527
stellar occultation by Neptune, appl. to oblateness and stratospheric methane mixing ratio determ. 7−34927
Y Tau (C6,4), 1982 January 8, effective temp. from occultation ang. diameter 7−47927
Venus ionosphere, radio occultation props. rel. to ionisation sources 7−34902
Voyager 2 stellar occultation expt., evidence for tenuous outer ring material at Saturn 7−24056
X-ray sources, occultation techniques for ultra-high ang. resolution meas. 7−60567

ocean thermal energy conversion
condensers having spiral double-fin tubes with drainage gutters, characts. *(Japanese)* 7−34060
condensers having spiral drainage tubes with drainage gutters, characts. *(Japanese)* 7−34061
condensing surface heat transfer performance, effects of sea-motion *(Japanese)* 7−34058
deep wells evaluation as alternative to cold water pipe technology 7−65572
direct contact condensation of R 114 on the vertical falling water column *(Japanese)* 7−34063
energy extraction technology status and economic prospects 7−65403
enhancement of boiling heat transfer performance by metal fiber sintered surfaces *(Japanese)* 7−34059
evaporation and condensation heat transfer performance for R 22 and ammonia *(Japanese)* 7−34062
model of single-tube closed loop small temp. difference system *(Japanese)* 7−34055
non-azeotrope binary mixture working fluid OTEC cycle by using mixture of R 22 and R 12 *(Japanese)* 7−34065
on-shore power plant siting in tropical areas 7−65570
open cycle experiments, potential to produce net power 7−65574
open cycle heat and mass transfer expts. 7−65575
open cycle system with spout evaporator, preliminary seawater expts. 7−65573
plate type condenser, performance tests *(Japanese)* 7−54337
research approach of OTEC power generation in Electrotechnical Laboratory *(Japanese)* 7−34053
shell and plate type evaporator, performance tests *(Japanese)* 7−54338
steady-state characteristics and sensitivity analysis of closed cycle OTEC power system *(Japanese)* 7−34054
thermoelectric generating experiment by using ocean thermal energy *(Japanese)* 7−34064
transient modelling of closed cycle OTEC power system, expt. study *(Japanese)* 7−34056
transient response of closed cycle OTEC power system and some guides for plant design *(Japanese)* 7−34057
Al alloys as heat exchanger materials for OTEC 7−65571

ocean water *see seawater*

ocean waves
accelerations in steep gravity waves, subsurface accelerations 7−9009
acoustic Doppler profiles, surface wave kinetic energy influence 7−9274
N Adriatic Sea, wind wave spectra parameterisation 7−40487
S Africa ports, low-freq. sea-level fluctuations 7−18191
air-water interface wave-induced press., fluctuations, wave generation by wind 7−16198
airborne microwave rain scatterometer/radiometer system, microwave backscatter expt. of ocean surface *(Japanese)* 7−23910
asymmetry over slopes with variable-depth water 7−6229
S Atlantic Bight, extreme wind, wave, surge, and current data 7−60272
atmospheric pressure micropulsations over sea and synchronous ocean waves *(Russian)* 7−8965
Australia, sea-level var., atm. effects 7−18192
Australian Coastal Experiment, search for coastal-trapped waves 7−9001
barotropic continental shelf waves on β-plane, effect of Coriolis parameter latit. depend. 7−8983
barotropic planetary waves on a random bottom 7−18205
beach, sloping, subharmonic edge wavepackets evolution 7−18204
breaking waves, spectral and statistical characts. 7−9025
bubble clouds breaking waves, meas. by automatically recording inverted echo sounder (ARIES) 7−8991
Cape Cod Bay, field performance of NBIS Smart ACMs with EG&G Sea Link VMCMs 7−66366
capillary waves in North Sea, EHF radar observations 7−8978
capillary-gravity ripples generation by strongly non-linear waves on deep fluid surface *(Russian)* 7−29040
coastal wave climate categorization, software packages 7−55254
coastal zone, wave velocity field deformation types 7−40496
CODAR intercomparison for Delaware Bay 7−9254
computer graphics 7−34502
computer graphics 7−34503
continental shelf edge waves, numerical model studies of long-period waves 7−8993
currents forcing, theory for steady and variable wind and wave-induced currents 7−8985
diffraction by gap between two breakwaters, long waves, matched asymptotic expansions soln. 7−47446
edge waves travelling along a continental shelf, energy flux 7−66135
EM field induced by 3D ocean waves 7−8970
energy absorption systems 7−65402
English Channel, sea state for 1066 September, chroniclers' records anal. 7−29650

ocean waves continued
equatorial waves in sea surface temp. field, detect. from shipboard and satellite meas. 7−66142
ERS-1 wind and wave calibration workshop, Schliersee, Germany (June 1986) 7−24305
extreme wave steepness and asymmetry of deep water waves near to Norway 7−55067
gravity-capillary waves, wind-generated, period-doubling 7−43952
S Great Barrier Reef, coastal-trapped waves and currents behind large continental shelf island 7−47451
growth rates, action of atmospheric turbulence over progressive wave, eddy viscosity model 7−51193
Gulf Stream warm-core ring, mean and near-inertial vel. fields meas. 7−8990
height effect on surface wind algorithm, Seasat scatterometer studies 7−66159
HF radar sea echoes, Bragg coherence 7−40588
identification problem, decomposition techniques 7−40592
Indian seas, ocean waves response to monsoons 7−9017
Indian seas, wave characts., (during MONEX-79) 7−9018
inertial oscillations generation by propagating wind field, two-dimensional model 7−8987
inshore wave obs. with analytical stereoplotter 7−4224
internal tide wave, direction and vel. determ. via single-station meas. 7−40483
internal wave caustics 7−47449
internal wave stress-shear correlations, reference frame choice 7−66137
internal waves, verification in offshore areas by current obs. 7−40482
inviscid water waves, shore singularity nonlinear eqn. 7−40500
island, trapping of long gravity waves due to asymmetric insular shelf 7−29034
Jonswap spectrum of sea state, revised parameterisation 7−60259
Kelvin wave reflection, implications for current struct. of M2 tidal component in N Adriatic Sea 7−40486
Kerala coast of india, wave damping due to mud banks 7−14293
Konkan coast, India, effect of waves in sediments redistrib. 7−28997
large amplitude, water waves, num. computation 7−18326
light scattering by sea surface *(Russian)* 7−8966
linear wind-driven near-inertial waves and assoc. vertical Reynolds stress divergence 7−8998
longshore currents generated by obliquely incident random waves 7−8996
microseisms caused by ocean storms 7−28899
microwave backscattering from ocean surface, X band and K_a band 7−34525
microwave radar sensing, modelling interactions between ocean and environment 7−60423
microwave scatterometry of waves, two-scale model 7−23686
mud banks causing viscous damping of solitary waves 7−14293
near-neutral drag coefficients anal. over open-ocean waves 7−66138
nonlinear gravity-capillary waves, free surface accel. 7−43955
nonlinear topographic wave interactions driving mean circulation of unstratified water bodies 7−4066
nonlinear waves in variable depth water *(Russian)* 7−55062
nonlinear waves on a coupled density front 7−63163
numerical model of the wave boundary layer 7−55053
offshore platform, response to irregular waves *(Chinese)* 7−23672
Oshima Island, Japan, island, trapping of long gravity waves due to asymmetric insular shelf 7−29034
Oshima Island, Japan, long-period fluctuations of sea level *(Japanese)* 7−29035
N Pacific Ocean, annual Rossby waves generation due to wind stress curl 7−8997
NE Pacific Ocean, contrib. of waves to microseism propag. between two sites on deep sea floor 7−28869
Pacific Ocean, zones of storm waves and stillness identification from satellite clouds imaging 7−34731
passive tapered channel for wave kinetic energy conversion 7−46917
periodic wave propagation 7−6230
plane layered media, global matrix formulation of wave phenomena 7−61125
plunging breaking waves, velocity and force measurements in the splash zone, laser anemometry 7−63237
propagation in discrete spectral wave models 7−60269
radar ocean imaging model for small to moderate incidence angles 7−55059
Rayleigh wave scattering by rigid plane barrier in shallow ocean 7−8852
remote sensing of ocean surface current and sea state using VHF radar 7−60422
rip-current generation near structures 7−29048
Rossby waves, triad reson. interactions in ocean 7−29067
sand particle suspension and transport by shallow water waves 7−34471
SAR image spectra, numerical simulation 7−23662
SAR images 3D formulation 7−9208
SAR imaging, transformation of ocean wave spectra into SAR image spectra 7−66341
sea state meas. by radiometric method 7−60413
sediments longshore transport on shallow shore by random wave action 7−28996
seismic T-waves, duration rel. to earthquake magnitudes and seismic motion and appl. to tsunami warning 7−14208
shallow water eqns., num. anal. 7−9026
shallow water equations, complex flow, boundary fitted grids 7−6231
shallow water flow, boundary element soln. 7−40502
shallow wave propagation, effects of permeable breakwater 7−66165
shelf waves generation by gravity current on sloping bottom 7−43947
shore wave field, numerical modelling by boundary element method 7−55079
solitary rotational water waves, Lyapunov stability, oceanic appl. 7−63164
spectral analysis, least-squares method as filter and related power in spectrometry 7−40575
spectral model of wind-wave spectrum evolution 7−34540
spiral wave maker, simplified second-order solution 7−29058
Strait of Messina, internal nonlinear tidal waves 7−34508
stratified ocean, action of variable wind stresses 7−14291
surface, wind roughened, albedos and glitter patterns generation 7−9006
surface gravity waves, average values evol. *(Russian)* 7−29042
surface gravity waves in deep water, class I and II instabilities, modified Zakharov eqn. 7−51195
surface wave driven large-scale potential flows *(Russian)* 7−18200
surface wave layer, effects on interaction between atmospheric and oceanic boundary layers 7−8989

ocean waves continued
- surface waves, Eulerian and Lagrangian aspects 7—51191
- surface waves, SAR imaging, importance of motion related contributions 7—23663
- Taiwan Strait, numerical investigation of three-dimensional diurnal wave *(Chinese)* 7—55069
- tide rip ocean waves, study of frequency spectra *(Russian)* 7—60266
- trapped internal waves from body moving in ocean thermocline, phase config, visualisation 7—31854
- tsunami along Kyushu coast, Japan, AD 1662, AD 1769 and AD 1707 events *(Japanese)* 7—8833
- tsunami at Bungo, Japan, Sept. 1596 event *(Japanese)* 7—8832
- tsunami directional propagation theory *(Russian)* 7—18119
- tsunami generation and propag. modelling, microcomputer code 7—8830
- tsunami magnitude, relation to fault parameters *(Japanese)* 7—4005
- tsunami occurrence in E Pacific, exceedence probability estimate 7—47375
- tsunami of AD 1804 Kisakata earthquake, Japan *(Japanese)* 7—28852
- tsunami of Tenmei Odawara earthquake, 23 August 1782, discovery of dd documents 7—18133
- tsunami warning, implications of T-wave duration rel. to earthquake magnitudes and seismic moment 7—14208
- two-scale model for wind generated waves 7—23686
- underwater sound, contrib. of waves to sea surface loss in surface ducts and shallow water 7—66160
- Urup tsunami of Kuril and Sakhalin islands, October 1963, source parameters *(Russian)* 7—60185
- visual observation method for obtaining wave period data, calibration of method 7—55312
- water waves, shore singularity 7—40501
- water waves and floating bodies, workshop, MIT, Cambridge, MA, USA (Feb. 1986) 7—48143
- water waves for finite and infinite depths, nonlinear theory 7—26301
- wave dominated nearshore environment, suspended sand conc. meas. 7—23630
- West Florida Shelf, frictional wind-forced long-wave theory 7—4042
- whitecap coverage modelling 7—47448
- whitecap coverage on global scale, seasonal estimates 7—34519
- whitecaps and foam, effects on wind speed extraction with pulse-limited radar altimeter 7—29306
- wind generated waves, wave tank expts. 7—66151
- wind wave interaction with wind, integral theory 7—40497
- wind waves, effect of short internal wave trains *(Russian)* 7—23671
- wind waves and low freq. oscillations of water surface 7—31819
- wind-driven waves, effects on thermal structure of upper ocean 7—14302
- wind-wave breaking crests and foam patches in Pacific *(Russian)* 7—23670
- wind-wave relationships, Seasat radar altimeter meas. 7—34581

oceanic crust
- accretionary volcanic processes rel. to crustal struct., evidence from Iceland 7—66081
- Andaman-Nicobar island arc and Andaman Sea, stress distrib. 7—60244
- Archaean crust thickness, effects of mantle melting 7—34398
- Arctic Ocean crust, seafloor geology and petroleum potential 7—18146
- Atlantic and Pacific, crust struct. from seismic profiling studies 7—8850
- NE Atlantic continental margin, seafloor canyon directions and tectonic implications 7—55005
- Atlantic equatorial fracture zones with large-offset, isostatic response 7—23628
- S Atlantic hotspots basalts, geochemical correl. with southern African kimberlites 7—34409
- N Atlantic Ocean, residual geoid anomalies rel. to lithosphere thermal evolution 7—28814
- N Atlantic off W coast of Spain, seafloor geology *(French)* 7—60191
- S Atlantic Ridge, geology in 20 to 30 degrees South area 7—34410
- Mid-Atlantic Ridge at 20°S, deep structure from seismic profile 7—34400
- Bali Basin, tectonic origin, anal. of gravity, bathymetry and earthquake data 7—66073
- basaltic volcanism, tectonic settings discrimination using trace element abundances 7—28957
- basalts, siderophile and chalcophile abundances rel. to Pb isotope evolution and growth of Earth's core 7—34397
- basins tectonic maps, principles of tectonic classification and structural units description 7—34435
- N Bay of Biscay continental margin, isostasy gravity and tectonic model 7—8902
- Black Sea trough, crust struct., geology and tectonics 7—60214
- Cape depression, SE Atlantic, bathymetry and dredged rocks 7—40465
- Cape Verde Rise, in N Atlantic, heat flow anomaly and geoid indicating mantle plume support 7—47396
- conductivity meas. with vertical antenna 7—23537
- Crozet Plateau in Indian Ocean, anomalous heat flow and mantle convection 7—8879
- crust-mantle boundary, 2D seismic refl. modelling of fossil transition in Bay of Islands Ophiolite 7—40428
- density of different layers and seismic velocity profiles 7—60171
- DSDP Hole 504B, E Pacific Ocean, mag. struct. of upper kilometre of marine crust 7—29007
- East Pacific Rise, anal. of finely dispersed minerals in sediments from drillholes 7—14260
- East Pacific Rise, overlapping spreading centres, deep-tow studies 7—28983
- East Pacific Rise and Guaymas Basin, hot springs U-Th-Pb systematics 7—40462
- Elat pull-apart basin (Aqaba), character of transverse faults 7—55006
- S Florida Platform, seismic velocity struct. of crust 7—54930
- Galapagos spreading centre, 3D gravity study of 95-5°W propagating rift 7—60196
- Gorda deformation zone, kinematic model of diffuse southern boundary of Juan de Fuca plate 7—28968
- Gorringe Bank, N Atlantic, Ar isotope ages of alkaline volcanism 7—8873
- gravity anomalies of sedimentary basin, basin depth estimation by anomaly inversion 7—3968
- Gulf of Genoa, location methods for underwater seismic shots and structural implications 7—14217
- Hawaiian swell, compensation depth estimation using linear filters 7—54986
- hydrothermal alteration of upper oceanic crust (DSDP Hole 504B), chemistry of seawater-basalt interactions 7—28993
- Indian Ocean, intraplate deformation by plate tectonic models 7—34443
- SW Indian Ocean Ridge, seismic activity and faulting 7—47370

oceanic crust continued
- Indo-Australian plate, model of tectonic stress field 7—34444
- Japan Sea, U and Th contents of basalts as indicators of continental-type volcanism 7—14274
- Juan de Fuca plate, kinematic history from diffuse boundary model for Gorda deformation zone 7—28968
- Juan de Fuca ridge, NE Pacific, asymmetric distrib. of seamounts 7—8901
- Juan de Fuca Ridge, sediment bulk physical props. estimation from seafloor geophysical meas. 7—55009
- Juan de Fuca Ridge regional perspective on heat and Mn fluxes from hydrothermal plume meas. 7—66095
- Kerguelen Plateau province, crust struct. from gravity anomaly and seismic refl. obs. 7—28952
- Kerguelen-Heard Plateau, sediments and stratigraphy *(French)* 7—66092
- magnetisation modelling in North and Equatorial Atlantic Ocean, results from Magsat data 7—40414
- metamorphism, continents and subduction zones *(Russian)* 7—8945
- microseism propag. between two sites on deep sea floor, press. and elec. field fluctuations meas. 7—28869
- Mid-Atlantic Ridge, three-component isotropic heterogeneity near Oceanographer transform 7—54956
- Mid-Atlantic Ridge rift valley, Mn geochemistry near high-temp. vents 7—34468
- mid-ocean ridges, buoyancy-driven instabilities of low-viscosity zones rel. to magma-rich zones 7—8930
- mid-oceanic ridges, axial zones geometry, effects of thermal conditions 7—28964
- Middle America Trench, Guatemala, subduction erosion versus sediment offscraping at toe of trench 7—14248
- midocean ridge subsidence rates, for fast and intermediate spreading centres 7—23625
- Morocco Basin, stratigraphy of sediment accumulation during Late Quaternary 7—14259
- S Mugodzhary, USSR, Palaeozoic oceanic crust spreading and palaeorelief 7—23606
- Narmada-Son lineament on W India continental margin, magnetic anomalies and tectonics 7—54991
- central New Hebrides Island Arc, seismicity patterns assoc. with asperity complex 7—40427
- New Hebrides island arc, tectonic collision and crust struct. 7—18122
- Nineyeast Ridge and adjoining depressions in Indian Ocean, seismic struct. of crust and sediments 7—40433
- Okinawa Trough, seismic structural features *(Chinese)* 7—47410
- P-wave travel times, estimation of slowness-dependent source and receiver corrections 7—54893
- NW Pacific, crust struct. and composition near Emperor fault 7—34412
- SW Pacific, Early Tertiary plate motion, revised history 7—54993
- S Pacific, Eltanin fault system, tectonic and magmatic ridges 7—23610
- S Pacific, seismic anisotropy of oceanic lithosphere 7—47352
- NE Pacific, spreading centre with episodic volcanicity and nonsteady state rift valley 7—54974
- W Pacific, trench-trench-trench triple junction off SE Japan 7—34415
- East Pacific Rise, tectonics of overlapping spreading centres and neovolvanic zone 7—18151
- East Pacific Rise at 12°N, seismic study of shallow crust struct. 7—54927
- Persian Gulf and Gulf of Oman, geology and tectonics 7—23615
- plate tectonics, implications of oceanic expeditions *(Russian)* 7—66076
- Provencal Basin (W Mediterranean), heat flow, heat prod., and fission track data from surrounding Hercynian basement 7—14239
- Provencal Basin (W Mediterranean Sea), thermal regime anal. from flumed heat flow surveys 7—14238
- re-cycling of oceanic crust, due to plate tectonic and continental denudation processes 7—4021
- Red Sea, sedimentary section struct., seismic data anal. 7—28927
- Red Sea rift, mineral comp. of coarse aleuritic fraction of surface sediments 7—14261
- Red Sea rift seafloor, sedimentary cover structure near 18°N 7—34472
- Reykjanes Ridge (S of Iceland), rift zone struct. 7—8885
- Roberts Victor eclogites, $^{18}O/^{16}O$ ratios rel. to ancient oceanic crust hypothesis 7—55042
- Rockall Plateau, dipping-reflector passive margin struct., Pb isotopic evidence 7—66037
- sea floor elec. cond. determ. 7—55063
- sea-bed mineral formation, geochemical modelling, Mn nodules 7—28998
- seafloor geoacoustic properties determ., appl. of three related reson. methods 7—66097
- seafloor geology and crustal generation since 116 Myr BP, foraminifera Li content evidence 7—23632
- seafloor spreading rages and biological evol. correl. 7—18174
- sediment cores, distributed parameter models for vertical mixing 7—66183
- sediment subduction, melange formation, and prism accretion, dynamics 7—28967
- Seychelles microcontinent, mantle evolution and magma-crust interaction 7—40452
- Shirshov Ridge, Bering Sea, tectonics and seismic profiling 7—23627
- Shirshov Ridge, Bering Sea, topography and struct. of seafloor 7—34473
- Sohm Abyssal Plain, NW Atlantic, nonlinear temp. profiles 7—8872
- Solea graben, Mediterranean Sea, ore deposition and off-axis hydrothermal metamorphism 7—60247
- SE Solomon Islands, earthquake multiplet characts. and tectonics 7—47377
- Sovanco Fracture Zone, rotated crustal blocks, bathymetric obs. 7—47415
- subducting oceanic lithosphere, thermal state rel. to mag. signature interpretation 7—65938
- subducting oceanic lithosphere mag. anomalies 7—47331
- subduction and processing in convectively mixing mantle 7—66009
- submarine accretionary wedges, evidence from Barbados for origin of convex wedges 7—28992
- TAG geothermal field, Mid-Atlantic Ridge, hydrothermal activity dating 7—8915
- tectonic evolution of Earth's crust, evidence from new geological developments *(Russian)* 7—60254
- tectonic stress state inferred from intraplate earthquakes 7—34442
- Tethys oceanic crust movement during Austrian phase (cretaceous) 7—8904
- thermal model of young oceanic lithosphere, direct problem 7—18177
- Tonga subduction zone, P-wave travel times, lithosphere model 7—65946
- Tonga Trench axis and intersection with Louisville guyot chain 7—54955
- two-component marble cake mantle 7—4010

oceanic crust continued
  Tydeman fracture in N Atlantic seismic study of crust and mantle 7—8844
  Tyrrhenian Sea region, subduction zone geometry and stress patterns 7—28976
  undersea features name file for personal computer, database description 7—65927
  Woodlark basin in SW Pacific, tectonically controlled origin of 3 rock suites 7—54970
  Yap-Mariana trenches intersection, petrology, geochemistry, and tectonic implications of volcanic rocks 7—34469
  O isotopic profile through upper kilometer, results from DSDP Hole 504B 7—34467

oceanographic equipment
  see also oceanographic techniques; water pollution detection and control
  150 kHz sonars for Doppler acoustic velocity profiling in the Arctic 7—9265
  acoustic Doppler current profiler, intercomparison with conventional instruments and tidal flow model 7—9266
  acoustic Doppler current profiler, vessel-mounted, for use in rivers and estuaries 7—9262
  acoustic Doppler current profiling, form volunteer commercial ship 7—9261
  acoustic Doppler profile current meter, field evaluations 7—9264
  acoustic Doppler profiler, surface wave kinetic energy influence 7—9274
  acoustic inhomogeneities remote recording instrumentation 7—29299
  ARGO: capabilities for deep ocean exploration 7—60431
  ARIES (automatically recording inverted echo sounder), appl. to bubble clouds meas. 7—8991
  autonomous vehicles development, SAR, NAUTILE, SAGA and ELIT systems 7—9201
  bathymetric sounding, with bathyscan precision swath sounder 7—66362
  benthic nutrients and chemical composition instrument, free-vehicle flux chamber 7—34692
  conductivity comparator for seawater effective salinity determ. 7—4209
  conductivity probes, open-cell, theoretical anal. 7—47545
  Coulter Counter Mod. TA II, automatic data acquisition system 7—40566
  current meas., Conf., Airlie, VA, USA (Jan. 1986) 7—4633
  current meas. by vane vector averaging meter and dual orthogonal propeller meter 7—9250
  current meter with drag-induced tilt meas., design and data recording techniques 7—66365
  current metering using acoustic profilers on submerged buoys 7—34690
  current meters, comparison of two surface moored instruments 7—9187
  current meters intercomparison, laboratory and field meas. 7—9256
  current meters intercomparison for near-surface current meas. over Norwegian continental shelf 7—9251
  current meters standardisation problems and solutions 7—9272
  current profiler using pulse-to-pulse coherent Doppler technique 7—9268
  current profiling system design and calibration, HF volumetric backscattering 7—9270
  data logger with 8085 microprocessor 7—9179
  Delaware Bay acoustic Doppler profiler intercomparison expt. 7—9263
  Doppler current profiling package, appl. to acoustic current meas. in high currents 7—66166
  Doppler mid-ocean acoustic current profiling from submergedbuoys 7—9269
  Forth controlled oceanographic instrument 7—55306
  GLORIA, processing techniques for digital sonar images 7—4220
  Histos network for hydrological and meteorological measurement for East-Scheldt storm surge barrier construction 7—47557
  optical instrumentation, conference, Orlando, Florida (March-April 1986) 7—24285
  parametric sonar use for oceanographic research 7—29298
  pollution monitoring using shellfish, moored caged design 7—17934
  radar system of Cosmos-1500 satellite, design and appls. 7—66424
  remotely operated vehicle for ocean bottom surveys 7—9200
  sea level monitors for vertical crust deform. detect. 7—9223
  seafloor exploration remotely operated vehicle, ARGO/JASON system 7—55328
  SeaSoar, towed profiling cond./temp./depth meas. package, appl. to oceanic frontal surveys 7—14298
  ship-lowered CTD instruments, salinity despiking methods 7—9188
  surface current meas., CODAR intercomparison, Delaware Bay (1984) 7—9254
  tethered current meter, ENDECO Type 174 model evolution 7—9253
  time-lapse underwater photography system with event sensor capability 7—60432
  towed transport meter 7—9257
  two-channel IR radiometer, appl. to remote meas. of sea surface temp. 7—66145
  upper, ocean meas. under sea ice, medium-resolution turbulence cluster 7—9271
  vector meas. current meters comparison, at 30 m and 50 m depth 7—9252
  vector meas. current meters intercomparison, surface mooring in shallow water 7—9249
  VHF radar for ocean surface current and sea state remote sensing 7—60422

oceanographic techniques
  see also bathymetry; oceanographic equipment; water pollution detection and control
  acoustic amplitude ranging techniques, appl. to underwater sound source localisation 7—66161
  acoustic backscattered response of sedimentary particles 7—57626
  acoustic bottom loss calc., estimation by normal incident acoustic pulse 7—43542
  acoustic Doppler profiles, surface wave kinetic energy influence 7—9274
  acoustic remote sensing of atmosphere and oceans, symposium, Paris (October 1985) 7—48133
  acoustic tomographic mapping *(Japanese)* 7—47560
  acoustic tomography max.-gradient inverse method for studying Gulf Stream 7—23676
  airborne microwave rain scatterometer/radiometer system, microwave backscatter expt. of ocean surface *(Japanese)* 7—23910
  ARGO/JASON, remotely operated deep ocean exploration system, development 7—55328
  bathymetric mapping in USA economic zone, sonar digital swath method 7—66360
  bathymetric sounding, with bathyscan precision swath sounder 7—66362
  bathymetric sounding, with Sea Beam multibeam sonar system 7—66363

oceanographic techniques continued
  bathymetric surveying data acquisition and processing system (SDS III) 7—66361
  bubble clouds measurement, appl. of automatically recording inverted echo sounder (ARIES) 7—8991
  chlorinated hydrocarbon (pesticide) detection methods, in situ samples and mussel bioaccumulators 7—4056
  circulation patterns west of Scotland, radiocaesium distribs. 7—60270
  coastal flow, numerical modelling 7—55078
  Coastal Ocean Dynamics Experiment, shipboard Doppler current profiling 7—9260
  coastal wave climate categorization, software packages 7—55254
  colour spectral variability measurement using solar-induced chlorophyll fluoresc., intraspectral correlation technique 7—47547
  CTD profiling, correction method for dynamic errors due to time-constant mismatch 7—34691
  CTD salinity despiking methods 7—9188
  current mass transport analysis, separation and forecasting of wind drift current component *(Chinese)* 7—55068
  current meas., Conf., Airlie, VA, USA (Jan. 1986) 7—4633
  current meas. for real-time appls. 7—9273
  current meas. from motional electric fields and currents 7—9257
  current measurement, inclinometer-type meter design 7—66365
  current metering using acoustic profilers on submerged buoys 7—34690
  current meters standardisation problems and solutions 7—9272
  current sensing, space-time analysis of acoustic scintillations 7—9258
  current velocity remote sensing, by satellite far IR method 7—34720
  depth determination for shallow waters, photogrammetric method 7—40573
  depth-dependent channel flow modelling 7—18325
  digital sonar imaging, processing techniques for images from GLORIA 7—4220
  Doppler acoustic current meas. in high currents, results from upper Cook Inlet, Alaska 7—66166
  dye patches used for remote sensing observation, spectral radiance and visibility 7—60405
  eddy transport estimation from satellite altimetry 7—40595
  electric field measurements in sea, theory for medium with fields generated by extraneous sources 7—47444
  ERS-1 wind and wave calibration workshop, Schliersee, Germany (June 1986) 7—24305
  Ertel method modifications for turbulent exchange coeffs. calc. 7—29072
  expert system, knowledge-based, for oceanographic image anal., features 7—23901
  FEM analysis of ocean tides 7—47464
  Forth controlled oceanographic instrument 7—55306
  frequency response functions gain and phase, estimation of confidence intervals 7—23857
  geodetic radio interferometric surveying for sea-level monitoring 7—18312
  HF radar sea echoes, Bragg coherence 7—40588
  ice cover remote sensing method based on nonthermal radiowave emission 7—66141
  ice drift remote sensing for determ. of circulation in marginal sea 7—55060
  pack ice motion remote sensing, AVHRR imagery method 7—23886
  sea ice remote sensing, model for calc. of thermal emission 7—60264
  sea ice remote sensing by microwave radiometry method using classification algorithm 7—23874
  ice type classification, 33.6 GHz microwave imagery method 7—23885
  imagery, dual-freq. SAR, calibration 7—4244
  INMARSAT satellite transmission of oceanographic data 7—60429
  inshore wave obs. with analytical stereoplotter 7—4224
  internal tide wave analysis, direction and vel. determ. via single-station meas. 7—40483
  inverted echo sounder location method for programme to study Gulf Stream 7—47566
  laboratory experimental models, optical method for measuring interface wave amplitudes 7—4201
  land surface radar remote sensing, FINRACS file of radar cross-sections 7—23877
  large-scale currents calc. from density data 7—29297
  laser beam double passage across narrow-band stochastic water surface, ocean remote sounding 7—55065
  least-squares method as filter, related power in spectrometry 7—40575
  Sea level determination by near-vertical airborne lidar method 7—23887
  lidar remote sensing, correl. between time- and depth-resolved lidar signals 7—23665
  marine chemistry, statistical anal. of relative ionic composition data for ocean water 7—14315
  marine environment monitoring, conference, Texel, Netherlands (June 1984) 7—18472
  marine sediment transport, acoustic detection 7—6033
  marine sedimentology, bulk physical props. estimation at depth from seafloor geophysical meas. 7—55009
  mesoscale eddy remote sensing, microwave radar altimetry method 7—9231
  microcomputer tide prediction, computer utility 7—66163
  microwave radar sensing, modelling interactions between ocean and environment 7—60423
  mixed layer thickness estimation, indirect method using ocean surface temp. data 7—9019
  mixing coeff. estimation methods *(Russian)* 7—23666
  NBIS Smart ACMs with EG&G Sea Link VMCMs, field performance 7—66366
  nephelometry for real-time obs. of dispersed hydrothermal plumes at oceanic ridges 7—60246
  NODC archives cataloguing on NASA Ocean Data System, results from drifting buoy data loading 7—66307
  ocean surface evaporation, estimation method using remote sensing data 7—23791
  ocean wave spectra, transformation into SAR image spectra 7—66341
  oil pollution measurement methods, IOC Manual testing 7—4054
  oil slick remote sensing, X-band radar, and IR methods 7—9217
  oil slicks detection, ARCHIMEDES 1 expt. 7—3744
  oil-polluted sea meas. using 90-GHz radiometer *(German)* 7—40080
  optical remote sensing from space, conf., Cannes, France (Nov. 1985) 7—35094
  parametric sonar use for oceanographic research 7—29298
  photography in deep ocean, National Geographic Society innovations 7—60430

oceanographic techniques continued

plunging breaking waves, velocity and force measurements in the splash zone, laser anemometry 7−63237
pollution (oil, sewage, PAH) quantification for coastal areas, chromatography based method 7−4215
pollution monitoring using shellfish, moored caged design 7−17934
radar ocean imaging, model for small to moderate incidence angles 7−55059
radar remote sensing, appl. of side-looking radar of Cosmos-1500 satellite 7−66424
radionavigation methods, differences between nautical charts and the geodetic datum *(Japanese)* 7−66353
remote sensing, digital processing of side-looking radar imagery from Cosmos-1500 satellite 7−66340
remote sensing, errors arising due to imprecise knowledge of water permittivity 7−66331
remote sensing, subsatellite expts. on Sea of Azov, USSR 7−66185
remote sensing by microwave radiometry, calibration of multichannel systems 7−60409
remote sensing by satellite, its contribution to ocean dynamics research 7−60263
remote sensing of estuaries, overview 7−66158
remote sensing of ocean surface current and sea state using VHF radar 7−60422
remote sensing of power station thermal discharges 7−40503
remote sensing of sea surface temperature, NOAA-7 far-IR technique 7−9215
SAR data from dynamic ocean surfaces, multi-look processing 7−40606
SAR imaging, transformation of ocean wave spectra into SAR image spectra 7−66341
SAR imaging of surface waves importance of motion related contributions 7−23663
SAR imaging of waves, numerical simulation 7−23662
SAR sea ice imagery, geophys. anal., computer-assisted techniques 7−4243
satellite cloud imaging use for wind and ocean wave characts. determ. 7−34731
satellite passive microwave ice map, near real-time data system 7−4242
satellite remote sensing in visible band 7−4187
satellite remote sensing of oceans, book 7−48209
sea bed contour map construction from random data, iterative method 7−34725
sea bed contour map construction from random data, spline method 7−34726
sea bed contour map construction from random data, spline method 7−34728
sea bed contour map construction from random data by interpolation 7−34727
sea level change measurement by altimetric satellite method 7−29290
sea state meas. by radiometric method 7−60413
sea surface temp., monthly anomalies prediction *(Russian)* 7−23669
sea surface temp. determ., model for 8 to 12 μm band near-horizon radiance 7−60374
sea surface temperature, algorithms from AVHRR data 7−4241
sea surface temperature determ., remote sensing procedure with atmospheric correction and one calibration point 7−40485
sea surface temperature determ. from IR radiometry, two-angle viewing method 7−66338
sea surface temperature imaging, appl. of Advanced Very High Resolution Radiometer (AVHRR) data 7−14297
sea surface temperature measurement, remote sensing by two-channel radiometric method 7−66145
seabed topography meas. by multibeam sonar using complex fast Fourier transform 7−66327
seafloor Fe-Mn nodules, acoustic method for conc. determ. 7−34741
seafloor geoacoustic properties determ., appl. of three related reson. methods 7−66097
Seasat SAR imagery, methods for extracting sea ice data 7−23867
Seasat wind algorithm, scatterometer studies of effect of wave height and environmental variables 7−66159
seawater effective salinity determ., conductivity comparator 7−4209
seawater K and Ca concentrations, potentiometric determ. over wide salinity range via admixture technique 7−14311
sediments of seafloor, NMR imaging, method for organic rich layers 7−9198
shallow sea, amplitude fluctuations of a sound field along a stationary acoustic test range 7−50826
shallow water eqns., two-stage FEM Fortran program, FEUDX 7−55080
shallow water tomography, acoustic reciprocal transmission expts. 7−9259
shipboard Doppler current profiler data merging with LORAN-C data, absolute current estimation 7−9267
shore wave field, numerical modelling by boundary element method 7−55079
side scan sonar records, use of image processing 7−66368
sound field sensing method 7−66308
surface temp. from AVHRR meas., split-window retrieval using 12 μm data 7−55293
temperature of sea surface, multichannel infrared satellite method, atmospheric correction 7−23881
tidal current remote sensing, radar and TM methods for currents near sandbanks 7−9218
tide harmonic constants, extraction from high and low water data *(Chinese)* 7−55070
tsunami generation and propag. modelling, microcomputer code 7−8830
tsunami warning, implications of T-wave duration rel. to earthquake magnitudes and seismic moment 7−14208
underwater acoustic exploration, appl. of array processing for parallel linear recursive Kalman filtering 7−65986
upper layer circulation modelling, seasonal evolution anal. for N Atlantic Ocean 7−9020
upper ocean thermal structure calc., appl. of integral model 7−14302
upwelling velocity determination method based on optical observations 7−40498
Vaisala-Brunt frequency determ., calc. from hydrologic obs. using rational interpolation splines 7−14312
vertical structure functions determ. for time-depend. flow problems 7−47576
water level measurement system, management information systems 7−66162
wave computation for large amplitudes 7−18326
wave identification problem, decomposition techniques 7−40592

oceanographic techniques continued

wave period determ. by visual observation, calibration of method 7−55312
wave remote sensing by microwave scatterometry, two-scale model 7−23686
wave theoretical approach to acoustic currentprofiling 7−4821
waves SAR images 3D formulation 7−9208
winds over ocean, improved radar altimeter wind speed algorithm 7−66347
CO_2, exchange rate between atmos. and ocean, isotopic meas. techniques 7−23884
Mn nodules on seafloor, acoustic method for conc. determ. 7−34741
P content of seawater, determ. method involving nitrate oxidation 7−4227
^{210}Po, spontaneous deposit counting method *(Chinese)* 7−9237
^{232}Th concentrations in seawater, meas. techniques and results 7−34554
^{A}U (A=238, 234) ratios in seawater, meas. techniques and results 7−34554

oceanography

see also bathymetry; ocean waves; sea ice; seawater; sediments; tides
acoustic passive tracking of moving object that is emitting sound 7−43544
acoustic scatt. and total internal reflection 7−6035
N Adriatic Sea, current struct. of M2 tidal component from rotary anal. of Taylor model 7−40486
Adriatic Sea, formation of deep E Mediterranean waters 7−40492
N Adriatic Sea, surface colour field spatial and temporal changes 7−34518
N Adriatic Sea, wind wave spectra parameterisation 7−40487
S Africa ports, low-freq. sea-level fluctuations 7−18191
Agulhas Current and episodic upwelling South of Africa 7−8958
Agulhas ring shedding 7−47458
air-sea heat and momentum transfer during monsoon depression 7−4050
air-sea interactions role in mesoscale devel., conf., Honolulu, USA (August 1985) 7−60858
air-sea temperature difference rel. to wind algorithm, Seasat scatterometer studies 7−66159
Alaska coastal current in W Gulf of Alaska 7−8975
Amazon, sediment processes on continental shelf 7−34457
Amazon River, continental shelf, clay mineral reactions effect on Al distrib. in sediments and waters 7−34551
Amazon River, continental shelf sediment accumulation and transport ^{210}Pb anal. 7−34462
Amazon River, continental shelf suspended sediment flux and conc. 7−34459
Amazon River continental shelf, suspended sediments effect on geochem. processes 7−34550
Amazon River continental shelf, Th partitioning between dissolved and particulate phases 7−34549
Amazon River subaqueous delta, sedimentary structures distrib. 7−34464
N America, sea-level var. and crust deglaciation-induced vertical motion 7−8912
Ampere Bank, Atlantic Ocean, semi-diurnal tidal period, vertical temp. var. struct. 7−29071
annual heat flux variations across Tropic circles, contrib. of Ekman flows 7−8992
Antarctic Circumpolar Current, cyclonic eddy and heat transport 7−40489
Antarctic Circumpolar Current, hydrochemical indicators of frontal cyclonic eddy 7−34542
Antarctic Circumpolar Current, review 7−23701
Antarctic Convergence, Atlantic Ocean, Pliocene var., radiolarian assemblages anal. 7−23697
Antarctic ice shelves, tidal spectrum beneath ice shelf 7−34522
anticyclonic vortex at large-scale, model of vertical movements 7−23693
Antilles-Guiana countercurrent, struct. in vicinity of Demerara Rise 7−14305
Arabian Gulf, halomethane in seawater from Kuwait industries 7−18210
Arabian Sea, air-sea interface, sensible and latent heat fluxes 7−14292
Arabian Sea, mixed layer cooling and deepening, 1D numerical model 7−34513
E Arabian Sea, thermal response to summer monsoon forcing 7−9011
Arabian Sea, upper layers response to SW monsoon 7−9012
Arabian Sea sediment records of Late Quaternary monsoon winds 7−9139
Arcachon Basin (French W coast), drainage channel network chart *(French)* 7−55058
Arctic Ocean, origin of chemical props. of halocline 7−23705
Arctic Ocean, physical oceanography near the North Pole 7−29057
central Arctic Ocean, Pleistocene calcite lysocline and palaeocurrents, climatic implications 7−23696
Arctic Ocean crust, seafloor geology and petroleum potential 7−18146
Arctic Ocean halocline degeneration, climatic consequence 7−34534
Arctic shelf during late Pleistocene, glacioeustatic regression 7−29046
Arctic shorelines of USSR, shoreline changes and sea levels during Cainozoic 7−4022
Argentina coast, longshore currents, field study and prediction 7−29045
SE Asia, basins, water chemistry and circulation 7−66170
equatorial Atlantic, baroclinic response of zonal pressure gradient 7−29054
Atlantic, curious sea-surface temperature phenomena seen by Meteosat 7−55057
N Atlantic, eddy-resolving general circulation model 7−66136
NE Atlantic, fine structures in the seasonal thermocline duringJASIN 7−8961
tropical Atlantic, long equatorial waves in models of seasonal cycle 7−66148
S Atlantic, Miocene and Pliocene stratigraphy and palaeoceanography 7−23634
tropical Atlantic, model of heat and mass budget 7−66149
S Atlantic, Oligocene palaeocean and palaeoclimate conditions 7−23698
tropical Atlantic, palaeoceanography during later Quaternary times 7−23700
N Atlantic, radiation budget of ocean-atmos. system, interannual variation 7−55179
N Atlantic, sea surface temp., monthly anomalies prediction *(Russian)* 7−23669
tropical Atlantic, seasonal circulation cycle, nonlinear effects 7−66134
tropical Atlantic, seasonal cycle model of temp. and dynamics 7−66147
tropical Atlantic, SST and wind stress in AD 1964 to 1979 period 7−66146

oceanography continued
tropical Atlantic, surface currents using ship drift data since 1875 AD 7—23674
SW Atlantic, wind field deduced from underwater noise obs. 7—23812
South Atlantic Bight (near USA), circulation and thermohaline struct. 7—4040
Mid-Atlantic Bight (USA coast), chlorophyll patterns influenced by wind 7—34556
Atlantic circulation and nutrients at middepth 7—8982
Atlantic currents, synoptic oscills. during POLYMODE *(Russian)* 7—23668
North Atlantic deep water production, sporadic shutdown during Glacial-Holocene transition 7—34538
Atlantic Equatorial Undercurrent horizontal mixing from drifting buoy data 7—23675
Atlantic heat storage and transport, for tropical and N Atlantic 7—29051
W Atlantic Ocean, frontal surveys with towed profiling cond./temp./depth meas. package (SeaSoar) 7—14298
W equatorial Atlantic Ocean, hydrographic and current obs. on continental slope and shelf 7—8988
Atlantic Ocean, M_2 tide, FEM 7—47464
Atlantic Ocean, mean sea-surface temperature variations (0-20000 BP) 7—18201
N Atlantic Ocean, sea-level and circulation characts. 7—18190
N Atlantic Ocean, thermocline microstructure characts. var., storm effects 7—29070
Atlantic Ocean, thermostads and circulation in upper layer 7—34548
Atlantic Ocean, variability of dynamic topography and surface geostrophic currents in central tropical Atlantic 7—14304
N Atlantic palaeoceanography and Holstein interglaciation 7—47529
N Atlantic Polar Front, surface current streamfunction 7—8957
Mid-Atlantic Ridge, nephelometer obs. of dispersed hydrothermal plumes 7—60246
atmosphere-ocean boundary layers interaction, effects of surface wave layer 7—8989
S Australia, beach-ridge behaviour density during Holocene 7—4025
Australia, sea-level var., atm. effects 7—18192
Axial Seamount, Juan de Fuca Ridge, acoustic noise due to hydrothermal vents 7—23558
Azov Sea, USSR, subsatellite remote sensing expts. 7—66185
Baffin Bay, land-ocean correls. during last interglacial-glacial transition 7—34568
balance equations in periodic domain, numerical model, balanced turbulence 7—34604
Baltic Sea, comparison of measured and computed light scatt. by suspended particles 7—9024
Bangladesh ship scrapping area on Chittagong coast, pollution study 7—18212
baroclinic instability of axially symmetric vortices in two-layer ocean *(Russian)* 7—8967
baroclinic instability of basic current in 2-layer ocean model 7—29068
barotropic continental shelf waves on β-plane, effect of Coriolis parameter latit. depend. 7—8983
barotropic geostrophic turbulence free evol. 7—29066
basalt formation, peridotite root zone beneath Grand Lagon Nord, New Caledonia *(French)* 7—66087
Bass Strait, tidal and storm surge model 7—18206
Bay of Bengal, storm surge of Paradip cyclone of June 1986 AD 7—29060
Bay of Bengal, suspended particulate matter chem. composition 7—14314
Bay of Bengal, the storm surge flooding problem 7—34547
Bay of Bengal, upper layers response to SW monsoon 7—9012
E Beaufort Sea, surface currents due to westerly winds 7—34523
N Bering Sea, 3D model of hydrodynamics 7—8962
Bering Sea shelf, mean circulation westward intensification 7—9000
Bermuda area oil pollution, Dec. 1984 observations 7—4054
biological production and fate of organic matter on continental shelves 7—47467
bioluminescence from phytoplankton, diurnal variation and inhibition due to daylight 7—34558
Black Sea, abyssal waters temps. rel. to ocean climatic state *(Russian)* 7—66156
Black Sea, hydrological fields mesoscale struct. 7—29069
NW Black Sea, interpretation of sea surface space imagery using SVIT digital processing system 7—66144
Black Sea, model of hydrodynamical adjustment of temp., salinity and current fields *(Russian)* 7—60265
NW Black Sea, remote meas. of sea surface temp. by two-channel method 7—66145
Black Sea, vel. distrib. of surface current in vicinity of N Caucasus coast 7—14306
Bohai, sedimentation characts., effects of Yellow River 7—55089
Bohai Sea, direction and vel. determ. for internal tide wave from single-station meas. 7—40483
Bohai Sea, internal waves verification in offshore areas by current obs. 7—40482
Bohai Sea, pollutant transport by wind-driven currents *(Chinese)* 7—55086
bottom boundary layer with suspended sediments, model including turbulence 7—34470
Brazil coast, mean sea-level var. with atm. temp., press., precipitation and evaporation 7—18194
Bristol Channel, 3D model for tides and salinity 7—23656
Bristol Channel, UK, tidal currents near offshore sandbank 7—9218
British Columbia coastal waters, current remote sensing observations 7—34720
bubble clouds breaking waves, meas. by automatically recording inverted echo sounder (ARIES) 7—8991
California coast, chlorinated hydrocarbon (pesticide) pollution levels 7—4056
California coast, temp.-plant pigment-optical relationships for mesoscale eddy 7—34517
S California coastal upwelling events, OPUS 1983 expt. 7—34516
California Current, dynamical forecasting and dynamical interpolation 7—34530
California Current System, numerical simulation 7—55052
California offshore waters, marine biology influenced by mesoscale eddy 7—34555
Canary Basin (N Atlantic), thermocline circulation and water mass distrib. 7—8981
Cape Cod Bay, field performance of NBIS Smart ACMs with EG&G Sea Link VMCMs 7—66366

oceanography continued
Cape Shoalwater, Washington, USA, rapid coastal erosion 7—28991
branched chemical shallow water eqns. and nonlinear data assimilation 7—23681
upper Chesapeake Bay, anal. of tidal propag. signals from two bay systems 7—66164
Chesapeake Bay, fluvial and estuarine sediment load in Rappahannock River 7—28990
East China Sea, temperature vertical profile in upper layers 7—29038
chlorophyll pigment concentration using low-altitude airborne ocean colour data 7—14163
Chukchi Sea, storm surges and circulation numerical model 7—23689
circular basin at mid-latitude, vortex flow regime model 7—8959
circulation, trajectory calculation in finite difference model 7—60285
circulation in homogeneous ocean, evaporation-precipitation driven and closed by western current 7—66132
circulation induced by surface cooling, laboratory expts. 7—34524
circulation pattern modeling, inverse method applied to Cox and Bryan model 7—8974
clay minerals in sediments from the west equatorial Pacific 7—40463
coastal and estuarine sedimentation, conf., Jackson, MS, USA (March to April 1986) 7—41008
coastal and ocean tides prediction 7—60261
coastal waters off Long Is., New York, eddy viscosity vertical depend. 7—66153
coastal wetland erosion accompanying coastal submergence 7—29029
colour spectral variability measurement using solar-induced chlorophyll fluoresc., intraspectral correlation technique 7—47547
conference, Cambridge, England (March 1986) 7—40987
continental shelf edge waves, numerical model studies of long-period waves 7—8993
continental shelf with sloping bottom, storm surges 7—9015
continental slope, low-freq wind-driven upwelling 7—47454
convective wind mixing of upper ocean, study of thermal structure 7—40494
upper Cook Inlet, Alaska, Doppler acoustic current meas. in high currents 7—66166
coupled density front, nonlinear waves 7—63163
coupled ocean-atm. model of Dynamical Climatology Branch of Meteorological Office 7—29061
Cretaceous to Pliocene, global surface currents 7—40499
Cretaceous-Tertiary extinction event, palaeoceanography characts., isotopic and geochem. anal. 7—18104
cross-gyre transports 7—47455
crust EM sounding using field generated by ocean currents, feasibility study 7—9222
current mass transport analysis, separation and forecasting of wind drift current component *(Chinese)* 7—55068
current measurement, inclinometer-type meter design 7—66365
current models involving sea-surface topography, boundary problem soln. *(Russian)* 7—4039
currents, synoptic oscills. during POLYMODE *(Russian)* 7—23668
currents and meridional transfers 7—66157
daily mean sea level, relation with tidal range and dynamical explanation 7—40481
Delaware Bay, USA, coastal wetland erosion accompanying sea level rise 7—29029
dispersion in presence of turbulence with coherent vortices, theory 7—23688
Drake Passage, deep flow var. 7—9005
dye patches used for remote sensing observation, spectral radiance and visibility 7—60405
dynamics of potential vorticity fronts and eddydetachment 7—4048
East China Sea, surface cold water areas in late spring and summer *(Chinese)* 7—55072
East Pacific Rise and Guaymas Basin, hot springs U-Th-Pb systematics 7—40462
eddy, EM field components calc. 7—55063
eddy-resolving general circulation model 7—66136
Ekman spiral in wind-forced coastal strait currents 7—4052
El Ninño, thermal characts. 7—9010
El Nino, simple model involving atm. convergence feedback 7—34536
El Nino (1982-3) rel. to Nimbus 7 SMMR meas. of rainfall 7—66245
El Nino-Southern Oscillation, 1877-8 event rel. to 1982-3 event 7—4051
El Nino-Southern Oscillation, relation to sea level vars. around Australia 7—29049
El Nino-Southern oscillation occurrence and New Caledonia rainfall, Pacific Ocean 7—4154
electric field measurements in sea, theory for medium with fields generated by extraneous sources 7—47444
Ellesmere Island, Canada, Late Quaternary sea-level changes and glacial history 7—66128
EM fields induced by coastal current, secondary EM fields *(Russian)* 7—18198
encyclopedia of beaches and coastal environments 7—35127
energy flux across ocean surface on global scale 7—23678
energy-active zones, mesoscale processes, 3D model *(Russian)* 7—23808
equatorial ocean response to moving wind field, model 7—29052
estuary, 2D salinity diffusion eqns, and soln. *(Chinese)* 7—55071
European-shelf seas, tidal fronts position and mixing theory 7—66130
extreme sea level return periods (due to tides and storm surges) 7—29053
SW Finnish Archipelago, grain-size distrib. rel. to sediment transport in short zones 7—28988
Florida Current, vol. transport and surface speed correl. with Miami sea-level and weather 7—18193
Fofonoff's mode 7—60262
Fram Strait, ice transport 7—34539
general circulation, steady case model 7—47452
geostrophic currents in shelf areas 7—34507
gravity current on sloping bottom, rot. flow interaction, shelf wave generation, flow visualisation expts. 7—43947
gravity currents, stratified fluids, turbulence effect, appl. to shallow sea fronts 7—43949
S Great Barrier Reef, coastal-trapped waves and currents behind large continental shelf island 7—47451
Great Barrier Reef, island wakes and internal tide of Myrmidon Reef 7—8955
central Great Barrier Reef shelf sea, subsurface intrusions of Coral Sea water 7—23655
Greek coastal waters, microcomputer code for tsunami generation and propag. 7—8830

oceanography continued
Gulf of Guinea (equatorial Atlantic), thermal struct. along 4°W 7−29055
Gulf of Maine region, positions of tidal fronts 7−29036
Gulf of Mexico, circulation in Feb. to March 1962 period 7−66150
Gulf of Mexico, Louisiana and Texas shelf, freshwater characts. 7−55055
Gulf Stream, acoustic tomography observations 7−23676
Gulf Stream, mesoscale variability, modeled and observed 7−8973
Gulf Stream, Northern Recirculation Gyre 7−8960
Gulf Stream core ring, chemical anomalies 7−34553
Gulf Stream energy active zone, winter radiative regime *(Russian)* 7−29041
Gulf Stream kinematics along an isopycnal floattrajectory 7−9007
Gulf stream near Savannah, Georgia, USA, thermal struct. var. 7−23657
Gulf Stream warm-core ring, mean and near-inertial vel. fields meas. 7−8990
Gulf Stream warm-core ring and associated cyclonic eddy and circulation 7−8972
gyre model, decaying waste accumulation study 7−29077
gyres, large-scale phenomena, acoustic monitoring 7−47447
gyres driven by combined wind and buoyancy flux 7−34529
Hangzhou Bay, E China Sea, 2D salinity diffusion *(Chinese)* 7−55071
heat and water transfer across air-water interface, laboratory expts. 7−23679
heat transport in Pacific and Indian oceans, annual var. 7−55066
HF acoustic propagation, range dependent ocean channel transition 7−47465
Holocene sea level var. correl. with Poyang Lake evol., China *(Chinese)* 7−55105
Holsteinian interglacial transgression, N Germany, stratigraphy and ESR dating 7−34669
Huanghai Sea, cold water mass fronts induced by tidal mixing *(Chinese)* 7−47461
S Huanghai Sea, internal waves verification in offshore areas by current obs. 7−40482
Hudson River Estuary, Cs radioactive pollution 7−8699
Hurricane Gloria (1985), assoc. sea surface cooling, satellite obs. 7−66252
hydrodynamic instability, 5-level quasigeostrophic model *(Russian)* 7−23667
hydrodynamical adjustment of temp., salinity and current fields *(Russian)* 7−60265
hydromagmatic eruptions, implications for volcanic hazard in Italy 7−66053
hydrosphere formation, impact-induced H_2O atmosphere of accreting Earth rel. to Earth thermal history 7−54840
hydrosphere formation, relation to Earth accumulation and initial state 7−34367
hydrothermal plumes from S Pacific seafloor, Mn tracing of dispersal patterns 7−9027
hydrothermal plumes of E Pacific Rise, Fe, He, Mn obs. showing Fe enrichment 7−9028
NW Iapetus Ocean, Early Palaeozoic bottom current var., mudstones anal. 7−23694
ice age northern hemisphere ice sheet and climate cycles 7−23708
impact-induced volatile loss during planetary accretion, meas. on Murchison carbonaceous chondrite 7−34949
India east coast off Godavari, Sept. 1980 current and temp. struct. 7−14295
N Indian Ocean, 1972-3 air-sea interactions in monsoon conditions 7−9014
Indian Ocean, 50-day planetary waves in S Equatorial Current 7−34512
Indian Ocean, equatorial, near-surface meanders 7−4047
Indian Ocean, evaporation from equatorial regions 7−23791
Indian Ocean, heat transport, annual var. 7−55066
S Indian Ocean, mass, heat and freshwater fluxes 7−47453
Indian Ocean, Quaternary temps. determ. and sediment planktic foraminifera chem. anal. 7−29074
W Indian Ocean, spreading and transformation of Rea Sea watermass 7−29059
W Indian Ocean, watermasses struct. and thermohaline indices 7−9013
inertia-gravity waves trapped against a vertical barrier, theory 7−4109
inertial oscillations generation by propagating wind field, two-dimensional model 7−8987
interhemispheric thermohaline circulation and high-latitude salinity effect 7−9021
internal gravity waves in deep sea, review of theory 7−23702
internal wave dynamical influence on underwater objects, theory 7−34546
internal wave field in NE Pacific near Cobb Seamount 7−8979
internal wave scattering on weak density inhomogeneities *(Russian)* 7−18197
internal wave vertical mode struct. in NW Pacific 7−34545
internal waves of tidal period in coastal zone of tidal sea 7−34543
intrathermocline eddy, struct. and evol. *(Russian)* 7−29043
Ionian Sea, temperature inversion layer showing step-like struct. *(Russian)* 7−18199
IR radiance, near horizon, rel. to sea surface temp., model for 8 to 12 μm band 7−60374
E Irish Sea, residual circulation and importance of river discharge 7−29039
island, trapping of long gravity waves due to asymmetric insular shelf 7−29034
Ivory Coast, semidiurnal internal tides on continental shelf canyon 7−34532
JASIN, fine structures in seasonal thermocline 7−8961
Jiangsu Province, China, characts. of tidal current and suspended load sedimentation on tidal mud flat *(Chinese)* 7−55012
Kaiko, Franco-Japanese exploration of Japan Trench *(French)* 7−34680
Kamchia River mouth, Bulgaria, Fe in sediments, river and sea water 7−29085
Kavaratti atoll, sandy beach sediment transport processes (in Indian Ocean) 7−14257
Kelvin wave interaction with realistically sheared zonal currents 7−34526
Knight Inlet, BC, Canada, internal tide propagation in a stratified inlet 7−8980
Konkan coast, India, effect of waves in sediments redistrib. 7−28997
Kraternaya Bay region, Yankicha Island, Kuril Islands, water chem. and isotopic comp. 7−29078
Kuroshio Extension, mesoscale variability, modeled and observed 7−8973
Labrador Current transport, wind-forced changes 7−66152
large elliptical warm-core rings 7−8995

oceanography continued
laser beam double passage across narrow-band stochastic water surface, ocean remote sounding 7−55065
Laurentian Trough sediments, Gulf of St. Lawrence, radionuclide profiles, sedimentation rates, and bioturbation 7−28995
Leningrad, USSR, flooding in AD 1955, modelling study *(Russian)* 7−8964
Sea level determination by near-vertical airborne lidar method 7−23887
Port Lianyungang, muddy beach geology and erosion on Yellow Sea coast *(Chinese)* 7−55013
Liaohe River mouth sea ice, creep behaviour under uniaxial compression *(Chinese)* 7−23673
lidar remote sensing, correl. between time- and depth-resolved lidar signals 7−23665
light scattering by sea surface *(Russian)* 7−8966
light scattering from sea surface, reflection coefficients for slant path lidar *(Russian)* 7−4180
linearly stratified, rotating flow over long ridges ina channel 7−6224
Loihi Seamount, hydrothermal plumes containing methane and ^{3}H 7−28994
longshore current computation models 7−14296
longshore currents influenced by lateral mixing, model 7−14300
Loop Current, eddy interaction with W Gulf of Mexico topography 7−9003
Louisiana coast, USA, coastal changes accompanying rapid land subsidence 7−4023
Louisville ridge, Tonga trench, subduction anal. from SEAPSO campaign *(French)* 7−18162
low-level counting techniques 7−29296
Mandovi and Zuari estuaries of Arabian Sea, dissolved O_2 concs. 7−14313
Mariana Trough back-arc basin, hydrothermal plumes containing methane but no ^{3}He 7−28994
marine environment monitoring, conference, Texel, Netherlands (June 1984) 7−18472
marine mineral resources in USA exclusive economic zone, geological distrib. and potential development 7−66096
mean current-synoptic eddy interaction, study of auto-oscillations *(Russian)* 7−8968
Mechigmen Gulf (Bering Sea), sediment transport in surf zone 7−40464
E Mediteranean, deep water formed in Adriatic Sea 7−40492
Mediterranean Sea, geochemistry of sediments of different ages, book 7−29608
Mediterranean Sea, medium and short-period sea level oscills. at Trieste and Cagliari 7−40484
E Mediterranean Sea, water masses and circulation patterns in deep water layer 7−29063
Mersey Estuary, England, phthalate ester pollution 7−55085
mesoscale and shorter wavelength eddies, potential energy horizontal wave number distrib. 7−34521
Miami Pliocene coral reefs, geomorphology and Atlantic coastal ridge in Florida 7−29028
microcomputer tide prediction, computer utility 7−66163
microwave backscattering from ocean surface, X band and K_a band 7−34525
microwave scattering from sea surface using new semi-empirical sea spectrum 7−23664
Middle Atlantic Bight, shelf-slope front form and maintenance 7−9004
Mississippi delta barrier islands, geomorphic recovery after hurricane erosion 7−4024
Mississippi River delta area, ^{226}Ra, in sediments and water column 7−66168
mixed layer thickness, indirect estimation from ocean surface temp. data 7−9019
Morocco Basin, water temps. from sediment accumulation during Late Quaternary 7−14259
Mozambique Ridge Current, observations of cyclogenesis 7−66133
mushroom-like currents (vortex dipoles), obs. in ocean and laboratory tank 7−29033
mushroom-shaped currents seen in satellite imagery 7−66140
mushroom-shaped ocean currents, regularities in development inferred from satellite imagery anal. 7−66143
W Nansen Basin, Arctic Ocean, water masses and chemical constituents 7−29065
Nazca Plate west of Peru Trench, fragmentation *(French)* 7−60232
near-bottom density currents, vertical struct. 7−14308
near-bottom stratified current, theory involving self-simulating props. 7−23692
neogene paleocirculation and paleoclima record of ODP Leg (tropical and subtropical east Atlantic) *(French)* 7−66091
New Jersey, USA, regional longshore current pattern 7−29047
Newark Bay, New Jersey, USA, heavy metals in water column of estuary 7−55084
nitrate vertical fluxes in oligotrophic ocean 7−66171
NODC archives cataloguing on NASA Ocean Data System, results from drifting buoy data loading 7−66307
non-Newtonian rheology of phytoplankton cultures, oceanographic implications 7−14299
North Sea, cool seas in May 1986 near to NE England 7−55231
north west continental shelf, tidal effects, FEM 7−47463
North West Shelf, Australia, vertical struct. of currents at subtidal frequencies 7−8994
Northern Recirculation Gyre of the Gulf Stream 7−8960
Norwegian and Greenland seas during Pleistocene, ice shelf existence and climate 7−23699
Norwegian Sea, volcanism, continental crust rifting, climatic fluctuations *(French)* 7−66089
numerical model of wind-driven flow, 'numerical' boundary layers and spurious residual flow 7−23680
Observatory Inlet, BC, Canada, time-depend. hydraulic flour and dissipation over sill 7−4045
ocean formation, degassing model *(Russian)* 7−9177
ocean optics VIII, conference, Orlando, Florida (March-April 1986) 7−24285
Ocean Station P, Pacific Ocean, T time series 7−47466
oceanic crust, seawater-rock interactions rel. to O isotopic profile through upper kilometer 7−34467
Oceans 1986 conference, Washington, DC, USA (1986 September) 7−55895
oil slick on sea surface, spreading model involving shear diffusion 7−4053
Okhotsk Sea, drift ice used to trace water circulation 7−55060

oceanography continued
- Orca Basin, Gulf of Mexico, ^{210}Po and ^{210}Pb content of seawater 7—34552
- ore-bearing hydrothermal source in Sea of Okhotsk *(Russian)* 7—8916
- Oshima Island, Japan, island, trapping of long gravity waves due to asymmetric insular shelf 7—29034
- Oshima Island, Japan, long-period fluctuations of sea level *(Japanese)* 7—29035
- N Pacific, eddy transport estimation from satellite altimetry 7—40595
- E Pacific, equatorial sea surface temperature observations for 5-year period 7—34514
- W equatorial Pacific, evaporative cooling by anomalous winds 7—9023
- equatorial Pacific, fine-scale variability at 140 degrees West 7—34515
- Pacific, heat gain calc. for tropical region 7—66131
- Pacific, heat transport, annual var. 7—55066
- tropical Pacific, long equatorial waves in models of seasonal cycle 7—66148
- SW Pacific, Miocene and Pliocene stratigraphy and palaeoceanography 7—23634
- tropical Pacific, sound scattering strength daily variations 7—34544
- central Pacific, SST response associated with El Nino-S Oscillation 7—34537
- NE Pacific, thermal response to strong autumnal forcing 7—34528
- Pacific, wind-wave breaking crests and foam patches *(Russian)* 7—23670
- Pacific abyssal waters, geothermal heating of seawater 7—8956
- W Pacific between Japan and equator, zonal baroclinic currents 7—40493
- Pacific coast of N America, sea level changes due to tectonics and oceanographic causes 7—54987
- Pacific coast of USA, contaminants of sediments of nearshore basin slopes 7—18209
- NE Pacific Ocean, annual and interannual vars. of steric sea level along line P 7—8986
- Pacific Ocean, chaotic behaviour in large and mesoscale motions of Kuroshio current 7—55073
- Pacific Ocean, E tropical region, sea level annual cycle 7—4044
- Pacific Ocean, equatorial, near-surface heat balance, zonal and seasonal var. 7—4043
- Pacific Ocean, high nitrite levels off N Peru as signal of instability in marine denitrification rate 7—29080
- NE Pacific Ocean, microseism propag. between two sites on deep sea floor 7—28869
- Pacific Ocean, mixing in the main thermocline 7—9002
- N Pacific Ocean, surface temp. characts. 7—34533
- equatorial Pacific Ocean, vertical turbulence struct. and turbulent exchange 7—14307
- Pacific Ocean floor, hydrocarbons identification in sediments and bottom water layer 7—29079
- N Pacific Ocean-atm. system, Pliocene-Pleistocene evol., fossil diatoms anal. 7—23695
- Pacific rainfall, Nimbus 7 SMMR meas. rel to El Nino 7—66245
- palaeoceanography and biogeochemical processes affected by tectonic processes 7—23843
- palaeooceanographic events as cause of regional marine sediment horizons 7—18202
- Palaeozoic ocean, O and C isotopic records anal. 7—9029
- Pamlico Sound, USA, coastal wetland erosion accompanying sea level rise 7—29029
- Paradip, India, storm surge following June 1986 cyclone 7—29060
- passive scalar diffusion, second order modelling 7—8468
- Patagonian Shelf, temp. distrib. and shelf-sea fronts 7—66129
- Persian Gulf, evaporation from coastal water of central pt. 7—66127
- Persian Gulf water, spreading and transform. 7—9016
- Perth region, Australia, Holocene sealevel var., crystal effects 7—47462
- petroleum pollution released due to sediment stirring 7—34557
- Phanerozoic, seawater Sr isotopic comp. var. and sea-level var. 7—60273
- phytoplankton concentration vertical profiles in upwelling region 7—40498
- Pleistocene sea levels and temperatures of deep-sea, O-isotope record 7—29062
- pole tides, dynamic theory rel. to period of Chandler wobble 7—8969
- Polish Baltic coast, Jan. 1983 storm surge calculation 7—14290
- pollution, conf., Santa Clara, USA (Jan. 1986) 7—41018
- POLYMODE, synoptic oscills. of current vels. *(Russian)* 7—23668
- Upper Proterozoic carbonates, ^{13}C stratigraphy rel. to palaeoenvironment 7—47544
- Puerto Rico region, surface circulation, Lagrangian meas. 7—47457
- Puget Sound, Washington, USA, hydrocarbon pollution in urban estuary 7—66167
- Qingdao coast, China, changes of palaeographical environment during past 20000 years *(Chinese)* 7—55011
- quasi-steady shelf circulation driven by along-shelf wind stress and open-ocean pressure gradients 7—47456
- quasigeostrophic energetics of open ocean regions 7—60260
- quasigeostrophic vortices, Lyapunov-stable solns. 7—43925
- radiowave emission from sea surface with waves, theory 7—60268
- rainfall over oceans, Nimbus 7 SMMR meas. rel. to El Nino 7—66245
- Red Sea, hydrographic props. and exchanges with Indian Ocean in summer 7—29064
- reducing power of ferrous Fe in Archean ocean, contrib. of photosynthetic O_2 7—60277
- relative ionic composition of ocean water, statistical anal. of data 7—14315
- Reykjanes Ridge rift valley, Upper Quaternary surface layer temp. 7—29073
- rip-current generation near structures 7—29048
- River Amazon, plume region, currents 7—34511
- River Amazon, plume region, sediment and chlorophyll characts. 7—34509
- River Amazon, plume region, water mass characts. 7—34510
- River Amazon, suspended sediment coagulation and settling on continental shelf 7—34458
- Rossby and Kelvin wave excitation in equatorial ocean, due to zonal winds 7—29052
- salinity-temperature front, double-diffusive horizontal intrusions, linear stability theory 7—26250
- sand particle suspension and transport by shallow water waves 7—34471
- Santa Monica Basin (E Pacific), chemical tracer study of diapycnal mixing 7—9022
- satellite remote sensing, its contribution to ocean dynamics research 7—60263
- satellite remote sensing of oceans, book 7—48209
- sea level changes rel. to coastal flooding 7—60271

oceanography continued
- sea level oscillations anal., least-squares method as filter and related power in spectrometry 7—40575
- sea level response to atmospheric zonal tides, influence on Earth's rot. rate *(Chinese)* 7—4073
- sea level variations and geodesy 7—47312
- Sea of Okhotsk, ore-bearing hydrothermal source discovery *(Russian)* 7—8916
- sea surface temperature, images from Advanced Very High Resolution Radiometer (AVHRR) data 7—14297
- sea surface temperature anomaly field in N Atlantic Ocean, autoregression model 7—14309
- sea surface temperature determ., remote sensing procedure with atmospheric correction and one calibration point 7—40485
- sea surface temperature determ. from IR radiometry, two-angle viewing method 7—66338
- sea surface temperature field, equatorial waves detect. from shipboard and satellite meas. 7—66142
- sea surface temperature variations, contrib. to protracted climatic effects of massive smoke injection into atmosphere 7—66297
- sea-level changes around Australia, implications of tide-gauge meas. 7—29049
- sea-level monitoring, use of geodetic radio interferometric surveying 7—18312
- sea-level variations, conf., Waikiki, HI, USA (August 1985) 7—14697
- seawater K and Ca concentrations, potentiometric determ. over wide salinity range via admixture technique 7—14311
- sediment resuspension events and bed shear stress for USA continental shelf areas 7—28989
- sedimentation, horizontal laminae formation under upper flow regime plane bed conditions 7—4031
- sedimentation, suspension time for particles in upper ocean 7—66094
- sedimentation of marine snow (amorphous aggregates) in Panama Basin 7—66093
- porous sediments, water flow within sediments due to flow over bedform shapes 7—55102
- sediments longshore transport on shallow shore by random wave action 7—28996
- sediments of Pacific, trace metal chemistry of metalliferous sediments 7—23633
- Seto Inland Sea, Japan, freq. response to time-varying input 7—34506
- Severn Estuary, southwestern UK, microscopic particles from coal fired power stations 7—60275
- Severn Estuary, UK, sediment trace metal record for last 2000 years 7—18211
- shallow water equations, complex flow, boundary fitted grids 7—6231
- shallow water flow, boundary element soln. 7—40502
- shallow water flow incident upon slender orography, semi-geostrophic response to elongated ridge 7—29122
- shallow wave propagation, effects of permeable breakwater 7—66165
- sea slope changes associated with westward propagating equatorial temperature fluctuations 7—23687
- Somali Current, seasonal variations of cross-equatorial flow 7—23677
- sound scattering strength daily variations 7—34544
- South China Sea, palaeoclimate and palaeooceanography during Holocene, sediment O isotopic anal. *(Chinese)* 7—55264
- N South China Sea, winter counter-wind current *(Chinese)* 7—47459
- Southern Ocean, heat transfer study for Antarctic zone 7—23690
- spring phytoplankton bloom in Newfoundland coastal waters, temp. regulation of bacterial activity 7—4057
- SST synoptic forcing *(Russian)* 7—60267
- storm disturbance of upper ocean, model of turbulence and thermal struct. 7—40495
- Strait of Georgia, BC, Canada, Ekman spiral in wind-forced currents 7—4052
- straits, homogeneous rotating fluid flow 7—18189
- stratified bottom current, nature of structural instability 7—14310
- stratified ocean, action of variable wind stresses 7—14291
- subtropical-subpolar basin, wind-driven circulation numerical simulation 7—47450
- surf zone longshore currents and random waves 7—8996
- surface heat anomalies, effect on dynamic struct. of atmospheric vortices 7—9134
- surface temperature, ship observations 7—4217
- surface wave driven large-scale potential flows *(Russian)* 7—18200
- surfactants and pollution in coastal areas 7—18213
- synoptic circulation, characts. of synoptic motions on sphere 7—14303
- synoptic circulation model, including upper quasihomogeneous layer 7—40490
- Taiwan Strait, 3D semidiurnal tide waves *(Chinese)* 7—47460
- Taiwan Strait, numerical investigation of three-dimensional diurnal wave *(Chinese)* 7—55069
- Tasman Sea, Warm-core ring barotropic flow from seafloor electric obs. 7—34520
- Texas-Louisiana continental shelf, circulation associated with gyre 7—23682
- thermal stratification, 1D models for lakes and oceans 7—55076
- thermal structure of upper ocean, calc. method 7—14302
- thermocline, wind-driven and buoyancy driven 7—4046
- thermohaline convection, finger development, similarity anal. 7—11413
- tidal boundary layer flow, time-dependent model 7—29037
- tidal current ridges, form. mechanism and developmental conditions 7—40461
- tidal deceleration of Earth rot. and lunar mean motion, theoretical estimates 7—18348
- tidal energy dissipation, comparison between astronomical and geophysical estimates 7—14301
- tidal leading, effects on harmonic anal. of strain tidal data in Shanghai City *(Chinese)* 7—34368
- tide gauge records, oceanic signals removal 7—8971
- tide harmonic constants, extraction from high and low water data *(Chinese)* 7—55070
- tide-induced Lagrangian residual current 7—55074
- tide-induced residual transport, appl. in S San Francisco Bay 7—55075
- tides, abnormal response at S_2 freq. 7—34505
- tides, effects on sensitivity of LAGEOS to changes in Earth's (2,2) gravity coeffs. 7—34825
- tides, indirect effect on gravimetric Earth-tide KAPG stations 7—28813
- time-dependent flow problems, vertical structure functions determ. 7—47576

oceanography continued
topographic eddies and Rossby lee waves due to mesoscale bottom relief *(Russian)* 7−55061
topographic waves in elliptical basins, analytical solns. 7−66180
turbidity flows near to shore, model for equilibrium conditions 7−14258
intermittent turbulence interaction with fine struct., model 7−40491
turbulence of equatorial Pacific, Feb. 1982 observations 7−34527
turbulent entrainment and the entrainment assumption 7−55064
two-layer Ekman model for wind-induced shear flow near the sea surface 7−55054
undersea features name file for personal computer, database description 7−65927
underwater sound, historical perspective on sea surface loss in surface ducts and shallow water 7−66160
underwater sound source localisation, appl. of acoustic amplitude ranging techniques 7−66161
United States SE continental shelf in winter, density fronts form. and maintenance 7−4049
unstratified water bodies, mean circulation driven by wind 7−4066
upper layer circulation modelling, seasonal evolution anal. for N Atlantic Ocean 7−9020
upper ocean layer (horizontally inhomogeneous), synoptic variability model 7−34541
upwelling velocity determination method based on optical observations 7−40498
Vaisala-Brunt frequency, calc. from hydrologic obs. using rational interpolation splines 7−14312
Var ridge, Western Mediterranean, submarine sedimentary dunes built by turbidity currents *(French)* 7−34466
Vavilov seamount, composition, petrology *(French)* 7−60228
Venice lagoon, sediment heavy metal pollution 7−60276
Victoria Harbour, Hong Kong, storm surge spectral analysis 7−4038
Virgin island basin, E. Great Antilles, extension and wrench tectonics *(French)* 7−18163
Visakhapatnam coast of India, upwelling and sinking 7−14294
visible radiation field of ocean-atmos. system 7−55180
warm core rings, physical, chemical and biological aspects 7−55056
water in planetary bodies, occurrence and physical state 7−34895
wave asymmetry over slopes with variable-depth water 7−6229
weakly ventilated isopycnals pot. vorticity struct. 7−8999
weather prediction, 3D models 7−55245
well-mixed estuaries, long-term salt intrusion time-scale 7−9008
whitecap cover used to determined sea-surface winds 7−9216
whitecap coverage on global scale, seasonal estimates 7−34519
whitecaps and foam, effects on wind speed extraction with pulse-limited radar altimeter 7−29306
wind and wave-induced currents, theory for steady and variable currents 7−8985
wind drag coeff. derivation incorporating stratification effects 7−34531
wind mixing of a stratified shear flow 7−34504
wind-driven circulation 7−9046
wind-driven functional time-depend. stratified shelf and slope water flow 7−4041
wind-driven upwelling in presence of baroclinic coastally trapped jet, two-layer model 7−8984
wind-roughened sea surface, albedos and glitter patterns generation 7−9006
work ocean heat transport, model involving bottom topography *(Russian)* 7−18196
Yellow Sea, sedimentation characts., effects of Yellow River 7−55089
zonally-uniform sea surface temp. removal from general circulation models of January climate 7−47526
As and Sb content of seawater and atmos. aerosol of English Channel and N Atlantic 7−29075
CO$_2$ absorption, impact upon biosphere of atmospheric disturbance of C cycle 7−40546
CO$_2$, air-sea exchange in coastal areas 7−55083
CO$_2$ content var. 7−34640
CO$_2$, exchange rate between atmos. and ocean, isotopic meas. techniques 7−23884
CO$_2$, gas exchange between air and sea, effect of breaking ocean waves 7−23704
CO$_2$, ocean-atmosphere gas transfer in tropical Atlantic 7−29076
Hg pollution of estuary sediments in England and Scotland 7−3732
Li in foraminifera tests since 116 Myr BP, and seafloor geological processes 7−23632
N pollution in hydrosphere and atmosphere, appls. of isotopic studies 7−28422
Pu fallout and natural radioactivity in coral around Virgin Islands 7−60274
^{226}Ra, ^{222}Rn and ^{210}Pb systematics in near bottom water of N Pacific 7−23703
Sn pollution in coastal California, butyltin cpds. due to yacht antifouling paints 7−4055
T from nuclear bombs, distrib. in oceans 7−66169

OCR *see optical character recognition*

octet theory *see SU$_3$ theory*

ODENDOR *see optical double resonance*

ODMR *see microwave-optical double resonance*

oecology *see ecology*

office automation
see also voice equipment
information retrieval system using concepts of the AIR/PHYS physics data bank *(German)* 7−14721

office of the future *see office automation*

OH$^-$-centers *see OH$^-$-centres*

OH$^-$-centres
CsCl, F$_H$(OH$^-$)-centre absorpt. bands, pseudopotential calc. 7−52512

OH-IR stars
V1302 Aql. (IRC+10420), supergiant OH-IR star, new emission features obs. 7−48101
galactic centre region OH-IR stars, luminosities and progenitor characts. 7−14584
IRAS Circular No.9 sources, OH/IR star candidates, IR photometry 7−66786
IRAS observations of OH-IR stars, determ. of absolute luminosities and mass loss rates 7−29475
IRAS sources, Nancay obs. of assoc. OH circumstellar masers 7−34978

OH-IR stars continued
OH 359.68−0.02, SiO maser emission from Galactic Centre OH-IR star 7−60666
OH 359.80−0.09, SiO maser emission from Galactic Centre OH-IR star 7−60666
OH 359.97−0.12, SiO maser emission from Galactic Centre OH-IR star 7−60666
H$_2$O maser emission, obs. in 23 OH-IR stars 7−24140
SO$_2$ and SO in circumstellar envelopes, millimetre-wave obs. 7−4429
SiO maser emissions from Galactic Centre OH-IR stars 7−60666

ohmic contacts
ambipolar photoconductors with surface states, photoelec. amplification 7−38620
III-V semiconductor contacts, funds. of theory and methods of technology *(Polish)* 7−64347
semiconductors, disordered, with dispersive transport, elec. transient process 7−17074
thin films, interfaces and phenomena, conf., Boston, MA, USA (Dec 1985) 7−18502
Al-Ge-Si, heterojunction ohmic contacts 7−27432
Al-Si/MoSi$_2$ stable contacts to shallow junctions 7−52847
Au-GaAs contacts, elec. and struct. props. 7−2711
Au-Ge-Ni-GaAs, non-alloyed ohmic contact, solid phase epitaxy 7−27423
Au-Ni-Au-Ge-Ni-GaAs, alloying, specific contact resistivity 7−27425
Au-Ti-B$_2$-Au-Ge-Ni-GaAs, alloying, contact resistivity 7−27425
AuBe-Cr-Au-InP, improved ohmic contact 7−64310
AuGe-Nb-GaAs, ohmic superconducting contacts to GaAs 7−33088
AuNiGe-GaAs ohmic contacts, microstruct. anal. and contact resist. meas. 7−2393
GaAs - Ag (Au), excimer laser annealed Au(Ag) contacts 7−12857
GaAs, form. using ion beam mixing 7−21299
GaAs, ohmic contact resist. limitations 7−52838
GaAs, Schottky barrier lowering by submicron ohmic contacts 7−7332
GaAs:Ge,Se, diffused contact regions, rapid thermal annealing 7−17103
GaAs/Au-Ge/Ni ohmic contacts, ion implantation and metallisation prep. 7−22014
n-GaAs/AuGe-Ni, ohmic contact fabrication RBS anal. 7−32840
p-GaAs/AuZnNi/Ti/Au ohmic contacts, low-resistance 7−7385
n-GaAs/In$_x$Ga$_{1-x}$As compositionally graded non-alloyed ohmic contacts 7−38695
GaAs/metal interface microstruct. and reactions, stability and elec. props., TEM and STEM studies 7−12515
GaAs-AuGeNi contacts, interface composition and barrier heights 7−58891
GaAs-AuNiGe interfaces, struct. and elec. props. 7−22013
GaAs-InAs, in situ contacts, MBE grown 7−45444
GaAs-Pt reacted ohmic contact charactn., effect of Mg layer 7−7387
GaP-Ga semiconductor-liquid metal contact, transition from rectifying to ohmic operation 7−52833
GaP-In semiconductor-liquid metal contact, transition from rectifying to ohmic operation 7−52833
GeMo-GaAs ohmic contact, fabrication and characts. study 7−45490
In-Pt-GaAs, heterojunction ohmic contacts, interfacial struct. 7−27155
InGaAs emitter cap layer for AlGaAs/GaAs heterojunction bipolar transistor 7−45492
InP, high resistivity layer form. by ion implantation, ohmic contact characterisation 7−38035
InP rotating ring-disk electrodes, appl. of redox contacts 7−39982
LiNbO$_3$/CdSe multilayer structs. with ohmic contacts, electroacoustic conversion, SAW excitation 7−58839
Ni-AuGe-GaAs, ohmic contacts, interface reactions, elec. behaviour 7−27031
Ni-GaAs interfacial reactions, contact elec. props. 7−12504
NiGeAuAgAu alloyed ohmic contacts to AlInAs-GaInAs heterostruct., charact. 7−22016
Pd-Ge ohmic contacts to InGaAsP-InP, solid-phase epitaxial growth 7−2706
Si thin film, doped, electron beam evaporation, elec. props. 7−2743
a-Si:H thin films, ohmic and quasi-ohmic contacts 7−38729
Ti-TiN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Zr-ZrN 7−38726
Zr-ZrN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Ti-TiN 7−38726

ohmmeters
see also electric resistance measurement
microelectrode resistance meter, improved, neuroscience appl. 7−28791

oil technology
global energy shortages, forecast energy consumption compared to world supplies *(German)* 7−59826
magnetic flaw detection of pipelines, eddy currents as interfering factor 7−39822
oil displacement by active soln., nonmonotonic effect on flow distrib. fn. 7−1615
oil displacement from porous rock by micellar solns., analytic and expt. study 7−6278
sandstone cores, oil and water content meas. using microwave techniques 7−55288
seismic method in search for oil and gas, development trends 7−4225
vapour dryness degree distrib., thermal action on oil seams 7−20791

oiling (lubrication) *see lubrication*

oils, insulating *see insulating oils*

olfaction *see chemioception*

omega mesons
micrononcausal Euclidean wave functions assuming Yukawa type couplings 7−41596
QCD effective action for π and vector mesons 7−15117
Skyrme model, incorporation of ρ, ω mesons as dynamical gauge bosons, consistency with QCD, vector-meson dominance 7−9965
$\mu p \rightarrow \omega X$, inclusive distribs. in deep inelastic interactions at 280 GeV/c 7−41862
$\omega\eta$ resonance, evidence for four-quark states 7−15127

omegatrons *see cyclotrons*

one-dimensional conductivity
see also synthetic metals
1D weak localisation, effects of forward scatt. and incommensurate lattice 7−45202
acoustic polarons, drift velocity in 1D polymer chain 7−12708
aluminium polyfluorophthalocyanine, IF$_5$ chemical doping 7−52600
anisotropic SDW and triplet supercond. state properties 7−45706

one-dimensional conductivity continued
β-(BEDT-TTF)$_2$(I$_3$)$_{1-x}$(AuI$_2$)$_x$, thermal expansion and stepwise superconducting transition 7—27469
(BEDT-TTF)$_2$I$_3$, α to superconducting β phase transform., heat absorpt. and resist. temp. depend. meas. 7—63808
(BEDT-TTF)$_2$I$_3$, alpha and beta phases, electronic struct., EELS studies 7—45118
β-(BEDT-TTF)$_2$I$_3$, conductor, thermal expansion and structural phase transitions 7—44870
α(β)-(BEDT-TTF)$_2$X (X=I$_3$, IBr$_2$), organic conductors, structural and electrical props. 7—63601
β-(BEDT-TTF)$_2$X salts (X=I$_3$, IBr$_2$, AuI$_2$), magnetoresistance, superconductivity 7—52884
BEDT-TTF charge transfer salts with tetrahedral anions, elec. props., crystal packing and stoichiometry effects 7—63599
BEDT-TTF polyhalides, reflectance spectra, temp. depend. 7—46031
α-(BEDT-TTF-d$_8$)$_2$I$_3$, conductivity increase near metal-insulator phase transition 7—2584
(BMDT-TTF)TCNQ, molecular conductor, dimensionality, struct. and electrical props. 7—52595
breakable CDWs in quasi-1D systems 7—64124
bronzes, structs., sliding motion of CDW 7—64129
BVDT-TTF organic conductors and 1D metals, synthesis 7—45299
calcium bis(oxalato)platinate, Ca$_{0.756}$[Pt(C$_2$0$_4$)$_2$].3H$_2$O, ID conductor, preparation and props. 7—52599
CDW, sliding, in low-dimensional conductors 7—17018
CDW, statics and dynamics, study based on Fukuyama-Lee-Rice model 7—64127
CDW conduction, dynamics and finite size effects 7—64221
CDW system, electronic cond. in presence of ϕ solitons 7—27322
CDW transition simulation 7—32928
charge transfer complexes, nonlinear conduction, electrical switching 7—2648
charge transfer complexes, synthesis, struct. and physical props. 7—44510
coherent polaron superlattices and long-range Coulomb forces 7—45184
conducting polymers, statistical mechanics of localised states 7—64116
conjugated polymers, impurities, nonlinear dynamics 7—64115
conjugated polymers, self-localised excitations 7—64168
copper phthalocyanine iodide, transition of local moments in quasi 1D conductor 7—2815
cyanocobalt (III) phthalocyanine, conductive crystals prepared by electrolysis 7—2590
disordered 1D two-band system transport props. study 7—21887
disordered conductor, statistics of resistance quantum fluctuations 7—17019
disordered conductors, ID, macroscopic approach 7—12709
disordered conductors, resist., macroscopic theory 7—64211
disordered metals, 1D, thermal effects in spatial dispersion of conductivity 7—38549
disordered systems, 1D, electric-field-dependent average resistance and resistance fluctuation 7—45255
DMtTCF salts, electronic and vibr. absorption spectra, electronic correlations 7—46034
electron-phonon backscatt. and phonon dynamics calcs. 7—38468
electron-phonon system in 1D *(Rumanian)* 7—16960
field-induced density-wave phases, quantised Hall effect calcs. 7—45296
(fluoranthenyl)$_2$AsF$_6$, metal-semiconductor transition, anisotropic diffusion and electron spin relaxation 7—52598
hopping in 1D metals, interaction with phonons 7—44711
incident carrier flux consequences in electric transport 7—64195
incommensurate one-dimensional CDW systems, localised electronic state form. due to phase and single particle excitations 7—21834
lead phthalocyanine, electrical props., influence of I impurity 7—58927
metal chalcogenides, low-dimensional, synthesis and CDW props. 7—32926
metals, Peierls problem solns. *(Russian)* 7—45304
mixed-stack organic charge-transfer crystals, regular-dimerised stack and neutral-ionic interfaces 7—7216
molecular electronics, developments and research 7—7221
morpholinium TCNQ$_2$ salts, optical phonon mediated charge transport 7—52596
multi-S π donor and π-acceptor charge transfer complexes, struct., elec. and optical props. 7—44513
noninteracting e$^-$ in incommensurate pot., quantized currents and topological invariants 7—2564
nonlinear AC and DC conduction of CDW systems, Fukuyama-Lee-Rice model 7—64214
nonlinear behaviour of quasi 1D metals in RF and DC ranges 7—45288
nonuniversal transport exponents in quasi-one-dimensional systems with a power-law distribution of conductances 7—52585
organic conductors, IR absorption spectra and electron-electron interactions 7—46032
organic conductors, low temp. ground state, antiferromagnetic resonance probes 7—45827
organic linear chain conductors, IR and near IR props. 7—22247
Peierls system, Eilenberger equation studies 7—64040
Peierls-CDW state, 1D, impurity distrib., 2k$_F$ distortion 7—44593
perylenyl salt, organic conductor, spin transport props., pulsed ESR study 7—59105
phase slip centre as a dynamic amplitude soliton 7—52465
phthalocyanine metallomacrocyclic assemblies, [Si(Pc)O]$_n$, molecular metals, conduction props. 7—2585
poly(4-(3-pyridyl), 8-methyl, 2,3-6,7-quinolino), soluble aromatic ladder polymer, preparation and props. 7—2593
poly-p-phenylene and poly-p-phenylenevinylene, conducting polymers, NH$_3$ doping effects 7—2583
poly-p-phenylene sulphide, conducting polymer solution, chemical structure, EPR and ^{19}F NMR studies 7—2938
poly-p-phenylene sulphide, SO$_3$-doped, mol. structure, ^{1}H NMR, ^{13}C CP/MAS NMR and IR studies 7—2939
poly-p-phenylene vinylene, conducting polymer with electron donating side-chains 7—2588
poly-p-phenylenevinylene films, photoconduction 7—12760
polyacene, one-dimensional graphite series, electronic props. 7—64063
polyacetylene:AsF$_6^-$ (ClSO$_3^-$) (FeCl$_4^-$) metallic elec. cond. studies 7—64231
polyacetylene:I$_2$ complexes, monosubstituted, isomerism, elec. cond., UV spectra 7—45289
trans-polyacetylene:I, electron spin-lattice relax. and phase memory time, spin echo studies 7—64512

one-dimensional conductivity continued
polyacetylene:I, metallic, effective mass, magnetoreflection studies 7—64056
polyacetylene:I, photoexcitation spectra 7—64657
polyacetylene:I (AsF$_5$) films, synthesis, elec. and optical props. 7—63513
polyacetylene:I films, liquid crystal polymerisation synthesis under mag. fields 7—65318
trans-polyacetylene:Na, undoped and doped, momentum depend. dielec. functions, EELS study 7—64144
polyacetylene, alkali metal doped, semiconductor-metal transition, EPR study 7—64528
polyacetylene, alkaline metal doped, ab initio SCF MO calc. of electronic struct. 7—64048
trans-polyacetylene, Br doped, polarised XANES theoretical studies 7—64823
polyacetylene, CDW, interaction and disorder 7—64136
polyacetylene, cond., fast FTIR and IR intensity spectra, struct. and electronic props. 7—53335
polyacetylene, Coulomb correlations, optical gap 7—64142
trans-polyacetylene, diffusive motion of solitons 7—64106
trans-polyacetylene, doped, in soln., IR spectral props., conjugation lengths depend. 7—64655
polyacetylene, dynamical cond. of soliton lattice and polaron lattice, continuum model 7—45174
polyacetylene, dynamical phonon conductivity, determ. 7—64111
trans-polyacetylene, electron transport accompanying molecular vibr. 7—64227
polyacetylene, electrons and phonons, semi-continuum model 7—64112
trans-polyacetylene, equivalent orbital theory, electronic struct. study 7—64062
trans-polyacetylene, fast transient picosecond photocond., hot soliton excitations 7—64293
trans-polyacetylene, highly oriented, photoexcitations and photocond. response 7—64292
trans-polyacetylene, IR activity of phonons around a soliton 7—64107
polyacetylene, localised modes of soliton, IR absorpt. 7—64108
trans-polyacetylene, Na doped, polaron mobility and conductivity 7—64113
trans-polyacetylene, neutral soliton diffusion, EPR, PMR meas. 7—64513
trans-polyacetylene, neutral soliton pair production, breaking of charge conjugation symmetry 7—64110
trans-polyacetylene, optical absorpt. due to soliton lattice 7—64109
polyacetylene, p-type doped, reaction with H$_2$O 7—65316
cis-polyacetylene, photolum. quenching, lattice relax. approach 7—64698
polyacetylene, self-consistent calc. of solitons 7—64105
polyacetylene, soliton width-relaxation effects 7—21828
trans-polyacetylene, soliton-lattice to polaron-lattice transition 7—64117
trans-polyacetylene, spin photogeneration, light-induced ESR studies 7—64514
trans-polyacetylene, third order optical susceptibility, 2A$_g$ excited state obs. 7—62782
polyacetylene, undoped, elec. props., thermal isomerisation and impurity effects 7—64232
trans-polyacetylene, vibronic states of bond alteration defect, ESR spectrum 7—64511
trans-polyacetylene, with broken symm., reson. Raman scatt., photoinduced absorpt. spectra 7—64656
trans-polyacetylene(-d), ns time resolved photoinduced absorption spectrum 7—64668
polyacetylene copolymers and composites, physical props., electrochemistry and environmental stability 7—2587
polyacetylene films, doped, electronic struct., elec. cond. and thermopower 7—64065
polyacetylene films, oriented, optical props., photocond. meas. 7—64717
trans-polyacetylene films, transient photocond. anisotropy 7—64294
polyacetylene thin films, photoexcited states, ps relax. 7—64291
polyaniline, conduction mechanism 7—2591
polyaniline and aniline oligomers, spectroscopic and elec. props. 7—64653
polyarylenephthalide conducting polymers, bipolaron elec. cond. study 7—64104
polydiacetylenes, analogies to inorganic semiconductors and graphite 7—2592
polyfuran and copolymers, electronic struct., cond. props., ab initio cryst. orbital calcs. 7—52410
polyiodide chain complexes, thin films, optical absorpt. spectra meas. 7—22366
polyisothianaphthene, electronic struct. and conduction properties 7—45119
polymer, conducting, heterocyclic and aromatic, review 7—58797
polymers, conducting, electronic cond., conjugation length depend. 7—64228
polymers, conducting, high temperature, synthesis reactions 7—2594
polymers, conducting, laser desorption/Fourier transform mass spectral analysis 7—1920
polymers, conducting, nonlinear optical processes 7—62781
polymers, conductive, structural regulation, dopant effects 7—63512
polymers, conductive, synthesis methods 7—64999
polymers, conjugated, elec. cond., chain rigidity effects 7—64230
polymers, highly conducting, electronic structure, correlation effects 7—64064
polymers, quasi-one-dimensional, electron-electron interaction effects 7—64143
polymers and related cpds., electronic props., Winter School, Kirchberg, Austria (March 1985) 7—4613
polyparaphenylene: Na, electron and cryst. struct., EELS and electron diffr. studies 7—63514
polyparaphenylene, vibr. studies, IR and Raman spectra 7—63758
polyperinaphthalene, pristine and doped, elec. conductivity 7—2589
polyphenanthrene, one-dimensional graphite series, electronic props. 7—64063
polyphenylacetylene:I, conformational defects, ESR studies 7—64531
polypyrrole and copolymers, electronic struct., cond. props., ab initio cryst. orbital calcs. 7—52410
polypyrrole electronically conductive polymer, fibrillar/microporous morphology control 7—26667
polypyrrole-phthalocyanine conducting complexes, spectroelectrochemical props. 7—3023
polystyrene-polyisoprene copolymers, processability-conductivity correlation 7—64229
polythiophene, polymerisation from mono-, bi- and trithiophene oligomers, electronic props. 7—2597

one-dimensional conductivity continued
polythiophene, radiation-induced doping, elec. and ESR studies 7—38545
polythiophene, vibrational spectra and elec. conductivity 7—2598
polythiophene and copolymers, electronic struct., cond. props., ab initio cryst. orbital calcs. 7—52410
polythiophene derivatives, bandgaps, conductivities 7—64061
polyyne, one-dimensional conjugated, synthesis and props. 7—65000
polyynes, strongly coupled Peierls insulators, soliton, polaron and photoexcitation props. 7—64114
porphyrin coordination polymers, pyrazine-bridged, optical and conductive props. 7—2586
quantised density wave ordering induced by mag. field 7—45702
quasi 1D conductors, anisotropy and Peierls transition 7—45297
quasi-1D conductors, conf., Yamanashi, Japan (May 1986) 7—60868
quasi-1D conductors, Coulomb correlation effects 7—52485
quasi-1D conductors, Peierls state, mechanisms of nonlinear conductivity, electrodynamics *(Russian)* 7—32997
quasi-1D conductors, quantum Hall effect 7—64273
quasi-1D infinite linear atomic chain, Hartree-Fock eqns., numerical soln. 7—21793
quasi-1D mol. systems, polaron struct., interchain electron hopping effects calfs. 7—16959
quasi-1D superconductors, effect of impurities 7—45548
quasi-1D wire, thermopower, effect of subband struct., determ. 7—7213
quasi-one-dimensional system, CDW and singlet-supercond. phases 7—7219
resistivity saturation in metals with structural instabilities 7—45277
$(SCN)_x$:I, prep., elec. cond. 7—52597
SDW, field model 7—64470
site-disordered d-dimensional lattices, hopping transport 7—45291
sliding CDW systems, dielectric relax. freq. 7—45293
synthetic metals science and technology, conf., Kyoto, Japan (June 1986) 7—60872
TCNQ salt, $MPht(TCNQ)_2$, ion-radical salt, spin ordering 7—64442
TCNQ salts, quarter-filled band, optical absorption studies 7—46033
TCNQ salts, quasi 1D molecular crystals, optical props., Hubbard model generalization, cond. calc. 7—45952
TCNQ salts, semiconducting, dielec. response in submillimetre range 7—45916
tetraphenyldithiapyranylidene iodide, 1D conductor, order-disorder transition, X-ray scatt. intensity, elec. props. 7—44798
tetrathiafulvalenes, N-containing, charge transfer complexes, struct. and elec. props. 7—44514
tetrathiofulvalene-p-chloranil, mixed-stack charge-transfer cryst., elec. cond. and phase diagram 7—52586
3,3′,5,5′-TMB-TCNQ charge transfer complexes, electronic props. studies 7—64185
$(TMN)_3X_2$, ($X=ClO_4$, AsF_6), cation radical salts of tetramethoxynaphthalene, EPR, optical absorpt. and conductivity studies 7—53113
$(TMTCF)_2X$ salts (C=S,Se), crystal struct., press. and temp. depend. 7—44520
TMTCT salts, electronic and vibr. absorption spectra, electronic correlations 7—46034
$(TMTSF)_2$ $AsF_6(SbF_6)$, SDW semicond. phase, for-IR conductivity 7—45969
$(TMTSF)_2$ $ClO_4(PF_6)$, high field magnetoresist., quantum effects and phase transitions 7—45301
$(TMTSF)_2$ PF_6 field induced quantum oscillations, Hall effect studies 7—45280
$(TMTSF)_2AsF_6$ and $(TMTSF)_2SbF_6$, SDW state, far IR spectra 7—33388
$(TMTSF)_2BF_4$, anion ordering, press, effects 7—2596
$(TMTSF)_2ClO_4$, conductor, thermal expansion and structural phase transitions 7—44870
$(TMTSF)_2ClO_4$, field-induced SDW states in high mag. fields 7—45698
$(TMTSF)_2ClO_4$, SDW state, ^{77}Se NMR spin echo studies 7—45700
$(TMTSF)_2PF_6$, Hall effect study of field-induced stabilities at 10.5 kbar 7—7214
$(TMTSF)_2PF_6$, SDW characts., ^{1}H NMR anal. 7—45699
$(TMTSF)_2PF_6$, unified phase diagram, magnetotransport data anal. 7—45410
$(TMTSF)_2PF_6(ClO_4)$, nesting vector, SDW amplitude and anisotropy 7—45125
$(TMTSF)_2ReO_4$, quantum oscillations and field-induced transitions 7—45300
$(TMTSF)_2ReO_4$, Shubnikov de Haas oscills. and (0 1/2 1/2) anion ordering 7—45281
$(TMTSF)_2X$, ($X=ClO_4$, ReO_4), organic conductors, high resolution NMR study 7—53169
$(TMTSF)_2X$, quasi-1D, role of kinetic interchain coupling 7—45302
$(TMTSF)_2X$ Bechgaard salts, cascade of field-induced SDW transitions 7—45704
$(TMTSF)_2X$ Bechgaard salts, field-induced phase transitions 7—45409
$(TMTSF)_2X$ Bechgaard salts, mag. field induced SDW phases 7—45703
$(TMTSF)_2X$ quasi-1D conductors, SDW transition temperature, superconductivity 7—45705
$(TMTSF)_2X$ salt, isolated single cryst. growth, electrochemical technique 7—59393
$(TMTSF)_2X$ salts, phase diagram, importance of 1D correlations 7—45190
$(TMTSF)_2X$ salts, quasi-1D, cascade of field-induced SDW phases 7—45701
$(TMTTF)_2X$, quasi-1D, role of kinetic interchain coupling 7—45302
$(TMTTF)_2X$ salts, phase diagram, importance of 1D correlations 7—45190
transition metal chalcogenides, low dimensional, charge density waves, formation and characts. 7—2515
$TSF(Ni(dmit)_2)_3$, organic conductor, structure-related magnetism 7—2807
TTF-TCNQ, dielec. function in submillimetre range 7—27282
TTF-TCNQ, freq. depend. conductivity meas. 7—64218
TTF-TCNQ, incommensurate phase transition, symmetry theory *(Chinese)* 7—63793
TTF-TCNQ, nonlinear elec. transport effects driven through CDW commensurability 7—45295
TTF-TCNQ, nonlinear electrical transport effects, CDW commensurability 7—64217
TTF-TCNQ complexes, intramolecular charge transfer 7—7241
$(CSe_2)_x$, poly(carbon diselenide), metallic conductor, characterisation 7—2595
$Cs[Pd(S_2C_2(CN)_2)_2]$.0.5 H_2O, low-dimensional metal at low-temp. and high-press. 7—45290

one-dimensional conductivity continued
$Hg_{3-\delta}AsF_6$, 1D BCS Hamiltonian 7—45558
$Hg_{3-\delta}AsF_6$, chain compound, paraconductivity, Sugiyama-Gutfreund-Weger model 7—52584
$K_{0.3}MoO_3$, blue bronze, microwave conductivity 7—45370
$K_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7—64222
$K_{0.3}MoO_3$, blue bronze, broadband noise 7—64223
$K_{0.3}MoO_3$, CDW current density-voltage relation near the depinning threshold 7—58798
$K_{0.3}MoO_3$, CDW state, metastability and dynamics 7—64130
$K_{0.3}MoO_3$, CDW system, stretched exponential dielec. relax. 7—45929
$K_{0.3}MoO_3$, CDW transport, crystal quality, inhomogeneous conductivity, contact geometry 7—52587
$K_{0.3}MoO_3$, electric field hysteresis and relax. 7—52462
$K_{0.3}MoO_3$, electric field induced deformation of sliding CDW 7—64133
$K_{0.3}MoO_3$, nonlinear conduction below 4.2K 7—52588
$K_{0.3}MoO_3$, Peierls semiconductor, nonlinear Hall effect, sliding of CDW 7—45357
$K_{0.3}MoO_3$, switching, intermittent oscillations 7—52699
$K_2Pt(CN)_4Br_{0.3}.3.2H_2O$, disordered CDW cpd., Coulomb-induced pseudo-critical behaviour 7—45188
$K_2Pt(CN_4)Br_{0.3}.3.2H_2O$, quasi 1D conductor, near IR conductivity, pseudogap model 7—45298
$(Li_{1-x}M_x)_{0.9}Mo_6O_{17}$, (M=K,Na), superconductivity and CDW 7—45541
$Li_{0.9}(Mo_{1-x}W_x)_6O_{17}$, superconductivity and CDW 7—45541
Mo-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7—64779
Mo_8O_{23} low-dimensional conductor, cryst. struct. and commensurate-incommensurate transition, X-ray diffr. study 7—58230
$Mo_{n-x}W_xO_{3n-1}$, electrical conductivity, mag. susceptibility and IR spectra 7—38546
$NbSE_3$, CDW motion and relax., thermally initiated phase-slip 7—38544
$NbSe_2$, 2H polytype, CDW phase transition study by means of positron annihilation 7—38476
$NbSe_3$, CDW and magnetotransport, mag. field effects to 230 kG 7—64215
$NbSe_3$, CDW conductor, nonlinear charge transport mechanism 7—2599
$NbSe_3$, CDW conductor, interference effects with AC+DC excitations 7—52475
$NbSe_3$ CDW conductor, magnetothermopower studies 7—64226
$NbSe_3$, CDW conductors, mode locking phenomena and routes to chaos 7—52474
$NbSe_3$, CDW depinning under mag. field 7—64216
$NbSe_3$, CDW gap, tunnel junction spectra 7—21897
$NbSe_3$, CDW magnetodynamics, complex AC cond. meas. 7—32998
$NbSe_3$, chain-like conductors, electrical anisotropy 7—52593
$NbSe_3$, conduction noise obs., pulsed electric field, nonohmic regime 7—64219
$NbSe_3$, current oscillations in CDW transport 7—32999
$NbSe_3$, differential resist., expt. versus classical model of deformable CDWs, interference phenomena and mode locking 7—64212
$NbSe_3$, inertial dynamics of pinned CDW condensates 7—7217
$NbSe_3$, scaling behaviour, high field CDW transport, role of free carrier damping 7—64224
$NbSe_3$-I-Pb, tunnel junctions under press. 7—52594
$NbSe_4I_{0.33}$, vapour grown, cryst. growth by microsteps 7—58176
$(NbSe_4)_{10/3}I$, AC conductivity, dielectric constant 7—52591
$(NbSe_4)_3I$, quasi-1D, sp. ht., phason and low-energy excitation contribs. 7—21479
$NbTe_4$, discommensurate distortion waves, struct. changes on cooling 7—1996
$NbTe_4$, quasi-1D conductivity, CDW state effects 7—64213
Pt complex, $(H_3O)_{0.33}Li_{0.8}(Pt(C_4N_2S_2)_2)1.67$ H_2O, synthetic conductor, spin-carrying defects 7—44524
$Rb_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7—64222
$Rb_{0.3}MoO_3$, CDW current density-voltage relation near the depinning threshold 7—58798
$Rb_{0.3}MoO_3$, CDW transport, crystal quality, inhomogeneous conductivity, contact geometry 7—52587
$Rb_{0.3}MoO_3$, NMR evidence of Frohlich mode 7—53156
$Rb_{0.3}MoO_3$, sliding motion of CDW, NMR study 7—64134
Ru-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7—64779
TaS_3, CDW conductors, mode locking phenomena and routes to chaos 7—52474
TaS_3, current oscillations in CDW transport 7—32999
TaS_3, disequilibration of pinned CDW state 7—32927
TaS_3, monoclinic, CDW conduction under RF field 7—52590
TaS_3, orthorhombic, CDW state, point contact study 7—52468
TaS_3, orthorhombic, DC resist. along a-axis 7—64225
TaS_3, orthorhombic, inertial dynamics of pinned CDW condensates 7—7218
TaS_3, orthorhombic, press. and field depend. of DC resistance 7—52592
TaS_3 quasi-1-D conductor, nonlinear effects in small samples 7—17020
TaS_3 quasi-1-D conductor, laser-induced EMF and CDW effects 7—17053
TaS_3, quasi-1-dimens. conductor, dynamic behaviour, possible electronic appls. 7—38548
TaS_3, quasi-1D conductor, submicron transverse dimensions, jumps between metastable resistance states 7—38547
TaS_3, quasi-1D conductor, solitons 7—45179
TaS_3, scaling behaviour, high field CDW transport, role of free carrier damping 7—64224
TaS_3 sliding CDW conductor, narrow-band noise freq. modulation and AC-DC mixing 7—52711
TaS_3, small orthorhombic samples, nonlinear effects 7—64220
TaS_3, uniaxially deformed, DC induced voltage oscillations 7—52589
$TaSe_3$, V-I characteristic anomalies in the superconducting transition region 7—45564
$(TaSe_4)_2I$, AC conductivity, dielectric constant 7—52591
$(TaSe_4)_2I$, chain-like conductor, Peierls gap, optical study 7—52469
$(TaSe_4)_2I$, 1D CDW system, positron annihilation 7—39272
$(TaSe_4)_2I$, linear chain conductor, elastic behaviour 7—52466
$(TaSe_4)_2I$, quasi-1D, sp. ht., phason and low-energy excitation contribs. 7—21479
$TaTe_4$, quasi-1D conductivity, CDW state effects 7—64213
$TiSe_2$, 1T polytype, CDW transition effects of lattice fluctuations 7—21831
$Tl_2Mo_6Se_6$, 1D superconductor, polarised reflectance spectra 7—45554
$ZrTe_3$, anisotropic superconducting transition 7—45565
$ZrTe_5$, thermal and mag. meas. 7—44932

one-dimensional conductors *see one-dimensional conductivity*
online literature searching *see information retrieval*
online operation
  used for systems software in online and real-time systems but for hardware aspects see real-time systems
  see also interactive systems; real-time systems
  scanning electron microscopy, online digital recording system 7—4933
Onsager relations *see thermodynamics*
Onsager theory of dielectrics *see dielectric properties of substances*
opacimeters *see turbidimetry*
opacity *see turbidity*
opalescence
  see also critical opalescence
  No entries
OPDAR *see optical radar*
operations analysis *see operations research*
operations research
  see also forecasting theory
  earthquakes, analysis of damage to buildings by OR techniques 7—60169
  environmental problems, mathematical models, book 7—60890
  radioactive waste containers store, radiation minimisation 7—10290
  teaching, modelling and creative thinking 7—55937
operator training *see training*
optic mode of crystals *see lattice dynamics*
optical aberrations *see aberrations*
optical absorption *see light absorption*
optical absorption coefficients *see optical constants*
optical absorption spectra *see spectra*
optical activity *see optical rotation*
optical beam modulators *see optical modulation*
optical beam splitters *see optical elements*
optical bistability
  absorptive, quantum fluctuations, nonlinear anal. 7—11046
  absorptive media, nonlinear complex eikonal approx. study 7—62796
  absorptive optical bistability by squeezed vac., tunnelling inhibition 7—20321
  aerosol particle, optical bistability 7—43199
  angle and frequency bistability, reson. excitation of nonlinear guided mode 7—57428
  associative memories based on photorefractive oscillations 7—20154
  bacteriorhodopsin-biochrome films, reversible media for optical recording 7—57495
  birefringent nonlinear media, polarisation instability and bistability 7—57443
  chaotic motion, dimension meas. 7—62768
  collinear intracavity nearly degenerate four-wave mixing, bistable behaviour 7—1217
  colour filter, absorption optical bistability, longitudinal effects 7—57445
  composite logic gate element and multiplexer for optical computing and optical communications 7—57421
  compound literal implementation via shadow-casting 7—25732
  computational bistable devices, fast response/low-energy 7—25941
  conference, Tucson, AZ, USA (Dec. 1985) 7—55892
  counterpropagating light beams, transverse optical bistability in self-defocusing 7—43268
  degenerate four-wave mixing, eigenpolarisations, nonreciprocity and isolas 7—20374
  desorption, light induced, bistability mechanism in integrated optical devices 7—57424
  dielectric/semiconductor guided-wave bistable devices, periodic coupling 7—57426
  digital optical computers, threshold device tolerance requirements 7—57410
  directional coherent coupler, nonlinear, instabilities, all-optical phase-controlled switching 7—11027
  dispersive, finite difference equations 7—50619
  dispersive optical bistability model, limit cycle quantisation for dissipative driven anharmonic osc. 7—11045
  dye lasers, two-mode, first-passage-time problems 7—1097
  dynamic response of bistable devices, graphical anal. 7—15922
  Fabry-Perot cavity, nonlinear birefringent, polarisation bistability 7—37017
  Fabry-Perot etalon, parallel processing optical limits 7—57266
  Fabry-Perot resonator, M-band cryst. luminesc., exciton-photon system, optical bistability phenomenon *(Russian)* 7—20323
  Fabry-Perot resonator with active Sagnac interferometer, multistable 7—50626
  fibre-optic passive-loop resonator, optical multistability 7—1278
  four wave mixing polarisation bistability, topological nature 7—31389
  four-level system interacting with two fields, optical multistability 7—62765
  heuristic stochastic model of mirrorless optical bistability 7—62762
  holding-field noise effects on optical switching 7—62754
  hybrid bistable device driven by light polarisation 7—50625
  hybrid bistable optical device with a multilayer interference modulator 7—57405
  hybrid bistable systems, periodic states with fractional freqs. 7—57398
  hybrid optically bistable device, characterization of chaos 7—9773
  instabilities in dispersive OB on the low transmission branch 7—62767
  instabilities in optical bistability, review 7—1220
  integrated quantum well self-electro-optic effect device using 2×2 array of optically bistable switches 7—11176
  intensity-dependent guided wave phenomena 7—25872
  interference filters, critical interpixel separation 7—31388
  interferometric devices, two-beam, with in-phase outputs, optical bistability 7—62764
  interpretation through self-parametric bistability 7—50658
  Kerr-type medium device, noise-induced switching theory 7—62803
  laser instabilities, semiclassical models, review 7—15921
  laser-driven molecules, bistability and chaos 7—15920
  layered structures on nonlinear substrate, optical bistability with surface plasmons 7—20319
  liquid crystals, nonlinear guided waves, optical hysteresis 7—57551
  liquid crystals, relaxation time meas. technique by bifurcation in optical bistability 7—11910
  logic gates and bistable optical devices 7—50616
  Lummer-Gehrcke interferometer, intensity distrib. 7—41444
  magnetic control of polarization switching 7—62758

optical bistability continued
  molecular chains, strong EM field driven, with optical type vibr. spectra, nonlinear waves and bistability 7—25865
  molecular lasers, optically pumped, instabilities 7—25804
  molecular systems, nonlinear absorpt. optical bistability, eikonal approx. 7—62797
  MQW optical logic arrays, thermal crosstalk 7—38720
  multilayer interference laser light modulator, optical bistability 7—25950
  multimode self-pulsing in optical systems, absorptive optical bistability, photon statistics 7—10899
  multiphoton excitation of relativistic cyclotron resonance and phase bistability 7—62761
  nematic liq. cryst., laser-induced mol. reorientation, nonlocal radial depend. 7—58131
  nematic liquid crystal films, laser-induced distortion, cavityless optical bistability due to thermal effects 7—57441
  noise effects in dispersive optical bistability 7—62753
  nonlinear dielec. film, optical reflectivity and transmissivity power depend. calcs. 7—53429
  nonlinear optics, trends 7—31380
  optical bistability with waveguide mode for finite-width incident beam 7—5944
  optical computers and bistability, binary logic operations *(Danish)* 7—1214
  optical switching and bistability in semiconductor materials, overview 7—50630
  optical tristability with multilayer interference laserlight modulator 7—5939
  organic photochromic thin films, optical nonlinearity and resonant bistability 7—57442
  parameter meas. by interference laser light modulator 7—43193
  parametric resonance in crystals, dynamic bistability 7—1216
  periodic nonlinear media, nonperturbative bistability 7—20320
  periodically modulated laser subharmonic bifurcation and bistability, periodic solns. study 7—62662
  planar waveguide, self-interaction and bistability 7—43375
  polarised bistability criteria, formal and heuristic method 7—57411
  quantum fluctuations in optical bistability, review 7—1056
  quantum optical system, noise effects in optical bistability 7—1058
  quantum theory of optical bistability for small systems 7—1057
  quantum well structures, electro-optic props., device applications *(Japanese)* 7—22223
  quantum well structures, linear optical props. elec. field depend. waveguide electroabsorpt. and sum rules 7—13133
  random field single-photon excitation 7—57397
  reflection grating real-time holography, multistability 7—5856
  ring laser, homogeneously broadened, optical bistability and instabilities due to mode-mode competition 7—62735
  saturable absorber boundary, bistability by reflection 7—62800
  self pulsing and chaos in bistable and tristable systems 7—11049
  semiconductor absorpt. edges, optical bistability, review 7—25868
  semiconductor devices, carrier surface recombination 7—57401
  semiconductor DFB laser amplifiers, optical bistability 7—57324
  semiconductor doping superlattices, n-i-p-i crystals 7—7348
  semiconductor face-pumped laser, bimolecular recombination, bistability theory 7—57336
  semiconductor in low finesse cavity, optical transistor dynamic gain 7—57418
  semiconductor injection lasers, switching speeds, review 7—57325
  semiconductor laser amplifiers, low-energy optical switching 7—57369
  semiconductor laser amplifiers, optical bistability, physics and appls. 7—62751
  semiconductor laser amplifiers, optical bistability at 1.55 μm 7—57368
  semiconductor laser amplifiers, switching speed 7—50564
  semiconductor lasers, polarisation switching, injection locking mechanism 7—57380
  semiconductor multiple quantum wells, optoelectronics for optical modulation and bistability 7—25952
  semiconductor quantum wells, optical modulators and bistable devices using self-electro-optic effect 7—5990
  small bistable system quantum statistics 7—62757
  soliton amplitude bistability in ring resonator 7—43197
  spatial dissipative structures, generated by diffusion and photochem. bistability 7—46111
  squeezed state generation in optical bistability 7—62766
  state equations, control plane description 7—57404
  superlattices for optical components improvement *(Swedish)* 7—1284
  surface plasmon optical bistability beyond plane waves in nonlinear dielectric 7—57429
  switches and transistors, development progress *(German)* 7—50500
  switching between bistable soliton states of highly nonlinear Schrodinger equation 7—43202
  switching delays, model system of passive resonator containing absorbing gas 7—31383
  switching time distribution width 7—62763
  switching using stimulated Rayleigh scattering 7—25895
  tandem-electrode laser diode, flip-flop operation, tuning characts. 7—57315
  thermally induced optical bistability dynamics, steady-state model 7—50617
  thermally induced optical bistability with two holding beams investig. 7—57395
  transient optical bimodality theory 7—62755
  transient optical bistability fluctuations 7—62756
  transparent biaxial crystals, nonlinear refr. in conical refr. region 7—31382
  two-level atoms, coherently driven, first-order phase transition 7—62749
  two-level atoms, intrinsic optical bistability, quantum-electrodynamical many-body treatment. 7—37019
  $BaTiO_3$, self-pulsing and self-pumping, bistability and noncommutative behaviour 7—43201
  CO_2 homogeneously broadened ring laser, optical bistability and instabilities due to mode-mode competition 7—62735
  CO_2 laser, optical bistability, regular- to sequence-band switching 7—5947
  CS_2, use in nonlinear light guides of nonresonant type *(German)* 7—57609
  CdHgTe and CdTe, optical nonlinearities and bistability 7—57435
  CdS, absorpt. optical bistability, lattice heating study 7—43205
  CdS, absorption-induced optical bistability 7—57444
  CdS, optical bistability 7—57432
  CdS platelet, nonlinear optical and transport props. of many exciton system 7—32920
  CdS platelets, fast all-optical switching 7—57430

optical bistability continued
- CdS, refractive index nonlinearity due to excitonic molecule resonance state 7—11044
- CdS thermally induced optical bistability study 7—11047
- CdS, three types of electronic optical bistabilities 7—43262
- GaAlAs passive waveguide, intrinsic optical bistability obs. 7—57425
- GaAs all-optical logic gate arrays, fabrication and characterisation 7—57414
- GaAs biased semi-insulating, cross modulation effect 7—50731
- GaAs etalons, pulsed optical logic 7—57412
- GaAs, multiple quantum wells, absorption-induced optical bistability 7—57444
- GaAs ultrafast all-optical logic gate based on MQW bistable device 7—57415
- GaAs-AlGaAs MQW optical NOR gate, exciton and carrier dynamics, time resolved obs. 7—50628
- GaAs-AlGaAs multiple quantum well lasers, voltage-controlled optical bistability, 2D exciton 7—5883
- GaAs-GaAlAs MQW, optical bistability due to induced absorpt., model 7—5943
- GaAs-GaAlAs MQW ultrafast all-optical gate with subpicosecond ON and OFF response time 7—11026
- GaAs-GaAlAs monolithic laser amplifier, C^3, with bistable characts. 7—25842
- GaAs-GaAlAs passive MQW waveguide resonators, all-optical switching effects, expt. study 7—15967
- GaAs-GaAlAs pnpn laser diode, optical bistability and switching characts. 7—62752
- HgCdTe Fabry-Perot IR bistable devices, parameter optimisation 7—57396
- InGaAsP TM-wave injected BH laser, ps switching optical bistability 7—50629
- InGaAsP-InP bistable lasers, temp. depend. 7—5887
- InSb bistable etalon, regenerative pulsations 7—20318
- InSb bistable optical arrays, diffusion effects 7—57447
- InSb Fabry-Perot IR bistable devices, parameter optimisation 7—57396
- InSb optical bistable elements as optical computer components 7—37025
- InSb optical switching elements, transverse coupling 7—57446
- InSb optically bistable etalon, critical slowing-down phenomena 7—5942
- InSb, room temp., cascaded bistable optical devices based on two-photon absorpt. 7—57413
- InSb transphasor, gain-bandwidth product 7—57417
- NH_3 lasers, FIR, instabilities and chaotic emission 7—15849
- Na Rydberg atoms, quantum optical bistability 7—62760
- Na vapour, bistability in intracavity resonant degenerate four-wave mixing 7—62789
- Na, vapour, counter-propagating beams, cross-trapping optical bistability 7—57487
- Nd doped Z 7—62713
- PbSnSe, IR optical bistability at mW powers 7—57436
- Si on sapphire, bistable optical device using guided mode excitation 7—57423
- Sm, polarisation switching and optical bistability in Fabry-Perot cavity 7—1218
- Sm vapour, optical bistability expts., polarisation switching 7—62759
- ZnS wavelength prism coupling, nonlinear coupler example 7—31385
- ZnS, ZnSe interference filters, simultaneous optical bistable switching on adjacent pixels, pattern recognition 7—57420
- ZnS, ZnSe nonlinear planar waveguides, bistability and self-pulsing using prism couplers 7—57427
- ZnSe, bistable interference filters, nanosecond switching at room temp. 7—11028
- ZnSe bistable interference filters, switching processes, steady-state model 7—50617
- ZnSe, dispersive bistability and absorptive switching 7—57434
- ZnSe interference filters, thermally deposited and molecular-beam-grown, CW laser pumped bistability 7—25861
- ZnSe interference filter triple bistable-element loop circuit for digital parallel all-optical computer 7—57409
- ZnSe nonlinear interf. filter white light switching, spatial light modulator design 7—57416
- ZnSe nonlinear visible interf. filter, critical slowing down 7—57419

optical cables
- 1.5 micron fibre submarine transmission system sea trial 7—31519
- apparatus for measuring the refractive index profile of an optical fibre 7—37231
- arc-fusion spliced fibres for improved reliability 7—11183
- conference, fibre optics, short-haul and long-haul meas. and appls., San Diego, CA, USA (Aug. 1985) 7—40998
- design for specialist appls. 7—11147
- dispersion shifted single mode fibre cable, low-loss, performance 7—31492
- fibre cable connection and loss meas. methods *(Japanese)* 7—43435
- fibre cable laying methods *(Japanese)* 7—43436
- fibre directional coupler splicing for duplex communication 7—50754
- fibre optic cable for CO_2 laser scalpel 7—14086
- fibres, Gaussian-profile dispersion-shifted, VAD manufactured, design and performance 7—11128
- flame-retardant optical fibre cables, low smoke, halogen free, development 7—11164
- graded-index fibres for given bandwidth, single-mode operation, synthesis 7—57595
- high-bandwidth fibre optic system using laser diode transmitters 7—25978
- industrial test methods for single-mode fibres and cables 7—37164
- integrated OTDR/throughput loss meas. system for environmental testing of cabled optical fibres 7—43460
- long-haul single mode fibre attenuation meas., laser and LED source effects 7—43414
- losses resulting from excess fibre length *(Japanese)* 7—50782
- measurement equipment for subscriber optical lines 7—62856
- multimode cabled coated optical fibres, graded-index, losses at low temp. 7—50749
- OTDR, high performance measuring instruments 7—9875
- OTDR for optical fibre cable meas. 7—14994
- plastic fibre optic technology introduction 7—50764
- plastics in telecommunications, conf., London, England (Sept. 1986) 7—9591
- secondary coating of optical fibres 7—11169
- sheath retraction in optical fibre cables 7—11165
- single mode graded index optical fibre cables characts. 7—37204
- single-mode fibres exposed to H_2, loss increase over long term *(French)* 7—50746
- submarine cable production using arc fusion splicer with profile alignment system 7—11185
- submarine cable splicing using self-core-alignment arc-fusion splicer 7—11186
- taper splice method for subscriber single-mode fibre cables 7—31530
- UV curable resins for cabling optical fibres 7—11166
- H_2 degradation reduction in optical cables, materials selection 7—11172
- H_2 generation from optical fibre cable materials 7—11170
- H_2 generation from optical fibre coatings UV curable acrylated resins 7—11171
- $In_{1-x}Ga_xAs_{1-y}P_y$-InP quarter-wavelength-shifted DFB laser source for 1.55 μ underwater optical cable system *(Japanese)* 7—62720

optical character recognition
- multiple matched filter design for character recognition 7—50718

optical choppers *see optical elements*

optical coatings *see antireflection coatings; optical films*

optical coherence *see light coherence*

optical coherent transients
- *see also photon echo*
- atomic coherent transients meas. with ultrashort light pulses 7—31187
- atomic systems, transient temporally modulated laser radiation interaction 7—20296
- dimethylsulphoxide, vibr. dephasing time meas., coherent Stokes Raman scatt. 7—57075
- modified Bloch equations for solids, free induction decay rate 7—15957
- nonuniformly broadened media, oscill. induction signals and echoes 7—37059
- nutation and free induction decay, optical Bloch equation 7—15925
- radiation absorpt., high-power, generalised nonlinear master eqns. with finite correlation time. 7—25863
- ruby rod, small-area pulse duration reduction during coherent propag. across absorber 7—50654
- three-level atoms, optical free induction decay quantum beat 7—57482
- three-level molecule, vibr. dephasing time meas., coherent Stokes Raman scatt. 7—57075
- two-level atom, pulse compression by spectral hole 7—57483
- two-level electronic systems, nonlinear optical phenomena with finite memory effects 7—25905
- ultracoherent transient spectroscopy using phase and amplitude modulated laser pulses 7—18880
- CO_2 ultrashort laser pulse optical free induction decay, freq. spectrum 7—31405
- Yb, $^3P_1$-$^1S_0$ transition, oscillator strength, lifetime, coherent optical techniques and fluoresc. spectra 7—42542
- Yb vapour, coherent transient optical pulse-shape storage/recall using frequency-swept excitation pulses 7—37054

optical collimators
- autocollimation focusing devices for optical systems, photoresistors used as image analyzer 7—37110
- manufacturing micro-optic devices with low insertion loss using autocollimated imaging 7—37205
- projection system with electrostatic lenses, aberrations calc. 7—57517
- projector image aberrations, illumination system collimator effect 7—57516
- satellite datalink using hologram laser beam corrector-collimator 7—25754
- two-mirror compact collimator, aplantic, design, fabrication and testing 7—43328

optical communication
- *see also optical links*
- fibre and cable design for specialist appls. 7—11147
- fibre optic communication systems technology 7—15971
- fibre-optic technology and applications in power industry *(French, English)* 7—15972
- fibres, multimode, polaris.-modulated signals transmission and holographic multiplexing 7—37199
- fibres, multimode, slow fluctuations of group delay and intensity of coherent optical signals 7—43395
- fibres, pulse propag., theoretical study *(Spanish)* 7—37168
- fibres, transmission principles and manufacture *(French)* 7—15991
- fibres single-mode, nonlinear propag. at zero dispersion wavelength 7—15987
- glass, light and the information revolution, lecture 7—24253
- heterodyne optical communication, receiver performance 7—20469
- heterodyne/coherent optical fibre communications, ultimate performance 7—31490
- Holocoupler-Selfoc fibre system, coherent transfer matrix description 7—37198
- integrated optics use in telecommunications *(German)* 7—43446
- laser communication, picosecond laser pulses, transformation by multiple scattering media 7—42944
- laser heterodyne bias frequency-locking for coherent optical communication *(Chinese)* 7—57382
- lightwave technology developments 7—25975
- noise reduction and nonlinear optical processes in optical communication systems 7—31380
- non-destructive coupler with tunable splitting ratio 7—37156
- photonic material developments 7—25912
- quantum communication processes, mathematical model 7—10873
- single mode fibres with depressed index cladding or pure silica core 7—25969
- single-mode fibres, dispersion-shifted and dispersion-flattened designs 7—15990
- ultimate speed anal. 7—31268
- voice communication, 1970s and 1980s developments 7—31521
- InGaAsP DFB laser, phase noise and linewidth, effect on DPSK coherent system 7—31322
- $LiNbO_3$ for optical communication 7—31269

optical communication equipment
- *see also optical cables; optical waveguides*
- anti reflection coating design for fibre optic communication equipment, production run simulation 7—25937
- book, optical fibres 7—28
- Brillouin amplifier, semiconductor laser pumped with electronically controlled bandwidth, characts. 7—57460
- broadband metal/glass single-mode fibre polarisers 7—6007

optical communication equipment continued
  communication satellites appls., conf., Los Angeles, CA, USA (Jan. 1986) 7−29588
  composite logic gate element and multiplexer for optical computing and optical communications 7−57421
  coupler, bidirectional, active, compact for fibre optic transmission 7−6012
  coupler, WDM active, bidirectional transmission on single fibre 7−15994
  DFB semiconductor laser amplifier, optical freq. selective amplification 7−57311
  directional couplers for LANs, parallel single-mode/multimode fibres config. wave coupling study 7−31486
  dispersive fibres, pulse propag. broadening study 7−50776
  durable optical adhesives appl. *(Japanese)* 7−62850
  electro-optical modulators, total internal reflection, with multimode strip lightguides 7−43355
  fiberscope using SiO_2 image fiber, picture image transmission system 7−31482
  fibre and cable design for specialist appls. 7−11147
  fibre connector, low-loss small-size with precision plastic-molded ferrule 7−11150
  fibre connector and splices, low-loss, theoretical and exptl. study 7−43438
  fibre connectors using flexible fine ferrules 7−11151
  fibre coupler, biconical fused taper low-loss type, fabrication and characts. study 7−43439
  fibre optic couplers, connectors and splices, conf., San Diego, CA, USA (Aug. 1985) 7−24277
  fibre optic directional coupler, polarisation preserving 7−25999
  fibre optic transmitters and receivers for data communication, miniaturized modules 7−62847
  fibre optics, short-haul and long-haul meas. and appls., conf., San Diego, CA, USA (Aug. 1985) 7−40998
  fibre option for image transmission, historical and present perspectives 7−50775
  fibre-optic directional coupler, polarisation-preserving, appls. 7−1279
  fibre-optic hybrid receiver uses thick film technology 7−26021
  fibres, Gaussian-profile dispersion-shifted, VAD manufactured, design and performance 7−11128
  flat passband birefringent wavelength-division multiplexers 7−57604
  fluoride glass single-mode fibre, preform fabrication technique and transmission loss characts. 7−11117
  fluoride-glass single-mode fibres, ultralow-loss, design 7−11152
  guided-wave devices for telecommunication systems 7−62830
  heterodyne optical communication, receiver performance 7−20469
  Hitachi's fibre optic technology 7−37165
  holographic, deflection matrices, optical switching appl. 7−37206
  holographic optical element wavelength multi-demultiplexer in near IR 7−25756
  holographic wavelength demultiplexer for optical fiber communications 7−25774
  hybrid device, all-fiber 90° optical hybrid for coherent communications 7−57603
  infrared optical materials and fibres, conf. Los Angeles, CA, USA (Jan. 1986) 7−35091
  integrated acousto-optic device modules for communication, signal processing, and computing 7−31526
  integrated optics appls., including wave conductors and electro-optical couplers *(German)* 7−50790
  IR optical fibres in Japan, development for telecommunication appls. 7−37175
  laser diode transmitters for high-bandwidth fibre optic system 7−25978
  lens design, conf., Cherry Hill, USA (June 1985) 7−48161
  light guide measurement instruments *(German)* 7−62851
  manufacturing micro-optic devices with low insertion loss using autocollimated imaging 7−37205
  mid-IR fibre ultralow-loss communications 7−11175
  monolithic optoelectronic ICs for high-speed fibre optic transmission 7−37203
  multiplexing techniques and equipment *(German)* 7−1286
  narrowband tunable optical filter for channel selectionin densely packed WDM systems 7−11174
  optical long-wavelength components by VPE 7−46343
  optoelectronic devices for information processing andcommunications 7−1285
  photodetectors for optical fiber communication in the 1−1.6 μm wavelength range 7−43443
  planoconvex graded-index rod lens for diode laser/single-mode fibre low-loss coupling 7−15973
  plastic waveguides for optical dividers and mixers, development 7−11191
  receiver for FM-IM subcarrier system in analogue optical fibre communication system *(Chinese)* 7−1275
  semiconductor DFB lasers, single longitudinal-mode high-power type, design, theoretical aspects 7−10987
  semiconductor laser, optical transmitter appl. *(German)* 7−5913
  semiconductor laser diodes, relevant to IR fibreoptics technology, new developments 7−36963
  semiconductor laser for light-wave communication, development 7−15903
  semiconductor lasers with high-reliability for optical communications 7−43142
  semiconductors for integrated optics/optoelectronics in optical fibre communication systems, props. review 7−11178
  single-mode fibres, chromatic dispersion meas. technique using WDM 7−11140
  single-mode fibres jacketed with loose jelly-filled tube, loss mechanisms 7−11148
  single-mode fibres testing, equivalent-step-index parameters determ. 7−1283
  single-mode fibres with modified dispersion characts., review 7−11125
  sources in single mode fibre system, diode lasers versus LEDs 7−62844
  sources in single mode fibre system, diode lasers versus LEDs 7−62845
  submarine cable production using arc fusion splicer with profile alignment system 7−11185
  submarine cable splicing using self-core-alignment arc-fusion splicer 7−11186
  superlattices for component improvement *(Swedish)* 7−1284
  transimpedance measurement receiver units for constant optical power in optical fibre systems 7−43441
  transimpedance measurement receivers for modulated optical power in optical fibre systems 7−50785
  waveguide horn-grating demultiplexer circuit, single-mode operation 7−62846
  AlGaAs/GaAs laser diodes, advanced optoelectronic technology 7−1187

optical communication equipment continued
  GaAlAs wideband free-space lasercom transmitter, design 7−31354
  GaAlAs wideband lasercom transmitter, performance 7−31355
  GaInAsP/InP, planar single mode heterostructures, calculated characts. 7−31326
  $Ge_{0.6}Si_{0.4}$ rib waveguide avalanche photodetectors for 1.3 μm optical fibre communication 7−9896
  InGaAs-InP 1.5 μm photodetectors, optical communication appls. 7−37202
  $In_{1-x}Ga_xAs$-InP heterostructure APD for 1.55 μ optical fibre communication system *(Japanese)* 7−62843
  InGaAsP 1.5 μm DFB laser diodes, optical communication appls. 7−37202
  InGaAsP materials, OMVPE growth for long wavelength detectors and emitters 7−27931
  InGaAsP-InP DFB laser with modified double-channel planar BH struct., 1.3 μm high-speed operation 7−15896
  InGaAsP-InP DFB lasers with monolithic external cavity, spectral characts. for 1.3 μm 7−20281
  InGaAsP-InP-ridge waveguide lasers, LPE fabricated, design and 1.5 μm low-threshold operation 7−15897
  $LiNbO_3$ integrated optical components for optical communication appls. *(German)* 7−37210
  $LiNbO_3$, optical components for modulation and switching 7−15996
  $LiNbO_3$ waveguide electro-optic freq. translators, appl. to coherent optical fibre systems 7−20468
  $LiNbO_3$:Ti 4×4 directional coupler switch with permanently attached polarisation maintaining fibre array, low crosstalk 7−31520
  $LiNbO_3$:Ti electro-optic Mach-Zehnder waveguide modulators, 1.51 μm operation, optically induced drift effects 7−20404
  $LiNbO_3$:Ti X- and Z-cut directional coupler and BOA switches, voltage-length product 7−43352
  Nd:YGG waveguide laser amplifiers for fibre-optic communication 7−31359
  SiO_2-GeO_2:Ho very high-rejection optical fibre filters, design and characts. 7−15974
  YIG, FZ growth for magnetooptic devices in fibre-optic communication systems 7−27892

optical components *see optical elements*

optical computing *see optical information processing*

optical constants
  see also light absorption; reflectivity; refractive index
  7−33352
  n-alcohols, IR intensities in liq. phase, OH vibrs., assoc. model 7−53336
  alkali halides with Tl^+ impurities, excitons, optical absorpt. D band study 7−64096
  amorphous semiconductors, optical absorpt., tight-binding model 7−45961
  atmospheric optics, inverse problems 7−47537
  augmented partial sum rules for analysis of optical data 7−22212
  benzene, liq., absorpt. coeff. and dielec. const., bandshape expressions 7−64597
  chloroform, liq., absorpt. coeff. and dielec. const., bandshape expressions 7−64597
  dielectric mirrors, low loss, high reflecting for high power laser appls. 7−5967
  disordered 2D system, AC cond., anomalous permitt. 7−45406
  fibre, three-layer, with anisotropic core and elliptic inner cladding, characts. calc. 7−25972
  fused quartz, surface periodic struct. formation during vaporisation by CO_2 laser radiation 7−6936
  glass, absorption and reflection coeffs. meas. with SF-26 spectrophotometer 7−41424
  granular thin films, optical absorpt. continuous spectrum 7−22369
  light absorpt. by free carriers, quasi-2D semiconducting superlattices 7−45968
  lutetium bisphthalocyanine, doped p- and n-type thin films, cond., visible spectra anal. 7−52865
  magnetooptic multilayer films, permittivity tensor, photoelastic modulated ellipsometry 7−41426
  metallography, interference layer technique, phase optical consts., data collection construction *(German, English)* 7−4645
  methyl iodide, liq., absorpt. coeff. and dielec. const., bandshape expressions 7−64597
  MQW structures, linear and nonlinear optical constants 7−64721
  nematic liq. crystals, light scatt. and. propag. characts. 7−39078
  paper, optical constants determ. in FIR, inverse synthesis determ. method 7−3010
  polar fluids, FIR power absorpt., maximum freq. decrease with temp. 7−53319
  polar materials, band gap determ. from absorpt. spectra 7−45960
  polished glass surfaces, ellipsometric obs. rel. to losses in laser cavity 7−17297
  polyacetylene:I, photoexcitation spectra 7−64657
  polyacetylene, growth, struct., optical props. and photo-induced spin states 7−16455
  polyacetylene, I_2-doped, quantitative optical study 7−53380
  polyacetylene, order parameter and optical absorption, quantum fluctuations 7−63750
  trans-polyacetylene, third order optical susceptibility, $2A_g$ excited state obs. 7−62782
  trans-polyacetylene, triplet solitonic excitations, optical gap 7−2496
  trans-polyacetylene(-d), ns time resolved photoinduced absorption spectrum 7−64668
  polyacetylene films, oriented, optical props., photocond. meas. 7−64717
  polychlorotrifluoroethylene-Au composite films, optical response in visible region, effective medium approach 7−53433
  polydiacetylene-toluene-sulphonate, single crystal, transient photoinduced reflectance change study 7−53257
  polymers, vitreous, optical props., review 7−20375
  powders, finely dispersed, optical consts. light scatt. 7−39138
  rhodamine 6G, films and soln., optical consts. determ. 7−3064
  rough-surfaced absorbing surfaces, optical props., processing effects 7−39074
  semiconductor, photoexcited, fast carrier dynamics using modified Fresnel formula 7−31238
  semiconductor doping superlattices, physics and applications 7−52826
  semiconductor films, heavily doped, optical absorption band shift 7−7776
  semiconductor thin films, weakly absorbing, thickness, optical consts. and relax. time determ. 7−39194

optical constants continued
  semiconductors, ferromagnetic, dielectric function and reflectivity above T_c 7—7661
  single-layer metallic structures obs. in EUV and VUV 7—22215
  sputtered films, optical props., effective medium models *(Chinese)* 7—7774
  surface oxide films on metals, spectral polarised directional emissivity meas., stratified media theory interpretation 7—17291
  tetrahedral solids, semicond., dispersion of linear optical props., empirical tight-binding calc. 7—45966
  thin films, thickness and optical constants determ. from photometric and ellipsometric data 7—41419
  $(TMTSF)_2$ $AsF_6(SbF_6)$, SDW semicond. phase, for-IR conductivity 7—45969
  22-tricosenoic acid multilayers, optical consts. 7—22372
  ultrathin films, ellipsometric metrology using dual incidence angle meas., error anal., optimum angle determ. 7—24686
  Urbach optical absorpt. edge, electron band tails 7—16930
  $AgInTe_2$ polycrystalline thin films, elec. and optical props. study 7—58924
  Al films, angular dependent photoelectric yield and optical constants 7—45387
  Al-ethyl alcohol interface, surface polaritons, four-wave mixing 7—43244
  AlGaInAs layers on InP, LPE growth 7—33608
  Al_2O_3, corundum, single crystals, IR absorpt. and transmission spectra study 7—53305
  AlSb:Se, donor studies, incoherent laser saturation method 7—27298
  As_2S_3 films, prep. by spin coating or melt quenching, optical props. 7—39208
  As_2Se_3, cryst., optical props., ab initio total energy calcs. 7—45965
  As_2Se_3:Ni films, electronic struct. and transport props. 7—12595
  BN MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7—22023
  BaFCl, IR lattice vibr., dielectric dispersion and lattice dynamics 7—3044
  $BaPb_{1-x}Bi_xO_3$, semicond. phase, CDW gap, optical meas. 7—53328
  Bi films, size quantised, IR spectrum, optical cond., two-band model 7—27803
  $Bi_{12}GeO_{20}$, pure and doped crystals phys. props. 7—7283
  $Bi_4Ge_3O_{12}$, luminescence excitation and reflection spectra 7—46090
  $(Bi_{1-x}Sb_x)_2Te_3$ single crystal, optical constants, IR spectra study 7—46030
  $Bi_{12}SiO_{20}$, pure and doped crystals phys. props. 7—7283
  Br_2, liquid, optical props. 7—17294
  C MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7—22023
  a-C:H, props., review 7—51630
  a-C:H films, plasma deposited, optical props. 7—27799
  a-C:H plasma grown films, struct., physical props. 7—58713
  CO, adsorbed, integral absorpt. coeff., IR vibr. spectroscopy 7—53323
  CO_2 ice, absorpt. coeff. and refr. index, laboratory meas. UV to microwave, review 7—3008
  CaF_2 profiled crystals, growth by Stepanov's method, appl. for optical components 7—31409
  CaO-BaO-P_2O_5 glass fibres, stress optical studies 7—7673
  $CdIn_2S_2Se_2$, semicond., optical and elec. props. 7—33010
  CdS, excitonic polaritons, transmission and damping 7—58748
  CdS, integral exciton absorpt. coeff., temp. depend. characts. 7—45959
  CdS, transmission and damping of excitonic polaritons 7—58747
  $CdSe_xTe_{1-x}$, bound excitons, thermal dissoc., photoluminescence, reflectivity meas. 7—46122
  $CdSnO_3$, fundamental absorption edge, spectral dependence 7—45964
  p-CdTe RF sputtered thin films, resistivity, forbidden gap, optical and X-ray diffr. spectra studies 7—21747
  CeO_2, films, optical absorption edge and energy gap 7—33471
  Co, optical props., electronic struct. depend. *(Russian)* 7—33356
  $Co_{0.2}Ga_2S_{3.2}$ single crysts., optical props. and impurity energy levels meas. 7—13122
  CoO, band structure and optical absorption edge 7—45147
  Cr, surface EM wave absorpt., 4-350K 7—33354
  Cu, electronic props., spectrosc. investig. 7—59216
  Cu, polished surface, ellipsometric study of reflection 7—13121
  Cu-Fe alloys, electronic structure and impurity states, optical investigations *(Russian)* 7—32943
  $CuBiS_2$ thin films, spray pyrolytic deposition, elec. and optical props. 7—7894
  $CuGa_xIn_{1-x}Se_2$ mixed chalcopyrite local struct., K-edge EXAFS meas. 7—63574
  CuInSe thin films, flash evaporation prep. and characterisation 7—7893
  $CuInSe_2$, flash evaporation, elec. and optical props. 7—7892
  CuO-P_2O_5 glass, containing Pr_6O_{11}, optical props. 7—17292
  Cu_2S films, chemically sprayed, optical and solar selective props. 7—54350
  $EuGa_2S_4$, optical props. near fundamental absorption edge 7—17295
  Fe, ferromagnetic, band struct. and optical props. 7—2476
  $FeSi_2$ thin films, appl. to electro-optic VLSI interconnects 7—53427
  GaAlAs/GaAs heterostructure, absorption coeff. and thermal conductivity meas. by photothermal spectroscopy 7—41474
  GaAs excimer-laser-stimulated CVD, polycryst. thin film growth and props. 7—64912
  GaAs films, changes of optical consts. stimulated by external effects, determ. 7—22362
  GaAs, inversion layers, hot free electron gas, intraband absorpt. coeff. calc. 7—33083
  GaAs, ion implanted and laser irradiated, defect studies 7—32432
  GaAs LEC wafers, cathodolum. mapping, IR absorpt., X-ray topography obs. 7—33462
  GaAs, laser material, intervalence band absorpt. coeff. calc. 7—3015
  $GaAs$-$Ga_{1-x}Al_xAs$ superlattices, in appl. elec. field, interband optical transitions 7—53274
  $GaAs_{1-x}P_x$:N, bound excitons, energy spectrum, optical absorpt. cross section, two-band model 7—16945
  GaInAs/InP, nonlinear optical absorpt. at room temp. 7—59169
  $Ga_{0.47}In_{0.53}As$, laser material, intervalence band absorpt. coeff. calc. 7—3015
  $Ga_{0.28}In_{0.72}As_{0.6}P_{0.4}$, laser material, intervalence band absorpt. coeff. calc. 7—3015
  GaN:Zn, pure and doped, electrophysical props., nonhomogeneous semicond. model 7—27292
  GaSe, excitons, room temp. self screening 7—45166
  p-Ge, far IR multiphoton absorption 7—27723
  Ge, holes optical effective mass, determ. by interf. method 7—17290
  Ge IR absorpt. coeff. meas. with compensating calorimeter 7—56270
  p-Ge, nonlinear light absorpt. coeff., IR intensity study 7—53258

optical constants continued
  Ge, periodic surface microrelief, determ. optical constants of laser-irradiated material 7—63926
  Ge profiled crystals, growth by Stepanov's method, appl. for optical components 7—31409
  Ge, single crystal, optical constants, surface polishing effects 7—59175
  Ge-Sb-S glasses, bulk and thin film samples, optical and photo-acoustic props. study 7—22211
  GeN_x:H, amorphous, reactively sputtered, optical and electronic props. 7—58830
  GeO_2-$PrCl_3$ glasses, optical props. rel. to comp. 7—13150
  GeS single cryst., absorpt. coeff. meas., optical energy gap determ., 2D and 3D model anal. 7—17289
  a-$Ge_{30}S_{70}$ films, irreversible photobleaching 7—17353
  $Ge_{40}S_{60}$, amorphous film, photoinduced bleaching 7—13618
  a-$Ge_{20}Se_{70}$:Bi films, n-type, electron transport props. studies 7—7422
  H_2O-NH_3 ice mixtures, optical consts. determ. 7—23993
  HgCdTe, IR nonlinear absorpt., dynamic Burstein-Moss effect *(Chinese)* 7—50615
  $HgGa_2Se_4$, optical props. in fundamental absorption region 7—39065
  $Hg_{1-x}Zn_xTe$ solid solns. band gap, temp. and comp. depend. 7—58738
  I_2, liquid, optical props. 7—17294
  InGaAsP-InP waveguides, optical parameters 7—62831
  InP doping superlattices, nonlinear optical absorption 7—39069
  β-In_2S_3 thin films, spray pyrolysis grown, optical energy gaps 7—33467
  $In_{2-x}Sn_xO_{3-y}$-WO_3-MgF_2-Au, electrochromic coatings for solar windows 7—53621
  Ir complex, $(NEt_4)_4(Ir(CO)_2$4,4′,5,5′-tetracyano-2,2′-biimidazole) mixed valence cpd., anisotropic conductor precursors identified by intermolecular charge transfer 7—7190
  $KD_y(WO_4)_2$, vibr. characts. of O bonds, IR and Raman spectra 7—32587
  K_2O-PbO-SiO_2, glass, props. rel. to phase diagram 7—13117
  LiF profiled crystals, growth by Stepanov's method, appl. for optical components 7—31409
  MgO, single crystals, IR absorpt. and transmission spectra study 7—53305
  $Na_2B_4O_2$-NiO, tetraborate glass, optical absorpt. effects of NiO additions and annealing 7—22851
  Na_2O-Li_2O-P_2O_5 glass fibres, stress optical studies 7—7673
  NiS thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7—32870
  NiSe thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7—32870
  Pb thin film, optical consts. in visible region 7—7662
  $Pb_{1-x}Cd_xSe$, inter-band transitions, thermoreflectance study 7—3029
  $PbGa_2S_4$ single cryst., optical absorption and photocond. studies 7—2635
  PbSe, energy band structure, thermoreflectance study 7—3028
  $PbSe_{1-x}S_x$ epitaxial films, absorpt. edge, band gap, comp. depend., 77-300K 7—39063
  $PbSe_{1-x}Te_x$, optical absorpt. edge slope increase, comp. depend 7—39064
  PbTe, mag. susceptibility, optical absorpt. spectra, effect of intrinsic defects 7—64670
  $PbTe_{1-x}S_x$ epitaxial films, absorpt. edge, band gap, comp. depend., 77-300K 7—39063
  S, liq., index of refr., refl. and extinction coeff. 0.4 to 2.0 μm, temp. depend. 7—3009
  Sb_2S_3 single crystal optical absorption and luminescence obs., 2 to 367K *(Japanese)* 7—39151
  a-Se, structural disorder model 7—26641
  $Se_{1-x}Tl_x$, liq. semicond., Se-rich, optical absorpt. edge 7—22213
  Si alloys, amorphous, CVD, electrical and optical props. 7—33596
  Si film growth for MOS-VLSI, Ti and Pt silicide form. 7—7870
  Si, ion implanted, damage profiles, multilayer anal. by optical spectra *(Chinese)* 7—58294
  a-Si, obliquely deposited film, elec. and optical props. 7—12529
  Si, periodic surface microrelief, determ. optical constants of laser-irradiated material 7—63926
  Si polycrystalline films, optical props. 7—7782
  a-Si, tetrahedrally bonded, bond angle disorder 7—32297
  a-Si:H, C superlattice struct., solar cell performance 7—46945
  a-Si:H, laser-assisted CVD growth, optical props. 7—22210
  a-Si:H,Ge single junction and tandem solar cells, thin film properties and corollary plasma diagnostics 7—13893
  Si:H based alloy thin films, optical constants determ., device modelling appl. 7—7666
  a-Si:H evaporated layer production from RF discharge, growth mechanism and props. 7—64898
  a-Si:H film, photo-assisted plasma CVD 7—33593
  a-Si:H films, CVD, optical and electronic props. 7—33597
  a-Si:H films, deep levels in the mobility gap 7—12670
  a-Si:H films, electron irrad., photocond., absorpt. coeff. spectral depend. 7—64279
  a-Si:H films, RF glow discharge deposition, optical and electrical props. 7—33598
  a-Si:H films, sputter deposition, optical and ESR props. 7—33565
  a-Si:H sputtered film, low-temp. optical props. 7—3101
  a-Si:H thin films, elec. and optical props., thickness depend. 7—46168
  a-Si:H/a-SiN_x:H, amorphous multilayer structures, optical props. 7—3014
  a-Si:H/a-SiN_x:H superlattice films, prep., struct., and optical props. *(Chinese)* 7—58676
  Si:P, pulsed laser annealing, molten phase local nucleation study 7—63655
  a-Si:Se(Te) thermally evaporated films, photoelectronic props. 7—38640
  Si-SiO_2, interface props., ellipsometry *(Russian)* 7—17293
  SiC, hot pressed, IR optical absorpt. and refl. 7—59167
  SiC mirrors, soft X-ray reflection 7—41553
  a-SiC:H, elec., optical and local structure props. 7—45089
  SiC:H,F amorphous films, struct., elec. and optical props. 7—22360
  $Si_{1-x}Ge_x$ films, optical band gap, photocond. props. 7—52672
  Si_xGe_{1-x}:H,F amorphous films, struct., elec. and optical props. 7—22360
  a-SiN:H films, optical absorption const. evaluation by photothermal deflection spectroscopy 7—22361
  SiN_x:H,B, microcrystalline, wide-gap, RF glow discharge deposition 7—22503
  SiO_2, fused, optical constants, ATR determ. 7—27681
  SiO_2-Si_3N_4, multilayer nonabsorbing systems, multiple angle of incidence ellipsometric anal. 7—39203
  SiO_2-Si_3N_4-MgF_2, multilayer nonabsorbing systems, multiple angle of incidence ellipsometric anal. 7—39203
  a-SiSn:Cl,H glow discharge films, elec. and optical props. *(Chinese)* 7—58805
  a-$Si_{1-x}Sn_x$:H films, electronic structure of divalent defects 7—32960

optical constants continued
- $Si_{1-x}Sn_xO_{1+x}$ amorphous thin films, optical and structural studies 7—64714
- a-$Si_{1-x}Te_x$ amorphous alloys, electronic and optical props. 7—7234
- Sn, optical properties in 2.5 to 40 μm range 7—59271
- SnO_2:Cl coatings, electrical and optical props. 7—58925
- SnO_2:Sb thin films, doped and undoped, prep. by photolysis, phys. props. 7—22368
- SnSe, IR absorpt. edge, transition temp. coeffs. 7—27721
- TeO_x:Ge,Sn films, optical props., thermal stability 7—39207
- TiC mirrors, soft X-ray reflection 7—41553
- TiO_2, single crystals, IR absorpt. and transmission spectra study 7—53305
- W, oxidation, normal spectral emissivity meas., 800-1000K 7—26988
- W-C multilayer X-ray mirrors, optical constants of layers 7—20389
- WC mirrors, soft X-ray reflection 7—41553
- YIG, optical reflectivity meas. by synchrotron radiation spectroscopy 7—59135
- Y_2O_3, single crystals, optical spectra in VUV 7—53363
- $Y_2Ti_2O_7$, small-polaron conduction 7—21915
- ZnO:In films, microstruct., elec. and optical props., film thickness depend. study 7—16895
- Zn_3P_2, optical props. 7—39067
- ZnS_xTe_{1-x}, semicond., optical bowing 7—33352
- ZrO_2, single crystals, IR absorpt. and transmission spectra study 7—53305
- ZrO_2 thin films, high index, optical consts. in UV region 7—7775
- ZrO_2 thin films, optical consts. in UV regions, influence of evaporation parameters 7—39193

optical correlation
- acousto-optic multichannel space-integrating correlator, general I and Q data processing 7—10870
- acousto-optic signal processors, polarisation effects 7—25723
- acousto-optical correlators possible appls. in radiointerferometry 7—60569
- astronomical object image construction using coherency functions, atm. distortion compensation 7—55481
- autocorrelation functions, deformation and reconstruction 7—15819
- autocorrelator based on multiphoton ionisation, for UV and visible regions 7—43133
- Cauchy/Schwarz inequality, constraint in power spectrum/autocorrelation anal. and image reconstruction 7—42996
- colour image correlation 7—62631
- compact minicorrelator for pattern recognition 7—57523
- crossbar signal processor, design 7—25722
- diffuser transmission functions and far-zone speckle patterns, correlation function 7—42932
- digital correlator, fibre-optic, proposed topologies 7—42988
- disperse medium, light scatt., correl. radius estimate 7—42917
- filter synthesis by iterative technique 7—5848
- filters, phase-only and binary phase-only, for threshold detectors 7—43329
- holographic correlator, signal parameters, medium nonlinearity and filter spatial limitations effect 7—50514
- image correlation by four-wave mixing in photorefractive media, computational model 7—42950
- image correlation using pulsed dynamic holography, expt. study 7—20147
- image information transmission, storage, and acquisition using an acousto-optic cell and optical matched filters 7—20143
- image processing, optical median filtering using threshold decomposition 7—43331
- inhomogeneous medium, light scatt. and propag., longit. correl. fn. 7—36881
- laser speckle, aperture integrated, clipped correlation functions 7—36879
- Lau interferometry and diffraction correlation *(Chinese)* 7—57247
- lens testing method based on boiling phenomenon of laser speckle 7—43319
- liquid crystal TV as spatial modulator for optical data processing 7—25958
- medium accuracy optical computing, highly redundant number representation 7—10864
- multichannel optoelectronic processor with correlation-function processing 7—25740
- multiple matched filter design for character recognition 7—50718
- natural scene colour and spatial structure, photographic colorimetry 7—41420
- nonlinear crysts., near-surface SHG for autocorrelation meas. 7—57451
- parallel array logic system, architecture without memory elements 7—20144
- pattern recognition using Fresnel holographic filter and extended source 7—62633
- periodic optical signals, charactn. using 3rd order statistical functions 7—50504
- phase grating detection, speckle correl., optical inverse scatt. 7—50495
- quartz, rough surfaces, optical correl. study 7—42916
- radiation absorpt., high-power, generalised nonlinear master eqns. with finite correlation time. 7—25863
- Raman amplifier, phase correlation, pump beam temporal struct. effects 7—20343
- rotation invariant composite filters 7—25942
- spatial-temporal correlation filter for in-plane distortion invariance 7—50717
- speckle intensity correlation, clipping technique 7—42929
- speckle statistical theory, correlation function 7—42927
- synthetic discriminant function filters, computer-generated and phase-only 7—20392
- tracking nonlinearity of correlator 7—57249
- trimethylchlorogermane, liq., vibr. anal., isotope effects, Raman bandshape anal. 7—33371
- triple correlation as phase closure technique 7—20152
- wavelength-angle multiplexing 7—25939
- white light speckle, digital image correlation, image distortion effects 7—42997
- $BaTiO_3$ crystal, signal correlation with phase conjugate holographic reconstruction 7—20155

optical correlation methods *see optical correlation*

optical correlators *see optical correlation*

optical coupler losses *see optical losses*

optical couplers
- beam splitters, fibre-optic polarising, anal. 7—15980
- biconical fused taper low-loss fibre coupler, fabrication and characts., temp. meas. appl. 7—43439
- bidirectional, active, compact for fibre optic transmission 7—6012
- book, optical fibres 7—28

optical couplers continued
- chalcogenide glass grating couplers, fabrication using electron beam induced Ag doping *(Japanese)* 7—62817
- channal waveguides intersecting at right angle, Bragg grating coupling analysis 7—6023
- CID-MCP detectors for scientific appls., fibre optic coupled 7—30087
- connector, epoxyless polishless plastic, for multimode fibres 7—26015
- corrugated waveguide diffraction gratings in integrated optics, TE-TE and TM-TM coupling coeffs. 7—26035
- desorption, light induced, bistability mechanism in integrated optical devices 7—57424
- dielectric/semiconductor guided-wave bistable devices, periodic coupling 7—57426
- directional coherent coupler, nonlinear, instabilities, all-optical phase-controlled switching 7—11027
- directional coupler, coherently mismatched, nonlinear nonreciprocity 7—11105
- directional coupler, polarisation-preserving, appls. 7—1279
- directional coupler switches, Δβ phase reversal, crosstalk characts. 7—26037
- directional couplers, coupled mode equations 7—50735
- directional couplers for LANs, parallel single-mode/multimode fibres config. wave coupling study 7—31486
- directional couplers made of nonidentical asymmetric slabs 7—57548
- directional couplers with gain or loss anal. and appl. to semiconductor slab dielectric guides 7—31457
- distributed-index planar microlens and stacked planar optics, coupling of optical fibres 7—31416
- domed LED coupling with multimode step-index optical fibre 7—31467
- electro-optic directional coupler switches, crosstalk due to reversed-Δβ electrode misalignment 7—20471
- electrooptic modulators, digital and quasi-linear, synthesized from directional couplers 7—50727
- fibre, birefringent polarisation-maintaining, mode coupling distrib. meas 7—31507
- fibre, single-mode with wide acceptance angle, design using flat disc lens 7—43406
- fibre cable connection and loss meas. methods *(Japanese)* 7—43435
- fibre connector and splices, low-loss, theoretical and exptl. study 7—43438
- fibre connector with index matching material, Fresnel reflection reduction methods 7—1267
- fibre connectors, factors influencing refl. loss *(German)* 7—43392
- fibre connectors, meas. *(German)* 7—43391
- fibre cores, coupling, critical examination 7—15977
- fibre couplers, single-mode fused tapered, simplified design equation 7—26009
- fibre couplers composed of unequal cores 7—20420
- fibre directional coupler splicing for duplex communication 7—50754
- fibre interferometer with 4×4 coupler quadrature outputs 7—31506
- fibre mode field transformer between dissimilar waveguides 7—50770
- fibre optic connector, low loss single-mode 7—26005
- fibre optic connector extrinsic loss mechanisms, production data and anal. 7—26007
- fibre optic coupler, fused biconic taper, environmental performance 7—26003
- fibre optic couplers, appl. to diagnostic expt. at Nevada Test Site 7—26001
- fibre optic couplers, connectors and splices, conf., San Diego, CA, USA (Aug. 1985) 7—24277
- fibre optic couplers, fused, mass production 7—26050
- fibre optic couplers, single-mode polarisation maintaining 7—26011
- fibre optic directional coupler, polarisation preserving 7—25999
- fibre optic directional couplers, biconical taper technology and device appls. 7—26008
- fibre optic directional couplers, single-mode asymmetrical tunable wavelength-selective with intermediate layer 7—43396
- fibre optic interferometric electrically tunable filter using the thermo-optic effect 7—37113
- fibre optic pyrometric sensor for high-temp. meas. 7—41393
- fibre optic sensors, extrinsic, for remote meas., impact on meas. techniques 7—11154
- fibre optic sensors, waveguide couplers, fabrication by ion exchange 7—57583
- fibre splices and connectors, book 7—18509
- fibre-optic branching coupler for large core PCS fibres 7—57560
- fibres, connection techniques *(Polish)* 7—15989
- fibres, single-mode, tapering 7—31484
- fused biconical monomode directional couplers, power transfer wavelength selectivity control 7—37159
- fused coupler anal. by effective-index method 7—20418
- fused D-fibre couplers 7—26010
- fused taper couplers, depend. on external refractive index, theoretical and expt. study 7—20417
- fused-fibre coupler as quarter-wave device, polarisation characts. in 1.55 μm wavelength region 7—20419
- glass waveguides, semiconductor-doped and ion-exchanged 7—43357
- gradient index lens for low-loss coupling of laser diode to single-mode fibre 7—31465
- gradient optical fibres, splice attenuation *(German)* 7—1277
- grating, couplers, fabrication technology and characts. 7—20412
- grating coupler on optical fibre 7—26004
- grating coupler/demultiplexer for fibre optic LANs using WDM 7—37152
- GRIN, speckle and modal noise techniques for coupling 7—20427
- Hewlett Packard HCPL-2400 coupler for 2040 Mbaud, review *(Italian)* 7—57577
- Holocoupler-Selfoc fibre system, coherent transfer matrix description 7—26016
- Holocoupler-Selfoc fibre system, coherent transfer matrix description 7—37198
- hybrid ray-mode analysis of high-frequency wave coupling into large waveguides and cavities 7—43373
- index matching materials for optical fibre connector reflection reduction 7—62839
- intensity-dependent guided wave phenomena 7—25872
- interfacing fibres with equipment, optical to electrical connection concept 7—37151
- junction devices in waveguide technology *(Polish)* 7—20459
- laser diode module for single-mode fibre based on confocal combination lens method 7—15984

optical couplers continued
- laser-diode/multimode-fibre coupling analysis using a planoconvex GRIN lens 7−31480
- LED, edge-emitting, coupling sensitivity to single-mode fibre 7−57585
- LED to single-mode fibre coupling efficiency analysis 7−20415
- lens coupling of laser diodes to monomode elliptic core fibres 7−20426
- liquid-crystal spatial light modulator, coupled to image converter, expt. investig. 7−43440
- low-loss coupler tapers, design 7−57568
- magneto-optical branching waveguide, appl. in nonreciprocal optical devices 7−57542
- matrix of gradient microlenses fabricated by electrostimulated diffusion, optical connectors development 7−25967
- metal strip gratings as submillimetre laser output couplers, power transmission theory 7−43339
- modal filter, highly selective evanescent, for two-mode optical fibres 7−5980
- modes of evanescent 3×3 couplers and three-core fibres 7−31477
- multimode dispersing fibre coupler to phase conjugator for polarisation recovery 7−43250
- non-destructive coupler with tunable splitting ratio 7−37156
- nonlinear directional coupler, beam-propag. method anal. 7−37148
- nonlinear guided-wave phenomena, review 7−57422
- nonlinear waveguide couplers 7−57555
- PC fibre connector stability, axial compressive force effects 7−57567
- picosecond light switch, design *(Japanese)* 7−1257
- planar acoustooptic 2×2 commutator switch 7−50741
- planar integrated-optic star coupler with cascaded three-ports 7−37153
- planoconvex graded-index rod lens for coupling laser diode to single-mode fibre 7−15973
- plastic optical fibre star coupler, fabrication 7−31468
- polarisation-maintaining fibre couplers with low excessloss 7−1269
- prism coupling efficiencies by direct meas. of coupling gap in integrated optical structures 7−6021
- reflection grating, second-order, canonical equations 7−43340
- reflection grating, second-order, theory 7−25945
- review of optical fibre couplers 7−50759
- ring resonator fabricated in phosphosilicate glass films deposited by CVD 7−15968
- semicircular core fibres, coupling characts. *(Japanese)* 7−20458
- semiconductor doped glass, integrated nonlinear optical device fabrication 7−25873
- semiconductor waveguides, coupling anal. between rib waveguides and optical fibres 7−25963
- single mode coupler manufacturing 7−26049
- single-mode connector, high performance, development 7−26014
- single-mode connector for broadband network appls. 7−37155
- single-mode fibre coupler, fabrication and appls. *(Japanese)* 7−6018
- single-mode fibre resonant cavity calcs. *(French)* 7−50745
- single-model fibre, mode coupling, advantage of using higher-order spatial-distortion-function harmonics 7−31505
- spatial sampler using integrated optic techniques, electrooptic directional couplers 7−31524
- splicing of optical fibres *(German)* 7−57538
- surface-emitting phase-locked array of diode lasers, 300 mW operation 7−57360
- taper coupler for integrated optics formed by ion-exchange under nonuniform electric field 7−50740
- tapered waveguide beam radiation 7−5995
- telecommunications using integrated optics including wave conductors and electro-optical couplers *(German)* 7−50790
- WDM active, bidirectional transmission on single fibre 7−15994
- AlGaAs laser rib-waveguide, gain- to index-guiding transition 7−31315
- GaAs-GaAlAs MQW waveguides, nonlinear propag. 7−26033
- GaAs/GaAlAs planar MQW structure, nonlinear coupling of guided waves 7−11106
- LiNbO$_3$ blazed grating couplers and appl. to integrated optics 7−15969
- LiNbO$_3$ integrated optical components for optical communication appls. *(German)* 7−37210
- LiNbO$_3$, optical components for modulation and switching 7−15996
- LiNbO$_3$ traveling-wave optical couplers and interferometric modulators, power requirements 7−57539
- LiNbO$_3$:Ti 4×4 directional coupler switch with permanently attached polarisation maintaining fibre array, low crosstalk 7−31520
- LiNbO$_3$:Ti 4×4 nonblocking interconnection network for test bed, video switching 7−26039
- LiNbO$_3$:Ti directional couplers, appl. of coupled-mode theory to design with non-parallel sections 7−20410
- LiNbO$_3$:Ti integrated optical devices, domain inversion effects 7−62849
- LiNbO$_3$:Ti X- and Z-cut directional coupler and BOA switches, voltage-length product 7−43352
- Nd:YAG laser unstable resonator output coupler based on Fabry-Perot interferometer 7−43166
- Ti:LiNbO$_3$ optical switch, three-electrode 7−15970
- ZnO thin-film waveguides, distributed coupling and fast switching 7−11104
- ZnS wavelength prism coupling, nonlinear coupler example 7−31385
- ZnS, ZnSe nonlinear planar waveguides, bistability and self-pulsing using prism couplers 7−57427

optical data processing *see optical information processing*

optical deflectors
- acousto-optic Bragg diffraction by deep bulk acoustic waves, appl. in optic spectrum analyzer 7−20584
- acousto-optic modulators, deflectors and Q-switches, basics 7−50605
- acousto-optical deflector used in real-time scanning laser microscope for biological research 7−47292
- acoustooptical Bragg diffraction, devices and appls. 7−45983
- focusing kinoform for lasers 7−25736
- image information transmission, storage, and acquisition using an acousto-optic cell and optical matched filters 7−20143
- laser scanner using stacked piezoelectric ceramic actuators 7−20312
- salinity distrib. meas. in salt-stratified, double-diffusive systems, by optical deflectometry 7−23092
- thin-film prism deflectors, optimisation 7−20399
- two-dimensional light scanning by waveguide acoustic modes of a plate 7−25944
- LiNbO$_3$ bulk wave acousto-optic deflector beam steering by interdigital transducer 7−1255
- LiNbO$_3$, uniaxial crystal anisotropic acousto-optic interactions 7−3021

optical design techniques
- *see also optical instruments*
- 3D simulator appl. 7−62814
- aberration characteristics of nonsymmetric systems 7−50689
- aberration coefficients, third order, target values 7−50688
- aberration field properties of simple non-axially symmetric optical systems 7−50691
- aberration-corrected systems, design principles 7−50687
- achromatic aplanatic lenses, design 7−62806
- achromatic combinations of holographic and refractive optical elements 7−50716
- achromatic mirror lens with corrected opening aberration *(Czech)* 7−62810
- achromatic single-component kinoform objective, with circular aberration coeff. 7−25737
- advanced technology optical telescopes, conf., Tucson, United States (March 1986) 7−55886
- alignment of diffraction and refraction components in optical systems 7−25925
- apochromatic optical system design 7−43312
- aspherical focusing lenses for high-power multi-wavelength laser systems 7−62808
- binocular objective design, gradient-index 7−31414
- binoculars, passive, with ocular disparity, design 7−62813
- biocular magnifiers and design methods 7−50695
- birefringent filter design for CW dye laser resonator, spectral tuning band 7−50720
- CAD, program for Apple Macintosh 7−50692
- Cassegrain telescope with spherical lens corrector, image quality improvement *(Chinese)* 7−4331
- compensated spherical surfaces in optical systems 7−25924
- concentrators, 3D nonimaging with inhomogeneous media, design 7−5970
- conic that best fits an off-axis conic section 7−11089
- cylinder lens design for X-ray laser 7−43317
- cylindrical kinoform lenses for monochromatic light, effect of fabrication errors 7−25923
- design, aspheres use 7−50690
- dielectric totally internally reflecting concentrators, design 7−43286
- diffraction grating, aplanatic grazing incidence, theory 7−11101
- echelle spectrograph, camera lens system design 7−55475
- electrostatic lens design, multiobjective optimisation techniques 7−25709
- electrostatic membrane mirror, configuring by least-squares fitting 7−31422
- eyepiece, two-component, design and correction, calc. process 7−25921
- Faraday isolator, simple compact high performance permanent magnet 7−31437
- fibre, radiation effects, design tradeoffs for radiation environments 7−1280
- fibre couplers, single-mode fused tapered, simplified design equation 7−26009
- fibres, Gaussian-profile dispersion-shifted, VAD manufactured, design and performance 7−11128
- fibres, polarisation-maintaining, low-loss, low-crosstalk, design and fabrication 7−11138
- fibres test system, optical system design with Gaussian beam input *(Slovak)* 7−31481
- fluoride-glass single-mode fibres, ultralow-loss, design 7−11152
- galvanometric scanning system with optimal high resolution 7−31427
- gas chromatograph./FTIR system, optimal design 7−48891
- Gaussian Schell-model beams in optical systems, matrix representation 7−11094
- geodesic lens family design, theoretical analysis 7−57507
- gradient index imaging systems, conf., Palermo, Sicily, Italy (Sept. 1985) 7−29570
- gradient index lenses, ray tracing, computation of ray-surface intersection 7−31418
- gradient-index lens system design for disc format cameras 7−30105
- half-cylindrical illuminance parameter for lighting design 7−11087
- high-resolution projection objectives using diffraction lenses 7−25922
- holographic diffractive optics for head-up displays 7−25749
- holographic gratings, aberration-corrected, design for use with Seya-Namioka monochromators 7−25947
- holographic lens for laser beam expansion, design 7−62812
- holographic optical element construction optics, design considerations 7−50715
- holographic optical elements, optimal design 7−43007
- Hubble Space Telescope, performance prediction using OSAC code 7−40707
- illumination distrib. in pupils of optical system and in image of axial point 7−50668
- integrated optical lens design using GRIN lens techniques 7−43449
- interference coating synthesis method 7−50713
- IR Fresnel lenses design and manufacture at British Aerospace, using high-density polyethylene 7−31428
- IR imaging system design, critical issues 7−50673
- IR technology and appls., Cannes, France (Nov. 1986) 7−29589
- IR zoom telescope development 7−31425
- irregular surface simulation using spline fitting 7−43311
- kinoforms phase structure synthesis 7−25738
- LAMAR protoflight X-ray mirror assembly, design, fabrication and testing 7−47705
- Large Deployable Reflector, IR to sub-mm, upgrading by active pupil wavefront correction 7−47707
- laser resonator, frequency pulling and anomalous dispersion, aberration and perturbation effect 7−11004
- laser scanner, spinning polygon, design 7−50705
- lens, CAD EASE development and user friendliness 7−57514
- lens design, aberration theory and the meaning of life 7−50678
- lens design, antirefl. coating parameters introduction in design phase 7−50680
- lens design, automatic, use of multi-image plane merit function 7−43310
- lens design, Brixner optimisation procedure 7−50683
- lens design, conf., Cherry Hill, USA (June 1985) 7−48161
- lens design, glass combinations selection method for aberration correction 7−50684
- lens design, interactive computer program 7−50693
- lens design, merit function construction with possible achievement of global min. 7−50682
- lens design and fabrication, standardisation of radii of curvature 7−31413
- lens design innovations 7−50674
- lens design program, intelligent, development 7−50676

optical design techniques continued
- lens design program by microcomputer with artificial intelligence 7—50677
- lens design program using simultaneous linear inequalities, improved version 7—50681
- lens design software, human dimension 7—50675
- lens optimisation, automatic, recent improvements 7—43309
- lens systems incorporating zero power corrector, design principle and appl. 7—50702
- lenses, airspace apochromats, glass selection using Buchdahl dispersion eqn. 7—43274
- lenses, condition for obtaining pre-specified astigmatism 7—20384
- lowpass multilayer filters, anal. and design 7—31439
- microscope objective, four-element, design 7—43313
- microscope objectives, design 7—50700
- microscope tube length tolerance calc. 7—48843
- mirror, honeycomb sandwich, thermal design 7—37089
- mirror, large multicomponent, image parameters 7—37090
- mirror design for producing specified raster shape 7—43296
- mirror with variable curvature, using bimorph piezoelectric plate 7—31423
- modulation transfer function for the display engineer 7—25730
- MTF study of best focal planes determined by different image quality criteria 7—36894
- multicomponent lens system, design of individual components, singlet use 7—20379
- multilayer X-ray optics design 7—41567
- ODMR, optical design for longitudinal optical observation in yoke magnets 7—9860
- ophthalmic lens design using spline surfaces 7—54813
- optomechanical design, annotated bibliography 7—35142
- periodic multilayer design using Chebysheff polynomials 7—43322
- phase contrast objective, point spread function in spherical aberration presence 7—37084
- plastic aspherical lens design and fabrication in Japan 7—43459
- point of sale hologram scanner, optical design 7—25783
- polarisation aberrations of lenses 7—50686
- position of best image plane of optical systems, determ. by double autocollimation method 7—50672
- pupil-function design for bipolar incoherent spatial filtering 7—31254
- push-broom linear array scanner, design of all-reflective flat-field objective 7—55320
- radiometry and the military 7—48826
- ray matrix method for analysis of opt. resonators with image rot. 7—50599
- ray-tracing program integrated with solid-modelling CAD system, Traz program 7—50679
- remote sensing of Earth resources, imaging spectropolarimeter-photometer for satellite 7—40604
- reversible lens, limitations on performance 7—50694
- scaling method for optical systems 7—50669
- scanning system, post-objective, correction scheme 7—43315
- SDI driving optics development 7—48824
- seasonally adjusted, geometrical optical performance evaluation 7—46918
- self-flushing optical window to prevent collection ofcondensates 7—1254
- soft X-ray optical systems, book 7—55901
- software for personal computers 7—43308
- solar absorber in fixed spherical reflector, optical anal. 7—23215
- space camera lenses, design 7—43314
- spectrometer, high-resolution, using spherically curved quartz crystals, design 7—4895
- system having concentric objective, operation 7—50671
- telephoto zoom lenses for 35 mm photography, design 7—50697
- telescope, four-mirror, performance and complexity comparison of aspheric and spherical primaries 7—37092
- telescope, pancratic system, exit pupil position determ. *(Czech)* 7—25928
- telescope, three-mirror, third-order aberrations formulae and design program 7—55466
- telescope historical development, rationale for design changes, cost drivers 7—37087
- telescope technology for Far Ultraviolet Spectroscopic Explorer 7—40709
- thin film multilayer design optimisation using Monte Carlo approach 7—37096
- thin layered interference mirrors, radiation damage reduction 7—31433
- thin-film prism deflectors, optimisation 7—20399
- toroidal reflectors with multilayered optical coatings, figured X-ray optics, unified geom. design 7—30140
- two-component objective calc. 7—43294
- two-lens cemented objective, struct. parameters automated calc. 7—37085
- two-mirror compact collimator, aplantic, design, fabrication and testing 7—43328
- variable focus, single lens, 3 CRT dichroic color graphics projector 7—25933
- vector aberration theory and the design of off-axis systems 7—50685
- vector triad calc. for system of refracting and reflecting surface surfaces 7—20385
- wavefront sensor, integrated optical, lens focusing onto detector array 7—26041
- wide angle distortion free holographic head-up display 7—25766
- X-ray optics, theories to optimise high refl. of mirrors and gratings 7—30141
- X-ray telescope, grazing incidence relay optics for solar astronomy, performance 7—47706
- Zeiss Gradal HS progressive addition lens, designs using splines, max. wearing comfort 7—50712
- zoom lens tolerances and design concepts 7—31426
- zoom lens with built-in range extender, paraxial anal. 7—50696
- zoom systems, four element with optomechanical compensation system 7—50711
- Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7—31424
- GaAs Fresnel waveguide grating lenses, aberration corrected, simulation 7—26036
- SiO_2 based fibre, radiation effects, design tradeoffs for radiation environments 7—1280

optical detection of ENDOR *see ENDOR; optical double resonance*

optical detection of magnetic resonance (EPR) *see microwave-optical double resonance*

optical detection of magnetic resonance (radiofrequency) *see magnetic double resonance; optical double resonance*

optical difference frequency generation *see optical frequency conversion*

optical diffraction *see light diffraction*

optical disc storage
- erasable laser recording, overcoated organic dye-binder medium 7—20148
- laser diode, optical disc memory light source, ML6000 series of high-power devices *(Japanese)* 7—20271
- readout system using reflecting discs, effect of birefringence of protective layer 7—57234
- reflection and scattering by pits on disc surface, microwave simulation 7—36889
- visual performance testing with stereoscopic TV displays, use of optical videodisk system 7—60129
- Tb-Co thin films preparation for erasable optical memory disk *(Japanese)* 7—7049
- TbCo film, optical disc memory struct., mag. props., underlayer film treatment effect 7—45767

optical dispersion
- *see also optical constants*
- advanced fibre optic systems, meas. and charactn. 7—43408
- bistability, dispersive, finite difference equations 7—50619
- bistability, dispersive, instabilities on low transmission branch 7—62767
- bistable systems, holding-field noise effects on optical switching 7—62754
- borate glasses, optical dispersion, reflection spectra in vacuum and extreme UV region 7—27734
- bounded crystals, exciton polarisation, spatial dispersion effects 7—17286
- chromatic dispersion measurement system using 'n' LD light sources different in wavelength 7—14995
- coil of single-mode fibre, birefringence and polarisation mode dispersion 7—31498
- fibre chromatic dispersion measurements and related system power penalties 7—43415
- fibre compensation, grating compressor with positive group velocity dispersion 7—57575
- fibre dispersion meas. technique using streak camera 7—57589
- fibre optics, transmission line circuit model description 7—62833
- fibre transmission capacity, 3 dB bandwidth 7—43385
- fibres, arbitrary cross section, mode dispersion 7—57574
- fibres, birefringent, anal. 7—57587
- fibres, Gaussian-profile dispersion-shifted, VAD manufactured, design and performance 7—11128
- fibres, single-mode with arbitrary index profiles, dispersion calc. 7—25976
- fibres single-mode, nonlinear propag. at zero dispersion wavelength 7—15987
- filter, prism based spectral filtering, for ultrashort pulses, group velocity dispersion correction 7—31441
- Fresnel diffraction at random phase screen inverse problem parameterisation, thermoplastic medium 'frost' deform. anal. *(Russian)* 7—50494
- Fresnel prism dispersion, effect on visual contrast sensitivity function 7—23358
- gases, low-pressure, in light guides, as high-power forward Raman amplifiers 7—20337
- GRIN planar waveguides with nonlinear cover medium, guided waves 7—37141
- interferometric technique for precise meas. of optical dispersion 7—9886
- IR coating materials, physical effects 7—37065
- laser resonator, frequency pulling and anomalous dispersion, aberration and perturbation effect 7—11004
- LED pulse distortion in single-mode fibres near zero-dispersion wavelength 7—6005
- lenses, airspace apochromats, glass selection using Buchdahl dispersion eqn. 7—43274
- modal dispersion of polarisation and its recovery by phase conjugation, model 7—43250
- noise effects in dispersive optical bistability 7—62753
- nonlinear TM-polarised nonlinear waves guided by thin dielectric films, calc. 7—5993
- parametric amplification of spreading light pulses under conditions of group velocity mismatch 7—1224
- phosphate glasses, optical dispersion, reflection spectra in vacuum and extreme UV region 7—27734
- pulses of different wavelengths, simultaneous propag. in three-level absorbers 7—15954
- resolution limits due to chromatic dispersion in optical time domain reflectometry 7—35570
- retinal optical intensity profile model for computer-aided visual acuity assessment 7—59976
- single mode, dispersion flattened, mode field radius 7—50773
- single mode and multimode optical fibres, dispersion meas. 7—43412
- single mode fibre cable, dispersion shifted, low-loss, performance 7—31492
- single mode fibre dispersion prediction, equivalent-step index parameters 7—43411
- single mode fibres, interferometric meas. of chromatic dispersion 7—43413
- single mode fibres, microbending loss eval. 7—57565
- single mode fibres, temp. depend. of chromatic dispersion 7—31489
- single-mode fibers, correlation of zero-dispersion wavelength with mode confinement parameters 7—15982
- single-mode fibre waveguide, chromatic dispersion determ. by interf. method 7—43389
- single-mode fibres, birefr., chromatic and polarisation mode dispersion, interferometric meas. 7—57571
- single-mode fibres, chromatic dispersion meas. technique using WDM 7—11140
- single-mode fibres, dispersion-determined limits on production tolerances 7—11119
- single-mode fibres, dispersion-shifted, chromatic dispersion meas. in 1.5 μm wavelength region 7—20416
- single-mode fibres, polarisation dispersion, model and anal. 7—6008
- single-mode fibres, refr. index profile determ. by far-field power meas. at 1300 nm 7—1272
- single-mode fibres with modified dispersion characts., review 7—11125
- spatial dispersion medium, optical SHG in exciton reson. region 7—37034
- thin films, refr. index dispersion meas. using interf. method 7—18863
- third harmonic generation in media with positive dispersion 7—1221
- ultra-short pulses and intracavity dispersion compensation 7—57387
- ultrashort optical pulse propagation in a dispersive medium 7—25862
- water vapour refr. index in IR windows, 19 to 7.8 μm 7—39066
- waveguide dispersion characts. description using generalised parameters 7—43369
- X-ray dispersing devices, comparison of natural crystals and multilayers 7—9929

optical dispersion continued
AlF_3 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7−27734
GeO_2:F-GeO_2, doped cladding-pure core single-mode fibre, dispersion study 7−43382
H_2 stimulated Raman scattering around 126 nm effect of refractive index dispersion 7−20326
$LiNbO_3$:Ti waveguide dispersion characts. description using generalised parameters 7−43369
Pd, optical constants measured by a multiple-wavelength ellipsometer 7−27683
Pd_2Si and PdSi, optical constants measured by a multiple-wavelength ellipsometer 7−27683
a-Si:H, optical dispersion relations, determ. 7−33353
Si_3N_4, amorphous, optical dispersion relations, determ. 7−33353
Si_3N_4, films, IR charactn., optical dispersion induced freq. shifts 7−27709
SiO_2 amorphous optical fibers, material dispersion study over IR region 7−7663
SiO_2 core optical fibres, triple clad, with zero total dispersion at wavelengths of 1.3 and 1.55 μm *(Japanese)* 7−50781
SiO_2 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7−27734
SiO_xNy dielectric waveguides, optical props. 7−57535
TiO_2, amorphous, optical dispersion relations, determ. 7−33353
ZnS, ZnSe nonlinear planar waveguides, bistability and self-pulsing using prism couplers 7−57427
ZrF_4 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7−27734
ZrF_4-BaF_2-LaF_3, mid-IR glass and optical fibres, dispersion characts. 7−37178

optical double resonance
see also microwave-optical double resonance
atoms, RF optical resonance line; effect of elastic collisions 7−57148
benzene, vibr. energy transfer, IR-UV double reson. 7−10718
cyclopropyl silane, excited torsional state, microwave spectrum, stark spectroscopy, ODR 7−50092
dibromodifluoromethane, V-V′ vibr. steady states, IR-UV double reson. study 7−50323
dye lasers, multimode CW, dynamical instabilities, stimulated Brillouin scatt. 7−50552
fluoroform-d, Coriolis splitting parameter, vibr. depend., IR double-reson. spectra anal. 7−42616
glyoxal, vap., Raman-optical double reson. spectroscopy 7−10635
jets, Raman scatt., Franck-Condon and double reson. study 7−31082
porphyrin, water-soluble dimers, excited-state props. fluoresc. spectra, EPR, ODMR 7−19925
system with common upper level, formation of signal pulse in pump field 7−1043
three-level atoms in laser cavity, dual-frequency radio optical resonance with nonlinear optical indication, line profile 7−57024
trifluoroiodomethane, IR RF double reson. spectra, rot. levels, nuclear quadrupole transitions 7−50205
two-level atomic system, double optical reson. with homogeneous broadening 7−62341
CN, collisional interelectronic and intraelectronic energy transfer involving rot. levels 7−36729
CN+Ar, rot. levels, collisional energy transfer, state-resolved study 7−10713
CaCl, $E^2\Sigma$ state, time-resolved optical double-reson. study 7−25590
CaF_2:Eu^{3+}, O^{2-}, quadrupole coupling and crystal-field shielding under hydrostatic press. 7−2551
Er II, hyperfine struct. meas. by collinear fast beam laser and RF laser double reson. spectra 7−49957
Hg-Ar complex, electronic states struct., pot. energy curves, visible fluoresc. spectra anal. 7−36631
I_2, $\beta(1g)$ ion-pair state, double-reson. spectra 7−31118
I_2, $F(0_u^+)$ ion-pair state anal., OODR and fluoresc. excitation spectrum 7−19931
ICl-Ne, A, E and X states, binding energies, optical-optical double reson. 7−62425
LaO, $X^2\Sigma^+$ and B^2Sigma$^+$ states, spin-rot. and hyperfine interactions 7−5715
Li_2, optical-optical double reson. and double reson. multiphoton ionis. 7−42742
NH_3, jets, Raman scatt., Franck-Condon and double reson. study 7−31082
NO predissoc. levels, multiphoton ODR lineshapes 7−31129
NO_2, optical selection in double resonant two-photon photodissoc. 7−23034
Pr^{3+}, excited state, NMR meas. by indirect optical detect. 7−15545
SF_6 jets, Raman scatt., Franck-Condon and double reson. study 7−31082
SiF_4, double reson. meas., ground state rot. transitions 7−25577
Sm vapour, vel. diffusion effects, RF-laser double reson., Raman heterodyne investig. 7−882
SnH_4, rot. spectrum in vibr. ground state obs. by IR-RF double reson. 7−25573
$YAlO_3$:Eu^{3+}, Van Vleck paramagnet, low field Raman heterodyne study 7−53179
$YAlO_3$:Eu^{3+} lattice and electronic contributions to the quadrupole interaction of trivalent Eu 7−2550

optical elements
see also diffraction gratings; fibre optics; holographic optical elements; mirrors; monochromators; optical collimators; optical deflectors; optical fibres; optical films; optical filters; optical isolators; optical modulation; optical polarisers; optical prisms; optical waveguides; optical zone plates
analog signal amplification by backward Raman scattering 7−37042
beam deflection as a method for testing optical components 7−20475
beam splitters, fibre-optic polarising, anal. 7−15980
beam splitters, polarising, for IR and mm waves 7−43325
cineform element synthesis, optical method based on multi-beam interferometry *(Russian)* 7−50794
components made from copolymer of styrene with acrylonitrile, birefringence 7−43271
convertor for marine quartz gravimeter 7−29262
correction plate fabrication by elastic deformation method for free support of blank 7−43455
eyepiece, two-component, design and correction, calc. process 7−25921
frequency shifters, wave-plate multipass counterrotating for heterodyne interferometry 7−35584

optical elements continued
Fresnel diffraction at random phase screen inverse problem parameterisation, thermoplastic medium ‘frost’ deform. anal. *(Russian)* 7−50494
high-temperature, alkali-rare-gas optical cell 7−41416
highly reflecting diffusers, middle-IR region, develop. status study 7−57615
hybrid quantum/thermal solar concentration systems using spectral selectivity 7−39967
insertion device beam line optics, review 7−43305
IR components fabrication, using diamond turning lathe 7−31540
large optical elements, plane surface shape testing with Fizeau interferometer 7−35585
metallic wire grids, free-standing, transmission coeffs. in FIR, numerical computation 7−37109
multilayer components for soft X-ray laser cavities 7−25844
nanosecond optical shutters for microchannel plate image intensifier tubes 7−20467
planar meshes with discrete loads, circuit modelling, equiv. mesh impedances 7−62600
polymer protective coatings of optical elements between operations 7−37062
reliability, effects of solder creep 7−15997
Reusch’s piles, selective light reflection, multiple domains *(French)* 7−36875
self-flushing optical window to prevent collection ofcondensates 7−1254
smoothly irregular layer, plane wave refl. 7−50488
spectrally selective shutter in proximity to focal plane 7−20397
squeezed light, effects of optical processing on nonclassical props., review 7−1054
sunlight transmission, passive optical element with selective angular reflection 7−57524
synchrotron beam line critical elements, heat transfer studies 7−42255
thin film beam splitter and appl. to Michelson interferometer 7−31436
transmission coeff. calc. 7−43300
window heating by pulsed laser, focal lengths and rise times 7−43179
X-ray dispersing devices, comparison of natural crystals and multilayers 7−9929
He-Ne laser, standardisation for metrological purposes 7−5909
KCl, cryst. F_A (Li)-centres exposed to radiation, bleaching rate 7−37060
MgF_2 polarisation analyser, high transmission for Lyman-α radiation 7−57526
PLZT light shutter for color viewfinder and video projector appl. *(Japanese)* 7−20398

optical ellipsometers *see ellipsometers*
optical ellipsometry *see ellipsometry*
optical fabrication *see optical workshop techniques*
optical fibre cables *see optical cables*
optical fibre losses *see optical losses*
optical fibre sensors *see fibre optic sensors*
optical fibres
see also optical cables
acoustic and optical waveguides, similarities and differences 7−1298
advanced fibre optic systems, meas. and charactn. 7−43408
advantages for computerised control systems, data highways and sensors 7−15988
aerial multiple pipe system, pulling force estimation and design of optical cord *(Japanese)* 7−6016
alignment technique, automatic 7−57613
amplified spontaneous Raman scattering in fibre Raman amplifiers 7−15978
anisotropic, cylindrical polar axes 7−43377
anti reflection coating design for fibre optic communication equipment, production run simulation 7−25937
apparatus for measuring the refractive index profile of an optical fibre 7−37231
arbitrary cross section, mode dispersion 7−57574
asymmetrical elliptical preforms or fibres, index profile meas. 7−50760
bend-optimised, dispersion-shifted step-shaped-index fibres 7−31475
Berry's topological phase, obs. by use of optical fibre 7−42905
biconical fused taper low-loss coupler, fabrication and characts., temp. meas. appl. 7−43439
birefringence determ. by normalised second-order factorial moment meas. 7−43376
birefringence meas., rotating linearly polarised light source appl. 7−18850
birefringent, anal. 7−57587
birefringent fibre waveguide with elliptic borosilicate cladding, polarisation characts. study 7−62835
birefringent optical fibre, polarisation instability, obs. 7−37162
birefringent polarisation-maintaining, mode coupling distrib. meas 7−31507
book, fibre splices and connectors 7−18509
book 7−28
bow-tie fibres, microbending losses 7−57572
bow-tie fibres with const. curvature, macrobends 7−57573
branching coupler for large core PCS fibres 7−57560
Brillouin amplifier, semiconductor laser pumped with electronically controlled bandwidth, characts. 7−57460
broadband metal/glass single-mode fibre polarisers 7−6007
cable, losses resulting from excess fibre length *(Japanese)* 7−50782
cable connection and loss meas. methods *(Japanese)* 7−43435
cable laying methods *(Japanese)* 7−43436
chalcogenide glasses in integrated and fibre optics, review 7−31412
characteristics and industrial production techniques *(French)* 7−1282
chromatic dispersion meas. of multimode optical fibre waveguides *(Czech)* 7−11122
chromatic dispersion measurement system using ‘n’ LD light sources different in wavelength 7−14995
chromatic dispersion measurements and related system power penalties 7−43415
coating developments, acrylate and silicone 7−25974
coating with open-cup applicators, slip mechanism 7−15985
coherent optical fibre delay-line processor 7−31253
coherent optical fibre system with Zeeman lasers 7−50786
coil of single-mode fibre, birefringence and polarisation mode dispersion 7−31498
communication, control and sensing appls. of optical fibres *(French)* 7−6009
communication satellites appls., conf., Los Angeles, CA, USA (Jan. 1986) 7−29588
communication systems technology 7−15971

optical fibres continued
compensation, grating compressor with positive group velocity dispersion 7−57575
components, in-line filter, switch and in-line attenuator 7−26002
conductors, connections *(German)* 7−57538
conference, fibre optics, short-haul and long-haul meas. and appls., San Diego, CA, USA (Aug. 1985) 7−40998
connection techniques *(Polish)* 7−15989
connector, epoxyless polishless plastic, for multimode fibres 7−26015
connector, low loss single-mode 7−26005
connector, low-loss small-size with precision plastic-molded ferrule 7−11150
connector and splices, low-loss, theoretical and exptl. study 7−43438
connector extrinsic loss mechanisms, production data and anal. 7−26007
connector with index matching material, Fresnel reflection reduction methods 7−1267
connectors, factors influencing refl. loss *(German)* 7−43392
connectors, meas. *(German)* 7−43391
connectors using flexible fine ferrules 7−11151
construction technology, materials, technique and future prospects *(Italian)* 7−1274
coupler, bidirectional, active, compact for fibre optic transmission 7−6012
coupler, fused biconic taper, environmental performance 7−26003
coupler, WDM active, bidirectional transmission on single fibre 7−15994
couplers, connectors and splices, conf., San Diego, CA, USA (Aug. 1985) 7−24277
couplers, fused, mass production 7−26050
couplers, single-mode fused tapered, simplified design equation 7−26009
couplers, single-mode polarisation maintaining 7−26011
couplers composed of unequal cores 7−20420
coupling between fibre cores, critical examination 7−15977
coupling efficiency analysis, LED to single-mode fibre 7−20415
crossbar signal processor, design 7−25722
crosstalk meas. on high birefringence fibres 7−57566
cut-end inspection method using acoustic emission sensor *(Japanese)* 7−11189
cutting tool, automatic, design and development 7−15998
depolarisation of light in irregular anisotropic single mode fibres 7−62841
design for specialist appls. 7−11147
DFB lasers, fibre optic technology advances 7−1193
dielectric rod waveguides with flat cross-section, anal. 7−43383
diffraction-schlieren image method of measuring hollowcylindrical objects 7−6024
digital correlator, fibre-optic, proposed topologies 7−42988
directional coupler, polarisation preserving 7−25999
directional coupler, polarisation-preserving, appls. 7−1279
directional coupler splicing for duplex communication 7−50754
directional couplers, biconical taper technology and device appls. 7−26008
directional couplers, single-mode asymmetrical tunable wavelength-selective with intermediate layer 7−43396
dispersion meas. technique using streak camera 7−57589
dispersion shifted single mode fibre cable, low-loss, performance 7−31492
dispersive fibres, pulse propag. broadening study 7−50776
distributed-index planar microlens and stacked planar optics, coupling of optical fibres 7−31416
domed LED coupling with multimode step-index optical fibre 7−31467
drawing, high speed and coating, review 7−11134
drawing, tolerance checking on diameters 7−62852
electricity and modern techniques, conf., Bordeaux, France (Oct. 1985) 7−14708
electricity supply, communications and meas. appls. of optical fibres 7−57578
electro-optical modulators, total internal reflection, with multimode strip lightguides 7−43355
ellipsometric characterisation of single mode fibres 7−43428
elliptically cored optical fibre for polarisation preservation using mode matching method, accurate numerical anal. 7−11116
EM wave transmission and propagation, book 7−24329
embedded fibres in graphite fibre reinforced epoxy, NDT by OTDR 7−28255
fabrication, end finishing by electric-arc method 7−43404
fabrication by outside vapour deposition, developments 7−11130
fabrication by plasma activated CVD, review 7−11132
fault location using He-Ne laser 7−31545
fault location using step frequency method 7−57558
fiberscope using SiO$_2$ image fiber, picture image transmission system 7−31482
fibre optic broadband networks, conf., Cannes, France (Nov. 1985) 7−35092
fibre optic links, bit error rate, noise meas. on laser diodes single modes 7−37230
fibres, birefringent, increase of minor field component 7−57584
fibres, vapour axial deposition, developments 7−11131
fine oxide particle VAD for optical fibre preforms *(Croatian)* 7−20481
finite-cladding lightguides, core-mode cutoff 7−31452
flame-retardant optical fibre cables, low smoke, halogen free, development 7−11164
fluoride glass optical fibre, Pr^{3+} impurities, photoluminesc. anal. 7−37144
fluoride glass single-mode fibre, preform fabrication technique and transmission loss characts. 7−11117
fluoride-glass single-mode fibres, ultralow-loss, design 7−11152
frequency-domain reflectometry, modulation freq. sweeping, for fibre diagnostics 7−14996
fringe contrast improvement in speckle photography, speckle reduction using vibr. optical fibre 7−9889
fused biconical monomode directional couplers, power transfer wavelength selectivity control 7−37159
fused coupler anal. by effective-index method 7−20418
fused D-fibre couplers 7−26010
fused taper couplers, depend. on external refractive index, theoretical and expt. study 7−20417
fused-fibre coupler as quarter-wave device, polarisation characts. in 1.55 μm wavelength region 7−20419
fusion splicing of multimode and single mode fibres 7−26053
Gauss approximation for light-wave propag. in system calcs. *(German)* 7−37170
Gaussian-profile dispersion-shifted, VAD manufactured, design and performance 7−11128
glass:Tb$_4$O$_7$ Faraday rotator low loss single mode fibres, MCVD fabrication 7−25993
glass, ultralow-loss, development, book contrib. 7−25917

optical fibres continued
glass core fibre with crystal cladding, fibre system fabrication for nonlinear optics 7−37188
glass fibre waveguides, colour centres 7−11081
glass fibres, UV-radiation induced colour centres 7−11082
glass optical fibres, efficient SHG 7−43399
glasses for ultralow loss fibres and waveguides *(French)* 7−25916
graded index, total acceptance angle 7−11155
graded index fibres, longit. strain meas. techniques 7−43418
graded-index fibres, methods to obtain mode equilib. distrib. *(German)* 7−50772
graded-index fibres for given bandwidth, single-mode operation, synthesis 7−57595
gradient index lens for low-loss coupling of laser diode to single-mode fibre 7−31465
gradient optical fibres, splice attenuation *(German)* 7−1277
grating coupler on optical fibre 7−26004
grating coupler/demultiplexer for fibre optic LANs using WDM 7−37152
GRIN, speckle and modal noise techniques for coupling 7−20427
group delays meas. of guided modes, in optical fibre waveguides *(Czech)* 7−57596
guided mode anal. using general power-series expansion method 7−31495
guided-wave devices for telecommunication systems 7−62830
hard clad silica fibres for data and power transmission 7−50765
heavy metal fluoride glass systems for optical device technology, radiation effects 7−37073
heavy metal halide glass fibre lightwave systems, extrinsic and intrinsic losses 7−31488
heavy metal halide glass fibres, IR materials, dispersion shifted fibre designs with low bending losses 7−37177
heavy metal halide glass fibres, single mode, at long wavelengths, ultra low microdeformation loss predictions 7−37176
heavy-metal fluoride glass fibres, impurity anal. using selectively excited photolum. 7−31473
helical-core circularly birefringent fibres, fabrication and charactn. 7−50756
hermetically coated optical fibres, anti-thermal and high strength coating development 7−31483
heterodyne/coherent optical fibre communications, ultimate performance 7−31490
high-bandwidth fibre optic system using laser diode transmitters 7−25978
high-birefringence fibres, dichroism eval. using crosstalk meas. 7−20421
Hitachi's fibre optic technology 7−37165
holder, zero-birefringence V groove, for fibres 7−43401
hollow and glass core chalcogenide fibres, comparison 7−37196
Holocoupler-Selfoc fibre system, coherent transfer matrix description 7−26016
Holocoupler-Selfoc fibre system, coherent transfer matrix description 7−37198
holographic optical element wavelength multi-demultiplexer in near IR 7−25756
holographic systems with HOE and optical fibres 7−25772
holographic wavelength demultiplexer for optical fiber communications 7−25774
hybrid integrated components for optical fibre communication and instrumentation systems 7−25997
hybrid receiver uses thick film technology 7−26021
image transmission using fiber option, historical and present perspectives 7−50775
imaging techniques utilizing optical fibres and tomography 7−25977
index matching materials for optical fibre connector reflection reduction 7−62839
Indian work on fibre optics, survey 7−57576
industrial test methods for single-mode fibres and cables 7−37164
infrared optical materials and fibres, conf. Los Angeles, CA, USA (Jan. 1986) 7−35091
integrated optical circuits in ultra-high speed fibre optic LANs 7−26038
integrated OTDR/throughput loss meas. system for environmental testing of cabled optical fibres 7−43460
interfacing fibres with equipment, optical to electrical connection concept 7−37151
IR, fabricated from chalcogenide glasses, development and appls. 7−20456
IR fibres, appl. for laser surgery in medicine 7−40248
IR optical fibres, meas. system for dispersion, attenuation, numerical aperture, optical time-domain reflectometry 7−37229
IR optical fibres in Japan, development for telecommunication appls. 7−37175
IR optics advances 7−11079
IR transmitting fibre optics, spectral props. 7−37179
junction devices in waveguide technology, optical couplers *(Polish)* 7−20459
laser beam transmission system using low-loss optical fibres *(German)* 7−37200
laser diode, dynamic spectra and propag. in single model fibres 7−20225
laser diode module for single-mode fibre based on confocal combination lens method 7−15984
laser diodes, index guided, 1.3 μm, far-field fine struct. study 7−57389
laser pulse narrowing by spectral windowing of self-phase modulated picosecond pulses in fibre 7−5928
laser-diode/multimode-fibre coupling analysis using a planoconvex GRIN lens 7−31480
lasers, fibre, superfluorescent, anal. 7−31329
lasers and optical fibres, technology, theory, propagation and nonlinear optical phenomena, review 7−43437
lecture on glass, light and the information revolution 7−24253
LED, edge-emitting, coupling sensitivity to single-mode fibre 7−57585
LED pulse distortion in single-mode fibres near zero-dispersion wavelength 7−6005
lens coupling of laser diodes to monomode elliptic core fibres 7−20426
light amplification due to nonlinear interaction of counterpropagating waves in a single-mode optical fiber 7−50646
light guide measurement instruments *(German)* 7−62851
light transmission, comparison with elec. conduction 7−57594
lightguides, time coherence effects of transverse laser modes 7−37009
lightwave telecommunication using optical fibres, history and current systems 7−50761
limits of dispersive optical fibre transmission for chirped pulses 7−31476
liquid-crystal-clad single-mode tapered 7−37173
logical invertor, stimulated Raman scatt. in optical fibre 7−57466

optical fibres continued
  long-haul single mode fibre attenuation meas., laser and LED source effects 7–43414
  loss meas. using optical time-domain reflectometer, launching and receiving conditions *(Japanese)* 7–31513
  low-loss coupler tapers, design 7–57568
  magnetic field sensor, wideband optical fibre, using $Cd_{1-x}Mn_xTe$ sensing element 7–25979
  manufacture at AT&T by MCVD 7–11129
  measurement equipment for subscriber optical lines 7–62856
  mechanical strength of optical fibres determ. *(French)* 7–11157
  microbending losses analysis in single-mode fibres 7–11115
  microoptic components formed by local modification of the structure of porous glasses 7–43451
  Microshell-tipped optical fibres, high-press. shock detectors 7–30030
  mid-IR fibre ultralow-loss communications 7–11175
  military service aspects of fibre optic technology 7–50774
  mirror, fibre-optic, fabrication 7–37214
  modal and coupling field anal. of fibres with circularly distributed multiple cores and central core 7–11127
  modal filter, highly selective evanescent, for two-mode optical fibres 7–5980
  mode conversion in fibres with monotonically increasing core radius 7–57590
  mode field diameter: toward a standard definition 7–57593
  mode field transformer between dissimilar waveguides 7–50770
  mode propagation in case of cladding limited by plane 7–1271
  modes of evanescent 3×3 couplers and three-core fibres 7–31477
  monomode tapered fibres, power oscillations obs. 7–57559
  multi-flame VAD process for high-rate fabrication of optical fiber preforms 7–43461
  multimode, polaris.-modulated signals transmission and holographic multiplexing 7–37199
  multimode, slow fluctuations of group delay and intensity of coherent optical signals 7–43395
  multimode cabled coated optical fibres, graded-index, losses at low temp. 7–50749
  multimode fibre, 1D image transmission, holographic optical elements 7–62836
  multimode fibre attenuation meas., interlaboratory comparison in China 7–43417
  multimode fibre exit phase changes, mech. and thermal effects, theoretical estimates 7–20460
  multimode fibre loss, automatic meas. of spectral depend., cutback method and system *(Czech)* 7–26052
  multiple-wave generation due to four-wave mixing in a single-mode fibre 7–50755
  multiplexing techniques and equipment *(German)* 7–1286
  multiply clad, cutoff decomposition 7–31497
  multisoliton pulse interaction, FM influence 7–43390
  new designs and fabrication techniques, sensors and laser action 7–50744
  noise pulses dispersive broadening, nonlinear compensation 7–57582
  noncircular core optical fibres made by pressurized MCVD method 7–57612
  nonlinear, with loss, soliton broadening compensation 7–43398
  nonlinear fibres, birefringent, nonperiodic power coupling 7–43379
  nonlinear inhomogeneous graded refractive index fibers, solitons transmission 7–20463
  nonlinear optical-fibre interferometer for photon number nondemolitional meas. 7–62653
  nonlinear optics for fibre meas. and special device functions 7–11139
  nonlinear three-wave stimulated Brillouin scatt., implications for optical fibres 7–37036
  nonregulated optical fibres, power loss calcs. *(Croatian)* 7–20457
  organisation coating of quartz optical fibres, polymerisation rate, thermophys. anal. 7–20461
  OTDR, high performance measuring instruments 7–9875
  OTDR for optical fibre cable meas. 7–14994
  OTDR for single-mode fibre using P_2O_5 doped fibre Raman laser 7–31517
  OTDR present and future 7–41436
  OTDR recent trends 7–56322
  parallel single-mode/multimode fibres, wave coupling study, LAN directional coupler appl. 7–31486
  passive components, differential mode loss and mode conversion 7–31496
  PC fibre connector stability, axial compressive force effects 7–57567
  PCM transmission systems *(German)* 7–43442
  periodic coherent pulse train transmission, broadening effects 7–11156
  phase conjugation by modal dispersal using fibre and mirror combination, polarisation recovery 7–11065
  phase noise anal. of system using laser source with arbitrary coherence time 7–15979
  photoelastic pressure sensor, using low-birefringence fibre 7–43429
  photonic material developments 7–25912
  planar integrated-optic star coupler with cascaded three-ports 7–37153
  planar waveguide losses meas. using coherent fibre bundle 7–50734
  plastic fibre optic technology introduction 7–50764
  plastic optical fibre star coupler, fabrication 7–31468
  plastics in telecommunications, conf., London, England (Sept. 1986) 7–9591
  polarimeter for fibre characterisation using narrow- and broad-band sources 7–35569
  polarisation maintaining with three layer elliptical cross section, transmission characts. 7–1268
  polarisation preserving fibres, discharge fusion splice optimum method 7–31529
  polarisation rotation, path depend. 7–37172
  polarisation-holding, internal rotation of birefringence axes 7–43400
  polarisation-maintaining, low-loss, low-crosstalk, design and fabrication 7–11138
  polarisation-maintaining birefringent, polarisation cross talk ultimate limit 7–25970
  polarisation-maintaining fibre, 26-km length 7–57570
  polarisation-maintaining fibre couplers with low excessloss 7–1269
  polarisation-maintaining fibres and their appls., review 7–11136
  polarisation-maintaining with hollow circular pits 7–31494
  polished, D-shape, geometrical birefringence 7–62837
  polybutadiene acrylates, UV-curable optical fibre coating material, low-temp. modulus 7–51911
  polymer coatings for optical fibers 7–11192

optical fibres continued
  polystyrene, plastic optical fibres, for near IR transmission, prep. 7–62834
  power industry appl. *(French, English)* 7–15972
  power transfer matrices used in system loss prediction, parabolic and step index fibres 7–50758
  preform fabrication using MCVD process control technique 7–15981
  preform manufacturing, homogeneous heating technique in MCVD 7–31534
  pulse compression with amplification in single-mode fibre 7–31518
  pulse propag. in fibres, theoretical study *(Spanish)* 7–37168
  pulsed power handling capability of optical fibers 7–20464
  quantum nondemolition detection of optical quadrature amplitudes in optical fibre, nonlinear optical interaction effects 7–25789
  quartz fibres, geometrically perturbed, light scattering 7–57563
  quartz single-mode three-layer ring optical fibre, intrinsic birefringence and polarisation dispersion props. 7–50777
  quasi-single-mode, sensitive determ. of higher-order modes 7–43397
  radiation effects, design tradeoffs for radiation environments 7–1280
  radiation effects *(Japanese)* 7–20430
  radiation effects 7–31512
  radiation resistance characts. 7–11144
  Raman microscopy study for nondestructive testing 7–46772
  receiver for FM-IM subcarrier system in analogue optical fibre communication system *(Chinese)* 7–1275
  refractive index profile reconstruction from transverse interferometric data 7–11113
  refractive index profiling using propagation-mode near-field method 7–11141
  refractive indices and birefringence meas., interferometric methods 7–29644
  reliability, review 7–20455
  repeaters, inverting to cancel distortion 7–15993
  resolution limits due to chromatic dispersion in optical time domain reflectometry 7–35570
  review of optical fibre couplers 7–50759
  review of optical fibre technology 7–20436
  ring Raman laser, all-fibre low-threshold synchronously pumped 7–57375
  secondary coating of optical fibres 7–11169
  semicircular core fibres, coupling characts. *(Japanese)* 7–20458
  semiconductor laser diodes, relevant to IR fibreoptics technology, new developments 7–36963
  semiconductor waveguides, coupling anal. between rib waveguides and optical fibres 7–25963
  sheath retraction in optical fibre cables 7–11165
  shocked optical fibres, spectral transmission characts. 7–31466
  short multimode graded-index optical fibre, intensity fluctuations *(French)* 7–62840
  side-tunnel fibre for single-mode, polarisation characts. 7–31474
  side-tunnel type, polarisation-maintaining, vectorial wave anal. by variational finite elements 7–11137
  signal phase meas. error when passed through multimode optical fibre 7–37013
  silica glass optical fibres, γ-irradiated and H_2 treated, 1.52 μm absorption band 7–37145
  silica optical fibres, defect struct. and drawing-induced absorption, drawing depend. 7–3071
  silicone materials for optical fibre protection 7–15992
  silicone-coated, influence of pH solns. on strength and dynamic fatigue 7–6006
  single crystal pulling, laser heated pedestal growth technique 7–53578
  single mode, dispersion flattened, mode field radius 7–50773
  single mode, elliptical, polarisation maintaining, effect of coatings 7–20454
  single mode and multimode optical fibres, dispersion meas. 7–43412
  single mode coupler manufacturing 7–26049
  single mode fibre dispersion prediction, equivalent-step index parameters 7–43411
  single mode fibre mode-field diameter meas. by knife-edge scanning in far field 7–31493
  single mode fibre non-Gaussian mode field meas. by far-field axial scanning technique 7–31491
  single mode fibre optic waveguides, cutoff wavelength meas. method 7–25971
  single mode fibre splicing techniques, statistical anal., splice loss per fibre-span meas. 7–43416
  single mode fibre structures, mode field diameter definitions 7–43410
  single mode fibre used for accurate optical alignment for laser wavemeter 7–11112
  single mode fibres, interferometric meas. of chromatic dispersion 7–43413
  single mode fibres, microbending loss eval. 7–57565
  single mode fibres, nonlinearities and their appls. *(French)* 7–26017
  single mode fibres, picosec. stimulated Raman generation, pump pulse fragmentation and fragment compression 7–50635
  single mode fibres, temp. depend. of chromatic dispersion 7–31489
  single mode fibres with depressed index cladding or pure silica core 7–25969
  single mode graded index optical fibre cables characts. 7–37204
  single-mode, charactn. using spontaneous Brillouin backscattering technique 7–6026
  single-mode, curvature depend. of effective cutoff wavelength 7–57586
  single-mode, design *(Japanese)* 7–1265
  single-mode, dispersion-shifted and dispersion flattened, splice loss, comparison 7–20428
  single-mode, high-strength long-length synthesised by vapour axial deposition 7–11135
  single-mode, nonlinear propag. at zero dispersion wavelength 7–15987
  single-mode, nonpolarisation preserving, nonlinearities 7–37161
  single-mode, pure-silica-core, transmission characts. and reliability 7–11145
  single-mode, standard meas. procedures 7–26018
  single-mode, step-index, microbending losses, anal. 7–20452
  single-mode, tapering 7–31484
  single-mode connector, high performance, development 7–26014
  single-mode connector for broadband network appls. 7–37155
  single-mode cutoff wavelength meas. errors 7–43403
  single-mode fibers, correlation of zero-dispersion wavelength with mode confinement parameters 7–15982
  single-mode fibre, coupling to laser diode using planoconvex graded-index rod lens 7–15973
  single-mode fibre, periodically deformed, radiation losses 7–57592

optical fibres continued
  single-mode fibre, polarisation retaining with improved coil performance 7−20451
  single-mode fibre, two modes, polarisation state preservation 7−6015
  single-mode fibre coupler, fabrication and appls. *(Japanese)* 7−6018
  single-mode fibre ends, polished, reflections 7−26012
  single-mode fibre meas. and standardisation 7−43409
  single-mode fibre resonant cavity calcs. *(French)* 7−50745
  single-mode fibre waveguide, chromatic dispersion determ. by interf. method 7−43389
  single-mode fibre with axis having periodic perturbation, cutoff wavelength meas. technique 7−15975
  single-mode fibre with wide acceptance angle, design using flat disc lens 7−43406
  single-mode fibres, birefr., chromatic and polarisation mode dispersion, interferometric meas. 7−57571
  single-mode fibres, chromatic dispersion meas. technique using WDM 7−11140
  single-mode fibres, circular and polarisation-maintaining, 2D index distrib. determ. from near-field meas. 7−11118
  single-mode fibres, dispersion-determined limits on production tolerances 7−11119
  single-mode fibres, dispersion-shifted, chromatic dispersion meas. in 1.5 μm wavelength region 7−20416
  single-mode fibres, dispersion-shifted and dispersion-flattened designs 7−15990
  single-mode fibres, fundamental mode field, non-Gaussian model 7−31478
  single-mode fibres, mode field diameter meas., transmitted field pattern method *(Japanese)* 7−1266
  single-mode fibres, mode field radius meas., harmonics detection appl. 7−37163
  single-mode fibres, polarisation dispersion, model and anal. 7−6008
  single-mode fibres, refr. index profile determ. by far-field power meas. at 1300 nm 7−1272
  single-mode fibres exposed to H_2, loss increase over long term *(French)* 7−50746
  single-mode fibres jacketed with loose jelly-filled tube, loss mechanisms 7−11148
  single-mode fibres testing, equivalent-step-index parameters determ. 7−1283
  single-mode fibres with modified dispersion characts., review 7−11125
  single-mode graded-index fibres; trial field for non-Gaussian field distribs. 7−11120
  single-mode optical fibre preforms, dimension control in VAD process 7−6025
  single-mode single-polarisation fibre using resonant absorbing effect, theoretical study 7−43381
  single-mode to multimode fibre power transfer, study using coupled-mode theory 7−11163
  single-mode WDM systems using Fabry-Perot interferometers, wavelength-selective filters appl. 7−57557
  single-mode with arbitrary index profiles, dispersion calc. 7−25976
  single-model fibre, mode coupling, advantage of using higher-order spatial-distortion-function harmonics 7−31505
  sol-gel procedure for optical fibres production with high SiO_2 percentage *(Croatian)* 7−20480
  soliton laser stabilisation, feedback from pulse-shaping fibre 7−50602
  soliton self-frequency shift in optical fibre 7−31501
  soliton self-frequency shift in optical fibre 7−31502
  sources in single mode fibre system, diode lasers versus LEDs 7−62844
  sources in single mode fibre system, diode lasers versus LEDs 7−62845
  spatially resolved plasma spectroscopy using multifiber commutator 7−6454
  splice, mechanical, for permanent fibre optic installation 7−26006
  splicer for single-mode fibres, field use using direct core obs. technique 7−26013
  splices, arc-welded, monomode made using local injection and detection of blue light 7−11187
  splices, mechanical, design and performance 7−11149
  squeezed light, effects of optical processing on nonclassical props., review 7−1054
  stimulated anti-Stokes Raman scatt. in single mode fibre lightguide 7−25890
  stimulated Raman scattering, distortion-free transmission design 7−11054
  stimulated Raman scattering, effects of pulse walkoff 7−20423
  stimulated Raman scattering and self-phase modulation numerical study 7−20429
  strength, dynamic and static fatigue 7−50769
  strength and fatigue, Weibull probability function 7−62842
  strength measurement by bending 7−43384
  stress-applied, with inhomogeneous core *(Japanese)* 7−50780
  string objects, vibr. anal. using a diffr. technique, multimode optical fibre appl. 7−11364
  submarine cable production using arc fusion splicer with profile alignment system 7−11185
  submarine cable splicing using self-core-alignment arc-fusion splicer 7−11186
  super-Gaussian optical pulses, frequency-chirped, propag. along fibre 7−6013
  switching between bistable soliton states of highly nonlinear Schrodinger equation 7−43202
  taper, multimode, mode behaviour 7−26000
  taper splice method for subscriber single-mode fibre cables 7−31530
  tapered monomode optical fibres, understanding large power transfer 7−50748
  tapered quadratic index media, metal waveguide modelling 7−50747
  tapers, single-mode, performance characts. 7−57588
  testing, optical system design with Gaussian beam input *(Slovak)* 7−31481
  thermoplastic rubber/liquid crystal polyester dualcoextrusion coating system for optical fiber drawing 7−11190
  three-layer, with anisotropic core and elliptic inner cladding, characts. calc. 7−25972
  time domain reflectometry, range and accuracy in backscatter measurements 7−15999
  total spectral loss, rapid modelling and estimation 7−11142
  transient radiation damage meas. using streak camera 7−50757
  transimpedance measurement receiver units for constant optical power in optical fibre systems 7−43441
  transmission capacity, 3 dB bandwidth 7−43385
  transmission line circuit models for inhomogeneous optical fiber 7−62833

optical fibres continued
  transmission loss characteristics during drawing of optical fibres, continuous measurements 7−6004
  transmission principles and manufacture *(French)* 7−15991
  transmitters and receivers for data communication, miniaturized modules 7−62847
  twisted birefringent fibres, intensity discrimination 7−31503
  U-shaped curved multimode fibre sensor for process refractometry and temp. meas. *(German)* 7−11160
  ultrahigh-strength fibre splices by modified H_2/O_2flame fusion 7−11121
  UV curable coatings for optical fibres, stabilisation 7−11167
  UV curable resin coated fibre with low-temp. and lateral props. 7−11168
  UV curable resins for cabling optical fibres 7−11166
  vapour axial deposited preform stretching, numerical model for internal distortion 7−11133
  voice communication appl., 1970s and 1980s developments 7−31521
  wavefront dislocations in laser radiation field transmitted by fibre waveguide 7−25973
  wavefront reversal quality depend. on in-coupling conditions 7−37167
  wavelength-tunable single-mode fibre grating reflector 7−31442
  weakly guiding with arbitrary refractive index distrib., anal. 7−11126
  X-ray remote detect., coupling between plastic scintillators and light fibres 7−25320
  zirconia induction furnace for high strength fibre production, design 7−11184
  Ag halides, polycrystalline low loss fibres, plastic deformation mechanism 7−37189
  $AgCl_{0.95}Br_{0.05}$, IR transmitting fibres, optical props. 7−37185
  AgX (X=Cl,Br), extruded fibres, optical and material props. 7−37184
  Al-coated fibre, high-temp. effects 7−11146
  AlF_3-based glasses, IR fibres, prep. and props. 7−37182
  α-Al_2O_3 sapphire single crystal optical fibres, low loss, characts. 7−37187
  Ar fibre laser, stimulated Brillouin scattering, single-mode and multimode pumped, spontaneous mode locking 7−1079
  As-Ge-Se-Te chalcogenide glass fibres for thermal IR transmission 7−37193
  As-S glass IR fibre, Teflon clad, optical loss due to water diffusion 7−57556
  As-Se and As-Se-Te IR chalcogenide tube waveguides 7−37195
  CsBr-AgBr fibres, growth by Stepanov's method 7−31533
  Ge-As-Se and As-Se chalcogenide optical glass fibres, prep. and characterisation 7−37194
  Ge-As-Se-Te chalcogenide glass fibres for transmission in the 8 to 12 μm range 7−37192
  Ge-Sb-Se IR chalcogenide tube waveguides 7−37195
  GeO_2:F-GeO_2, doped cladding-pure core single-mode fibre, dispersion study 7−43382
  GeO_2-core/SiO_2-cladding optical fibres, modified CVD deposition and stimulated Raman appl. 7−43378
  GeO_2-SiO_2:N optical fibres, N-related absorpt. bands 7−59226
  GeS and GeSe, chalcogenide glasses for IR fibres, plasma deposition 7−37191
  H_2 degradation reduction in optical cables, materials selection 7−11172
  H_2 generation from optical fibre cable materials 7−11170
  H_2 generation from optical fibre coatings UV curable acrylated resins 7−11171
  Hg liq. interface, optoacoustic effect study 7−44698
  InGaAsP 1.55 μm mode-locked laser with single-mode fibre output 7−50600
  $LiNbO_3$ electro-optic freq. translators for coherent optical fibre systems 7−25953
  $LiNbO_3$:Ti 4×4 directional coupler switch with permanently attached polarisation maintaining fibre array, low crosstalk 7−31520
  Nd:YAG fibre lasers, superfluorescent, anal. 7−31329
  Nd:YAG laser pulse compression in optical fibre 7−50643
  Nd:YGG waveguide laser amplifiers for fibre-optic communication 7−31359
  OH loss increase due to jacketing glass material in optical fibres 7−6017
  SiO_2 amorphous optical fibers, material dispersion study over IR region 7−7663
  SiO_2 based, radiation effects, design tradeoffs for radiation environments 7−1280
  SiO_2 core optical fibres, triple clad, with zero total dispersion at wavelengths of 1.3 and 1.55 μm *(Japanese)* 7−50781
  SiO_2 fibre, V-grooves fabrication using CO_2 laser 7−50783
  SiO_2 glass:H_2 fibres, IR optical loss 7−11143
  SiO_2 monomode fibres with F-doped cladding, prep. by MCVD process 7−1289
  SiO_2, stimulated Raman spectra, rel. to fibre length, pump power *(Korean)* 7−31395
  SiO_2:F, P fibres, dopant materials behaviour in MCVD process 7−20462
  SiO_2:GeO_2 integrated optical waveguides, laser heating effect on opt. props. 7−50792
  SiO_2:GeO_2 optical fibres reaction of diffused H_2 with defect centres 7−57591
  SiO_2:P_2O_5 fibres, single-mode, selective stimulated Raman scattering 7−31500
  SiO_2-GeO_2, influence of impurities on loss increase, expt. study 7−43380
  SiO_2-GeO_2 core optical fibres, fabrication by the sol-gel method 7−46404
  SiO_2-GeO_2 optical fibre, drawing- and radiation-induced paramagnetic defects 7−11084
  SiO_2-GeO_2 optical fibre surfaces, formation mechanism of H-associated defect centre 7−65158
  SiO_2-GeO_2 silica core optical fibres, VAD deposited, structural inhomogeneities 7−11153
  SiO_2-GeO_2:Ho very high-rejection optical fibre filters, design and characts. 7−15974
  SiO_2-P_2O_5 optical fibres, γ-irradiated, phosphorus oxygen hole centres 7−11083
  Tl halides, polycrystalline low loss fibres, plastic deformation mechanism 7−37189
  TlBr-TlCl fibres, growth by Stepanov's method 7−31533
  TlBr-TlCl/CsBr-CsCl single-crystal two-layer fibres for visible and infrared transmission 7−57569
  TlBr-TlI fibre for high power CO_2 laser beam 7−31487
  TlBr-TlI polycrystalline fibres with crystalline cladding, optical characts. 7−37186
  ZnSe IR optical fibres, development, appls. 7−37190
  ZrF_4 based IR fibres, realistic losses 7−37181
  ZrF_4 fibres, optical transmission expts. using noncryogenic sources and detectors 7−37197

optical fibres continued
- ZrF_4 high optical quality IR transmitting glasses and fibres, prep. and props. 7−37180
- ZrF_4-BaF_2-GdF_3-AlF_3-NaF-FeF_3, optical fibre glasses, trace amounts of Fe, characterisation 7−2956
- ZrF_4-BaF_2-LaF_3, mid-IR glass and optical fibres, dispersion characts. 7−37178
- ZrF_4-BaF_2-LaF_3-AlF_3 glass, etching method for prep. of IR fibres with high tensile strength 7−1243
- ZrF_4-BaF_2-LaF_3-AlF_3 optical fibres, gamma irradiation, EPR and IR studies 7−37183
- ZrF_4-based glasses, IR fibres, prep. and props. 7−37182
- ZrF_4-based optical fibres, scattering loss meas. 7−11114

optical films
- *see also antireflection coatings*
- abrasion resistance 7−50661
- absorptance and thermal conductivity meas. using thermographic laser calorimeter 7−41389
- acrylate coating developments for opt. fibres 7−25974
- Al, mirror coatings, UV reflectivity loss, in space 7−25938
- antiscattering single layer theory, antiscatt. antirefl. coatings 7−1029
- As-S, amorphous semicond. films, laser action on light sensitivity *(Russian)* 7−64713
- bacteriorhodopsin-biochrome films, reversible media for optical recording 7−57495
- beam splitter and appl. to Michelson interferometer 7−31436
- book, laser damage in optical materials 7−24311
- Cherenkov counter, UV radiation detection efficiency increase using transparent wavelength shifters 7−15453
- coated surfaces, influence of metal films on optical scatter and microroughness 7−13242
- coating defects, correlation between pulsed laser damage and probe laser scatter 7−38049
- coating deposition, cryopump conversion advantages 7−3185
- compensating substrate for light filters used in converging beams 7−20394
- constants and thickness meas. by two-incident angle ellipsometry *(Chinese)* 7−48828
- Corning glass films, RF magnetron sputtered, optical props. 7−57552
- CVD prep., optical characts. 7−43456
- cyanine dye J aggregates, Langmuir-Blodgett films, multiple wavelength optical recording 7−50666
- Danaines golden pupae, natural broad-band interference reflector microspectrophotometry 7−54676
- deposition, control with optical monitor 7−11182
- deposition by direct-current cracking of vapours, thickness limits 7−39433
- detection sensitivity of a superficial layer *(French)* 7−64707
- dielectric single layers, scattering reduction or enhancement 7−50483
- dielectric slab, bent, with lossy coating, light absorption calc. 7−62620
- diffraction gratings, soft X-ray, efficiency enhancement by multilayer coating 7−25946
- diffusely reflecting coatings, props. 7−3099
- dynamic hologram writing, nonsymmetric beam interactions, nonstationary energy exchange obs. *(Russian)* 7−31289
- FEL, optical coating damage, performance requirements 7−1141
- fibre coating with open-cup applicators, slip mechanism 7−15985
- fibre-optic mirror fabrication 7−37214
- fibres, single mode, elliptical, polarisation maintaining, effect of coatings 7−20454
- figured multilayer optical element, image quality 7−37102
- garnet films, orthorhombic, optical modes, phase matching 7−11110
- hologram interferometry for film deposit assessment 7−1291
- interference coating synthesis method 7−50713
- interference coatings, synthesis, optimisation *(Russian)* 7−22375
- ion-assisted thin film deposition and applications 7−39434
- IR coating materials, physical effects 7−37065
- IR coating refractive index meas., automatic expt. setup *(Chinese)* 7−48831
- IR film thickness gauging, optical interference suppression 7−33472
- IR optics advances 7−11079
- laser-induced damage research at LANL (USA) 7−57392
- layered synthetic microstructures for solar EUV telescopes 7−40703
- lowpass multilayer filters, anal. and design 7−31439
- magnetooptic multilayer films, permittivity tensor, photoelastic modulated ellipsometry 7−41426
- metal films, optically transmissive and electrically conductive, microstructural engineering 7−31410
- metallic optical films, contactless thickness meas. using eddy currents *(German)* 7−24626
- 2-methyl-4-nitroaniline single crystalline films, growth for phase-matched frequency-doubling 7−3212
- mirror coatings, servo-controlled lasers progress and appls. 7−20307
- mirrors for multiwavelength solid state lasers, optical coatings 7−57522
- multilayer coating, ultra-short pulses and intracavity dispersion compensation 7−57387
- multilayer coatings, for excimer laser, reflectivity calcs. 7−57521
- multilayer design optimisation using Monte Carlo approach 7−37096
- multilayer dielec. coatings, spectral characts., reflection and transmission bands *(Russian)* 7−22374
- multilayer films, focusing, X-ray reflectance calc. 7−1247
- multilayer optics for solar soft X-ray/XUV obs. 7−41562
- multilayer soft X-ray coatings, automatic electron-beam deposition 7−3184
- multilayer structures, convex surfaces for soft X-ray diffr., plasma spectra appl. 7−37100
- multilayer structures for X-ray laser cavities 7−37001
- multilayer X-ray analysers, charactn. 7−378
- multilayer X-ray mirrors, fabrication, in situ monitoring system 7−37217
- multilayer X-ray optics design 7−41567
- multilayer X-ray reflectivity calcs., lossy transmission line theory 7−37103
- multilayered optics, point spread function meridional section formula 7−40702
- multilayered structures, physical and chemical charact. 7−38376
- multilayered structures for soft X-ray mirrors, physical charactn. 7−37098
- multilayered X-ray optics on cylindrical reflector and ellipsoidal focusing ring, monochromatisation 7−1246
- multilayered X-ray thin films, anal. by microcleavage TEM 7−1826
- multilayers for X-ray optics, review 7−1245

optical films continued
- multilayers on flexible mica, prep. and charactn. for soft X-ray optics 7−37101
- nonlinear guided waves in low-index self-focusing thin films 7−25907
- oblique angle of incidence collection systems performance obs. 7−22215
- organic nonlinear optical materials 7−25870
- organisation coating of quartz optical fibres, polymerisation rate, thermophys. anal. 7−20461
- periodic multilayer design using Chebysheff polynomials 7−43322
- periodic surface structure formation on film coatings 7−38051
- PMMA-merocyanine dye Langmuir-Blodgett multilayer mixtures, deposition studies, SHG obs. 7−58715
- polished glass surfaces, ellipsometric obs. rel. to losses in laser cavity 7−17297
- polymer films, half-tone refraction transparencies, real-time recording 7−57489
- polymer films as nonlinear optical materials 7−37021
- post magnetron sputter and reactive sputter coating on contoured substrates 7−53588
- preparation and testing for high power lasers at 1.06 μm 7−1249
- reflecting coatings for dielectric mirrors 7−37105
- refractive index dispersion meas. using interf. method 7−18863
- rugate filter simulation via stepped-index dielec. multilayer 7−1251
- scatter from fluid patches in optical thin-filmcoatings 7−1028
- Schwartzschild objective in X-ray optics, image form. in multilayer optics, SHADOW program 7−30144
- semiconductor chalcogenide layers, optical recording physical basis *(Russian)* 7−50667
- silicone coating developments for opt. fibres 7−25974
- sodium salicylate as combined fluoresc./refl. coating for broad band detector *(German)* 7−4891
- sol-gel thin films used in solar energy appls. 7−37106
- solar cells, mechanically stacked multijunction, optical effects of thin film adhesives 7−3670
- spectral slicing X-ray telescope using layered synthetic microstructure X-ray optics 7−4335
- sputtered transparent conductive coatings for display industry use 7−50663
- Te elemental and alloy thin films, laser irrad. effects, refl. meas., optical data storage appl. 7−12144
- thermal conductivity 7−45094
- thickness and optical constants determ. from photometric and ellipsometric data 7−41419
- thickness and refractive index determ., reflection and transmission meas. *(German)* 7−61370
- thickness and refractive index meas., rotating linearly polarised light source appl. 7−18850
- thin layered interference mirrors, radiation damage reduction 7−31433
- toroidal reflectors with multilayered optical coatings, figured X-ray optics, unified geom. design 7−30140
- X-ray imaging, Conf., San Diego, CA, USA (Aug 1986) 7−40995
- X-ray multilayer optic development for plasma diagnostic and source enhancement 7−44251
- X-ray multilayered optics on reflector and focusing ring, monochromatization 7−41565
- X-ray optics, theories to optimise high refl. of mirrors and gratings 7−30141
- X-ray telescope for use in spectrometer for astronomy 7−47704
- Al, reactively evap., morphology and opt. props. 7−59272
- Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7−31424
- Al-C-O/Al sputtered solar selective absorbing surfaces *(Chinese)* 7−40025
- $Al_xGa_{1-x}As$, AlAs and GaAs epitaxial multilayers as optical interferometric elements 7−342
- As-S, amorphous semicond. films, laser action on light sensitivity *(Russian)* 7−64713
- As_2S_3 thin films, photodarkened, reversible recording and erasure of holograms 7−50511
- $As_{50}Se_{50}$ amorphous films used for optical recording, structural transformation mechanisms *(Russian)* 7−51823
- Au thin film based transparent IR reflectors, prep. and optical props. 7−39201
- Bi-Ga two-layer film compositions, refl. and microstruct., temp. depend. 7−53428
- C films, diamond like, prep. and props. 7−22472
- $CdIn_2O_4$ RF sputtered films, transparent heat mirror characts., elec. and optical meas. 7−39199
- CdTe, cathode sputtering process statistical modelling, optical layer deposition 7−39375
- CoO_x-FeO_x selective coatings, spray pyrolysis for high temp. appls. 7−5974
- Cu_2S films, chemically sprayed, optical and solar selective props. 7−54350
- Cu_2S films, flash-evaporated, optical props. and solar selectivity 7−64719
- Ge, amorphous films, laser induced image storage 7−11078
- Ge, cathode sputtering process statistical modelling, optical layer deposition 7−39375
- Hf-Si multilayers, X-ray optical props. rel. to layer imperfections 7−37097
- In_2O_3:Sn, sputtered films prep. and optical props. 7−53587
- In_2O_3:Sn films, theoretical model for optical props. in 0.3 to 50 μm range 7−39200
- $In_{2-x}Sn_xO_{3-y}$ coatings, evacuated window glazings for energy efficient buildings 7−54352
- $In_{2-x}Sn_xO_{3-y}$ sputter deposited, elec. cond., oxidation resistant coatings for spacecraft applic. 7−22866
- LaF_3, broadband VUV reflectance coatings for Al mirrors 7−57520
- $LiNbO_3$:Ti waveguides, Ti diffusion, model 7−21528
- $LiYF_4$, broadband VUV reflectance coatings for Al mirrors 7−57520
- MgF_2 thick vapour deposited multiple layer coating, growth structures 7−58670
- MgF_2, wide band pass filters, multiple Fabry-Perot interference filter struct. *(Korean)* 7−25943
- MgF_2-MF_2 mixtures, (M=Ca,Sr,Ba), films, prep., physicochemical and optical props. 7−3178
- Mo-Si multilayer mirror, reflectivity and stimulated emission in XUV spectra region 7−37099
- Ni electroless plated mirrors, diamond-turned, surface finish meas. 7−37218
- NiO thin films, electrochromic switching props determ. 7−39089

optical films continued
NiO$_x$ electrochromic hydrated coatings for energy efficient windows 7−45986
PbF$_2$-GaF$_3$ glass films, vacuum deposition 7−64905
Si-Ag multilayer reflector for EUV 7−20388
Si$_3$N$_4$ films, optical props., multilayer interference systems 7−13248
SiO$_2$ interference system, influence of normal nonhomogeneity of refractive index *(Czech)* 7−64712
SiO$_2$ layers obtained by plasmochemical decomposition, optical props. 7−20390
SiO$_2$:GeO$_2$ integrated optical waveguides, laser heating effect on opt. props. 7−50792
SiO$_x$ optical films, molecular beam fabrication and laser damage props. 7−39389
SiO$_x$Ny dielectric waveguides, optical props. 7−57535
SnO$_2$:F coatings, evacuated window glazings for energy efficient buildings 7−54352
Te-based materials, reversible optical data storage appl. 7−37068
Te-based thin films, crystn. rate, thermal stability, erasable optical recording appl. 7−37069
Te$_{1-x}$Ge$_x$ amorphous films as reversible phase-change optical data storage materials 7−1242
Te$_{80}$S$_{19}$As overcoated trilayer struct., laser writing mechanism, microscopy studies 7−20149
TiN thin films, optical const., thickness and preparation effects 7−13241
TiO$_2$ film on Nb$_2$O$_5$ waveguide, surface CARS spectroscopy 7−46036
TiO$_2$ interference system, influence of normal nonhomogeneity of refractive index *(Czech)* 7−64712
TiO$_2$/SiO$_2$ Fabry-Perot filters, index meas., influence of deposition parameters on wavelength shift 7−37115
TiO$_2$-SiO$_2$ dielec. multilayer reflector for surface emitting lasers, electron beam evaporation 7−59427
TiO$_2$-SiO$_2$ multilayer coatings prep. by RF magnetron sputtering, interfacial optical absorpt. 7−1252
VO$_2$:W(Nb) for optical switching films 7−39198
W-C multilayer X-ray mirrors, optical constants of layers 7−20389
W-Si multilayers, X-ray optical props. rel. to layer imperfections 7−37097
WO$_3$ electrochromic films, obliquely deposited, elec. props. and morphology 7−7781
a-WO$_3$ films, electrochromic effect kinetics 7−45992
Y$_2$O$_3$, electron beam evap., struct. characteris. using TEM, opt. props. 7−21732
ZnS films, optical losses, substrate temp. effects 7−50738
ZnS, wide band pass filters, multiple Fabry-Perot interference filter struct. *(Korean)* 7−25943
ZnSe optical films, molecular beam fabrication and laser damage props. 7−39389
ZrC$_x$, reactively sputtered films, optical props. 7−39202
ZrC$_x$N$_x$, reactively sputtered films, optical props. 7−39202
ZrN$_x$, reactively sputtered films, optical props. 7−39202
ZrO$_2$-SiO$_2$ optical films, struct. modification by coevaporation 7−45064

optical filters
see also light absorption; optical films; optical isolators; spatial filters
acousto-optic filters, tunable, applications 7−37119
birefringent filter design for CW dye laser resonator, spectral tuning band 7−50720
calibration of thin film filters, for Extreme Ultraviolet Explorer Satellite, 68 to 912 Å 7−24015
colour filter, absorption optical bistability, longitudinal effects 7−57445
compensating substrate for light filters used in converging beams 7−20394
corrugated dielectric waveguide, external light reflection, narrow band filter fabrication 7−5999
coupled lightguides, filter operation, parameters choice 7−37111
cutoff filters matched to a narrow-band transmission filter 7−50721
dielectric thin film beam combiner, design and development 7−5978
electrooptic tunable filters, active guided wave devices, coupled mode anal. 7−62829
environmental effects on all-dielectric bandpass filters 7−11100
fibre optic components, in-line filter, switch and in-line attenuator 7−26002
fibre optic hydrophone with dual in-line resonant cavity 7−43600
fibre optic interferometric electrically tunable filter using the thermo-optic effect 7−37113
fibre optics, single-mode WDM systems using Fabry-Perot interferometers, wavelength-selective filters appl. 7−57557
fibre-optic acousto-optic tunable filter 7−5979
fibre-optic wavelength filter from successive biconical tapers 7−31504
hologram recording with filter, glass fibre dia. meas. 7−25762
holography, far-field in-line, and diffr. pattern analysis of particulates, filtering effects 7−31279
holography, far-field in-line, nonblocked zero-freq. filtering 7−36917
hybrid quantum/thermal solar concentration systems using spectral selectivity 7−39967
image information transmission, storage, and acquisition using an acousto-optic cell and optical matched filters 7−20143
interference filters, laser-induced heat flow 7−43333
interference filters for spectral response measurement apparatus for large areasolar cells 7−3642
intracavity laser spectroscopy sensitivity enhancement, use of saturable filter 7−62794
IPF-6 interference-polarisation filter 7−50722
IR diffractive filters fabricated by electron beam lithography, spectral and polarising characts. 7−62816
laser beam, phase modulation, spectral filtering for ultrashort pulse formation 7−62743
liquid optical filter anal. for hybrid solar energy conversion 7−50724
lowpass multilayer filters, anal. and design 7−31439
materials for energy efficiency and solar energy conversion, conf., San Diego, CA, USA (Aug. 1985) 7−48159
metallic wire grids, free-standing, transmission coeffs. in FIR, numerical computation 7−37109
modal filter, highly selective evanescent, for two-mode optical fibres 7−5980
narrow band-pass interference filter for fibre optic thin film temperature sensor 7−25992
narrow-band selective, for two lines, using gyrotropic crystals 7−43335
narrowband tunable optical filter for channel selectionin densely packed WDM systems 7−11174

optical filters continued
noncoherent optical filtering for automating testing of semiconductor structures 7−20153
nonlinear interference filters, critical interpixel separation 7−31388
notch filter, narrow-band electro-optic tunable 7−37114
optical glass filter manufacturing, spectral characts. 7−5961
planar meshes with discrete loads, circuit modelling, equiv. mesh impedances 7−62600
polymers, gas-filled, action as cutoff optical filters in the IR region 7−57529
polystyrene, cryst. colloidal array filter 7−37117
prism based optical frequency filter for ultrashort pulses 7−31441
pseudo-colour coding using gratings 7−31267
pulse modification by low pass filters 7−37116
quantum noise in spectral filtering of light 7−20170
quartz filters for alkali metal vapour pumping *(Russian)* 7−31438
rejection filters in EUV and VUV, oblique angle of incidence collection systems performance 7−22215
rugate filter simulation via stepped-index dielec. multilayer 7−1251
scatter from fluid patches in optical thin-filmcoatings 7−1028
superresolving filters in confocally scanned imaging systems 7−31440
thin-film multilayer filter designs for hybrid solar energy conversion systems 7−50723
Thomson scatt. plasma diagnostics, ruby filters for stray light reduction 7−1752
tracking novelty filter using interferometer with phase conjugate mirror 7−43334
tunable filter, rotating linearly polarised light source appl. 7−18850
unidirectional birefringent filter *(French)* 7−37118
UV radiometers, detector optical characteristics 7−41418
waveguide, TM-mode selective filter using a high refractiveindex lossy layer cladded optical waveguide 7−5997
wide band pass filters, multiple Fabry-Perot interference filter struct. *(Korean)* 7−25943
Wratten 47 in violet light photographic technique, for studying Mars atmosphere 7−18364
AgGaSe$_2$, optical band-pass filter using accidental isotropy and optical activity 7−15966
AlGaAs-GaAs index-guided lasers with mode filter, props. study 7−5905
Al$_x$Ga$_{1-x}$As, AlAs and GaAs epitaxial multilayers as optical interferometric elements 7−342
As$_2$S$_3$ films photorefractive effect investig. using optical filtering 7−45990
CdS$_x$Se$_{1-x}$ doped filters, femtosecond nonlinearities using opt. Kerr effect 7−50660
CdTe filter for Cs vapour pumping *(Russian)* 7−31438
Cu screen, transmission coeff. depend. on optical radiation incidence angle 7−57528
Nd:glass laser amplifying system, pulse profile by saturable filters 7−43184
SiO$_2$-GeO$_2$:Ho very high-rejection optical fibre filters, design and characts. 7−15974
TiO$_2$/SiO$_2$ Fabry-Perot filters, index meas., influence of deposition parameters on wavelength shift 7−37115
TiO$_2$-SiO$_2$ multilayer coatings prep. by RF magnetron sputtering, interfacial optical absorpt. 7−1252
ZnS, ZnSe interference filters, simultaneous optical bistable switching on adjacent pixels, pattern recognition 7−57420
ZnSe, bistable interference filters, nanosecond switching at room temp. 7−11028
ZnSe bistable interference filters, switching processes, steady-state model 7−50617
ZnSe interference filters, thermally deposited and molecular-beam-grown, CW laser pumped bistability 7−25861
ZnSe interference filter triple bistable-element loop circuit for digital parallel all-optical computer 7−57409
ZnSe nonlinear interf. filter white light switching, spatial light modulator design 7−57416
ZnSe nonlinear visible interf. filter, critical slowing down 7−57419

optical free induction decay *see optical coherent transients*

optical frequency conversion
see also optical harmonic generation; optical parametric devices
addition of frequencies of two complex-conjugate optical fields 7−43224
anisotropic sum freq. generation with large angular aperture 7−57449
bromotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
cascade compression of near IR pulses, feasibility 7−25885
centrosymmetric media, sum-freq. generation, local-field corrections 7−15946
coherent UV- and VUV- radiation generation, antiStokes Raman process 7−11062
dye laser, blue-green, efficiency enhancement by spectrum converter 7−15927
dye laser radiation, frequency conversion and surface spectroscopy appl. 7−15931
dye laser system, high power subpicosecond UV 7−20250
dye vapour, four-wave frequency mixing 7−43219
electro-optic frequency shifters appl. in heterodyne interferometric systems 7−18866
EM field squeezed states generation by parametric down conversion, noise level reductions 7−25790
fibres, single-mode, nonpolarisation preserving, nonlinearities 7−37161
four-wave difference-freq. mixing, acceptance angles of up-convertors *(Japanese)* 7−20355
four-wave parametric frequency conversion under conditions of two-photon absorption of the signal and pump 7−50642
gases, freq. mixing, tunable coherent VUV generation 7−11061
high-efficiency four-photon freq. conversion under one-photon pump resonance conditions *(Russian)* 7−57472
iodotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
IR to visible efficient up-conversion via energy transfer in fluoride glasses 7−50634
laser radiation frequency conversion by stimulated Raman scattering in H$_2$ 7−43226
laser-induced instabilities in semiconductor and metal surfaces, nonlinear optical diagnostics 7−2061
liquid, Raman susceptibility in mid IR 7−15932
methanol monolayers, stretch vibr. obs., optical sum-freq. generation 7−58610

optical frequency conversion continued
multimode Stokes conversion efficiency and output wavefront, off-reson. Raman interactions effect 7−20333
multiphoton transition, Tavis-Cummings model 7−43031
multiple-wave generation due to four-wave mixing in a single-mode fibre 7−50755
nondegenerate frequency converter, antibunched photon beam generation 7−11058
parametric conversion under two-photon resonance conditions 7−62773
pentadecanoic acid monolayers, stretch vibr. obs., optical sum-freq. generation 7−58610
phase conjugation, polychromatic, image formation 7−43246
pulsed conversion by stimulated Raman scattering in selective optical delay line 7−25889
Raman conversion, high efficiency and brightness via capillary waveguide amplifier 7−15944
Raman conversion using crossed broadband pump beams and bisecting Stokes 7−20331
Raman scattering of laser radiation to far UV by excited states of He and Ne 7−25886
rhodamine 6G adsorbed monolayers, resonantly enhanced sum-frequency generation 7−15945
rhodamine 6G coated substrates, SHG and sum freq. generation 7−57464
single mode fibres, nonlinearities and their appls. *(French)* 7−26017
spontaneous parametric down-conversion, quantum effects 7−1060
stimulated Raman scattering conversion efficiency, effects of focusing parameters *(Chinese)* 7−5951
two photon interference in parametric down conversion 7−37037
up-conversion in gas-filled multipass cells with reflection losses 7−43223
UV generation using FM dye laser 7−50644
vacuum UV light polarisation, freq. conversion and fluorescence studies 7−10849
VUV laser applications to molecular physics *(French)* 7−5949
VUV radiation, coherent, tunable, generated by nonlinear optical frequency conversion in gases 7−20353
VUV radiation generation by antiStokes Raman laser process 7−11050
XUV radiation generated by resonant third- and fifth-order frequency conversion 7−20327
Ag_3AsS_3, proustite, crystal, use in performance meas. of IR objective 7−57511
$AgGaS_2(Se_2)$, chalcopyrite, crystal growth, nonlinear IR props. 7−37040
BCl_3, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
Ba vapour IR source for subpicosecond spectral photography 7−41502
$Bi_{12}SiO_{20}$ photorefr. crystals, moving grating erasure, expt. study 7−5940
Cd vapour, coherent VUV generation by reson.-enhanced freq. mixing 7−50636
$CdGeAs_2$, optical sum frequency generation, influence of competition 7−1231
$Cr^{3+}:BeAl_2O_4$ crystals, growth and laser performance 7−15870
Cs vapour, generation of tunable IR ultrashort light pulses by nonlinear frequency conversion 7−1227
Cs, vapour, two-photon reson. four-wave mixing and multiphoton ionis. in heat pipe oven 7−901
Cs vapour in heat pipe oven, two-photon resonant four-wave mixing obs. 7−43239
D_2 stimulated rotational Raman scattering for high power emission at 11 to 14 μm 7−15941
H_2, stimulated Raman scatt., Ar_2 excimer laser tunable intense radiation generation 7−20328
H_2, stimulated Raman scatt., N_2 laser frequency conversion 7−57452
H_2-Ar mixture, frequency conversion by stimulated Raman scattering 7−43233
Hg atomic vapour, oscillator strength meas. by four-wave mixing 7−19773
Hg vapour, nonresonant tripling and sum-frequency mixing 7−37028
HgBr laser, UV to green conversion 7−19877
$HgGa_2S_4$, absorpt. and freq. conversion efficiency 7−57465
K atoms in He-K discharge afterglow, multiple Raman scattering from XUV generation 7−20349
KH_2PO_4 cryst., freq. doubling for UV laser system 7−62724
KH_2PO_4 type crystals, tunable laser source down to 218.3 nm, freq. doubling and summing *(Chinese)* 7−57456
$LiIO_3$ Raman laser for optical range, quasi-CW high power 7−25829
$LiNbO_3$ waveguide, parametric fluoresc. amplification and oscill. 7−25894
Mg vapour, dye laser freq. mixing, VUV laser source for high-resolution spectroscopy 7−24709
Na_2 UV radiation generated by four-wave mixing, linewidth 7−15926
Na_2 vapour, resonant four-wave frequency mixing 7−43217
Nd:YAG laser, actively mode locked Q-switched as stimulated Raman source at 1.54 μm 7−20350
Nd:YAG laser, diode-pumped intracavity doubled, large amplitude fluctuations due to longitudinal mode coupling 7−5894
$Nd_xY_{1-x}Al_3(BO_3)_4$, excited emission and self-frequency-doubling effect 7−25821
SF_6, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
W-Ni MIM diode as difference frequency IR detector, long-term stability 7−24700

optical frequency doubling *see optical harmonic generation*

optical gap *see energy gap; optical constants*

optical glass
absorption and reflection coeffs. meas. with SF-26 spectrophotometer 7−41424
apochromatic optical system design 7−43312
athermality criteria of glasses for disks 7−20376
bending strength meas. 7−50665
book, optical fibres 7−28
borate glasses, optical dispersion, reflection spectra in vacuum and extreme UV region 7−27734
ceramic optical components, prod. using precision machining/metrology facility 7−37222
chalcogenide glasses in integrated and fibre optics, review 7−31412
Corning glass films, RF magnetron sputtered, optical props. 7−57552
crone and flint glass series, active material selection for acousto-optic mode-lockers 7−57493
dilation by field-assisted ion exchange 7−11188
femtosecond nonlinearities using opt. Kerr effect 7−50660
fibre waveguides, colour centres 7−11081

optical glass continued
fibres, strength meas. by bending 7−43384
fibres, UV-radiation induced colour centres 7−11082
filter manufacturing, spectral characts. 7−5961
finished lens moulding technology saving time and money 7−31535
fluoride glass optical fibre, Pr^{3+} impurities, photoluminesc. anal. 7−37144
fluoride glass preforms, fabrication 7−15960
fluoride glasses doped with YbF_3 and ErF_3, efficient optical freq. up-conversion via energy transfer 7−50634
fluoride-glass single-mode fibres, ultralow-loss, design 7−11152
fluorophosphate, for use in high-performance optics, props. comparison with fluorite 7−5962
fluorophosphate glass, type OK1, interrelationship of refr. index, viscosity and F content 7−57492
fused spots formed by laser radiation, interferometric study 7−2054
glass:CdSSe gratings, darkening effect, optical phase conjugation 7−57476
glass:Er^{3+}, lasing props. 7−43109
glass:Nd absorption thermometer with fluorescent referencing, fibre optic temp. sensor 7−25996
glass:Tb_4O_7 Faraday rotator low loss single mode fibres, MCVD fabrication 7−25993
glass-CdSe-KS-19, light-induced anisotropy 7−43259
gradient index glass rods prep. by sol-gel index modifying ion interdiffusion process 7−7952
graphite fibre reinforced glass sandwich reflectors for far-IR astronomy, thermal stability 7−37093
ground glass, diffuser transmission functions and far-zone speckle patterns 7−42932
heavy metal fluoride glass systems for optical device technology, radiation effects 7−37073
heavy metal fluoride glasses for optical applications 7−11080
heavy metal halide glass fibre lightwave systems, extrinsic and intrinsic losses 7−31488
heavy-metal fluoride glass fibres, impurity anal. using selectively excited photolum. 7−31473
holographic interferometry of instantaneous deform. *(Chinese)* 7−57611
IR optics advances 7−11079
IR transmitting oxide glasses 7−37072
large optics technology, conf., San Diego, USA (Aug. 85) 7−35089
laser damage initial stage, luminesc. and microwave absorpt. obs. 7−31375
laser weak picosecond pulse in glass, induced spectral broadening by intense picosecond pulse 7−31370
lecture on glass, light and the information revolution 7−24253
lens design, glass combinations selection method for aberration correction 7−50684
lenses, airspace apochromats, glass selection using Buchdahl dispersion eqn. 7−43274
luminescent solar concentrators, glass and dye absorption and luminescence obs. *(Finnish)* 7−28390
mirror, replicated, appl. to large segmented opt. systems 7−37088
mirror, telescope, Texas Univ. 7.6m design, progress report 7−40710
mirror blank, borosilicate honeycomb sandwich, prep. by spin casting 7−37225
mirror segments, lightweight glass, development for Large Deployable Reflector 7−37226
phosphate glass:Nd laser rods, thermal effects 7−50566
phosphate glasses, optical dispersion, reflection spectra in vacuum and extreme UV region 7−27734
photochromic, modelling 7−57498
photochromic diffusion waveguides., absorbing-mask mode selectors automatically matched to mode field 7−50739
photochromic glasses, degree of darkening depend. on radiation absorpt. cross section 7−37078
photochromic glasses, temporal change and conc. of photochromic centres *(German)* 7−57500
photoelastic constants, evaluation method 7−39080
photonic material developments 7−25912
plate stack mirror for laser resonator, refl. coeff. 7−57508
polished glass surfaces, ellipsometric obs. rel. to losses in laser cavity 7−17297
polished optical glasses, secondary ion mass spectroscopy and ellipsometric investig., correlation of results 7−43458
radiation heating, radiation source selective props. and temp. effects 7−11255
relative grinding hardness eval. 7−43279
semiconductor chalcogenide layers, optical recording physical basis *(Russian)* 7−50667
semiconductor doped glass, integrated nonlinear optical device fabrication 7−25873
semiconductor-doped, femtosecond carrier relaxation 7−53251
semiconductor-doped, high-speed intensity-dependent refractive index 7−37071
silica, fused, optical slides, erosion protection by diamond-like C films 7−46673
silica glass, F-doped, fabrication by sol-gel method 7−43277
silica glass optical fibres, γ-irradiated and H_2 treated, 1.52 μm absorption band 7−37145
silica glass standards, geometrical dimens. stability with time 7−41328
silicate glass melt, fracture in laser beam 7−43278
silicate porous glass, wear resistance and grinding hardness, struct. effect, grinding method meas. 7−57614
sol-gel procedure for optical fibres production with high SiO_2 percentage *(Croatian)* 7−20480
spectral absorptivity of window glass for solar energy devices 7−43275
substrate, CdS_xSe_{1-x} doped, for thin film waveguides 7−5941
surface after ion-beam cleaning, ellipsometric investig. 7−43453
surface of K9 glass, adsorbed dye laser molecules, SHG and THG *(Chinese)* 7−57457
telescope mirror, Keck Observatory 10m, design and development work status, fabrication plans 7−40693
two-lens cemented objective, struct. parameters automated calc. 7−37085
ultralow loss glass for fibres and waveguides *(French)* 7−25916
ultralow-loss glasses, book contrib. 7−25917
ultrasonic properties and low freq. light scattering 7−21361
waveguides, Ag film diffused, diffusion process and optical props. 7−50737
waveguides, ion-exchanged, stress 7−31454
waveguides, planar optically controlled, made of photochromic glasses, selective props. 7−1263

optical glass continued
- waveguides, semiconductor-doped and ion-exchanged 7—43357
- Zerodur, lightweight large mirror blanks prod. 7—37223
- Ag halide photochromic glass, colouring and bleaching 7—57497
- AlF_3 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7—27734
- Al_2O_3-SiO_2 GRIN glass, delta-*n* control by additives in AgCl diffusion baths 7—31528
- Al_2O_3-SiO_2:Cr mullite transparent glass ceramics, Cr^{3+} luminesc. 7—46102
- As-S glass IR fibre, Teflon clad, optical loss due to water diffusion 7—57556
- $As_{50}Se_{50}$ amorphous films used for optical recording, structural transformation mechanisms *(Russian)* 7—51823
- CaO-Al_2O_3 glass, 3-5 μm transmission, rain erosion resist., surface crystallisation treatment 7—37070
- CdF_2-LiF-AlF_3-PbF_2 glasses, potential as a practical glass 7—37074
- CdS_xSe_{1-x} doped filters, femtosecond nonlinearities using opt. Kerr effect 7—50660
- CdS_xSe_{1-x} doped glasses, optical nonlinearities 7—57431
- Eu^{3+} doped glasses, erasable holographic grating obs. at room temp. 7—31276
- GeO_2:F-GeO_2, doped cladding-pure core single-mode fibre, dispersion study 7—43382
- GeO_2-core/SiO_2-cladding optical fibres, modified CVD deposition and stimulated Raman appl. 7—43378
- GeO_2-$PrCl_3$ glasses, optical props. rel. to comp. 7—13150
- GeO_2-ZnO-Bi_2O_3 IR transmitting glasses 7—43276
- KNO_3-glass, ion-exchange diffusion, planar waveguides 7—11108
- K_2O-PbO-SiO_2 glasses, chemically nonuniform struct., Rayleigh and Mandelstam-Brillouin scatt. 7—1891
- Li_2O-SiO_2 based photosensitive glass, machining without photoresist 7—22865
- Na-K ion-exchanged glass waveguides, swelling characts. 7—31532
- Na_2O-CaO-SiO_2 coating glass for optical fibres, preparation 7—7949
- OH loss increase due to jacketing glass material in optical fibres 7—6017
- PbF_2-GaF_3 glass films, vacuum deposition 7—64905
- PbO-B_2O_3 optical glass, props. and structure, effect of heat treatment 7—20377
- PbO-SiO_2, femtosecond nonlinearities using opt. Kerr effect 7—50660
- SiO_2 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7—27734
- SiO_2 silica glasses, doped, radiation-induced defect centres, EPR and optical studies 7—13033
- SiO_2:GeO_2 integrated optical waveguides, laser heating effect on opt. props. 7—50792
- SiO_2-GeO_2 optical fibre, drawing- and radiation-induced paramagnetic defects 7—11084
- SiO_2-GeO_2 silica core optical fibres, VAD deposited, structural inhomogeneities 7—11153
- SiO_2-P_2O_5 optical fibres, γ-irradiated, phosphorus oxygen hole centres 7—11083
- Te-Cl and Te-Cl-S, chalcohalogen glasses, IR transmitting materials *(French)* 7—1905
- TiO_2-SiO_2 r-GRIN glass rods prep. by sol-gel method 7—13427
- $TlNO_3$-glass, ion-exchange diffusion, planar waveguides fabrication 7—11108
- ZrF_4 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7—27734
- ZrF_4-BaF_2-GdF_3-AlF_3-NaF-FeF_3, optical fibre glasses, trace amounts of Fe, characterisation 7—2956
- ZrF_4-BaF_2-LaF_3-AlF_3 glass, etching method for prep. of IR fibres with high tensile strength 7—1243

optical gratings *see diffraction gratings*

optical harmonic generation
- *see also lasers*
- 3-nitroaniline in polystyrene or PMMA composite films, SHG obs. 7—62771
- acetylene, vap., REMPI and third harmonic generation 7—25612
- 4-amino-4′-nitrodiphenyl sulphide, nonlinear optical props. 7—25880
- arachidic acid, Langmuir-Blodgett mono-mol. layers, surface-enhanced SHG 7—17355
- cavities filled with inhomogeneous nonlinear media, optical frequency conversion efficiency 7—50641
- connective tissue polarity: optical 2nd-harmonic microscopy, crossed-beam summation, and small-angle scatt. in rat-tail tendon 7—23394
- critically phase matched SHG, electrooptic tuning 7—43213
- crystalline surface layer at. struct. probed by SHG 7—20324
- cubic centrosymmetric crysts., optical second- and third-harmonic generation 7—62779
- cyanobiphenyls, monolayer on H_2O, optical SHG meas. 7—17288
- dye laser molecules adsorbed on optical surface, SHG and THG *(Chinese)* 7—57457
- fatty acids, monolayer on H_2O, optical SHG meas. 7—17288
- fibres, single-mode, nonpolarisation preserving, nonlinearities 7—37161
- FIR nonlinear optics in bulk solids 7—37043
- four-photon resonant generation of sum/difference freqs. on biharmonic pumping, bifurcations 7—37035
- free electron lasers, superradiant harmonic radiation, 3D model 7—20233
- free electron lasers even-harmonic generation mechanism 7—43127
- gaseous media, THG, compensation for inhomogeneous nonlinear phase mismatch 7—31394
- GEKKO XII high power Nd:glass laser, harmonic conversion 7—50571
- glass optical fibres, efficient SHG 7—43399
- hemicyanine dye monolayer, surface plasmon enhanced SHG 7—25881
- high-efficiency four-photon freq. conversion under one-photon pump resonance conditions *(Russian)* 7—57472
- intensity profiles of short optical pulses viatemporally reversed pulses 7—11053
- intracavity SHG, mode-locked laser pulse temporal and spectral characts. 7—31393
- Kleinman symmetry in molecules, information from SHG meas. 7—25609
- kth-harmonic generation, higher-order squeezing 7—20351
- laser light anal. and polarisation using SHG 7—57453
- laser pulse duration selection using SHG, picosecond absorption spectrometer time resolution enhancement 7—61387
- laser-induced instabilities in semiconductor and metal surfaces, nonlinear optical diagnostics 7—2061
- MBBA, nematic, orientational order, third harmonic generation susceptibility investig. 7—43235

optical harmonic generation continued
- merocyanine dye Langmuir-Blodgett films, optical third-harmonic generation 7—20329
- metal surface with periodic profile, SHG, surface plasma waves 7—62776
- metal-bipyridine complexes, second harmonic generation obs., struct. determ. 7—57454
- metal-pyridine complexes, second harmonic generation obs., struct. determ. 7—57454
- 2-methyl-4-nitroaniline, harmonic generation rel. to dichroism 7—43212
- 2-methyl-4-nitroaniline single crystalline films, growth for phase-matched frequency-doubling 7—3212
- molecular fluid, elec. field induced second harmonic generation, orientational effects 7—50638
- monolayer polymerisation, optical SHG investig. 7—39887
- multilayer optical waveguide, second harmonic generation 7—20352
- multiphoton ionisation, continuum struct., high optical harmonics 7—50046
- nonlinear crysts., near-surface SHG for autocorrelation meas. 7—57451
- 4′-n-octyl-4-cyanobiphenyl liq. crystal, surface polar ordering obs. by optical SHG 7—37856
- 4-n-octyl-4-cyanobiphenyl smectic-A film, struct. probing by optical SHG 7—32281
- optical klystron, XXUV laser harmonic generation, effects of wiggler errors 7—1127
- organic compounds, second harmonic generation, π electron contrib. 7—11055
- organic media, nonlinear optical processes, large non-resonant third order electronic responses in liq. cryst. polymers 7—25874
- organic molecules, nonlin. optical props. prediction, PPP calcs. and perturbation theory 7—25408
- organic-inorganic double halides, SHG meas. 7—43227
- Orsay optical klystron, goals 7—31231
- parametrically generated light second-order coherence obs. 7—25892
- pentadecanoic acid/H_2O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7—16839
- perovskite-like ferroelectrics, optical and electrophysical props. 7—3002
- phenol, aq. soln., liq.-vap. interface, second harmonic light phase, relation to mol. orientation 7—27057
- plasma, gaseous, cubic optical nonlinearities 7—1703
- PMMA-merocyanine dye Langmuir-Blodgett multilayer mixtures, deposition studies, SHG obs. 7—58715
- trans-polyacetylene, third order nonlinear optical susceptibility, meas. by third harmonic generation 7—57471
- trans-polyacetylene, third order optical susceptibility, $2A_g$ excited state obs. 7—62782
- polyacetylene films; optical harmonic generation 7—37041
- polydiacetylene pTS-FBS single crystal, electric field induced SHG 7—43214
- polymers, conducting, nonlinear optical processes 7—62781
- polysilane thin films, nonlinear optical props. 7—31392
- 2-(N- prolinol)-5-nitropyridine, nonlinear optical props., mol. and cryst. struct. 7—11056
- pyridine, adsorbed on Ag (110), coverage-depend, phase transition, SHG obs. 7—37029
- pyridine, on Ag surface, sub-monolayer adsorbate, SHG, CW diode laser-Maui surface expt. 7—16874
- rhodamine 6G coated substrates, SHG and sum freq. generation 7—57464
- rotational crystals, phase matching of SHG 7—57448
- second-harmonic generation with classical pumping, average photon number calcs. 7—57283
- SHG, autocorrelation functions, deformation and reconstruction 7—15819
- SHG and parametric amplification in resonator with mirrors with random inhomogeneities 7—25888
- SHG by Gaussian Schell-model source 7—5953
- sodium dodecylnaphthalene sulphonate/H_2O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7—16839
- spatial dispersion medium, optical SHG in exciton reson. region 7—37034
- surface probe appls. 7—11064
- surface SHG technique, book contrib. 7—25896
- surface structure, optical SHG studies 7—12440
- third harmonic generation in media with positive dispersion 7—1221
- third-order nonlinear susceptibility, dispersion formula validity 7—15929
- three-wave nonlinear-optical processes, nonequilibrium transitions 7—15934
- two-level one and two atoms, reson. fluoresc., nonlinear and stimulated effects 7—25448
- ultrashort laser pulses, intensity profile anal. using four-wave mixing or third harmonic generation 7—25891
- urea crystal, SHG by Ar^+ laser light *(Chinese)* 7—57458
- VUV harmonic generation on storage ring of optical klystron 7—1229
- Ag clusters on electrode surface, SHG enhancement by transient resonances 7—20325
- Ag electrode, SHG as surface probe 7—57463
- Ag gratings of various groove depths, SHG study 7—57462
- Ag island films, surface enhanced second harmonic generation 7—1232
- AgCl-Ag clusters on Ag electrode surface, optical second harmonic generation, SERS, luminesc. 7—11057
- β-BaB_2O_4 crystals, efficient UV generation by frequency doubling 7—43231
- β-BaB_2O_4 single crysts., flux growth, SHG appl. 7—59390
- CO_2, hyperpolarisability dispersion meas. 7—15940
- Cd vapour, coherent VUV generation by reson.-enhanced freq. mixing 7—50636
- $CdGeAs_2$, optical sum frequency generation, influence of competition 7—1231
- $CdGeAs_2$, SHG of single and multilongit. mode CO_2 laser emissions 7—43211
- Cl, photodissoc., third harmonic interference, polarisation effects, MPI spectra 7—50045
- Cl_2 third-harmonic generation, nonadiabatic effects, coupled eqns. calcs. 7—1222
- Fe electrode surface, second harmonic generation study using a picosecond laser 7—23030
- Ge, SHG, cryst. orientation depend. 7—50640
- H_2-F_2 laser, atmospheric pressure, feasibility of short radiation pulse generation 7—25807
- Hg, third harmonic generation, dressed-atom theory 7—50637
- KH_2PO_4, KD_2PO_4, wide-aperture freq. multipliers of IR lasers 7—57469
- KH_2PO_4 type crystals, tunable laser source down to 218.3 nm, freq. doubling and summing *(Chinese)* 7—57456
- $KTiOAsO_4$, struct. and nonlinear optical props. studies *(French)* 7—37948

optical harmonic generation continued
$KTiOPO_4$, crystal and optical props. 7−17403
$KTiPO_5$ crystal growth for high efficiency SHG devices *(Chinese)* 7−7835
$LiIO_3$ Raman laser for optical range, quasi-CW high power 7−25829
$LiNbO_3$ integrated optical substrates, Maker fringe anal. 7−26026
$LiNbO_3$, temp. tuning coeff., meas. using SHG based interferometry 7−11051
$LiNbO_3$:Ti waveguide, SHG, indiffusion proton exchange fabrication 7−25893
$LiTaO_3$, Czochralski grown with modulated struct., periodic laminar ferroelec. domains, SHG 7−59405
Na vapour, continuous wave second harmonic generation 7−37038
Nd:glass laser, double-pulse, use in holographic interferometry 7−15829
Nd:YAG frequency-doubled mode locked laser, synchronous pumping of femtosec. dye laser 7−31346
Nd:YAG laser, SHG in four-layer waveguide struct. using 2-methyl-4-nitroaniline in high index top layer *(Japanese)* 7−43240
PLZT ceramics, optical second harmonics, temp. and elec. field depend. meas. 7−5952
Rb_2ZnCl_4, cryst., incommensurate modulation, light propag. 7−22196
Si (111), cryst. surface layer at. struct. probed by SHG 7−20324
Si (111), symmetry and order, SHG 7−15948
Si, amorphous and crystalline, light reflection, optical third-harmonic generation 7−11059
Si, SHG, cryst. orientation depend. 7−50640
Si/Au buried interface struct. determ., optical second harmonic generation studies 7−63982
Tl_3PO_4, optical SHG material, cryst. struct., X-ray diff. study 7−44465
Xe, laser-induced third-harmonic generation in forbidden regions, Stark effect in three-photon level 7−37039
ZnSe, cryst., spectral broadening about second harmonic generated by laser pulse 7−43236

optical hole burning
anthracene-tetracene photoadduct in polymer matrix, photochemical hole burning 7−23038
book, laser-induced dynamic gratings 7−9605
centrosymmetric molecules in amorphous media, Stark effect by hole burning and inner elec. fields 7−25581
chlorin, in polyvinyl butyral matrix, spectral hole burning and Stark effect 7−62792
cresyl violet, spectral hole burning, 10 fs optical pulse probe investig. 7−50267
directly modulated semicond. lasers, gain nonlinearity effects calcs. 7−20218
dye laser, tunable, CW, Ar^+ laser-pumped, spectral props. 7−1096
fluorites, rare-earth-doped hydrogenated, reversible polarised bleaching 7−43260
frequency domain data storage using persistent spectral hole burning, technological aspects 7−10869
glasses, dielectric relaxation studies, high-resolution laser techniques 7−39006
Nile blue, spectral hole burning, 10 fs optical pulse probe investig. 7−50267
octaethylporphyrin, in polyvinyl butyral matrix, spectral hole burning and Stark effect 7−62792
polarisation coupled resonators, spatial hole burning suppression 7−11074
polymer film, laser beam modulator and pulse former using electro-optic spectral hole burning 7−20288
polymers, dye molecule doped, pressure-induced optical shifts and compressibilities 7−25606
quinizarin, dye molecule in solid alcohol glasses, linewidth study 7−37056
random organic solids, non-exponential relax. processes. 7−37058
resorufin, in ethanol, glass, photon echo and hole burning meas. 7−15955
semiconductor lasers, index-guided, self stabilisation of fundamental lateral mode 7−57320
spectral holes, persistent, in external fields, review 7−5959
tetracene in ethanol glass, appl. of hole-burning spectroscopy as a tool to eliminate inhomogeneous broadening 7−46104
s-tetrazine, photochem. hole burning, Doppler-free saturation spectrosc. 7−36589
two-level atom, pulse compression by spectral hole 7−57483
two-level system, dispersive hole-burning kinetics 7−62791
$CaF_2:Eu^{3+}$, hyperfine coupling in $^7F_0$ and $^5D_0$ states, ODMR meas., optical hole burning 7−45842
$CdF_2:Eu^{3+}$, hyperfine coupling in $^7F_0$ and $^5D_0$ states, ODMR meas., optical hole burning 7−45842
$KBr:CN^-$, persistent IR hole burning in vibr. spectrum 7−37057
$LaF_3:Pr^{3+}$, spin Hamiltonian spectroscopy, spin-spin cross relax. by optical pumping 7−22228
LiF:Mg(Ni)(Co) R′ colour centres, spectral holeburning props., depend. on doping and irradiation 7−26743
$LiGa_5O_8:Co^{2+}$, photon-gated spectral hole burning 7−1240

optical images
see also aberrations
3D imaging, spatial frequency cut-off 7−15823
3D representation of characters, graphics and pictures *(German)* 7−5861
apodization effects in Fourier transform IR difference spectra 7−48896
astronomical speckle imaging by filtered weighted-shift-and-add technique 7−47726
astronomical telescopes, imaging props. of large reflecting telescopes 7−66461
autocollimation focusing devices for optical systems, photoresistors used as image analyzer 7−37110
bandwidth extrapolation through iterative deconvolution 7−62637
chronophotography, light beam superfast scanning 7−48898
coherent spread function for semi-transparent edge, symmetry 7−42994
colour image correlation 7−62631
colour image recording, computer generated linear tricolour sampling pattern 7−42952
correlation by four-wave mixing in photorefractive media, computational model 7−42950
Czerny-Turner monochromator: astigmatism in the classical and in the crossed beam dispositions 7−20396
differentiation using an optical filter *(Japanese)* 7−5843
diffusely scattering objects image contrast, prod. by thick-layer transmission phase holograms 7−36921
display holograms and HOEs, image blurring 7−25752
distorting medium, four-wave mixing for image transmission *(Chinese)* 7−36885
electrophotographic image quality characts *(Japanese)* 7−356

optical images continued
eyepiece, two-component, design and correction, calc. process 7−25921
figured multilayer optical element, image quality 7−37102
Fourier phase retrieval when image is complex 7−62634
gradient index imaging systems, conf., Palermo, Sicily, Italy (Sept. 1985) 7−29570
GRIN lens with revolution symmetry, paraxial Fourier transforming and imaging props. 7−31420
GRIN rod, degrees of freedom and quality of image formed 7−42982
holograms, static and Doppler 3-D, imaging props. 7−50510
holographic endoscopy with gradient-index optical imaging systems and optical fibres 7−31271
holographic image recording using computer control 7−25758
illumination distrib. in pupils of optical system and in image of axial point 7−50668
incoherent image of sector disc, OTF evaluation 7−42979
information content of images degraded by speckle noise 7−50508
inverse optics, conf., San Diego, CA, USA (Aug. 1985) 7−60869
IR imaging system design, critical issues 7−50673
irregular surface simulation using spline fitting 7−43311
laser double-pulsed velocimetry, image shifting technique to resolve directional ambiguity 7−37559
laser radar, imaging, Q-switched 7−5937
layered inhomogeneous random media, MTF using small-angle approx. 7−50498
light intensity distrib. meas. system, image processing unit *(Japanese)* 7−4881
mirror, large multicomponent, image parameters 7−37090
misaligned systems and interference effects of optical arrays, diffr. integral 7−5838
MTF study of best focal planes determined by different image quality criteria 7−36894
multimode fibre, 1D image transmission, holographic optical elements 7−62836
multipinhole camera, phase object obs. 7−41513
near-field optical scanner, design with submicroscopic aperture for high resolution imaging 7−24697
one-way image transmission through multi-layer of thin distorting media 7−25897
particle velocity and displacement distribs. from double-exposure holograms using opt. and digital processing 7−31277
particulate analysis, filtering effects in far-field in-line holography and diffr. pattern analysis 7−31279
particulates in three-dimensional sample, coherent imaging, meas. accuracy 7−31278
passive synthetic aperture imaging using achromatic grating interferometer 7−10867
phase conjugation, polychromatic, image formation 7−43246
phase retrieval, practical appl. for the space telescope 7−62638
phase retrieval based on theoretical models for multi-dimens. band-limited signals 7−62636
phase retrieval method apparent limitations 7−62635
photolithographic scale dividing, optical problems *(German)* 7−30106
plane mirror image form., teaching 7−48254
position of best image plane of optical systems, determ. by double autocollimation method 7−50672
psychophysical scaling of picture quality 7−28537
range images, segmentation using sine wave coding and Fourier transformations 7−42951
real-time optical image subtraction based on wave polarization 7−57260
rice starch suspension, image transfer modulation transfer function 7−36884
rotating objects through distorting medium, holographic image form. 7−43012
scanned imagery 7−25718
scanning microscope with confined EM waves 7−41461
scanning polarisation/interference contrast microscopy, linear imaging 7−9895
scene geometry, length determ. 7−41340
Schwartzschild objective in X-ray optics, image form. in multilayer optics, SHADOW program 7−30144
sharpness function maximisation problem, object obs. in coherent light through randomly inhomogeneous medium 7−25714
shift-and-add imaging 7−55486
Space Infrared Telescope Facility, Space Shuttle-based, active image stabilization 7−9377
speckle, image plane small-N, phase contrast approach 7−42930
speckle phase in image and diffr. fields, statistical props. 7−42934
speckle stereograms for 3D display 7−20146
Strehl ratio phase-space representation, ambiguity function 7−57257
systems of finite fresnel number, imaging 7−5847
tomograms of moving object, dynamic synthesis method and equipment 7−8235
tomographic applications of optical microscopy 7−61373
turbulent atmosphere, high-resolution image form. of coherently illuminated objects 7−55261
turbulent atmosphere, image form., isoplanatism problem of optical systems 7−50502
white light speckle, digital image correlation, image distortion effects 7−42997
Ag halides photographic plates, relief-phase holograms, copying 7−43013
Ge, amorphous films, laser induced image storage 7−11078

optical information processing
see also optical correlation; spatial filters
3D object repositioning using a projected grating and photographic enlarger 7−41456
Abel inversion with high accuracy in optics/spectroscopy problems 7−35603
acoustic signals, holographic matched filtering, membrane modulator appl. 7−43541
acousto-optic signal processing system intermodulation products 7−1041
acousto-optic signal processors, polarisation effects 7−25723
acousto-optical devices, holographic filtering use 7−20409
acoustoelectrooptic multichannel spectrum analyzer 7−50714
acoustooptic signal processors, incoherent-light space-integrating 7−50499
acoustooptical delay line for optical distrib. processing 7−42977
bandwidth extrapolation through iterative deconvolution 7−62637
bimodal optical computers 7−10865
binary phase coding of spatial-frequency filters 7−37112

optical information processing continued
biological light-sensitive complexes as technical information photocarriers 7—40370
bistability and optical computers, binary logic operations *(Danish)* 7—1214
bistable devices, fast response/low-energy 7—25941
Born vs. Rytov approximations, is the debate over? 7—62593
Cauchy/Schwarz inequality, constraint in power spectrum/autocorrelation anal. and image reconstruction 7—42996
cellular array processors 7—25720
coherent image subtraction using phase conjugate interferometry 7—25727
coherent optical fibre delay-line processor 7—31253
communication, control and sensing appls. of optical fibres *(French)* 7—6009
comparison of optical and acoustical signalprocessing techniques 7—1317
composite logic gate element and multiplexer for optical computing and optical communications 7—57421
composite matched filtering with error correction 7—42990
composite panel, whole-field strain determ. using coherent opt. processing 7—57779
compound literal implementation via shadow-casting 7—25732
computing, developments and advancements 7—1035
conf., Los Angeles, CA, USA (Jan. 1986) 7—24284
conjugate gradient algorithm on optical linear algebra processors 7—57251
control of σ^+ beam propagation by a σ^- beam 7—62799
crossbar interconnections using variable grating mode devices 7—42949
crossbar signal processor, design 7—25722
CT images reconstruction by electrooptical computer 7—3874
digital optical adder based on spatial filtering 7—11099
digital optical computing, possibilities and pitfalls 7—25721
digital optical computing with symbolic substitution logic 7—10859
digital parallel all-optical computer using ZnSe interference filter triple bistable-element loop circuit 7—57409
dynamic response of bistable devices, graphical anal. 7—15922
fibre optic logic elements 7—57564
fibre optic modulator and logic gate using nonlinear refr. and absorpt. 7—37174
fibre optic monomode sensors, optical processing schemes for phase and polarisation state information recovery 7—50763
fibres, single-mode, mode field radius meas., harmonics detection appl. 7—37163
Fourier phase retrieval when image is complex 7—62634
Fourier transforms, discrete, performed by single-mode star networks 7—42989
frequency domain reflectometry for fibre/integrated optic systems, high resolution distrib. fibre optic sensing 7—25987
Hartley transform intensity for image reconstruction 7—31260
Hartley transforms, discrete, two-dimensional, separable forms 7—42954
holographic associative memory using phase-conjugate resonator 7—25733
holography in computing *(French)* 7—57274
Hopfield neural network model used as nearest-neighbour algorithm 7—23318
Hough transform optical implementation by matrix of holograms 7—42940
hybrid pattern recognition by features extracted from object and Fraunhofer diffr. patterns 7—42942
hybrid polarisation encoding shadow casting for optical computing, logic operations 7—1032
III-V semiconductor integrated waveguides as all-optical logic devices 7—25869
image analysis system for quantitative metallography, microprocessor and minicomputer-based 7—1033
image deblurring by spectrum analysis *(Korean)* 7—57256
image differentiation using an optical filter *(Japanese)* 7—5843
image processing in the reconnaissance revolution 7—50507
image reconstruction, weighted shift-and-add technique, statistical analysis 7—55489
impenetrable object tomographic reconstruction 7—62592
information content of images degraded by speckle noise 7—50508
interferogram anal. by modified sinusoid fitting technique 7—35580
interferogram Fourier transform., optical data processed FT spectrometer 7—24707
inverse optics, conf., San Diego, CA, USA (Aug. 1985) 7—60869
inverse scattering, inverse source approach 7—62594
inverse scattering problem soln. using null field method 7—62595
isotropic Hilbert transform by anisotropic spatial filtering 7—42939
laser pulse spatial modes, direct measurement 7—5931
light intensity distrib. meas. system, image processing unit *(Japanese)* 7—4881
linear analogue optical systems, digital multiplication by analogue convolution algorithm 7—10862
liquid crystal light valves for medical imaging 7—14107
liquid crystal TV, low-cost appl. to white-light optical signal processing 7—31251
liquid crystal TV as spatial modulator for optical data processing 7—25958
liquid-crystal spatial light modulator, coupled to image converter, expt. investig. 7—43440
logic gate using spatial light modulator and interference fringe shifting 7—43351
logic gates using liquid crystal optical switches 7—43327
macromolecular diffusion coeffs. meas. using holographic interferometry, digital image processing 7—31272
magnetic bubble domain devices, review 7—17209
matrix vector multiplication by four-wave mixing in photorefractive media 7—42991
matrix-matrix multiplier based on Kronecker product decomposition 7—57248
medical images, pseudocolour encoding with white light 7—3861
medium accuracy optical computing, highly redundant number representation 7—10864
microcomputer-based image processing aids in optical analysis and simulation 7—36891
mirror surfaces, high performance, spectral and parameter estimation problems in metrology 7—37232
moire signal spatial filtering and anal. *(Chinese)* 7—10876
Multichannel Infrared-Red Temperature Micro-Analyzer for multi-wavelength pyrometry 7—41392
neural networks and optical resonators, coupled-mode theory 7—54513
nonlinear interference filters, critical interpixel separation 7—31388
nonlinear optics, conf., Los Angeles, CA, USA (1986) 7—18488

optical information processing continued
nonlinear optics and optical computing 7—25875
nonsinusoidal light modulation, photoacoustic effect 7—42978
optical resonators and neural networks 7—54512
optical switching and bistability in semiconductor materials, overview 7—50630
optoelectronic devices for information processing andcommunications 7—1285
parallel array logic system, architecture without memory elements 7—20144
parallel logic gate using Pockels effect modulators, fundamental components for optical digital computing 7—43347
parallel logic operation with microchannel spatial light modulator 7—25731
parallel optical logic operations using phase conjugation 7—57474
parallel processing optical limits in Fabry-Perot etalon 7—57266
particle velocity and displacement distribs. from double-exposure holograms using opt. and digital processing 7—31277
phase closure with a rotational shear interferometer 7—56324
phase retrieval, improvement in logarithmic Hilbert transform evaluation 7—31262
phase retrieval, practical appl. for the space telescope 7—62638
phase retrieval algorithm using sampling theorem 7—62632
phase retrieval based on theoretical models for multi-dimens. band-limited signals 7—62636
phase retrieval from a dichromatic analysis of speckles 7—31261
phase retrieval method apparent limitations 7—62635
photonic material developments 7—25912
pupil-function design for bipolar incoherent spatial filtering 7—31254
real-time matrix multiplier, operational error and compensation 7—10866
real-time programmable image subtractor using a magnetooptic device 7—20145
relational-graph rule-based processor for structural-attribute knowledge bases 7—10861
restoration of light field using optical processing of amplitude transparencies 7—62642
rotation-invariant pattern recognition and some of its limitations 7—25729
Sagnac interferometric switches 7—25940
semiconductor laser amplifiers, optical bistability, physics and appls. 7—62751
semiconductors, photorefractive effect for optical processing 7—57438
SETI, time and space acousto-optic folded spectrum processing 7—26080
sharpness function maximisation problem, object obs. in coherent light through randomly inhomogeneous medium 7—25714
signal phase meas. error when passed through multimode optical fibre 7—37013
single-instruction multiple-data array architectures for digital optical computing 7—42941
sound reproduction from old wax phonographic cylinders, laser beam reflection method use 7—37014
spatial filtering logic based on polarisation state 7—43330
spatial light modulator, electron beam addressed 7—25955
spatial light modulator, high-gamma, for nonlinear optical processing 7—25959
spatial-frequency image filtering in laser scanning microscopes *(Russian)* 7—41458
squeezed light, effects of optical processing on nonclassical props., review 7—1054
steel metallurgy, computer-assisted image anal. systems 7—3546
stimulated photon echo, information storage duration dependences calcs. 7—62798
Strehl ratio phase-space representation, ambiguity function 7—57257
switches and transistors, development progress *(German)* 7—50500
switching using stimulated Rayleigh scattering 7—25895
symbolic substitution logic, optical implementation using polarisation for coding 7—10860
techniques for radar data, fibre optic communications, pattern recognition 7—36899
ternary arithmetic and logic, binary encoding 7—10863
texture analysis using hybrid optical-digital processor 7—25726
theta decoder, lensless using Lau effect 7—25719
threshold device tolerance requirements in digital optical computers 7—57410
time-domain beam former, optical implementation 7—42987
tomography, optical microscopic type, constrained resolution enhancement 7—47304
tomography and interferometry, regularisation, expt. errors and accuracy 7—35583
transform performance using holographic lenses, theory 7—10868
transform techniques for electro-optical pre-detectorsignal processing 7—5852
video/computer technology role in exptl. mech. 7—63093
wavefront estimation from difference meas. using discrete Fourier transform 7—31255
white light cylindrical holograms, image processing operations 7—25776
Wigner distribution function from single object transparency, optical system for efficient display 7—31259
AlGaAs-GaAs MQW CCD spatial light modulators using electroabsorption effects 7—20407
As_2S_3 films photorefractive effect investig. using optical filtering 7—45990
$BaTiO_3$ photorefractive crystals, image amplification by two- and four-wave mixing 7—11042
$Bi_{12}SiO_{20}$ photorefr. crystals, moving grating erasure, expt. study 7—5940
GaAs waveguide, thermal index changes by optical absorpt., all-optical signal processing 7—31381
GaAs-GaAlAs MQW ultrafast all-optical gate with subpicosecond ON and OFF response time 7—11026
InP waveguide, thermal index changes by optical absorpt., all-optical signal processing 7—31381
InSb optical bistable elements as optical computer components 7—37025
$LiNbO_3$:Fe crystal, white-light information processing, coupled wave theory 7—25728
PLZT/Si spatial light modulators, technology 7—20408
Si liquid crystal spatial light modulator 7—37130
ZnS, ZnSe interference filters, simultaneous optical bistable switching on adjacent pixels, pattern recognition 7—57420

optical instrument testing
see also aberrations
cameras, automatic focusing systems, IC testing 7—41517
cameras, reflex, viewfinders, testing and adjustment 7—41520

optical instrument testing continued
HIPPARCOS telescope performance evaluation 7−31537
holographic interferometry, phase measurement system for optical element testing 7−57270
Hubble Space Telescope performance, prediction using optical surface anal. code 7−25930
Hubble Space Telescope primary mirror, test and eval. 7−40708
large optics assembly and testing in space 7−40704
spectrophotometer, SPECORD-M40 UV-VIS, USSR standards committee tested 7−4899
telescopes, large aperture, with parabolic and spherical primaries, comparison 7−25931
transmission and reflection coeff. meas. under optical prod. condition using photometer 7−41421
visual instrument testing, wavefront aberration effects 7−57610
Yunnan Observatory 1 m telescope, optical quality test *(Chinese)* 7−29394

optical instruments
see also colorimeters; coronagraphs; ellipsometers; holographic instruments; light interferometers; optical microscopes; optical prisms; photometers; polarimeters; refractometers
angle-measuring instrument using three-dimensional linkage 7−41415
atomic excited fragment, Doppler profile analysis, optical instrument design and construction *(Japanese)* 7−31172
cryogenic optical systems and instruments, conference, Los Angeles, California, (January 1986) 7−24283
frictional sliding guides, dovetail type, construction for use in optical instruments 7−41364
Large Deployable Reflector System concept 7−29399
non-contract high precision optical surface measuring instrument 7−48686
optical to hydraulic interface 7−5975
reflectivity meas. apparatus for partially transparent materials 7−33355
spatial variables meas. with optoelectronic transmitted-light meas. system *(German)* 7−61314
surface geometry meas., optical techniques, review 7−29976
therapeutic laser instrument for ophthalmology, the VISULAS YAG 7−54709

optical interference *see light interference*

optical interferometers *see light interferometers*

optical interferometry *see light interferometry*

optical isolators
angle of rotation meas., rotating linearly polarised light source appl. 7−18850
Faraday isolator, simple compact high performance permanent magnet 7−31437
ferromagnetic garnets, magneto-optical effects and appls. *(French)* 7−59190
kilovoltmeter with optical feedback 7−30038
magneto-optical branching waveguide, appl. in nonreciprocal optical devices 7−57542
wavefront reversal system using four-wave interaction with passive optical isolator, reflection efficiency 7−62783
waveguide-type optical isolator using the Faraday and Cotton-Mouton effects 7−31464
$Gd_{3-x}Bi_xFe_5O_{12}$ crystal growth for 0.8 μm optical isolator 7−57605
YIG, FZ growth for magnetooptic devices in fibre-optic communication systems 7−27892

optical Kerr effect
birefringent optical fibre, polarisation instability, obs. 7−37162
bistability, angle and freq., reson. excitation of nonlinear guided mode 7−57428
bistability interpretation through self-parametric bistability 7−50658
bistable elements, Kerr-type medium device, noise-induced switching theory 7−62803
dark soliton in a Kerr defocusing medium 7−43265
degenerate four-wave mixing, eigenpolarisations, nonreciprocity and isolas 7−20374
fibre-optic passive-loop resonator, optical multistability 7−1278
four-photon polarisation Raman spectroscopy for remote detection of hydrocarbons in water 7−46992
gaseous media, THG, compensation for inhomogeneous nonlinear phase mismatch 7−31394
glass, femtosecond nonlinearities using opt. Kerr effect 7−50660
Kerr nonlinear interferometer, number-phase minimum-uncertainty state with reduced number uncertainty. 7−35586
multisoliton emission from a nonlinear waveguide 7−31461
nonlinear p-polarised optical waves, exact calcs. 7−62802
phase conjugation of laser beams 7−25903
phonon counting, nondemolitional meas. using nonlinear optical-fibre interferometer 7−62653
pulse shaping and passive mode-locking with nonlinear Michelson interferometer 7−15914
short-pulse four-wave mixing theory, instantaneously responding Kerr medium 7−31404
surface plasmon optical bistability beyond plane waves in nonlinear dielectric 7−57429
surface waveguide nonlinear props. 7−57486
third harmonic generation in media with positive dispersion 7−1221
third-order nonlinear susceptibility, dispersion formula validity 7−15929
CdS_xSe_{1-x} doped filters, femtosecond nonlinearities using opt. Kerr effect 7−50660
PbO-SiO₂ glass, femtosecond nonlinearities using opt. Kerr effect 7−50660

optical lenses *see lenses*

optical links
see also optical communication equipment
1.5 micron fibre submarine transmission system sea trial 7−31519
advanced fibre optic systems, meas. and charactn. 7−43408
coherent optical fibre system with Zeeman lasers 7−50786
communication, control and sensing appls. of optical fibres *(French)* 7−6009
communication satellites appls., conf., Los Angeles, CA, USA (Jan. 1986) 7−29588
conference, fibre optics, short-haul and long-haul meas. and appls., San Diego, CA, USA (Aug. 1985) 7−40998
crosstalk meas. on high birefringence fibres 7−57566
electricity supply, communications and meas. appls. of optical fibres 7−57578

optical links continued
fibre chromatic dispersion measurements and related system power penalties 7−43415
fibre data communication system for ocean bottom surveys 7−9200
fibre optic broadband networks, conf., Cannes, France (Nov. 1985) 7−35092
fibre optic links, bit error rate, noise meas. on laser diodes single modes 7−37230
fibre PCM transmission systems *(German)* 7−43442
free-space laser communications system design, SNR impact 7−34676
fused biconical monomode directional couplers, power transfer wavelength selectivity control 7−37159
Holocoupler-Selfoc fibre system, coherent transfer matrix description 7−37198
Indian work on fibre optics, survey 7−57576
integrated optical circuits in ultra-high speed fibre optic LANs 7−26038
laser beam transmission system using low-loss optical fibres *(German)* 7−37200
lightwave telecommunication using optical fibres, history and current systems 7−50761
limits of dispersive optical fibre transmission for chirped pulses 7−31476
magnetic field sensor, wideband optical fibre, using $Cd_{1-x}Mn_xTe$ sensing element 7−25979
mars to Earth optical communication link for the proposed Mars Sample return mission roving vehicle 7−34835
mid-IR fibre ultralow-loss communications 7−11175
optical data links, field experience in fusion reactor environment 7−15995
OTDR for single-mode fibre using P_2O_5 doped fibre Raman laser 7−31517
plastic fibre optic technology introduction 7−50764
power transfer matrices used in system loss prediction, LAN components attenuation 7−50758
repeaters, inverting to cancel distortion 7−15993
satellite datalink using hologram laser beam corrector-collimator 7−25754
side-tunnel fibre for single-mode, polarisation characts. 7−31474
single-mode connector for broadband network appls. 7−37155
single-mode pulse compression with amplification 7−31518
time domain reflectometry, range and accuracy in backscatter measurements 7−15999
GaInAsP/InP, planar single mode heterostructures, calculated characts. 7−31326
ZrF_4 fibres, optical transmission expts. using noncryogenic sources and detectors 7−37197

optical losses
bow-tie fibres, microbending losses 7−57572
bow-tie fibres with const. curvature, macrobends 7−57573
branching/combining optical circuit, low radiation loss, using high SiO_2 channel waveguides 7−31458
cable, losses resulting from excess fibre length *(Japanese)* 7−50782
Corning glass films, RF magnetron sputtered, optical props. 7−57552
dielectric single layers, scattering reduction or enhancement 7−50483
dielectric slab, bent, with lossy coating, light absorption calc. 7−62620
directional coupler, polarisation-preserving, appls. 7−1279
directional couplers with gain or loss anal. and appl. to semiconductor slab dielectric guides 7−31457
dispersion shifted single mode fibre cable, low-loss, performance 7−31492
Fabry-Perot fibre optic sensor and its appls. 7−43424
fibre cable connection and loss meas. methods *(Japanese)* 7−43435
fibre cable integrated OTDR/throughput loss meas. system for environmental testing 7−43460
fibre connector, low-loss small-size with precision plastic-molded ferrule 7−11150
fibre connector and splices, low-loss, theoretical and exptl. study 7−43438
fibre connectors, factors influencing refl. loss *(German)* 7−43392
fibre connectors, meas. *(German)* 7−43391
fibre connectors using flexible fine ferrules 7−11151
fibre coupler, biconical fused taper low-loss type, fabrication and characts. study 7−43439
fibre optic connector extrinsic loss mechanisms, production data and anal. 7−26007
fibre optic loss meas. using optical time-domain reflectometer, launching and receiving conditions *(Japanese)* 7−31513
fibre optic passive components, differential mode loss and mode conversion 7−31496
fibre optics, principles and fibrescope appls. *(Spanish)* 7−6002
fibre OTDR, range and accuracy in backscatter measurements 7−15999
fibre single-mode, step-index, microbending losses, anal. 7−20452
fibre splices, arc-welded, monomode made using local injection and detection of blue light 7−11187
fibre splices, mechanical, design and performance 7−11149
fibre stimulated Raman scattering, distortion-free transmission design 7−11054
fibre tapers, single-mode, performance characts. 7−57588
fibre transmission loss characteristics during drawing, continuous measurement 7−6004
fibre-optic micro-bend dark-field sensor 7−43431
fibre-optic sensors, displacement measurements, loss-compensation technique 7−57561
fibres, connection techniques *(Polish)* 7−15989
fibres, Gaussian-profile dispersion-shifted, VAD manufactured, design and performance 7−11128
fibres, nonlinear, with loss, soliton broadening compensation 7−43398
fibres, polarisation-maintaining, low-loss, low-crosstalk, design and fabrication 7−11138
fibres, single-mode, curvature depend. of effective cutoff wavelength 7−57586
fibres, single-mode, dispersion-shifted and dispersion flattened, splice loss, comparison 7−20428
fibres, total spectral loss, rapid modelling and estimation 7−11142
fibres single-mode, high-strength long-length synthesised by vapour axial deposition 7−11135
fibres testing, single-mode, standard meas. procedures 7−26018
filter, prism based spectral filtering, for ultrashort pulses, low losses 7−31441
fluoride glass single-mode fibre, preform fabrication technique and transmission loss characts. 7−11117
fluoride-glass single-mode fibres, ultralow-loss, design 7−11152
fusion-spliced fibres, Zeiss-Linnik interferometric exam. 7−31531
glass:Nd, transition metal doped, fluorescence and absorption spectra 7−13229

optical losses continued
glass:Tb_4O_7 Faraday rotator low loss single mode fibres, MCVD fabrication 7−25993
glass, ultralow-loss, development, book contrib.. 7−25917
glass fibres, UV-radiation induced colour centres 7−11082
glasses for ultralow loss fibres and waveguides *(French)* 7−25916
gradient index lens for low-loss coupling of laser diode to single-mode fibre 7−31465
gradient optical fibres, splice attenuation *(German)* 7−1277
heavy metal fluoride glass systems for optical device technology, radiation effects 7−37073
heavy metal halide glass fibre lightwave systems, extrinsic and intrinsic losses 7−31488
heavy metal halide glass fibres, IR materials, dispersion shifted fibre designs with low bending losses 7−37177
heavy metal halide glass fibres, single mode, at long wavelengths, ultra low microdeformation loss predictions 7−37176
infrared optical materials and fibres, conf. Los Angeles, CA, USA (Jan. 1986) 7−35091
integrated optical components for fibre sensors, splitting loss 7−26042
IR optical fibres in Japan, development for telecommunication appls. 7−37175
IR transmitting fibre optics, spectral props. 7−37179
laser cavity, losses, radiation spectrum locking, phase polaris. method 7−11012
laser diode, separated multiclad-layer, rigorous waveguiding anal. 7−15898
leaky wave spatial spectrum generated by guided wave scatt. from acoustic wave 7−31460
long-haul single mode fibre attenuation meas., laser and LED source effects 7−43414
microbending losses analysis in single-mode fibres 7−11115
mid-IR fibre ultralow-loss communications 7−11175
multimode cabled coated optical fibres, graded-index, losses at low temp. 7−50749
multimode fibre attenuation meas., interlaboratory comparison in China 7−43417
multimode fibre loss, automatic meas. of spectral depend., cutback method and system *(Czech)* 7−26052
nonregulated optical fibres, power loss calcs. *(Croatian)* 7−20457
open laser resonators with tilted mirrors, losses 7−62730
open resonators, Huygens-Fresnel principle and integral eqns. 7−31244
optical fibres, hermetically coated, anti-thermal and high strength coating development 7−31483
organic materials for integrated optics, loss props. 7−25911
OTDR for optical fibre cable meas. 7−14994
planar waveguide losses meas. using coherent fibre bundle 7−50734
PMMA, plastic optical fibres, for near IR transmission, prep. 7−62834
polarisation-maintaining fibre, 26-km length 7−57570
polarisation-maintaining fibre couplers with low excessloss 7−1269
polished glass surfaces, ellipsometric obs. rel. to losses in laser cavity 7−17297
polymer coatings for optical fibers 7−11192
polystyrene, plastic optical fibres, for near IR transmission, prep. 7−62834
power transfer matrices used in system loss prediction, parabolic and step index fibres 7−50758
pulse lasers, short period loss modulation anal. *(Russian)* 7−50527
reflectometric fibre optic hydrophones improvement 7−43601
ruby pulse lasers, short period loss modulation anal. *(Russian)* 7−50527
silica waveguides, hollow-core 7−57540
single mode fibre splicing techniques, statistical anal., splice loss per fibre-span meas. 7−43416
single mode fibre structures, mode field diameter definitions, splicing losses prediction 7−43410
single mode fibres, microbending loss eval. 7−57565
single-mode fibre, periodically deformed, radiation losses 7−57592
single-mode fibres exposed to H_2, loss increase over long term *(French)* 7−50746
single-mode fibres jacketed with loose jelly-filled tube, loss mechanisms 7−11148
slab waveguide, fundamental mode, tilt, offset and end-separation loss 7−31456
spinor formalism and guided waves 7−5996
submarine cable production using arc fusion splicer with profile alignment system 7−11185
submarine cable splicing using self-core-alignment arc-fusion splicer 7−11186
taper splice method for subscriber single-mode fibre cables 7−31530
unstable resonator semiconductor lasers, theory 7−57373
waveguide, TM-mode selective filter using a high refractiveindex lossy layer cladded optical waveguide 7−5997
waveguide loss meas. by scattered radiation detection 7−37143
waveguide loss measurement method 7−11181
waveguide-bend configuration with low-loss characteristics 7−37147
$AgCl_{0.95}Br_{0.05}$, IR transmitting fibres, optical props. 7−37185
AgX (X=Cl,Br), extruded fibres, optical and material props. 7−37184
Al-coated fibre, high-temp. effects 7−11146
AlF_3-based glasses, IR fibres, prep. and props. 7−37182
α-Al_2O_3 sapphire single crystal optical fibres, low loss, characts. 7−37187
As-Ge-Se-Te chalcogenide glass fibres for thermal IR transmission 7−37193
As-S glass IR fibre, Teflon clad, optical loss due to water diffusion 7−57556
As-Se and As-Se-Te IR chalcogenide tube waveguides 7−37195
CO_2 high-pressure laser, direct optical pumping with pulsed HF pump laser, low-loss resonator 7−50533
CO_2 lasing characts., effect of waveguide statistical surface roughness 7−50536
Ge coated circular metallic hollow waveguides for IR radiation, electrodeposition prep. *(Japanese)* 7−31463
Ge-As-Se and As-Se chalcogenide optical glass fibres, prep. and characterisation 7−37194
Ge-As-Se-Te chalcogenide glass fibres for transmission in the 8 to 12 μm range 7−37192
Ge-Sb-Se IR chalcogenide tube waveguides 7−37195
InP/InGaAsP antiresonant reflecting optical waveguides, chemical beam epitaxy and propagation losses 7−57537
KH_2PO_4 two-cryst. superradiant parametric light source, high-energy subnanosecond pulse pumping 7−31396
KrF amplifiers, dynamic absorption effects 7−43062

optical losses continued
$LiNbO_3$:Ti electro-optic Mach-Zehnder waveguide modulators, 1.51 μm operation, optically induced drift effects 7−20404
$LiNbO_3$:Ti guided-wave optical switch, 1×16, polarisation-independent 7−31525
N_2O high-pressure laser, direct optical pumping with pulsed HF pump laser, low-loss resonator 7−50533
OH loss increase due to jacketing glass material in optical fibres 7−6017
Si_3N_4 LPCVD optical waveguides on Si substrate 7−20414
SiO_2 core optical fibres, triple clad, with zero total dispersion at wavelengths of 1.3 and 1.55 μm *(Japanese)* 7−50781
SiO_2 glass:H_2 fibres, IR optical loss 7−11143
SiO_2 optical waveguides, low-loss planar, fabrication using thermal nitridation and charactn. 7−26032
SiO_2 silica glasses, doped, radiation-induced defect centres, EPR and optical studies 7−13033
SiO_2-GeO_2, influence of impurities on loss increase, expt. study 7−43380
SiO_2-P_2O_5 optical fibres, γ-irradiated, phosphorus oxygen hole centres 7−11083
SiO_xNy dielectric waveguides, optical props. 7−57535
TlBr-TlCl/CsBr-CsCl single-crystal two-layer fibres for visible and infrared transmission 7−57569
TlBr-TlI polycrystalline fibres with crystalline cladding, optical characts. 7−37186
ZnS films, optical losses, substrate temp. effects 7−50738
ZnSe IR optical fibres, development, appls. 7−37190
ZrF_4 based IR fibres, realistic losses 7−37181
ZrF_4 high optical quality IR transmitting glasses and fibres, prep. and props. 7−37180
ZrF_4-based glasses, IR fibres, prep. and props. 7−37182
ZrF_4-based optical fibres, scattering loss meas. 7−11114

optical mark reading *see mark scanning equipment*

optical masers *see lasers*

optical materials
see also glass; optical films; optical glass
3-nitroaniline in polystyrene or PMMA composite films, SHG obs. 7−62771
active optical materials, conf., San Diego, CA, USA (Aug. 1985) 7−35088
biological light-sensitive complexes as technical information photocarriers 7−40370
book, laser damage in optical materials 7−24311
components made from copolymer of styrene with acrylonitrile, birefringence 7−43271
crystal growth, conf., York, England (Jul. 1986) 7−48142
crystal growth research in China 7−53509
crystals, (001) plates, photoelastic optical inhomogeneity 7−43272
crystals, growth, Bridgman-Stockbarger method, thermal modelling 7−22461
$Cu(H_2PO_2)_2$ thermographic materials for laser thermal information recording 7−57496
α-cyanoacrylate cements for biomed. equipment, opt. parameters 7−25910
dimensional stability meas. 7−43270
dye-binder overcoated optical disc medium, erasable laser recording 7−20148
electro-optic materials for data storage and processing 7−43021
electro-optic materials for guided-wave optical devices 7−37134
energy efficiency and solar energy conversion, conf., San Diego, CA, USA (Aug. 1985) 7−48159
enhanced optical nonlinearities in small particles and composite materials 7−50631
EUV materials, low reflectance 7−57488
heliostat reflectant surfaces optical properties *(Rumanian)* 7−28388
holographic applications progress, conf., Cannes, France (Dec. 1985) 7−24280
infrared optical materials and fibres, conf. Los Angeles, CA, USA (Jan. 1986) 7−35091
integrated optical components, developments *(German)* 7−50789
integrated optical system development, the shape of things to come 7−50791
IR materials, conference, Cannes, France (Nov. 1985) 7−35093
IR materials erosion due to rain, optical damage characterisation 7−31411
IR optical materials, crystalline, review 7−37064
IR optics advances 7−11079
large optics technology, conf., San Diego, USA (Aug. 85) 7−35089
lithium rare earth tetraphosphates, $LiRP_4O_{12}$, flux cryst. growth 7−13345
molecular materials and their appls. 7−16412
nonlinear optical and electro-optical material advances, book contrib. 7−25914
organic dyes, optical storage, digital media, transient thermal conduction 7−57490
organic molecular crystals, growth, quadratic nonlinearities 7−53569
organic nonlinear optical materials 7−25870
organic-inorganic double halides, SHG meas. 7−43227
photonic material developments 7−25912
photorefractive materials, grating interactions, optical activity 7−25948
photosensitive materials, quantum gain, domino mechanism 7−43280
photothermoplastic film, deform. props. treatment process parameters 7−43281
PMMA, plastic optical fibres, for near IR transmission, prep. 7−62834
PMMA films, transparent, radiation strength, low-molecular-weight additives effects 7−43273
poly-N-vinylcarbazole as holographic recording material 7−25746
polydiacetylenes as nonlinear waveguide materials 7−25871
polydimethylsiloxane, refr. index and thermal expansion coeff. variations with temp. 7−39060
polymer protective coatings of optical elements between operations 7−37062
polymer recording media, diffusion processes studied by holographic relaxometry 7−36914
polymers, gas-filled, action as cutoff optical filters in the IR region 7−57529
polymers, imaging props. of static and Doppler 3D holograms 7−50510
polymers, vitreous, optical props., review 7−20375
polystyrene, plastic optical fibres, for near IR transmission, prep. 7−62834
polyvinyl carbazole material for HOEs 7−25745
quartz, ion implanted optical waveguides, refractive index profiles 7−25964

optical materials continued
radiation effects in materials for optical interferometric devices 7−44618
recording materials used in holography, general review 7−25744
recording medium with thermal coloration 7−5964
review of new materials 7−37063
sapphire precision ultrafine surfaces, practical prep. method 7−1290
semiconductors, photoelectrochemical etching of holographic gratings 7−26051
solar collector coatings with selective optical properties, radiation characts. 7−34068
spiroindolinonaphthoxazines in plastics, photochromic perform. 7−39091
surface defect characts. using pulsed laser damage methods 7−37010
$AgGaSe_2$, optical band-pass filter using accidental isotropy and optical activity 7−15966
As-Se glass, IR optical materials, production 7−37075
β-BaB_2O_4 single crysts., flux growth, SHG appl. 7−59390
Be mirror for large optics, fabrication by hot isostatic pressing 7−37228
$Bi_{12}GeO_{20}$, electrogyratory and electrooptic coupling 7−27701
$Bi_{12}SiO_{20}$ 7−27701
$Bi_{12}SiO_{20}$, photorefractive, hologram recording, real-time defect enhancement using inversion props. 7−25771
a-C:H diamond-like coating on Ge, rain erosion resistance improvement obs. 7−31435
CaF_2 profiled crystals, growth by Stepanov's method, appl. for optical components 7−31409
$CaLa_2S_4$ optical ceramic, powder synthesis 7−37067
CdS waveplates for IR lasers, reproducible volume manufacture 7−37138
CdTe, IR optical materials, production 7−37075
CsBr-AgBr fibres, growth by Stepanov's method 7−31533
Ga-Se-Te, phase change optical recording, write erase characteristics 7−57491
GaAs, photorefractive beam coupling with picosec. pulses 7−31386
GaAs:Cr, photorefractive behaviour using two-beam coupling 7−31387
Ge IR absorpt. coeff. meas. with compensating calorimeter 7−56270
Ge profiled crystals, growth by Stepanov's method, appl. for optical components 7−31409
Ge:P crystals, seeded growth in soft lined crucible, dopant distrib. 7−53559
$HgIn_2Te_4$, props. in mid-IR 7−37061
$KTiOPO_4$, solubility in KF aq. soln., high temp. and press., hygrothermal growth 7−58482
LaF_3:Pr^{3+} crystal photon echo effect, use in contemporary electronics 7−15820
LiF profiled crystals, growth by Stepanov's method, appl. for optical components 7−31409
$LiMO_3$ (M=Nb,Ta), ion implanted optical waveguides, refractive index profiles 7−25964
$LiNbO_3$ (001), z-cut, surface struct., RHEED studies 7−2308
$LiNbO_3$, He^+ implantation, lattice disorder, refractive index changes 7−25966
$LiNbO_3$, optoelectronic material, radiation effects 7−26811
$LiNbO_3$ planar waveguides, He^+ ion implantation, transient annealing 7−25965
$LiNbO_3$, proton-exchanged, acoustic microscopic studies 7−21597
$LiNbO_3$, temp. tuning coeff., meas. using SHG based interferometry 7−11051
$LiNbO_3$:Fe, Czochralski growth and holography appl. 7−59404
$LiNbO_3$:Fe, linear electro-optic effect, optical damage by He-Ne laser *(Korean)* 7−27698
$LiNbO_3$:Fe crystal, white-light information processing, coupled wave theory 7−25728
$LiNbO_3$:MgO, melt growth and charactn. 7−58170
$LiTaO_3$, Czochralski grown with modulated struct., periodic laminar ferroelec. domains, SHG 7−59405
Li_xWO_3, crystalline and amorphous, electrochromic solar attenuation 7−39090
Li_xWO_3-$LiClO_4$-Nb_2O_5 electrochromic cells, electrochromic window development, materials and devices 7−50664
$MgAl_2O_4$ spinel, preparation and IR optical applications 7−37066
$MgAl_2O_4$:Ni^{2+}, Czochralski growth and optical props. 7−59406
$NaBF_4$, orthorhombic, cryst. growth and phys. props. 7−7834
NaCl crystals, electron-coloured, transmission and holographic props. 7−43001
PLZT transparencies contrast increase, using electrically controlled light scattering 7−25909
PLZT-PZN electro-optic ceramics, elec., opt. and switching props. 7−7646
Si surface polishing strain-free and flat to better than $\lambda/20$ 7−11179
SiC, hot pressed, IR optical absorpt. and refl. 7−59167
SiO_2 amorphous optical fibers, material dispersion study over IR region 7−7663
SiO_2, optoelectronic material, radiation effects 7−26811
SiO_2, refractive index changes formed by N^+ implantation 7−25915
Te alloys, optical storage, digital media, transient thermal conduction 7−57490
Te alloys for optical data storage, phase-change properties, transition metal elements effects 7−50662
Te-based materials, reversible optical data storage appl. 7−37068
Te-based thin films, crystn. rate, thermal stability, erasable optical recording appl. 7−37069
$Te_{80}S_{19}As$ overcoated trilayer struct., laser writing mechanism, microscopy studies 7−20149
TlBr-TlCl fibres, growth by Stepanov's method 7−31533
TlBr-TlI fibre for high power CO_2 laser beam 7−31487
Tl_3PO_4, optical SHG material, cryst. struct., X-ray diff. study 7−44465
WO_3 based electrochromic windows, recent R&D 7−37122
ZnS_xSe_{1-x} gradient IR optical material prepared by CVD 7−31408

optical microscopes
see also optical microscopy
confocal, depth response 7−41462
confocal scanning, microscope, complex defocus signal amplitude, interferometric meas. 7−30082
differential amplitude scanning optical microscope, appl. to surface studies 7−345
differential phase simplified optical microscope 7−9893
FTIR microanalysis principle and appls. 7−24699
holographic microscope, projection type, for microcircuits assembly and QC 7−62650
image processing in medical microscopy, blood smear analysis automation 7−65832

optical microscopes continued
IR dual-mode, for microsample analysis 7−48844
laser coagulator, argon type, use in ophthalmic therapy 7−8674
laser coagulator, LAK argon type, for ophthalmic therapy 7−8673
micro-emission FTIR accessories, performance 7−48845
near-field optical scanner, design with submicroscopic aperture for high resolution imaging 7−24697
objective, four-element, design 7−43313
objectives, design 7−50700
objectives, low-magnification, design and testing 7−43298
optical beam induced current images, defects in semiconductors 7−51759
phase contrast objective, point spread function in spherical aberration presence 7−37084
phase sensitive scanning optical microscope, interferometer-based design with submicron resolution 7−24698
phase-contrast objectives, calc. of allowable aberrations 7−57510
quasielastic light scattering microscope spectrometer 7−41478
scanning laser microscope, real-time, for biological research 7−47292
scanning microscope with confined EM waves, resolution 7−41461
scanning optical fibre microscope, laser beam induced current images, of semiconductor materials 7−48846
scanning optical microscope using sequential imaging 7−48842
self focusing operative microscope for microsurgery 7−54705
semi-automatic schistosome eggs detection system, image processing technique 7−47283
Slitlamp Surgiscope, OPS-330, for microsurgery of eye 7−8758
spatial-frequency image filtering in laser scanning microscopes *(Russian)* 7−41458
super-smooth surface, roughness measurement using interference microscope *(Japanese)* 7−41344
surgery, OPM-110, surgical experience in gen. practice 7−8757
surgery, use in microneurosurgery 7−8756
surgery microscope, OPM-212F, use in ENT surgery 7−8755
tissue optical absorpt. characts., microscope for studying 7−14174
tube length tolerance calc. 7−48843

optical microscopy
see also optical microscopes
3D surface metrology, interference microscopy, computer controlled instrumentation 7−29975
anvil cell, high press., development for microscopy/IR spectroscopy 7−54224
astronomical hypersensitisation techniques applied to photomicrography, Kodak 2415 film 7−56363
biological thick specimens, computer-assisted video technique for preparing high resolution pictures and stereograms 7−28789
N,N′-bis(4-n-octyloxybenzal)-1,4-phenylenediamine, condis crystal props. 7−37909
cell structure imagery, defocus and partially coherent illumination influence *(German)* 7−10845
cells, dynamic studies using laser-projection microscopy 7−14172
cellulose acetate, membranes, osmosedimentation, performance, morphology 7−13816
cervical cancer cells, chromatin content, image processing technique 7−34119
computer-assisted morphometric analysis of the organ of Corti 7−40373
connective tissue polarity: optical 2nd-harmonic microscopy, crossed-beam summation, and small-angle scatt. in rat-tail tendon 7−23394
correlation technique for TEM, SEM and light microscopy of fixed tissues in Epon blocks 7−40378
cortex functional architecture, determ. by optical imaging of intrinsic signals 7−34362
crack tip propagation measurement by pulsed holographic microscopy *(Japanese)* 7−46780
digital microscopy for cellular/subcellular features identification 7−54821
dimyristoylphosphatidic acid: cholesterol spiral liq. cryst., fluoresc. microscopic obs. 7−58129
droplet patterns light scattering and microscopic video obs. 7−56332
filtering, noncoherent, for automating testing of semiconductor structures 7−20153
fluorescent microscopy enhancement using imaging, biological appl. 7−28795
graphite particulate composites, opt. and scanning electron microscopic obs. of graphite struct. 7−22933
IBM PC/AT-based image acquisition and processing system for quantitative image anal. 7−28796
image analysis system for quantitative metallography, microprocessor and minicomputer-based 7−1033
image processing in medical microscopy, blood smear analysis automation 7−65832
inverse optics, conf., San Diego, CA, USA (Aug. 1985) 7−60869
Langmuir monolayers, phase transitions, fluoresc. microscopy 7−32867
lead (II) carboxylates, thermotropic phase transitions, DSC meas. 7−21441
magnetic domain imaging with scanning Kerr effect microscope 7−45725
micro-emission FTIR accessories, performance 7−48845
microsample analysis using IR dual-mode microscope 7−48844
NDE at the National Bureau of standards 7−39835
near-field optical scanner, design with submicroscopic aperture for high resolution imaging 7−24697
near-field optical scanning microscopy with tunnel-distance regulation 7−18875
optical fibres, refractive indices and birefringence meas., interferometric methods 7−29644
optoelectronic devices, buried structures, wavelength selective infrared microscopy for nondestructive observation 7−35589
orcein dye treatment, fluoresc. reactions and applics. 7−60140
Paramecium behaviour during video centrifuge-microscopy 7−3758
PET, friction and wear under water lubrication, degree of crystallinity effect 7−3454
petrographic parameters quantification, appl. of digital image processing *(Spanish)* 7−34740
phase sensitive scanning optical microscope, interferometer-based design with submicron resolution 7−24698
photoreceptor cells from retina of domestic pig, comparison of size as determ. by light and scanning electron microscopy 7−13999
phthalocyanine derivatives, columnar mesophases, optical microscopy, X-ray diffr. obs. 7−1860
poly-3,3-diethyloxetane, spherulitic growth rates 7−1915
poly-γ-benzyl-L-glutamate, cholesteric soln., elec. field effects *(Russian)* 7−11909

- **optical microscopy** continued
  - polyaminobismaleimide resin, dynamic recovery and embrittlement 7−38108
  - polydiacetylene solutions, semidilute, rod-coil transition, aggregation 7−15752
  - polyethylene, soln. crystallisation kinetics and morphology 7−21148
  - polymer liq. cryst. solns., optical microscopy, Freedericksz transition, permitt. meas. 7−1864
  - polymers, molecular ordering, optical microscopy, review 7−11953
  - polypropenyl ethers with mesogenic groups, side-chain liq. cryst. polymers 7−51622
  - polypropylene mica filled composites, struct.-mech. props. relations 7−1919
  - polystyrene spheres, monodispersed, microscope images, image processing algorithm 7−4888
  - polyvinyl ethers with mesogenic groups, side-chain liq. cryst. polymers 7−51622
  - n-propyl-4′-n-decyloxybiphenyl-4-carboxylate-n-butyl-4′-n-decyloxybiphenyl-4-carboxylate, smectic-A-hexatic-B-smectic-I point, existence and nature 7−2198
  - Raman microprobe appl. to mapping solid surfaces 7−56333
  - retina, whole mount method for sequential anal. of photoreceptor and ganglion cell topography 7−40382
  - sample handling methods for FTIR analysis 7−46899
  - scanning optical microscopy, fluorimetry appl. *(French)* 7−41459
  - scanning polarisation/interference contrast microscopy, linear imaging 7−9895
  - semiconductor wafers, integrated circuit metrology with confocal optical microscopy 7−46773
  - semiconductors, optical beam induced current imaging of dislocations 7−58106
  - Solar Max samples, erosion studies 7−46743
  - solid surfaces after laser irrad., Raman microscopy 7−21264
  - speckle reduction in laser microscope images using rotating optical fibre 7−1038
  - steel, austenitic stainless, rapidly solidified, microstruct. characterisation 7−22672
  - steel, high C, quenched, structural changes, tempering effects *(Russian)* 7−17556
  - stereology for anisotropic cells, appl. to growth cartilage 7−3947
  - stereology of arbitrary particles, review of unbiased no. and size estimators 7−346
  - styrene-butadiene-styrene block copolymer, thermoxidative degradation kinetics, fission track study 7−39877
  - super-resolution fluorescence near-field scanning opticalmicroscopy 7−9894
  - thermal lens microscope, crossed-beam 7−18874
  - tissue sections, semi-thin, improved method for light and electron microscopy of identical sites 7−3946
  - tomographic applications 7−61373
  - tomographic imaging, support constraint 7−41460
  - tomography, optical microscopic type, constrained resolution enhancement 7−47304
  - Al alloy surface, UV laser pulse irrad., microscopic crater form. 7−12124
  - Al, anodised, variation in polarised light intensity with grain orientation 7−54041
  - Al-R (R=Er,Nd,Gd) rapidly solidified alloys, microstruct. and thermal props. 7−22667
  - BaO-Fe_2O_3-B_2O_3-based glasses, crystallisation behaviour, nucleating agent effects 7−51650
  - C black, in styrene-butadiene rubber soln. relax. properties 7−8317
  - $Ca_xSr_{14-x}F_2$ layers, epitaxial growth on CaF_2 by vac. evap. 7−22498
  - $Fe_{80}P_{13}C_7$ alloy, metallic glass surface layers by rapid quenching, microhardness 7−3512
  - GaAs, dislocations, obs. by transmission IR microscopy 7−32447
  - $LiNbO_3$ crystals, struct. defects and etch figures 7−44555
  - Mg-Zn metallic glasses, room temp. stability, crystallisation and precipitation 7−11931
  - Rh complex, dirhodium tetradodecanoate, discotic mesophase struct., optical microscopy, DSC and X-ray diffr. study 7−26627
  - Si, CVD thin film backside gettering effectiveness 7−38217
  - Si, substrate for CVD of W, effects of dopants and cryst. perfection 7−16912
  - n-WSe_2 single crystal, growth, struct. and photoelectrochem. props. 7−27879
  - ZrO_2 base ceramic thermal barrier coatings, erosion rel. to processing and microstruct. 7−3450

- **optical model (nuclear)** *see nuclear optical model*

- **optical modulation**
  - acousto-optic Bragg diffraction by deep bulk acoustic waves, appl. in optic spectrum analyzer 7−20584
  - acousto-optic loss modulators for laser mode-locking characts. 7−37129
  - acousto-optic mode locker, appl. to Ar ion laser 7−37005
  - acousto-optic modulators, deflectors and Q-switches, basics 7−50605
  - acousto-optical correlators possible appls. in radiointerferometry 7−60569
  - acousto-optical devices, holographic filtering use 7−20409
  - acoustoelectrooptic multichannel spectrum analyzer 7−50714
  - acoustooptical Bragg diffraction, devices and appls. 7−45983
  - amorphous solids, optical dephasing of impurity transitions, distrib. functions 7−27746
  - atomic systems, transient temporally modulated laser radiation interaction 7−20296
  - bistable device, hybrid, driven by light polarisation 7−50625
  - broadband light modulators, quasi-matched-velocity travelling-wave type electrodes *(Japanese)* 7−43354
  - carrier-injected bipolar transistor optical modulators and switches 7−50732
  - composite cavity waveguide complementary semiconductor lasers, low threshold current, large output power 7−62727
  - crossbar signal processor, design 7−25722
  - deformation meas. using spatial frequency modulation of holographic interferometry, moire method *(Japanese)* 7−56218
  - DFB laser diode, gain-switched, transform-limited 5.6 ps optical pulse generation using pulse compression technique 7−31367
  - DFB lasers, phase tunable type, 1.5 μm operation, FM and spectral characts. study 7−43171
  - digital optical adder based on spatial filtering 7−11099
  - diode laser, single quantum well, wavelength switching by injection-current control 7−50556
  - diode laser direct modulation heterodyne interferometer 7−41440

- **optical modulation** continued
  - directly modulated semicond. lasers, gain nonlinearity effects calcs. 7−20218
  - dye laser radiation, polarisation modulation using intracavity method 7−62740
  - dynamic holography of ultrashort light pulses 7−62648
  - electro-optic devices, Pockels cell, review 7−50729
  - electro-optic materials for guided-wave optical devices 7−37134
  - electro-optical modulators, total internal reflection, with multimode strip lightguides 7−43355
  - electrogyratory communication device 7−25951
  - electromechanical laser-beam modulator with high-frequency stability 7−31372
  - electrooptic modulator, CW laser power stabilisation 7−1203
  - electrooptic modulators, digital and quasi-linear, synthesized from directional couplers 7−50727
  - fast frequency-tunable external-cavity laser, FSK modulation, 100 Mbits/s 7−57383
  - fibre compensation, grating compressor with positive group velocity dispersion 7−57575
  - fibre interferometer/amplitude modulator, two-mode 7−50750
  - fibre optic gyroscope, noise due to birefringence modulation 7−31479
  - fibre optic interferometer using FM laser diodes 7−31470
  - fibre optic modulator and logic gate using nonlinear refr. and absorpt. 7−37174
  - fibre optic sensing methods and advantages 7−31471
  - fibre optic sensor modulating techniques, review 7−57580
  - fibre optic sensors, extrinsic, for remote meas., impact on meas. techniques 7−11154
  - fibre optic sensors, piezoelectric copolymer jacketed single-mode fibers forelectric-field sensor application 7−6011
  - fibre optic temperature sensor based on light amplitude modulation 7−50767
  - fibre optical sensors, FDM using FM laser source 7−15986
  - fibres, multimode, polaris.-modulated signals transmission and holographic multiplexing 7−37199
  - fibres, multisoliton pulse interaction, FM influence 7−43390
  - fibres, single mode, picosec. stimulated Raman generation, pump pulse fragmentation and fragment compression 7−50635
  - fibres, stimulated Raman scattering and self-phase modulation numerical study 7−20429
  - FIR laser beams, precision broadband attenuator 7−37012
  - Free-electron laser amplifiers, stimulated head-on scatt., self-modulation study 7−43132
  - frequency modulation of optical beam using ultrasonic diffraction grating 7−20405
  - gain-guided triple stripe lasers, self-consistent anal. 7−62702
  - Gaussian beam divergence meas. using SAW modulation 7−20297
  - glass series, active material selection for acousto-optic mode-lockers 7−57493
  - heterodyne interferometric temp. sensor using transverse He-Ne Zeeman laser and polarisation maintaining fibre 7−25991
  - hybrid bistable optical device with a multilayer interference modulator 7−57405
  - III-V semiconductor electrooptic waveguide modulator, microwave performance prediction 7−43349
  - image resolution limits resulting from mechanical vibrations 7−20158
  - injection-laser modulation measuring apparatus 7−5929
  - integrated optical components, developments *(German)* 7−50789
  - integrated optics use in telecommunications *(German)* 7−43446
  - intensity modulated fibre sensor, RF phase detection 7−43422
  - interdigital circuit struct., waveguide mode diffraction, gap effects 7−57543
  - interferometry, sinusoidal phase modulating, for surface profile meas. 7−9878
  - interferometry, sinusoidal phase modulating, measurement accuracy anal. 7−9881
  - IR light modulator using free carrier absorpt. effects *(Japanese)* 7−5991
  - laser arrays, far-field analytical model 7−11018
  - laser beam, phase modulation, spectral filtering for ultrashort pulse formation 7−62743
  - laser beam apodisation with graded random phase window 7−31369
  - laser beam modulator and pulse former using electro-optic spectral hole burning 7−20288
  - laser diode phase-locked array, intensity and wavelength fluctuations, duty cycle effects 7−43176
  - laser FM measurement technique, suppression of residual AM 7−15919
  - laser frequency division and stabilization by dual freq. modulation method 7−15916
  - laser heterodyne bias frequency-locking for coherent optical communication *(Chinese)* 7−57382
  - laser resonator Q-factor modulation using methods of adaptive nonlinear optics *(Russian)* 7−50604
  - laser weak picosecond pulse in glass, induced spectral broadening by intense picosecond pulse 7−31370
  - linear Pockels response of a monolayer Langmuir-Blodgett film 7−13131
  - linewidth reduction of semiconductor diode lasers 7−15868
  - liquid crystal cells, thin nematic, electro-optic behaviour 7−25957
  - liquid crystal light valves for medical imaging 7−14107
  - liquid crystal spatial light modulator, a-Si FET addressed 7−37132
  - liquid crystal spatial light modulator, a-Si photoconductor 7−43350
  - liquid crystal television spatial light modulator appl. to computer-generated holography 7−36918
  - liquid crystal TV as spatial modulator for optical data processing 7−25958
  - liquid-crystal differentiating spatial light modulator 7−25956
  - liquid-crystal spatial light modulator, coupled to image converter, expt. investig. 7−43440
  - logic gate using spatial light modulator and interference fringe shifting 7−43351
  - LV optical modulator and self-biased self electro-optic-effect device 7−43445
  - magneto-optic modulator, highly efficient low field *(French)* 7−5989
  - magnetooptic multilayer films, permittivity tensor, photoelastic modulated ellipsometry 7−41426
  - measurement of magnetic elliptical dichroism 7−33368
  - microchannel spatial light modulator with improved resolution and contrast ratio 7−25954
  - molecular gases, absorpt. spectra, elec. modulation method 7−10553
  - multi-mode laser with modulated inversion, dynamic props. 7−50530

optical modulation continued
multichannel optoelectronic processor with correlation-function processing 7−25740
multilayer interference laser light modulator, optical bistability 7−25950
near IF semicond. lasers, props. and high modulation appls. *(German)* 7−20291
nematic liquid crystals, optical modulation, high-speed 7−37131
NMR laser, modulated near to bifurcation used as small signal detector 7−15911
nonlinear optics, conf., Los Angeles, CA, USA (1986) 7−18488
notch filter, narrow-band electro-optic tunable 7−37114
parallel logic gate using Pockels effect modulators, fundamental components for optical digital computing 7−43347
parallel logic operation with microchannel spatial light modulator 7−25731
parametric oscillations in semiconductor lasers 7−50647
passive modulation laser of resonator Q-factor *(Russian)* 7−43172
periodically modulated laser subharmonic bifurcation and bistability, periodic solns. study 7−62662
phase reversal travelling wave integrated optic modulators, time-domain anal. 7−5988
phase-switched optical pulses, compression in resonant absorber 7−1238
photo-emitter membrane spatial light modulator 7−37135
photoacoustic effect during nonsinusoidal modulation of light 7−42978
photochromic conversion effect in case of light modulator *(German)* 7−57609
photomultipliers, one-electron characteristics, modulator operation effects 7−35568
picosecond light switch, design *(Japanese)* 7−1257
piezoelectric material, with strain depend. dielec. const., modulational instability of laser beam 7−27677
polarisation state control of optical instruments, using fibre optics or Bragg cells 7−14992
polarisation state control using fibre optic techniques 7−43421
pulse lasers, short period loss modulation anal. *(Russian)* 7−50527
quantum well lasers−gain, spectra, dynamics 7−10935
quantum well structures, electro-optic props., device applications *(Japanese)* 7−22223
quantum well structures, linear optical props. elec. field depend. waveguide electroabsorpt. and sum rules 7−13133
ring laser dynamic frequency characteristic, Floquet theory 7−43162
ring-laser gyroscope, random dither modulation 7−57376
robust detector of optical radiation intensity modulated by subcarrier frequency 7−61374
scanning polarisation/interference contrast microscopy, linear imaging 7−9895
semiconductor DFB lasers, spectral chirping suppression 7−20220
semiconductor doping superlattices, physics and applications 7−52826
semiconductor junction DFB laser direct FM characts. meas. using delayed self-homodyne technique 7−11014
semiconductor laser, multimode rate-equation anal. appl. to longitudinal mode modulation 7−20292
semiconductor laser, synchronous modulation by sinusoidal current and light 7−43173
semiconductor lasers, injection locked, freq. chirping, small signal analysis 7−50562
semiconductor lasers, nonlinear system modeling based on Volterra series 7−20226
semiconductor lasers, travelling-wave rate eqn. anal. 7−62701
semiconductor multiple quantum wells, optoelectronics for optical modulation and bistability 7−25952
semiconductor quantum well structure, electric-field-induced optical modulation, theory using Monte Carlo approach 7−17077
semiconductor quantum wells, optical modulators and bistable devices using self-electro-optic effect 7−5990
semiconductor self-pulsing lasers, quasiperiodic route to chaos under large signal current modulation 7−62706
semiconductor size-effect modulation laser, three-terminal, gain-switching characts., fast transient response 7−10936
semiconductor switching, 130 femtosecond mid-IR pulse generation 7−50728
solid lasers with passive mode locking, stationary ultrashort pulse theory 7−43175
spatial light modulator, electron beam addressed 7−25955
spatial light modulator, high-gamma, for nonlinear optical processing 7−25959
spatial light modulators, single-instruction multiple-data array architectures for digital optical computing 7−42941
spatial light modulators 7−37133
spatial light modulators with MIS-liquid crystal structure 7−20406
superluminescent diodes, high frequency modulation 7−62744
switch, all-optical, using interaction between low power light beams in liquid film 7−25864
telecommunications using integrated optics including wave conductors and electro-optical couplers *(German)* 7−50790
thin-film travelling-wave light modulator, diffraction efficiency 7−5987
time-domain beam former, optical implementation using 2D spatial light modulator 7−42987
transform techniques for electro-optical pre-detectorsignal processing 7−5852
transimpedance measurement receivers for modulated optical power in optical fibre systems 7−50785
travelling-wave modulators, ultrafast, with reduced vel. mismatch 7−50730
two-dimensional light scanning by waveguide acoustic modes of a plate 7−25944
two-level atoms variable transition freq., optical radiation modulation 7−42554
ultimate optical communication speed, anal. 7−31268
ultracoherent transient spectroscopy using phase and amplitude modulated laser pulses 7−18880
UV generation using FM dye laser 7−50644
waveguides, electrooptic light modulation by fringing field of Gunn domain 7−57534
AlGaAs/GaAs waveguide phase modulators, wavelength depend. 7−43361
AlGaAs-GaAs MQW CCD spatial light modulators using electroabsorption effects 7−20407
$Al_{0.3}Ga_{0.7}As$-GaAs optically-pumped multiple quantum well laser 7−5922
$Al_{0.3}Ga_{0.7}As$-GaAs quantum well structure, electric-field-induced optical modulation, theory using Monte Carlo approach 7−17077

optical modulation continued
$BaTiO_3$ 0°-cut and 45°-cut crysts., hybrid phase conjugator/modulator props. 7−20357
$Bi_{12}SiO_{20}$ MIS-liquid crystal structure, dynamic image processing 7−57532
CO_2 continuous-flow laser with unstable resonator, acoustic vibrs. 7−25796
CO_2 laser, chaotic attractors in crisis 7−43178
CO_2 laser, electronic current source, power modulation capability *(German)* 7−50601
CO_2 laser, intracavity optically controlled cryst. modulators 7−10911
CO_2 laser, modulated, single-mode, dynamic behaviour and dimens. chaos 7−1074
CO_2 laser light modulation, liquid crystal cell, cholesteric-nematic phase transition 7−62745
CO_2 TEA laser, high-power modulation by injection-locked mode-beating 7−62738
CO_2 tunable waveguide laser with expanded tuning range, Fabry-Perot type modulator use 7−36981
CdS_xSe_{1-x} crystal waveguide Bragg light modulators 7−1288
$Co:MgF_2$ laser, mode locking and Q-switching by loss-modulation freq detuning 7−62711
GaAlAs laser diodes, stripe geometry, directly modulated in microwave range, freq. response study 7−11017
GaAlAs laser diodes, self-coupling effects and appls. 7−57386
GaAlAs laser diodes under microwave intensity modulation, linearity charactn. 7−10944
GaAs biased semi-insulating, cross modulation effect 7−50731
GaAs films, changes of optical consts. stimulated by external effects, determ. 7−22362
GaAs inverted rib, phase modulators grown by VPE, optical and electrooptical anal. 7−31450
GaAs PIN electro-optic travelling-wave modulator at 1.3 μm 7−1287
GaAs/AlAs MQW structures, life-time-free switching of luminescence by elec. fields 7−52791
GaAs/GaAlAs double-well superlattice, ultra-fast optical modulator 7−52801
GaAs-$Al_xGa_{1-x}As$, p-n junction waveguide, phase modulation, orientation depend. 7−57536
GaAs-AlGaAs MQW electroabsorpt. modulator for non-resonant optoelectronic logic gate 7−37139
GaInAsP DFB lasers, 1.3 μm, single-mode, realisation and characts. *(German)* 7−57357
GaInAsP strip-loaded planar waveguide for high-speed electroabsorpt. modulator 7−31449
H_2O, vap., pressure-broadening, amplitude modulation servo control in FM spectroscopy 7−18888
He-Ne laser at 0.633 μm, frequency stabilisation, using polarisation modulation 7−20295
He-Ne/methane ring lasers stabilised using FM resonances, frequency reproducibility 7−1206
In GaAsP lasers, high speed design and performance 7−62700
InGaAs-InAlAs MQW structure, anisotropic electroabsorpt. and optical modulation 7−13134
InGaAs-InAlAs multiple quantum wells, long wavelength optical modulation, electro-optical effects 7−7677
InGaAsP 1.3 μm diode laser, ultra-high-speed modulation 7−5924
InGaAsP constricted mesa laser, 8 Gbit/s return-to-zero modulation by gain switching 7−31366
InGaAsP wideband semicond. lasers, limitations on switching speed 7−10943
InGaAsP/InP multiple quantum well waveguide phase modulator 7−57531
InGaAsP-InP Fabry-Perot and DFB lasers, VPE transport fabrication 7−20277
InGaAsP-InP laser, single-mode, 1.3 μm, analog FM 7−37002
InSb transphasor, gain-bandwidth product 7−57417
KCl, cryst. F_A (Li)-centres exposed to radiation, bleaching rate 7−37060
KCl crystals with F_A(Li)-centres, double beam clarification kinetics *(Russian)* 7−53253
$LiNbO_3$ based integrated light conductor *(German)* 7−57609
$LiNbO_3$ coded phase-reversal modulator with 20 GHz bandwidth at 1.3 μm wavelength 7−57533
$LiNbO_3$ electro-optic freq. translators for coherent optical fibre systems 7−25953
$LiNbO_3$ for optical communication 7−31269
$LiNbO_3$ integrated optical components for optical communication appls. *(German)* 7−37210
$LiNbO_3$, optical components for modulation and switching 7−15996
$LiNbO_3$ traveling-wave optical couplers and interferometric modulators, power requirements 7−57539
$LiNbO_3$ waveguide electro-optic freq. translators, appl. to coherent optical fibre systems 7−20468
$LiNbO_3$ waveguide mode extinction modulators, design 7−26030
$LiNbO_3$:Ti channel waveguide electro-optic cutoff modulator 7−43353
$LiNbO_3$:Ti electro-optic Mach-Zehnder waveguide modulators, 1.51 μm operation, optically induced drift effects 7−20404
$LiNbO_3$:Ti modified 1×2 directional coupler waveguide modulator 7−1259
Li_xWO_3, crystalline and amorphous, electrochromic solar attenuation 7−39090
Nd:YAG laser, CW mode-locked, modulator freq. detuning effects 7−62712
Nd:YAG laser, Q-switching by PTM method *(Korean)* 7−25853
Nd:YAG laser pulse narrowing by spectral windowing of self-phase modulated picosecond pulses 7−5928
Nd:YAG lasers, flashlamp pumped, spike-mode oscillations 7−57384
NiO_x electrochromic hydrated coatings for energy efficient windows 7−45986
PLZT transparent ceramic modulator, visual classroom demonstrations appl. 7−4647
PLZT/Si spatial light modulators, technology 7−20408
$PbMoO_4$, optical radiation modulation by coherent ultrasonic excitation 7−27692
Si liquid crystal spatial light modulator 7−37130
WO_3 based electrochromic windows, recent R&D 7−37122
ZnSe nonlinear interf. filter white light switching, spatial light modulator design 7−57416
ZnSe photoelastic modulator for IR 7−43348

optical modulators *see modulators; optical modulation*

optical monochromators *see monochromators*

optical noise measurement
- schlieren optics methods, comparison of light sources 7–57503
- statistical characteristics of certain natural background noise 7–56313

optical nutation *see optical coherent transients*

optical parametric amplifiers
- Brillouin amplifier, semiconductor laser pumped with electronically controlled bandwidth, characts. 7–57460
- cavities filled with inhomogeneous nonlinear media, optical frequency conversion efficiency 7–50641
- degenerate, dynamics, effect of amplitude fluctuations 7–5954
- fibre Raman amplifiers, amplified spontaneous Raman scattering 7–15978
- high gain 35 GHz FEL amplifier with guide mag. field, parametric behaviour 7–1158
- optical guiding simulations for high gain-shortwavelength FELs 7–1162
- sampling spectroscopy of luminescence, subpicosecond resolution in 1-16 μm range 7–9908
- SHG and parametric amplification in resonator with mirrors with random inhomogeneities 7–25888
- spreading light pulses, parametric amplification under conditions of group velocity mismatch 7–1224
- stimulated Brillouin scattering, effect of laser mode structure 7–20330
- two-level one and two atoms, reson. fluoresc., nonlinear and stimulated effects 7–25448
- KH_2PO_4 crystals, conversion of pump energy into subharmonic wave 7–62774
- $LiNbO_3$ waveguide, parametric fluoresc. amplification and oscill. 7–25894

optical parametric devices
- *see also optical parametric amplifiers; optical parametric oscillators*
- photometer, quantum, for absolute spectral density meas. of energy brightness 7–62769
- SHG, second order coherence obs. 7–25892
- two photon interference in parametric down conversion 7–37037
- $HgGa_2S_4$, absorpt. and freq. conversion efficiency 7–57465
- KH_2PO_4 two-cryst. superradiant parametric light source, high-energy subnanosecond pulse pumping 7–31396
- $LiNbO_3$:Ti waveguide, SHG, indiffusion proton exchange fabrication 7–25893
- Na atom beam, degenerate resonant parametric interaction in spatially separated optical fields 7–43220

optical parametric oscillators
- *see also lasers*
- photorefractive crysts., quasidegenerate optical oscillators, vector four-wave mixing calcs. *(Russian)* 7–31397
- semiconductor lasers, parametric oscillations 7–50647
- threshold conditions for oscillation which the aid ofshifted and unshifted dynamic gratings 7–1228
- transversely pumped system, four-wave parametric oscill., variational principle 7–25884
- $AgGaSe_2$, broadly tunable infrared parametric oscillator 7–11052
- $LiNbO_3$ crystal, parametric generation of picosecond light pulses 7–37030
- $LiNbO_3$ waveguide, parametric fluoresc. amplification and oscill. 7–25894
- $LiNbO_3$:Ti integrated optical parametric oscillators, numerical model 7–57459
- $SrBaNb_2O_6$:Ce crystal optical oscillator based on frequency-degenerate pumping 7–25887
- $Sr_{0.61}Ba_{0.39}Nb_2O_6$:Ce crysts., light emission obs. during freq.-degenerate laser pumping 7–15947

optical phase conjugation
- aberrations, thermally induced and coherent phasing of beams, stimulated Brillouin scatt. 7–37045
- absorbing liquids, stimulated thermal and Brillouin scatt. mirroring 7–43229
- adaptive optical systems, dynamic characts. 7–43285
- addition of frequencies of two complex-conjugate optical fields 7–43224
- airflow, convective turbulent, light reflection, partial phase conjugation 7–43248
- associative memories based on photorefractive oscillations 7–20154
- bacteriorhodopsin-biochrome films, reversible media for optical recording 7–57495
- beam cleanup with stimulated Raman scattering in the intensity-averaging regime 7–20340
- beam combination by stimulated Brillouin scattering, phase conjugation 7–20348
- benzene dynamic gratings, self-diffraction and reflection in degenerate four-wave interaction 7–37050
- book, laser-induced dynamic gratings 7–9605
- carbon tetrachloride, CO laser four-wave mixing, phase conjugation 7–31401
- cavity with phase conjugate mirror, transverse-mode instability and chaos 7–37052
- characteristic in Nd:glass free running laser radiation *(Russian)* 7–57481
- chlorophyll in vivo, exciton states and exciton interaction processes, nonlinear transmission effects 7–59931
- coherent image subtraction using phase conjugate interferometry 7–25727
- collinear intracavity nearly degenerate four-wave mixing, bistable behaviour 7–1217
- cryptocyanine, degenerate four-wave mixing, in saturable absorber, effects of optical coherence *(Korean)* 7–25901
- degenerate four-wave and multiwave mixing, saturation behavior 7–11075
- degenerate four-wave mixing with guided waves, review 7–11070
- degenerate holographic four-wave mixing as Sturm-Liouville problem 7–43251
- distortion correction, anal. using nonlinear wave eqn. 7–15950
- double-pass amplifier with phase conjugate mirror, different frequencies counterpropagating waves amplification 7–50598
- dye soln., degenerate four-wave mixing acoustic wave excitation 7–62786
- dyes, degenerate four-wave mixing, transient phase conjugation 7–57477
- extended inhomogeneous paths, two-freq. phase conjugation 7–43249
- Fabry-Perot resonators with phase-conjugate mirrors, dynamics 7–50649
- fibre, wavefront reversal quality depend. on in-coupling conditions 7–37167
- fibre optic gyroscope, self-pumped phase-conjugate 7–31509
- focused beam with partially-correlated components 7–15949

optical phase conjugation continued
- four-wave mixing, transient Brillouin-enhanced, high-efficiency scattering 7–11066
- four-wave mixing of polarised light, phase conjugation, saturation effect 7–37051
- frequency shifts of self-pumped phase conjugators 7–20365
- glass:CdSSe gratings, darkening effect, optical phase conjugation 7–57476
- n-hexane, stimulated Brillouin scattering, phase conjugation efficiency, focal length depend. *(Korean)* 7–31400
- HOE, off-axis, based on phase conjugation 7–50515
- holographic associative memory using phase-conjugate resonator 7–25733
- holographic gratings in electrooptic crystals, phase conjugation 7–37046
- hypersonic wavefront-reversing mirror operating in master-oscillator-amplifier config. 7–31399
- infrared radiation wavefront inversion, thermomagnetic image recording 7–43245
- interference pattern produced on reflection at phase-conjugate mirror 7–42902
- interferometer, large aperture, with phase-conjugate self-reference beam 7–9884
- interferometry, conjugate lateral shear and its implementation 7–30067
- interferometry, conjugate shear and moire, appl. to obtaining out-of-plane displacements derivative 7–9880
- laser aberration reversal using phase conjugation 7–50653
- laser beam in medium containing droplets, nonlinear refraction phase compensation 7–4183
- laser beam phase conjugation 7–25903
- laser beam phase conjugation 7–25904
- laser interferometer based on phase conjugation by stimulated Brillouin scattering 7–41450
- laser mirror using degenerate four-wave mixing in saturable amplifier 7–20246
- laser radiation, stimulated Brillouin scattering and phase conjugation 7–43234
- laser radiation wavefront reversal in system of three interacting beams 7–25900
- linear-nonlinear media interface, phase-conjugated reflection in the field of surface reference waves 7–57479
- liquid crystal mesophases, orientational optical nonlinearity, review 7–1880
- liquid suspensions of microparticles, four-wave mixing 7–20367
- liquids, nonlinear response in acoustic resonance region, determ. by four-wave mixing 7–43216
- Mach-Zehnder interferometer with multimode fibers using the double phase-conjugate mirror 7–48834
- matrix analysis 7–57480
- modal dispersion of polarisation and its recovery by phase conjugation, model 7–43250
- nearly degenerate four wave mixing 7–62787
- nematic liquid crystal films, four wave mixing with gain 7–20366
- nematic liquid crystals, degenerate four-wave mixing in isotropic phase, influence of molecular structure 7–11068
- nematic liquid crystals, dynamic gratings, self diffractions and wavefront conjugation processes 7–11067
- nitrobenzene, time resolved picosecond Raman induced phase conjugation 7–13141
- non-degenerate phase conjugate mirror for resonator system, mode selectivity and misalignment sensitivity 7–20356
- one-way image transmission through multi-layer of thin distorting media 7–25897
- oscillation with photorefractive gain, review 7–11008
- parallel optical logic operations using phase conjugation 7–57474
- passive phase conjugators, abilities to perform aberration correction on laser beam 7–20362
- photon echo three-pulse excitation, wave front form. 7–37053
- photorefractive crystals, multi-grating phase conjugation 7–31403
- photorefractive crystals, multiple phase-conjugate beam coupling 7–25902
- photorefractive ferroelectric crystals, polarisation reversal of light beam wavefronts 7–1235
- photorefractive gratings and phase-conjugate waves, phase shifts 7–43341
- photorefractive media, degenerate four-wave mixing, forward phase conjugate wave 7–50652
- plasma, collisional, degenerate four-wave mixing and phase conjugation 7–25899
- polarisation recovery in phase conjugation by modal dispersal 7–11065
- polychromatic, image formation 7–43246
- polydiacetylene film, degenerate four-wave mixing meas. 7–57475
- pump-conjugate beam generation, stimulated Rayleigh scatt. of opposed light waves 7–43253
- pump-depletion effects in noncollinear degenerate four-wave mixing in Kerr media 7–25898
- real-time image processing using self-pumped phase conjugate mirror 7–20156
- resonant optical medium surface, nonlinear refl. and refraction of scanning laser beam, integrodifferential eqns. method calcs. 7–43209
- resonator phase conjugate, probe fluctuations 7–20361
- resonators, eigenmodes, orthogonality props. *(Korean)* 7–1234
- short-pulse four-wave mixing theory, instantaneously responding Kerr medium 7–31404
- signal correlation with phase-conjugate holographic reconstruction using a $BaTiO_3$ crystal 7–20155
- squeezing in anisotropic forward four-wave mixing 7–15952
- stimulated Brillouin and thermal scatt. of Nd μs pulses 7–62777
- stimulated Brillouin scattering, phase conjugation, theory 7–50650
- stimulated Brillouin scattering, phase conjugation efficiency, focal length depend. *(Korean)* 7–31400
- tracking novelty filter using interferometer with phase conjugate mirror 7–43334
- wave front reversal, theory 7–62788
- wave front transformation peculiarities on stimulated reson. scatt. 7–50651
- wavefront reversal, degenerate four-wave interaction, efficiency study 7–62785
- wavefront reversal by stimulated Brillouin scattering in laser plasma, numerical simulation 7–62784
- wavefront reversal system using four-wave interaction with passive optical isolator, reflection efficiency 7–62783
- weak space-inhomogeneous fields, phase conjugation and amplification 7–57478
- Al-ethyl alcohol interface, surface polaritons, four-wave mixing 7–43244

optical phase conjugation continued
Au colloidal particles, optical nonlinearities, surface resonances and quantum size effects 7−50648
$Ba_xSr_{1-x}Nb_2O_6$ phase conjugator, absolute phase shift 7−20364
$BaTiO_3$ 0°-cut and 45°-cut crysts., hybrid phase conjugator/modulator props. 7−20357
$BaTiO_3$ double phase conjugation mirror, anal., demonstration and laser appl. 7−43252
$BaTiO_3$ imaging threshold detector using phase-conjugate resonator 7−6019
$BaTiO_3$ phase conjugator, absolute phase shift 7−20364
$BaTiO_3$ phase-conjugate mirror, partial cancellation of specular reflection 7−5956
$BaTiO_3$ photorefractive devices, effect of temp. variation 7−20368
$BaTiO_3$ self-pumped phase conjugate mirror, instabilities 7−62790
$Bi_{12}GeO_{20}$ photorefractive crystals, degenerate four-wave mixing involving internal reflections 7−37047
BiI_3, layered semiconductor clusters, degenerate four-wave mixing, quantum size effects 7−20358
$Bi_{12}SiO_{20}$ crystal, phase conjugate signal at elevated temps. 7−43242
$Bi_{12}SiO_{20}$ degenerate four-wave mixing, forward phase conjugate wave 7−50652
$Bi_{12}SiO_{20}$ photorefr. crystals, moving grating erasure, expt. study 7−5940
$Bi_{12}SiO_{20}$ photorefractive crystal, wave mixing with moving gratings, appl. to phase conjugation 7−20363
CO_2 round-trip amplifier with wavefront-reversing mirror, energy characts. 7−43053
CS_2, stimulated Brillouin scattering, phase conjugation efficiency, focal length depend. *(Korean)* 7−31400
CS_2, time resolved picosecond Raman induced phase conjugation 7−13141
CaO_2, time resolved picosecond Raman induced phase conjugation 7−13141
Cu vapour laser, four-wave mixing obs. 7−20359
Cu vapour laser with self-pumped wavefront reversing mirror 7−1185
Cu vapour laser with wavefront-reversing mirror induced in active medium 7−1199
GaAlAs laser, collinear nearly degenerate four-wave mixing in amplifying media 7−11071
H_3BO_3:fluorescein glass, nonlinear optical interactions 7−1239
Hg-Ar discharge, degenerate four-wave mixing 7−5958
InSb, four-wave mixing, degenerate and nondegenerate 7−11069
K vapour, nondegenerate four-wave phase conjugation, three-level resonance medium 7−20360
LiF crystals, four wave mixing effect of F_2^--centres 7−31402
$LiNbO_3$, picosecond holography and four-wave mixing 7−20161
Na atom beam, degenerate resonant parametric interaction in spatially separated optical fields 7−43220
Na CW self oscillation, four wave mixing 7−37049
Na vapour, bistability in intracavity resonant degenerate four-wave mixing 7−62789
Na vapour, CW phase conjugate self oscillation 7−37048
Na, vapour, counter-propagating beams, cross-trapping optical bistability 7−57487
Na_2, forward four-beam mixing, diffraction by dynamic gratings 7−15951
Nd:YAG laser, mode locked, with intracavity phase conjugate mirror 7−50606
Nd:YAG laser resonator, phase-conjugate using stimulated Brillouin scattering 7−43165
Ne, four-wave mixing, backward sat., parallel pump polarisation effect 7−37055
ruby, phase conjugator, absolute phase shift 7−20364
SF_6 gas, degenerate four-wave interaction for CO_2 amplifier with mirror 7−25837
SF_6, IR radiation degenerate multiphoton parametric scatt. by vibr.-rot. transitions 7−25883
α-SiC, wedgelike sample, self-diffraction, 2D character 7−5858
$SiCl_4$, liquid, phase conjugation of microsecond pulses in stimulated Brillouin scatt. of focused beams 7−57467
Sm, four-wave light mixing, collision-and stochastic-fluctuation induced Hanle reson. 7−15559
$SrBaNb_2O_6$ as self-pumped phase conjugator 7−5957
$SrBaNb_2O_6$:Ce as self-pumped phase conjugator 7−5957
$Sr_{0.75}Ba_{0.25}Nb_2O_6$:Ce self-starting passive phase conjugate mirror 7−43243
$Sr_xBa_{1-x}Nb_2O_6$ photorefractive crystal, wavefront-reversing mirror characts, 7−43247

optical polarimeters *see polarimeters*

optical polarimetry *see polarimetry*

optical polarisation *see light polarisation*

optical polarisers
fibre optic, single-mode, in-line, design, testing and performance 7−20453
fibre polarisation components, birefringent, for sensor appls. 7−20450
metallic wire grids, free-standing, transmission coeffs. in FIR, numerical computation 7−37109
partial circular polarisers, performance under partially polarised light 7−37108
readout system using reflecting discs, effect of birefringence of protective layer 7−57234
$LiNbO_3$:Ti, low-loss TM-pass polariser fabricated by proton exchange in Z-cut waveguides 7−43444
$LiNbO_3$:Ti three-waveguide polarisation splitter 7−50788

optical prisms
acousto-optical interferometer using Kosters prisms for RF direction of arrival meas. 7−41445
angle digitisers, precision accuracy-checking method based on multifaced prisms 7−41335
certification for standard angular meas. 7−294
cineform element synthesis, optical method based on multi-beam interferometry *(Russian)* 7−50794
coupling efficiencies by direct meas. of coupling gap in integrated optical structures 7−6021
difference resonance expt. with polarising prism 7−26385
distributed feedback in optical waveguide, theory 7−57550
double monochromator, prism-grating, apparatus function 7−20395
dye laser, synchronously pumped femtosecond CW, variable intracavity spectral windowing 7−36998
filter, prism based spectral filtering, for ultrashort pulses 7−31441
Fresnel prism dispersion, effect on visual contrast sensitivity function 7−23358

optical prisms continued
Gaussian beam transformation by Winkelmann-Abbe bi-prism 7−42904
intensity-dependent guided wave phenomena 7−25872
laser light anal. and polarisation using SHG 7−57453
Michelson spectrometer, corner cube reflector for cryogenic appl. 7−41491
nonlinear guided-wave phenomena, review 7−57422
nonlinear waveguide couplers 7−57555
null detector, interference-type, for ang. position of object meas. 7−56327
prism-metal film-nematic liq. cryst. system, excitation of nonlinear surface EM waves 7−25866
retroreflective array in spectroscopic instrumentation, optical props. 7−56348
rhodamine 6G dye laser, 580 nm, small line width, cavity arrangement 7−62728
rhodamine 6G laser with Brewster prisms, hybridly mode-locked 7−15913
ring resonator with continuously irregular layer reflector, FTIR prism, natural oscills. 7−36996
roof prisms, optical transfer fn., polarisation effects 7−57525
ruby laser oscillator, novel design 7−15895
scanning spectrometer design and props. 7−56353
telescope design using refr. of prism rows 7−37091
thin-film prism deflectors, optimisation 7−20399
ZnS wavelength prism coupling, nonlinear coupler example 7−31385
ZnS, ZnSe nonlinear planar waveguides, bistability and self-pulsing using prism couplers 7−57427

optical projectors
3D camera projection system 7−50708
3D holographic miniprojector, integrated circuits assembly and quality control appl. 7−25763
cinematograph projector, 35-mm, lens design 7−43284
complementary projector system for contrast sensitivity meas. 7−8748
Eidophor light beam deflection process *(German)* 7−18902
film projection equipment, wearout in Geneva mechanisms *(Russian)* 7−11096
fringe projection for study of deformations and projection 7−41438
high-resolution projection objectives using diffraction lenses 7−25922
holographic microscope, projection type, for microcircuits assembly and QC 7−62650
orthoprojector optics design 7−50709
overhead projector, lens addition for image size reduction 7−48246
projection lenses for light-valve display 7−50701
special effects, mask processes *(German)* 7−24716
TV projection lens, wide-angle, design 7−50699
TV projection lens, wide-angle having aspherical surfaces 7−50698
variable focus, single lens, 3 CRT dichroic color graphics projector 7−25933
wide angle high aperture projection system for passive display 7−43288
PLZT light shutter for color viewfinder and video projector appl. *(Japanese)* 7−20398

optical propagation *see light propagation*

optical properties of substances
see also acousto-optical effects; birefringence; brightness; cathodochromism; colour; dichroism; dielectric function; electro-optical effects; electrochromism; magneto-optical effects; optical constants; optical Kerr effect; optical rotation; optical saturation; optical susceptibility; photochromism; piezo-optical effects; pleochroism; reflectivity; thermo-optical effects
actinide metal, compound and alloy props., conference, Aix en Provence, France (Sept. 1985) 7−9579
diffuse jellium-metal film surface, electrodynamic response, microscopic theory RPA calcs. 7−52458
dynamical phenomena at surfaces, interfaces and superlattices, summer school, Erice, Italy, (July 1984) 7−1
fluorophosphate glasses for use in high-performance optics, props. comparison with fluorite 7−5962
foams, high-multiplicity, optical density as a fn. of interface structure 7−39923
low resolution IR gas transmissivities, line-by-line approach 7−51386
noncentrosymmetric laser crystals, struct. and props. study review 7−62709
optical selection rules of the soliton lattice 7−13113
orientationally disordered systems, optical props., CPA approx. calcs. 7−53256
poly-p-decylstyrene solns., optical and hydrodynamic investig. *(Russian)* 7−13167
polyenes, optical props., configuration depend. 7−10673
polysiloxane side chain liq. crysts., optical and electro-optical props. 7−16387
semiconductors, processing and charactn. techniques, conf., Los Angeles, CA, USA (Jan. 1986) 7−18489
shock waves in condensed matter, conference, Spokane, WA, USA (July 1985) 7−18501
small metal particles, optical props., struct. dependences 7−17284
solid-state spectroscopy, many-body aspects, book 7−24326
TCNQ salts, quasi 1D molecular crystals, optical props., Hubbard model generalization, cond. calc. 7−45952
thin films, conference, India (Jan. 1985) 7−4619
TTF-Chloranil, optical, magnetic and electrical props. 7−2556
ultradisperse matrix mixture, optical props., struct. anisotropy effect 7−31250
AlAs optical props., pseudodielec. function, spectroscopic ellipsometry meas. 7−52487
Ar, optical breakdown threshold, press. dependence *(Korean)* 7−31923
CdTe, polycrystalline, grain boundaries elec. and optical characts. 7−38012
Eu(II)-β''-alumina, luminescence, order-disorder effects, optical, structural and ion transport props. 7−46114
Hg chalcogenides of form $Hg_3X_2Y_2$, phys. characts. review *(Russian)* 7−53254
$In_{2-x}Sn_xO_{3-y}$ sputter deposited, elec. cond., oxidation resistant coatings for spacecraft applic. 7−22866
KCl crystals with F_A(Li)-centres, double beam clarification kinetics *(Russian)* 7−53253
Si_3N_4 films, optical props., multilayer interference systems 7−13248

optical pumping
see also lasers; multiphoton spectra
σ^+-σ^- mode interactions, lower-level Zeeman coherence effects 7−10901
alkali, atom-inert gas atom complexes, optical pumping, polaris. effects 7−15536

optical pumping continued
alkali metal atoms, population capture, optical-microwave pumping 7−25464
alkali metal isotopes, radioactive, ground state hyperfine struct. determ. by RF mag. reson. and laser optical pumping 7−25681
alkali metal vapour, filters for pumping *(Russian)* 7−31438
alkali metal vapour, optically pumped in RF field, spatial transport of population inversion 7−19782
atomic and mol. mixed states, spatial separation into coherent components in field of traveling radio wave 7−49967
atoms, oscillatory exchange between traps containing Bose condensates 7−50028
atoms, polarised, gas separation in helically polarized external field 7−42562
atoms, time reversal invariance, elec. dipole moments 7−19779
atoms coherent population trapping, non-Markovian character relaxation processes study, Raman spectra 7−19755
atoms in a low field, review 7−898
atoms in ground state, polarisation ellipse rot., optical self-pumping in mag. field 7−50004
beam cleanup with stimulated Raman scattering in the intensity-averaging regime 7−20340
Brillouin amplifier, semiconductor laser pumped with electronically controlled bandwidth, characts. 7−57460
carbonyl fluoride, laser lines, optically pumped, heterodyne freq. meas. 7−36943
cascade Zeeman quantum beats, stepwise pulsed-laser excitation, four-level model 7−50014
charge transfer excitons, crystallisation under strong excitation conditions 7−45160
coherent diffraction of an atom in the resonance field of standing waves 7−25460
collinear laser-fast-beam spectroscopy, collisional ionisation detection scheme 7−18882
collision-assisted zeeman, Hanle reson., transverse optical pumping, relationship 7−10514
coumarin-4 laser efficiency under coaxial flash-lamp pumping 7−62684
15-N cyanogen fluoride FIR laser lines, CW optically pumped 7−25799
diacetylene cation, fluorescing electronic state, stimulated emission pumping spectra 7−31119
diatomic molecules, Lande g factor and relax. rate of ground state, simultaneous determ. using Hanle effect 7−31120
dibromomethane, optically pumped laser, FIR laser line meas. 7−57306
diffractive Raman scattering in focused geometry, coupled pump and Stokes differential eqns. 7−20339
p-difluorobenzene, S_0 vibr. levels, vibr. relax. rates, level depend. 7−31150
difluoromethane, CO_2 laser pumped, freq. meas. on FIR laser emissions 7−1084
difluoromethane pumped by $^{12}C^{16}O_2$, $^{12}C^{18}O_2$ lasers, submillimetre emission assignment 7−36944
diiodomethane, optically pumped laser, FIR laser line meas. 7−57306
distributed feedback dye laser, picosecond, excimer laser pumped 7−43086
double resonance of system with common upper level, formation of signal pulse in pump field 7−1043
dye CW lasers, three state pulse amplifier, Cu vapour laser pump 7−31344
dye DFB picosec. laser source, excimer laser pumped, for time resolved meas. 7−50584
dye laser, blue-green, efficiency enhancement by spectrum converter 7−15927
dye laser, blue-green efficiency enhancement using spectrum converter dye 7−36956
dye laser, coloured noise induced first-order phase transition 7−57309
dye laser, high power, synchronously pumped operating at 410 to 550 nm 7−25841
dye laser, intracavity laser spectroscopy sensitivity enhancement, use of saturable filter 7−62794
dye laser, IR, action in traveling-wave pumping geometry 7−25809
dye laser, synchronously excited, with additional ultrathin resonator, picosecond pulse generation 7−31365
dye laser, synchronously pumped, generation of high-power tunable picosecond pulses *(Chinese)* 7−5923
dye laser, synchronously pumped, periodicity multiplication obs. with cavity length tuning 7−31311
dye laser, synchronously pumped femtosecond CW, variable intracavity spectral windowing 7−36998
dye laser, tunable, CW, Ar^+ laser-pumped, spectral props. 7−1096
dye laser DFB, achromatic pumping condition using grating 7−10999
dye laser pumped by Cu vapour laser with unstable resonator, background radiation influence 7−25856
dye laser pumping by Cu vapour laser for U isotope separation 7−50553
dye laser spectral condensation in intracavity spectroscopy, steady-state waves 7−50551
dye laser synchronously pumped, picosecond pulse formation 7−25811
dye laser system, high power subpicosecond UV 7−20250
dye lasers using aqueous micellar solns., flashlamp pumped, efficiency and photostability 7−43084
dye ring laser, 580 nm, CW, single-mode, dye circulation system 7−1201
dye solution travelling wave laser with two photon picosec. optical pumping, time characts. 7−62685
ethyl iodide, laser lines, optically pumped, heterodyne freq. meas. 7−36943
EUV laser optical pumping scheme in two coupled media using quasi-continuum from rare earth elements 7−20211
excimer laser travelling-wave pumping of X-ray lasers 7−20268
F_A(II) colour centre laser at 2.653 μm, synchronously pumped, mode-locked, cavity length meas. 7−5920
fibres, single mode, picosec. stimulated Raman generation, pump pulse fragmentation and fragment compression 7−50635
FIR laser resonator, pump injection using Al_2O_3 waveguide 7−43356
FIR lasers, high power, review 7−36976
FIR lasers, optically pumped, appl. in plasma diagnostics 7−5877
FIR molecular lasers, optically pumped, freq. meas., 0.1 to 8 THz, review 7−43068
fluoromethane, multiphoton coherent excitation study 7−36698
fluoromethane, optically pumped laser, FIR laser line meas. 7−57306
four-level velocity-selective atomic model, nonstationary effects, time-dependent anal. 7−36555
four-mode squeezing and parametric mixing 7−43036

optical pumping continued
four-photon resonant generation of sum/difference freqs. on biharmonic pumping, bifurcations 7−37035
gamma-ray laser, coherent and incoherent upconversion pumping schemes 7−10947
glass:Er^{3+}, lasing props. 7−43109
heavy atoms, hyperfine struct., isotope shift nucl. struct. effects optical spectra 7−19768
highly charged ions, excited-state stability and X-ray lasers 7−31305
hypocycloidal pinch device development for dye laser pumping *(Korean)* 7−62719
incoherent optical pump sources for lasers based on surface discharges 7−15883
inert gas halide cryogenic solns., UV excitation and stimulated emission 7−10645
inorganic materials, activator ion doped luminescence *(French)* 7−27774
intense-field molecular multiphoton processes, coupled eqns. calcs. 7−42690
laser material, spectroscopic props. 7−10957
laser pumping, plasma focus utilisation 7−63366
lasers with optical pumping, relax. process anal. *(Russian)* 7−50528
magnetic control of polarization switching 7−62758
metal trimer clusters photodissoc., bound-free transitions fluoresc. study 7−23045
methane, XeF laser pumped, high-efficiency first-Stokes generation 7−20347
methane, XeF laser pumped, Stokes generation, beam parameters 7−20346
methane high-power forward Raman amplifiers employing low-press. gases in light guides 7−20344
methane-d_2 laser, submillimeter molecular, new emission lines 7−1089
methanol FIR laser, optical pumping by powerful stable CO_2 laser 7−10993
methanol high power FIR cavity laser system with long-term stability 7−36982
methanol laser lines from torsionally excited CO stretch states, and from OH-bend, CH_3-rock, and CH_3-deformation states 7−36942
methanol pumping by CO_2 waveguide laser, FIR lines 7−20263
methanol pumping sources, differ free stabilisation using absorption cell 7−11756
methanol-d_1 lasing lines on IR pumping by CW CO_2 laser 7−1082
methanol-d_4, lasing lines on IR pumping by CW CO_2 laser 7−1082
syn-(methyl,methyl)bimane aq. soln., lasing action obs. under flashlamp excitation 7−43083
methyl chloride, CO_2 laser pumped, freq. meas. on FIR laser emissions 7−1084
methyl fluoride-d_3, and isotopic, laser lines, optically pumped, heterodyne freq. meas. 7−36943
methylene chloride, far IR laser, optically pumped by CO_2 laser 7−62670
molecular absorption, automated laser system for IR-IR, UV excitation anal. 7−6354
molecular beam studies of elementary photophysical processes 7−15700
molecular lasers, optically pumped, instabilities 7−25804
molecules, explosive absorption of finite-diameter laser beam 7−50269
multi-photon absorption processes, atom and molecule excitation *(Japanese)* 7−10530
multimode lasers, bifurcation successions 7−57294
nonreactive systems, laser excitation and collisional energy transfer 7−42688
nuclear properties for gamma-ray laser based on upconversion 7−10952
open laser resonators with tilted mirrors, losses 7−62730
optical susceptibility saturation in strong amplitude-modulated fields, matrix continued fractions anal. 7−20371
oxazine 1 laser CW, pumped by He-Ne laser 7−36958
parametric oscillation with aid of dynamic gratings, threshold conditions 7−1228
perylene in microcryst. n-heptane, selectively laser excited in phonon sideband, stimulated emission 7−33415
population trapping in nonstationary conditions 7−31291
propargyl fluoride FIR laser lines, CW optically pumped 7−25799
pump-noise suppressed laser oscillator, amplitude squeezing 7−36928
pumping gas lasers, spectral transform. of Sun's radiation by black body 7−43066
Raman amplifier, phase correlation, pump beam temporal struct. effects 7−20343
Raman dye laser, Nd:YAG pumped, pulsed tunable for spectroscopy *(French)* 7−25814
Raman oscillator, synchronously pumped, picosecond Stokes pulse generation 7−15933
relativistic electron beam diodes, electrode design and appls. 7−20967
restoration of coherence effects in high-powerexcitation of an intramolecular quasicontinuum 7−10692
RF-microwave resonance detection in optical pumping expt. *(Chinese)* 7−7607
rhodamine 590/water soln, droplet whispering-gallery-mode laser characts. 7−31310
rhodamine 6G dye laser, Ar flashlamp pumping *(Korean)* 7−25813
rhodamine 6G laser, synchronously pumped, characts. *(Chinese)* 7−5880
rhodamine 6G laser with Brewster prisms, hybridly mode-locked 7−15913
rhodamine 6G ring dye laser, flashlamp pumped, short pulse generation using colliding pulse mode locking 7−43170
rhodamine 6G-DODCI femtosec. dye laser synchronously pumped by Nd:YAG laser, stabilisation 7−31346
rhodamine 6G-ethanol dye laser, Ar flashlamp pumping *(Korean)* 7−25812
rhodamine 6G-sulphur rhodamine 101 laser, CW, passive mode locking 7−11015
ring Raman laser, all-fibre low-threshold synchronously pumped 7−57375
selective vibrational pumping of a molecular beam by stimulated Raman process 7−10679
semiconductor face-pumped laser, bimolecular recombination, bistability theory 7−57336
semiconductors, coherently driven exciton system, collective excitations and the dynamical stark effect 7−32919
small CW far-infrared laser tunability and dynamics in high press. regime 7−20197
soft X-ray laser program at Livermore 7−20202
sparks, sliding, schlieren method investig. 7−32158
stimulated Brillouin scattering, effect of laser mode structure 7−20330
stimulated Raman amplification, role of pump depletion and phonon transiency 7−15935

optical pumping continued
Stokes beams coherence props. for incoherent broadband pumps 7−20335
synchronous pumping, spontaneous emission role in mode locking dynamics 7−5925
thin film energy transfer dye laser with DFB oscillator-amplifier system *(Japanese)* 7−43088
three-level systems, susceptibilities, density matrix solutions 7−20168
transversely pumped system, four-wave parametric oscill., variational principle 7−25884
two-level atom, radiation polarisation propag., optical pumping theory 7−50026
two-level atomic gaseous medium, light beam reson. interaction, radiation trapping effect 7−42559
two-level electronic systems, nonlinear optical phenomena with finite memory effects 7−25905
two-photon resonance fluorescence 7−10488
ultrafast ultraviolet pump-probe apparatus 7−25461
vapours, highly polarised, laser optical pumping with velocity-changing collisions, theoretical anal. 7−36556
vinyl chloride FIR laser lines, CW optically pumped 7−25799
wavefront reversal, degenerate four-wave interaction, efficiency study 7−62785
X-ray ellipsoidal reflector for laser pumping 7−41560
Ag atomic beam frequency standard, optically pumped 7−18763
$Al_xGa_{1-x}As$:Mg/GaAs:Se quantum well heterostruct., photopumped laser operation 7−25818
$Al_{0.4}Ga_{0.6}Sb$-GaSb-$Al_{0.4}Ga_{0.6}Sb$ MBE strained layer DH, optically pumped laser oscill. 1.6 to 1.8 μm 7−5888
Ar, metastable ions, optical pumping in hollow cathode discharge 7−30990
Ar, Rayleigh-Brillouin gain spectra 7−10473
Ar^+, transition probabilities and radiative lifetimes, saturated fluoresc. spectra anal. 7−42543
Ar-N_2 laser pumping by plasma focus generated charged particle beams, num. calcs. 7−63367
Ba, 6s5d states, optical pumping, rel. to radiative lifetimes 7−42560
Ba neutral atoms, high-lying states, laser pumped, two-photon spectra 7−19811
Ba, vapour, laser-pumped, collisional and radiative processes 7−5642
$BaTiO_3$ self-pumped phase conjugate mirror, instabilities 7−62790
C III vacuum arc discharge, reson. photoexcitation, fluoresc., X-ray laser prototype 7−20987
CO, vibr. energy exchange rates, IR and UV emission 7−966
CO_2 high-pressure laser, direct optical pumping with pulsed HF pump laser 7−50533
CO_2 laser, form. of self-maintained volume discharge using compact electrode system 7−63394
CaF_2:Tm^{3+}, absorption spectra of optically excited Tm^{3+} 7−33418
Cr^{3+}:$Gd_3Sc_2AL_3O_{12}$ laser, flash-lamp pumped 7−15902
Cr^{3+}:$KZnF_3$ tunable laser with nonselective pumping 7−43113
Cr^{3+}:$SrA1F_5$ laser emission tunable from 825 to 1010 nm 7−10964
Cs, atom, lasing action in Kr gas 7−15855
Cs atomic beam freq. standards, distributed phase shift minimization 7−41356
Cs beam freq. standards, atom transit time effect on stability 7−41355
Cs beam frequency standard, optically pumped, progress 7−41354
Cs, D_2 line, saturated absorpt. spectra anal. 7−19781
Cs, optically pumped, hyperfine relax. with Ar collisions 7−10511
Cs, optically pumped, spin-relax. rates 7−36557
Cs, vapour, two-photon reson. four-wave mixing and multiphoton ionis. in heat pipe oven 7−901
Cs vapour in heat pipe oven, two-photon resonant four-wave mixing obs. 7−43239
D_2O, optically pumped laser, FIR laser line meas. 7−57306
Er:YAG laser, quasistationary generation, cross-relax. mechanisms 7−57339
Er^{3+}:CaF_2 IR laser, Q-switched, CW operation 7−43107
Er^{3+}:CaF_2 IR lasers, upconversion pumping 7−43111
$EuCrO_3$, coexistence of mag. and electric dipole ordering after optical pumping 7−17171
Fe I, cascade Zeeman quantum beats, stepwise pulsed-laser excitation, fluoresc. anal. 7−49997
GaAlAs-GaAs surface-emitting laser diodes, lateral pumping struct. 7−57359
GaAs quantum wells, optical Stark effect on excitons 7−31384
GaAs-AlGaAs DFB struct. with multiquantum well for surface emitting laser 7−10939
$Ga_{0.85}In_{0.015}As_{0.13}Sb_{0.87}/Al_{0.4}Ga_{0.6}As_{0.035}Sb_{0.965}$ DH lasers, MBE grown, 2.07 μm laser oscillation 7−43096
H-like Balmer alpha lines, recomb. and photo-pumping mechanisms for gain prod. 7−20212
H_2, amplifiers, efficient high-gain, beam cleanup and low-distortion amplification 7−20341
H_2 high-power forward Raman amplifiers employing low-press. gases in light guides 7−20344
H_2 Raman amplifier, Stokes phase preservation 7−20342
H_2, Raman beam combination of two-line XeF laser sources 7−20336
He glow discharge, positive column, population difference and pulse-mode optogalvanic effect 7−26570
He plasma, optically orientated, density kinetic model calcs. 7−51391
He-Ar(Ne) lasers, pumping by CO_2-laser induced optical break-down 7−62668
Hg, discharge, low-press., excited state pop. mechanisms determ. using pulsed optical pumping 7−26557
Hg halide photodissociation laser pumped by wide-band optical radiation, three-colour emission 7−50548
Hg, laser, optical pumped with UHF excitation 7−36946
Hg^{2+}, resonance fluorescence study, obs. of quantum jumps 7−10485
Hg-Ar discharge, degenerate four-wave mixing 7−5958
HgCl laser pumped by wide-band optical radiation emitting at 558 and 559 nm; 7−36955
HgI/HgI_2 laser at 442, 443, 444 nm with wide-band optical pumping 7−25806
^{199}Hg, optically pumped, limits on spatial anisotropy 7−49991
^{201}Hg, optically pumped, limits on spatial anisotropy 7−49991
Ho,Cr,Tm:YAG laser spectroscopic pumping scheme for 2 μm band 7−36968
Ho:YAG laser, 2.1 μm, GaAlAs laser diode array pumped 7−1182
I laser, solar-pumped, beam profile meas. 7−37006
I laser amplifier, free running operation mode, slow Xe flashlamp pumping 7−57307

optical pumping continued
I photodissociation laser, solar-pumped 7−15854
I_2, $\beta(1g)$ ion-pair state, double-reson. spectra 7−31118
I_2 optically pumped molecular beam lasers 7−10916
I_2 photodissociation laser using $I_2+C_3F_7I$ and I_2+O_3 mixtures 7−50547
ICl photodissociation laser at 11.35 μm, gain and energy 7−43082
IF pulsed laser, flow parameters optimisation, intracavity gain detect. 7−10914
K vapour, nondegenerate four-wave phase conjugation, three-level resonance medium 7−20360
K vapour, stimulated emission via unequal frequency two-step hybrid resonance 7−10516
K vapour, stimulated radiation via hybrid resonance processes 7−5641
KBr, F centre spin mixing parameters in optical pumping cycle 7−7181
KCl crystals with F_A(Li)-centres, double beam clarification kinetics *(Russian)* 7−53253
KCl:Li,F_A(II) colour centre laser, synchronously pumped, mode locking 7−62710
KH_2PO_4 two-cryst. superradiant parametric light source, high-energy subnanosecond pulse pumping 7−31396
KI, F centre spin mixing parameters in optical pumping cycle 7−7181
LaF_3:Pr^{3+}, spin Hamiltonian spectroscopy, spin-spin cross relax. by optical pumping 7−22228
Li^+ pumping by soft X-rays, EUV emission 7−20196
Li_2, vibr. excited by optical pumping, electron impact ionisation cross sections 7−62536
$LiNbO_3$ crystal, parametric generation of picosecond light pulses 7−37030
$LiNbO_3$:Fe crysts., biharmonic pumping, photoinduced light dispersion *(Russian)* 7−31391
N_2, coherent anti-Stokes Raman spectra, two-colour, theoretical modelling 7−25879
N_2 multiplex CARS temperature meas. precision using single-mode and multimode pump lasers 7−41376
NH_3 CW MIR laser, intensity and half-widths, absorpt. meas. 7−36941
NH_3, laser, compact high-power finite-impulse-response, pumped in CO_2 laser cavity 7−5907
NH_3 lasers, optically pumped, CW operation in mid-IR 7−36950
NH_3 superradiant Raman FIR laser with nonlinear reson. four-wave mixing generation of medium IR emission 7−50657
$^{14}NH_3$ and $^{15}NH_3$ laser pumped transversely by CO_2 laser 7−1085
$^{15}NH_3$ laser, optical pumping, spectroscopic schemes 7−43073
$^{15}NH_3$ laser with two-photon optical pumping 7−43069
N_2O high-pressure laser, direct optical pumping with pulsed HF pump laser 7−50533
N_2O-CO-Ar, superequilibrium pumping, Ar dilution effects 7−25611
N_2O-CO-H_2-Ar, superequilibrium pumping, Ar dilution effects 7−25611
Na, atomic beam absolute intensity, reson. fluoresc. obs. 7−36530
Na atoms, degenerate resonant four-wave parametric scatt. of CW emission during optical pumping 7−57033
Na, collisionally aided coherent atomic optical emission 7−42561
Na, excited state, collisional repop. upon laser-pumping in H_2-O_2-Ar flame 7−62325
Na, fluorescence spectra, spontaneous emission, excited state Raman and resonance enhanced three-photon scattering 7−10487
Na, four-level system, optical pumping effect, Doppler-free laser spectroscopic techniques 7−19783
Na, hyperfine population relax. in wall collisions 7−62326
Na, laser excitation, competition between photoionization and two-photon Raman coupling 7−10529
Na, optically excited target, charge exchange with proton beam 7−50342
Na, optically pumped, spin-polarised electron scatt., state selection 7−25663
Na, vapour, light-induced current calcs. and meas. 7−44096
Na-K vapour, stimulated radiation via hybrid resonance processes 7−5641
Na_2, collisional energy transfer, dimer laser action 7−5757
Na_2, optically pumped excimer laser action, expt. obs. 7−57305
Na_2 optically pumped molecular beam lasers 7−10916
Nd doped Z 7−62713
Nd:glass laser, CW, diode pumping 7−43118
Nd:$LiYF_4$, two-step excitation and fluoresc. at 587.4 nm under CW pumping 7−25824
Nd:phosphate glass laser, dual slab, zigzag, high average power 7−20264
Nd:YAG laser, diode-pumped intracavity doubled, large amplitude fluctuations due to longitudinal mode coupling 7−5894
Nd:YAG laser, Q-switching by PTM method *(Korean)* 7−25853
Nd:YAG miniature oscillator, freq. doubled, laser diode pumped 7−15876
Nd:$YAlO_3$ laser, CW, tuning characts. of 1079.5 and 1084.5 nm lines 7−15871
Nd^{3+}:silica fibre laser, tunable CW at 0.900 to 0.945 and 1.070 to 1.135 μm 7−36983
$Nd_xY_{1-x}Al_3(BO_3)_4$, excited emission and self-frequency-doubling effect 7−25821
Ne atoms dressed by optical photons, spectra meas., nearly degenerate four-wave mixing 7−10517
Ne like soft X-ray laser driven by high power optical lasers 7−62680
Ne, σ and π fluoresc. profiles, population trapping and Zeeman coherences study 7−25447
Pr:$LaCl_3$ photon avalanche laser at 4.9 μm 7−15869
Pr^{3+}:BaY_2F_8, stimulated emission spectra, laser action excitation 7−27745
Pr^{3+}:LaF_3, spin-spin reservoir cross-relax. via optical pumping 7−15652
Rb, four-level system, optical pumping effect, Doppler-free laser spectroscopic techniques 7−19783
Rb, vap., optically pumped, reson. quality factor optimisation 7−42564
Rb, vapor, wall-induced velocity changing collisions, laser optical pumping, complete Doppler coverage 7−962
Rb-Xe laser-enhanced spin-exchange collisions 7−10453
^{87}Rb vapour, multiphoton reson. under hyperfine optical pumping 7−36568
Se anti-Stokes Raman laser, high-power, radiating at 169 and 146 nm 7−43076
Si:P, many-valley semicond., electron intervalley scatt., optical pumping study 7−52608
Si-Ge:Au, reaction of Au centres to optical pumping 7−12755
Sm, $^7F_1 \rightarrow ^7F_0{}^0$ transition, Hanle effect, obs. of incoherent population effect and ground-state incoherence components 7−10515
Sm vapour, vel. diffusion effects, RF-laser double reson., Raman heterodyne investig. 7−882
Sr ions, Ne-like laser plasma, photoexcitation, X-ray and XUV spectra 7−26507

optical pumping continued
$SrBaNb_2O_6$:Ce crystal optical oscillator based on frequency-degenerate pumping 7—25887
$Sr_{0.61}Ba_{0.39}Nb_2O_6$:Ce crysts., light emission obs. during freq.-degenerate laser pumping 7—15947
$SrF_2:Tm^{2+}$, optically detected low-field ESR, cross-relaxation effects 7—33301
$Ti^{3+}:Al_2O_3$ coherently pumped laser, output characts. 7—31331
$Ti^{3+}:Al_2O_3$ laser, excitation methods, use in intracavity spectroscopy 7—43190
Tm ground-state sublevels, optical pumping, depolarisation cross section meas. 7—50027
Tm+Ne(Xe), excited state transition cross sections, nonreson. fluoresc. 7—42540
^{235}U atoms, hyperfine structure, laser fluorescence spectroscopy 7—49993
Xe lamp, double discharge, for Nd laser pumping 7—11002
XeCl laser, dye laser pumped, single picosecond UV pulse generation by mode-locking 7—1095
XeF* laser pumping by Xe_2* excimer emission, photoionisation cross section determ. 7—31306
XeF* pumped by excimer radiation, near UV lasing on electronic-vibr. transitions 7—62671
^{129}Xe, time reversal invariance, elec. dipole moments 7—19779
ZnSe interference filters, thermally deposited and molecular-beam-grown, CW laser pumped bistability 7—25861

optical quantum generators *see lasers*

optical radar
see also remote sensing by laser beam
atmosphere, lidar obs. of struct. of unstable marine boundary layer 7—29133
cloud extinction profile measurements by lidar usingKlett's inversion method 7—9184
clouds, lidar investigation 7—55135
coherent Doppler lidar, atm. correlation time meas. 7—60385
Doppler wind velocity measurements with use of discrete spectral peak freq. estimator 7—9212
heterodyne lidar with laser receiver for remote sounding of atm. 7—4214
IR technology and appls., Cannes, France (Nov. 1986) 7—29589
IR technology and appls., conf., San Diego, CA, USA (Aug. 1985) 7—18487
lidar, range-height indication measurements, data anal. 7—57394
lidar equation, noise proof inversion 7—47540
lidar in inhomogeneous atm., backscatter/extinction ratio humidity effects 7—40562
lidar signal fluctuations caused by beam translationand scan 7—5936
lidar system for atmospheric aerosol meas., design aspects 7—18320
lidar technique appl. to laboratory meas. of atmospheric temp. and backscatter ratio 7—9238
lidar telescope overlap function and effects ofmisalignment for unstable resonator transmitter andcoherent receiver 7—9183
Rayleigh backscatter lidar signals, atmospheric temp. retrievals 7—9165
remote sensing of organic vapours, detection with active and passive sensors, comparison 7—46990
scidar/lidar ground-based study of atmospheric gravity-wave assoc. turbulence 7—9166
CO_2 laser radar, coherent FM CW, signal amplitude distrib. meas. 7—40570
CO_2 laser radar, imaging, Q-switched 7—5937
CO_2 laser radar performance, target and atmospheric influence 7—40571
CO_2 lidar systems, high speed tuning mechanism 7—36978

optical receivers *see optical communication equipment; receivers*

optical reflection *see light reflection; reflectivity*

optical reflection spectra *see reflectivity; spectra*

optical reflectometry *see reflectometry*

optical refraction *see light refraction*

optical resolving power
see also optical instrument testing
digital image input devices, resolution, curve-fitting method 7—57600
electron-optical image luminance amplifiers, resolution capability 7—50784
Fabry-Perot interferometer, OTF and resolving power, sequential theory 7—48836
fibre optics, principles and fibrescope appls. *(Spanish)* 7—6002
figured multilayer optical element, image quality 7—37102
Fourier transform VUV spectrometer, design and performance 7—41490
image processing, resolution and robustness, regularization principle 7—42968
laser shadow method for transparent filament diameter meas. 7—29977
measurement of resolution of shadow-mask CRTs 7—1039
modulators with MIS-liquid crystal structure 7—20406
monochromator, off-plane constant-deviation, using holographic concave gratings 7—43336
photographic device, resolution estimate 7—50505
plane diffr. grating, resolution and wavefront evaluation by FFT 7—31266
psychophysical research into resolution and addressability of CRT displays 7—1040
pulses, time-dependent spectral analysis, resolution limits 7—42955
reflection gratings, grazing incidence, in high resolution scanning spectrometers 7—20401
scanned imagery, resolution 7—25718
scanning microscope with confined EM waves 7—41461
shearing spectroscopy and interferometry, high angular resolution 7—47717
spatial variables meas. with optoelectronic transmitted-light meas. system *(German)* 7—61314
speckle, interferometer, imaging, in space, image reconstruction by speckle masking 7—31258
spectrometer, high-resolution, using spherically curved quartz crystals, design 7—4895
spectrophotometer, SPECORD-M40 UV-VIS, USSR standards committee tested 7—4899
spectrophotometer, transient absorption, high sensitivity high resolution, development 7—18853
superresolving filters in confocally scanned imaging systems 7—31440
superresolving pupils, emulation through image postprocessing 7—15822
thermal lens microscope, crossed-beam 7—18874

optical rotation
see also Faraday effect; Kerr magneto-optical effect; rotational isomerism
absorbing crystals, wave propagation, polaris. and rel. 7—10852
atoms in ground state, polarisation ellipse rot., optical self-pumping in mag. field 7—50004
Berry's topological phase, obs. by use of optical fibre 7—42905
3,3′-biselenienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7—36697
3,3′-bithienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7—36697
camphorquinone radicals, optically active, circular dichroism, ESR study 7—5711
chiral molecules, electron helicity, and origin of optical activity, polarised positron meas. 7—62538
cholesteric thin films, light propagation, beam polarisation rotation calcs. 7—13245
crystals, nonlinear polarisation spectroscopy, two-wave case 7—50624
bis-cyclopentadienyl oligomers, optically active polymer form., moduli, photoelasticity *(Russian)* 7—63092
depolarising effect of polarised polychromatic beam propag. through optically active medium 7—5835
diffraction, gyrotropic medium, half-plane, Wiener-Hopf eqns. soln. 7—50460
1-(3,4-dimethoxyphenyl)-4-methyl-5-ethyl-7,8-dimethoxy-5H-2,3-benzodiazepine, config., X-ray anal. 7—21186
dye laser radiation, polarisation modulation using intracavity method 7—62740
electrogyratory communication device 7—25951
ellipsometer adjustment method allowing for compensator's optical activity 7—41429
fibres polarisation rotation, path depend. 7—37172
filters narrow-band selective, for two lines, using gyrotropic crystals 7—43335
gelatin gels with coloured component at reduced pH values, turbidity, optical rot., viscoelastic props. 7—8320
induced rotation of light polarisation plane under one- and two-photon reson. conditions 7—50623
inorganic crystals, optical rotary power and refractive index 7—33357
liquid crystal mesophases, orientational optical nonlinearity, review 7—1880
DL-lysine, optical resolution by polymers with L-lysine pendant group 7—64601
magnetically ordered crysts., optically active, refractive indices and refraction vectors 7—59173
molecular optical activity, rot. normal coords., generation 7—50266
nematic films, collective rotation of molecules driven by the angular momentum of light 7—27686
nematic liq. crystals, photoinduced chirality 7—44352
organic crystals, polymorphism and nonlinear optical activity 7—57400
particle, arbitrarily shaped, intrinsic optical activity in light scatt. 7—10844
photorefractive anisotropic media, holographic beam coupling 7—57273
photorefractive cubic crystals, hologram diffraction efficiency and diffracted light polaris., optical activity effect 7—43020
photorefractive materials, grating interactions, optical activity 7—25948
polarisation state control using fibre optic techniques 7—43421
quartz, optical rotatory power, light depolarisation in α-, β- and incommensurate phases 7—7667
restoration of coherence effects in high-powerexcitation of an intramolecular quasicontinuum 7—10692
scleroglucan solns., low temp. sol-gel transition, rheological behaviour, optical rot. 7—51018
SHG in rotational crystals, phase matching 7—57448
smectic liquid crystals, ferroelectric, helical twist and spontaneous polarisation direction, tilt orientation struct. 7—16401
smectic liquid crystals, ferroelectric, helical twist sense and spontaneous polarisation 7—16400
spherical EM waves in gyrotropic media 7—20133
terpenoid derivatives, ferroelec. spontaneous polarisation, steric hindrance of free rotation, optical rot. and transition temp. meas. 7—13101
tetramethylammonium tetrachlorozincate, ferroelec., optical activity, high accuracy universal polarimeter meas. 7—17300
tetramethylammonium tetrachlorozincate, ferroelec., optical activity in incommensurate phase 7—64602
triphenylmethane dyes, induced optical activity, INDO/S calcs. 7—19708
twisted nematic thin films, light propagation, beam polarisation rotation calcs. 7—13245
uniaxial media, reflection optical activity 7—27679
$AgGaSe_2$, optical band-pass filter using accidental isotropy and optical activity 7—15966
$Bi_{12}GeO_{20}$ crysts., elastooptical and elastogyration coeffs. 7—59179
CsH_2AsO_4 crystals, electrogyration effects investig. 7—3022
CuCl, photo-induced optical activity, nonlinear ellipsometric studies 7—14993
KCl:Li crysts., F_A-centres self-induced resonant radiation polarisation changes study *(Russian)* 7—33358
$K(H_{1-x}D_x)_2PO_4$ crystals, electrogyration effects investig. 7—3022
$LiKSO_4$ single crysts., optical activity, ferroelec. and ferroelastic props. 7—27687
RbH_2PO_4 crystals, electrogyration effects investig. 7—3022
SiO_2, crystalline, optical activity and Faraday rotation comparison, band gap determ. 7—3017
Te, gyrotropic crystals, transient photocurrent 7—38618

optical saturable absorption
amplifier, nonlinear optical type, resolution method for moment eqns. 7—43254
bistability by reflection at the boundary of a saturable absorber 7—62800
bistability in absorptive media, nonlinear complex eikonal approx. study 7—62796
control of σ^+ beam propagation by a σ^- beam 7—62799
cryptocyanine, degenerate four-wave mixing, in saturable absorber, effects of optical coherence *(Korean)* 7—25901
DCM dye laser, CW, passive mode locking 7—1202
dye laser system, high power subpicosecond UV 7—20250
dyes, degenerate four-wave mixing, transient phase conjugation 7—57477
dyes, determ. of progressive diffusion constants by method of fluorescence recovery after photobleaching *(Russian)* 7—3091
fluorites, rare-earth-doped hydrogenated, reversible polarised bleaching 7—43260

optical saturable absorption continued
gas, IR absorbing, in intracavity cell, CO_2 pulsed laser freq. dynamic tuning 7−62663
gas laser with nonlinearly absorbing cell, statistical characteristics of emission 7−20215
Gaussian laser mode absorpt. in mol. beam 7−57484
glass-CdSe-KS-19, light-induced anisotropy 7−43259
heterodyne three-level spectroscopy 7−9907
inhomogeneously broadened laser with a saturable absorber 7−43050
intracavity laser spectroscopy sensitivity enhancement, use of saturable filter 7−62794
laser beam propagation in saturable absorbers, calc. 7−15953
methane stabilised He-Ne laser, frequency meas. of methane hyperfine line 7−20190
methane/He-Ne laser frequency standard accuracy improvement 7−18761
molecular saturated absorpt. resonances, transit time effects 7−25608
molecular systems, nonlinear absorpt. optical bistability, eikonal approx. 7−62797
phase conjugation of laser beams 7−25903
phase-switched optical pulses, compression in resonant absorber 7−1238
polyacetylene, semiconducting polymer, fast response nonlinear optical props. 7−1241
trans-polyacetylene(-d), ns time resolved photoinduced absorption spectrum 7−64668
polyacetylene thin films, photoexcited states, ps relax. 7−64291
polydiacetylene, nonlinear optical processes, time-resolved degenerate four-wave mixing meas. 7−20370
polythiophene, semiconducting polymer, fast response nonlinear optical props. 7−1241
pulsed laser operation with saturable absorber, planar codimension four singularity universal unfolding, 5D Lorenz eqns. phase portraits 7−10910
rhodamine 110 dye laser, passive mode locking and dispersion compensation 7−62742
rhodamine 6G laser with Brewster prisms, hybridly mode-locked 7−15913
rhodamine 6G-DODCI femtosec. dye laser synchronously pumped by Nd:YAG laser, stabilisation 7−31346
rhodamine 6G-sulphur rhodamine 101 laser, CW, passive mode locking 7−11015
rhodamine 6G/DTDCI laser dye mixtures, undamped relaxation oscillations due to self-gain-switching 7−1094
rhodamine B laser, femtosecond hybrid mode locked 7−5927
rhodamines, aq. micellar solns., flash lamp excitation, photostability, lasing props. 7−57308
ring cavity, twin photon beam generation, intracavity four-wave mixing 7−62733
semiconductor doping superlattices, n-i-p-i crystals 7−7348
solid lasers with passive mode locking, stationary ultrashort pulse theory 7−43175
three-level medium, ultrashort pulse train propag., population trapping and coherent bleaching calcs. 7−43263
Ag halide photochromic glass, colouring and bleaching 7−57497
AlGaAs laser, mode hopping suppression by saturable absorber 7−62696
(AlGa)As lasers, separately pumped, continuous control 7−20287
Ar^+, transition probabilities and radiative lifetimes, saturated fluoresc. spectra anal. 7−42543
$Bi_{12}GeO_{20}$, pure and doped crystals phys. props. 7−7283
$Bi_{12}SiO_{20}$, pure and doped crystals phys. props. 7−7283
CdS, three types of electronic optical bistabilities 7−43262
CdS/polymer composites, degenerate four-wave mixing 7−62795
GaAs, electron-hole plasma dynamics under subpicosecond optical excitation, optical absorption saturation 7−27356
GaAs, metastable state annealing 7−27297
GaAs-AlGaAs quantum wells in waveguides, physics and appls. 7−26034
GaAs-GaAlAs fast MQW absorber for mode locking of semicond. lasers. 7−50655
p-Ge, nonlinear light absorpt. coeff., IR intensity study 7−53258
a-$Ge_{30}S_{70}$ films, irreversible photobleaching 7−17353
H_3BO_3:fluorescein glass, nonlinear optical interactions 7−1239
He-Ne laser stabilised by methane saturable absorption, effects leading to frequency shifts 7−50540
He-Ne/methane ring lasers stabilised using FM resonances, frequency reproducibility 7−1206
I_2 saturated absorption lines identification, excited with green He-ne laser 7−20372
In-Ga-As-P films highly excited, ps band filling 7−43261
InGaAs/InAlAs multiple quantum well structs., nonlinear spectroscopy 7−1236
InGaAsP-InP bistable lasers, temp. depend. 7−5887
KCl, cryst. F_A (Li)-centres exposed to radiation, bleaching rate 7−37060
Li-W-O films, electrochromic props., UV radiation effects study 7−22222
NaF:Mg, doped and undoped, electron beam irradiated, thermoluminescence and thermally stimulated conductivity 7−7771
Nd:phosphate glass laser colliding pulse mode locking using pentamethylidyne dye saturable absorber 7−20286
Nd:YAG laser colliding pulse mode locking using pentamethylidyne dye saturable absorber 7−20286
Nd:$YLiF_4$ laser, ultrashort pulse active/passive mode-locking using saturable absorber 7−62741
Nd^{3+}:YAG laser passively mode-locked by saturable absorpt. filter, ultrashort pulse generation 7−31368
Ne, optical saturable absorpt. in difference magnetooptic reson., relax. const. calc. 7−62793
O_3 absorption of high-power IR radiation 7−1237
O_3 saturable absorber for KrF laser 7−20369
RbBr:$Ba^{2+}(Ca^{2+})(Eu^{2+})(Sr^{2+})$, Z_2 colour centres, picosecond relax., nonstationary spectra 7−59233
XeCl excimer laser, generation and amplification of sub-pS UV pulses 7−62722

optical saturation
see also optical saturable absorption
cascade Zeeman quantum beats, stepwise pulsed-laser excitation, four-level model 7−50014
coupled lasers with homogeneous gain, saturation effects 7−43046
degenerate four-wave and multiwave mixing, saturation behavior 7−11075
diamagnetic molecules, magneto-chiral birefringence and dichroism, reorientational processes influence 7−15812
four EM wave interaction in two-isotope gas medium *(Russian)* 7−25906
four-wave mixing of polarised light, phase conjugation, saturation effect 7−37051

optical saturation continued
laser mirror using degenerate four-wave mixing in saturable amplifier 7−20246
nonlinear TE polarised surface plasmon polaritons guided by metal films 7−5946
optical susceptibility saturation in strong amplitude-modulated fields, matrix continued fractions anal. 7−20371
semiconductor gain medium carrier-induced refractive index change, saturation effects 7−43103
surface waveguide nonlinear props. 7−57486
TM-polarized nonlinear slab-guided waves in saturable media 7−31407
two-level atom, radiation polarisation propag., optical pumping theory 7−50026
two-level molecular medium, optical nonlinearity 7−43258
AlGaAs-GaAs heterostructure travelling-wave amplifier based on injection laser diode 7−62694
CO_2 round-trip amplifier with wavefront-reversing mirror, energy characts. 7−43053
Na, vapour ionization by laser resonance saturation 7−19791
Nd:glass laser amplifying system, pulse profile by saturable filters 7−43184
Ne, four-wave mixing, backward sat., parallel pump polarisation effect 7−37055
SiF_4, saturation spectrum at P(30) line of 9.4 μm band of CO_2 laser 7−50134

optical scattering *see light scattering*

optical self-focusing
see also electrostriction; Kerr electro-optical effect; optical Kerr effect
air, breakdown by laser radiation, mechanism modelling 7−20996
caustic constriction under resonant self-focusing with weak saturation of nonlinearity 7−62801
counterpropagating light beams, transverse optical bistability in self-defocusing 7−43268
external nonlinear focusing, appls. to ultrafast optical power limiting 7−50659
film-guided waves, nonlinear propag., numerical anal. 7−5998
gases, supercontinuum generation with femtosecond pulses 7−25908
GRIN planar waveguides with nonlinear cover medium, guided waves 7−37141
guided waves, nonlinear, TE_0 mode excitation by Gaussian beams 7−1258
guided waves in low-index self-focusing thin films 7−25907
laser beam propagation in saturable absorbers, calc. 7−15953
laser Q-switching by self-focusing, threshold condition 7−50603
liquid crystal mesophases, orientational optical nonlinearity, review 7−1880
nematic liq. crysts., orientational self-focusing, aberration pattern polarisation asymmetry 7−11077
nematic liquid crystal, orientational aberrational self-focusing, temperature effects 7−62804
nematic liquid crystal film, optical limiting using self-focusing and self-bending 7−20373
nematic liquid crystal films, power limiting and optical switching 7−43266
nonlinear p-polarised optical waves, exact calcs. 7−62802
oil surface deformation by laser heating, laser-beam self-focusing and capillary wave generation 7−50656
plasma, Mandelstam-Brillouin scattering, modulation and self-focusing instabilities 7−58022
ring pattern of laser-induced thermal self-defocusing 7−62805
semiconductor lasers, index-guided, self stabilisation of fundamental lateral mode 7−57320
TM-polarised nonlinear waves guided by thin dielectric films, calc. 7−5993
trifluoromethane-d_1 vapour, TEA CO_2 laser pulse self-focusing and self-defocusing 7−43269
CO_2 laser beam, kinetic self-focusing in air 7−20299
CO_2 waveguide laser, design and performance 7−15906
CdSe crystals, laser beam defocusing, rel. to Hall mobility and carrier density 7−52652
GaAs/GaAlAs planar MQW structure, nonlinear coupling of guided waves 7−11106
H_2 Raman amplifier, Stokes phase preservation 7−20342
KrF*, high power subpicosecond laser system 7−62677
NH_3 superradiant Raman FIR laser with nonlinear reson. four-wave mixing generation of medium IR emission 7−50657
Na, vapour, counter-propagating beams, cross-trapping optical bistability 7−57487
PLZT transparent ceramics, laser beam self-deflection and self-focusing meas. 7−5960

optical self-induced transparency *see self-induced transparency*

optical shutters *see optical elements*

optical sources *see light sources*

optical spectra *see spectra*

optical spectrometers *see spectrometers*

optical spectroscopy *see spectroscopy*

optical storage
see also holographic storage; optical disc storage
amorphous semiconductors, conference, Palo Alto, CA, USA (April 1986) 7−29602
associative memories based on photorefractive oscillations 7−20154
associative memory using optical resonator 7−20157
bacteriorhodopsin-biochrome films, reversible media for optical recording 7−57495
colour image recording, computer generated linear tricolour sampling pattern 7−42952
compound literal implementation via shadow-casting 7−25732
copying lenses, requirements for use in devices for information entry by holography 7−20383
$Cu(H_2PO_2)_2$ thermographic materials for laser thermal information recording 7−57496
cyanine dye J aggregates, Langmuir-Blodgett films, multiple wavelength optical recording 7−50666
fibre-optic element for digital information storage 7−42995
frequency domain data storage using persistent spectral hole burning, technological aspects 7−10869
image information transmission, storage, and acquisition using an acousto-optic cell and optical matched filters 7−20143
laser writing on $Te_{80}S_{19}As$ overcoated trilayer struct. 7−20149
lens design, conf., Cherry Hill, USA (June 1985) 7−48161

- **optical storage** continued
  - medical images, digital, optical storage technology for archiving, review 7—28654
  - migration imaging, photographic technologies XDM and AMEN 7—24717
  - nematic-cholesteric liq. cryst. mixtures, optically active additive, optical storage 7—36901
  - organic dyes, optical storage, digital media, transient thermal conduction 7—57490
  - photon echo effect, use in contemporary electronics 7—15820
  - polymer films, half-tone refraction transparencies, real-time recording 7—57489
  - polymer liquid crystals, synthesis, characterisation and applications 7—17508
  - polymer recording media, diffusion processes studied by holographic relaxometry 7—36914
  - polyvinylcarbazole film based photoreceptor, photoinduced memory effect, appl. to laser recording *(Japanese)* 7—37076
  - recording medium with thermal coloration 7—5964
  - Te elemental and alloy thin films, laser irrad. effects, refl. meas., optical data storage appl. 7—12144
  - thermoplastic optical recording devices 7—37201
  - thin-film recording medium perforation by sharply focused laser radiation 7—36890
  - $Bi_xDy_{3-x}Fe_{3.8}Al_{1.2}O_{12}$ garnet films, magneto-optical props. 7—64614
  - $BiSi_{12}O_{20}$ crystals, operative transformation of optical signals 7—36892
  - $Bi_{12}SiO_{20}$ photorefr. crystals, moving grating erasure, expt. study 7—5940
  - DyIG:Ga,Bi, RF sputtered films for magneto-optical memory, mag. props. 7—64613
  - Ga-Se-Te, phase change optical recording, write erase characteristics 7—57491
  - Ge, amorphous films, laser induced image storage 7—11078
  - TbCo sputtered films, compositionally modulated, mag. props., magneto-optical storage appl. 7—64495
  - Te alloys, optical storage, digital media, transient thermal conduction 7—57490
  - Te alloys for optical data storage, phase-change properties, transition metal elements effects 7—50662
  - Te-based materials, reversible optical data storage appl. 7—37068
  - Te-based thin films, crystn. rate, thermal stability, erasable optical recording appl. 7—37069
  - $Te_{1-x}Ge_x$ amorphous films as reversible phase-change optical data storage materials 7—1242
  - YIG:Ga, Bi, RF sputtered films for magneto-optical memory, mag. props. 7—64613
- **optical storage devices** *see optical storage*
- **optical stores** *see optical storage*
- **optical sum frequency generation** *see optical frequency conversion*
- **optical susceptibility**
  - *see also nonlinear optical susceptibility*
  - dilute mag. alloy system, external mag. field, thermodynamic props. anomalies 7—45666
  - frequency distrib. function anal., dielec. and scatt. props., orthogonalised moments method 7—64633
  - IV-VI compounds, dipole-dipole interactions and ferroelectric props. 7—39046
  - MBBA, nematic, orientational order, third harmonic generation susceptibility investig. 7—43235
  - nematic polymers, giant dielectric response and hairpins 7—58140
  - tetramethylammonium tetrachlorocobaltate, ferroelec. incommensurate phase, thermal hysteresis, memory effect 7—33346
  - toroidal collective excitations and the optical properties of crystals 7—39059
  - uniaxial ferroelectrics, background dielec. suscept. investig. 7—2987
  - $Al/Al_2O_3/Au$ thin film struct., dielec. props. meas. and equivalent circuit anal. 7—17115
  - $Bi_{12}Si(Ge)O_{20}$ crysts., sillenite struct., dielec., elastic and piezoelec. props. calcs. 7—51714
  - $Dy(As_xV_{1-x})O_4$, random-field effects on Ising Jahn-Teller phase transition 7—58461
  - GaP, phonons, ps laser induced transient dynamics 7—39113
  - In_2O_3:Sn films, theoretical model for optical props. in 0.3 to 50 μm range 7—39200
  - $LiNbO_3$, elastic and dielec. props. 7—63715
  - P, black, interplanar forces caused by electron-lattice interaction 7—63547
  - Ru complex, outer sphere electron transfer, solvent relax. dynamics effect 7—65290
  - ZnSe, phonons, ps laser induced transient dynamics 7—39113
- **optical systems**
  - *see also adaptive optics*
  - aberration characteristics of nonsymmetric systems 7—50689
  - aberration coefficients, third order, target values 7—50688
  - aberration field properties of simple non-axially symmetric optical systems 7—50691
  - aberration-corrected systems, design principles 7—50687
  - adaptive control in optical systems 7—11098
  - adaptive optical systems, dynamic characts. 7—43285
  - advanced technology optical telescopes, conf., Tucson, United States (March 1986) 7—55886
  - alignment of diffraction and refraction components in optical systems 7—25925
  - alignment of optical systems of spectral equipment, testing scheme 7—50795
  - antireflection coating parameters introduction in lens design phase 7—50680
  - apochromatic optical system design 7—43312
  - array optics based devices 7—11092
  - astigmatism in laser beam optical systems 7—5829
  - autocollimation focusing devices for optical systems, photoresistors used as image analyzer 7—37110
  - batch processed optical scanner using Si micromechanic techniques 7—20473
  - binoculars, passive, with ocular disparity, design 7—62813
  - centering by speckle interferometry *(French)* 7—37215
  - comparison and calibration lamp illumination system for Multiple Mirror Telescope, fibre optical system 7—4342
  - compensated spherical surfaces in optical systems 7—25924
  - concentrator design, criteria for quality evaluation 7—50710
  - concentrators, 3D nonimaging with inhomogeneous media, design 7—5970
  - conserved vector flux, construction from plane waves 7—25926
- **optical systems** continued
  - cryogenic optical systems and instruments, conference, Los Angeles, California, (January 1986) 7—24283
  - delay lines using active feedback, beam overlap 7—43293
  - design, interactive ray-tracing program integrated with solid-modelling CAD system, Traz program 7—50679
  - design, program for Apple Macintosh 7—50692
  - dielectric totally internally reflecting concentrators, design 7—43286
  - echelle spectrograph, camera lens system design 7—55475
  - electromechanical mirror scanners, survey *(German)* 7—62807
  - energy transport with partially coherent light 7—43326
  - flux concentrator, nonimaging, axially symmetric, concentration ratio calc. 7—57506
  - gain meas. in discharges, spontaneous emission amplification obs. 7—14989
  - Gaussian Schell-model beams in optical systems, matrix representation 7—11094
  - illumination distrib. in pupils of optical system and in image of axial point 7—50668
  - integrated optical system development, the shape of things to come 7—50791
  - IR imaging optical systems, two-level testing process 7—31431
  - IR imaging system, scanner lens design considerations 7—50704
  - IR imaging system design, image anomalies avoidance issues 7—11173
  - IR scanner, dual-field, imaging optics 7—50706
  - IR technology and appls., Cannes, France (Nov. 1986) 7—29589
  - IR zoom lens for thermal cameras and video equipment *(Japanese)* 7—57515
  - Itek optical technology in manufacturing and metrology 7—37227
  - Large Deployable Reflector, development of lightweight glass mirror segments 7—37226
  - Large Deployable Reflector, moderate cost, system concept 7—40711
  - large segmented, appl. of replicated glass mirrors 7—37088
  - laser Doppler velocimetry, multi-pt. system using phase diffraction grating 7—37605
  - laser scanner, spinning polygon, design 7—50705
  - lens design, conf., Cherry Hill, USA (June 1985) 7—48161
  - lens design, glass combinations selection method for aberration correction 7—50684
  - lens systems, variation of polarisation structure of axial beams 7—36876
  - lens systems incorporating zero power corrector, design principle and appl. 7—50702
  - mirror, large multicomponent, image parameters 7—37090
  - multipass systems with mirrors of different radii, general eqns. 7—11093
  - operation of system having concentric objective, anal. 7—50671
  - optical system calibration for laser beam divergence measurement *(Russian)* 7—20305
  - periscope, 3 mirror, Berry's topological phase, obs. by use of optical fibre 7—42905
  - phase retrieval, practical appl. for the space telescope 7—62638
  - polarisation aberrations of lenses 7—50686
  - position of best image plane of optical systems, determ. by double autocollimation method 7—50672
  - push-broom linear array scanner, design of all-reflective flat-field objective 7—55320
  - range sensing method 7—29978
  - range sensing method for surface tracing 7—29979
  - ray matrix method for analysis of opt. resonators with image rot. 7—50599
  - relative phase effects, demonstrations 7—57
  - scaling method for optical systems 7—50669
  - scanning system, post-objective, correction scheme 7—43315
  - SDI driving optics development 7—48824
  - soft X-ray optical systems, book 7—55901
  - surface fabrication errors of optical systems, wavefront deformations calcs. 7—57262
  - systems incorporating zero power corrector, objectives and magnifiers for night vision appls. 7—50703
  - telescope, three-mirror, third-order aberrations formulae and design program 7—55466
  - transmission coeff. calc. 7—43300
  - vector aberration theory and the design of off-axis systems 7—50685
  - vector triad calc. for system of refracting and reflecting surface surfaces 7—20385
  - vignetted pupil of optical systems, fast method calc. *(Chinese)* 7—15814
  - Wigner distribution function from single object transparency, optical system for efficient display 7—31259
- **optical telescopes** *see telescopes*
- **optical television recording** *see video recording*
- **optical testing**
  - *Used for testing of optical components. For testing by optical means see materials testing or nondestructive testing*
  - *see also optical instrument testing; optical workshop techniques*
  - absorptance characts. of mirrors meas., by photoacoustic calorimetry 7—31432
  - alignment of optical systems of spectral equipment, testing scheme 7—50795
  - apparatus for measuring the refractive index profile of an optical fibre 7—37231
  - aspheric lenses, precision molded, for camera or compact disk systems 7—43318
  - aspherical focusing lenses for high-power multi-wavelength laser systems 7—62808
  - asymmetrical elliptical preforms or fibres, index profile meas. 7—50760
  - beam deflection as a method for testing optical components 7—20475
  - bidirectional scattering distrib. function meas. using computer controlled facility 7—41414
  - centering accuracy meas. of cylindrical lens, noncontact interferometric technique 7—15962
  - chromatic dispersion meas. of multimode optical fibre waveguides *(Czech)* 7—11122
  - chromatic dispersion measurement system using 'n' LD light sources different in wavelength 7—14995
  - coating defects, correlation between pulsed laser damage and probe laser scatter 7—38049
  - computer generated holograms, distortion-free, for optical element testing *(Japanese)* 7—10892
  - conic constant and paraxial radius of curvature measurements for conic surfaces 7—20474
  - dielectric coatings for laser mirrors, fabrication 7—15965

optical testing continued
- diffraction-schlieren image method of measuring hollowcylindrical objects 7—6024
- diode laser direct modulation heterodyne interferometer, wavefront aberration testing use 7—41440
- echelle grating testing, simple method 7—43450
- ellipsometer for birefringent components and systems meas. *(German)* 7—24687
- ellipsometric characterisation of single mode fibres 7—43428
- fibre, birefringent polarisation-maintaining, mode coupling distrib. meas 7—31507
- fibre, quasi-single-mode, sensitive determ. of higher-order modes 7—43397
- fibre, single-mode, pure-silica-core, transmission characts. and reliability 7—11145
- fibre, tolerance checking on diameters during drawing 7—62852
- fibre cable integrated OTDR/throughput loss meas. system for environmental testing 7—43460
- fibre characteristics and industrial production techniques *(French)* 7—1282
- fibre connectors, meas. *(German)* 7—43391
- fibre cut-end inspection method using acoustic emission sensor *(Japanese)* 7—11189
- fibre fault location using He-Ne laser 7—31545
- fibre mode field diameter: toward a standard definition 7—57593
- fibre optic links, bit error rate, noise meas. on laser diodes single modes 7—37230
- fibre optic passive components, differential mode loss and mode conversion 7—31496
- fibre optics, fault location using step frequency method 7—57558
- fibre optics, short-haul and long-haul meas. and appls., conf., San Diego, CA, USA (Aug. 1985) 7—40998
- fibre optics testing by power meter 7—31510
- fibre OTDR, range and accuracy in backscatter measurements 7—15999
- fibre transmission loss characteristics during drawing, continuous measurement 7—6004
- fibres, optical system design with Gaussian beam input *(Slovak)* 7—31481
- fibres, single-mode, mode field radius meas., harmonics detection appl. 7—37163
- fibres, single-mode, standard meas. procedures 7—26018
- fibres and preform rods refractive index profile reconstruction from transverse interferometric data 7—11113
- film deposit assessment with hologram interferometry 7—1291
- Fizeau interferometer for testing the shape of plane surfaces of large optical elements 7—35585
- flame-retardant optical fibre cables, low smoke, halogen free, development 7—11164
- frequency-domain reflectometry, modulation freq. sweeping, for fibre diagnostics 7—14996
- fusion-spliced fibres, Zeiss-Linnik interferometric exam. 7—31531
- glasses, optical, holographic interferometry of instantaneous deform. *(Chinese)* 7—57611
- graded index fibres, longit. strain meas. techniques 7—43418
- graphite fibre reinforced glass sandwich reflectors for far-IR astronomy, thermal stability 7—37093
- grating, low density transmission, pitch meas. by moire deflectometry, hybrid Talbot effect 7—43337
- grating efficiency measurement and automated scatter inspection system (GEMASIS) 7—62853
- grating spacing error testing using holographic interferometry 7—37216
- GRIN lenses, optical performance assessment 7—31538
- group delays meas. of guided modes, in optical fibre waveguides *(Czech)* 7—57596
- heavy-metal fluoride glass fibres, impurity anal. using selectively excited photolum. 7—31473
- high-birefringence fibres, dichroism eval. using crosstalk meas. 7—20421
- holographic testing of stretchable concave imaging mirrors 7—31282
- industrial test methods for single-mode fibres and cables 7—37164
- interference diagnostics of planar optical waveguides 7—25960
- interferometry, testing accuracy of optical components, recording arm distortion effects 7—43457
- IR components with diamond-like coatings development, appl. and testing 7—31434
- IR Fresnel lenses design and manufacture at British Aerospace, using high-density polyethylene 7—31428
- IR imager performance meas., objective meas. of minimum resolvable temp. difference 7—30092
- IR imaging optical systems, two-level testing process 7—31431
- IR lens centering machine 7—31542
- IR lens elements and assemblies, spectral transmission meas. 7—31429
- IR lenses MTF determ., line-spread and interferometric results comparison 7—31430
- IR objective, use of proustite crystal in performance meas. 7—57511
- IR objective testing, holographic method using graphitised photographic emulsions 7—57513
- IR optical fibres, meas. system for dispersion, attenuation, numerical aperture, optical time-domain reflectometry 7—37229
- IR technology and appls., Cannes, France (Nov. 1986) 7—29589
- irregular surface simulation using spline fitting 7—43311
- Itek optical technology in manufacturing and metrology 7—37227
- LAMAR protoflight X-ray mirror assembly, design, fabrication and testing 7—47705
- large optics technology, conf., San Diego, USA (Aug. 85) 7—35089
- laser-induced damage research at LANL (USA) 7—57392
- lens decentering, speckle interference display 7—43301
- lens testing method based on boiling phenomenon of laser speckle 7—43319
- lenses, cement contact, heat resistance depend. on construction parameters 7—43299
- lenses in photographic lens array, angular scattering resolution meas. 7—43297
- light guide measurement instruments *(German)* 7—62851
- line diffraction test, modified point diffr. interferometer 7—35572
- long focus objective, holographic method of testing, optimum conditions calc. 7—57512
- long-haul single mode fibre attenuation meas., laser and LED source effects 7—43414
- measurement equipment for subscriber optical lines 7—62856
- microcomputer-based image processing aids in optical analysis and simulation 7—36891
- microscope objectives, low-magnification, design and testing 7—43298
- microscopic inclusions location, automatic inspection device using Q-switched YAG laser 7—31544

optical testing continued
- mirror segments, lightweight glass, development for Large Deployable Reflector 7—37226
- mirror surfaces, high performance, spectral and parameter estimation problems in metrology 7—37232
- mirrors surface evaluation by soft X-ray scattering 7—25934
- MTF meas. equipment for IR and visible wavelengths, microcomputer-controlled 7—31543
- MTF study of best focal planes determined by different image quality criteria 7—36894
- multimode fibre attenuation meas., interlaboratory comparison in China 7—43417
- multimode fibre loss, automatic meas. of spectral depend., cutback method and system *(Czech)* 7—26052
- OTDR, high performance measuring instruments 7—9875
- OTDR for optical fibre cable meas. 7—14994
- OTDR present and future 7—41436
- OTDR recent trends 7—56322
- phase-shift interferometer, surface gauging in quality control 7—4885
- plate surface flatness meas. by phase detection technique 7—31536
- polarimeter for fibre characterisation using narrow- and broad-band sources 7—35569
- polariser, fibre optic, single-mode, in-line, design, testing and performance 7—20453
- polymer glazings for Ag mirror protection, evaluation and modification 7—37094
- process testing of precision lenses 7—50796
- Ronchi test with daylight illum. for testing mirrors and lenses 7—11180
- rotating linearly polarised light source for optical meas., using acousto-optical filter 7—18850
- scanning tunneling microscopy applied to opticalsurfaces 7—4929
- single mode and multimode optical fibres, dispersion meas. 7—43412
- single mode fibre mode-field diameter meas. by knife-edge scanning in far field 7—31493
- single mode fibre non-Gaussian mode field meas. by far-field axial scanning technique 7—31491
- single mode fibres, interferometric meas. of chromatic dispersion 7—43413
- single-mode fibre meas. and standardisation 7—43409
- single-mode fibre waveguide, chromatic dispersion determ. by interf. method 7—43389
- single-mode fibre with axis having periodic perturbation, cutoff wavelength meas. technique 7—15975
- single-mode fibres, charactn. using spontaneous Brillouin backscattering technique 7—6026
- single-mode fibres, dispersion-shifted, chromatic dispersion meas. in 1.5 μm wavelength region 7—20416
- single-mode fibres exposed to H_2, loss increase over long term *(French)* 7—50746
- single-mode fibres testing, equivalent-step-index parameters determ. 7—1283
- soft X-ray/EUV calibration facility at the University of Colorado 7—20479
- surface contaminants identification, using electron spectroscopy and SEM techniques 7—4935
- surface fabrication errors of optical systems, wavefront deformations calcs. 7—57262
- transmission and reflection coeff. meas. under optical prod. condition using photometer 7—41421
- two-mirror compact collimator, aplantic, design, fabrication and testing 7—43328
- UV curable resin coated fibre with low-temp. and lateral props. 7—11168
- waveguide loss meas. by scattered radiation detection 7—37143
- waveguide loss measurement method 7—11181
- X-ray telescope, grazing incidence relay optics for solar astronomy, performance 7—47706
- Ag/polymer mirrors, specularity and stability 7—37095
- C fibre reinforced sandwich panels for far-IR telescope mirrors, thermal stability tests 7—40705
- Ge lenses, diamond-machine for IR, quality and performance 7—25932
- H_2 degradation reduction in optical cables, materials selection 7—11172
- H_2 generation from optical fibre coatings UV curable acrylated resins 7—11171

optical transfer function
- astronomical speckle interferometry, cross-spectrum techniques appl. 7—55492
- astronomical telescopes, imaging props. of large reflecting telescopes 7—66461
- camera performance characts. 7—19425
- copying lenses, requirements for use in devices for information entry by holography 7—20383
- discrete sampling methods *(Chinese)* 7—36886
- electron-optical image luminance amplifiers, resolution capability 7—50784
- Fabry-Perot interferometer, OTF and resolving power, sequential theory 7—48836
- far-focus thermal imager system, deep-focus attachment 7—30061
- fibre transmission capacity, 3 dB bandwidth 7—43385
- gradient optical fibres, splice attenuation *(German)* 7—1277
- GRIN lenses, optical performance assessment 7—31538
- heterodyne interferometric MTF meas. device, for visible and IR ranges 7—30080
- Holocoupler-Selfoc fibre system, coherent transfer matrix description 7—26016
- Hopkins variance formula extended to low relativemodulations 7—10879
- Hubble Space Telescope performance, prediction using optical surface anal. code 7—25930
- incoherent image of sector disc, OTF evaluation 7—42979
- IR imager performance meas., objective meas. of minimum resolvable temp. difference 7—30092
- IR lenses MTF determ., line-spread and interferometric results comparison 7—31430
- IR materials erosion due to rain, optical damage characterisation 7—31411
- IR objective testing, holographic method using graphitised photographic emulsions 7—57513
- IR sampled data systems, MRTD estimation 7—5853
- layered inhomogeneous random media, MTF using small-angle approx. 7—50498
- lens design, Brixner optimisation procedure 7—50683
- lens design, interactive computer program 7—50693

optical transfer function continued
lens testing method based on boiling phenomenon of laser speckle 7—43319
long focus objective, holographic method of testing, optimum conditions calc. 7—57512
microcomputer-controlled MTF meas. equipment for IR and visible wavelengths 7—31543
microscopy, tomographic imaging, support constraint 7—41460
modulation transfer function for the display engineer 7—25730
monochromatic OTF, influence of spatial coherence 7—42981
MTF analyzer, microcomputer and dynamic RAM chip camera based 7—47
MTF meas. using moire deflectometry 7—31265
MTF measurement methods, anal. *(German)* 7—20150
MTF of photographic systems, determ. from edge traces *(German)* 7—1037
MTF study of best focal planes determined by different image quality criteria 7—36894
phase contrast objective, point spread function in spherical aberration presence 7—37084
phase media with absorption holographic analysis 7—50513
phase retrieval, practical appl. for the space telescope 7—62638
propagator for MTF of wide-angle scatterer 7—5851
rice starch suspension, image transfer modulation transfer function 7—36884
roof prisms, optical transfer fn., polarisation effects 7—57525
sharpness function maximisation problem, object obs. in coherent light through randomly inhomogeneous medium 7—25714
turbulent atmosphere, image form., isoplanatism problem of optical systems 7—50502
a-C:H diamond-like coating on Ge, rain erosion resistance improvement obs. 7—31435
Ge lenses, diamond-machine for IR, quality and performance 7—25932

optical transmission *see light transmission*

optical variables control
adaptive control in optical systems 7—11098
diode compact linear array external cavity laser, wavelength control 7—43154
diode tunable laser control by stepping Michelson interferometer 7—43135
dye laser system, high resolution computer controlled 7—20249
Fourier transform, spectrometer, microcomputer-controlled, path difference control 7—48861
KS-147A LOROP camera system, photographic reconnaissance appl. 7—18897
laser photoplotters for phototemplates fabrication, optical radiation control 7—25834
monochromator wavelength automatic setting 7—37120
soliton laser stabilisation, feedback from pulse-shaping fibre, servo control 7—50602
AlGaAs-GaAs DFB-TJS external-cavity laser with optical phase control loop, spectral linewidth 7—20222

optical variables measurement
see also colorimetry; densitometry; laser variables measurement; light velocity measurement; optical noise measurement; photometry; polarimetry; refractive index measurement; streak photography; turbidimetry
absorptance characts. of mirrors meas., by photoacoustic calorimetry 7—31432
apparatus for measuring the refractive index profile of an optical fibre 7—37231
bidirectional scattering distrib. function meas. using computer controlled facility 7—41414
birefringence measurement in anisotropic crystals by multiple beam interference 7—41455
chromatic dispersion meas. of multimode optical fibre waveguides *(Czech)* 7—11122
chromatic dispersion measurement system using 'n' LD light sources different in wavelength 7—14995
coatings, absorptance and thermal conductivity meas. using thermographic laser calorimeter 7—41389
coherent light signal, phase space-time distrib. meas. 7—25855
conic constant and paraxial radius of curvature measurements for conic surfaces 7—20474
delay lines using active feedback, beam overlap 7—43293
electro-optic frequency shifters appl. in heterodyne interferometric systems 7—18866
far-focus thermal imager system, deep-focus attachment 7—30061
fibre, birefringent polarisation-maintaining, mode coupling distrib. meas 7—31507
fibre birefringence determ. by normalised second-order factorial moment meas. 7—43376
fibre cable integrated OTDR/throughput loss meas. system for environmental testing 7—43460
fibre connectors, meas. *(German)* 7—43391
fibre mode field diameter: toward a standard definition 7—57593
fibre optic links, bit error rate, noise meas. on laser diodes single modes 7—37230
fibre optic loss meas. using optical time-domain reflectometer, launching and receiving conditions *(Japanese)* 7—31513
fibre optics, short-haul and long-haul meas. and appls., conf., San Diego, CA, USA (Aug. 1985) 7—40998
fibre transmission loss characteristics during drawing, continuous measurement 7—6004
fibres test system, optical system design with Gaussian beam input *(Slovak)* 7—31481
fibres testing, single-mode, standard meas. procedures 7—26018
frequency standard based on Ramsey excitation in Ca atomic beam 7—14925
gain meas. in discharges, spontaneous emission amplification obs. 7—14989
gradient optical fibres, splice attenuation *(German)* 7—1277
grating, low density transmission, pitch meas. by moire deflectometry, hybrid Talbot effect 7—43337
grating efficiency measurement and automated scatter inspection system (GEMASIS) 7—62853
group delays meas. of guided modes, in optical fibre waveguides *(Czech)* 7—57596
heterodyne interferometric MTF meas. device, for visible and IR ranges 7—30080
high-birefringence fibres, dichroism eval. using crosstalk meas. 7—20421

optical variables measurement continued
holography in measurement, influence 7—43009
industrial test methods for single-mode fibres and cables 7—37164
integrated optical waveguide attenuation meas. by prism coupling and scattered light techniques 7—43363
IR imaging optical systems, two-level testing process 7—31431
IR lens elements and assemblies, spectral transmission meas. 7—31429
IR materials erosion due to rain, optical damage characterisation 7—31411
IR optical fibres, meas. system for dispersion, attenuation, numerical aperture, optical time-domain reflectometry 7—37229
light guide measurement instruments *(German)* 7—62851
metal mirrors, absorptance meas. at glancing incidence, photoacoustic calorimetry 7—20380
microprocessor meter of radiation attenuationcoefficient in solutions 7—4876
MTF meas. equipment for IR and visible wavelengths, microcomputer-controlled 7—31543
multimode fibre attenuation meas., interlaboratory comparison in China 7—43417
multimode fibre loss, automatic meas. of spectral depend., cutback method and system *(Czech)* 7—26052
noncircular waveguides, mode spot size meas. 7—1260
OTDR, high performance measuring instruments 7—9875
OTDR recent trends 7—56322
paper, optical constants determ. in FIR, inverse synthesis determ. method 7—3010
performance assessment of thermal imaging system 7—30091
phase meas. with subpicosecond resolution by time-domain interferometry 7—41451
planar waveguide losses meas. using coherent fibre bundle 7—50734
polarisation state control using fibre optic techniques 7—43421
rotating linearly polarised light source for optical meas., using acousto-optical filter 7—18850
scanning camera with line CCD sensor for use in schools *(Slovak)* 7—29646
scattered component of light wave meas., wavefront shearing interferometric methods 7—24690
single mode and multimode optical fibres, dispersion meas. 7—43412
single mode fibre mode-field diameter meas. by knife-edge scanning in far field 7—31493
single mode fibre non-Gaussian mode field meas. by far-field axial scanning technique 7—31491
single mode fibre optic waveguides, cutoff wavelength meas. method 7—25971
single-mode fibre meas. and standardisation 7—43409
single-mode fibre waveguide, chromatic dispersion determ. by interf. method 7—43389
single-mode fibre with axis having periodic perturbation, cutoff wavelength meas. technique 7—15975
single-mode fibres, dispersion-shifted, chromatic dispersion meas. in 1.5 μm wavelength region 7—20416
single-mode fibres, mode field diameter meas., transmitted field pattern method *(Japanese)* 7—1266
single-mode fibres testing, equivalent-step-index parameters determ. 7—1283
solar cell irradiance models, data and instrumentation for device performance anal. 7—13905
solar cell optical and electrical characts., meas. systems 7—13906
spectrophotometer for small optical density meas., single-beam, automatic design 7—30062
subpicosecond transient excitation of atomic vapor and the measurement of optical phase 7—18851
surface-enhanced spectroscopy appl. to change of optical props. of microenvironment of small scattering object 7—18852
temporal-spatial radiation functional meas. 7—30060
transient radiation damage meas. in optical fibres using streak camera 7—50757
transimpedance measurement receivers for modulated optical power in optical fibre systems 7—50785
wavefront sensor, integrated optical, lens focusing onto detector array 7—26041
Fe-C, ferrite and cementite refl., polishing conditions effect *(German, English)* 7—22938
He-Ne laser beam meas. using direct looking apparatus for light intensity distribution *(Japanese)* 7—56314

optical video discs *see video and audio discs*

optical wavefront reversal *see optical phase conjugation*

optical waveguide components
see also optical couplers; optical isolators
connector, epoxyless polishless plastic, for multimode fibres 7—26015
fibre connector, low-loss small-size with precision plastic-molded ferrule 7—11150
fibre connectors using flexible fine ferrules 7—11151
fibre optic components, in-line filter, switch and in-line attenuator 7—26002
fibre optic connector, low loss single-mode 7—26005
fibre optic couplers, connectors and splices, conf., San Diego, CA, USA (Aug. 1985) 7—24277
fibre tapers, single-mode, performance characts. 7—57588
III-V semiconductor electrooptic waveguide modulator, microwave performance prediction 7—43349
integrated optical devices, review *(Spanish)* 7—37208
matrix switches, integrated optical, laser diode gain guides 7—37209
single-mode connector, high performance, development 7—26014
taper, multimode, mode behaviour 7—26000
telecommunications system components 7—62830
travelling-wave modulators, ultrafast, with reduced vel. mismatch 7—50730
two-dimensional light scanning by waveguide acoustic modes of a plate 7—25944
AlGaAs/GaAs waveguide phase modulators, wavelength depend. 7—43361
GaAs PIN electro-optic travelling-wave modulator at 1.3 μm 7—1287
$LiNbO_3$ integrated optical components for optical communication appls. *(German)* 7—37210
$LiNbO_3$:Ti, low-loss TM-pass polariser fabricated by proton exchange in Z-cut waveguides 7—43444
$LiNbO_3$:Ti electro-optic Mach-Zehnder waveguide modulators, 1.51 μm operation, optically induced drift effects 7—20404

optical waveguide components continued
- $LiNbO_3$:Ti integrated electro-optic devices, modelling and beam propag. anal. 7—11177
- $LiNbO_3$:Ti modified 1×2 directional coupler waveguide modulator 7—1259
- $LiNbO_3$:Ti three-waveguide polarisation splitter 7—50788

optical waveguide losses *see optical losses*

optical waveguide theory
- *see also guided light propagation*
- arrays, nearly uniform coupled, perturbation anal. 7—5992
- bend-optimised, dispersion-shifted step-shaped-index fibres 7—31475
- Bragg reflectors, overmoded cylindrical metal waveguides, coupled mode theory 7—57541
- channal waveguides intersecting at right angle, Bragg grating coupling analysis 7—6023
- corrugated waveguide diffraction gratings in integrated optics, TE-TE and TM-TM coupling coeffs. 7—26035
- coupled mode formulation by reciprocity and variational principle 7—57546
- coupled mode theory, generalized geometrical representation 7—20169
- coupled-mode theory for multiwaveguide systems satisfying reciprocity theorem and power conservation 7—57549
- coupled-mode theory of multiwaveguide systems, reformulation 7—57545
- coupled-mode theory of optical waveguides 7—57547
- diffusional light guides, synthesis, inverse spectral problems 7—62823
- directional couplers with gain or loss anal. and appl. to semiconductor slab dielectric guides 7—31457
- doublelayer waveguide, parameter determ. 7—50736
- doubly periodic dielectric guide, wave propag. 7—11109
- elliptical dielectric waveguides, approximation formulae 7—43370
- fibre, cylindrical polar axes 7—43377
- fibre, mode propagation in case of cladding limited by plane 7—1271
- fibre cores, coupling, critical examination 7—15977
- fibres, birefringent, increase of minor field component 7—57584
- fibres, nonlinear, birefringent, nonperiodic power coupling 7—43379
- fibres, pulse propag., theoretical study *(Spanish)* 7—37168
- fibres with circularly distributed multiple cores and central core, modal and coupling field anal. 7—11127
- finite element modelling of integrated optical waveguides 7—43362
- Gauss approximation for light-wave propag. in system calcs. *(German)* 7—37170
- graded-index fibres, methods to obtain mode equilib. distrib. *(German)* 7—50772
- hybrid ray-mode analysis of high-frequency wave coupling into large waveguides and cavities 7—43373
- index matching materials for optical fibre connector reflection reduction 7—62839
- integrated optical waveguides, finite difference anal. without spurious mode solns. 7—1262
- interdigital circuit struct., waveguide mode diffraction, gap effects 7—57543
- leaky wave spatial spectrum generated by guided wave scatt. from acoustic wave 7—31460
- limits of dispersive optical fibre transmission for chirped pulses 7—31476
- mode field and propagation consts., calc. by numerical method 7—31455
- MQW waveguides, transmission characts., matrix method anal. 7—1261
- multimode branching waveguide, distrib.-index, evaluation by phase space 7—31451
- multimode waveguide systems, coupled-mode eqns. 7—37149
- multimode waveguides, irregular, modal noise, radiation coherence effects 7—11111
- multimode waveguides, wave fields, partial determinism 7—57240
- multiple-wave generation due to four-wave mixing in a single-mode fibre 7—50755
- multiwaveguide systems with non-parallel guides, appl. of coupled-mode theory 7—20410
- noncircular waveguides, mode spot size meas. 7—1260
- nonlinear p-polarised optical waves, exact calcs. 7—62802
- nonlinear waveguide, soliton propagation with dissipation and damping 7—62828
- parallel single-mode/multimode fibres, wave coupling study, LAN directional coupler appl. 7—31486
- planar corrugated waveguides, diffraction at normal incidence 7—62827
- planar corrugated waveguides, rigorous EM treatment 7—43366
- planar optical waveguides, stability and instability of nonlinear standing waves 7—57554
- planar waveguide, Si-clad, numerical anal. *(Japanese)* 7—6000
- plane waveguide, randomly irregular, mean-field modes 7—50743
- ring resonator fabricated in phosphosilicate glass films deposited by CVD 7—15968
- rough surface bounding layered medium, equiv. impedance, appl. to integrated optical waveguide 7—57239
- semiconductor active waveguides, gain-guided modes 7—50563
- single-mode fibres, dispersion-determined limits on production tolerances 7—11119
- single-mode fibres, fundamental mode field, non-Gaussian model 7—31478
- single-mode fibres, polarisation dispersion, model and anal. 7—6008
- single-mode graded-index fibres; trial field for non-Gaussian field distribs. 7—11120
- single-mode single-polarisation fibre using resonant absorbing effect, theoretical study 7—43381
- single-mode to multimode fibre power transfer, study using coupled-mode theory 7—11163
- slab waveguide, fundamental mode, tilt, offset and end-separation loss 7—31456
- slab waveguides, guided modes, roughness-induced scattering and attenuation 7—43367
- spinor formalism and guided waves 7—5996
- symmetric planar waveguide, degenerate nonlinear modes 7—57399
- tapered monomode optical fibres, understanding large power transfer 7—50748
- tapered quadratic index media, metal waveguide modelling 7—50747
- tapered waveguide beam radiation 7—5995
- transmission line circuit models for inhomogeneous optical fiber 7—62833
- $LiNbO_3$:Ti integrated electro-optic devices, modelling and beam propag. anal. 7—11177

optical waveguides
- *see also optical fibres; optical waveguide components; optical waveguide theory*
- acousto-optic cell appls. 7—1264

optical waveguides continued
- acousto-optical waveguide-type optical separators 7—62825
- acoustooptical Bragg diffraction, devices and appls. 7—45983
- bend configuration with low-loss characts. 7—37147
- bistability, angle and freq., reson. excitation of nonlinear guided mode 7—57428
- branching waveguides, distrib.-index, phase space evaluation 7—31453
- branching/combining optical circuit, low radiation loss, using high SiO_2 channel waveguides 7—31458
- composite cavity waveguide complementary semiconductor lasers, low threshold current, large output power 7—62727
- Corning glass films, RF magnetron sputtered, optical props. 7—57552
- corrugated dielectric waveguide, external light reflection, narrow band filter fabrication 7—5999
- coupled lightguides, filter operation, parameters choice 7—37111
- degenerate four-wave mixing with guided waves, review 7—11070
- desorption, light induced, bistability mechanism in integrated optical devices 7—57424
- DFB and DBR waveguide lasers, anomalous modal spectrum 7—15888
- dielectric guides in integrated optics *(German)* 7—62848
- dielectric thin films, refr. index and thickness meas. using waveguide props. 7—56323
- dielectric/semiconductor guided-wave bistable devices, periodic coupling 7—57426
- diffraction gratings, Rouard's method and coupled mode theory 7—57530
- diffusional light guides, synthesis, inverse spectral problems 7—62823
- dispersion characts. description using generalised parameters 7—43369
- distributed feedback, theory 7—57550
- doublelayer waveguide, parameter determ. 7—50736
- dye laser, DFB oscillation in slab-type optical waveguide 7—15904
- electrically conductive laser waveguide for in-situ spectroscopic study of rotating electrochem. electrode 7—5994
- electrooptic light modulation by fringing field of Gunn domain 7—57534
- elliptical dielectric waveguides, approximation formulae 7—43370
- finite-cladding lightguides, core-mode cutoff 7—31452
- FIR waveguide laser cavity, quality factor 7—57379
- flexible waveguide for CO_2 laser surgery 7—34226
- gas, laser beam configs. for cumulative interaction with electrons 7—11584
- gas waveguide lasers with diffraction grating, frequency selectivity and resonator losses 7—43158
- gases, low-pressure, in light guides, as high-power forward Raman amplifiers 7—20337
- glass, semiconductor-doped, high-speed intensity-dependent refractive index 7—37071
- glass photochromic diffusion waveguides., absorbing-mask mode selectors automatically matched to mode field 7—50739
- glass waveguides, Ag film diffused, diffusion process and optical props. 7—50737
- glass waveguides, ion-exchanged, stress 7—31454
- glass waveguides, semiconductor-doped and ion-exchanged 7—43357
- glasses for ultralow loss fibres and waveguides *(French)* 7—25916
- grating element for the entry and focusing of radiation in a planar waveguide 7—37126
- GRIN planar waveguides with nonlinear cover medium, guided waves 7—37141
- holograms of 2D objects 7—57269
- horn-grating demultiplexer circuit, single-mode operation 7—62846
- III-V semiconductor integrated waveguides as all-optical logic devices 7—25869
- integrated optical Bragg mirror with negative differential characteristic 7—43447
- integrated optical lens design using GRIN lens techniques 7—43449
- integrated optical waveguide attenuation meas. by prism coupling and scattered light techniques 7—43363
- integrated optics, conf., Cambridge, MA, USA (Sept. 1985) 7—24278
- integrated-optic coupling elements based on 2D refractive-index gradient 7—20411
- intensity-dependent guided wave phenomena 7—25872
- interdigital circuit struct., waveguide mode diffraction, gap effects 7—57543
- interference diagnostics of planar optical waveguides 7—25960
- ion-exchanged slab waveguide, charactn. 7—43372
- IR laser particle accelerators with oversized DBR and HFB waveguides 7—10309
- IR light modulator using free carrier absorpt. effects *(Japanese)* 7—5991
- laser diode, separated multiclad-layer, rigorous waveguiding anal. 7—15898
- $LiNbO_3$ proton-exchange 128° Y-cut optical waveguides, acousto-optic interaction effects 7—62824
- loss meas. by scattered radiation detection 7—37143
- loss measurement method 7—11181
- magneto-optical branching waveguide, appl. in nonreciprocal optical devices 7—57542
- metal-clad four-layer waveguides, long-range surface modes 7—37142
- methane high-power forward Raman amplifiers employing low-press. gases in light guides 7—20344
- mirror with corrugated waveguide on surface, spectral and laser characts. 7—43291
- mode field and propagation consts., calc. by numerical method 7—31455
- MOVPE, atm. press. growth, operating characts. 7—27930
- multimode, strip, formed by ion-electro-diffusion from Ag 7—37146
- multimode planar and channel waveguides in glass, appl. of refracted near-field technique to profile meas. 7—20424
- noncollinear light propag. in rippled waveguide, geometrical optics approach 7—50742
- nonlinear guided-wave phenomena, review 7—57422
- nonlinear optical processes in dielectric waveguides 7—31380
- nonlinear planar waveguide, self-interaction and bistability 7—43375
- nonlinear waveguide, multisoliton emission 7—31461
- nonsymmetrical five-layer LOC, DFB and DBR lasers, waveguiding props. 7—57319
- optical guiding in an FEL 7—1165
- organic materials for integrated optics 7—25911
- photoelectric devices, hollow mirror lightguide and diaphragms, optical system calcs. 7—43365
- photorefractive slab waveguide branching effect, dark soliton in a Kerr defocusing medium 7—43265
- planar acoustooptic 2×2 commutator switch 7—50741
- planar active, light amplification characts. 7—20230

optical waveguides continued
planar graded waveguides, parameters meas. in near IR, refractometric method 7−37150
planar optically controlled, made of photochromic glasses, selective props. 7−1263
planar waveguide, electro-optic light deflection, optimal parameters anal. 7−37154
plane waveguide, randomly irregular, mean-field modes 7−50743
plastic waveguides for optical dividers and mixers, development 7−11191
polydiacetylenes as nonlinear waveguide materials 7−25871
quantum well structures, linear optical props. elec. field depend. waveguide electroabsorpt. and sum rules 7−13133
quartz, ion implanted optical waveguides, refractive index profiles 7−25964
Raman conversion, high efficiency and brightness via capillary waveguide amplifier 7−15944
reactor for IR multiphoton dissociation and appl. to ^{13}C laser isotope separation 7−991
refractive index profiling using propagation-mode near-field method 7−11141
ridge waveguide lasers, 1.55 μm bridge contacted, gain guiding to index guiding transition 7−57322
ring resonator fabricated in phosphosilicate glass films deposited by CVD 7−15968
second harmonic generation in multilayer optical waveguide 7−20352
semiconductor laser amplifier, 1.3 μm, with integrated passive waveguides 7−20278
semiconductor laser monolithically integrated with optical waveguide, laser oscillations *(Japanese)* 7−25859
semiconductor lasers, index-guided, self stabilisation of fundamental lateral mode 7−57320
semiconductor waveguides, coupling anal. between rib waveguides and optical fibres 7−25963
sensors, review 7−50779
silica waveguides, hollow-core 7−57540
single-mode, stimulated Brillouin scattering, influence of sound diffraction 7−1225
slab waveguide, fundamental mode, tilt, offset and end-separation loss 7−31456
stimulated Brillouin scattering, phase conjugation efficiency, focal length depend. *(Korean)* 7−31400
strain gauge using dielectric waveguide 7−31459
surface roughness influence on EM radiation input efficiency 7−20413
surface waveguide nonlinear props. 7−57486
symmetrical Y junctions in image guides *(Spanish)* 7−50733
taper coupler for integrated optics formed by ion-exchange under nonuniform electric field 7−50740
tapered slab type, spectrum anal. using mode cutoff effect 7−37158
thin film waveguides deposited onto semiconductor-doped glasses, nonlinear optical props. 7−5941
thin-film phase shifters, nonreciprocal TM-mode 7−11103
TM-mode selective filter using a high refractiveindex lossy layer cladded optical waveguide 7−5997
TM-polarized nonlinear slab-guided waves in saturable media 7−31407
tunnel-coupled, switching by radiation of different frequency 7−43368
wave propagation obs. in integrated optical waveguides and circuits 7−31523
Ag-AgCl-ZnS photoinduced periodic struct. for planar waveguide study 7−43371
AlAs-GaAs superlattice waveguides in separate confinement heterostructure laser diodes, threshold current density 7−20267
AlGaAs BH laser with flared waveguides, high power operation 7−57352
AlGaAs high-power ridge-waveguide GRIN-SCH laser diode 7−10988
AlGaAs laser rib-waveguide, gain- to index-guiding transition 7−31315
AlGaAs/GaAs DBR laser with multiquantum well active/passive waveguides 7−57350
AlGaAs/GaAs long cavity ridge waveguide DFB lasers, spectral linewidth reduction 7−1179
AlGaAs/GaAs ridge waveguide quantum well lasers with high quantum efficiency 7−15905
AlGaAs-GaAs, DFB lasers, low threshold, 0.88 μm emission, MOCVD fabricated with ridge waveguide struct. 7−5906
AlGaAs-GaAs index-guided lasers with mode filter, props. study 7−5905
Al_2O_3 waveguide, pump injection into FIR laser resonator 7−43356
As_2S_3 chalcogenide glass, photoinduced gradient waveguide form. *(Russian)* 7−43374
CO_2 gas laser, double coupled waveguide, RF excitation expt. exam. 7−31361
CO_2 lasing characts., effect of waveguide statistical surface roughness 7−50536
CO_2 thin film-coated waveguide lasers, output power characteristics 7−62664
CO_2 thin-film-coated waveguide laser, RF excited 7−5908
CO_2 tunable waveguide laser with expanded tuning range 7−36981
CO_2 waveguide laser, anomalous refr. indices of amplifying medium 7−36933
CO_2 waveguide laser, Cohen model 7−20183
CO_2 waveguide laser, design and performance 7−15906
CO_2 waveguide laser as tunable IR radiation source 7−31298
CO_2 waveguide lasers with RF excitation, emission freq. tuning 7−43147
CS_2, use in nonlinear light guides of nonresonant type *(German)* 7−57609
CdS_xSe_{1-x} crystal waveguide Bragg light modulators 7−1288
GaAlAs passive waveguide, intrinsic optical bistability obs. 7−57425
GaAlAs strip waveguides, optical transistor effects, expt. study 7−37026
GaAlAs-GaAs ridge waveguide DFB lasers, lateral anal. 7−62686
GaAlAsSb/GaSb/GaInAsSb injection double heterostructure laser, room temp. operation 7−62697
GaAs Fresnel waveguide grating lenses, aberration corrected, simulation 7−26036
GaAs monolithic integrated optics, performance in space environment 7−26028
GaAs, proton bombard., optoelectronic effects 7−21295
GaAs waveguide, thermal index changes by optical absorpt., all-optical signal processing 7−31381
GaAs/AlAs doped quantum well waveguides, IR intersubband absorpt. 7−59192
$GaAs-Al_xGa_{1-x}As$, p-n junction waveguide, phase modulation, orientation depend. 7−57536
GaAs-AlGaAs large optical cavity semicond. laser arrays 7−10989
GaAs-AlGaAs quantum wells in waveguides, physics and appls. 7−26034
GaAs-GaAlAs MQW optical waveguides, nonlinear props. 7−37027

optical waveguides continued
GaAs-GaAlAs passive MQW waveguide resonators, all-optical switching effects, expt. study 7−15967
GaInAsP strip-loaded planar waveguide for high-speed electroabsorpt. modulator 7−31449
Ge coated circular metallic hollow waveguides for IR radiation, electrodeposition prep. *(Japanese)* 7−31463
$Ge_{0.6}Si_{0.4}$ rib waveguide avalanche photodetectors for 1.3 μm optical fibre communication 7−9896
H_2 high-power forward Raman amplifiers employing low-press. gases in light guides 7−20344
$Hg_{1-x}Cd_xTe$ optical waveguides, high band gap, for 10.6 μm 7−37157
$In_{0.52}Al_{0.48}As$ optical waveguides, MBE growth on InP 7−11107
InGaAs/InP multiple quantum well waveguides, low loss, MOCVD growth 7−43358
InGaAsP ridge waveguide laser threshold current optimisation, simplified hybrid optical model 7−57321
InGaAsP/InP multiple quantum well waveguide phase modulator 7−57531
InGaAsP-InP DFB lasers with monolithic external cavity, spectral characts. for 1.3 μm 7−20281
InGaAsP-InP laser, ridge waveguide, threshold current anal. 7−31338
InGaAsP-InP optical switches, carrier induced refractive index change 7−57606
InGaAsP-InP waveguides, optical parameters 7−62831
InGaAsP-InP-ridge waveguide lasers, LPE fabricated, design and 1.5 μm low-threshold operation 7−15897
InP waveguide, thermal index changes by optical absorpt., all-optical signal processing 7−31381
InP:Mg p-n junction waveguide fabricated by Mg ion implantation 7−64326
InP/InGaAsP antiresonant reflecting optical waveguides, chemical beam epitaxy and propagation losses 7−57537
KNO_3-glass, ion-exchange diffusion, planar waveguides 7−11108
$La_{0.7}Sr_{0.3}CoO_3$ cathodes for CO_2 waveguide lasers, electrical and emission characts. 7−59383
$LiMO_3$ (M=Nb,Ta), ion implanted optical waveguides, refractive index profiles 7−25964
$LiNbO_3$: Ti waveguide collinear Bragg diffr. cell, acousto-optic interaction efficiency anal. 7−37234
$LiNbO_3$ based integrated light conductor *(German)* 7−57609
$LiNbO_3$ blazed grating couplers and appl. to integrated optics 7−15969
$LiNbO_3$ coded phase-reversal modulator with 20 GHz bandwidth at 1.3 μm wavelength 7−57533
$LiNbO_3$, He^+ implantation, lattice disorder, refractive index changes 7−25966
$LiNbO_3$ integrated optical components for fibre gyroscopes 7−20472
$LiNbO_3$ optical waveguides, ion-implanted, optical damage resistance 7−43360
$LiNbO_3$ planar waveguides, He^+ ion implantation, transient annealing 7−25965
$LiNbO_3$ planar-optical waveguides, proton-exchanged, chem. and optical props. 7−57544
$LiNbO_3$, proton-exchanged, acoustic microscopic studies 7−21597
$LiNbO_3$ proton-exchanged single cryst. optical waveguides, electro-optic effects, lattice const. and refractive index changes meas. 7−22220
$LiNbO_3$, Ti indiffused H^+ exchanged optical waveguides, fabrication and charactn. 7−62826
$LiNbO_3$ waveguide, parametric fluoresc. amplification and oscill. 7−25894
$LiNbO_3$ waveguide electro-optic freq. translators, appl. to coherent optical fibre systems 7−20468
$LiNbO_3$ waveguide mode extinction modulators, design 7−26030
$LiNbO_3$, z-cut interferometers, thermal instability, electrostatic mechanism 7−37207
$LiNbO_3$:Fe planar optical waveguide, hologram recording, dopant conc. depend. 7−15828
$LiNbO_3$:H channel waveguides, anal. 7−26023
$LiNbO_3$:H optical waveguides, devices, charactn. and future prospects 7−26022
$LiNbO_3$:H ring resonators, operation at 0.79 μm and 1.3 μm 7−26029
$LiNbO_3$:H waveguides, anomalous side-shifted multimode spectra 7−37140
$LiNbO_3$:He^+ implanted waveguide stability 7−43364
$LiNbO_3$:He^+ optical waveguides, thermal annealing 7−15983
$LiNbO_3$:He^+ optical waveguides, ion implanted, Li outdiffusion modelling 7−62832
$LiNbO_3$:Ti, Ti in-diffusion, intermediate phase structure 7−44473
$LiNbO_3$:Ti channel waveguide electro-optic cutoff modulator 7−43353
$LiNbO_3$:Ti guided-wave optical switch, 1×16, polarisation-independent 7−31525
$LiNbO_3$:Ti integrated optic device for fibre laser Doppler velocimeter 7−6022
$LiNbO_3$:Ti integrated optical parametric oscillators, numerical model 7−57459
$LiNbO_3$:Ti integrated optical devices, domain inversion effects 7−62849
$LiNbO_3$:Ti intersecting optical waveguides 7−43359
$LiNbO_3$:Ti strip waveguides at 1.3 μm, field distrib. 7−25962
$LiNbO_3$:Ti waveguide, SHG, indiffusion proton exchange fabrication 7−25893
$LiNbO_3$:Ti waveguide, swept wavelength reflectometer for integrated-optic measurements 7−41432
$LiNbO_3$:Ti waveguide dispersion characts. description using generalised parameters 7−43369
$LiNbO_3$:Ti waveguides, Ti diffusion, model 7−21528
$LiNbO_3$:Ti waveguides, proton-exchanged Fresnel lenses 7−31522
$LiNbO_3$:Ti(H) waveguides, photorefractive susceptibility, charactn. methods 7−26024
Na-K ion-exchanged glass waveguides, swelling characts. 7−31532
Nd:YAG laser, SHG in four-layer waveguide struct. using 2-methyl-4-nitroaniline in high index top layer *(Japanese)* 7−43240
Nd:YGG waveguide laser amplifiers for fibre-optic communication 7−31359
$Nd_{0.7}Sr_{0.3}CoO_3$ cathodes for CO_2 waveguide lasers, electrical and emission characts. 7−59383
Si on sapphire, bistable optical device using guided mode excitation 7−57423
SiC ceramic optical waveguide for CO_2 lasers *(Japanese)* 7−6001
Si_3N_4 LPCVD optical waveguides on Si substrate 7−20414
SiO_2 optical waveguides, low-loss planar, fabrication using thermal nitridation and charactn. 7−26032

optical waveguides continued
SiO$_2$, refractive index changes formed by N$^+$ implantation 7—25915
SiO$_2$:Ge integrated optical waveguides, plasma CVD 7—27941
SiO$_2$:GeO$_2$ integrated optical waveguides, laser heating effect on opt. props. 7—50792
SiO$_x$Ny dielectric waveguides, optical props. 7—57535
TiO$_2$ film on Nb$_2$O$_5$ waveguide, surface CARS spectroscopy 7—46036
TlNO$_3$-glass, ion-exchange diffusion, planar waveguides fabrication 7—11108
YIG films, symmetrical single-mode magneto-optic waveguides, phase matching by stress appl. 7—45972
ZnO thin-film waveguides, distributed coupling and fast switching 7—11104
ZnS films, optical losses, substrate temp. effects 7—50738
ZnS wavelength prism coupling, nonlinear coupler example 7—31385
ZnS, ZnSe nonlinear planar waveguides, bistability and self-pulsing using prism couplers 7—57427

optical windows *see optical elements*

optical workshop techniques
adhesives, durable for optical components *(Japanese)* 7—62850
alignment technique, automatic 7—57613
angle meas. by multireflected autocollimation, mirror mount reception test appl. 7—35495
anti reflection coating design for fibre optic communication equipment, production run simulation 7—25937
arc-fusion spliced fibres for improved reliability 7—11183
arc-fusion splicer with self-core alignment 7—11186
aspheric figure generation using feedback from IR phase-shifting interferometer 7—37219
aspheric lenses, precision molded, for camera or compact disk systems 7—43318
aspherical components fabrication, diamond turning with MOORE machine 7—31539
aspherical focusing lenses for high-power multi-wavelength laser systems 7—62808
aspherical lenses, wide-aperture objectives for radiation concentration 7—43302
biconical fused taper low-loss fibre coupler, fabrication and characts., temp. meas. appl. 7—43439
blazed grating fabricated by synchrotron radiation lithography 7—37125
book, optical fibres 7—28
cementing and sealing compounds, volatility 7—20477
centering accuracy meas. of cylindrical lens, noncontact interferometric technique 7—15962
cineform element synthesis, optical method based on multi-beam interferometry *(Russian)* 7—50794
coating CVD prep., optical characts. 7—43456
coating deposition, control with optical monitor 7—11182
coating deposition, cryopump conversion advantages 7—3185
coating deposition, vac. pump requirements 7—33570
component reliability, effects of solder creep 7—15997
conic that best fits an off-axis conic section to help in conic fabrication 7—11089
Corning glass films, RF magnetron sputtered, optical props. 7—57552
correction plate fabrication by elastic deformation method for free support of blank 7—43455
cutoff filters matched to a narrow-band transmission filter, manufacture by continuous method 7—50721
cylindrical kinoform lenses for monochromatic light, effect of fabrication errors 7—25923
dielectric coatings for laser mirrors, fabrication 7—15965
diffraction gratings, variably-spaced linear and circular, fabrication, interferometrically controlled rotary ruling engine 7—62854
diffractive null correctors, systems considerations, tight tolerances in fabrication 7—62820
discharge fusion splice optimum method for polarisation preserving fibres 7—31529
fabrication by plasma activated CVD, review 7—11132
Fabry-Perot system with Gaussian beam and optical system centering technology 7—30079
fibre characteristics and industrial production techniques *(French)* 7—1282
fibre coating with open-cup applicators, slip mechanism 7—15985
fibre cutting tool, automatic, design and development 7—15998
fibre drawing, high speed and coating, review 7—11134
fibre fabrication by outside vapour deposition, developments 7—11130
fibre lightguides, end finishing by electric-arc method 7—43404
fibre manufacture at AT&T by MCVD 7—11129
fibre optic couplers, connectors and splices, conf., San Diego, CA, USA (Aug. 1985) 7—24277
fibre optic sensors, waveguide couplers, fabrication by ion exchange 7—57583
fibre optics, construction technology, materials, technique and future prospects *(Italian)* 7—1274
fibre preform fabrication using MCVD process control technique 7—15981
fibre splices, arc-welded, monomode made using local injection and detection of blue light 7—11187
fibre splices, mechanical, design and performance 7—11149
fibre splices and connectors, book 7—18509
fibre transmission loss characteristics during drawing, continuous measurement 7—6004
fibre-optic mirror fabrication 7—37214
fibres, polarisation-maintaining, low-loss, low-crosstalk, design and fabrication 7—11138
fibres, polarisation-maintaining and their appls., review 7—11136
fibres, single-mode, tapering 7—31484
fibres, transmission principles and manufacture *(French)* 7—15991
fibres, vapour axial deposition, developments 7—11131
fibres single-mode, high-strength long-length synthesised by vapour axial deposition 7—11135
filter manufacturing, spectral characts. 7—5961
fine oxide particle VAD for optical fibre preforms *(Croatian)* 7—20481
finished lens moulding technology saving time and money 7—31535
fluoride glass preforms, fabrication 7—15960
fluoride glass single-mode fibre, preform fabrication technique and transmission loss characts. 7—11117
fluorophosphate glass, type OK1, interrelationship of refr. index, viscosity and F content 7—57492
fusion-spliced fibres, Zeiss-Linnik interferometric exam. 7—31531

optical workshop techniques continued
glass:Tb$_4$O$_7$ Faraday rotator low loss single mode fibres, MCVD fabrication 7—25993
glass, dilation by field-assisted ion exchange 7—11188
glass, light and the information revolution, lecture 7—24253
glass rod forming process, mathematical model construction 7—20476
glass waveguides, Ag film diffused, diffusion process and optical props. 7—50737
glass waveguides, ion-exchanged, stress 7—31454
glass waveguides, semiconductor-doped and ion-exchanged 7—43357
glasses, relative grinding hardness eval. 7—43279
gradient index glass rods prep. by sol-gel index modifying ion interdiffusion process 7—7952
gradient index imaging systems, conf., Palermo, Sicily, Italy (Sept. 1985) 7—29570
gradient index lens for low-loss coupling of laser diode to single-mode fibre, ion exchange fabrication 7—31465
gradient-index slab lens with high numerical aperture, indiffusion ion exchange and cementing fabrication 7—31415
highly reflecting diffusers, middle-IR region, develop. status study 7—57615
holographic interferometer with monomode fibres, appl. to integrated optic grating device manufacture 7—25757
III-V semiconductor, integrated optoelectronics, micrograting form. by HV electron beam lithography 7—31443
Indian work on fibre optics, survey 7—57576
IR components fabrication, using diamond turning lathe 7—31540
IR components with diamond-like coatings development, appl. and testing 7—31434
IR diffractive filters fabricated by electron beam lithography, spectral and polarising characts. 7—62816
IR Fresnel lenses design and manufacture at British Aerospace, using high-density polyethylene 7—31428
IR lens centering machine 7—31542
IR technology and appls., Cannes, France (Nov. 1986) 7—29589
Itek optical technology in manufacturing and metrology 7—37227
kinoform lens fabrication errors, effect on pupil function 7—25739
LAMAR protoflight X-ray mirror assembly, design, fabrication and testing 7—47705
large aspheric optics, rapid fabrication using computer-controlled opt. surfacing unit 7—37224
large optics, aspherical component grinding 7—26046
large optics assembly and testing in space 7—40704
large optics generation, optimum parameters 7—37221
large optics technology, conf., San Diego, USA (Aug. 85) 7—35089
laser image plotter for high-information-density images recording 7—26043
laser photoplater for optical elements fabrication, circular scales structure synthesis 7—26044
laser photoplotters for phototemplates fabrication, optical radiation control 7—25834
light-weight mirror, vertically mounted, load relief 7—43452
matrix of gradient microlenses fabricated by electrostimulated diffusion, optical connectors development 7—25967
metal mirrors, precision machining technology *(Japanese)* 7—50793
metal surface roughness parameter measurement, diamond turned, light scattering technique 7—61318
micro-Fresnel lens arrays, rectangular-apertured, fabrication by electron beam lithography 7—57505
microoptic components formed by local modification of the structure of porous glasses 7—43451
mirror, glass, replicated, appl. to large segmented opt. systems 7—37088
mirror, honeycomb sandwich, borosilicate, blank prep. by spin casting 7—37225
mirror, large, prod. using single point diamond crushing combined with polishing 7—37220
mirror, multilayer dielec. exit, half-shadow evaporation fabrication, non-Gaussian laser beam form. 7—50611
mirror mounting unit having three elastic joints, design 7—43454
mirror segments, lightweight glass, development for Large Deployable Reflector 7—37226
mirrors, large, production using single-point diamond crushing followed by polishing 7—26048
mirrors surface evaluation by soft X-ray scattering 7—25934
multi-flame VAD process for high-rate fabrication of optical fiber preforms 7—43461
multilayer X-ray mirrors, fabrication, in situ monitoring system 7—37217
multimode and single mode fibres, fusion splicing 7—26053
noncircular core optical fibres made by pressurized MCVD method 7—57612
optical fibres, single crystal pulling, laser heated pedestal growth technique 7—53578
organic materials for integrated optics, fabrication flexibility 7—25911
organisation coating of quartz optical fibres, polymerisation rate, thermophys. anal. 7—20461
planar microlens, fabrication by transverse electromigration method 7—62811
planar microlens fabrication by ion exchange/diffusion, distrib. index profile 7—31417
plastic aspherical lens design and fabrication in Japan 7—43459
plastic optical fibre star coupler, fabrication 7—31468
plastic waveguides for optical dividers and mixers, development 7—11191
polydiacetylenes as nonlinear waveguide materials, fabrication 7—25871
polymer coatings for optical fibers 7—11192
polymer glazings for Ag mirror protection, evaluation and modification 7—37094
polymer protective coatings of optical elements between operations 7—37062
Polytron polishing pad material, comparison with pitch and polyurethane 7—37211
preform manufacturing, homogeneous heating technique in MCVD 7—31534
profiled crystals, growth by Stepanov's method, appl. for optical components 7—31409
sapphire precision ultrafine surfaces, practical prep. method 7—1290
secondary coating of optical fibres 7—11169
semiconductor doped glass, integrated nonlinear optical device fabrication 7—25873
semiconductors, photoelectrochemical etching of holographic gratings 7—26051

optical workshop techniques continued
silicate porous glass, wear resistance and grinding hardness, struct. effect, grinding method meas. 7—57614
single mode coupler manufacturing 7—26049
single mode fibre splicing techniques, statistical anal., splice loss per fibre-span meas. 7—43416
single-mode optical fibre preforms, dimension control in VAD process 7—6025
soft X-ray optical systems, book 7—55901
sol-gel procedure for optical fibres production with high SiO_2 percentage *(Croatian)* 7—20480
spherical gradient-index sphere lens, modified suspension polymerisation fabrication 7—31527
splice, mechanical, for permanent fibre optic installation 7—26006
splicer for single-mode fibres, field use using direct core obs. technique 7—26013
submarine cable production using arc fusion splicer with profile alignment system 7—11185
surface fabrication errors of optical systems, wavefront deformations calcs. 7—57262
system centering by speckle interferometry *(French)* 7—37215
taper coupler for integrated optics formed by ion-exchange under nonuniform electric field 7—50740
taper splice method for subscriber single-mode fibre cables 7—31530
telescope, Texas Univ. 7.6m. design, progress report 7—40710
telescope mirror, Keck Observatory 10m, design and development work status, fabrication plans 7—40693
telescope technology for Far Ultraviolet Spectroscopic Explorer 7—40709
temperature control techniques for optical components manufacture 7—31541
thermoplastic rubber/liquid crystal polyester dualcoextrusion coating system for optical fiber drawing 7—11190
two-mirror compact collimator, aplantic, design, fabrication and testing 7—43328
ultrasmooth surfaces preparation, book contrib. 7—28165
ultrasonic optical component processing 7—20478
UV curable resins for cabling optical fibres 7—11166
vapour axial deposited preform stretching, numerical model for internal distortion 7—11133
waveguide, multimode, strip, formed by ion-electro-diffusion from Ag 7—37146
wide band pass filters, multiple Fabry-Perot interference filter struct. *(Korean)* 7—25943
X-ray mirror substrates, grazing incidence, precision machining/metrology facility 7—37222
X-ray telescope, grazing incidence relay optics for solar astronomy, performance 7—47706
Zerodur, lightweight large mirror blanks prod. 7—37223
zirconia induction furnace for high strength fibre production, design 7—11184
zoom lens tolerances and design concepts 7—31426
zoom telescope development 7—31425
Ag/polymer mirrors, specularity and stability 7—37095
(Al,Ga)As/(Ca,Sr)F_2 multilayer structures, MBE grown, broadband high-reflectivity mirrors fabrication 7—11091
Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7—31424
Al_2O_3-SiO_2 GRIN glass, delta-*n* control by additives in AgCl diffusion baths 7—31528
As_2S_3 amorphous chalcogenide optical grid, submicron resolution, VLSI appls. 7—48899
Be mirror for large optics, fabrication by hot isostatic pressing 7—37228
Be mirrors for large optics, preparation by hot isostatic pressing 7—26045
C-W ultrathin layered stacks, sputtering techniques, in situ ellipsometry control system 7—1292
CdS waveplates for IR lasers, reproducible volume manufacture 7—37138
CdTe, cathode sputtering process statistical modelling, optical layer deposition 7—39375
CsBr-AgBr fibres, growth by Stepanov's method 7—31533
(GaAl)As monolithic composite-cavity laser, chem. etching technique 7—50579
GaAs, direct maskless fabrication of submicrometre gratings 7—62855
n-GaAs, sawtooth gratings, photoelectrochemical fabrication 7—50726
GdGG laser material, characts. of polishing cpds. 7—37212
Ge, cathode sputtering process statistical modelling, optical layer deposition 7—39375
Ge lenses, diamond-machine for IR, quality and performance 7—25932
GeO_2-core/SiO_2-cladding optical fibres, modified CVD deposition and stimulated Raman appl. 7—43378
$Hg_{1-x}Cd_xTe$ optical waveguides, high band gap, for 10.6 μm 7—37157
InGaAs/InP multiple quantum well waveguides, low loss, MOCVD growth 7—43358
InP dry etching at room temp. 7—28227
InP:Mg p-n junction waveguide fabricated by Mg ion implantation 7—64326
KNO_3-glass, ion-exchange diffusion, planar waveguides 7—11108
$LiNbO_3$ planar-optical waveguides, proton-exchanged, chem. and optical props. 7—57544
$LiNbO_3$, Ti indiffused H^+ exchanged optical waveguides, fabrication and charactn. 7—62826
$LiNbO_3$:Ti waveguide, SHG, indiffusion proton exchange fabrication 7—25893
$LiNbO_3$:Ti waveguides, Ti diffusion, model 7—21528
$LiNbO_3$:Ti waveguides, proton-exchanged Fresnel lenses 7—31522
Na-K ion-exchanged glass waveguides, swelling characts. 7—31532
Ni electroless plated mirrors, diamond-turned, surface finish meas. 7—37218
Ni:P plated mirrors, diamond-turned, surface finish meas. 7—26047
Si, etching V-groove structures 7—26031
Si surface polishing strain-free and flat to better than $\lambda/20$ 7—11179
Si_3N_4 film synthesis by ion-assisted deposition, antireflection coating use 7—37213
SiO_2 fibre, V-grooves fabrication using CO_2 laser 7—50783
SiO_2 film synthesis by ion-assisted deposition, antireflection coating use 7—37213
SiO_2 monomode fibres with F-doped cladding, prep. by MCVD process 7—1289
SiO_2 optical waveguides, low-loss planar, fabrication using thermal nitridation and charactn. 7—26032
SiO_2:Ge integrated optical waveguides, plasma CVD 7—27941
TiO_2-SiO_2 r-GRIN glass rods prep. by sol-gel method 7—13427

optical workshop techniques continued
TlBr-TlCl fibres, growth by Stepanov's method 7—31533
TlBr-TlI fibre for high power CO_2 laser beam 7—31487
$TlNO_3$-glass, ion-exchange diffusion, planar waveguides fabrication 7—11108
ZnS_xSe_{1-x} gradient IR optical material prepared by CVD 7—31408

optical zone plates
alignment of diffraction and refraction components in optical systems 7—25925
axicon, thin linear, diffraction patterns and zone plates 7—37083
Fresnel zone plates, high-resolution, spatial-frequency multiplication, X-ray appl. 7—56394
laser fusion target, zone-plate imaging of emitted n 7—1746
MM-wave holography, 2D image reconstruction method from holograms sampled by using Fresnel zone plates *(Japanese)* 7—43017
phased-array laser, single-lobe radiation pattern generation using variable phase-shift zone plate 7—43182
plane and spherical zone plates, angle eikonals 7—43332
soft X-ray optical systems, book 7—55901
spatial filters for replicating images 7—5976
to-and-fro zone plate method for 3D frequency characts. obs. 7—20393
X-ray zone plate fabrication by X-ray and electron beam lithography 7—18957

optics
see also aberrations; adaptive optics; atmospheric optics; fibre optics; Fourier transform optics; geometrical optics; gradient index optics; holography; integrated optics; nonlinear optics; optical elements; physical optics
optical lens systems, antennas explanation *(German)* 7—20381
Optical Society of America annual meeting, Seattle, WA, USA (Oct. 1986) 7—48146

optimal control
see also dynamic programming; game theory; maximum principle
2D heat conduction problems, time optimal control 7—11248
binary batch distillation in tray or packed columns, optimal control 7—58450
distributed parameter system with lag, optimal control problem 7—35220
fixed-bed reactor, robust multivariable control system design 7—54256
laser heating of plasmas with constant density 7—63314
NMR spectroscopy, selective inversion radiofrequency pulses by optimal control 7—35555
paralysed limbs, joint angle control by using functional electrical stimulation with digital PID control system *(Japanese)* 7—60128
phase-change material storage design for passive solar heating 7—8447
photovoltaic pump powered by asynchronous machine, optimal control *(French)* 7—59839
plasma laser heating in strong solenoidal magnetic fields, optimal control theory anal. 7—58041
solar assisted heat pump, control strategy, bilinear model 7—59868
solar cell arrays, vibration and attitude control using differential sensors 7—28399
solar collector/heat exchanger system, differential game control 7—65578
solar ponds, performance eval. and optimal control *(French)* 7—59869
symplectic QR-like methods, matrix factorizations 7—29666
viscoelastic coating for reducing sound wave reflection, gradient techniques 7—62874
Xe oscillations in load follow of large nuclear reactor 7—30620

optimal systems
multivane expander simulation, design and operation optimisation 7—3713

optimisation
see also mathematical programming; minimax techniques; minimisation
adaptive digital intensity meter, parameter optimization 7—48703
adaptive microphone-array system for noise reduction 7—31609
antireflection coating parameters introduction in lens design phase 7—50680
aspheric ophthalmic lenses optimisation, Tscherning theory generalisation 7—65891
band-limited reflection seismograms, lin. inversion 7—23583
chemistry, computational, optimizing interpreter for multidimensional products 7—39947
constant energy synchronous luminescence spectrometry, parameter selection, optimisation 7—15006
degenerate operator equations, solutions, optimization of regularization methods 7—35224
diffuse reflectance IR spectroscopy accessories, optimisation 7—61380
digital correlation method, optimised appl. to deformation analysis 7—26136
ECG, criteria for optimal averaging of cardiac signals 7—23471
elastic beam on elastic base, optimal design 7—4690
elastic-plastic eqn. analysis and numerical soln. *(French)* 7—41101
elastoplastic systems, linearly strengthened, extremum principles and optimisation problems 7—63015
flow modelling for a biological cell sorter using design optimisation 7—8475
groundwater systems management, coupling of finite element and optimisation methods 7—60278
head magnetic resonance imaging, clinical optimisation 7—18057
heat pipes, antigravity, wick pore dimensions, optimisation 7—1549
heat pump system, thermoeconomic optimisation 7—23210
Helmholtz coils for generating mag. fields, optimisation using computational method 7—48791
hydrocarbons, oxidation, inhibition by phenols, optimisation calcs. 7—46834
insertion devices, variational theory 7—42879
invariant perception and statistical mechanics 7—59912
laser diode arrays with heat sinks, temperature profile model 7—20221
lens design, Brixner optimisation procedure 7—50683
lens design, interactive computer program 7—50693
lens design, merit function construction with possible achievement of global min. 7—50682
lens optimisation, automatic, recent improvements 7—43309
magnetic resonance imaging, computer model to optimize image contrast 7—54690
microphone arrays, adaptive optimisation under nonlinear constraint 7—37306
moment inequalities via optimal design theory 7—24404
multiconfigurational SCF electronic energy domain struct. 7—19683
multiextremal optimization for calibrating water resourcesmodels 7—9042
national energy system, mathematical model for optimal functioning 7—65383

optimisation continued
neuronal membrane parameters, passive, comparison of optimisation and peeling methods 7−54517
NMR imaging, tissue discrimination optimisation method 7−40244
NP-complete problem without local minima 7−29673
nuclear power plants, reliability and risk allocation, decision theoretic anal. 7−36081
optical interference coatings, synthesis, optimisation *(Russian)* 7−22375
organic Rankine system for energy recovery, optimisation and economic evaluation strategy 7−40024
panel, composite, min. wt., optimum design w.r.t. arbitrary loads 7−1397
PBFA II vacuum magnetically insulated transmission line redesign to inductive energy store 7−30755
plates, elastic, shape optimisation, sufficient conditions for extremum 7−26150
plates, flexible, rectangular, on nonlinearly elastic base, optimal design 7−62995
poultry processing plant refrigeration heat recovery system 7−8428
radioactive waste containers store, radiation minimisation 7−10290
rolling technology of porous sintered Cu 7−53673
school physics experiment, planning 7−14745
sectioned optimization methods for image restoration 7−62643
shallow water eqns., two-stage FEM Fortran program, FEUDX 7−55080
simulated annealing and neural network processing 7−47724
soil, dielectric profile retrieval, use of iterative optimisation 7−9204
solar flat-plate collectors, optimum operation through exergy optimization 7−54358
solids, elastic, 2D inhomogeneities, minimum stress conc. 7−37342
surface tension measurements, optimisation algorithm 7−14929
TEM lens shape with min. spherical aberration coeff., computation method 7−18936
toroidal solenoid, thermomech. loaded, optimal design 7−57695
tumour cell heterogeneous population model, radiation therapy optimisation 7−60074
ultrametric structures, introduction and appls. 7−48332
variable head multireservoir power system, optimisation for long term regulation 7−23119
waste water treatment, energy-efficient membrane-based hybrid processes 7−13940
weather forecasting services, optimal organisation 7−34613
wind-driven DC shunt-generator for resistance heating, power output optimisation 7−65400
GaSb, crystal growth and synthesis, thermodynamics, optimisation algorithm appl. 7−16461
Si solar cells, crystalline, metal grid optimisation and emitter tailoring, computer model extension 7−54292
T isotope separation using CO_2 laser, optimisation 7−42707

optimum control *see optimal control*

opto-couplers *see opto-isolators*

opto-isolators
optron displacement sensor [geophysical application], geophysical equipment appl. 7−4809

optoacoustic effect *see photoacoustic effect*

optoacoustic spectra *see photoacoustic spectra*

optoacoustic spectroscopy *see photoacoustic spectroscopy*

optoelectronic devices
see also integrated optoelectronics; opto-isolators; photoelectric devices
debris flows, noncontact speed sensors 7−40615
geophysical prospecting optoelectronic meas. of mineral content *(Russian)* 7−9241
Hewlett Packard HCPL-2400 coupler for 2040 Mbaud, review *(Italian)* 7−57577
high-speed electronics, conf., Stockholm, Sweden (Aug. 1986) 7−52798
information processing and communications appl. 7−1285
MOVPE, atm. press. growth, operating characts. 7−27930
phase-shifted diffraction-grating fabrication using holographic wavefront reconstruction 7−50512
photoplethysmography: selecting optoelectronic components 7−28647
picosecond electronics and optoelectronics, topical meeting, Lake Tahoe, NV, USA (Mar. 85) 7−41007
semiconductor doping superlattices, physics and applications 7−52826
solid-state devices and materials, conf., Tokyo, Japan (Aug. 1986) 7−48173
ultrafast optical electronics from femtoseconds to tetrahertz 7−45993
HgTe-CdTe superlattices, present status, props. and applications for optoelectronic devices *(Japanese)* 7−12829

optoelectronic integrated circuits *see integrated optoelectronics*

optogalvanic spectra
gas discharge, cathode fall, optogalvanic diagnostics 7−32187
hollow cathode discharge, optogalvanic effects 7−20992
plasma parameters, optogalvanic signal origin 7−30971
RF discharge, optogalvanic detected IR spectra 7−20970
thioformaldehyde, RF discharge, optogalvanic detected IR spectra 7−20970
CO_2 laser, optogalvanic Lamb dip freq. stabilisation 7−31301
Cd, autoionisation widths, calcs. and optogalvanic spectra 7−36521
Cl_2 discharge, 13.56-MHz, optogalvanic effect 7−32148
He glow discharge, cathode fall, spectroscopic diagnostics 7−37763
He glow discharge, positive column, population difference and pulse-mode optogalvanic effect 7−26570
Hg, discharge, low-press., excited state pop. mechanisms determ. using pulsed optical pumping 7−26557
Kr, visible transitions, autoionis. obs., optogalvanic spectra 7−57035
Ne discharges, optogalvanic spectra using tunable laser radiation 7−61389
Ne gas, optogalvanic effect, role of Ar impurity, kinetic eqns. anal. 7−30970
^{20,22}Ne, specific mass isotope shift, laser optogalvanic spectra 7−19771

optogalvanic spectroscopy
high sensitivity spectroscopic techniques, review 7−56354
hollow-cathode lamps, optogalvanic effect, electrical resonance effect 7−58079
laser spectroscopy, system design and optimisation, use in discharge studies 7−61389
plasma and gas spectroscopy with tunable lasers 7−48862
RF solid-state oscillator for optogalvanic spectroscopy, NO detection using overtone transition 7−9904
N_2 in RF discharge, low press., pulsed laser optogalvanic spectroscopy 7−37769

optothermal effects *see photothermal effects*

optothermal spectroscopy *see photothermal spectroscopy*

optrons *see opto-isolators*

OPW calculations
Al, nuclear quadrupole interactions in the presence of muons 7−53192
Cu, nuclear quadrupole interactions in the presence of muons 7−53192

OR *see operations research*

OR gates *see logic gates*

orbital calculation methods
see also APW calculations; atomic orbitals calculations; EHT calculations; GO calculations; GTO calculations; HMO calculations; KKR calculations; LCAO calculations; molecular orbitals calculations; NDO calculations; OPW calculations; PNO calculations; PPP calculations; STO calculations
many-electron systems, symmetric group approach, spin-depend. operators 7−15475
nonunitary orbital transform., transition density matrices calcs. 7−19717
optimisation scheme, spin projected HF method 7−838
overlap integrals calc. using recursion formulae 7−62246
reduction of orbital sets, computer program OFMO 7−49865

orbitals, atomic *see atomic structure*

orbitals, molecular *see molecular energy levels*

order, long-range *see long-range order*

order, short-range *see short-range order*

order-disorder changes *see order-disorder transformations*

order-disorder transformations
see also polymorphic transformations
2D three-state chiral clock model, domain-growth kinetics 7−35460
2-adamantanone, order-disorder phase transition, high press. effect, Raman study 7−38183
2-adamantanone, order-disorder transition obs. by FRIR spectroscopy 7−53342
adsorbed layers, order-disorder phase transition, effect on rate of elementary processes 7−6976
alkali feldspar, hypersolvus, Raman spectroscopic study of order parameter behaviour, displacive transform. and evidence for Na-K site ordering 7−22254
alloys, binary, phase diagrams and short range order, Monte Carlo simulations 7−53704
alloys, order-disorder phenomena, Ising model calcs. allowing for atomic vibrations 7−21400
ammonium hexafluorometallates, phase transitions 7−6787
amorphous Lennard-Jones solid, shear deform.-induced orientational ordering, computer simulation 7−38155
binary alloys, geometrically non-equivalent nodes, ordering theory *(Russian)* 7−44744
binary crystals, FCC, ordering, Monte Carlo simulation 7−38154
t-butyl cyanide, disordered phase, cooperative dynamics 7−58195
cadmium arachidate, Langmuir-Blodgett films, struct. disorder and polymerisation at elevated temp., IR spectra obs. 7−46163
cadmium arachidate, Langmuir-Blodgett multilayers, order-disorder transitions, Raman spectra 7−53309
caesium pentadecafluorooctanoate-water discoid micelle solns., order-disorder transitions, X-ray scatt., elec. cond., NMR meas. 7−26949
diffraction effects caused by continuous 2H to $18R_2$ transition *(Russian)* 7−38184
ethylene-tetrafluoroethylene copolymer, cryst.-mesophase transition, struct. obs. 7−21436
ferroelectric transitions, electric field perturbed NQR 7−17276
ferroelectrics, structural phase transitions *(Japanese)* 7−27670
Ginzburg-Landau model growth kinetics, soln. of Langevin eqn. 7−44748
graphite intercalated with Br, struct. and phase transitions, review 7−52041
hexabromomethane, vibrational spectra, crystal dynamics and phase transitions 7−38132
hexanitroethane, crystallographic and vibrational study 7−38131
icosahedral and dodecahedral vector models in 2D, phase diagram 7−12232
interstitial solid solutions, ordering, stress-induced interactions 7−39508
Ising model on random 2D lattice, phase transitions 7−61275
metallic materials, crystal to glass transform., kinetics and thermodynamics 7−44399
metals, vacancy pore spatial distrib. during continuous irrad. *(Russian)* 7−58268
metastable states, simple model for dynamics 7−32601
4-methyl-pyridine(-d_7), phase transitions, mol. mechanism, IR and Raman spectra 7−32637
multicomponent solid solutions, atomic distribution functions, Ising model 7−44753
naphthalene derivatives, β R-substituted, polymorphism, review and comparative study *(French)* 7−32349
octaethylsilsesquioxane, mol. mobility and phase transitions 7−37917
oleic acid, polymorphism, order-disorder phase transition, IR and Raman spectra anal. 7−33379
ordering effects in metallic alloys *(French)* 7−21151
bis-(p-toluene sulphonate) of 2,4-hexadiyne-1,6-dial, polymer single crystal, permittivity, phase transition 7−51663
photoinduced phase transition in magnets 7−38923
polyethylene-tetrafluoroethylene, row crystallised film, deform. mechanism 7−44663
polyethylenes, supermol. struct., glow-discharge induced transformations *(Russian)* 7−63523
polyphenyls, hydrogenated p-terphenyl and deuterated biphenyl, structural transitions *(French)* 7−12256
polystyrene latex spheres, colloidal dispersion, high freq. elastic moduli calc. 7−38083
quenched phases, computationally efficient modelling of ordering 7−63769
second order phase transition, wave vector depend. susceptibility, elastic coupling effects, mean field theory 7−32599
semiconductor-alloy phase diagram, first-principles self-consistent local-density total-energy calcs. 7−44751
semiflexible polymers, collapse transition, Monte Carlo simulation 7−10785
solid cyanoadamantane, phenomenological approach to phase transitions 7−32636
solid solution ordering types, rel. between symm. and combinatorial methods 7−6790

order-disorder transformations continued

stearic acid mono- and bi-layers on Al and Au, refl.-absorpt. IR spectra, order-disorder transitions 7−46165
steel, austenitic, Mn-Al, Al atom short range ordering, Mossbauer studies *(Russian)* 7−16480
submonolayer adsorbed film, phase diagram, intrinsic and extrinsic ordering forces, density functional theory calcs. 7−63952
submonolayer film, phase diagram, relax. mechanisms, density functional theory calcs. 7−63953
submonolayer ordering and multilayer adsorption, simple lattice gas models 7−12490
surface reconstruction phase transformations 7−2326
terephthalic acid, linear chain struct., order-disorder phenomena, Raman scatt. study 7−21150
ternary tetrahedral semiconductors, order-disorder transformation 7−58432
tetracyanobenzene-naphthalene (anthracene) complexes, charge-transfer crystals, orientational transitions, mean field approach 7−6783
tetraphenyldithiapyranylidene iodide, 1D conductor, order-disorder transition, X-ray scatt. intensity, elec. props. 7−44798
TMMC, pure and Cu doped, struct. phase transitions, Brillouin scatt., study 7−46055
$(TMTSF)_2ReO_4$, Shubnikov de Haas oscills. and (0 1/2 1/2) anion ordering 7−45281
$(TMTSF)_2ReO_4$ organic supercond., anion-ordering phase diagram studies 7−21434
transition metal alloys, binary, substitutional, segregation and order 7−22685
1,2,3-trichlorobenzene, single cryst., order-disorder, ^{35}Cl NQR study 7−17237
tricosane, pseudohexagonal rotator phase, disorder at bilayer interface, mol. dynamics calcs. 7−58165
trimethylammonium nanochlorodiantimonate, high freq. dielectric dispersion 7−53223
two-dimensional lattice gas on triangular net, order-disorder transitions, struct. factors, Monte Carlo simulation 7−56176
urea inclusion cpds. with n-paraffins, phase transitions and ordering 7−32634
Ag_3SbS_3, ferroelectric transition, electric field perturbed NQR 7−17276
Ag_xTi_{23}, stage-2 interaction cpd., order-disorder phase transition 7−12255
Al-Zn dilute alloy, mixed dumbbells orientational ordering transition *(Russian)* 7−51688
AlGaAs:Si(Zn), MOCVD, impurity induced disordering, quantum well laser fabrication and characts. 7−27934
As_2O_5, structural phase transition, Raman scatt. 7−6785
Au (110) (1×2), sp. ht. anomaly for order-disorder transition, LEED study 7−12310
Au_4Cr, atomic ordering, X-ray struct. anal. *(Russian)* 7−1933
$BaTiO_3$, Nd_2O_3-modified, defect struct. and dielec. props 7−37968
$BaTiO_3$:Fe^{3+}, ferroelectric transition, EPR 7−33343
Co alloys, 1D disordered structural states, form., quenching, X-ray diffr. study 7−44784
Co-Pt, order-disorder transformation kinetics 7−52047
α-Cu-Al, ordered domain charactn. from dissoln. kinetics study 7−22693
Cu-Pt (25.7 at.%), transform. from short-range order to $L1_2$ and $L1_{2-s}$ ordered states 7−53726
Cu-Pt (48.1 at.%), elec. resist. var. during ordering under press. *(Russian)* 7−33810
Cu-Pt-Pd ternary alloys, L1-type ordered phases 7−16493
CuAu I and II, initial ordering stages, twinning, periodic antiphase boundaries, electron microscopy 7−28032
CuAu, ordering and recrystallisation, TEM studies *(Russian)* 7−16479
Cu_3Au, irradiation disordering and reordering by fusion neutrons, electrical resistivity meas. 7−51864
Cu_2HgI_4, order-disorder transition, differential scanning calorimetry, high-press. phase diagrams 7−58463
Cu_3Pt ordering kinetics, comp. depend., X-ray and DTA studies 7−26940
o-D_2 monolayers, physisorbed on graphite specific heat studies 7−52271
Eu(II)-β''-alumina, luminescence, order-disorder effects, optical, structural and ion transport props. 7−46114
Fe complexes, $(Fe_3O(acetate)_6(pyridine)_3)(pyridine)$, intramol. electron transfer, phase transition mechanism 7−10742
Fe-Al-Co ordering alloys, phase separations 7−33634
Fe-Co-Ni-Al-Cu metallic alloy ordering and spinodal decomposition, atom probe FIM study 7−33676
Fe-Co-V, atomic ordering mechanism, neutron diffr. study *(Russian)* 7−46459
Fe-Co-based ternary alloys, atomic and mag. moment mutual ordering *(Russian)* 7−33169
Fe-Pt (36 at.%), cryst. struct., permanent mag. props. *(Japanese)* 7−53036
Fe-Si (4.5 to 7.5 wt.%), melt-spun, ordered struct. 7−1951
Fe-Si-Cr system, ordering process, thermal expansion studies *(Russian)* 7−1932
Fe-Te sputtered films, CsCl-type ordering and amorphisation 7−64021
FeNiAlCoTiCuS permanent magnetic material, phase comp. and ordering, atom probe FIM and TEM studies 7−33635
Fe_3O_4 Mott-Wigner glass, polaronic order-disorder transition, muon spin rot. meas. 7−44787
GaAs:Al, surface layer, degree of disordering, effect of dopant 7−63929
$Gd_5Si_3H_7$, H-D exchange, H desorption 7−28304
GeSi-Si strained superlattices, order-disorder transitions, obs. 7−27166
GeSi-Si superlattice, strain-induced order-disorder transition 7−21437
^{4}He, adsorbed on graphite order-disorder transition, sp. ht. anal. 7−58563
$Ho_5Si_3H_x$, H-D exchange, H desorption 7−28304
$K_2Ba(NO_2)_4$, successive phase transitions, dipolar frustration 7−53247
$K_3Fe(CN)_6$, polytype phase transforms., ^{14}N NQR study 7−26690
KNO_2, cryst., Raman spectrosc. obs. 7−46001
KSCN, vibr. spectrum in a phase with nonrigid-motion elements 7−17312
$LiGa_5O_8$, Raman scatt. study 7−53316
NH_4Cl, phase transitions, elec. props. study 7−17257
NH_4Cl, spontaneous and field induced current peaks at order-disorder phase transition 7−45948
$Na_{0.5}Bi_{0.5}TiO_3$, Raman spectra study 7−53303
NbC_x, ordering behaviour, superstruct, refl. obs. 7−3267
NbC_x, ordering processes, slip transition 7−7990
Ni (110), adsorbed H, order-disorder transitions, theory 7−12492
Ni-Al-La, defect form., disordering, strengthening effect of La addition 7−22708
Ni-B-C-based alloys, γ' phase, prolonged ageing effects *(Russian)* 7−59551

order-disorder transformations continued

Ni-Mo (20 at.%), ageing, yield strength rel. to prior α grain size 7−39507
Ni-Mo-Fe-Cr alloy, transient phase obs during long range ordering to Ni_4Mo, electron diffr. study 7−63806
Ni-Pt, order-disorder transformation kinetics 7−52047
Ni-Ta amorphous alloy, struct. changes and crystallization during heating *(Russian)* 7−16419
Ni-Ti metallic alloy ordering and spinodal decomposition, atom probe FIM study 7−33676
Ni_2Cr, order-disorder transform. kinetics, P content effect 7−13446
Ni_2Cr, recrystn. kinetics and mech. props., influence of P 7−22718
$Ni_3(Fe,Nb)$, order-disorder transformation, positron annihilation study 7−39509
Ni_3Fe, order-disorder transformation, positron annihilation study 7−39509
$Ni_{60}Fe_{40}$ (100), initial oxidation and sulphidation, LEED study 7−58641
$(Ni_3Fe)_{1-x}Cr_x$ alloys, ordering study, comp. depend., electron diffr. and Mossbauer meas. 7−51690
$Ni_3(Fe_{1-x}Mn_x)$ magnetic alloys, impurities, ordering 7−51995
Ni_3Ga, atomic ordering, strain disruption *(Russian)* 7−53808
Ni_3Mn-NiCr tie line, disordering kinetics, neutron diffr. investig. *(Russian)* 7−32347
Ni_2V-Cu alloys, discontinuous precipitation and ordering *(Russian)* 7−59523
Pb (110), surface initiated melting, ion shadowing and blocking meas., RHEED 7−44769
$PbIn_{1/2}Nb_{1/2}O_3$, antiferroelec., phase transition, B-site cation order effects 7−7651
$Pb(Sc_{1/2}Ta_{1/2})O_3$, single crysts. and hot pressed ceramics, ordering, domain struct., TEM obs. 7−26936
Pd (111), adsorbed H, order-disorder transitions, theory 7−12492
Pd-Ce-H, electrical resistance meas. 7−32984
Pd-Cu-Ag, ordering and precipitation, field emission microscopy studies *(Russian)* 7−46472
Pd-Y system, obs. of order 7−58456
$PdH_{0.64}$ hydride, superlattice ordering, implanted muon study 7−51689
Pd_3Mn, H-induced order-disorder transition 7−46460
PtCo, order-disorder transform. kinetics, temp. depend., magnetisation meas. 7−63797
Si (001), surface order-disorder transition 7−52209
Si (111), MBE, ordered and disordered growth modes 7−12558
Si thin film, laser-irradiated melt morphology and order-disorder transitions studies 7−44614
Si-Fe BCC alloy, struct. and mag. props., order-disorder transition effects *(Russian)* 7−32346
$Si_xGe_{1-x}(C_x)$ semiconductor alloys, ordering and decomposition 7−6574
TaC_x, ordering processes, slip transition 7−7990
Ti alloys, ordered structure form. during decomp. of metastable β-phase *(Russian)* 7−53725
Ti-Al (6 to 16 wt.%), ordered DO_{19} phase form., DTA study 7−39484
TiC_x, order-disorder transition 7−63796
V-N system, metastable ordered phases, cryst. struct. *(Russian)* 7−44447
W (001) clean surface, surface-reconstruction phase transition and high temp. phase 7−6934
W (100), surface reconstruction investig., He diffr. studies 7−2320

ores *see minerals*

organic acids *see organic compounds*

organic compounds

see also DNA; free radicals; macromolecules; organic semiconductors; organic superconductors; organometallic compounds; plastics; polymers; proteins; Rochelle salt; waxes
7−44363
1,1,3,4,6,6,-hexakis(trimethylgermyl)-1,2,4,5,-hexatetraene, hexakis(trimethylelementyl)benzenes, synthesis and crystal mol. struct., X-ray spectra anal., EFF calcs. 7−25360
2,4-diphenyl-3-azabicyclo[3,3,1] non-2-en-9-ol, cryst. and mol. struct. X-ray exam. 7−12052
4-trifluoromethyl-6-phenyl-3-cyano-2-pyridone X-ray struct. study 7−21192
8-quinolinaldehyde thiosemicarbazone, struct. X-ray diffr. and quantum mechanical investig. 7−12050
n-alkanes, urea inclusion cpds., chemical shift chain length depend, CPMAS NMR spectra anal. 7−25557
acentric Langmuir-Blodgett film assemblies, fabrication, structural and electrical characts. 7−58648
acetaldehyde, combustion, oxidation, radical concs. and phase rels. 7−54126
acetaldehyde, electronic struct. and decay channels, negative ion mass and electron impact spectroscopy 7−50383
acetaldehyde, mm and sub-mm wave spectra, centrifugal distortion and internal rot. anal. 7−57056
acetaldehyde, nuclear quadrupole coupling consts., solvent effects *(French)* 7−25558
acetaldehyde, photochemical processes, ab initio quantum chemical calcs. 7−59772
acetaldehyde in its lowest torsional states, mm-wave spectrum 7−50091
acetamide, rot. barriers, polarisation functions, ab initio calcs. 7−15496
acetanilide, dielectric const. meas., effect on energy transport 7−59137
acetic acid, unimol. pyrolysis mechanisms, ab initio quantum-chem. study 7−46805
acetic acid in atm., source determ. 7−55195
acetic acid in rainfall of Wisconsin, USA 7−14326
2-acetonaphthane, triplet, quenching by O_2 7−15641
1-acetonaphthone+diphenylamine, micellar soln. photoinduced electron transfer, mag. field effects 7−3579
acetone, CS_2 soln., internal pot. energy surface, CNDO calc. 7−42486
acetone, CS_2 soln., Monte Carlo simulation 7−44340
acetone, diffusion and sorption by polystyrene film, IR ATR spectrosc. obs. *(German)* 7−53302
acetone, induced absorption and stimulated scattering of focused radiation 7−62780
acetone, laser pulse compression and amplification by stimulated Brillouin scattering *(Chinese)* 7−57455
acetone, liq., stimulated Brillouin and thermal scatt. of Nd μs pulses 7−62777
acetone, mol. diffusion in C_2F, NMR 7−7598
acetone, nuclear quadrupole coupling consts., solvent effects *(French)* 7−25558
acetone, positive muon irrad., radiolysis, radical form. 7−17813
acetone, stretching vibrs., CARS study 7−42623

organic compounds continued
- acetone-benzophenone mixture, benzene solvent, dielectric relax. study 7—64563
- acetone-d_1(-d_2)(-d_3), microwave and mm-wave rot. spectra, rot. spectrum, internal rot. and struct. 7—25497
- acetone-d_6-apocholic acid inclusion cpd., guest dynamics rel. to host lattice symm. 7—26677
- acetone-d_6-deoxycholic acid inclusion cpd., guest dynamics rel. to host lattice symm. 7—26677
- acetone-do(d_3)(d_6), mol. torsion, semirigid rotor model, far-IR spectra anal. 7—50105
- acetonitride and positive ion clustering 7—999
- acetonitrile, adsorption and reaction on clean and O covered Ag (110) 7—28344
- acetonitrile, anharmonic force consts., Fermi coupling, IR and Raman spectra 7—920
- acetonitrile, chemisorption on Ni (111), XPS 7—21641
- acetonitrile, dielec. relax., inertia-corrected Budo theory calcs. 7—2969
- acetonitrile, dissolved in rapidly spinning nematic matrix, mol. orientation in strong external mag. field *(Russian)* 7—15626
- acetonitrile, Raman bands, ClO_4^- ions effects 7—5686
- acetonitrile+Cl^-, clustering reactions, van 't Hoff plots based on ab initio MO calcs. 7—28288
- acetonitrile-1-propanol mixtures, vapour-liq. equilibria 7—38173
- acetonitrile-cyclohexane-benzene, crit. solns., nonlinear dielec. effect obs. 7—53213
- acetonitrile-d_3, ^{2}H and ^{14}N spin-lattice relaxation rates, solvent effects 7—19897
- acetonitrile-water mixtures, stratosphere-related aspects of gas phase ion chemistry 7—13775
- acetonitriles, struct. of Ag^{II} and Ag^{O} solvates, EPR and electron spin-echo studies 7—17216
- acetophenone, triplet, quenching by O_2 7—15641
- acetophenone derivatives, NMR, spin-spin coupling interactions, INDO MO FPT calcs. 7—25395
- 9-acetoxy-10(4′-acetoxy) phenylanthracene derivatives, ground and excited state, uv absorpt. and fluoresc. spectra 7—19944
- 9-acetoxy-10-phenylanthracene derivatives, excited state absorpt. spectra 7—36591
- p-acetoxybenzoic acid, tetramer, topotactic transitions 7—12264
- N-acetyl-1-aminocyclohexanecarboxylic acid N′-methylamide, conformations, PMR and NOE studies 7—62424
- N-acetyl-L-amino acid methylamides solid and soln., conformers, IR and Raman spectra 7—33395
- acetylacetone, mol. struct. determ. by gas phase electron diffr. 7—50358
- acetylacetone enolate anions, collision-induced losses of ketene, mass spectra 7—13839
- N- acetylaspartate complexes with lanthanide cations, struct., ^{13}C NMR and PMR *(French)* 7—19883
- acetylcarnitine, in D_2O, conform., Karplus equation and mol., mechanics calcs. 7—31076
- 1- acetylcyclohexene, rot. barrier, conform. stability, MINDO/3 and MNDO calcs., UV spectra anal., CNDO calcs. 7—25405
- acetyldimethylphosphine, geometries and rotation barriers, structures, ab initio calcs. 7—15501
- acetylene, A-X band system, short wavelength investig. 7—5693
- acetylene, adsorbed on Cu (100), XANES fluoresc. yield meas. 7—64751
- acetylene, binding energies, ab initio HF calcs. 7—49894
- acetylene, chemisorbed state on noble metal surfaces 7—52261
- acetylene, chemisorption on Cu (100), σ-shape and π resonances, XANES 7—53448
- acetylene, elec. polarisabilities, ab initio calcs. 7—5585
- acetylene, electronic density, transferability of atomic descriptions, mol. pot. calcs., HF STO calcs. 7—25355
- acetylene, Fermi perturbation study, UV absorpt. and fluoresc. excitation spectra anal. 7—36638
- acetylene, isotopic species, mol. vibr., rot. energy level struct. calcs. 7—50061
- acetylene, nucl. mag. shielding consts. ab initio wave function calcs. 7—5594
- acetylene, optical transition energies and ionisation pot., DVM-Xα calcs. 7—25391
- acetylene, ordering on Ni (111), LEED, EELS 7—52269
- acetylene, protonated, d_0(d_3), struct., vibr. freqs., IR intensities 7—5677
- acetylene, protonated, low energy stereostruct. meas. 7—39869
- acetylene, solid, high-press. props., polymerisation paths 7—58412
- acetylene, vap., REMPI and third harmonic generation 7—25612
- acetylene, VUV photolysis in 110 to 135 nm region 7—19975
- acetylene, X-ray photoelectron spectrum study, diabatic model anal. 7—36448
- acetylene+methyl ion, reaction, collision complexes form. 7—39867
- acetylene black, prod. in plasma reactor, design and energy concepts 7—20965
- acetylene isotopes, IR spectra, vibr.-rot. IR spectra 7—31036
- acetylene. on Si (111), rehybridisation, vibr. investig., EELS 7—17816
- acetylene vibr. excited, chaos and dynamics on 0.5 to 300 ps time scale, Fourier transform spectra 7—42634
- acetylene-O_2, flame, temp. and OH-conc. profile, IR spectroscopic determ. *(French)* 7—25513
- acetylenedicarboxylic acids and alkali metal salts, Raman and IR spectra *(French)* 7—15609
- acetylenes, monosubstitution, stabilisation energies, ab initio LCAO SCF calcs. 7—25389
- acetylenes, substituted, spin-spin coupling consts., 7—31074
- acridine, adsorbed on Al_2O_3, tunnelling spectra study 7—52264
- acridine, dye mol. aggregations, high-resolution NMR, variational data processing methods 7—42647
- acridine, oriented in stretched polyethylene films, triplet-state ESR spectra 7—25564
- acridine, radical anion in stretched polyethylene films, polarised absorpt. spectra 7—50083
- acridine cation, in micellar soln, fluoresc. quenching 7—62447
- acridine dyes, PVA matrices, luminesc. spectra anal., external heavy-atom effect 7—42680
- acridine fluorescence quantum yield from highly excited molecular states, photoacoustic-effect meas., triplet-state absorpt. 7—36678
- acridine red, frozen solns., excited singlet states fluoresc. spectra 7—42675
- acridine.I_2 charge-transfer complex, reson. Raman and far-IR spectra anal. 7—42620
- acrolein, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7—56983

organic compounds continued
- acrylamide, UV irrad., free radical reactions with gases, ESR obs. 7—10633
- acrylic acid, electron capture gas chromatographic determ. 7—33974
- acrylonitriles, ion form. by dissoc. electron attachment, mechanism 7—42754
- acyclic alcohols, hydroxyl stretching freqs., rotamer pop., CNDO calcs., IR spectra anal. 7—36611
- acyclic azines, substituted, fluorescence props. 7—62444
- acyl cholesteryl esters, mol. motions, temp. depend., ^{12}C NMR obs. 7—38950
- adamantane, multiple quantum transitions magic angle spinning PMR 7—22150
- adamantane, surface ionis. coeff. eval., mass spectra 7—59786
- adamantane, T_d skeleton, point groups 7—29634
- 2-adamantanone, order-disorder phase transition, high press. effect, Raman study 7—38183
- 2-adamantanone, order-disorder transition obs. by FRIR spectroscopy 7—53342
- N-(P′-1-adamantyl-P′-bis(trimethyl(silyl)amino)phosphino-P-iodo-P,P-di(tert-butyl)imidophosphinate, X-ray diffr. structural anal. 7—51744
- agar-agar gel, effect of gelation time on wetting by water 7—39927
- ajoene, antithrombotic cpd. from garlic, struct., mechanistic and synthetic studies 7—54449
- Ala dipeptide in free space and water, conformational stability and flexibility, Monte Carlo studies 7—8486
- L-α-alanine, in D(+)glucose-water mixtures, 25° and 35°C 7—38235
- alanine system sensitivity, fast neutron irradiation effects 7—34188
- L-α-alanine-TGS admixture, dielec. props., influence of rejuvenation process 7—33339
- alanines, D- and L-, ^{90}Sr-^{90}Y-β-irrad., asymmetrical induced yields 7—59929
- alcohol and water, liquid-gas boundary studied by photoacoustic spectroscopy 7—51950
- 1-alcohol-n-alkylaromatic cpd. systems, excess thermodynamic props. model *(German)* 7—2232
- alcohol-water mixture, Benjamin-Feir turbulence in convective binary fluid mixtures 7—43916
- alcohol-water mixture, volumetric behaviour, high press. study 7—51904
- alcohols, compressibility, US sound vet., topological indices 7—21359
- n-alcohols, homologous series, positronium formation probabilities, expt. and theoretical determ. 7—36821
- n-alcohols, IR intensities in liq. phase, OH vibrs., assoc. model 7—53336
- alcohols, saturated, OH stretching band integrated intensity, rel. to struct. 7—62343
- alcohols in glassy media, dielectric and IR spectral study 7—2968
- aldehydes, ionisation pot., calc. based on interactions between struct. units 7—15738
- aliphatic amines, proton affinities anal. using Kitaura-Morokuma scheme and MINDO/3 method 7—62286
- aliphatic bis-phenylhydrazones, stereoisomerism 7—50183
- aliphatic systems, geminal H^+-^{13}C coupling consts., Penney-Dirac calcs. 7—57095
- alkali metal, tetrafluorotetracyanoquinodimethan($TCNFQ_4$), charge transfer salts, comparative EPR studies 7—53114
- n-alkane binary mixtures, Asfour Dullien eqn. modification, diffusivities depend. on conc. 7—6842
- n-alkane binary mixtures, liq.-phase diffusivity meas. 7—6843
- alkane chains, internal rot. in anisotropic environment 7—956
- alkane molecules, T beta-decay, molecular final-state interactions 7—49311
- alkanes, compressibility, US sound vet., topological indices 7—21359
- n-alkanes, conformations, solvent effects, IR spectrosc. obs. 7—5673
- alkanes, isomers study, depolarised Rayleigh-Brillouin scatt. investig. 7—62386
- alkanes, linear and branched, C K-shell excitation, electron energy loss spectra 7—57172
- n-alkanes, liq., energy difference between specific and localised conform. isomers, FTIR spectra 7—42615
- alkanes, long-chain, cryst. and molten, low energy electron transmission and secondary electron emission expts. 7—33492
- alkanes, prediction of ^{13}C NMR spectra, rigid hydrocarbons geometrical parameters anal. 7—31068
- n-alkanes, self-diffusion, vacancy energy calcs. 7—63876
- n-alkanes, vibr. zero-point energy additivity 7—10545
- n-alkanes C_6-C_{20}, nonpolar liqs., viscous flow, thermodynamic activation functions 7—6341
- alkanoic acids, water and their mixtures, freezing temp. determ. using kinetic technique 7—44762
- 1-alkanols, vapour press. and thermal data simultaneous correls. 7—6767
- alkene nitrite isomers, radicals, EPR investig. 7—36653
- alkenyl esters, nematic liq. crystals, influence of rigid cores, side-chains and polarity on props. 7—16405
- alkoxy radicals, electronic struct., rot. resolved spectra 7—62352
- 6-n-alkoxy-3-pyridinecarboxaldehyde derivatives, liquid crystalline phases 7—1847
- alkoxyazoxybenzenes, mol. reorientation, far IR study 7—33383
- 4-4′-alkoxybenzoyloxy-4′-cyanoazobenzenes, monolayer smectic A_1-nematic transition, dielec. studies 7—21085
- alkoxycyanobiphenyls and related cpds. optical anisotropies, depolarised Rayleigh scatt. 7—39132
- (+)-4-n-alkoxyphenyl 4-(2″-methylbutyl)-biphenyl 4″-carboxylates, chiral smectic C phase structures, visible spectral studies 7—1855
- 4-(4′-(4″-n-alkoxypiperidino)-trans-styrl)pyridine-N-oxides, highly polarisable mesogens, synthesis, appl. in nonlinear optics 7—63451
- N-alkyl aliphatic amide mixtures, dielec. constant 7—27648
- n-alkyl chlorides, vibr. zero-point energy additivity 7—10545
- alkyl cpds., vibr., high resol. spectra, effective Hamiltonians 7—31010
- alkyl cyanides adsorption on Ni and Pd films, XPS 7—52288
- alkyl cyanobiphenyl compounds, nematic liq. crystal, Frank constants, effects of compression 7—63702
- n-alkyl formate-n-alkanol mixtures, excess molar enthalpies at 298.15K 7—44823
- alkyl groups, saturated, undoped, substituent consts., structural and polarity effects *(German)* 7—36471
- alkyl nitrides, conformational kinetics calcs., gas and liquid phases, MR spectra 7—19896
- alkyl nitrites gas and liquid phases, syn-anti conformer equilib., MR chem. shift study 7—19895
- 4-n-alkyl-4′-cyanobiphenyl, mol. conformation and orientational order, nematic-isotropic transition, reson. Raman probe 7—21082

organic compounds continued
- 4-n-alkyl-4′-cyanobiphenyls, nCBs, methyl red binary mass diffusion consts., forced Rayleigh scatt. 7—64661
- 4-n-alkyl-4′-cyanobiphenyls, nematic ordering, off magic angle spinning ^{13}C NMR 7—22153
- n-alkylamine-n-dodecane systems, static dielec. consts. and excess molar enthalpies 7—59134
- alkylamines, acid-base equilibr. in soln., thermodynamic props., SCF theory 7—54156
- alkylamines, interaction with layered compounds 7—46838
- alkylamines, surface ionis. mass spectra 7—10763
- alkylamines intercalation into $HCa_2Nb_3O_{12}$, structural studies 7—65306
- alkylanilines, spectral line broadening, role of conform. and IVR fluoresc. spectra 7—19921
- alkylbenzenesulphonates microdisperse organosols, struct., small-angle X-ray diffr. investig. 7—39925
- 4-n-alkylbicyclo (2,2,2)-octan-1-carboxylic acids, spin-spin relax. 7—59121
- alkylcyanobicyclohexyls and related cpd. optical anisotropies, Rayleigh light scatt. 7—39131
- alkylcyanobiphenyl-phenylcyclohexanecarboxylate mesomorphic mixtures, binary phase diagrams, fluoresc. spectral determ. 7—27765
- alkylcyanobiphenyls and related cpds. optical anisotropies, depolarised Rayleigh scatt. 7—39132
- 4-(trans-4′-n-alkylcyclohexyl) isothiocyanatobenzenes, mesogenic props. 7—1852
- trans-4″-alkylcyclohexylethyl- and 4″-alkylphenylethyl-4,4′-disubstituted biphenyls, liq. cryst. behaviour 7—11901
- alkylfluorobenzenes, conform., proximate spin-spin coupling 7—5701
- alkylsalicylates microdisperse organosols, struct., small-angle X-ray diffr. investig. 7—39925
- (alkylthioalkyl)trialkoxysilanes, electronic struct., UV absorpt. spectra 7—57082
- alkyne isomer groups, chemical thermodynamic props. data 7—60901
- allene, liq., ν_3 mode, vibr. dephasing, Raman spectra anal. 7—42621
- allene-d, (-1,1-d_2), pure rot. spectra, microwave FT spectrosc. 7—5669
- allenes, monosubstitution, stabilisation energies, isodemic methyl exchange reaction study, ab initio LCAO SCF calcs. 7—25389
- alloocimene, surface ionis. coeff. eval., mass spectra 7—59786
- allophycocyanin, energy transfer, bilin transition dipole moment orientation, fluoresc. polarisation and absorpt. 7—40100
- allyl cations, methyl substituted, MINDO forces calcs. 7—62288
- allyl chloride, dissoc. attachment cross sections 7—28290
- allyl halides, laser-induced chem. reaction kinetics 7—23035
- allyl phenyl ether, photoisomerisation reaction mechanisms, IR multiphoton excitation study 7—62372
- N-meta-allyloxybenzoyl-N′,N′,N″,N″-diethylene phosphoric acid triamide, crystal and molecule struct. 7—44506
- aluminium(III)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7—25563
- aluminium isopropylate, pyrolysis, prep. of Al_2O_3 film 7—17448
- aluminium oxinate-gallium oxinate mixture, fluoresc. spectra, isodifferential derivative synchronous fluorimetric anal. 7—54231
- amides, aqueous solutions, intermolecular interaction investigations using ultrasound 7—38121
- amino acid/ZZ 7—12210
- amino acids, ^{14}N pure quadrupole resonance calcs. 7—57092
- amino acids, derivatives, trace anal. using laser fluoresc. detector 7—39943
- amino acids, H-bonded crysts., ps librational dynamics, time-resolved coherent Raman spectroscopy 7—47008
- amino acids in Murchison meteorite 7—40786
- amino group containing mols., double quadrupole reson., solid effect 7—59123
- 4-amino-4′-nitrodiphenyl sulphide, nonlinear optical props. 7—25880
- -amino-5,6,7,8,-tetrahydronaphthalene, depletion of singlet and triplet states due to external heavy-atom perturbation 7—57121
- 4-amino-N-methylphthalimide, in glycerine, stimulated intermolecular relax. 7—42673
- aminoalcohols, surface ionis. mass spectra 7—10763
- α-aminoalkyl radicals, electrochemical detection, bond dissoc. energies determ. using oxidation pots. 7—28286
- aminopyrene, probe for polar surface struct. investig. 7—27070
- p-aminoqzobenzene, electronic absorpt. spectra, quantum chem. calcs. 7—36473
- aminosilanes, coupling consts., chem shift, ^{15}N NMR study 7—31072
- aminostannanes, coupling consts., chem shift, ^{15}N NMR study 7—31072
- p-aminotriphenylmethane dyes, in organic solvents, surface activity, He(I) photoelectron spectra 7—2300
- 9-aminotriptycene, 9-substituents, cct. barriers 7—64539
- aminoxyl(nitroxide) radicals, orientation in nematic liq. cryst., ESR obs. 7—36654
- ammonium fluorescin, generation of monodisperse particles using aerodynamic particle sizer 7—59790
- ammonium hydrogen bis(trichloroacetate) single cryst., internal modes, IR and Raman spectra studies 7—26877
- ammonium hydrogen tartrate, dislocation etch pits 7—37999
- ammonium hydrogen tartrate, ferroelectric, crystal growth and dislocation etching kinetics 7—51770
- ammonium hydrogen-DL-malate monohydrate, dielec. and pyroelec. props. 7—59138
- ammonium perfluorononanoate-H_2O system, micellar nematic phase, conductivity, relax. times 7—38230
- ammonium trisoxalato-chromate (III) trihydrate, crystallochemical study *(French)* 7—26738
- analysis by inductively coupled plasma emission spectroscopy 7—23083
- anil brown, anisotropy in elec. cond. induced by external field 7—39924
- aniline, excited vibronic states, ion dip spectroscopy 7—19990
- aniline-H_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
- aniline-methane van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
- aniline-N_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
- aniliniums, long range interactions, near UV spectra, MNDO and CNDO calcs. 7—19879
- annulene and annulene ions, aromaticity, HF instabilities 7—15521
- anthanthrone-Ag struct., charge carrier photogeneration *(Japanese)* 7—38610
- anthracene: acridine crysts., conduction mechanism and trap levels, TSC meas. 7—27342

organic compounds continued
- anthracene, cathodoluminescence, scintillation decay laws, electron track model appl. 7—53416
- anthracene, cryst., charge-transfer transitions, freq. and intensity eval. 7—52543
- anthracene, cryst., electroabsorpt. spectra resolution, nonlin. least-squares procedure 7—59181
- anthracene, cryst. and soln., a_g modes, Raman scatt. tensor elements meas. 7—64639
- anthracene, excited states, vibronic coupling, one-photon spectrum 7—31051
- anthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7—50212
- anthracene, ps/jet studies of intramol. vibr. energy redistrib. in large mols. 7—42599
- anthracene, radical anion in stretched polyethylene films, polarised absorpt. spectra 7—50083
- anthracene, vapour, electron impact excitation functions, fluorescence 7—25600
- anthracene, vapour, two-photon excited fluoresc. polarisation 7—31109
- anthracene absorption spectra measured with transient absorption spectrophotometer 7—18853
- anthracene crystal monolayer, photodimer disorder effects, UV reflection spectra anal. 7—53362
- anthracene crysts., polaritons, picosecond secondary emission studies 7—21825
- anthracene derivatives, laser-excited metastables, surface ejection of electrons, quantum-yield meas. 7—17804
- anthracene in benzene, fluorescence spectral shifts, laser-driven shock compression 7—27781
- anthracene molecular crysts., triplet exciton diffusion and capture, Monte Carlo modelling 7—12620
- anthracene single and triplet states in liq. soln. photoionisation cross sections 7—25616
- anthracene single crysts., dislocation photolum. study, exciton scatt. effects *(Russian)* 7—22343
- anthracene single crysts., structural imperfections as triplet exciton traps, defect recovery 7—64160
- anthracene solute alignment in uniaxial liq. cryst. solvents, Saupe ordering matrix calcs. 7—11902
- anthracene surface, collision of N_2 mols. in singlet metastable states, fluoresc. emission 7—19939
- anthracene thin crystal wafers, high freq. acoustic phonons and deformation waves, optical detection 7—22218
- anthracene-$d_0(d_{10})$, oriented in stretched polyethylene films, triplet-state ESR spectra 7—25564
- anthracene-pyromellitic N,N′-dimethyldiimide, triplet exciton contact pairs 7—64093
- anthracene-tetracene photoadduct in polymer matrix, photochemical hole burning 7—23038
- anthracenes, aq.-micellar soln., dimethylaniline fluoresc. quenching and exciplex form. 7—36683
- anthracenes, substituted, transient singlet spectra in soln. and in stretched polyethylene, 530-650 nm 7—42630
- 1,4-anthraquinone, T_1 state, Jahn-Teller distortion, phosphoresc. 7—42677
- 9,10-anthraquinone, vapour, fluoresc. and phosphoresc. study 7—939
- anthraquinone anion radicals, frozen soln., ENDOR spectra, temp. depend. 7—7610
- anthraquinone dyes, α-substituted, order parameters in nematic liq. cryst. 7—36633
- anthraquinone dyes and derivatives as sensitisers of singlet O_2 form. 7—49968
- 1,4-anthraquinone phosphoresc. depend. on polycryst. matrix, Jahn-Teller pseudoeffect 7—50236
- anthrone, triplet-triplet energy transfer to donors in Shpolskii matrices, phosphoresc. 7—57122
- α,ω-bis (9-anthryl)alkanes, cation radicals, ESR, spin distribs. and mol. conformations 7—31077
- aq. soln. interaction, NMR chem. shifts and coupling consts. determ. 7—50179
- aqueous cyanine solns., organic acid effect on spectral luminescent props. 7—46087
- D-arabinose+Ca^{2+}, enthalpies, sp. heat and molal vols. at 25°C 7—8253
- arachidic acid, adsorbed layer on Ag, form. and struct., IR spectra, optical ellipsometry 7—44992
- arachidic acid, Langmuir-Blodgett mono-mol. layers, surface-enhanced SHG 7—17355
- arachidic acid Langmuir-Blodgett multilayers, profile structs., X-ray diffr. studies 7—21630
- arachidic acid spontaneously adsorbed monolayer on Ag, surface organisation, IR spectra obs. 7—46164
- aromatic adsorbed on SiO_2 and Al_2O_3-SiO_2, IR spectra 7—10573
- aromatic aldehydes in cyclohexane solvent, internal mobility study, far-IR and microwave Fourier transform spectra anal. 7—64631
- aromatic amines, reson. Raman spectra of Schiff's base derivatives *(Japanese)* 7—19870
- aromatic bases+trimethylsilylium, assoc. binding energies meas., mass spectra 7—54096
- aromatic carbonyl cpds., mol. photophysics, proximity effect and pseudo-Jahn-Teller interaction 7—62457
- aromatic compound+muonium, reaction rate consts. 7—50415
- aromatic hydrocarbons, semicond., nondispersive transport, model of difficult jumps 7—58812
- aromatic molecules, planar, electronic transition energies and oscill. strengths calcs. 7—19706
- aromatic thiones, thermally activated delayed fluoresc., solvent effects, visible spectra anal. 7—31106
- L-ascorbic acid radical, stability and props. MIND and MNDO calcs. 7—15514
- ascorbic acid radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7—33918
- ascorbic acid radical anion, Ca^{2+} exchange, ESR line broadening meas. of rate const. 7—28270
- ascorbic acid radicals, stability, semiempirical MNDO calcs. 7—36480
- L-asparagine, crystal growth kinetics, tailor-made additives influence 7—58171
- L-asparagine.H_2O, ^{15}N chemical shift tensor, MASS NMR spectra anal. 7—53164
- atmospheric, thermal desorpt./gas chromatographic anal. using hollow tube collectors 7—17928

organic compounds continued
atomisation enthalpies for organic compounds from band increments *(German)* 7−25388
ATP-$CdCl_2(Cd(ClO_4)_2)$, aq. solns., ^{13}C and ^{113}Cd spin-lattice relax. 7−28465
ATP-transition and nontransition metal complexes, struct., PMR and IR spectra 7−8493
1-azabicyclo[2.2.2]octane, binary solvent system, solute-solvent interactions, ^{13}C and ^{14}N spin-lattice relax. study 7−31069
8-azabicyclo[3.2.1]octan-3-ones, derivatives, conform. study, ^1H and ^{13}C NMR spectra anal. 7−36647
1-azacarbazole, excited state H^+ transfer, state orbital correls. 7−13760
azacoumarin dyes, fluorinated, laser dye stability, lifetimes, fluoresc. 7−59237
7-azaindole, excited state H^+ transfer, state orbital correls. 7−13760
azelaic acid, in atmospheric particulates of Japan 7−14327
azide, cyanate and thiocyanate adsorbed on Ag electrodes, pot. difference IR spectra, coverage depend. orientation 7−22252
2-azido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7−36608
aziridine, bond inversion rate determ., PMR line shape anal. 7−19892
trans-azobenzene, symmetry-forbidden electronic transition, reson. Raman excitation profiles 7−15604
azobenzene and derivatives, reson. Raman spectra in solid state and aq. soln., solvent effects study 7−64643
azole-borane adducts, natural abundance ^{15}N NMR study 7−25552
azoles, protonation energies and tautomerism, basis set effects 7−25374
azoles, UV photoelectron spectral assignment, ab initio. MRD CI calcs. 7−50239
azomethine derivatives, kinetic data eval. from freq. shifts of IR absorpt. bands 7−33911
azoxy-4,4′-diundecyl-α-methylcinnamate, smectic-A-smectic-C phase transition, heat-capacity meas. 7−58471
azulene, in rare gas matrix, highly excited single vibronic level relaxation, direct obs. 7−19915
azulene, quantum yield ratio, fluoresc. spectra studies 7−19923
azulene, S_0-S_1 absorpt. spectra and Raman excitation profiles, vibr. intensity distribs., quantum-chem. anal. 7−42619
bacteriochlorophyll, excitation energy transfer to reaction centre in photosynthesis 7−8517
bacteriochlorophyll a, config. for photosynthesis, SCF HF INDO calcs. 7−858
bacteriochlorophyll a radical cations, hyperfine interactions with ^{15}N nuclei, calcs. for ENDOR and EPR methods 7−15594
barbiturates, cryst. struct. anal., H bond geometry and types 7−23300
barium oxalate dihydrate single crysts., Vickers microhardness meas. 7−63736
Bechgaard salts, thermodynamics of field-induced SDW states 7−7520
$(BEDT)_2X$, ($X=SbF_6$, AsF_6), metal-insulator transition, EPR study under hydrostatic press. 7−53115
$(BEDT\text{-}TTD)_2BrI_2$, synthesis, structure and electrical props. 7−46296
$(BEDT\text{-}TTF)_2$, superconducting and mag. instabilities 7−45697
θ-$(BEDT\text{-}TTF)_2(I_3)_{1-x}(AuI_2)_x$, molecular superconductor, prep. and characterisation *(Japanese)* 7−45261
β-$(BEDT\text{-}TTF)_2(I_3)_{1-x}(AuI_2)_x$, thermal expansion and stepwise superconducting transition 7−27469
β-$(BEDT\text{-}TTF)_2AuBr_2$, conducting charge transfer salt, struct. and props. 7−58259
β''- $(BEDT\text{-}TTF)_2AuBr_2$, organic metallic conductor, transport props. 7−45283
β-$(BEDT\text{-}TTF)_2AuI_2$, bulk supercond., sp. ht. anomaly meas. 7−27466
β-$(BEDT\text{-}TTF)_2I_2Br$, low temp. struct., superconductivity suppression 7−44518
$(BEDT\text{-}TTF)_2I_3$, α and β phases, CESR 7−2930
$(BEDT\text{-}TTF)_2I_3$, α to superconducting β phase transform., heat absorpt. and resist. temp. depend. meas. 7−63808
$(BEDT\text{-}TTF)_2I_3$, alpha and beta phases, electronic struct., EELS studies 7−45118
β-$(BEDT\text{-}TTF)_2I_3$, conductor, thermal expansion and structural phase transitions 7−44870
β^*-$(BEDT\text{-}TTF)_2I_3$, cryst. struct. in high-T_c phase 7−44519
β-$(BEDT\text{-}TTF)_2I_3$, electronic and struct. props., ^1H NMR meas. 7−53170
β-$(BEDT\text{-}TTF)_2I_3$, molecular motion, proton spin-lattice relax. meas. *(Russian)* 7−17236
β-$(BEDT\text{-}TTF)_2I_3$, normal and deuterated, upper critical field studies 7−45588
B-$(BEDT\text{-}TTF)_2I_3$, shear-induced superconductivity 7−45583
α-$(BEDT\text{-}TTF)_2I_3$, struct. charact. and band electronic struct. below metal-insulator transition 7−2007
B-$(BEDT\text{-}TTF)_2I_3$, supercond., AC susceptibility and NMR studies 7−45543
β-$(BEDT\text{-}TTF)_2I_3$, supercond. transitions, diamag. suscept. study 7−52886
β-$(BEDT\text{-}TTF)_2I_3$, superconductivity, proton irrad. effects 7−45544
β-$(BEDT\text{-}TTF)_2I_3$ high T_c state, upper critical field meas. 7−45589
β-$(BEDT\text{-}TTF)_2I_3$ organic conductor, high resolution thermal expansion meas. 7−26986
β-$(BEDT\text{-}TTF)_2I_3/Cu$ point contact spectra 7−27383
β-$(BEDT\text{-}TTF)_2IBr_2$, polarised reflectance spectra 7−7697
$(BEDT\text{-}TTF)_2ReO_4$, band electronic struct. 7−7094
$\alpha(\beta)$-$(BEDT\text{-}TTF)_2X$ ($X=I_3$, IBr_2), organic conductors, structural and electrical props. 7−63601
B-$(BEDT\text{-}TTF)_2X$ organic metal, high T_c supercond. state 7−45542
$(BEDT\text{-}TTF)_2X$ organic superconductors, sp. ht. meas. 7−45561
β-$(BEDT\text{-}TTF)_2X$ salts ($X=I_3$, IBr_2, AuI_2), magnetoresistance, superconductivity 7−52884
$(BEDT\text{-}TTF)_2X$ salts struct., anion length depend., shear transform. anal. 7−37961
α-$(BEDT\text{-}TTF)_3(NO_3)_2$, electronic excitations, optical study 7−53367
(BEDT-TTF) BrO_4, band electronic struct. 7−7094
(BEDT-TTF) charge transfer complex, phase transition 7−52703
$(BEDT\text{-}TTF)CuCl_2$, cryst. struct. 7−58251
$(BEDT\text{-}TTF)I_{3.5}$ cryst. struct., X-ray diffr. studies 7−44507
BEDT-TTF charge transfer salts with tetrahedral anions, elec. props., crystal packing and stoichiometry effects 7−63599
BEDT-TTF complexes with linear chain anions, crystal growth 7−46297
BEDT-TTF derivative (DIMET) radical cation salts, synthesis, conducting and superconducting props. 7−46855
BEDT-TTF polyhalides, reflectance spectra, temp. depend. 7−46031

organic compounds continued
BEDT-TTF radical cation salts, synthesis, conducting and superconducting props. 7−46855
BEDT-TTF-containing molecular solids, struct. and physical props. 7−44511
α-$(BEDT\text{-}TTF\text{-}d_8)_2I_3$, conductivity increase near metal-insulator phase transition 7−2584
$(BEDTTTF)_2AuCl_2$, antiferromag. ground state, AFMR meas. 7−27608
$(BEDTTTF)_2ICl_2$, antiferromag. ground state, AFMR meas. 7−27608
benzaldehyde, adsorption and reactions on oxidised Al, SIMS and XPS 7−65351
benzaldehyde, IR and Raman spectra, normal coordinate system 7−5671
benzaldehyde, out-of-plane valence force field 7−31021
benzaldehyde, vap., phosphoresc. quantum yield meas., excitation energy depend. 7−57119
benzaldehyde derivatives, NMR, spin-spin coupling interactions, INDO MO FPT calcs. 7−25395
benzaldehydes, monosubstituted, vibr., IR spectra 7−31049
1,2-benzanthracene fluorescence quantum yield from highly excited molecular states, photoacoustic-effect meas., triplet-state absorpt. 7−36678
benzene, $^1B_{1u}$ state, photoionis., mass and photoelectron spectra 7−42681
benzene, ^1H chem. shift, D isotope effects, conc. depend. additivity rule 7−50196
benzene, π-electron SCF ground state, bond orbital reson. theory 7−853
benzene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7−25414
benzene, absolute Raman cross sections, meas. 7−15607
benzene, acoustic and thermodynamic props., press. and temp. depend. 7−63745
benzene, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7−64769
benzene, adsorbed on graphite (BN), rot. dynamics and orientation, NMR spectra 7−53161
benzene, adsorbed on Os (0001), mol. struct., angle-resolved UV photoemission spectral study 7−53492
benzene, and mixtures, fine line struct., parametric nature 7−43230
benzene, anharmonic forced Rayleigh scatt. 7−46057
benzene, anisotropic mol. liq., Kerr consts. and anisotropic electronic polarisability calcs. 7−53273
benzene, Ar matrix isolated, vac. UV and MCD absorpt. spectra 7−15635
benzene, B_{2u}←A_{1g}, three-photon transition, condensed phase study 7−5732
benzene, CARS, shock-compression induced frequency shifts 7−22272
benzene, chemisorbed on Pt {110}, influence of orientation on H-D exchange reactions 7−59781
benzene, chemisorption on Si (111), surface vibr. studies 7−21615
benzene, diffusion and sorption by polystyrene film, IR ATR spectrosc. obs. *(German)* 7−53302
benzene, electron momentum transfer cross-section calcs. 7−20039
benzene, Fourier transform IR spectroscopy, quantitative intensity meas. 7−48869
benzene, high resolution laser threshold photoelectron spectroscopy 7−10669
benzene, in liq. isopentane soln., quantum tunnelling of muonium reactions 7−50414
benzene, intramol. energy transfer from local mode, bath mode anharmonicity influence 7−25634
benzene, intramolecular vibr. energy redistrib., bend-stretch pot. energy coupling 7−10540
benzene, ionization-Raman double-resonance spectroscopy 7−10604
benzene, isotopic mixture in liq. crysts., dipolar coupling consts., 2D multiple quantum NMR 7−57090
benzene, Jahn-Teller spectra, MQDT anal. 7−57009
benzene, liq., absorpt. coeff. and dielec. const., bandshape expressions 7−64597
benzene, liq., IR and Raman spectra, interaction between intra- and intermolecular modes *(Ukrainian)* 7−13144
benzene, liq., IR spectrum of second and third orders *(Russian)* 7−3057
benzene, liq., Rayleigh ratio meas. for Ar- and Kr-ion laser wavelengths 7−53358
benzene, liquid, structural transitions, light scattering 7−63791
benzene, mol. wave fns. drawing, MS-X_α-SCF calcs. 7−49921
benzene, out-of-plane valence force field 7−31021
benzene, pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7−19958
benzene, radiation heat transfer influence on effective thermal conductivity 7−6898
benzene, reson. electron impact, vibr. energy loss selection rules 7−15725
benzene, shock decomposition products detection by chemiluminescence 7−23023
benzene, solid, electron scatt., mean free paths determ. 7−39328
benzene, soln., photoelectron emission spectra and simulated spectra 7−5719
benzene, stretching vibrs., CARS study 7−42623
benzene, substituent effects on vibr. modes 7−19824
benzene, valence and Rydberg states, CASSCF-contracted CI calcs. 7−56997
benzene, vibr. energy transfer, IR-UV double reson. 7−10718
benzene, vibronic activity, CNDO/S and INDO/S calcs. 7−49926
benzene, vibronic perturbations, pseudoparity propensity rules 7−25397
benzene, vibronically induced intensities, CNDO/S calcs. 7−19704
benzene, viscosity and structural props. 7−6501
benzene+ethylene, isomer group equilib. mole fractions, calcs. 7−13738
benzene+NO^+, struct. and energetics, calc. by ab initio MO computations 7−8267
$(benzene)_n$, multiphoton ionis. by laser, dynamics and spectroscopy *(French)* 7−5730
benzene adsorption on activated C, heterogeneity 7−28342
benzene and azabenzene adsorbed on Cu(111) and Au(110), electron affinity levels studied by inverse photoemission 7−44991
benzene and benzene-d_6, overtone spectra, CH and CD stretch vibrs. 7−42581
benzene cations, energy-selected, multiphoton ionisation, TOFMS 7−10680
benzene clusters, struct., IR photodissoc. and mass spectra study 7−62371
benzene clusters, vibr. predissoc. spectra assignment, isotope use in mass spectroscopic detect. 7−31125
benzene derivatives, vibronic coupling in dimeric systems 7−25533
benzene dynamic gratings, self-diffraction and reflection in degenerate four-wave interaction 7−37050

organic compounds continued
benzene gas, K-shell EXAFS studied by EELS 7−62403
benzene isotopic mol. separation, laser illumination of metal-covered fine-pore diffusion membrane 7−15734
benzene like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7−50247
benzene liq., stimulated Raman gain meas., vibr. energy transfer, thermal lens detection 7−62772
benzene liquid, intermolecular resonance vibrations, IR absorpt. spectra, isotropic dilution *(Russian)* 7−59215
benzene molecule, electronic struct. 7−19724
benzene saturated vapour concentration, spectrosc. determ. 7−52013
benzene stimulated Raman measurements, time-resolved 7−15928
benzene temp. depend. absorpt. on Si, annealing effects on sorption states 7−2360
benzene vapour, viscosity, initial density dependence 7−31918
benzene-Ar, van der Waals rovibr. states, intermolecular pot. 7−5735
benzene-Ar(Xe)(methane), intermol. pot., sphericalisation 7−10701
benzene-CS_2 mixtures in soln., CARS study of vibr. dephasing 7−42624
benzene-$d_0(d_6)$, vap., vibr. levels. fluoresc. spectra 7−10651
benzene-d_1 1_{01}-0_{00} rot. transition, Stark shift, microwave FT spectrosc. 7−57110
benzene-d_6, IR spectra, rot. reson. 7−25514
benzene-hexafluorobenzene, SS02 theory, charge symmetry model 7−58120
benzenedicarboxylic acid dimethyl esters, fragmentation process by electron impact 7−986
benzenes, mono-substituted, biaxiality in nematic solutions, IR dichroism studies 7−36662
benzenes, mono-substituted, orientational order in nematic solutions, IR dichroism studies 7−36661
benzenes, monosubstitution, stabilisation energies, ab initio LCAO SCF calcs. 7−25389
benzenes, soln. electron affinities, isotope enrichments 7−10770
benzenes, substituted, ionisation pots., electron affinity, HAM/3 study 7−19710
benzenes monosubstituted, H-bonded complexes with fluoroalkanol and fluoroalkyl ethers, ^1H NMR study 7−42651
benzenesulphonate, solute in lyotropic nematic mesophases, diamag. anisotropy sign reversal, PMR 7−21089
1,2,3,5-benzenetetracarboxylic anhydride+4,4-oxydianiline, polymerisation, XPS 7−65314
benzenethiol in aq. Ag sol, SERS study 7−62385
benzenethiolate adsorbed on Ag surface, SERS study 7−62385
benzenoid hydrocarbons, charge transfer spectra and struct. reson. theory 7−57165
benzenoid hydrocarbons, combinatorial Clar sextet theory 7−15510
benzenoid hydrocarbons, Kekule structs., rel. to no. of hexagons 7−878
benzenoid hydrocarbons, number rel. to number of hexagons 7−879
benzenoid hydrocarbons, polycyclic, aromatic struct. and reactivity anal. correlated to Iball carcinogenicity indices 7−28275
benzenoid polycyclic aromatic hydrocarbons, di-region theory for carcinogenesis and wholesale MO calcs. 7−56951
benzenoid systems, Kekule struct., combinatorial formulas 7−62281
benzenoids, Kekule struct. distrib. 7−49916
benzil, fluoresc. and phosphoresc., spectra, O effects 7−50233
benzil, structure factor phase determ. by multiple Bragg diffr. 7−32211
benzine, combustion processes under intense mag. fields, living organisms appl. 7−8285
benzo(a)pyrene 7,8-diol 9,10-epoxides, solvolytic props., 6-fluoro substituent effects 7−62409
benzofurans, UV spectra, substituent influence 7−50170
benzofurazan, vibronic struct., magnetic circular dichroism spectra anal. 7−50211
benzoic acid:thioindigo(selenoindigo) impurity-induced double proton transfer, fluorescence decays 7−33420
benzoic acid, adsorption and reactions on oxidised Al, SIMS and XPS 7−65351
benzoic acid, crystn. state compression effect on struct. and proton transfer barrier height 7−12042
benzoic acid, fluoresc. and phosphoresc., acetic acid effect 7−57114
benzoic acid derivatives+muonium, addition reaction in aq. solns., Hammett free energy 7−15744
benzonitrile, chemisorption Ni (111), XPS 7−21641
benzonitrile, ion form. by dissoc. electron attachment, mechanism 7−42754
benzonitrile, liq., FTIR and Raman obs. on dynamic and interaction processes 7−53344
benzonitrile adsorption on Ni and Pd films, XPS 7−52288
benzonitrile-Ar(Kr)(N_2O)(H_2O)(trifluoromethane), excited state van der Waals complexes, fluoresc. investig. 7−50223
benzonitrile-Ar(Kr)(N_2O)(H_2O)(trifluoromethane) van der Waals complexes, LIF spectra 7−50222
benzonitrile-hexane, binary solns., pseudospinodal curve, nonlinear dielec. effect 7−53212
benzonitriles, substituted, thermodynamic functions 7−52082
benzontrile+4-cyanopyridine, H bonding interaction 7−17784
benzophenone, conform. and internal rot. dynamics, CINDO calcs. 7−62285
benzophenone, glassy, excitation diffusion and energy relax. 7−21792
benzophenone, STO 3G MO struct. and internal rot. pot., minimal basis set calc. 7−30928
benzophenone, triplet, quenching by O_2 7−15641
benzophenone derivatives, NMR, spin-spin coupling interactions, INDO MO FPT calcs. 7−25395
benzophenone in diethylaniline, photolysis, excited triplet state with charge transfer struct. 7−42753
benzophenone triplet+KI, laser-induced optoacoustic spectroscopy, lifetime determ. 7−25683
p-benzoquinone, ionisation spectra calc., Green's function method 7−36684
1,4-benzoquinone, solid, optically inactive modes, vibr. spectroscopy 7−32585
p-benzoquinone, struct. and vibr. anal., ab initio HF calcs. 7−25372
p-benzosemiquinone radical anion, halogenated, mol. motion, electron spin relax. 7−45796
m-benzosemiquinone radical anion, reson. Raman, EPR and MO studies 7−10603
p-benzosemiquinone radical anion, struct. and vibr. anal. ab initio HF calcs. 7−25372

organic compounds continued
$\Delta^{2,2'}$-bi-(2H-1,4-benzothiazine), photochromism and thermochromism, quantum yield 7−46859
2,1,3-benzothiodiazole, vibronic struct., magnetic circular dichroism spectra anal. 7−50211
benzotriazole chemisorbed on clean Cu and Cu_2O, UPS study 7−21656
benzoxazinone derivative dye for fluorescent solar concentrator appls. 7−54278
substituted benzoylaminopropionic acid esters, conformational equilib., IR spectra, steric effects 7−57066
benzyl alcohol, ordering, phospholipid order in bilayer membranes 7−10619
benzyl chloride, ^1H NMR, internal rot. pot., long-range coupling consts. 7−19885
benzyl chloride, dissoc. attachment cross sections 7−28290
benzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7−50178
o-benzyne, valence ionis. energy and mol. geometry, green fn. method, CI and GVB calcs. 7−62290
bi-tetramethylammonium copper tetrachloride, phase transitions, microwave permitt. meas. 7−2184
biacetyl, triplet-state form. mechanism, electron impact induced phosphoresc. 7−42666
9,9′-bianthryl, n-hexane soln., excited states, dipole moments, transient dielectric loss results 7−13088
bicalicene, cyclic, electronic structure, SCF CI calcs., NMR and PMR 7−50185
bichromophoric mols., short-range intramol. electronic energy transfer, triplet-triplet transfer 7−20019
bicyclic compounds, valence force field and vibr. wavenumber calcs., IR and Raman data comparison 7−50079
bicyclo(2.2.2)octane esters, mesogenic, transition temps., viscosity, birefr., electro-optical characts. 7−1863
bicyclo (1.1.1) pentane, bonding and geometry, quasi ab-initio PRDDO method, GVB-type correl. 7−25404
bicyclo (222) octane, plastic phase, monomolecular reorientational dynamics, Raman scatt. study *(French)* 7−26675
bicyclohexyl, conformers, phase transform. vib., IR and Raman spectra 7−33393
bicyclooctene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7−53207
bicyclo[1.1.1]pentanone, struct. and microwave spectrum 7−50094
binaphthyls, near-IR triplet-triplet spectrum and circular dichroism as probes for electron delocalisation 7−31086
binary liquid mixtures, excess diffusion calc. 7−26991
binary liquid mixtures, viscosity, excess volume and self-diffusion 7−58515
binary liquid mixtures, viscosity, excess volumes and self-diffusion 7−58516
biohelical poly A.poly U complex, hydration, IR spectra, piezogravimetry 7−8491
biopolymer components, UV resonance Raman spectroscopy appl. 7−23488
biphenyl, cryst. mol. motions, thermodynamic studies *(Japanese)* 7−38151
biphenyl, mol. vibr., supersonic jet spectroscopy, mol. fluoresc. and multiphoton ionisation spectra anal. 7−57129
biphenyl ester series, ferroelectric liquid crystals, dielec. props. 7−37843
biphenylene-1,2,4,5,-tetracyanobenzene charge transfer complex, cryst. struct. and photoexcited triplet excitons EPR study 7−63600
bipyridine, dications and cation radicals, conformational struct. ab initio calc. 7−15497
2,2′-bipyridine radical ions, absorpt. spectra, counter ion effects 7−49934
(2,2′-bipyridyl)-3,3′-diol, excited state H^+ transfer, state orbital correls. 7−13760
4,4′-bipyridyl radical cation-β-cyclodextrin inclusion complex, dichroism and MO calcs., ESR 7−25580
1,1′- bipyrrole, rot. isomerism, mol. conformation, electronic struct. ab initio STO calcs. 7−15478
bis(1,3-di(p-n-alkoxyphenyl) propane-1-3-dionato) copper (II), discotic liq. cryst. props. 7−37846
1,2-bis(4′-pentylcyclohexyl)ethane, cryst. and mol. struct. 7−58257
bis(4-aminophenyl)sulphone, twisted intramol. charge transfer and solvent dynamics, time resolved fluoresc. spectra 7−50232
N,N′-bis(4-n-octyloxybenzal)-1,4-phenylenediamine, condis crystal props. 7−37909
bis(9-anthrylmethyl) ether chemically attached to polystyrene, forced Rayleigh scatt. technique, self-diffusion meas. 7−39888
1,4-bis(β-pyrazinyl-2-vinyl)-benzene, solns. and solid state, irrad. and solvent effects, visible fluoresc. anal. 7−36674
1,4-bis(β-pyridyl-2-vinyl)benzene−2,5-distyryl pyrazine mixed crysts., photopolymerisation kinetics, fluoresc. spectra studies 7−33928
1,4-bis(β-pyridyl-2-vinyl)benzene and hydrochloride derivative, photopolymerisation kinetics, fluoresc. spectra studies 7−33928
bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- nitrosyldicobalt, electronic struct., MO calcs. 7−15522
bis(η^6-hexamethylbenzene) (η^4,η^6-[2_4](1,2,4,5)cyclophane)-diruthenium(0,II) bis(tetrafluoroborate), mixed-valence ion 7−52544
9,9-bis(acridizinium-yl), fluoresc. quenching, solvent depend. *(German)* 7−940
bis(benzene)-vanadium S=1/2 dopant in nickelocene lattice, large impurity anisotropic g-shift obs., mol. field anal. 7−13017
bis(chlorophyll)cyclophane, radical cations, ENDOR and TRIPLE reson. 7−42655
bis(dichlorophosphoryl)methane, struct., conformational equilib., GPED, Raman and IR spectra 7−57176
1,3-bis(dicyanomethylene)-2-[4′-(N,N-diethylamino)phenylimino]indane, X-ray diffr. struct. determ. 7−12044
bis(ethylammonium)copper tetrachloride, spin-flop transition, temp. depend. of critical angle *(Russian)* 7−33171
bis(ethylenedithio)tetrathiafulvalene, low-temp. phases, X-ray diffr., resistivity and thermopower meas. 7−37962
β-bis(ethylenedithiolo)tetrathiofulvalene iodide, organic superconductor, ^2H spin-lattice relax., temp. depend. study 7−53171
bis(methyl ammonium) iron tetrachloride, mag. susceptibility rel. to thermal and mag. history 7−22095
bis(methylammonium) copper tetrachloride, ferromag., parallel-pumped magnons, deterministic chaos obs. 7−52962
3,3-bis(nitratomethyl)oxetane, solid and soln., IR lineshape 7−3047
p-bis(o-methylstyryl)benzene, two-photon absorpt. meas. 7−31132
bis(pentafluorophenyl)telluride and its dihalide, ^{125}Te Mossbauer and NMR chemical shift 7−7615

organic compounds continued

- bis(tetramethylammonium)$Ag_{13}I_{15}$:NH_4I, O probe, electrical conductivity and struct. 7—52147
- bis(trifluoromethyl)telluride and its dihalide, ^{125}Te Mossbauer and NMR chemical shift 7—7615
- 1,3-bis(trimethylsilyl)-2-bis(trimethylsilyl)amino-2,4,4-triphenyl-1,3,2,4-diazaphosphalumetidine, X-ray diffr. struct. determ. 7—12045
- 2-bis(trimethylsilyl)amino-3-tert-butyl-2,4,4-triphenyl-thiazaphosphalumetidine, X-ray diffr. struct. determ. 7—12045
- bis (4-(n-heptyloxy)-N-(p-methoxyphenyl) benzaldimino-2-olate) copper (2+), cryst. struct. 7—44509
- bis (trihalomethyl) ether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7—19998
- bis (trihalomethyl) thioether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7—19998
- bis-2,5-(2-benzoxazolyl)-hydroquinone, excited state H^+ transfer, state orbital correls. 7—13760
- bis-3,6-(2-benzoxazolyl)-pyrocatechol, excited state H^+ transfer, state orbital correls. 7—13760
- bis-5,6-diseleno-11,12,-ditellurotetracene bromide (chloride), struct. and elec. cond. 7—44512
- 9,10-bis-(phenylethynyl) anthracene, in PMMA films, fluoresc. quenching *(Russian)* 7—10661
- bis-dithiobiuret copper(II) chloride, Raman and IR spectra 7—62374
- bis-methylammonium zinc tetrachloride, lock-in transition, X-ray topography studies 7—32630
- bis-tetraethylammonium manganese tetrabromide crystals, deformation-induced after-glow 7—64705
- 3,3′-biselenienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7—36697
- bisethylammonium copper tetrachloride rhombic antiferromagnet, magnetic phase diagram, press. effects study *(Russian)* 7—52981
- bis[1-(p-n-decylbiphenyl) 3-(p-methoxy-phenyl)propane-1,3-dionato] copper (II), paramagnetic nematic liquid crystal 7—32284
- 3,3′-bithienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7—36697
- bleomycin A_2, ^{15}N NMR resonance assignments, ^1H-^{15}N shift correlation spectra anal. 7—25548
- $(BMDT\text{-}TTF)_2Au(CN)_2$ organic metal, synthesis, struct. and props. 7—32420
- (BMDT-TTF)TCNQ, molecular conductor, dimensionality, struct. and electrical props. 7—52595
- bond valency related to mol. strain, Coulson-Moffitt model anal. 7—25416
- borane tetrahydrofuran, form. of borane adducts, ^{11}B NMR study. 7—50199
- borate esters, in aq. solns. and wine, ^{11}B NMR 7—934
- boric acid in Watts bath, effect on Ni electrodeposition 7—46357
- dl-borneole, mol. reorientation dynamics, proton NMR study under hydrostatic press. 7—50175
- boronated monoclonal antibody conjugates for neutron capture therapy 7—34252
- $(BPDT\text{-}TTF)_2IBr_2$, synthesis by electrochemical oxidation, struct. and ESR spectra 7—46856
- α-$(BPDT\text{-}TTF)(Ni(dmit)_2)_2$, struct. phase transition accompanied by change of electronic struct. 7—52704
- $((bpy)_2ClRu)_2pyz(PF_6)_2$, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7—25507
- brexan-6,7-diol, struct., X-ray study 7—12051
- brilliant cresyl blue-iminodiacetic acid system, in photogalvanic cell, solar energy photochem. conversion 7—39907
- bromide salt hydrates, H-bonded $(H_2O.Br^-)_\infty$ 7—51738
- 1-bromo-2-methylpropane, gaseous phase, conformational stability, for IR and LF Raman spectra 7—10602
- 4-bromo-4′-chlorobenzophenone, orientationally disordered, triplet state, electron spin echo dephasing studies 7—38963
- 1-bromo-4-chloronaphthalene, orientationally disordered, triplet state, electron spin echo dephasing studies 7—38963
- p-bromoacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
- 9-bromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7—50212
- bromobenzene, in binary liq. mixtures, diffusion thermoeffect, heats of transport 7—12337
- bromobenzene and mixtures, fine line struct., parametric nature 7—43230
- p-bromochlorobenzene/p-chloroiodobenzene mixed crystals, crystal data at 293 K 7—51737
- bromocyanoacetylene cation in ground and electronic states, vibr. struct., emission and laser excitation spectra 7—50228
- bromodifluoroiodoethane, photodissoc. translational spectroscopy 7—62463
- bromoform, in seawater of Arabian Gulf, from Kuwait industries 7—18210
- bromoiodomethane, electronic state-selective photodissoc. 7—65337
- bromomethane, physisorbed on LiF, laser photofragmentation and photodesorpt. 7—50275
- bromomethane, submm spectroscopy 7—31041
- bromomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
- α-bromonaphthalene impurities in naphthalene, intercombination conversion during exciton capture 7—46091
- o-bromophenyldibromoarsine, X-ray structural anal. 7—51748
- bromotrichloromethane, vac. UV photolysis, dichloromethylene radical form. 7—25594
- bromotrifluoromethane, CW CO_2 laser induced reaction, frequency depend. kinetics 7—953
- bromotrifluoromethane, liq. and gaseous phases, compression factor, vapour press. meas. 7—51905
- bromotrifluoromethane, multiphoton dissociation by multifrequency laser radiation 7—42704
- bromotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7—25882
- bromotrifluoromethane in supersonic free jet, isotope-selective IR multiphoton dissociation 7—5781
- bromotrifluoromethane mol., intermolecular and intramolecular vibrational energy distrib. study, IR multiphoton excitation, Raman spectra 7—42594
- bromotrifluoromethane-^{13}C, multiphoton dissoc. under CO_2 laser pulses 7—42708
- butadiene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7—25414
- 1,3-butadiene, adsorption and reactions on clean and S or C covered Mo (100) 7—28345

organic compounds continued

- 1,3-butadiene, laser powered homogeneous pyrolysis, kinetics investig. 7—65309
- butadiene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7—19712
- trans-butadiene, optical transition energies and ionisation pot., DVM-Xα calcs. 7—25391
- butadiene, post-γ-irrad. grafting in polypropylene films, ESR obs. 7—33948
- trans-1,3-butadiene, vibr. struct., EELS 7—5767
- 1,3-butadiene+HCl, addition, internal excitation effect, rate const. meas. 7—17761
- 1,3-butadiene ions, photodissoc., photoelectron photoion coincidence study, isomerisation barrier meas. 7—36711
- n-butane, adsorpt. on Ir (110), activation with translational energy 7—39336
- n-butane, adsorption and reactions on clean and S or C covered Mo (100) 7—28345
- n-butane, free energy surface, extended-atom and all-atom models 7—56942
- n-butane, liq., mol. dynamics simulations, mean square displacement and vel. autocorrel. functions 7—6497
- butane, localised MO transferability calc. 7—56935
- n-butane, molecular spectroscopy by incoherent neutron scatt. 7—62350
- butane, multipole expansions 7—62256
- butane, rot. pot. functions, ab initio and MM2 calcs. 7—10404
- butane dissociative chemisorption on Ni (100) studied by supersonic molecular beam techniques 7—52287
- butane radical, absorpt. cross section and reaction rate consts. meas. using molecular modulation spectrometry 7—22997
- n-butane-d_9, C-H bonds, vibr. anal. gas phase IR spectra simulation 7—19825
- butanol, localised MO transferability calc. 7—56935
- butatrienone-do(d_3), struct., vibr. anal. ab initio MO calcs., microwave spectroanal. 7—25491
- 1-butene adsorbed on Ag films, SERS 7—22251
- butenes, adsorption and reactions on clean and S or C covered Mo (100) 7—28345
- N-(4-butoxybenzylidene)-4′-butylaniline smectic G liq. cryst., orientational order 7—37847
- N-(p-n-butoxybenzylidene)p-n-butylaniline, nematic, mol. alignment, permitt. meas. 7—1875
- N-(p-n-butoxybenzylidene)p-n-ethylaniline, mag. susceptibility, anisotropy and order parameter 7—16416
- butoxybenzylidene phenylazoaniline, liq. cryst. transitions, density and US vel. studies 7—32266
- 2-butoxyethanol-water(-cetyltrimethylammonium bromide) solns., ultrasonic relax. studies 7—12217
- 4′-butoxyphenylester 4-decyloxybenzoic acid, smectic-C phase liq. cryst., zigzag model, X-ray study 7—32646
- butyl acetate, adsorpt. on Bi single cryst. electrode 7—52239
- tert-butyl alcohol, absorpt. on Bi single cryst. faces 7—32784
- t-butyl alcohol-H_2O mixtures, X-ray scatt., Kirkwood-Buff parameters 7—44337
- t-butyl cyanide, disordered phase, cooperative dynamics 7—58195
- t-butyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7—36601
- n-butyl lithium, ^{7}Li multiexponential relaxation, multiple-quantum coherence transfer study 7—38956
- ditert.-butyl malonate in dioxane-water media, acid-catalysed hydrolysis, kinetic and mechanistic studies 7—39884
- t-butyl nitric oxide, singlet and triplet surfaces, unimol. reactions, spectroscopy, rate meas. 7—28300
- p-N-butyl-N-methoxy-azoxybenzene-isooctane stratified soln., orientational relax. time, light scatt. 7—51624
- p-butyl-p′-cyanocyclohexyl-cyclohexane, smectic liq. cryst., phase struct., X-ray diffr. 7—21087
- butylamine, adsorbed on SiO_2, Al_2O_3 and CaO, thermal desorption and IR study 7—39110
- butylamine, localised MO transferability calc. 7—56935
- butylamine, soln., photoelectron emission spectra and simulated spectra 7—5719
- butylamine binary liq. mixtures, viscosity meas., free energy and intermol. interactions studies 7—63862
- 1-butylpyridinium chloride/$AlCl_3$ electrolyte for Al-FeS_2 secondary cell, phys. and elec. characts. *(Japanese)* 7—8371
- butyltin pollution in coastal California, butyltin cpds. due to yacht antifouling paints 7—4055
- n-butyltitanate/triethylaluminium catalyst for polyacetylene film synthesis, ESR study 7—65317
- butynal, pulsed supersonic expansion intramolecular dephasing and relax. 7—10656
- 1-butyne, vibr. anal., IR and Raman spectra 7—19852
- trans-2-butyne, vibronic interactions, HMO calcs. 7—26878
- BVDT-TTF organic conductors and 1D metals, synthesis 7—45299
- cadmium arachidate, Langmuir-Blodgett films, angle-resolved photoemission with synchrotron radiation *(Japanese)* 7—3152
- cadmium arachidate, Langmuir-Blodgett films, struct. disorder and polymerisation competition at elevated temp., IR spectra obs. 7—46163
- cadmium arachidate, Langmuir-Blodgett multilayers, order-disorder transitions, Raman spectra 7—53309
- cadmium arachidate Langmuir-Blodgett films, elastic props., Brillouin scatt. study 7—32885
- cadmium dithiocarbamide dichloride, intermediate cpd. in formation of CdS films by spray pyrolysis, characterisation 7—39372
- cadmium stearate Langmuir-Blodgett films on sapphire, thermal disordering, optoacoustic IR spectra anal. 7—52236
- caesium pentadecafluorooctanoate-water discoid micelle solns., order-disorder transitions, X-ray scatt., elec. cond., NMR meas. 7—26949
- caesium perfluoro-octanoate, lyotropic liq. cryst., press. depend. of nematic-isotropic transition 7—32647
- Cahn-Ingold-Prelog assignment of R and S configs., hand method 7—14737
- calcium bis(oxalato)platinate, $Ca_{0.756}[Pt(C_20_4)_2].3H_2O$, ID conductor, preparation and props. 7—52599
- calcium cadmium acetate hexahydrate single crysts., first order phase transition, thermal expansion meas. 7—26985
- calcium copper acetate hexahydrate single crysts., thermal expansion meas. 7—26985
- calcium formate, rot- solid, heteronucl. dipolar powder patterns separation, dipolar SASS NMR spectroscopy 7—10622

organic compounds continued

- calcium monocyclopentadienide, prod. in gas-phase reaction, laser spectroscopic obs. 7—17775
- calcium oxalate, crystal growth and aggregation, computer model, partial size distribution 7—16463
- calcium oxalate, crystallization processes using reverse osmosis 7—53538
- calcium oxalate crystals, precip. by reverse osmosis system, habit modifiers 7—16460
- calcium oxalates, precip. from high ionic strength solns., nucleating phase, additives effect 7—59774
- calcium tartrate single crysts., dielectric props. rel. to X-ray on γ-ray irrad. 7—59161
- dl-camphene, methyl reorientation, high press. NMR study 7—27609
- camphene, surface ionis. coeff. eval., mass spectra 7—59786
- camphorquinone, mass diffusion in polystyrene studied by holographic relax. studies 7—21529
- camphorquinone radical anion, photogenerated, time-resolved CIDEP spectra 7—57102
- camphorquinone radicals, optically active, circular dichroism, ESR study 7—5711
- cannabinoid cpds., activity, mol. reactivity template 7—56961
- t-carbamylcholine, torsional changes, ab initio structural studies 7—15502
- carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7—31093
- carbazole+4-cyanopyridine (benzonitrile), H bonding interaction 7—17784
- carbazole-TCNQ, molecular complex with charge transfer, cryst. struct. determ. 7—58256
- carbazoles and weak complexes, jet-cooled, time-resolved fluoresc. 7—31100
- carbenes, intramol. H shifts, spectrosc. obs. 7—62390
- carbocations, atom and bond props., quantum theory 7—5576
- carbohydrate solns., aqs., molar vols., isobaric expansion coeffs. and compressibilities 7—12183
- carbohydrate solns., non-aqs., molar volumes, isobaric expansion coeffs., compressibility 7—12184
- carbohydrates, aq. ethanolic solns., ultrasonic velocity determ. 7—31595
- carbon hydroxyhydride, struct. and vibr. freqs., SCF calcs. 7—10386
- carbon tetrachloride, bubble collapse in organic liqs. *(Chinese)* 7—11516
- carbon tetrachloride, CO laser four-wave mixing, phase conjugation 7—31401
- carbon tetrachloride, corrosion of Al, inhibition 7—54010
- carbon tetrachloride, liq., Rayleigh ratio meas. for Ar- and Kr-ion laser wavelengths 7—53358
- carbon tetrachloride, liq. and solid, μSR 7—53208
- carbon tetrachloride, liq. rot. and translation, mol. dynamics simulation 7—2240
- carbon tetrachloride, missing fractions, positive muon spin polaris., μSR meas. 7—50411
- carbon tetrachloride, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7—31145
- carbon tetrachloride, radiation heat transfer influence on effective thermal conductivity 7—6898
- carbon tetrachloride + Ba, chemiluminescent reactions; spin orbit state effect 7—13781
- carbon tetrachloride glow discharges, spectral and probe diagnostics 7—32153
- carbon tetrachloride thermal cond. meas., transient hot-wire apparatus 7—4839
- carbon tetrachloride-SnCl$_4$ liq. mixture, struct., neutron diffr. exam., RISM integral eqn. calcs. 7—63432
- carbon tetrafluoride, beam-plasma discharge for plasmachemical appls. 7—37706
- carbon tetrafluoride, extreme UV photoexcitation study, UV fluoresc. anal. 7—36637
- carbon tetrafluoride, Morse oscillators, Miller's classical path approx. appl. 7—25624
- carbon tetrafluoride adsorbed on graphite, nonwetting growth and cluster formation 7—2359
- carbon tetrafluoride gas, K-shell EXAFS studied by EELS 7—62403
- carbon tetrafluoride plasma etching reactors, energy distrib. of ions 7—37759
- carbon tetraiodide, crystal synthesis by trifluoroiodomethane+CO$_2$ IR irradiation 7—46831
- carbons, IR exam. with photothermal beam deflection spectroscopy 7—46010
- carbonyl cpd. chemistry, review 7—34569
- carbonyl fluoride, laser lines, optically pumped, heterodyne freq. meas. 7—36943
- carbonyl imines, relative stability, ab initio SCF MO study 7—57003
- carbonyl oxide, IR spectra, harmonic freq. and ^{18}O isotopic shifts 7—62361
- o-carborane, B quadrupole coupling, NMR study 7—5704
- P-carborane, plastic cryst. phases, mol. notions 7—63528
- o-carborane, spin-lattice relax., ^{13}C, ^{10}B and ^{11}B NMR 7—10623
- carboranes, optimised struct. and relative stabilities, ab initio calcs. 7—30930
- carboxylic acid/ZZ 7—12210
- carnitine, in D$_2$O, conform., Karplus equation and mol., mechanics calcs. 7—31076
- 15-15′ cis β-carotene crystal, electrical conduction, compensation effect 7—58810
- catechol reactions with Fe(NO$_3$)$_3$, dispersive mode stopped flow X-ray absorption spectroscopy 7—61416
- catenand, monoprotonated, mol. struct., X-ray and PMR study 7—63595
- CE8, liquid crystalline, chiral and racemic, audio frequency dielectric response 7—33318
- cellulose, dissolution in N-methylmorpholine-N-oxide mixtures, calorimetric and viscometric study *(Russian)* 7—38214
- cellulose, particle size and order changes, ^{13}C NMR and NIR diffuse reflectance spectroscopy responses 7—27610
- cellulose crystallinity, gamma radiolysis effect 7—32500
- cellulose membrane, permeation of tartrazine 7—6881
- cellulose nitrate track detector, water effects on sensitivity and track regression 7—30866
- cellulose substrate, room-temp. phosphoresc., H-bonding props. 7—31102
- cetyltrimethylammonium bromide-decyl alcohol-D$_2$O nematic amphiphilic systems, orientation in mag. field, NMR study 7—63447
- CH mol., photodissoc., ab initio SCF with CI calcs. 7—42499
- chalcocarbonyl(5,10,15,20-tetraphenylporphinato) iron II complexes, IR and NMR spectra 7—33394

organic compounds continued

- charge transfer complex, neutral-ionic transition *(Japanese)* 7—45249
- charge transfer complexes, synthesis, struct. and physical props. 7—44510
- charge transfer solids, review 7—7222
- charged dye molecules, picosecond reorientational dynamics, dielectric friction 7—10773
- chemical structure, identification numbers 7—46795
- chemisorbed, on cold rolled steel sheets, XPS characterisation *(French)* 7—44965
- Chichibabin's hydrocarbon, mol. struct. determ. 7—10395
- chloranil soft mode driven displacive transition, Raman meas. using I cell 7—59204
- chloranil-mesitylene(benzene), charge transfer complexes, thermodynamic and spectrophotometric study 7—33950
- chloranil-pyrene charge transfer complex, solvent effects, visible spectra study 7—42636
- chlorin, ground and excited states normal mode symmetry determ. 7—36588
- chlorin, in polyvinyl butyral matrix, spectral hole burning and Stark effect 7—62792
- chlorin, photoisomer, in n-octane, emission anisotropy 7—57052
- chlorin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7—10447
- chlorine, centrosymmetric molecules in amorphous media, Stark effect by hole burning and inner elec. fields 7—25581
- 6-chloro-2,4-dimethoxypyrimidine, liq. and vapour, electronic and vibr. spectra, UV and IR obs. 7—19859
- trans-1-chloro-2-butene, conformation and mol. struct. determ. by gas phase electron diffr. 7—50356
- 5-chloro-2-hydroxypyridine, tautomerism, IR and UV spectra 7—31047
- 1-chloro-2-methylpropane, gaseous phase, conformational stability, for IR and LF Raman spectra 7—10602
- 2-chloro-2-methylpropane, solvolysis in aqueous alcoholic solvents, US effects 7—50898
- 2-chloro-4-methylquinoline, vibr., IR and UV-visible spectra 7—19838
- N-chloro-N-methylmethamine, microwave spectrum, struct., quadrupole coupling consts. 7—50085
- p-chloroacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
- n-chloroaniline, adsorpt. on active C, intradiffusional kinetics model 7—32830
- chloroazidobenzene derivatives, UV spectra, SCF-CI calcs. 7—57000
- chlorobenzene, anharmonic forced Rayleigh scatt. 7—46057
- chlorobenzene, dissoc. attachment cross sections 7—28290
- chlorobenzene, in binary liq. mixtures, diffusion thermoeffect, heats of transport 7—12337
- chlorobenzene, matrix isolated, triplet states, phosphoresc. 7—15636
- chlorobenzene-nitrobenzene mixtures, dielectric absorpt. meas. in microwave region 7—53211
- chlorobenzenes, temporary anion states, electron transmission spectroscopy 7—42597
- 2-chlorobutane, solns., glass transition, conformational equilib., IR spectra 7—31044
- chlorocyclohexane, conformational enthalpy and vol. changes, Raman spectroscopy determ. 7—62383
- chlorocyclohexane, solns., glass transition, conformational equilib., IR spectra 7—31044
- chlorodifluoromethane, IR spectra, resonant vibr. energy exchange kinetics 7—36617
- chlorodifluoromethane, IR spectra, rot. and vibr. relax. 7—36616
- chlorodifluoromethane, liq., mol. dynamics simulations with test-particle model pot. 7—32245
- chlorodifluoromethane photolysis, difluoromethyl IR spectra anal. 7—19836
- chlorodimethyl(triethylarsine) gallium, MOCVD adduct, chemisorption and thermal heterogeneous decomp. 7—22558
- chloroethane, IR multiphoton excitation probed by CARs, vibr. population distribs. 7—10591
- chloroethane, IR-multiphoton dissoc., photolytic C deposition 7—62466
- o-(β- chloroethyl)phenyl-α-hydroxycyclopentyl phosphinate, mol. and cryst. struct., X-ray study 7—12054
- chloroform, liq., absorpt. coeff. and dielec. const., bandshape expressions 7—64597
- chloroform-d, ^{3}H spin-lattice relaxation rates, solvent effects 7—19897
- chloroform-methyl acetate, diffusion and activity coeff. 7—38232
- p-chloroiodobenzene, crystal data at 293 K 7—51737
- chloromethane, UV angle resolved photoelectron spectra using synchrotron radiation 7—50246
- chloromethane+Cl$^-$, substitution reaction, mol. dynamics, pot. energy surface, frozen solvent theory calcs. 7—54109
- chloromethane+Cl$^-$, substitution reaction, solvent effects nonadiabatic solvation, frozen solvent model study 7—54110
- chloromethane in upper troposphere and stratosphere, spectroscopic detection 7—9076
- chloromethane-d$_3$, subMM laser Stark spectrum at $\lambda=337$ μm 7—57107
- (chloromethyl) phosphonothioic difluoride, microwave, IR and Raman spectra, conformational stability 7—36599
- chloromethyl thiocyanate, Raman spectra characts. 7—15737
- chloromethylidyne, A$^2\Delta\rightarrow$X$^2\pi$ emission in tetrachloromethane discharges, conc. profile determ. 7—31183
- α-chloronaphthalene impurities in naphthalene, intercombination conversion during exciton capture 7—46091
- chloronitroacetic acid, amide, ammonium salt, molecular and defect cryst. struct. 7—21188
- o-chloronitrobenzene, gas phase, mol. struct., electronographic study 7—10372
- chlorophenoxyacetylpropylbenzenes, X-ray struct. investig. 7—12049
- chlorophyll *a*, intact and metal-substituted, metal-sensitive bands in Raman and IR spectra 7—25520
- chlorophyll *a*, pigment in dioleylphosphatidylcholine monolayer, fluoresc. conc. quenching master eqn. 7—50219
- chlorophyll a, early form. of longwave aggregated forms 7—40095
- chlorophyll a, in vitro, wavelength-selective and time-resolved fluoresc. spectra 7—34110
- chlorophyll a, oxidised, ESE modulation 7—62416
- chlorophyll a, radical cations, ENDOR and TRIPLE reson. 7—42655
- chlorophyll a/b-protein complex II, light-harvesting, of higher plants, review 7—59951
- chlorophyll and derivatives, spin state in zero field, phosphoresc. emission 7—57124

organic compounds continued
chlorophyll carbonyls, IR band resolution enhancement, computer techniques 7—39096
chlorophyll chloroplasts, temp. damage and acclimation mechanisms of photosynthetic apparatus 7—59955
chlorophyll chloroplasts, temp. stress and prolonged darkening effect on photosynthetic apparatus 7—59956
chlorophyll derivatives, in organic solvent matrix, vibrationally resolved fluoresc. spectra 7—57120
chlorophyll fluorescence, appl. in ecophysiology 7—47299
chlorophyll forms, vib. state and struct. anal., Raman spectra 7—19867
chlorophyll in acetonitrile, interaction with superoxide anion 7—8476
chlorophyll in vivo, exciton states and exciton interaction processes, nonlinear transmission effects 7—59931
chlorophyll in vivo, large absorpt. unit reflected in fluoresc. enhancement effect 7—59932
chlorophyll photoelectrochemical solar cell, photoresponse, temp. effect 7—54324
chlorophyll-a, fluoresc. kinetics, time-resolved meas. using dye DFB laser 7—50584
chlorophyll-a, S_1 and T_1 spectra in visible region and S_1 bypassing relax. from two-photon excited states 7—47004
chlorophyll-protein complex II, light-harvesting, long-wavelength fluoresc. emission 7—59933
chlorophylls a and b and aggregates, spectra in nematic liq. crysts. and polyvinyl alcohol films 7—59930
chloroplast matrix, pea, protein-synthesising apparatus, light quality effect, sedimentary props. 7—59952
1,2-chloropropane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7—19690
2-chloropyridine, microwave spectrum and nuclear quadrupole coupling 7—62359
4-chloropyridine, rot. spectra, ^{14}N and Cl hyperfine struct. 7—36586
chlorotrifluoroethene, IR multiphoton dissoc., press. depend. calc. 7—62467
chlorotrifluoromethane, ν_1-ν_3 band, diode laser spectrosc. 7—5680
chlorotrifluoromethane, Ir multiphoton dissociation induced by CO_2 laser pulses 7—992
chlorotrifluoromethane, overtone spectra, vibr. anal. 7—36613
chlorotrifluoromethane, partial photoionis. cross sections, 27-70 eV 7—36708
chlorotrifluoromethane-^{13}C, multiphoton dissoc. under CO_2 laser pulses 7—42708
chlorotrimethyl-1,2-bis(methylthio)ethane platinum (IV), multisite exchanging system, 2D NMR exchange spectroscopy 7—25554
cholesterol p-n-hexyloxybenzoate mesophase precursor cryst. struct., X-ray study 7—63597
cholesteryl 2,2,3,3-tetrafluoropropionate cryst., interf. line pattern caused by X-ray diffuse scatt. 7—1815
cholesteryl acetylferulate, liq. cryst. transitions, glass transition and cold crystn., DSC study 7—63814
cholesteryl benzoates, smectic A phase with polar terminal groups, thermal props. studies 7—63459
cholesteryl hydrogen phthalate, glass transition study, positron lifetimes meas. 7—38201
cholesteryl myristate-cholesteryl benzoate mixtures, cholesteric/smectic A tricritical point, critical pitch exponents 7—38193
cholesteryl oleate, isotropic-blue phase transition, nonlinear dielectric effect meas. 7—12272
cholesteryl oleate, pulse narrowing by backward stimulated Brillouin scattering 7—15936
chromium(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7—57112
chrysene, single and triplet states in liq. soln. photoionisation cross sections 7—25616
cinnamic acid, solid state chemistry and X-ray crystallography 7—58098
cinnamide compounds, conform., MO calc. 7—56986
cinnamide compounds, conform. and anticonvulsant activities 7—56936
cisplatin pharmacokinetics in normal dogs, effect of hyperthermia 7—47010
concerted reaction process, Woodward-Hoffmann rule, topological mapping explanation 7—59753
conducting single crysts., electron irrad., Bragg spot fading 7—12158
conductors, IR absorption spectra and electron-electron interactions 7—46032
conductors, low temp. ground state, antiferromagnetic resonance probes 7—45827
conductors, positron annihilation 7—39277
conformational anal., vapour phase IR spectra study 7—57069
conformational anal. using IR spectra, book 7—55913
conformational analysis, expert system, WIZARD-II 7—49877
conjugated hydrocarbon ions, stability ab initio calcs. 7—42462
conjugated macrocyclic ligand thin films, extended π-electron systems, deposition, charactn. and appl. 7—64001
conjugated molecules, topological spectra, HMO calcs. 7—49933
conjugated systems, computer reaction simulation, hybrid model 7—49874
copolyesters, liq. crystalline, primary normal-stress difference determ. 7—6509
copper β-diketonate mesophases, miscibility and discogenic props. 7—63455
copper phthalocyanine iodide, transition of local moments in quasi 1D conductor 7—2815
copper phthalocyanine Langmuir Blodgett film/GaAs MIS devices 7—55918
copper phthalocyanine thin films, thermoelectroluminescence studies 7—7770
copper phthalocyanine-anthanthrone heterojunction, charge carrier photogeneration *(Japanese)* 7—38610
coronene in jet, fluoresc. excitation and SVL fluoresc. spectra 7—31103
coumarin, adsorpt. at dropping Hg electrode, $Cd^{2+}(In^{3+})$ reduction retardation 7—58609
coumarin-4 laser efficiency under coaxial flash-lamp pumping 7—62684
cresyl violet, spectral hole burning, 10 fs optical pulse probe investig. 7—50267
cresyl violet in polymer solution, picosecond rot. reorientation 7—44339
critical mixtures, isotope effects 7—12253
crown ether-anion radical salt complexation, electrical cond. investig. 7—58842
crown ether-NaSCN complex, tetrahydrofuran solvent, IR and microwave dielectric spectro anal. 7—31027
crown ethers, simulated ab initio MO calc. 7—49908

organic compounds continued
crown ethers and metal complexes in soln. struct., Raman spectra 7—10601
cryptocyanine, degenerate four-wave mixing, in saturable absorber, effects of optical coherence *(Korean)* 7—25901
crystal growth kinetics, tailor-made additives influence 7—58171
crystal violet, adsorpt. on Ag island films, surface-enhanced reson. Raman scatt. 7—46022
crystal violet in ethanol, spreading layer, capillary convection 7—6925
crystal-violet molecules adsorbed on smooth Au surface, resonant Raman scatt., charge-transfer excitation 7—17320
crystals, chem. transformations, phase transition effects *(Russian)* 7—28309
crystals, neutral-ionic transition, effect of electron-lattice interaction 7—2556
crystals, neutral-ionic transition, effect of intersite Coulomb interaction 7—2555
crystals, neutral-ionic transition, Monte Carlo simulation of modified Hubbard model 7—2554
cumene/1-butanol mixtures, US studies 7—58414
cumulen cyclodimers, form. mechanism and X-ray struct. determ. 7—62306
cyanine dye J aggregates, Langmuir-Blodgett films, multiple wavelength optical recording 7—50666
cyanine dyes, Scheibe aggregate monolayers, without long alkyl chains, spectra, dichroism 7—59221
cyano derivatives, mesomorphic phases, polymorphism 7—2193
α-cyanoacetohydrazide, crystal struct., neutron diffr. anal., ab initio MO calcs. 7—36458
cyanoacetylene, ν_5 and ν_6 fundamental bands, FT IR obs. 7—923
cyanoacetylene, at. polar tensors, similarity transference procedure 7—10399
cyanoacetylene, interstellar, nonequilib. excitation of rot. levels 7—60743
cyanoacetylene, vibr. excited, detect. in star form. regions 7—48063
cyanoacetylene in Perseus globules 7—35021
α-cyanoacrylate cements for biomed. equipment, opt. parameters 7—25910
9-cyanoanthracene, fluoresc. lifetimes in bulb and supersonic free jet 7—36670
9-cyanoanthracene, intramol. radiationless transitions, rot. effects 7—57116
cyanoanthracene/tetracyanoethylene, ps Raman spectroscopy and electron transfer 7—46035
1-cyanoaziridine, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7—15516
cyanobenzenes, electron affinity, electron transfer equilibria 7—10741
pcyanobenzylidene-p-octyloxyaniline, smectic liq. cryst., A phase, hydrodynamics, US meas. 7—1876
cyanobicyclohexyls, crystn. and liq. cryst. phase, IR, Raman and dichroic spectra 7—3051
4- cyanobiphenyl and 4-cyanophenyl benzoate derivatives, thermotropic liquid crystalline props. 7—26629
4-cyanobiphenyls, fluorine derivatives, liquid crystalline phases 7—1848
cyanobiphenyls, monolayer on H_2O, optical SHG meas. 7—17288
cyanocobalt (III) phthalocyanine, conductive crystals prepared by electrolysis 7—2590
1-cyanodamantane, glassy phase, study of molecular reorientations, high resolution quasi-elastic, neutron scatt. 7—51636
cyanogen, adsorption on Pd (100), Penning ionisation electron spectroscopy, UPS, TPD studies 7—52268
15-N cyanogen fluoride FIR laser lines, CW optically pumped 7—25799
cyanomethane, submm transitions for astronomy 7—47698
cyanomethane anion, photodetachment spectroscopy 7—10670
cyanomethanes, He(I) photoelectron spectrum; vertical ionisation energies, LBCO-MO model 7—50249
p-cyanonitrobenzene, solvated anion, radical, reaction kinetics in liq. NH_3, ESR spectra anal. 7—19907
4-cyanophenyl-trans-4-((trans-4-n-butylcyclohexyl)methyl)-cyclohexanoate, nematogenic, cryst. struct., X-ray diffr., conformational anal. 7—2006
P-cyanophosphaethene, bond angles and length, rot. const., microwave obs. 7—62358
cyanopolyacetylene, interstellar mols., rot. consts., MINDO/3 calcs. 7—60770
4-cyanopyridine, electrochem. reduction, SERS 7—54165
4-cyanopyridine, rot. spectrum, nucl. quadrupole coupling effects 7—57055
4-cyanopyridine+carbazole, H bonding interaction 7—17784
N-cyanopyrrolidine, pot. surface calcs., geometrics calc. using CNDO/2 method 7—30951
cyanotriacetylene mapping of Egg Nebula (CRL 2688) 7—4540
cybotactic nematics, structural features 7—16403
cyclen mols. in water, Monte Carlo simulation, pot. function, ab initio calcs. 7—21071
cyclic ketones, α-bond rupture, photochem. reaction, ab initio SCF CI calcs. 7—56998
cyclobutane, k-shell excitation, EELS 7—20037
cyclobutane, strain energies, bond energies, 1,3-interactions and σ-aromaticity 7—56933
cyclobutene, IR spectra, vibr. struct. and C—H local mode dynamics 7—25510
cyclobutenediylic dyes, electron transfer rate consts. and fluoresc. lifetime determ. 7—25587
cyclobutylcarboxylic acid fluoride, microwave, IR and Raman spectra, Stark effect, conform. 7—25492
β-cyclodextrin synchronous wavelength scanning room temp. phosphoresc. 7—33452
α-cyclodextrin-NaCl mixture, matrix for room-temp. luminesc. of organic cpds. 7—36666
cycloheptatriene, excited, H atom release, unimol. dynamics 7—50276
cycloheptatriene, isomerisations, kinetic CARS appls. 7—36630
cycloheptatriene, muonium addition, ring inversion kinetics of radicals 7—42792
1,3-cyclohexadiene, anionic homoaromaticity. gas-phase acidity meas. 7—17762
cyclohexane, α and γ induced solute fluoresc., single photon counting expts. 7—62448
cyclohexane, acoustic and thermodynamic props., press. and temp. depend. 7—63745
cyclohexane, bubble collapse in organic liqs. *(Chinese)* 7—11516
cyclohexane, k-shell excitation, EELS 7—20037
cyclohexane, liq., geminate electron-hole pairs, props. 7—64679
cyclohexane, liq., Rayleigh ratio meas. for Ar- and Kr-ion laser wavelengths 7—53358

organic compounds continued
cyclohexane, multiple bubble collapse in organic liquid *(Chinese)* 7−11518
cyclohexane gas, K-shell EXAFS studied by EELS 7−62403
cyclohexane-carbon tetrachloride-ethyl acetate, ultrasonic and rheological study 7−31727
cyclohexane-d$_6$-methanol mixtures, stabilised vapour-liquid interface 7−12400
cyclohexane-methanol, critical soln. temp., dissolved gas effect 7−44759
cyclohexane-methanol, liq.-liq. critical point, eqn. of state 7−12230
cyclohexanedione:benzene cyclamer, 6:1, solid-state struct. characterisation 7−12040
1,3-cyclohexanedione, solid-state struct. characterisation 7−12040
cyclohexanol, adsorpt. on polycryst. Bi electrodes 7−32785
cyclohexanols, hydroxyl stretching freqs., MM2/CNDO model calcs., IR spectra anal. 7−36610
cyclohexene, anionic homoaromaticity. gas-phase acidity meas. 7−17762
cyclohexene, k-shell excitation, EELS 7−20037
cyclohexyl ammonium copper tribromide-d$_{14}$, $S={}^1/_2$ ferromag. chain system, short and long range correlations 7−17159
cyclohexyl halides, thiourea inclusion compounds, substituted cyclohexane conform., ^{13}C CP/MAS NMR spectra 7−19889
1-cyclohexyl-phenyl-2-methyl ethylenes, synthesis and phys. props. 7−1870
cyclohexylamine-water mixtures, positronium study 7−36823
cyclohexylphosphine, chair conform. identification in the gas phase, microwave spectra anal. 7−36597
cyclooctadienes, anionic homoaromaticity. gas-phase acidity meas. 7−17762
cyclooctane, plastic cryst., positron annihilation study 7−39224
cyclooctatetraene, k-shell excitation, EELS 7−20037
cyclooctatetraene, liq., laser Raman spectrum *(French)* 7−7687
cyclooctene, anionic homoaromaticity. gas-phase acidity meas. 7−17762
bis-cyclopentadienyl oligomers, optically active polymer form., moduli, photoelasticity *(Russian)* 7−63092
cyclopentadienyl-cycloheptatrienyl-vanadium S=1/2 dopant in nickelocene lattice, large impurity anisotropic g-shift obs., mol. field anal. 7−13017
cyclopentane, k-shell excitation, EELS 7−20037
cyclopentane, pot. surface calcs., geometrics calc. using CNDO/2 method 7−30951
cyclopentanone, IR spectral band fit optimisation 7−62360
cyclopentene, twist-pucker motion pot. energy determ., inverse perturbation anal. 7−19996
cyclopentyne, struct., ab initio MO calcs. 7−49895
cyclophane diarylcarbenes, triplet-singlet equilib., structural control 7−54147
cyclophane-fluoranil charge transfer complexes, struct. and stability, IR spectra anal. 7−50143
cyclophosphazenes, linked to spermine, synthesis, struct. NMR, IR and mass spectro, antitumoural activity anal. 7−23291
cyclopolyenes, orbital mag. moment, paratropicity, HF eqns. 7−56968
cyclopropane, ν_{10} and ν_{11} fundamentals in IR Fourier transform spectra 7−50052
cyclopropane, electron density, electrostatic pot. and bare nucl. pot. scalar field similarities 7−19736
cyclopropane, IR spectra, combination bands, vibr.-rot. coupling parameters 7−25515
cyclopropane, k-shell excitation, EELS 7−20037
cyclopropane, strain energies, bond energies, 1,3-interactions and σ-aromaticity 7−56933
cyclopropane-1,1-d$_2$, thermal isomerisation, master eqn. iterative soon., variable successive overrelaxation method 7−33914
cyclopropanes, monosubstitution, stabilisation energies, ab initio LCAO SCF calcs. 7−25389
cyclopropene, low-lying excited states, UV spectrum, ab initio study 7−62393
cyclopropenes, structs. and strain energies, substituent effects, ab initio MO calcs. 7−56950
cyclopropenylidene, ^{13}C-substituted, 2_{12}-1_{01} transition obs. 7−55768
cyclopropenylidene, deuterated, TMC-1 detection at 19.4 GHz 7−55772
cyclopropenylidene (C_3H_2), interstellar, 2_{20}-2_{11} absorpt. line obs. in cold dark clouds 7−66716
cyclopropyl silane, excited torsional state, microwave spectrum, stark spectroscopy, ODR 7−50092
cyclopropylamine, substituent effect, struct., ab initio calcs., microwave spectra 7−62354
cyclopropylcarbinyl cation and bicyclobutonium ion, pot. energy surface, polarisation functions and electron correl. effect 7−30966
cyclosilanes, plastic and condis crysts., thermal anal. 7−37910
p-cynophenyl p′-n-heptylbenzoate, liq. cryst., phase transition studies 7−38195
p-cynophenyl p′-n-heptylbenzoate-p-nitrobenzylidene-p′-n-heptyloxyaniline, liq. cryst. mixtures, phase transition studies 7−38196
cytidylyl-(3′-%′)-guanasine-methylmercuric cation, aq. soln. interaction, NMR chem. shifts and coupling consts. determ. 7−50179
cytochrome b, models, EPR and Mossbauer spectra, ligand plane orientation effect 7−17946
cytochrome c, electron transfer rate meas. 7−5760
cytosine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7−10600
cytosine+OH, ab initio SCF MO calcs. 7−8478
cytosine and thio derivatives, tautomerism, ab initio study 7−837
Czochralski method, simulations with tetradecane and water, growth instability 7−44424
d-amino Acid in irradiated and aged mouse, skin and lens obs. 7−18021
DCM dye laser, CW, passive mode locking 7−1202
DDI, laser dye, phase conjugation of laser beam 7−25904
decafluorobutane, electron attachment rate const. 7−62534
decafluorobutane, rot. isomerism and vibro spectra calc. 7−5682
n-decane, in situ modelling using FTIR at high press. 7−54221
n-decane, liquid, positron mobility 7−39285
decapentaene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7−19712
decapeptide, cyclic, correlation of connected transitions, 2D NMR 7−35543
decylammonium-D_2O, surfactant aggregates, correl. time determ., relax. meas. 7−25540
p-decyloxybenzylidene-p′-amino-1-methylpropylcinnamate, smectic-A-chiral-smectic-c transition meas. 7−58472
deltic acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7−25387

organic compounds continued
demethyl porphyrins, monosubstituted free-base series, MCD study, INDO and CI calcs. 7−25401
deoxycytidylyl-(3′-5′)-guanasine-methylmercuric cation, aq. soln. interaction, NMR chem. shifts and coupling consts. determ. 7−50179
deutero-isobutyric acid (coax)-D_2O, critical mixtures, isotope effects 7−12253
deutero-isobutyric acid (COOH)-H_2O, critical mixtures, isotope effects 7−12253
deuterobenzenes, first excited singlet state vibr. level, fluoresc. lifetime meas. 7−50214
dextran solns., enzymatically synthesized, shear-induced struct. 7−6174
1,3-di(1-pyrenyl)propane, intramolecular excimer formation, viscosity dependence, anal. study 7−19729
2,4-di(2-pyrenyl)pentane, meso and racemic diastereoisomers, absorpt. and fluoresc. spectra 7−62434
di(2-pyridyl)diselenide, conform. and rot. isomerism ^{13}C NMR spin-lattice relaxation study 7−19888
di(2-pyridyl)disulphide, conform. and rot. isomerism ^{13}C NMR spin-lattice relaxation study 7−19888
di(2-pyridyl)ditelluride, conform. and rot. isomerism ^{13}C NMR spin-lattice relaxation study 7−19888
di(3,4-ethylenedithio-3′,4′-dimethyl-2,2′5,5′-tetrathiafulvalenium) perchlorate, cryst. struct. study 7−58250
2,5-di(4-biphenylil)-oxazol fluorescence decay, difference method of deconvolution 7−25599
1,3-di(p-n-alkoxyphenyl) propane-1,3-dione, double melting and mesomorphism 7−38171
di(propylammonium) mercury tetrachloride, cryst. struct. and Raman study *(French)* 7−32418
di(tetraphenylphosphine) ammonium perchlorate, dielectric props., conc. depend. 7−38998
di-2-pyridyl ketone benzoylhydrazone, electronic UV absorpt. and IR spectra 7−25504
di-2-pyridyl ketone salicyloylhydrazone, electronic UV absorpt. and IR spectra 7−25504
di-4′-substituted phenyl-trans-cyclohexane-1,4-dicarboxylates, mesomorphic props., effect of inserting ketone groups in terminal chains 7−21088
4,4′-di-n-alkoxy-2-hydroxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7−1866
4,4′-di-n-alkoxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7−1866
4,4′-di-n-pentyloxyazoxybenzene, nematic and rotary phases, molecular reorientation 7−32278
9,10-di-n-propylanthracene fluorescence quantum yield from highly excited molecular states, photoacoustic-effect meas., triplet-state absorpt. 7−36678
di-t-butyl silylene, triplet ground-state, electronic and stearic effects, ab initio calcs. 7−25419
di-t-butylnitroxide, soln., spatially resolved EPR tomography 7−5708
di-tert-butyl ketone, laser flash photolysis, time resolved CIDNP, multiplet and net effects 7−10617
4-4′-diacetoxy-2-2′-dimethyl azoxybenzene-para-azoxy-anisole-d$_2$, nematic mixture, phase diagram, component order parameters, D and proton NMR study 7−21086
diacetylene, elec. polarisabilities, ab initio calcs. 7−5585
diacetylene, IR band intensities prediction using bond polar parameter method 7−50110
diacetylene +O, rate const. meas., flash photolysis-reson. fluoresc. method 7−8263
diacetylene and dideuterodiacetylene cations, $A^2\Pi_u$-$X^2\Pi_g$ transition, rot. assignment 7−31016
diacetylene cation, fluorescing electronic state, stimulated emission pumping spectra 7−31119
diacetylene oligomers, carbene and dicarbene triplet state, ENDOR and EPR study 7−7608
diacetylene-HF complexes in solid Ar, IR spectra, H-bonding 7−10574
diacyl peroxides, low temp. photolysis, vib. anal. for CO_2 dimer, IR spectra 7−15597
dialkyl sulphides, heptane and acetonitrile solns., electronic struct., UV absorpt. spectra 7−5695
dialkylanilines, para-substituted, dual fluoresc. 7−10649
p-substituted N,N-dialkylanilines, TICT states, fluoresc., H-bonds 7−15644
4,4′-diaminophenyl sulphone, intramol. charge transfer state, H-bonded cluster importance, fluoresc. and IR spectra 7−50213
3,5-diarylaminobenzene derivatives, absorpt. and fluoresc. spectra, steric effects 7−36590
diarylphosphonyl radical, kinetic and spectrosc. characterisation 7−62419
1,3-diaza-6,9-dioxa-2-cycloundecanthione, cryst. and molecular struct. 7−21189
1,4-diazabicyclo[2.2.2]octane, soln., electronic state assignment, MCD spectra 7−50210
2,3-diazido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7−36609
diazirine, ν_3 fundamental, rovibr. anal., IR spectra 7−10583
diazirine, electron density, electrostatic pot. and bare nucl. pot. scalar field similarities 7−19736
3-diazo-2-butanone - do(d6), vibr. anal., IR and Raman spectra 7−19853
diazoethenes, ground state geometries, semi-empirical MINDO/3 and MNDO calcs. 7−56975
diazosesquibicyclo[2.2.2]octane, inner shell Marcus terms, MO calcs. 7−62258
1,2,5,6-dibenzanthracene in boric acid glass, electronic absorption spectrum 7−10606
dibenzotetraphene, radical cations, electronic and photoelectron spectra 7−57079
dibenzotetrathiafulvalene radical ion complexes, electronic structs., mag. props., polarised reflectivity study 7−53330
9,10-dibromoanthracene, first excited singlet, intersystem crossing fluoresc. quantum yields meas. 7−50212
4,4′-dibromobenzophenone-1,4-dibromonaphthalene in polymer films, phosphoresc. study 7−59244
dibromochloromethane, in seawater of Arabian Gulf, from Kuwait industries 7−18210
1,2-dibromocyclopropane, rot. isomers, mol. vibr., IR and Raman spectra anal. 7−42609
dibromodifluoromethane, V-V′ vibr. steady states, IR-UV double reson. study 7−50323
dibromodiphenylether-d$_{10}$:dibromobenzophenone-d$_{10}$, singlet-triplet transitions, photon echoes 7−15959

organic compounds continued
- 1,2-dibromoethane, IR overtone spectra, vibr. anal. 7−10565
- 1,2-dibromoethane-alcohol mixtures, excess vol., comp. depend. meas. 7−63704
- dibromomethane, optically pumped laser, FIR laser line meas. 7−57306
- dibromomethane liq., mol. vibr., Raman spectra, temp. effects 7−64640
- 1,4-dibromonaphthalene:acenaphthenequinone crysts., phosphorescence spectra and decay kinetics temp. depend. *(Russian)* 7−27751
- 2,4-dibromophenol, adsorpt. on active C, intradiffusional kinetics model 7−32830
- dibucaine, H bonding nature and vibr. structure, birefringence emission spectra anal. 7−19935
- dicarbolide ion, electronic struct., MS-Xalpha MO calcs. *(French)* 7−25390
- 1,3-dicarbonyl compounds, enol group, characteristic IR absorpt. freqs. 7−25503
- dicarboxylic acid salts, config. in aq. solns., Raman spectra study, vibr. calcs. 7−10598
- dicarboxylic acids in air of Los Angeles, USA, due to motor vehicles 7−54387
- dicarboxylic acids undergoing conformational transitions, ionisation equilibria, ^{1}H NMR 7−13757
- dications, structs., donor-acceptor interactions and stabilities 7−10393
- 2,6-dichloroacetanilide, X-ray diffr. and NQR study, struct. and bond props. 7−12041
- dichloroacetic acid complex with substituted pyridines, solvent effects, IR and ^{1}H NMR spectra anal. 7−62365
- 3,4-dichloroaniline, solid, vibr., IR spectra, CNDO/2 calcs. 7−3050
- β-9,10-dichloroanthracene, triplet excitons, zero field DF ODMR 7−27631
- 9,10-dichloroanthracene monocrystals, alpha scintillations, decay kinetics 7−7769
- 1,8-dichloroanthraquinone, triplet, excited state dynamics, transient absorpt. spectra 7−25530
- 1,4-dichlorobenzene, laser multiphoton ionisation fragmentation by linear reflection, kinetic energy release 7−36710
- p-dichlorobenzene, mol. beam excitation, photofragment energy distrib. 7−31130
- 1,4-dichlorobenzene, multiphoton ionisation dissoc. by two-colour picosecond laser mass spectrometry 7−31135
- 1,4-dichlorobenzene, unimol. ionic form. rates, determ., pulsed laser-line. reflection TOF mass spectrometry 7−15667
- 1,2- dichlorobenzene-d_3(d_4), isotopic species, r_0 structure calcs., microwave spectra 7−19834
- dichlorobenzene-dibromobenzene mixed cryst., triplet electron spin dephasing, ODMR spectra study 7−33300
- 4,4′-dichlorobenzophenone single crysts., spin polarised triplet exciton mutual annihilation characts. *(Russian)* 7−12614
- 2,6-dichlorobenzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7−50178
- 1,4-dichlorobutane radiolysis, gamma irradiation yield meas. and stable products identification 7−65333
- 1,4-dichlorobutane-2 radiolysis, gamma irradiation yield meas. and stable products identification 7−65333
- trans-1,2-dichlorocyclohexane, solns., glass transition, conformational equilib., IR spectra 7−31044
- dichlorodifluoromethane, electron attachment lineshapes and cross sections at ultra-low electron energies 7−62522
- dichlorodifluoromethane, electron impact ionis. cross section calc. 7−50380
- dichlorodifluoromethane, partial photoionis. cross sections, 27-70 eV 7−36708
- dichlorodifluoromethane/N_2 gas mixtures, electron transport, collision cross section and dielectric strength 7−63244
- dichlorodifluoromethane/SF_6 gas mixtures, electron transport, collision cross section and dielectric strength 7−63244
- dichlorodimethylsilane, coated reson. cells, alkali metal interaction wall relax. 7−59317
- 1,2-dichloroethane, IR overtone spectra, vibr. anal. 7−10565
- 1,2-dichloroethane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7−19690
- 1,2-dichloroethane-benzene(toluene) (p-xylene) mixtures, liq.-vap. equilib. *(German)* 7−2161
- 1,2-dichloroethane-n-alkane or -2,2,4-trimethylpentane liq. mixtures, excess enthalpy meas. and calcs. 7−6827
- 1,2-dichloroethene, isomeric mixtures, determ. of struct. and comp., GPED spectra anal. 7−36763
- 1,2-trans-dichloroethylene, vibr. distribs., time-resolved FTIR photofragment emission spectroscopy 7−25508
- 1,1-dichloroethylene, vibr. spectrum, solvent effect *(German)* 7−915
- 1,1-dichloroethylene, vibr. spectrum, solvent effects *(German)* 7−916
- dichlorofluoromethane, atmospheric lifetime and annual release estimates 7−29150
- dichlorofluoromethane, relax. to photophysical steady state during IR absorpt. 7−36618
- dichlorofluoromethylperoxy radical + NO_2 forming peroxynitrate, rate const. at stratosphere conditions 7−23802
- dichloromethane, CH stretching overtone intensities, SCF calcs. 7−5586
- dichloromethane, sorpt. and diffusion on polypropylene films, isotactic, struct., quenching temp. effect 7−11950
- dichloromethane liq., mol. vibr., Raman spectra, temp. effects 7−64640
- dichloromethane-benzene(toluene) mixtures, US vels., densities and viscosities 7−6726
- dichloromethane-d_0-dichloromethane-d_2, γ, mode vibr. linebroadening, Raman spectra 7−5685
- dichloromethylbenzene-do(d_1)(d_6), internal rot., ^{13}C spin-lattice relax. times and NOE factors 7−50189
- dichloromethylene radical, fluoresc. decay meas., lifetime determ. 7−25594
- 2,6-dichlorophenol, NQR frequencies, temp. var. 7−33293
- 2,2-dichloropropane-d_0(d_6), vibr. anal. IR and Raman obs. 7−919
- dicyanoethylene electron affinity, electron transfer equilibria 7−10741
- 2-dicyanomethylene-1,3-indanedione-methylated[2.2]paracyclophanes charge transfer complexes, IR and mass spectroscopy 7−25523
- dicyclohexano-18-crown-6 mediated Tl^+ transport in emulsion liq. membrane 7−13814
- didymium tartrate crystals, gel grown, charactn., thermal behaviour 7−39367
- diethyl fumarate, polymerisation rates at high pressures 7−39889
- diethyl sulphide, atm. photooxidation reaction mechanism 7−54113

organic compounds continued
- 1,1,diethyl-2,2,dicarbocyanine iodide in methanol, phase conjugation of laser beams 7−25903
- 2-N,N- diethylamino-N-oxymethyl-4,6-dichlorophenol, OHO H-bond, X-ray diffr., IR and UV spectra 7−26731
- 3,3,-diethylpentane, positronium yield and viscosity 7−36820
- diethylterephthalate, high resol. time domain zero field NQR 7−13056
- diethynylbenzenes, out-of-plane valence force field 7−31021
- diffusion in basal membranes *(French)* 7−65345
- difluoroacetonitrile, rot. Zeeman effect, g-values, mag. susceptibility and electric quadrupole moments 7−62431
- difluoroacetylene, C-C triple bonds, bent bonds description 7−42482
- p-difluorobenzene, rot. dynamics, fluoresc. polarisation theory 7−15688
- p-difluorobenzene, S_0 vibr. levels, vibr. relax. rates, level depend. 7−31150
- para-difluorobenzene+He, vibr. energy transfer 7−50318
- 2,6-difluorobenzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7−50178
- difluorodichloromethane, mol. consts., force field study, thermodynamics props. 7−19814
- trans-1,2-difluoroethane, Ar_{364} matrix isolated, substitutional defects, consistent force field 7−57059
- 1,2-difluoroethane, gauche and trans conformers, stability, ab initio calcs. 7−15500
- difluoroethane resonant mols., capillary flow, laser light effects in transitional flow regions 7−57927
- trans-difluoroethylene ozonide, struct. dipole moment, ab initio HF calcs., microwave spectra 7−10557
- difluoromethane, CO_2 laser pumped, freq. meas. on FIR laser emissions 7−1084
- difluoromethane, ground state rot. spectrum 7−5670
- difluoromethane laser pumped by CO_2 laser source, Stark cell stabilisation 7−43134
- difluoromethane pumped by $^{12}C^{16}O_2$, $^{12}C^{18}O_2$ lasers, submillimetre emission assignment 7−36944
- difluoromethyl diradical, form. obs., dimerisation rate const. determ. 7−28291
- difluoromethyl from chlorodifluoromethane photolysis, IR spectra anal. 7−19836
- difluoromethylene ion, two-configuration SCF wave functions, IR intensities and polarisabilities evaluation 7−10582
- 1-difluoronitroacetyl-2,2-dimethylhydrazine, cryst. and mol. struct., X-ray diffr. anal. 7−26735
- 2,6-difluoropyridine, vibronic band system study, UV spectra anal. 7−42641
- diglycine nitrate, alanine-doped, dielectric props. 7−45908
- diglycine nitrate, dielec. const. and spontaneous polarisation anisotropy 7−45914
- diglycine nitrate, ferroelec. transition mechanism, mol. reorientation, ^{14}N and ^{17}O quadrupole coupling meas. 7−53245
- diglycine nitrate, spontaneous polarisation and electrocaloric effect near the ferroelectric transition 7−17273
- diglycine nitrate crystal, electrostriction determ. 7−45936
- diglycine sulphate single crystals, anhydrous, elec. activated dislocation motion 7−12069
- dihalogenomethylene sulphoxides, photochemistry, IR spectra *(German)* 7−31046
- dihalogermanes, mol. dynamics, vibr. anal. 7−50049
- diheliumacetylene dication, metastable, C-He bond prediction 7−49888
- dihematoporphyrin ether, cancer therapy drug, Langmuir-Blodgett films at water-air interfaces 7−65699
- 2,3-dihydro-1,3-methano-1H-phenalene, photoisomerisation, solvent and irradiation parameter effects, visible and UV spectra study 7−33947
- 5,6-dihydrobenzo(c)xanthylium salts, synthesis, struct. and spectral props. 7−57050
- 6b,8a-dihydrocyclobut(a)acenaphthylene, photoisomerisation, solvent and irradiation parameter effects, visible and UV spectra study. 7−33947
- 2,3-dihydrofuran, ring puckering vibr. and centrifugal distortion, microwave spectra anal. 7−36596
- N,N′-dihydroxyethyldithiooxamide-do(d_4), vibr. anal., X-ray diffr., NMR, Raman, IR, visible and UV spectra 7−51741
- 2,4-dihydroxyquinoline, gas phase, prototropic equilib., electron impact fragmentation spectra anal., LCAO-CNDO calcs. 7−36479
- diiodomethane, optically pumped laser, FIR laser line meas. 7−57306
- diisopropylamine, mol. struct. and conform., GPED, Raman IR spectra, MO calcs. 7−20043
- dimedone Schiff bases, stretching vibr., IR spectra, solvent effects 7−57057
- 3,5-dimethoxy phenol, vibr., IR absorpt. spectra 7−19839
- 2,5-dimethoxybenzaldehydes, IR and Raman vibr. spectral anal. 7−57070
- 1,2-dimethoxybenzene derivatives, mass spectra, electron impact ionis. meas. 7−987
- dimethoxymethane, electron impact excitation, fluoresc. meas. 7−10764
- 1-(3,4-dimethoxyphenyl)-4-methyl-5-ethyl-7,8-dimethoxy-5H-2,3-benzodiazepine, config., X-ray anal. 7−21186
- dimethyl ether, chemisorption bond energies on chemically modified Mo (100) surface 7−23056
- dimethyl ether, isomers, VUV-optical oscillator strength distrib. 7−15650
- dimethyl ether, surface tension at low temps. 7−58566
- dimethyl ether+Li^+, assoc., rate consts. pot. energy surface, canonical variational transition states theory 7−54108
- dimethyl ether as a drift-chamber gas 7−5550
- dimethyl ether-HCl (DCl), H bonded complexes, IR spectra 7−19840
- dimethyl ether-sulphur dioxide complex, photoelectron spectra 7−15646
- dimethyl methylphosphonate, Auger and photoelectron spectra 7−57132
- dimethyl oxalate, solid, ^{13}C NMR, X-ray and neutron diffr., chemical shielding tensors 7−13041
- dimethyl silylene, triplet ground-state, electronic and stearic effects, ab initio calcs. 7−25419
- dimethyl sulfide, photodissoc., long-lived emission obs. 7−25617
- dimethyl sulfone, rotating solid, NMR, chem. exchange effects 7−17227
- dimethyl sulphate in Los Angeles atm. 7−8463
- dimethyl sulphide, atm. photooxidation reaction mechanism 7−54113
- dimethyl sulphide+NO_3, reaction rate coeff. meas. 7−22987
- dimethyl sulphone, powder, mol. reorientations, rot. angle determ. 7−17226
- dimethyl sulphoxide, dendritic solidification and surface-press.-induced wetting transition in narrow gaps 7−27223
- dimethyl sulphoxide, Raman bands, ClO_4^- ions effects 7−5686
- dimethyl tin diacetate, solid-state and soln. struct., ^{2}H and ^{3}C NMR spectra study 7−25431

organic compounds continued
dimethyl tin diacetate hydrolyzate, solid-state and soln. struct., ^{2}H and ^{3}C NMR spectra study 7—25431
dimethyl tin dichloride, methyl group rotational tunnelling, librations and coupling, inelastic neutron scatt. study 7—12218
2,9-dimethyl-1,10-phenanthroline intercalated into α-Zr(HPO$_4$)$_2$, ion exchange with Co^{2+}, Ni^{2+} and Cu^{2+}, dimer formation 7—65305
12,2-1dimethyl-1,3-dioxolane-4-methanol, OH stretching band, free and H bonded species equilib., dichroism and IR spectra 7—10641
9,9-dimethyl-1,5-dihetero-spiro (5.5) undecanes, conformational dynamics, 3D topological approach 7—10402
1,5-dimethyl-1,5-divinyl-3,3,7,7-tetraphenylcyclotetrasiloxane, disordered cryst. struct. investig. 7—51745
1-D-3,3-dimethyl-1-butyne, acetylenic deuteron quadrupole coupling const. determ. 7—62410
N,N′- dimethyl-4,4′-bipyridinium, oxidation states, electronic struct. and conform. anal. 7—25383
4-4′-dimethyl-8,9,10-trinor-spiro-2-2′-borane (1,3-oxazolidine)-3′-oxyl racemic mol. solid soln., phase separation statics and dynamics 7—26737
3,3′-dimethyl-9-ethylthiacarbocyanine dyes, adsorption on AgCl, XPS study 7—33964
N,N-dimethylacetamide, vibr. relax. and noncoincidence effect, Raman spectra anal. 7—46048
dimethylamine radical cation, hyperfine coupling tensors, ab initio UHF calcs. 7—25373
4-(N,N-dimethylamino)benzonitrile, solvated, charge- transfer state form., structural demand, fluoresc. 7—15637
5-dimethylamino-3,3-dimethyl-2-phenyl-3H-indole-polar mol. complex form., absorpt. and fluoresc. spectra 7—57115
2-dimethylamino-6-propionylnaphthalene, twisted charge transfer state, fluoresc. quantum chem. study 7—863
4-N,N-dimethylaminobenzonitrile, cyclohexane (1,5-dioxane) solns., excited states, dipole moments, transient dielectric loss results 7—13088
(dimethylaminomethyl) ferrocene intercalation with HUO$_2$PO$_4$.4H$_2$O 7—65304
2-dimethylaminomethyloyclohexanols, electron impact ionis. mass spectra 7—50388
dimethylammonium manganese chloride, 1D antiferromagnet, nuclear spin-lattice relax., effect of nonlinear excitations 7—59122
2,4-dimethylaniline, freq. assignments, IR and Raman spectra 7—22261
dimethylaniline, quenching of and exciplex form. with anthracenes 7—36683
1-(N,N-dimethylaniline)-3-(anthryl)propane bichromophore, intramolecular exciplex, luminesc. 7—5716
dimethylbenzonitriles, IR and Raman spectra 7—25501
3,3-dimethylbutan-1-ol-n-hexane mixtures, excess molar enthalpy, heat capacity and molar vol. 7—44850
dimethylbutane methane quasibinary mixture, tricritical behaviour 7—12234
dimethylcyclohexanes, conform. equilib., temp. and pressure effects, Raman spectra anal. 7—50150
dimethyldioctadecylammonium bromine, charge-transfer-to-solvent transition, far-UV absorpt. spectra 7—57081
dimethyldioctadecylammonium chlorine, charge-transfer-to-solvent transition, far-UV absorpt. spectra 7—57081
dimethyldioctadecylammonium iodide, charge-transfer-to-solvent transition, far-UV absorpt. spectra 7—57081
dimethyldioxirane, electronic struct. and geometry, NMR chem. shifts 7—62406
dimethylditelluride, excimer laser photodissociation 7—36699
dimethylditelluride, excimer laser photolysis, laser mass spectroscopy 7—22547
dimethylether, electron impact excitation, fluoresc. meas. 7—10764
dimethylether-Xe, vap. press. and density, excess molar enthalpy and entropy 7—12319
N,N-dimethylformamide glassy matrix, spin-lattice relax. of naphthazarine anion radicals 7—45823
N,N-dimethylformamide-n-alcohols, binary mixtures, excess isentropic compressibilities at 303.15K 7—21315
4,4-dimethylheptane, conform. anal., IR and Raman spectra 7—19863
3,3-dimethylhexane, conformational anal., IR and Raman spectra obs. 7—15602
2,3-dimethylnaphthalene, rotational excitations of methyl 7—2117
dimethylnitramine, pulsed laser pyrolysis GC/MS anal. 7—65308
dimethylnitrosamine, pulsed laser pyrolysis GC/MS anal. 7—65308
dimethylphosphinic acid cation, geometry optimisation, approximate Hessian 7—25345
2,5-dimethylpyrazine, vibronic interaction, vibr. anal., UV spectra 7—31065
2,9-dimethylquinacridone, photoelectric props. expts. 7—33050
dimethylritrosoamine excited singlet states symmetry and geometry, photodissoc. 7—54152
dimethylsilylene, UV spectrum, geometry and vibr. freqs. 7—10610
dimethylsulphoxide, vibr. dephasing time meas., coherent Stokes Raman scatt. 7—57075
dimethylthallium(II) cation, aq. soln., mol. motion, NMR spin relax. time meas. 7—57088
p-dimethylthiobenzene, thio group stabilising effect, symmetry depend., electron transmission spectrum 7—42598
dimyristoylphosphatidic acid/cholesterol bilayers, thermodynamic props. and phase transition kinetics 7—17955
2,4-dinitro-6-diazophenol, and analogues, struct. investig. 7—57087
p-dinitrobenzene, solvated anion, radical, reaction kinetics in liq. NH$_3$, ESR spectra anal. 7—19907
12-(2^1,4^1-dinitrobenzyl)pyridine, photochromism, nature and decay time of transient species, Raman spectroscopy 7—10599
1,2-diol solns. with water or electrolytes, dielectric props. 7—13080
dioleylphosphatidylcholine monolayer, chlorophyll a pigment, fluoresc. conc. quenching, master eqn. 7—50219
1,3- dioxa-2-silacycloalkanes, X-ray diffr., struct., chemical reactions 7—21185
dioxans with dimethylene linking groups, liquid crystalline props. 7—1854
dioxirane, IR spectra, harmonic freq. and ^{18}O isotopic shifts 7—62361
1,3-dioxolanes, pseudorotation, gas-phase electron diffr. investig. 7—50354
4,4-dioxy-4-thia-1-acetyl-1,4-dihydropyridine, heteroaromaticity, p—d bonding, NMR, crystallography and calcs. 7—15623
dipalmitoyl phosphatidyl chloride, low temp. phase, headgroup mobility, NMR study 7—1856
dipeptide tryptophanyl-tryptophan, dynamics of struct., kinetic spectrofluorometry 7—34107

organic compounds continued
O,O′-dipheniioxydimethylsilane, internal rot., steric struct. influence, T$_1$ meas. 7—10629
diphenyl cryst., surface melting, ellipsometry studies 7—32613
diphenyl crystal, interaction of anthracene impurities with surface layers, struct. model of quasiliquid layer 7—58191
diphenyl ether, conform. and internal rot. dynamics, CINDO calcs. 7—62285
diphenyl ether, liq., reorientational motion, press depend. light scatt. obs. 7—46054
diphenyl group-containing mols., conform. and internal rot. dynamics, CINDO calcs. 7—62285
diphenyl methane, liq., reorientational motion, press depend. light scatt. obs. 7—46054
3,4-diphenyl-2,5-dimethyl-2,4-hexadiene, free radicals, γ-irradiation generated, visible absorpt. and EPR spectra 7—57100
1,2-diphenyl-3,3,4,4-tetramethylcyclobutene, free radicals, γ-irradiation generated, visible absorpt. and EPR spectra 7—57100
diphenylamine, geometry optimisation, semiempirical quantum chem. methods 7—10433
9,10-diphenylanthracene, energy transfer from mesitylene and benzene 7—22316
9,10-diphenylanthracene, scintillation props. and triplet-triplet annihilation 7—62215
diphenylbutadiene, soln., rot. reorientation dynamics and picosecond photoisomerisation 7—15592
1,1- diphenylethanol, cryst. struct. 7—12057
diphenylethylene, conform. and internal rot. dynamics, CINDO calcs. 7—62285
2,5-diphenylfuran, low-freq. modes, fluoresc. excitation spectra 7—57117
diphenylketimine, conform. and internal rot. dynamics, CINDO calcs. 7—62285
diphenylmethane, conform. and internal rot. dynamics, CINDO calcs. 7—62285
diphenylmethylene, excited triplet state, mag. field effects, fluoresc. 7—10657
2,5-diphenyloxazole, dye solutions, excited state absorpt. measurements 7—42516
trans-diphenylpolyenes in polymer film, transition moment, luminesc. 7—19943
dipole moment geometric derivatives from nucl. electric screening 7—25428
dipyridopyrazinium and related cations, MNDO calcs. 7—25394
1,3-dipyridyl thioureas, ^{13}C NMR spectra, chemical shifts and mol. conform. study 7—42650
disaccharide maltose monohydrate, water binding modes, TSC meas. 7—38997
disodium cromoglycate in water, nematic lyotropic liq. crystal, struct. and order parameter, FTIR spectra 7—11899
disordered cryst. struct. investig. 7—51745
trans-trans-1,4-distyrylbenzene associates, solns., fluoresc., stokes shift 7—42676
4-4′-disubstituted phenylbenzoates, mesomorphic props., effect of inserting ketone groups in terminal chains 7—21088
1,3-dithians and dioxans, 2,5-disubstituted, liquid crystalline phases 7—1845
2,4-dithiobiuret, Raman and IR spectra 7—62374
dithioformic acid, conform. struct. and stability, rot. barrier, SCF and HF calcs. 7—25427
dithiolates, cyclic vibr., IR and Raman spectra *(German)* 7—31045
divine, spin-forbidden absorpt. spectra, energy matrix calc. 7—57044
DMSO-water mixture, spin relax. ^{17}O and ^{2}H NMR study 7—38961
DMtTCF salts, electronic and vibr. absorption spectra, electronic correlations 7—46034
DOBAMBC, ferroelec. chiral smectic C phase, crit. field, temp. depend. 7—26624
DOBAMBC, smectic A-chiral smectic-C phase transition, tilt angle, polaris. and heat capacity 7—44361
DOBAMBC, smectic-A-chiral smectic-C phase transition, mean field model 7—44362
DOBAMBC ferroelec. chiral smectic C liq. cryst., helical pitch free value meas. 7—26632
dodecafluorooctahydrothiophene, gas phase, geometric struct., GPED spectra anal. 7—36764
n-dodecane-hexane isomer mixtures, ultrasonic speeds and isentropic compressibilities 7—51943
dodecyl hexaoxyethylene ether, phase diagram vanishing miscibility loop obs. 7—28352
n-dodecyl-octaoxyethylene glycol monoether micellar solns., long-range crossover 7—21068
dotriacontamethylcyclohexadecasilane, cryst. and mol. struct., X-ray determ. 7—12039
DPPC bilayers, aqueous assemblies, high press. IR studies 7—54501
dye, diffusion in polymer, time-depend. phenomena, impulse-response photoacoustic spectroscopy monitoring 7—42797
dye deposited on glass and Ag substrate, nonlinear Langmuir-Blodgett films, struct. and optical props. 7—53259
dye laser molecules adsorbed on optical surface, SHG and THG *(Chinese)* 7—57457
dye lasers, energy transfer processes, ratio of radiative to nonradiative 7—36957
dye lasers, multimode CW, dynamical instabilities, stimulated Brillouin scatt. 7—50552
dye molecules adsorbed on silicate matrix, UV electronic spectra 7—42639
dye molecules in solutions, cascading of relaxation over higher excited singlet levels 7—36679
dye mols. in polar fluids, correl. between mol. reorientation and dielectric friction 7—22182
dye soln., degenerate four-wave mixing acoustic wave excitation 7—62786
dye solutions, concentration depolarization in fluorescence concentration quenching 7—36681
dye solutions for transient polarisation holography, photoinduced anisotropy 7—11085
dye-binder overcoated optical disc medium, erasable laser recording 7—20148
dyes, degenerate four-wave mixing, transient phase conjugation 7—57477
dyes, determ. of progressive diffusion constants by method of fluorescence recovery after photobleaching *(Russian)* 7—3091
dyes, lyotropic liq. cryst., chromonic phases 7—32275
dyes, mol. sublattice form., linear Stark effect study 7—57108
dyes, optical storage, digital media, transient thermal conduction 7—57490

organic compounds continued

- dyes in polymer matrix, microheterogeneities fluoresc. conc. depend. *(Russian)* 7−5717
- EBBA, nematogen, diffr. and spectroscopic study of solid states 7−64645
- EBBA melting and crystn. processes, Raman spectroscopy, X-ray and thermal anal. 7−63777
- egg lecithin, bilayer lipid membranes, base conductance and electric breakdown, static mag. field effect 7−14030
- electron correl., SCF calcs. 7−19721
- electronic density, transferability of atomic descriptions, mol. pot. calcs., HF STO calcs. 7−25355
- electronically excited states, radiative decay and nonradiative conversion processes 7−50235
- enamides, conjugated s-skew-forms, conform. anal., spectra data anal. 7−19894
- enantiomers, R, S labels assignment method 7−14736
- endotoxin, bacterial, detoxification by ionising radiation rel. to conc., phys. state, and purity 7−40228
- enflurane, VUV absorpt. cross section meas. 7−926
- eosin in propanol, O_2 induction of delayed fluoresc. 7−36682
- epihalohydrins, IR spectra, vibr. assignments 7−36603
- epoxydiane oligomers, struct., X-ray diffr. and IR spectra *(Russian)* 7−11968
- epoxyorganosilicon oligomer, curing agent, rheokinetic obs. *(Russian)* 7−26173
- epoxyorganosilicon oligomer, structurisation and curing, rheokinetics *(Russian)* 7−26173
- erbium(III) porphyrins, excited state, dual fluoresc. 7−10658
- erbium formate dihydrate, circular dichroism meas. 7−17301
- erythrosine, fluoresc. and kinetic characts., solvatochromy and solvatofluorochromy anal. 7−57127
- erythrosine in propanol, O_2 induction of delayed fluoresc. 7−36682
- esters, influence of alkyl chain branching on smectic C formation 7−63452
- estrones, long range H^+ coupling, chem. shift, ^1H NMR 7−19903
- β-$(ET)_2X$ organic superconductors, ambient press., point contact tunnelling studies 7−44517
- ethane, adsorbed on Cu (100), XANES fluoresc. yield meas. 7−64751
- ethane, adsorbed on graphite, phase transitions, thermodynamics and struct. anal., LEED obs. 7−32797
- ethane, adsorpt. and reaction on Fe and Ni films, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
- ethane, atmospheric, identification from 1951 IR solar spectrum 7−55124
- ethane, bond rupture surfaces, MC SCF calcs. 7−30922
- ethane, chemisorption on Cu (100), σ-shape and π resonances, XANES 7−53448
- ethane, gas, o-Ps annihilation rates, press. and temp. depend 7−36826
- ethane, gas, positronium induced cavities rel. to o-Ps annihilation rates 7−36824
- ethane, ground state, thermal decomp. pathways, ab initio electronic struct. calcs. 7−15476
- ethane, internal force consts., vibr. spectrum calc. 7−31022
- ethane, internal rot. barrier, Coulombic models calcs. 7−9630
- ethane, intramol. interactions, NOLMO calcs. 7−10411
- ethane, ionisation by X-rays, effect of fluid density on energy absorpt. 7−31920
- ethane, nucl. mag. shielding consts. ab initio wave function calcs. 7−5594
- ethane, o-positronium decay rate, mean field behaviour transition 7−36733
- ethane, orthopositronium annihilation rates 7−62543
- ethane, positron and electron collisions, cross section meas., time-of-flight spectra anal. 7−36799
- ethane, Q branches of ν_7 fundamental band, laboratory spectra 7−5672
- ethane, substituted, inductive effect in quantum-chem. calcs., perturbation theory appl. 7−5600
- ethane, surface tension at low temps. 7−58566
- ethane, thermal diffusivity around crit. point along liquid-gas coexistence curve, light scatt. meas. 7−52098
- ethane, vibr. anal. IR and Raman spectra, MNDO calcs. 7−10543
- ethane and derivatives, vibr. Raman stokes spectrum 7−57072
- ethane chemisorbed state on noble metal surfaces 7−52261
- ethane dilute gas thermophysical props. correl. and extrapolation, SSR-MPA pot. model calcs. 7−16294
- ethane dissociative chemisorption of Ni (100) studied by supersonic molecular beam techniques 7−52287
- ethane-1,2-dithiol, mol. struct., conform., electron diffr. obs. 7−50355
- ethane-Ar, vibr. predissoc. IR spectra 7−19971
- ethane-CO_2 gaseous mixture, determ. of virial coeffs., ref. index meas. method 7−51362
- ethane-$d_0(d_6)$, intensity parameters, Raman trace scatt. 7−15608
- ethane-Xe liq. mixture, excess props., predictions, Weeks-Chandler-Anderson type perturbation theory calc. 7−32247
- ethanediazonium ions, unimol. dissoc., ab initio and semiempirical MNDOC calcs. 7−15513
- ethanediol solns. with water or electrolytes, dielectric props. 7−13080
- ethanes, substituted, NMR conformation studies, rot. energetics about C-C bond 7−31067
- ethanethiol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7−62388
- ethanol, aq. solns., viscosity, high press. effect 7−52102
- ethanol, interaction with microwaves in blood-brain barrier of rats 7−28601
- ethanol, jet-cooled, electron impact induced fluoresc. of dissoc. fragments 7−36676
- ethanol, photoionisation mass spectra, temp. effect 7−46818
- ethanol, radiation heat transfer influence on effective thermal conductivity 7−6898
- ethanol, spreading over surfaces with regular and random reliefs 7−6926
- ethanol, standard geometry functions 7−849
- ethanol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7−62388
- ethanol from Bulgarian wines, liquid scintillation meas. 7−20071
- ethanol fuel production from wheat, technico-economic aspect *(French)* 7−28385
- ethanol thermal cond. meas., transient hot-wire apparatus 7−4839
- ethanol-$d_3(-d_4)(-d_5)$, rot. correl. function, group struct. 7−15627
- ethanol-water, excess enthalpies at 323.15, 333.15, 348.15 and 373.15K and from 0.4 to 15 MPa 7−26958
- ethanol-water convective binary mixture, competing patterns 7−20727
- ethanol-water mixture, finite-amplitude travelling wave convection 7−43913

organic compounds continued

- ethanol-water mixture, volumetric behaviour, high press. study 7−51904
- ethene, adsorbed on Cu (100), XANES fluoresc. yield meas. 7−64751
- ethene, chemisorpt. on η-Al_2O_3, thermal desorpt. spectrosc. obs. 7−16872
- ethene, chemisorption bond energies on chemically modified Mo (100) surface 7−23056
- ethene, gas, CO_2 laser irradiation, end-point anal., IR spectroscopy detect. 7−65335
- ethene, IR-multiphoton dissoc., photolytic C deposition 7−62466
- ethene, laser-induced vibr. predesorption from NaCl 7−58615
- ethene, multicentre integrals, Slater fn. translation transform. calcs. 7−10417
- ethene, surface tension at low temps. 7−58566
- $(ethene)_n$ (n=2,3,4), van der Waals complexes, IR photodissoc. 7−42701
- ethene adsorbed on partially exchanged ZnO-Na_2O-Al_2O_3-SiO_2, zeolite, IR and neutron scatt. studies 7−7001
- ethene adsorption on Ni (100), X-ray induced secondary electron emission 7−27866
- ethene dimer, intermolecular interaction energies, SCF calcs., variation-perturbation procedure 7−15505
- ethenone, dissoc., nonlin. UV excitation 7−19981
- 3-ethoxy-4-hydroxybenzaldehydes, IR and Raman vibr. spectral anal. 7−57070
- α-ethoxyacrolein semicarbazone, cryst. and mol. struct., X-ray diffr. 7−26734
- ethoxylated alcohol-n-alkane-water mixtures, phase behaviour patterns 7−21406
- ethyl, ethenyl and ethynyl anions, structs. and rearrangement processes, ab initio MO calcs. 7−59757
- ethyl 2-bromopropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7−49931
- ethyl 2-chloropropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7−49931
- ethyl acetate, diffusion and sorption by polystyrene film, IR ATR spectrosc. obs. *(German)* 7−53302
- ethyl acetate-6-o-acetylmorphine adduct, PMR chem. shift charactn. 7−57084
- ethyl alcohol, effects on electrooculogram and colour vision 7−28501
- ethyl alcohol, isomers, VUV-optical oscillator strength distrib. 7−15650
- ethyl alcohol, multiple bubble collapse in organic liquid *(Chinese)* 7−11518
- ethyl alcohol-Al interface, surface polaritons, four-wave mixing 7−43244
- ethyl ammonium tetrachlorocuprate, antiferromagnet, domain-wall spin reorientation study 7−53026
- ethyl bromide, liq., Br interaction, X-ray scatt. investig. 7−21069
- N-ethyl carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7−31093
- trans-ethyl cinnamate, polymerisation rates at high pressures 7−39889
- ethyl fluorosilane, r_s struct., rot. isomerism, microwave spectra and moments of inertio meas. 7−10556
- ethyl iodide, laser lines, optically pumped, heterodyne freq. meas. 7−36943
- ethyl iodide + K, reactive collision, medical group effect, mol. beam study, cross section meas. 7−39900
- ethyl methyl ether, isomers, VUV-optical oscillator strength distrib. 7−15650
- ethyl radical, absorpt. cross section and reaction rate consts. meas. using molecular modulation spectrometry 7−22997
- ethyl radical, muonated, first detection in gas phase 7−42790
- 3-ethyl-5-[2-(3-ethyl-2-benzothiazolinylidene)-ethylidene]-rhodanine, polymorphism and electronic props. 7−37959
- ethyl-alcohol in water, dil. solns., isentropic compressibility behaviour 7−58392
- p-ethyl-p′-cyanocyclohexyl-cyclohexane, smectic liq. cryst., phase struct., X-ray diffr. 7−21087
- N-ethyl-p-chlorobenzamide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7−25432
- ethylacetate, 4 conformers, torsional changes, ab initio structural studies 7−15502
- ethylamine, geometrical structural parameters calcs. GPED 7−20042
- ethylamine platinum trichloride, Wolffram's red salt, bound domain wall pairs 7−27545
- ethylamine standard geometry functions 7−849
- ethylaminodimethylenephosphonic acid, X-ray diffr. cryst. and mol. struct. anal. 7−12046
- ethylbenzene-acetonitrile (butyronitrile) (nitromethane)(nitroethane), excess molar volumes 7−44640
- ethylbenzene-methanol system, US behavior 7−38123
- ethylcarbamate, conformers, torsional changes, ab initio structural studies 7−15502
- ethylene, adsorpt. and reaction of Fe and Ni films, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
- ethylene, adsorpt. on Ni (100), hybridisation, Auger lineshape determ. 7−15576
- ethylene, adsorpt. on Ru (001) surface, $H_2(CO_2)$ coadsorpt. effects 7−32789
- ethylene, adsorption and desorption from $Na_2CaAl_2Si_4O_{12}.6H_2O$ zeolite, TPD study 7−32826
- ethylene, adsorption on Ag (110), work function, LEED, UPS, TDS meas. 7−52270
- ethylene, adsorption on Ni (100), determ. of adatom abundance using elastic recoil detect. anal. 7−33984
- ethylene, adsorption on NiO (100), surface reactions 7−23055
- ethylene, adsorption on Si(111), vibr. study 7−45012
- ethylene, bending force const. attenuation, ab initio CI calcs. 7−49939
- ethylene, C−C bond description, HF and VB LCAO calcs. 7−25415
- ethylene, chemisorbed state on noble metal surfaces 7−52261
- ethylene, chemisorption and decomposition on Ni (100) 7−59785
- ethylene, chemisorption on Cu (100), σ-shape and π resonances, XANES 7−53448
- ethylene, hydroformylation, in situ IR and EXAFS 7−59755
- ethylene, hydrogenation at Pt particle/Al_2O_3 surface, intrinsic size effects 7−3607
- ethylene, internal force consts., vibr. spectrum calc. 7−31022
- ethylene, laser induced osmosis, kinetic meas., press. effects 7−65344
- ethylene, mixture with incompatible polymers, surface layer of films investig. 7−37888
- ethylene, multireference second order perturbation CI 7−62247
- ethylene, nucl. mag. shielding consts. ab initio wave function calcs. 7−5594

organic compounds continued
ethylene, nuclear spin-spin coupling constants evaluated using manybody methods 7—5705
ethylene, optical transition energies and ionisation pot., DVM-Xα calcs. 7—25391
ethylene, ordering on Ni (111), LEED, EELS 7—52269
ethylene, positron and electron collisions, cross section meas., time-of-flight spectra anal. 7—36799
ethylene, reson. electron impact, vibr. energy loss selection rules 7—15725
ethylene, spin-spin coupling consts., ab initio diamagnetic spin-orbital contrib. 7—927
ethylene+Al_n^+ (n=1,2,3), absolute cross sections, meas. 7—5743
ethylene+methyl ion, reaction, collision complexes form. 7—39867
ethylene+muonium, reaction, on amorphous SiO_2 7—54166
ethylene+O, reaction intermediates microwave kinetic spectroscopy 7—13748
ethylene adsorbed on Cu, Ag and Au films, adsorbate-substrate bonding 7—52292
ethylene adsorbed on graphite, layering and layer-critical-point transitions 7—12471
ethylene adsorption on cleaved Si surface, high resolution EELS study 7—63951
ethylene carbonate/2-methyltetrahydrofuran electrolyte for Li/amorphous $V_2O_5P_2O$ secondary batteries 7—3635
ethylene chemisorbed on Cu (100), C K-edge structure of chemisorbed molecules 7—27824
ethylene coadsorbed with Xe on graphite, layering and mixing transitions 7—58624
bidentate ethylene diamine complexes with ions Na^+, Li^+ and H^+, ab initio MO calcs., binding energy 7—10383
ethylene dications, F-substituted, geometries and energies, ab initio calcs. 7—10401
ethylene dimer spectrum, photodissoc. spectrum, hindered rot. bands 7—42607
ethylene glycol, rapid cavitation induced by shock-wave refl., tensile strength meas. 7—31848
ethylene in Ar and water, photo-isomerisation, trajectory study 7—8264
ethylene jets, Raman scatt., Franck-Condon and double reson. study 7—31082
ethylene on graphite, heats of adsorption and phase diagram 7—6972
ethylene oxide, adsorption on Ag (100) and Pt (111), surface interactions, XPS, TDS, AES, EELS studies 7—33963
ethylene oxide, adsorption on Ag (110), work function, LEED, UPS, TDS meas. 7—52270
ethylene oxide, vibr. mag. dipole transition moments, rot. strengths, SCF HF calcs. 7—49885
ethylene photoionisation, ground state inversion pot., multicentre diffr. effects 7—947
ethylene premixed flame, soot particle inception, O_2 profiles 7—23019
ethylene-1,2-$^{13}C_2$ glycol, ^{13}C dynamic polarization for nucl. target appl. 7—820
ethylene-Li-N_2 complexes in solid Ar, IR spectra 7—31033
ethylene-N_2 laminar jet, velocimetry using photothermal deflection spectroscopy 7—31901
ethylene-propylene-diene rubber, H_2O sorption and diffusion in presence of vulcanisation accelerators *(Russian)* 7—8300
ethylenediamine ligands, vibr. circular dichroism, ion assoc., ring conform. and ring currents 7—31084
ethylenediammonium hexachlorometallates, struct., H bonds and phase transitions 7—16535
ethylenes, fluorinated, photoelectron spectrosc. 7—42682
ethylenes, monosubstituted, struct., ab initio calcs. 7—850
ethylenes, monosubstitution, stabilisation energies, ab initio LCAO SCF calcs. 7—25389
ethylidyne, adsorbed on Pd/Al_2O_3, CO adsorpt., IR spectra studies 7—2371
ethylmethyl sulphide, r_s struct., rot. isomerism, microwave spectra and moments of inertio meas. 7—10556
ethylmethylphosphate, stable conformations, appl. of algorithm 7—25682
ethylmethylsilane, rot. pot. functions, ab initio and MM2 calcs. 7—10404
ethylsulphate:Nd^{3+}, high press. spin-lattice relax. and ground state 7—38934
ethyne, nucl. spin-spin coupling consts., coupled-cluster polarisation propagator approach 7—62407
ethyne adsorbed on zeolite, time resolved FTIR obs. 7—54182
ethynyl radicals, vibr. excited, colour centre laser spectra 7—62362
ethynylbenzene, ground state, UV emission spectrum 7—36635
ethynylbenzene, out-of-plane valence force field 7—31021
etioporphyrin metalocomplexes, isomers, vibr. spectra interpretation 7—42617
europium carboxylate, luminescence props. calcs. 7—42667
excitation cross sections 7—62501
fatty acid Langmuir-Blodgett monolayers, structural study of conducting defects 7—52325
fatty acids, monolayer on H_2O, optical SHG meas. 7—17288
fatty alcohol monolayers at air-H_2O interface, spin model 7—27104
ferrocene, electrochemical response, orientation effect 7—26622
Feshbach resons. auto-detachment, electron spectra 7—57181
films, on inorganic substrates, FT IR reflection spectrosc. 7—39097
flavin adenine dinucleotide, UV reson. Raman spectra 7—57073
flavin derivatives, adsorbed on oxide layers, photophysics study 7—7738
flavin mononucleotide, UV reson. Raman spectra 7—57073
flavins, mol. geometry and REDOX props., MINDO/3 calcs. 7—56976
flavins, struct. and REDOX props., electron distrib., MINDO/3 calcs. 7—56977
flavins on Ag colloids, SERS 7—64626
fluoranthene radical cation salts, mag. resonance anal. of phase transition 7—52705
(fluoranthenyl)$_2$AsF_6, metal-semiconductor transition, anisotropic diffusion and electron spin relaxation 7—52598
fluorene, single and triplet states in liq. soln. photoionisation cross sections 7—25616
fluorene and derivatives, low-energy electronic transitions, UV-visible spectra 7—31062
fluorene-1,2,4,5-tetracyanobenzene, charge transfer cryst., triplet excitons, ODMR and ESR 7—7611
fluorenecarboxylic acids, and esters, solvent and pH effects, absorpt. and fluoresc. spectra anal. 7—50237
fluorenone bisazo pigments, electrophotographic sensitivity *(Japanese)* 7—38611

organic compounds continued
fluorenone ketyl radical cation, single channel quadrature FT ESR spectra 7—25570
fluorescein dye in ionic gel near phase transition, fluorescence obs. 7—13190
fluorescent dyes in nematic liquid crystals, spectral props. 7—935
fluoro-1,1′:4′,1″-terphenyls, lateral, 4,4″-disubstituted, liquid crystalline phases 7—1849
fluoroacetones, protonated, intramol. H bonding, STO-3G MO calcs. 7—49878
fluoroalkanes, electron impact dissociative ionis., cross section estimation 7—20066
fluorobenzene carbon tetrachloride van der Waals complex, supersonic jet spectroscopy study 7—57129
fluorobenzenes, bond orders, MNDO evaluation 7—56981
fluorobenzonitrile radical ions, self consistent reaction field calcs. 7—36481
fluorobiphenylalkane nematics, physical and mol. props. 7—38983
fluorocarbene molecule, $\tilde{A}^1A'(000)$-$\tilde{X}^1A''(010)$ vibronic band, fluorescence study 7—31094
fluorocarbon films plasma deposited on Si, ellipsometry studies 7—22373
fluorocarbon gaseous refrigerants and their mixtures, generalised viscosity correl. eqn. 7—16286
fluorocarbon liquids, temp. variation of US vel. 7—12208
fluorocarbon solid-liquid ^3He interface, ^{19} nuclear relax. rate, freq. depend., NMR meas. 7—38958
fluorocarbons, polymer form. and deposition from RF plasmas 7—22571
fluorocyclohexane, thiourea inclusion compounds, substituted cyclohexane conform., ^{13}C CP/MAS NMR spectra 7—19889
fluoroethylene radical anions, dissoc. electron attachment 7—50349
fluoroform, force field study by parametric method 7—5652
fluoroform, mol. vibr., tridiagonal Fermi reson. Hamiltonian, visible spectral anal. 7—50154
fluoroform, partial photoionis. cross sections, 27-70 eV 7—36708
fluoroform-d, Coriolis splitting parameter, vibr. depend., IR double-reson. spectra anal. 7—42616
fluoroform-d, IR multiple-photon dissoc., difluoromethyl diradical form. obs. 7—28291
fluoromethane, conversion of different nuclear spin modifications, isotopic effect 7—50400
fluoromethane, dissociative photoionis., translational energy disposal and mechanisms 7—10663
fluoromethane, FIR laser, simultaneous tunable Raman and fixed frequency oscillations 7—57302
fluoromethane, matrix isolated, vibr. energy transfer and migration processes 7—25635
fluoromethane, mol. beam, laser Stark spectra, two-zone Ramsey fringes obs. 7—42663
fluoromethane, multiphoton coherent excitation study 7—36698
fluoromethane, optically pumped laser, FIR laser line meas. 7—57306
fluoromethane, Rabi oscillations, Ramsey fringes, using CO_2 laser spectroscopy 7—10590
fluoromethane, UV angle resolved photoelectron spectra using synchrotron radiation 7—50246
fluoromethane+formaldehyde, rotationally inelastic scatt. cross sections, modified Anderson theory calcs., 7—50321
fluoromethane laser, helical feedback, higher modes 7—15844
fluoromethane-d_3, mixtures and cryogenic solns., low temp. vibr. relax. 7—5755
fluoromethanes, $^{12}CH_3F$ and $^{13}CH_3F$, tunable far-infrared lasers 7—36951
fluoromethanes, protonated, structs., energetics, ab initio MO calcs. 7—56956
fluoromethanol, rot.-vibr. anal., conformational stability, dipole moment anal. microwave spectra 7—19831
fluorophenols, torsional far IR spectra, tilt influence, use of CNDO/2 method 7—56982
1-fluoropropane, nuclear spin-spin coupling consts., calcs. using IPPP method 7—36644
fluorotoluene, rot. isomerism, supersonic jet spectroscopy study 7—57129
p-fluorotoluene, torsion-vibr. coupling 7—42719
formaldehyde, adsorption on clean and oxidised Au (110), acid-base and nucleophilic reactions 7—59783
formaldehyde, adsorption on Pd (100) surfaces modified by Na (NaO) overlayers 7—21657
formaldehyde, electrochem. autocatalytic reduction of Cu 7—54138
formaldehyde, electronic-vibr. states, non-adiabatic effects anal. 7—25485
formaldehyde, excited states, cubic force consts. and vibr.-rot. interaction consts. calcs. 7—25341
formaldehyde, methyl derivatives, nuclear quadrupole coupling consts., solvent effects *(French)* 7—25558
formaldehyde, optimised geometries and harmonic freqs., MP2 calcs. 7—62255
formaldehyde, oxidation, ESR and IR chemiluminescence. obs. 7—36655
formaldehyde, protonated, rot. const., ab initio MO calcs. 7—25349
formaldehyde, reson. electron impact, vibr. energy loss selection rules 7—15725
formaldehyde, search in southern H II regions 7—60746
formaldehyde, stretching force consts. inner-shell polarisation effect, HF calcs. 7—15588
formaldehyde, vibr.-rot. interaction const., RHF closed-shell wave function 7—19818
formaldehyde, VUV excitation fluoresc. 7—15643
formaldehyde+NH_3, molecular collisions, rotational cross sections, $\Delta J=0$ transitions, elec. field effects *(French)* 7—5754
formaldehyde+O, rate const. meas., laser-induced fluoresc., time-resolved detect. 7—46815
formaldehyde+polar gases 7—50321
formaldehyde mapping of Gum Nebula region 7—55750
formaldehyde radical + formaldehyde radical, absorpt. cross section and rate const. determ. 7—28269
formamide, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7—19696
formamide, point charge models and FSGO-wave fn., mol. electrostatic pot. and fields *(German)* 7—25632
formamide, rot. barriers, polarisation functions, ab initio calcs. 7—15496
formate adsorption on Cu (100) and (110), bonding, EXAFS studies 7—38341
formate anion, isotopic species, vibr. anal., valence force fields calcs. 7—36577
formate ion, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7—19696

organic compounds continued
formate ion incorporated into tunnel junction, quantitative analysis of inelastic tunnelling spectrum 7—38769
formate on Cu surfaces, adsorpt. site symm. and bond lengths, SEXAFS data, multishell simulation anal. 7—63947
formation of carbamic acid, urea and carbonic acid from CO_2, H_2O and NH_3 7—8268
formic acid, ν_3 band, sub-Doppler laser-stack and Fourier transform spectroscopy 7—62430
formic acid, adsorption on clean and oxidised Au (110), acid-base and nucleophilic reactions 7—59783
formic acid, atmospheric chemistry model for clouds 7—18290
formic acid, corrosion behaviour of stainless steels, Ni alloys and Ti *(German)* 7—3526
formic acid dimer, symm. stretching modes in gas phase 7—25475
formic acid in atm., source determ. 7—55195
formic acid in rainfall of Wisconsin, USA 7—14326
formic acid radical cation and its isomers, pot. energy surface, ab initio quantum chemical methods appl. 7—42521
formic acid-$d_0(d_1)$, hyperfine interactions, double microwave-RF reson. 7—42656
formic acid-d_1, stretching vibr. Raman spectra 7—19866
Formvar ultrathin foils for Coulomb-explosion experiments 7—57184
formyl cyanide, vibr. freqs. and geometry, ab initio electron correl. calcs. 7—49938
formyl ion, dissociative recombination at interstellar cloud conditions 7—23009
formyl ion, dissociative recombination of interstellar ion, electronic struct. calc. 7—20064
formyl radical and cation in dense molecular cloud cores 7—48064
formyl radical pair, anharmonic vibr. effects, ab initio SCF-CI calcs. 7—10444
formyl radical-d0(d1), third-order anharmonic pot. consts. equilib. structure parameters, calc. procedure 7—10544
1-formylaziridine, internal rotation and nitrogen inversion, ab initio and MNDO calcs. 7—15516
formylcyclopropane, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7—15516
formylphosphine, geometries and rotation barriers, structures, ab initio calcs. 7—15501
free radicals, avoided level crossing muon spin rotation 7—42789
free radicals, muonium-containing, H^+-Mu isotope effects 7—15745
Freon, IR spectroscopy using diamond anvil cell 7—56300
Freons, band strengths temp. depend. rel. to stratosphere climate modelling 7—55252
freons, liquid-vapour system, shock wave compression 7—31874
fuel sprays, exciplex-based diagnostics 7—23077
gadolinium triacetate, frozen soln., coordination environment investig., ENDOR 7—25576
gadolinium tripropanate, frozen soln., coordination environment investig., ENDOR 7—25576
galvanomagnetic studies of organic metals, at high pressures and low temp. 7—30035
gelatin gels with coloured component at reduced pH values, turbidity, optical rot., viscoelastic props. 7—8320
genetic information encoding, cybernetics and genetic engineering 7—60924
geochemistry, V and V cpds. in marls and shaly limestones 7—14219
germanium(IV)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7—25563
germylacetylene-$d_0(d_3)$, vibr. anal., mol. consts. study, F-G matrix technique calcs. 7—36578
globoside, oligosaccharide headgroup, soln. conform. study, ^{1}H NMR spectral methods anal., pot. energy calcs. 7—25361
D-glucopyranose, struct. stereochemistry, solvation props. PCILO calcs. 7—15518
glucose, water mixtures, liq. and glassy states, dielectric relaxation study 7—33325
glucose-fructose, separation using batch and semicontinuous liq. chromatographic systems 7—13837
glucose-fructose-dextrane mixtures, separation using batch and semicontinuous liq. chromatographic systems 7—13837
glucose/mannose aqueous solns., US studies 7—12209
glutaric acid, in atmospheric particulates of Japan 7—14327
glutathione-methylmercury aq. mixtures, complexation, Raman spectrum vibr. study 7—64637
glycerin-water soln., capillary waves, spectral behaviour 7—11521
glycerine, use of Atwood machine to study Stokes' law and viscosity meas. 7—35150
glycerol, fluorescence spectral shifts, laser-driven shock compression 7—27781
glycerol, specific heat near glass transition 7—2207
glycerol oleate, non aq. dispersion with petroleum of TiO_2, dielectric const. in electric field investig. 7—38982
glycine, diffusivity in conc. sat. and supersat. solns. 7—12335
glycine, in D(+)glucose-water mixtures, 25° and 35°C 7—38235
glycine, zwitterion, electronic excitation spectrum, aq. solvation effects, CI calcs. 7—50160
glycol-water mixtures, positronium formation and inhibition in liq., solid and glassy phases 7—36822
glycolic acid, rot. isomerisation, ab initio SCF calcs., IR Ar matrix spectra 7—19851
glyoxal, collision-induced intersystem crossing, gate states participation 7—25583
trans-glyoxal, photodissoc., photofragment excited state distrib., fluoresc. spectra anal. 7—50226
glyoxal, rotationally resolved stimulated emission pumping spectra 7—50268
glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, Fermi reson., visible fluoresc. spectra anal. 7—50230
glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, rot. anal., visible fluoresc., spectra study 7—50229
glyoxal, S_1-S_0 transition, two-photon spectra 7—62471
glyoxal, vap., Raman-optical double reson. spectroscopy 7—10635
glyoxal, vibr. and rot. consts. meas., stimulated emission polarisation spectroscopy 7—57136
glyoxal, vibronic bands, rot. anal. 7—5712
graphite with monolayer and bilayer tetrafluoromethane, phase diagram, phase transitions 7—38338
group IV organotellurides, ^{125}Te and ^{119}Sn Mossbauer and NMR study 7—7614

organic compounds continued
guaiacol-glycerine critical solutions, viscosity meas. 7—6850
guaiazulene, excited state dynamics kinetic model, laser-saturated fluoresc. study 7—50220
guanidinium aluminium pentafluoride dihydrate single crysts., struct. and symm. determ., X-ray diffr. study *(French)* 7—37960
guanine, matrix isolated, IR spectra, keto-enol tautomerism 7—50126
guanine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7—10600
guanine-metabolite adducts, ab initio and CNDO/2 and MINDO/3 calcs. 7—49928
haematoporphyrin derivative, laser-induced fluoresc., tumour localisation 7—23431
halobenzene admixture influence on air negative corona discharge current 7—32176
halocarbons, electron attachment influence on zero-field electron mobility in Ar 7—20833
halocarbons, solubility, interaction with human serum albumin, NMR and microcalorimetric obs. *(French)* 7—65701
halocarbons in atmosphere, mixing ratio trends at Palmer Station, Antarctica (1982-1985) 7—55159
halogenated aromatic hydrocarbons, resonant two photon ionization in supersonic beams 7—19961
halomethanes, natural hybrid orbitals and photoelectron spectra 7—56941
halothane, anaesthetic, in green pepper, ^{19}F NMR imaging 7—28468
harmaline, conformation effect, MINDO calcs. 7—56980
hematoporphyrin.2HCl, dye, energy transfer excitation *(Japanese)* 7—22342
hematoporphyrin diacetate, singlet-singlet and triplet-triplet absorpt. spectra 7—10607
hematoxylin+$ZrOCl_2$, reaction, spectrophotometric obs. 7—39885
hemerythrin, binuclear Fe cluster, PMR probe investig. 7—50184
hemicyanine dye monolayer, surface plasmon enhanced SHG 7—25881
hemicyanine Langmuir-Blodgett films, electron diffr. study 7—51584
henecosafluoroundecanoic acid, multilayered Langmuir-Blodgett films, prep. 7—6996
heptafluoroiodobutane, pulse depend. IR absorpt. spectrum 7—19843
heptafluoroiodopropane, IR excitation, intensity depend. 7—20017
heptafluoroiodopropane-O_3, laser photolysis yielding IF 7—31089
n-heptane, liq., thermal cond. and thermal diffusivity, simultaneous meas. 7—48728
n-heptane, radiation heat transfer influence on effective thermal conductivity 7—6898
n-heptane, thermal cond., standard reference data 7—18515
n-heptane cryst., birefringence, compensation method meas. 7—45979
n-heptane-perfluorohexane soln., phase separation, spinodal curves 7—13170
n-heptane-water-alcohol, phase equilibria and phase diagrams at 298.2K 7—44760
1-(4-n-heptylbenzoyl)-2-(cyanoacetyl)-hydrazine, cryst. and mol. struct. 7—26733
4-(n-heptyloxy)benzylidene-4-(n-heptyl)aniline, surface smectic-I hexatic layers, X-ray obs. 7—63461
N-(p-n-heptyloxybenzylidene) p-n pentylaniline, liq. cryst. transitions, density meas. 7—26821
N(p-n-heptyloxybenzylidene) p-n-pentylaniline, liq. cryst. phase transitions, density, US vel. meas. 7—1874
4-n-heptyloxyphenyl-4′-(4″-cyanobenzoyloxy)benzoate, evidence of continuous evolution of smectic A_2 from smectic A_d 7—63813
hexa-tert-butylbenzene, hexakis(trimethylelementyl)benzenes, synthesis and crystal mol. struct., X-ray spectra anal., EFF calcs. 7—25360
hexabromomethane, vibrational spectra, crystal dynamics and phase transitions 7—38132
hexachlorobenzene, Cl-Cl interactions, failure of complete chloro-methyl exchange 7—2008
2,2′, 4,4′, 5,5′-hexachlorobiphenyl, crystal and energy-refined structs. 7—12035
2,2′, 4,4′, 5,5′-hexachlorobiphenyl, crystal struct., X-ray and NMR studies 7—12036
1,2,3,7,8,9-hexachlorodibenzo-p-dioxan, dipole-dipole interactions and inversion motif 7—26732
hexacosamethylcyclotridecasilane, cryst. and mol. struct., X-ray determ. 7—12039
hexadecane-air, natural convection in complex enclosed space, heat transfer 7—11421
hexadecane-water, natural convection in complex enclosed space, heat transfer 7—11421
hexadecyloctyldimethylammoniumbromide micelles, aq. solns., shape, neutron and X-ray scatt. 7—46872
hexaethylene glycol dodecyl ether, lyotropic liquid crystal, defect-mediated phase transition, electron-microscopy obs. 7—21439
1,2,8,9,10,11-hexafluoro-endo-tetracyclo $[6.3.0.0^{2,11}.0^{3,7}]$undec-9-ene, struct. elucidation, NMR COSY technique 7—25556
hexafluorobenzene gas, K-shell EXAFS studied by EELS 7—62403
hexafluorobenzene-benzene-n-hexadecane ternary mixtures, vapour press. and excess vol. meas. at 298.15K 7—12315
hexafluorobenzene-n-hexadecane binary mixtures, vapour press. and excess vol. meas. at 298.15K 7—12315
hexafluoroethane, electron interactions, excited fragment form., excitation cross sections 7—57182
hexafluoroethane, IR multiphoton dissoc. IR absorpt. spectra 7—42710
hexafluoroethane-Ar mixture, electron drift velocity, attachment, ionization coeff. 7—31181
hexafluoroethane-methane mixture, electron drift velocity, attachment, ionization coeff. 7—31181
hexafluoropropylene, mol. gas, γ-ray induced ionis. 7—63247
hexakis(dimethylsilyl)benzene, rot. isomerisation mechanism and barriers, ^{4}H and ^{13}C NMR spectra anal., EFF calcs. 7—25359
hexakis(trimethylelementyl)benzenes, synthesis and crystal mol. struct., X-ray spectra anal., EFF calcs. 7—25360
hexakis(trimethylgermyl)benzene, synthesis and crystal mol. struct., X-ray spectra anal., EFF calcs. 7—25360
hexakis(trimethylsilyl)benzene, hexakis(trimethylelementyl)benzenes, synthesis and crystal mol. struct., X-ray spectra anal., EFF calcs. 7—25360
2,2,4,4,7,7-hexamethyl-2-sila-1,3-dioxepane, internal rot., steric struct. influence, T_1 meas. 7—10629
hexamethylbenzene, phase transition, calorimetric obs. *(Japanese)* 7—16733
hexamethylbenzene, proton transfer, high press. mass spectroscopy 7—54083

organic compounds continued
hexamethyldisilazane, pyrolysis in material synthesis by laser heating 7—65311
hexamethyldisilylchalcogenides, Raman, IR and H NMR spectral characts. 7—15615
(hexamethylene-1,6-)-bisdecylurethane, polymer chain fragment model, IR spectroscopic and X-ray studies *(Russian)* 7—19864
(hexamethylene-1,6-)bisethylurethane, polymer chain fragment model, IR spectroscopic and X-ray studies *(Russian)* 7—19864
hexamethylenetetraine.I_2 charge-transfer complex, reson. Raman and far-IR spectra anal. 7—42620
n-hexane, flashing liq., steady-state ejection, expt. unit 7—6209
hexane, gas, high density, Townsend ionis. coeff. and breakdown voltage 7—20842
n-hexane, in situ modelling using FTIR at high press. 7—54221
hexane, insulating liquid, air bubbles attached to point electrodes 7—37779
n-hexane, liquid, positron mobility 7—39285
n-hexane, partially oriented in liq. crystal, dipolar coupling consts., NMR methods study 7—25547
hexane, phase conjugation of laser beam 7—25904
n-hexane, photoionisation mass spectra, temp. effect 7—46818
n-hexane, stimulated Brillouin scattering, phase conjugation efficiency, focal length depend. *(Korean)* 7—31400
hexane-d_6, oriented, proton multiple quantum NMR spectra 7—19887
hexanitroethane, crystallographic and vibrational study 7—38131
hexanol-hexane (cyclohexane)(benzene), excess molar enthalpies at 298.15K 7—26956
hexanone-2, dielec. relax., inertia-corrected Budo theory calcs. 7—2969
4,7,13,16,23,26-hexaoxa-1,10,20,29-tetraazabicyclo [8.8.12]-triacontane-19,30-dithione, cryst. struct. 7—44508
hexatriacontane, hot electron cond. and relax., internal photoemission for transport anal. method 7—45340
1,3,5- hexatriene, conform. struct, vibr. anal., ^{2}H substitution effects, RHF calcs. 7—25386
hexatriene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7—19712
hexatriene, multipole expansions 7—62256
hexenylammonium copper tribromide, easy-plane ferromagnetic chains, sp. ht. and spin Hamiltonians, quantum statistics calcs. 7—64469
hexylammonium copper bromide, 1D easy plane ferromag., quantum Monte Carlo and transfer matrix calcs. 7—7468
4-n-hexylphenyl-4-butylbenzoate liq. cryst., isotropic phase, Kerr effect studies 7—33364
hexylphenylbutylbenzoate nematic, isotropic phase, Kerr effect dispersion, mol. dipole relax. study 7—63448
3-hexyne, vibr. spectra, normal coordinate calcs., free internal rot. 7—50069
high resol. time domain zero field NQR 7—13056
histidine, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7—25526
l-histidine hydrochloride monohydrate, single cryst., ^{14}quadrupole coupling, NMR spectra 7—13042
histidinium, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7—25526
HMTTeF-$TCNQF_4$ solid complex, partial charge transfer, Raman and XPS studies 7—32967
holmium formate dihydrate, circular dichroism meas. 7—17301
homoadamantane, ionised, methyl elimination, field ionisation kinetics and ^{2}H and ^{13}C labelling 7—42775
(−)α-hydrastine, negative effect detection in heteronuclear 2D NOE spectroscopy 7—25574
hydrazine additions to trimethylgallium, effect on decomposition during CVD, multiphoton and electron ionisation mass analysis 7—23010
hydrazine detection using CO_2-laser photoacoustic spectroscopy 7—51378
hydrazines, surface ionis. mass spectra 7—10763
hydrazinium hydrogen oxalate, X-irradiated, trapping site geometry of $N_2H_4^+$ radical ion, ENDOR study 7—7609
hydrazyl radicals, muonium substituted hyperfine coupling constants 7—42793
hydrocarbon, sat. linear, conformational density of states 7—5588
hydrocarbon+muonium, chem. dynamics in liq. phase 7—54093
hydrocarbon fuels, combustion, chem. kinetic modelling 7—54123
hydrocarbon mesogens, nematic phases, fluorination 7—1840
hydrocarbon micelle-water system, muonium localisation, spin relax. rate studies 7—50408
hydrocarbon mixed working fluids for geothermal power plants, vaporisation and condensation 7—65408
hydrocarbon peroxyl radicals, ab initio MO and electron correl. calcs. 7—49951
hydrocarbon processing using thermal plasmas, fundamentals and applications 7—33621
hydrocarbon systems, gas and liq. phase, in situ modelling using FTIR at high press. 7—54221
hydrocarbons, heats of form., off-diagonal matrix elements, IOC-ω technique calcs. 7—39910
hydrocarbons, liquefied, nonsteady discharge during rupture of pipelines 7—44057
hydrocarbons, microbial biodegradation in groundwater, numerical simulation 7—46977
hydrocarbons, oxidation, inhibition by phenols, optimisation calcs. 7—46834
hydrocarbons, plasma deposition of a-C:H, optical emission anal., mass spectra 7—39422
hydrocarbons, saturated, liq., optically detected ESR of solvated electrons 7—25560
hydrocarbons, temporary negative ion states, electron transmission 7—42586
hydrocarbons+OH, collisional quenching of OH, rate const. meas. 7—10654
hydrocarbons adsorbed on transition metal surfaces, EELS studies of bonding 7—3128
hydrocarbons identification at Pacific Ocean floor 7—29079
hydrocarbons in urban areas traffic pollution, role in O_3 form. 7—3736
hydrocarbons in water, remote detection, four-photon polarization Raman spectroscopy 7—46992
1-(hydroxy)germatrane, cryst. and mol. struct., X-ray investig. 7—12055
hydroxy alkyl phenyl vinyl ketones, polymer prep. and struct. 7—54120
6-hydroxy-1,2-dihydroquinoline, 2,2,4-trimethyl substituted, cryst. and mol. struct., X-ray diffr. 7—16539

organic compounds continued
4′-hydroxy-1-methylstilbazolium, solvatochromism, spectra study, solvatochromic comparison method anal. 7—25519
8-hydroxy-2-piperidinoquinoline, cryst. and molecular struct. 7—21191
2-(2-hydroxy-4-alkoxybenzylideneamino)-9-methylcarbazoles, photocond, props. 7—38631
4-hydroxybiphenyl, cryst. packing rel. to mol. geometry and thermal motion 7—26736
bis(2-hydroxyethyl)terephthalate single cryst., benzene ring modes, Raman tensors determ. 7—64642
hydroxyethylene, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7—56983
3-hydroxyflavone, ground state tautomer, proton transfer relax., laser fluores. spectroscopy 7—15640
hydroxyiminophenylacetonitrile, cryst. and mol. struct. 7—51746
hydroxymethanesulfonate, determination in wet deposition by chromatography method 7—54406
hydroxymethanesulphonate in atm. precipitation 7—60326
hydroxymethyl radical, oxidation kinetics, phosphoresc., time depend. rate const. 7—10648
hydroxymethylperoxy radical, thermal stability, ESR spectra 7—62415
9-hydroxyphenalenone-de(di) Shpolskii matrix isolated, H bonding, phosphoresc. 7—19926
2-(o-hydroxyphenyl)benzimidazole, excited state proton transfer, pulsed liq. lasers, pop. inversion obs. 7—50549
hydroxypropyl cellulose, lyotropic liq. crystals., capillary rheometry 7—63099
8-hydroxyquinoline, intramol. H bonding, UV photoelectron spectra and MO calcs. 7—25367
8-hydroxyquinoline-N-oxide, intramol. H bonding, UV photoelectron spectra and MO calcs. 7—25367
3-hydroxyretinoids, separation and identification of geometric isomers and occurrence in eyes of insects 7—23348
9-hydroxytriptycene, 9-substituents, cct. barriers 7—64539
L-iduronic acid, sulphated residue in heparins, conformer struct. and population study, ^{1}H NMR spectra anal., force field calcs. 7—25546
imadizolium, vibr. spectrum. solvent, protonation and metal ion coord. effects, UV Raman spectra 7—25526
imidazole, adsorbed on microlithographically prepared Cu, SERS obs. 7—27712
imidazole, rot. Zeeman effect 7—57109
imidazole, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7—25526
iminoborane, and derivatives, electronic struct. ab initio calcs. 7—847
[IN-(2-l] furylidene)-β(z-furyl)serine methyl ester, diastereomeric forms, tautomeric equilib., solvent effects ^{1}H and ^{13}C NMR spectra 7—19893
indene/tetracyanoethylene, ps Raman spectroscopy and electron transfer 7—46035
indigo dyes adsorbed on Ag hydrosol particles, SERS spectra 7—46870
indole:naphthalene(anthracene)(tetracene) crysts., impurity complexes, photolum., thermolum. and absorpt. spectra studies *(Russian)* 7—46139
indole, cryst. and melt, vibr., IR and Raman obs. 7—3049
indole, fluoresc. quenching by acrylamide, harmonic-content freq.-domain fluorometry, transient effects 7—25586
indole, valence force const. IR and Raman freqs., normal coordinate anal. 7—914
indolecarboxylic aids, proton transfer reactions in excited singlet state, fluoresc. spectra study 7—22318
indoles, room temp. fluorescence quenching by trivalent lanthanide ions in dimethyl sulfoxide 7—42670
indoloquinoxaline, excited state, radiative rates, fluoresc. spectra 7—62433
insulin, UV reson. Raman spectra anal. 7—41481
iodides formation under reactor accident conditions 7—49604
iodomethane, ν_4 band, high resolution IR spectra 7—5681
iodomethane, IR spectrum, rot. anal. and interaction mechanism 7—57063
iodomethane, multiphoton ionisation 7—42698
iodomethane+K→KI+methyl radical, orientation depend., classical trajectory calcs. 7—39866
iodomethane+NO^+, charge exchange, ground state radiative lifetimes, ion cyclotron reson. spectra anal. 7—31114
iodomethane high-n Rydberg states, absorpt. density effects 7—50167
iodomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
iodomethane-d_1, IR and NQR spectra 7—5706
iodomethane-d_3, hyperfine interactions microwave-RF double reson. 7—36657
iodotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7—25882
iodotrimethyl-1,2-bis(methylthio)ethane platinum (IV), multisite exchanging system, 2D NMR exchange spectroscopy 7—25554
ion radical salt, $(AsPh_4)_{0.25}(Ni(dmit)_2)$, synthesis, elec. cond. and cryst. struct. 7—37958
iron(III)tris(acetylacetonate), matrix isolated, magnetisation props., MCD meas. 7—57112
iron phthalocyanines, spontaneous pyroelec. current obs. 7—27669
iron porphyrin complexes, mag. moment susceptibility, Mossbauer study 7—22168
iso-propyl radicals, radiolysis rate const. determ., UV absorpt. spectra 7—46860
iso-propylperoxy radicals, radiolysis rate const. determ., UV absorpt. spectra 7—46860
isobutane, capillary const. and surface tension 7—12395
isobutyraldehyde, barriers to rotation adjacent to double bonds 7—10394
isobutyric acid, barriers to rotation adjacent to double bonds 7—10394
isobutyric acid-H_2O, near-critical binary fluid mixture, refractive index, Lorentz-Lorenz rel. 7—7659
isocyanic acid, heat of form., photodissoc. study, time-of-flight and laser-induced fluoresc. spectra anal. 7—31105
isocytosine, and thio derivatives, tautomerism, ab initio study 7—837
isoflurane, VUV absorpt. cross section meas. 7—926
isoformyl cation, difference freq. laser IR spectroscopy 7—62366
isoformyl cation, force field, equilibr. geometry, ab initio determ. 7—62293
isoformyl cation, rot.-vibr. energies, ab initio pot. surfaces 7—62264
isolucine, homooligo peptide, conformational anal. by singlet-singlet energy transfer method 7—46998
isooctane, in organic cpds. background mixture, IR spectra anal., max. difference method 7—46911
isoprenaline, cryst. and mol. struct. anal. 7—57008
N-isopropylcarbazole, phase transition, elastic props. 7—38087
Kekule and sextet patterns, one-to-one correspondence 7—15509
ketene, photolysis, methylene radical prod. 7—50155

organic compounds continued
ketene, triplet state photolysis, CO photofragment rot. state distrib. 7−23039
ketene adsorbed on Pt(lll), surface chemistry, substrate temp. influence, EELS 7−46867
ketones, ionisation pot., calc. based on interactions between struct. units 7−15738
l-threonine, in methanol-water mixtures, viscosity B-coeffs. 7−12343
Langmuir-Blodgett films, molecular design *(Japanese)* 7−21742
lanthanum ethylsulphate: Gd^{3+}, spin correlated cryst. fields and zero-field splittings, intersite contrib. calcs. 7−16996
lauric acid adsorpt. on Ag film, reflectivity and laser excited surface plasmon spectroscopy meas. 7−45011
LDS-750 dye, solvation dynamics in polar aprotic and alcohol solvents, subpicosecond resolution meas. 7−49961
lead (II) carboxylates, thermotropic phase transitions, DSC meas. 7−21441
lead II 9,10-dihydroxyoctadecanoate, and binary mixtures, molten elec. cond. 7−38231
lead stearate, molecular films, small angle X-ray studies 7−58620
lecithin, aq. soln., bilayer liposomes, radiation damage PMR relax. time determ. 7−34200
linear chain conductors, IR and near IR props. 7−22247
lipid A, free, multibilayer, phase transition behaviour, FTIR, endotoxic principle of gram-negative bacteria outer barrier 7−54500
lipids, FTIR spectra, water subtraction procedure 7−54834
lipids, phase diagram construction, temp. gradient method using time-resolved X-ray diffr. 7−54816
liquid crystals, orientational order parameters, IR dichroism of mol. groups 7−44358
liquid crysts., mesophase behaviour, mol. structural effects study 7−63458
liquid methane, mobility of injected electrons, calc. 7−38564
liquid sulphur cpds. Monte Carlo simulations, develop. of suitable intermol. pot. fns. 7−31140
lithium biphenylide-biphenyl association in methyltetrahydrofuran soln., comment 7−28293
lithium dodecyl sulphate, micellar dynamics, ^{13}C-^{2}H scalar relax., NMR 7−27622
lithium hydrogen dimalate, dielectric const., pyroelectric coefficient 7−38989
lithium n-heptanoate, heat capacities and thermodynamic props. 7−52072
lithium n-pentanoate, heat capacities and thermodynamic props. 7−52072
lithium phthalocyanine radical, optical and mag. props. 7−62417
lithium trifluoromethyl sulphite, in polymer electrolytes, ion pairs triplet form., conductance meas. 7−32690
long chain molecules, epitaxial crystallisation, morphological, structural study 7−16901
long-chain amphiphile on solid substrate, thermally induced disorder, Fourier transform IR spectra 7−12467
lumiflavin vibr., isotope freq. shift, IR spectra 7−918
lutetium bisphthalocyanine, doped p- and n-type thin films, cond., visible spectra anal. 7−52865
lutetium diphthalocyanine, γ-phase, cryst. and molecular struct. 7−21190
DL-lysine, optical resolution by polymers with L-lysine pendant group 7−64601
m-dinitrotetramethylbenzene, single cryst., vibr. study, IR reflectance and transmission and polarised Raman spectra 7−25512
magdal red, frozen solns., excited singlet states fluoresc. spectra 7−42675
malachite green, coherent mol. vibr. motion, fs time resolved obs. 7−57189
malonic acid, Belousov-Zhabotinsky reaction, oscillatory states transition 7−17765
malonic acid, H dynamics, spin-lattice relax., ^{1}H NMR 7−59120
malonic acid, in dioxane, dipole moment, solvent effect eval. 7−25399
manganese formate, Mn(HCOO)$_2$.2H$_2$O, magnetic transitions, compression and mag. dilution effects 7−52986
mannitol, aq. solns., solvation investig. *(French)* 7−65299
mass spectroscopic chemical analysis, liquid ionisation, principle and appls. *(Japanese)* 7−17839
matrix-assisted field desorption mass spectrometry, temp. effects 7−30108
MBBA, isotropic-nematic phase transform., order parameter kinetics 7−26950
MBBA, liquid crystal, electric field effects, cell for optical studies 7−44360
MBBA, nematic, electrochemistry, orientational effects 7−26622
MBBA, nematic, orientational order, third harmonic generation susceptibility investig. 7−43235
MBBA, nematic, surface tension anisotropy, Freedericksz transition in mag. field. 7−63443
MBBA, nematic liquid crystal, temp. depend. of cubic susceptibility, Raman study 7−22237
MBBA, paramagnetic dopant mol. slow tumbling motion, EPR shift and broadening meas. 7−16458
MBBA hybrid nematic liq. cryst. cell, flexo-electric effect study 7−11904
MBBA liq. cryst., mol. orientational relax. times, luminescence meas. 7−44368
MBBA liq. cryst., Williams domain evolution process, Fourier spectrum anal. 7−32274
MBBA-EBBA nematic liq. cryst., acoustooptic effects 7−45984
melanin, sp. ht. below 3K 7−3754
Meldrum's acid, chem. shielding tensors, mol. motion, ^{13}C NMR obs. 7−53149
Meldrum's acid, ionisation rot. barriers 7−62307
melittin in membranes, conformation, Raman spectra obs. 7−23294
MEM(TCNQ)$_2$ spin-Peierls compounds, far IR ESR studies 7−22133
mercaptobenzothiazole lubricant additive, Raman microscopy study 7−46772
mercaptopyrimidines, substituted, vibr. IR, Raman and UV spectra 7−31043
mercury carboxylates, thermotropic phase transition temps. and heats of phase changes 7−2155
merocyanine dye Langmuir-Blodgett films, optical third-harmonic generation 7−20329
merocyanine dye-PMMA Langmuir-Blodgett multilayer mixtures, deposition studies, SHG obs. 7−58715
merocyanine dyes, J aggregate form. in mixed monolayers, visible spectra and surface pressure-area isotherms anal. 7−31059
merocyanine Langmuir-Blodgett layers, optical props. 7−17351
mesitylene, proton transfer, high press. mass spectroscopy 7−54083
mesogenic chiral esters, helical twisting power *(German)* 7−21095

organic compounds continued
mesophyll chloroplasts from sugar cane, photosynthetic electron transport 7−59953
mesophyll plastid, maize, greening under extreme low-light intensity 7−59954
metal β-diketonate, multiphoton ionisation mass spectra 7−19960
metal dithiolenes, struct., elec. and optical props. 7−44516
metal phthalocyanines, elec. and photocond., props., coordination metal effects *(Japanese)* 7−12753
metal-nonmetal transitions, superconductivity 7−2486
metal-phosphine complexes, stereodynamics, equilib. conformations, DNMR 7−31083
metalloporphyrin, fluoresc., picosec. kinetic meas. 7−31112
metalloporphyrin dianions, electronic struct., RHF calcs. 7−56946
metalloporphyrin polystyrene covalent complex, electron transfer reaction 7−39879
metalloporphyrins, electron transfer rate meas. 7−5760
metapyridinophanes, electronic struct. and transitions classification 7−10430
methacrylamide, UV irrad., free radical reactions with gases, ESR obs. 7−10633
methan-t$_1$, triton β decay, effect on neutrino mass determ. 7−49310
methane, ν_2 and ν_4 bands, interacting E and F$_2$ fundamentals, reduced Hamiltonian and invariant parameters 7−25486
methane, absolute strengths and self-broadened widths in IR spectra 7−36622
methane, absorp. on graphite, multilayers, adsorpt. isotherms and heat of adsorpt. 7−32794
methane, activated chemisorption on W (211) 7−52279
methane, adsorption on graphite, incomplete wetting at low temps. 7−32798
methane, Ar(Kr)(Xe) solid trapped, site struct. and hindered rot., IR spectra 7−5675
methane, binding energies, ab initio HF calcs. 7−49894
methane, bond rupture surfaces, MC SCF calcs. 7−30922
methane, combustion kinetics with Pd, Pt catalysts 7−39894
methane, deposition plasma, homogeneous and heterogeneous chemistry, deposition of C:H 7−39424
methane, dissociative ionization and electron attachment 7−31182
methane, elastic electron scatt., multiple scattering method cross section calcs., anal. of method 7−25370
methane, electron elastic scatt., differential cross sections meas. 7−25653
methane, electron momenta, Hartree-Fock-Roothaan calc. 7−42466
methane, electron scatt. cross section calc., parameter-free model interaction 7−62535
methane, electron scatt. cross sections, 0.1 to 500 eV, complex optical pot. calcs. 7−25382
methane, electronic transitions, 2-photon transition probability calcs. 7−25619
methane, equilib. bond lengths, relativistic corrections 7−36477
methane, fine struct. near C-K edge region in photon W-value 7−19962
methane, force field, HF SCF and GAS SCF calcs. 7−62268
methane, gaseous, low temp. collision-induced IR absorpt. 7−10562
methane, glow discharge, stimulation of methanol formation 7−32178
methane, in atmosphere, emission from rice paddy fields in Italy 7−40073
methane, in situ modelling using FTIR at high press. 7−54221
methane, ionisation by X-rays, effect of fluid density on energy absorpt. 7−31920
methane, IR band intensities 7−10579
methane, jet diffusion flames, swirl effect on stability 7−23017
methane, jet-cooled, electron impact induced fluoresc. of dissoc. fragments 7−36676
methane, liquid, fluorescence spectra near needle electrode under divergent fields 7−7737
methane, mag. suscept. theory in atomic quantities terms 7−25366
methane, multicentre integrals, Slater fn. translation transform. calcs. 7−10417
methane, natural hybrid orbitals and photoelectron spectra 7−56941
methane, nucl. mag. shielding consts. ab initio wave function calcs. 7−5594
methane, o-positronium decay rate, mean field behaviour transition 7−36733
methane, oscillator strength, X-ray and VUV absorpt. spectra 7−36643
methane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7−50254
methane, photoionisation cross section, ground state inversion pot. method/diffr. theory 7−945
methane, physisorbed on NaCl (100), EELS spectra 7−13289
methane, positron and electron collisions, cross section meas., time-of-flight spectra anal. 7−36799
methane, press., density and temp. meas. in crit. region 7−52000
methane, proton–proton spin–spin coupling surface 7−42645
methane, protonated, dissociative recombination at interstellar cloud conditions 7−23009
methane, pulse discharge, a$^3\pi_u$ radical form. and decay 7−23003
methane, pyrolysis in plasma jet and behind shock wave, chem. species distrib., calc. and meas. 7−37751
methane, solid to matrix, IR ν_4 band obs. 7−42608
methane, surface tension at low temps. 7−58566
methane, T$_d$ skeleton, point groups 7−29634
methane, turbulent jet discharge, planar imaging 7−20767
methane, vibr. anal. IR and Raman spectra, MNDO calcs. 7−10543
methane, vibr. dephasing, critical density broadening, Raman spectra anal. 7−62387
methane, vibr.-rot. bands, transition intensities, transformed dipole moment calcs. *(French)* 7−50053
methane, viscosity and structural props. 7−6501
methane, XeF laser pumped, high-efficiency first-Stokes generation 7−20347
methane, XeF laser pumped, Stokes generation, beam parameters 7−20346
methane+Ar, energy transfer, simulation 7−15690
methane+Cs$^-$, low-energy collisions, absolute total cross section meas., curve-crossing model anal. 7−36749
methane $-d_0$ ($-d_4$), integrated IR intensities 7−50132
methane (-d$_4$), gas, electron swarm characteristic energies 7−63388
methane - 2,2-dimethylbutane - 2,3-dimethylbutane, tricritical behaviour 7−12234
methane adsorbed monolayers on MgO (100), LEED anal. *(French)* 7−21620
methane adsorbed on graphite, bilayer and trilayer 7−2363

organic compounds continued
- methane adsorbed on graphite, heat capacity calcs., quantum cell model 7—52076
- methane adsorbed on graphite, LEED 7—27129
- methane adsorbed on graphite, multilayer melting transition 7—6992
- methane adsorbed on graphite surface, positron lifetime studies 7—39269
- methane adsorption kinetics on Si (100)-(2×1) 7—27127
- methane adsorption on graphite, multilayer growth mode 7—32795
- methane and aerosol, in atmosphere of Kislovodsk, USSR *(Russian)* 7—54388
- methane and propane in diluted air, diffusion flames, extinction limits 7—3590
- methane and related cpds., combustion and pyrolysis 7—18516
- methane anion+methane, internal energy depend. of cross section and mechanism branching, TESICO investig. 7—28298
- methane biological production in soil and sediments, enhanced due to increase atmos. CO_2 levels 7—29152
- methane bubble form. in Fe-C-H system, positron studies 7—37967
- methane C atom modified atomic orbital basis set calcs. 7—19681
- methane cation, stereochemical struct. direct determ. 7—36808
- methane dissociative chemisorption on Ni (100) studied by supersonic molecular beam techniques 7—52287
- methane electron beam controlled discharges, charactn. and switching performance 7—26533
- methane enrichment in anaerobic digestion, advanced concepts 7—65397
- methane high-power forward Raman amplifiers employing low-press. gases in light guides 7—20344
- methane in atmosphere, concentrations in AD 1860 to 2035 period, model 7—29153
- methane in atmosphere, emission from tropical forest soils 7—40528
- methane in atmosphere, IR radiation models 7—18302
- methane in atmosphere, stable C isotope ratios 7—29167
- methane in Neptune stratosphere, mixing ratio determ. from occultation obs. 7—34927
- methane in stratosphere, oxidation as source of H_2O in stratosphere 7—34650
- methane in supersonic molecular beams CARS of ν_3 band 7—25876
- methane in well water from Saskatchewan, Canada, origin 7—40440
- methane ion, photoelectron spectrum, Jahn-Teller effect, ab initio SCF and CI calcs. 7—42683
- methane ion+$H_2 \rightarrow CH_5^+$+H, ion reaction at interstellar cloud conditions 7—23008
- methane monolayer on graphite, thermodynamic study 7—16863
- methane nonpolar fluid, electron mobility near crit. point 7—7243
- methane saturated absorption stabilised He-Ne laser, frequency shifts obs. 7—20192
- methane-air laminar counterflow diffusion flames, struct., CARS meas. 7—57939
- methane-air laminar diffusion flames, struct. 7—65327
- methane-air turbulent diffusion flames laminar-flamelet modelling 7—57938
- methane-alkane mixtures, vapour-liq. equilib. Wilson-Wegner expansion, vapour press. calcs. 7—12248
- methane-d_0(-d_4), ionisation potential, photoionis. mass spectrosc. obs. 7—50271
- methane-$d_0(d_1)(d_2)(d_3)(d_4)+O_2^+$, reaction rate coeff. and product distrib. meas., isotope effect 7—13741
- methane-$d_0(d_4)$, intermol. force const. and normal mode calcs. 7—56937
- methane-$d_1(d_3)$, bending mode triad, anal. model, IR spectra 7—19822
- methane-d_1 in atmosphere of Uranus, detect. at 1.6 μm wavelength 7—55529
- methane-d_2 laser, submillimeter molecular, new emission lines 7—1089
- methane-d_4, mixtures and cryogenic solns., low temp. vibr. relax. 7—5755
- methane-d_4, pentad rovibr. levels, line parameters study, Fourier transform IR spectra anal. 7—50115
- methane-d_4+Ar, energy transfer, simulation 7—15690
- methane-ethane fluid mixture, thermal cond./comp. depend. 7—51368
- methane-ethane mixtures, liq., thermal cond. study 7—2280
- methane-H_2, gaseous mixture, far-IR absorpt. spectrum 7—10577
- methane-H_2 mixture, isochoric meas. at temp. from 140 to 273.15K, eqn. of state, density 7—26377
- methane-H_2 plasma, epitaxial growth mechanism of diamond crystal 7—12532
- methane-H binary mixtures, H fugacity coeff. meas., physical equilib. technique 7—16295
- methane-SF_6 mixtures, negative ion drift velocities 7—11583
- methane-tetrachloromethane(benzene), intermol. pot., sphericalisation 7—10701
- methane-tetrafluoromethane mixture, surface tension at low temps. 7—58566
- methane/He-Ne laser frequency standard accuracy improvement 7—18761
- methane/He-Ne ring lasers stabilised using FM resonances, frequency reproducibility 7—1206
- methane/HeNe laser, absolute frequency meas. at 88 THz 7—18762
- methanediazonium ions, unimol. dissoc., ab initio and semiempirical MNDOC calcs. 7—15513
- methanes, monosubstitution, stabilisation energies, ab initio LCAO SCF calcs. 7—25389
- methanethiol, atm. photooxidation reaction mechanism 7—54113
- methanethiol radical, radiative lifetimes, fluoresc. study 7—19954
- methanimine, fluorination effect on double bonds, SCF HF and MP2 ab initio calcs. 7—10384
- methanol, adsorpt. on Al_2O_3, Fourier transform IR spectra 7—38345
- methanol, adsorption on MoO_3, influence of photoinjected H on adsorptivity 7—63942
- methanol, adsorption on Pd (100) surfaces modified by Na (NaO) overlayers 7—21657
- methanol, adsorption on V_2O_5, influence of photoinjected H on adsorptivity 7—63942
- methanol, adsorption on WO_3, influence of photoinjected H on adsorptivity 7—63942
- methanol, aq. solns., viscosity, high press. effect 7—52102
- methanol, associates, H bonding, struct. CNDO/BW calcs. 7—56985
- methanol, C—O stretching band, transition dipole moment, laser Stark spectroscopy 7—57106
- methanol, compressed gas and liq. PVT props. meas., pseudoisochores determ. 7—16713
- methanol, concentration meas. by IR gas-filter correlation spectrometer 7—59817
- methanol, FIR laser transitions, FIR and IR spectroscopic studies 7—36625

organic compounds continued
- methanol, FIR lasers, intracavity triple reson. spectroscopy 7—10560
- methanol, form. stimulation in methane glow discharge 7—32178
- methanol, in freons, ν(OH) IR band temp. variations 7—42610
- methanol, interstellar, obs. of torsionally-excited states in hot mol. cloud cores 7—48005
- methanol, jet-cooled, electron impact induced fluoresc. of dissoc. fragments 7—36676
- methanol, multiphoton ionis., IR laser study 7—62475
- methanol, radiation heat transfer influence on effective thermal conductivity 7—6898
- methanol, two-colour multiphoton excitation by CO_2 and HF lasers 7—42716
- methanol, vapour, homogeneous nucleation rates, heat of assoc. effects 7—26926
- methanol+Cl^-, clustering reactions, van 't Hoff plots based on ab initio MO calcs. 7—28288
- methanol+fulminic acid (acetonitrile oxide), reaction pathway, MNDO SCF calcs. 7—3582
- methanol+OH, rate coeff. determ., flow tube temp. effect 7—59740
- methanol FIR laser, optical pumping by powerful stable CO_2 laser 7—10993
- methanol high power FIR cavity laser system with long-term stability 7—36982
- methanol laser lines from torsionally excited CO stretch states, and from OH-bend, CH_3-rock, and CH_3-deformation states 7—36942
- methanol. liq., cross-correl. fn., diffusional dynamics study 7—37822
- methanol mol. vibr. spectrum, CNDO/2 FORCE calcs. 7—49924
- methanol monolayers, stretch vibr. obs., optical sum-freq. generation 7—58610
- methanol particle sizing with phase Doppler spray analyser 7—29969
- methanol pumping by CO_2 waveguide laser, FIR lines 7—20263
- methanol synthesis over shock-compressed ZnO powder catalysts 7—39919
- methanol vapour, viscosity, initial density dependence 7—31918
- methanol-^{13}C, laboratory microwave spectrum, Ori A identification 7—57053
- methanol-*n*-hexane near liquid-liquid critical point, mutual diffusion coeff. 7—44876
- methanol-$d_0(d_1)(d_4)$-cyclohexane-$d_0(d_{12})$, critical mixtures, isotope effects 7—12253
- methanol-d_1 lasing lines on IR pumping by CW CO_2 laser 7—1082
- methanol-d_4, lasing lines on IR pumping by CW CO_2 laser 7—1082
- methanol-d_4, mol. struct., pulsed neutron diffr. study 7—63427
- methanol-heptane (octane), liq.-liq. phase equilibrium at press. from 0.1 to 150 MPa 7—26931
- methanol-isooctane mixture, coexistence curve determ. by meas. refractive index 7—38162
- methanol-n-hexane, equilibr. assoc. consts., NMR 7—932
- methanol-trimethylamine, associates, H bonding, struct. CNDO/BW calcs. 7—56985
- methanol-water mixture, volumetric behaviour, high press. study 7—51904
- methanol/cumene mixtures, vs. studies at various temps. 7—58415
- 2,4-methanoproline, L-proline analogue in small peptides study, ^1H NMR and NOE spectra anal. 7—25545
- methemoglobins, whole-blood, millimolar absorpt. parameter spectra, 660-1000 nm 7—40101
- methionine, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
- methoxy, alkyl phenyl vinyl ketones, polymer prep. and struct. 7—54120
- methoxy(-d_3) radicals, gas-phase detection by reson.-enhanced multiphoton ionisation spectroscopy 7—31134
- 2-methoxy-2-oxo-1,3,2-oxazaphosphorinane, conformer struct. and populations, IR, NMR and X-ray spectra anal. 7—25509
- 3′-methoxyacetophenone, triplet, quenching by O_2 7—15641
- 3-methoxybenzanthrone in soln., picosecond spectroscopy of intermolecular proton phototransfer 7—54150
- 4-methoxybenzylidene-4′-propylaniline-n-hexane (benzene) mixtures, enthalpy *(Russian)* 7—63833
- methoxybutyl azobenzene, nematic, electrochemistry, orientational effects 7—26622
- methoxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7—10398
- 2-methoxyethylamine, H bonded config. mol. rot., rot. isomerism barrier, quadrupole coupling consts., microwave spectra 7—50093
- 5-methoxyindole, IR and electronic absorpt. spectra 7—50103
- 5- methoxymethyl-1-(2′-deoxy-β-D-lyxofuranosyl)uracil, struct. and conformation, X-ray crystallographic anal. 7—23306
- p-methoxynitrobenzene, solvated anion radicals reaction kinetics in liq. NH_3, ESR spectra anal. 7—19907
- methyl, electron affinities evaluation 7—5591
- syn-(methyl,methyl)bimane aq. soln., lasing action obs. under flashlamp excitation 7—43083
- methyl(difluorophosphineborane), vibrational assignment, normal coordinate anal., Raman and IR spectra 7—62384
- methyl 2-(2,4-dinitrophenyl)aminopropanoate single crysts., travelling-heater Bridgman growth 7—59409
- methyl acetate, bubble collapse in organic liqs. *(Chinese)* 7—11516
- methyl alcohol, ^{13}C NMR chem. shifts, intermol. interactions effects 7—50193
- methyl alcohol, diffusion and sorption by polystyrene film, IR ATR spectrosc. obs. *(German)* 7—53302
- methyl alcohol, pump injection into FIR laser resonator using Al_2O_3 waveguide 7—43356
- methyl ammonium boron trifluoride, nucl. quadrupole coupling, electronic struct. NMR 7—13043
- methyl bromide, thermal electron attachment and diffusion 7—20038
- methyl bromide, thermal electron attachment and diffusion 7—20837
- methyl carbons, chemical shielding, struct. effects, ^{13}C NMR spectra anal., ab initio IGLO calcs. 7—25358
- methyl cation+H_2 radiative assoc. rate 7—3585
- methyl chalcogenides, UV photoelectron spectrosc. investig. 7—5721
- methyl chloride, CO_2 laser pumped, freq. meas. on FIR laser emissions 7—1084
- methyl chloride, Fourier transform IR spectra, rot.-vibr. anal. 7—10571
- methyl chloride, rot. transitions, isotope shifts, microwave spectra anal. 7—42606
- methyl chloride dimer, liq. electrostatic induction, thermodynamic and struct. props. 7—57145
- methyl cyanide, spin-rot. coupling heteronuclear dipolar order 7—50065
- methyl cyanide-acetylene dimer, pulsed nozzle FT microwave spectrosc. 7—36593
- methyl cyanide-HF(DF), hyperfine struct., rot. spectra 7—31012

organic compounds continued
methyl ether, mol. charge similarity index study, appl. to isosteric cpds. 7−56978
methyl ethyl ketone, diffusion and sorption by polystyrene film, IR ATR spectrosc. obs. *(German)* 7−53302
methyl ethyl ketone, pyrolysis, reaction mechanisms *(French)* 7−54112
methyl fluoride, dissociative ionis., methylene and methyl ions, form., photoelectron spectra 7−10662
methyl fluoride, pot. surface studied using ab initio MO theory with electron correl. energy 7−42494
methyl fluoride, proton bound dimer, hydrogen bond energy determ. gas-phase mass spectra anal. 7−28365
methyl fluoride -^{13}C,nematic liq. cryst. soln., chem. shieldings and spin-spin coupling 7−5703
methyl fluoride clusters, photodissoc., photoionisation efficiency curves, appearance pots. 7−50435
methyl fluoride-d_3, and isotopic, laser lines, optically pumped, heterodyne freq. meas. 7−36943
methyl formate, electron impact excitation, fluoresc. meas. 7−10764
methyl group motion, rotation barrier and spin-lattice relax. time meas. 7−50291
methyl halides, oriented mol. beams prod., rot. states 7−42751
methyl imino sulphurdifluoride, ab initio calcs. at SCF level, equilib. geometries and population anal. 7−10382
5-methyl indole in polymer films, UV polarised absorpt. spectrum 7−925
methyl iodide, 6s Rydberg states, two-photon spectra, rot. subband struct., spin uncoupling 7−25620
methyl iodide, liq., absorpt. coeff. and dielec. const.; bandshape expressions 7−64597
methyl iodide, orientational dynamic, Raman scatt. investig. 7−42618
methyl iodide + Cl, excitation function, microcanonical variational transition state theory 7−22995
methyl iodide + K, reactive collision, medical group effect, mol. beam study, cross section meas. 7−39900
methyl iodide fragmentation and multiphoton ionization 7−10689
methyl ion, two-configuration SCF wave functions, IR intensities and polarisabilities evaluation 7−10582
methyl ion+ethylene (acetylene) reaction, collision complexes form. 7−39867
methyl ion+$H_2 \rightarrow CH_5^+ + h\nu$, rate coeffs. rel. to role of electronic transitions in radiative assoc. processes 7−66714
methyl isobutyl ketone-n-pentanol (isoamyl alcohol) excess functions, Gibbs free energies 7−6825
methyl isocyanide, overtone-induced isomerisation, master eqn. formalism 7−13750
methyl isopropyl ketone, barriers to rotation adjacent to double bonds 7−10394
methyl methacrylate radicals, ESR spectra, temp. depend., 77 to 300 K 7−62420
methyl methacrylate-n-heptane, excess enthalpies and vols. at 298.15K 7−44824
methyl methacrylate-n-hexane, excess enthalpies and vols. at 298.15K 7−44824
methyl orange, and homologs, binding by copolymers, temp. depend 7−49975
2-methyl oxetan, vibr. circular dichroism spectra, expt. and theoretical results 7−50208
methyl peroxide, photochemical formation in boundary layer of atmosphere 7−29155
methyl radical, pyrolytic precursors, electronic spectrum, EELS anal. 7−42760
methyl radical+H(D), rate const. determ., laser photolysis and reson. fluoresc. 7−8250
methyl radical in solid Ar, ENDOR/TRIPLE spectra of matrix-isolated molecules obs. 7−30058
methyl radicals, etching of metal films in discharges 7−3507
methyl silane, rot.-vibr. anal., Fourier transform IR spectra 7−19846
methyl silane, torsional dipole consts., rot.-vibr. anal., microwave and IR spectra 7−19829
methyl spin and charge densities, HF and UHF calcs. 7−19684
methyl sulphide, mol. charge similarity index study, appl. to isosteric cpds. 7−56978
methyl thiocyanate, adsorption and reactions on Ni (111) 7−21640
methyl thiyl radical+$NO(NO_2)(O_2)$, reaction rate consts., mol. fluoresc. anal. 7−19917
s-cis methyl vinyl ether, coupled torsional and bending motions, microwave Fourier transform spectra 7−62355
methyl vinyl ketone, mol. torsional interactions, flexible model, far-IR spectra anal. 7−50101
methyl xyloglucuronates, mol. wt. and sequence determ. by ^{13}CNMR and mass spectroscopy 7−15625
1-methyl-1′-octadecyl-2,2′-cyanine perchlorate dye, Langmuir-Blodgett multilayers, Ag/glass substrate, distance depend of SERS 7−32801
1-methyl-2,4,6-triphenylpyridinium iodide, charge transfer complex, UV absorpt. spectra 7−36640
3-methyl-2-phenyl-5-(3-methyl-2-phenyl-1-acetyl-3,4-dehydro-6-piperidyl)piperidine, restrained rot., NMR line form anal. 7−10630
2-methyl-2-propanol, aq. solns., viscosity, high press. effect 7−52102
2-methyl-2-propanol, solid, mol. dynamics and phase transitions, NMR study 7−36649
2-methyl-2-propanol mixture, volumetric behaviour, high press. study 7−51904
2-methyl-4-nitroaniline, harmonic generation rel. to dichroism 7−43212
2- methyl-4-nitroaniline in high index top layer of four-layer waveguide struct., SHG of Nd:YAG laser *(Japanese)* 7−43240
2-methyl-4-nitroaniline single crystalline films, growth for phase-matched frequency-doubling 7−3212
β-methyl-cellobioside heptanitrate, mol. and cryst. struct., X-ray anal. 7−63598
N- methyl-N′-nitro-N-nitrosoguanidine, conform. struct. and stability, ab initio MNDO calcs. 7−25406
(methyl-N-ethyl-morpholinium)$(TCNQ)_2$, Raman scatt. in vicinity of spin-Peierls transition 7−53331
4-methyl-pyridine(-d_7), phase transitions, mol. mechanism, IR and Raman spectra 7−32637
methyl-substituted amine−HF complexes, methylation effect, IR spectra anal. 7−19855
N-methyl-thioacetamide on Cu and Ag surfaces, enhanced Raman spectroscopic obs. on rot. isomers 7−46037
N-methylacetamide, liq., low-freq. Raman spectra 7−50144

organic compounds continued
N-methylacetamide-formamide, varying H bond geometry, N-H bond vibr. properties, ab initio calcs. 7−10407
N-methylacridone fluorescence quantum yield from highly excited molecular states, photoacoustic-effect meas., triplet-state absorpt. 7−36678
1-methylallyl cation, photoionisation mass spectrometry, heat of form., ionisation energies, ab initio MO calcs. 7−13798
methylamine, electron impact, excited NH radical form. 7−36800
methylamine, N-methyl substitution, bond dissoc. energies ab initio calcs. 7−15503
methylamine, torsional-wagging tunnelling and torsional-wagging-rotational problem 7−62347
methylamine radical cation, hyperfine coupling tensors, ab initio UHF calcs. 7−25373
methylamines, nuclear quadrupole coupling consts., solvent effects *(French)* 7−25558
methylammonium iodide, phase transitions, calorimetric and dilatometric studies 7−12261
methylammonium mercury chloride, ^{35}Cl NQR study of low temp. phase transition 7−22160
methylammonium mercury chloride, ferroelec. phase transition, proton-^{14}N double reson. study 7−7653
bis-methylammonium tetrachloro manganese antiferromag. crysts., struct. deform. by exciton self-localisation, luminesc. spectra fine struct. study *(Russian)* 7−27752
methylarsenic compounds in airborne particulate matter, seasonal var. 7−34638
methylated Aerosil R-972, organophilic, alcoholic dispersions, coagulation by additions of water and electrolytes 7−8325
2-methylaziridine, bond inversion rate determ., PMR line shape anal. 7−19892
methylbenzyl radicals, photoelectron spectrosc., thermochem. 7−10664
4′-((s)2-methylbutyloxy)-phenyl-4-alkyloxy-benzoate, smectic C* liq. cryst., ferroelectric polarisation props. 7−13100
methylcarbamate, conformers, torsional changes, ab initio structural studies 7−15502
methylchloroform, microwave and mm-wave spectra, hyperfine struct., rot. and centrifugal distortion consts. 7−25500
3- methylcyclobutane in gas phase, photolysis and sensitised decompositions 7−23040
methylcyclobutane-do(d_3), conformational stability, low freq. Raman spectra anal. 7−50146
methylcyclohexane, thiourea inclusion compounds, substituted cyclohexane conform., ^{13}C CP/MAS NMR spectra 7−19889
1-methylcyclohexyl cation to 1,2-dimethylcyclo pentyl cation, rearrangement, MINDO/3 study 7−10428
1-methylcytosine, (010) and (101) single cryst. faces, transition-moment directions, polarised reflection spectra 7−15619
5-methylcytosine, effect on DNA methylation 7−59920
5-methylcytosine, incorporation in nucleic acids 7−54441
methyldiazohydroxide, dissoc., ab initio calcs., rel. to carcinogenesis 7−56962
methyldichlorophosphine, struct., and orientation in mixed nematic liq. crystals, NMR spectra anal. 7−53165
methyldioxy radical+HO_2, rate constant, flash photolysis and UV spectral study 7−54075
methyldioxy radical self-reaction, rate constant, flash photolysis and UV spectral study 7−54075
methylene, $^1A_1$-$^3B_1$ separation, full CI calcs. 7−36486
methylene, closed shell configs. SINDO method calcs. 7−19705
methylene, excited states, cubic force consts. and vibr.-rot. interaction consts. calcs. 7−25341
methylene, low-lying singlet and triplet states, substituent effects 7−10429
methylene, pot. energy surface and singlet-triplet splitting, calcs. 7−10397
methylene, singlet-triplet gap, basis set and electron correl. effect 7−49943
methylene, triplet, ν_2 fundamental band, IR spectra 7−10568
methylene, two-configuration SCF wave functions, IR intensities and polarisabilities evaluation 7−10582
methylene, vibr. band broadening, Raman spectra 7−10597
methylene, $\tilde{X}^3B_1$, IR rot. transitions, diode laser absorpt. obs. 7−10567
methylene chloride, far IR laser, optically pumped by CO_2 laser 7−62670
methylene chloride, high resol. vibr.-rot. anal., IR spectra 7−31019
methylene chloride, isotope effect, empirical general harmonic force field 7−62346
methylene radical, $^1A_1$ state and $^1A_1$-$^3B_3$ coupling, visible absorpt. and mag.-rot. spectra 7−49903
methylene radical, $\bar{b}^1B_1$ state, visible absorpt. and mag.-rot. spectra 7−50155
methyleneamino compounds, electronic struct. calcs. 7−56964
methylenefluoronium ylide, pot. surface studied using ab initio MO theory with electron correl. energy 7−42494
9-methylguanine, matrix isolated, IR spectra, keto-enol tautomerism 7−50126
methylhydroxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7−10398
N-methylhydroxylamine, N-methyl substitution, bond dissoc. energies ab initio calcs. 7−15503
methylhypochlorite-$d_0(d_3)$. rot., centrifugal distortion consts., microwave spectra 7−10558
methylidene (CH), rotationally excited interstellar molecule in direction of W51 H II region 7−24193
methylidyne ion+H, ion reaction at interstellar cloud conditions 7−23008
4-methylimadazole, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7−25526
methylimine, protonation, C=N bond rehybridisation rel. to stretching force const. 7−30925
4-methylindole, electronic transition, methyl substitution effect, UV spectra anal. 7−42642
methyliodosilane, and deuterated species, dipole moments, quadrupole coupling consts., microwave spectra 7−19830
methylnitrene, matrix-isolated, IR and UV absorpt. spectra 7−42637
methylnitrite, photodissoc. NO photofragment excited state distrib., fluoresc. spectra anal. 7−50225
methylnitrite, photodissoc. S_1 pot. surface, MC SF calcs. 7−25347
p-methylnitrobenzene, solvated anion, radical, reaction kinetics in liq. NH_3, ESR spectra anal. 7−19907
methyloxycarbonyl-L-phenylalanyl-L-alanine ethyl dithioester, struct., reson. Raman spectra 7−5683
3-methylpentane, photoionisation mass spectra, temp. effect 7−46818
3-methylpentane, radical cation, struct., ESR 7−42653

organic compounds continued
3-methylpentane-tetrachloromethane glass, radiolysis, optical absorpt. band assignment 7—46861
methylphosphine, CO_2 laser irradiation, IT multiphoton absorpt. spectra 7—62474
2-methylpyrazine singlet-triplet transitions in supersonic jet, multiphoton ionis. detect. 7—948
4- methylpyridine inclusion in trans-bis(isothiocyanato)-tetrakis-4-methylpyridinecadmium (II), cryst. struct. 7—12031
methylsilanethiol, gauche and trans isomers, struct., dipole moments, internal rot. obs. 7—5668
(2-methylsulphinyl ethyl)trifluorosilane, Si—O bond length and cryst. struct. study 7—51734
methylthiirane, vibr. spectra and ab initio calcs. 7—50147
methylthionylamine, struct. and bonding investigated at SCF level, electron correl. effects 7—10439
9-methyltriptycene, 9-substituents, cct. barriers 7—64539
4-methylumbelliferone-fluorescein laser dye mixture, stimulated emission, conc. depend. 7—1098
1- methyluracil, electronic spectrum, polarised refl. spectra 7—27737
1-methyluracil, isotopic derivatives vibr. spectra, ab initio Hartree-Fock SCF calcs. 7—15589
methylviologen, radical cation dimers, adsorbed on colloidal CdS surface, relax. 7—27095
methyne, nucl. spin-spin coupling consts., coupled-cluster polarisation propagator approach 7—62407
micellar liq. cryst., isotropic phase, temp.-depend. supercooling limit, mag. birefringence meas. 7—63815
microwave spectra, quadratic vibr.-rot. coupling terms 7—50089
mixed crystals, impurities optical dephasing temp. and freq. depend. 7—22286
mixed-stack organic charge-transfer crystals, regular-dimerised stack and neutral-ionic interfaces 7—7216
mixing time role in 2D heteronuclear NOE expt. 7—10634
mm wave spectra of interstellar molecules 7—24196
Mobius systems, graph theoretical approach 7—46796
modular instrument for SIMS and direct chromatography 7—13841
molecular, pre-melting second-order transform., isothermal compressibility and expansivity meas. 7—32631
molecular crystals, ^{35}Cl NQR, quadrupole spin-lattice relaxation 7—17238
molecular crystals, ^{79}Br NQR frequencies and field constants, intermolecular interactions 7—17239
molecular crystals, growth, quadratic nonlinearities 7—53569
molecular models for overhead projector demonstrations 7—9637
molecules, effective π-electron Hamiltonians, Green's function Monte Carlo calcs. 7—25412
molecules, nonlin. optical props. prediction, PPP calcs. and perturbation theory 7—25408
molecules, photochemical processes, ab initio quantum chemical calcs. 7—59772
molecules at surfaces, Fourier transform IR studies 7—54220
mono-AZO pigment, electron microscope studies 7—16543
monohalobenzenes, electron struct., mol. reactivities, He Penning ionisation spectra and UV photoelectron spectra anal. 7—25642
monohalomethane, harmonic force fields and vibr. spectra, ab initio HF calc. 7—50064
monolayer at liquid/solid and gas/solid interfaces, IR external refl. spectroscopy optimisation 7—48883
monomethyl hydrogen sulphate in Los Angeles atm. 7—8463
monosubstituted ammonium compounds, ^1H NMR chemical shifts of solvent water 7—36648
2-morpholine-8-hydroxyquinoline, cryst. and molecular struct. 7—21191
morpholinium $TCNQ_2$ salts, optical phonon mediated charge transport 7—52596
multi-S π donor and π-acceptor charge transfer complexes, struct., elec. and optical props. 7—44513
multimethylammonium perchlorates, ClO_4^- ion motion, ^{35}Cl NMR 7—59114
muonium, short-lived detection in organic liquids via spin trapping 7—42791
muonium radicals in allyl benzene and styrene, resulting from insertion, role of substituents 7—42788
n-hexane, DC-induced prebreakdown events 7—32147
naphthacene, low-press. vapour, discrete electronic-vibr. fluoresc. spectra 7—50238
naphthalene:pyrene, triplet excitons, prompt and delayed fluoresc. 7—22298
naphthalene, isotopically mixed cryst., resonant secondary emission and spectral diffusion 7—42665
naphthalene, linear growth rate, temp. depend., kinetics of rough crystal face 7—6565
naphthalene compounds, bromo-substituted, triplet energy transfer and props., time-resolved ESR 7—25561
naphthalene crysts., indole admixture trap form., thermolum. study *(Russian)* 7—22357
naphthalene derivatives, β R-substituted, polymorphism, review and comparative study *(French)* 7—32349
naphthalene derivatives, activation effects of substituents, positron annihilation studies 7—39230
naphthalene radical ions, absorpt. spectra, counter ion effects 7—49934
naphthalene single and triplet states in liq. soln. photoionisation cross sections 7—25616
naphthalene solubilities in supercritical CO_2 near upper critical end point, NMR 7—12293
naphthalene with α-bromonaphthalene or α-chloronaphthalene impurities, intercombination conversion during exciton capture 7—46091
naphthalene-anthracene, excitation transfer between donors and acceptors in fluid soln., donor fluorescence decay meas. *(French)* 7—59236
naphthalene-tetrachlorophthalic anhydride charge transfer complex, triplet excitons, phosphorescence 7—39159
naphthalene-tetracyanobenzene complex, mol. motions, neutron scatt. obs. 7—44709
naphthalenes, disubstituted, singlet-singlet electronic absorpt. and polarisation, UV spectra 7—62394
naphthazarin, vibronic states relax., fluoresc. spectra study. 7—50221
naphthazarine anion radicals in a glassy matrix of N,N-dimethylformamide, spin-lattice relax. 7—45823
2-naphtholate, H^+recomb. and H^+ induced quenching, temp. depend. 7—57135
2-(1-naphthyl)-4-phenyl-oxazol fluorescence decay, difference method of deconvolution 7—25599

organic compounds continued
2,1-naphthyl 5-phenyloxazole, dye solutions, excited state absorpt. measurements 7—42516
NEAA-NMAA-H_2O ternary liq. solutions, US and volumetric investigations 7—38122
nematic liquid crystals, heterocycles, NCS-polar groups and double bonds effects on material props. 7—1838
nematic liquid crystals, IR dichroism, mol. interactions effects 7—45981
nematic liquid crysts., diamagnetic anisotropy meas. 7—38845
neopentane, plastic phase orientational motion, Raman and IR spectra anal. 7—57067
neutral molecules, solubilisation in AOT inverse micelles in n-heptane, distrib. eval., fluoresc. quenching data 7—54191
neutron capture therapy, boron containing nucleosides prep. 7—34249
neutron capture therapy, novel boronated porphyrins 7—34250
nickel (II) tetra (p-vinylphenyl) porphyrin, benzene soln., aggregation and luminesc. props., visible spectra anal. 7—42635
nickel phthalocyanine films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
nile blue, coherent mol. vibr. motion, fs time resolved obs. 7—57189
Nile blue, oxazine dye, luminesc. and H^+ phototransfer in solns. 7—13762
Nile blue, spectral hole burning, 10 fs optical pulse probe investig. 7—50267
nitrile ylides, matrix photolysis of phenyl and azidostyrenes, isotopic shift, mol. struct. FT IR spectra anal. 7—31035
nitriles, sat., ion form. by dissoc. electron attachment, mechanism 7—42754
nitroaromatic crystals, resonance UV laser radiation interaction, characts. 7—25618
nitroaromatic radical anions in aqs. solns., electron transfer kinetics, temp. and steric configuration effect 7—39872
nitrobenzene, polar mol. liq., Kerr consts. and anisotropic electronic polarisability calcs. 7—53273
nitrobenzene, radiation-induced Kerr electro-optic effect 7—53272
nitrobenzene, solvated anion, radical, reaction kinetics in liq. NH_3, ESR spectra anal. 7—19907
nitrobenzene, time resolved picosecond Raman induced phase conjugation 7—13141
nitrobenzene and mixtures, fine line struct., parametric nature 7—43230
nitrobenzene-hexane, binary solns., pseudospinodal curve, nonlinear dielec. effect 7—53212
O-nitrobenzoic acid and pyridine coadsorbed on Ag sol, SERS excitation profiles 7—33373
p-nitrobenzylideneanilines, UV-visible spectra, steric effects 7—57078
nitrobenzyloxy derivatives, mesomorphic phases, polymorphism 7—2193
nitrocellulose film, on Cu, BaF_2 or K8 glass, periodic microrelief, laser irradiation 7—63927
nitroimidazoles, UV spectra, CNDO/S calcs. 7—19878
nitromethane, CARS, shock-compression induced frequency shifts 7—22272
nitromethane, collision-free photodissociation at 266 nm, OH prod. 7—8293
nitromethane, first excited states, dissoc. nature, SCF CI calcs. 7—56959
nitromethane, isomers, struct., quantum mech. harmonic force field calcs. 7—56952
nitromethane, photodissoc., quantum study *(French)* 7—13794
nitromethane, shock-compressed, refractive index, laser interferometric meas. 7—30081
nitromethane, shocked, condensed, ignition, rate determining step 7—54124
nitromethane, solid, methyl group rot., pot. surface calcs. 7—11972
nitromethane dimer, non-bonded and H-bonded interactions, SCF calcs. 7—25357
nitromethane-CS_2 liq. mixture, on glass, wetting 7—6927
nitrone, active CAS SCF orbitals, intrinsic localisation procedure 7—25413
nitrophenol-trialkylamine ionic complexes, spectral characts. 7—15596
N-nitrosamine metabolites, alkylating species, role in carcinogenesis 7—49889
nitrosomethanol, rotamers, struct., ab initio calcs. 7—56955
p-nitrostyrene oxide, cryst. and molecular struct. 7—58255
nitroxide radical, two dimensional Fourier transform ESR spectra 7—19904
nitroxy radicals, anisotropically rotating, 2 mm EPR spectra calcs. 7—15630
nonadecane, liq., energy difference between specific and localised conform. isomers, FTIR spectra 7—42615
n-nonane liq. dielectric, gas form. under particle discharge 7—51532
2,4,6,8-nonatetraenal, retinal model system, low-lying excited states, CI calcs. 7—861
nonelectrolytes in water, heat of soln., enthalpic pair interaction coeffs. 7—28328
nonlinear electro-optical materials 7—37024
nonlinear optical materials 7—25870
4-nonyloxyphenyl-4′-nitrobenzoyloxybenzoate, DB_9ONO_2, multiply reentrant polar mesogen, X-ray scatt. study 7—6505
B-nor-D-homo-8-isoanalogs, of steroid oestrogens, synthesis, biological activity *(Russian)* 7—23293
norbornane, plastic cryst. phases, mol. reorientations, incoherent quasielastic neutron scatt. 7—63527
norbornene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7—53207
2-norbornyl cation, heavy atom tunneling, MINDO/3 calcs. 7—10426
1S,4R-norcamphor, circular dichroism, solvent effects and vibronic coupling perturbations calc. 7—42658
nucleic acid bases, H-bonded crysts., ps librational dynamics, time-resolved coherent Raman spectroscopy 7—47008
nucleic acid chromophores, UV resonance Raman spectroscopy 7—47007
nucleic acid purine bases, electrooptical props., finite perturbations CNDO/S3 calcs. *(Russian)* 7—25407
nucleic acids, crystn., role of purification 7—23277
nucleic acids, energy minimisation and dynamics, empirical energy functions 7—34097
nucleic acids components, binding of water 7—34098
nucleotides, spin-labelled, bound to myosin in glycerinated muscle fibres, orientation obs. 7—59925
n-octadecane, contact melting, latent heat thermal energy storage 7—43646
octadecylammonium ion exchange for Na^+ ion in hydrophobic zeolite 13X generation 7—13809

organic compounds continued
octadecylphenol-barium behenate bimolecular layers, small angle X-ray studies 7−58620
octaethylporphin-H_2 in polystyrene, photochemical hole, transmission spectrum, temp. broadening *(Russian)* 7−15617
octaethylporphyrin, in polyvinyl butyral matrix, spectral hole burning and Stark effect 7−62792
octaethylsilsesquioxane, mol. mobility and phase transitions 7−37917
octafluoropropane, electron interactions, excited fragment form., excitation cross sections 7−57182
1,2,3,4,5,6,7,8-octahydroanthracene and rel. hydroaromatics, ^{13}C NMR, line splittings 7−13044
octamethylcyclotetrasiloxane, nonpolar liq. thin film, solvation and phase separation of water 7−44958
cis, cis- octatetraene, excited 2^1A_g state pot., isomerisation study 7−13747
octatetraene, lowest electronic states, vibronic coupling, quantum-mechanical calcs. 7−19712
octatetraene, vibronic perturbations, pseudoparity propensity rules 7−25397
4-n-octyl-4′-cyano-biphenyl nematic liq. cryst., torsional shear flow, tumbling instability obs. 7−11386
4′-n-octyl-4-cyanobiphenyl liq. crystal, surface polar ordering obs. by optical SHG 7−37856
4-n-octyl-4-cyanobiphenyl smectic-A film, struct. probing by optical SHG 7−32281
α-octyl-ω-pentakis (oxyethylene), phase transition in water system, Raman spectra anal. 7−22244
octylcyanobiphenyl, liq. cryst., elastic consts., permitt., birefr. meas. 7−21314
octylcyanobiphenyl, smectic liq. cryst. A phase, hydrodynamics, US meas. 7−1876
4-octyloxy-4′-cyanobiphenyl, liq. crystal, vibr. dephasing, Raman spectra study 7−57067
4-octyloxy-4′-heptyl-α-cyanostilbene, excimer fluorescence *(Russian)* 7−3093
octyloxybenzoyloxycyanostilbene, reentrant transition enthalpies, frustrated spin-gas model 7−63816
octyloxycyanobiphenyl, smectic liq. cryst., A phase, hydrodynamics, US meas. 7−1876
octyloxycyanobiphenyl and octylcyanobiphenyl, smectic Ad phases 7−2194
octyloxycyanobiphenyl reentrant nematic, preferred density model, P-V-T test 7−12271
4-n-octyloxyphenyl trans-4-n-octylcyclohexanecarboxylate, in binary mixture, smectic B phase dielec. relax. 7−13089
OH stretching band, free and H bonded species equilib., dichroism and IR spectra 7−10641
olefin radical cations from hydrocarbon radiolysis, time-resolved fluoresc.-detected mag. reson. 7−57099
olefin-H_2O complexes, matrix isolation study, IR spectra, H-bonds 7−31032
oleic acid, polymorphism, order-disorder phase transition, IR and Raman spectra anal. 7−33379
oligomers, $\bar{D}\bar{P}_n$ determ., PMR method 7−930
oligosaccharide structures, containing hexopyranose units, graphic representation 7−14734
oligosaccharides, blood group A, conformation, NOE and ^{1}H NMR spectra 7−62423
optically allowed and forbidden $\pi\pi^*$ transitions, spectral luminesc. props. 7−31108
orcein dye treatment, fluoresc. reactions and applics. 7−60140
organic layers, electric field dependent hopping mobility 7−21920
organic-inorganic double halides, SHG meas. 7−43227
organisation coating of quartz optical fibres, polymerisation rate, thermophys. anal. 7−20461
organofluorine compounds, saturated vap. press., single-parameter theories of similitude 7−2159
organophosphorus compounds, gas-phase synthesis rel. to atmospheres of giant planets 7−24058
organorhenium hydrides and alkyls, mass spectra, electron impact induced H-rearrangements 7−42773
oxadiazole derivatives, absorpt. spectra, expt. and quantum-chem. study 7−42488
oxalic acid, isomerisation and unimol. dissoc. channels, MO calcs. 7−28295
oxazine 1 laser CW, pumped by He-Ne laser 7−36958
oxazole derivatives, absorpt. spectra, expt. and quantum-chem. study 7−42488
oxetane, ring puckering pot., local correl. results 7−42456
oxirane, electron density, electrostatic pot. and bare nucl. pot. scalar field similarities 7−19736
6-oxo-2, 6-dihdryoquinoline, 2,2,4-trimethyl substituted, cryst. and mol. struct., X-ray diffr. 7−16539
4,4-oxydianiline +1,2,3,5-benzenetetracarboxylic anhydride, polymerisation, XPS 7−65314
PAA uniaxial nematic liquid crystals, orientational order using ESR of solute molecules 7−1872
palladium acetate films, decomposition with microfocused ion beam 7−52314
palmitic acid, crystallisation, K-like twins 7−58288
palmitic acid methyl ester, spin probe in adipose tissue, field gradient EPR 7−13962
para-azoxy-anisole-d_2-4-4′-diacetoxy-2-2′-dimethyl azoxybenzene nematic mixture, phase diagram, component order parameters, D and proton NMR study 7−21086
para-azoxyanisole nematogenic liq. cryst., mol. ordering studies 7−37848
paraffin, thin crystals, radiation-sensitive specimens, high resolution image quality achieved in electron diffr. pattern 7−47302
paraffin and paraffin mixtures, melting results, correlation 7−62965
paraffins, cyclic, with long chain lengths, ^{3}C NMR chem. shift meas., cryst. structures 7−64537
paraffins, direct lattice imaging 7−16542
n-paraffins, electron crystallography 7−16541
paraffins, lamellar crysts., microhardness and temp. variation 7−12197
N-paramethoxybenzoyl-N′,N′,N″,N″-diethylene phosphoric acid triamide, cryst. and mol. struct. 7−51733
penanthrene-TCNQ complex, physical props. 7−52622
pentacene, vacuum deposited amorphous films, X-ray diffr. and photoelectron spectra anal. 7−22434
pentacene crystals, luminesc. spectra, 4.2 to 65K *(Russian)* 7−3092

organic compounds continued
pentacene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7−59277
pentacene in naphthalene, two-level impurity fluorescence in strong resonant field 7−13222
pentachlorophenol-hexachlorobenzene, solid soln., H-bonding and phase transitions 7−17310
pentadecanoic acid monolayers, stretch vibr. obs., optical sum-freq. generation 7−58610
pentadecanoic acid/H_2O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7−16839
2,4-pentadienal, retinal model system, low-lying excited states, CI calcs. 7−861
1,3-pentadiene, excited state polaris., photochem. 7−62303
1,3-pentadiyne, IR band intensities prediction using bond polar parameter method 7−50110
pentafluoroethyl iodide, low-threshold solar-pumped laser operation 7−1091
pentamethylbenzene, proton transfer, high press. mass spectroscopy 7−54083
2,2,5,7,8-pentamethylchroman-b-oxyl-^{13}C, radical, ESR spectra and hyperfine coupling const. 7−36652
pentamethylene oxide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7−19833
pentamethylene sulphide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7−19833
n-pentane, bond distances and angles, ab initio gradient geometry refinement 7−852
n-pentane, bubble collapse in organic liqs. *(Chinese)* 7−11516
n-pentane, field asymmetry of the critical-isotherm equation and the gravitational effect 7−33349
n-pentane, in situ modelling using FTIR at high press. 7−54221
n-pentane, liquid, positron mobility 7−39285
n-pentane, multiple bubble collapse in organic liquid *(Chinese)* 7−11518
n-pentane, vol. ratios, compressibilities, 278-338K, pressures up to 280 MPa 7−51906
pentane isomers, ionis. and electron thermalisation distances, mol. shape and density effects 7−50347
pentane-CO_2, excess enthalpies at 348.15, 373.15, 413.15, 470.15 and 573.15K 7−44826
n-pentane-dichloromethane, excess thermodynamic props. 7−52079
pentanol isomers, n-heptane solvent, mol. assoc., optical Kerr effect study 7−62429
pentaphenes, radical cations, electronic and photoelectron spectra 7−57079
4-pentyl-4′-cyanobiphenyl, nematic, electrochemistry, orientational effects 7−26622
4′-n-pentyl-4-cyanobiphenyl, well induced orientational order in isotropic phase, evanescent wave ellipsometry study 7−37857
p-n-pentyl-p′-cyanobiphenyl and dil. solns. with tetraethylmethane, nematic and isotropic phases, density meas. 7−2079
pentylcyanobiphenyl, ionic mobility, viscosity, Walden's rule 7−21498
4,4′-di-n-pentyloxyazoxybenzene, mesogenic transitions, Raman spectra 7−22241
N-(p-n-pentyloxybenzylidene) p-n-butylaniline, phase transitions, mag. susceptibility meas. 7−1873
4-(4-n-pentyloxybenzylideneamino)azobenzene, liq. cryst. transitions 7−63812
4-n-pentyloxybenzylideneamino-4′-cyanobiphenyl in binary mixture, smectic B phase, dielec. relax. 7−13089
1-pentyne, vibr. anal., IR and Raman spectra 7−19852
pentynylidyne radical (C_5H), detect. of $^2\Pi_{3/2}$ state (in IRC+102.16) 7−23988
pentynylidyne radical (C_5H), in interstellar space, hyperfine struct. obs. 7−60749
peptide/ZZ 7−12210
peptides, photoform. of radicals, 330-390 nm, 77K 7−8488
peptides, plane orientations, fundamental and overtone ^{14}N NMR 7−10618
peptides, struct. anal., NMR meas. 7−54452
perchlorotriphenylmethyl radicals, spatially resolved EPR tomography 7−5708
perfluoroalkanes, electron attachment and ionisation processes 7−50348
perfluorobenzene, electron transfer reaction kinetics, binding energy role 7−22989
perfluorocyclobutane, electron attachment lineshapes and cross sections at ultra-low electron energies 7−62522
perfluorocyclobutane, mol. gas, γ-ray induced ionis. 7−63247
perfluorocyclobutene, electron attachment lineshapes and cross sections at ultra-low electron energies 7−62522
perfluorodecaline, fusion reactor coolant, radiation stability 7−62059
perfluoroheptene+Rb, vapor phase reactions, chemiluminesc. obs. 7−59767
perfluoromethylcyclohexane, electron attachment lineshapes and cross sections at ultra-low electron energies 7−62522
perfluoromethylcyclohexane, electron transfer reaction kinetics, binding energy role 7−22989
perfluoromethylcyclohexane-carbon tetrachloride, liq.-liq. critical point, dielectric const. 7−13079
perfluoromethyldecaline, fusion reactor coolant, radiation stability 7−62059
perfluoropyridine 7−62351
perfluorotrimethylgermyl anion, vibr., IR and Raman spectra *(German)* 7−31048
perfluorovinyl radical in Ar matrix, ESR INDO MO calcs., hyperfine struct. 7−31078
peroxide urea-formaldehyde oligomers, structurisation, IR spectra 7−39126
peroxyacetyl nitrate and N cpds. in troposphere of Colorado, USA 7−18288
peroxyacetyl nitrate in ambient air of Sidney, Australia 7−59890
peroxynitrate formation rate in stratosphere, $CFCl_2O_2 + NO_2$ reaction kinetics 7−23802
perturbed soft-chain theory, thermodynamic props. prediction, group-contrib. correlation 7−16711
perylene, centrosymmetric molecules in amorphous media, Stark effect by hole burning and inner elec. fields 7−25581
α-perylene, crysts., excitons, hydrostatic press. effects 7−52430
perylene, time-resolved fluoresc. anisotropy obs. 7−25598
perylene, vapour, electron impact excitation functions, fluorescence 7−25600

organic compounds continued
perylene, vapour, electron scatt., energy loss spectra 7—31168
perylene, vapour, two-photon excited fluoresc. polarisation 7—31109
perylene films, electroluminescence with conducting polymer anodes 7—22349
perylene in microcryst. n-heptane, selectively laser excited in phonon sideband, stimulated emission 7—33415
perylene red film coated on Ge, ATR and refl.-absorpt. IR spectroscopic analysis 7—41510
(perylene-Ag$^+$)* exciplex fluoresc., solvent influence 7—57113
perylene-NH$_3$, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7—19936
3,4,9,10- perylenetetracarboxylic dianhydride/GaAs rectifying junction, nondestructive semicond. props. eval. method 7—12876
perylenyl salt, organic conductor, spin transport props., pulsed ESR study 7—59105
petroleum derived mesophase pitches, viscosity meas., isotropic content, temp. depend. 7—21502
petroleum non aq. dispersion of TiO$_2$, dielectric const. in electric field investig. 7—38982
pharmacologically active cpds., similarity meas. calcs. 7—49890
phase transfer catalysed organic reactions, appls. of US 7—50901
phenanthrene, low-press. vapour, discrete electronic-vibr. fluoresc. spectra 7—50238
phenanthrene, positronium and phase transition 7—36829
phenanthrene in methanol glasses, phosphoresc. quenching, time-depend rate const. 7—10648
phenanthrene-d$_0$(-d$_{10}$), in supersonic free jet, electronic spectra, intramol. dynamics 7—42672
phenazine, adsorbed on Al$_2$O$_3$, tunnelling spectra study 7—52264
phenazine, drift mobilities, photovoltaic appls. 7—21906
phenazine, radical anion in stretched polyethylene films, polarised absorpt. spectra 7—50083
phenazine derivatives, partly hydrogenated radicals, hyperfine const., EPR *(French)* 7—31079
phenazine triplet state, optical expts., temp. depend. of reson. splittings in mol. pairs 7—16700
phenazine-tetracyanoquinodimethane, photoconductivity and optical absorpt. coeffs. near band edge 7—2641
phenetole cations, laser-induced dissoc., REMPI obs. 7—42711
phenol, adsorpt. on active C, intradiffusional kinetics model 7—32830
phenol, aq. soln., liq.-vap. interface, second harmonic light phase, relation to mol. orientation 7—27057
phenol, OH group rot., barrier height, MO study 7—848
phenol adsorbed on ZnO surface, surface CARS spectroscopy 7—46036
phenol-aniline (p-toluidine) (p-anisidine) mixtures, viscosity meas., 303.15-343.15 K 7—63861
phenol-benzene H bonded complex, supersonic jet spectroscopy study 7—57129
phenol-d$_6$-D$_2$O, critical mixtures, isotope effects 7—12253
phenols, vibr. spectra, calc. and interpretation 7—42596
phenothiazine derivative-methylviologen systems, charge separation yield 7—28323
phenozine.I$_2$ charge-transfer complex, reson. Raman and far-IR spectra anal. 7—42620
phenyl 4′-alkylcyclohexanecarboxylates, 4-alkoxymethylene and 4-alkoxy substituted, synthesis, phys. props. 7—1861
phenyl alkyl ketones, ring-substituted, in soln., absorption and fluorescence spectra 7—42671
phenyl compounds, vibr. studies, IR and Raman spectra 7—63758
phenyl isocyanate, microwave spectra, ^{14}N quadrupole coupling 7—57054
phenyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7—36601
phenyl isothiocyanate, microwave spectra, ^{14}N quadrupole coupling 7—57054
1-phenyl-2-pyrrolidinone, substituted, nucl. coupling consts., NMR chem. shifts 7—931
1-phenyl-3-methyl-5-pyrazolone, conform. and charge transfer, UV spectra 7—57168
(O-phenyl-N-N-di(2-chloroethyl)amidophosphonyl) hydrazone of parachloracetophenone, crystal and molecular struct. 7—44505
α-phenyl-N-tert-butyl nitrone+O$_2$, solvent effect and temp. depend., luminesc. kinetics meas. 7—54130
α-phenyl-N-tert-butylnitrone, deuterated, conform. of spin adducts, ENDOR investig. 7—50204
phenylalanine, fast heavy ion impact-induced secondary ion emission studies 7—27845
phenylalanine, UV reson. Raman spectra anal. 7—41481
phenylalkynes, conform. in soln. and solid, vibr. anal., Raman and IR spectra study, valence force field calcs. 7—36612
phenylcyclohexanecarboxylate-alkylcyanobiphenyl mesomorphic mixtures, binary phase diagrams, fluoresc. spectral determ. 7—27765
phenylone, in H$_2$O, creep process, mathematical model *(Russian)* 7—8072
3-phenylpiperidine, conformational energy calcs. using MM2 method 7—10403
3-phenylpyrrolidine opioid, conformational energy calcs. using MM2 method 7—10403
phenylsilane vapour, VUV spectra and multiphoton ionisation study, photolysis prod. of Si 7—50172
N-phenylsulfonylbenzimidoyl chloride, cryst. and mol. struct., X-ray and calc. investig. 7—51747
phosphabenzene, photoelectron spectrum, musical transcription technique appl. 7—50243
phosphamethane, fluorination effect on double bonds, SCF HF and MP2 ab initio calcs. 7—10384
phosphates, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
phosphazenes, polyenes and transition metal nitrides, struct. and orbital analogy 7—10389
phosphites, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
phospholipid membranes, multipulse dynamic NMR 7—17956
phospholipid mesophases, X-ray small angle analysis 7—16402
phospholipids, interaction with H$_2$O and Na$^+$, ab initio SCF calcs. 7—59919
phosphonium ylides, fluorine-substituted, structs., energetics, ab initio SCF calcs. 7—30923
photochromic thin films, optical nonlinearity and resonant bistability 7—57442
photoconductive particles in thin layers, photoresponse characts. *(Japanese)* 7—38612
photoionisation, ground state inversion pot., multicentre diffr. effects 7—947

organic compounds continued
photomerocyanines, optical time-resolved multichannel Raman spectroscopy 7—15010
phthalate ester pollution of River Mersey Estuary, England 7—55085
phthalimides, electronic spectra, dipole moments, polarizabilities and Onsager radii, solvent effect 7—31064
phthalocyanine derivatives, columnar mesophases, optical microscopy, X-ray diffr. obs. 7—1860
phthalocyanine thin films, gas-surface reactions, elec. cond. meas., ESCA 7—52262
phthalocyanine thin films, molecular orientation studied using Raman polarisation studies 7—22250
phthalocyanine-metal complex films, Raman spectra 7—3045
phthalocyanines, halogenated, radiation damage and structural studies 7—6688
phthalocyanines, IETS meas. *(German)* 7—42718
phthalocyanines, thermogravimetric meas., 300 to 1000 K *(German)* 7—46863
picolines, absolute vacuum UV absorpt. spectra, absolute extinction coeff. and oscillator strength values 7—25536
picolyltricyanoquinodimethane, mol. cryst., charge transfer transitions, electronic spectra 7—22279
α-pinene, surface ionis. coeff. eval., mass spectra 7—59786
piperidine intercalation with HUO$_2$PO$_4$.4H$_2$O 7—65304
pivalic acid directional solidification, metastable dendritic interface pattern obs. 7—63779
pivalic acid in dil. solution, dimerisation, IR spectroscopy 7—65313
pivalonitrile, microwave spectra, ^{14}N nuclear quadrupole coupling and centrifugal distortion parameters 7—36602
plastocyanin, paramag. Cu^{2+} containing, spectroscopic and computer simulation study 7—8494
platinum phthalocyanine, first excited states in mag. fields, Zeeman study 7—10643
podocarpane derivatives, rotation barriers of interacting axial methyl groups, mol. dynamics study, ^{13}C NMR 7—10626
polar fluorodibenzoates, with smectic modifications, synthesis, transition temps. 7—32279
pollutant organic compounds, transport with saturated groundwater flow, theory 7—23240
pollutant organic compounds transport with saturated groundwater flow, expt. results 7—23241
polyacetylene:K films, doping, redox potential studies 7—32475
polychlorinated aromatic compounds in soil around wood-preserving facilities in Finland 7—54375
polychlorinated biphenyls in Lake Michigan sediments, atm. and nonatmospheric contrib. and losses 7—8459
polycrystalline solids, TOF carrier mobility 7—45332
polycyclic aromatic hydrocarbon cations, doubly-charged, form. and destruction, IR and visible spectra 7—55774
polycyclic aromatic hydrocarbons, characterisation from reference air particulate samples 7—54385
polycyclic aromatic hydrocarbons, diesel particulate matter identification, chromatography 7—34079
polycyclic aromatic hydrocarbons, interstellar, possible visible luminesc. from Red Rectangle (HD 44179) 7—48008
polycyclic aromatic hydrocarbons, periodic table, characteristic polynomial, struct. invariants 7—56924
polycyclic aromatic hydrocarbons (PAH), in soil and air in Norway, effect of Al plant 7—54374
polycyclic aromatic hydrocarbons in Lake Michigan sediments 7—29089
polycyclic benzenoid hydrocarbons, bond orders, MNDO study 7—10425
polycyclic organic matter in atm., evidence for transformation 7—3735
polyenes, cyclic, stability props., spin restricted and spin-projected HF methods 7—10435
trans-polyenes, electronic struct., DVM-Xα calcs. 7—25392
polyenes, homopolar singlet excitation energies, Hubbard model, Lieb-Wu eqns., numerical soln. 7—25353
polyenes, linear, ground-state vibrs. 7—36575
polyenes, long, low-lying electronic excitations, PPP-MRD-CI calcs. 7—36488
polyenes, mol. polarisability, CNDO/2, CNDO/C, α(VPT) and α(SCPT) calc. comparisons 7—49932
polyenes phosphazenes and transition metal nitrides, struct. and orbital analogy 7—10389
polyhalomethanes, X-ray photoelectron spectra, chem. shifts 7—15648
polyheterocyclic 4nπ-electron dianions, paratropicity, charge delocalisation and reactions 7—49896
polyiodide chain complexes, thin films, optical absorpt. spectra meas. 7—22366
polymethine dyes, fluoresc. quenching 7—36680
polymethine dyes, isomers, hidden struct. in visible-UV absorpt. spectra 7—50166
polymethine dyes, photoisomer transform. schemes 7—39878
polymethynes, restricted HF MINDO/3 calcs. 7—10432
polymorphism and nonlinear optical activity in organic crystals 7—57400
polypeptides, vibr. circular dichroism, 3$_{10}$-helix form., chain length depend., IR spectra, PMR 7—15633
polyphenyls, hydrogenated p-terphenyl and deuterated biphenyl, structural transitions *(French)* 7—12256
polyphenyls, phase transitions and IR spectra under press. 7—6725
polysaccharide structures, containing hexopyranose units, graphic representation 7—14734
polysaccharides, in coccoliths of Emiliania huxleyi, molar mass determ. 7—8479
polyynes, interstellar chem. investig. 7—48031
POPOP vapour, electron impact excitation functions, fluorescence 7—25600
POPOP vapour, two-photon excited fluoresc. polarisation 7—31109
porous material prep. from montmorillonite-α-naphthylamine complex, oxidation, struct. 7—27986
porphin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7—10447
porphyrin, covalently linked hybrid dimers, EPR, triplet state magnetisation, 7—25562
porphyrin derivatives, mesogenic props. *(French)* 7—1859
porphyrin dimers, free-base, electronic spectra, quantum chem. calcs. 7—10416
porphyrin motions in myoglobin haeme-pocket, fluoresc. polarisation meas. 7—28444
porphyrin-quinone, excited state, interactions in reversed micelles, time-resolved fluoresc. spectroscopy. 7—19929

organic compounds continued
porphyrin-quinone complexes, porphyrin triplet states, ESR and optical investig. 7—25571
porphyrins, asymmetric, electron spectra, oscillator model anal. 7—31095
porphyrins, monolayers, intermolecular interactions 7—8513
porphyrins, proton motion, electrostatic pot. distrib., SCF-MO-LCAO calcs. 7—57147
positron annihilation, electron polarizability, electron density and pick-off annihilation lifetime 7—39226
positron interactions with mixtures of organic liquids 7—39228
positronium formation in organic liquids 7—36814
potassium hydrogen malonate, crystn., inelastic neutron scatt. 7—32419
potassium isopropylxanthate, cryst. struct. determ. 7—58254
potassium laurate-1,decanol-D_2O, reentrant nematic-isotropic phase transition, pretransitional behaviour 7—21444
potassium saccharinate, single cryst., elemental anal. IR spectra 7—22235
potassium-laurate water, lyotropic liq. crystalline system, mol. motions, proton spin relax. study 7—64543
prepare-air mixture, flame front propag. convective vertex form. 7—13777
DL-(4,4-$^2H_2$) proline, solid state, ring dynamics, crystal struct. and temp. dependence, ^2H NMR study 7—26602
proline, stabilising solute, calorimetric and IR spectroscopic study 7—8492
DL-(4,4-$^2H_2$)proline hydrochloride, solid state, ring dynamics, crystal struct. and temp. dependence, ^2H NMR study 7—26602
2-(N- prolinol)-5-nitropyridine, nonlinear optical props., mol. and cryst. struct. 7—11056
prop-1-en-2-al, geometry optimisation, approximate Hessian 7—25345
propan-1-ol-benzene-tetrachloromethane, excess molar enthalpies at 298.15K 7—26957
propan-1-ol-tetrachloromethane, excess molar enthalpies at 298.15K 7—26957
propan-2-ol-benzene-tetrachloromethane, excess molar enthalpies at 298.15K 7—26957
propan-2-ol-tetrachloromethane, excess molar enthalpies at 298.15K 7—26957
propanal, struct. determ. by gas phase electron diffr. 7—50359
propane, fluid, thermal cond. and diffusivity meas., Knudsen-effect, line-source method 7—48727
propane, gas, thermal cond. meas., coaxial cylinder method 7—51369
propane, liq., X-ray diffr. study near triple and boiling points 7—26611
propane, mol. charge similarity index study, appl. to isosteric cpds. 7—56978
propane, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
propane adsorption kinetics on Si (100)-(2×1) 7—27127
propane capillary const. and surface tension 7—12395
propane dissociative chemisorption on Ni (100) studied by supersonic molecular beam techniques 7—52287
propane jet flames, near-nozzle region, flow struct. 7—8280
propane-air flames, explosion venting, 2D Navier-Stokes eqns. 7—51340
propane-H binary mixtures, H fugacity coeff. meas., physical equilib. technique 7—16295
propane-t_1, triton β decay, effect on neutrino mass determ. 7—49310
propanediazonium ions, unimol. dissoc., ab initio and semiempirical MNDOC calcs. 7—15513
1,2-propanediol solns. with water or electrolytes, dielectric props. 7—13080
propanes, ^1H labelled, IR and Raman spectra, vibr. analysis, D substitution effect 7—50141
2-propanol, aq. solns., viscosity, high press. effect 7—52102
propanol, standard geometry functions 7—849
propanol-2 radical+CdS, photochemistry and radiation chemistry, nonlinear optical effects 7—46858
1-propanol-water, conc. fluctuations, US absorpt. 7—58416
2-propanol-water mixture, volumetric behaviour, high press. study 7—51904
propargyl fluoride FIR laser lines, CW optically pumped 7—25799
[1.1.1]propellane, bonding, generalised valence-bond calcs. 7—30954
I(1.1.1) propellane, bonding and geometry, quasi ab-initio PRDDO method, GVB-type correl. 7—25404
propene, chemisorption bond energies on chemically modified Mo (100) surface 7—23056
propene, electronic states, electron impact spectrosc. and ab initio CI calcs. 7—25417
propionamide, UV irrad., free radical reactions with gases, ESR obs. 7—10633
propionic acid in rainfall of Wisconsin, USA 7—14326
propionitrile, vibr. assignment, force consts. 7—31020
proportional counter avalanche growth, concentration depend. in Kr+cyclohexane mixtures 7—826
propyl alcohol, n- and iso-, isomers, VUV-optical oscillator strength distrib. 7—15650
propyl fluoride, r_s struct., rot. isomerism, microwave spectra and moments of inertio meas. 7—10556
n-propyl iodide + K, reactive collision, medical group effect, mol. beam study, cross section meas. 7—39900
n-propyl-4′-n-decyloxybiphenyl-4-carboxylate-n-butyl-4′-n-decyloxybiphenyl-4-carboxylate, smectic-A-hexatic-B-smectic-I point, existence and nature 7—2198
propylamine, fragmentation, electron impact mass spectrometry, ab initio MO calcs. 7—50387
propylamine, standard geometry functions 7—849
propylammonium tetrachloromanganate, incommensurate γ phase, elastic neutron and X-ray scatt. 7—16538
propylene, bending force const. attenuation, ab initio CI calcs. 7—49939
propylene, internal force consts., vibr. spectrum calc. 7—31022
propylene, thermal desorption on Si (100) 7—21660
propylene adsorption kinetics on Si (100)-(2×1) 7—27127
propylene carbonate+$No_2O.nSiO_2$, gels form., comp. of phases and rheological props. meas. 7—39875
propylene carbonate-1,2-dimethoxyethane mixtures in electrolyte solns., dielectric props. 7—33322
propylene chemisorption on Si (100), reaction chemistry, active-site manipulation 7—39916
propylene glycol, specific heat near glass transition 7—2207
propylene oxide cation radical, unimol. dissoc. reaction, nonergodic behaviour 7—39857
propylene reaction with Si (100), adsorption and desorption kinetic meas. combined with Auger spectroscopy 7—65348
propylene reaction with Si surface, effect of addition of H 7—54187
propylsilane, rot. pot. functions, ab initio and MM2 calcs. 7—10404
propyne, $2\nu_9$ band study, Fourier transform IR spectra anal. 7—50119

organic compounds continued
propyne, ν_3 and $2\nu_8{}^0$ bands study, Fermi reson., IR spectra anal. 7—50120
propyne, IR-multiphoton dissoc., photolytic C deposition 7—62466
propyne, microwave spectrum in 17 to 52 GHz region for $\nu_{10}=4$ vibr. state 7—25499
propyne, thermodynamic props. *(German)* 7—52081
propyne, $v_8=2$ vibr. state, microwave spectrum in 17-72 GHz region 7—36594
propynol, hyperfine polarisation quantum beats, fluoresc. spectral anal. 7—36668
prostaglandin E_2, membrane reception in mouse tissues, effect of various doses of ionising radiation *(Russian)* 7—47173
protochlorophyll, molecule in glassy matrix, inhomogeneous distrib. function and homogeneous spectra 7—50084
protochlorophyll in model systems, photo-induced reversible changes in fluoresc. 7—54458
protoporphyrin-IX, effect of vinyl groups on meson. Raman spectra 7—15610
protoporphyrinato nickel (II), isotope shifts, vibr., LF reson. Raman spectra 7—19868
pseudoisocyanine, quantum yield, fluoresc. lifetimes and intensities, temp. depend. 7—19920
purification resins in reactor circuits as source for organic tritium, expts. on algae 7—49545
purines, cryst. struct. anal., H bond geometry and types 7—23300
purines, tautomeric equilib., gas phase and aq. soln., HF calcs., MNDO calcs. 7—25403
purines in ground and lowest excited singlet states, dipole moments 7—54466
PVC-oligoesteracrylate, impulse NMR investig. *(Russian)* 7—5804
4H-pyran-4-one, derivatives and related S cpds. aromaticity, dipole moment anal. 7—22177
pyrazine, adsorbed on Ag (111), affinity level, EELS, inverse and direct photoemission spectra studies 7—52724
pyrazine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7—64769
pyrazine, in-plane vibrs., force field, MINDO/3 calcs. 7—42487
pyrazine, singlet-triplet transitions in supersonic jet, multiphoton ionis. detect. 7—948
pyrazine, successive protonation, ab initio quantum chem. calcs. 7—56957
pyrazine - BF_3, adduct, low-resolution microwave spectra anal. 7—36598
pyrazine intercalation with $HUO_2PO_4.4H_2O$ 7—65304
pyrazine $S_1(^1B_{3u})$ state, rot. induced vibr. energy redistrib. and K selectivity model 7—10710
pyrazine-d_4, spectral anal., Lennard-Jones-H-bonding pot. energy calcs. 7—5734
pyrazine-d_4-pyramidine, spectral anal., Lennard-Jones-H-bonding pot. energy calcs. 7—5734
pyrazine-h_4-pyrazine-d_4, spectral anal., Lennard-Jones-H-bonding pot. energy calcs. 7—5734
pyrazole, rot. Zeeman effect 7—57109
pyrene, vibronic coupling and intramol. dynamics, fluoresc. excitation spectra 7—57118
pyrene molecules adsorption and confinement in etched micropores formed in amorphous superlattices 7—27112
pyrene solubility in binary solvent systems, meas. and NIBS model calcs. 7—63829
pyrene-biphenyl mixed crysts., local heating, phonon modes and Dicke optical superradiance *(Russian)* 7—13178
pyrene-$d_0(d_{10})$, vibronic coupling and two-photon spectra 7—42712
ω-(1-pyrenyl)alkanoic acids, vac. deposited films, fluoresc. spectra 7—50216
ω-(1-pyrenyl)alkanoic acids, vac.-deposited film, fluoresc. spectral changes 7—58316
(10-(3-pyrenyl)decyl)dimethylmonochlorosilane, chemically bonded to silica surfaces, solvent effects on config., excimer decay profiles 7—22329
pyridazine - BF_3, adduct, low-resolution microwave spectra anal. 7—36598
pyridazine derivatives, synthesis and liq. crystalline phases, PMR, NMR and DTA studies 7—63456
pyridine, adsorbed on Ag, electrode pot. and Raman line intensities 7—19865
pyridine, adsorbed on Ag (110), coverage-depend, phase transition, SHG obs. 7—37029
pyridine, adsorbed on Ag (111) and Ag polycrystalline substrates, struct., electron bands, LEED, UPS 7—53506
pyridine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7—64769
pyridine, chemisorbed on Pt {110}, influence of orientation on H-D exchange reactions 7—59781
pyridine, chemisorption on Si (111), surface vibr. studies 7—21615
pyridine, nuclear quadrupole coupling consts., solvent effects *(French)* 7—25558
pyridine, on Ag surface, IR laser stimulated desorption mol. spectroscopy 7—58614
pyridine, on Ag surface, sub-monolayer adsorbate, SHG, CW diode laser-Maui surface expt. 7—16874
pyridine - BF_3, adduct, low-resolution microwave spectra anal. 7—36598
pyridine - BH_4, adduct, low-resolution microwave spectra anal. 7—36598
pyridine adsorbed layer on Cu and Ag surfaces, resonance Raman contrib. to SERS in aq. media 7—3055
pyridine adsorbed on Pt (110) surface, deuteration, EELS study 7—7006
pyridine adsorbed on ZnO surface, surface CARS spectroscopy 7—46036
pyridine adsorpt. on $(VO)_2P_2O_7$, IR spectra 7—17818
pyridine and monosubstituted pyridine, competitive adsorption on Ag electrode 7—22267
pyridine chemisorption on oxidised Fe surface, XPS 7—27128
pyridine derivatives, rot. spectra, nuclear quadrupole hyperfine struct. 7—62351
pyridine intercalated with $Cd_2P_2S_6$, D NMR study 7—33279
pyridine intercalation with $HUO_2PO_4.4H_2O$ 7—65304
pyridine nucleotide, scanning fluorometer for rapid assessment of fluoresc. changes in vivo 7—8778
pyridine temp. depend. absorpt. on Si, annealing effects on sorption states 7—2360
pyridine-chloroform complex, D NQR meas. 7—50194
pyridine-$d_0(d_1)$, HFS, quadrupole coupling, Fourier transform microwave spectra 7—19827
pyridine-I_2 complex, ionic dissoc., electrochem. investig. 7—54209
pyridine-water complexes, intermolecular pot. functions 7—62480
pyridylaryloxazoles, spectral-luminesc. and lasing props. study 7—43089

organic compounds continued
- 1,3-pyridylphenylthioureas, ^{13}C NMR spectra, chemical shifts and mol. conform. study 7−42650
- pyrimidine, jet-cooled, rot. resolved fluoresc. excitation spectra 7−25597
- pyrimidine, rot. dynamics, fluoresc. polarisation theory 7−15688
- pyrimidine - BF$_3$, adduct, low-resolution microwave spectra anal. 7−36598
- pyrimidines, cryst. struct. anal., H bond geometry and types 7−23300
- pyrimidines, tautomeric equilib., gas phase and aq. soln., HF calcs., MNDO calcs. 7−25403
- pyrimidines, trinuclear, binary smectic systems with and without nematic gap 7−58141
- pyrimidines with dimethylene linking groups, liquid crystalline props. 7−1854
- pyrozine, triplet lifetime, temp dependence, visible and IR phosphorescence spectra 7−22328
- pyrrole chemisorption on oxidised Fe surface, XPS 7−27128
- pyrrole polymerisation, diffusion-controlled statics and dynamics, fractal and dendritic growth in electrochem. cell 7−59758
- quarternary ammonium salts, surface ionis. mass spectra 7−10763
- p-quaterphenyl, cryst. mol. motions, thermodynamic studies *(Japanese)* 7−38151
- quinizarin, dye molecule in solid alcohol glasses, linewidth study 7−37056
- p-quinodimethane, ionisation spectra calc., Green's function method 7−36684
- β-quinol-methanol clathrate, rot- solid, heteronucl. dipolar powder patterns separation, dipolar SASS NMR spectroscopy 7−10622
- quinone like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7−50247
- quinones, electron-transfer reactions, kinetic ESR spectra, computer simulation 7−25568
- quinones, polarisability and second hyperpolarisability, intramol. interactions effect 7−19707
- quinoxaline, triplet state, Shpol'skii ODMR spectra, spin-lattice relax. 7−62428
- quinoxaline adsorbed on Ag colloid particles, SERS, adsorbate orientations 7−22265
- quinoxalines, antileukemia agents, UV-visible spectra 7−57080
- α-quinquethiophene-stearic acid: I Langmuir-Blodgett films, elec. cond. 7−33106
- radical cations, electronic visible-UV spectra, LNDO/s PERTCI calcs. 7−50169
- random organic solids, non-exponential relax. processes. 7−37058
- rare earth ethyl sulphates, vibronic states 7−38138
- rare earth mixed ligand crystals, temperature reduction and spontaneous crystallisation prep. 7−46294
- reactive dyes, water soluble, lyotropic liq. cryst. mesophases and solid physical form 7−32276
- refrigerant-12 evaporator, swirl flow press. drop calcs. 7−51162
- remote sensing of organic vapours, detection with active and passive sensors, comparison 7−46990
- resorufin, in ethanol, glass, photon echo and hole burning meas. 7−15955
- resorufin, in ethanol glass, photon echo, temp. depend. 7−43256
- resorufin adsorbed on γ-Al$_2$O$_3$, fluoresc. line narrowing and site-selection expt. 7−10655
- retinal model systems, low-lying excited states, CI calcs. 7−861
- retinol in insect photoreceptors, sensitising function 7−23352
- trans-retinylidene Schiff base, protonation on crystal surfaces, attenuated total refl. IR study 7−50102
- rhodamine 110 dye laser, passive mode locking and dispersion compensation 7−62742
- rhodamine 590 droplet, micrometer size, high intensity laser interaction 7−43210
- rhodamine 590/water soln, droplet whispering-gallery-mode laser characts. 7−31310
- rhodamine 6 G, polar soln., electron-excitation energy migration, fluoresc. 7−42674
- rhodamine 6G, aggregated, in PMMA matrix, polarisation props. in transmitted light 7−31060
- rhodamine 6G, aq. solns., conc. distrib. near absorbing surface, UV-visible spectra 7−42640
- rhodamine 6G, films and soln., optical consts. determ. 7−3064
- rhodamine 6G, hydrodynamically focused flow, laser induced fluoresc. detection 7−59811
- rhodamine 6G, in ethanol, stimulated intermolecular relax. 7−42673
- rhodamine 6G, photodegradation in PMMA, kinetics 7−50555
- rhodamine 6G, polymer matrix effect on spectral and lasing characts. 7−31309
- rhodamine 6G, travelling wave laser with two photon picosec. optical pumping, time characts. 7−62685
- rhodamine 6G*, transient excited singlet state absorption 7−57125
- rhodamine 6G adsorbed monolayers, resonantly enhanced sum-frequency generation 7−15945
- rhodamine 6G and B CW dye lasers, three state pulse amplifier 7−31344
- rhodamine 6G coated substrates, SHG and sum freq. generation 7−57464
- rhodamine 6G dye laser, 580 nm, small line width, cavity arrangement 7−62728
- rhodamine 6G dye laser, Ar flashlamp pumping *(Korean)* 7−25813
- rhodamine 6G in ethanol reson. CARS line shape anal. for conc. series 7−15611
- rhodamine 6G laser, synchronously pumped, characts. *(Chinese)* 7−5880
- rhodamine 6G laser with Brewster prisms, hybridly mode-locked 7−15913
- rhodamine 6G ring dye laser, flashlamp pumped, short pulse generation using colliding pulse mode locking 7−43170
- rhodamine 6G ring dye laser with external retroreflecting mirror 7−50597
- rhodamine 6G solns., adsorpt. effect on UV absorpt. spectra 7−39142
- rhodamine 6G solutions, concentration depolarization in fluorescence concentration quenching 7−36681
- rhodamine 6G-DODCI femtosec. dye laser synchronously pumped by Nd:YAG laser, stabilisation 7−31346
- rhodamine 6G-ethanol dye laser, Ar flashlamp pumping *(Korean)* 7−25812
- rhodamine 6G-ethylene glycol, soln., dye laser light source for visible spectroscopy 7−20275
- rhodamine 6G-sulphur rhodamine 101 laser, CW, passive mode locking 7−11015
- rhodamine 6G/DTDCI laser dye mixtures, undamped relaxation oscillations due to self-gain-switching 7−1094
- Rhodamine B, aqueous soln., difference spectrophotometry 7−25527
- rhodamine B, frozen solns., excited singlet states fluoresc. spectra 7−42675

organic compounds continued
- rhodamine B, mol. forms, internal conversion mechanism, solvent effects 7−10650
- rhodamine B laser, femtosecond hybrid mode locked 7−5927
- rhodamine B mol. adsorpt. kinetics on CdS surface and binding energy determ. *(Russian)* 7−21667
- rhodamine dye intercalated smectite, fluorescence props. 7−22325
- rhodamine dyes, polar and nonpolar solvent mixtures, aggregation, luminesc. meas. 7−7758
- rhodamine dyes, S$_0$-S$_n$ two-photon absorption dynamics 7−42715
- rhodamines, aq. micellar solns., flash lamp excitation, photostability, lasing props. 7−57308
- riboflavin, and derivatives, vibr., isotope freq. shift, IR spectra 7−918
- D-ribose+Ca^{2+}, enthalpies, sp. heat and molal vols. at 25°C 7−8253
- ring systems, edge inversion at trivalent phosphorus centre; NMR spectra anal., ab initio SCF calcs. 7−25362
- ERNA^{Phe}, yeast, conformational dynamics of anticodon loop as sensed by wybutine fluoresc. 7−17940
- rot. resolved fluoresc. excitation spectra 7−25597
- salicylidenamines, thermochromic and photochromic, IR spectra, conformational influence 7−53310
- salol melt-grown crysts., decanted surface markings, in situ microscope obs. 7−27068
- sand aquifer, natural gradient expt. on solute transport, organic solutes, long-term behaviour during transport 7−66198
- sand aquifer, natural gradient expt. on solute transport, organic solutes sorption, effect on mobility 7−66199
- saturated vapour concentration, spectrosc. determ. 7−52013
- Schiff's bases, neutral and protonated, C=N stretching freq. 7−31008
- second harmonic generation, π electron contrib. 7−11055
- selenoformaldehyde, microwave spectra, struct., vibr. freqs. and centrifugal distortion consts. 7−50090
- semiquinone cation radical, immobilised, EPR spectral simulation calcs. 7−50200
- sensitised organic reactions, IR-laser induced, vibr. energy transfer rate control 7−65336
- L-serine, in methanol-water mixtures, viscosity B-coeffs. 7−12343
- silaethylene, harmonic vibr. freqs., IR spectra, ab initio SCF CI calcs. 7−15600
- silanopentyl radical formation in γ-irradiated silanopentanes at 77K *(Japanese)* 7−38943
- siloxane, mechanically induced sorption on SiO$_2$, two-parameter model 7−16866
- β-sitosteryl benzoates, smectic A phase with polar terminal groups, thermal props. studies 7−63459
- sitosteryl chloride-cholesteryl laurate binary mixture, polymorphism 7−12267
- skatole, valence force const. IR and Raman freqs., normal coordinate anal. 7−914
- smooth muscle relaxing agents, homologous series, motional and conformational dynamics, NMR investig. 7−54439
- sodium carboxyl methyl cellulose, ^{13}C NMR spectrosc. 7−62550
- sodium dodecyl sulphate-water systems, lyotropic liquid crystals studied by positron annihilation techniques 7−38194
- sodium dodecylnaphthalene sulphonate/H$_2$O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7−16839
- sodium hexacarboxylatoferrates, Mossbauer spectra 7−10639
- sodium nitrophenolates-crown ethers, proton transfer complexes, spectral characts. 7−15596
- sodium p-n octylbenzenesulphonate, aq. solns., micelle form., acoustic and rheological props. 7−13823
- sodium saccharinate single cryst., elemental anal. IR spectra 7−22235
- sodium salicylate, excited state proton transfer, pulsed liq. lasers, pop. inversion obs. 7−50549
- sodium salicylate, in viscoelastic micelles, PMR, spin-spin splitting and relax. effects 7−53150
- sodium salicylate, relative fluorescent efficiency between 90 and 800 eV 7−13187
- sodium salicylate as combined fluoresc./refl. coating for broad band detector *(German)* 7−4891
- sodium succinate hexahydrate, cryst. struct. investig. 7−12034
- sodium taurocholate-bilirubin interaction, UV-visible absorpt. and fluoresc. spectra 7−50162
- solid cyanoadamantane, phenomenological approach to phase transitions 7−32636
- solid state chemistry and X-ray crystallography 7−58098
- solvation effect on UV and fluoresc. spectra 7−50234
- sonochemically enhanced Ullmann reactions 7−50903
- sorbitol, aq. solns., solvation investig. *(French)* 7−65299
- spiroindolinonaphthoxazine, in glassy polymer matrix, thermal reaction anal. by photochromism 7−54088
- spiroindolinonaphthoxazines in plastics, photochromic perform. 7−39091
- squaraine dye, struct. and electronic props., NDO CI calcs. 7−857
- squaric acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7−25387
- squaric acid, press. depend. of cryst. struct. 7−32417
- squaric acid radical, HYSCORE 2D ESR investig. 7−25565
- stearic acid, B modification, growth kinetics of (001) and (110) faces from n-alkanes 7−58174
- stearic acid, evaporated thin layer, effect of laser irradiation 7−58328
- stearic acid films, dielec. breakdown field meas. 7−27661
- stearic acid mono- and bi-layers on Al and Au, refl.-absorpt. IR spectra, order-disorder transitions 7−46165
- stearic acid soln., cryst. growth modelling 7−59386
- steroids, unsaturated, methyl group rot. barrier studied by NMR and force-field calcs. 7−10627
- stilbene, free rotation transient, fluorescence anisotropy 7−15639
- trans-stilbene, ground state, torsional motion, two-colour stimulated emission spectroscopy 7−50322
- trans-stilbene, ps Raman spectroscopy and electron transfer 7−46035
- t-stilbene, ps/jet studies of intramol. vibr. energy redistrib. in large mols. 7−42599
- trans-stilbene, soln., rot. reorientation dynamics and picosecond photoisomerisation 7−15592
- trans-stilbene, vap., free rot. obs., fluoresc. 7−50314
- stilbene molecular crysts., triplet exciton diffusion and capture, Monte Carlo modelling 7−12620
- trans-stilbene-fumaronitrile ion pair, back-electron transfer, solvent effects 7−39873
- stilbene-He(Ne), coherent photodissoc., picosec. polaris. obs. 7−36715

organic compounds continued
- trans- stilbenes, poly(vinyl alcohol) films, photophysics study, visible spectra anal. 7—36632
- strontium formate dihydrate single crystals, polarised Raman scatt., water internal modes 7—53311
- strontium monocyclopentadienide, prod. in gas-phase reaction, laser spectroscopic obs. 7—17775
- styrenated polyester for immobilisation of spent-ion exchange resin 7—19531
- styrene, out-of-plane valence force field 7—31021
- subtilysine-72 in water solns., radiation inactivation *(Russian)* 7—13965
- succinic acid, in atmospheric particulates of Japan 7—14327
- succinimide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
- succinonitrile triple-point cells for temp. ref. standard near 58.08°C 7—35492
- succinonitrile-acetone, dendritic growth models, comparison of theory with expt. 7—22649
- succinonitrile-salol, dendritic growth models, comparison of theory with expt. 7—22649
- sucrose, aq. soln., ultrasonic velocity and absorpt., mech. props. study 7—63744
- 1′-sucrose derivatives, intramol. H bonding, SIMPLE ^1H NMR spectrosc. 7—10620
- sulphanilamides, electronic struct. and chem. activity, NQR spectra 7—10631
- sulphanylamide-6-(4,5-dimethoxy)-pyrimidinyl, cryst. and mol. struct. 7—37957
- sulpholan, phase transitions and positronium formation and lifetime 7—36828
- sulpholane-benzene (toluene)(p-xylene)(mesitylene), ultrasonic speeds, compressibility and excess molar quantity at 303.15K 7—26870
- sulphone derivatives, α,β-unsaturated, substituent induced chem. shift, NMR 7—19900
- sulphone rings, four-membered, photoelectron and electron transmission spectra, sulphone effect 7—50253
- sulphones, ^{33}S NMR spectrosc 7—5700
- surfactants, anionic, in wastewater, indirect at. absorpt. determ. using liquid-liquid extraction 7—17925
- surfactants, on electrode surface, polarographic maxima of the third kind 7—13838
- TBBA, smectic liq. cryst., A phase, hydrodynamics, US meas. 7—1876
- TBBA, smectic-C phase, abnormal ultrasonic damping, anharmonic effects, ang. depend. 7—44697
- TCNE, electrochemical response, orientation effect 7—26622
- TCNQ, adsorption on Cu (111), vibr. spectra, EELS, work function meas. 7—52228
- TCNQ, electrochemical response, orientation effect 7—26622
- TCNQ, single cryst., lattice mode assignment, Raman spectroscopic meas. and lattice dynamical calcs. 7—26883
- TCNQ, valence band density-of-states 7—38434
- TCNQ charge transfer complexes, one-dimensional conductors, nonlinear conduction, electrical switching 7—2648
- TCNQ salt, DMM-TCNQ, evidence for spin-Peierls nature of low temp., ESR study 7—22132
- TCNQ salt, mixed-valence, conducting Langmuir-Blodgett films form. *(French)* 7—52323
- TCNQ salt, MPht$(TCNQ)_2$, ion-radical salt, spin ordering 7—64442
- TCNQ salt, N-n-propyl phthalazinium 7,7,8,8 $TCNQ_2$, struct., elec., mag. props., EPR meas. 7—33005
- TCNQ salts, quarter-filled band, optical absorption studies 7—46033
- TCNQ salts, quasi 1D molecular crystals, optical props., Hubbard model generalization, cond. calc. 7—45952
- TCNQ salts, semiconducting, dielec. response in submillimetre range 7—45916
- TCNQ-TTF powdered mixtures, strong solid-state charge transfer reaction 7—46835
- terbium carboxylate, luminescence props. calcs. 7—42667
- terephthal-bis-(4-(3′,4′,5′-triheptyloxybenzoyloxy)-aniline), columnar liquid crystalline struct. study 7—51613
- terephthalic acid, linear chain struct., order-disorder phenomena, Raman scatt. study 7—21150
- terminal phenyl ring liq. crysts., nematic-isotropic transition, even-odd effects 7—38192
- terpenoid derivatives, ferroelec. spontaneous polarisation, steric hindrance of free rotation, optical rot. and transition temp. meas. 7—13101
- p-terphenyl, cryst. mol. motions, thermodynamic studies *(Japanese)* 7—38151
- p-terphenyl, dielec. response 7—22180
- terphenyl, oriented in stretched polyethylene films, triplet-state ESR spectra 7—25564
- p-terphenyl, vapour, electron impact excitation functions, fluorescence 7—25600
- p-terphenyl aggregates, pure and doped, excitation energy transfer, spectral props. 7—2504
- p-terphenyl single crystals, singlet excitons, transient photoabsorpt. spectrum 7—27729
- 4,4″-1terphenylylenebisgalvinoxyl biradical, nematic liquid crystal, ENDOR and EPR spectra anal. 7—19908
- tertiarybutylarsine, use in organometallic VPE growth of GaAs 7—45047
- testosterone, hydrated, EPR study of monoclinic and orthorhombic single crysts. γ-irrad. at 295K 7—23307
- tetra(4-carboxyphenyl) porphyrin, water-soluble dimers, fluoresc. spectra, EPR, ODMR 7—19925
- tetra(N-methylpyridyl) porphyrin, porphyrin, water-soluble dimers, fluoresc. spectra, EPR, ODMR 7—19925
- 1,2,4,5,-tetra-tert-butylbenzene, hexakis(trimethylelementyl)benzenes, synthesis and crystal mol. struct., X-ray spectra anal., EFF calcs. 7—25360
- tetraalkylammonium iodides, exciton absorpt. spectra 7—59165
- tetraalkylammonium perchlorates, dielectric props., conc. depend. 7—38998
- tetraalkylphosphonium iodides, exciton absorpt. spectra 7—59165
- tetraaryldiphosphine radical cations, ESR linewidths rel. to struct. 7—50201
- tetrabenzofulvalene, polycrystalline thin films, TOF expts. 7—45333
- 3,3′-5,5′-tetrabromo-4,4′-dioxyphenyldimethylmethane, crystal and molecular struct. 7—16537
- 1,1,2,2-tetrabromodisilane, gas phase, mol. struct., conform. comp., GPED spectra anal. 7—36762
- tetrabromomethane:Br_2 dil. binary mixture, directional solidification, cellular instabilities 7—26921

organic compounds continued
- tetrabutylammonium iodide in formamide, surface segregation phenomena, angle resolved electron spectroscopy 7—52058
- tetracene, film, secondary electron emission *(Russian)* 7—17375
- tetracene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
- tetracene in ethanol glass, appl. of hole-burning spectroscopy as a tool to eliminate inhomogeneous broadening 7—46104
- tetrachlorobis(ethylammonium)copper(II), antiferromag. spin wave freqs., parallel pumping 7—58997
- tetrachlorodibenzodioxins, isomers, identification, micro-diffuse reflectance and matrix isolation FT-IR techniques 7—25502
- 1,1,2,2-tetrachloroethane-alkane binary mixture, US behaviour and isentropic compressibility 7—21358
- 1,1,2,2-tetrachloroethane-benzene (toluene) (p-xylene) (acetone) (cyclohexane), viscosity meas. 7—63860
- tetrachloroethene+K, vapor phase reactions, chemiluminesc. obs. 7—59767
- tetrachloroethene discharges, radical reactions, spectrosc. investig. 7—20990
- tetrachloroethene-O_2 discharges, radical reactions, spectrosc. investig. 7—20990
- tetrachloromethane, dissoc. in RF plasma, probe diagnostic and relative emission intensity meas. 7—32095
- tetrachloromethane, in porous SiO_2, structural features, neutron-diffr. studies 7—16536
- tetrachloromethane, induction spectra, mol. dynamics simulation 7—1830
- tetrachloromethane, picosecond pulse generation by stimulated Brillouin scattering 7—37031
- tetrachloromethane, vac. UV photolysis, dichloromethylene radical form. 7—25594
- tetrachloromethane dication, isomers, mass spectrometry and ab initio calc. investig. 7—36513
- tetrachloromethane discharge, chloromethylidyne $A^2\Delta \rightarrow X^2\pi$ emission investig. 7—31183
- tetrachloromethane microspheres, morphology depend. resonances with stimulated processes 7—25878
- tetrachloromethane-alcohol-cyclic ether, excess Gibbs free energies at 298.15K 7—44851
- tetrachloromethane-Ar(Xe)(methane), intermol. pot., sphericalisation 7—10701
- tetrachloromethylenediphosphine struct., GPED 7—57175
- tetracyanobenzene-naphthalene (anthracene) complexes, charge-transfer crystals, orientational transitions, mean field approach 7—6783
- tetracyanoethylene, electron affinity, electron transfer equilibria 7—10741
- tetracyanoethylene-methylated [2.2]paracyclophanes charge transfer complexes, IR and mass spectroscopy 7—25523
- tetradecafluorohexane, rot. isomerism and vibro spectra calc. 7—5682
- tetraethyl ammonium MX_4 compounds (MzCo,Zn,Mn;X=Cl,Br), structural phase transitions 7—44801
- tetraethylammonium chlorofluoroosmates, charge transfer transitions, UV-visible spectra 7—22283
- tetraethylmethane, dil. solns. in 5 CB, density meas. in nematic and isotropic phase 7—2079
- tetraethylmethylenediamine-I_2 charge transfer complex, electronic struct. influence, electronic absorpt. spectra 7—10611
- 1,2,4,5-tetrafluorobenzene in supersonic jet, fluoresc. and five-photon ionisation spectra, tunnelling 7—10659
- tetrafluoroethene, optical and thermodynamic characts. 7—31933
- tetrafluoroethene+K, vapor phase reactions, chemiluminesc. obs. 7—59767
- tetrafluoroethene+O_2, oxidation, laser photosensitised, chemiluminesc. 7—65328
- tetrafluoromethane, electron conduction pulses, shortening by electron attachers 7—51382
- tetrafluoromethane, electron conduction pulses, shortening by electron attachers 7—51383
- tetrafluoromethane, electron impact ionis. cross section calc. 7—50380
- tetrafluoromethane, electron interactions, excited fragment form., excitation cross sections 7—57182
- tetrafluoromethane, ionisation cross section determ., correction factor 7—19701
- tetrafluoromethane, new rigid motion algorithm for MD simulations 7—50284
- tetrafluoromethane, oscillator strength, X-ray and VUV absorpt. spectra 7—36643
- tetrafluoromethane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7—50254
- tetrafluoromethane, surface tension at low temps. 7—58566
- tetrafluoromethane+Ar, energy transfer, simulation 7—15690
- tetrafluoromethane+$He^+(Ne^+)(AR^+)(N^+)(N_2{}^+)(O_2{}^+)(H_2{}^+)(H_3{}^+)$, excitation cross sections 7—62501
- tetrafluoromethane + $He^+(Ne^+)$, absolute excitation cross sections 7—20010
- tetrafluoromethane ion, lifetime, mass spectra 7—19969
- tetrafluoromethane plasma, CF_3 radical, reaction probability with Si surface 7—23059
- tetrafluoromethane plasma, etching of Si, chemistry, model 7—3544
- tetrafluoromethane-O_2 discharge, plasma etching, chem. processes 7—3475
- tetrafluoromethane-O_2 mixtures, electron gas investig. 7—20861
- tetrafluoromethane/O_2 plasma etching reactor, CF and CF_2 radicals, laser induced fluorescence detection 7—58068
- tetrafluoroterephthalonitrile, electron distrib. calc. 7—42454
- 4,4,8,8- tetrafluorotricyclo(5.1.0.$0^{3,5}$) octane, syn isomer struct., X-ray anal. 7—21187
- tetraglycidyl methylene dianiline, ^1H spectrum, FT 2D NMR obs. 7—19899
- 1,2,3,4-tetrahydro-5,6-dimethyl-1,4-methanonaphthalene, liq., motional dynamics, spin-lattice relax. time meas. 7—36650
- 6b,7,8,8a-tetrahydrocyclobut(a)acenaphylene, photoisomerisation, solvent and irradiation parameter effects, visible and UV spectra study 7—33947
- tetrahydrofuran, Li ion pairs, indicator scale rel. to C acidity 7—51602
- tetrahydrofuran, parity violating energy differences between chiral conformations 7—10777
- tetrahydrofuran molecules in ice clathrate, transformation on compression at 77 k 7—37862
- tetrahydrofuroic acid, in atmospheric particulates of Japan 7—14327
- tetrakis(1,1,1-trifluoro-4-phenylbutane-2,4-dionato) uranium (IV) magnetochemical study *(French)* 7—12956
- tetrakis(alkylthio)tetrathiafulvalenes, valence electronic struct., UPS, EHT calcs. 7—21810

organic compounds continued
tetramethoxysilicon, light scatt., below sol-gel transition 7—46058
tetramethyl ammonium tetrachlorozincate, internal motions and phase transitions, PMR studies 7—2993
tetramethyl silane, X-ray photoabsorption spectra, inner shell resonances 7—62402
tetramethyl urea+water system, solid-liq. phase equil., freezing pts. 7—32616
3,3,9,9-tetramethyl-6-phenyl-1,3,4,7,9,10-hexahydrodipyrano[4,3-b; 3-d] pyridine, cryst. and mol. struct., X-ray anal. 7—12053
tetramethyl-phenylene-diamine chloranil, mixed-stack cpds., spectroscopy of dimerisation 7—22260
bis(tetramethylammonium) bromochlorocuprate single cryst. solid solns., phase diagram study 7—26944
tetramethylammonium hexachloroplatinate, crystal struct. and theoretical symmetry analysis of phase transition sequence 7—51739
tetramethylammonium manganese (II) trichloride 1D antiferromagnet, exciton trapping, luminesc. investig. 7—52434
tetramethylammonium manganese tribromide:Cu^{2+}, emission dynamics, exciton trapping 7—39164
tetramethylammonium manganese tribromide, photoexcited crysts., exciton annihilation, luminesc. decay curves 7—53385
tetramethylammonium manganese trichloride, photoexcited crysts., exciton annihilation, luminesc. decay curves 7—53385
tetramethylammonium salts, D NMR, reorientations 7—19884
tetramethylammonium tetrachlorocobaltate, ferroelec. incommensurate phase, thermal hysteresis, memory effect 7—33346
tetramethylammonium tetrachlorozincate, cryst. form, surface morphology, optical microscopy study 7—63919
tetramethylammonium tetrachlorozincate, ferroelec., optical activity, high accuracy universal polarimeter meas. 7—17300
tetramethylammonium tetrachlorozincate, ferroelec., optical activity in incommensurate phase 7—64602
tetramethylammonium tetrachlorozincate, X-ray radiation damage, satellite reflections 7—51827
1,2,3,5-tetramethylbenzene, proton transfer, high press. mass spectroscopy 7—54083
N,N,N′,N′-tetramethylbenzidine in various polar solvents, monophotonic ionisation 7—12758
tetramethylbutadiene, lowest excited triplet state, reson. Raman spectrum 7—62376
2,6,N,N-tetramethylcyanoaniline, charge transfer states, solvent effects, fluoresc. 7—31111
4,4,7,7-tetramethyldioxepane, internal rot., steric struct. influence, T_1 meas. 7—10629
tetramethyldioxetane, homogeneous and inhomogeneous struct., vibr. overtone spectrum 7—25483
tetramethyldioxetane in free jet expansion, overtone vibr. initiated unimol. reaction, RRKM theory 7—28299
1,2,4,5-tetramethylenebenzene, geometry optimisation, ab initio CI calcs. 7—15524
tetramethyleneethane, ground state triplet investig. 7—30926
tetramethyleneethane,. singlet ground state, ab initio calcs. 7—62259
tetramethylmethylenediamine-I$_2$ charge transfer complex, electronic struct. influence, electronic absorpt. spectra 7—10611
2,2,4,4-tetramethylpentane, positronium yield and viscosity 7—36820
tetramethylsilane, ^{13}C NMR chemical shifts, solvent effects 7—50198
tetramethylsilane, mol. gas, γ-ray induced ionis. 7—63247
tetramethylsilane, resons. in X-ray photoabsorption spectra 7—15621
3,3,7,7-tetraoxo-9-oxa-3,7-dithiabicyclo [3.3.1] nonane, mol. and cryst struct. 7—37956
tetraphenyl arsenic iodide, dielectric props., conc. depend. 7—38998
tetraphenyl-tetrahydropophyrins and related mols. triplet-triplet absorpt., visible spectra 7—31061
tetraphenylarsonium pentakis(nitrato)ytterbate(III), crystal field levels determ. by neutron spectroscopy 7—45238
tetraphenyldithiapyranylidene iodide, 1D conductor, order-disorder transition, X-ray scatt. intensity, elec. props. 7—44798
tetraphenylmethane, thermal motion, lattice dynamical model 7—44730
tetraphenylmethane, vibr., dichroism, IR and Raman spectra 7—31042
tetraphenyloxalamidine, double H transfer, conforms., tautomerism, NMR and IR obs. 7—57083
tetraphenylphosphonium chloride, cryst. struct. investig. 7—12037
tetraphenylporphin metal complexes, reson. Raman spectra 7—19862
tetraphenylporphine, and halo derivatives, heavy atom effect on fluoresc. and phosphoresc. polarisation spectra 7—57123
tetraphenylporphine on Ag surface, fluoresc. quenching and interference effects 7—36675
tetraphenylporphyrin metal complexes, multiphoton ionisation mass spectra 7—19960
1,2,4,6-tetraphenylpyridinium perchlorate, charge transfer complex, UV absorpt. spectra 7—36640
tetrathiafulvalenes, N-containing, charge transfer complexes, struct. and elec. props. 7—44514
tetrathiofulvalene bis(bis-(4,5 dimercapto-1,3-dithiole-2-thione) Ni(II)), 3D mol. supercond. 7—45594
tetrathiofulvalene-p-chloranil, mixed-stack charge-transfer cryst., elec. cond. and phase diagram 7—52586
tetrazaporphin, centrosymmetric molecules in amorphous media, Stark effect by hole burning and inner elec. fields 7—25581
s-tetrazine, photochem. hole burning, Doppler-free saturation spectrosc. 7—36589
tetrazine-ar, van der Waals rovibr. states, intermolecular pot. 7—5735
s-tetrazine-Ar van der Waals complex, vibr. predissoc., RRKM approach, vibronic emission 7—19983
TGS:Cr^{3+} single crysts., valence bands and impurity levels, absorpt, edge meas. 7—33350
TGS:Fe^{3+} crystals, spatially distributed defects, luminescence studies 7—26770
TGS, crystalline samples, low temp. sp. ht. meas. 7—2225
TGS, uniaxial ferroelec., transition under nonequilibrium conditions 7—13107
TGS, unstable point domains in ferroelectrics 7—17280
TGS crystals, nitro-aniline doped, dielec. and piezoelec. props. 7—22192
TGS crystals, polarisation relax., defect effects 7—17265
TGS crysts., paraelec. phase, gamma irradiated, nonlinear dielec. props. studies 7—53214
TGS group crysts., thermal anomalies, evaporation products mass spectra study *(Russian)* 7—44781
TGS single crystal solution growth with modulated struct. 7—59388

organic compounds continued
TGS-L-α-alanine admixture, dielec. props., influence of rejuvenation process 7—33339
thallium behenate, molecular films, small angle X-ray studies 7—58620
thallium stearate, molecular films, small angle X-ray studies 7—58620
thermally induced nucleation 7—23051
thermophysical props. meas. by DC-AC hot-wire procedure 7—9830
4-thiacyclohexanones, 2,6-disubstituted, stereochemistry, ^{1}H and ^{13}C NMR 7—57096
thiamin thiazolone, cryst. struct., transition state analogue 7—51736
thiazylimid, struct. and bonding investigated at SCF level, electron correl. effects 7—10439
Thiele's hydrocarbon, mol. struct. determ. 7—10395
thietane 1,1-dioxide, photoelectron and electron transmission spectra, sulphone effect 7—50253
thiete 1,1-dioxide, photoelectron and electron transmission spectra, sulphone effect 7—50253
2-thio-1,3,2-oxazaphosporinane, conformer struct. and populations, IR, NMR and X-ray spectra anal. 7—25509
thioacrolein, photochemical processes, ab initio quantum chemical calcs. 7—59772
thioanisole and its derivatives, long range spin-spin coupling consts., NMR and mass spectra 7—19886
thioformaldehyde, photochemical processes, ab initio quantum chemical calcs. 7—59772
thioformaldehyde, RF discharge, optogalvanic detected IR spectra 7—20970
thioglyoxal, photochemical processes, ab initio quantum chemical calcs. 7—59772
thiolane, gas, solid and monolayers, EELS and XPS study 7—19949
thiophene, adsorption and reactions on clean and S or C covered Mo (100) 7—28345
thiophene, benzene solvent, dielectric relax. study 7—64563
thiophene, chemisorption on Si (111), surface vibr. studies 7—21615
thiophene, gas, solid and monolayers, EELS and XPS study 7—19949
thiophene, in liq. crysts., variable angle spinning ^{1}H NMR 7—929
thiophene chemisorpt. on Si (111)2×1, annealing-induced mol. fragmentation, surface vibr. spectra, HREELS study 7—27088
thiophene-benzophenone mixture, benzene solvent, dielectric relax. study 7—64563
thiophosphates, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
thiopyrylocyanine dyes, in polymer matrix, hypsochromic shift, solvation, IR spectra 7—42611
thiosemicarbazide, bonding and struct., effect of protonation, ^{14}N quadrupole reson. spectra anal. 7—33295
thiosemicarbazide hydrochloride, bonding and struct., effect of protonation, ^{14}N quadrupole reson. spectra anal. 7—33295
thiouracil, tautomers, MNDO calcs. 7—56984
thiourea, paraelectric phase, mol. dynamics simulation 7—37920
thiourea-ferrocene, inclusion cpd., orientation and dynamic behaviour, ^{13}C NMR chem. shielding spectra 7—50180
thylakoid membrane, light scatt., photo-induced changes, surface charge effect 7—59934
thylakoid membrane, light scatt., photo-induced changes, temp. treatment effect 7—59935
thylakoid membranes and functional subunits, organisation, linear dichroism and fluoresc. polarisation obs. 7—59944
tissue-equivalent gas mixtures, photoionisation, average energy per photon 7—19970
α-titanylphthalocyanine photoreceptors for solid-state laser beam printers *(Japanese)* 7—37077
3,3′,5,5′-TMB-TCNQ charge transfer complexes, electronic props. studies 7—64185
TMMC, pure and Cu doped, struct. phase transitions, Brillouin scatt., study 7—46055
(TMN)$_3$X$_2$, (X=ClO$_4$, AsF$_6$), cation radical salts of tetramethoxynaphthalene, EPR, optical absorpt. and conductivity studies 7—53113
(TMTCF)$_2$X salts (C=S,Se), crystal struct., press. and temp. depend. 7—44520
TMTCT salts, electronic and vibr. absorption spectra, electronic correlations 7—46034
(TMTSF)$_2$(ClO$_4$)$_{1-x}$(ReO$_4$)$_x$, organic conductors, competition between structural instabilities 7—51740
(TMTSF)$_2$(ClO$_4$)$_{1-x}$(ReO$_4$)$_x$, supercond. ground state, role of anions 7—45555
(TMTSF)$_2$ AsF$_6$(SbF$_6$), SDW semicond. phase, for-IR conductivity 7—45969
(TMTSF)$_2$ ClO$_4$(PF$_6$), high field magnetoresist., quantum effects and phase transitions 7—45301
(TMTSF)$_2$ PF$_6$ field induced quantum oscillations, Hall effect studies 7—45280
(TMTSF)$_2$BF$_4$, anion ordering, press, effects 7—2596
(TMTSF)$_2$ClO$_4$, anion ordering and lattice expansion 7—58511
(TMTSF)$_2$ClO$_4$, Bechgaard salts, thermodynamics of field-induced SDW states 7—7520
(TMTSF)$_2$ClO$_4$, conductor, thermal expansion and structural phase transitions 7—44870
(TMTSF)$_2$ClO$_4$, field-induced SDW states in high mag. fields 7—45698
(TMTSF)$_2$ClO$_4$, mag. field induced phases, phase diagram studies 7—45752
(TMTSF)$_2$ClO$_4$, NMR study of molecular motion, anion ordering 7—53175
(TMTSF)$_2$ClO$_4$, organic supercond., field-induced SDW state, oscillatory magnetoresist. 7—27464
(TMTSF)$_2$ClO$_4$, SDW state, ^{77}Se NMR spin echo studies 7—45700
(TMTSF)$_2$ClO$_4$, superconducting and spin-density-wave transition temperatures, effect of anion ordering 7—2761
(TMTSF)$_2$CLO$_4$, thermal cond. meas., 300 to 6 K 7—38278
(TMTSF)$_2$ClO$_4$, transverse spin susceptibility and nuclear spin-lattice relax. rate of field-induced spin-density waves 7—45611
(TMTSF)$_2$PF$_2$O$_2$, organic conductors, competition between structural instabilities 7—51740
(TMTSF)$_2$PF$_6$, cryst. struct., neutron low temp. and X-ray high press. diffr. studies 7—44502
(TMTSF)$_2$PF$_6$, Hall effect study of field-induced stabilities at 10.5 kbar 7—7214
(TMTSF)$_2$PF$_6$, metal-insulator transition, lattice expansion 7—64086
(TMTSF)$_2$PF$_6$, SDW characts., ^{1}H NMR anal. 7—45699
(TMTSF)$_2$PF$_6$, unified phase diagram, magnetotransport data anal. 7—45410

organic compounds continued
(TMTSF)$_2$PF$_6$(ClO$_4$), nesting vector, SDW amplitude and anisotropy 7−45125
(TMTSF)$_2$PF$_6$(ClO$_4$)(ReO$_4$) organic metals, mag. suscept. press. depend. meas. 7−12943
(TMTSF)$_2$ReO$_4$, ^{13}C high resolution NMR study, temp. effects, semiconductor-metal transition 7−53157
(TMTSF)$_2$ReO$_4$, organic conductors, competition between structural instabilities 7−51740
(TMTSF)$_2$ReO$_4$, quantum oscillations and field-induced transitions 7−45300
(TMTSF)$_2$ReO$_4$, Shubnikov de Haas oscills. and (0 1/2 1/2) anion ordering 7−45281
(TMTSF)$_2$ReO$_4$ organic supercond., anion-ordering phase diagram studies 7−21434
(TMTSF)$_2$X, (X=ClO$_4$, ReO$_4$), organic conductors, high resolution NMR study 7−53169
(TMTSF)$_2$X, antiferromag. superconductor, upper crit. mag. field *(Russian)* 7−58963
(TMTSF)$_2$X, quasi-1D, role of kinetic interchain coupling 7−45302
(TMTSF)$_2$X, superconducting and mag. instabilities 7−45697
(TMTSF)$_2$X Bechgaard salts, cascade of field-induced SDW transitions 7−45704
(TMTSF)$_2$X Bechgaard salts, field-induced phase transitions 7−45409
(TMTSF)$_2$X Bechgaard salts, mag. field induced SDW phases 7−45703
(TMTSF)$_2$X quasi-1D conductors, SDW transition temperature, superconductivity 7−45705
(TMTSF)$_2$X salt, isolated single cryst. growth, electrochemical technique 7−59393
(TMTSF)$_2$X salts, phase diagram, importance of 1D correlations 7−45190
(TMTSF)$_2$X salts, quasi-1D, cascade of field-induced SDW phases 7−45701
(TMTTF)$_2$Mo$_6$Cl$_{14}$, prep. by electrocrystallisation, struct. and spectroscopic characterisation 7−46295
(TMTTF)$_2$X, quasi-1D, role of kinetic interchain coupling 7−45302
(TMTTF)$_2$X salts, phase diagram, importance of 1D correlations 7−45190
toluene, α-crystallised, temp. and press. effects on methyl tunnelling, inelastic neutron scatt. 7−38133
toluene, and mixtures, fine line struct., parametric nature 7−43230
toluene, excited, H atom release, unimol. dynamics 7−50276
toluene, in binary liq. mixtures, diffusion thermoeffect, heats of transport 7−12337
toluene, laminar flow, heat transfer in thermal inlet region 7−43895
toluene, liq., Rayleigh ratio meas. for Ar- and Kr-ion laser wavelengths 7−53358
toluene, liq., shear viscosity, Rayleigh correl. time meas., temp depend. 7−33402
toluene, liq., thermal cond. and thermal diffusivity, simultaneous meas. 7−48728
toluene, mixed acid nitration, isomer distrib., mass transfer effects on selectivity 7−54094
toluene, radiation heat transfer influence on effective thermal conductivity 7−6898
toluene, thermal cond., standard reference data 7−18515
toluene, thermal cond. meas. using hot-wire apparatus, standard specimen *(Chinese)* 7−14938
toluene, vib. anal., isotropic species, comparison with benzene 7−19824
toluene adsorbed on activated C, IR spectra 7−10573
toluene dispersed in water, transient behaviour of holdup in reciprocating plate extraction column 7−11497
toluene impurity detection in proportional counter gas by resonant 2-photon ionisation spectroscopy 7−42295
toluene liq., stimulated Raman gain meas., vibr. energy transfer, thermal lens detection 7−62772
toluene liq. thermal cond. and sp. ht. meas., AC heated wire method 7−16824
toluene thermal cond. meas., transient hot-wire apparatus 7−4839
toluene-n-decane (n-dodecane), isothermal compressibility at various temp., excess functions calc. 7−26822
toluylaldehydes, mobilities, microwave and far IR complex permittivities meas. 7−53218
para-tolylmercury chloride, cryst. struct., X-ray diffr. study 7−63596
toxaphene, in atmosphere, deposition in E North America determined from peat accumulation 7−40064
toxaphene, pollutant atm. transport to Lake Michigan 7−34084
tracer diffusion in dense ethanol, correl. for nonpolar and H-bonded solvents 7−32688
4-C(trans-4′-n-hexylcyclohexyl)isothiocyanatobenzene, nematic and isotropic phases, dielec. relax. 7−53229
transacrolein, multireference second order perturbation CI 7−62247
tri-n-butylphosphate, radiolytic decomposition kinetics 7−39856
triaryl-substituted keto/enol pairs, gas-phase ion chemistry, mass spectra 7−13737
s-triazine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7−64769
s-triazine, gas phase, mol. struct., GPED anal., ab initio force field calcs. 7−36457
1,2,4triazole, adsorbed on microlithographically prepared Cu, SERS obs. 7−27712
tribenzocyclononene, hexasubstituted, pyramidic mesophases, optical anisotropy 7−12275
tribromoacetamide, ^{15}N isotope effects, Raman spectra, ab initio calcs. 7−19871
tribromoacetonitrile, force field and thermodynamic fns. 7−30960
sym-tribromobenzene, struct., vibr., GPED 7−57177
tribromomethane, one electron transition, VUV spectra 7−10612
tribromomethyl radical, geometry and electronic struct., SWXα calcs., ab initio UHF calcs. 7−19703
2,2,4-trichloro-5-cyano-6-trichloromethyl-1,5-diazaphosphorine, NQR parameters, semiempirical calcs. 7−57094
1,2,3-trichlorobenzene, dipole-dipole interactions and inversion motif 7−26732
1,2,3-trichlorobenzene, single cryst., order-disorder, ^{35}Cl NQR study 7−17237
trichlorofluoromethane, atmospheric lifetime and annual release estimates 7−29150
trichlorofluoromethane, down-flow shell-side forced convective boiling 7−63194
trichlorofluoromethane, IR photochemical reaction, rate coeff. 7−23037

organic compounds continued
trichloromethane, one electron transition, VUV spectra 7−10612
trichloromethane liq., mol. vibr., Raman spectra, temp. effects 7−64640
trichloromethanesulphenyl chloride, mol. vibr. and config., Raman and IR spectra anal. 7−42622
trichloromethyl radical, struct. and electronic states, ab initio UHF SWX$_\alpha$ calcs. 7−30949
2,4,6-trichloropyrimidine, liq. and vapour, electronic and vibr. spectra, UV and IR obs. 7−19859
trichlorotrifluoroethane, nonstatistical dissoc. behaviour in multifrequency IR fields 7−42702
trichlorotrifluoroethane+Cs, vapor phase reactions, chemiluminesc. obs. 7−59767
tricosane, pseudohexagonal rotator phase, disorder at bilayer interface, mol. dynamics calcs. 7−58165
ω-tricosenoic acid Langmuir Blodgett film/GaAs MIS devices 7−55918
22-tricosenoic acid Langmuir-Blodgett films, guided optical waves in ATR geometry 7−31462
ω-tricosenoic acid Langmuir-Blodgett films, RHEED 7−16887
22-tricosenoic acid multilayers, optical consts. 7−22372
triethyl phosphate, internal ^{31}P NMR reference in biological samples 7−54465
1-(triethylene amide)-phosphazo-1,1-(diethylene amide)-2,2,2-trichloroethane, cryst. and mol. struct. 7−51735
trifluoroacetaaldehyde, combined microwave-optical barrier determ. 7−42602
trifluoroacetic acid, H-bonded complex with esters, lifetimes, IR absorpt. spectra 7−50133
trifluoroacetic acid-isoquinoline complexes, H bond, H$^+$ transfer, medium effects 7−46833
trifluoroacetonitrile, isomers, anion form. and dissoc., electron attachment 7−10740
trifluorochloromethane-Ar discharges, for plasma etching of Si:P, parametric modelling and impedance anal. 7−28221
trifluorochloromethane-Ar discharges, for plasma etching of Si:P. modelling of ion bombard. energy distrib. 7−28222
trifluoroidomethane, spectral moments, dissoc. band 7−36695
trifluoroiodomethane, dissociative electron attachment, unbalanced excess energy distrib. 7−25676
trifluoroiodomethane, IR RF double reson. spectra, rot. levels, nuclear quadrupole transitions 7−50205
trifluoroiodomethane, valence and core levels, variable energy photoelectron study 7−10666
trifluoroisocyanide, isomers, anion form. and dissoc., electron attachment 7−10740
trifluoromethane, electron interactions, excited fragment form., excitation cross sections 7−57182
trifluoromethane, interacting states, high resolution FTIR absorpt. spectra 7−57065
trifluoromethane+formaldehyde, rotationally inelastic scatt. cross sections, modified Anderson theory calcs., 7−50321
trifluoromethane plasma in planar reactor, probe meas. 7−37750
trifluoromethane-d$_1$ vapour, TEA CO$_2$ laser pulse self-focusing and self-defocusing 7−43269
trifluoromethanesulphonic acid electrolyte in fuel cells, O solubility, diffusion coeff., reduction rate, adsorption on Pt surface 7−28395
trifluoromethyl, inversion barrier heights, SCF and CI calcs. 7−62289
trifluoromethyl group, chemiluminesc. 7−33935
trifluoromethyl imino sulphurdifluoride, ab initio calcs. at SCF level, equilib. geometries and population anal. 7−10382
trifluoromethyl phosphorane, conform. and struct., GPED anal. 7−20044
trifluoromethyl radical+O$_2$, rate const. meas., laser photolysis and time-resolved mass spectrometry 7−8249
trifluoronitrosomethane, combined microwave-optical barrier determ. 7−42602
trifluoronitrosomethane, geometric and electronic props., SCF and CI calcs. 7−15527
3,3,3-trifluoropropene, chemisorption bond energies on chemically modified Mo (100) surface 7−23056
3,3,3-trifluoropropyne, intracavity dye laser photoacoustic spectra for overtone excitation, IR spectra 7−10575
1,3,5-trigermatris(spiro-1-germa3,5-disila-3,5,5-tetra methyl-4-oxacyclohex)-2,4,6-cyclotrioxane, cryst. and mol. struct. determ. 7−12056
triglycerides, obs. of physical ageing by positron lifetime meas. 7−39229
triglycine selenate crysts., dielectric props. at high hydrostatic press. 7−7631
triglycine sulphate:Tl$^+$, X-ray effects, changes in physical props. 7−22198
triglycine sulphate, Cr doped, amplitude depend. of dielectric losses 7−64587
triglycine sulphate, single cryst., neutron irrad., elec. cond. 7−7227
triglycine sulphate nucleation in supersaturated solns., induction period meas. 7−26680
triiodomethane, one electron transition, VUV spectra 7−10612
4-(2,4,6-trimethyl)benzylidene-2-phenyloxazolin-5-one, cryst. struct. determ. and reaction investig. 7−54084
trimethyl phosphite, Auger and photoelectron spectra 7−57132
2,2,4-trimethyl-6-acetoxy-1,2,3,4-tetra-hydroquinoline, cryst. and mol. struct. X-ray diffr. 7−16540
trimethyl-d$_9$-pyrazine, normal vibrs., Raman and IR parameters investig. 7−50074
trimethylaluminium, UV laser photolysis for Al film growth 7−54153
trimethylamine radical cation, hyperfine coupling tensors, ab initio UHF calcs. 7−25373
trimethylamine-d$_9$, solid, mol. reorientation, NMR quadrupole echo spectra 7−62411
trimethylammonium cobalt chloride dihydrate, electronic absorpt. spectra of Co^{2+} 7−3065
trimethylammonium copper decachloride, mag. suscept., linear tetramer with ferromag. coupling 7−7491
trimethylammonium hexochloroantimonate, mol. vibr., Raman and IR spectra anal. 7−53347
trimethylammonium nanochlorodiantimonate, high freq. dielectric dispersion 7−53223
1,3,5- trimethylbenzene, melting point meas., liq. self-diffusion study, hard-spheres method 7−52003
trimethylchlorogermane, liq., vibr. anal., isotope effects, Raman bandshape anal. 7−33371
trimethylgallium CVD reaction, Ga atom detection by multiphoton-ionisation and mass spectrometry 7−25471

organic compounds continued
trimethylgallium decomposition during CVD, effect of added hydrazine, multiphoton and electron ionisation mass analysis 7—23010
3,3,4-trimethylhexane, config. anal., IR and Raman spectra 7—19861
2,3,3-trimethylhexane, conformational anal., Raman and IR spectral obs. and vibr. assignments 7—15614
trimethyloxonium hexachloroantimonate, mol. vibr., Raman and IR spectra anal. 7—53347
trimethylpyrazine, normal vibrs., Raman and IR parameters investig. 7—50074
trimethylsilyl groups adsorbed on SiO_2, ^2H NMR spectra investig. 7—2375
trimethylsilylisothiocyanate in gas phase, mol. struct. determ. by electron diffr. 7—50357
trimethylsilylium$+O_2$(aromatic bases), assoc. binding energies meas., mass spectra 7—54096
trimethylsulfonium iodide-d_0(-d_9), vibr spectrum, normal coord. calcs. 7—50077
trimethylsulfonium-d_0(-d_9), vibr spectrum, normal coord. calcs. 7—50077
1,6,12-trioxa-9-aza-9-butyl-5-germa-spiro[4,7]dodecane-2-one, cryst. and mol. struct. 7—12048
trioxane, Raman band second moment meas. 7—31054
triphenylamine derivatives, guidelines for improving charge transport props. *(Japanese)* 7—38555
triphenylchloromethane-o-terphenyl, sp. ht. capacity and glass transition temp. meas., thermodynamic config. anal. 7—21446
triphenylmethane dyes, dual fluoresc. 7—10649
triphenylmethane dyes, induced optical activity, INDO/S calcs. 7—19708
tris(trimethylammonium)Sb_2Cl_9 single crysts., dielec. and pyroelec. props. study 7—53210
tris (dimethylammonium) nonachlorodiantimonate, ferroelectric phase transition 7—33345
tris-(ethylenedithio) benzene salt, $(TEDTB)_2BF_4$, C_3 symmetry, synthesis and crystal struct. 7—63602
tris-sarcosine calcium chloride: Mn^{2+} crystals, ferroelec. phase transition 7—2995
tris-sarcosine calcium chloride, deuterated, ferroelectric props. 7—39050
tris-sarcosine calcium chloride, dielectric dispersion 7—2965
tris-sarcosine calcium chloride, uniaxial dipolar ferromagnet, nonasymptotic crit. behaviour 7—64467
tropane alkaloids, chem. ionis. and electron impact mass spectra 7—59802
troxidone, antiepileptic drug, electrostatic pot., ab initio SCF-MO-LCA. study 7—855
tryptamine, transition moment and geometry determ. by rot. resolved electronic spectroscopy 7—31058
tryptophan, jet-cooled, excited state conformers and intramol. exciplex form., dispersed fluoresc. 7—36671
$TSF(Ni(dmit)_2)_3$, organic conductor, structure-related magnetism 7—2807
$TTF(Ni(dmit)_2)_2$ molecular supercond., BCS and small supercond., lattice parameters *(French)* 7—2759
TTF-BDT (Au), spin-Peierls phase diagram, high temp. sp. ht. and suscept. meas. 7—59026
TTF-chloranil, neutral-ionic transition, phenomenological theory 7—26939
TTF-Chloranil, optical, magnetic and electrical props. 7—2556
TTF-chloranil mixed-stack change transfer crystal, domain wall dynamics 7—52702
TTF-TCNQ, dielec. function in submillimetre range 7—27282
TTF-TCNQ, freq. depend. conductivity meas. 7—64218
TTF-TCNQ, incommensurate phase transition, symmetry theory *(Chinese)* 7—63793
TTF-TCNQ, nonlinear elec. transport effects driven through CDW commensurability 7—45295
TTF-TCNQ, nonlinear electrical transport effects, CDW commensurability 7—64217
TTF-TCNQ complexes, intramolecular charge transfer 7—7241
tumour-localising photosensitiser haematoporphyrin derivative, 2-photon laser-induced fluoresc. 7—23303
Tween 81-H_2O, props. in low-temp. region, struct., ^1H, ^2H and ^{13}C NMR 7—8318
Tween 81-hexadecane-H_2O, props. in low-temp. region, struct., ^1H, ^2H and ^{13}C NMR 7—8318
tyrosine, UV reson. Raman spectra anal. 7—41481
n-undecane, emulsion in sodium oleate stabilised water, conc. effect on aggregation 7—39926
4-n-undecyloxyphenyl-4′-(4″-cyanobenzyloxy)benzoate, evidence of continuous evolution of smectic A_2 from smectic A_d 7—63813
unsaturated hydrocarbon$+$O, relative rate consts. at room temp. 7—28283
uracil and thio derivatives, tautomerism, ab initio study 7—837
urea, effect on H_2O struct. 7—12348
urea, organic crystals growth in a microgravity environment 7—22456
urea, rot. transition, N quadrupole coupling, HFS, microwave spectra 7—10559
urea and its derivatives, aq. soln., dielectric relax. 7—22183
urea crystal, SHG by Ar^+ laser light *(Chinese)* 7—57458
urea crystals, growth kinetics in aq. soln., biuret effect 7—51679
urea in water-alkanol mixtures, heat of soln., enthalpic pair interaction coeffs. 7—28328
urea inclusion cpds. with n-paraffins, phase transitions and ordering 7—32634
Urea used for cloud seeding in China *(Chinese)* 7—18264
urea-trans-4-octene clathrate, rot- solid, heteronucl. dipolar powder patterns separation, dipolar SASS NMR spectroscopy 7—10622
urethane form. reaction, H bonding, CNDO/BW calcs. 7—56985
N-urethanyl-α-amino acids, Fourier transform vibr. circular dichroism of carbonyl stretching modes 7—50207
urine, soln., viscosity coeff. meas., temp. effects *(German)* 7—63865
valinomycin/PVC overlayered substrates for K^+ selective electrodes 7—65375
vapour, photoionisation, average energy per photon 7—19970
vinyl alcohol, aq. soln., ketonization, ab initio STO-3G calcs. 7—22988
vinyl chloride, dissoc. attachment cross sections 7—28290
vinyl chloride, vibr. distribs., time-resolved FTIR photofragment emission spectroscopy 7—25508
vinyl chloride FIR laser lines, CW optically pumped 7—25799
vinyl formate, gas phase structure anal., ab initio calcs., molecular mechanics calcs., IR spectra 7—19691
vinyl-d_2 cation$+H_2$, reaction cross-section, vibr. state depend., TESICO obs. 7—54102
vinylacetylene, thermal decomp. in shock waves, rate const. 7—17772
vinylbenzyl ester-maleic anhydride donor-acceptor complex, alternating copolymerisation *(Russian)* 7—65319

organic compounds continued
N-vinylcarbazole, halogeno and nitro derivatives, struct., PMR, MNDO calcs. 7—933
N-vinylcarbazole, lowest triplet state props., $AgClO_4$ influence, phosphoresc. spectra 7—62435
vinylene carbonate, struct. and vibr. spectra, ab initio CNDO/2 and INDO calcs. 7—49930
vinylidene $+$ He(Ar)(N_2)(H_2)(CO)(methane), collisional quenching, rate consts., time resolved spectra 7—31104
violacein, thin layer chromatography and FTIR analysis 7—54469
viomycin polypeptide, H exchange rate, NOESY expt. 7—10790
vitamin B_{12} coenzyme crysts., water struct., neutron and X-ray solvent densities anal. 7—28454
vitamin B_{12} coenzyme crysts., water struct., struct characts. of solvent networks 7—28455
vitamin B_1, in H_2O, 2D solvent suppressed COSY NMR spectra, pulse shaping 7—57086
vitamin E(^{13}C) radical, ESR spectra and hyperfine coupling const. 7—36652
vitamins, electron-transfer reactions, kinetic ESR spectra, computer simulation 7—25568
VX model compound, reactive props., electrostatic pot. calcs. 7—56954
wall to gas heat transfer coeffs. 7—8258
water in benzene and some n-alkanes, heat of soln. at 298.15, 308.07 and 313.14K 7—26959
water-1-pentanol-hexane, liq.-liq.-vapour equilib., isobaric and isothermal conditions *(Russian)* 7—63788
water-2-propanol-nitromethane, US vel. at miscibility point 7—21355
water-methanol liquid jets, breakup and atomisation, transient behaviour 7—51249
water-methanol mixed clusters, H-bonded networks, stability, thermochemistry 7—62559
water-oil-tenside microemulsion, three-phase regime 7—13826
water-organic mixtures, positron annihilation and compressibility 7—39227
X-ray diffr. struct. determ. 7—12045
X-ray diffr. structural anal. 7—51744
X-ray struct. study 7—21192
9H-xanthen-9-one derivatives and related S cpds. aromaticity, dipole moment anal. 7—22177
xanthene dye amino derivatives, fluoresc. characts. 7—42643
xanthene dyes, triplet-state conc. quenching, fluoresc. study 7—42679
p-xylene, excited, H atom release, unimol. dynamics 7—50276
p- xylene, laser ionisation time of flight mass spectra, mass resolution of 10,000 7—9918
p-xylene, resonant multiphoton ionisation dissoc. mechanism 7—8295
xylene and mixtures, fine line struct., parametric nature 7—43230
ylides, neutralisation-reionisation mass spectrometry 7—10766
yttrium formate crystals and solutions, Raman spectra studies 7—46024
zinc (II) tetra (p-vinylphenyl) porphyrin, benzene soln., aggregation and luminesc. props., visible spectra anal. 7—42635
zinc oxalate, crystallisation, precip. kinetics 7—53537
zinc phthalocyanine thin films, thermoelectroluminescence studies 7—7770
zinc tetra-2,3-pyridino porphyrazine, photoreduction, photochemical, electrochemical and spectroscopic study 7—33949
1-aminocyclopropane-1-carboxylic acid, chem. shifts, PMR 7—19902
Ar/C_2F_6 mixtures, Penning ionisation for diffuse discharge switching appls. 7—37622
Ar-CF_4 mixtures in corona discharges in diffuse discharge switch appls., decomposition 7—37799
Ar-hexamethyldisiloxane glow discharge, charge carrier prod. 7—32172
Ar-perfluorocarbon systems, time-dependent electron mobilities calcs. 7—20835
Ar-TEA gas mixtures, emission spectra in proportional counter 7—62226
Ar-tetrachloromethane, RF discharge, GaAs etching study 7—32167
Ar-tetrafluoromethane glow discharge etching of Si 7—32170
N-aryl-4-t-butyl-thiazoline-2-thiones, rot. barrier, enantiomer separation 7—13759
Au complex, $Au_{55}(PPh_3)_{12}Cl_6$, high-nuclearity cpd., DC conductivity 7—33016
Au/Cd stearate/n-GaP electroluminescent device struct., electron-hole recomb. luminesc., minority carrier injection mechanism 7—59260
β-$(BEDT\text{-}TTF)_2I_3$, organic supercond., cryst. and mol. struct., X-ray diffr. study at 9.5 kbar 7—44504
B-$(BEDT\text{-}TTF)_2IBr_2$ ambient press. organic supercond., critical mag. fields 7—45590
C/methanol, activated, solar-powered solid-adsorption ice maker design 7—65585
C-centres radicals, merostabilisation energy calcs. 7—30924
C_5, geometric isomers, ab initio calc. of equilib. struct. 7—62291
CCD/CCH abundance ratio in dense interstellar clouds, ion-molecule calc. 7—66712
CCH, $X^2\Sigma^+$ state, rot.-vibr. energies, ab initio calc. using nonrigid bender Hamiltonian 7—25422
CCl, pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7—19958
CCl^+, Born-Oppenheimer pot. fn., mol. rot.-vibr. study, IR spectra anal. 7—36604
CCl_4/cresol binary mixtures, US studies 7—12207
CH radical, electronic struct., reson. multiphoton ionisation spectra anal. 7—50240
CH, stretching mode, radiationless transition, num. integrated investig. 7—31092
CH^+, interstellar mol., high resol. laser photofragment spectra 7—31063
$CH+H_2$, rate const. meas., fluoresc. detect. 7—17763
CH$+$O, exothermic reactions, rate consts., classical trajectory study 7—17783
CH_4 stabilised He-Ne laser, transportable 7—20191
$CH_5{}^+ + H \rightarrow$methane ion$+H_2$, ion reaction at interstellar cloud conditions 7—23008
C_2H radical, electron affinities evaluation 7—5591
CH_3N^{2+}, pot. energy surface, ab initio MO calcs. 7—10390
CH_3NO_2, potential energy surface, rearrangements, ab initio calcs. 7—10465
$C_2H_xO^+$, $x=3$ to 5, struct. isomers, gas-phase ion mobility study, ab initio calcs. 7—36456
CO_2-n-hexadecane supercritical system, phase equilib. and vapour density meas., high-press. multiproperty apparatus appl. 7—12249
CO_2+amines, in nonaqueous solvents, reaction kinetics 7—46803
caesium 4-trifluoromethyl-6-phenyl-3-cyano-2-pyridone, X-ray struct. study 7—21192
Cl compounds, NQR freqs., SCF MOLCAO CNDO/2 calcs. 7—30952

organic compounds continued
Co^{2+}-carboxypeptidase A, polarised single-crystal absorpt. spectra, NMR 7−17945
CoCl$_2$ dipyridine quasi-1D Ising system, far IR magnetic excitation spectrum 7−59040
Cs formate, decomposition to CVs$_2$CO$_3$, simulated nuclear waste glass vaporization study 7−6774
Cu II carboxylate dimers, antiferromagnetism, nonempirical valence bond calcs. 7−10436
CuCl$_2$.2DMSO, paramagnetic susceptibility of antiferromagnetic quantum chain 7−52997
ethylene, adsorption on ZnO-supported Cu particles, vibr. spectra, operation of metal surface selection rule 7−53350
H/hydrocarbon ion beam passivation of Si, surface layer characterisation 7−17746
H-bonds in molecular biology, FTIR spectra, strongly anharmonically coupled vibr. 7−47009
H$_2$-hydrocarbon vapour-liquid equilibria and saturated densities at high press. and temp. 7−16707
H$_3$BO$_3$:fluorescein glass, nonlinear optical interactions 7−1239
HCO, ground state surface, pot. function 7−17783
H$_2$O-DMSO, mol. dynamics, PMR relax. study 7−36651
H$_2$O-DMSO-1,4-dioxan, chem. shift, NMR spectroscopy 7−25559
HXCHY where X,Y=CH$_2$, NH and O, 1,3 shift, SCF and CI study 7−10448
^{1}H- and ^{13}C-NMR chemical shifts, elucidation of structures 7−50181
4-n-hexyloxyphenyl 4′-n-decyloxybenzoate, liq. cryst. phases, dielec. relax. 7−53228
Hg pollution of British estuaries 7−3732
Kr-TEA gas mixtures, emission spectra in proportional counter 7−62226
LaNi$_{4.7}$Al$_{0.3}$H$_x$-n-undecane suspension, H$_2$ absorpt. kinetics 7−33966
LaNi$_5$H$_x$-n-octane suspension, H$_2$ absorpt. kinetics 7−33966
Li-vinylidene complex, struct., bonding, ab initio CI calcs. 7−49935
Li(ethylene)$_n$, in solid Ar, IR spectra and struct. 7−36614
γ-methacryloxypropyltrimethoxysilane, chem. reaction on PbO surface, Fourier transform IR spectra 7−53308
methane hyperfine line frequency meas., stabilised He-Ne laser expt. 7−20190
methanol, protonated, rot. const., ab initio MO calcs. 7−25349
methyl+H→methane, ab initio pot. energy surfaces, channel model calcs. 7−28276
Mo complex, MoO^{n-} — propylene (n=6,5,4), surface centres, electronic struct. anal., MO-LCAO calcs. 7−7324
Mo-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7−64779
N heterocyclic cpds., mol. photophysics, proximity effect and pseudo-Jahn-Teller interaction 7−62457
N$_2$-methane gaseous mixture, collision-induced absorpt., IR and microwave Fourier transform spectra anal. 7−50097
NH$_3$-methane, excess molar enthalpy and heat capacity 7−44825
NH$_4$$^+$, methyl-substituted, H-bond and hydration energies relationship, HF MO calcs. 7−15490
NiC$_4$H$_8$$^+$ isomers, gas-phase photodissoc., bond energy and struct. determ. 7−15661
O O contrary comps. in C$_1$ to C$_4$ range, ideal gas thermodynamic props. 7−60904
O$_2$, electroreduction, cobalt porphyrin effect, cyclic voltammetry and UV-absorpt. spectroscopy 7−59778
OH$_3$$^+$, methyl-substituted, H-bond and hydration energies relationship, HF MO calcs. 7−15490
OH(OD), stretching vibr. in alcohols and silanols, pop. lifetimes, IR spectra 7−19844
PrCl$_3$ organic complexes, spectral energies and oscillator strengths 7−3067
propylamine with α-ZrP, intercalation cpd., amine loading, protonic cond., admittance meas. 7−44909
Pu(NO$_3$)$_4$.2 TBP, Pu mass transfer rate coefficients 7−56770
Ru-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7−64779
Ru(NH$_3$)$_5$-bipyridylbutadiene-Ru(NH$_3$)$_5$ compound photoisomerisation mol. switching, electronic coupling parameter calc. 7−19678
s-tetrazine clusters, photophysics and photochemistry, laser induced fluoresc. 7−31098
trifluoroiodomethan+Ba, BaI product state distrib. 7−25595
trifluoromethane+Ar, crossed beam reaction giving trifluoromethyl group 7−33935
UO$_2$(NO$_3$)$_2$.2TBP, uranium mass transfer rate coefficients 7−56769
Xe-TEA gas mixtures, emission spectra in proportional counter 7−62226

organic insulating materials
see also insulating oils; paper; plastics; rubber; silicones; varnish; waxes
acrylate coating developments for opt. fibres 7−25974
carrier mobility measurement techniques 7−58800
cycloaliphatic epoxy resin, ageing, irradiation environmental conditions effect 7−33707
electric and mechanical breakdown, space environment effects simulation 7−39013
epoxy filled with Al$_2$O$_3$ in SF$_6$ under DC stress, potential distortion from change on solid insulators 7−51554
epoxy insulation study using X-ray computing tomograph 7−13679
epoxy resin, elec. props., γ-irradiation effects 7−39023
epoxy spacers exposed to sparks and SF$_6$ arcing byproducts, surface characterisation 7−39692
ethylene copolymers, electric breakdown and high-field conduction meas. 7−39011
ethylene—aromatic monomer copolymers, elec. props. and breakdown voltages, new insulating materials 7−39010
generator overheating faults in insulation, detection by gas and capillary chromatography 7−28382
glass fibre reinforced epoxy resin insulator, interface treeing phenomena study 7−39012
HV co-axial cable in pulsed power system, polyethylene insulated, breakdown properties *(Japanese)* 7−11797
implanted cardiostimulators, polymeric insulation degradation *(Czech)* 7−23487
n-nonane liq. dielectric, gas form. under particle discharge 7−51532
polyester fibre-epoxy resin insulator, prebreakdown space charge injection meas. 7−39017
polyethylene, electron beam charged, space charge decay currents 7−27338
polyethylene, high and low density, dielec. γ relaxation 7−39004
polyethylene, low density, electric breakdown and high-field conduction meas. 7−39011
polyethylene, low density, IR spectroscopy under high elec. stresses 7−39129
polyethylene, low-density, elec. discharges and tree channels under impulse voltages 7−27657
polyethylene, water tree growth, anion penetration 7−39030
polyethylene, water treeing under DC and AC voltages 7−39028
polyethylene, water-treeing, chemical structure and additives effects 7−39032
polyethylene films, surface modification by corona discharge 7−39691
polyethylene IR absorption spectra modification by elec. fields 7−53352
polyethylene/ionomer blends, insulating material, aging characteristics 7−39025
polyimide films, uniaxially-stretched, conductivity and dielec. losses 7−39005
polymer flashover potential, surface anal. using ESCA 7−33990
polymeric insulating films, residual voltage polarity 7−17262
polymeric insulating material, dielec. breakdown strength rel. to lamella struct. 7−53237
polymeric insulation, dielec. breakdown, review of Japanese research 7−45931
polymeric insulation, water treeing, failure and growth mechanisms 7−39034
polymeric insulation, water treeing, ion penetration 7−39031
polymeric insulation, water treeing and morphology 7−39029
polymeric insulators, radiation effects, Japanese research 7−44606
polymers, elec. cond. and breakdown phenomena 7−45306
polyolefin insulating materials, bow-tie and vented-tree formation 7−39033
polypropylene, IR spectroscopy under high elec. stresses 7−39129
polypropylene IR absorption spectra modification by elec. fields 7−53352
polyurethane insulation, thermal and elec. aging, prebreakdown phenomena, FTIR spectra study 7−39568
Proto II accelerator, low inductance diode design for imploding plasma loads, insulator breakdown 7−30760
silane XLPE, electrical breakdown study 7−27659
tracking breakdown, associated discharge light emission characts. 7−44274
transformer oil streamer mechanisms under AC voltage conditions 7−51543
XLPE, cable insulation, water treeing, microstructural effects 7−39027
XLPE, dielectric properties modification due to corona discharges, humidity effects 7−39022
XLPE insulation, water treeing 7−39026

organic molecule configurations
see also isomerism
2,4-diphenyl-3-azabicyclo[3,3,1] non-2-en-9-ol, cryst. and mol. struct. X-ray exam. 7−12052
4-trifluoromethyl-6-phenyl-3-cyano-2-pyridone X-ray struct. study 7−21192
n-alkanes, urea inclusion cpds., chemical shift chain length depend, CPMAS NMR spectra anal. 7−25557
acetone-d$_1$(-d$_2$)(-d$_3$), microwave and mm-wave rot. spectra, rot. spectrum, internal rot. and struct. 7−25497
N-acetyl-1-aminocyclohexanecarboxylic acid N′-methylamide, conformations, PMR and NOE studies 7−62424
N-acetyl-L-amino acid methylamides solid and soln., conformers, IR and Raman spectra 7−33395
acetylacetone, mol. struct. determ. by gas phase electron diffr. 7−50358
N- acetylaspartate complexes with lanthanide cations, struct., ^{13}C NMR and PMR *(French)* 7−19883
acetylcarnitine, in D$_2$O, conform., Karplus equation and mol., mechanics calcs. 7−31076
1- acetylcyclohexene, rot. barrier, conform. stability, MINDO/3 and MNDO calcs., UV spectra anal., CNDO calcs. 7−25405
acetyldimethyl phosphine, geometries and rotation barriers, structures, ab initio calcs. 7−15501
acetylene, protonated, d$_0$(d$_3$), struct., vibr. freqs., IR intensities 7−5677
acetylene, protonated, low energy stereostruct. meas. 7−39869
acetylenedicarboxylic acids and alkali metal salts, Raman and IR spectra *(French)* 7−15609
acyclic alcohols, hydroxyl stretching freqs., rotamer pop., CNDO calcs., IR spectra anal. 7−36611
adamantane, T$_d$ skeleton, point groups 7−29634
ajoene, antithrombotic cpd. from garlic, struct., mechanistic and synthetic studies 7−54449
Ala dipeptide in free space and water, conformational stability and flexibility, Monte Carlo studies 7−8486
alcohols, saturated, OH stretching band integrated intensity, rel. to struct. 7−62343
aldehydes, ionisation pot., calc. based on interactions between struct. units 7−15738
aliphatic bis-phenylhydrazones, stereoisomerism 7−50183
alkane chains, internal rot. in anisotropic environment 7−956
n-alkanes, conformations, solvent effects, IR spectrosc. obs. 7−5673
alkanes, isomers study, depolarised Rayleigh-Brillouin scatt. investig. 7−62386
n-alkanes, liq., energy difference between specific and localised conform. isomers, FTIR spectra 7−42615
alkanes, prediction of ^{13}C NMR spectra, rigid hydrocarbons geometrical parameters anal. 7−31068
alkenyl esters, nematic liq. crystals, influence of rigid cores, side-chains and polarity on props. 7−16405
alkyl groups, saturated, undoped, substituent consts., structural and polarity effects *(German)* 7−36471
alkyl nitrides, conformational kinetics calcs., gas and liquid phases, MR spectra 7−19896
alkyl nitrites gas and liquid phases, syn-anti conformer equilib., MR chem. shift study 7−19895
alkylamines, interaction with layered compounds 7−46838
alkylanilines, spectral line broadening, role of conform. and IVR fluoresc. spectra 7−19921
alkylfluorobenzenes, conform., proximate spin-spin coupling 7−5701
alkyne isomer groups, chemical thermodynamic props. data 7−60901
allyl cations, methyl substituted, MINDO forces calcs. 7−62288
allyl phenyl ether, photoisomerisation reaction mechanisms, IR multiphoton excitation study 7−62372

organic molecule configurations continued
- N-meta-allyloxybenzoyl-N′,N′,N″,N″-diethylene phosphoric acid triamide, crystal and molecule struct. 7−44506
- amino acids in Murchison meteorite 7−40786
- annulene and annulene ions, aromaticity, HF instabilities 7−15521
- α,ω-bis (9-anthryl)alkanes, cation radicals, ESR, spin distribs. and mol. conformations 7−31077
- L-ascorbic acid radical, stability and props. MIND and MNDO calcs. 7−15514
- 8-azabicyclo[3.2.1]octan-3-ones, derivatives, conform. study, ^1H and ^{13}C NMR spectra anal. 7−36647
- 2-azido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7−36608
- aziridine, bond inversion rate determ., PMR line shape anal. 7−19892
- azulene, S_0-S_1 absorpt. spectra and Raman excitation profiles, vibr. intensity distribs., quantum-chem. anal. 7−42619
- bacteriochlorophyll a, config. for photosynthesis, SCF HF INDO calcs. 7−858
- barbiturates, cryst. struct. anal., H bond geometry and types 7−23300
- $(BEDTTTF)_2ICl_2$, antiferromag. ground state, AFMR meas. 7−27608
- benzene, substituent effects on vibr. modes 7−19824
- benzene, vibr. energy transfer, IR-UV double reson. 7−10718
- benzene clusters, struct., IR photodissoc. and mass spectra study 7−62371
- benzene like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7−50247
- benzenoid hydrocarbons, polycyclic, aromatic struct. and reactivity anal. correlated to Iball carcinogenicity indices 7−28275
- benzenoid systems, Kekule struct., combinatorial formulas 7−62281
- benzenoids, Kekule struct. distrib. 7−49916
- benzofurans, UV spectra, substituent influence 7−50170
- benzoic acid, crystn. state compression effect on struct. and proton transfer barrier height 7−12042
- benzophenone, STO 3G MO struct. and internal rot. pot., minimal basis set calc. 7−30928
- p-benzoquinone, struct. and vibr. anal., ab initio HF calcs. 7−25372
- p-benzosemiquinone radical anion, struct. and vibr. anal. ab initio HF calcs. 7−25372
- substituted benzoylaminopropionic acid esters, conformational equilib., IR spectra, steric effects 7−57066
- benzyllithium, structures, NMR investig. 7−10621
- o-benzyne, valence ionis. energy and mol. geometry, green fn. method, CI and GVB calcs. 7−62290
- bicyclo(2.2.2)octane esters, mesogenic, transition temps., viscosity, birefr., electro-optical characts. 7−1863
- bicyclo (1.1.1) pentane, bonding and geometry, quasi ab-initio PRDDO method, GVB-type correl. 7−25404
- bicyclohexyl, conformers, phase transform. vib., IR and Raman spectra 7−33393
- bicyclo[1.1.1]pentanone, struct. and microwave spectrum 7−50094
- biologically active peptides in soln., NMR and IR studies 7−28471
- bipyridine, dications and cation radicals, conformational struct. ab initio calc. 7−15497
- 1,1′- bipyrrole, rot. isomerism, mol. conformation, electronic struct. ab initio STO calcs. 7−15478
- 1,2-bis(4′-pentylcyclohexyl)ethane, cryst. and mol. struct. 7−58257
- bis(dichlorophosphoryl)methane, struct., conformational equilib., GPED, Raman and IR spectra 7−57176
- trans-bis(diphenylalkylphosphine)(pentahalophenyl)nickel(II) bromide, nucleophilic substitution reactions and struct. investig. 7−59754
- bis (trihalomethyl) ether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7−19998
- bis (trihalomethyl) thioether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7−19998
- 3,3′-biselenienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7−36697
- 3,3′-bithienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7−36697
- borane tetrahydrofuran, form. of borane adducts, ^{11}B NMR study. 7−50199
- brexan-6,7-diol, struct., X-ray study 7−12051
- 1-bromo-2-methylpropane, gaseous phase, conformational stability, for IR and LF Raman spectra 7−10602
- p-bromoacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7−25432
- o-bromophenyldibromoarsine, X-ray structural anal. 7−51748
- 1,3-butadiene ions, photodissoc., photoelectron photoion coincidence study, isomerisation barrier meas. 7−36711
- n-butane, free energy surface, extended-atom and all-atom models 7−56942
- n-butane-d_9, C-H bonds, vibr. anal. gas phase IR spectra simulation 7−19825
- butatrienone-do(d_3), struct., vibr. anal. ab initio MO calcs., microwave spectroanal. 7−25491
- 1-butyne, vibr. anal., IR and Raman spectra 7−19852
- Cahn-Ingold-Prelog assignment of R and S configs., hand method 7−14737
- cannabinoid cpds., activity, mol. reactivity template 7−56961
- carbamic acid derivatives, torsional changes, ab initio structural studies 7−15502
- carbonyl imines, relative stability, ab initio SCF MO study 7−57003
- carboranes, optimised struct. and relative stabilities, ab initio calcs. 7−30930
- carnitine, in D_2O, conform., Karplus equation and mol., mechanics calcs. 7−31076
- catenand, monoprotonated, mol. struct., X-ray and PMR study 7−63595
- chemical structure, identification numbers 7−46795
- Chichibabin's hydrocarbon, mol. struct. determ. 7−10395
- trans-1-chloro-2-butene, conformation and mol. struct. determ. by gas phase electron diffr. 7−50356
- 1-chloro-2-methylpropane, gaseous phase, conformational stability, for IR and LF Raman spectra 7−10602
- N-chloro-N-methylmethamine, microwave spectrum, struct., quadrupole coupling consts. 7−50085
- p-chloroacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7−25432
- 2-chlorobutane, solns., glass transition, conformational equilib., IR spectra 7−31044
- chlorocyclohexane, conformational enthalpy and vol. changes, Raman spectroscopy determ. 7−62383
- chlorocyclohexane, solns., glass transition, conformational equilib., IR spectra 7−31044

organic molecule configurations continued
- o-(β- chloroethyl)phenyl-α-hydroxycyclopentyl phosphinate, mol. and cryst. struct., X-ray study 7−12054
- (chloromethyl) phosphonothioic difluoride, microwave, IR and Raman spectra, conformational stability 7−36599
- chloromethyl thiocyanate, Raman spectra characts. 7−15737
- chloronitroacetic acid, amide, ammonium salt, molecular and defect cryst. struct. 7−21188
- o-chloronitrobenzene, gas phase, mol. struct., electronographic study 7−10372
- chlorophyll forms, vib. state and struct. anal., Raman spectra 7−19867
- 1,2-chloropropane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7−19690
- 2-chloropyridine, microwave spectrum and nuclear quadrupole coupling 7−62359
- cholesteric liquid crystals, struct. and mesomorphism 7−16409
- cinnamide compounds, conform., MO calc. 7−56986
- cinnamide compounds, conform. and anticonvulsant activities 7−56936
- conjugated hydrocarbon ions, stability ab initio calcs. 7−42462
- CR-39, molecular structure 7−42367
- crown ethers and metal complexes in soln. struct., Raman spectra 7−10601
- cumulen cyclodimers, form. mechanism and X-ray struct. determ. 7−62306
- α-cyanoacetohydrazide, crystal struct., neutron diffr. anal., ab initio MO calcs. 7−36458
- 1-cyanoaziridine, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7−15516
- cyanobicyclohexyls, crystn. and liq. cryst. phase, IR, Raman and dichroic spectra 7−3051
- 4-cyanophenyl-trans-4-((trans-4-n-butylcyclohexyl)methyl)-cyclohexanoate, nematogenic, cryst. struct., X-ray diffr., conformational anal. 7−2006
- cyanopolyacetylene, interstellar mols., rot. consts., MINDO/3 calcs. 7−60770
- N-cyanopyrrolidine, pot. surface calcs., geometrics calc. using CNDO/2 method 7−30951
- cyclobutylcarboxylic acid fluoride, microwave, IR and Raman spectra, Stark effect, conform. 7−25492
- cyclohexanols, hydroxyl stretching freqs., MM2/CNDO model calcs., IR spectra anal. 7−36610
- cyclohexyl halides, thiourea inclusion compounds, substituted cyclohexane conform., ^{13}C CP/MAS NMR spectra 7−19889
- cyclohexylphosphine, chair conform. identification in the gas phase, microwave spectra anal. 7−36597
- cyclopentadienyl metal cpds., struct., skeletal electron pair approach 7−10414
- cyclopentane, pot. surface calcs., geometrics calc. using CNDO/2 method 7−30951
- cyclopentyne, struct., ab initio MO calcs. 7−49895
- cyclophane diarylcarbenes, triplet-singlet equilib., structural control 7−54147
- cyclophane-fluoranil charge transfer complexes, struct. and stability, IR spectra anal. 7−50143
- cyclopropenes, structs. and strain energies, substituent effects, ab initio MO calcs. 7−56950
- cyclopropylamine, substituent effect, struct., ab initio calcs., microwave spectra 7−62354
- cytosine, metal stabilised iminooxo form, form. and geometry 7−26710
- cytosine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7−10600
- decafluorobutane, rot. isomerism and vibro spectra calc. 7−5682
- demethyl porphyrins, monosubstituted free-base series, MCD study, INDO and CI calcs. 7−25401
- di(2-pyridyl)dichalcogenides, conform. and rot. isomerism ^{13}C NMR spin-lattice relaxation study 7−19888
- 4,4′-di-n-alkoxy-2-hydroxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7−1866
- 4,4′-di-n-alkoxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7−1866
- 1,3-diaza-6,9-dioxa-2-cycloundecanthione, cryst. and molecular struct. 7−21189
- 2,3-diazido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7−36609
- 3-diazo-2-butanone - do(d6), vibr. anal., IR and Raman spectra 7−19853
- diazoethenes, ground state geometries, semi-empirical MINDO/3 and MNDO calcs. 7−56975
- 1,2-dibromocyclopropane, rot. isomers, mol. vibr., IR and Raman spectra anal. 7−42609
- dicarboxylic acid salts, in aq. solns., Raman spectra study, vibr. calcs. 7−10598
- dications, structs., donor-acceptor interactions and stabilities 7−10393
- 1,2- dichlorobenzene-$d_3(d_4)$, isotopic species, r_0 structure calcs., microwave spectra 7−19834
- 1,2-dichloroethane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7−19690
- 1,2-dichloroethene, isomeric mixtures, determ. of struct. and comp., GPED spectra anal. 7−36763
- 2-dicyanomethylene-1,3-indanedione-methylated[2.2]paracyclophanes charge transfer complexes, IR and mass spectroscopy 7−25523
- 1,2-difluoroethane, gauche and trans conformers, stability, ab initio calcs. 7−15500
- trans-difluoroethylene ozonide, struct. dipole moment, ab initio HF calcs., microwave spectra 7−10557
- 1-difluoronitroacetyl-2,2-dimethylhydrazine, cryst. and mol. struct., X-ray diffr. anal. 7−26735
- diheliumacetylene dication, metastable, C-He bond prediction 7−49888
- 2,3-dihydrofuran, ring puckering vibr. and centrifugal distortion, microwave spectra anal. 7−36596
- 2,4-dihydroxyquinoline, gas phase, prototropic equilib., electron impact fragmentation spectra anal., LCAO-CNDO calcs. 7−36479
- diisopropylamine, mol. struct. and conform., GPED, Raman IR spectra, MO calcs. 7−20043
- 1-(3,4-dimethoxyphenyl)-4-methyl-5-ethyl-7,8-dimethoxy-5H-2,3-benzodiazepine, config., X-ray anal. 7−21186
- dimethyl tin diacetate, solid-state and soln. struct., ^2H and ^3C NMR spectra study 7−25431
- dimethyl tin diacetate hydrolyzate, solid-state and soln. struct., ^2H and ^3C NMR spectra study 7−25431
- 12,2-1dimethyl-1,3-dioxolane-4-methanol, OH stretching band, free and H bonded species equilib., dichroism and IR spectra 7−10641

organic molecule configurations continued
N,N′- dimethyl-4,4′-bipyridinium, oxidation states, electronic struct. and conform. anal. 7—25383
4-4′-dimethyl-8,9,10-trinor-spiro-2-2′-borane (1,3-oxazolidine)-3′-oxyl racemic mol. solid soln., phase separation statics and dynamics 7—26737
2-dimethylamino-6-propionylnaphthalene, twisted charge transfer state, fluoresc. quantum chem. study 7—863
dimethylcyclohexanes, conform. equilib., temp. and pressure effects, Raman spectra anal. 7—50150
dimethyldioxirane, electronic struct. and geometry, NMR chem. shifts 7—62406
4,4-dimethylheptane, conform. anal., IR and Raman spectra 7—19863
3,3-dimethylhexane, conformational anal., IR and Raman spectra obs. 7—15602
dimethylphosphinic acid cation, geometry optimisation, approximate Hessian 7—25345
dimethylsilylene, UV spectrum, geometry and vibr. freqs. 7—10610
2,4-dinitro-6-diazophenol, and analogues, struct. investig. 7—57087
1,3-dioxolanes, pseudorotation, gas-phase electron diffr. investig. 7—50354
O,O′-dipheniioxydimethylsilane, internal rot., steric struct. influence, T_1 meas. 7—10629
diphenyl group-containing mols., conform. and internal rot. dynamics, CINDO calcs. 7—62285
diphenylamine, geometry optimisation, semiempirical quantum chem. methods 7—10433
1,3-diphenylthioureas, ^{13}C NMR spectra, chemical shifts and mol. conform. study 7—42650
1,3-dipyridyl thioureas, ^{13}C NMR spectra, chemical shifts and mol. conform. study 7—42650
dithioformic acid, conform. struct. and stability, rot. barrier, SCF and HF calcs. 7—25427
dodecafluorooctahydrothiophene, gas phase, geometric struct., GPED spectra anal. 7—36764
dotriacontamethylcyclohexadecasilane, cryst. and mol. struct., X-ray determ. 7—12039
enamides, conjugated s-skew-forms, conform. anal., spectra data anal. 7—19894
enantiomers, R, S labels assignment method 7—14736
ethane, conform. energies, LCGTO $X\alpha$ method anal. 7—25393
ethane, ground state, thermal decomp. pathways, ab initio electronic struct. calcs. 7—15476
ethane-1,2-dithiol, mol. struct., conform., electron diffr. obs. 7—50355
ethanes, substituted, NMR conformation studies, rot. energetics about C-C bond 7—31067
ethanethiol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7—62388
ethanol, standard geometry functions 7—849
ethanol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7—62388
α-ethoxyacrolein semicarbazone, cryst. and mol. struct., X-ray diffr. 7—26734
ethyl, ethenyl and ethynyl anions, structs. and rearrangement processes, ab initio MO calcs. 7—59757
ethyl 2-bromopropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7—49931
ethyl 2-chloropropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7—49931
N-ethyl-p-chlorobenzamide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
ethylamine, geometrical structural parameters calcs. GPED 7—20042
ethylamine standard geometry functions 7—849
ethylaminodimethylenephosphonic acid, X-ray diffr. cryst. and mol. struct. anal. 7—12046
ethylene dications, F-substituted, geometries and energies, ab initio calcs. 7—10401
ethylene-HCl van der Waals mol., dissociation energies and heats of formation, photoionisation study 7—19966
ethylenediamine ligands, vibr. circular dichroism, ion assoc., ring conform. and ring currents 7—31084
ethylenes, monosubstituted, struct., ab initio calcs. 7—850
ethylmethylphosphate, stable conformations, appl. of algorithm 7—25682
flavins, mol. geometry and REDOX props., MINDO/3 calcs. 7—56976
flavins, struct. and REDOX props., electron distrib., MINDO/3 calcs. 7—56977
fluoroacetones, protonated, intramol. H bonding, STO-3G MO calcs. 7—49878
fluorocyclohexane, thiourea inclusion compounds, substituted cyclohexane conform., ^{13}C CP/MAS NMR spectra 7—19889
fluoromethanes, protonated, structs., energetics, ab initio MO calcs. 7—56956
fluoromethanol, rot.-vibr. anal., conformational stability, dipole moment anal. microwave spectra 7—19831
fluorotoluene, rot. isomerism, supersonic jet spectroscopy study 7—57129
formaldehyde, protonated, rot. const., ab initio MO calcs. 7—25349
formyl cyanide, vibr. freqs. and geometry, ab initio electron correl. calcs. 7—49938
formyl radical pair, anharmonic vibr. effects, ab initio SCF-CI calcs. 7—10444
formyl radical-d0(d1), third-order anharmonic pot. consts. equilib. structure parameters, calc. procedure 7—10544
1-formylaziridine, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7—15516
formylcyclopropane, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7—15516
formylphosphine, geometries and rotation barriers, structures, ab initio calcs. 7—15501
gaseous phase, conformational stability, for IR and LF Raman spectra 7—10602
germanium pentacoordinated compounds, structural correl. 7—10418
globoside, oligosaccharide headgroup, soln. conform. study, ^{1}H NMR spectral methods anal., pot. energy calcs. 7—25361
D-glucopyranose, struct. stereochemistry, solvation props. PCILO calcs. 7—15518
glycolic acid, rot. isomerisation, ab initio SCF calcs., IR Ar matrix spectra 7—19851
glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, rot. anal., visible fluoresc., spectra study 7—50229
guaiazulene, excited state dynamics kinetic model, laser-saturated fluoresc. study 7—50220
guanine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7—10600

organic molecule configurations continued
harmaline, conformation effect, MINDO calcs. 7—56980
harmine, conformation effect, MINDO calcs. 7—56980
1-(4-n-heptylbenzoyl)-2-(cyanoacetyl)-hydrazine, cryst. and mol. struct. 7—26733
hexacosamethylcyclotridecasilane, cryst. and mol. struct., X-ray determ. 7—12039
1,2,8,9,10,11-hexafluoro-endo-tetracyclo $[6.3.0.0^{2,11}.0^{3,7}]$undec-9-ene, struct. elucidation, NMR COSY technique 7—25556
hexakis(dimethylsilyl)benzene, rot. isomerisation mechanism and barriers, ^{4}H and ^{13}C NMR spectra anal., EFF calcs. 7—25359
hexakis(trimethylelementyl)benzenes, synthesis and crystal mol. struct., X-ray spectra anal., EFF calcs. 7—25360
2,2,4,4,7,7-hexamethyl-2-sila-1,3-dioxepane, internal rot., steric struct. influence, T_1 meas. 7—10629
hexamethyldisilylchalcogenides, struct. 7—15615
hexane-d_6, oriented, proton multiple quantum NMR spectra 7—19887
1,3,5- hexatriene, conform. struct, vibr. anal., ^{2}H substitution effects, RHF calcs. 7—25386
histone octamer, calf thymus, 2 struct. forms 7—28452
hydrocarbon, sat. linear, conformational density of states 7—5588
hydrocarbon peroxyl radicals, ab initio MO and electron correl. calcs. 7—49951
1-(hydroxy)germatrane, cryst. and mol. struct., X-ray investig. 7—12055
6-hydroxy-1,2-dihydroquinoline, 2,2,4-trimethyl substituted, cryst. and mol. struct., X-ray diffr. 7—16539
8-hydroxy-2-piperidinoquinoline, cryst. and molecular struct. 7—21191
4-hydroxybiphenyl, cryst. packing rel. to mol. geometry and thermal motion 7—26736
hydroxyiminophenylacetonitrile, cryst. and mol. struct. 7—51746
L-iduronic acid, sulphated residue in heparins, conformer struct. and population study, ^{1}H NMR spectra anal., force field calcs. 7—25546
imidazole, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7—25526
iminoborane, and derivatives, electronic struct. ab initio calcs. 7—847
isoformyl cation, force field, equilibr. geometry, ab initio determ. 7—62293
isolucine, homooligo peptide, conformational anal. by singlet-singlet energy transfer method 7—46998
isoprenaline, cryst. and mol. struct. anal. 7—57008
Kekule and sextet patterns, one-to-one correspondence 7—15509
ketones, ionisation pot., calc. based on interactions between struct. units 7—15738
lecithin, myelin figures, morphology, growth behaviour 7—3750
liquid crystal capillary cell, orientational and struct. effects in conical elec. field 7—44370
liquid crystals, order parameter, temp. depend., mol. asymm. effects 7—44369
lutetium diphthalocyanine, γ-phase, cryst. and molecular struct. 7—21190
malonic acid, in dioxane, dipole moment, solvent effect eval. 7—25399
merocyanine dyes, J aggregate form. in mixed monolayers, visible spectra and surface pressure-area isotherms anal. 7—31059
metal-bipyridine complexes, second harmonic generation obs., struct. determ. 7—57454
metal-phosphine complexes, stereodynamics, equilib. conformations, DNMR 7—31083
metal-pyridine complexes, second harmonic generation obs., struct. determ. 7—57454
methane, T_d skeleton, point groups 7—29634
methane cation, stereochemical struct. direct determ. 7—36808
methanimine, fluorination effect on double bonds, SCF HF and MP2 ab initio calcs. 7—10384
methanol, associates, H bonding, struct. CNDO/BW calcs. 7—56985
methanol mol. vibr. spectrum, CNDO/2 FORCE calcs. 7—49924
methanol-d_4, mol. struct., pulsed neutron diffr. study 7—63427
methanol-trimethylamine, associates, H bonding, struct. CNDO/BW calcs. 7—56985
2,4-methanoproline, L-proline analogue in small peptides study, ^{1}H NMR and NOE spectra anal. 7—25545
methionine, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
2-methoxy-2-oxo-1,3,2-oxazaphosphorinane, conformer struct. and populations, IR, NMR and X-ray spectra anal. 7—25509
methoxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7—10398
2-methoxyethylamine, H bonded config. mol. rot., rot. isomerism barrier, quadrupole coupling consts., microwave spectra 7—50093
5- methoxymethyl-1-(2′-deoxy-β-D-lyxofuranosyl)uracil, struct. and conformation, X-ray crystallographic anal. 7—23306
methyl carbons, chemical shielding, struct. effects, ^{13}C NMR spectra anal., ab initio IGLO calcs. 7—25358
methyl imino sulphurdifluoride, ab initio calcs. at SCF level, equilib. geometries and population anal. 7—10382
methyl xyloglucuronates, mol. wt. and sequence determ. by ^{13}CNMR and mass spectroscopy 7—15625
β-methyl-cellobioside heptanitrate, mol. and cryst. struct., X-ray anal. 7—63598
N- methyl-N′-nitro-N-nitrosoguanidine, conform. struct. and stability, ab initio MNDO calcs. 7—25406
4-methyl-pyridine(-d_7), phase transitions, mol. mechanism, IR and Raman spectra 7—32637
methyl-substituted amine—HF complexes, methylation effect, IR spectra anal. 7—19855
2-methylaziridine, bond inversion rate determ., PMR line shape anal. 7—19892
methylcyclobutane-do(d_3), conformational stability, low freq. Raman spectra anal. 7—50146
methylcyclohexane, thiourea inclusion compounds, substituted cyclohexane conform., ^{13}C CP/MAS NMR spectra 7—19889
methyleneamino compounds, electronic struct. calcs. 7—56964
methylhydroxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7—10398
4-methylindole, electronic transition, methyl substitution effect, UV spectra anal. 7—42642
methyloxycarbonyl-L-phenylalanyl-L-alanine ethyl dithioester, struct., reson. Raman spectra 7—5683
3-methylpentane, radical cation, struct., ESR 7—42653
methylsilanethiol, gauche and trans isomers, struct., dipole moments, internal rot. obs. 7—5668
Mobius systems, graph theoretical approach 7—46796
models for overhead projector demonstrations 7—9637

organic molecule configurations continued
monohalomethane, harmonic force fields and vibr. spectra, ab initio HF calc. 7—50064
2-morpholine-8-hydroxyquinoline, cryst. and molecular struct. 7—21191
muonium-organic radical systems, struct., muon spin rot. studies 7—50410
nitrile ylides, matrix photolysis of phenyl and azidostyrenes, isotopic shift, mol. struct. FT IR spectra anal. 7—31035
nitromethane, isomers, struct., quantum mech. harmonic force field calcs. 7—56952
nitromethane dimer, non-bonded and H-bonded interactions, SCF calcs. 7—25357
nitrosomethanol, rotamers, struct., ab initio calcs. 7—56955
p-nitrostyrene oxide, cryst. and molecular struct. 7—58255
nonadecane, liq., energy difference between specific and localised conform. isomers, FTIR spectra 7—42615
α-octyl-ω-pentakis (oxyethylene), phase transition in water system, Raman spectra anal. 7—22244
oligosaccharide structures, containing hexopyranose units, graphic representation 7—14734
oligosaccharides, blood group A, conformation, NOE and ^{1}H NMR spectra 7—62423
organic molecule conformational anal., vapour phase IR spectra study 7—57069
oxalic acid, isomerisation and unimol. dissoc. channels, MO calcs. 7—28295
6-oxo-2, 6-dihdryoquinoline, 2,2,4-trimethyl substituted, cryst. and mol. struct., X-ray diffr. 7—16539
N-paramethoxybenzoyl-N′,N′,N″,N″-diethylene phosphoric acid triamide, cryst. and mol. struct. 7—51733
n-pentane, bond distances and angles, ab initio gradient geometry refinement 7—852
1-pentyne, vibr. anal., IR and Raman spectra 7—19852
phenol, OH group rot., barrier height, MO study 7—848
phenyl 4′-alkylcyclohexanecarboxylates, 4-alkoxymethylene and 4-alkoxy substituted, synthesis, phys. props. 7—1861
1-phenyl-3-methyl-5-pyrazolone, conform. and charge transfer, UV spectra 7—57168
(O-phenyl-N-N-di(2-chloroethyl)amidophosphonyl) hydrazone of parachloracetophenone, crystal and molecular struct. 7—44505
α-phenyl-N-tert-butylnitrone, deuterated, conform. of spin adducts, ENDOR investig. 7—50204
phenylalkynes, conform. in soln. and solid, vibr. anal., Raman and IR spectra study, valence force field calcs. 7—36612
3-phenylpiperidine, conformational energy calcs. using MM2 method 7—10403
3-phenylpyrrolidine opioid, conformational energy calcs. using MM2 method 7—10403
N-phenylsulfonylbenzimidoyl chloride, cryst. and mol. struct., X-ray and calc. investig. 7—51747
phosphamethane, fluorination effect on double bonds, SCF HF and MP2 ab initio calcs. 7—10384
phosphates, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
phosphites, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
phosphonium ylides, fluorine-substituted, structs., energetics, ab initio SCF calcs. 7—30923
phthalocyanine derivatives, columnar mesophases, optical microscopy, X-ray diffr. obs. 7—1860
N-phthalyl-4-bromo-L-glutamic acid, dimethylester, struct. and absolute configuration 7—40092
polycyclic aromatic hydrocarbons, periodic table, characteristic polynomial, struct. invariants 7—56924
trans-polyenes, electronic struct., DVM-Xα calcs. 7—25392
polyphenyls, phase transitions and IR spectra under press. 7—6725
polysaccharide structures, containing hexopyranose units, graphic representation 7—14734
polyunsaturated hydrocarbon chains, natural, temp. dependence of conformational characts. 7—28453
porphyrin dimers, free-base, electronic spectra, quantum chem. calcs. 7—10416
2-(N- prolinol)-5-nitropyridine, nonlinear optical props., mol. and cryst. struct. 7—11056
prop-1-en-2-al, geometry optimisation, approximate Hessian 7—25345
propanal, struct. determ. by gas phase electron diffr. 7—50359
propanol, standard geometry functions 7—849
I(1.1.1) propellane, bonding and geometry, quasi ab-initio PRDDO method, GVB-type correl. 7—25404
propyl fluoride, r$_s$ struct., rot. isomerism, microwave spectra and moments of inertio meas. 7—10556
propylamine, standard geometry functions 7—849
purines, cryst. struct. anal., H bond geometry and types 7—23300
pyrazine, successive protonation, ab initio quantum chem. calcs. 7—56957
(10-(3-pyrenyl)decyl)dimethylmonochlorosilane, chemically bonded to silica surfaces, solvent effects on config., excimer decay profiles 7—22329
pyridine-chloroform complex, D NQR meas. 7—50194
1,3-pyridylphenylthioureas, ^{13}C NMR spectra, chemical shifts and mol. conform. study 7—42650
pyrimidine, jet-cooled, rot. resolved fluoresc. excitation spectra 7—25597
pyrimidine-Ar van der Waals complex, rot. resolved fluoresc. excitation spectra 7—25597
pyrimidines, cryst. struct. anal., H bond geometry and types 7—23300
quinone like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7—50247
ring systems, edge inversion at trivalent phosphorus centre; NMR spectra anal., ab initio SCF calcs. 7—25362
selenoformaldehyde, microwave spectra, struct., vibr. freqs. and centrifugal distortion consts. 7—50090
smooth muscle relaxing agents, homologous series, motional and conformational dynamics, NMR investig. 7—54439
succinimide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
sulphanylamide-6-(4,5-dimethoxy)-pyrimidinyl, cryst. and mol. struct. 7—37957
TCNQ salt, N-n-propyl phthalazinium 7,7,8,8 TCNQ$_2$, struct., elec., mag. props., EPR meas. 7—33005
tetraaryldiphosphine radical cations, ESR linewidths rel. to struct. 7—50201
3,3′-5,5′-tetrabromo-4,4′-dioxyphenyldimethylmethane, crystal and molecular struct. 7—16537
1,1,2,2-tetrabromodisilane, gas phase, mol. struct., conform. comp., GPED spectra anal. 7—36762
tetrachloromethylenediphosphine struct., GPED 7—57175

organic molecule configurations continued
tetracyanoethylene-methylated [2.2]paracyclophanes charge transfer complexes, IR and mass spectroscopy 7—25523
tetradecafluorohexane, rot. isomerism and vibro spectra calc. 7—5682
4,4,8,8- tetrafluorotricyclo(5.1.0.0^{3,5}) octane, syn isomer struct., X-ray anal. 7—21187
tetrahydrofuran, parity violating energy differences between chiral conformations 7—10777
3,3,9,9-tetramethyl-6-phenyl-1,3,4,7,9,10-hexahydrodipyrano[4,3-b; 3-d] pyridine, cryst. and mol. struct., X-ray anal. 7—12053
4,4,7,7-tetramethyldioxepane, internal rot., steric struct. influence, T$_1$ meas. 7—10629
1,2,4,5-tetramethylenebenzene, geometry optimisation, ab initio CI calcs. 7—15524
tetramethyleneethane,. singlet ground state, ab initio calcs. 7—62259
3,3,7,7-tetraoxo-9-oxa-3,7-dithiabicyclo [3.3.1] nonane, mol. and cryst struct. 7—37956
tetraphenyloxalamidine, double H transfer, conforms., tautomerism, NMR and IR obs. 7—57083
tetraphenylporphin metal complexes, reson. Raman spectra 7—19862
4-thiacyclohexanones, 2,6-disubstituted, stereochemistry, ^{1}H and ^{13}C NMR 7—57096
thiamin thiazolone, cryst. struct., transition state analogue 7—51736
thiazyl compounds 7—10439
Thiele's hydrocarbon, mol. struct. determ. 7—10395
2-thio-1,3,2-oxazaphosporinane, conformer struct. and populations, IR, NMR and X-ray spectra anal. 7—25509
thioanisole and its derivatives, long range spin-spin coupling consts., NMR and mass spectra 7—19886
thiophosphates, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
thiouracil, tautomers, MNDO calcs. 7—56984
toluene, vib. anal., isotropic species, comparison with benzene 7—19824
s-triazine, gas phase, mol. struct., GPED anal., ab initio force field calcs. 7—36457
tribromoacetamide, ^{15}N isotope effects, Raman spectra, ab initio calcs. 7—19871
sym-tribromobenzene, struct., vibr., GPED 7—57177
tribromomethyl radical, geometry and electronic struct., SWXα calcs., ab initio UHF calcs. 7—19703
1′-trichlorogermyl-1,1′-bicyclopentane-2-one, cryst. and mol. struct. 7—12047
trichloromethanesulphenyl chloride, mol. vibr. and config., Raman and IR spectra anal. 7—42622
trichloromethyl radical, struct. and electronic states, ab initio UHF SWX$_\alpha$ calcs. 7—30949
tricosane, pseudohexagonal rotator phase, disorder at bilayer interface, mol. dynamics calcs. 7—58165
1-(triethylene amide)-phosphazo-1,1-(diethylene amide)-2,2,2-trichloroethane, cryst. and mol. struct. 7—51735
trifluoroacetic acid-isoquinoline complexes, H bond, H$^+$ transfer, medium effects 7—46833
trifluoromethyl phosphorane, conform. and struct., GPED anal. 7—20044
trifluoronitrosomethane, geometric and electronic props., SCF and CI calcs. 7—15527
1,3,5-trigermatris(spiro-1-germa3,5-disila-3,3,5,5-tetra methyl-4-oxacyclohex)-2,4,6-cyclotrioxane, cryst. and mol. struct. determ. 7—12056
2,2,4-trimethyl-6-acetoxy-1,2,3,4-tetra-hydroquinoline, cryst. and mol. struct. X-ray diffr. 7—16540
3,3,4-trimethylhexane, config. anal., IR and Raman spectra 7—19861
2,3,3-trimethylhexane, conformational anal., Raman and IR spectral obs. and vibr. assignments 7—15614
trimethylsilylisothiocyanate in gas phase, mol. struct. determ. by electron diffr. 7—50357
1,6,12-trioxa-9-aza-9-butyl-5-germa-spiro[4,7]dodecane-2-one, cryst. and mol. struct. 7—12048
tryptamine, transition moment and geometry determ. by rot. resolved electronic spectroscopy 7—31058
tryptophan, jet-cooled, excited state conformers and intramol. exciplex form., dispersed fluoresc. 7—36671
TTF-TCNQ complexes, intramolecular charge transfer 7—7241
vinyl formate, gas phase structure anal., ab initio calcs., molecular mechanics calcs., IR spectra 7—19691
vinylene carbonate, struct. and vibr. spectra, ab initio CNDO/2 and INDO calcs. 7—49930
VX model compound, reactive props., electrostatic pot. calcs. 7—56954
Al^{3+}-chymotrypsinogen(poly-L-aspartate), interactions, Raman spectra investig. of conform. changes 7—57071
N-aryl-4-t-butyl-thiazoline-2-thiones, rot. barrier, enantiomer separation 7—13759
β-(BEDT-TTF)$_2$I$_3$, organic supercond., cryst. and mol. struct., X-ray diffr. study at 9.5 kbar 7—44504
C_5, geometric isomers, ab initio calc. of equilib. struct. 7—62291
$C_2H_xO^+$, x=3 to 5, struct. isomers, gas-phase ion mobility study, ab initio calcs. 7—36456
caesium 4-trifluoromethyl-6-phenyl-3-cyano-2-pyridone, X-ray struct. study 7—21192
ethylene, adsorption on ZnO-supported Cu particles, vibr. spectra, operation of metal surface selection rule 7—53350
$FeC_4H_6^+$ isomers, gas-phase photodissoc., bond energy and struct. determ. 7—15661
H_2O mol., IR absorpt. spectra, anharmonicity effects, contact transformational and quantum chemical calcs. 7—25385
H_2O, structure, urea effect 7—12348
^{1}H- and ^{13}C-NMR chemical shifts, elucidation of structures 7—50181
^{1}H- and ^{13}C-NMR spectra analysis, structure elucidation, computer assisted 7—50182
Li-vinylidene complex, struct., bonding, ab initio CI calcs. 7—49935
Li(ethylene)$_n$, in solid Ar, IR spectra and struct. 7—36614
methanol, protonated, rot. const., ab initio MO calcs. 7—25349
Mo complex, Mo phthalocyanine, struct., IR spectra, powder and liq. soln. EPR spectra study 7—64509
$NiC_4H_8^+$ isomers, gas-phase photodissoc., bond energy and struct. determ. 7—15661
Pt complex, diaminodichloplatinum(II), isomers orbital study, coordination with DNA, relativistic multiple scatt. Xα calcs. 7—56973
$SPCl_2F^-$, radical, ESR and ab initio quantum chem. study 7—42654

organic molecule electronic structure *see molecular electronic states*

organic semiconductor materials *see organic semiconductors*

organic semiconductors
- anthanthrone-Ag struct., charge carrier photogeneration *(Japanese)* 7−38610
- anthracene crysts., polaritons, picosecond secondary emission studies 7−21825
- aromatic hydrocarbons, semicond., nondispersive transport, model of difficult jumps 7−58812
- α-(BEDT-TTF)$_2$I$_3$, struct. charact. and band electronic struct. below metal-insulator transition 7−2007
- $\alpha(\beta)$-(BEDT-TTF)$_2$X (X=I$_3$, IBr$_2$), organic conductors, structural and electrical props. 7−63601
- B-(BEDT-TTF)$_2$X organic superconds., Meissner effect under press. 7−45559
- bis-5,6-diseleno-11,12,-ditellurotetracene bromide (chloride), struct. and elec. cond. 7−44512
- carrier drift mobility, anomalous field depend. 7−58928
- copper phthalocyanine evaporated thin films, mobility and trap concentration 7−2746
- copper phthalocyanine-anthanthrone heterojunction, charge carrier photogeneration *(Japanese)* 7−38610
- electrical transport props., electron bombardment method 7−52641
- fluoranthene radical cation salts, mag. resonance anal. of phase transition 7−52705
- (fluoranthenyl)$_2$AsF$_6$, metal-semiconductor transition, anisotropic diffusion and electron spin relaxation 7−52598
- fluorinated ethylene-propylene copolymer, hole schubweg models 7−21936
- lead phthalocyanine, electrical props., influence of I impurity 7−58927
- metal dithiolenes, struct., elec. and optical props. 7−44516
- metal phthalocyanine films, electro-absorpt. spectra, charge transfer excitation 7−27695
- metal phthalocyanines, elec. and photocond., props., coordination metal effects *(Japanese)* 7−12753
- metallophthalocyanine thin films, cosublimation doping and Schottky contact formation 7−21974
- molecular electronics, developments and research 7−7221
- one-dimensional conductors, conf., Kyoto, Japan (June 1986) 7−60872
- organic-on-inorganic contact barriers for semiconductor analysis 7−21991
- p-n heterojunction solar cells using thin film organic semiconductors 7−40001
- penanthrene-TCNQ complex, physical props. 7−52622
- phenazine, drift mobilities, photovoltaic appls. 7−21906
- phenyl-2,4-dinitrophenyl polycryst. substituted ether, elec. cond. meas. 7−17022
- phthalocyanine polycryst. thin film, bulk trap spectroscopy by temp.-modulated space-charge-limited current meas. 7−45338
- phthalocyanine thin films, gas-surface reactions, elec. cond. meas., ESCA 7−52262
- polyacetylene: K(Rb)(Cs), elec. cond. temp. depend. meas. 7−17030
- polyacetylene:Br(I), polarised EXAFS and near edge spectra studies 7−64778
- polyacetylene:I$_3^-$, semicond. soliton lattice-metal phase transition, photomodulation spectra studies 7−21819
- polyacetylene, doped, DC elec. cond. studies 7−33018
- polyacetylene, muon spin resonance studies 7−53202
- cis-polyacetylene, muonium substituted radical, hyperfine coupling constant 7−50407
- polyacetylene, semiconducting polymer, fast response nonlinear optical props. 7−1241
- trans-polyacetylene, third order optical susceptibility, 2A$_g$ excited state obs. 7−62782
- polyacetylene films, glow discharge polymerisation and photoablation study 7−63650
- polydiacetylene, IR photoinduced absorpt., bipolarons 7−53313
- polydiacetylene-toluene-sulphonate, single crystal, transient photoinduced reflectance change study 7−53257
- polydiacetylenes, analogies to inorganic semiconductors and graphite 7−2592
- polymer electrode kinetics in Li cells 7−54285
- polymers, conducting, nonlinear optical processes 7−62781
- polymers, electronic struct. and orientation on Pt, XANES studies 7−64058
- polyperinaphthalene, pristine and doped, elec. conductivity 7−2589
- polyphenylacetylene, plasma-polymerised, carrier traps 7−7263
- polyphenylenesulphide:As conducting polymers, ion implantation techniques 7−21923
- polythiophene, semiconducting polymer, fast response nonlinear optical props. 7−1241
- polythiophene film in electrochem. color switching cells, cycle life, stability and characts. 7−62815
- polyvinyl carbazole thin films, plasma-CVD polymerised, photoconduction props. 7−38628
- polyvinylcarbarzole, photoconduction, transition from dispersive to nondispersive transport 7−64283
- 7,7′,8,8′TCNQ, semicond., fluorescence spectra and electronic energy levels 7−27769
- TCNQ, valence band density-of-states 7−38434
- TCNQ salt, conducting Langmuir-Blodgett film, electronic transport props. 7−38782
- TCNQ salt, N-n-propyl phthalazinium 7,7,8,8 TCNQ$_2$, struct., elec., mag. props., EPR meas. 7−33005
- TCNQ salts, semiconducting, dielec. response in submillimetre range 7−45916
- tetrakis(alkylthio)tetrathiafulvalenes, valence electronic struct., UPS, EHT calcs. 7−21810
- tetrathiafulvalenes, N-containing, charge transfer complexes, struct. and elec. props. 7−44514
- tetrathiofulvalene bis(bis-(4,5 dimercapto-1,3-dithiole-2-thione) Ni(II)), 3D mol. supercond. 7−45594
- α-titanylphthalocyanine photoreceptors for solid-state laser beam printers *(Japanese)* 7−37077
- (TMN)$_3$X$_2$, (X=ClO$_4$, AsF$_6$), cation radical salts of tetramethoxynaphthalene, EPR, optical absorpt. and conductivity studies 7−53113
- (TMTSF)$_2$ AsF$_6$(SbF$_6$), SDW semicond. phase, for-IR conductivity 7−45969
- (TMTSF)$_2$AsF$_6$ and (TMTSF)$_2$SbF$_6$, SDW state, far IR spectra 7−33388
- (TMTSF)$_2$ClO$_4$, mag. field induced phases, phase diagram studies 7−45752

organic semiconductors continued
- (TMTSF)$_2$ReO$_4$, ^{13}C high resolution NMR study, temp. effects, semiconductor-metal transition 7−53157
- triphenylamine derivatives, guidelines for improving charge transport props. *(Japanese)* 7−38555
- tris-(ethylenedithio) benzene salt, (TEDTB)$_2$BF$_4$, C$_3$ symmetry, synthesis and crystal struct. 7−63602
- TSF(Ni(dmit)$_2$)$_3$, organic conductor, structure-related magnetism 7−2807
- TTF-TCNQ complexes, intramolecular charge transfer 7−7241
- zinc phthalocyanine thin films, electrical, structural and gas sensing props. 7−38787

organic superconductors
- (BEDT-TTF)$_2$, superconducting and mag. instabilities 7−45697
- θ-(BEDT-TTF)$_2$(I$_3$)$_{1-x}$(AuI$_2$)$_x$, molecular superconductor, prep. and characterisation *(Japanese)* 7−45261
- β-(BEDT-TTF)$_2$(I$_3$)$_{1-x}$(AuI$_2$)$_x$, thermal expansion and stepwise superconducting transition 7−27469
- β-(BEDT-TTF)$_2$AuI$_2$, bulk supercond., sp. ht. anomaly meas. 7−27466
- β-(BEDT-TTF)$_2$I$_2$Br, low temp. struct., superconductivity suppression 7−44518
- (BEDT-TTF)$_2$I$_3$, α and β phases, CESR 7−2930
- (BEDT-TTF)$_2$I$_3$, α to superconducting β phase transform., heat absorpt. and resist. temp. depend. meas. 7−63808
- β-(BEDT-TTF)$_2$I$_3$, conductor, thermal expansion and structural phase transitions 7−44870
- β^*-(BEDT-TTF)$_2$I$_3$, cryst. struct. in high-T$_c$ phase 7−44519
- β-(BEDT-TTF)$_2$I$_3$, high T$_c$ superconducting state, effect of high-temp. phase transitions, c* resistivity study 7−58934
- β-(BEDT-TTF)$_2$I$_3$, high-temp. superconducting state 7−2769
- β-(BEDT-TTF)$_2$I$_3$, normal and deuterated, upper critical field studies 7−45588
- (BEDT-TTF)$_2$I$_3$, organic superconductor, critical temp., randomness effects 7−52882
- β-(BEDT-TTF)$_2$I$_3$, organic superconductor, Debye temperature 7−64399
- B-(BEDT-TTF)$_2$I$_3$, shear-induced superconductivity 7−45583
- β^*-(BEDT-TTF)$_2$I$_3$, struct. order and disorder, neutron diffr. obs. 7−58253
- B-(BEDT-TTF)$_2$I$_3$, supercond., AC susceptibility and NMR studies 7−45543
- β-(BEDT-TTF)$_2$I$_3$, supercond. transitions, diamag. suscept. study 7−52886
- β-(BEDT-TTF)$_2$I$_3$, superconductivity, proton irrad. effects 7−45544
- β-(BEDT-TTF)$_2$I$_3$ high T$_c$ state, upper critical field meas. 7−45589
- β-(BEDT-TTF)$_2$I$_3$ organic conductor, high resolution thermal expansion meas. 7−26986
- β-(BEDT-TTF)$_2$IBr$_2$, polarised reflectance spectra 7−7697
- $\alpha(\beta)$-(BEDT-TTF)$_2$X (X=I$_3$, IBr$_2$), organic conductors, structural and electrical props. 7−63601
- B-(BEDT-TTF)$_2$X organic metal, high T$_c$ supercond. state 7−45542
- B-(BEDT-TTF)$_2$X organic superconds., Meissner effect under press. 7−45559
- (BEDT-TTF)$_2$X organic superconductors, sp. ht. meas. 7−45561
- β-(BEDT-TTF)$_2$X salts (X=I$_3$, IBr$_2$, AuI$_2$), magnetoresistance, superconductivity 7−52884
- (BEDT-TTF)$_2$X salts struct., anion length depend., shear transform. anal. 7−37961
- BEDT-TTF derivative (DIMET) radical cation salts, synthesis, conducting and superconducting props. 7−46855
- BEDT-TTF radical cation salts, synthesis, conducting and superconducting props. 7−46855
- bis(ethylenedithio)tetrathiafulvalene, low-temp. phases, X-ray diffr., resistivity and thermopower meas. 7−37962
- β-bis(ethylenedithiolo)tetrathiofulvalene iodide, organic superconductor, ^{2}H spin-lattice relax., temp. depend. study 7−53171
- charge transfer complexes, synthesis, struct. and physical props. 7−44510
- charge transfer salts, structural aspects 7−6614
- β-(ET)$_2$X organic superconductors, ambient press., point contact tunnelling studies 7−44517
- FIR spectroscopy 7−38816
- materials, advances and developments *(French)* 7−27476
- molecular electronics, developments and research 7−7221
- nearly antiferromagnetic itinerant fermion systems, possible superconductivity 7−38802
- organic conductors, IR absorption spectra and electron-electron interactions 7−46032
- polyacenic skeletons, low temp. ordered states, superconductivity 7−64396
- quasi-1D conductors, conf., Yamanashi, Japan (May 1986) 7−60868
- superconductivity, vol. property in S-based organic superconductors 7−2779
- tetramethyltetraselenafulvalene salts, organic superconductors, antiferromag. anisotropy, SDW amplitude, nesting vector 7−22146
- (TMTSF)$_2$(ClO$_4$)$_{1-x}$(ReO$_4$)$_x$, supercond. ground state, role of anions 7−45555
- (TMTSF)$_2$BF$_4$, anion ordering, press. effects 7−2596
- (TMTSF)$_2$ClO$_4$, conductor, thermal expansion and structural phase transitions 7−44870
- (TMTSF)$_2$ClO$_4$, organic supercond., field-induced SDW state, oscillatory magnetoresist. 7−27464
- (TMTSF)$_2$ClO$_4$, superconducting and spin-density-wave transition temperatures, effect of anion ordering 7−2761
- (TMTSF)$_2$PF$_6$, cryst. struct., neutron low temp. and X-ray high press. diffr. studies 7−44502
- (TMTSF)$_2$PF$_6$, organic superconductor, critical temp., randomness effects 7−52882
- (TMTSF)$_2$ReO$_4$ organic supercond., anion-ordering phase diagram studies 7−21434
- (TMTSF)$_2$X, antiferromag. superconductors, upper crit. mag. field *(Russian)* 7−58963
- (TMTSF)$_2$X, superconducting and mag. instabilities 7−45697
- transition metal complexes, M(dmit)$_2$, conductive and superconductive materials 7−44515
- TTF(Ni(dmit)$_2$)$_2$ molecular supercond., BCS and small supercond., lattice parameters *(French)* 7−2759
- β-(BEDT-TTF)$_2$I$_3$, organic supercond., cryst. and mol. struct., X-ray diffr. study at 9.5 kbar 7−44504
- B-(BEDT-TTF)$_2$IBr$_2$ ambient press. organic supercond., critical mag. fields 7−45590

organic superconductors continued
organic type II quasi-1D superconductors, reversible orbital superconductivity suppression mechanism calcs. 7—52885
tetramethyltetrathiafulvalene salts, organic superconductors, antiferromag. anisotropy, SDW amplitude, nesting vector 7—22146

organometallic compounds
acetylenes, substituted, spin-spin coupling consts., 7—31074
adduct formation during organometallic CVD growth of InGaAs films 7—33588
n-alkyl benzene chromium tricarbonyls intramolecular vibr. relax. 7—5728
alkynyl(trimethyl)mercurials, synthesis, ^{13}C, ^{29}Si and ^{199}Hg NMR 7—31071
atomic structure models, electron microscope images, computer simulation 7—16380
(η^6-benzene)tricarbonylchromium(0), charactn. by micro-Raman spectroscopy 7—64636
benzene chromium tricarbonyl-$d_0(d_6)$ deuteration effect on multiphoton dissoc. 7—5727
benzyllithium, structures, NMR investig. 7—10621
biepoxycyclopentyl selenium derivatives, partial disorder, X-ray structural anal. 7—51742
biferrocene, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7—25507
biferrocenium hexafluorophosphate, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7—25507
biferrocenium triiodide, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7—25507
bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- carbonyldicobalt, electronic struct., MO calcs. 7—15522
bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- carbonyldinickel, electronic struct., MO calcs. 7—15522
bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- nitrosyldiiron,, electronic struct., MO calcs. 7—15522
bis(benzene)vanadium-nickelocene, in diamag. ruthenocene lattice, isotropic exchange interactions, EPR 7—57104
trans-bis(diphenylalkylphosphine)(pentahalophenyl)nickel(II) bromide, nucleophilic substitution reactions and struct. investig. 7—59754
bis(n-toluene)vanadium, matrix isolated, magnetisation props., MCD meas. 7—57112
bis arene sandwiches, $C_5R_5FeC_6R_6$ where k=H or CH_3, and $(C_6(CH_3)_6)_2Fe^+$, hyperfine and mag. props. 7—12680
chloroferrocenes, ionisation pot., electron impact study 7—20062
1-chloromercuro-1,3-diphenyl-2-carbomethoxy-3-methoxycyclopropane, X-ray diffr. structural anal. 7—51743
p-chlorophenyltin, Raman and IR vibr. spectra 7—57058
cobaltocene, gaseous, self-exchange electron-transfer kinetics, Franck-Condon barriers 7—36745
cobaltocenium hexafluorophosphate-d_{10}, ^{2}H MAS NMR spinning sideband spectra study 7—33282
coupling consts. correl. with alkyl substituent consts. 7—31073
cyclopentadienyl metal cpds., struct., skeletal electron pair approach 7—10414
cyclopentadienylcycloheptatrienylvanadium-nickelocene, in diamag. ruthenocene lattice, isotropic exchange interactions, EPR 7—57104
η-cyclopentadienylnickel nitrosyl, dissoc. and multiphoton ionis., photofragment spectroscopy 7—50281
decamethylcobaltocene, electronic struct. and dynamic Jahn-Teller effect EPR 7—59104
decamethylnickelocenium, electronic struct. and dynamic Jahn-Teller effect EPR 7—59104
dimethylgold (III) acetylacetonate for Au CVD by laser induction 7—22564
dimethylzinc, Zn isotope separation by liq. phase thermal diffusion 7—15732
ferrocene, azaferrocene and ruthenocene, struct. phase transitions and mol. dynamics. ^{1}H NMR 7—13053
ferrocene, gaseous, self-exchange electron-transfer kinetics, Franck-Condon barriers 7—36745
ferrocene, in zeolite Y, oxid., reson. Raman spectroscopy 7—25525
ferrocene, soln., photoelectron emission spectra and simulated spectra 7—5719
ferrocene+He, dissoc. excitations, mol. orbital correls. 7—10735
ferrocene derivatives, charactn. by micro-Raman spectroscopy 7—64636
p-fluorophenyltin, Raman and IR vibr. spectra 7—57058
germanium pentacoordinated compounds, structural correl. 7—10418
glutathione-methylmercury aq. mixtures, complexation, Raman spectrum vibr. study 7—64637
iron arene photoinitiators for imaging, resist materials 7—28322
laser and Fourier transform spectroscopy 7—19872
laser mass spectroscopy, laser CVD appl. 7—22573
manganocene, gaseous, self-exchange electron-transfer kinetics, Franck-Condon barriers 7—36745
nickelocene lattice, S=1/2 mol. dopant, large impurity anisotropic g-shift obs., mol. field anal. 7—13017
platinum-cyanoalkene complexes, mol. vibr. study, Raman and IR spectra anal. 7—42626
ruthenocene, gaseous, self-exchange electron-transfer kinetics, Franck-Condon barriers 7—36745
sodium tetraethylaluminate with NaH, thermodynamic characterisation using phase diagrams and electrochemical meas. for H_2 storage 7—54366
sonochemical synthetic reactions, new trends 7—50902
tetramethyltin, vac. UV spectra, interpretation 7—50171
thiourea-ferrocene, inclusion cpd., orientation and dynamic behaviour, ^{13}C NMR chem. shielding spectra 7—50180
1′-trichlorogermyl-1,1′-bicyclopentane-2-one, cryst. and mol. struct. 7—12047
triethylgallium, pyrolysis temp. in presence of AsH_3 or trimethylaluminium 7—22541
trimethylaluminium, pyrolysis and photolysis, Al MOCVD appl. 7—7881
trimethylgallium, photodissoc., laser photolysis/fluoresc. study 7—23046
trimethylgallium, thermal decomp. rates, relevance to GaAs growth by MOCVD 7—22540
vanadocene, electronic struct. and ^{13}C and ^{1}H NMR temp. shifts 7—62412
$FeC_4H_6^+$ isomers, gas-phase photodissoc., bond energy and struct. determ. 7—15661

organs (artificial body) *see artificial organs*

origin of elements *see element origin*

origin of life *see evolution (biological)*

orotrons *see free electron lasers; microwave generation; microwave tubes*

orthicons *see television camera tubes*

orthogonalised plane wave calculations *see OPW calculations*

orthosis *see orthotics*

orthotics
see also handicapped aids; prosthetics
16-channel controller for implantable gait stimulation system, design 7—28781
closed-loop electrical stimulation orthoses for restoration of quiet standing in paraplegia 7—28769
fixation plate for tibia, anatomically contoured, biomech. testing 7—8762
functional elec. stimulation hand grasp orthoses, tracking performance 7—28777
functional neuromuscular stimulated hand orthoses, sensory feedback using electrodes fitted to shoulder 7—34354
gait correction two-channel orthotic stimulator *(Slovenian)* 7—23486
halo-vest on thorax, mobility: comparative biomechs. of 8 designs 7—8768
implantable gait stimulation system, 16-channel microprocessor-based controller, features 7—28780
joint angle control by using functional electrical stimulation with digital PID control system *(Japanese)* 7—60128
manipulation aids for handicapped with upper extremity impairment 7—34351
precision engineering for medical electronics, design considerations *(Japanese)* 7—60124
rehabilitation of handicapped, technology, conf., Minneapolis, MN, USA (June 1986) 7—29599
Rehabilitation R&D Progress Reports 7—28774
shape sensing by CAD/CAM techniques for fitting of prosthetics and orthotics 7—34348
single-leg swing-through gait using axillary crutches, biomech. study 7—14034
spinal fixation instrumentation, standardisation of testing procedures 7—8767
trunk muscle atrophy produced by lumbar spin orthoses, US meas. 7—28639
walking using long leg braces or functional neuromuscular electrodes, relative energy cost 7—34336

oscillations
see also circuit oscillations; electromagnetic oscillations; harmonic oscillators; harmonics; liquid oscillations; piezoelectric oscillations; plasma oscillations; resonance; stability; vibrations; waves
1-D linear damped oscillator system 7—50936
acetaldehyde, combustion, oxidation, radical concs. and phase rels. 7—54126
acoustic, thermally induced, stability boundary, num. method 7—26074
active suppression of flow-excited cavity oscillations *(French, English)* 7—31774
adiabatic invariant for 1D periodic motion, simple proof 7—4676
advection, positive definite schemes, comparison and eval. 7—16151
annular cascade oscill. in transonic flow, unsteady aerodynamic characts. 7—37490
atmosphere barotropic motion, effects of orography *(Russian)* 7—29130
beam, oscillation eigenfrequencies, follower load effect 7—16110
beams, planar shear indeformable, nonlinear dynamics 7—43755
Belousov-Zhabotinsky reaction, catalysed, ion induced oscills. 7—65301
body fluid bubble oscillations 7—65780
body suspended on string with impact interactions, stability of permanent rotations 7—41090
boundary layer turbulence transition mechanisms interchange 7—57795
boundary layers, mass transfer rates 7—6182
cantilever in dry friction, additional and differential harmonic oscillations 7—22843
cascades, unsteady flow, asymptotic solns. 7—37437
cavity flows of multi-cavity channel, self-excited shear layer oscillations 7—51317
chaos in classical dynamics, deterministic representation with appl. to turbulence 7—61091
coaxial cylinders with liq. between them, oscillations 7—20622
convection-diffusion eqn., smoothing of numerical soln. by central difference method *(Japanese)* 7—41312
convex panels with time-harmonic transverse oscills., acoustic radiation efficiency 7—1308
cutting processes, chaotic oscillations 7—4764
cylindrical cavities, sound generation due to flow excitation 7—43500
cylindrical compressible flow, circumferential distortion, surge interaction and rotating stall *(French)* 7—1638
damped oscillation between unbound states, exact and phase-integral quantal matrix elements 7—14813
damped quantum mechanical oscillators with thermal fluctuations 7—48410
delay force systems, parametrically excited oscills. 7—11268
differential equations, nonlinear, generalization of Olech-Opial-Wazewski oscillation criteria 7—55991
dissipative structures in an active diffusive medium with a spatially periodic source 7—35483
drops, inviscid, with surface tension, 3D oscillations, quadratic reson. 7—11519
Earth free oscillations, asymptotic normal modes of laterally heterogeneous Earth 7—40425
Earth free oscillations spectra, anomalous splitting rel. to inner core anisotropy 7—66025
entrainment in pacemakers characterised by V-shaped PRC 7—47029
essentially nonlinear systems, simplified asymptotic integration algorithm 7—41091
finite length straight pipe subject to waterhammer, wall elastic deform. 7—37544
flow instabilities, tomographic visualisation, improved method 7—37568
flow subjected to axial temp. gradient, temp. and spatial distrib. of heat flux 7—51114
fluid lines of hydraulic systems, oscillation transfer parameters 7—62903
fluidic watering device consisting of vortex chamber, self-oscills. 7—37467
fluids, enhanced heat diffusion by oscillation 7—51116
forced oscillatory compressible flow past yawed cylinder, heat transfer 7—1585
forced relaxation oscillations, chaotic blue sky catastrophe 7—4768
forced van der Pol oscillator, quasi-periodic oscill. destabilisation 7—29744
Foucault pendulum, visualisation using geometric model. 7—48239
frequency scaling at the onset of finite amplitude oscillation 7—48581
generalized Galerkin's method for non-linear oscillators 7—57729

oscillations continued

- growth oscillations, phenomenology and origin, simple stochastic model 7—35414
- gyrocompass, integration of eqns. of motion 7—43652
- gyroscope, noncontact, in resistive medium, run-up system 7—43653
- harmonic balance methods 7—37322
- hot wire, oscillating, response 7—37588
- internal resonance of non-linear autonomous vibrating systems with two degrees of freedom 7—50933
- inviscid liquid shell surrounding incompressible gas bubble, axisymmetric oscillations 7—44027
- laminar incompressible oscillating flow, mean-parameter modeling 7—63109
- linear and nonlinear systems, oscillatory excitation 7—29720
- localised oscillator in mag. field, path integral evaluation of Bloch density matrix 7—19055
- lunar occultations, photoelectric observations, final list 7—35003
- malonic acid, Belousov-Zhabotinsky reaction, oscillatory states transition 7—17765
- marine risers and tethers, vortex-induced transverse response 7—37373
- Mellin transforms and correlation dimensions 7—41253
- membranes, circular, nonlinear nonsymm. forced oscill. 7—26191
- membranes, low-porosity, flexible, two-dimens. flow 7—16241
- membranes, rectangular, with degenerated modes, nonlinear forced oscills. 7—26190
- MHD convection, overstability study 7—51333
- MHD unsteady flow in tube of variable cross section in axial mag. field 7—44059
- multi-component convection/diffusion/reaction systems, FEM 7—44063
- multiwire chambers filament tension meas., using automated electronic tensometer 7—30004
- Neumann-type dynamical systems and their integrability 7—41085
- neutral delay differential equation, necessary and sufficient condition for oscillations 7—61004
- non-autonomous mechanical systems, Fokker-Planck-Kolmogorov eqns., random oscills. 7—85
- nonconservative dynamical systems,. stability criteria, appl. to wing flutter 7—18590
- nonhomogeneous semi-infinite circular cylinder, torsional oscill. from impulsive twist 7—24415
- nonlinear driven oscillators, periodic orbit systematics, analytic treatment 7—9658
- nonlinear oscillation theory, single freq. problem, two-scale expansions 7—82
- nonlinear oscillations and separation of movement, averaging principles 7—41073
- oscillatory second order linear difference equations and Riccati equations 7—61047
- oscillatory turbulent flow in a cylindrical channel 7—57820
- pattern recognition in rabbits, oscillating network model 7—54618
- periodic 1D grating, free oscills. of EM field *(Russian)* 7—62822
- plate, elliptical, oscillation problem soln. with allowance for energy dissipation 7—20641
- principle of 'least' action in nonlinear and/ornon-conservative oscillations 7—1466
- quartic oscillator, perturbatively approximated excited state wave functions 7—35319
- randomly inhomogeneous 1D medium, oscills., averaged description 7—24436
- retarded differential equations, soln. oscillations 7—61048
- rotating compressible fluid, flow due to oscillatory point source 7—63156
- secondary resonances and approximate models of routes to chaotic motion in non-linear oscillators 7—62972
- self-sustained deep cavity oscillations induced by grazing flow 7—57622
- shell, spherical, in contact with elastic filler, natural oscills., asymptotic analysis 7—11328
- shells, axisymm., Miles' evolution eqns., simple strange attractors in struct. dynamics 7—35268
- soft spring oscillator, appl. of Melnikov's method 7—61036
- soluble gas bubbles, dynamics in liq. 7—31866
- spherical cavity in infinite elastic dielectric, nonlinear oscillations 7—31672
- stability boundaries under high freq. multicomponent parametric excitation 7—50939
- steam condensation in pool water, press. oscill. threshold 7—26334
- stochastic transitions through quasiperiodic oscillations, num. and expt. investig. 7—35419
- sunspots, simultaneous meas. of umbral oscills. in photosphere, chromosphere and transition region 7—66542
- supersonic air ejector, primary flow oscill. 7—37492
- thermoacoustic oscillations elimination in cryogenic tubes 7—30021
- thermocapillary convection in two-layer system, surface active agent effect 7—51121
- turbulent pulsating pipe flow, wall shear stress meas. 7—16264
- two point masses joined by an elastic bar, difference eqns. *(Spanish)* 7—61094
- viscoelastic Maxwell fluid, MHD oscillatory motion between 2 plates or 2 coaxial cylinders 7—6319
- viscous fluid, flow transition, Orr-Somerfeld eqn. soln. *(Russian)* 7—43850
- volume cycling in tapered pipe, dye streak meas., Eulerian and Lagrangian velocity profiles 7—44051
- vortices, lock-on and shedding, circular cylinder, steady and oscillatory flow meas. 7—16192
- weakly nonlinear dynamical systems response 7—62969
- BW alloy fibre, torsional pendulum, shear modulus and internal friction meas. 7—48232
- n-GaAs, oscillations and chaotic current fluctuations 7—64253
- ^{3}He, superfluid B phase, autocorrelation functions and spinless oscillations 7—12389
- $I^- + ClO_2^-$, oscillatory reaction, stirring and premixing effects 7—28278

oscillator strengths

- alkali metal atoms, core-polarisation effects, oscillator strength calcs. 7—25454
- aromatic molecules, planar, electronic transition energies and oscill. strengths calcs. 7—19706
- 2,2′-bipyridine radical ions, absorpt. spectra, counter ion effects 7—49934
- carbon tetrafluoride, extreme UV photoexcitation study, UV fluoresc. anal. 7—36637
- chloranil-mesitylene(benzene), charge transfer complexes, thermodynamic and spectrophotometric study 7—33950

oscillator strengths continued

- chloranil-pyrene charge transfer complex, solvent effects, visible spectra study 7—42636
- chlorin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7—10447
- chloroazidobenzene derivatives, UV spectra, SCF-CI calcs. 7—57000
- diatomic systems, mol. const. determ. from higher harmonic vibr. spectra 7—25481
- dichloromethane, CH stretching overtone intensities, SCF calcs. 7—5586
- 2,6-difluoropyridine, vibronic band system study, UV spectra anal. 7—42641
- dimethyl ether, isomers, VUV-optical oscillator strength distrib. 7—15650
- electronic transition energies and oscillator strengths, CNDO/S-RPA calcs. 7—19706
- ethyl alcohol, isomers, VUV-optical oscillator strength distrib. 7—15650
- ethyl methyl ether, isomers, VUV-optical oscillator strength distrib. 7—15650
- linear and nonlinear optical methods for oscillator strength meas., review 7—893
- magnetic insulators, light absorpt. by intersublattice charge transfer 7—46065
- methane, oscillator strength, X-ray and VUV absorpt. spectra 7—36643
- naphthalene radical ions, absorpt. spectra, counter ion effects 7—49934
- organic conductors, IR absorption spectra and electron-electron interactions 7—46032
- organic linear chain conductors, IR and near IR props. 7—22247
- organic radical cations, electronic visible-UV spectra, LNDO/s PERTCI calcs. 7—50169
- oxadiazole derivatives, absorpt. spectra, expt. and quantum-chem. study 7—42488
- oxazole derivatives, absorpt. spectra, expt. and quantum-chem. study 7—42488
- picolines, absolute vacuum UV absorpt. spectra, absolute extinction coeff. and oscillator strength values 7—25536
- picolyltricyanoquinodimethane, mol. cryst., charge transfer transitions, electronic spectra 7—22279
- polyenes, optical props., configuration depend. 7—10673
- polymers, conducting, nonlinear optical processes 7—62781
- porphin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7—10447
- propyl alcohol, n- and iso-, isomers, VUV-optical oscillator strength distrib. 7—15650
- ruby, R, fluoresc. line lifetime meas., high press. conditions, modulation fluorometry technique 7—22307
- Rydberg atoms in uniform magnetic field, quantum stochasticity, eigenvalue spectra calcs. 7—42526
- screened Coulomb potential, energy levels and oscillator strengths calcs. 7—25628
- tetrafluoromethane, oscillator strength, X-ray and VUV absorpt. spectra 7—36643
- triphenylmethane dyes, induced optical activity, INDO/S calcs. 7—19708
- two-dimensional polaron, cyclotron reson. spectrum calc. 7—45175
- two-level atoms, coherently driven, first-order phase transition 7—62749
- $^{16}O_2$, Schumann-Runge bands, oscillator strengths 7—10675
- Al, hot dense plasma, at. props. and transition probabilities 7—57032
- Al, IR spectrum, intraband and interband processes 7—22256
- Al, level energies and oscillator strengths, coupled channel model calcs., energy depend. sensitivity 7—49906
- Ar VII, oscillator strengths, transition energies and probabilities, CI STO calcs. 7—25423
- BaI, highly excited levels, two-channel quantum defect method 7—57010
- Be, $^3P^0$ and $^1P^0$ Rydberg series, autoionising states, complex eigenvalue Schrodinger eqn. soln. 7—62329
- Be, excitation energies, oscillator strengths, polarisabilities, HF calcs. 7—56929
- Be I isoelectronic series, atomic and spectral data for typical tokamak plasma conditions 7—24322
- Be^+, electron impact-excitation, reson. transition, ab initio treatment 7—42768
- Br plasma, laser produced, oscillator strengths, X-ray transitions, ab initio calcs. 7—16334
- C_2 ion, low lying quartet states, radiative transition probabilities, CASSCF and MC-CI electronic wavefunctions 7—49946
- CN, in solar spectrum, oscillator strengths and dissociation energies 7—4327
- Ca III, allowed transactions, oscill. strengths and excitation energies 7—5631
- Ca IX, oscillator strengths, transition energies and probabilities, CI STO calcs. 7—25423
- Cd, oscillator strengths and excitation energies, relativistic CI and MCRHF calcs. 7—50260
- Cl isoelectronic sequence, allowed 3-3 transitions, Slater parameter optimisation, HF CI calcs. 7—48205
- Co, level energies and oscillator strengths, coupled channel model calcs., energy depend. sensitivity 7—49906
- $CsCaF_3$, fluoroperovskites, IR refl. spectra, temp. depend. 7—22248
- DyP_5O_{14}, absorpt. spectra intensity parameters, fluoresc. radiative transition probabilities *(Chinese)* 7—39141
- Fe II, oscillator strengths for UV doubly excited lines in laboratory and in A-type star 21 Peg 7—66585
- Fe II oscillator strengths and lifetimes 7—57019
- Fe XV, allowed transitions, Hartree-Fock and Dirac-Fock calcs. 7—15494
- Fe XV, oscillator strengths, transition energies and probabilities, CI STO calcs. 7—25423
- FeAl, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7—64826
- FeRh, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7—64826
- Ga, $4s^2nd$ ^2D series, lifetimes and oscillator strengths, MCHF wave fn. calcs. 7—62324
- Ga, radiative lifetimes, fluoresc., MCHF calcs. 7—30946
- GaAs-$Ga_{1-x}Al_xAs$ heterojunctions, impurities, optical props. 7—27396
- H, ground state, 2^l-pole Cauchy moment computation 7—5629
- HBr, VUV photoabsorpt. and fluoresc. spectra 7—19927
- He doubly excited states, electron impact excitation. generalised oscillator strengths 7—873
- He, transition probabilities and oscillator strengths, for singly excited states 7—48207
- ^{3}He, superfluid B-phase, sound wave pulse propag. in reson. medium 7—44940

oscillator strengths continued
Hg atomic vapour, oscillator strength meas. by four-wave mixing 7−19773
Hg, oscillator strengths and excitation energies, relativistic CI and MCRHF calcs. 7−50260
Hg, transitions, relativistic SCF calcs. 7−49979
$KZnF_3$, fluoroperovskites, IR refl. spectra, temp. depend. 7−22248
Kr^{28+}, electron impact excitation cross sections, CI calcs. 7−36493
Li I, oscillator strengths, transition matrix elements, Dirac-Fock approx. 7−843
N_2, electron scatt., high energy, X-ray incoherent scatt. factor 7−36757
NH_2, excited radical, fluoresc., Einstein coeff. and oscillator strength calc. 7−42668
NO, $^2\Delta$ states, radiative lifetime meas., fluoresc. spectra 7−62439
NO vibr. levels, lifetimes, semi-theoretical evaluation 7−15649
Na-like ions, Rydberg states, dynamic polarisability, HF calcs. 7−62273
$Na_2O.3SiO_2:Eu^{3+}$, UV-irradiated glass, formation of colour centres 7−12063
Nd^{3+} complex with amino acids, visible absorpt. spectra 7−31057
O, Rydberg transitions, IR laser absorpt. spectra 7−57017
$^{18}O_2$, Schumann-Runge bands, oscillator strengths meas. 7−62455
$^{16}O^{18}O$, Schumann-Runge bands, oscillator strengths meas. 7−62454
P VI-XIII, in plasmas, spectra, 22-92 Å 7−15537
$PrCl_3$ organic complexes, spectral energies and oscillator strengths 7−3067
$Pr(NO_3)_3.6H_2O$ mixed with organic complexes, optical spectra, energy level struct.-band intensities 7−22253
Rb+Ar(He), oscillator strength, pot. curves *(French)* 7−10728
$RbCaF_3$, fluoroperovskites, IR refl. spectra, temp. depend. 7−22248
Se XXIV and XXV plasma, dielectronic recombination calcs. 7−26510
Si II, interstellar, UV equivalent width data statistics and new oscillator strengths 7−55444
Si isoelectronic sequence, allowed 3-3 transitions, Slater parameter optimisation, HF CI calcs. 7−48206
Si, level energies and oscillator strengths, coupled channel model calcs., energy depend. sensitivity 7−49906
SiF_4, photoexcitation, photoabsorpt. and fluoresc. cross section meas. 7−50224
Va, singly ionised, lifetimes and oscillator strengths meas., fluoresc. and Fourier-transform spectra anal. 7−30986
Yb, $^3P_1$-$^1S_0$ transition, oscillator strength, lifetime, coherent optical techniques and fluoresc. spectra 7−42542
Zn, detection and study by laser-enhanced ions. spectrometry 7−54202

oscillators
see also Gunn oscillators; microwave oscillators; parametric oscillators; radiofrequency oscillators; relaxation oscillators; tunnel diode oscillators
applications of the power fluidics oscillator in the process of mass transfer 7−26245
CMOS magnetosensitive square wave oscillator 7−61360
Duffing, large amplitude primary and superharmonic resonances 7−20592
Duffing oscillator, random superharmonic response 7−31635
frequency control, conf., Philadelphia, PA, USA (May 1986) 7−55893
Lienard 4-resonance forced oscillator, numerical anal. *(French)* 7−14762
nonlinear, analytical solns. to eqns. 7−20591
nonlinear oscillator, 1/2 subharmonic resonance and its transition to chaos 7−29741
semiconductor n-i heterojunction, time depend. tunnelling and coherent Zener oscills. 7−17087
superconducting circuits, influence of time-depend. gravit. fields 7−41181
thickness monitor using four quartz crystal oscillators for evaporation system 7−61319
$LiNbO_3$ SAW oscillator for humidity and temp. meas. 7−4232
ZnO-SiO_2-Si SAW chemosensor for NO_2 gas concentration meas. 7−3621

oscillograms *see oscillographs*

oscillograph recorders *see oscillographs*

oscillographs
see also cathode-ray oscilloscopes
No entries

oscilloscopes
see also cathode-ray oscilloscopes
No entries

oscilloscopes, cathode-ray *see cathode-ray oscilloscopes*

Oseen method *see flow*

osmium
see also nuclei with ......
isotopic composition in terrestrial samples, determ. from accelerator mass spectrometry 7−23611
single cryst., energy band struct. and optical absorpt. studies 7−16938
surface, (0001), coexistence of mono- and diatomic steps 7−52204
surface (0001), adsorpt. of benzene, mol. struct., angle-resolved UV photoemission spectral study 7−53492
thick targets prod. for electron scatt. expts., electroplating 7−25282
Si:Os, self-consistent one-electron states of 5d transition-atom impurities 7−32950

osmium alloys
see also osmium compounds
AuOs, heat of form. and cryst. struct., linear augmented STO calcs. 7−51705
$CeOs_2$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7−32900
$CeOs_2$, electronic struct. determ. 7−52417
Cr-Os-Ta-La system, anomalous elastic and thermal props. in region of phase transform. *(Russian)* 7−53783
Hf-Os, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
Pu-Os-B system, phase equilibria and cryst. struct. 7−16781
$Sn_{1-x}Dy_{4+x}Os_6Sn_{18}$, disordered II′ phase, structural study, electron and X-ray diffr. meas. 7−63549
UOs_2Si_2, $ThOs_2Si_2$, magnetochemistry and crystal chemistry 7−58976
V-Ru-Os, B2 alloys, correlation between superconductivity and structural transitions 7−52881
W-Os alloy thermionic emission cathodes, surface struct., EXAFS study 7−44970
W-Os polycrystalline surfaces of thermionic cathodes, SEXAFS of absorbed Ba 7−64774
WOs, electronic struct. calcs. 7−45200
Zr-Os, hardening by dispersed ω-phase particles, annealing effect *(Russian)* 7−65053

osmium compounds
see also osmium alloys
octahalodiosmate(III) anions, struct. and bonding 7−16508
silicide, epitaxial growth on Si (111) 7−21760
$Er_3Os_4Si_{13}$, existence and electrical props. *(French)* 7−17008
HfOsSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607
$Ho_3Os_4Si_{13}$, existence and electrical props. *(French)* 7−17008
$Lu_3Os_4Si_{13}$, existence and electrical props. *(French)* 7−17008
Os clusters and complexes, Al_2O_3 supported, structs., EXAFS 7−62560
Os complex, excited-state decay, glass to fluid transition effect, energy gap law appl. 7−21418
Os complexes, OS(VI) nitrido systems, luminesc., excited-state distortion 7−50218
$Os_3(CO)_{12}$, electron beam decomposition for sub-micron patterns 7−53597
$Os_2Cl_8{}^{2-}$ ion, conformation calc. by SCF-Xalpha-SW method, relativistic corrections 7−16508
TiOsSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607
$UOsGa_5$, structural chemistry mag. behaviour 7−16513

osmosis
see also membranes
calcium oxalate, crystallization processes using reverse osmosis 7−53538
cartilage, instantaneous deform., effect of collagen fibre orientation and osmotic stress 7−3810
cellulose acetate, membranes, osmosedimentation, performance, morphology 7−13816
electric double layer, thermodynamic consistency of the modified Poisson-Boltzmann eqn. 7−33941
electroosmotic permeability of cellulose acetate membranes 7−54161
ethylene, laser induced osmosis, kinetic meas., press. effects 7−65344
hollow-fibre modules, flow distrib. study 7−65783
matrix-type diaphragms, electrochem. parameters and electroosmotic permeabilities 7−13800
membranes transport process meas. techniques 7−28337
nontransport properties of membranes determ., expt. methods 7−28336
Nylon 6 membranes, decrystallised acrylic acid grafted, reverse osmosis, fine struct. 7−65346
polymers, osmotic pressure second virial coeffs. 7−10798
polysaccharides, in coccoliths of Emiliania huxleyi, molar mass determ. 7−8479
polystyrene interactions in bad solvent, experimental study 7−58124
reverse osmosis desalination meas. and controls 7−28338
solvent tension theory and thermodynamics 7−21063
synthetic membranes, conf., Alcabideche, Portugal (June-July 1983) 7−24306
thermal osmosis near a buried heat source 7−51296
thermodynamic transport processes in field of extremals, osmosis and reverse osmosis 7−17824
H_2O-$CO_2(H_2S)(NH_3)(H_2SO_4)(H_3PO_4)(ZnCl_2)$ $(CuCl_2)$, thermodynamic meas., bibliography of data sources 7−52070
$KAl(SO_4)_2$ solutions, effect of impurities on props. 7−6495

osmotic pressure *see osmosis*

OTEC *see ocean thermal energy conversion*

OTF *see optical transfer function*

otology *see ear*

ovens
see also domestic appliances; electric heating
heat pipe oven devices for broadband excitation laser studies 7−15882
phase transition temp. determ. in optical ovens for refractory materials 7−30014
solar cooker using spiral solar energy concentrator 7−65410
solar cookers using heat-pipe principle 7−13928

overcurrent
cryogenic current leads with current overloads and coolant flow interruption, temp. state 7−61341

overcurrent protection
semiconductor detector electronics for measurements in heavy overload conditions 7−42439

Overhauser effect
see also nuclear Overhauser effect
No entries

overvoltage
double impulse tests of long airgaps, engineering problems 7−20974
double impulse tests of long airgaps, leader decay and reactivation 7−20975
living cell model for electric field and overvoltage effects *(Polish)* 7−60031

overvoltage protection
HV solar array plasma protection techniques 7−3707
Van de Graaff accelerator, voltage regulation and breakdown prevention device *(Chinese)* 7−5499

oxidation
see also anodisation; combustion; corrosion; reduction (chemical) 7−27867
accumulators, examination of graphite additive to electrodes 7−39984
acetaldehyde, combustion, oxidation, radical concs. and phase rels. 7−54126
Ag-^{111}In, O agglomeration in presence of radiation defects 7−26791
Al, mirror coatings, UV reflectivity loss, in space 7−25938
alkaline earth orthovanadates, surface electrochem. of O, cyclic voltammetric obs. 7−33957
alloys, amorphous, friction and wear behaviour rel. to microstruct. and surface chem. 7−8127
alloys, binary, simultaneous external and internal oxidation, form. of two-phase regions in diffusion zone *(Russian)* 7−46704
alloys, external scale form., third element control 7−39750
alloys, high temp. corrosion in sulphidising/oxidising environments, review 7−39737
aluminide layers on Ti, high temp. cyclic oxidation 7−17719
α-aminoalkyl radicals, electrochemical detection, bond dissoc. energies determ. using oxidation pots. 7−28286
amorphous alloys, remagnetisation, influence of surface condition *(Russian)* 7−59057
anode oxidation, effect on vacuum prebreakdown currents 7−37780
atoms in compounds, oxidation numbers, determ. method 7−9627
BEDT-TTF complexes with linear chain anions, crystal growth 7−46297

oxidation continued
(BMDT-TTF)$_2$Au(CN)$_2$ organic metal, synthesis, struct. and props. 7−32420
(BPDT-TTF)$_2$IBr$_2$, synthesis by electrochemical oxidation, struct. and ESR spectra 7−46856
charged microspheres, interaction with extended surfaces 7−59308
coal desulphurisation by selective oxidation of pyrites 7−39954
coatings in high performance gas turbines, high temp. behaviour, laboratory tests 7−46694
conference, Oconomowoc, WI, USA (April-May 1985) 7−18468
conference, Paris, France (May 1986) 7−60866
defect mapping by in-water photocorrosion 7−59692
dielectric films, on compound semiconductors, conf., Las Vegas, USA (Oct. 1985) 7−35108
EELS studies of surfaces and absorbates 7−3128
electrodeposits for high temp. oxidation and corrosion resistance, appl. for gas turbines 7−46358
electron energy loss imaging microscope for chem. mapping of oxide scales 7−37812
equilibrium diagrams, atlas prep. 7−24324
ethylene oxide, adsorption on Ag (110) and Pt (111), surface interactions, XPS, TDS, AES, EELS studies 7−33963
fatigue crack growth at elevated temps., grain boundary oxidation 7−6714
ferrocene, in zeolite Y, oxid., reson. Raman spectroscopy 7−25525
ferrous spinel, oxidation kinetics and mechanism, elec. cond., thermogravimetry 7−27326
flameless peat fires, low temp., kinetic characts. 7−13774
flavins, mol. geometry and REDOX props., MINDO/3 calcs. 7−56976
flavins, struct. and REDOX props., electron distrib., MINDO/3 calcs. 7−56977
formaldehyde, oxidation, ESR and IR chemiluminescence. obs. 7−36655
FTIR reflectance spectroscopy characterisation 7−46043
graphite, nucl. grade, fracture processes and oxidation effects 7−28157
graphite, nucl. grade, pitchcoke, irrad., mech. props., radiolytic oxidation effect 7−25032
graphite, nucl. grade, thermally and radiolytically corroded, microstruct. rel. to elastic modulus 7−25033
graphite isotropic, fine grained, oxidation effect on crack extension rate *(Japanese)* 7−56754
hemerythrin, binuclear Fe cluster, PMR probe investig. 7−50184
hydrocarbons, oxidation, inhibition by phenols, optimisation calcs. 7−46834
hydroxymethyl radical, oxidation kinetics, phosphoresc., time depend. rate const. 7−10648
image charges and their influence on the growth and the nature of thin oxide films 7−64312
implanted cardiostimulators, polymeric insulation degradation *(Czech)* 7−23487
Incoloy 800 H, oxidation, EMPA profiles in depletion zone 7−17727
Incoloy 800H, corrosion protection by plasma assisted vapour deposited and laser fused silica coatings 7−28208
Incoloy 800H, multilayer oxide scales in gas atmosphere, Ti distribution 7−53972
Inconel 617, oxidation, EMPA profiles in depletion zone 7−17727
ion exchange resins, effects of metallic impurities on oxidation, catalytic activity 7−30677
laminated membranes consisting of alloy and oxide layers, non-steady-state H permeation 7−6889
laser processing of materials, conf., London, England (Dec. 1986) 7−48185
metal, kinetics of equilibrium oxidation, CW laser irradiation 7−17721
metal oxides, synthesis methods and solid state chemistry 7−33620
metal reflectors in EUV, surface contamination, AES study 7−41563
metal silicide layers on Si, thermal oxidation 7−65209
metal surfaces, oxidation, Ar$^+$ ion bombardment effects 7−39755
metals, high temp. oxidation under time-dependent gas press. 7−33837
metals, hot oxidation, solute-elastic effect in interstitial solid solns. *(French)* 7−58478
metals, laser oxidation, absorptivity meas. 7−59682
metals, pure, oxidation, multilayer scale form. 7−33838
molten carbonate fuel cell, performance model, oxidant depend. *(Japanese)* 7−65453
MOS capacitors, interface state generation by ionising radiation, oxide thickness depend. 7−58900
nuclear power station use of neutral/oxygen water treatment 7−30537
organic charge transfer solids, review 7−7222
organosulphur compounds, atm. photooxidation mechanisms anal. 7−54113
oxides, elec. props. under conditions of oxidation, reduction and catalysis 7−7250
4-pentyl-4′-cyanobiphenyl, nematic, electrochemistry, orientational effects 7−26622
phenanthrene in methanol glasses, phosphoresc. quenching, time-depend rate const. 7−10648
photoformation of dielectric materials, review 7−53633
phthalocyanine metallomacrocyclic assemblies, [Si(Pc)O]$_n$, molecular metals, conduction props. 7−2585
poly(2,6-naphthoquinone) deposited film, time-separated two-step oxidation and electrochem. props. 7−22855
polyacetylene:K films, doping, redox potential studies 7−32475
polyacetylene, electrochemical oxidation, additive effects 7−65331
polyacetylene films, oxygen-exposed, IR transmission spectra 7−13181
polyamides, aliphatic, nonhomogeneous thermooxidative degradation during heat ageing *(Russian)* 7−28060
polyaniline, geometries, bond struct., electrochemistry, MNDO calcs. 7−15750
polyazulene, electrochem. and mag. props. 7−52929
polybis(pyrrolyl)phosphazene, synthesis and electrochemical oxidation 7−65315
polyethylene, oriented films, oxidation effects on dynamic and struct. parameters *(Russian)* 7−17823
polyethylene coatings, oxidation effect on adhesional strength *(Russian)* 7−8151
polyimide surface, in situ anal. of H,C,N and O using direct recoil time-of-flight technique 7−54242
polymers, plasma oxidation, rates and mechanisms 7−23065
polypyrrole:BF$_4^-$,O, dopant distrib., atom probe anal. 7−32480
polypyrrole, oxidation, atom-probe study 7−46822
polysilicon oxidation, appl. to double polysilicon devices 7−39774
polysilicon oxide, elec. cond. model 7−45526

oxidation continued
polysilicon thin films for VLSI, elec. props. 7−38789
polysilicon-SiO$_2$, surface texturing effect on SiO$_2$ cond. and breakdown 7−39773
polysilicon-SiO$_2$ interfaces, textured, electronic props. 7−38754
polysulphones, degradation and stabilisation, review 7−59652
polyvinyl formal, thermooxidation, dielec. props. rel. to chemical struct. 7−45927
porous material prep. from montmorillonite-α-naphthylamine complex, oxidation, struct. 7−27986
porphyrin coordination polymers, pyrazine-bridged, optical and conductive props. 7−2586
preoxidation procedures for high temp. alloys 7−5436
PVC-oligoesteracrylate, impulse NMR investig. *(Russian)* 7−5804
rapid thermal processing, conf., Boston, MA, USA (Dec. 1985) 7−14713
reactor steam generator pitting, electrochemical effects on Ni-base alloys 7−10228
rubber vulcanizates, natural and styrene butadiene, environment effect on friction and wear 7−8131
scale adhesion and growth mechanisms, S effect 7−65206
semiconductor surfaces, interaction with H$_2$ 7−58632
semiconductors, photoenhanced oxidation using UV radiation 7−39775
O′-β′-sialon ceramic composites, fabrication 7−64990
silicide coatings on Mo alloy, scale resist., influence of Fe and Be additions 7−22875
silicide oxidation, thermodynamics and kinetics 7−22863
spark discharge anodic oxidation layers and composites, appl. fields 7−65189
spiral waves in the Belousov-Zhabotinskii reaction 7−8271
steel, austenitic, Al-Mn, mech. props., oxidation and corrosion behaviour 7−65218
steel, austenitic, heat-resistant, carburisation, effect of scale constitution 7−33844
steel, austenitic stainless, bright annealed, selectively absorbing surface, oxidation prep. 7−8186
steel, austenitic stainless, corrosion in high temp. water containing both dissolved H and O 7−65177
steel, austenitic stainless, foil, air oxidation, Cr depletion, Mossbauer spectra 7−39702
steel, austenitic stainless, fusion reactor blanket material, oxidation and volatisation rates in air 7−53957
steel, austenitic stainless, high temp. sliding wear in CO$_2$ atm., effect of low conc. additions of O$_2$ 7−33806
steel, austenitic stainless, LWR cladding, oxidation in high temp. steam, LOCA appl. 7−727
steel, austenitic stainless, microbial pitting mechanism 7−39724
steel, austenitic stainless, N-containing, thermochemically produced, wear 7−17651
steel, austenitic stainless, oxidation state in divertor of Heliotron E plasma device, XPS obs. 7−17704
steel, austenitic stainless, oxide scales formed in CO$_2$ at 825°C, microstruct., influence of ion implantation 7−65196
steel, boronized low C, conversion electron and X-ray Mossbauer studies under corrosion and oxidation conditions 7−27632
steel, Cr-Mo, breakaway oxidation and internal cracking at 900°C, freq. anal. of AE signal 7−17718
steel, Cr-Mo, oxidation kinetics, breakaway oxidation and inversion phenomena 7−17714
steel, Cr-Mo, sintered, ageing and steam oxidation, effect of P 7−7930
steel, duplex stainless, sintered, mech. props., corrosion resist. and high temp. oxidation resist. 7−7928
steel, fatigue crack growth, influence of ambient environment 7−28107
steel, interface oxide growth in Magnox and AGR plant, assessment methods 7−59678
steel, ion implantation and thermal oxidation treatments for wear reduction 7−3481
steel, medium C, wear, influences of materials and operating parameters 7−8133
steel, mild and austenitic stainless, on-site oxidation monitoring in AGRs 7−59677
steel, oxidation studies using EELS and EDX in the TEM 7−17734
steel, Si-Al, Sb additions, effect on internal oxidation and mag. permeability 7−33206
steel, stainless, air exposure effects, mixed Fe-Cr oxide/hydroxide film form., XPS study 7−22878
steel, stainless, chemical compatibility with Li based oxide ceramic fusion breeders 7−49646
steel, stainless, CO and SO$_2$ adsorpt., kinetics and laser-stimulated surface oxidation 7−63958
steel, stainless, high temp. corrosion by oxidising gases *(Korean)* 7−8161
steel, stainless, oxidation and descaling behaviour, influence of annealing *(Japanese)* 7−59665
steel, stainless, oxide growth mechanisms and corrosion rate for types 405 and 409 7−13649
steel, stainless, type 302, ignition of bulk by laser heating 7−3516
steel, stainless SUS304, fretting props. in vac. environment, oxidative and adhesive wear 7−8122
steel, surface oxidation through laser beam treatment, oxide film struct. and wettability 7−8158
steel, wear-mechanism maps 7−22842
steels, oxidation performance of Magnox and AGR boiler materials in high press. CO$_2$ 7−59676
styrene-butadiene-styrene block copolymer, thermoxidative degradation kinetics, fission track study 7−39877
superalloys, hot corrosion processes, diffusion and overlayer coating struct. effects 7−53985
superalloys, oxide scale adherence rel. to Y addition 7−52615
surface friction layers, study by AES method *(Russian)* 7−59674
tetrafluoroethene+O$_2$, oxidation, laser photosensitised, chemiluminesc. 7−65328
thermal barrier coatings, thermomechanical oxidation fields, anal. 7−3505
thin films, interfaces and phenomena, conf., Boston, MA, USA (Dec 1985) 7−18502
vesicle bilayer membranes, oxidation-reduction mechanisms 7−13810
wear and boundary lubrication 7−13606
Zircaloy cladding, oxidation in air, 350-500°C 7−725
Zircaloy-4, oxidation under limited steam supply from 1000-1400°C, LWR accident anal. 7−53968
Zircaloy-4, oxide layer thickness anal. post-oxidation creep strain, effect of stress *(Korean)* 7−8160

oxidation continued

- Zircaloy-4 PWR fuel cladding, deformation, embrittlement and oxidation during LOCA 7—25036
- Ag electrodes, galvanostatic oxidation, relax. spectrum anal. 7—13788
- Ag specimen, contact resist. meas., deform., fretting effects 7—9848
- Ag-Sn, internal oxidation kinetics, influence of oxide particles density 7—13722
- AgCu powder, ultrafine, surface segregation of atoms during oxidation 7—54004
- $AgIn_5Se_8$ photoelectrodes, thermodynamic stability in electrolytes 7—54330
- Al, anodic films, double-refraction theory 7—39743
- Al, anodic oxidation coatings, electrolytic colouring, mag. field effects *(Japanese)* 7—59662
- Al coating on Rene 80 and pure Ni, high temp. oxidation, TEM obs. 7—28202
- Al foils, alumina form. by O_2^+ implantation, sheet resistance and XPS meas. 7—26780
- Al surface, O_2 adsorption, electron beam effects, AES and secondary electron emission studies 7—27835
- Al surface, plasma oxidised, adsorption of benzoic acid and benzaldehyde, SIMS and XPS 7—65351
- Al, surface oxidation, diffusion of Au atoms through oxide layers 7—8200
- Al-Al_2O_3 crystalline oxide tunnel barriers on superconductor surfaces, thermal oxidation 7—7448
- Al-Cu-Li, 2020, low-cycle fatigue, effect of environment and temp. 7—28117
- Al-Ga (1.0 wt.%), atmospheric oxidation in range 150 to 500 °C. 7—28197
- Al-Li(Mg)(Na)(Be), thermal surface oxide layers, SIMS characterisation 7—13650
- Al-Mg, 5052, oxide thin surface films, AES anal. *(Japanese)* 7—17723
- Al-Mg surface layers, electronic and atomic structs., heat treatment effects *(Russian)* 7—58575
- Al-Ni-Pt, high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7—53987
- Al-Sc (La)(Sm), oxidation kinetics 7—65190
- As (0001), laser pulsed oxidation modification 7—58320
- Au (110), clean and oxidised, adsorption and oxidation of CO and CO_2, surface reactions 7—59782
- Au-Si codeposited films, oxidation, SiO_2 form., alloy comp. depend. 7—13654
- $BaCuFe_{17}O_{27}$ W-type hexagonal ferrite, intermediate valency, oxidation annealing, magnetisation and neutron diffr. studies 7—7187
- Bi films, oxidation in air and superheated steam 7—46674
- Br_3^-, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7—52546
- C fibre reinforced C composites, oxidation inhibition by B_2O_3 7—8139
- C fibre reinforced C composites, oxidation protection by carbide incorporation 7—46671
- C fibre reinforced plastic, Young's modulus, effect of heating and environment 7—33720
- C fibre-epoxy composite, Ba labelled, XPS anal. 7—28163
- C, glassy, anodic oxidation of surfaces 7—46850
- C steel-cast Fe-Cr bimetal, interface bonding strength *(Korean)* 7—17618
- CN^-, oxidation at Pt electrode, polarisation modulation IRRAS 7—17836
- CO catalytic oxidation on Pt (110), kinetic oscillations 7—28346
- CO oxidation on Pt(100), kinetic oscillations, computer simulations 7—23061
- CO oxidation over shock-compressed ZnO powder catalysts 7—39919
- C_xSO_3F fibre intercalation cpds., enhanced elec. cond. 7—33927
- $CaFe_xMn_{1-x}O_{3-y}$ ferrites, microdomains, role in oxidation, reduction and annealing 7—46830
- Cd films, laser-assisted oxidation 7—65208
- CdS epitaxial films, initial oxidation stages, diffusion mass transport between CdO islands 7—8206
- CdS, oxidised, SIMS/XPS characterisation 7—39934
- CdS-$CuInSe_2$ thin-film solar cells, junction formation and O role, EBIC studies 7—17915
- Co, oxidation kinetics, laser control 7—28174
- Co, siliconisation using Si_2Cl_6 source by diffusion and CVD processes 7—17700
- Co surface, metal atom catalysed oxidation, UPS and AES studies 7—46865
- Co-Cr perpendicular recording media with oxidised surface layer, wear resistance 7—28185
- Co-Cr-Al-Hf(Y), high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7—53987
- Co-Cu, Y ion-implant, growing Cr_2O_3 film, obs. of coherent perovskite particles 7—39738
- CoCrAlY, sputter ion plated coatings for gas turbines 7—53971
- $Co_{80}Ni_{20}$ magnetic thin films, obliquely deposited, oxidation behaviour 7—65217
- CoSi (100), metal atom catalysed oxidation, UPS and AES studies 7—46865
- Cr films, thin polycrystalline sputtered, oxidation by CW CO_2 laser irradiation 7—13642
- Cr, metallic and surface-oxidised, H and D diffusion 7—6888
- Cr, NaCl-induced accelerated oxidation 7—17715
- Cr single crysts., surface and deeper layers, struct. changes due to laser irradiation 7—6937
- Cr-Te, thermodynamic anal. of oxidation process, partial sublimation of Te 7—8202
- Cs, oxidation, quantum size effect of conduction electrons 7—13643
- Cu (111)-Fe surface alloys, prep. and oxidation 7—22870
- Cu, anodic oxidation in Br^- and SCN^- solns., mechanism 7—52052
- Cu, anodic oxidation in KOH soln., in situ spectroelectrochemical anal. 7—28192
- Cu current collecting grid on Si solar cells, oxidation and spalling 7—22910
- Cu films, laser-assisted oxidation 7—65208
- Cu mirrors, Ag^+ implanted, laser oxidation and optical props. 7—5971
- Cu, oxidation kinetics, laser control 7—28174
- Cu oxide films, form. mechanism and struct. 7—33956
- Cu single crystals, corrosion fatigue in aq., oxide-forming environment, electrochem. response 7—65115
- Cu surface oxidation, ion-induced secondary emission target current meas. 7—59684
- Cu thin films, CW Ar^+ laser-induced oxidation 7—39694
- Cu-Al-Mg alloys, complex oxide form. and precipitate morphology *(Russian)* 7—33664

oxidation continued

- Cu-Fe (0.6 to 2.2 at.%), solid solns., decomp. processes, effect of O_2 *(Russian)* 7—33681
- Cu-Fe host-impurity system, O ion bombarded, internal oxidation, Mossbauer spectra studies 7—59131
- Cu-Mn dilute alloys, oxided formation, Auger lines relative intensities 7—17726
- Cu-Sn, ductility at elevated temps., effect of small amounts of B, P or Mg 7—53904
- CuBe, oxidised, secondary electron emitters, AES and ESCA studies *(Chinese)* 7—54238
- $CuIn_5S_8$ photoelectrodes, thermodynamic stability in electrolytes 7—54330
- $CuInSe_2$, pH effects on surface properties 7—23201
- $Cu_xMo_6S_8$, Chevrel cpd., oxidation study 7—3473
- Cu_3Si, oxidation, XPS and Auger spectra 7—22899
- CuSnBe bronze sheets, lamination investig., Auger and photoelectron studies *(Russian)* 7—13628
- $ErSi_2$, behaviour under ion bombard. and O exposure, AES, EELS 7—33506
- Fe (100) 7—8154
- Fe (100) with surface C, gasification by O, CO desorption 7—6993
- Fe (110), clean and O-covered, struct., surface extended energy loss fine struct., spectra obs. 7—12481
- Fe acicular particles, oxide layer morphology and mag. props. 7—52067
- α-Fe, disperse reduced, oxidation, effect of additions 7—22888
- Fe, metal surfaces immersed in liquid media, pulsed laser oxidation and nitridation 7—59656
- Fe, oxidation, multilayer scale form. 7—33838
- Fe, oxidation, twinning and precipitation reactions 7—17733
- Fe, oxygen corrosion in neutral aerated sulphate solns., dynamic systems analysis *(German)* 7—8192
- Fe, reaction with HCl-O_2-Ar mixtures at 550°C 7—17713
- Fe, surface, H_2 and N_2 interactions, pulsed laser atom probe studies 7—32811
- Fe thin films, stress development during oxidation 7—45096
- Fe/Fe oxide passive film interface composition and growth, atom probe depth profiling anal. 7—32869
- Fe/H_2O interface, pulsed-laser-induced reactive quenching, FeO metastable phase form. studies 7—45005
- Fe-Al, al alloying for oxidation resist. improvement, comparison between ion implantation and laser irrad. 7—22883
- Fe-B (15 at.%), amorphous powder and strip, struct., mag. props., thermal stability *(Russian)* 7—63470
- Fe-Cr, high temp. oxidation, effect of various amounts of Ce and CeO_2 7—53945
- Fe-Cr, high-temp. air corrosion products, distrib. and charactn. by Raman microscopy 7—65205
- Fe-Cr, thin oxide film form., XPS study 7—22898
- Fe-Cr (3 wt.%), oxidation behaviour 7—17716
- Fe-Cr alloy, oxide film form., FTIR reflectance spectroscopy characterisation 7—46043
- Fe-Cr alloy films, oxide film form. by aqueous corrosion, EXAFS study 7—64007
- Fe-Cr surface oxide scales, XANES 7—65193
- Fe-Cr-Al alloys, Al_2O_3 scale growth 7—65214
- Fe-Cr-Mo, oxidation, boric acid coatings effect 7—65197
- Fe-Cr-Mo (9,1 wt.%), initiation of breakaway oxidation in high press. CO_2 atm. 7—33845
- Fe-Cr-Mo-Mn-C-P, sintered, ageing and steam oxidation, effect of P 7—7930
- Fe-Cr-Ni-Al-Si-Mn, oxidation from 700 to 1000°C 7—65207
- Fe-Cu-P, sintered, ageing and steam oxidation, effect of P 7—7930
- Fe-graphite diffusion chromised materials, high-temp. interaction in hydrogen 7—17671
- Fe-Nd-B-Al sintered magnets, TEM studies 7—51999
- Fe-Ni, thin oxide film form., XPS study 7—22898
- Fe-Ni (36 at.%), Invar, oxidation, effect of annealing conditions 7—28167
- Fe-Ni-Cr, oxidation, TEM study, nonprotective oxide growth 7—8180
- Fe-Ni-Cr, oxidation study, protective oxide growth 7—8179
- FeCrAlY, Al_2O_3 adhesion mechanism 7—33843
- FeCrAlY coatings, ion-implanted, oxidation behaviour 7—53974
- $(Fe^{3+}{}_{2-2x}Fe^{2+}{}_{1+x}Ti^{4+}{}_x)O_4{}^{2-}$, submicron synthetic titanomagnetites, oxidation products, IR spectra 7—27716
- $Fe_{3-x}M_xO_4$ (M=Ti, Cr, Mn, Al), substituted magnetite, reactivity in O_2, relation with cation distrib. *(French)* 7—46829
- $Fe_{1-x}Ni_x$ bulk melts, containerless undercooling, solidification 7—26916
- $Fe_{50}Ni_{50}$ alloy foils, N_2^+ implantation, oxidation behaviour, conversion electron Mossbauer spectra study 7—22877
- $Fe_{40}Ni_{40}P_{16}B_4$, amorphous and crystallised alloys, surface oxidation behaviour 7—59666
- $Fe_{50}Ni_{25}Pd_{25}$, surface oxidation, X-ray Lα,β emission spectra studies 7—13265
- $Fe_{70}Ni_8S_{10}B_{12}$, amorphous and cryst. states., oxidation *(Russian)* 7—53993
- $Fe_{1-x}O$, double electron exchange, Mossbauer spectroscopy 7—17168
- FeOOH, poorly-ordered precursors, local struct., EXAFS studies 7—63577
- $Fe_{0.74}Tb_{0.26}$, amorphous, oxidation 7—65192
- GaA (110), oxidation, photoemission spectra studies 7—3147
- GaAs (100), chemical etching and oxidation, XPS characterisation 7—21591
- GaAs (100), oxidation 7—59703
- GaAs (110), adsorption of O_2, confirmation of two-step uptake model 7—2355
- GaAs (110), chemisorption of O_2, photoemission evidence for surface growth 7—2356
- GaAs, doped, oxidation, in situ TEM obs. 7—28215
- GaAs, laser-enhanced oxidation, X-ray photoelectron and Auger electron spectroscopy 7—17739
- GaAs, laser-induced melting and nonlinear optical studies 7—12432
- GaAs, surface oxidation, effect of anodizing conditions 7—13669
- GaAs surface oxidation, AES, XPS and ellipsometry studies 7—22927
- GaAs(100) surface, oxidised, interface with Ni, effect of O on diffusion and compounding 7—21539
- GaInAs, anodic oxides, growth and composition 7—39781
- Gd-Co films, amorphous, spontaneous spin-reorientation transition *(Russian)* 7—45763
- GdTbFe, corrosion resistance improvement by metal coatings 7—53952
- Ge surface, GeO stabilisation on laser irrad., X-ray photoelectron spectra anal. 7—46723
- Ge-GeO_2, defect formation, during thermal oxidation 7—65237
- Ge-GeO_2, symmetry forbidden Raman scatt. from (100) oxidised surfaces 7—46002

oxidation continued
- a-$Ge_{30}S_{70}$ films, irreversible photobleaching 7–17353
- $Ge_{40}S_{60}$, amorphous film, photoinduced bleaching 7–13618
- H_2 generation from optical fibre cable materials 7–11170
- Hf_2Co, surface oxidation, XPS 7–8184
- HgCdTe anodic oxide surface analysis by laser ionisation 7–13275
- $Hg_{0.78}Cd_{0.22}Te$, stoichiometry of anodic oxides, quantitative meas. 7–39782
- $Hg_{1-x}Cd_xTe$ MBE layers, plasma oxidation, oxide growth, comp. and surface struct. 7–54018
- I_3^-, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7–52546
- In surface oxidation, ion-induced secondary emission target current meas. 7–59684
- In-glass, glow discharge induced changes 7–12577
- InAs (110), oxidation, correlated changes of electronic surface props. 7–2354
- InP (110), oxidation, photoemission spectra studies 7–3147
- InP (111), chemically polished and etched, characterisation of native oxide layer, ion scatt. spectra, AES, ESCA 7–22925
- InP, field assisted plasma grown oxide 7–39772
- InP, laser enhanced low temp. oxidation, dissociation of N_2O 7–39780
- InP MIS structures, prep. by RF plasma oxidation, interface elec. props. 7–2731
- InP(As)(Sb) surfaces, oxidation processes studied by high-resolution electron microscopy 7–39766
- $In_{2-x}Sn_xO_{3-y}$ sputter deposited, elec. cond., oxidation resistant coatings for spacecraft applic. 7–22866
- Ir complex, $(Ir(CO)_2$4,4′,5,5′-tetracyano-2,2′-biimidazole$)^-$, anisotropic conductor, phys. props. 7–7242
- K_2O-Ga_2O_3-SiO_2-Al_2O_3-Fe_2O_3-FeO melts, struct. role of Fe^{3+}, Ga^{3+}, Al^{3+}, Fe redox ratio 7–26635
- La, oxidation kinetics 7–65190
- Li_2HfF_6, hyperfine interactions, temp. depend. 7–12679
- $Li_x^+(NH_4^+)_y(NH_3)_zTiS_2^{(x+y)-}$ intercalation cpd., NH_3 oxidation, charge compensation 7–32354
- Li_2ZrF_6, hyperfine interactions, temp. depend. 7–12679
- Mg thin films, initial oxidation stages, emission phenomena 7–13629
- MgO (001), initial stages of Cu deposition, EELS 7–63959
- Mn/GaAs interface formation on clean and oxidised (110) surfaces 7–45029
- Mo (100), chemically modified by adsorption of B, C, O, CO, surface atom oxidation states, ESCA meas. 7–28333
- Mo porous electrodes for alkali metal thermoelec. convertor, voltammetric studies 7–28405
- MoO_x, oxidation and heat of formation 7–65156
- MoS_2, surface chemistry and props., photoemission, SIMS and SEM anal. 7–44971
- $NH_4Fe_2F_6$, topotactic oxidisation for FeF_3 synthesis 7–17396
- Na surface, interaction with O_2, photoemission and Auger studies 7–17063
- Nb-Al_2O_3, high temp. interactions, X-ray diffr., DTA studies 7–8259
- Nb-Cr_2O_3, high temp. interactions, X-ray diffr., DTA studies 7–8259
- Nb-Mo-Zr alloy, protective props. of thermodiffusion Mo-B-Si coating 7–8156
- Nb-NbO_x-PbInAu, Josephson tunnelling current depend. on normal state tunnelling resist. 7–22073
- Nb-NbO_x-PbInAu Josephson junction fabrication by ion beam oxidation 7–22074
- Nb-Y_2O_3, high temp. interactions, X-ray diffr., DTA studies 7–8259
- NbSe single crystals, vapour transport growth, superficial charactn., AES 7–46253
- $NbSi_2$-$MoSi_2$ composite silicide coatings, oxidation resistance 7–65155
- Ni alloys, thin oxide films for H barriers, growth study 7–2434
- Ni films on Mo or Cu surfaces, out-diffusion through Au overlayers 7–12511
- Ni, oxidation, EELS studies 7–3128
- Ni, oxidation, oxide epitaxy depend. on growth temp., LEED, AES, ellipsometry studies 7–22869
- Ni silicides, oxidation, catalytic effect of near-noble metal on Si oxidation 7–3545
- Ni, siliconised layer form. by diffusion and CVD, oxidation and corrosion resist. 7–59659
- Ni, surface oxide struct., XANES study 7–64771
- Ni:B, ion implanted, high temp. oxidation, defect diffusion 7–33846
- Ni-Al alloy, oxidation studies using EELS and EDX in the TEM 7–17734
- Ni-Al dilute alloys, oxide growth and microstruct. at high temp. 7–17735
- Ni-B based electrochemical coatings, heat resistance, oxidation 7–3499
- Ni-base superalloy, oxidation in steam at 800°C, role of Al and Ti 7–65203
- Ni-base superalloys, fatigue endurance at high temps., influence of struct. and surface oxidation 7–59626
- Ni-base superalloys, single cryst. and directionally solidified, oxidation in air at 1093 °C 7–65179
- Ni-Cd cells, O_2 recombination rate on plastic-bonded Cd electrode doped with $Ni(OH)_2$ 7–54287
- Ni-Co-Cr-Al-Y coatings, electron beam deposition, oxidation rel. to pretreatment 7–46702
- Ni-Cr, oxidation, laser surface treatment and its influence on development of healing Cr_2O_3 scales 7–65204
- Ni-Cr (1 wt.%), internal oxidation, two-phase region form. kinetics in diffusion zone *(Russian)* 7–46497
- Ni-Cr-Al (20, 12.5 wt.%), coatings containing dispersed oxides, high temp. oxidation 7–33842
- Ni-Mo (6 at.%), oxidation, ESCA study 7–22897
- Ni-Mo-B(P), metallic glasses, depth-composition profile, X-ray photoelectron study 7–63928
- Ni-P, glassy, dissolution in H_2SO_4 and HCl electrolytes 7–28189
- Ni-Si-Mg, high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7–53987
- NiAl, high temp. oxidation, alumina scales, markers and tracer anal. 7–17724
- NiAl single crystal, surface oxide softening 7–39751
- Ni_3Al-B, elevated temp. ductility, effect of testing environment 7–39614
- Ni_3Al-B, with and without Hf additions, dynamic embrittlement at 600°C 7–65112
- NiAlCrY, high temp. oxidation, alumina scales, markers and tracer anal. 7–17724
- NiAlY alloys, alumina scale growth mechanism, ^{18}O tracer study 7–33840

oxidation continued
- NiCoCrAlY, plasma sprayed coatings, low cycle fatigue behaviour 7–22793
- $Ni_{66}Cr_{34}$ alloy, plastic strain rate difference with Cr_2O_3 oxide *(French)* 7–17682
- NiCrAlTi, sputter ion plated coatings for gas turbines 7–53971
- NiCrAlY, Al_2O_3 adhesion mechanism 7–33843
- $Ni_{60}Fe_{40}$ (100), initial oxidation and sulphidation, LEED study 7–58641
- NiO (100), adsorption of CO, ethylene and H_2O, surface reactions 7–23055
- $O_2+B(BO)$, gas-phase oxidation, rate consts., fluoresc. and chemiluminesc. study 7–22985
- P content of seawater, determ. method involving nitrate oxidation 7–4227
- p-Si:As oxidation in HCl ambient, impurity pile-up, bubble pattern form. and local oxide bowing 7–13675
- Pb-In-Au fine-grained codeposited alloy films, RF plasma oxidation 7–53970
- Pb-Pt composite films oxidation, KPS 7–27867
- $PbTi_xZr_{1-x}O_3$ piezoceramic, annealing in gaseous media with controllable comp., effect on electrophysical props. 7–8012
- Pd (111), CO and O co-adsorption, SIMS and TPD studies 7–27137
- Pd dilute alloys, internal oxidation of impurities, XAS study 7–63633
- Pd-Rh, high temp. air oxidation, surface comp., AES 7–22891
- Pd_3Th, impurity internal oxidation, EXAFS 7–17360
- PrO_x-$DyO_{1.5}(YO_{1.5})$ solid solutions, phase diagrams and variable valency 7–33642
- Pt anode in fuel cell, performance in presence of CO and CO_2, CO poisoning adsorption parameters calc. 7–13855
- Pt, oxidation, EELS studies 7–3128
- Pt-Zr internally oxidised alloys, morphology, struct. and stability *(Russian)* 7–33687
- Pt_3Sn oxidation at low pressure, AES, ESCA, ISS study 7–17725
- Pt_3Ti (111), chemisorption of CO and O_2 7–27131
- Ru complex, Creutz-Taube complex with HUO_2PO_4, synthesis, struct. and oxidation, IR and X-ray spectra anal. 7–46840
- S adsorbed on Pd(111), adsorbate oxidation kinetics *(German)* 7–33953
- SO_2, O_3-induced oxidation to aqueous sulphate in warm cloud conditions 7–54114
- Sc, oxidation kinetics 7–65190
- Si (100), oxidation enhancement by Ce overlayers, $CeSiO_3$ formation 7–28226
- Si (100), static mode ion sputtering, bond breaking and atom ionisation 7–13306
- Si (111), Ag and Au overlayers, room temp. oxidation behaviour, XPS study 7–13676
- Si (111), atomic-level surface features studied by an electron-microscopic technique 7–6939
- Si (111), metal atom catalysed oxidation, UPS and AES studies 7–46865
- Si (111), thermal oxidation, initial stages, AES, LEED and photoelectron spectra studies 7–3543
- Si (111) with adsorbed Cs or Na, oxidation 7–54025
- Si (111) with oxidised Cr overlayer, $CrSi_2$ formation and reduction of Cr_2O_3 during annealing 7–58660
- Si (5×5) surface reconstruction, stability against native oxide form. obs. 7–2318
- Si buried oxide form. mechanisms by ion implantation 7–44580
- Si, defects and device processing, achievements and limitations 7–32428
- Si, electron stimulated oxidation, surface effects, macroscopic continuum model 7–65236
- Si float zone wafers, interstitial form. during thermal oxidation, effect of HCl 7–39789
- Si, growth of SiO_2 films, annealing by lamp heating 7–22930
- Si, kinetics of growth of SiO_2 layer, optical props. 7–17740
- Si, laser oxidation, electrophysical parameters of films produced 7–17741
- Si light-enhanced oxidation, hot electron injection, electron population depend. study 7–46720
- Si, low temp. oxidation studies, internal stress 7–33864
- Si, low-energy ion beam oxidation, appl. to n-channel MOSFET fabrication 7–3529
- Si MOS structures, anodically and thermally grown, breakdown field strengths 7–17113
- Si materials science and technology, conf., Boston, MA, USA (May 1986) 7–29598
- Si, oxidation, catalytic effect of near-noble metal 7–3545
- Si, oxidation, dissolved oxygen concentration effects 7–54016
- Si, oxidation, EELS studies 7–3128
- Si, oxidation, growth mechanism of thin oxide films 7–65235
- Si, oxidation, kinetics of ultrathin SiO_2 growth 7–8204
- Si, oxidation, linear regime analysis, film thickness 7–46729
- Si oxidation, Si/oxide interface struct. 7–65231
- Si, oxidation, stress relax. model 7–65229
- Si, oxidation, stresses and defects 7–65230
- Si, oxidation, surface layer defect formation 7–46733
- Si, oxidation, transport processes 7–65232
- Si, oxidation, transport processes 7–65233
- Si, oxidation, trap generation by avalanche electron injection, HCl effects 7–3531
- Si, oxidation, UV laser-induced 7–65234
- Si, oxidation 7–65227
- Si, oxidation and epitaxy, limited reaction processing 7–22577
- Si, oxidation in Cl containing ambients, impurity distrib. in resultant SiO_2:Cl films 7–26787
- Si, oxidation kinetics, quantitative model 7–33863
- Si oxidation models calcs., oxide thickness time depend. and stress effects 7–22916
- Si, oxidation of damaged surfaces, precipitation at stacking faults 7–38313
- Si, oxidation stacking faults, shrinkage during O_2/NF_3 oxidation 7–22913
- Si, oxidative packing defect form. during high temp. annealing 7–44522
- Si, oxide growth, rapid thermal processing 7–22929
- Si, oxide growth by rapid thermal oxidation 7–22922
- Si, photo-oxidation under ArF excimer laser irradiation in O_2+NF_3 gas mixture 7–13658
- Si, photon enhanced oxidation mechanisms 7–54032
- Si, plasma assisted oxidation below 800°C 7–39783
- Si, plasma etching, oxide breakdown due to charge accumulation 7–17743
- Si, polished plate, kinetics of oxidation in air 7–13666
- Si, porous, oxidation, 2D model 7–39791

oxidation continued
Si porous amorphous sputtered films, oxidation, IR spectra studies 7—3532
Si porous layers on p-substrates, oxide form. rel. to SOI struct. realisation 7—39771
Si, pyrogenic oxides, carrier trapping and breakdown, rel. to H_2O partial press. 7—64267
Si, rapid thermal and furnace oxide growth, meas. and modelling studies 7—13677
Si, rapid thermal oxidation and nitridation 7—33861
Si, reactive sputter etching, damage removal methods 7—17742
Si SOI technology, two-step oxidation technique on MBE film 7—22912
Si, single crystal wafers, rapid thermal processing 7—22928
Si substrate, insulator growth by rapid thermal processing 7—22921
Si surface, 100, in situ anal. of H, C, N and O using direct recoil time-of-flight technique 7—54242
Si surface, air exposed, air-resolved X-ray photoelectron spectroscopy 7—27863
Si, thermal oxidation, cryst. orientation effects 7—3534
Si, thermal oxidation, effects of $GeCl_4$ 7—65238
Si, thermal oxidation, growth of very thin films 7—33850
Si, thermal oxidation, low-temperature 7—39765
Si, thermal oxidation, point defect kinetics modelling 7—13673
Si, thermal oxidation, UV light stimulated 7—59687
Si, thermal oxidation 7—65228
Si, thermal oxidation in dry O_2, 2D anal. *(Japanese)* 7—33859
Si, thermal oxide growth conditions 7—39790
Si, thermal SiO_2 growth kinetics model 7—8207
Si, trench etching technique, ultrafine, using multi-step processing 7—54030
Si wafers, pre-oxidation treatment, appl. of UV radiation 7—33862
Si:As, high dose implanted, defect density reduction by low temp. oxidation 7—58297
Si:As(P)(B)-SiO_2 interface, segregation, transport coeffs. of impurities 7—63880
Si:As(Sb)(In), heavily doped, laser induced oxidation 7—13672
Si:B, implant redistribution during high pressure oxidation, SIMS and C-V meas. 7—27020
Si:B(P), lateral diffusion, modeling LOCOS effects 7—33865
Si:F, implanted, dry oxidation kinetics, impurity effects 7—13667
a-Si:H films, contact potential difference, surface photovoltage and conductivity 7—58855
Si:N, oxidation-inhibiting behaviour after N implantation, thermogravimetric anal. 7—59697
Si:N_2^+, N_2^+ implantation, local inhibition of oxidation 7—59688
Si:O_2^+, Si on insulator structs., amorphous and crystalline oxide precipitates 7—13655
Si:P(As)/SiO_2 interface, oxidation rates and oxide props., dopant effects determ. 7—12514
Si:Sb, dry oxidation retarded impurity diffusion, SIMS meas. and numerical simulations 7—27014
Si/a-SiO_2/ZrO_2-Y_2O_3, SOI system fabrication, charact. 7—22025
Si/Al, oxidation by microwave excited O_2+N_2 mixture plasma *(Japanese)* 7—65198
p-Si/Al Schottky barriers, Ar^+ implantation damage, oxidation, etching and elec. props. 7—21290
Si/SiO_2, two-step oxidation of thin gate oxides, trapping characts., hot electron effect study 7—64351
Si/SiO_2 system, dielec., elec. and struct. props. 7—7040
Si/SiO_2 system, two-step oxidation and interface structs. 7—3542
Si-based structural ceramics, high-temp oxidation 7—39681
Si-Fe, ion implanted, channeling/RBS studies 7—2039
Si-P, dopant redistribution during high pressure oxidation, four-point probe meas. 7—27020
Si-SiO_2, interface trap annealing, rapid thermal processing 7—22027
Si-SiO_2, MBE SOI formation, Auger study 7—32876
Si-SiO_2, new donors effect, interface effect due to internal oxidation 7—33093
Si-SiO_2, Si oxidation kinetics, interface width determ. 7—39764
Si-SiO_2, symmetry forbidden Raman scatt. from (100) oxidised surfaces 7—46002
Si-SiO_2 interface, ESR signal from P_{b0} centres, anisotropic props. 7—38940
Si-SiO_2 interface formation by catalytic oxidation using adsorbed alkali metals 7—54017
Si-SiO_2 interface roughness, evolution, characterisation 7—32852
Si-SiO_2 structs., low and high temp. oxidised, inversion electron mobility study 7—22019
SiC (0001) and (000$\bar{1}$) surfaces, oxidation kinetics 7—33854
SiC, corrosion pitting by molten salts 7—59695
SiC, polycryst., oxidation 7—28159
SiC refractory materials, passive oxidation 7—13612
βSiC single cryst., wet and dry oxidation kinetics and interface characts. 7—13674
SiC, single crysts. and polycrysts., oxidation kinetics in dry O_2 7—39683
SiC-based materials, high-temp. oxidation 7—65161
Si_3N_4 powders, high press. not pressing, mech. props., thermal cond. temp. depend. 7—3231
Si_3N_4-SiC reaction sintered ceramics, oxidation effect on strength 7—65163
Si_3N_4-Y_2O_3, hot pressed, fracture, flexural strength, temp. degradation 7—13546
Si_3N_4-ZrO_2 composites, thermal instability 7—28158
Si_xN_4 film form. and charact., ion and vapour deposition method 7—13370
SiO, oxidation, UV laser-induced 7—65234
SiO_2 deposition by photo-initiation 7—59454
SiO_2, hot carrier trapping characts., effect of post-oxidation annealing 7—64268
SiO_2 on polysilicon, thermally grown, elec. cond. and breakdown props. 7—45508
SiO_2 thermally grown on Si substrates, breakdown and defects studies 7—33104
SiO_2 thin films, growth by microwave-excited plasma 7—59458
SiO_2 thin films in MOS capacitors, wear-out charactn., processing depend. 7—38756
SiO_2, thin thermal dielectric, breakdown susceptibility, correlation with process dependent charge trapping 7—33333
SiO_2 ultrathin films, intrinsic breakdown characts. 7—64571
SiO_2:B(P), thermally grown, diffusion of ion-implanted dopants 7—38041
SiO_2:Cl, ion implanted, Cl ion redistrib., SIMS studies 7—21249

oxidation continued
SiO_x, amorphous, photoassisted oxidation 7—46662
SiO_x, corrosion protective coatings on Ni-Cr Inconel alloy 7—39754
$Si_{1-x}Sn_x$ amorphous alloy films, low-temperature oxidation *(Japanese)* 7—46699
Sm, oxidation kinetics 7—65190
SnSe, high temp. oxidation mechanism 7—3536
Ta-Ir alloy, amorphous, rapidly solidified, high temp. oxidation 7—33841
$Ta+SiO_2 \rightarrow Ta_2O_5+Si$, redox reaction induced by shock loading 7—59763
$TaSi_2$ and Ta_2Si surfaces, oxidation oxide stability 7—39685
$TaSi_2$/polycrystalline Si structures, oxidation, dopant effects 7—39686
$TaSi_2$/Si films, oxidation characts. in steam 7—54031
TbCo sputtered films, mag. and magneto-optic props., stability 7—53076
TbFeCo/dielectric interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7—12513
TeO_x:Ge,Sn films, optical props., thermal stability 7—39207
Th_3N_4 and ThN, prep. and oxidation behaviour 7—22600
Ti and Ti-Al(Si)(Cr) alloys, oxidation behaviour, role of N 7—28198
Ti, anodic and cathodic polarisation, surface oxide films, ellipsometric anal. *(Japanese)* 7—33828
α-Ti, commercial purity, oxidation 7—17717
Ti epitaxial films, electron beam bombardment, oxidation, structural and phase transforms. 7—21746
Ti film on Si, heat treatment in O_2, N_2 or O_2/N_2, Ti silicides, TiO and TiN formation 7—65191
Ti, metal surfaces immersed in liquid media, pulsed laser oxidation and nitridation 7—59656
α-Ti, mutual interactions of O and H during heat treatment, diffusion coeffs. meas. 7—39549
Ti, oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
Ti polycrystalline films, electron beam bombardment, recrystallisation, oxidation and phase transforms. 7—21746
Ti, reactively sputtered coatings, oxidation, XPS and contact resistance meas. 7—53934
Ti-Al-V-Mo-Cr alloy, VT23, gas impregnation influence in heat treatment, rapid heating effect 7—17696
Ti-Si, oxidation between 550 and 700°C 7—65202
TiAlN coatings, sputter ion plating, struct. and protective props. 7—53976
TiB_2-Mo electrospark coatings on steel, form. kinetics and high-temp. oxidation 7—65210
TiB_2-MoB base electrode materials for elec. spark alloying 7—28205
TiC-WC-TaC-Co hard metals, Ta conc. effect on comp. and physicomech. of carbide and Co phases 7—53708
TiC-WC-TaC-Co three-phase sintered carbides, Ta content influence on struct. and props. 7—65097
TiFe, oxidised, bulk and surface phase composition 7—46700
TiN_x, reactively sputtered coatings, oxidation, XPS and contact resistance meas. 7—53934
TiNb oxide electrodes, photoelectrochemical characts., zero point of charge effect on flat band potential and O_2 evolution 7—33943
TiO_2 photoanode thickness effect on quantum yield of photoelectrolytical cells 7—40018
TiO_2-redox polymer detector junctions, flatband pot. meas. 7—13787
$TiSi_2$, oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
U surface oxidation, substoichiometric oxide form., AES and XPS studies 7—46714
U-Si compounds, oxidation, XPS studies 7—54007
U-Ti (0.75 wt.%), oxidation in O_2/H_2O environments, 140°C 7—59669
UNiAl, surface segregation behaviour 7—33519
UO_2 (111) surface, oxidation investig., U_3O_8 form., X-ray studies 7—3474
UO_2 operating fuel elements, short-lived fission product release under oxidising conditions 7—785
UO_2, oxidation by high pressure steam, H_2 source in reactor accidents 7—25143
UO_2 thin films form by oxidation, luminesc. studies 7—22351
UO_{2+x}, pure and cation doped, elec. conductivity, O potentials, defect structures 7—12718
V complex, vanadium(III)bis(2,2′-bipyridyl) chloride-Fe(III) system, photogalvanic effect 7—54145
V films, laser-induced oxidation kinetics 7—59681
V, IR laser induced oxidation obs. 7—65215
V, oxidation in moist He coolant gas 7—53963
V, oxidation on heating in air, alloying elements influence 7—17687
V-Cr-Ti, fusion reactor blanket, surface alloying, oxidation resist. to high temp. He coolant 7—53964
V-Cr-Ti, fusion reactor first wall, oxidation and volatility 7—53965
V-Cr-Ti, V-Cr, oxidation in moist He coolant gas 7—53963
V-Mo-Zr-C, V-Nb-Zr-C and V-Zr-C alloys, oxidation on heating in air, alloying elements influence 7—17687
W LPCVD film thickness depend. on native oxide thickness 7—17473
W, oxidation, normal spectral emissivity meas., 800-1000K 7—26988
Y-Pd-Fe(Co)(Ni), intermetallides, interaction characts. and props. 7—46414
YNiAl, surface segregation behaviour 7—33519
Y_2O_3, Al_2O_3 coatings on Ni-based superalloy, appl. as high temp. protective coatings for gas turbines 7—46695
$ZnGa_2S_6$, thermal stability in air 7—22914
$Zn_3In_2S_6$ and Zn_3GaInS_6, thermal stability in air 7—22914
ZnO (10$\bar{1}$0), initial stages of Cu deposition, EELS 7—63959
Zr, effect of Ar ion beam mixing *(Chinese)* 7—53997
Zr-Ni dil. alloy, Auger electron anal. of oxides 7—22907
$Zr_{70}Au_{30}$, spontaneous oxidation in air, effect of humidity, pulverisation 7—3510
$Zr_{76}Fe_{24}$, metallic glass, interaction of O, XPS study 7—39350
ZrNiAl, surface segregation behaviour 7—33519
ZrO_2, Y_2O_3 partially stabilised, hot isostatic pressing, high temp. mech. props. 7—28082

oxide coated cathodes
see also thermionic electron emission
surface composition and property changes 7—13318

oxide isolation technology *see integrated circuit technology; semiconductor technology*

oxygen
see also nuclei with ......
Si:O, heavily doped, SIMS meas. of O conc. 7—17388
abundances calibration in extra galactic H II regions, line ratios modelling 7—40903
abundances in nebulae, far-IR emission-lines anal. 7—40722

oxygen continued
acetylene-O_2, flame, temp. and OH-conc. profile, IR spectroscopic determ. *(French)* 7–25513
active galactic nuclei, narrow emission line region o III 500.7 nm forbidden line 7–40933
adsorbate on a-Si_xC_{1-x}:H films, influence on conductance 7–33115
adsorbate-induced surface-phonon softening on Pt (111) 7–58600
adsorbed layer on Ni (110), struct. anal., low energy ion recoil spectra study 7–2384
adsorbed on Ag (110), adsorption and reaction of acetonitrile 7–28344
adsorbed on Ba covered Cu, XPS and UPS studies 7–2373
adsorbed on Cu (110), adsorbate induced reconstruction, XANES 7–53447
adsorbed on Cu (110) and polycrystalline surfaces, UPS, XPS, AES, EELS, LEED studies 7–32820
adsorbed on different Cu surfaces, reaction with CO and H_2 7–59784
adsorbed on Fe, Ni and Cr, effect on surface magnetism 7–58973
adsorbed on graphite, positronium formation 7–33483
adsorbed on MgO, atomic and mol. beams, induced luminesc. 7–13231
adsorbed on Ni, clean and Ba covered, XPS and UPS studies 7–2373
adsorbed on Ni (100), effect on N_2O adsorption and decomposition 7–58644
adsorbed on Pt (111), surface phonon dispersion, inelastic atom scatt. meas., lattice dynamical calcs. 7–52226
adsorbed on Pt (111) and Ni (100), p(2×2) structures, surface phonons, bond-stretching interactions 7–21607
adsorbed on Rh (111), ion bombarded, desorbed atoms distributions 7–22420
adsorbed on W (100), diffuse LEED intensity meas. 7–1823
adsorbed states on Pd (110), EELS and LEED study 7–27115
adsorption and desorption on Sn-Sb_2O_3 catalyst kinetics 7–63944
adsorption of O_2 on Pd (110) at 300K, LEED and EELS studies 7–27093
adsorption on Al surface, electron beam effects, AES and secondary electron emission studies 7–27835
adsorption on alkali metal covered GaAs (111) surface 7–63957
adsorption on amorphous Ni_3B, surface electronic struct. 7–7308
adsorption on Ar^+-sputtered MoS_2 (0001), LEED, AES, EELS, and work function studies 7–52275
adsorption on Cr (110), dissociative chemisorpt. studies 7–2377
adsorption on Fe-based amorphous alloys, ion bombardment effects 7–21637
adsorption on GaAs, UPS 7–59371
adsorption on GaAs (110), confirmation of two-step uptake model 7–2355
adsorption on GaAs (110), electronic props., contact pot. meas. 7–2353
adsorption on Mo (100), surface atom oxidation states, ESCA meas. 7–28333
adsorption on Mo (110), temperature-related aspects 7–12464
adsorption on Na, photoemission and Auger studies 7–17063
adsorption on $Ni_{60}Fe_{40}$ (100), LEED study 7–58641
adsorption on Ni (001) and (110), He diffr. results 7–7809
adsorption on Ni (100), X-ray induced secondary electron emission 7–27866
adsorption on Ni (110), electron stimulated ion desorption O^+ yield meas. 7–12487
adsorption on Ni (110), surface phases, absolute coverages 7–12486
adsorption on Pd (110) surface 7–52274
adsorption on Pd (111), EELS and LEED studies 7–2378
adsorption on Ru (001), TDS, AES, EELS, work function meas. 7–58637
adsorption on Si (100) 7–63962
adsorption on Si surface, orientation depend., AES and photoelectron spectra 7–52237
adsorption on stepped Faces of Cu (110) 7–27132
adsorption on Ti_4Fe_2O, AES study 7–59312
adsorption on TiFe, AES study 7–59312
adsorption on TiNi, AES study 7–59312
adsorption on W (110) and (100), low temp. adsorpt. kinetics and weakly-bound states, molecular beam technique studies *(Russian)* 7–16871
adsorption onto Ag thin film, resist. increase, surface roughness effects calcs. 7–45519
adsorption states on W (112), arrangement and thermal stability 7–6975
adsorption with Ba on Mo (100), electron spectroscopy for quantitative anal. 7–13278
adsorption with O on Mo (100), electron spectroscopy for quantitative anal. 7–13278
Aegean arc, recent magmatism, geodynamics and isotope geochemistry 7–23589
ambient pressure, effect on secondary ion emission 7–64859
antiprotonic atom, 4f strong interaction level width 7–31191
atmosphere, dayglow, due to $^1\Sigma$ state band system 7–34760
atmosphere, O_2 molecular photodissociation and Herzberg continuum 7–34757
upper atmosphere, O ^1S state production by O_2^+ dissociative recombination in thermosphere 7–34759
upper atmosphere, O I UV dayglow emissions 7–60438
upper atmosphere, O isotope composition, deep-sea spherule evidence 7–9441
atmosphere, O recombination rates near mesopause level, and dynamic and thermodynamic parameters 7–29321
atmosphere, sunlight absorpt. 7–60375
atmospheric temperature meas. by molecular rotational band obs. with Fabry-perot interferometer 7–47546
atom, electron affinity, CI STO calcs. 7–5606
atom, flame diagnostics by two-photon fluoresc., UV laser appl. 7–23015
atom, III, $3p^3S_1$ energy level, radiative lifetime meas. 7–10676
atom, orbital energies, UHF calcs. phys. interpretation 7–56931
atom, photoionis. cross section, generalised RPAE calcs. 7–42574
atom, Rydberg transitions, IR laser absorpt. spectra 7–57017
atom, spin and charge densities, HF and UHF calcs. 7–19684
atomic adsorption on Cu (111) and (110), inverse photoemission study 7–7783
atomic and molecular, adsorption on Ag (110), dispersion, bonding and precursor state 7–6991
atomic excitation by electron impact, the ^3P-^1S transition 7–50368
atomic excitation by electron impact, the ^3P-$^3S^o$ transition 7–50369
atoms, multiphoton excitation techniques for combustion diagnostics 7–17789
$B^3\Sigma_u^-$ state, Schumann-Runge bands 7–5659

oxygen continued
beta phase solid, rhombohedral Heisenberg antiferromag., neutron scatt. 7–7480
Black Hills of S Dakota, USA, Precambrian rock origin, isotope geochemical constraints 7–60205
carbonaceous chondrites, O and H isotopic relations in water and acid residues 7–9443
chemisorbed (2×1 layer on Ni (110), SAXAFS study 7–64768
chemisorbed layer on Ni (001), self-consistent field He scatt. cluster model calcs. 7–53471
chemisorbed on Cu (110), synchrotron X-ray scatt. study 7–7003
chemisorbed on MgO, photostimulated desorption 7–27107
chemisorbed on Ni (110), mag. props. investigated by spin-polarised electron beams 7–58994
chemisorption, on Ag thin films, electrical resistivity meas. 7–33110
chemisorption from Ag surface, flash desorption spectra *(Chinese)* 7–52294
chemisorption on Al, interaction with surface, cluster approx., total energy calcs. 7–52265
chemisorption on Al films, Al-O bond lengths, photoemission EXAFS meas. 7–64871
chemisorption on GaAs (110), photoemission evidence for surface growth 7–2356
chemisorption on Ni (100) cluster model convergence 7–12461
chemisorption on Si_3N_4, XPS, AES and direct recoiling studies 7–32790
chemisorption on W (110) 7–21663
chemisorption sites on Cr (100) surface at room temp. 7–6980
coadsorption with CO_2 on Ni (110) 7–52289
coadsorption with CO and NO on Rh (111) EELS 7–16860
coadsorption with CO on Pd (111), SIMS and TPD studies 7–27137
coadsorption with water on Ni (110), EELS study 7–32821
P/Comet Halley (1982i), Hα and 630 nm meas. 7–18378
compact blue dwarf galaxies, N and O conc. 7–48078
composition between 500 and 20000K 7–39944
compressed, intracavity Raman scattering characts. 7–37032
cryocrystal:O_2, thermodynamic props., impurity mol. exchange interaction effects calcs. *(Russian)* 7–12308
dayside aurora, EUV-near IR O mission features obs. 7–55345
DC discharge, O, $O_2(^1\Delta)$ and O_3 conc. meas. 7–20957
deep-sea sediments, O isotope stratigraphy, graphic correl., appl. to Late Quaternary 7–23894
desorption from GaAs oxidised surface, desorption temp. meas. 7–58608
diacetylene +O, rate const. meas., flash photolysis-reson. fluoresc. method 7–8263
discovery by Scheele, involvement in biological reactions 7–60927
electron-impact ionisation, excitation-autoionisation contrib. 7–978
environmental poison 7–65660
glow discharge, C cathode chem. sputtering 7–32171
glow discharge, IR band sequence at 0.1 Torr, obs. 7–37784
glow discharge, metastable at. and mol. processes 7–16342
HD 109995, field horizontal branch A-type star, CNO comp., UV spectral obs. 7–47862
hierarchical lattices, phase transition universality sputtered, photoelec. props. 7–35486
homonuclear isotope exchange kinetics on Pt (100) monocryst. surface, temp. and press. depend. 7–3608
implantation and diffusion in fusion reactor structural materials, Mo and W 7–49658
impurity in $NiZr_2$ metallic glasses, influence on crystallisation 7–51633
impurity in SF_6 insulation gas, conditioning under repetitive positive HV conditions 7–51552
In torus, O I and S I densities from UV spectra 7–55522
SW India, monsoon fluctuations in 20000 yr BP O isotope/pollen records 7–47532
inelastic scattering, triplet-singlet conversion of positronium 7–62484
inert gas-O_2(-SF_6) discharges, charged particle induced, O_3 synthesis 7–3587
ion beams, low-energy, from microwave ion source 7–30113
ionosphere SF_6 release expt. at F-region altitudes, excitation of O permitted lines 7–9282
isotopic records in deep-sea sediments and Holstein interglaciation 7–47529
laser-induced fluoresc. appl. to imaging of temp. fields in air 7–41384
liquid, orientational dynamics 7–42717
liquid, SRO, thermal and mag. props. *(Russian)* 7–32253
magnetic switches, formative time lags, extension of Davidson's theory 7–51547
magnetosphere foreshock, energetic O^+ burst during upstream particle event 7–60476
Mandovi and Zuari estuaries of Arabian Sea, dissolved O_2 concs. 7–14313
measurement with membrane-covered electrochemical Clark cell sensor 7–65367
micrometeorite spherules in deep-sea sediments, O isotope study 7–9441
molecular chemisorption on Ag (111), XPS studies 7–2374
molecular dilute gas thermophysical props. correl. and extrapolation, SSR-MPA pot. model calcs. 7–16294
molecular electron impact dissociative excitation of OI($2p^{4}{}^1D$-$3s'{}^3D^\circ$, λ 1172.6 Å) multiplet transition 7–31179
molecular gas, thermalised free positron annihilation rate studies 7–50390
molecular temp. programmed desorpt. on powder and exfoliated MoS_2, adsorpt. sites study 7–2385
molecule, $A^3\Sigma_u^+$-$X^3\Sigma_g^-$ system, mol. consts., near UV spectra 7–5691
molecule, $A'^3\Delta_u$-$X^3\Sigma_g^-$ system, mol. const., near UV spectra 7–5692
molecule, A band, line profiles study IR spectra anal. 7–50114
molecule, absorpt. and fluoresc. calcs. in Schumann-Runge band system 7–19940
molecule, absorption line parameters rel. to DIAL monitoring of atmosphere 7–47534
molecule, autoionisation states, vibr. assignments 7–50073
molecule, $b^1\Sigma_g^+$ state excitation in gas discharge plasma 7–19735
molecule, $C^1\Sigma_u^-$-$X^3\Sigma_g^-$ system, mol. consts., near-UV spectra 7–5690
molecule, $C^3\Pi_g$ Rydberg state, excited-state photoelectron spectra 7–50250
molecule, coadsorption effect on chemisorption of H_2 on Ru (001) 7–33959
molecule, dissociative single and double photoionisation, photoion spectra anal. 7–19984
molecule, electron impact, vibr. excitation, three-body electron attachment, isotope effect 7–57185

oxygen continued
molecule, electron impact ionisation efficiency curves, reson. struct. 7−5774
molecule, electron scatt. cross section meas., 0.2 to 100 eV impact energy 7−20047
molecule, electron scattering at intermediate and high energies 7−5769
molecule, electroreduction, cobalt porphyrin effect, cyclic voltammetry and UV-absorpt. spectroscopy 7−59778
molecule, form. and resonant vibr. levels of O_2^-, spectra anal., cross sections calc. 7−15730
molecule, high energy electron scatt. cross sections calcs., revised Bethe theory 7−42507
molecule, hyperpolarisabilities, vibr. contribs., CARS 7−57074
molecule, microwave discharge, elementary processes investig. 7−32177
molecule, on polycryst. Fe surface, electron spectrosc. obs. 7−7794
molecule, permeation behaviour in polystyrene-based polymers, bulky substituents effect 7−10796
molecule, photoabsorpt. cross section, Herzberg continuum, UV obs. 7−36639
molecule, photoionis. cross section, HF calcs. 7−42693
molecule, photoproduction cross sections, mass spectrometry, photoionisation and photodissociation 7−10681
molecule, predissoc. linewidth, rot. var. 7−10685
molecule, singlet form. kinetics in gas discharge plasma, expt. investig. 7−21037
molecule, singlet state form., sensitisation by anthraquinones 7−49968
molecule, UV absorpt. cross-sections, 195-241 nm, Herzberg continuum 7−34675
molecule, UV molecular absorption continua and radiative lifetimes 7−15620
molecule, vibrationally excited form. mechanism by NO_2 multiphoton absorpt. 7−19989
molecules, vibr. excited, interaction with ZnO surface 7−15692
monolayer, physisorbed on Cu, laser-induced thermal desorption 7−17817
monolayer, struct. and mag. order, thermodynamic behaviour 7−52242
monolayer surface on exfoliated graphite, positron annihilation study at low temps. 7−38346
MR 2251−178, quasar, imaging in O II and O III forbidden lines 7−60831
negative ion mobilities meas. 7−20838
nightglow, energy transfer characts. 7−47603
nightglow, quenching parameters for precursors 7−47604
nightglow emissions near magnetic equator, EUV O I emissions 7−29325
nonequilibrium plasma, collisional-radiative model 7−37624
Nova Vul 1984 No.1 (PW Vul) slow nova, abundances, visible and IR obs. 7−40850
nucleate boiling at low gravity, microparameters 7−62962
optical monitoring of singlet O_2 generation during photodynamic treatment of tumours 7−65897
overlayer on Cu (110), surface reconstruction, mean free path and Debye-Waller factor, SEXAFS study 7−46238
Paleozoic ocean, O and C isotopic records anal. 7−9029
passivation and spontaneous dissolution of Fe in acetic acid, O_2 effects 7−22872
photodesorption from Si (100) 7−52290
plasma, weakly ionised, electron heating and ionis. by RF fields 7−20862
polyimide surface, in situ anal. of H,C,N and O using direct recoil time-of-flight technique 7−54242
polypyrrole:BF_4^-,O, dopant distrib., atom probe anal. 7−32480
Precambrian atmosphere, transition to O_2-rich state, geological evidence 7−18304
quenching of aromatic ketone triplets, competing singlet and biradical form. 7−15641
recoil implantation, in Si, characterisation by double-crystal X-ray diffraction, TEM, Monte Carlo simulation 7−51807
release, from ZnS:Cn electroluminescent phosphor during cooling 7−6800
RF discharge, charge carrier distrib., power and press. depend. 7−32096
RF discharge, electron energy distrib. function determ. 7−21032
shock-induced molecular dissociation 7−23022
Central Sierra Nevada, United States Winter storms ice-phase water capture regions identification, use of snow O isotopic comp. 7−4084
solar wind C, N and O ions in magnetosheath of Earth 7−9318
solid, α-β phase transition, magnetoelastic coupling and antiferromag. order effects 7−58193
solubility in organic liqs., diffusion coeff. determ. *(German)* 7−52101
solution, time-resolved chemiluminesc. 7−8289
sorption on GaAs (111), surface struct., AES anal. 7−53457
sound wave propagation 7−44092
South China Sea, palaeoclimate and palaeooceanography during Holocene, sediment O isotopic anal. *(Chinese)* 7−55264
sticking coefficient, on Mo, W, V, meas. by cathode sputtering 7−12476
Sun, O VI 103.2 nm line polarisation use for coronal mag. field determ. 7−34958
tetrafluoromethane-O_2 discharge, plasma etching, chem. processes 7−3475
tetrafluoromethane-O_2 mixtures, electron gas investig. 7−20861
trace anal. in thin films using extremely high vacuum SIMS 7−54243
transport in dry rocks, exptl. study 7−54954
triple point in sealed transportable cells 7−41331
upper atmosphere, O airglow at 630 nm and $O(^1D)$ quenching by $O(^3P)$ 7−34761
uptake, respiratory gas anal. *(Japanese)* 7−28560
VUV radiation generation by antiStokes Raman laser process 7−11050
Yukon rivers, dissolved O_2 depressions under ice cover 7−55106
$^{16}O_2$, Schumann-Runge bands, oscillator strengths 7−10675
Ar:Co,O_2, electronic energy transfer investig. 7−31149
C particle laden O_2 gas, normal shock wave anal. 7−51288
C-O_2 suspension, parameters affecting postshock wave relax. zone 7−51289
C_n^+-$D_2(O_2)$ cluster ions, ion+mol. reactions 7−50432
CNO abundances evol. in galaxies 7−40934
CaF_2:Eu^{3+}, O^{2-}, quadrupole coupling and crystal-field shielding under hydrostatic press. 7−2551
CaF_2:O crystals, O-vacancy centres, optical props. 7−7722
Co-Cr-O_2 films, sputter deposited, effects of additive gases on mag. props. 7−27575
Cr:C,O films, growth by laser photolysis of carbonyls, C and O incorporation mechanisms 7−58685
Cu:O vacancy cluster stability calcs., void form., O and the impurity effects 7−51763
GaAs (100), ambient induced surface effects, O adsorption, photolum., conductivity 7−45429

oxygen continued
GaAs:C, O, trace determ. by ^3He-activation anal. 7−58308
n-GaAs:O, semi-insulating, impurity centres, electron capture 7−52643
GaP:O, review 7−48201
Ge:O, γ-irrad., majority carrier mobility meas. 7−27334
Ge:O, Li, IR absorption spectra and bands, Li-O complexes 7−33375
Ge:O, thermal donor binding energies 7−16989
H_2-O_2, flame, temp. and OH-conc. profile, IR spectroscopic determ. *(French)* 7−25513
H_2-O_2-Ar mixture, reflected-shock flowfield calcs., random choice method appl. 7−20812
H_2-O_2-N_2 flames, one-dimensional simulation, mathematical and numerical aspects 7−39893
InP (100), ambient induced surface effects, O adsorption, photolum., conductivity 7−45429
KCl:O^-, F_H centre ionisation energy calc. 7−44539
KX:O_2^- (X=Cl, Br), tunable CW laser operation in 1.45 to 2.16 μm range 7−62707
$LaNi_5H_n$:O, dissociation press., O content depend. 7−63825
Li-rich supergiant stars HR 7008 and HD 174104, CNO abundances 7−4453
Mo:C,O films, growth by laser photolysis of carbonyls, C and O incorporation mechanisms 7−58685
N_2-O_2 solid soln., thermal expansion anomaly 7−6838
NF_3+O_2, plasma etching of Si, kinetic model 7−39787
NaCl:O_2^-, tunable CW laser operation in 1.45 to 2.16 μm range 7−62707
Nb:O, H and D trapping, perturbed ang. correl. obs. 7−27641
Nb:O^- polycrystal collector in thermionic converter, output characts. study 7−44271
Nb-Hf-Ta-O dilute alloy system, O-induced nonaxially symmetric elec. field gradient, TDPAC meas. 7−12686
Nb-V:O system, solute atom trapping, O diffusivity, kinetics and thermodynamics 7−12368
^{16}O, collisions with wide range of targets, K-shell ionisation, polarisation and binding effects 7−31165
O I line emission from O-rich nebulosities in supernova remnants, nonsteady shock model 7−55779
O II, $3p^4D_{1/2,3/2,5/2,7/2}^0$ energy levels, beam-foil lifetimes 7−15551
O II forbidden lines, improved radiative transition probabilities 7−66442
O III, $3p^3P$ and $3p^3D$ energy levels, beam-foil meas. 7−30976
O V, spontaneous radiative transition probabilities, ab initio CI calcs. 7−50261
O VII, excitation by laser flame recharging in plasma 7−20851
O^-, angular distrib. following dissoc. electron attachment to CO 7−25674
O^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7−25602
O^+, electron impact excitation cross sections, R-matrix method calcs. 7−50375
O^+ ion implantation in GaAs-AlGaAs heterojunctions 7−12813
O^{7+}, electron scatt., plasma screening effect, distorted wave approach study 7−62532
O/Fe in metal-poor late-type stars 7−40803
O+Ar, 557.7 nm line profile, collision complex spectroscopy *(French)* 7−5751
O+CH·, exothermic reactions, rate consts., classical trajectory study 7−17783
O+CO, recomb. chemiluminesc. spectrum calc. 7−46807
O+CO adsorbed on Pt, surface catalysed reaction, surprisal anal. 7−3601
O+ethylene reaction intermediates microwave kinetic spectroscopy 7−13748
O+Fe(Ti), thick target bombardment, X-ray production cross sections 7−20025
O+formaldehyde, rate const. meas., laser-induced fluoresc., time-resolved detect. 7−46815
$O+H_2$, cross section estimation 7−20004
$O+H_2$, crossed mol. beam expts. involving long-lived collision complexes 7−22999
$O+H_2(HD)(D_2)$, trajectory isotope effects. pot. energy surfaces 7−65296
$O+H_2 \rightarrow OH+H$, reagent translational energy effect, pot. energy surface calc. 7−42739
O+HCl, steric requirements, reagent rot. effect 7−57150
O+HD reaction probabilities and rate consts. ab initio pot. energy surface 7−65295
O+HD reaction rates, variational transition state theory 7−59749
O+He, van der Waals interaction, mol. beam study 7−20001
$O+N_2 \rightarrow N+NO$, reaction rate const., vibr. excitation effect, information theory approx. 7−46832
$O+NO_2$ (ClO) stratospheric reactions, rate const. meas. 7−8265
$O+Ne^{q+}$, low Z ion-atom collisions, relativistic, SCF calcs. 7−10409
$O+SF_5(SF_2)(SOF)$, gas-phase reaction rel. to plasma processing 7−3586
O+unsaturated hydrocarbon, relative rate consts. at room temp. 7−28283
$O^++H \rightarrow H^++O$, ion reaction at interstellar cloud conditions 7−23008
O^++N_2, translational energy depend. mass spectrometry 7−65294
O^{5+}+He, resonant transfer excitation, Auger spectra obs. 7−50309
O^{5+}+He collisions, reson. transfer and excitation to specific LS-coupled state, 0° AES 7−36744
O^{6+}+He, (quasi-)two-electron collision systems 7−5764
$O^{6+}+He(H_2)(Ar)(Xe)$, one-step double electron capture 7−50344
O^{8+}+He, electron capture, Coulomb integral eval. 7−15679
O^{8+}+He, intermediate energy collisions, electron capture cross sections, AO expansion method calcs. 7−25381
O^{n+}+He, double- and single-electron capture and loss cross section meas., OBK scaling calcs. 7−42756
O_2 $(A^3\Sigma_u^+)$ vibrational populations, altitude for nightglow 7−47606
O_2 A-band absorption for remote meas. of atmospheric surface pressure 7−14380
O_2, arteriovenous difference, spectrophotometric meas., role of light scatt. 7−3942
O_2, chemisorption on Cr (110) 7−21662
O_2, chemisorption on W (100), free carrier surface scatt., IR obs. of adsorbate induced changes 7−22268
O_2 gas phase molecules, O K-edge absorption spectra 7−62405
O_2, myoglobin-facilitated diffusion, anoxia reduction 7−28484
O_2 overlayers on Ni (100), elastic diffuse and inelastic electron scatt. 7−22402
O_2, polarographic surface electrode for high pO_2 values meas. *(Chinese)* 7−18083
O_2, potential energy curve, photodissociation and adsorp. spectra 7−5624

oxygen continued
O_2 saturation of blood, in vivo meas. using quartz fibre optics and an optical multichannel analyser *(German)* 7−23423
O_2 solid films, Fourier transform IR spectra 7−59214
O_2, transcutaneous press. meas., reproducibility in normal volunteers 7−3891
O_2, UV cross sections and photodissociation rate consts. for stratosphere 7−55260
O_2^-, ads. on silica gel, photoform., rot. dynamics, ESR obs. 7−25566
O_2^- and O_4^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7−25602
O_2^+, $^4\Pi_u$ state, spin-forbidden radiative decay, photodissoc. study 7−50274
O_2^+ in dayside ionosphere, vibrational distrib. 7−55363
O_2^+ predissociative photoionisation, triple coincidence, double time-of-flight study 7−36709
O_2^+ scattering from Ag(111), harpooning transitions, O_2^- formation 7−36805
O_2^+, $X^2\Pi_g$ vibr. branching ratios, 905-1000 Å, autoionis. effect 7−50272
$^{18}O_2$, Schumann-Runge bands, oscillator strengths meas. 7−62455
$^{18}O_2$, Schumann-Runge bands, predissoc. linewidths meas. 7−62464
O_2-Ar afterglow, rotationally-resolved bands obs. at 373 to 474 nm 7−29326
O_2-Ar etching plasmas, spatially resolved detection of O atoms by two-photon laser-induced fluorescence 7−20917
O_2-I chemical laser, singlet O_2 generation using porous pipe 7−57363
O_2-I chemical lasers, singlet O_2 generator 7−20217
O_2-I_2 chemical laser, influence of water vapour on output energy 7−25808
O_2-I_2 chemical lasers, review 7−15852
O_2-I_2 gas dynamic lasers using microwave excitation, design and operation *(German)* 7−36986
O_2-I_2 laser active medium, theoretical model 7−1093
O_2-N_2 equimolar liq. mixture, excess props. and struct., mol. dynamics simulation 7−32246
$O_2+Al_n^+$, mass selected ions, reaction study 7−22993
$O_2+Al_n^+$ (n=1,2,3), absolute cross sections, meas. 7−5743
O_2+Ar^+ collisions, low energy charge transfer reactions, time-of-flight spectra studies 7−31163
$O_2+\alpha$-phenyl-N-tert-butyl nitrone, solvent effect and temp. depend., luminesc. kinetics meas. 7−54130
O_2+B(BO), gas-phase oxidation, rate consts., fluoresc. and chemiluminesc. study 7−22985
O_2+Cs^-, low-energy collisions, absolute total cross section meas., curve-crossing model anal. 7−36749
O_2+H, differential scatt. cross-sections for neutral particle precipitation 7−5739
O_2+H_2O, rot.-vibr. lines, collisional broadening 7−42743
O_2+H^+, charge transfer collisions, vibr. state resolved meas. 7−5762
O_2+H-like ions projectile ionisation cross section 7−969
$O_2+HCl(HBr)(H_2)(D_2)$, singlet deactivation, rate const. determ. 7−25640
O_2+He, bimolecular and termolecular, deexcitation reactions *(French)* 7−10724
O_2+He, rot. inelastic collision, polaris.-preserving propensities 7−36736
O_2+He, scatt., total differential cross-sections 7−39865
O_2+He, vibr.-translation energy transfer determ. 7−57160
O_2+He^+, metastable state, collisional quenching cross section 7−62315
O_2+K, O_2^- ion form., rate consts. 7−33926
O_2+methyl thiyl radical, reaction rate consts., mol. fluoresc. anal. 7−19917
O_2+N_2, vibr. excitation, operator algebra study 7−20018
O_2+N_2, vibr. transition probabilities, semiclassical algebraic description 7−25636
$O_2+N_2^+$, charge exchange reaction in temp. range 8 to 163 K, rate coeff. meas. 7−46810
O_2+NaO, assoc. reactions with third body He, N_2 or N_2O, kinetics, atm. appl. 7−59748
O_2+OH, isotope exchange reactions, LMR detection, rate const. meas. 7−39882
$O_2+O=O_3$, in dense interstellar mol. clouds, role of grain surface reactions 7−24179
$O_2+SF_5(SF_2)(SOF)$, gas-phase reaction rel. to plasma processing 7−3586
O_2+tetrafluoroethene, oxidation, laser photosensitised, chemiluminesc. 7−65328
O_2+trifluoromethyl radical, rate const. meas., laser photolysis and time-resolved mass spectrometry 7−8249
O_2+trimethylsilylium, assoc. binding energies meas., mass spectra 7−54096
$O_2^++2O_2(2N_2)$ assoc., temp. depend. 7−13742
O_2^++tetrafluoromethane, excitation cross sections 7−62501
OI, dipole transition probabilities, HF wave functions calcs. 7−5634
$^{16}O^{18}O$, Schumann-Runge bands, oscillator strengths meas. 7−62454
$^{16}O^{18}O$, Schumann-Runge bands, predissoc. linewidths meas. 7−62465
$^{17}O^{18}O$, pure rotation Raman spectrum 7−15612
O('D), excited atom reaction dynamics, charactn. by laser induced fluoresc. 7−46836
$^{16}O/^{18}O$ ratio in solar photosphere, determ. from CO vibr.-rot. bands 7−55598
^{18}O, radioisotope distribution in precipitation, surface and groundwaters in NW Yugoslavia 7−23254
PbTe:O films, O diffusion to bulk and crystallite boundaries 7−63884
Pd-Fe:O, mag. susceptibility, impurity effects 7−27520
Pt-O, ion probe microanalysis effect of O_2 admission 7−17380
SF_6-O_2 discharges, LF and RF, etching and surface modification of polyimide films 7−22858
SF_6+O_2, plasma etching of Si, kinetic model 7−39787
SF_6+O_2+Ar, plasma etching of Si, kinetic model 7−39784
Se:O, electrophotographic props., doping depend. *(Japanese)* 7−12752
Si surface, 100, in situ anal. of H,C,N and O using direct recoil time-of-flight technique 7−54242
Si:B, O, heavily doped, O precipitation, diffuse X-ray scatt. studies 7−32669
Si:B, O epitaxial wafers, effect of pre- and postdeposition annealing on O precipitation 7−45060
Si:B,C,O, O clustering and thermal donor formation kinetics 7−17566
Si:B,O, thermal donor formation, bending stress effects 7−17563
Si:B,O epitaxial wafers, internal gettering heat treatments and O precipitation 7−45059
Si:B,O(Sb,O), heavily doped Czochralski wafers, O precipitation, 450°C thermal annealing 7−58477

oxygen continued
Si:C,O, heat-treated, photoconductivity relax., α traps 7−52677
Si:C,O, luminescence props. of shallow donor centre 7−17347
Si:C,O, photoluminescence of C-O related complex defects 7−22346
Si:C,O, solubility, segregation, diffusion and precipitation 7−16777
Si:C,O,P, C precipitation after P junction diffusion 7−16779
Si:C,O grown by gas-assisted solidification, impurities determination 7−16586
Si:C,O wafers, C and O contents,, Fourier transform IR spectra studies, book contrib. 7−44596
Si:C,O wafers, defect generation, O precipitation effects *(Chinese)* 7−12058
Si:Fe,O, Fe intrinsic gettering, EPR studies 7−16553
a-Si:H,O films, RF sputtered, photoelec. props. 7−38627
Si:N, O, impurity complexes as shallow donors, optical absorpt. study 7−39147
Si:O, C, low temp. precipitation, IR and SANS meas. 7−32666
Si:O, C, precipitation, microstructures, TEM studies 7−32668
Si:O, C, thermal donor form., T<800K 7−27294
Si:O, cluster computations related to thermal donors 7−16990
Si:O, conf., Boston, MA, USA (Dec. 1985) 7−14711
Si:O, Czochralski cryst. growth, impurity segregation, high axial mag. field effect 7−26960
Si:O, Czochralski crystals, O precipitates, small-angle neutron scattering 7−58484
Si:O, Czochralski grown, exigent-accommodation-volume factor associated with O precipitation 7−32670
Si:O, Czochralski grown, electron irradiated, thermal donor formation 7−44619
Si:O, Czochralski grown, O-related defects after annealing, IR TEM and resistivity meas. 7−32466
Si:O, Czochralski-grown wafers, growth striations, X-ray topography study 7−59400
Si:O, defects created by electron irradiation and subsequent thermal treatments, review 7−16642
Si:O, dendritic web growth, plastic flow, O effects 7−16471
Si:O, deposition from SiH_4-N_2O, role of adsorption stages 7−17447
Si:O, diffusion of O during thermal donor form. 7−38262
Si:O, diffusivity and diffusion mechanism of O 7−16810
Si:O, diffusivity and solubility of O review 7−16809
n-Si:O, donor states of O rel. to heat treatment 7−12647
Si:O, electron irrad. on varying O content, defect anal. 7−16637
Si:O, electronic struct. and atomic symmetry of the thermal donor 7−16986
Si:O, energy levels and capture cross-sections of thermal donors 7−16988
Si:O, enhanced diffusion at thermal donor formation temp. 7−44911
Si:O, Fourier transform IR spectroscopy and SIMS calibrations for O conc. meas. 7−16606
Si:O, γ-irrad., majority carrier mobility meas. 7−27334
Si:O, IR absorption meas. of interstitial O conc., calibration 7−33401
Si:O, IR absorption spectra of thermal donors 7−17326
Si:O, IR spectra of interstitial O 7−17325
Si:O, impurity-dislocation interactions, review 7−16610
Si:O, influence of growth microdefects on microdefect formation during heat treatment 7−17559
Si:O, ion implanted, octahedral oxide particle nucleation and growth 7−16776
Si:O, ion implanted, structure before and after heat-pulse annealing 7−16600
Si:O, low thermal donor conc. layer formation during annealing 7−17564
Si:O, low thermal donor conc. layer formation during annealing 7−17565
Si:O, magnetic resonance of O-related defects 7−17223
Si:O, microcrystalline precipitates, electron microdiffraction studies 7−16769
P-Si:O, new donor state, optical, elec. and TEM studies 7−32956
Si:O, new donors, bound exciton recomb., photolum. study 7−22300
Si:O, O precipitate siting, shaping, and shrinking, precursor oxide phase roles 7−16772
Si:O, O precipitation, exigent-accommodation-volume factor 7−16771
Si:O, O precipitation, numerical models 7−16775
Si:O, O precipitation ad thermal donors 7−16767
n^+-Si:O, O precipitation and minority carrier generation lifetimes 7−16774
Si:O, off-centre, impurities, theory 7−21251
Si:O, optical transition at thermal donors 7−17346
Si:O, oxide precipitate nucleation, thermal donor formation kinetics 7−32667
Si:O, P, Sb wafers, O precipitation during simulated CMOS cycles 7−38218
Si:O, positron annihilation study 7−3105
Si:O, precipitates, X-ray diffuse scatt. study *(Japanese)* 7−63399
Si:O, precipitation kinetics, interstitial diffusion 7−44837
Si:O, precipitation phenomena, growth law for disc precipitates 7−16770
Si:O, pseudo Jahn-Teller effect and chemical rebonding 7−16992
Si:O, review 7−16583
Si:O, self-interstitial migration, dislocation loops and elongated Frank dipoles 7−58300
Si:O, Si:O_2B, ab initio MO electronic struct. calcs. 7−38499
Si:O, small particles, elemental and chem. anal., EELS method 7−17379
Si:O, structure and props. of the thermal donor 7−16766
Si:O, thermal donor binding energies 7−16989
Si:O, thermal donor formation, kinetics 7−6664
Si:O, thermal donor impurity density of states, formalism and appl. 7−12655
Si:O, thermal donors, photothermal ionisation spectroscopy and IR transmission meas. 7−16987
Si:O, vacancy-enhanced O diffusion 7−16811
Si:O,B^+, ion implanted, reverse annealing 7−16617
Si:O,B(Sb)(P) heavily doped crystals, behaviour of O and dopants 7−32483
Si:O,C, intrinsic point defects and impurity interactions 7−16611
Si:O,C, O precipitation, thermal donor generation and annihilation effects 7−16773
Si:O,C, yield stress, impurities and O precipitate morphology effects 7−16674
Si:O,C,N, precipitation phenomena, TEM studies 7−16768
a-Si:O,H, annealing of metastable defects 7−3343
Si:O CZ gram, O precipitation enhanced with vacancies 7−32664
Si:O Czochralski crystals and melts, internal gettering, review 7−32341
Si:O Czochralski growth, large diameter crystals, under horizontal or vertical mag. field 7−32342

oxygen continued
- Si:O Czochralski wafers, electron traps resulting from O precipitation 7−21866
- Si:O epitaxial films for hetero-bipolar transistors 7−53599
- Si:O epitaxial wafers, preanneal heat treatment effect on precipitation 7−38219
- Si:O magnetic Czochralski growth, at high pulling rates 7−33551
- Si:O substrate materials, heavily doped, control of O and precipitation behaviour 7−32665
- Si:O/Si interfaces, MBE grown, O trapping effects 7−16881
- $Si:O_1$ thermal donor formation and structure, review 7−17562
- $Si:O_2^+$, Si on insulator structs., amorphous and crystalline oxide precipitates 7−13655
- Si:O(O,C), impurity aggregation, SIMS 7−16778
- Si:O(O,H), heat treated, DLTS 7−16991
- Si:P,O,D, donor passivation and reactivation 7−17031
- Si-Ge:O, single crystal, thermodonors rel. to solubility of O 7−12648
- Si-O system, solubilities of O in liq. and solid Si 7−26961
- Si-Si homoepitaxial interfaces, MBE grown, oxygen trapping 7−32855
- $Si-SiO_2$, SOI struct., deep O^+ implantation, strain and damage in Si 7−32531
- $Si-SiO_2$, SOI structs. formed by O^+ implantation, EPR of defects 7−33272
- α-SiC:Al,B,O crysts., photolum. and electrolum. studies *(Russian)* 7−22344
- SiF_4-O_2, microwave discharges, mass spectrometric study 7−32169
- $TiSi_2:O$ films, quantitative SIMS analysis, in situ ion implantation of ^{18}O reference level 7−12100
- W:C,O films, growth by laser photolysis of carbonyls, C and O incorporation mechanisms 7−58685
- ZnS:O, Er(Tm)(Dy), activator centres, spectrosc. investig. 7−13184
- ZnTe:O, hot luminesc., reson. Raman scatt. studies 7−64695
- ZnTe:O, light scattering 7−17333
- ZnTe:O, red cathodolum. kinetics, two-step electron capture model calcs. 7−59262

oxygen compounds
- hydroxides, solid, OH stretching freq., interionic influences 7−50129
- metal oxide catalysts, IR emission spectrosc. 7−39098
- OH. + H_2,rot. excitation cross sections, close-coupling calcs. 7−25639
- OH in Comet Wilson (1986l), emission line blueshift and total flux 7−66511
- OH radical dynamics in pulse radiolysis of Ar sensitised water vapour 7−8292
- oxides, tunnel structure, mixed framework of octahedra and tetrahedra 7−1997
- BI_3-COS, vapour phase flash photolysis, electronic absorpt. spectra 7−23041
- $CaO:OH^{2-}$, EPR spectrum 7−17217
- $NaCl:OH^-$, Cd^{2+} single cryst., gamma irrad., electronic and IR spectra 7−53320
- $NaF:OH^-$, X^+, X=impurities, vibr., radiation effects, IR spectra 7−53321
- $NaI:Tl,OH^-$, NO_3^-, CO_3^{2-} crysts., scintillation props., vibrational spectra, anion impurity effects *(Russian)* 7−22348
- Ne-OCS, mol. beams, IR absorpt. and microwave-IR double reson. spectra 7−62427
- OA (A=Li, Be, B, C, N, O, F), chem. bonding, kinetic energy anisotropy investig. 7−10396
- OCN, electron affinities evaluation 7−5591
- OCN^-, rots. in aqs. soln., ^{14}N NMR, spin-lattice relax. 7−27620
- OCN^--H_2O interaction, pot. surface, SCF MO calcs. 7−56967
- $O_2^+.(CO_2)_2$, photodissoc. dynamics mechanisms and product energy disposal 7−20083
- OCS gas phase molecules, O K-edge absorption spectra 7−62405
- OCS, jet-cooled, $^1\Sigma^+\rightarrow{}^1\Pi$ transition, spectrosc-investig. 7−62400
- OCS, line strengths and collisional half-widths, IR spectra 7−36620
- OCS, photodissoc. dynamics, VUV laser induced fluoresc. 7−23044
- OCS, reson. IR radiation interaction, l doubling, microwave spectrum 7−42604
- OCS, rot.-vibr. anal., electronic ground state, MW, IR and Raman spectra 7−19820
- OCS, rot.-vibr. anal., dipole moments, Stark spectra. 7−19910
- OCS, triple photoionisation and photodissociation, mass spectrometer and coincidence studies 7−19965
- OCS, vibr. excitation, non-Condon anal. 7−50062
- OCS, vibr. excited, photodissoc. cross section meas. 7−15662
- OCS+Ar semiclassical press. broadening calcs. 7−965
- OClO, low-lying electronic states, SCF-X_α-MS calcs. 7−49922
- OD + DCl (HCl), reaction rates, vibr. excitation and isotopic substitution effect 7−22996
- OD/OH ratio for Periodic Comet Halley (1982i) and Periodic Comet Giacobini-Zinner (1984e) 7−47792
- $OD-CO_2$ chemical laser, energy capabilities study 7−62683
- OF_2, closed shell configs. SINDO method calcs. 7−19705
- OF_2, ν_1 and $2\nu_2$ Fermi diad, diode laser spectroscopy, band const. and force consts. 7−25487
- OF_2, ν_2 fundamental, rovibr. study, Fourier transform IR spectra anal. 7−50123
- OF_2, ν_3 band, diode laser spectrosc. 7−57051
- OH + HCl (DCl), reaction rates, vibr. excitation and isotopic substitution effect 7−22996
- OH 5 cm absorption towards IC 4553, megamaser galaxy 7−40911
- OH, $A^2\Sigma_{1/2}^+$, first excited electronic state ρ-doublet transition obs., UV-microwave double reson. 7−10636
- OH, $A^2\Sigma^+\rightarrow X^2\Pi$ fluoresc. excitation function 7−42669
- OH, adsorbed on SiO_2, FTIR characteris. 7−46042
- OH, adsorbed on transition metal surface, vibr. modes anal. 7−45008
- OH, chemisorption on Ni surface, Ni_5OH model 7−52240
- OH, electron affinities evaluation 7−5591
- OH emission and absorption at 18 cm, P/Comet Halley (1982i) obs. 7−55572
- OH, ground state, conc.-profile in premixed oxy-fuel flames, IR spectroscopic determ. *(French)* 7−25513
- OH groups, on basic oxide surfaces, stretching vibrs. and coordinating polyhedra props. 7−10551
- OH groups chemisorbed on Ge_xSi_{1-x} (100), shape resonances 7−6998
- OH IIa sources, nonthermal emission lines *(Chinese)* 7−66690
- OH in atmosphere, concentrations in AD 1860 to 2035 period 7−29153
- OH in cold Antarctic stratosphere, effects of HNO_3 cloud form. rel to springtime O_3 hole 7−47508

oxygen compounds continued
- OH in flames, excited state rot. population study using laser induced fluoresc. 7−3592
- OH in tropical clouds, cloud chemistry model 7−18290
- OH, interstellar, obs. of highly excited states towards galactic H II regions 7−24177
- OH interstellar clouds vel., use for Sun-galactic centre distance determ. 7−4554
- OH, laboratory meas. of rot. spectrum with tunable far-IR radiation 7−47691
- OH masers in short period Mira and semi-regular variables 7−14580
- OH, photodissociation processes in astrophysical environment 7−23042
- OH, photolysis product, laser induced fluoresc. study 7−8293
- OH photoproduct, momentum distrib. Doppler and polarisation spectra 7−13795
- OH, predissociation, non-adiabatic effects, energy levels calcs. 7−15660
- OH radical, Cherenkov microwave line emission mechanism for mol. clouds spectra *(Chinese)* 7−66690
- OH, radical, desorpt. on $TiO_2(NaCl)(SrF_2)$ surfaces, kinetic and internal energy, determ., fluoresc. detect. 7−8298
- OH radical, Fourier transform spectrometry 7−55482
- OH radical, orbital energies, UHF calcs. phys. interpretation 7−56931
- OH radicals in spray flames, planar laser-induced-fluorescence monitoring 7−59766
- OH^-, electron affinity calc. with fourth order many body perturbation theory 7−42471
- OH^-, stretching force consts., inner-shell polarisation effect, HF calcs. 7−15588
- $OH+Ar(N_2)$, $A^2\Sigma^+-X^2\Pi$ band pressure broadening 7−50305
- OH+CO, reaction kinetics at atmospheric conditions 7−40529
- OH+cytosine, ab initio SCF MO calcs. 7−8478
- $OH+H_2$, intra- and intermol. energy transfer 7−15689
- $OH+H_2O$, rot. transfer, time-resolved fluoresc. 7−42664
- $OH+H_2(N_2O)$(hydrocarbons), collisional quenching of OH, rate const. meas. 7−10654
- OH+methanol, rate coeff. determ., flow tube temp. effect 7−59740
- OH+N, state specific collision dynamics 7−20014
- $OH+NO(NO_2)(N_2O)$, isotope exchange reactions, LMR detection, rate const. meas. 7−39882
- $OH+O_2$, isotope exchange reactions, LMR detection, rate const. meas. 7−39882
- $RbCl(Br)(I):OH^-$ crysts., paraelec. centres, elec. dipole moment temp. depend., dielec. meas. 7−38508

ozone
- absorption of high-power IR radiation 7−1237
- admixture in air influence on Trichel pulse characts., electron attachment rate determ. 7−20034
- air pollution plume, chemistry of reactions involving $NO-NO_2-O_3$ 7−14335
- Antarctic, stratosphere temperature, effects of O_3 depletion 7−55174
- Antarctic atmosphere, O_3 losses, role of heating perturbations 7−55171
- Antarctic atmosphere, O_3 seasonal distrib. and thermal struct. 7−55168
- Antarctic atmosphere, O_3 var. modelling, chem. and dynamical effects 7−55172
- Antarctic O_3 comp., implications of ClO+ClO reaction kinetics 7−54090
- Antarctic O_3 depletion, chemical mechanisms for spring O_3 decrease 7−55165
- Antarctic O_3 depletion, implications of SAM II meas. of polar stratospheric clouds and aerosols 7−55160
- Antarctic O_3 depletion, implications of stratospheric NO_2 meas. at Syowa station 7−55158
- Antarctic O_3 hole, effects of HNO_3 and HCl condensation in winter polar stratospheres 7−55162
- Antarctic O_3 hole, impact of OClO and Cl_2O_2 on O_3 concs. in stratosphere 7−55164
- Antarctic O_3 hole, implications of satellite obs. of polar stratospheric clouds 7−55156
- Antarctic O_3 hole formation, relation to characts. of polar stratospheric clouds 7−55163
- Antarctic O_3 stratospheric depletion, effects of Cl and Br pollution 7−55173
- Antarctic spring, stratospheric heating rates and diabatic circulation, implications for O_3 depletion 7−55176
- Antarctic stratosphere, O_3 decreases, possible dynamic cause 7−55170
- Antarctic stratosphere, O_3 density rel. to regional atm. circulation 7−55169
- Antarctic stratosphere upwelling causing O_3 depletion 7−55175
- in atmosphere, accuracy of O_3 content determ. via temp. - O_3 content mutual covariation 7−9135
- atmosphere, air pollution in W Germany 7−54389
- atmosphere, balloon borne instrumentation, BOIC intercomparison expt. 7−29159
- atmosphere, device for comp. meas. using HARTLEY band *(German)* 7−9247
- atmosphere, Dobson total O_3 data statistical anal. methods 7−55307
- atmosphere, form. simulations, effects of urban areas traffic pollution 7−3736
- atmosphere, global O_3 minima in historical record 7−55153
- middle atmosphere, O_3 ν_3 vibrationally excited mode 7−18328
- atmosphere, O_3 and N cpd. concs. in troposphere of Colorado, USA 7−18288
- atmosphere, O_3 data from Nimbus-7 SBUV instrument 7−55178
- atmosphere, O_3 decrease of Antarctica and southern mid-latitudes, TOM observations 7−55146
- atmosphere, O_3 density var. meas. by Nimbus-7 and SME 7−60323
- atmosphere, O_3 distrib. in atmosphere *(Russian)* 7−40521
- atmosphere, O_3 in boundary layer of equatorial Pacific 7−29157
- atmosphere, O_3 meas. with Nimbus-7 TOMS instrument 7−55177
- atmosphere, pollutant transport by slope winds 7−60305
- atmosphere, SBUV satellite meas. technique for Antarctic O_3 vertical profiles 7−55145
- atmosphere, statistical trend analysis for troposphere and stratosphere 7−29158
- in atmosphere, summertime climatology in E United States (1977 to 1981) 7−40066
- in atmosphere, surface O_3 concs. at rural sites in Latrobe Valley and Cape Grim, Australia 7−40065
- atmosphere, total O_3 content determ. from remotely-sensed data 7−66216
- atmosphere, total O_3 decrease at South Pole, Antarctica (1964-1985) 7−55154

ozone continued
atmosphere, tracer horizontal spectra in global stratosphere and troposphere 7−29164
atmosphere, tropospheric O_3 vertical distrib. influenced by stratospheric intrusions 7−23820
atmosphere, vertical distrib. over Dakshin Gangotri, Antarctica 7−66215
atmosphere above Antarctica, conc. changes correl. to temperature and circulation 7−55142
atmosphere above Antarctica, O_3 conc. decrease in AD 1961 to 1985 period 7−55140
atmosphere above Antarctica, O_3 depletion, recent observations 7−55141
atmosphere above Antarctica and southern mid-latitudes, O_3 decrease 7−55144
atmosphere of Antarctic, O_3 minimum in springtime, photochem. model and 11-year solar cycle 7−29149
atmosphere of Antarctica, O_3 conc. rel. to temperature changes 7−55152
atmosphere of Antarctica, role of planetary waves in O_3 decrease 7−55148
atmosphere of Antarctica, stratosphere O_3 decreases in springtime rel. to circulation 7−55151
atmosphere of eastern USA, O_3 diurnal variations at rural mountain 7−66220
atmosphere of Southern Hemisphere, medium-scale waves and O_3 conc. disturbances 7−29151
atmosphere of St. Louis, Missouri, USA, O_3 ground level concs. at rural site 7−34573
atmosphere over Antarctica, O_3 interannual variability during circumpolar vortex breakdown 7−55139
depletion in polar upper stratosphere, effects of meteoric material 7−55166
excited state produced by flash irradiation, radiative lifetime and quenching mechanism 7−31110
generation by membrane electrolysis for treating ultra-pure water 7−23024
generation using travelling wave pulse voltage and transmission-line ozonizer, corona prod. 7−20984
heptafluoroiodopropane-O_3, laser photolysis yielding IF 7−31089
[in#] middle atmosphere, latitudinal-seasonal vars. of O_3 conc. and mixing ratio 7−9280
M-124 filter ozonometer 7−34734
mesosphere, Antarctic springtime meas. of O_3, NO_2 and aerosol extinction by SAM II, SAGE and SAGE II 7−55161
mesosphere, nighttime O_3 increase, ground-based EHF radiometry 7−47593
molecular vibr., semiclassical calc. from ab initio pots. using 2D spline fn. 7−30936
molecule, closed shell configs. SINDO method calcs. 7−19705
molecule, IR multiphoton excitation probed by CARs, vibr. population distribs. 7−10591
nitrate flux on Ross Ice Shelf, Antarctica 7−55091
nuclear winter, smoke scavenging by atmospheric ozone 7−9109
remote sensing of atmosphere O_3 content, information content of upward directed IR radiation 7−23865
saturable absorber for KrF laser 7−20369
seasonal variations at high latits. in Southern Hemisphere, general circulation model simulation 7−55167
Sidney, Australia, pollutant atm. peroxyacetyl nitrate pollutant correl. with O_3 7−59890
solid and liq., vapour press. meas. 7−16716
sonolysis in aq. soln., reaction rate 7−13756
stratosphere, Antarctic springtime meas. of O_3, NO_2 and aerosol extinction by SAM II, SAGE and SAGE II 7−55161
stratosphere, DIAL meas. from Shuttle, error analysis 7−40560
stratosphere, dynamically and chemically controlled vars. of NO_2 and O_3 in Antarctica 7−55157
stratosphere, O_3 and aerosol measurements in springtime Antarctic stratosphere (November 1985) 7−55155
stratosphere, O_3 isotope measurements at Texas, USA, ^{49}O and ^{50}O observations 7−66209
stratosphere, var. (1979 to 1984) 7−29205
stratosphere above Antarctica, AD 1985 vertical distrib. of O_3 7−66210
stratosphere O_3 comp., implications of $ClONO_2+HCl(H_2O)$ reaction kinetics 7−54089
stratosphere O_3 depletion, HNO_3 cloud form. in Antarctic stratosphere rel. to springtime O_3 hole 7−47508
stratosphere O_3 profiles meas. by ROCOZ-A 7−55308
stratosphere of Antarctica, O_3 depletion 7−66211
stratospheric 2D monthly average balance with Chapman chemistry 7−47488
swirling flow combustor, gas densities, laser scatt. meas. 7−6218
synthesis in charged particle induced inert gas-O_2(-SF_6) discharges 7−3587
synthesis in electric discharge 7−32174
thermosphere, evidence for metastable O_3, assoc. chem. reactions 7−55340
Thumba, India, atm. O_3 meas. 7−66214
tropical atmosphere, O_3 content and sources 7−55194
UV absolute absorpt. cross sections, atm. appl. 7−50161
UV Huggins bands, isotope shift obs. 7−19819
UV-ozone cleaning, of GaAs (100) for device appl. 7−28228
warm clouds, O_3-induced oxidation of SO_2 to aqueous sulphate 7−54114
O_3^-, photodetachment cross sections Franck-Condon anal. 7−57139
O_3+HO_2, reaction rate const. meas. by photofragment fluoresc. detect. 7−22990
O_3+NO, chemically reacting mixing layer struct., conc. field meas., entrainment and mixing anal. 7−44006
O_3+Na, gas phase kinetics, rate const. determ. 7−28272
O_3+NaO, gas phase kinetics, rate const. determ. 7−28272

ozonosphere
Antarctic, O_3 minimum in springtime, photochem. model and 11-year solar cycle 7−29149
Antarctic, radiative heating due to stratospheric aerosols, implications for O_3 depletion 7−55175
Antarctic, stratosphere temperature, effects of O_3 depletion 7−55174
Antarctic atmosphere, O_3 losses, role of heating perturbations 7−55171
Antarctic atmosphere, O_3 var. modelling, chem. and dynamical effects 7−55172
Antarctic O_3, seasonal distrib. and thermal struct. 7−55168
Antarctic O_3 comp., implications of ClO+ClO reaction kinetics 7−54090

ozonosphere continued
Antarctic O_3 depletion, chemical mechanisms for spring O_3 decrease 7−55165
Antarctic O_3 depletion, implications of SAM II meas. of polar stratospheric clouds and aerosols 7−55160
Antarctic O_3 depletion, implications of stratospheric NO_2 meas. at Syowa station 7−55158
Antarctic O_3 hole, effects of HNO_3 and HCl condensation in winter polar stratospheres 7−55162
Antarctic O_3 hole, impact of OClO and Cl_2O_2 on O_3 concs. in stratosphere 7−55164
Antarctic O_3 hole, implications of satellite obs. of polar stratospheric clouds 7−55156
Antarctic O_3 hole formation, relation to characts. of polar stratospheric clouds 7−55163
Antarctic O_3 stratospheric depletion, effects of Cl and Br pollution 7−55173
Antarctic ozonosphere, dynamically and chemically controlled vars. of NO_2 and O_3 concs. 7−55157
Antarctic spring, stratospheric heating rates and diabatic circulation, implications for O_3 depletion 7−55176
Antarctic stratosphere, O_3 decreases, possible dynamic cause 7−55170
Antarctic stratosphere, O_3 density rel. to regional atm. circulation 7−55169
latitudinal-seasonal vars. of O_3 conc. and mixing ratio in middle atmosphere, results from rocket meas. 7−9280
nitrate flux on Ross Ice Shelf, Antarctica 7−55091
O_3 depletion in polar upper stratosphere, effects of meteoric material 7−55166
remote sensing, SBUV satellite meas. technique for Antarctic O_3 vertical profiles 7−55145
remote sensing of atmosphere O_3 content, information content of upward directed IR radiation 7−23865
springtime O_3 hole in cold Antarctic stratosphere, role of HNO_3 cloud formation 7−47508
total O_3 decrease at South Pole, Antarctica (1964-1985) 7−55154
tracer horizontal spectra in global stratosphere and troposphere 7−29164
O_3 2D monthly average balance with Chapman chemistry 7−47488
O_3 above Antarctica and southern mid-latitudes, decrease due to dynamical mechanism 7−55144
O_3 conc. in S Hemisphere, influence of medium-scale waves 7−29151
O_3 content determination via mutual covariation links between temp. and O_3 content, accuracy of determ. 7−9135
O_3 decrease in Antarctic stratosphere, role of planetary waves 7−55148
O_3 decrease of Antarctica and southern mid-latitudes, TOM observations 7−55146
O_3 depletion above Antarctica, recent observations 7−55141
O_3 determination, balloon borne instrumentation, BOIC intercomparision expt. 7−29159
O_3 distribution in atmosphere *(Russian)* 7−40521
O_3, global minima in historical record 7−55153
O_3 in Antarctic stratosphere, decreases in springtime rel. to circulation 7−55151
O_3 in stratosphere above Antarctica, conc. changes correl. to temperature and circulation 7−55142
O_3 in stratosphere above Antarctica, conc. rel to temperature changes 7−55152
O_3 in stratosphere above Antarctica, AD 1985 vertical distrib. 7−66210
O_3 in stratosphere above Antarctica, O_3 depletion in AD 1971 to 1984 period 7−66211
O_3 isotope measurements at Texas, USA, ^{49}O and ^{50}O observations 7−66209
O_3 over Antarctica, interannual variability during circumpolar vortex breakdown 7−55139
O_3 over Antarctica, ozonosphere conc. decrease in AD 1961 to 1985 period 7−55140
O_3, photochemical behavior near to 1 mbar level 7−29160
O_3 seasonal variations at high latits. in Southern Hemisphere, general circulation model simulation 7−55167
O_3, statistical trend analysis for troposphere and stratosphere 7−29158

P invariance
hidden supersymmetry and spectral asymm., fermion number fractionization and anomalies 7−24800
lattice QED, parity-violating fermionic vacuum currents, numerical study 7−19058
mesons, micrononcausal Euclidean wave functions assuming Yukawa type couplings 7−41596
neutrinoless double-beta decay in supersymmetric theories, R-parity violation 7−35765
neutron electric dipole moment, P invariance 7−56557
NN interaction, P nonconserving, SU(3)×SU(2)×U(1) anal. 7−49040
nonperturbative inconsistency of stochastic quantization in odd dimensions 7−61442
nuclear probes of isospin parity and time-reversal symmetry 7−49016
nuclei, weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
parity nonconserving potentials in atomic and nuclear physics *(Rumanian)* 7−15084
QED, topological mass quantization and parity violation 7−41693
strong and electromagnetic interactions 7−9995
supersymmetric effective action in 3D, parity violation and renormalisation procedure 7−48992
$e^+e^-\rightarrow e^+\tilde{\gamma}\tilde{e}^-$, longitudinally polarized beams, longitudinal and P-violating asymmetries, supergravity GUT calcs. 7−5082
$e^+e^-\rightarrow q\bar{q}g$, parity violating structure function calcs. 7−10067
$lN\rightarrow X$, structure functions and parity violation in supersymmetric QCD 7−61700
$(\vec{n},n)$, parity nonconserving effects at thermal energies 7−686
$(\vec{N},X)$, parity nonconservation in resonance interaction 7−5240
pN scattering, parity violation tests at high energy 7−30207
$\vec{p}p$, 800 MeV, parity violation meas. 7−30279
$\vec{p}p$ scattering, 45 MeV, P-violation meas. 7−5111
pp scattering, parity violation tests at low and intermediate energies 7−30207
πN parity-violating coupling constant, determination from nonleptonic Hamiltonians 7−4993
Cs, highly forbidden $6S_{1/2}$ - $7S_{1/2}$ transition atomic parity violation meas. 7−31184
$^{11}\vec{F}$ parity nonconserving asymmetry in decay transitions from $^{22}Ne(\vec{p},\alpha)$ 7−61794

P invariance continued
- ^{2}H(n,γ), thermal n, parity nonconserving effects 7−19164
- ^{4}He($\vec{p}$,p), 46 MeV, parity nonconservation, longitudinal anal. power 7−35944
- ΛN→NN, nonmesonic hypernuclei decay, meson exchange anal. 7−41933
- ^{29}Ne, parity nonconserving alpha decay widths, Fermi liquid model and RPA model 7−15204
- ^{119}Sn Mossbauer transition, P parity nonconservation obs. 7−49237

p-n heterojunctions
- bremsstrahlung isochromat spectroscopy for electronic struct. of semiconductors and heterojunctions 7−52795
- CdS-CuInSe$_2$ solar cells fabricated by DC magnetron sputtering of Cu$_2$Se and In$_2$Se$_3$ 7−23170
- compositionally graded semiconductors and device applics., book contrib. 7−27323
- copper phthalocyanine-anthanthrone heterojunction, charge carrier photogeneration *(Japanese)* 7−38610
- LPCVD production, anal and solar cell appls. 7−17452
- microscopic many-electron model 7−27431
- solar cells using thin film organic semiconductors 7−40001
- TEM characterisation of semiconductor heterostructs. and interfaces 7−52806
- AlGaAs-GaAs heteroepitaxial wafer for solar cell appls., uniform growth by MOCVD 7−64929
- AlGaAs-GaAs heteroface space solar cells with 21 percent conversion efficiency 7−3694
- AlGaAs-GaAs heterointerface, ballistic transport of quasi-2D electron gas 7−52788
- AlGaAs-GaAs solar cells, high efficiency DH cells fabrication using MOCVD 7−3693
- Al$_{0.26}$Ga$_{0.74}$As/GaAs heterojunction, high mobility 2-D hole gas 7−2679
- Al$_x$Ga$_{1-x}$As/GaAs multi-quantum-well Zn-diffused mesa BH lasers, submilliampere lasing 7−10991
- Al$_x$Ga$_{1-x}$As-GaAs double heterostruct. injection laser, power-current characteristics study 7−62704
- Al$_x$Ga$_{1-x}$As-GaAs heterointerface, 2D electron gas density 7−45448
- AlInAs-GaInAs selectively doped heterostructs., MOCVD growth, HIFET fabrication appl. 7−17429
- CdS-CdTe heterostructure, closed-tube CVD and charactn. 7−59444
- CdS-CdTe screen printed solar cell modules, long term reliability tests 7−23158
- CdS-CuInSe$_2$ solar cells, capacitance determ. of interfacial states 7−13916
- CdS-CuInSe$_2$ thin-film solar cells, junction formation and O role, EBIC studies 7−17915
- CdS-InP solar cells, high efficiency, with thermally evaporated window layers 7−3701
- CdSe-Cu$_2$Se heterojunction solar cell, dry formation, electron microscope study 7−17916
- CdTe thin film heterojunction solar cells 7−17914
- CdTe/GaAs heterojunction, defect and impurity states, photovoltage meas. 7−17065
- CdZnS-InP heterojunction solar cell, numerical anal. 7−23155
- Cu$_{2-x}$Cd$_x$Te-Zn$_{39.5}$Cd$_{60.5}$Te:I, heterojunction solar cells, fabrication and characterisation *(Korean)* 7−28402
- CuGaSe$_2$-ZnCdS wide bandgap solar cells for thin film tandem structs. 7−23172
- CuInSe$_2$/CdS solar cells, modelling and anal. 7−17893
- CuInSe$_2$-CdS heterojunctions deposition, in-line sputtering system 7−64900
- CuO-ZnO p-n contact, sensor appls. 7−64996
- GaAlAs-GaAs heterostructures grown by MOCVD, transition region, ellipsometric anal. 7−2388
- GaAlAs-GaAs heterostructure solar cells, multijunction with bulk graded bandgap/p-n junction 7−3676
- GaAlAs-GaAs solar cells grown by MBE, material props. and device parameters 7−23164
- GaAlAsGaAs quantum well heterostructures, grown by MOCVD, props. 7−45479
- GaAs concentrator cells, design options and constraints 7−3698
- GaAs, noise meas. using SQUID flux-transformer-coupled instrument 7−18830
- GaAs, resistance standard appl., precise comparisons of quantized Hall resistances 7−18809
- GaAs solar cells, depletion layer recombination effects on radiation damage hardness 7−13888
- GaAs/Al$_x$Ga$_{1-x}$As heterojunction photodiodes, band discontinuities 7−58871
- GaAs/Al$_x$Ga$_{1-x}$As heterostruct. localisation and interaction in a strong mag. field 7−64343
- GaAs/AlAs heterostruct., transition layer form. during LPE 7−45074
- p^{+}-GaAs/AlGaAs, double barrier, hot electron energy distrib. study using resonant tunnelling electron spectroscopy 7−45447
- GaAs/AlGaAs separate confinement heterostructure lasers, LPE prep. 7−10940
- GaAs/Ga$_x$Al$_{1-x}$As heterojunctions, anomalous quantum Hall effects 7−17085
- GaAs/GaAlAs heterostructure, quantized Hall resistance measurement at the National Measurement Laboratory, Australia 7−14965
- GaAs-Al$_x$Ga$_{1-x}$As, p-n junction waveguide, phase modulation, orientation depend. 7−57536
- GaAs-Al$_x$Ga$_{1-x}$As solar cell, operation with band-gap gradient in space charge region 7−54295
- GaAs-AlGaAs, MBE materials for high-speed digital heterostructure devices 7−45480
- GaAs-AlGaAs heterojunctions, scanning tunnelling microscopy, potentiometry 7−52780
- GaAs-Si p-n heterojunctions, interface charge polarity 7−38686
- GaInAs-InP double-barrier heterostructs., room temp. resonant tunnelling, neg. resist. effects 7−58814
- GaInAsP/InP heterostruct., luminescence polarisation, quantum size effects 7−13210
- GaInAsP/InP surface emitting laser with flat surface circular buried heterostructure 7−31358
- Ga$_{1-x}$P$_x$-GaP-Si mechanically stacked multijunction solar cells, p-n junction model 7−3668
- GaSb-GaAs photodiode, low-temp. growth by plasma process *(Japanese)* 7−7061
- InAlAs-InGaAs resonant tunnelling barrier struct., MBE grown, NDR characts. 7−52796

p-n heterojunctions continued
- InAsSbP/InAs p-n structures, nonclassical thermal injection current 7−12806
- InGaAs-InP heterostruct., rare earth doped, elec. and photoluminescence props. 7−46133
- InGaAsP/InP double heterostructures, microcathodoluminescence studies 7−39189
- InGaAsP/InP heterostructures, carrier lifetimes and quantum efficiencies, photoluminesc. studies 7−64675
- n-InGaAsP/p-GaAs diodes, photocurrent meas. of defect distribution 7−32851
- In$_{1-x}$Ga$_x$As$_y$P$_{1-y}$/InP heterojunctions, MOCVD grown, spectroscopic ellipsometry study 7−39195
- InP/InGaAs near-IR detector self-calibration feasibility determ. 7−15002
- InP-Ga$_{1-x}$In$_x$As$_y$P$_{1-y}$ double heterostructs., device quality, growth by MOVPE 7−7877
- In$_{2-x}$Sn$_x$O$_{3-y}$-InP, solar cells for space appl. 7−3700
- NiSi$_2$-Si (111), Schottky barrier height, rel. to Fermi level positions 7−27427
- Pb$_{0.8}$Sn$_{0.2}$Te-PbSe$_{0.08}$Te$_{0.92}$ heterostruct., LPE prepared, characts. 7−52759
- Pb$_{1-x}$Sn$_x$Te-PbTe graded-gap heterostruct., spectral photoelec. quantum efficiency 7−36961
- Se, multilayered structure, piezoelectric effect *(Russian)* 7−64572
- Si p-amorphous/n-cryst. anisotype heterojunction characts., acceptor doping level depend. 7−7355
- a-Si:H, localised electronic state, light soaking and current injection 7−16994
- a-Si:H,F/a-Si:H,F,Ge multiple junction solar cells on stainless steel substrates 7−13902
- a-Si:H heterojunction solar cell modules, fabrication by laser scribing 7−13900
- a-Si:H pin solar cells, open-circuit volt., temp. and light intensity depend. 7−46949
- a-Si:H/CuInS$_2$ heterojunctions, photovoltaic behaviour, c-v meas. 7−7340
- n^{+}-a-Si:H/a-Si:H/a-SiC:H heterostructures, electrophotographic props. 7−45485
- a-Si:H/a-SiC:H heterojunction, valence-band discontinuity, photocurrent-voltage measurements 7−58868
- a-Si:H/c-Si heterojunctions, reverse current characteristics 7−58887
- a-Si:H/crystalline Si heterojunction, photosensitivity studies 7−38714
- Si-InSb heterojunction, spectral characts. and detection props. 7−38712
- a−SiC:H-a-Si:H, solar cell, fabricated by plasma deposition *(Korean)* 7−33585
- a-SiC-a-Si:H stable heterojunction solar cell 7−23178
- a-SiGe:H alloys for solar cells, electronic and optical props. 7−17899
- Zn$_x$Cd$_{1-x}$Te thin film heterojunction solar cells 7−17914
- ZnSe films, electrochemical co-deposition, photoelec. conversion characts. 7−46959
- ZnSeTe wide bandgap solar cells for thin film tandem structs. 7−23172
- ZnTe-ZnCdS wide bandgap solar cells for thin film tandem structs. 7−23172
- ZnTe-ZnSe heterostructures, liq. phase epitaxially grown, luminesc. preps. 7−45477

p-n homojunctions
- chalcogenide glass films, metal ion doped, impurity effects 7−11943
- ion implanted, rapid thermal annealing 7−17569
- polysilicon for solar cell appls., DLTS study 7−38512
- Al$_x$Ga$_{1-x}$As homojunctions, minority-carrier diffusion, TOF studies 7−12797
- CdS-CuInSe$_2$ thin-film solar cells, junction formation and O role, EBIC studies 7−17915
- CuInSe$_2$, p-type, CdS induced homojunction formation 7−58867
- Ga$_{1-x}$Al$_x$As:Si, electrical current induced liq. phase epitaxy 7−27955
- Ga$_{0.96}$Al$_{0.04}$Sb layers, liq. phase epitaxial growth, elec. and photoelec. characterisation 7−39443
- GaAs concentrator cells, design options and constraints 7−3698
- GaAs epitaxial film shallow homojunction solar cells fabrication by Zn solid state diffusion method 7−17860
- GaAs p-n homojunction diode, photocurrent meas. of defect distribution 7−32851
- GaAs, p-n junction, scanning tunneling potentiometry study 7−45439
- GaAs p-n junction, space charge region, electrooptic effect investig. 7−52756
- GaAs shallow-homojunction solar cells, junction depth effect on photovoltaic parameters 7−3673
- GaAs solar cells, perform. and temp. dependencies of proton irradiated n-p and p-n cells 7−3702
- GaAs surface, anisotropically etched, p-n junction formation by MOCVD 7−13374
- GaAs, V$_F$-T characteristics of p-n junction at low temp. *(Chinese)* 7−12792
- n-GaAs:O, semi-insulating, impurity centres, electron capture 7−52643
- GaAsP, V$_F$-T characteristics of p-n junction at low temp. *(Chinese)* 7−12792
- GaAs$_{0.75}$P$_{0.25}$ solar cells, high efficiency, grown by one atmosphere MOCVD 7−3697
- GaInAs, pn junction formation by simultaneous implantation and diffusion annealing 7−38028
- GaP, V$_F$-T characteristics of p-n junction at low temp. *(Chinese)* 7−12792
- p-GaSb, low-temp. growth by plasma process *(Japanese)* 7−7061
- Ge, energy gap, indirect meas. 7−7107
- Ge-Si, p-n junctions, photoelectric props., effects of electron bombardment 7−7351
- HgCdTe:B^{+}, ion implanted n^{+}p junction, lifetime and carrier conc. profile 7−45450
- InP:Mg p-n junction waveguide fabricated by Mg ion implantation 7−64326
- InP:S, shallow n^{+} diffusion of S, open-tube diffusion technique, n^{+}-p junction formation 7−44912
- InSb, radiative heat pump appls. 7−40019
- In$_{2-x}$Sn$_x$O$_{3-y}$-InP, solar cells for space appl. 7−3700
- Pb$_{0.88}$Sn$_{0.12}$ Te cryst., annealing characts. and laser fabrication *(Chinese)* 7−10933
- Pd/Si:B,As/Si:B, As ion implant redistribution during Pd$_2$Si formation using rapid thermal annealing 7−16816
- Si cold cathode for high current densities 7−12816
- Si, defect diagnostics for submicrometer VLSI, book contrib. 7−44562
- Si, defect states on the surface and in the bulk, H passivation 7−13665

p-n homojunctions continued
Si diffused p-n structs, recomb. props. of base region, effect of thermal and radiation defects 7−17089
Si dot junction solar cells, fabrication and anal. 7−3708
Si, energy gap, indirect meas. 7−7107
Si film photoelements with drift field in solar cells, production and investigation 7−34030
a-Si films, ion implanted device structures, solid phase epitaxy, elec. props. 7−12564
p-Si, gamma-ray irrad., recombination centres, p-n junction meas. 7−37985
Si high-low junction emitter solar cell, quantum efficiency improvement 7−3681
Si junctions very shallow, elec. field anal. 7−21989
Si LPE layer form., depend. on Al_nM chem. reaction, M=refractory metal 7−7043
Si microstrip detector structures with implanted p-n junctions, functional props. 7−42325
Si multilayers, LPE growth, DEM, TEM obs. 7−12565
p-Si n$^+$pp$^+$ solar cell structs., quasisurface recomb. vel. determ. in contact layers 7−58875
Si, neutron transmutation doped p-n-p-n structs., fast electron irradiated, minority carrier lifetime variations 7−45352
Si, oxidation and epitaxy, limited reaction processing 7−22577
Si, oxidation of damaged surfaces, precipitation at stacking faults 7−38313
Si p$^+$-i-n$^+$ diodes, gamma irrad., capacitance detected mag. resonance 7−17243
Si p$^+$-n junction, superlinear response in IR spectral region *(Chinese)* 7−52751
Si p-n structures, induced current pot., temp. depend., impurity levels, SEM 7−17073
Si polycrystalline solar cell p-n junction, carrier lifetime, effective recomb. vel. and diffusion length, EBIC meas. 7−23138
Si shallow p-n junctions, reactive ion etching damage, defects and leakage current studies 7−27411
Si solar cells, polycrystalline, junction formation by light induced diffusion 7−13919
Si, solid-phase amorphous to crystalline transformation for shallow junction processing 7−32642
Si:As (B)(BF_2^+), p-n junction diode, rapid thermal annealing 7−22005
Si:B, excimer laser-induced shallow diffusion, junction form. 7−38038
Si:B p$^+$−n shallow junctions obtained by implantation into preamorphised Si, elec. charactn. 7−38703
Si:B p-n$^+$ junction, injection annealing of radiation defects 7−12161
Si:B$^+$(BF_2^+) submicron p-n junctions, ion implanted, dopant distrib., Raman study 7−21252
Si:BF_2^+ p$^+$-n diodes, BF_2^+-implanted and rapid thermal annealed, junction leakage currents meas. 7−12814
Si:B(P), doping by XeCl excimer laser irrad., ultra-shallow junction fabrication 7−58303
a-Si:H,B p-i-n and n-i-p solar cells, doping profile effects 7−46947
a-Si:H,P(B) p-i-n solar cells, open-circuit volt., wavelength depend. 7−46948
a-Si:H p$^+$-n-i structs., memory switching, transient current instability study 7−52762
a-Si:H p-i-n cells, carrier transport 7−17023
a-Si:H pin solar cells, open-circuit volt., temp. and light intensity depend. 7−46949
a-Si:H pin solar cells, photocurrent, transient behaviour 7−46950
a-Si:H solar cells, i-layer stability thickness dependency 7−17880
a-Si:H solar cells, turn-off character, wavelength depend. 7−46951
a-Si:H thin film solar cells, device properties 7−13897
Si:Ni reverse-biased p$^+$nn$^+$ junctions, electron thermal emission rates 7−7169
Si:P solar cells, effects of P prediffusion on properties 7−3677
SiC (4H) p-n junction, ion implanted, S-type I-V characteristic 7−64320
β-SiC:Al,N films, ion implanted, rapid thermal annealing and p-n junction formation 7−17569
SiC:N(Al) p-n junction diodes, impurity 7−27192

p-n junctions
see also p-n heterojunctions; p-n homojunctions
amorphous semicond. multijunctions, charge carrier transport, theoretical anal. 7−38690
boundary conditions at high injection level in space charge region 7−17091
diode equation $I = I_0 [\exp(qV/kT)-1]$, validity 7−35153
DLTS method for selective detection of deep recomb. centres 7−7168
electron-probe analysis using the dependence of the induced current on the acceleration voltage 7−38348
excess current mechanism, carrier surface tunnelling, WKB approx. calcs. 7−58876
generation-recombination noise in space-charge region, collective and corpuscular approaches 7−64298
glass passivated, polarisation induced instability 7−2680
impact ionisation rates, field fluctuation effects, Monte Carlo simulation 7−64323
ion shunt effect for charge transport between functions 7−63668
multi-junction photovoltaic cells with vertical p-n junctions 7−34035
nonlinear transport problems, use of electron temp. concept 7−7371
optical beam induced current imaging of dislocations in semiconductors 7−58106
p$^+$nn$^+$ junction radiation detector, reversed biased struct. 7−30899
solar cells, series resistance depend. on operating current 7−54306
thermoelectric potential distribution 7−52761

P-V-T relations *see equations of state*

Pa *see protactinium*

pacemakers
see also patient treatment
dual chamber pacemakers, expert system and diagram for troubleshooting 7−28775
expert systems and compiler techniques for intelligentimplantable cardiac pacemakers 7−14162
mathematical model of the cardiac cond. system included external pacemakers 7−40129
^{238}Pu, radioisotope thermoelectric generators for implanted pacemakers 7−28699

packages (software) *see software packages*

packaging
see also encapsulation; modules
ceramic synthesis from molecular precursors, conf., Palo Alto, USA (Apr. 1986) 7−35113
semiconductor and electrical engineering devices, cooling device design 7−37314
C-Zn dry battery with outer metallic jacket *(Japanese)* 7−65427
In GaAsP lasers, high speed design and performance 7−62700

packing *see packaging*

pair algebra *see algebra*

pair annihilation, electron *see electron-positron inclusive interactions*

pair breaking, Cooper *see Cooper pairs*

pair production, electron *see electron pair production*

pairing, Cooper *see Cooper pairs*

pairs, electron *see electron pairs*

palaeomagnetism
Absaroka Mountains, WY, USA, Eocene thick lava flows, recorded rapid secular geomag. var. 7−65931
Adriatic promontory, palaeomagnetism and geodynamic evolution 7−23543
N Aegea, Greece, Oligocene formations palaeomag. data, tectonic implications 7−47417
central Aegea deformation from Neogene palaeomagnetism 7−60163
Aegean area, Neogene palaeomagnetism and tectonic rotational deformation 7−23542
S Africa, Permian and Triassic palaeomagnetism and plate tectonic reconstructions 7−8797
African Devonian palaeoposition rel. to Msissi norite studies 7−60195
archaeomagnetic ages of baked clay at Sopron, Hungary *(Hungarian)* 7−18113
SE Arizona, USA, Jurassic palaeomagnetism and age of Patagonia Mts. 7−28835
Askoy mafic pluton, Norway, events of Caledonian metamorphic remagnetisation, palaeomag. anal. 7−47339
S Atlantic, Oligocene palaeocean and palaeoclimate conditions 7−23698
S Australia, Precambrian periglacial varvites, palaeomagnetism, palaeolatitude and palaeoclimate 7−8798
authigenic magnetite and hydrocarbons, occurrence correl., palaeomagnetic aspects 7−60253
E Baltic Shield, polar wander path from palaeomagnetism of Archaean and Proterozoic basic intrusives 7−28828
Boston basin, Eocambrian palaeomagnetism, displaced terrane 7−60164
N Brittany, France, Lower Carboniferous dolerite dykes, palaeomag. anal. and K-Ar dating 7−18110
Late Brunhes epoch geomagnetic excursions from European data 7−8818
Brunhes-age viscous remanence in magnetite- and haematite-bearing dolomites 7−60250
Bushveld Complex, South Africa, palaeomagnetism and igneous intrusion emplacement 7−8800
cape Breton Is., Nova Scotia, Canada, paleomagnetism and tectonic history 7−65928
Cape Breton Is., Nova Scotia, Canada, paleomagnetism of Cambrian redbeds 7−65929
Catskill Formation of Pennsylvania Salient, USA, palaeomagnetic study 7−40412
cave sediments, Pwll y Gwynt, S Wales, palaeomagnetic study 7−8820
Cenozoic palaeomagnetic pole positions, implications for global plate motions 7−40455
China, loess deposits, palaeomagnetism, palaeoclimate and sedimentary history 7−40557
Colorado Plateau, palaeomag. data anal. rel. to tectonic rotation 7−14251
Colorado Plateau, palaeomag. evidence for tectonic rotation 7−14250
Early Cretaceous/Late Jurassic dike swarm in NE Brazil, rock magnetism and palaeomagnetism 7−54869
Cyprus, rot. and translation, palaeomagnetic timing 7−66067
Dabusan Lake, Tibet, magnetostratigraphy and age of 528 m borehole core 7−8817
Datong volcanic cluster, Pleistocene geomagnetic palaeointensity determ. 7−18112
Deccan flood basalts, palaeomagnetism and relation to Cretaceous-Tertiary boundary 7−34417
Devonian rocks of Kvamshesten, W Norway, tectonic implications of Solundian (Upper Devonian) magnetisation 7−34376
Dinaric fold belt, Yugoslavia, Cretaceous palaeomagnetism and tectonic rotation 7−65937
direction determination for multicomponent system 7−8806
Dunbar, Scotland, palaeomagnetic directions for Carboniferous rocks *(Chinese)* 7−3973
dynamo model and quadrupole and octupole fields since 200 Myr BP 7−28832
central France, Holocene and Wurmian lake sediment study 7−8805
Glarus Nappe Complex, E Switzerland, tectonically deformed red beds 7−23540
historical times geomag. field from palaeo- and archaeo-magnetic records 7−23538
Hungary, archaeomagnetic directions for last 2000 years 7−8803
Hungary, palaeomagnetism and tectonics of Valence Hills and Mecsek Mts. 7−14182
intensity determ. from step-wise remagnetisation method 7−54865
Inuyama area, central Japan, paleomagnetism rel. to tectonic history of Pacific Northwest 7−54871
SW Japan, Cretaceous Izumi group, paleomagnetic directions and tectonics 7−3975
Japan Sea opening 7−18172
Jurassic apparent polar wander for N America, and tectonic plate movements 7−28834
Kap Kobenhavn Formation, NE Greenland, Plio-Pleistocene magnetostratigraphy 7−8819
Kentland, Indiana, cryptoexplosion struct., palaeomag. estimate of age and thermal history 7−29030
Koobi Fora Formation, Lake Turkana, Kenya, magnetostratigraphy study 7−28838
Lac du Bouchet, France, secular variations from lake sediment data 7−8815
Lake City caldera, event timing from palaeomagnetism 7−14189
Les Vignes basaltic complex (France), ^{40}K-^{40}Ar and palaeomag. data rel. to Bajocian-Bathonian boundary calibration 7−47389

palaeomagnetism continued
- limestones of Jurassic and Cretaceous, Curie temperature and mag. mineralogy 7—8917
- Lodeve Basin, France, Permian redbed sequence 7—23529
- loess deposits in Belgium of L Pleistocene age 7—8816
- magmatic rocks, palaeomagnetic field statistical estimation 7—54866
- Massif des Maures, S France, upper Permian palaeomagnetism *(French)* 7—23523
- Matuyama short polarity intervals, sediment record from N Atlantic 7—60154
- Mecsek Mts., SW Hungary, tectonic rotation, palaeomagnetism and volcanic history 7—14243
- Methow-Pasayten belt of Washington, USA, Cretaceous palaeomagnetism and tectonics 7—8807
- central Mexico, Brunhes palaeosecular var., lava meas. 7—60162
- Mianwali re-entrant and W Salt Range, Pakistan, palaeomag. constraints on form. 7—34380
- Mojave-Sonora megashear in NW Mexico, palaeomagnetic test 7—14194
- Montagne Noire, France, magnetotectonic study of Devonian limestones 7—23541
- Msissi norite, Morocco, K/Ar dating, petrography and palaeomagnetism 7—8882
- S Nevada, USA, palaeomagnetism of plastically deformed welded tuff 7—40416
- New Zealand, palaeomag. evidence for large tectonic rot. in last 5 Myr 7—34377
- New Zealand cave sediments, Pleistocene secular variations from palaeomagnetic record 7—54860
- North Island, New Zealand, mag. polarity stratigraphy of Plio-Pleistocene marine sequence 7—34378
- overprinting during long mag. polarity intervals, new mechanism 7—8920
- equatorial Pacific sediment magnetostratigraphy, Neogene to Pleistocene 7—3977
- Peerless Formation, Colorado, Early and Late Palaeozoic remagnetisation 7—8813
- E Pennsylvania, USA, Catskill Formation palaeomagnetism and tectonics 7—40415
- Permian redbed sequence from French drill core, palaeomagnetic study 7—23529
- Late Pliocene pelagic clay from South Pacific, remanent magnetization 7—60161
- polarity intervals rel. to Rikitake two-disk dynamo 7—65936
- polarity reversals, implications of reversed magnetisation in pyroclastics from Nevado del Ruiz, Colombia 7—34482
- W Portugal, palaeomagnetism, ages and tectonics of Cretaceous igneous rocks 7—47327
- Precambrian palaeomagnetism of Michigan and Wisconsin, USA, the Logan Loop 7—28837
- red cherts of Inuyama area, central Japan, paleomagnetism and paleolatit. 7—54872
- reversals of Earth's magnetic field, review 7—23539
- Riasi thrust sheet, NW India, palaeomag. evidence for rot. overthrusting of NW Himalaya 7—34379
- roof-tiles used as floor of kitchen oven in Italy, polyphase magnetization 7—47336
- Samos Is., Greece, Miocene deposits containing fossil mammals, magnetostratigraphy 7—23524
- San Miguel Is., California, USA, Cretaceous and Eocene palaeomagnetism and tectonics 7—28836
- Santa Cruz County, California, magnetostratigraphy of Pliocene Purisima Formation 7—8799
- Scottish Ordovician palaeomagnetism, reappraised 7—54862
- Scottish Ordovician palaeomagnetism and tectonics, reappraisal 7—54861
- young sediment palaeomagnetism, conf., Louvain-la-Neuve, Belgium (Jul.-Aug. 1984) 7—4628
- W Siberia, neotectonic vertical movements from palaeomagnetic data 7—28959
- siderite containing rocks, anomalous mag. props. and palaeomag. 7—40468
- Sopron, Hungary, archaeological baked clay, archaeomagnetic ages *(Hungarian)* 7—18113
- Spitsbergen, Devonian sandstone palaeomagnetism and plate tectonic position 7—23531
- Tadzhik Depression, USSR, study of polarity transition fields 7—8811
- tectonic deformation effects on rock magnetism and compensation methods for palaeomagnetic studies 7—23636
- Toba tuffs, stratigraphy, palaeomagnetism and mag. fabric rel. to sources and eruptive styles 7—28958
- Troodos microplate, Cyprus, palaeorotation in Meso-Cenozoic plate tectonic framework of E Mediterranean 7—34441
- Yangtze platform, Triassic palaeomagnetism 7—14188

paleomagnetism *see palaeomagnetism*

palladium
- *see also nuclei with ......*
- angular correlation of positron annihilation radiation, calc. 7—39244
- atom, Auger transitions, relative intensities for KMX and KXY groups 7—25442
- carburised, X-ray diffr. study 7—21383
- chemisorption of H, tight-binding approach, s-orbital hopping parameters calc. 7—21625
- clusters in C matrix, electronic and struct. studies by EXAFS and XANES 7—17363
- clusters on substrates, core-electron binding energy, photoemission initial and final state effects studies 7—27859
- cold neutron interactions, total cross sections meas. 7—63666
- conduction electrons, gyromag. factor calcs. 7—7099
- contact finish performance and cost 7—3508
- DC transport 7—17010
- dynamic spin susceptibility, contrib. to low temp. sp. ht. 7—33143
- elastic properties of single crysts. at high temps. 7—63710
- electrode surface, H overpotentials 7—23031
- electrodeposition, pulsed current parameters effect on deposit morphology, H content 7—59473
- electrodeposition assisted by laser beam *(German)* 7—39440
- electrodes, surface hydride formation 7—23067
- etching by photochem. machining 7—22909
- evaporated clusters on CdTe, core level electron binding energy shifts, photoemission spectra 7—22451
- Fermi surface curvature, de Haas-van Alphen effect meas. 7—2467

palladium continued
- Fermi surface exchange splitting, de Haas-van Alphen effect studies 7—52405
- film, adhesion on sapphire, ion beam induced enhancement 7—21292
- film on Si, epitaxial silicide form., initial nucleation processes and effects 7—21767
- films, adsorption of benzonitrile and alkyl cyanides, XPS 7—52288
- films, sputter deposition, effect of ion bombardment of growing film 7—64009
- films, vapour-quenched, elec. resistivity *(Japanese)* 7—33107
- films on Al (111), growth and electronic struct., UPS, LEED and AES studies 7—52350
- fine powder, synthesis from metallic aerogels 7—3216
- Frank-Van der Merwe growth on Ag (111), AES, surface reflectance spectra studies 7—32829
- lattice dynamics 7—51972
- liquid, thermoelectric power calc. 7—12704
- membrane, diffusion of H_2, transport coeffs. and energetics 7—21533
- metallisation using decomposition of palladium acetate films with microfocused ion beam 7—52314
- molecular dynamics simulation model for H impurity mobility and thermotransport props. 7—58554
- monolayers on Ta(110), morphology and struct. phase transitions 7—38374
- optical constants measured by a multiple-wavelength ellipsometer 7—27683
- particles, multiply-twinned, direct atomic imaging 7—44565
- polycrystalline surface, internal energy distrib. of recombinatively desorbing D_2 7—2350
- polymer-Pd system, enhanced ATR spectra of polymer surface layers 7—22266
- reflectivity and electronic struct. studies 7—17298
- resistivity and superconducting transition temp. 7—17013
- small crystallites, effect of particle size on stoichiometry of CO adsorption 7—6984
- small metallic particles, surface fractal dimension 7—38308
- supported particles on C, Al_2O_3 and SiO_2, XPS studies 7—27868
- surface, (100), adsorption of cyanogen, Penning ionisation electron spectroscopy, UPS, TPD studies 7—52268
- surface, (100), clean and S covered, adsorption and desorption of NO, surface reactions, TPD, EELS, LEED 7—58639
- surface, (100), surface topographies, SEM and scanning tunnelling microscopy studies 7—12436
- surface, (110), adsorbed H, row pairing model 7—2370
- surface, (110), O_2 adsorption 7—52274
- surface, (110), with chemisorbed N_2, EELS, LEED and AES 7—63960
- surface, (111), adsorbed H, order-disorder transitions, theory 7—12492
- surface, (111), chemisorption of NO, photoemission study using synchrotron radiation 7—22446
- surface, (111), CO chemisorption, inverse photoemission spectra 7—21638
- surface, (111), high resolution inverse-photoemission study 7—17357
- surface, (111), O_2 adsorption, EELS and LEED studies 7—2378
- surface, (111), ultrathin Fe films, photoemission, LEED and AES studies 7—45068
- surface, (111), with adsorbed S, adsorbate oxidation kinetics *(German)* 7—33953
- surface, (11), adsorbed O_2, p(2×2) structures, surface phonons, bond-stretching interactions 7—21607
- surface, adsorbed Xe, core-electron binding energies, photoemission studies 7—3146
- surface, adsorption of CO, vibr. spectra 7—12475
- surface, $H_2(D_2)$ desorption, rovibr. state distrib., VUV laser induced fluoresc. 7—17826
- surface, H_2 sorption rate investig. 7—32834
- surface, oxidised, in acidic solns., zero charge points 7—13783
- surface (001), angle-resolved Auger electron spectroscopy, incident beam effects 7—3122
- surface (001), H adsorption, coverage depend. props., ab initio calcs. 7—38340
- surface (100) with modified Na (NAO) overlayer, adsorption of methanol, formaldehyde and formic acid 7—21657
- surface (110), adsorbed states of O, EELS and LEED study 7—27115
- surface (110), H adsorption and overlayer ordering, embedded-cluster model anal. 7—52256
- surface (110), selective population of H subsurfaces sites, He diffr., thermal desorption spectra study 7—6958
- surface (110) adsorpt. of O_2 at 300K, LEED and EELS studies 7—27093
- surface (110) with impurity S coverage, kinetics of H absorption 7—6995
- surface (111), CO and O co-adsorption, SIMS and TPD studies 7—27137
- surface (111), electron state spectroscopy with scanning tunnelling microscope 7—7306
- surface characterisation by neutron inelastic scatt. from adsorbed H 7—7000
- surface structure, scanning tunnelling microscopy studies 7—18921
- surfaces, (100) and (111), resonances in vibr. spectroscopy 7—52229
- surfaces (111) and (110), hydrogenation of adsorbed CN 7—6985
- thermal decomposition study instrument 7—59818
- underpotential deposit on SnO_2:F electrode 7—44998
- vapour quenched films, resistivity meas., indirect obs. of amorphous to crystalline transition 7—52864
- Cu/Pd metallic superlattices, UPS, LEED, AES and ISS studies 7—3153
- Fe-Pd multilayer structs., localised phonon modes 7—46061
- Fe-Pd multilayer structures, collective spin waves 7—46060
- H diffusion and segregation in grain boundaries 7—63632
- H diffusion coeff. in Pd, influence of subsurface layer on meas. 7—6892
- H permeation, diffusion and surface rate coeff., press.-modulated absorpt.-desorpt. 7—58612
- H solubility, thermodynamics of dil. solns. 7—21480
- Mo-Pd-Si, thin film metallisation system, interdiffusion, cpd. formation 7—21538
- Pd + He^+, L shell X-ray prod. cross sections meas., first Born approx. and ECPSSR theory anal. 7—36526
- Pd V, fifth spectrum anal. 7—42532
- Pd, X-pocket holes, anisotropy of conduction electron Zeeman splitting 7—32963
- Pd^-, core size role in photoelectron spectra 7—15571
- Pd/a-Si:H system, silicide form., struct. and electronic props. 7—38363
- Pd/a-SiGe:H,F, Schottky barrier height, internal photoemission meas. 7—45501
- Pd/Al composite film MOS structure, H_2 sensitivity 7—52842

palladium continued
  Pd/Al_2O_3 surfaces, ethylidyne covered, CO adsorpt., IR spectra studies 7−2371
  Pd/C model catalyst supported on TEM grids, in-situ heating and microanalysis expts. 7−23098
  Pd/GaAs film/surface reaction, TEM 7−39920
  Pd/InP (111), chem. reactions, overlayer morphology and Fermi level pinning 7−7020
  Pd/Ni interface, strongly paramagnetic layer, magnetisation distrib. 7−7475
  Pd/Si interface composition and silicide form., atom probe FIM study 7−32845
  Pd/Si:B,As/Si:B, As ion implant redistribution during Pd_2Si formation using rapid thermal annealing 7−16816
  Pd-Cr-SiO_x-p-Si MIS electrodes for electrochemical solar cells 7−34048
  Pd-GaAs, metallurgical reactions, heavy ion Rutherford backscattering spectrometry 7−53488
  Pd-GaAs, phase formation sequence, morphology 7−27153
  Pd-Ge ohmic contacts to InGaAsP-InP, solid-phase epitaxial growth 7−2706
  Pd-H system, H conc. determ. in absorbing metallic thin films 7−23117
  Pd-H system, H transport coeffs. and energetics 7−6891
  Pd-H system, phase form., process *(Russian)* 7−33640
  Pd-H system, plastically deformed, H-dislocation interactions 7−6671
  Pd-H system, struct. changes, phase rels. 7−22643
  Pd-Ni interface, mag. size effects 7−59081
  Pd-PET membranes, H diffusivity and solubility, meas. by nonequilib. stripping potentiostatic method 7−6809
  Pd-Pt, mixed layers, electroplated on stainless steel support, oxidation catalyst appl. 7−22596
  Pd-Pt matrix-marker layer system, cascade mixing, projectile mass depend. 7−58375
  Pd-Si interface, silicide formation, in situ ellipsometric studies 7−21694
  Pd-Si interface, silicide formation, electronic struct. 7−21972
  Pd-Si thin film growth, Pd_2Si formation, TEM study *(Chinese)* 7−7038
  Pd-SiC interface, compositional depth profiles and intermixing, atom probe FIM study 7−32843
  Pd-T system, solubility meas., comparison with Pd-D and PdH systems 7−21474
  Pd-Te system, phase diagram study 7−26934
  ^{103}Pd decay, absolute photon intensities determ. by coincidence method 7−5569
  Si:Pd, deep levels electronic struct., Xα-SW study *(Chinese)* 7−58761
  Si:Pd, inelastic relax., neutron irrad. effects 7−44689
  Si-Pd, Pd_2Si formation, TEM study 7−38267
  Si-SiO_2-Ag(Cu)(Au)(Pd)(Ti) MOS structures, diffusion coeff. meas. in elec. fields, solid solubilities 7−2279
  SnO_2-Pd-Sb H_2 gas sensor insensitive to alcohol *(Japanese)* 7−56242

palladium alloys
  see also palladium compounds
  contact finish performance and cost 7−3508
  dilute, internal oxidation of impurities, XAS study 7−63633
  electrode surface, H overpotentials 7−23031
  $Pd(Fe,Co,Ni)_{0.05\text{-}0.15}Si_{0.17}$ metallic glasses, crystallization kinetics, elec. resist. obs. *(Chinese)* 7−11919
  rare earth $RPdSi_2$ and RRh_2Si_2 (R=Y, La, Lu) ternary compounds, superconductivity 7−12901
  tubes, diffusion of H_2 7−20828
  Ag-Pd, random alloys, residual electrical resistivity, first-principles calc. 7−2569
  Ag-Pd alloys, H_2 permeability at 2 kbar press. and high temp. 7−27011
  Al-Pd, ion induced metastable phases 7−63673
  Al-Pd, rapidly solidified, decagonal phase morphology 7−39499
  Au-Ag-Cu-Pd, cast microstruct, segregation, TEM obs. 7−39495
  Au-Cu-Pd, corrosion resist. 7−39739
  Au-Pd, preferential sputtering and surface segregation 7−59339
  Au-Pd films, electron scatt. times, weak localisation studies 7−64367
  Au-Pd thin films and wires, localisation and electron-electron interaction effects, magnetoresist. meas. 7−52863
  $Au_{60}Pd_{40}$ narrow rings and lines, low-temp. magnetoresist., aperiodic struct. 7−64206
  $Au_{60}Pd_{40}$ thin films, warm electron energy loss meas. 7−2739
  $CePd_3$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7−32900
  $CePd_3$, electronic structure and intrinsically selective absorption 7−38444
  $CePd_3$ mixed valence system, conduction carrier density, energy and temp. depend. 7−21882
  Cu/NiPd multilayered film, atomic level structural characterisation 7−16900
  Cu/PdNi, single cryst. multilayers, sputter deposition 7−53582
  Cu-Pd alloy, surface segregation, scanning Auger electron microscopy study 7−21578
  Cu-Pd bimetallic system, electron microscopy 7−16504
  Cu-Pt-Pd ternary alloys, L1-type ordered phases 7−16493
  CuPd, disordering by 14 MeV Cu ions between 296 and 823 K 7−51877
  Cu_3Pd, alloys with periodic antiphase boundary struct., dislocation motion 7−63620
  $Cu_{3\pm x}Pd$, long-period superstructures 7−21430
  $Cu_{75}Pd_{25}$, partial densities of states determ., valence band photoelectron spectra meas. 7−52390
  Dy-Tb-Pd ternary alloys, evaporation, thermodynamic props., Knudsen effusion method 7−32627
  Eu_xPd_{1-x}, amorphous mixed valent alloys, X-ray absorpt. spectra 7−64802
  $EuPd_2Si_2$, mixed valence system, interconfiguration fluctuation model 7−64188
  Fe-Pd, thermoelastic FCC-FCT martensitic transform. mechanism, TEM obs. 7−28041
  Fe-Pd-N austenite, thermodynamics, 1315-1538K 7−13429
  Fe-Pd-S system, phase equilib. 7−3272
  $(FeNi)_xPd_{1-x}$, atomic mag. moments, magnetisation meas. *(Russian)* 7−17198
  $Fe_{50}Ni_{25}Pd_{25}$, surface oxidation, X-ray Lα,β emission spectra studies 7−13265
  FePd, annealed, transport and thermal expansion props. 7−46512
  FePd, thermal expansion and α-γ phase boundary lines 7−2239
  $Fe(Pd_{1-x}Au_x)_3$ disordered alloys, atomic and mag. structs., Mossbauer studies *(Russian)* 7−17247
  Gd-Pd, formation enthalpies, calorimetric determ. 7−65341
  $GdPd_3$, electronic structure and intrinsically selective absorption 7−38444

palladium alloys continued
  Ge-Pd, temp. and conc. depend. diamag. susceptibility 7−2811
  $Hf_{1-x}Pd_xH_y$, crystal-amorphous transformation, thermodynamics and kinetics 7−21108
  $LaPd_3$, electronic structure and intrinsically selective absorption 7−38444
  Ni-Cu-Pd ternary system, state-state composition determ. from binary system under sputtering 7−22421
  $(Ni\text{-}Pd)_{82}Si_{18}$ amorphous alloys, corrosion behaviour, struct. relax, effects. 7−8166
  $Ni_{40}Pd_{40}P_{20}$ alloy glass, solid-liq. interfacial energy 7−2208
  $Ni_{40}Pd_{40}P_{20}$, glass transition, internal friction by Collette torsion pendulum 7−38199
  $Ni_{45}Pd_{35}P_{20}$ metallic glass, decomposition, crystallisation and embrittlement, atom-probe FIM study 7−33639
  $Pb_{80}Si_{20}$, amorphous, thermal stability, Auger study 7−58577
  Pd-Ag alloy electrodeposition assisted by laser beam *(German)* 7−39440
  Pd-Ag alloy electroplated coating contact and corrosion resistance and wear 7−3509
  Pd-Ag gates in MOS structures for use as H sensors 7−65364
  Pd-Ag-Fe (1 and 2 at.%), plastically deformed, elec. resist., short range order effects 7−27318
  Pd-Ag-Rh, electronic structure, KKR-CPA method 7−64074
  Pd-B alloys, thermodynamic props. *(German)* 7−21486
  Pd-B-H alloys, internal friction, elastic consts. 7−26857
  Pd-B-H dilute solutions, statistical mechanics 7−21669
  Pd-Ce-H, electrical resistance meas. 7−32984
  Pd-Cu-Ag, ordering and precipitation, field emission microscopy studies *(Russian)* 7−46472
  Pd-Er alloys, elec. resist., temp. depend., Matthiessen's rule deviations 7−45269
  Pd-Fe:B(O), mag. susceptibility, impurity effects 7−27520
  Pd-Fe(Ni) dilute alloys, Fermi surface exchange splitting, de Haas-van Alphen effect studies 7−52405
  Pd-H, and substitutional alloys, thermodynamics of dil. solns. 7−21480
  Pd-H, dil., elec. resist. meas., 250-350 K 7−64233
  Pd-H, single particle dynamics, simulation model 7−27016
  Pd-H alloys, low freq. internal friction meas., precipitation peak obs. 7−51933
  Pd-H system, ion implanted, XPS and UPS studies 7−7813
  Pd-H system, phase form., process *(Russian)* 7−33640
  Pd-H_2, Pd-based ternary system, hydrogen absorption, model 7−26970
  Pd-In 7−46487
  Pd-In alloys, constitutional and thermal defects, positron lifetime study 7−39299
  Pd-Ni alloys, formation enthalpies and lattice parameters, embedded atom calc. 7−44455
  Pd-Rh, high temp. air oxidation, surface comp., AES 7−22891
  Pd-Rh alloy thin films, co-deposited, phase form. 7−59492
  Pd-Rh-P-Si, surface alloy vitrification by laser treatment 7−21271
  Pd-Si, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7−3354
  Pd-Si alloys, H absorption, structural disorder effects 7−52249
  Pd-Si base metallic glasses, viscous flow, comp., thermal stability *(Chinese)* 7−12341
  Pd-Te, phase diagram, DTA, X-ray powder diffr. studies 7−39483
  Pd-Ti, ion-beam-mixed surface alloys, processing of metals for improved corrosion resist., surface modification program 7−65200
  Pd-U-Si, growth of quasicrystalline phase from glassy state 7−58144
  Pd-U-Si glassy alloys, glassy-to-icosahedral polymorphous crystn. transform., X-ray and electron diffr. studies 7−6515
  Pd-U-Si glassy state, quasicrystalline phase form., X-ray and electron diffr. studies 7−26645
  Pd-Y system, obs. of order 7−58456
  Pd-Y-H ternary solid soln., H diffusivity 7−63866
  $Pd_{0.8}$ $Ag_{0.2}$-T systems, solubility meas., comparison with $Pd_{0.8}Ag_{0.2}$-D and $Pd_{0.8}Ag_{0.2}$-H systems 7−21474
  Pd_{80} $Si_{20}H_3$, metallic glass, H diffusion, quasielastic neutron scatt. study 7−21534
  $Pd_{100-x}Ag_x$, plastically deformed, elec. resist., short range order effects 7−27318
  $Pd_{0.9}Ag_{0.1}D_{0.61}$, lattice dynamics and phonon line shapes 7−2120
  $Pd_{0.67}B_{0.33}$, amorphous, prep. by low temp. ion beam mixing *(Chinese)* 7−51887
  PdBa, ion implantation induced nonequilibrium surface layers, electron emission props. 7−12090
  PdCe, Ce impurity, ground state studies, multiplet effects, near-edge XAS 7−64803
  Pd_7CeH_x, H solubility in ordered/disordered Pd alloys 7−21473
  PdCuSi, amorphous, reversible and irreversible changes in the thermal conductivity 7−45267
  $Pd_{77.5}Cu_6Si_{16.5}$ glass, cryst. nucleation and growth kinetics 7−11917
  $Pd_{78.5}Cu_6Si_{15.5}$ metallic glass, structural relax., vitrification, sp. ht., DSC obs. *(Russian)* 7−37880
  $PdD_{0.8}$, β-phase, interatomic pots. and lattice distortions 7−21372
  PdFe, drawing effects on elec. resist. and mech. props. *(Russian)* 7−17584
  PdFe ordered alloy, discontinuous domain coalescence *(Russian)* 7−2025
  Pd_3Fe disordered allow, low-energy spin-wave excitations, Heisenberg model calcs. 7−2829
  Pd_3Fe, disordered phase, electronic struct. anal. 7−58735
  Pd_3Fe, electronic struct. 7−52415
  Pd_3Fe hydrated ordered alloy, mag. behaviour, Mossbauer studies *(Russian)* 7−2890
  $Pd_{1-x}Fe_xH_n$ system, isomeric shift, fluctuations of hyperfine interaction, Mossbauer study 7−45843
  $PdFe_xMn_y$, reentrant alloy, ferromagnetism investig. 7−2860
  $Pd_{75}Fe_5Si(P)_{20}$ amorphous spin glasses, muon spin relax., temp. depend. meas. 7−45882
  PdH, angular correlation of positron annihilation radiation, calc. 7−39244
  PdH, thin film thickness depend. resistivity changes meas. 7−33109
  $PdH_{0.64}$ hydride, superlattice ordering, implanted muon study 7−51689
  $PdH_{0.74}$ single cryst., local H arrangement around muons, μSR studies 7−51788
  PdH_x, cold neutron interactions, total cross sections meas. 7−63666
  PdH_x, dilute alloys, Pd substituted, interaction of H with impurities, EXAFS study 7−64806
  PdH_x, electronic density of states, recursion method 7−64043
  PdH_x films, critical solution temperature, thickness dependence 7−32864
  PdH_x films, H absorption, press.-composition isotherm studies 7−52248
  PdH_x, H diffusion by tunnelling 7−6880

palladium alloys continued

- PdH_x, H-induced lattice expansion and effective H-H interaction 7−52247
- PdH_x, nonstoichiometric, electron density of states, analytic CPA model calcs. 7−52400
- β-PdH_x, spin polarisation torsional spectroscopy 7−33280
- Pd_3MH_x (M=Fe, Mn), H solubility in ordered/disordered Pd alloys 7−21473
- PdMn, atomic and mag. short range order 7−52941
- Pd_3Mn, H-induced order-disorder transition 7−46460
- Pd_2MnSn, cubic ferromagnet, high temp. spin dynamics 7−2881
- PdNi alloys, magnetic clusters interaction energy calcs. 7−45652
- $Pd_{40}Ni_{40}P_{20}$ metallic glass, structural relax., shear and longitudinal sound. vel. meas. 7−51655
- $Pd_{82-y}Ni_ySi_{18}$, ($y = 10, 20, 32$), amorphous alloy, electrical resistance meas. in gaseous H_2 7−32978
- PdRhPSi(SiNi), amorphous laser processed surface alloy on cryst. Ni in NaOH soln., anodic characts. 7−28317
- PdSi, phase transform. to Pd_2Si, kinetics 7−16795
- $Pd_{0.84}Si_{0.16}$ metallic glasses, crystallisation kinetics, elec. resist. obs. *(Chinese)* 7−11919
- $Pd_{100-x}Si_x$, ($x = 15, 17, 18$), amorphous alloy, electrical resistance meas. in gaseous H_2 7−32978
- Pd_2Si and PdSi, optical constants measured by a multiple-wavelength ellipsometer 7−27683
- Pd_2Si, epitaxial silicide form., initial nucleation processes and effects 7−21767
- Pd_2Si polycryst. film on Si, ion sputtering effects, XPS, UPS and scanning tunnelling microscopy studies 7−59357
- $Pd_{77}Si_{23}$ metallic glasses, picosecond laser annealing 7−44613
- $Pd_{80}Si_{20}$, amorphous, H solubility and diffusion 7−26969
- $Pd_{80}Si_{20}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
- $Pd_{80}Si_{20}$, metallic glass, crystallisation 7−37882
- $Pd_{81}Si_{19}$, glassy, surface topographies, SEM and scanning tunnelling microscopy studies 7−12436
- $Pd_{81}Si_{19}$ glassy alloy, surface structure, scanning tunnelling microscopy studies 7−18921
- PdSiCo inhomogeneous magnetic alloys, anomalous Hall effect−magnetic polarisation correls. 7−7208
- PdSiCu, amorphous, ultrasonic vel., mechanical props. *(Korean)* 7−26874
- $Pd_{80}Si_{20}H_3$ metallic glass, H diffusion, quasielastic neutron scatt. studies 7−52119
- Pd_3Th, impurity internal oxidation, EXAFS 7−17360
- PdTi, enthalpy of form. by high temp. calorimetry 7−21410
- $Pd_{58.8}U_{20.6}Si_{20.6}$ alloys, glassy to icosahedral quasicrystalline phase transition, elec. and mag. props. 7−37863
- $Pd_2Y_{1-x}Dy_xSn$, Heusler alloy system, field-induced reentrant superconductivity 7−2765
- Pt-Pd phase diagrams, thermodynamic calc. from expt. data on solidus temp. 7−3274
- Pt-Pd-Cu_2S-Ni_3S system, annealing, phase comp., DTA 7−46412
- ScPd, inter-band optical cond., microscopical calc. *(Russian)* 7−59166
- Tb-Pd alloys, thermodynamic study by Knudsen effusion method 7−44855
- Ti-Pd, amorphous, formation by mechanical alloying methods 7−59479
- $TiPd_3$, electronic structure and intrinsically selective absorption 7−38444
- UPd_3 Fermi surface meas., de Haas-van Alphen effect study 7−12589
- UPd_3, hybridisation, electronic struct. and props. 7−45136
- $UPdCu_4$ magnetic props., X-ray diffr., NMR and mag. suscept. meas. 7−52948
- UPd_2Sn, heavy electron behaviour, elec. resist., mag. susceptibility, sp. ht. meas. 7−32679
- $U(Pt,Pd)_{31}$ heavy-fermion alloys, resistivity 7−17012
- Y-Pd-Fe(Co)(Ni), intermetallides, interaction characts. and props. 7−46414
- YPd_3, electronic structure and intrinsically selective absorption 7−38444
- Y_xPd_{1-x}, amorphous mixed valent alloys, X-ray absorpt. spectra 7−64802
- YbPd, magnetic and nonmagnetic charge states 7−33144
- $YbPdCu_4$, strong electronic correlations 7−45194
- $YbPd_2Si_2$, moderate heavy fermion system, sp. ht. 7−58504
- Zr_2Pd-H_2, thermal stability of hydrides 7−26664
- $Zr_{1-x}Pd_xH_y$, crystal-amorphous transformation, thermodynamics and kinetics 7−21108
- $Zr_2PolD_{2\text{-}9}$, metallic glass, deuteron mag. resonance study 7−22159

palladium compounds

- *see also palladium alloys*
- dithiolenes, struct., elec. and optical props. 7−44516
- hydride, electronic density of states from press.-composition isotherm 7−7088
- hydrides, form. on Pd electrode surface 7−23067
- intercalation cpd. with MOS_2, AES, sputtering studies 7−63867
- silicide formation, in situ ellipsometric studies 7−21694
- $EuPd_{2-x}Au_xSi_2$, valence determ., Mossbauer and X-ray absorpt. studies 7−64800
- Pd complexes, bivalent, mutual influence of ligands, vibr. spectrosc. investig. 7−10585
- Pd complexes, with dithiooxamides, vibr., IR spectra 7−3053
- Pd-C solid solution, X-ray diffr. study 7−21383
- $Pd(CN)_x$ ($x=1$ to 4), liq. NH_3 solns., Raman and IR vibr. spectra 7−57076
- PdGe, bonding, electronic states, ab initio HF-CI calcs. 7−42497
- Pd(II) complexes, X-ray absorpt. near-edge struct., ligands influence 7−22380
- PdMnTe, magnetisation and neutron diffr. study 7−27499
- $PdMo_2$, (M=Cr, Fe), delafossite-type cpds., mag. props. 7−2879
- PdO-CdO-B_2O_3 glasses, elec. cond. and density meas. 7−1895
- $Pd_{15}P_2D_{0.46}$, cryst. struct., neutron powder diffraction investig. 7−32416
- PdSi on W(110), atomic interactions, FIM study 7−21691
- $PdSi_2$-Si, interface states, barrier height, Fermi level 7−27430
- Pd_2Si formation, dopant redistrib. in Si substrate 7−21255
- Pd_2Si, oxidation, catalytic effect of near-noble metal on Si oxidation 7−3545
- Pd_2Si, reflectivity and electronic struct. studies 7−17298
- Pd_2Si, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263
- Pd_2Si-Si, interface electronic states *(Chinese)* 7−58845
- Pd_2Si-Si interface, at. struct., TEM obs. 7−63977
- $PdT_{0.7}$, quasiharmonic phonon dispersion relation, coherent neutron scatt. study 7−38141

palladium compounds continued

- $PdTe_2$, electronic struct. determ. by self-consistent LMTO-ASA method 7−7111
- $UPdGa_5$, structural chemistry, mag. behaviour 7−16513

PAM *see pulse amplitude modulation*

paper

- *see also paper industry*
- optical constants determ. in FIR, inverse synthesis determ. method 7−3010
- paperboard, constitutive behaviour under uniaxial and biaxial loading 7−63019
- pulp fibres longitudinal compression device 7−13697
- ultra-thin paper Li battery *(Japanese)* 7−65423
- web tension profile meas. by contactless acoustic instrument 7−1336

paper industry

- flow measurement by transit time method using radioactive tracers *(Finnish)* 7−57970

paraelectric materials *see dielectric materials*

paraelectric resonance

- No entries

parallel access storage *see random access storage*

parallel algorithms

- fluid dynamics, implicit soln. methods 7−51020
- seismic P-wave modelling with cellular automata 7−66320

parallel architectures

- coherent image subtraction using phase conjugate interferometry 7−25727
- eigenvalue problems, large scale, conference, Oberlech, Austria (July 1985) 7−48189
- high-dimensionality pattern recognition feature space production 7−25725
- optical cellular array processors 7−25720
- optical crossbar signal processor 7−25722
- optical holographic associative memory using a phase conjugate resonator 7−25733
- optical resonators and neural networks 7−54512

parallel machines

- data driven processor, development status 7−19671

parallel processing

- *see also parallel algorithms; parallel architectures; parallel machines; parallel programming; Pascal*
- all-optical digital parallel computer using ZnSe interference filter triple bistable-element loop circuit 7−57409
- BWR simulations at high speed using parallel processors 7−36085
- conf., Los Alamos, New Mexico, USA (May 1985) 7−48157
- continuum dynamics, parallel algorithms 7−4683
- lattice models, parallel computations in physics 7−48593
- Lennard-Jones potential, linear molecules, molecular dynamics with vector computer 7−50285
- optical limits to parallel processing in a Fabry-Perot etalon 7−57266
- optical parallel array logic system, architecture without memory elements 7−20144
- optical parallel logic gate using Pockels effect modulators, fundamental components for optical digital computing 7−43347
- optical parallel logic operation with microchannel spatial light modulator 7−25731
- optical phase conjugation for parallel optical logic operations 7−57474
- protein crystallography, restrained least-squares procedure using Numerix MARS-432 array processor 7−34105
- PSPHOT and PVPHOT, parallel algorithms for photon transport Monte Carlo analysis 7−36089
- SIMPLE hydrodynamics benchmark, restructuring for CHiP architecture 7−16145
- single-instruction multiple-data array architectures for digital optical computing 7−42941
- statistical mechanics systems, transputer array simulation 7−48519

parallel programming

- nuclear power station simulation, parallel-processing modular system 7−10197
- position sensitive detector data treatment, possible use of OCCAM and transputers 7−10355
- software engineering in physics, conf. NoveMesto na Morave, Czechoslovakia (Sept. 1985) 7−18471
- three dimensional Ising model, simulation on Cyber 205, fast algorithm 7−9794

parallel software *see parallel programming*

paralleled resonator filters *see band-pass filters*

paramagnetic-antiferromagnetic transitions

- *see also Neel temperature*
- steel, cryogenic, Al alloying effect on mech. and mag. props. 7−39679
- $Cd(Cu_{1-x}Al_x)_2$, mag. and cryst. props. 7−27506
- $Cd(Cu_{1-x}Ni_x)_2$, mag. and cryst. props. 7−27506
- CeSb, mag. ordering and critical fluctuations, uniaxial pressure effects 7−33174
- Cr, surface EM wave absorpt., 4-350K 7−33354
- Cr-Ge dilute alloys, elec. resist. temp. and press. depend. studies 7−32980
- $CrVO_4$, magnetic phase transitions, mag. suscept. and sp. ht. meas. 7−2842
- $Cs_2FeCl_5.H_2O$, antiferromagnet, mag. phase diagram, spin wave excitations, Mossbauer spectra 7−45676
- $EuCrO_3$, coexistence of mag. and electric dipole ordering after optical pumping 7−17171
- FeNiCr disordered FCC alloys, paramagnetic-antiferromagnetic-spin glass reentrant transition obs. 7−17175
- $FeVO_4$, magnetic phase transitions, mag. suscept. and sp. ht. meas. 7−2842
- GdCu, optical props. and electronic struct. investigs. *(Russian)* 7−13174
- $Mn_{0.5}Zn_{0.5}F_2$, sp. ht. meas. in random fields 7−33178
- $NiS_{1-y}Se_y$, effect of Se substitution on mag. and electrical transition 7−2846
- Pr, paramagnetic-antiferromagnetic transition, spin ordering model 7−52988
- Rb_2MnCl_4, quasi-2D uniaxial antiferromagnet, mag. phase diagram 7−7517
- UCd_{11} heavy electron system, antiferromag. phase transition, muon spin rot. and relax. meas. 7−45668
- UCu_5 magnetic heavy electron materials, muon spin rotation studies 7−45884
- U_2Zn_{17} magnetic heavy electron materials, muon spin rotation studies 7−45884
- U_2Zn_{17}, point contact spectroscopy meas. 7−52748

paramagnetic Curie temperature *see Curie temperature*

paramagnetic-ferromagnetic transitions *see ferromagnetic-paramagnetic transitions*

paramagnetic properties of substances
- *see also paramagnetic resonance; paramagnetism*
- actinide systems, moderately delocalised, mag. behaviour, anisotropy of crit. correlations 7−7474
- actinide-transition metal alloys, AM_2, A=U-Np, M=Fe-Ni, magnetism and electronic props. 7−27505
- amorphous paramagnets, van Vleck susceptibility 7−7472
- bis arene sandwiches, $C_5R_5FeC_6R_6$ where k=H or CH_3, and $(C_6(CH_3)_6)_2Fe^+$, hyperfine and mag. props. 7−12680
- bis[1-(p-n-decylbiphenyl) 3-(p-methoxy-phenyl)propane-1,3-dionato] copper (II), paramagnetic nematic liquid crystal 7−32284
- $(BMDT\text{-}TTF)_2Au(CN)_2$ organic metal, synthesis, struct. and props. 7−32420
- d- and f-metals and alloys, anomalous props. due to charge density fluctuations 7−7132
- dimethylammonium manganese chloride, 1D antiferromagnet, nuclear spin-lattice relax., effect of nonlinear excitations 7−59122
- dynamic model of paramag. cluster, mag. props. *(Russian)* 7−53066
- $(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, magnetic phase diagram studies 7−2844
- Fermi surface, 2D angular correlation studies 7−39236
- metal dithiolenes, struct., elec. and optical props. 7−44516
- metals, BCC refractory, mag. susceptibility, elastic consts. and compressibility 7−33142
- nickelocene lattice, S=1/2 mol. dopant, large impurity anisotropic g-shift obs., mol. field anal. 7−13017
- oxalate (2,2′-bipyridine) iron polymer, slow paramag. relax., Mossbauer spectra 7−27638
- α-quartz, neutron damaged, static paramag. susceptibility studies 7−33140
- rare earth-Al alloys, RAl_2, paramagnetic fluctuations, muon spin rotation studies 7−12941
- TCNQ salt, N-n-propyl phthalazinium 7,7,8,8 $TCNQ_2$, struct., elec., mag. props., EPR meas. 7−33005
- tetragonal paramagnets, magnetoelastic excitations and struct. phase transitions 7−27489
- transition metal complexes, spin and charge densities calcs. 7−27491
- Al-Co icosahedral alloys, struct., elec. and mag. props. 7−6583
- Al-Mn quasicrystals, nonuniform local magnetism, NMR spin echo studies 7−22090
- $Al_{80}Mn_{20}$, quasicrystalline icosahedral phase, sp. ht., mag. props. 7−52955
- An-In liq. alloys, magnetic and thermodynamic props. 7−2812
- $Cd(Cu_{1-x}Al_x)_2$, mag. and cryst. props. 7−27506
- $Cd(Cu_{1-x}Ni_x)_2$, mag. and cryst. props. 7−27506
- Ce compounds, moderately delocalised, mag. behaviour, anisotropy of crit. correlations 7−7474
- Ce-Sn alloys, intrinsic magnetic behaviour, influence of stoichiometry 7−45747
- $CeGa_8Co_2$, cryst. struct., mag. props. 7−45614
- $Ce(Ni_xCu_{1-x})_2Si_2$, mag. susceptibility, scaling behaviour, cryst. field effects 7−45616
- $CePb_3$ heavy fermion material, magnetism and superconductivity 7−52880
- Cf oxides, Cf_2O_3, Cf_7O_{12}, CfO_2, $BaCfO_3$, mag. susceptibility meas. 7−12937
- CfX (X=N,As,Sb), mag. susceptibility meas. 7−12939
- $CoCl_2$-graphite intercalation cpds., mag. susceptibility meas. 7−45638
- $Co_{1-x}Fe_xCr_2S_4$, paramag. susceptibility study 7−52934
- CoI_2, Raman scatt. from phonons and electronic excitations 7−53312
- Cr, magnetovolume, thermal expansion and Gruneisen parameters 7−33260
- Cr, paramagnetic, two-photon momentum distrib. 7−45128
- Cr-Ga intermetallic cpds., mag. suscept. meas. 7−12942
- Cr-V alloy, magnetovolume, thermal expansion and Gruneisen parameters 7−33260
- CrAs, local spin density and paramagnetic susceptibility 7−38844
- $Cr_{1-x}Mn_xGe$, cryst. and amorphous, mag. characts., substitution effects 7−59009
- $Cr_{1+x}Nb_{3-x}Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
- $CrVO_4$, magnetic phase transitions, mag. suscept. and sp. ht. meas. 7−2842
- $CuCl_2.2DMSO$, paramagnetic susceptibility of antiferromagnetic quantum chain 7−52997
- CuNi, substitutionally disordered, electronic struct., LCAO-CPA calcs. 7−64067
- Dy, antiferromagnetic phase transition, second order, μSR study 7−45880
- $DyAl_2$, monocrystalline, longitudinal μSR studies, ferromag. and paramag. phases 7−45876
- $DyAl_2$, muon spin relax. in paramag. and ferromag. regimes 7−45879
- $Dy_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
- DyM_2 (M=Al, Ni), paramag. fluctuations, μSR study 7−45878
- $Er_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
- Eu-Yb, high press. mag. and elec. props. studies 7−7541
- $Eu_2PCl(Br)(I)$, prep., mag. props. and cryst. struct. *(German)* 7−32379
- EuS, mag. ordered and paramag. phases, Raman scatt. 7−22246
- α-Fe, paramag. and ferromag., critical mag. phenomena, results from μSR studies 7−45872
- Fe, paramagnetic ground state props. and pair potentials 7−32352
- Fe, static paramag. spin susceptibility at finite temps. 7−33138
- Fe ultrathin films on Pd (111), photoemission, LEED and AES studies 7−45068
- Fe-Ni thin films, α to γ transform, redistrib. of atoms in submicrostruct. *(Russian)* 7−53722
- $Fe_{80}C_{20}$-Si compositionally modulated amorphous struct., mag. and diffusional props. study 7−7564
- $Fe_{76}Cr_4P_8C_{12}$, amorphous alloy, mag. short range order above T_c, paramag. phase 7−45623
- $Fe_xMn_{1-x}S$, high temp. metal-nonmetal transition 7−7117
- $Fe_{1+x}Nb_{3-x}Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
- $Fe_{65}Ni_{35}$, Invar, paramagnetic spin fluctuations 7−52937
- $(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, ferromagnetism onset, magnetovolume effect study 7−2845
- Fe_3O_4-CaO-SiO_2 amorphous oxides, magnetic props. and struct., Mossbauer spectra study 7−7538
- Fe_3Pt, Invar, paramag. phase, inelastic neutron scatt. meas. 7−27493

paramagnetic properties of substances continued
- FeRh, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7−64826
- $FeVO_4$, magnetic phase transitions, mag. suscept. and sp. ht. meas. 7−2842
- $Gd(Al_{1-x}Ga_x)_2$, cryst. struct., paramag. susceptibility, elec. resist. meas. 7−16492
- $Gd(Cu_{1-x}Co_x)_2$, mag. and crystallographic props. 7−38903
- $Gd_3(Ga_{1-x}Fe_x)_5O_{12}$ and $GD_3[Al_3(Ga_{1-x}Fe_x)_2]O_{12}$, mag. solid soln. systems for regenerator materials 7−59015
- $Gd_3Ga_5O_{12}$, refrigerant characts. for Carnot mag. refrigerator 7−56286
- $Gd_3Ga_5O_{12}$, sintered, mag. refrigerant, Kapitza conductance to He II 7−58603
- $Gd_3Ga_5O_{12}$, use in mag, refrigerator for He liquefaction 7−56283
- $Gd_3Ga_5O_{12}$, use in rot. mag. refrigerator for He liquefaction 7−56282
- $Gd_xLa_{65-x}Co_{25}B_{10}$ mixed glasses, mag. props., phase transitions, microstruct. effects 7−64465
- GdM_2 (M=Al, Ni), paramag. fluctuations, μSR study 7−45878
- ^3He, superfluid, unitary states in strong mag. fields 7−12388
- Hf-Os, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
- HfCo(Ni)Sn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7−1952
- $HfFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7−2475
- Ho, antiferromagnetic phase transition, second order, μSR study 7−45880
- $Ho_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
- Ir paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
- K, *(French)* 7−26696
- K, paramagnetic susceptibility, homogeneous electron gas model calcs. 7−45196
- $KNi_xMg_{1-x}F_3$, nuclear spin-lattice relax., NMR studies 7−64542
- $La(Cr_xMn_{1-x})_2Ge_2$, layer struct. intermetallic cpd., mag. props. comp. depend. studies 7−7489
- La_2O_2S:Er, Nd, mag. susceptibility, dielec. const. and dielec. losses 7−2810
- Li, large clusters, struct., charge distribution and spin densities, semiempirical study *(French)* 7−26696
- $Li_x{}^+(NH_4{}^+)_y(NH_3)_zTiS_2{}^{(x+y)-}$ intercalation cpd., NH_3 oxidation, charge compensation 7−32354
- $LiTmF_4$, Van Vleck paramagnet, 4f electron excitations, mag. relax. of ^{169}Tm nuclei 7−7601
- $LuFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7−2475
- $MnAs_{1-x}P_x$, paramag. diffuse scatt. studies, neutron diffr. method 7−52933
- $MnCl_2$-graphite intercalation cpds., mag. susceptibility meas. 7−45638
- $Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7−6784
- MnTe, electronic struct. in magnetically ordered and disordered phases, tight-binding calcs. 7−45145
- Mo paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
- $Mo_{n-x}W_xO_{3n-1}$, electrical conductivity, mag. susceptibility and IR spectra 7−38546
- NO, paramagnetic molecule,. magnetically modulated Fourier transform spectroscopy 7−48856
- Na, large clusters, struct., charge distribution and spin densities, semiempirical study *(French)* 7−26696
- Na, paramagnetic susceptibility, homogeneous electron gas model calcs. 7−45196
- $Na_xMo_2O_4$ intercalation cpd., struct., mag. suscept., X-ray diffr. and electrochemical anal. 7−46842
- NbNi(Co)Sn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7−1952
- Ni, paramagnetic ground state props. and pair potentials 7−32352
- Ni, static paramag. spin susceptibility at finite temps. 7−33138
- Ni/Pd interface, strongly paramagnetic layer, magnetisation distrib. 7−7475
- NiH, spin polarised electronic struct., mag. and bonding props. 7−32904
- Ni_2P, electronic struct., mag. props., KKR, LMTO methods, LSD approx. 7−64070
- $NiS_{1-y}Se_y$, effect of Se substitution on mag. and electrical transition 7−2846
- $Pb_{1-x}Eu_xTe$ epitaxial layers, mag. props. 7−45772
- PbTe:Gd, mag. props. EPR study 7−53126
- Pd, dynamic spin susceptibility, contrib. to low temp. sp. ht. 7−33143
- Pd_3Fe, electronic struct. 7−52415
- $PrGa_8Co_2$, cryst. struct., mag. props. 7−45614
- Pt paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
- $PuSb_{1-x}Te$, mag. props. 7−12938
- $RAuCu_4$ (R=Gd, Tb, Dy, Ho, Er), cubic alloys, mag. props. 7−52936
- $RbMnF_3$, absorption bands in paramag. state, temp. depend. 7−46069
- Rh paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
- Se-Te-Au(Ag) liq. mixtures, electronic props. 7−64247
- Si:P, metallic, nearly-localised electron spin dynamics, EPR linewidth study 7−22110
- $Sn_{1-x}Mn_xTe$, degenerate ferro-spin-glass, transport props. and spin disorder 7−45330
- $Tb_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
- ThM_2Si_2 (M=Cu, Ru, Os, Ir, Pt), magnetochemistry and crystal chemistry 7−58976
- $TiCrNb_2Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
- TiNiSn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7−1952
- Tl_4MnI_6, paramag. suscept. w.r.t. NMR chem. shift, hyperfine coupling const. determ. 7−2941
- Tm cubic intermetallic cpds., magnetic dynamics, low-frequency, in vicinity of the quadrupolar phase transition pt. 7−17155
- Tm intermediate valence systems, dynamics, self-consistent perturbation theory studies 7−27309
- UAs muon spin rot., relax. rate, freq. shift, and magnetic transitions 7−45891
- UM_2Si_2 (M=Cu, Ru, Os, Ir, Pt), magnetochemistry and crystal chemistry 7−58976
- $U(Mn_{1-x}Al_x)$, paramagnetic props. meas., temp. depend. study 7−27494
- UPd_2Sn, heavy electron behaviour, elec. resist., mag. susceptibility, sp. ht. meas. 7−32679

paramagnetic properties of substances continued
V, dynamic spin susceptibility, contrib. to low temp. sp. ht. 7—33143
V, surface (100)p(1×1), ferromag. order, electron capture spectra studies 7—27526
WC electronic struct. and magnetic suscept., UV and X-ray photoelectron spectra 7—53493
$YAlO_3$:Eu^{3+}, Van Vleck paramagnet, low field Raman heterodyne study 7—53179
Y_9Co_7, electronic struct. and mag. props. 7—7104
$Y_2Fe_{14}B$, electronic struct. and mag. props. recursion method calcs. 7—2452
Y_2O_2S:Er, Nd, mag. susceptibility, dielec. const. and dielec. losses 7—2810
YRh_3B, supercond. and mag. props. 7—38800
$YbBe_{13}$, low temp. Mossbauer study 7—33309
Zn ferrite, shock-synthesised or furnace-reacted, mag. props. 7—38904
$Zn_{1-x}Fe_xCr_2S_4$, paramag. susceptibility study 7—52934
$Zn_3(P_xAs_{1-x})_2$ solid solutions, interatomic interaction, mag. susceptibility 7—52932
ZrCo(Ni)Sn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7—1952
$ZrFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7—2475
$Zr_{1-x}Ni_x$ amorphous alloys, itinerant electron magnetism, AC susceptibility meas. *(Chinese)* 7—27490

paramagnetic resonance
see also acoustic paramagnetic resonance; CESR; CIDEP; electron spin-lattice relaxation; ENDOR; EPR line breadth; paramagnetic resonance of colour centres; paramagnetic resonance of free radicals; paramagnetic resonance of ions and impurities; spin echo (EPR); spin-spin relaxation
acridine, oriented in stretched polyethylene films, triplet-state ESR spectra 7—25564
anthracene-$d_0(d_{10})$, oriented in stretched polyethylene films, triplet-state ESR spectra 7—25564
archaebacteria lipid dynamics, nonlinear ESR studies 7—8508
$(BEDT)_2X$, ($X=SbF_6$, AsF_6), metal-insulator transition, EPR study under hydrostatic press. 7—53115
benzenes, soln. electron affinities, isotope enrichments 7—10770
biphenylene-1,2,4,5,-tetracyanobenzene charge transfer complex, cryst. struct. and photoexcited triplet excitons EPR study 7—63600
bis(benzene)vanadium-nickelocene, in diamag. ruthenocene lattice, isotropic exchange interactions, EPR 7—57104
bonding parameters and EPR correlations, evidence for lattice relax. 7—45801
$(BPDT\text{-}TTF)_2IBr_2$, synthesis by electrochemical oxidation, struct. and ESR spectra 7—46856
butadiene, post-γ-irrad. grafting in polypropylene films, ESR obs. 7—33948
computer anal., proton coupling constant extraction method 7—48812
computer anal. methods for ESR spectrum 7—45798
continuous-symm. ferromagnet, weak random anisotropy, wandering moments and resonances, perturbation calcs. 7—64451
crystallography, two/three circle ESR goniometers *(Japanese)* 7—44328
cyclopentadienylcycloheptatrienylvanadium-nickelocene, in diamag. ruthenocene lattice, isotropic exchange interactions, EPR 7—57104
cytochrome b, models, EPR and Mossbauer spectra, ligand plane orientation effect 7—17946
decamethylcobaltocene, electronic struct. and dynamic Jahn-Teller effect EPR 7—59104
decamethylnickelocenium, electronic struct. and dynamic Jahn-Teller effect EPR 7—59104
di-t-butylnitroxide, soln., spatially resolved EPR tomography 7—5708
electron relaxation studies, review 7—22158
electronic materials characterisation, recent trends *(Japanese)* 7—13163
enhanced sensitivity using dielectric sample resonator design 7—9856
erythrocyte membrane, effects of γ-irrad. as shown by ESR, NMR and biochem. studies 7—60041
ferric proteins, high-spin, relative spin conc. determ. using E/D-distrib. in EPR simulations 7—54462
fluoranthene radical cation salts, mag. resonance anal. of phase transition 7—52705
formaldehyde, oxidation, ESR and IR chemiluminescence. obs. 7—36655
graphite intercalation compound, $C_{1-x}F_x$, resistivity and ESR study 7—64197
graphite intercalation compound with HNO_3, diffusion, charge transfer and strain fields, ESR study 7—53117
graphite-HNO_3 intercalation cpds., absolute Pauli spin suscept. meas., Fermi level density of states determ., ESR/NMR method 7—12940
graphite-$HSO_4^-.2H_2SO_4$ intercalation cpd., $C_{24n}HSO_4^-.2H_2SO_4$, quasi-2D, cond. electron state transform. in microwave field, ESR meas. 7—64508
Josephson effect for dynamic mag. susceptibility and ESR measurements 7—12917
metal particles, quantum size effects 7—7597
microcomputer-based data acquisition and analysis system for EPR 7—48794
Mossbauer spectra in paramagnetic relaxing systems, review 7—59132
naphthalene compounds, bromo-substituted, triplet energy transfer and props., time-resolved ESR 7—25561
organic polymer ferromagnet, prep., ESR and Mag. props. 7—64439
PAA uniaxial nematic liquid crystals, orientational order using ESR of solute molecules 7—1872
palmitic acid methyl ester, spin probe in adipose tissue, field gradient EPR 7—13962
poly(4-(3-pyridyl), 8-methyl, 2,3-6,7-quinolino), soluble aromatic ladder polymer, preparation and props. 7—2593
poly-p-phenylene sulphide, conducting polymer solution, chemical structure, EPR and ^{19}F NMR studies 7—2938
polyacetylene, Durham, isomerisation and doping, ESR study 7—64510
polyacetylene, p-type doped, reaction with H_2O 7—65316
trans-polyacetylene, spin photogeneration, light-induced ESR studies 7—64514
polyacetylene copolymers and composites, physical props., electrochemistry and environmental stability 7—2587
polyanthracene:I, charged elementary excitations, EPR study 7—7246
polyazulene, electrochem. and mag. props. 7—52929
polymers, semicrystalline, EPR, elastic modulus data, mol. mobility phenomena 7—37900
paramagnetic resonance continued
polymers, solid, solvent swelling and noninvasive visualisation by ESR imaging 7—45797
polystyrene-polyisoprene copolymers, processability-conductivity correlation 7—64229
polythiophene, radiation-induced doping, elec. and ESR studies 7—38545
porphyrin, covalently linked hybrid dimers, EPR, triplet state magnetisation, 7—25562
porphyrin, water-soluble dimers, excited-state props. fluoresc. spectra, EPR, ODMR 7—19925
porphyrin-quinone complexes, porphyrin triplet states, ESR and optical investig. 7—25571
quartz, fused, X-ray irradiated, ESR-modulation spectroscopy 7—51826
quartz, neutron irrad., electron spin-lattice relax., effect of exchange interaction 7—45794
quartz crystals, high-quality, impurities assessment, production development results 7—59823
quasi-1D conductors, conf., Yamanashi, Japan (May 1986) 7—60868
quasi-one-dimensional conductors, anisotropic SDW and triplet supercond. state properties 7—45706
quinones, electron-transfer reactions, kinetic ESR spectra, computer simulation 7—25568
random magnets, spin relax., spin glasses and reentrant alloys 7—33265
rare earth metals and intermetallics, Cryst. pot. model for description of cryst. elec. field effects 7—45599
rectangular cavity for EPR in TE_{102} mode 7—48823
semiconductors, induced spin orientation and polarisation of paramagnetic centres interacting with photocarriers 7—7583
semiconductors, time-resolved dielectric loss meas. 7—64562
spectrometer, automated, for structural anal. of disordered solids 7—58109
spectrometer sensitivity enhancement, using dielectric resonator 7—9865
spin-labelled proteins, meas. of rot. mol. motion by time-resolved saturation transfer EPR 7—40089
TCNQ salt, DMM-TCNQ, evidence for spin-Peierls nature of low temp., ESR study 7—22132
TCNQ salt, $MPht(TCNQ)_2$, ion-radical salt, spin ordering 7—64442
temperature programmable controller design for ESR expts. 7—30053
terphenyl, oriented in stretched polyethylene films, triplet-state ESR spectra 7—25564
$(TMN)_3X_2$, ($X=ClO_4$, AsF_6), cation radical salts of tetramethoxynaphthalene, EPR, optical absorpt. and conductivity studies 7—53113
triplet-doublet systems, spin polarisation memory, time-resolved ESR cts. 7—62418
two dimensional Fourier transform ESR spectra 7—19904
vitamins, electron-transfer reactions, kinetic ESR spectra, computer simulation 7—25568
X-band time-domain EPR spectrometer, computer-controlled 7—30054
Ag (110), with physisorbed Kr, adsorption of NO_2, EPR, LEED AES studies 7—53116
$AgClO_4$ soln. in acetonitriles, struct. of Ag^{II} and Ag^{O} solvates, EPR and electron spin-echo studies 7—17216
As_2S_3 thin films, natural paramagnetic centres obs. *(Russian)* 7—45799
$BaTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7—2539
$BiVO_4$, ferroelastic, optical soft mode, quantum nature, EPR and Raman spectra study 7—45795
$CaZrTi_2O_7$, zirconolite, alpha-recoil damage 7—6692
CeO_2, reduction by thermal treatment in vacuum or H_2 atmosphere, IR, PMR and ESR spectra 7—59756
D, doubly spin-polarized, observation by ESR 7—6915
$Fe_{1+x}Nb_{3-x}Se_{10-y}S_y$, struct. mag. suscept. and ESR meas. 7—58228
InSb, electron inversion layers, cyclotron and electron spin resonance 7—38736
K atoms in Ar matrix, site modification by X-ray and light irradiation 7—51819
KC_8/D_2O intercalation cpd., X-ray diffr., NMR, EPR and gas phase mass spectra anal. 7—46843
$KFeS_2$, hydrogenated, ESR meas. in 100 to 320K range 7—13016
$K[(OH)_2PO_2]$, irradiated single crystal struct. study, ESR and ENDOR anal. 7—38962
$LiVO_2$, phase transition near 200°C, elec. resist., mag. susceptibility, X-ray diffr., IR spectra, EPR, thermal anal. 7—32914
NO_2 coadsorbed with Kr on Ag (110), magnetic resonance 7—59113
^{210}Po-coated geological and synthetic samples, ESR dating 7—47569
a-Si:H, evaporated samples, post-hydrogenation, characts. 7—59103
a-Si:H films, metastable optically induced ESR, time depend. 7—45800
$Si\text{-}SiO_2$, new donors effect, interface effect due to internal oxidation 7—33093
a-$Si_{1-x}C_x$:H, B(P) films, valence band localised holes, light-induced ESR spectra studies 7—53110
$SrTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7—2539
$Tl_2Cu(SO_4)_2$, glassy γ-modification, structural and electronic props. studies 7—58161

paramagnetic resonance of colour centres
see also paramagnetic resonance of defects
borates and halogenoborates, cryst. and vitreous, X-ray irrad., ESR centres, review 7—7586
optical glass fibre waveguides, colour centres 7—11081
optical glass fibres, UV-radiation induced colour centres 7—11082
quartz, fused, ESR centres induced by glow discharges 7—17221
α-quartz, neutron damaged, static paramag. susceptibility studies 7—33140
$Ba(PO_3)_2$-LiF gamma irradiated activated glasses, optical absorpt. and ESR spectra correls. 7—13030
CaF_2:$Li^+(Na^+)$, EPR of colour centres 7—17222
CaO, light sensitive centres with tetragonal symmetry, EPR study 7—53133
KX (X=Cl,Br), H-interstitials, struct. and crowdion mechanism 7—38939
Li_2O, neutron and ion irrad. damage, ESR and optical absorption studies 7—32509
NaCl:Tl colour centre laser, structural, optical and prod. props. 7—57340
RbX (X=Cl, Br), H-interstitials, struct. and crowdion mechanism 7—38939
Si:C,O, luminescence props. of shallow donor centre 7—17347
SrF_2:Na^+, EPR of colour centres 7—17222
α-TeO_2:Al single crysts., electron irrad., colour centre ESR obs. 7—33271

paramagnetic resonance of conduction electrons *see CESR*

paramagnetic resonance of defects
- *see also paramagnetic resonance of colour centres*
- annealing and creation kinetics of defects, ESR transient spectroscopy 7—2928
- EL2 defect, identification 7—38502
- fast-neutron irradiated, electrical behaviour during thermal recovery 7—13029
- glasses, silicate and quartz, radiation-induced centres, ESR studies 7—12149
- graphite, pyrolytic, neutron irrad., ESR studies, exchange coupling model 7—7590
- polyacetylene, prepared by Durham route, EPR meas. 7—64529
- α-quartz, synthetic, defects 7—63603
- radiation effects in materials for optical interferometric devices 7—44618
- a-Si:H, structural characterisation, hyperfine interaction, ESR, ENDOR 7—53135
- SOI structures, ion implanted, defect EPR spectra studies 7—27603
- $(Al_{0.02}In_{0.98})_2Se_3$, metastable complex defects, ESR studies 7—33270
- As_2S_3, vitreous, γ-irradiated, EPR of radiation-stimulated paramag. centres *(Russian)* 7—2929
- $BaO-B_2O_3-Al_2O_3$, aluminoborate glass, X-irrad., optical and thermal bleaching 7—45820
- GaAs, antisite defects formation during plastic deformation 7—37988
- GaAs, EL2 and As antisite defect props., review *(Japanese)* 7—7152
- GaAs, plastically deformed or electron or neutron irradiated, antisite defects 7—37987
- GaAs, strain-induced defects, ERP anal. 7—45821
- GeO_2 glass, gamma-ray irrad., defect centres, ESR studies 7—6678
- $Ge_{35}S_{65}$ films, evaporated, structural changes on illumination and heat treatment *(Japanese)* 7—22489
- $KCl:Sn^+$, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
- KCl:Tl, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
- $KCl:Tl^{2+}$, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
- $kBr:ClO_4^-$, X irradiation, paramag. defect prod., EPR, Raman and IR spectra 7—22142
- Li_2O, neutron and ion irrad. damage, ESR and optical absorption studies 7—32509
- NaCl:Tl, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
- Si defect annealing and impurity activation during high-intensity As^+ implantation doping 7—58295
- α-Si, EPR-active centres, floating bond defects 7—38506
- a-Si films, preparation in separated ultra-high vacuum reaction chamber 7—59434
- Si, grain boundary pot. barrier and role of distorted bonds 7—46080
- Si MOS structures, high field stressing, ESR study 7—33091
- Si, neutron irradiated, EPR study on C_2 symmetry defect 7—27602
- Si neutron irradiated float zone crysts., triclinic symm. defect, EPR study 7—53134
- Si SOI, buried oxide structures, ion implanted, ESR studies 7—59111
- Si, spin-dependent recombination and low-freq. ESR studies 7—38577
- Si, thermal donors, alignment by uniaxial stress, EPR and optical studies 7—59227
- Si, vacancies, hyperfine interactions, ENDOR and EPR studies 7—63609
- a-Si:H, light soaked, dangling bond creation 7—12150
- a-Si:H, light-induced dangling bonds, annealing behaviour 7—12119
- a-Si:H, light-induced electron spin resonance 7—33274
- Si:H, polycrystalline, plasma hydrogenation, ESR study 7—45819
- a-Si:H, RF sputtered, dangling bond electron spin-lattice relaxation 7—22141
- a-Si:H, RF sputtered, dangling bond energies, ESR studies 7—45818
- a-Si:H,B, RF sputtered films, optical and electrical props. 7—33470
- a-Si:H (C,H) (O,H) (N,H), annealing of metastable defects 7—3343
- a-Si:H evaporated layer production from RF discharge, growth mechanism and props. 7—64898
- a-Si:H film prep. by compressed mag. field magnetron sputtering *(Japanese)* 7—46323
- a-Si:H films, light-induced bond breaking 7—12517
- a-Si:H films, sputter deposition, optical and ESR props. 7—33565
- $a-Si:H/a-SiN_x:H$ interface system, struct. and electronic props. 7—38361
- Si:O, magnetic resonance of O-related defects 7—17223
- Si:O Czochralski wafers, electron traps resulting from O precipitation 7—21866
- Si-O amorphous films, structure and defects 7—58700
- $Si-Si_3N_4$, SOI structs. formed by N^+ implantation EPR of defects 7—33273
- $Si-SiO_2$, SOI structs. formed by O^+ implantation, EPR of defects 7—33272
- $Si-SiO_2$ (111) interface, dangling bonds, dipolar interactions investig. 7—17107
- $Si-SiO_2$ interface, ESR signal from P_{b0} centres, anisotropic props. 7—38940
- $a-Si_{1-x}\,C_x:H$ films prepared by plasma CVD method, props. *(Japanese)* 7—12543
- a-SiC:H, RF sputtered, dangling bond electron spin-lattice relaxation 7—22141
- a-SiGe:H films, NMR, ESR and IR studies 7—45833
- $a-SiN_x:H$ dielectric films with low defect density 7—39036
- Si_3N_4 films, plasma deposited, bonds and defects 7—17437
- SiO_2 amorphous, photoinduced paramagnetic defects 7—13031
- SiO_2 amorphous, point defects, review 7—11942
- SiO_2, cryst. and amorphous, point defects and electronic props. 7—64082
- SiO_2, dry silica, UV induced defect creation, ESR study 7—13032
- SiO_2, fused silica, O_2^+ and Kr^+ irradiated, paramagnetic defects, ESR study 7—53132
- SiO_2 silica glasses, doped, radiation-induced defect centres, EPR and optical studies 7—13033
- SiO_2 sol-gel glass structures, effects of water content of gels, EPR study 7—6526
- SiO_2 sol-gel glasses, structure, paramagnetic defect centres 7—11945
- SiO_2, stoichiometric and sub-stoichiometric, defect creation, photoablation, pulsed UV irrad. 7—58315
- SiO_2 thin films, intrinsic bonding defects and impurities, EPR studies 7—13034
- $SiO_2:OH$, X-irrad. induced defect centres, EPR obs. 7—45221

paramagnetic resonance of defects continued
- SiO_2-GeO_2 optical fibre, drawing- and radiation-induced paramagnetic defects 7—11084
- SiO_2-GeO_2 optical fibre surfaces, formation mechanism of H-associated defect centre 7—65158
- SiO_2-GeO_2 sol-gel glasses, paramagnetic states 7—13035
- $SiO_2-P_2O_5$ optical fibres, γ-irradiated, phosphorus oxygen hole centres 7—11083
- SiO_xN_y films, plasma-enhanced CVD growth 7—22514
- SiO_xN_y films, plasma-enhanced CVD deposited, annealing 7—32861
- ZnS:Al, Cr, Fe crystals, recomb. luminesc., EPR and photocond. meas. 7—3076
- $ZrF_4-BaF_2-LaF_3-AlF_3-LiF$ glass, X-ray radiation damage, EPR studies 7—21278
- $ZrF_4-BaF_2-LaF_3-AlF_3$ optical fibres, gamma irradiation, EPR and IR studies 7—37183

paramagnetic resonance of free radicals
- acrylamide, UV irrad., free radical reactions with gases, ESR obs. 7—10633
- alkene nitrite isomers, radicals, EPR investig. 7—36653
- aminoxyl(nitroxide) radicals, orientation in nematic liq. cryst., ESR obs. 7—36654
- anions, single cryst., dissoc., struct. investig. 7—33275
- anthraquinone anion radicals, frozen soln., ENDOR spectra, temp. depend. 7—7610
- α,ω-bis (9-anthryl)alkanes, cation radicals, ESR, spin distribs. and mol. conformations 7—31077
- L-ascorbic acid radical, stability and props. MIND and MNDO calcs. 7—15514
- ascorbic acid radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7—33918
- ascorbic acid radical anion, Ca^{2+} exchange, ESR line broadening meas. of rate const. 7—28270
- bacteriochlorophyll a radical cations, hyperfine interactions with ^{15}N nuclei, calcs. for ENDOR and EPR methods 7—15594
- m-benzosemiquinone radical anion, reson. Raman, EPR and MO studies 7—10603
- biologically significant solids, irradiated, ESR and ENDOR studies, review 7—23309
- 4,4′-bipyridyl radical cation-β-cyclodextrin inclusion complex, dichroism and MO calcs., ESR 7—25580
- N-(4-butoxybenzylidene)-4′-butylaniline smectic G liq. cryst., orientational order 7—37847
- camphorquinone radicals, optically active, circular dichroism, ESR study 7—5711
- diacetylene oligomers, carbene and dicarbene triplet state, ENDOR and EPR study 7—7608
- diarylphosphonyl radical, kinetic and spectrosc. characterisation 7—62419
- 3,4-diphenyl-2,5-dimethyl-2,4-hexadiene, free radicals, γ-irradiation generated, visible absorpt. and EPR spectra 7—57100
- 1,2-diphenyl-3,3,4,4-tetramethylcyclobutene, free radicals, γ-irradiation generated, visible absorpt. and EPR spectra 7—57100
- fluorenone ketyl radical cation, single channel quadrature FT ESR spectra 7—25570
- glass, radiation-induced defects and ESR spectra 7—2050
- hydroxymethylperoxy radical, thermal stability, ESR spectra 7—62415
- lithium phthalocyanine radical, optical and mag. props. 7—62417
- methacrylamide, UV irrad., free radical reactions with gases, ESR obs. 7—10633
- methyl methacrylate radicals, ESR spectra, temp. depend., 77 to 300 K 7—62420
- methylnitrene, matrix-isolated, IR and UV absorpt. spectra 7—42637
- 3-methylpentane, radical cation, struct., ESR 7—42653
- naphthazarine anion radicals in a glassy matrix of N,N-dimethylformamide, spin-lattice relax. 7—45823
- nitrobenzenes para-substituted, solvated anion radicals reaction kinetics in liq. NH_3, ESR spectra anal. 7—19907
- nitroxide radical, two dimensional Fourier transform ESR spectra 7—19904
- nitroxy radicals, anisotropically rotating, 2 mm EPR spectra calcs. 7—15630
- nitroxyl radicals, in aq. glycerol soln., superslow rotation investig. 7—62422
- olefin radical cations from hydrocarbon radiolysis, time-resolved fluoresc.-detected mag. reson. 7—57099
- 2,2,5,7,8-pentamethylchroman-b-oxyl-^{13}C, radical, ESR spectra and hyperfine coupling const. 7—36652
- perchlorotriphenylmethyl, spatially resolved EPR tomography 7—5708
- perfluorovinyl radical in Ar matrix, ESR INDO MO calcs., hyperfine struct. 7—31078
- phenazine derivatives, partly hydrogenated radicals, hyperfine const., EPR *(French)* 7—31079
- phospholipid membranes, struct. changes after peroxidation, spin probe study 7—28472
- poly-4-methylpentene-1, mechanical degradation, free radical form., ESR *(Russian)* 7—8275
- polyacetylene, undoped, elec. props., thermal isomerisation and impurity effects 7—64232
- polyacrylate radicals trapped in polymeric network, struct. and stability, EPR obs. 7—5801
- polycarbonate track detectors, electron spin resonance studies 7—33276
- polyethylene, oriented films, oxidation effects on dynamic and struct. parameters *(Russian)* 7—17823
- polyphenylacetylene:I, conformational defects, ESR studies 7—64531
- polypropylene, macroradical termination, segmented mobility and low-mol. radicals *(Russian)* 7—65312
- propionamide, UV irrad., free radical reactions with gases, ESR obs. 7—10633
- radical anions, single cryst., dissoc., struct. investig. 7—33275
- semiquinone cation radical, immobilised, EPR spectral simulation calcs. 7—50200
- silanopentyl radical formation in γ-irradiated silanopentanes at 77K *(Japanese)* 7—38943
- silica glass optical fibres, γ-irradiated and H_2 treated, 1.52 μm absorption band 7—37145
- squaric acid radical, HYSCORE 2D ESR investig. 7—25565
- 4,4″-1terphenylylenebisgalvinoxyl biradical, nematic liquid crystal, ENDOR and EPR spectra anal. 7—19908
- testosterone, hydrated, EPR study of monoclinic and orthorhombic single crysts. γ-irrad. at 295K 7—23307

paramagnetic resonance of free radicals continued
- tetraaryldiphosphine radical cations, ESR linewidths rel. to struct. 7—50201
- tetrachloroethene discharges, radical reactions, spectrosc. investig. 7—20990
- tetrachloroethene-O_2 discharges, radical reactions, spectrosc. investig. 7—20990
- vitamin E(^{13}C) radical, ESR spectra and hyperfine coupling const. 7—36652
- AlF^+, radical, matrix ESR and CI investig. 7—15629
- BF^+ radical cations in Ne matrix, generated by laser sputtering and high temp. sources, EPR, CI calcs. 7—25604
- CdO-Al_2O_3-P_2O_5 glasses, EPR spectra, synthesis effects 7—64530
- HPO_3 radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7—33918
- IO_2 radical in $KClO_4$ crysts., ESR study 7—22143
- MnH, in Ar solid, ENDOR/ESR spectra 7—5710
- $N_2H_4{}^+$, radical ion, trapping site geometry, ENDOR and EPR spectra of hydrazinium hydrogen oxalate 7—7609
- $(NH_4)_2SO_4$, phase transitions, appl. of $NH_3{}^+$ paramag. probe to mol. motion 7—27604
- SO_3 radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7—33918
- $SPCl_2F^-$, radical, ESR and ab initio quantum chem. study 7—42654
- SiH_3 radical in Xe matrix, EPR line shape 7—10632
- SiO_2, dry silica, UV induced defect creation, ESR study 7—13032

paramagnetic resonance of ions and impurities
- *see also paramagnetic resonance of iron group ions and impurities; paramagnetic resonance of palladium and platinum group ions and impurities; paramagnetic resonance of rare earth ions and impurities*
- aluminium(III)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7—25563
- $(BMDT\text{-}TTF)_2Au(CN)_2$ organic metal, synthesis, struct. and props. 7—32420
- borates and halogenoborates, cryst. and vitreous, X-ray irrad., ESR centres, review 7—7586
- diamond, ion implanted, struct. props., EPR and electron diffr. studies 7—32363
- disordered metals with nuclear-spin impurities, ESR study 7—22135
- ferroelectric phase, dipole impurity-induced ESR line broadening calcs. 7—53131
- germanium(IV)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7—25563
- MBBA, paramagnetic dopant mol. slow tumbling motion, EPR shift and broadening meas. 7—16458
- poly-4(3-pyridyl),8-methyl,2,3-6,7-quinolino ladder polymer,electronic props.,I doping effects 7—64526
- polyacetylene, alkali metal doped, role of spin-orbit coupling in EPR spectra 7—64527
- polyacetylene, alkali metal doped, semiconductor-metal transition, EPR study 7—64528
- quartz:Li, $(SiO_4/Li)^0$ centre, correlated ESR and thermoluminescence studies 7—22140
- quartz spin-lattice relax. of $Al\text{-}O^-$ centres, EPR studies 7—38936
- semiconductors, n-doped insulating phase, ESR line shape studies 7—22134
- $BN{:}Cs(Br_2)$, intercalation cpd. formation 7—44574
- BaO-Fe_2O_3-B_2O_3-based glasses, crystallisation behaviour, nucleating agent effects 7—51650
- $CaO{:}OH^{2-}$, EPR spectrum 7—17217
- n-$Cd_{1-x}Mn_xSe$, electric-dipole-induced spin resonance 7—27592
- CdO-B_2O_3-SiO_2 glasses, photochromism, photocond. and ESR *(Japanese)* 7—22282
- CsH_2AsO_4 ferroelec. cryst., EPR studies of $AsO_4{}^{4-}$ centres 7—45816
- GaAs:B, as-grown Czochralski crysts., EPR signal 7—38935
- $Ga(CO)_2$, form. in hydrocarbon matrices, magnetic parameters, EPR and IR spectra anal. 7—19906
- $KH_2PO_4{:}Tl^{2+}$, impurity centres, ESR line width studies 7—38498
- $LiKSO_4$, domain structures and phase transitions, $SO_4{}^-$ EPR study 7—38937
- $LiKSO_4{:}NH_3$ single crysts., low temp. phase transitions, EPR study 7—27599
- $LiKSO_4{:}NH_3{}^+$, EPR spectra, ^7Li spin-flip satellites 7—64525
- $NH_4H_2PO_4{:}SeO_4{}^{3-}$, partially deuterated, D concentrations in $H_2PO_4{}^-$ and $NH_4{}^+$ radicals, ESR spectra 7—27671
- $O_2{}^-$, ads. on silica gel, photoform., rot. dynamics, ESR obs. 7—25566
- $RbH_2PO_4{:}Tl^{2+}$, impurity centres, ESR line width studies 7—38498
- Si, spin-dependent recombination and low-freq. ESR studies 7—38577
- Si:Au, Li, Au-Si pair paramagnetic state, EPR studies 7—45817
- Si:B, F implanted amorphous layers, struct. and elec. props., ESR and Hall effect meas. 7—26634
- a-Si:H,B(As) RF sputtered coatings, gas-phase doping efficiency 7—63471
- a-Si:H solar cell prep. by laser-induced CVD of SiH_4 7—7890
- Si:O, electronic struct. and atomic symmetry of the thermal donor 7—16986
- Si:O Czochralski wafers, electron traps resulting from O precipitation 7—21866
- Si:P, EPR temp. depend. g-shifts obs. 7—27600
- Si:P, quenching thermodefect prod. Hall effect, EPR meas. 7—27293
- Si:S(Se)(Te), chalcogenide pairs, electronic structs., Green's function calc. *(Chinese)* 7—58759
- 6H-SiC:P; impurity paramagnetic and elec. props. study 7—53130
- a-$Si_{1-x}N_x$:H,B films, ESR and IR spectra studies 7—7780
- Si_3N_4, reaction-bonded, EPR study 7—13028
- SiO_2:Ge, impurity charge trapping props., EPR spectra 7—27290
- SiO_2:OH, X-irrad. induced defect centres, EPR obs. 7—45221
- $Si_{1-x}(ZnS)_x$:H amorphous films, synthesis and characterisation 7—17420
- ThO_2, prep. and EPR study of actinide and rare earth ions 7—27598
- $U_2{}^-$, superslow mol. motions, EPR spectra 7—62421
- ZnS:Al, electron caputre processes, role of donors, transient ESR meas. 7—45347
- ZrF_4-BaF_2-LaF_3-AlF_3-LiF glass, X-ray radiation damage, EPR studies 7—21278

paramagnetic resonance of iron group ions and impurities
- azurin, g-values, EPR spectra, temp. depend. 7—57098
- bis(benzene)-vanadium S=1/2 dopant in nickelocene lattice, large impurity anisotropic g-shift obs., mol. field anal. 7—13017
- n-butyltitanate/triethylaluminium catalyst for polyacetylene film synthesis, ESR study 7—65317

paramagnetic resonance of iron group ions and impurities continued
- copper phthalocyanine iodide, local moments coupled to itinerant e^-, EPR g-value 7—2815
- cyclopentadienyl-cycloheptatrienyl-vanadium S=1/2 dopant in nickelocene lattice, large impurity anisotropic g-shift obs., mol. field anal. 7—13017
- 2,9-dimethyl-1,10-phenanthroline intercalated into α-$Zr(HPO_4)_2$, ion exchange with Co^{2+}, Ni^{2+} and Cu^{2+}, dimer formation 7—65305
- ferredoxins, g strain, EPR study 7—25567
- plastocyanin, g-values, EPR spectra, temp. depend. 7—57098
- plastocyanin, paramag. Cu^{2+} containing, spectroscopic and computer simulation study 7—8494
- ruby, Cr^{3+} ground state, superposition-model analyses of EPR data 7—7158
- spin glasses, amorphous transition metal-metalloid, EPR linewidth, theory 7—45805
- transition metal dithiolates and diselenolates, molecular and electronic structs. 7—52397
- transition metal impurities, interstitial, enhanced mobilities and reactivities 7—17769
- tris-sarcosine calcium chloride: Mn^{2+} crystals, ferroelec. phase transition 7—2995
- $Al_2O_3{:}Cr^{4+}$, V^{3+}, electron-phonon interaction and impurity energy levels, APR and EPR studies *(Russian)* 7—45814
- $BaMnF_4$, 2D Heisenberg magnet, spin dynamics and EPR linewidth 7—38932
- BaO-V_2O_5-Fe_2O_3 semiconducting glasses, elec. props., Mossbauer, EPR and X-ray diffr. studies 7—7236
- $BaTiO_3{:}Fe^{3+}$, ferroelectric transition, EPR 7—33343
- $BaTiO_3$:Mn, Mn oxidation state change near phase transitions 7—16974
- $BaTiO_3{:}Mn^{4+}$, EPR spectra, spin-Hamiltonian consts. 7—45812
- $BiVO_4{:}Mn^{3+}$, ESR spectra, temp. depend. 7—22137
- CaF_2-BaF_2-AlF_3 glasses, struct., transition metal ion EPR studies 7—6545
- $Ca_3Ga_2Ge_3O_{12}{:}Cr^{3+}$ garnet, ESR and ultrasonically modulated ESR studies 7—22139
- $CdCl_2$, cryst. struct., temp. var., determ. from $CdCl_2{:}Mn^{2+}$ EPR data 7—32382
- $Cd_2Nb_2O_7$, Fe^{3+} ESR study 7—64516
- $Cd_2P_2S_6$ intercalated with pyridine complexes of ferric ion, spectroscopic and ESR studies 7—64519
- CdS(Se)(Te):Mn, impurity EPR spin Hamiltonian parameter correl. calcs. 7—27597
- $Cd_{1-x}Zn_xTe$:Mn, hyperfine coupling constant, EPR study 7—22138
- Co complex, cobalamine, ESR, unpaired electrons interspin distance, Eatons' formula calc. 7—25569
- Co complexes, bis(dimethylglyoximato)cobalt(II), frozen soln., EPR and ENDOR investig. 7—57097
- $(Co(CN)_5)^{3-}$, soln., electronic struct., ESR investig. 7—31081
- Cr_2O_3, in mullite transparent glass-ceramics, X-ray absorpt., emission and EPR spectra 7—7728
- Cr_2O_3, in transparent glass-ceramic, crystn. and spectroscopic props., melting conditions and heat treatment influence 7—7588
- $Cs_2CdF_4{:}Cr^{3+}$, Li^+, Cr^{3+} centres, EPR study 7—7589
- $CsH_2PO_4{:}Cu^{2+}$ pseudo-1D ferroelectric, 3D correls., EPR meas. 7—38931
- $CsMnCl_3.2H_2O$,1D Heisenberg magnet, spin dynamics and EPR linewidth 7—38932
- $Cs_2NaAl_3F_{12}{:}Cr^{3+}(Fe^{3+})$, impurity ion spin Hamiltonian parameters, EPR determ. 7—64523
- CsV_xO_y, crysts., struct., cathodic reduction from melt, and elec. props. studies 7—58236
- Cu complex, 2-acetylpyridine thiosemicarbazone copper(II) complex, mag. moment meas., ESR and spectra investig. 7—57105
- Cu complex, aliphatic polyamine Cu (II), ESR hyperfine line width 7—19891
- Cu complex, bis(diisopropylsalicylato)copper(II) pyridyl nitronyl nitroxide, mol. conform., ESR study 7—57103
- Cu complex, Cu (II) α,ω-dicarboxylato polybutadiene, microstruct. obs. 7—13259
- Cu complex, Cu (II) α,ω-dicarboxylato polybutadiene, microstruct. investig. 7—16450
- Cu complex, Cu II-acetylacetone-substituted 8-hydroxyquinolines, ESR obs. 7—19890
- Cu complex, $Cu_4OCl_6(triphenylphosphine)_4$, EPR spectrum, Zeeman, hyperfine and mag. dipole effects 7—10642
- Cu complex, $CuCl_2$-2-phenyl-4,4,5,5-tetramethylimidazoline-1-oxyl-3-oxide, mag. props. 7—51715
- Cu complex, Cu(II) saccharinate, electronic struct. and cryst. struct. 7—27251
- Cu complex, hexakis (1-methyltetrazole) copper II bis(tetrafluoroborate), Cu(II) sites, Jahn-Teller behaviour, ESR spectra anal. 7—21163
- Cu complex, pyridene 2-aldehyde thiosemicarbazone copper(II) complex, mag. moment meas., ESR and spectra investig. 7—57105
- Cu complexes, copper(II) cyclodextrin complex, EPR investig. 7—57101
- Cu complexes, dibromotetrapyrazole copper, polycryst. and soln., ESR study 7—38928
- Cu complexes, dichlorobispyrazole copper, polycryst. and soln., ESR study 7—38928
- Cu complexes, diperchlorotetrapyrazole copper, polycryst. and soln., ESR study 7—38928
- Cu complexes, ESR, unpaired electrons interspin distance, Eatons' formula calc. 7—25569
- Cu complexes, halogen-substituted 8-hydroxyquinoline Cu II, ESR obs. 7—5709
- Cu complexes, L-phenylalanine salt, EPR study 7—59106
- Cu complexes, single and mixed ligand, bonding parameter, ESR obs. 7—50203
- Cu complexes, with ethanolate, mol. and electronic struct., EPR study 7—19901
- Cu complexes, with polymeric sorbents, ESR investig. *(Russian)* 7—42812
- Cu II complexes, charactn., electronic and ESR parameters 7—2925
- Cu^{2+} complexes with phenanthroline, struct., ESR 7—31080
- Cu^{2+}, detection in Nafion membranes, H_2O solvent and Zn^{2+} ratio effects, ESR spectra anal. 7—33268
- Cu^{2+} impurity ion in octahedral environment, EPR spectrum, MM field freq. and temp. depend. 7—27596
- Cu-albumin complex, local struct., EPR and EXAFS obs. 7—65689
- $Cu(NO_3)_2.2.5\ H_2O$, EPR and magneto-microwave birefringence powder spectra 7—45810
- CuO-V_2O_5-Na_20-P_2O_5 phosphate glasses EPR of Cu^{2+} and Vo^{2+} ions. 7—59107
- Cu_xS, stoichiometry and phase transitions, Cu^{2+} EPR studies 7—17219

paramagnetic resonance of iron group ions and impurities continued
- $Cu_6Si_6O_{18}.6H_2O$, Dioptase crysts., Cu^{2+} EPR and optical absorpt. spectra studies 7−53120
- $Cu_{0.5}Ti_2(PO_4)_3$, Nasicon-type phase, struct. and physical props. 7−45804
- β-$Cu_xV_2O_5$, ESR spectra 7−64517
- Fe complex, ferric acetyl acetonate, EPR studies 7−13024
- $Fe_{1-x}Co_xCl_2$, Fe^{2+} localised excitation and spin orientation, ESR studies 7−64524
- $Fe(NH_4)_2(SO_4)_2.6H_2O$, EPR of Mn^{2+}, Mn^{2+}-Fe^{2+} exchange interaction 7−2924
- $GaAs:Ti^{3+}$, EPR 7−45811
- GaF_2:Mn cubic cryst., local lattice instability near impurity, ESR study 7−53123
- β-$Ga_2O_3:Fe^{3+}(Cr^{3+})$, zero-field splittings and site distortions 7−59119
- E-glass, coord. of iron, ESR and mag. meas. 7−13021
- $H_{(3+n)}(PV_nMo_{(12-n)}O_{40}).XH_2O$, stability to dehydration in air and vacuum, ESR study 7−38929
- $InP:Mn^{3+}$, Jahn-Teller effect, mag. suscept. and ESR spectra anal. 7−52534
- InP:Ti, Hg, semi-insulating, impurity electron state compensation mechanism, SIMS, SSMS, EPR and Hall effect meas. 7−64164
- $KTaO_3:Fe^{3+}$, EPR of Fe^{3+} centres, electric field effect 7−38926
- $KTaO_3:Fe^{3+}$, ESR, effect of external electric field 7−38933
- $K_2ZnF_4:Cu^{2+}$ crystal, possible ligand spin-orbit coupling in CuF_4F_2 clusters 7−38520
- $LiCl:Fe^{3+}$, X-ray irrad., EPR spin Hamiltonian parameters 7−45808
- α-$LiIO_3:Co^{2+}$, ESR and optical absorpt. studies of impurity ions 7−45803
- $LiNbO_3:Co^{2+}$, ESR and optical absorpt. studies of impurity ions 7−45803
- $LiNbO_3:Cr^{3+}$ (Fe^{3+}) (Mn^{2+}), EPR of axial and low-symmetry paramagnetic centres 7−38925
- $LiNbO_3$:Ni(Cu), γ-irradiated, ESR spectra of impurity centres 7−17218
- Li_2O-MO-$B_2O_3:VO^{2+}$ (M=Ba,Ca,Mg) borate glasses, ESR of VO^{2+} ion 7−59110
- $LiRbSO_4:VO^{2+}$, optical absorpt. and EPR spectrum, crystal field parameters 7−59109
- $Mg(NH_4)_2(SO_4)_2.6H_2O$, EPR of Mn^{2+}, Mn^{2+}-Fe^{2+} exchange interaction 7−2924
- Mn, in Ar solid, ENDOR/ESR spectra 7−5710
- MnSi, amorphous, concentrated spin glass, ESR study 7−13022
- $NH_4Al(SO_4)_2.12H_2O:Cr^{3+}$, X-ray radiation damage, EPR and optical absorption studies 7−26799
- $(NH_4)_3H(SO_4)_2:Cu^{2+}$ single crysts., EPR study 7−53118
- $(NH_4)_2Pb(Cu(NO_2)_6)$ struct. phase transform., ESR study 7−13026
- Na_2O-Fe_2O_3-Al_2O_3-SiO_2 glasses, Fe^{3+} ESR spectra, valence-coord. state 7−45813
- Na_2O-SiO_2-$FeCO_3$-Fe_2O_3 glass system, prep., props and struct. 7−1900
- $Ni(BF_4)_2.6H_2O$, EPR lineshape function 7−38930
- $Ni(ClO_4)_2.6H_2O$, EPR lineshape function 7−38930
- $Pb_5Ge_3O_{11}$, Mn^{2+} ESR study, pulsed saturation effects 7−64515
- PbO-Fe_2O_3-B_2O_3 glass ceramics, mag. props. and EPR spectra of precipitated mag. phases 7−45748
- $PbTe:Mn^{2+}$, superhyperfine struct., EPR spectra 7−27595
- $PbTiO_3:Cr^{5+}$, ceramic, EPR, ENDOR, ESE investigs. 7−13020
- $PbTiO_3:Fe^{3+}$, F^- charge compensating cluster form., EPR spectra studies 7−64518
- $Rb_2CdF_4:Cr^{3+}$, Li^+, Cr^{3+} centres, EPR study 7−7589
- $Rb_2Cd_2(SO_4)_3:Mn^{2+}$, langbeinite, reversible phase transitions, EPR studies 7−63810
- $Rb_2Mg(SO_4)_2.6H_2O:Cu^{2+}$, electronic and EPR spectra 7−13019
- $Rb_x(NH_4)_{1-x}AlF_4$, ESR study of orientational order with Fe^{3+} probe 7−53119
- RbV_xO_y crysts., struct., cathodic reduction from melt, and elec. props. studies 7−58236
- $Rb_2ZnF_4:Cr^{3+}$, Li^+, Cr^{3+} centres, EPR study 7−7589
- Si:Cr,B, optically-induced spin orientation, EPR study 7−2927
- Si:Fe, intrinsic gettering, EPR and TEM study 7−38216
- Si:Fe,O, Fe intrinsic gettering, EPR studies 7−16553
- SiC:Ti,N, 6H polytype, ESR of $(TiN)^0$ impurity pairs 7−2926
- SiO_2-Al_2O_3-MgO-Cr_2O_3 glass, magnetism of spinel microcrystals, ESR study 7−27594
- $SrAlF_5:Cr^{3+}$, laser material, EPR study 7−45807
- $SrTiO_3$:Mn, Mn oxidation state change near phase transitions 7−16974
- TiO_2:Cr, sol-gel process, ESR study 7−59108
- $TiO_2:V^{4+}$, anatase and rutile phases, EPR study 7−2923
- $Tl_2Co(SeO_4)_2.6H_2O:Mn^{2+}$, electron spin resonance studies 7−45809
- VO^{2+} complexes, rhombic symmetry cryst. field and ground state wavefns. 7−38927
- YIG, critical mag. relaxation, ESR linewidth 7−22106
- Zn complex, Zn $(acetylacetonate)_2.H_2O$, Mn^{2+} dopant, crystal struct., EPR spectra study 7−64521
- Zn complex, $Zn(antipyrine)_2(NO_3)_2:VO^{2+}$, VO^{2+} orientation, EPR spectra anal. 7−53121
- Zn complexes, zinc(II)-bis-histidine:Cu, Jahn-Teller effect induced phase transition, ESR detect. 7−53122
- $Zn(BF_4)_26H_2O:Mn^{2+}$, EPR study 7−64520
- $ZnCO_3:Fe^{2+}$, mixed spin relax. processes 7−64522
- $Zn(NH_4)_2(SO_4)_2.6H_2O$, EPR of Mn^{2+}, Mn^{2+}-Fe^{2+} exchange interaction 7−2924
- ZnS:Al, Cr, Fe crystals, recomb. luminesc., EPR and photocond. meas. 7−3076
- ZnS:Al, temp. depend. of visible photolum., ESR studies 7−46099
- $ZnS:Cr^+$, Fe^{3+} single crysts., impurity centre charge exchange, plastic deform. effects, ESR spectra studies 7−16984
- ZnS:Fe,Cu, three-centre Auger recombination, EPR study 7−45806
- ZnS:Mn powders, EPR anal. for different cryst. structs. 7−13025
- ZnS(Se)(Te):Mn, impurity EPR spin Hamiltonian parameter correl. calcs. 7−27597
- ZnSe:Fe, impurity ion photoionisation, EPR, photoconductivity spectra 7−52495
- $ZnTiF_6:Cu^{2+}.6H_2O$, Jahn-Teller effect and phase transitions, powder EPR study 7−13023
- $ZnTiF_6.6H_2O:Mn^{2+}$, ESR spectrum, axial press. effects 7−22136
- ZrF_4-LaF_3-BaF_2-NaF glasses, EPR of Cu^{2+} ions 7−27593

paramagnetic resonance of palladium and platinum group ions and impurities
- $CaMoO_4$, cryst., photo-excited triplet state, EPR 7−13027
- $K_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7−64222
- $K_{0.3}MoO_3$, CDW state, metastable EPR study 7−53125
- Mo complex, Mo phthalocyanine, struct., IR spectra, powder and liq. soln. EPR spectra study 7−64509

paramagnetic resonance of palladium and platinum group ions and impuriti continued
- Ni complex, tetraphenylarsonium-bis(maleonitriledithiolato)nickel(II), Rh complex dopant, hyperfine interactions, EPR-ENDOR study 7−53124
- $Rb_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7−64222
- Rh complexes, $Rh_2(acetate)_4(H_2O)_2{}^+$, aq. soln., $\pi_{RhRh}{}^*$ odd electron orbital evidence, ESR spectrum 7−15628
- Ta complex, $(BEDT\text{-}TTF)_3Ta_2F_{11}$, optically enhanced phase transition, EPR investig. 7−64454
- ZrF_4 based glasses, reduced species, EPR and optical studies 7−64665
- ZrF_4-BaF_2-LaF_3-AlF_3-LiF glass, X-ray radiation damage, EPR studies 7−21278

paramagnetic resonance of rare earth ions and impurities
- $ethylsulphate:Nd^{3+}$, high press. spin-lattice relax. and ground state 7−38934
- rare earth adsorbates on metal surfaces, EPR line shapes 7−53129
- tetraphenylarsonium pentakis(nitrato)ytterbate(III), crystal field levels determ. by neutron spectroscopy 7−45238
- $Ba_{1-x}Gd_xF_{2+x}$, defect struct., ionic thermocurrents, dielec. meas., EPR obs. 7−44907
- BaO-La_2O_3-Nd_2O_3-Al_2O_3 systems, synthesis, characterisation and spectroscopic investigations of mixed hexa-aluminates 7−63827
- $BaTiO_3$:Nd, ceramics, diffuse phase transform 7−16731
- $BiVO_4:Gd^{3+}$, ESR spectra, temp. depend. 7−22137
- $CsCaF_3:Gd^{3+}$, transferred hyperfine interaction of impurity centres, ENDOR, EPR meas. 7−32946
- Eu^{2+} in crystals, covalency and EPR hyperfine struct. const. 7−45815
- Gd monolayer on W, ferromag. order and crit. exponent, ESR study 7−45680
- $KTaO_3:Gd^{3+}$, ESR, effect of external electric field 7−38933
- KX:Sr,Eu (X=Br,Cl), Sr precipitation, study using Eu^{3+} ions 7−53127
- $Pb_5Ge_3O_{11}:Gd^{3+}$, impurity ion reorientation kinetics 7−45940
- PbTe:Gd, mag. props. EPR study 7−53126
- SmB_6, disordered Sm ions, ESR study 7−53128
- SmB_6: Eu^{2+} energy gap temp. depend., impurity ESR study 7−45151
- $SmB_6:Er^{3+}$, Jahn-Teller phenomena in valency-mixing surroundings 7−45240
- $SmB_6:Er^{3+}$ energy gap temp. depend., impurity ESR study 7−45151
- $SmB_6:Gd^{3+}$ energy gap temp. depend., impurity ESR study 7−45151
- $ThCl_4:Gd^{3+}$, impurity-vacancy centre EPR probe for incommensurate phase 7−17220
- ThO_2, prep. and EPR study of actinide and rare earth ions 7−27598
- UBe_{13}-Gd, EPR in superconducting phase 7−33269
- $U_{1-x}Gd_xO_2$ solid soln., microcharacterisation by ESR, XPS and mag. susceptibility meas. 7−12957
- W (110) with Gd monolayer, magnetic resonance 7−59113
- $Yb_{0.06}$ $(NH_3)_{0.32}TiS_2$ intercalation compounds, structural and magnetic studies 7−63593

paramagnetism
- *see also paramagnetic properties of substances*
- anisotropic paramagnetic centre, pseudocrossing of levels and van Vleck susceptibility 7−7471
- completely disordered paramag. medium, magnetisation fluctuations, CPA approx. 7−2808
- crystal with sinusoidal potential, 1D, paramagnetic susceptibility 7−17153
- deformed paramagnetic tetragonal system, field-induced symmetry change in the free energy 7−12324
- extended s-f model, elec. cond. calc. 7−64194
- Fermi liquid systems, mag. props. 7−12387
- ferromagnets, paramagnetic zero-field susceptibility, modified power law study 7−45612
- Heisenberg antiferromagnets, multicritical points 7−27541
- Heisenberg model, spin autocorrel. function, high freq. asymptotics calcs. 7−52927
- Heisenberg paramagnets, thermodynamics, influence of crystal field anisotropy 7−12988
- homogeneous electron gas, para- and ferromagnetic states, correlation energy interpolation fn. 7−45196
- inhomogeneously broadened paramagnetic systems with restricted spectral diffusion, LF absorpt., dipole reservoir role 7−58975
- itinerant electron ferromagnetism, mag. susceptibility, Curie-Weiss law 7−27501
- Landau diamagnetism, perimeter corrections for free electron gas 7−38843
- periodic Anderson Hamiltonian, paramagnetic ground state 7−2809
- ortho-positronium, lifetime in positron spur, paramag. particles effects 7−16633
- Van Vleck paramagnetic susceptibility, cryst. field effect, temp. depend., approximate formulae, review 7−12935
- GdGG, paramag., mag. lin. birefr. meas. 7−53265
- YbAG, paramag., mag. lin. birefr. meas. 7−53265
- YbGG, paramag., mag. lin. birefr. meas. 7−53265

parameter estimation
- atmospheric EM wave propagation, estimation of partitioned set of parameters 7−40554
- blood flow parameters estimation using pulse Doppler US with corrections for spectral broadening 7−8671
- composite materials, fatigue life and residual strength, lognormal distribution model 7−17616
- DNA distributions with abnormal stemlines determined by flow cytometry, automatic analysis 7−59949
- energy acoustic system, functional method of parameter estimation 7−37236
- microwave reflectometry, frequency-domain, image reconstruction, parameter identification, simulation tools appl. 7−65834
- mirror surfaces, high performance, spectral and parameter estimation problems in metrology 7−37232
- multiextremal optimization for calibrating water resourcesmodels 7−9042
- paraplegics, EMG-controlled stimulation limb function discrimination using Karhunen-Loeve expansions 7−54540
- respiratory impedance data fitted models, statistical measures of parameter estimates 7−28550
- time constant determination in kinetic studies involving radiolabelled tracer molecules 7−34236
- water quality model, parameter estimation using prototype expert system 7−55111
- WODA−a modelling support system for BOD-DOassessment in rivers 7−9041

parameter identification *see parameter estimation*

parametric amplifiers
see also acoustic parametric amplifiers; microwave parametric amplifiers; optical parametric amplifiers
α-Fe_2O_3 single crystal, backward surface wave, parametric instability and amplification 7−22128

parametric oscillators
see also acoustic parametric oscillators; microwave parametric oscillators; optical parametric oscillators
RF traps, Brownian motion in a parametric oscillator model 7−29911

parametric varactor diodes *see varactors*

parametrons *see parametric oscillators*

Pariser-Parr-Pople calculations *see PPP calculations*

parity
see also elementary particle spin and parity; nuclear spin and parity
atoms, parity and time-reversal violation in nuclei and atoms, atomic electric dipole moment meas. 7−30325

parsers *see grammars*

parsing *see grammars; program compilers*

partial differential equations
see also boundary value problems; wave equations
2D electrostatic and EM problems, general interactive finite element package 7−62569
2D magnetic field problems, boundary and finite element methods combined 7−62584
∂ equations, nth order, spatial transform method anal. 7−60997
advection, positive definite schemes, comparison and eval. 7−16151
advection eqn., 1D, 3-pt. 2-level finite difference methods 7−16149
advection eqn., 1D, improved 5 pt. implicit finite difference methods 7−16150
advection-diffusion eqn., accurate finite difference methods and Pascal listing 7−16148
air pollution modelling, num. method and computer simulation 7−54394
air pollution transport eqns., multistep/multigrid implicit technique 7−54402
annular thermal entry problem, num. solns. 7−16180
approximate random choice method for scalar conservation laws 7−20679
atmospheric convection, comparison of GR FEM models 7−18298
axially symmetric finite element model 7−57701
Backlund transformations, periodic fixed points, KdV eqn. appl. 7−29772
biharmonic equation, reduction of boundary value problem to Stokes-type problem 7−18566
Burgers equation, integrability, Painleve test 7−14781
Burgers equation, low order analogue, truncation effects 7−14782
Caldirola-Kanai equation, asymptotic behaviour of solns. 7−48434
characteristic Galerkin and Lagrange Galerkin methods for evolutionary PDEs 7−14783
complexity of PDEs 7−48385
composite shell of revolution, flexible, weakened by notches, stress-strain state, num. method 7−16075
compressible flow, accuracy of nonuniform-mesh schemes 7−51202
computational continuum dynamics, introduction 7−4800
concentrated loads effects 7−60984
contour dynamic, rotational flow simulation appl. 7−16194
convection, finite-amplitude axisymmetric, between rigid rotating planes 7−26272
convection, linear 1D eqn., numerical dispersion by upwind differencing 7−26267
degenerate system, Lagrangian and Hamiltonian constraints 7−61032
diffusion eqn., 1D lin., 5-pt. explicit finite difference method 7−14898
Dirichlet problem, nonlinear, in semiinfinite cylinders, decay theorems 7−29688
discrete nonlinear Schrodinger eqn., quasiperiodic solns. 7−48423
discrete self-trapping equation, non-steady soln. 7−14821
distributed parameter systems with two-time and two-space scales 7−59474
eddy current problems, skin depth-independent finite element method 7−62572
elasticity, dynamical theory, ray series method appl. to axisymmetric non-stationary problems 7−41114
elliptic boundary value problems, Schwarz alternation method in a subspace 7−18569
elliptic partial differential eqns., iterative soln. by local discrete Fourier anal. 7−18572
Euclidean field theory, Gibbs measures, local aspects and partial differential eqns. 7−35662
evolution equations, integrable, nonlinear, equivalent classes and generalized Miura transformations 7−55952
excitable medium models, rotating spiral waves 7−46995
explicit bounds for soln. of nonlinear partial differential eqn. 7−29707
Federbush model, infinite number of infinite hierarchies of conserved quantities, Lie-Backlund transforms. 7−35671
finite difference eigenvalues, asymptotic correction 7−18324
flame propagation, unsteady and ID, mathematical anal. 7−57944
flow problems, stiff ODE solver software, selection 7−26239
fluid dynamics, Glimm's method, introduction and FORTRAN listing *(Spanish)* 7−20678
fluid mechanics, nonlinear partial differential equations, hybrid boundary integral-Taylor series approach 7−61108
fluids in porous medium, unsteady interface 7−14319
fourth order partial diff. eqns., soln. using finite element method 7−29759
fractional diffusion equation 7−35470
free electron laser transverse correlations in start-up from noise 7−20236
gas dynamics eqns., min. entropy principle 7−26235
geometry of differential equations, secondary differential calculus and quantum field theory 7−56408
Grad-Shafronov equations, isoperimetric inequalities and nonexistence 7−55993
growth of harmonic functions in hyperspheres 7−61023
heavy gas atoms, particle behaviour simulation 7−9749
Helmholtz equation semi-infinite medium, inverse problem 7−61132
heterogeneous environments, potential fields anal. *(Polish)* 7−20093
high flux, single solute mass transfer in spherical rigid drops 7−16217
hyperbolic conservation laws, boundary conditions *(French)* 7−60986
hyperbolic conservation low approx., nonoscillatory shock capturing methods 7−26318
hyperbolic differential equations, soln. of boundary-value problem, optimal control appl. 7−35220

partial differential equations continued
integrability conditions for systems for two equations of the form $u_t=A(u)u_{xx}+F(u,u_x)$ 7−4662
integration of self-similar eqns., Cole-Hopf transformation 7−18579
Kadomtsev-Petviashvili hierarchy, integrable scalar equations 7−41061
L_p spectrum of Schrodinger operators 7−48415
Lax pairs and perturbing time depend. force for Burger's hierarchy 7−29682
light charged particles, equilibrium behaviour 7−9750
linear asymmetric matrix equations, biconjugate gradient routine ILUBCG2 7−48302
linearization and Painleve property of Liouville andCheng equations 7−4657
MHD, Von Karman ansatz extension 7−1644
moist soil drying model, integral methods for partial differential eqn. 7−66187
multicomponent generalizations of integrable nonlinear partial differential eqns. 7−74
multicomponent mass transfer in spherical rigid drops 7−16218
multidimensional semiconductor equations, LBI techniques 7−58803
near integrable PDE, quasiperiodic route to chaos 7−41269
nerve axon equations, branching of single pulse to double pulse solns. 7−59909
nonhomogeneous boundary conditions, reduction method 7−4689
nonhomogeneous partial derivative equation, existence of solution 7−61000
nonlinear, integration using Backlund, Darboux transformations and dressing method 7−41072
nonlinear, time dependent, soln. using multi-grid method 7−41080
nonlinear evolution equations, semigroups 7−55982
nonlinear homogeneous Boltzmann eqn., exact similarity solns. 7−61294
nonlinear lattice with long-range interaction, wave propag. *(Russian)* 7−109
oceans, depth-dependent channel flow modelling 7−18325
one dimensional unsteady flame propagation, nonlinear partial diff. eqn. system *(French)* 7−65320
one-dimensional potential scattering, time-dependent Schrodinger theory *(Korean)* 7−29802
operator theory, symposium, Athens, Greece (Aug. 1985) 7−55878
optical single-instruction multiple-data array architectures for digital optical computing 7−42941
orthotropic toroidal shell stresses under axisymmetric loads *(Chinese)* 7−14774
Painlevé test and integrability of Klein-Fock-Gordon eqns. 7−48309
Painleve integrability test for nonlinear partial differential eqns. 7−41071
parabolic variational inequalities, nonlinear, existence of strong solns. 7−55997
perturbed sine-Gordon eqn., nonequilibrium-to-equilibrium mapping 7−48319
physics problems with discontinuous coeffs. in compound regions, changes in statements *(Russian)* 7−29689
piezoceramic shell, applied theory modification 7−43750
plastic rupture during compression along near-surface fractures 7−43795
plate, elliptical, oscillation problem soln. with allowance for energy dissipation 7−20641
plate, natural freqs. and forms of vibrs. in own plane, determ. method 7−20642
plate, rectangular, with initial imperfections, nonlinear dynamics problems investig. method 7−16108
plate and rod, viscoelastic, refinement of vibr. eqns. 7−16107
plates, bent, strain energy upper and lower bounds 7−26138
plates, biharmonic eqn. general soln., generalised Levy's method 7−1396
plates, rectangular on linear elastic foundation, nonlinear dynamic response 7−20599
Poisson equation, numer. soln. 7−29774
Poisson solver in 3D, conjugate gradient iterative method 7−55977
polygonal topological networks in 2D, boundary value problems *(French)* 7−35211
porous media, degenerate parabolic eqns., difference schemes 7−51306
prolongation structures of nonlinear equations and infinite-dimensional algebras 7−41062
quasilinear elliptic equation, numerical solution of first boundary value problem *(Russian)* 7−55975
quasilinear hyperbolic systems with involutions 7−29755
reduced three-wave resonant system with nonconstant coeffs., group props. 7−41067
regular perturbations for 1st order partial diffs. eqns., resonant oscillations 7−56050
rod, curved elastic, vibrs. in plane of curvature during heating 7−43751
Routh-Hurwitz problem, stability analysis of difference schemes 7−48301
scale-invariant partial differential equations, conversion laws, resonances and the Painleve test 7−56002
Schrodinger spectral problem hierarchies of integrable eqns. obtained as nonisospectral deformations 7−61160
second-order perturbation algebra of invariant operators 7−60962
semilinear diffusion equations, time-periodic solutions to semilinear parabolic equations 7−56193
semilinear Dirichlet problem, multiple solutions 7−18560
shallow water eqns., num. anal. 7−9026
shear dispersion in parallel flow, computational method 7−16152
shell, cylindrical, axisymmetric dynamic problems soln. by num. methods 7−16105
shell, cylindrical, buckling analysis on refined eqns. basis 7−43729
shell, structural, initially stressed, vibrs. and freq. characts. 7−16104
SIMPLE hydrodynamics benchmark, restructuring for CHiP architecture 7−16145
slab geometry transport spatial discretization schemeswith infinite-order convergence 7−4798
small strains quasistatic elastoviscoplasticity 7−50960
smoothed particle hydrodynamics, hypersonic flow appl. 7−16206
soft soil consolidation model, integral methods for partial differential eqn. 7−66124
soil, infiltration from cavities, num. soln. 7−18254
solutions with time depend. velocities 7−29768
Sommerfeld's half-plane problem type mixed boundary value problems 7−56001
spectra of partial differential operators, book 7−55905
Spencer-Lewis equation, derivation from Boltzmann equation 7−4797
steady Euler eqns., multiple-grid and Osher's scheme 7−51021
steady flow induced by a rotating circular cylinder in a rectangular tank 7−37475

partial differential equations continued
steel, H anomalous diffusion, nonlinear partial differential eqns., C^2 solns. 7−58525
Stokes problem, stationary, boundary integral eqn. method *(Chinese)* 7−14779
Szebehely's problem extended to holonomicsystems with a given integral of motion 7−4303
tides, 2D eqns., num. soln. by method of characts. 7−18187
tides, 2D eqns., soln. by method of characts., adaptation to wind-induced currents and storm surges 7−18188
time-dependent partial differential eqns., 2D mesh moving technique 7−18573
transformations of variables for differential equations 7−29724
transient 3D 3-phase 3-component nonequilib. flow in porous bodies by 3-velocity fields. 7−56782
transient heat transfer in porous media—a two-temperature model 7−16181
turbulence transition via spatiotemporal intermittency 7−43861
uncoupling systems of linear partial diff. eqns., operator kernel 7−29685
unsteady incompressible two-dimensional and axisymmetricturbulent boundary layer flows 7−1540
variable coefficient KdV equation, similarity anal. and exact soln. 7−29771
variable coefficient KdV equations, auto-Backlund transform; Lax pairs, Painleve prop. 7−29770
viscous compressible heat conducting fluid, 1D motion, Navier-Stokes weak soln. *(French)* 7−37486
viscous turbulent models, general eqns., expansion in nonorthogonal curvilinear coords. 7−16164
Vlasov-Maxwell equation, initial value problem, local solns. 7−9683
vortex and particle methods, higher-order accurate versions 7−26236
vortex breakdown, num. study 7−26283
vortex breakdown simulation, multigrid method 7−26284
vorticity-transmission equation for viscous flow, expansion in nonorthogonal curvilinear coords. 7−16163

partial discharges
polymeric dielectric, in partial discharge, depression rel. to elec. ageing *(Russian)* 7−26577
H_2O, deionized, for capacitor insulation, partial discharge and electric breakdown 7−32186

particle accelerator accessories
ARGUS vertex drift chamber, design and performance 7−30840
design principles of detectors at colliding beams, review 7−56911
electro-optical Kerr effect voltage measurements on multi-megavolt pulsed power accelerators 7−25286
erema-disk-type beam monitor for NERL 35 MeV linac *(Japanese)* 7−19619
fuse and resistor characts. for multi-megajoule capacitor bank appl. 7−30792
grid pulser for short pulse e^- gun, design and simulation *(Japanese)* 7−19610
high performance avalanche pulse generator for e^- gun appl. *(Japanese)* 7−19612
high voltage pulser for beam pulsing of e^+ linac *(Japanese)* 7−19611
image processing system for electron linac beam diagnosis *(Japanese)* 7−19621
large acceptance mag. detector for CEBAF 7−36379
laser trigger system design for Particle Beam Fusion Accelerator II (PBFA II) 7−30772
laser triggering optical system for Particle Beam Fusion Accelerator II (PBFA II) 7−30771
magnetic linear accelerator (MAGLAC), switching studies 7−36342
microprocessor-based linac main oscillator and beam stabilization using the phase-locked trigger *(Japanese)* 7−19622
microstrip vertex detector for E687 expt. at Tevatron 7−30837
microvertex detector for UA1 expt., design and operation 7−30841
multicharged heavy ion source for the RIKEN linear accelerator *(Japanese)* 7−56897
nanosecond electron injector 7−36367
negative ion injector extension for JAERI tandem accelerator 7−56898
neutron shields for medium-energy accelerators 7−42258
power supplies to magneto-optical elements of particle channels, digital remote control system 7−42268
pulse forming system for Particle Beam Fusion Accelerator II (PBFA II), engineering design 7−30770
pulse width selecting system for e^+ beam transport line *(Japanese)* 7−19609
pulsed power accelerator for fusion research, SF_6 reprocessing system 7−30769
RIKEN He jet transport system, IGISOL appl. 7−36372
scattering chamber at Variable Energy Cyclotron Centre, Calcutta 7−42447
short pulse beam monitor signal processing system for KEK 2.5 GeV linac *(Japanese)* 7−19620
short pulse grid pulser for positron generator gun *(Japanese)* 7−19607
single bunch compressor system, design and operation *(Japanese)* 7−19614
solid yoke bending magnetic, eddy current effects during slow acceleration *(Chinese)* 7−25284
thermionic gridded e^- gun for KEK e^+ linac, characts. *(Japanese)* 7−19608
time expansion chamber as vertex detector for MARK J at DESY 7−30836
turbomolecular pump with hysteresis motor for particle accelerators *(French)* 7−30025
Van de Graaff accelerator, voltage regulation and breakdown prevention device *(Chinese)* 7−5499
CoR alloys, R=rare earth, permanent quadrupole magnets, construction and calcs. 7−19578
FeR alloys, R=rare earth, permanent quadrupole magnets, construction and calcs. 7−19578
Mo, tubes, corrosion in flowing water, O_2 conc. effect 7−22906

particle accelerators
see also beam handling equipment; beam handling techniques; cyclotrons; electron accelerators; electron ring accelerators; electrostatic accelerators; ion accelerators; linear accelerators; proton accelerators; storage rings; synchrotrons
accelerator physics, review of topics 7−36345
adiabatic-invariant change due to separatrix crossing 7−31932

particle accelerators continued
antiproton technology, potential develop. of advanced power sources 7−62102
electron gun for continuous-operation sectional microtron, calc. and expt. meas. 7−56888
energy level upgrade, electrostatic field calcs. 7−25273
experimental physics, balance of power between USA and Europe 7−49863
future accelerator technology 7−30785
future technology, particle and nucl. physics intersections conf., Lake Louise, Canada, May 1986 7−29569
high energy physics, computational needs 7−10316
MAD, accelerator, design tool kit 7−10315
medical accelerators for photon beam treatment, choice of optimum MV 7−34237
neutral particle beam discriminator, RF power source technology 7−15427
neutron leakage through an Fe shield at an accelerator, rel. to concrete augmentation of shielding 7−54764
nonlinear problems in accelerator physics 7−56900
plasma-beat wave accelerator, pump depletion 7−32103
PRUD-W code for accelerating structures design 7−5501
pulsed power supplies, IEEE conf., Arlington, VA, USA (1985) 7−35110
reviews of particle and nuclear physics, book 7−55907
superconducting accelerator technology 7−30784
D plasma pinch, particle acceleration and neutron prod. 7−63330

particle backscattering
see also electron energy loss spectra
AES, instrumentation, data reduction, depth profiles 7−22390
$Au_x(TeO_2)_{1-x}$ thin films, nanosecond laser annealing, Au cluster redistrib., growth and coalescence 7−12145
borophosphosilicate glass, composition determ. by Rutherford backscatt. 7−17383
borosilicate glass leaching behaviour, mol. struct. effects 7−21530
compound semiconductor/metal contacts, interfacial microstruct., elec. props., phase diagrams 7−45495
conversion electron Mossbauer spectra, backscattered electron intensities calc. 7−53181
crystal symmetry elements determ. by SEM 7−58107
diamond, planar channelled protons, breakthrough angles 7−21308
electron backscattering pattern technique in SEM, use for creep tested specimens 7−46748
electron inelastic backscattering from gas, analytical calculation 7−50350
electron probe microanalysis, backscatter loss calcs. 7−8342
electron signal at edges and surface steps, depend. on surface tilt and take-off direction 7−7800
fluorocarbon films plasma deposited on Si, ellipsometry studies 7−22373
graphite, pulsed laser melting, impurity redistrib., RBS channelling, Raman scatt. and TEM meas. 7−12135
heavy ion Rutherford backscattering spectrometry, metal-GaAs reactions 7−53488
high energy ion scatt., struct. anal. of surfaces and interfaces 7−22410
interface and surface struct. characterization, ion scatt. and channelling, scanning tunnelling microscopy and computer simulation *(Japanese)* 7−7803
ion backscattering from solids at oblique and grazing incidence, analytical calcs. and computer simulation 7−53466
ion backscattering yield under axial channeling with slowing down 7−22415
materials microanalysis, techniques, review 7−54244
metal-metal superlattices, prep. by sputtering, struct. charact. 7−3172
metal-semiconductor junctions, formation, structural and electrical props., RBS and ESCA studies 7−38727
metallic thin films, amorphisation and film anal., ion beam techniques 7−37868
phthalocyanine polymer films, I_2 implantation, RBS studies 7−26776
plasma collector probes, surface layer analysis 7−58053
PMMA and Microdeposit 23M, As^+ ion bombardment, appl. for ion beam lithography and masking 7−26810
polystyrene, tracer diffusion meas. using Si and the elastic recoil detect. 7−39337
polystyrene thin film surfaces, electronic excitation, secondary electron emission studies 7−53460
quantitative Auger anal., backscattering factors *(Chinese)* 7−7793
random and channelling backscattering spectra, anal. by versatile computer programs 7−64840
RBS spectra from multielement samples, automatic iterative fitting 7−22428
Rutherford backscattering, depth resolution, modelling of noise sources 7−53487
Rutherford backscattering spectrometry 7−7801
Rutherford backscattering-particle induced X-ray emission analysis, large residual defects 7−54251
semiconductor materials characterisation, electron, ion, X-ray and optical probe methods 7−27203
semiconductor structures, MeV He^+ microbeam analysis 7−13315
steel, implanted with N ions, physicochem. characters. of surfaces, wear resist. *(French)* 7−28209
steel, stainless, laser alloying with Au(Mo), Rutherford backscattering and channelling studies 7−28206
submicron backscattered electron microanalysis in SEM 7−23113
subsurface solid layers, Rutherford electron backscatt. studies 7−13287
transition metal disilicide films, electrical transport props. 7−58908
transition metal nitrides and carbides, hard wear-resistant coatings, microstructural and microchemical characterisation 7−52328
Si, low energy ion beam damage, ellipsometric characterisation, two-film optical model 7−27680
Ag-Al layered structures, backscattering spectra, anal. by computer program 7−64840
Al (100), polycryst., single cryst. and amorphous, ballistic collision cascade anisotropics 7−58379
Al/Pt/Si structures, PtSi formation 7−63972
Al-Al_2O_3, ion plated coatings using pulsed O_2 process 7−22586
Al-Ni-Pt, high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7−53987
Al-Sb, Xe ion irradiated, intermixing rates, backscattering spectra, anal. by computer program 7−64840
Al-Si-Cu sputtered electrode for VLSI, Cu distributions meas. by RBS 7−2415
Al-W/Ti(Ni) thin film reactions, W diffusion marker studies 7−2277

particle backscattering continued
AlAs-GaAs superlattices, Si ion implantation, dose-dependent mixing, RBS studies 7−12500
AlN reactively evaporated encapsulating films, annealing, RBS and RHEED studies 7−21744
α-Al_2O_3:Br, ion implanted, RBS and annealing studies 7−32515
Al_2O_3-transition metal film interfaces, thermal reaction, backscattering spectra, X-ray diffr. studies 7−52304
AlSi-Ti(Ta) layered films, compound formation and Si behavior 7−21762
As (0001), laser pulsed oxidation modification 7−58320
Au (110), 180° enhancement of ion backscatt. surface peak yield 7−3131
Au (110), surface struct., low energy ion backscattering determ. 7−52205
Au thin foil, Rutherford backscatt., low energy background studies 7−3132
AuGe-GaAs, ion beam induced phenomena 7−12166
$^{138}Ba+H^+$, elastic backscatt., K-shell ionis. probability, reson. effect 7−42748
Bi, electronic structure, effect of ion implantation 7−45143
C:Au(Bi) films, ion implanted, projected ranges and range stragglings, RBS anal. 7−63690
CaF_2, epitaxial growth on GaAs (100)(111) 7−59437
CdS:Ri^+(Kr^+)(Ar^+)(Ne^+), ion implantation damage 7−26812
CdSe thin films, electrodeposited from $SeSO_3{}^{2-}$ soln., comp. performance, polarography, RBS, cyclic voltammetry, power meas. 7−2411
CeF_3, epitaxial growth on Si (111) 7−59437
Co-Cr-Al-Hf(Y), high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7−53987
$CoSi_2$, MBE growth, struct. props. and device appls. 7−21738
$CoSi_2$ self-aligned silicide technology using rapid thermal processing 7−52154
$CoSi_2$, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263
$CoSi_2$-Si, mesotaxy, single crystal growth of buried $CoSi_2$ layers 7−58671
Cr coatings on gun tubes, cylindrical geometry ion plating technique 7−53638
Cr single crysts., surface and deeper layers, struct. changes due to laser irradiation 7−6937
Cu films, interaction with Cl_2, bulk diffusion processes 7−21783
Cu, ion mixing and thermochemical props. of markers 7−26805
Cu surface, interaction with Cl_2 7−21642
Cu-Cr multilayers, laser alloying 7−45025
Cu-W, layered, ion beam mixing, energy and dose depend., RBS 7−38075
$CuInS_2$ films, RF sputtering, struct. and elec. props. 7−3169
EuS-SrS mag. superlattices grown on Si(111), strain, study by He ion channelling 7−27215
Fe, metal surfaces immersed in liquid media, pulsed laser oxidation and nitridation 7−59656
Fe, passivated, comp., electron backscattering Mossbauer spectra, XPS studies 7−28193
Fe thin films, stress development during oxidation 7−45096
Fe/H_2O interface, pulsed-laser-induced reactive quenching, FeO metastable phase form. studies 7−45005
Fe-Al bilayered samples, ion beam induced atomic mixing 7−6689
Fe-Au, solute segregation, grain boundary structural transform. 7−22687
Fe-graphite structures, ion induced mixing, sputtering yield, fluoresc., RBS depth profile meas. 7−64844
Fe-Sn (001), surface segregation of Sn, surface struct. anal. 7−58594
GaAs MBE layers on Si (100), crystalline quality, rapid thermal annealing effects, RBS/channelling studies 7−12519
GaAs, multilayer struct., calc. elastic scattering spectra 7−13311
GaAs, near-surface structure, analysing He^+ ion beam effects 7−7808
GaAs, neutron transmutation doped, thermal annealing effects, channelling anal. *(Chinese)* 7−12178
GaAs: Si(Se)(Zn)(Be), ion implanted, rapidly annealed, damage removal process 7−17043
GaAs:Al, surface layer, degree of disordering, effect of dopant 7−63929
GaAs:Al^+(P^+), ion implantation damage 7−38024
GaAs:Si, ion implanted, amorphisation and epitaxial regrowth, defect depth profiles, RBS studies 7−12088
n-GaAs/AuGe-Ni, ohmic contact fabrication RBS anal. 7−32840
GaAs-anodic oxide interfaces, annealing, As enrichment, photoluminescence, Rutherford backscattering anal. 7−21687
GaAs-Ge heteroepitaxy on Si substrates, recrystallised Ge-on-insulator intermediate layers 7−52358
GaAs-Mo Schottky diodes, elec. characts. and microstruct. study 7−22015
GaAs-Nb(NbN) Schottky barriers, RBS studies 7−58856
GaInAs epitaxial layer on InP, depth profiling and interface detection using anodic oxidation 7−45057
GaP, Ar^+ irradiated, damage profile, backscattering spectra, anal. by computer program 7−64840
GaP single crystals, high energy ion implantation, damage profiles 7−16590
Ge ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7−17423
Ge, MBE on Si, role of surface reconstruction, LEED, Rutherford backscattering, channelling meas. 7−7034
GeSi-Si strained layer superlattices, growth using limited reaction processing 7−39430
Ge_xSi_{1-x}-Si multilayers, MBE grown, thermally annealed, Ge diffusion, strain relax., ion channelling, backscattering anal. 7−6896
H^++Dy(Yb), L-subshell ionisation cross section, X-ray emission 7−50327
He scatt. ion yields from neutral or ion bombard. of solids 7−13313
HgCdTe: In, ion implanted, damage and rapid thermal annealing 7−63637
$Hg_{1-x}Cd_xTe$ crystals, anodic oxide capped, thermal stability 7−65225
HgTe-CdTe superlattices, struct. characterisation 7−27164
InGaAs epitaxial layers on InP substrates, ion beam crystallography 7−32863
InP films on oxidised Si substrate, laser recrystallisation 7−38398
Kr implanted systems, local environment, K-edge XANES and Rutherford backscatt. spectra studies 7−64809
LaF_3, epitaxial growth on Si (111) 7−59437
$LiNbO_3$, He^+ implantation, lattice disorder, refractive index changes 7−25966
$MgAl_2O_4$, Ar^+ ion irrad., XPS and RBS characterisation 7−32514
Mo surface, Ta deposition, short range bonding interaction, RBS meas. 7−3142

particle backscattering continued
Mo/Al-Si interdiffusion kinetics and contact resistance study for VLSI appls. 7−21714
Mo-Pd-Si, thin film metallisation system, interdiffusion, cpd. formation 7−21538
$NbSi_2$ sputtered films, rapid thermal annealing 7−21739
NdF_3, epitaxial growth on Si (111) 7−59437
Ni (110), adsorption of D_2, LEED, TDS, RBS, nucl. reaction anal., work function meas. 7−58638
Ni, ion implantation and pulsed laser melt quenching, metastable phase and defect struct. form. studies 7−16625
Ni surface, (100) and (110), He^+ Rutherford backscatt., continuum approx. parameter effects 7−46271
Ni surface, monolayer Au atoms, partial sputtering cross sections 7−59331
Ni/Al multilayers, RBS spectra, automatic iterative fitting 7−22428
Ni/Al thin film interactions, phase formation sequence 7−21701
Ni/Cr(Nb) alternating layers, ion beam mixing 7−21303
Ni-Ag overlayers, pulsed electron beam irradiation, heat flow model 7−38062
Ni-Al alloy phase transforms. during ion beam mixing, electron diffr. and microscopy studies 7−16655
Ni-AuGe-GaAs, ion beam induced phenomena 7−12166
Ni-GaAs, metallurgical reactions, heavy ion Rutherford backscattering spectrometry 7−53488
Ni-Nb amorphous films, early stages of reaction with cryst. Au films 7−21703
Ni-P ion-implanted and melt spun amorphous alloys, crystn., TEM, RBS and DTA meas. 7−16439
Ni-Si interface, struct., RHEED, Rutherford backscattering spectrometry 7−27143
Ni-Si-Mg, high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7−53987
Ni-Ti(Ta)(Cr), amorphous and cryst. reaction with Si studied by RBS and TEM 7−21704
NiAl/Ni thin film interactions, phase formation sequence 7−21701
Ni_3B, amorphisation by ion implantation, RBS/channelling studies 7−11912
NiSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263
$NiSi_2$, MBE growth, struct. props. and device appls. 7−21738
$NiSi_2$-Si, epitaxial growth of silicide layers by electron beam annealing 7−27213
Ni_2Si growth kinetics from Ni and Ni-V films on Si surfaces, TEM, AES, X-ray diffr. and backscatt. studies 7−45032
Pb surface, anomalous thermal expansion, ion shadowing meas. 7−58512
Pd-GaAs, metallurgical reactions, heavy ion Rutherford backscattering spectrometry 7−53488
Pd-GaAs, phase formation sequence, morphology 7−27153
$Pd_{0.67}B_{0.33}$, amorphous, prep. by low temp. ion beam mixing *(Chinese)* 7−51887
Pd_2Si, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263
Pt particle/Al_2O_3 surface, ethylene hydrogenation, intrinsic size effects 7−3607
Pt-GaAs, metallurgical reactions, heavy ion Rutherford backscattering spectrometry 7−53488
PtSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263
PtSi-Si, interfacial metallurgical interactions, elec. characts., effect of H 7−52834
Pt_xSi_{1-x}/n-GaAs contacts, elec. and metallurgical characts. 7−64345
Rh/GaAs Schottky contact, correlation between solid-state reaction and electrical props. 7−58655
Sc, single crystal surface characterization, RBS/channeling, SEM and LAMMA anal. 7−12425
Si, amorphised and rapid thermally annealed, extended defects 7−16660
Si, amorphous and single cryst., etching rate, ion backscatt. and channelling meas. 7−28231
Si, amorphous film, Rutherford backscattering, depth resolution, modelling of noise sources 7−53487
Si buried oxide structure formed by O ion implantation 7−12099
Si defect annealing and impurity activation during high-intensity As^+ implantation doping 7−58295
Si, dislocation loops, generated by ion implantation and furnace annealing, depth profiles, RBS, X-ray diffr., TEM anal. 7−51882
Si, disorder generation by Ar^+ implantation, Rutherford backscatt.-channelling meas. 7−63680
Si ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7−17423
Si, ion beam induced recrystn., channelling effect 7−16650
Si, ion bombard., damage accumulation, flux depend., RBS 7−51891
Si ion implanted surface dopant cross-contamination, enhanced diffusion effects 7−32719
Si, MBE on Si, role of surface reconstruction, LEED, Rutherford backscattering, channelling meas. 7−7034
Si, planar channelled protons, breakthrough angles 7−21308
Si, reactive sputter etching, damage removal methods 7−17742
Si SOI structure, O^+ implantation and high temp. annealing, RBS studies 7−44579
Si single cryst., transition metal ion implantation, silicide form., RBS and X-ray diffr. studies 7−16656
Si single crysts., insulating cpd. form. by ion beam synthesis, RBS, SIMS and cross-sectional TEM studies 7−26779
Si, surface contamination during reactive ion beam etching with Cl_2 7−3539
Si, surface damage induced by low energy ion sputtering *(Chinese)* 7−6693
Si:As, ion implanted, rapid thermal annealing 7−16615
Si:As, ion implanted, rapid thermal annealing, metastable activation 7−16616
Si:As, precipitation and cluster form., elec. resist., backscatt. and TEM studies *(Chinese)* 7−12285
Si:As, Rutherford backscattering-particle induced X-ray emission analysis 7−54251
Si:As films, heavily doped, grown by partially ionised MBE, phys. and elec. characts. 7−12561
Si:As films, preannealed and As ion implanted, structural changes during transient pot-annealing 7−16904
Si:As surface, $TiSi_2$ formation 7−12551
Si:As^+, heavily doped, ion implant deactivation 7−17567

particle backscattering continued
- Si:As^{+}(As$_{2}^{+}$), ion implanted, phys. props., spreading resist., TEM, Rutherford backscattering, SIMS 7—26775
- Si:BF$_{n}^{+}$(PF$_{n}^{+}$), ion implantation damage, backscattering channelling meas. 7—63675
- Si:B(As)-Ti(Co), silicide formation using rapid thermal processing, defect behaviour 7—32726
- Si:Cu, amorphous, explosive crystn., RBS and time-resolved reflectivity studies 7—21265
- Si:Cu, ion implantation-amorphised, direct imaging of pulsed laser-induced buried molten layers 7—12130
- Si:H films, H content meas. 7—12553
- a-Si:H/Pd system, silicide form., struct. and electronic props. 7—38363
- a-Si:H-SiN$_{x}$:H interface, compositional profile, Rutherford backscatt. study 7—13292
- Si:Hg^{+}, ion implant range distributions, Rutherford backscatt. studies 7—2073
- Si:N^{+}, dose and dose rate of ion implantation, Si$_{3}$N$_{4}$ formation 7—32533
- Si:P, ion implanted, dynamic annealing, dose rate effects, RBS studies 7—12093
- Si:P, Ni^{+}, ion implantation and annealing 7—21245
- Si:P/Ti, enhanced grain growth by silicide form. 7—27142
- Si:PF$_{n}^{+}$ ion implanted, recrystallisation kinetics during fast thermal annealing 7—16618
- Si:Sb, pot. enhanced doping during MBE growth, elec., optical props., cryst. quality 7—12112
- Si:Zn, amorphous-crystalline interface, backscattering and channelling study 7—6663
- Si/a-SiO$_{2}$/ZrO$_{2}$-Y$_{2}$O$_{3}$, SOI system fabrication, charact. 7—22025
- Si/Ni system, silicide formation, ion beam induced, embedded markers and moving species 7—21298
- Si/PtSi/V/Al Schottky barrier diode metallisation system 7—2666
- Si/Ti selectively sputter deposited interface, Auger and Rutherford backscatt. studies 7—21690
- Si-Ar:Hg^{+}, ion implant range distributions, Rutherford backscatt. studies 7—2073
- Si-Au-Pt interfaces, PtSi formation, RBS studies 7—58547
- Si-binary alloy interfacial interactions, Rutherford backscattering spectrometry, TEM 7—12505
- Si-Co$_{50}$Mo$_{50}$-Au, amorphous Co$_{50}$Ta$_{50}$ alloys as diffusion barriers 7—44923
- Si-Co$_{50}$Ta$_{50}$-Al, amorphous Co$_{50}$Ta$_{50}$ alloys as diffusion barriers 7—44923
- Si-Co(Pt)(Au), high energy density pulsed ion beam irradiation, study of reacted layers 7—52151
- Si-Fe, ion implanted, channeling/RBS studies 7—2039
- Si-Ge multilayered structures, Bi ion implanted, projected range distribs., glancing angle RBS anal. 7—63689
- Si-metal-Si multilayers, backscattering contribution to Auger line intensity 7—28379
- Si-Ni interface, silicide formation, backscattering spectrometry and TEM studies 7—21696
- Si-SiO$_{2}$, buried oxide formation by O^{+} implantation, donor creation, enhanced conductivity 7—32529
- Si-SiO$_{2}$, buried oxide SOI struct., effects of annealing temp. on characts. 7—33099
- Si-SiO$_{2}$, buried SiO$_{2}$ formation, high dose O^{+} implantation at room and liquid N$_{2}$ temp. 7—32528
- Si-Ta interface, depth profile, Ar^{+} ion bombard., Auger electron spectra anal. 7—46261
- Si-Ti(TiSi$_{2}$), Schottky barrier height investig. 7—2716
- Si-W, buried conductor formation, low press. CVD W deposition on porous Si 7—32877
- β-SiC monocryst. thin films, ion implantation and annealing, amorphisation and recrystn. processes study 7—16596
- α-SiC polycrysts., pulsed laser annealing and ion beam mixing surface modification studies 7—16657
- SiGe superlattice structures, Sb doped, MBE grown, comp., doping profiles, SIMS, Rutherford backscattering spectra 7—7035
- a-SiGe:H,F alloy films, F incorporation and annealing props. 7—44588
- Si$_{3}$N$_{4}$ films on GaAs:Te, annealing-encapsulation props. investigated by nuclear analysis techniques 7—8030
- Si$_{x}$N$_{1-x}$ amorphous thin films grown by ion beam assisted deposition, IR and ion beam anal. 7—39209
- Si$_{x}$N$_{y}$O$_{z}$ films on GaAs:Te, annealing-encapsulation props. investigated by nuclear analysis techniques 7—8030
- SiO$_{2}$ films, hydrogenation during thermal nitridation in NH$_{3}$ 7—13763
- SiO$_{2}$ films on GaAs:Te, annealing-encapsulation props. investigated by nuclear analysis techniques 7—8030
- SiO$_{2}$, Rutherford backscattering, depth resolution, modelling of noise sources 7—53487
- SiO$_{2}$:Au(Bi), ion implanted, projected ranges and range stragglings, RBS anal. 7—63690
- SiO$_{2}$:Sb, ion-implanted, diffusion 7—58542
- SiO$_{2}$-Na$_{2}$O-CaO-MgO glass, reaction in isotopically labeled water, D$_{2}$^{18}O 7—26993
- SiO$_{x}$ films deposited by reactive evaporation, characterisation 7—64013
- SiO$_{x}$N$_{y}$ films, deposited by plasma-enhanced CVD, charact. by RBS 7—2413
- SiO$_{x}$N$_{y}$, plasma-enhanced deposited oxynitride films, IR and UV transmission 7—33474
- Si$_{x}$O$_{y}$N$_{z}$, plasma enhanced CVD, characterisation 7—39426
- Si(111) substrates, MBE growth of non-lattice-matched (Ba,Ca)F$_{2}$, (Pb,Sn)Se-(Ba,Ca)F$_{2}$ and CdTe-(Ba,Ca)F$_{2}$ layers 7—27216
- Sn-Ge interface form., growth mode, AES, RBS studies 7—58666
- TaSi$_{2}$/Si films, oxidation characts. in steam 7—54031
- TbCo sputtered films, mag. and magneto-optic props., stability 7—53076
- TbFeCo/dielectric interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7—12513
- TeO$_{x}$ films, nanosecond pulsed laser-induced segregation 7—44610
- Ti film on Si, heat treatment in O$_{2}$, N$_{2}$ or O$_{2}$/N$_{2}$, Ti silicides, TiO and TiN formation 7—65191
- Ti, metal surfaces immersed in liquid media, pulsed laser oxidation and nitridation 7—59656
- Ti, oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
- Ti thin films, dissolution and diffusion of O, resist., X-ray diffr., particle backscatt. and AES studies 7—58913
- Ti/Si:B,As,Sb interface, dopant redistrib. during silicide form. by rapid thermal processing 7—63641
- Ti-Cu-Ti thin films, reaction kinetics, stress, and microstruct., TEM and RBS studies 7—21764

particle backscattering continued
- Ti-N-Permalloy ferromag. multilayers, prep. and props. 7—64497
- Ti-Si interface, self-aligned Ti silicide formed by rapid thermalannealing, RBS study 7—2391
- Ti-TiN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Zr-ZrN 7—38726
- TiC sputtered films, influence of ion bombardment 7—3171
- TiN, plasma enhanced CVD, rel. to reactive sputtering 7—39427
- TiN$_{x}$ sputter-deposited thin films, AES, XPS and RBS studies 7—52327
- TiSi$_{2}$, oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
- TiSi$_{2}$ plasma-enhanced CVD films for interconnect appls. 7—52342
- V/Si, silicide formation, comparison of SiO$_{2}$ and a-Si surface protection layers 7—58662
- V$_{75}$Si$_{25}$ amorphous films, crystallisation and elec. props., RBS studies 7—21102
- W (100) and (110), adsorption of H, very low electron energy refl. study 7—12488
- W (110), anisotropic surface atom vibrs., high energy He^{+} ion backscattering 7—58601
- W selective LPCVD films on Si substrate, characts. 7—38409
- W-GaAs diode system, Schottky barrier degradation after high temp. annealing 7—33089
- W-Zr amorphous films as diffusion barriers between Al and Si 7—21504
- WSi$_{2}$-WSi, effective elastic consts., surface acoustic wave anal. 7—58597
- WSi$_{x}$-GaAs interface, thermal stability 7—52302
- Y$_{2}$O$_{3}$-ZrO$_{2}$:Fe, high dose ion implanted, profile shapes and electronic cond. 7—32472
- Zr-ZrN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Ti-TiN 7—38726
- ZrO$_{2}$, Al$_{2}$O$_{3}$ stabilised thin films 7—45062

particle beam diagnostics
- ΔE-E telescope system using plastic scintillation detector for n beam flux monitor 7—825
- accelerating and focusing systems, structural and parametric optimisation, design 7—25280
- atomic beam production by hollow-cathode discharge, characterization by fluorescence spectroscopy 7—365
- axisymmetric beam with Maxwellian rel. distrib., RMS emittance 7—821
- beam brightness from a relativistic, field-emissiondiode with a velvet covered cathode 7—1121
- beam dynamics, efficiency and power of the SLAC lasertron—simulation results 7—62185
- beam phase spaces with noncentrosymmetric configs., transport through linear fields *(Chinese)* 7—5509
- beam-beam interactions in high energy pp and $\bar{p}$p colliders, SSC implications 7—815
- BESSY low emittance beam props. 7—30789
- BESSY storage ring, aperture depend. electron beam lifetime 7—30790
- betatron-synchrotron resonances and misalignment infree electron laser oscillators with quadrupolefocusing 7—1172
- BLACKJACK 5, bremsstrahlung radiation source for nuclear weapon simulation testing 7—30816
- capture and retention of ions by an electron bunch circulating in a storage ring 7—15430
- cold unbunched beam relaxation in storage ring, ordering effects, kinetic eqns. 7—36354
- collider constraints in the choices for wavelength and gradient scaling 7—62196
- collider constraints in the choices for wavelength andgradient scaling 7—5502
- Compton scattering free electron laser system, electron beam trapping expt. 7—1136
- conference, linear accelerators, Stanford, CA, USA (June 1986) 7—60878
- control of beam dynamics in high energy induction linacs 7—62176
- cooled particle beams, condensed crystalline state calcs. 7—36356
- crossed-field analyzer, aberration anal., elec. and mag. field expressions 7—10841
- cumulative beam breakup with a distribution of deflecting mode frequencies 7—62190
- current density monitor for intense relativistic electron beams 7—19595
- cyclotron beam extraction system and extracted beam emittance, transmission matrix calcs. *(Chinese)* 7—5522
- double loop beam monitor study using single bunch linac *(Japanese)* 7—19617
- electron accelerator, Neva-01, transients study 7—30797
- electron accelerator, stellartron mode 7—30791
- electron beam, nonrelativistic high-current, vacuum dielectric channel, external mag. field 7—62175
- electron beam, relativistic, propagation at sub-Torr pressures 7—42262
- electron beam energy measurement technique 7—36362
- electron multipass multisection linac, feedback system anal. for beam breakup 7—62145
- electron storage rings, beam-beam limit, solvable model 7—42266
- electron storage rings, current-lifetime product, Touschek limit 7—36352
- electron synchrotron, vertical electron oscillations, dynamics control 7—56889
- energy analysers with cylindrical mirror, straight emitter line use 7—35629
- energy broadening, dimensional analysis 7—36364
- energy scanning system for van de Graaff or tandem accelerator 7—62172
- erema-disk-type beam monitor for NERL 35 MeV linac *(Japanese)* 7—19619
- Faraday cup to measure ion current in a strong magnetic field 7—19597
- FEL intense low emittance beams prod. in electron linacs 7—1116
- FEL spiking mode operation for a uniform-period wiggler 7—1109
- glow discharge, high-voltage, electron beam meas, using photographic technique 7—63376
- Harwell-van de Graaff accelerator, improvements, beam brightness and energy spread 7—36339
- HELIA-high energy linear inductor accelerator, design and performance of pulsed power driver 7—30744
- High Brightness Test Stand 7—1114
- high current e^{-} beam injected into air, expt. study 7—30808
- high current electron guns, brightness enhancement 7—1119
- high energy EM processes, energy loss and ang. characts., SSC design appl. 7—5504
- image processing system for electron linac beam diagnosis *(Japanese)* 7—19621

particle beam diagnostics continued
inhomogeneous magnetic fields with axial symmetry, 5th order ang. aberrations, corrections *(Chinese)* 7−5508
injector designs for high electron beam qualities, numerical anal. 7−1120
instabilities, wake field anal. by boundary element method *(Japanese)* 7−19616
intense light ion beams, current neutralisation in Ar gas 7−36363
internal dynamics and emittance growth in non-uniform beams 7−62181
KALIF ion accelerator, beam comp. investig. in anode plasma 7−30742
KEK e$^+$ injection system, beam characts. *(Japanese)* 7−19613
laser spectroscopy appl. to heavy ion reaction sources 7−36373
light negative ions, prod. and diagnostic, conf., Palaiseau, France, March 1986 7−9601
linear acceleration, conf., Tsukuba, Japan, (Sept. 1986) 7−18504
linear colliders, beamstrahlung energy spread, quantum correction due to finite photon no. 7−5512
linear system. root-mean-square emittance. invariance props. 7−36366
longitudinal instability threshold of bunched beams inproton synchrotrons 7−5503
longitudinal trapping and particle loss of high intensity bunched beams 7−62178
Los Alamos FEL, electron micropulse diagnostics 7−1108
Los Alamos FEL, linear accelerator noise control 7−62115
microwave instability criterion for overlapped bunches in storage rings 7−36360
Monte Carlo simulation of charged-particle analyser line shapes 7−30803
multi-section recirculating linac, beam breakup 7−62191
multielectrode energy analyzers with electrically controlled characteristics 7−42271
non-destructive beam monitors for the SNQ-linac 7−62179
nonlinear problems in accelerator physics 7−56900
optical klystron, effects of finite electron beam emittance, energy spread and wiggler errors 7−1127
photon diagnostics for Particle Beam Fusion Accelerator Marx generators 7−30767
plasma focus device as beam source rms beam emittance 7−30807
plasma focus particle beams, RMS emittance meas. 7−32113
position monitor, sensitivity calcs. using boundary elements method 7−49770
position monitor using slot antennas *(Japanese)* 7−19618
proper input phase-space filling for accurate beam-dynamics codes 7−62180
proton beam, intense, energy spectrum meas. with magnetic spectrography 7−42260
proton beams angle and energy characts. determ., laser method 7−36368
quadrupole triplet employed in beam design 7−10322
relativistic electron beam current and position monitor 7−19596
relativistic electron beams, time-resolved studies with subnanosecond Cerenkov electro-optic shutter 7−49757
relativistic electrons, determ. in electron-ion ring using bremsstrahlung 7−19559
RF drive system for the CEBAF superconducting cavities 7−62182
RF structs. for excitation of electrooptic transducer by beam in picosecond electron linac 7−15428
RF structure under high-gradient, limiting factors 7−62195
RFQ linac TALL, proton beam test 7−19571
RIKEN Ring Cyclotron and its experimental program 7−36355
short pulse beam monitor signal processing system for KEK 2.5 GeV linac *(Japanese)* 7−19620
SLAC Linear Collider, linac developments 7−62123
space plasma diagnostic techniques 7−14510
spatial distribution of magnetic field expressed by the field on meridional plane *(Chinese)* 7−49775
spin-correlated position modulations of a polarized proton beam 7−42263
steady state FEL, particle dynamics in two beam accelerator 7−1173
storage ring, unbunched cold beam relax., ordering effects influence 7−49755
storage rings, collective instabilities 7−15431
storage rings, dynamic aperture and transition to chaos 7−36348
storage rings, transverse mode coupling instability due to localizedstructures 7−5506
strong intrabeam scattering in heavy ion and protonbeams 7−5516
synchrotron radiation, monochromatic beams, intensity, universal and diagnostic curves 7−62174
tagged photon beams, intensity 7−56890
time-resolved Thomson spectrometer study of plasma focus produced ions 7−32094
Tohoku University Dynamitron facility 7−30818
TRISTAN positron generator beam transport system *(Japanese)* 7−19568
truncated-cylinder charge-particle energy analyzer 7−35628
UK free electron laser project, beam transport and diagnostics 7−1134
wake field accelerator, central beam transverse stability *(Chinese)* 7−49774
wake wave excitation in accelerating structures 7−62192
X-band 1 MeV linac, beam tests *(Japanese)* 7−19583
XUV FEL, high-gain, storage-ring design 7−1115
H beam probes, data acquisition storage and processing system *(Chinese)* 7−6449
H$^-$ beam dynamics, mag. field studies in cyclotron 7−62168
H$^-$ ion high current density accelerator, design and diagnostics 7−15429
^{103}Pd decay, absolute photon intensities determ. by coincidence method 7−5569
^{147}Sm ion beam cross section meas. using SSNTD 7−19594

particle beams
see also atomic beams; beam handling techniques; electron beams; ion beams; molecular beams; particle beam diagnostics; particle optics
crossed-field analyzer, aberration anal., elec. and mag. field expressions 7−10841
fine particle beams, generation and applications 7−4913
fusion neutral-particle beam research, contribution to SDI 7−10370
gamma-ray beams, monochromatic and polarized, for few body interaction studies 7−62154
intense slow positron beams from electron accelerators 7−35635
low energy positron beam for surface studies, design 7−35631
magnetically confined slow positron beam in ultra-high vacuum 7−35632
optical transition radiation for charged particle inclined flight through finite thick plate 7−1018
ponderomotive confinement of particle beam in cylindrical waveguide 7−31235
positron reemission enhancement, secondary moderation 7−35636

particle beams continued
proton beam deflection by bent Si cryst. 7−44632
pulsed slow positron beams, production using 35 MeV electron Linac 7−35634
radiation sources for IR to γ-rays, development 7−42877
relativistic, high power, collision effects calcs. 7−30117
slow positron beam, tagged, gated, high intensity, highly polarised 7−35633
spin-correlated position modulations of a polarized proton beam 7−42263
γ beam, monochromatic, production using tagging technique 7−61853
γ-ray beams, polarized and monochromatic, for three-body system studies 7−56667

particle counters *see counters*

particle counting
counting of microscopic particles in disperse systems (aerosols, colloids etc.)
commercial particle counters, counting efficiencies 7−56396
gas streams, particle monitoring with a laser counter, book contrib. 7−41573
light scattering particle counters, quantitative count calibration 7−56397
optical particle counters, method for cross calibration 7−56398
optical particle sizing and concentration meas. system 7−48694

particle detectors
see also ionisation chambers; particle track visualisation; position sensitive particle detectors
A-150 plastic radiometric calorimeter for charged particles and other radiations 7−25264
anticoincidence counting system, absolute activity meas. *(Korean)* 7−25329
book, introduction to radiation detectors 7−33
conference, Japanese Physical Soc., Kobe, Japan (Oct. 1986) *(Japanese)* 7−55897
correlation counter calibration by calorimetry and γ-ray meas. 7−30905
D0 experiment at Fermilab, data acquisition system 7−19672
design principles of detectors at colliding beams, review 7−56911
direct discharge detector, γ-ray calcs. in output lines using Monte Carlo method *(Russian)* 7−5564
large area 200 ps gated microchannel plate detector for plasma diagnostics 7−6464
large plotted circuit board production, delay lines for particle calorimeter 7−25330
liquid Ar solar neutrino detector, spectrum from direction of Sun, oscillation effects 7−18340
liquid TMS calorimeter, performance test, charge yield and stability 7−25307
low energy neutron detection, recent progress 7−42443
low-level counting, conference, Bratislava, Czechoslovakia (Oct. 1985) 7−24272
magnetic shielding of a large volume for quasi-free neutron oscillation expt. 7−42314
massive fine grained detector for neutrinos in GeV energy region 7−62222
models of particle counters with prolonged dead time 7−56905
multilayer composite material for X-, γ- and β-ray detector windows 7−5570
neutron calibration field from moderated ^{252}Cf source, design and calcs. 7−49852
neutron calibration field from moderated ^{252}Cf source, expt. characterization 7−49853
neutron-activation detectors with fissionable nuclides 7−56907
parallel plate avalanche counter at moderate specific ionisation, timing props. 7−5541
prompt self-powered neutron detectors, reactor noise anal., REND code calcs. 7−36193
quark matter, conference, Pacific Grove, CA, USA (April 1986) 7−55881
superconducting granule radiation detectors, magnetic readout 7−827
superconducting monopole detector, design, initial results 7−19660
superconducting tunnel junction X-ray detector, nonequilib. model 7−36410
superhard photon detector using aligned single crystals 7−823
thermal neutron flux, device for calorimetric meas. 7−5552
thin film breakdown counters for heavy charged particle detection, time response 7−824
threshold signal shaper for detector operating under increased loads 7−10363
time resolution of a radioisotope testing device based on local minimum search *(Russian)* 7−49860
transition radiation detectors, status and particle identification 7−42282
VENUS superconducting magnet at KEK, test operations 7−62210
NbTi-Cu Al stabilised superconducting detector magnet technology for high energy accelerators, review 7−49779
Pb-glass calorimeter, low noise amplification chain for vacuum phototriode readout 7−49813
Sn/SnO$_x$/Sn superconducting tunneling junctions as high-resolution X-ray detectors 7−56908
Sr concentration determ. in environment, beta-ray counting flow cell 7−30896
U gas sampling hadron calorimeter, performance 7−5547
^{238}U hadron calorimeters, nuclear fission contrib. to signal, expt. study 7−25306
V self-powered neutron detectors, sensitivity 7−42316

particle focusing *see focusing; particle optics*

particle lenses, electrostatic *see electrostatic lenses*

particle lenses, magnetic *see magnetic lenses*

particle optics
see also aberrations; beam handling techniques; electrodynamics; electron optics; ion optics; particle beam diagnostics
charged particle acceleration by transverse EM wave in static mag. field *(Japanese)* 7−20119
charged particle in mag. field, alternative lagrangians 7−42873
crossed-field analyzer, aberration anal., elec. and mag. field expressions 7−10841
deflection magnets, set of independent aberration coeffs. 7−1019
multilayer monochromators and supermirrors, X-ray and neutron, controlled sputter deposition 7−33563
multilayers for neutrons and X-rays, disorder and diffusion 7−32872
neutron penumbral imaging camera, optimisation and simulation 7−1017
relativistic fifth order geometrical aberration eqn. of combined focusing-deflection system *(Chinese)* 7−36867

particle optics continued
  solenoidal magnetic lens, space-charge correction of spherical aberration 7—5825
  Na atomic neutral beam, laser technique for collimating and focusing 7—62610

particle range *see energy loss of particles*

particle reinforced composites
  see also filled polymers
  ceramic matrix, toughening by strong reinforcements, fracture toughness, microstruct. 7—22783
  corundum-graphite refractories, thermomech. props. 7—22806
  fused quartz particulate composite, fracture behaviour *(Chinese)* 7—8079
  graphite particle dispersed Al-Si alloys, powder extruded, wear characts. *(Japanese)* 7—53909
  graphite particle dispersed Al-Si LM 13 alloy, gravity die cast, dispersed graphite effect on freezing rate 7—59506
  graphite particulate composites, opt. and scanning electron microscopic obs. of graphite struct. 7—22933
  Inconel 625 matrix-carbide particle composite surface layers, wear resistance improvement 7—53912
  metal-ceramic particle composites, cast, solidification, struct. and props. 7—7932
  mullite, Al_2O_3 and ZrO_2 particle reinforced, prep. by reaction sintering, fractographic study 7—22800
  mullite-corundum refractories, creep behaviour rel. to struct. features 7—22770
  Al based composite, rheocasting, microstruct., fracture, worn surface *(Chinese)* 7—13407
  Al-Cu-Mg, cast composite, mica particle distrib. 7—46375
  Al-Mg-Si, Al-Mg, cast, mica particle dispersed composites, struct., strength, hardness 7—59574
  Al-Mg-mica particle composites, prep. and props. 7—22613
  Al-Si, graphitic, hot extruded powders, sintering, antifriction props. 7—13409
  Al-Si, hypereutectic alloys, primary Si particles 7—33649
  Al-Si, talc particle reinforced composites, prep., wear and mech. props. 7—13408
  Al-Si-SiO_2 sand composites, prep. and mech. props. 7—17500
  Al-Si; graphite particle reinforced composite, solidification, microstruct. 7—28028
  Al_2O_3-TiN, interfacial reaction and mass transport of components during sintering 7—3254
  Cu alloy base powder materials with $MoS_2(Se_2)$, self-lubricating, tribotech. characts. 7—28146
  Cu, with dispersed Al_2O_3 and Mo particles, directional solidification in reduced gravity *(German)* 7—22658
  Fe-filled epoxy composites, elastic modulus evaluation using concept of mesophase 7—13496
  Fe-graphite diffusion chromised materials, high-temp. interaction in hydrogen 7—17671
  Mo-ZrO_2, sintered composites, tetragonal to monoclinic transform. of ZrO_2 *(Japanese)* 7—13450
  Mo-ZrO_2, sintered composites, mech. props, microstruct. *(Japanese)* 7—13558
  Ni-Al_2O_3 composites, small metal particles, high resolution electron microscopy and X-ray diffr. meas. 7—46376
  Ni-Ti composite powder, prod. and processing props. 7—3230
  NiSn-SiC composite coatings, electrodeposition, wear resist., hardness, porosity 7—33613
  Pt-Al_2O_3 composites, small metal particles, high resolution electron microscopy and X-ray diffr. meas. 7—46376
  SiC fibre reinforced Al alloys, whisker or particulate hybrids, mech. props. 7—13537
  SiC particle reinforced Al-Cu-Mg composite, failure mechanism, SEM obs. 7—65132
  SiC whisker or particle reinforced Al composites, deform. thermal expansion, strengthening mechanisms 7—3373
  Si_3N_4 based powder materials with SiC component, comp. effect on mech. props. 7—27998
  WC-Co cermet particle reinforced low alloy steel composite, elastic consts., laser US technique 7—65268

particle scattering *see collision processes; energy loss of particles; particle backscattering; potential scattering; radiation effects; transport processes*

particle separators
  No entries

particle size
  aerosols in atmosphere, particle and drop size spectra rel. to scavenging models 7—55200
  Al-Ubaylah barchan dunes, Saudi Arabia, sand grain size distrib. 7—8950
  amorphous alloy powders, rapid quenching water atomisation process 7—46371
  atomic and molecular clusters in beams, review 7—31204
  boiling heat transfer coefficient, plasma-deposited coating particle size effect 7—50916
  bronze, powder particle shape effect on stability props. 7—7927
  bronze powder, regularity of struct. of porous materials 7—53676
  bronze powder production from melts by centrifugal atomisation 7—7924
  calcium oxalate, crystal growth and aggregation, computer model, partial size distribution 7—16463
  cellulose, particle size and order changes, ^{13}C NMR and NIR diffuse reflectance spectroscopy responses 7—27610
  clay kaolin aqueous suspensions, particle association, floc formation, shear, time-dependent properties 7—8308
  cobaltites, fine-particles, low temp. prep. by solid solution precursor method 7—59486
  coke dust, polydisperse, combustion kinetics 7—13776
  cometary comae, micron-size ice grains cloud rel. to exptl. modelling of cometary phenomena 7—66506
  cometary dust, optically dominant grain size from grain scatt-wavelength relation 7—55535
  concentrated dispersions, shear viscosity, clustering effects, structure-dependent packing fraction, Krieger-Dougherty type eqn. 7—8309
  correlation for heat transfer between immersed surfaces and large-particle gas-fluidised beds 7—26127
  drops, particles and bubbles, velocity calcs. 7—57896
  dynamic fragmentation, particle size distrib., random Poisson process calcs. 7—31708
  epoxide resins, particulate filled, parameters determining strength and toughness 7—65071

particle size continued
  geosynchronous debris in Earth orbit, size distrib. in CCD search 7—55413
  Giacobinid meteors, mass distrib. index from radar obs. (October 1985) 7—4384
  Helsinki, Finland, atm. radioactive aerosols size distrib. following Chernobyl accident 7—46978
  hot sprayed coatings on flat surface, thermal conditions of form. 7—27896
  inclusions, 3D size distributions 7—39802
  Inconel 718, Ni-base superalloy, creep deform., back stress determ. 7—46564
  interstellar grains, size distrib. in W3 core region from millimetre-wave continuum obs. 7—55781
  layered inhomogeneous random media, MTF using small-angle approx. 7—50498
  metal particles, nanometer-size in amorphous substrates, detection and size classification 7—32240
  metal particles, size-dependent melting points 7—44771
  metallic and ceramic ultrafine, particles, laser prod. 7—13406
  metals powders, atomised, factors affecting particle size 7—53659
  methanol particle sizing with phase Doppler spray analyser 7—29969
  micrometeorites assoc. with major meteor streams, size distribs. of mag. particles 7—14547
  micronising mill powder prod., amorphous character and particle size distrib. 7—22602
  mullite powders, props. and microstruct. of fired bodies *(Japanese)* 7—22626
  Nimonic PE 16, Ni-base superalloy, duplex γ' particle hardening 7—28053
  organic photoconductive particles in thin layers, photoresponse characts. *(Japanese)* 7—38612
  oxide powders, mag., dispersion and particle packing 7—3233
  polymers, mica filled, determ. of mica orientation 7—39477
  polystyrene latex spheres, particle size and vel. meas. using phase Doppler particle analyser 7—29968
  polystyrene-b-(ethylene-co-propylene) diblock copolymers, micelle form., small angle neutron scatt. 7—11887
  powder and granule fabrication by EM pulveriser *(French)* 7—3218
  powder atomised in US field, drop particle size assessment 7—53654
  powder metallurgy materials, permeable, homogeneity of porous struct. 7—64960
  powders and porous media, thermal diffusivity, photoacoustic technique meas. 7—4837
  PVC, implosive compaction of powders 7—33630
  PVC based powder mixtures, shock consolidation, densification, industrial appls. 7—39473
  Ross Island, Antarctica, aerosol, physical props. 7—60333
  sediments of SW Finnish Archipelago, grain-size distrib. rel. to transport in shore zones 7—28988
  slurries, flow curve, rheological props. 7—43833
  small particle or interface charact., appl. of parallel detection EELS 7—33499
  small particles, appls. of STEM 7—32242
  small particles, atomic struct. and props., conf., Wickenburg, AZ, USA (Jan. 1986) 7—29592
  small particles, digital X-ray imaging 7—32244
  soil, photon attenuation, particle size effects 7—21279
  steel, high-speed, atomised powder, particle size effect on amount of residual austenite 7—3308
  steel, high-speed, powdered, struct. after sintering in presence of liq. phase 7—53677
  steel, high-speed, produced from machining waste, liq. phase forming during sintering 7—3226
  stream bed material, persistence in size distrib. during extreme snowmelt flood 7—23733
  structural tension relax. in small particles 7—6708
  suspended particles in Baltic Sea, size distribs. from measured and computed light scatt. 7—9024
  Udimet 700, Ni-base alloy, solidified, dendrite arm spacing rel. to cooling rate 7—53713
  water drops in atmosphere, coagulation effects on size spectrum and aerosol redistrib. 7—55201
  Al powder production from melts by centrifugal atomisation 7—7924
  Al-Fe-Si-TiO_2, dispersion hardened, strength props., effect of matrix particle size and oxide vol. fraction 7—17544
  Al_2O_3-SiC composites, microstruct. and mech. props. *(Japanese)* 7—22821
  Au small particles on amorphous substrates, dynamic atomic-level rearrangements 7—12542
  BN, wurtzitic compacts, sintered, particle size distrib., hardness, phase comp. 7—59603
  $BaFe_{12}O_{19}$, synthesis by hydrolysis of barium acetate and tris (acetylacetonate) iron *(Japanese)* 7—46392
  $BaSO_4$ powder, solubility in water containing strong acidic ion exchange resin 7—21468
  $CaCO_3$, calcite, grain growth, effect of second-phase particles 7—39476
  CdS on synthetic clay, luminesc. lifetimes, UV spectra 7—22297
  Co-base amorphous powders, flame-spray quenching process for continuous prod. 7—53679
  Cu clusters on graphite, Auger spectra, size effect on linewidths 7—53455
  α-Cu-Al, ordered domain charactn. from dissoln. kinetics study 7—22693
  Fe particles on planar Al_2O_3 supports, low rate growth 7—32779
  Fe powder, quality assessment method 7—53671
  Fe-base amorphous powders, flame-spray quenching process for continuous prod. 7—53679
  $Fe_{2-x}Al_xO_3.1\text{-}8\ H_2O$ substituted ferrihydride, Mossbauer, X-ray diffr. and electron microscopy studies 7—7617
  γ-Fe_2O_3 acicular particles, magnetisation reversal by flipping mechanism 7—7545
  α-Fe_2O_3 powder compacts, shock-modified, Morin transition, Mossbauer and magnetisation studies 7—2852
  Fe_2O_3:Co particles, coercivity time-scale depend., magnetic switching units vol. determ. 7—53059
  Fe_3O_4, magnetite, hysteresis props. rel. to particle size 7—14268
  Ge, ultrafine particles, Raman and X-ray scatt. study 7—64627
  KBr microcrystalline powders, interstitial cluster stability 7—32485
  KNO_3, surface charge layer, spontaneous polarisation rel. to particle size *(Korean)* 7—27673
  LaB_6 dispersed powders and compact specimens, struct. and morphology 7—64976
  Mg powder production from melts by centrifugal atomisation 7—7924

particle size continued
- Mo-Nb-Zr-C, nitrided single crysts., effect of NbN ε to δ phase transition 7—28052
- Na particles in N$_2$ flow, size determ. by optical method, radiation loss 7—17837
- NaCl, synthetic, microcrystalline powders, spontaneous colloid formation in electrodeless discharge 7—12065
- Nb$_2$O$_5$ and Nb oxide cpds., synthesis of fine particles, struct. studies 7—59212
- Nd-Fe-B system, permanent magnet, mag. props *(Korean)* 7—7554
- Ni powder, ultrafine, produced by thermolysis of nickel formate complexes, particle struct. 7—64965
- Ni-Al powders, gasless combustion synthesis, particle size 7—46368
- Ni-base amorphous powders, flame-spray quenching process for continuous prod. 7—53679
- Ni-base superalloy powders, Ar atomised, dendritic struct. 7—46451
- Ni-Ti composite powder, prod. and processing props. 7—3230
- PZT powders, oxalate method prep., particle size *(Japanese)* 7—7941
- PZT, prep. by oxalate method in ethanol soln. *(Japanese)* 7—3245
- Pd, small crystallites, effect of particle size on stoichiometry of CO adsorption 7—6984
- Pt clusters in Y-zeolite, atomic and electronic struct. and chemical reactivity 7—32677
- Pt crystallites supported on C black, surface struct., TEM study 7—32778
- Pt microcrystals, charact. using high resolution electron microscopy 7—32676
- Pt particle/Al$_2$O$_3$ surface, ethylene hydrogenation, intrinsic size effects 7—3607
- Pt, sputtered film, microstruct., thickness effect studied by X-ray diffr. method 7—21756
- SiC powders, prep. by CVD method using RF-plasma *(Japanese)* 7—3250
- SiH$_4$ Ar plasma, particle number densities, masses and size distrib. meas. 7—37761
- Sm$_2$Co$_{17}$ single domain particles, SEM domain obs. 7—27566
- Sn, fine powder of various degrees of purity, prod. by pneumoacoustic method 7—64966
- Sr ferrite fine particles, prep., mag. props. *(Japanese)* 7—53065
- SrTiO$_3$, spherical fine particles prep. by US spray pyrolysis, microstruct. *(Japanese)* 7—22625
- Ta$_2$O$_5$nH$_2$O, prep. of monodispersed particles with controlled size 7—64979
- TiC, ultrafine powder behaviour during annealing and sintering 7—3244
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7—3255
- TiN powders, fine, prep. by vap. phase reaction *(Korean)* 7—7938
- W-Cu-Ni contact materials, elec. props., particle size effect 7—2672
- WC-Co compact, stereological analysis of struct. form. during consolidation of carbide powder 7—53688
- YFeO$_3$-Fe$_2$O mixed phase system microcryst., anomalous behaviour of mag. hyperfine field 7—45760
- ZrO$_2$-Y$_2$O$_3$ solid solutions, vibrational spectra 7—6738

particle size measurement
- aerosols, atm., analysis methods for chem. comp., particle sizes and conc. determ. 7—4085
- atmosphere, pollutant aerosols, long-range transport anal. by particle-induced X-ray emission 7—4192
- ceramic technology appls. of interferometric meas. techniques 7—39813
- ceramics, powder size and distrib., surface texture, thermal props., interferometric meas. 7—9818
- circuit for simultaneous measurements of particle sizing interferometer signal characteristics 7—56220
- cloud condensation nuclei, conc., obs. and prediction discrepancies 7—4088
- coherent imaging of particulates in three-dimens. sample, meas. accuracy 7—31278
- conference, San Diego, USA (Aug. 1985) 7—29583
- Coulter Counter Mod. TA II, automatic data acquisition system 7—40566
- dense particle fields, laser diffraction meas. correction for multiple scatt. 7—1212
- dissolution kinetics, size determ., DSC obs. 7—3309
- droplet shape and size variations from morphology-depend. reson. in fluoresc. spectra 7—29970
- fibre-optic dual-beam laser interferometer 7—35494
- flowing two-phase dispersed particles, metrology using optical diffusion *(French)* 7—31895
- fractal aggregates, imaging, in-line holograms, digital decoding 7—10884
- gas streams, particle monitoring with a laser counter, book contrib. 7—41573
- hologram, double-exposure, particle vel. and displacement distribs. using opt. and digital processing 7—31277
- holography, far-field in-line, and diffr. pattern analysis of particulates, filtering effects 7—31279
- interferometer for particle sizing, new optical geometry 7—41437
- interferometer nephelometry for independent particle sizing meas. 7—30070
- laser diffraction measurements, beam stop and vignetting effects 7—9813
- laser Doppler anemometer, two-colour four-beam system, two-phase mist flow meas. 7—37581
- laser interferometric droplet sizing techniques, performance comparison 7—30071
- laser technique for simultaneous velocity and size meas. of particles in flows 7—9814
- light scattering, vignetting phenomena 7—56219
- light scattering detection with fibre optic sensor appl. to size meas. 7—37160
- metal powders, size distrib. and shape meas 7—53657
- mica nuclear track microfilter cascade fractionator, industrial appl. 7—36408
- mica nuclear track microfilter props. for industrial aerosol meas. instrument 7—36407
- multiple scattering correction in meas. of particle size and density by diffraction method 7—9815
- optical and electrical particle analyses, increasing resolving power using divergent deflecting plates 7—48688
- optical particle sizing and concentration meas. system 7—48694
- pattern recognition method using concurrent spatial harmonic and fractal analysis 7—31263
- phase Doppler particle analyser extension to submicron particle meas. 7—29968
- phase Doppler spray analyser nonspherical drops effect 7—29969

particle size measurement continued
- polarisation intensity ratio and pointer beam techniques for suspended particle characters. in multicomponent systems 7—29967
- resonance light scattering from liquid suspension of microspheres 7—42911
- rock magnetite particle size measurement, by magnetic remanence method 7—23858
- solid aerosol particles, ideal and nonideal, use of aerodynamic particle sizer as real time monitor 7—59790
- time-of-flight and light scatt. meas. for high resolution particle sizing 7—48684
- two-phase flow, concentration and droplet size distrib., simultaneous and instantaneous meas. 7—37535
- U mills, final product dust median aerodynamic diameters 7—8702

particle sources
- *see also electron sources; ion sources; neutron sources; radioactive sources*
- antiproton technology, potential develop. of advanced power sources 7—62102
- atomic beam source, electron heated, high temp., for VUV spectroscopy 7—62170
- BLACKJACK 5, bremsstrahlung radiation source for nuclear weapon simulation testing 7—30816
- Common Long Pulse Accelerator, thermal and struct. anal. for TFTR, Doublet, MFTF 7—19434
- Common Long Pulse Source, mechanical baseline design 7—19433
- conference, linear accelerators, Stanford, CA, USA (June 1986) 7—60878
- Long Pulse Accelerator, thermal and struct. anal. for TFTR, Doublet, MFTF 7—19434
- US Common Long Pulse neutral beam source, prototype testing 7—19432
- X-ray source, low energy 7—30814
- γ beam, monochromatic, production using tagging technique 7—61853
- Si internal target of 1.3 GeV synchrotron, coherent bremsstrahlung generation and meas. 7—15434

particle spectrometers
- *see also alpha-particle spectrometers; beta-ray spectrometers; electron spectrometers; gamma-ray spectrometers; neutron spectrometers; X-ray spectrometers*
- ARES spectrometer, cylindrical magnetic spectrometer 7—19623
- Beijing spectrometer, main drift chamber, energy loss *(Chinese)* 7—49787
- Beijing spectrometer, simplified Monte Carlo simulation *(Chinese)* 7—10348
- Bevalac dilepton spectrometer project, review 7—35896
- coincidence spectrometer with scintillation and planar detectors, time characts. 7—36438
- drift chambers for a large-area, high-precision muon spectrometer 7—62208
- muon spectrometer with calorimeter dump used in beauty search at CERN SPS 7—49785
- Oxford MDM-2 spectrometer, hybrid focal plane detector 7—5551
- position sensitive detector, 2D, design and testing 7—49833
- semiconductor, with Si surface-barrier detector and 6 keV resolution 7—10349
- time-resolved Thomson spectrometer study of plasma focus produced ions 7—32094

particle track visualisation
- *see also bubble chambers; cloud chambers; nuclear track emulsions; scintillation chambers; spark chambers; streamer chambers*
- apatite, external detector comparison for fission track dating 7—54962
- apatite, fission track distributions, Monte Carlo simulation 7—19646
- apatite fission track plateau age dating, reproducibility of meas. 7—40597
- fission track age determination, neutron dosimetry, neutron energy effects 7—47570
- fission track annealing in apatite, track length and Arrhenius plot, comments 7—42431
- fission track closure temperatures, numerical calcs. 7—36435
- fission tracks, chemical etching and length distrib. model 7—49857
- Flysch della Laga formation, Italy, fission track dating 7—40598
- large area track-etch detectors, rapid automatic scanning system 7—56909
- layered track chambers, global pattern recognition method 7—42315
- magnetic monopole search in magnetite 7—30901
- minerals, heavy ion track etching, implications for α-recoil track dating 7—36434
- neutron dosimetry standard for fission track dating 7—36433
- phosphate glass spectrometric detector, optimum etching for fission fragments 7—42429
- phosphate glasses for identification of heavy ions 7—42280
- polycarbonate detectors, Rn/decay product dosimetry by electrochemical etching, calibration *(German)* 7—15418
- polycarbonate track detectors, electron spin resonance studies 7—33276
- pore diameters, transmission electron microscopy study 7—36437
- Rayleigh-Taylor instability in laser accelerated foils, track detector study 7—37435
- solid state nuclear track detector for dose assessment of heavy charged particles 7—19626
- sphene from Lower Seve Nappe, Sweden, fission track age temp. method 7—40600
- styrene-butadiene-styrene block copolymer, thermoxidative degradation kinetics, fission track study 7—39877
- triton spectroscopy approach to neutron spectroscopy using ^{6}Li(n,α)^{3}H 7—30830
- VENUS central drift chamber, charged particles, pattern recognition algorithm 7—822
- Pu content of Mururoa Atoll coral samples, fission track autoradiography study 7—54415
- U concentration determ. in natural water 7—54217
- U distribution in blood samples, fission track study 7—54771
- U veins in biotite from Bancroft, Canada, fission track dating 7—40599

particle tracks
- *see also energy loss of particles*
- neutron-induced particle track mapping of elemental distributions 7—54255
- SiO$_2$, electron ionisation tracks, cluster anal. 7—58387

particle velocity analysis
- *see also energy loss of particles; ion mobility; mass spectrometers; particle spectrometers*
- grid effects in analyser with variable geometry, expt. verification 7—362
- grid effects on velocity analyzers of variable geometry 7—361
- hologram, double-exposure, particle vel. and displacement distribs. using opt. and digital processing 7—31277

particle velocity analysis continued
- phase Doppler particle analyser extension to submicron particle meas. 7−29968
- thermographic look at plasma spraying 7−24648
- CaF_2, powder compacts, shock wave effects 7−51936

particles, elementary *see elementary particles*

parton model
- backwards evolved initial state parton showers, Monte Carlo model 7−15128
- baryon production and parton fragmentation at PEP, TPC studies 7−61714
- central limit theorem in QFT, generalized partons, appl. to deep-inelastic scattering 7−425
- charged particles multiproduction in the central region of the soft hadronic interaction, dual parton model 7−61608
- deep inelastic scatt., large transverse momentum parton behaviour *(Chinese)* 7−24849
- direct photon production, nuclear depend. for large P_T, parton distribs., gluon distribs. 7−5063
- exact QCD matrix element incorporation into QCD parton cascade models 7−61566
- fragmentation models, effect on α_s determ. from hadron collider data 7−15129
- Gell-Mann-Okubo mass formula quark-parton model anal. 7−5068
- hadronization of quarks and gluons into hadron jets at high energies 7−41749
- heavy narrow $Q\bar{Q}$ resonances, gluonic prod., parton cross sections 7−61585
- heavy quark distribs., renormalisation scheme 7−24848
- high mass dilepton production in hadron collisions, review 7−56574
- initial state radiation effects on *W* and jetproduction 7−5064
- Koba-Nielsen-Olesen scaling, its violation, and the structure of hadrons 7−15130
- multipomeron exchange processes, improved Regge-eikonal model and multiplicity distribs. 7−19089
- nonlocal light-cone hadron operators, one-loop approx. 7−41649
- nucleon structure, deep inelastic lepton scatt. rel. to nature of strong interaction 7−10028
- spin-dependent structure fns. for polarized nucleons, perturbative QCD calcs. 7−56553
- structure function, sensitivity to QCD scale parameter 7−35877
- ultrarelativistic nuclear collisions, initial temp. 7−61918
- ultrarelativistic nuclear collisions, stopping power in dual parton model 7−61780
- $e^+e^- \to e^+e^-$+hadrons, 7-70 (GeV/c)^2, photon structure fn. meas. QCD, parton model comparisons 7−540
- e^+e^- high energy annihilation, quark and gluon fragmentation, Feynman diagrams 7−24901
- $e^+e^- \to$jets, geometric struct. anal. review, QED tests, review 7−541
- $(\gamma,\psi X)$, rescaling of parton distribs. 7−61883
- $\gamma\gamma \to$jets, $4 \leq W \leq 12$ GeV/c^2, W≡invariant mass, quark-parton model, and low p_T vector dominance comparisons 7−61683
- $hN \to h'X$,100 GeV, longitudinal hadron momentum distrib. calcs. and reggeon, pomeron exchange, quark-parton model anal. 7−61749
- $lN \to X$, deep inelastic scatt., two-photon collisions 7−19115
- μN deep inelastic scatt., struct. function nucl. effects, EMC effect 7−30269
- $NK \to \phi X$, joint hadron prod., parton model comparison 7−19143
- $Np(\bar{p}) \to \phi X$, joint hadron prod., parton model comparison 7−19143
- $\nu N \to X$, multiplicity of charmed mesons and baryons, quark parton model 7−41783
- $(p,\gamma X)$, rescaling of parton distribs. 7−61883
- (p,l^+l^-X), l=lepton, rescaling of parton distribs. 7−61883
- $\bar{p}p \to KX$, charged particle multiplicity, dual parton and quark fragmentation models 7−19135
- $\bar{p}p \to \pi X$, charged particle multiplicity, dual parton and quark fragmentation models 7−19135
- pp scattering, cross section increase due to parton-parton scatt., diffraction formalism 7−41843
- $\bar{p}p \to X$, multijet formation and gluon jet struct. 7−5130
- $\pi N \to \phi X$, joint hadron prod., parton model comparison 7−19143

Pascal
- *see also Pascal listings*
- microcomputer-based relational database system for monitoring water quality for the Niagara Falls drinking water treatment plant 7−54419

Pascal listings
- advection-diffusion eqn., accurate finite difference methods and Pascal listing 7−16148
- blood gases, effect of ventilation and blood flow in lung 7−34173
- dynamic stereo displays for research on the recovery of three-dimensional structure 7−60000
- Halley's comet and planets, graphical orbit display in UCSD Pascal 7−55479
- Henon mapping with Pascal, dynamic systems simulation 7−34836

Paschen-Back effect *see Zeeman effect*

passenger traffic *see traffic*

passivation
- borophosphosilicate glass film, rapid isothermal fusion 7−21425
- dielectric films, on compound semiconductors, conf., Las Vegas, USA (Oct. 1985) 7−35108
- double layer dielec. films, X-ray irrad. effects 7−58332
- III-V semiconductor surfaces, by amorphous P and alkali metal polyphosphides 7−39778
- metal, passive dissolution rate in halide solns., transitional complex form. 7−17681
- metal depassivation in neutral aq. solns., anion type effects 7−13627
- p-n junction, glass passivated, polarisation induced instability 7−2680
- spatially resolved ellipsometry, convergent beam approach 7−9874
- steel, austenitic stainless, crevice corrosion NaCl soln., electrochemical kinetics 7−39701
- steel, austenitic stainless, passivation and pitting corrosion rel. to Ti stabilisation and Mn content *(German)* 7−39756
- steel, austenitic stainless, passive layers, elec. cond. rel. to W alloying 7−17676
- steel, austenitic stainless, pitting corrosion in NaCl soln., electrochemical obs. 7−39700
- steel, corrosion inhibitor development 7−17684
- steel, ferritic stainless, corrosion resist. in H_2SO_4 soln., alloying effects 7−28172

passivation continued
- steel, high strength, H induced SCC rel. to galvanisation *(German)* 7−3521
- steel, stainless, air exposure effects, mixed Fe-Cr oxide/hydroxide film form., XPS study 7−22878
- steel, stainless, microelectrodes, pitting dissolution in NaCl solns., nitrate passivation 7−39703
- steel, stainless, passivation, role of Cr 7−46686
- steel, stainless, passivation in NaCl solution, ESCA study 7−65171
- steel, stainless, passivation pot., Cr content depend., percolation model 7−22879
- steel, stainless, passive films, photoelectrochemical charactn. 7−28171
- steel, stainless, passivity, bipolar model 7−46687
- steel, stainless, passivity rel. to comp. and microstruct. 7−39711
- , passive, kinetics from VLF impedance meas. 7−53948
- Al alloys in mortar, cathodic polarisation *(Japanese)* 7−53969
- Al, corrosion in NaCl solns., influence of hydrostatic press. and salt conc. 7−39721
- Al foil, anodic etching, influence of activators and passivators in electrolyte on surface area increase *(Polish)* 7−22889
- Al_2O_3 surface passivation for thin Si solar cell 7−23191
- Be surface passivation, angular dependent X-ray photoelectron spectroscopy 7−27864
- C electrode, glassy, anodic process in LiF-NaF-KF eutectic, Cl^- effect 7−23028
- p-$Cd_xHg_{1-x}Te$, doped and undoped, minority carrier lifetime 7−45353
- CdTe, polycrystalline, grain boundaries elec. and optical characts. 7−38012
- CoCr films, corrosion in H_2SO_4 7−33824
- Cr, passivation, reversibility limit 7−13626
- Cr surface, passivity, coulometric investig. 7−13625
- Fe electrode in NaOH, pot. modulated reflectance spectra 7−28316
- Fe electrode surface, second harmonic generation study using a picosecond laser 7−23030
- Fe electrodes, electrodissolution and passivation K_2CO_3-$KHCO_3$ solns., ionic comp. effect 7−17677
- Fe electrodes, passivated, capacitance under simulated erosion-corrosion conditions 7−3514
- Fe, passivated, comp., electron backscattering Mossbauer spectra, XPS studies 7−28193
- Fe, passivation and spontaneous dissolution in presence of O_2 7−22872
- Fe, passive, adsorption and absorpt. of Cl^- ions 7−28340
- Fe, passive anodic oxide form., surface anal., XPS, ion scatt. spectra 7−22895
- Fe, passive layer, critical thickness at Flade pot. 7−39757
- Fe, pitting corrosion, role of Cl^- ions *(Japanese)* 7−33829
- Fe/Fe oxide passive film interface composition and growth, atom probe depth profiling anal. 7−32869
- Fe-B based metallic glasses, corrosion in H_2SO_4, alloying effect 7−28201
- Fe-Cr, P implanted amorphous alloys, corrosion, passivation, microstruct. 7−65180
- Fe-Cr, passive anodic oxide form., surface anal., XPS, ion scatt. spectra 7−22895
- Fe-Cr, passive current fluctuations, statistical anal. 7−28190
- Fe-Cr alloys in acidic electrolytes, effects of P implantation on passivity 7−59658
- Fe-Cr-Si-B metallic glass wires, corrosion rel. to crystallinity and comp. 7−46701
- GaAs, MBE layers, deep level defects, passivation by H_2 plasma exposure 7−21850
- GaInAsP-InP etched mirror laser, passivation with angled sputtering 7−57358
- Ge:H, H composition at surfaces and interfaces 7−27083
- H_2, adsorbed by metals, kinetics, oxide layer effects at room temp. 7−33965
- InP MIS structures, prep. by RF plasma oxidation, interface elec. props. 7−2731
- InP, passivation by plasma deposited P film 7−3540
- InSb, SiO_x anodic native oxide interfaces studies 7−22917
- Ir, anodic dissolution in Cl^- melts, salt passivation 7−52053
- Li electrodes, semicond. passivating film, impedance meas. 7−33111
- Mo-Ni, adsorbed S, in acidic medium, destabilizing effect of Mo and passivation consequences *(French)* 7−16858
- Nb, corrosion behaviour in HBr solns. 7−39725
- Ni, anode, electrochemical behaviour in H_2SO_4 solns., halide ions effect 7−39758
- Ni base amorphous alloys, containing Ti, Zr, Nb, Ta and/or P, corrosion behaviour in boiling conc. HNO_3 and HCl 7−3511
- Ni, hydrodynamic effects during electrochem. and exposure pitting tests with passive films 7−46678
- Ni-Cd cells, General Electric 50 Ah, qualification testing of separator and positive plate processing 7−34012
- Ni-Cr-Mo-Fe system, pitting corrosion, temp. depend. 7−65186
- Ni-P, glassy, dissolution in H_2SO_4 and HCl electrolytes 7−28189
- $(Ni\text{-}Pd)_{82}Si_{18}$ amorphous alloys, corrosion behaviour, struct. relax. effects. 7−8166
- $Ni_{50}Fe_{50}$ (100) alloy, segregation and adsorption of S 7−21617
- PtSi contact metallurgy by different formation processes 7−21709
- Si, acceptor neutralizing species, low temp. injection mechanisms 7−32482
- Si, DLTS spectrum of dislocations introduced by CW CO_2 laser *(Chinese)* 7−32939
- Si, defect states on the surface and in the bulk, H passivation 7−13665
- Si, dendritic web cryst., solar cells and modules fabrication status 7−8391
- a-Si films, surface passivation, study by photothermal deflection spectroscopy 7−59689
- Si, HF passivated, surface chemistry, XPS and ion scatt. spectra 7−33857
- Si, ion implanted with Ar^+, H_2 passivation, polycrystalline phase formation 7−12087
- Si, passivation of dislocations at high H_2 press. 7−39763
- Si, plasma passivated, subsurface H barrier layer obs. after surface adsorption of Al 7−17745
- Si, polycrystalline, H_2 passivation, grain boundaries, EBIC technique 7−26769
- Si, polycrystalline p-type, Al and Cu diffusion effects on electronic properties 7−17038
- Si polycrystalline solar cells, passivation by low-energy H^+ ion implantation 7−23157
- Si solar cells, H passivation by ion beams 7−17867
- Si solar cells, H passivation of dislocations 7−54323

passivation continued
- Si solar cells, passivated, laser processed, 18% efficiency 7−59837
- Si solar cells, passivation using $ZnS_{0.9}Se_{0.1}$ and GaP semiconductor coatings 7−65479
- Si surface passivation, angular dependent X-ray photoelectron spectroscopy 7−27864
- Si surfaces, passivated by H/hydrogen mixtures, surface dielectric layers characterisation 7−17746
- Si, thermal growth kinetics of thin SiO_2 films 7−13663
- Si thin films, polycrystalline, elec. props. 7−33117
- Si:H, H composition at surfaces and interfaces 7−27083
- a-Si:H, influence of H on defects and instabilities 7−26647
- Si:H, polycrystalline, chemistry of grain boundary passivation 7−12375
- SiC:H amorphous films, glow discharge deposited, photoconductivity, microstructure effects 7−58831
- SiGe:H amorphous films, glow discharge deposited, photoconductivity, microstructure effects 7−58831
- SiO_xN_y, plasma-enhanced deposited oxynitride films, IR and UV transmission, appl. for electronic devices 7−33474
- Ta, corrosion behaviour in HBr solns. 7−39725
- Ti electrodes, passivated, photoelectrochemical studies 7−12757
- Zn passive electrodes, space charge effects 7−28315

passive attenuators *see attenuators*

passive filters
- 5 GHz range SAW filter fabricated by electron beam exposure with O_2-plasma ashing techniques 7−20534
- SAW filters, acoustic field investig. using fibre optic homodyne laser probe 7−1358
- SAW filters using 3-transducer config. 7−20532
- wide-band and low-loss unidirectional SAW filter 7−20533

path control *see position control*

patient care
- *see also handicapped aids; health care*
- American health care technology evolution, economic and ethical implications 7−4648
- neuromuscular electrical stimulation of quadriceps, effect of duty cycle on fatigue 7−34332
- neuromuscular electrical stimulation of quadriceps, patient preferences as to pulse freq. 7−34331
- science and health care—whence and whither, 1986 Assoc. Lecture of HPA 7−60852
- solar radiation and the eye, review of knowledge relevant to eye care 7−8649

patient diagnosis
- *see also biomedical NMR; biomedical ultrasonics; computerised tomography; diagnostic radiography; electrocardiography; electroencephalography; medical diagnostic computing; radioisotope scanning and imaging*
- acoustic NMR of biological tissue, clinical diagnosis appl. 7−23414
- acute localized irrad., use for X-ray and NMR tomography for diagnosis, pig expts. *(French)* 7−3869
- adaptive histogram equalisation for automatic contrast enhancement of medical images 7−23413
- ankle: surface coil MR imaging at 1.5 T 7−28650
- arterial occlusive disease, US, diagnosis, some failings of pulsatility index and damping factor 7−47187
- astrocytic gliomas, ^{1}H NMR relax. times rel. to malignancy grade and tissue necrosis 7−18042
- audiological test data analysis by microcomputer 7−40176
- biomedical image, 3D and 4D, workstation for their display and analysis 7−65885
- biopsy studies using ultrasound 7−34206
- brain, high resolution Na NMR imaging, phys. 7−47210
- brain NMR imaging, cerebrospinal fluid signal enhancement in short TR gradient echo images 7−47194
- breast and axillary tissue NMR imaging, correl. of signal intensities and relax times with pathological findings 7−14090
- breast NMR imaging, surface coil design for a vertical field MRI system 7−18048
- Canada, medical diagnostic US device output levels 7−47269
- carcinoma of bladder and bronchus, in situ localisation, hematoporphyrin derivative fluorescence detector 7−14148
- cardiac imaging, pulse sequence generated oblique NMR imaging 7−40246
- cardiac impedance differential loop and its clinical significance *(Chinese)* 7−18088
- cardiac wall motion abnormalities detect., combined amplitude and phase anal. 7−28566
- cardiovascular disease detection, blood flow meas. using NMR imaging technique 7−54694
- carpal tunnel syndrome, electrophysiological aspects of 639 symptomatic extremities 7−3761
- cell automated classification techniques, imaging flow cytometer 7−8774
- cerebello-pontine angle, mag. resonance imaging 7−14074
- cerebral neoplasmas, clinical and expt., Na and ^{1}H NMR imaging 7−18060
- cervical cancer cells, chromatin content, image processing technique 7−34119
- chest auscultation, reduction of heart sounds from lung sounds by adaptive filtering 7−54685
- chronic disease detection from EKG tracings, computer-aided technique 7−14151
- CNS tumours, contrast-enhanced NMR imaging, clinical review 7−3855
- colour display of quantitative blood flow and cardiac anatomy in a single NMR cine loop 7−60065
- colour image processing for bronchus endoscopic image restoration 7−47281
- complementary projector system for contrast sensitivity meas. 7−8748
- computers in cardiology, conf., Linkoping, Sweden (Sept. 1985) 7−24309
- conference on bioengineering, New Haven, CT, USA (March 1986) 7−16
- conference on French nuclear medicine, Deauville-Caen, France (Sept. 1986) *(French)* 7−4624
- conference on medical imaging and PACS, Newport Beach, CA, USA (Feb. 1986) 7−18490
- CW Doppler US spectra, comparison with spectra derived from a flow visualisation model 7−14071
- diaphanography, breast cancer detect. by transillum., IR scatt. and absorpt. obs. on cell suspensions 7−47211
- diaphanography, development of a tissue-equiv. phantom 7−54702
- DICOM-8 digital imaging computer for pseudo-3D imaging 7−47275

patient diagnosis continued
- digital medical images, optical storage technology for archiving, review 7−28654
- Dirac, Faraday, Born and medical imaging 7−60115
- disease, understanding by use of NMR spectroscopy 7−14103
- dynamic arrhythmia filtration for gated blood-pool imaging: validation against list mode technique 7−40260
- ECG body surface mapping, Nijmegen, Netherlands (June 1985) 7−48192
- ECG signal processing methods for microcomputer-based automatic diagnostic system 7−47284
- ECG-mapping during coronary: improvement of diagnosis and therapy control 7−28758
- echo diagnostic ultrasound: history, transducers, artefacts and new applications 7−28633
- echocardiograms, 2D, automatic and intelligent left ventricular contour detect. 7−34212
- echocardiographic visualisation of acute myocardial ischaemia 7−28631
- echocardiography, 2D, in infants and children, book 7−60061
- echography, geometric and intensity distortion 7−47189
- edge detection for medical images and nonlinearestimation theory 7−8750
- EEG, alpha rhythm in normal state, generation model 7−8536
- electrical impedance imaging, review 7−60116
- electrophysiological diagnostics based on electrically active point responses 7−8749
- EMG, clinical, basic problems of automatic analysis 7−8737
- EMG, computerised, conf., New York, USA (April 1981) 7−4621
- EMG, quantitative, diagnostic yield of automated method 7−8742
- EMG automatic analysis with ANOPS computer, monopolar electrode use 7−8738
- evoked muscle potential amplitude ratio at distal/proximal stimulation, subclinical neuropathy diagnosis 7−8539
- evoked potentials processing with tactile and thermal stimulation; prototype system *(Spanish)* 7−34318
- exercise ECG-testing, computerised, and ^{201}Tl scintigraphy: relative diagnostic accuracy 7−28757
- fluorescence imaging, digital background subtraction 7−40247
- Fourier transform NMR imaging, 2D, respiratory effects 7−14098
- free radical production in aqueous solns. due to diagnostic US 7−50900
- gait analysis system, portable computerised, force distrib. meas. under foot in walking modes *(Japanese)* 7−14146
- genetically significant dose from diagnostic nuclear medicine exams., USA, 1980 7−8689
- haemorrhagic lesions, NMR imaging, evolution of intrinsic relax. parameters from time of onset of symptoms 7−54696
- head magnetic resonance imaging, choice of interpulse times 7−18056
- head magnetic resonance imaging, clinical optimisation 7−18057
- heart disease, diagnostic pots. of NMR 7−28655
- heart rate variability signal processing, diagnostic aid in cardiovascular pathologies 7−54800
- immunospecific NMR contrast agents 7−18053
- infection diagnosis, computer subtraction of simultaneously acquired dual radionuclide images 7−40274
- integrated voice analyzer for acoustic evaluation of pathological voice 7−40236
- interference pattern analysis, clinical uses, effect of load, dynamic studies 7−8740
- intravascular signal in NMR imaging: differentiation of blood-flow signal from intraluminal disease 7−28652
- IR thermogram processing system using a microcomputer *(Chinese)* 7−28643
- knee, 3N NMR imaging using surface coils 7−14084
- left ventricular regional function, objective detect. algorithm, radionuclide blood pool studies 7−40287
- left ventricular regional wall motion, quantification using multiple-view radionuclide angiography and the centerline method 7−34268
- left ventricular wall sequences, 3D, asynergic regions detect. by a clustering technique 7−40357
- lumbar nerve root lesions diagnosis, electronic comparison of toe strengths 7−3926
- lumbar spine NMR imaging, comparison of circular and elliptical coils 7−3858
- magnetic resonance imaging, contrast agents, clinical experience 7−18059
- magnetic resonance imaging, state of the art and future 7−18055
- magnetic resonance imaging, tissue characterisation using meas. relax. times 7−18058
- magnetic resonance imaging with nonuniform mag. fields 7−14088
- magnetocardiography based method for cardiac activity investig. 7−40351
- magnetoencephalography, inverse problem, medical perspective 7−54689
- medical use of radioactive isotopes 7−47220
- microwave thermography system 7−60069
- mobile magnetic resonance scanning for improved health care at small centres 7−47278
- motor control performance tracking accuracy quantification system 7−28572
- motor unit potentials with varying loads, automatic analysis 7−8741
- MTF measurements, aliasing reduction, radiological imaging appl. 7−40232
- multi-echo NMR imaging, quantitative estimation of T2 7−3859
- multinuclear magnetic resonance imaging technique: simultaneous proton and Na imaging 7−18052
- multiple chemical shift selective NMR imaging using stimulated echoes 7−14097
- muscle fibre conduction velocity calc. from EMG power spectra analysis 7−8546
- myocardial ischaemia studies using epicardial array ECG signals 7−14149
- myocardial ischaemia studies using epicardial array ECG signals 7−14150
- neonatal haemodynamics assessment, use of Doppler US 7−28629
- NMR, dynamic digital subtraction imaging using fast low-angle shot NMR movie sequences 7−14092
- NMR, high-speed techniques for estimating T1 and T2 images 7−23429
- NMR, synthetic images, crit. evaluation of quality 7−18044
- NMR angiography, methods that create projection images based on flowing blood 7−14080
- NMR boundary effects from opposed magnetisation artifact in inversion recovery images 7−14093
- NMR breast coil, design modification 7−14085
- NMR chemical shift imaging, phase-encoded, generalisation 7−47193

patient diagnosis continued
NMR diffusion coefficient imaging method using an optimised pulse sequence 7—54698
NMR image reconstruction, appl. of autoregressive moving average parametric modelling 7—14079
NMR image reconstruction from data acquired with imaging gradients having arbitrary time dependence 7—14081
NMR images, multiple-delay-multiple-echo, improved determ. of spin density, T_1 and T_2 from a 3-parameter fit 7—34218
NMR images, relax. times meas., accuracy and precision 7—60066
NMR imaging, 3D display strategy based on 2D images 7—3860
NMR imaging, breathing artifact, mag. field dependence 7—18039
NMR imaging, cardiac gating 7—40241
NMR imaging, direct Hankel transform system using rot. gradients 7—14078
NMR imaging, grey level dynamic range 7—23428
NMR imaging, image nonuniformity: magnitude and methods for correction 7—54693
NMR imaging, motion artifacts reduction in 2D Fourier transform imaging 7—18054
NMR imaging, optical detection of respiration and heart beats 7—47277
NMR imaging, patient loading simulation using inductive damping loops 7—14075
NMR imaging, phase and sensitivity of receiver coils 7—54700
NMR imaging, phase contrast, chemical shift imaging 7—18043
NMR imaging, pulse sequence for simultaneous determ. of T_1 and T_2 7—40245
NMR imaging, respiratory artifacts removal, comparison of respiratory triggering and gating techniques 7—14099
NMR imaging, respiratory motion artifacts suppression 7—54699
NMR imaging, signal-to-noise improvement by B_1 homogeneity optimisation 7—28649
NMR imaging, struct. enhancement by subtraction 7—54692
NMR imaging, thermoregulatory consequences 7—18051
NMR imaging, tissue discrimination optimisation method 7—40244
NMR imaging and in vivo spectroscopy, mag. suscept. var. effect 7—28749
NMR imaging computer simulation, implementation and preliminary results 7—23430
NMR imaging systems, automated anal. of multiple performance characts. 7—54701
NMR imaging time halving by conjugation: demonstration at 3.5 kG 7—54708
NMR imaging using quadrature coil for adult human head 7—14087
NMR imaging using stimulated echoes 7—14096
NMR phantom, compact and high resolution, for multislice imaging 7—47209
NMR surface-coil images, algorithm for compensation for sensitivity of surface coil 7—47195
NMR tomography, phase encoding method using a slice selection gradient for high speed flow vel. meas. 7—23426
NMR whole-body machines, aspects of engng. design 7—60067
nonionising radiation imaging, book 7—48202
objectives of medical imaging 7—60114
ocular lenses, human, diagnostic evaluation using quasi-elastic light scatt. spectroscopy 7—34230
ophthalmic diagnosis use of blood circulation meas. 7—8746
ophthalmological camera, wide-angle RCS-310 retinal camera, prototype experience 7—8745
ophthalmological camera, wide-angle RCS-310 retinal camera design 7—8744
optical microscopic tomography 7—61373
osteopetrosis: NMR characts. at 1.5 T 7—28651
pelvis, advances in NMR imaging at 0.15 T 7—54691
peripheral nervous system, diagnosis of type of lesion by graduated pots. of median nerve 7—3925
phase tomography, velocity and temperature measurement 7—34205
plethysmograph, granular strain gauge, for use as respiratory belt 7—14141
positron camera, multiwire proportional chamber, development of high-efficiency cathode converters 7—40271
principal components analysis in medical imaging 7—23412
programmable visual display for diagnosing, assessing and rehabilitating unilateral neglect 7—65880
proton chemical-shift NMR imaging with nonuniform fields 7—14089
pseudocolour encoding of medical images with white light 7—3861
radionuclide-anaesthetic flow: regional anaesthesia study technique 7—40265
retinal blood flow visualisation and meas. by laser speckle photography 7—47212
RF technology for NMR imaging spectroscopy 7—34233
rotator cuff tears, preliminary appl. of high-resolution NMR imaging 7—14094
science and health care—whence and whither, 1986 Assoc. Lecture of HPA 7—60852
skin, living human, thermo spectral anal. by Fourier transform IR spectroscopy 7—54707
snoring signals, anal. and classification 7—37256
speckle reduction in pulse-echo images by using phase insensitive summation and multiplicative techniques 7—28634
steel shield for NMR imaging, fabrication and performance 7—47274
surface coil proton NMR imaging at 2T, coil design and appl. 7—28653
T2 NMR imaging, use of ferromag. particles as a contrast agent 7—18045
T_2 NMR images, multi-exponential anal. 7—18046
temporomandibular joints, high-resolution NMR imaging with particular emphasis on soft-tissue display 7—14077
thermography, review 7—60070
thorax and abdomen, 3D FLASH NMR imaging without triggering or gating 7—18038
time-of-flight NMR flow imaging: selective saturation recovery with gradient refocusing 7—14095
tissue characterisation from US B-scan data, liver and spleen appl. 7—14072
tracheobronchial tree and pulmonary arteries, NMR imaging using electronic axial rot. 7—14102
ultrasonic tissue characterization imaging research program 7—34203
umbilical artery, Doppler US indices derived from max. vel. waveforms 7—47185
umbilical artery, Doppler US indices derived from mean vel. and first moment waveforms 7—47186

patient diagnosis continued
US diagnostic devices, USA Food and Drug Administration guidelines 7—3851
US images, deterministic approach towards speckle reduction 7—60060
US scanning, speckle reduction via spatial compounding 7—28627
vectorcardiography, high quality system 7—34322
vessels tracking in medical images, development of 3D discontinuity detector and linking algorithm 7—8751
visual evoked potential abnormalities in multiple sclerosis 7—14001
visual perception of clinical images, beyond signal detection theory 7—23270
visual perception of medical images 7—60009
whole-body magnetic-resonance imaging, appl. of superconducting magnet *(Japanese)* 7—23479
^2H NMR spin-imaging of D_2O, pot. exogenous MRI label 7—18040
^{23}Na NMR in vivo imaging at 1.5 T in humans, methodology 7—14100

patient monitoring
see also electrocardiography; electroencephalography
bone, fracture healing, assessment by spectral anal. 7—8730
brain electrical and magnetic activity monitoring 7—8743
cardiac output monitoring by impedance cardiography during treadmill exercise 7—28733
cardiopulmonary rate monitor, microprocessor-based, using low-power Doppler microwaves 7—65828
ECG, arrhythmia typification in a real-time anal. system for monitoring geriatric patients during exercises 7—40337
EEG, 24 hr ambulatory monitoring :development and appls. 7—23472
EMG, real-time FFT to monitor muscle fatigue 7—28734
foetal biophysical profile: antepartum assessment using a programmed microcomputer 7—40322
foetal ECG signal processing for implementation of foetal monitoring *(Chinese)* 7—18089
haemodynamically compromised subjects, exercise test protocols, digital filtering and data processing 7—8727
head-injured patients, computer assessment of neurological status using EEG power spectrum anal. 7—34128
heart rate monitor, design, operation and construction *(Spanish)* 7—40327
heart rate variations and EEG changes during nocturnal monitoring of ischaemic patients 7—34315
heat and respiratory activity monitoring by impedance change using neck electrodes 7—65869
Holter monitoring: indication, anal. quality and clinical satisfaction 7—40333
Holter monitoring, computer-aided, use for S-T changes detect. 7—40348
intracranial pressure: review of clinical problems, meas. techniques and monitoring methods 7—40323
intracranial pressure monitoring unit with computerised signal processing, improved design *(Spanish)* 7—34299
intraoperative EEG monitoring, comparison of a set of power distrib. parameters 7—3927
left ventricular ejection fraction, continuous monitoring using a miniature NaI detector and microcomputer 7—34305
microcomputer-assisted haemodynamic and respiratory monitoring 7—40329
microprocessor-based home monitor for sudden infantdeath syndrome 7—3921
neonates with low birth weight, data acquisition system for monitoring 7—3920
neurosurgical intensive care unit, computerised monitoring system 7—34320
neutrophil dynamics, normal, 1/f-like scaling, implications for haematological monitoring 7—3757
plethysmograph, granular strain gauge, for use as respiratory belt 7—14141
remote physiological sensing: historical perspective, theories and preliminary developments 7—34298
respiratory pressure data analysis for detecting breathing circuit faults in ventilated patients 7—40330
respiratory waveforms from ECG traces 7—18084
snoring signals, anal. and classification 7—37256
spinal somatosensory evoked pots. monitoring during surgery, microprocessor-based system 7—23482
stomach, human, noninvasive technique to monitor elec. and mech. activity 7—60110
Swedish perspectives on the use of computers in cardiology 7—28741
uterine electrohysterogram processing for obstetrical monitoring 7—54791
walking and ECG, computerised system for 24 hr simultaneous recording and anal. 7—40347

patient treatment
see also biomedical ultrasonics; radiation therapy; surgery
ankle movement prediction and evaluation with implantable peroneal stimulators 7—28778
arterial pressure, mean, computer control with Na nitroprusside: adaptive model-based system 7—40359
biofeedback system with interchangeable modules for applied research and clinical practice in underdeveloped countries 7—28761
cancer treatment using RF techniques 7—47285
cardiac preexcitation syndromes, book 7—41020
dentistry applications of lasers 7—40242
electrical stimulation open-loop control of human knee during swing 7—28763
electrodes, optimal design for electrosurgery, defibrillation, and external cardiac pacing: finite-element computer model 7—3928
electrodes, recording and stimulating, for biological research 7—47306
EMG feedback and motor control restoration, controlled group study of 12 hemiparetic patients 7—13984
EMG study of side step for development of elec. stimulation patterns 7—28570
external counterpulsation in the presence of arrhythmias, computer simulation anal. 7—14156
functional neuromuscular stimulation to augment walking, develop. stages 7—34333
gait correction two-channel orthotic stimulator *(Slovenian)* 7—23486
grasp control during functional neuromuscular stimulation, force/position feedback 7—28764
heart, programmed stimulation, real time data collection 7—34329
hyperthermia, book 7—55911
hyperthermia, local, small-scale temp. fluctuations in perfused tissue 7—8499
hyperthermia, VLF induced heating 7—54806

patient treatment continued
hyperthermia and radiation in the treatment of superficial malignancy 7—65886
intracortical stimulation microelectrodes, tip geometric area definition by plasma etching of Parylene 7—28760
medical drug elimination from body, multifactorial physiological flow model 7—54425
medical use of radioactive isotopes 7—47220
microcomputer based system for acoustic analysis of voice characteristics 7—37286
multichannel portable functional electrical stimulation system for spinal cord injured persons 7—28765
myocardial infarction, acute, computer-aided decision in haemodynamic-based treatment 7—40360
natural walking with an electrical stimulator *(Swedish)* 7—40358
oral water irrigation devices, impact press. delivered 7—3929
percutaneous transluminal angioplasty, technical characts. of balloon dilation catheters *(German)* 7—23481
plasmapheresis, increase of filtration by pulsatile blood flow *(French)* 7—3930
pressure sore prevention by functional electrical stimulation of gluteus maximus muscle 7—34335
programmable visual display for diagnosing, assessing and rehabilitating unilateral neglect 7—65880
psoriasis, hyperthermia treatment, comparison of heat delivery systems 7—14152
Rehabilitation R&D Progress Reports 7—28774
science and health care—whence and whither, 1986 Assoc. Lecture of HPA 7—60852
surface electrical stimulation of quadriceps in patients with spinal injury, response 7—34334
tinnitus, treatment by external elec. therapy 7—28762
trachea noise biofeedback device to help reducebronchospasm in asthmatics 7—8754
ventricular fibrillation, 60 Hz, thresholds for large-surface-area electrodes, animal expts. 7—3931
walking using long leg braces or functional neuromuscular electrodes, relative energy cost 7—34336

pattern classification *see pattern recognition*

pattern recognition
see also computer vision; computerised pattern recognition; speech recognition
4-camera video system, development and use 7—4235
automated analysis of two-dimensional NMR spectra of mixtures by pattern recognition 7—24635
automatic linking process of seismogram using branch and bound search 7—23904
biovisitrons networking for high level pattern recognition 7—62644
central mechanism of space sense, perception andmovement control *(Japanese)* 7—14009
chopper model 7—253
circular harmonic expansion for rotation-invariant pattern recognition, props. 7—10871
conf., Los Alamos, New Mexico, USA (May 1985) 7—48157
correlator for pattern recognition using Fresnel holographic filter and extended source 7—62633
eddy current nondestructive testing, automatic classification and recognition of defects 7—39841
event related potentials, component and interval detection algorithms 7—34139
event-related pots. estimation improvement using statistical pattern classification, visuo-motor appl. 7—14002
feature extraction processing of simple line figures by the analysis of eye movement *(Japanese)* 7—23355
galactic luminosity profile analysis by curve matching 7—55825
Hopfield neural network model used as nearest-neighbour algorithm 7—23318
Hough transform for detection of target trajectories 7—42948
Hough transform optical implementation by matrix of holograms 7—42940
ignorance-based signal estimation given multiple noisy realizations 7—47264
image anal., automatic classification of zooplankton 7—40385
image classification at low light levels 7—42957
image correlation by four-wave mixing in photorefractive media, computational model 7—42950
image information transmission, storage, and acquisition using an acousto-optic cell and optical matched filters 7—20143
image recognition methods, appl. to estimate radiation damage severity *(Russian)* 7—13946
invariant feature extraction, theory *(Japanese)* 7—36888
IPI semiautomated inspection devices for inspectors 7—54546
layered track chambers, global pattern recognition method 7—42315
liquid crystal TV as spatial modulator for optical data processing 7—25958
long-range prediction, GMDH approach, weather forecasting appl. 7—18270
luminescent screens, image perception, fluctuation theory 7—34146
material properties databases, nonbibliographic, cluster anal. 7—41026
meteorological imagery textural features classification 7—9151
minimum-variance synthetic discriminant functions 7—25716
neocognitron, biocybernetic approach to visual pattern recognition 7—57258
neural net, self optimizing, nonsymmetrical, for content addressable memory and pattern recognition 7—54522
neural networks and optical resonators, coupled-mode theory 7—54513
object interpretation using boundary based perceptually valid features 7—23362
optical correlation, compact minicorrelator for pattern recognition 7—57523
optical correlator tracking nonlinearity 7—57249
optical Hartley transform, geometric moments calc. 7—57261
optical range images, segmentation using sine wave coding and Fourier transformations 7—42951
optical relational-graph rule-based processor for structural-attribute knowledge bases 7—10861
optical-correlation filter synthesis by iterative technique 7—5848
particle shape and size determination, concurrent spatial harmonic and fractal analysis 7—31263

pattern recognition continued
rabbit olfactory bulb, pattern formation/recognition, nonlinear dynamics 7—54543
rabbits, oscillating network model of pattern recognition 7—54618
rotation invariant composite filters 7—25942
rotation-invariant pattern recognition and some of its limitations 7—25729
seismic risk trend analysis, appl. of human-computer interaction method to real example *(Chinese)* 7—34385
sensory information processing mechanisms *(Japanese)* 7—14003
skeletal maturity, fuzzy grammars for syntactic recognition from X-rays 7—34317
spatial-temporal correlation filter for in-plane distortion invariance 7—50717
symbolic substitution logic, optical implementation using polarisation for coding 7—10860
symbolic substitution logic for digital optical computing 7—10859
synthetic discriminant function filters, computer-generated and phase-only 7—20392
texture boundaries, important cues for human texture discrimination 7—3794
texture discrimination, mathematical model based on human visual cortex functioning 7—54580
turbulence field anal., non-stationary 2D estimation 7—36904
underwater acoustics, acoustic holography appls. 7—31581
US kidney images recognition by 2D dynamic programming method 7—18034
visual perceptrons in pigeons, expt. 7—34153
SAW device, coating responses, rel. to solubility and chem. struct., pattern recognition 7—54162
^{235}U, spectral line classification, isotope shifts, Lande g factors, pattern-recognition technique 7—62309
ZnS, ZnSe interference filters, simultaneous optical bistable switching on adjacent pixels, pattern recognition 7—57420

Patterson diagrams *see crystallography; X-ray crystallography calculation methods*

PC manufacture *see printed circuit manufacture*

PC testing *see printed circuit testing*

PCB *see printed circuits*

PCB manufacture *see printed circuit manufacture*

PCB testing *see printed circuit testing*

PCILO calculations
D-glucopyranose, struct. stereochemistry, solvation props. PCILO calcs. 7—15518

PCM links *see pulse-code modulation links*

P^{2}CMOS *see CMOS integrated circuits*

pearlitic steel *see steel*

Peierls instability
calcium bis(oxalato)platinate, $Ca_{0.756}[Pt(C_2O_4)_2].3H_2O$, ID conductor, preparation and props. 7—52599
CDW, sliding, in low-dimensional conductors 7—17018
Coulomb interaction, effect on Peierls gap 7—32933
electron-phonon system in 1D *(Rumanian)* 7—16960
incommensurate one-dimensional CDW systems, localised electronic state form. due to phase and single particle excitations 7—21834
mean field approx. for fermion or pseudo-spin boson interaction 7—32590
MEM(TCNQ)$_2$ spin-Peierls compounds, far IR ESR studies 7—22133
(methyl-N-ethyl-morpholinium)(TCNQ)$_2$, Raman scatt. in vicinity of spin-Peierls transition 7—53331
mixed-stack organic charge-transfer crystals, regular-dimerised stack and neutral-ionic interfaces 7—7216
morpholinium TCNQ$_2$ salts, optical phonon mediated charge transport 7—52596
one-dimensional electron-phonon Peierls condensate, amplitude solitons 7—52449
one-dimensional metals, Peierls problem solns. *(Russian)* 7—45304
one-dimensional Peierls system, Eilenberger equation studies 7—64040
one-dimensional systems, electronic stability and density of states on Fermi surface, topological effect 7—58728
one-dimensional systems with weak coupling, Peierls instability 7—32938
Peierls structural phase transition in 2D conductors, mag. breakdown 7—12588
Pirogov-Sinai theory, first-order phase transitions and perturbation theory 7—58440
polyacetylene, continuum model, random disorder, supersymmetric treatment 7—45111
polyacetylene, order parameter and optical absorption, quantum fluctuations 7—63750
quasi 1D conductors, anisotropy and Peierls transition 7—45297
quasi-1D conductors, conf., Yamanashi, Japan (May 1986) 7—60868
quasi-1D conductors, Coulomb correlation effects 7—52485
quasi-1D conductors, Peierls state, mechanisms of nonlinear conductivity, electrodynamics *(Russian)* 7—32997
quasi-one-dimensional systems, spin-Peierls transition 7—59047
soliton lattice in the relative phase of two coupled charge-density waves 7—21816
statistical physics and field theory conf., Groningen, Netherlands, Aug. 1985 7—55899
TCNQ salt, DMM-TCNQ, evidence for spin-Peierls nature of low temp., ESR study 7—22132
tetraphenyldithiapyranylidene iodide, 1D conductor, order-disorder transition, X-ray scatt. intensity, elec. props. 7—44798
TTF-BDT (Au), spin-Peierls phase diagram, high temp. sp. ht. and suscept. meas. 7—59026
TTF-TCNQ, dielec. function in submillimetre range 7—27282
TTF-TCNQ, nonlinear elec. transport effects driven through CDW commensurability 7—45295
TTF-TCNQ, nonlinear electrical transport effects, CDW commensurability 7—64217
$K_{0.3}MoO_3$, CDW conductor, elastic anomalies 7—44652
$K_{0.3}MoO_3$, Peierls semiconductor, nonlinear Hall effect, sliding of CDW 7—45357
$NbSe_3$, CDW conduction and periodic current noise 7—21896
$NbSe_3$-I-Pb, tunnel junctions under press. 7—52594
Pt complex, $(H_3O)_{0.33}Li_{0.8}(Pt(C_4N_2S_2)_2)1.67\ H_2O$, synthetic conductor, spin-carrying defects 7—44524
TaS_3, CDW conduction and periodic current noise 7—21896
TaS_3, orthorhombic, press. and field depend. of DC resistance 7—52592
TaS_2; 1T, submillimetre conductivity, dielectric function 7—12749
$(TaSe_4)_2I$, chain-like conductor, Peierls gap, optical study 7—52469

Peierls transition *see Peierls instability*

Peltier effect
capacitance dilatometer/oven system, computerized analysis of thermal correlations using Peltier AC-heating 7—18775
cryostat for X-ray diffractometry at low temp. 7—14956
flowmeter performance analysis, nonlinear effects influence 7—44083
thermal diffusivity and propagation props. of thermal waves meas., by non-steady-state method 7—305
thermoelectric cooling using Peltier elements *(Dutch)* 7—309
PbTe films and electrical contacts with Au, Al and Ag, photothermal deflection meas. 7—38784

PEM effect *see photoelectromagnetic effects*

Pendellosung fringes *see X-ray crystallography*

pendulums
see also time measurement
balancing toy, centre of gravity, oscills. about equilib. 7—48243
bifurcation for nonlinear boundary value problems, geometrical approach, pendulum eqn. appl. 7—48352
Chelomei pendulums, quasiequilib. positions 7—48347
Collette torsion pendulum theory 7—14934
coupled pendulums, curve veering calcs 7—62973
damping, mathematical model 7—18522
deterministic chaos, investig. 7—4762
Foucault pendulum, visualisation using geometric model. 7—48239
gyroscopic pendulum with ideal unilateral constraint, motion with respect to angle of nutation 7—43655
horseshoes in the driven, damped pendulum 7—41095
interfacing to microcomputer 7—35166
internally resonant double pendulum, parametric excitation, chaotic behaviour 7—29748
Lagrangian and Hamiltonian formulation 7—18524
period doubling route, critical line, scaling relations 7—79
problem solving by the numerical integration of Hamilton's equations 7—35173
simple pendulum as an anharmonic oscillator 7—9657
sine map and driven damped pendulum cross-over 7—18593
BW alloy fibre, torsional pendulum, shear modulus and internal friction meas. 7—48232

penetration depth (superconductivity)
anisotropic type II superconductors, mag. props. 7—38814
Ginzburg-Landau equations for triplet local-electron-pair systems 7—45547
loop containing single Josephson junction, multiple-quantum-flux penetration 7—64407
Al, superconducting, penetration-depth anisotropy, quasiparticle magnetospectroscopy 7—12910
$CeCu_2Si_2$ heavy fermion superconductor, magnetic field penetration, muon spin relax. studies 7—45886
In superconducting cylinders, mag. flux diffusion, exptl. study 7—38813
Nb/Cu artificial superconductive metallic superlattices, electron density, pair tunnelling studies 7—58959
$Nb_3Al(Ge)/Pb$ magnetron sputtered Josephson tunnel junction props., film deposition conditions dependence 7—58955
Sn superconducting cylinders, mag. flux diffusion, exptl. study 7—38813
UBe_{13}, heavy electron supercond., anomalous temp. depend. of mag. field penetration depth 7—2780
U_6Co, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7—52893
U_6Fe, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7—52893
U_6Mn, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7—52893
V-Ag proximity coupled supercond. multilayer, penetration depth of mag. field 7—52910

Penning ionisation
alkali metal mixtures, collisional ionisation study *(French)* 7—10729
antiproton capture in Penning trap from keV source 7—25285
atomic impurities in Ne, optogalvanic effect 7—30970
bromocyanoacetylene cation in ground and electronic states, vibr. struct., emission and laser excitation spectra 7—50228
cyanogen, adsorption on Pd (100), Penning ionisation electron spectroscopy, UPS, TPD studies 7—52268
Langmuir-Blodgett monolayer films, exposed mol. ends, Penning ionis. electron spectrosc. 7—63991
modified Penning discharge, edge turbulence studies 7—16331
monohalobenzenes, electron struct., mol. reactivities, He Penning ionisation spectra and UV photoelectron spectra anal. 7—25642
Ar/C_2F_6 mixtures, Penning ionisation for diffuse discharge switching appls. 7—37622
Ar/Ne mixtures, electron swarm, Penning ionisation effects, Boltzmann eqn. anal. 7—1802
Ar/Ne mixtures, Townsend first ionisation coeff. Penning ionisation effects 7—37776
Ar+He, 2^1P_1 state quenching 7—62319
Fe phthalocyanine, local electron distrib., Penning ionis. electron spectrosc. 7—62521
He + $Br_2(I_2)(ICl)(IBr)$, bound and continuum states, excitation transfer, optical and electron spectroscopy investig. 7—36689
He collisional depopulation rate by Rb thermal collisions *(German)* 7—15694
He+Li(Na)(k)(Rb)(Cs), Penning ionisation, pot. well depth calcs., electron energy spectra anal. 7—62510
N_2 laser, effect of organic additives 7—5874
Ne+Ar, ionis., fine struct. depend. product branching 7—15673
Rb, collisional ionisation study *(French)* 7—10729
$Zn+He^+(He^*)$, Penning and charge transfer reactions, Zn^{+*} levels excitation 7—5746

penny-shaped cracks
composite materials with cracked matrix, strength 7—46609
cylinder, elastic circular containing cavity or penny-shaped crack, thermal stresses 7—26202
incompressible material, semi-infinite initially stressed body, penny-shaped crack, stress distrib. 7—1486
infinite elastic medium containing penny-shaped crack, stress intensity factors for transient thermal loading 7—20647
inverse crack problem in elasticity 7—43760
porous medium with crack, elastic-hydrodynamic problem of fluid inflow 7—11534
porous-brittle solids, micromechanical model 7—26849

penny-shaped cracks continued
power-law matrix, containing aligned penny-shaped cracks constitutive models 7—37386
time-harmonic elastic wave HF scatt. 7—57759
As_xSe_{100-x}, chalcogenide glass, Vickers microhardness indentation and fracture mechanics 7—21342

pentary algebra *see algebra*

perception (hearing) *see hearing*

percolation
see also lattice theory and statistics
3D continuum percolation systems, nonuniversal behaviour of conductivity exponent, exptl. obs. 7—38656
AC properties of 2D percolation networks, transfer matrix approach 7—14882
amplitude ratios and β estimates from general dimension percolation moments 7—35431
anisotropic 2D square lattice, random hopping model, percolation, diffusion and conductivity 7—61282
annealed disorder, diffusion, continuous time random walk 7—61266
areal micellar polymer flooding calc. 7—6307
asymmetric contact process generalisation 7—29923
binary systems, ionic conductivity, freq. dependence 7—52108
bond-diluted Heisenberg antiferromagnet, spin damping near percolation threshold 7—17194
bond-diluted Heisenberg ferromagnets, spin wave damping near percolation threshold, Green's function calcs. 7—17193
bond-diluted hierarchical lattice, shortest path length distribs. 7—4785
Boolean cellular random nets, phase transitions 7—56171
cluster size distrib. probabilities in Ising model with four-spin interactions 7—64424
clusters, num. methods *(Czech)* 7—4773
complexity of games and percolation on trees of winning strategies 7—48601
composite electroceramics, book contrib. 7—27645
condensed master physics, percolation problems, book contrib. 7—48626
condensed nucleation systems, size effects on glass temp., percolation theory 7—58473
conductivity results with large critical regimes, anal. 7—45256
conformal invariance properties of two-dimensional percolation 7—48608
continuum percolating systems, transport exponents, ϵ expansion 7—4786
continuum problem, estimation of percolation threshold 7—41282
continuum systems, transport props. near percolation threshold 7—41290
correlation inequalities of FKG type for percolation theory 7—14870
critical exponent inequalities in percolation models 7—35451
curvature invariants of random interface generated by Gaussian fields 7—41273
Delaunay percolation networks with topological disorder, renormalisation group approach 7—35434
density of states for quantum percolation problem 7—35391
diffusion noise of fractal networks and percolation clusters 7—35415
diffusion-limited-aggregation in porous medium, effect of morphological disorder on viscous fingers 7—56173
dilute magnetic systems, environmental percolation, large-cell Monte Carlo renormalisation-group calcs. 7—2861
diluted Cayley trees, minimum gap 7—35448
disordered granular superconductor near percolation, phase transitions 7—17140
disordered media, electrical cond. and incoherent excitation transport, self-consistent mode-coupling theory 7—52548
disordered metal-nonmetal mixtures, percolation, anisotropic conductivity, Hall effect, thermopower 7—52555
disordered polycrystalline semiconductor, nonlinear percolation conductivity, alternating electric field 7—58816
disordered systems, finite-size scaling and correlation lengths 7—35464
dispersed ionic conductor, conductivity, percolation model 7—6856
duality principle for percolation in random fields on a plane 7—35469
firm closure, lattice models, percolation on interstices of BCC lattice, bubble age 7—14320
first passage time in 2D, critical behaviour 7—48616
fractal cluster form. by aq. nanodroplets in apolar media, dielec. 7—39921
fractal dimensions at percolation threshold, position space renormalisation group approach 7—48605
fractal property of two-dimensional continuum percolation clusters 7—18716
frontier generating walk in gradient, determination of percolation threshold 7—35440
gelation, 3D kinetic model, critical behaviour 7—14904
generating functions for connected embeddings in simple cubic, BCC lattices, percolation problem 7—24584
glass temp. derivation, condensed nucleation, percolation theory appl. 7—6794
gradient percolation and diffusion fronts in 3D 7—41292
granular metals, conc. depend. of hopping conductivity 7—32969
graphite, powder, elec. resistivity, rel. to degree of comminution 7—45257
hierarchical lattices, geometrical phase transitions and universality 7—41321
hypercube vertices random-walk diffusion, stretched exponential relax., numerical calcs. 7—56175
incipient infinite percolation cluster, diffusion exponents nonuniversality, exact enumeration method 7—4794
infinite cluster at percolation threshold, Monte Carlo renormalisation approach to fractal dimensions 7—35439
inhomogeneous cellular automata, annealed and quenched, phase transitions 7—48613
ion-implanted polymers, fractal elec. cond., current transients, percolative transition calcs. 7—2645
Ising ferromagnet, surface effects, mean field renormalisation group study 7—12982
kinetic gelation, spatial correlations 7—35446
kinetic gelation clusters in 3D anomalous diffusion, random walks 7—61279
low field Hall effect, self-dual fractal models near percolation threshold 7—12699
metal sheets with randomly drilled holes, nonuniversal critical behaviour meas. 7—45259
metal-H system, internal grain-boundary crack opening by H *(Russian)* 7—33764
metal-insulator composite mean-field theories, DC cond. and percolation threshold calcs. 7—45253
model of inhomogeneous anisotropic medium 7—1624

percolation continued

- model suspensions, 2D, non-interactive rigid spherical particles, numerical soln. *(French)* 7—8306
- multifragmentation, cluster size distrib. in percolation model 7—19226
- neutral particle suspensions, liquid-solid transition 7—8310
- nonlinear resistor networks, resistance noise 7—56162
- nonlinear response in percolation systems 7—18711
- nuclear fragmentation, cluster distributions, lattice model anal. 7—24950
- one dimensional percolation models, percolation density discontinuity 7—48592
- paramagnetic zero-field susceptibility, modified power law study 7—45612
- percolation backbone, three-dimensional, single-connected links, distribution fn. anal. 7—56174
- phase separation, cluster kinetics and self-similar structure functions 7—44836
- phase transition, sharpness in percolation models 7—61255
- polycarbonate-C black composites, TEM obs. of percolation threshold 7—12771
- polyvinyl alcohol/polyvinyl acetate/carbon black composites, thermal currents meas. 7—45920
- porosity, conductivity fluctuations and the amplitude of the long-time tail 7—35478
- porous medium, percolation with trapping 7—14881
- Potts model, cluster-size distrib. and mag. props. 7—33136
- Potts models, crit. dynamics at percolation threshold 7—29917
- PVC-poly(1,3-propylene phosphate) membrane, cond. percolation 7—33958
- quenched random media, size effects of electric breakdown 7—2974
- α-quinquethiophene-stearic acid: I Langmuir-Blodgett films, elec. cond. 7—33106
- random fractals, Debye-Huckel theory, appl. to percolation clusters 7—212
- random honeycomb network, 2-D, rigid and nonrigid bonds, universal Poisson's ratio 7—44647
- random nonpercolating conductor networks, insulation breakdown calcs. 7—58744
- random resistor and random supercond. networks, multiscaling approach 7—17000
- random resistor fractal networks, infinite set of exponents 7—236
- random resistor-capacitor networks, anomalous transport, appl. to composite materials 7—27312
- randomly diluted nonlinear resistor networks, series anal. 7—4787
- randomly diluted resistor network, resistance fluctuations calcs. 7—64193
- reactor core coolant channels, coherent blockages, statistical thermodynamics, percolation anal. 7—36194
- regular-random fractal model for cluster numbers and structure in percolation 7—35427
- resistor-diode percolation on the hierarchical diamondlattice, real space renormalization group anal. 7—243
- ring dynamics and percolation in an excitable medium 7—28277
- self-avoiding walks on random lattices, scaling theory 7—48563
- semi-infinite ferromagnetic q-state Potts bulks separated by bond diluted interface, criticality 7—33179
- series expansion derivation for percolation processes 7—24585
- simple cubic lattice, 3D percolation threshold estimates, Monte Carlo simulation 7—35435
- site percolation in a honeycomb lattice, renormalisation group calcs. 7—9798
- solid ortho-para H_2 mixtures, local orientational ordering near site percolation threshold 7—38297
- spin glasses, finite coordination number, mean field theory 7—45695
- spreading phenomena in which growth sites have a distribution of lifetimes 7—35438
- square lattice, site percolation and elastic props. 7—261
- square-well fluid, percolation behaviour, num. procedure 7—26603
- statistical mechanical systems, critical behaviour and random walk representations 7—48532
- steel, stainless, passivation pot., Cr content depend., percolation model 7—22879
- strongly disordered systems, conductor-insulator transition 7—64087
- superconducting-normal metal networks, noise exponent 7—38652
- surface, percolation clusters and fractal dimension 7—14867
- thick-film resistors, conduction threshold, segregation effects, percolation model 7—27372
- threshold percolation density in strongly correlated lattice systems 7—14895
- thresholds and critical indices 7—29913
- two-dimensional percolation, Ising-like critical phenomena 7—24581
- two-dimensional percolation clusters, fractal dimension of hull, Monte Carlo calcs. 7—241
- two-dimensional site-percolation model, diffusion and long-time tails, vel. autocorrel. function calcs. 7—24606
- viscous fingers and diffusion limited aggregates near percolation 7—16252
- Al-Ge mixture, H implanted, evidence for metal-insulator transition in Al 7—2483
- Al_2O_3-Na_2O, beta-type ionic cond., mixed alkali effects, percolation model 7—12355
- Au, discontinuous films, percolation metal-insulator transition, nonlinear behaviour 7—45156
- Au on NaCl, elastic surface wave anomalies near cluster to layer transition 7—21606
- $(CSe_2)_x$, poly(carbon diselenide), metallic conductor, characterisation 7—2595
- $Co_xMg_{1-x}O$, Neel temp., var. with mag. dilution 7—27516
- Cu sintered powder, ultrasonic attenuation meas., phonon-fracton crossover 7—2105
- Cu two-dimensional systems, lattice and continuum percolation transport exponents 7—45275
- FeO-PbO-P_2O_5 glasses, atomic environments, EXAFS studies 7—64787
- Ge-Se-As glasses, elastic constants, rigidity percolation 7—44648
- $(Ge_{1-y}Sn_y)_{1-x}Se_x(S_x)$ glasses, percolation transition and strain accumulation 7—11939
- Hg injection into porous media, elec. resist. devil's staircase, fluid displacement kinetics and thermodynamics 7—44041
- I_2-KI-S_8 melts, percolative cond. calcs. 7—6845
- In-Ge thin films, anomalous structures 7—21733
- Mo-Si amorphous alloys, cluster formation and percolation 7—27455
- Pb, superconducting granular film SAW attenuation, percolation model 7—2781

percolation continued

- $Rb_{1-x}(ND_4)_xD_2PO_4$, NMR in random fields, cluster formation and local dynamics of D glass 7—38959
- Si:As, ion implanted, electronic transport props. 7—7233

performance evaluation

- *used for computer equipment performance*
- *see also queueing theory*
- optical videodisk system for visual performance testing with stereoscopic TV displays 7—60129
- SIMPLE hydrodynamics benchmark, restructuring for CHiP architecture 7—16145

periodic system of elements

- *see also elements (chemical)*
- No entries

peripheral controllers *see computer interfaces*

peripheral models

- *see also multiperipheral models*
- meson-exchange currents in time-like axial-charge transitions 7—56532
- $dp \to ppn$, 3.3 GeV/c, enhancements in two-proton invariant mass distrib. 7—49179
- NN symmetric Lorentz invariant scatt. amplitude, Yukawa representation 7—41830
- $\nu d \to epp(e^+nn)$, exchange currents effects, solar neutrino problem soln. 7—56537
- $pp \to pn\pi^+$ at 800 MeV, one-pion exchange model and Faddeev eqn. 7—41846
- $^2H(\nu,e^+nn)$, exchange currents effects, solar neutrino problem soln. 7—56537
- $^2H(\nu,ep)^1H$, exchange currents effects, solar neutrino problem soln. 7—56537
- $\Lambda N \to NN$, nonmesonic hypernuclei decay, meson exchange anal. 7—41933

peripheral speed *see velocity*

peristaltic flow

- biological peristaltic pumping, effect of peripheral layer viscosity 7—54661
- intraluminal pressure in modelling and analysis of peristalsis *(Japanese)* 7—47147
- wetting films on fibres, peristaltic instability *(French)* 7—32751

peritectic transformations *see decomposition*

Permalloy

- disk, cylindrical magnetic bubble dynamics calcs. *(Russian)* 7—17210
- evaporated films, induced mag. anisotropy, thickness depend. study 7—7562
- evaporated films for a back layer of perpendicular mag. recording media, origin of high coercivity 7—27578
- films, domain motions and instabilities, magneto-optic observation 7—53095
- films field induced uniaxial anisotropy, thickness depend. 7—53086
- multilayer film, thickness and composition meas., X-ray fluorescence algorithms 7—54249
- thin film sensor, magnetostriction, magnetoresistive response 7—7211
- thin films, mag. anisotropy, angular spatial dispersion *(Russian)* 7—2905
- thin films heads, RF sputtered, mag. props. 7—33235
- CoCr Permalloy films, weather resistance 7—28183
- Mo permalloy films, mag. domain walls stability, external mag. field, Lorentz microscopy 7—45780
- Ni-Fe-In ternary Permalloy electroplated films, mag. props. and thermal stability 7—33236
- Ni-Fe-Mo/*a*-Tb-Fe bilayer films, unidirectional anisotropy 7—59065
- Ni-Mo-Cu-Fe-Mg, coarse-grained PC permalloys, annealing-twin density *(Japanese)* 7—3330
- $Ni_3(Fe,Nb)$, order-disorder transformation, positron annihilation study 7—39509
- NiFe/SiO_2/CoPt multilayer magnetoresistors sensitivity anal. 7—48786
- Ni_3Fe, order-disorder transformation, positron annihilation study 7—39509
- Ti-N-Permalloy ferromag. multilayers, prep. and props. 7—64497

permanent magnets

- BESSY multipole magnet, electron opt. props. and electron trajectories 7—42254
- cylindrical symmetric field shaping 7—50448
- Faraday isolator, simple compact high performance permanent magnet 7—31437
- field source for circularly polarised radiation production via helical FEL 7—31349
- free electron laser EUV, three-dimens. simulation 7—43131
- hybrid undulator, high field strength wedged-pole 7—56310
- insertion device Beam Line Wunder design at SSRL 7—42256
- insertion device performance in ESRF 7—42251
- insertion devices, future developments, limitations 7—42257
- insertion devices, variational theory 7—42879
- linear periodic magnets using permanent magnet segments, wigglers and undulators 7—5514
- linearly polarized undulator for UCSB free electron laser, laser gain depression 7—1126
- magnetics, conf., Japan (Nov.1985) 7—24259
- magnetics conference, Phoenix, AZ, USA (April 1986) 7—29572
- materials, props., struct., exchange interactions 7—53053
- misch metal-Fe-B melt-spun magnets, mag. and structural props. 7—53032
- multipole, mag. fields calc. 7—30044
- multipole field generation using permanent magnets 7—49763
- polycrystalline permanent magnet, texture influence on coercive field strength computation *(German)* 7—2902
- random magnets, basic concepts, review 7—7485
- rare earth high energy product permanent magnets, magnetising and B/H hysteresis loop meas. 7—53046
- rare earth-Fe-B alloys, sintered permanent magnets, depend. of coercivity on anisotropy field 7—45744
- rare earth-iron-boron permanent magnet materials, prep. and props., book contrib. 7—27981
- rare earth-transition metal alloy permanent mag. materials, 1960-85 bibliography 7—14726
- relativistic electron beams, periodic permanent magnet field-transport 7—57226
- steering magnets, analytical expressions *(Chinese)* 7—10324
- structures for whole-body NMR diagnostics 7—54799
- transverse helical field production 7—50449
- undulator, linear, variable gap permanent magnet, for ENEA free electron laser expt 7—43151
- undulator, long, evolution of radiation beam system 7—42880

permanent magnets continued
undulator, short period, design and performance 7−42252
undulator, soft X-ray, performance predictions 7−42876
undulator magnets, systematic selection using simulated annealing 7−31229
uniform field production up to 2.6T 7−9852
variable gap permanent magnet linear undulator for ENEA-FEL expt. 7−1191
wiggler, NdFe-steel hybrid permanent magnet, development for insertion in SPEAR ring 7−42250
wiggler for IR FEL and coherent harmonic generation 7−31352
CoR alloys, R=rare earth, permanent quadrupole magnets, construction and calcs. 7−19578
Fe-Cr-Co permanent magnetic alloys, casting 7−53051
Fe-Cr-Co-Mo permanent magnet ribbons, mag. props., influence of modulated structure 7−53043
Fe-Cr-Co-Si-Ti, permanent mag. alloy, ductile, effect of heat treatment on mag. props. *(Korean)* 7−8137
Fe-Cr-Co(-Si), permanent magnet alloys, microstruct., mag. props., Si content effect 7−22117
Fe-Dy-C high coercivity permanent magnet materials 7−2903
Fe-Nd-B magnets, microstructure and mag. props. 7−53049
Fe-Nd-B permanent magnets, prep. by liquid dynamic compaction 7−53661
Fe-Nd-B system, phase relations 7−46422
Fe-Nd-B-Al sintered magnets, TEM studies 7−51999
Fe-Pt (36 at.%), cryst. struct., permanent mag. props. *(Japanese)* 7−53036
Fe-R-B (R=rare earth) metallic glass permanent magnets, TEM studies 7−26661
Fe-R-B (R=rare earth) metallic glass permanent magnets, struct. and mag. props. 7−27565
FeAlNiCoCu permanent magnetic material, phase decomposition kinetics, atom probe FIM study 7−33669
$Fe_{14}Nd_2B$ magnets, high-field magnetostriction 7−53104
$Fe_{14}Nd_2B$ permanent magnet, Dy substituted positron annihilation studies 7−3108
$Fe_{76}Nd_{16}B_8$ plasma sprayed permanent magnets, characts. 7−45754
$Fe_{77}Nd_{15}B_8$, sintered permanent magnets, domain wall obs. 7−27544
$Fe_{77}Nd_{15}B_8$-based melt spun ribbons, crystallisation and mag. props. 7−26662
FeNiAlCoTiCuS permanent magnetic material, phase comp. and ordering, atom probe FIM and TEM studies 7−33635
FeR alloys, R=rare earth, permanent quadrupole magnets, construction and calcs. 7−19578
Mn-Al-C, anisotropic permanent magnet, rotational hysteresis 7−53050
Nd-Dy-Fe-B-based sintered magnet, microstruct., heat treatment effects 7−53767
Nd-Fe-B, metastable amorphous alloys, crystn., thermal stability 7−39482
Nd-Fe-B, microstructure, scanning tunnelling microscopic studies 7−58494
Nd-Fe-B, permanent mag. alloy, Mossbauer spectroscopic study *(Chinese)* 7−7613
Nd-Fe-B, phase diagram, permanent mag. anal. 7−39486
Nd-Fe-B based permanent magnets, hysteresis loop and mag. anisotropy 7−53031
Nd-Fe-B permanent magnet, microstructure and coercivity 7−27559
Nd-Fe-B permanent magnets, prod. by hydrogen decrepitation/attritor milling route 7−22606
Nd-Fe-B permanent magnets, BCC phase mag. props. at grain boundaries 7−53044
Nd-Fe-B rapidly solidified permanent magnet materials, magnetisation processes and domain wall motion 7−38902
Nd-Fe-B rapidly solidified ribbons, magnetisation, quench rate depend. 7−53034
Nd-Fe-B system, permanent magnet, mag. props *(Korean)* 7−7554
Nd-Fe-B-Co-Al based permanent magnets. mag. props. and temp. characts. 7−53045
NdFe alloys, magnetic moment irreversibility from temperature cycling 7−33194
NdFe-steel hybrid permanent magnet wiggler development for SPEAR ring 7−42250
$Nd_2(Fe_{0.67}Al_{0.33})_{14}B$, reduction of mag. hyperfine fields and Curie temp. on Al substitution, Mossbauer spectra 7−38859
NdFeB, anisotropic permanent magnet, prep. and investig. 7−52969
$Nd_{15}Fe_{77}B_8$ permanent mag., rotational hysteresis energy and magnetisation reversal 7−64492
$Nd_2Fe_{14}B$, EFG tensor for interpretation of Mossbauer effect meas. near spin reorientation temp. 7−38968
$Nd_2Fe_{14}B$, elastic props. between 120 to 300K 7−27529
NdFeBCoAl magnets, Curie temp., coercive force and magnetisation 7−52982
$Nd_2Fe_{14-x-y}Co_xAl_yB$ alloys, permanent mag. props. 7−45755
$Nd_2Fe_{14-x}M_xB$, (M=Co,Ni,Cu,V,Al,Cr,Mn), crystallographic and mag. props. 7−27522
$Nd_2(Fe_{0.67}Si_{0.33})_{14}B$, reduction of mag. hyperfine fields and Curie temp. on Si substitution, Mossbauer spectra 7−38859
NdHoDyFeB permanent magnets with zero temp. coeff. of induction 7−53047
$Nd_2(Y_2)(Fe_{1-x}Al_x)_{14}B$, intrinsic and permanent mag. props. *(Chinese)* 7−13003
$PrCo_5$, microstructure and coercivity, effect of annealing, 650-850°C 7−38905
R-Co alloys, magnetic moment irreversibility from temperature cycling 7−33194
Sm-Co-B rapidly quenched ribbons, hard mag. props. and struct. 7−53048
Sm-Co-Fe-transition metal permanent magnets, magnetisation 7−53033
$Sm_2(Co, Fe, Cu, Zr)_{17}$ sintered compact permanent magnet, mag. props., comp. and heat treatment effects *(Korean)* 7−2894
SmCo linear undulator for ENEA free electron laser expt., dipole moment meas 7−43151
$SmCo_5$ aligned deposits, plasma spraying 7−39371
$SmCo_5$, anisotropic permanent magnet, prep. and investig. 7−52969
$SmCo_5$ hybrid undulator, high field strength wedged-pole 7−56310
$SmCo_5$ powder magnet, texture form. in alternating and steady mag. fields 7−27977
$Sm_2(CoCu)_{17}$ magnets, cast, coercivity and microhardness 7−53880

permeability
basalt-bentonite mixtures, waste packing material, diffusion of tritiated water and chloride 7−40057
bilayers, hole-mediated stability and permeability 7−8507
bronze, powder particle shape effect on stability props. 7−7927
cell membrane permeability and cell inactivation of transformed mouse fibroblasts, heat-induced alterations 7−47023
cellulose membrane, permeation of tartrazine 7−6881
clay soil, filtrational prop. form., adsorbed H_2O struct. role 7−51297
clays, fracture permeability study for radioactive waste repositories 7−10293
elastic wave attenuation in rocks containing fluids 7−6718
gap junctional cond., linear relationship with permeability, frog blastomere obs. 7−40127
Hastelloy X, H_2 permeation in high temp. alloys, oxide layer effects *(German)* 7−30568
heterogeneous media, spatial correlation functions from computer simulations 7−18692
HT-9, stainless steel, tritium permeation props. 7−38239
Incoloy 800 H, permeability of ^3H and H in heat exchanger tubes *(German)* 7−56759
Inconel 600, H permeation studies for fusion reaction 7−5435
Inconel 617, H_2 permeation in high temp. alloys, oxide layer effects *(German)* 7−30568
liposome vesicles, mag. field-induced drug permeability 7−40213
lung permeability measurement in nonsteady state using tracers 7−54802
membranes, MK-40, with electrodeposited basic polyelectrolyte films, permselectivity 7−13803
metal species, coupled transport through supported liq. membranes 7−54176
Neoprene/styrene-butadiene rubber laminates, water permeation study 7−12374
PCA, austenitic steel, tritium permeation props. 7−38239
PET membranes, permeability and struct. in adsorpt.-active medium *(Russian)* 7−28347
poly 2-hydroxy ethyl methacrylate films, swollen membranes, phenylalanine solute diffusion 7−28343
polyethylene, porous, struct. investig. by contrast variation X-ray scatt. *(Russian)* 7−63521
polyethylene-polyacrylic acid copolymer, radiation grafted, struct.-morphology, obs. *(Russian)* 7−16452
polymer films, multicomponent gas permeation, meas. method 7−51304
polypyrrole salt films, conductivities, acid and base effects 7−12893
polyvinyltrimethyl silane, membrane, asymmetric, gas permeability, temp. depend. *(Russian)* 7−17822
polyvinyltrimethylsilane membranes, modified by acrylonitrile, gas permeability and diffusion *(Russian)* 7−8301
porous materials, fluid permeability, SEM images, digital image anal. 7−4923
rock, porous, permeability, percolation concept anal. 7−47436
rocks, crystalline, pore vol. and transport prop. changes during press. cycling 7−40471
shield-vacuum heat insulation, gas permeability 7−44038
steel, austenitic, fusion reactor first wall material, H permeability study 7−62058
steel, austenitic stainless, D permeability, He irradiation effects 7−2267
steel, mild, H diffusivity meas. using electropermeation transients 7−22903
transmembrane ionic channels, permeability rel. to pore mouth charge distrib. 7−59941
vascular permeability, changes following thorax irrad. in rats 7−8665
Al_2O_3 film, transparent, growth from ultrafine alumina sol characteris. 7−13395
Al_2O_3 porous ceramics, elec. cond. and fluid flow permeability correls. 7−38566
Au layer plated on stainless steel, tritium permeation meas. 7−6852
Fe, H pumping and compression by superpermeation 7−58543
Fe, permeation of H(D), oscill. press. effects 7−27025
Fe:H(D), lattice strains, meas. 7−2268
H permeation through metal membranes *(German)* 7−57971
H-permeation and recycling, molecular chemisorption model 7−8302
K^+ permeability of resting membrane, rel. to excitable K channel 7−40112
Ni alloys, thin oxide films for H barriers, growth study 7−2434
Ni, H permeation, diffusion and surface rate coeff., press.-modulated absorpt.-desorpt. 7−58612
Ni, permeation of H(D), oscill. press. effects 7−27025
O_2, permeation behaviour in polystyrene-based polymers, bulky substituents effect 7−10796
Pd, H permeation, diffusion and surface rate coeff., press.-modulated absorpt.-desorpt. 7−58612
Ra, permeability studies, automated multisensor apparatus 7−6349
V surface, S segregation, effect on H permeation, AES anal. 7−32660

permeability (magnetic) *see magnetic permeability*

permeability measurement (magnetic) *see magnetic permeability measurement*

permeable base transistors *see bipolar transistors*

permittivity
see also electric strength
7−33321
= 7−1986
acetanilide, dielectric const. meas., effect on energy transport 7−59137
acetonitrile-cyclohexane-benzene, crit. solns., nonlinear dielec. effect obs. 7−53213
agar phantom electrically adaptable for tissue simulation in 5-40 MHz range, hyperthermia cancer treatment 7−65713
aggregated soils, microwave diel. models 7−23649
n-alcohols, IR intensities in liq. phase, OH vibrs., assoc. model 7−53336
alkali halide mixed crystals, electronic dielectric const. and fractional ionic character of chemical bond 7−2966
alkali halide mixed crystals, phys. props., review 7−37943
alkali halides, aq. solns., ion hydration, dielec. props., microwave spectrosc. obs. *(French)* 7−54111
alkali halides, powdered, electrophysical investigation during molding 7−7232
alkaline earth halides, aq. solns., ion hydration, dielec. props., microwave spectrosc. obs. *(French)* 7−54111
n-alkanes C_6-C_{20}, nonpolar liqs., viscous flow, thermodynamic activation functions 7−6341
4-4′-alkoxybenzoyloxy-4′-cyanoazobenzenes, monolayer smectic A_1-nematic transition, dielec. studies 7−21085

permittivity continued
N-alkyl aliphatic amide mixtures, dielec. constant 7—27648
n-alkylamine-n-dodecane systems, static dielec. consts. and excess molar enthalpies 7—59134
4-(trans-4′-n-alkylcyclohexyl) isothiocyanatobenzenes, mesogenic props. 7—1852
alumina, neutron irrad., permittivity and dielec. loss studies 7—33321
aluminosilicate oxynitride glasses, dielectric studies 7—55917
ammonium hydrogen-DL-malate monohydrate, dielec. and pyroelec. props. 7—59138
amorphous semiconductors, optical absorpt., tight-binding model 7—45961
benzene, liq., absorpt. coeff. and dielec. const., bandshape expressions 7—64597
benzonitrile-hexane, binary solns., pseudospinodal curve, nonlinear dielec. effect 7—53212
bi-tetramethylammonium copper tetrachloride, phase transitions, microwave permitt. meas. 7—2184
biferrocene, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7—25507
biferrocenium hexafluorophosphate, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7—25507
biferrocenium triiodide, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7—25507
bounded crystals, exciton polarisation, spatial dispersion effects 7—17286
((bpy)$_2$ClRu)$_2$pyz(PF$_6$)$_2$, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7—25507
bubbles, maximum size during nucleate boiling in elec. field 7—50918
N-(p-n-butoxybenzylidene)p-n-butylaniline, nematic, mol. alignment, permitt. meas. 7—1875
ditert.-butyl malonate in dioxane-water media, acid-catalysed hydrolysis, kinetic and mechanistic studies 7—39884
C thin films, RF discharge deposition, mech., elec. and optical props. 7—22509
calcium tartrate single crysts., dielectric props. rel. to X-ray on γ-ray irrad. 7—59161
carnauba wax, magneto-electret, surface charge density and dielec. const. 7—22126
CE8, liquid crystalline, chiral and racemic, audio frequency dielectric response 7—33318
centrosymmetric media, sum-freq. generation, local-field corrections 7—15946
chlorobenzene-nitrobenzene mixtures, dielectric absorpt. meas. in microwave region 7—53211
chloroform, liq., absorpt. coeff. and dielec. const., bandshape expressions 7—64597
cholesteryl oleate, isotropic-blue phase transition, nonlinear dielectric effect meas. 7—12272
composite materials, dielec. function, momentum depend. effective medium approach 7—27281
crown ether-NaSCN complex, tetrahydrofuran solvent, IR and microwave dielectric spectro anal. 7—31027
crustal regions shallow sounding using EM surface waves 7—14193
cycloaliphatic epoxy resin, ageing, irradiation environmental conditions effect 7—33707
dielectric relax., thermal noise correl. anal. 7—22186
dielectric surface-relativistic electron beam interaction, expt. investig. 7—44195
diglycine nitrate, alanine-doped, dielectric props. 7—45908
diglycine nitrate, dielec. const. and spontaneous polarisation anisotropy 7—45914
1,2-diol solns. with water or electrolytes, dielectric props. 7—13080
dioxans with dimethylene linking groups, liquid crystalline props. 7—1854
dipolar fluid, effective pair pot. for orientational correls. in elec. field 7—37826
dipolar hard sphere mixtures, dielectric const., Monte Carlo simulation 7—45911
disaccharide maltose monohydrate, water binding modes, TSC meas. 7—38997
disordered 2D system, AC cond., anomalous permitt. 7—45406
disordered systems, activated processes, logarithmic scaling and 1/f noise power spectrum 7—61248
DNA liquid cryst. microphases in water-organic solns., optical props. 7—65709
electroceramic composites, props. and struct. 7—64558
electrolyte solutions, ionic props., mol. dynamics simulation 7—44331
epoxy resins, cured, with perfluorobutenyloxy group, dielec. props. 7—53222
epoxy resins, polymerisation kinetics, dielectric behaviour anal. *(French)* 7—46847
ferroelectric ceramics, electromagnetic wave scatt. from dielec. permittivity tensor inhomogeneities 7—7629
ferroelectrics, relaxation, dielectric and thermal props. at low temps. 7—13102
ferroelectrics, unstable point domains 7—17280
fibre-reinforced composites, bounds on properties 7—7301
fluorite struct. crystals, phys. props., effective pot. calcs. 7—26692
fluorobiphenylalkane nematics, physical and mol. props. 7—38983
glass, dispersion eqn. for complex dielectric constant and dispersion analysis of reflection spectra 7—2962
glucose, water mixtures, liq. and glassy states, dielectric relaxation study 7—33325
heterogeneous ceramics, processing for dielectric appls. 7—64984
hexamethyldisiloxane films, plasma polymerised, dielec. props., complex permitt. 7—33316
ice:RbOH, phase transition, dielec. studies 7—53220
ice clathrate containing tetrahydrofuran molecules, transformation on compression at 77 k 7—37862
II-VI semiconductors, refractive index dispersion and two-mode refl. spectra behaviour calc. model *(Russian)* 7—45971
insulating material, inception voltage of discharges in voids 7—53236
insulators, charged by electron beams in electron microscope, electrostatics 7—41540
inverse scattering analysis using renormalisation techniques 7—62598
ion-implanted polymers, fractal elec. cond., current transients, percolative transition calcs. 7—2645
ionic crystals, electronic polarisabilities and photoelastic behaviour 7—44444
large dimensionality spaces, Bethe lattice, localisation length and dielec. const. calcs. 7—52384
linear magneto-optical effect anisotropy in dielectric cryst. 7—39092
liquid dielectric, field-stimulated isothermal diffusion calcs. 7—63855

permittivity continued
lithium hydrogen dimalate, dielectric const., pyroelectric coefficient 7—38989
magneto-optical permittivity tensor in crystals 7—53279
magnetooptic multilayer films, permittivity tensor, photoelastic modulated ellipsometry 7—41426
marble, temp. effect on dielec. behaviour at 1 kHz 7—47434
metal films, enhanced IR absorption of adsorbed molecules, electromagnetic effect 7—27805
metallic crysts., magneto-optical Kerr effect, charge carrier plasma reson. enhancement calcs. 7—45997
metals, dielec. const. giant quantum oscills. under coherent magnetic breakdown *(Russian)* 7—53216
methyl iodide, liq., absorpt. coeff. and dielec. const., bandshape expressions 7—64597
mica-epoxy composite dielectric strength obs. 7—64570
microwave reflectometry, frequency-domain, image reconstruction, parameter identification, simulation tools appl. 7—65834
multilayer mirrors, reflectivity, roughness effects 7—42908
nematic liq. crystals, molecular association, influence on dielectric and electro-optic props. 7—16407
nematic liq. crysts., thermoelectrical effects, temp. depend., contact pot. effects *(Russian)* 7—21945
nitrobenzene-hexane, binary solns., pseudospinodal curve, nonlinear dielec. effect 7—53212
nonlinear media, propagation of TM modes 7—20110
nonpolar liquids, permittivity meas., mol. polarisability determ. *(French)* 7—53217
octylcyanobiphenyl, liq. cryst., elastic consts., permitt., birefr. meas. 7—21314
optical breakdown, equilib and nonequilib. absorpt. mechanisms in steady wave 7—45933
optical interference coatings, synthesis, optimisation *(Russian)* 7—22375
orthoferrites, mag. and dielec. props. at submillimetre wavelengths 7—38990
bis-(p-toluene sulphonate) of 2,4-hexadiyne-1,6-dial, polymer single crystal, permittivity, phase transition 7—51663
perfluoromethylcyclohexane-carbon tetrachloride, liq.-liq. critical point, dielectric const. 7—13079
periodic composite materials, effective transport props., multipole coeffs. 7—32974
photoconductor-liq. crystal rectifier, liq. crystal dielectric anisotropy, low-freq. inversion effect 7—45395
plane waveguide, randomly irregular, mean-field modes 7—50743
PMMA/polystyrene double layer system, dielec. const. and loss factor, temp. and freq. depend. 7—22190
polar liquid dielectrics, mag. field effects 7—13072
polar liquids, 1-parameter model of dielectric relax. 7—27653
polar liquids, dielec. parameters at 9.2 GHz 7—13073
polar liquids, dielec. permittivity, mol. shape and polaris. anisotropy 7—17258
poly(ethylene terephthalate), irradiated, phys. and dielec. props. 7—33332
poly(propylene oxide), glassy and liq. states, water effect on dielectric props. 7—38987
poly (N-benzyldiphenylaminomethane) film, synthesis, elec. and optoelectronic props. 7—45384
polycarbonate films, pure and N-isopropylcarbazole doped, low freq. relative permittivity temp. depend. meas. 7—27666
polyester fibre-epoxy resin insulator, prebreakdown space charge injection meas. 7—39017
polyester resins, polymerisation kinetics, dielectric behaviour anal. *(French)* 7—46847
polyethylene, cross-linked, C black composites, permittivity, percolative model 7—45913
polyethylene, exfoliated graphite filled, elec. props. 7—38986
polymer liq. cryst. solns., optical microscopy, Freedericksz transition, permitt. meas. 7—1864
polymers, dielectric dispersions, complex plane, anal. methods 7—22176
polymers, highly conjugated, giant nomadic polarisation investig. 7—7635
polymers, piezoelectricity, elec. cond. effects, three-phase model calcs. 7—33336
polyoxy-(allyl)phenylene electrochemically prepared film, elec. props., permittivity and solubility 7—27665
polypropylene, irradiated, phys. and dielec. props. 7—33332
polypropylene oxide 4000, liq. and glassy states, dielec. props. 7—17266
polypropylene oxide 4000, liq. and glassy states, dielec. relax. and permittivity 7—13083
polypropylene oxide in toluene, dielec. relax. in liq. and glassy states 7—7638
polystyrene blends, secondary relax. dielec. props., memory effect 7—53221
polyurethane-CaCO$_3$ composites, segmented, dielec. relax., glass transition 7—45926
polyvinyl methyl ether, chain motions, dielec. props. 7—45928
o-positronium, quenching reactions, solvent dielec. const. role 7—54077
precision millimetre wave meas. in birefringent and ceramic materials 7—14978
propylene carbonate-1,2-dimethoxyethane mixtures in electrolyte solns., dielectric props. 7—33322
4H-pyran-4-one, derivatives and related S cpds. aromaticity, dipole moment anal. 7—22177
pyrimidines with dimethylene linking groups, liquid crystalline props. 7—1854
quantum sine-Gordon system with single impurity, dielectric constant 7—38530
quartz, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7—7632
relative dielectric constant dispersion at low and super-high frequencies, determ. 7—48774
Rochelle salt, phase transition dynamics 7—21367
Rochelle salt crystals, low temp. relaxational soft made transforms., dielec. spectra meas. 7—17279
Rochelle salt crystals grown from carbamide-containing soln., dielec. props. study 7—64557
Rochelle salts, ordinary and deuterated, polydomain crysts., low freq. dispersion of dielectric const. near phase transition points 7—22174
rocks, brine-saturated, dielectric response, analytical model 7—22203
rocks, porous, brine saturated, permittivity freq. depend., Bergman-Milton theory of bounds appl. 7—23635
rotators, 2D and 3D, with permanent elec. dipoles, dielec. function 7—2963

permittivity continued
rubber, anisotropic sheets, complex permittivity tensor meas. and refl. characts. study 7—33317
semi-insulators, low-freq. dispersion phenomena anal. 7—38991
semiconductor cubic crystals, magneto-optic anisotropy induced by spatial dispersion 7—17307
simple cubic lattice of conducting mag. spheres, mag. permeability 7—45742
simulated sea ice, SHF dielec., struct. and salinity props. 7—23660
smectic A-smectic A transitions, density dielec. and X-ray studies 7—2196
solid solution, dielectric constant calcs. 7—59136
styrene-butadiene rubber, C-black loaded, elec. props., effect of gamma irrad., dosimetry appls. 7—33006
superlattices, inverse dielectric function, local field effects, spatial dispersion 7—52489
superlattices, photoelastic, elastic and dielectric consts. in long wavelength regime 7—33361
TCNQ salt, $MPht(TCNQ)_2$, ion-radical salt, spin ordering 7—64442
TCNQ salts, semiconducting, dielec. response in submillimetre range 7—45916
tetraethyl ammonium MX_4 compounds (MzCo,Zn,Mn;X=Cl,Br), structural phase transitions 7—44801
tetrahedral solids, semicond., dispersion of linear optical props., empirical tight-binding calc. 7—45966
TGS, uniaxial ferroelec., transition under nonequilibrium conditions 7—13107
TGS crystals, nitro-aniline doped, dielec. and piezoelec. props. 7—22192
TGS crystals, polarisation relax., defect effects 7—17265
TGS crysts., paraelec. phase, gamma irradiated, nonlinear dielec. props. studies 7—53214
TGS-L-α-alanine admixture, dielec. props., influence of rejuvenation process 7—33339
thin layered superlattices, effective dielectric and photoelastic constants, determ. 7—53268
toluylaldehydes, mobilities, microwave and far IR complex permittivities meas. 7—53218
22-tricosenoic acid multilayers, optical consts. 7—22372
triglycine selenate crysts., dielectric props. at high hydrostatic press. 7—7631
trimethylammonium nanochlorodiantimonate, high freq. dielectric dispersion 7—53223
tris(trimethylammonium)Sb_2Cl_9 single crysts., dielec. and pyroelec. props. study 7—53210
tris (dimethylammonium) nonachlorodiantimonate, ferroelectric phase transition 7—33345
tris-sarcosine calcium chloride, deuterated, ferroelectric props. 7—39050
tris-sarcosine calcium chloride, dielectric dispersion 7—2965
two dimensional, electron gas, partially occupied Landau level, dielec. const. RPA calcs. 7—64139
ultradisperse matrix mixture, optical props., struct. anisotropy effect 7—31250
vinylidene cyanide-vinyl acetate alternate copolymer, dielec. relaxation 7—7639
water, liquid network structure model 7—11878
water-oil microemulsion, critical dielectric behaviour of micellar water below cloud point 7—2964
9H-xanthen-9-one derivatives and related S cpds. aromaticity, dipole moment anal. 7—22177
$Ag_8HgS_2I_6$, superionic cpd., electrical and mechanical relax. 7—44900
AgI, submillimeter cond., permitt. spectra meas. 7—44901
$AgNO_3$, metastable phase III, ferroelectricity 7—39052
Al island films, optical props., Maxwell Garnett and Hampe-Shklyarevskii theories 7—3102
$Al/Al_2O_3/Au$ thin film struct., dielec. props. meas. and equivalent circuit anal. 7—17115
Al-Dy_2O_3-Al thin-film sandwiches, dielec. polarisation props. 7—38772
Al-ethyl alcohol interface, surface polaritons, four-wave mixing 7—43244
Al_2O_3, electrical props., radiation effects 7—52617
Al_2O_3 insulating thin films, normal press. CVD *(German)* 7—59453
Al_2O_3-CaO cement-glass microsphere composites, relative dielectric permittivity 7—33319
Al_2O_3-SiO_2-CaO glasses containing rare alkali oxides, struct. and elec. props 7—6528
Al_2O_3-Ta_2O_5 thin films, dielec. props. rel. to electrolum. display appls. 7—2975
$AlP(As)O(S)_4$, dielec. const. meas. w.r.t. bond ionicity *(French)* 7—38988
α-$AlPO_4$, berlinite, piezoelec. and elastic props., effect off defects on phys. props. 7—51909
Ar crystal, dielec. const., density depend., in-cryst. polarisability calc. 7—22175
AsF_5-graphite, intercalation compounds, staging phenomenon studied using Ising model 7—58464
BN, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7—7632
$BP(As)O(S)_4$, dielec. const. meas. w.r.t. bond ionicity *(French)* 7—38988
Ba ferrite filled styrene-isoprene-styrene composite, dynamic mech., elec. and mag. props. 7—13001
$Ba(Ca_{1/3}Nb_{2/3})O_3$-$PbZrO_3$-$PbTiO_3$ ceramics, hot-pressed, ferroelectric phase transitions 7—7652
BaFCl, IR lattice vibr., dielectric dispersion and lattice dynamics 7—3044
$(Ba_{1-x}La_x)(Ti_{1-y}Zr_y)_{1-x/4}O_3$ ceramics, electrostrictive effect 7—53240
BaO-V_2O_5-Fe_2O_3 semiconducting glasses, elec. props., Mossbauer, EPR and X-ray diffr. studies 7—7236
$BaR_2Ti_4O_{12}$ (R=La, Pr, Nd, Sm), dielectric props. at low temps. 7—45909
$Ba(Ti, Zr)O_3$ powders, hydrothermal prep. 7—64957
$BaTiO_3$ ceramics, zone sintering, dielec. props. rel. to microstruct. 7—13078
$BaTiO_3$ composites, dielec. and elec. props., rel. to prep. and microstruct. 7—64559
$BaTiO_3$, dielectric, electrical and acoustic props. 7—53224
$BaTiO_3$, ferroelectric solid, microwave absorpt., Curie temp. and ultrasonic attenuation 7—39049
$BaTiO_3$, Nd_2O_3-modified, defect struct. and dielec. props 7—37968
$BaTiO_3$, polycryst., glasslike behaviour at very low temp. 7—27647
$BaTiO_3$, submillimetre dispersion of permittivity 7—64556
$BaTiO_3$-based ceramic, nonlin. electromechanical parameter meas. 7—13094
BeO, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7—7632

permittivity continued
Bi films, IR and visible spectra, refractive index, extinction coeff. and dielectric const. 7—46156
$Bi_4Ge_3O_{12}$ single cryst. growth, characterisation and appls. 7—33550
Bi_2O_3-V_2O_5-CaO system, vitreous oxide semiconductor, polarisation processes 7—59139
$BiP(As)O(S)_4$, dielec. const. meas. w.r.t. bond ionicity *(French)* 7—38988
$Bi_{12}Si(Ge)O_{20}$ crysts., sillenite struct., dielec., elastic and piezoelec. props. calcs. 7—51714
$Bi_4Ti_3O_{12}$, Raman spectroscopy and dielec. anomaly 7—39111
$Bi_{13}V_5TiO_{34}$, layered cpd., crystal-chemical and dielectric props. 7—6595
C thin films, electrophys. props., MIS struct. as tool for anal. 7—17268
CaO-Al_2O_3-SiO_2 cement, macro-defect-free processing and low freq. dielec. response 7—13081
$Ca_8Y_2(PO_4)_6(OH)_{2-x}O_x$, synthesis, struct., dielec. props., AC elec. cond., IR spectra 7—3235
$(CdBi)(M_{1/2}Sb_{3/2})O_7$, (M=Cr, Ga, V, Mn, Fe, Rh, Sc, In), pyrochlores, struct. and characterisation 7—1986
$Cd_2Nb_2O_7$ ceramic, high press. phase transition and dielec. props. 7—2177
CdTe, optical anisotropy due to spatial dispersion 7—53266
$CdTiO_3$, nonlinear props. in high electric fields 7—7668
Cs_2HgBr_4, phase transitions, microwave permitt. meas. 7—2184
$EuCrO_3$, coexistence of mag. and electric dipole ordering after optical pumping 7—17171
Fe electrodes, passivated, capacitance under simulated erosion-corrosion conditions 7—3514
$FeP(As)O(S)_4$, dielec. const. meas. w.r.t. bond ionicity *(French)* 7—38988
GaAs, dielectric response and electronic states 7—33320
n-GaAs films, magneto-optical studies under high hydrostatic press. 7—13247
$GaP(As)O(S)_4$, dielec. const. meas. w.r.t. bond ionicity *(French)* 7—38988
Ge deformed single cryst., AC conductivity at 4.2K 7—7245
Ge, dielectric response and electronic states 7—33320
$HNbO_3$, electrical conductivity meas. 7—16802
H_2O, dielectric microwave and near-millimetre wavelength spectra 7—27646
H_2O imprecision of permittivity values for application to remote sensing 7—66331
H_2O, permittivity meas. by node-displacement method for open circuit 7—38981
^4He liq., electric permittivity, microwave meas. 7—13074
Hf, valve metal, corrosion under influence of Pu, oxide layer formation 7—17699
HgI_2 solution-grown crystals, X-ray and γ-ray irrad. effect on elec. props., radiation detector performance 7—58838
$InP(As)O(S)_4$, dielec. const. meas. w.r.t. bond ionicity *(French)* 7—38988
Ir complex, $(Ir(CO)_2 4,4',5,5'$-tetracyano-2,2'-biimidazole$)^-$, anisotropic conductor, phys. props. 7—7242
$K_3BiCl_6.2KCl.KH_3F_4$, improper ferroelectric phase transition, dielec. meas. 7—45943
KCl, dielec. permittivity imaginary part divergence of melting point 7—45915
KCl, organic liquid emulsions, dielectric props. meas. 7—22173
KCl single crysts., laser excited dielec. props. and cond., X-ray irrad. effects study 7—27649
KCl:Li, F_A-centre crystals, diffraction efficiency of photoinduced gratings 7—62818
KCl:Zn, elec. cond., dielec. loss meas., before and after X-irrad. 7—33324
$K_{1-x}Li_xTaO_3$ single cryst., dielec. properties at 10^{-2} to 10^3 Hz 7—2997
$KMnF_3$, 2D order parameter fluctuations at antiferrodistortion phase transition, dielec. const. meas. 7—16735
KNO_3, dielectric props., effect of X-ray or γ-ray irradiation 7—53215
$KTaO_3$, soft mode damping, determ. by submillimeter backward wave spectroscopy 7—45910
$KTaO_3$ UHF dielectric resonators, mechanical pressure effects on permittivity and dielectric loss 7—7642
$KTaO_3:Gd^{3+}(Fe^{3+})$, ESR, effect of external electric field 7—38933
$KTiOPO_4$, electro-optic and dielectric props. 7—13129
La_2O_2S:Er, Nd, mag. susceptibility, dielec. const. and dielec. losses 7—2810
$Li_2B_4O_7$, temp. compensated piezoelectric cryst. SAW study 7—12452
$Li_2B_4O_7$-WO_3 glasses, dielec. behaviour, space charge effects 7—45917
$LiCsSO_4$, dielec. props., press. effect 7—64555
LiF, quenched, dielectric props., effect of high AC field and X-ray irradiation 7—38985
Li_2GeO_3, single cryst., nonlin. electromechanical parameter meas. 7—13094
$Li_2Ge_7O_{15}$ ferroelectric single crystals, pyroelectric props. 7—64576
$LiKSO_4$ crysts., low temp. phase transitions, Raman spectra and dielec. const. meas. 7—26943
$LiNbO_3$, γ-irradiated, elastic and piezoelectric props. 7—45935
$LiNbO_3$, nonlinear elastic, piezoelectric, electrostrictive and dielectric consts. 7—64573
$LiNb_{0.1}Ta_{0.9}O_3$ single cryst., piezoelec., pyroelec., dielec. and elastic consts. 7—53565
$LiTaO_3$ low freq. dielec. response, charged point defect migration contrib. anal. 7—38984
M_0O_3-P_2O_5 glasses, permittivity, temp. depend., microwave meas. 7—45912
MgO, strain derivatives of dielec. constants 7—17259
Mg_2SiO_4, fosterite-based ceramic with BaO addition, synthesis, sintering, struct. and props. 7—46397
ND_4DSeO_4, deuterated AHSe, crystals, dielectric relax. 7—45930
NH_4Cl, phase transitions, elec. props. study 7—17257
NH_4HSeO_4, X-ray irrad., existence of incommensurate phase, permitt. meas. 7—33338
$NaBF_4$, orthorhombic, cryst. growth and phys. props. 7—7834
$NaH_3(SeO_3)_2$, low temp. struct. phase transition 7—64580
$(Na_{0.5}K_{0.5})NbO_3$, sintering, densification and elec. props., effect of Ba additions 7—46387
$Na_3MoO_3F_3$, ferroelastic and ferroelectric behaviour 7—44792
$NaNO_2$ thin films, ferroelectric and dielectric props. 7—39037
Na_2O-SiO_2 glass, longitudinal electrostriction tensor component 7—2982
Na_2O-SiO_2-Al_2O_3, glass, longitudinal electrostriction tensor component 7—2982
NbO_2, semicond., AC cond. meas., 4-196K, 5-92 kHz 7—45327
$(NbSe_4)_{10/3}I$, AC conductivity, dielectric constant 7—52591
$NiFe_2O_4$, Trans-Tech 2-111, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7—7632
PLZT ferroelectric ceramics, gamma, electron and neutron irrad. effects study 7—6677

permittivity continued
  PLZT transparent ferroelec. ceramics, low freq. dielec. props. study 7–7630
  PLZT-PZN electro-optic ceramics, elec., opt. and switching props. 7–7646
  PZT ceramics, ordered void struct., dielec. const., flexure strength 7–63607
  PZT piezoelectric ceramic prop. meas., applied compressive stress parallel to polar axis 7–45939
  PZT solid solutions, p-t-x diagram 7–64581
  PZT:Mn, dielec. dispersion 7–13076
  PZT:Nb ceramics, sintering, pair doping, elec. characts. 7–39469
  $(Pb_xBa_{1-x})TiO_3$, ferroelec. solid solns., dielectric and hysteresis props. 7–64588
  $Pb_xCd_{1-x}F_2$, phonon spectra, superionic props. 7–6735
  $PbFe_{12}O_{19}$, cryst., complex magneto-optical polar Kerr effect spectra 7–53280
  $PbGeO_3$, ferroelec. domain struct. and diffuse phase transition, permittivity meas. 7–13108
  $Pb_5Ge_3O_{11}$, sound velocity discontinuities at the phase transition 7–17274
  $PbGeS_3$, vibr. props., spectral study 7–3032
  $Pb_{1-x}LA_xTi_{1-(x/4)}O_3$ sputtered film struct., dielec., and pyroelec. props. studies 7–21724
  $Pb(M_{1/2}Sb_{1/2})O_3$, perovskite type antiferroelectrics, (M=Sc, Ho-Lu), X-ray and dielec. characts. 7–7649
  $Pb(Mg_{1/3}Nb_{2/3})O_3$ ceramics, dielec. props. 7–46382
  $PbMg_{1/3}Nb_{2/3}O_3$-$PbTiO_3$, MnO doped, relaxor ferroelec. ceramics, dielec. ageing effects 7–22195
  $PbMn_{2/3}MO_3$, perovskite-type cpds., (M=Mo, Te, Re), dielec. and mag. props. 7–7650
  PbO-B_2O_3-SiO_2 glass dielec. thin films on anodised Al substrates 7–17269
  $Pb(Sc_{0.5}Nb_{0.5})O_3$ ferroelectric ceramics, gamma, electron and neutron irrad. effects study 7–6677
  $Pb_{1-x}Sn_xTe$ narrow-gap semicond., electron-electron interaction, effect on permitt., two-band model 7–52420
  $(Pb_xSr_{1-x})TiO_3$, ferroelec. solid solns., dielectric and hysteresis props. 7–64588
  $PbTiO_3$ gels and films, hydrolysis conditions effect on characts. 7–46400
  $PbTi_xZr_{1-x}O_3$ piezoceramic, annealing in gaseous media with controllable comp., effect on electrophysical props. 7–8012
  $Pb(Zn_{1/3}Nb_{2/3})O_3$-$PbTiO_3$, perovskite ceramic powder, prep. dielec. and piezoelec. props. 7–46380
  $PbZrO_3$-based piezoelectric ceramics containing$Pb(Zn_{1/3}Nb_{2/3})O_3$ 7–2984
  $PbZr_{1-x}Ti_xO_3$-polyethylene 3-0 connected composite, dielec. and piezoelec. props. 7–45937
  $RbCl(Br)(I):Ag^+(OH^-)$ crysts., paraelec. centres, elec. dipole moment temp. depend., dielec. meas. 7–38508
  $Rb_{1-x}(NH_4)_xH_2AsO_4$, proton glassy state, dielec. props. 7–13075
  $Rb_{0.61}(NH_4)_{0.39}H_2PO_4$, mixed crystal, dielec. study of ferroelec. transition 7–53248
  $Rb_{1-x}(NH_4)_xH_2PO_4$, press. depend. of proton glass freezing, dielec. props. 7–2209
  $Sb_{1-x}Bi_xSI$ crystals, elec. props. at ferroelec. Curie point 7–2991
  $SbP(As)O(S)_4$, dielec. const. meas. w.r.t. bond ionicity *(French)* 7–38988
  SbSI cryst., dielec. const. determ., chem. bond approach, MWH band struct. calcs. 7–17260
  SbSI, single cryst., nonlin. electromechanical parameter meas. 7–13094
  a-Si:H, charge transport and relax., luminesc. long-time tail distribs. anal. 7–39185
  a-Si:H, glow discharge thin films, deposition rate, optical props., influence of substrate temp. 7–59460
  a-Si:H thin films, elec. and optical props., thickness depend. 7–46168
  Si-Al struct., cond., transverse elec. field depend. 7–27417
  SiO-SnO_2, vac. evaporated films, AC elec. props. 7–45528
  SiO_2, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7–7632
  SiO_2 films, low temp. CVD, dielec. const., dissipation factor 7–59149
  SiO_2, fused, optical constants, ATR determ. 7–27681
  SiO_2 glasses, prep. by sol-gel technique, dielec. props. 7–45918
  SiO_2-SiC layer systems, waveguide polaritons 7–7126
  Si(111), surface dielectric props., reflection high resolution electron energy loss study, azimuthal depend. 7–33498
  $Sm(NO_3)_3.6H_2O$, electrical and optical props. 7–59223
  SnTe, optical anisotropy due to spatial dispersion 7–53266
  $SrTiO_3$-Al_2O_3-SiO_2 glass-ceramics, low temp. dielec. props. 7–7636
  Ta, valve metal, corrosion under influence of Pu, oxide layer formation 7–17699
  Ta_2O_5 crystalline films, sputter deposited, phys. and elec. props. 7–2412
  $(TaSe_4)_2I$, AC conductivity, dielectric constant 7–52591
  TeO_2-based halide glasses, prep., thermal, mechanical, elec. and optical props. characterisation *(French)* 7–37884
  Ti, valve metal, corrosion under influence of Pu, oxide layer formation 7–17699
  TiO_2, nonaq. dispersion in petroleum, dielectric const. in electric field investig. 7–38982
  TlBr, strain derivatives of dielec. constants 7–17259
  TlCl, strain derivatives of dielec. constants 7–17259
  WO_3, dielec. const. meas., anomalous thermal hysteresis obs. 7–53219
  WS_{2+x} elec. cond. and permittivity, temp. and freq. depend. studies 7–7235
  YIG, multicomponent systems, synthesis, microwave characts., mathematical modelling 7–33626
  YIG, optical reflectivity meas. by synchrotron radiation spectroscopy 7–59135
  Y_2O_2S:Er, Nd, mag. susceptibility, dielec. const. and dielec. losses 7–2810
  ZnO ceramic, grain growth kinetics during synthesis, optimum elec. props. 7–46398
  ZnSe, optical anisotropy due to spatial dispersion 7–53266
  Zr, valve metal, corrosion under influence of Pu, oxide layer formation 7–17699

permittivity measurement
  apparatus to meas. dielectric constants and dissipation factors using resonance technique 7–56305
  broadband analysis of a coaxial discontinuity used for dielectric measurements: solutions of direct and inverse problems 7–35540
  cavity perturbation method 7–14980
  complex permittivity meas. of semiconductors, $TE_{01\delta}$ mode dielectric resonator appl. 7–14976

permittivity measurement continued
  dielectric waveguides use as sensors for dielec. consts. 7–4863
  dispersion meas. by time-domain spectroscopy appl. to dielec. relax. study *(Japanese)* 7–4862
  elastic, fibrous and porous materials, meas. of permittivity and resistivity *(Czech)* 7–61355
  free space permittivity meas. of lossy dielectrics 7–14979
  insulating oils, gamma-ray effects on elec. props. 7–48829
  laminated dielectric, parameters determ. near min. of absolute refl. coeffs., variable freq. radio-interference method 7–65264
  laminated dielectric with losses, parameters determ. in broad freq. range, inspection method 7–65263
  microbiological objects dielectric props. monitoring, use of microwave bridge *(Slovak)* 7–65896
  microwave diffraction tomography for dielectric constant distribution meas. 7–41401
  microwave system for complex permittivity meas. 7–41404
  moistened and pyrolized materials in strong RF fields, computer-aided permittivity meas. 7–48769
  polymers, permittivity, loss tangent and refractive index meas., mm-wave technique 7–18820
  relative dielectric constant dispersion at low and super-high frequencies, determ. 7–48774
  rubber, anisotropic sheets, complex permittivity tensor meas. and refl. characts. study 7–33317
  six-port reflectometer for meas. complex dielectric constant 7–18821
  snow, dielectric properties meas. in 3 to 37 GHz range 7–23710
  thickness-mode piezoelectric transducer constants, automatic meas. and calibration system 7–1369
  time-domain reflectometry, single-reflection, conductivity limitations 7–41405
  X-ray dielectric constants meas. with coherent transition radiation 7–27811

personal computers *see microcomputers*

personnel
  see also education; management; teaching; training
  maintenance and operations personnel at 750 kV installations, effects of intense electric fields *(Rumanian)* 7–28585
  reactor operator diagnosis failure probabilities 7–42164

personnel monitoring *see radiation monitoring*

perturbation techniques
  see also control system synthesis
  centrosymmetrical dielectric, Rayleigh waves on surface excited by external periodic electric field 7–31614
  fibre couplers composed of unequal cores 7–20420
  iterative transfer perturbation method, appl. to interaction between polymer and small molecules 7–64049
  permittivity meas. by cavity perturbation method 7–14980
  plasma, electron acoustic waves, nonlinear propag., higher-order terms effect 7–44136
  travelling thermal wave induction of convective heat transfer and fluid flows, nonlin. study 7–1546
  vortex breakdown model, axisymmetric flow stability 7–26282

perturbation theory
  see also quantum theory
  σ-models, role of perturbation theory 7–4964
  ϕ_4^4 theory with negative coupling, renormalised perturbation theory 7–49005
  S-matrix unitarization within reactive perturbation theory 7–25440
  alkali halide crystals, charge transfer excitons, perturbation method anal. *(Chinese)* 7–12611
  alloys, liquid, binary, high order perturbative effects 7–52085
  anharmonic lattice, phonon freq. shifts derived via the Wigner distribution function 7–21374
  anharmonic oscillator, perturbation and Pade summability method 7–146
  anharmonic oscillator, Rayleigh-Schrodinger perturbation theory 7–56084
  anharmonic oscillators, energies from divergent perturbation series 7–24477
  area-preserving maps, perturbative expansions 7–29719
  atom, effective Hamiltonian, tensor form and diagrammatic representation, perturbation theory anal. 7–25378
  atom, interacting with blackbody radiation, thermodynamic perturbation theory 7–910
  atom-ion collisions, electron capture, first order Born approx. 7–10746
  atom-surface scattering, general theory of scattering 7–59359
  atomic, molecular and solid-state systems, perturbation-theory method of calculating energies and excitation energies 7–5596
  atomic and mol. electronic struct., calcs., relativistic effects 7–36504
  atomic lineshape, convergent anal. of radiative matrix elements 7–19774
  atomic spectrum in intense multimode radiation field, generalised quasienergy states 7–36535
  atoms, stationary perturbation theory 7–30919
  atoms in a low field, review 7–898
  axial anomaly, stochastic perturbative derivation 7–24797
  benzene, vibronic activity, CNDO/S and INDO/S calcs. 7–49926
  biharmonic equations with complex boundary conditions, Pade approximants calcs. *(Russian)* 7–61064
  binary hard sphere mixtures eqns. of state, van der Waals perturbation term calcs. 7–12226
  Boltzmann eqn. with small Knudsen number, initial layer soln. 7–35475
  Boltzmann eqn. with small Knudsen number, singular perturbation method for normal solns. 7–35474
  BRS transformations and anomalies, differential geometric interpretation 7–56457
  charge density waves, transport properties, effect of inertial term, existence of subharmonic steps, perturbation anal. 7–64119
  chiral perturbation theory, possible systematic controls 7–49011
  concentrated particle dispersions, diffusion coeffs. 7–44875
  conducting circular torus with dielectric sleeve, electrostatic problem 7–57204
  continuous-symm. ferromagnet, weak random anisotropy, wandering moments and resonances, perturbation calcs. 7–64451
  convergent bounding principle for a class of elastoplastic strain-hardening solids 7–43704
  correlation energy, scaling in perturbation theory calcs. of bond energies and barrier heights 7–10391
  covariant light front perturbation theory and three-particle equations 7–41651
  cycloadditions, reactivity, perturbation theory 7–49909

perturbation theory continued
- cyclopentene, twist-pucker motion pot. energy determ., inverse perturbation anal. 7—19996
- DC driven damped Josephson junctions, fluxon collisions, radiative losses, perturbation calcs. 7—12915
- dense gases, viscosity, chem. reaction effects 7—26375
- diatomic molecules, collisions, kinetic theory cross-sections, perturbation calcs. 7—36727
- diatomic polar mol. plasma, quasimonochromatic electric field influence on spectral line shift 7—37757
- differential equations, singularity perturbed, dichotomies and stability 7—55995
- dipolar fluids computer simulation, perturbation approach 7—10700
- Dirac-Coulomb eqn., relativistic perturbation soln. He-like atom appl. 7—24767
- discrete self-trapping equation, non-steady soln. 7—14821
- disordered electronic systems, nonanalytic behaviour of ultrasonic attenuation 7—6729
- double core vacancies, energy calcs. 7—36450
- double sine Gordon solitary wave, collision with weak potential well 7—100
- electrolyte solutions, symmetric problems, field theoretic approach 7—11874
- electron scatt. in a laser field, modified perturbation theory 7—36572
- electron-phonon interacting systems, thermal Green's function generating functional from functional integrals with one-sided boundary conditions 7—52447
- elliptic systems, analytic singular perturbations 7—61021
- energy levels, radiation effects and corrections 7—49960
- enzymatic reaction kinetics, rate const. calc. 7—59741
- essential spectra for Schrodinger operators including unbounded hard cores 7—61154
- ethane, substituted, inductive effect in quantum-chem. calcs., perturbation theory appl. 7—5600
- excitation energies, quasidegenerate many-body perturbation theory and coupled-cluster calcs. 7—835
- filtered Lie algebras, intrinsic nilpotent approx. *(French)* 7—24368
- finite $N=1$ supersymmetric grand unified theories 7—41674
- finite-order QCD calcs., optimized perturbation theory for factorization scheme depend. 7—15118
- fluoromethanes, protonated, structs., energetics, ab initio MO calcs. 7—56956
- fluorosilanes, protonated, structs., energetics, ab initio MO calcs. 7—56956
- functional determinant of massless fermions in nonAbelian gauge pot., perturbative derivation 7—30169
- general coupled-cluster methods, MBPT, analytic energy gradients 7—19674
- glass, nonlinear relaxational acoustic attenuation, perturbation theory calcs. 7—32578
- graphite, degeneracy lifting, perturbational approach 7—52399
- hard disks and spheres, power series expansions, critical point singularities 7—44333
- heavy fermion liquids, superconductivity, microscopic and phenomenological aspects 7—2773
- heavy leptonium, radiative corrections to one-photon annihilation leptonic decays 7—35871
- heterojunction band offsets, two-level model anal. 7—7363
- Higgs boson masses, perturbative calcs. 7—61452
- hot electron plasma, stochastic instability and precessional modes 7—20883
- hot QCD, nonAbelian Debye screening, singlet pot. and gauge symm. breaking 7—49075
- hydrogenic ions in mag. field, centre-of-mass energy 7—50011
- hydrogenic Zeeman effect, second-order perturbation calc. 7—50012
- III-V semiconductor superlattices, pseudopotential approach to thermodynamic props. 7—7377
- indirect tunnelling current density, quantum mech. treatment 7—18618
- intermediate valence systems with two magnetic configurations, thermodynamic perturbation theory 7—64182
- intermolecular interaction energies, SCF calcs., variation-perturbation procedure 7—15505
- interstitial diffusion in crystals, quantum theory 7—44916
- inverse perturbation anal. for pot. energy determ. 7—19996
- ion acoustic waves, nonlinear oblique modulation, KBM perturbation technique 7—26420
- Josephson annular junctions, soliton dynamics 7—2784
- Josephson junctions, dynamic state stability, perturbed sine-Gordon model 7—52911
- Kaluza-Klein theory with elementary gauge fields, symm. breaking mechanism 7—41192
- KdV equation, perturbed, calc. of Lax pair 7—102
- Kovalevskaya top perturbed motion, Lie series 7—84
- laminar small Reynolds-number flow over wavy walls 7—43840
- laser field ionisation, quantum model calcs. 7—50032
- lattice fermion derivative formulation, locality and chirality without spectrum doubling 7—41632
- lattice Schrodinger operators with exponential disorder, cut discontinuity, large order behaviour 7—9937
- lattice theory, weak coupling perturbation theory for QED 7—19001
- lattice theory, weak matrix element calcs., chiral behaviour and multipoint Green's fns. 7—61484
- Lennard-Jones mixtures, gas solubility Henry coeffs. determ., WCA-LL-GH perturbation theory calcs. 7—6799
- linked cluster expansion in MBPT and coupled-cluster theory 7—49871
- Lippmann-Schwinger-type eqns. iterative soln. 7—15669
- liquid binary mixtures, excess props., predictions, Weeks-Chandler-Anderson type perturbation theory calc. 7—32247
- localised internal orbitals, fourth-order Moller-Plesset perturbation theory 7—49900
- low-lying states, MBPT/CC calcs. 7—10388
- Magnus and Magnus-like expansions convergence 7—14810
- many-electron Schrödinger eqn. for molecular systems, computational considerations 7—4700
- mass parameters in renormalized perturbation theory, absence of log., growths 7—41641
- massive confined quark, QCD and QED energy shifts, cavity perturbation theory 7—15116
- mean field kinetic Ising model, microscopic approach using Liouville formalism 7—2801
- metal-salt solutions, miscibility gap, perturbation theory 7—38205

perturbation theory continued
- metals, grain boundary energies from local-electron-density distributions 7—6634
- metals and alloys, phase diagrams, ab initio calc. using electronic and thermodynamic perturbation theory 7—17516
- 5-methylcytosine, incorporation in nucleic acids 7—54441
- micropolar fluid over isothermal cone, natural convection boundary layer flow 7—43887
- molecular crystals, electronic energy bands, perturbation theory calcs. 7—16934
- molecular electron affinities evaluation 7—5591
- molecular polarisability, Cauchy moments, nonempirical HF perturbation theory calcs. 7—49918
- molecules, nonlin. multicentre with anisotropic reference system, thermodynamic perturbation theory 7—11882
- monatomic systems, liq. and dilute gas, thermodynamics and transport props., MSK pot. calcs. 7—6826
- multireference second order perturbation CI 7—62247
- N-molecule system, long-range dispersion interactions, spherical tensor theory 7—42723
- N-molecule system, long-range induction interactions, spherical tensor theory 7—42722
- N-molecule system, long-range isotropic interactions, spherical tensor theory 7—42724
- nonAbelian Yang-Mills theory, conformally covariant quantization 7—4950
- nondegenerate many-body theory and conservation laws 7—24448
- nonideal Bose gas, chemical pot. and press., perturbation theory anal. 7—61222
- nonlinear oscillator coupled to FM wave, stochastic behaviour 7—61225
- nonperturbative BRS invariance and the Gribov problem 7—61454
- nuclear reactor theory, perturbation theory appl. to critical parameters and fundamental mode 7—718
- nucleic acid purine bases, electrooptical props., finite perturbations CNDO/S3 calcs. *(Russian)* 7—25407
- oblate angular spheroidal equations, large order perturbation theory, asymptotical estimations *(Russian)* 7—24461
- one-dimensional oscillators, two-step coherent state approx., modified operator method 7—35326
- optical Bloch eqn., perturbation soln., saturated spectroscopy, relaxation terms *(Chinese)* 7—4893
- organic molecules, nonlin. optical props. prediction, PPP calcs. and perturbation theory 7—25408
- oxetane, ring puckering pot., local correl. results 7—42456
- para-azoxyanisole nematogenic liq. cryst., mol. ordering studies 7—37848
- paramagnetic systems with restricted spectral diffusion, LF absorpt., dipole reservoir role 7—58975
- paramagnets, tetragonal, magnetoelastic excitations and struct. phase transitions 7—27489
- particle ground state under influence of uniformly charged sphere 7—18539
- periodic Anderson Hamiltonian, paramagnetic ground state 7—2809
- periodic envelope wave, 1D stability against 2D perturbations, nonlinear Schrodinger eqn. calcs. 7—41160
- periodic potential, perturbation theory, level-splitting and large-order behaviour 7—61144
- phonon-phonon interaction via paramag. centres 7—44719
- Pirogov-Sinai theory, first-order phase transitions and perturbation theory 7—58440
- trans-polyacetylene, soliton diffusion, memory-function formalism 7—7128
- polydihalogenoacetylene, bond alternation and solitons 7—63511
- polyenes, mol. polarisability, CNDO/2, CNDO/C, α(VPT) and α(SCPT) calc. comparisons 7—49932
- polymer dynamics, Rouse-Zimm model, renormalisation group calcs. 7—25691
- polymer interaction with small mol., iterative transfer perturbation method 7—19709
- polymers, flexible, Kirkwood-Riseman model, preaveraging approximation corrections 7—10787
- polymers, highly conducting, electronic structure, correlation effects 7—64064
- polystyrene latex spheres, colloidal dispersion, high freq. elastic moduli calc. 7—38083
- projection operator formalism, alternative derivation of perturbation expansions 7—5580
- QCD based models of hadron structure, book 7—48217
- QED, phase shifts and the Kondo effect 7—41698
- QED, renormalisation theory, nonstandard interpretation 7—41691
- quantum field theory, embeddings of generating functionals, generalized perturbation theory 7—30181
- quantum mechanics expansion parameter, spatial dimension 7—14829
- quasi-integrable Hamiltonian systems, stability of motions near resonances 7—29800
- radiation absorpt., high-power, generalised nonlinear master eqns. with finite correlation time. 7—25863
- Rydberg atoms, QED approach to energy level calcs. 7—62302
- scalar field theory with matrix fields, renormalisability in 1/N expansion 7—61470
- Schrodinger equation, nonlinear, perturbation-induced radiative losses in soliton collisions 7—24453
- second-row atoms, g_J factors, many-body calcs. 7—62265
- seismology, wave and velocity fields, determ., perturbation theory method *(Russian)* 7—65963
- semiconductors, singular perturbation anal. *(French)* 7—21905
- shock layers in perturbed systems related to steady conservation laws 7—61113
- short-distance hadronic cross-sections, soft gluon corrections 7—41840
- single group approx. for n transport, perturbation theory method 7—30468
- singular perturbation of relaxed periodic orbits 7—61008
- singular perturbations for nonlinear hyperbolic-parabolic problems 7—61050
- soliton amplitude bistability in ring resonator 7—43197
- stochastic Korteweg-de Vries hierarchy, soliton eqns. 7—29766
- structural and magnetic instabilities in low-dimensional systems 7—59034
- superstring compactifications, large radius expansion 7—41758
- supersymmetric effective action in 3D, parity violation and renormalisation procedure 7—48992
- supersymmetric nonAbelian gauge models, exact β-function from one-loop perturbation theory 7—41644
- tetahedral group reorientation in solids, deuteron spin-spin and spin-lattice relax. 7—22157

perturbation theory continued

- thermofield dynamics, perturbative, vacuum diagrams 7—9970
- third order Taylor series expansion, nonuniform cell thermal utilization 7—61949
- three-body forces in Fadeev eqns., perturbation anal. 7—61807
- $(TMTSF)_2X$, quasi-1D, role of kinetic interchain coupling 7—45302
- $(TMTTF)_2X$, quasi-1D, role of kinetic interchain coupling 7—45302
- transition metal atoms, first series, atomic polarisability eval. by variational perturbation approach 7—49911
- 1Dtriangle- and square-well fluids, perturbation theory 7—6489
- turbulence, two-point-moment closure models 7—6192
- two-level atom, time-depend. pulses, use of Light's perturbation theory 7—62651
- two-level atoms, redistribution of radiation, Rayleigh scatt., atomic fluores., stochastic process calcs. 7—19754
- US inverse scattering perturbation theories, reconstruction algorithms 7—43474
- valence electron correlation energy calculation 7—42493
- valence fluctuating lattice systems, self-consultant perturbation theory 7—2561
- warm ion plasma, ion-acoustic waves nonlinear oblique modulation 7—1689
- Yang-Mills ground state, diagrammatic expansions 7—35685
- Yang-Mills theories, role of perturbation theory 7—4964
- Zircaloy, claddings, creep deform., bulge growth, time to failure 7—59589
- β-decay far from stability, half-lives, RPA and perturbation theory calcs. 7—49326
- $\gamma\gamma$ annihilation, nondiffractive meson pair prod., perturbative QCD and resonance contribs. 7—41826
- hh large angle scatt., spin effects 7—24912
- K decays, CP nonconservation, time depend. perturbation theory for quaternionic quantum mech. 7—5087
- $K_L^0 \to \gamma\gamma$, chiral perturbation theory corrections to SU(3) terms 7—15160
- Al (110), scatt. of H_2^+ ions, resonant transition rates for charge transfer 7—3134
- Al surface, H^+ Auger and resonant neutralisation, charge capture probability, parameter-free perturbation theory calcs. 7—3141
- AlH_x, isolated H impurity vibr. spectrum, isotope depend. *(Russian)* 7—16703
- Ar-HCl van der Waals complexes, IR spectra, secular eqn. calc. 7—31031
- B clusters, magnetic properties, Heisenberg Hamiltonian 7—57199
- B-like ion plasma, dielectronic satellites 7—58054
- $(BN)_n$, degeneracy lifting, perturbational approach 7—52399
- Be, multi-config. HF and many-body perturbation theory calcs. 7—19699
- Be-like ions, excitation cross sections, Coulomb-Born approx. 7—25658
- C_2+H_2, vibr.-translation energy transfer determ. 7—57160
- C_5, geometric isomers, ab initio calc. of equilib. struct. 7—62291
- CN radical, anal. of perturbation between $B^2\Sigma^+$ $\nu=5$ and A^2 Π_i $\nu=17$ levels 7—50067
- CN^-, electron affinity calc. with fourth order many body perturbation theory 7—42471
- CO, $A^1\Pi$-$X^1\Sigma^+$ system, UV obs. 7—62396
- CO, approximate coupled cluster doubles approx. 7—25348
- p-$CdGeAs_2$ semicond., hole mobility and scatt., temp. depend. study 7—52609
- Cl^-, electron affinity calc. with fourth order many body perturbation theory 7—42471
- Cs high press. phase, β-Sn-type struct., pseudopot. perturbation calcs. 7—51938
- Cu_3, ground state surface, ab initio calcs. 7—42467
- $Cu_{44}Ti_{56}$ 3D metallic glasses, magnetoconductivity meas., quantum interference effects calcs. 7—17016
- $Cu_{39}Zr_{61}$ 3D metallic glasses, magnetoconductivity meas., quantum interference effects calcs. 7—17016
- F^-, electron affinity calc. with fourth order many body perturbation theory 7—42471
- F^--He, van der Waals mol., interaction pot., MBPT calcs. 7—42721
- F-like ions, energy level distances, relativistic perturbation theory calcs. 7—866
- FCP and higher-lying isomer, struct., stabilities, ab initio study 7—864
- F^{n-}(n=0 or 1), MBPT and coupled cluster calc., comparison with CI 7—49899
- $Ga_{1-x}Al_xAs$-GaAs quantum wells, diamag. shift of exciton energy levels 7—21824
- GaSb high press. phase, β-Sn-type struct., pseudopot. perturbation calcs. 7—51938
- Ge:O, thermal donor binding energies 7—16989
- H, external electric field, first-order perturbed wave fn. 7—36465
- H, Schrodinger eqn., many dimensional analogue, quantum mechanical many-body problem 7—42460
- H, Stark effect in strong field 7—50008
- H^-, ground states, Rayleigh-Schrodinger perturbation expansions 7—844
- H-like atoms, relativistic corrections to ground state energies, Dirac eqn. variation perturbation method 7—24766
- H-like ions, nucl. quadrupole moment, HFS 7—49914
- $H+D_2 \to HD+D$, product rot.-state distrib., information-theoretic anal. using perturbation method 7—62495
- $H^+ + H(Ar)$, capture theory, first-order Born approx. Coulomb boundary conditions 7—10745
- H_2, electron impact, in laser field, one-photon free-free transitions 7—980
- H_2, ortho-para conversion, non-dissociative, on mag. surfaces, theory review 7—17781
- H_2^+, Born-Oppenheimer electronic polarisability, perturbational-variational Rayleigh-Ritz formalism appl. 7—10387
- H_2^+, electric polarizabilities, perturbation study 7—36664
- H_2^+, excited states, non-Born-Oppenheimer electric polarisabilities 7—42662
- H_2-Ar, rot. line broadening calc., projection operator algebra and linked cluster theorem 7—42687
- $(H_2)_2$ dimer, MP4 interaction energies and basis set superposition errors 7—62479
- HCP and higher-lying isomer, struct., stabilities, ab initio study 7—864
- HF, MBPT and coupled cluster calc., comparison with CI 7—49899
- HF-H_3N, H-bonded complex, force consts. calc. for vib. modes, correl. effects 7—19823
- H_2O dimer, MBPT, coupled cluster study 7—49892
- H_2O, MBPT and coupled cluster calc., comparison with CI 7—49899
- H_2O mol., IR absorpt. spectra, anharmonicity effects, contact transformational and quantum chemical calcs. 7—25385
- $^2H(\pi,X)$, absorption form factor and off-shell behaviour, perturbative approach 7—5295

perturbation theory continued

- He, ground states, Rayleigh-Schrodinger perturbation expansions 7—844
- He interactions, second-order exchange-dispersion energy, nonadditivity 7—49901
- He isoelectronic sequence, relativistic second-order many-body corrections 7—870
- He-H_2 van der Waals mol., diagrammatic perturbation theory 7—5607
- $He+(He^{2+})(C^{6+})(O^{8+})$, electron capture cross section calc. by distorted-wave perturbation theory 7—50336
- $He+H_2(O_2)$, vibr.-translation energy transfer determ. 7—57160
- $He^+ + H_2(N_2)(O_2)(CO)(NO)$, metastable state, collisional quenching cross section 7—62315
- He_2^{2+}, ground-state pot. curve, Moller-Plesset perturbation calcs., bond lengths 7—42455
- K^+-CO_2 system, pot. energy surfaces calc. 7—57015
- LiF-H_3N, Li-bonded complex, force consts. calc. for vib. modes, correl. effects 7—19823
- Mg IX, $1s^22l2l'$-$1s^22l3l''$ transition, correl. and relativistic effects 7—42552
- Mg, spectra struct. and isotope shifts, many-body perturbation theory calcs. 7—50019
- Mg-like ions, energy levels, model-pot. relativistic perturbation calcs. 7—24320
- Mn^{2+}-F^-, ligand field correl. effects ab initio MBPT calcs. 7—21874
- N_2, elec. field gradients, finite field MBPT 7—5603
- NCl, $b^1\Sigma^+$ and $a^1\Delta$ state, radiative lifetimes 7—50259
- NCl, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7—42492
- NF, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7—42492
- NH_2, MBPT and coupled cluster calc., comparison with CI 7—49899
- NH_2^-, electron affinity calc. with fourth order many body perturbation theory 7—42471
- Na^+-CO_2 system, pot. energy surfaces calc. 7—57015
- Nb, BCC, thermodynamic props. 7—6828
- Nb-NbO_x-Pb Josephson tunnel junctions, bifurcations, noise and near-reson. perturbations influence 7—58957
- Ne diatomic coupled cluster method, MBPT 7—56996
- Ne, MBPT and coupled cluster calc., comparison with CI 7—49899
- Ne-like ions, energy level distances, relativistic perturbation theory calcs. 7—866
- O_2-N_2 equimolar liq. mixture, excess props. and struct., mol. dynamics simulation 7—32246
- OH^-, electron affinity calc. with fourth order many body perturbation theory 7—42471
- PH_2^-, electron affinity calc. with fourth order many body perturbation theory 7—42471
- $Pb_{1-x}Mn_xTe$, indirect exchange interaction between Mn^{2+} ions 7—27509
- $PrCl_3$ cryst. field correlation effects in Pr^{3+}-Cl^-, ab initio calcs. 7—7177
- Rb high press. phase, β-Sn-type struct., pseudopot. perturbation calcs. 7—51938
- SH^-, electron affinity calc. with fourth order many body perturbation theory 7—42471
- Si 7—51938
- Si:O, thermal donor binding energies 7—16989
- SiH_aF_b (a+b=4), NMR shielding consts., ab initio coupled HF calcs. 7—42646
- Tm intermediate valence systems, dynamics, self-consistent perturbation theory studies 7—27309
- W, BCC, thermodynamic props. 7—6828

perturbed angular correlation spectroscopy *see gamma-ray spectra; gamma-ray spectra of liquids and solids*

Petri nets *see directed graphs*

petrol engines *see internal combustion engines*

petroleum industry

- Canadian petroleum exploration, appl. of remote sensing 7—40585
- cokriging: multivariable analysis in petroleum exploration 7—40578
- earth, oil-bearing, heat and mass transfer 7—56189
- exploration, coconditional simulation appl. 7—40577
- exploration, computer appl. conf., Wichita, KS, USA, (Oct., 1985) 7—35083
- petroleum exploration, geological and computer traps 7—40582
- prospecting, petroleum resource appraisal program, FORTRAN listing 7—40576
- reservoir simulation, displacement in two phase flow in porous media, finite element simulation 7—51295
- well-log evaluation for carbonate reservoir in Kansas, microcomputer based program, WSULOG 7—40580
- well-log information correction for computer processing and analysis 7—40579

pH

- acetylcholinesterase, immobilised, structure-activity relations, IR-ATR modulation spectroscopy obs. 7—54474
- acid rain, stochastic modelling of space-time struct. of chemical deposition 7—23239
- acid rain from Masaya volcanic, Nicaragua, comp., distrib. and neutralisation 7—9145
- actinides, aq. soln., reaction rate consts. of radiation-produced transients 7—60903
- adenine series adsorbed on aqueous Ag sol, SERS study, pH effect 7—17947
- aquatic organism acidification effects, data evaluation and compilation 7—40054
- atmosphere precipitation in New Jersey Pine Barrens, pH rel. to trajectory anal. of acid deposition data 7—40061
- borate esters, in aq. solns. and wine, ^{11}B NMR 7—934
- borate glasses, basicity and geometry studies, MNDO calcs. 7—6529
- borosilicate glass ATM-2, Am-doped, Am concentration in solutions 7—32659
- carbonylhemoglobin, pH dependent XANES by fast dispersive spectroscopy 7—65708
- catenand, monoprotonated, mol. struct., X-ray and PMR study 7—63595
- cellulose complex, in water-methanol media, acidic props. *(Russian)* 7—63437
- 1,3-cyclohexadiene, anionic homoaromaticity. gas-phase acidity meas. 7—17762
- cyclohexene, anionic homoaromaticity. gas-phase acidity meas. 7—17762
- cyclooctadienes, anionic homoaromaticity. gas-phase acidity meas. 7—17762
- cyclooctene, anionic homoaromaticity. gas-phase acidity meas. 7—17762

pH continued

enzymes, structure-activity relations, IR-ATR modulation spectroscopy obs. 7−54474
flue gas scrubber corrosion rel. to pH and trace element concentrations 7−40077
fluorenecarboxylic acids, and esters, solvent and pH effects, absorpt. and fluoresc. spectra anal. 7−50237
gelatin gels with coloured component at reduced pH values, turbidity, optical rot., viscoelastic props. 7−8320
Indian sea areas, rainwater comp. during monsoon season 7−9123
lake acidification, role of groundwater 7−23247
Malanjkhand Cu sulphide deposit, India, f(O_2), f(S_2) and pH conditions during ore deposition 7−29025
mammalian cells, modification of thermal and thermochem. responses by adaptation to low pH 7−47018
McCloud Lake, soft water acidic lake in Florida, pH of precip. and lake water; 7−23763
mitochondria, math. model of regulation of steady values of vol. and ΔpH 7−40119
optical fibres, silicone-coated, influence of pH solns. on strength and dynamic fatigue 7−6006
Pd electrodeposition assisted by laser beam *(German)* 7−39440
poly-L-lysine, conform., in aq. soln., pH effects, vibr. circular dichroism effects 7−10783
reference buffer solutions in solvent mixtures with water, standard pH values 7−17799
Rock Creek, USA, alkalisation due to bridge construction 7−23787
steel, austenitic stainless, slow strain rate SCC in NaCl soln., cathodic protection 7−39709
steel, Ni-Cr-Mo, turbine disc, Ni electrodeposit, corrosion protection, pot.-pH diagrams 7−39699
steel, stainless, microelectrodes, pitting dissolution in NaCl solns., nitrate passivation 7−39703
stream water, prediction of pH, alkalinity and total acidity during episodic events 7−23777
ultrafiltration, membrane-solute interactions effects on pure solvent transfer 7−54177
zinc oxalate, crystallisation, precip. kinetics 7−53537
Ag electrode in $NaClO_4$ soln., capacitance, pH depend. 7−54135
Al brass, SCC in acidic sulphate solns, Cl^- conc. effect 7−17679
Al complexes, Al (III)-amino acid complexes, stability const. determ., ionophoretic technique investig. 7−28381
$Al(OH)_3$ sols, gelation, pH, temp., ageing time 7−46875
BO_4^- anion clusters, hard basicity 7−25402
$CaCO_3$, formation in cooling water, critical pH depend. 7−54158
CdTe, cathodic electrochemical surface modifications, Cd layer form. 7−65239
Co-Ni-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7−27581
Co-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7−27581
^{60}Co, migration in pH 12 solution through sandy soil layer 7−19540
Cr complex, Cr (III)-amino acid complexes, stability const. determ., ionophoretic technique investig. 7−28381
Cu, electroless plating, microdistrib., soln agitation, temp. and pH depend. 7−7907
$CuInSe_2$, pH effects on surface properties 7−23201
(Fe,Co,Ni)-P layers, electrochemical deposition, struct. *(Chinese)* 7−7037
Fe electrode in NaOH, pot. modulated reflectance spectra 7−28316
H ion neutral carriers, for solvent polymeric membrane electrodes 7−17834
H_2O, K_a values 7−9626
H_3O^+, K_a values 7−9626
K_2SO_4, cryst. growth, nucleation kinetics, habit, Cr(III) effect, soln. pH 7−53539
Li ion pairs in tetrahydrofuran, indicator scale rel. to C acidity 7−51602
Mn-NH_4 solutions, electrolysis, pH rise at cathode 7−33937
Ni-P, electrodeposition, pulse plating, corrosion resist. *(Japanese)* 7−53643
Sb trihalide single crystal growth in gel 7−22458
Tc pyrophosphate, adsorpt. on hydroxyl apatite, study by back scatt. of 2 MeV α-particles, pH effects *(French)* 7−3877
Th complex, Th (IV)-amino acid complexes, stability const. determ., ionophoretic technique investig. 7−28381
Ti, crevice corrosion in NaCl-HCl solns. *(Japanese)* 7−13630

pH control

practical points for pH and redox monitoring 7−54133
reverse osmosis desalination meas. and controls 7−28338

pH factor *see pH*

pH measurement

cyclovoltammetric meas. using metal-metal oxide-based sensors 7−17838
Integrated Lake-Watershed Acidification Study database documentation 7−46976
lake acidification meas., integrated palaeoecological approach 7−65658
macroscale heat flow calorimeter for studying chemical processes 7−41391
microelectronic pH sensor hybrid, fabrication 7−46891
optical fibre sensors chemical sensing, particularly in biomedical field, areas for use and techniques 7−31472
practical points for pH and redox monitoring 7−54133
soil water extractor for minimising CO_2 degassing and pH errors 7−23916

phase conjugation (optical) *see optical phase conjugation*

phase-contrast microscopy *see microscopy*

phase control

interferometer heterodynes, interferometric phase synchronisation 7−60570
X-band time-domain EPR spectrometer, computer-controlled 7−30054
AlGaAs-GaAs DFB-TJS external-cavity laser with optical phase control loop, spectral linewidth 7−20222

phase diagrams

see also phase equilibrium; phase transformations
acetoxypropyl cellulose, liq. cryst. props., effect of chain length and degree of acetylation 7−44353
ageing alloys, heterophase structures, nonequilib. state diagrams *(Russian)* 7−17555
alkali halide mixtures, binary, common-anion, correl. of thermochem. and phase-diagram data 7−3286
alkali halide mixtures, binary common-anion, phase diagrams, thermodynamic anal. 7−3287

phase diagrams continued

alkali metal binary alloys, low temp. phase diagram, compression effects 7−33641
alkylcyanobiphenyl-phenylcyclohexanecarboxylate mesomorphic mixtures, binary phase diagrams, fluoresc. spectral determ. 7−27765
alloy, heterogeneous, fusion kinetics 7−3280
alloys, binary, phase diagrams and short range order, Monte Carlo simulations 7−53704
alloys, Laves phase, liquid quenching, transformations and phase diagrams 7−65059
alloys, thermodynamic modelling, direct use of chem. pot. function 7−7970
ANNNI model, two-dimensional, ring recurrence method anal., phase diagram calcs. 7−48609
asymptotic phase diagrams for lattice spin systems 7−14880
axial decorated Ising model with competing interaction, phase diagram and thermodynamics 7−14875
BCC ordered alloy, high temp. mag. states *(Russian)* 7−64466
B-$(BEDT\text{-}TTF)_2I_3$, shear-induced superconductivity 7−45583
binary alloy, FCC Ising, multiatom interactions, low temp. behaviour and Monte Carlo simulations 7−6755
binary crystals, structural stability, chem. trends 7−21153
binary liq. mixture, phase transitions, Yukawa tail pots., mean-spherical approx. soln. 7−63422
binary mixtures near codimension-two point, externally modulated Rayleigh-Benard system, phase diagram 7−32602
binary systems, stochastic theory of solidification 7−12238
bis(1,3-di(p-n-alkoxyphenyl) propane-1-3-dionato) copper (II), discotic liq. cryst. props. 7−37846
block copolymer macromol. liq. cryst. melt. nematic-smectic-A transition, mean-field approx. calcs. 7−16743
Blume-Emery-Griffiths model, 3D semi-infinite, real-space renormalisation group study 7−38156
cellulose acetate-polyarylate films, phase separation, porous struct. and strength *(Russian)* 7−26967
cholesteric liq. cryst. mixtures, pitch, struct., phase transition point and optical props. studies 7−1881
classical spin systems, phase diagram and decay of spin-spin correlations 7−24565
compound semiconductor/metal contacts, interfacial microstruct., elec. props., phase diagrams 7−45495
continuous-spin models, phase diagrams, Pirogov-Sinai theory 7−48668
corresponding relations in isobaric phase diagrams 7−2147
corresponding relations theorem in multicomponent isobaric phase diagrams 7−2148
determination by analytical electron microscopy 7−37820
deutero-isobutyric acid (coax)-D_2O, critical mixtures, isotope effects 7−12253
deutero-isobutyric acid (COOH)-H_2O, critical mixtures, isotope effects 7−12253
dissipative flows, local dimens.-2 bifurcations, nonequilibr. pot. 7−61302
dodecyl hexaoxyethylene ether, phase diagram vanishing miscibility loop obs. 7−28352
domain-wall interactions and spatially modulated phases 7−2146
epitaxial overlayers, structural transitions 7−27194
ethane, adsorbed on graphite, phase transitions, thermodynamics and struct. anal., LEED obs. 7−32797
ethoxylated alcohol-n-alkane-water mixtures, phase behaviour patterns 7−21406
ethylene on graphite, heats of adsorption and phase diagram 7−6972
fluid in pore, phase behaviour modelling 7−2141
four-component mixtures, phase diagrams 7−12274
French Metallurgy Society meeting, Paris, France (Oct. 1986) *(French)* 7−29579
gas-liquid systems modeling, structural-decomposition method *(Russian)* 7−6748
granular superconductor resistively shunted Josephson junction arrays, phase diagram, self-charging model calcs. 7−7451
granular superconductors, 3D, short-range order and phase diagrams 7−22062
graphite, multilayer melting transition of adsorbed methane 7−6992
graphite intercalation cpd., stage transformation, stochastic model 7−21433
graphite with monolayer and bilayer tetrafluoromethane, phase diagram, phase transitions 7−38338
graphite-K intercalation cpd., KC_{24}, kinetically-hindered low-temp. staging transition, P-T phase diagram, resist. anomaly meas. 7−6786
Group IA hydrides, high-press. phase transitions 7−21438
Group IIIA hydrides, high-press. phase transitions 7−21438
Group IVA hydrides, high-press. phase transitions 7−21438
hard ellipsoids of revolution, phase diagrams calcs. 7−2192
hard-sphere mixtures interacting through attractive Yukawa tail, phase stability 7−11873
n-heptane-perfluorohexane soln., phase separation, spinodal curves 7−13170
n-heptane-water-alcohol, phase equilibria and phase diagrams at 298.2K 7−44760
hexatic liquid crystals, multicriticality 7−2201
icosahedral and dodecahedral vector models in 2D, phase diagram 7−12232
icosahedral quasi-crystalline struct., mechanism for stabilisation 7−6753
II-V semiconds., cryst. growth, characterisation and appls., review 7−26685
II-VI-III-V systems, thermodynamics and reactivity 7−16790
III-V semiconductor, ternary solid soln., miscibility gap in phase diagram 7−52057
III-V semiconductor-metal interface, thermodynamic stability considerations 7−21490
images, Landau expansions and symmetry changes 7−35485
incommensurate phase transitions, electric field induced, Landau-type thermodynamic pot. 7−63766
interstitial alloy vol. and phase diagram, order-order transition, conc. depend. calcs. *(Russian)* 7−32640
Ising generalised mixed spin model, renormalisation group approach *(Chinese)* 7−9779
Ising model, random-field, with trimodal distrib., phase diagram 7−56182
Ising model, wetting transitions near bulk critical temps., long-range forces effects calcs. 7−58573
Ising model disordered ferromag. binary system, phase diagram 7−59041
Ising spin glass, finite dimensional, internal field distn. fns., internal energy calcs. 7−12985

phase diagrams continued
- liquid crystal-polymer mixtures, phase diagrams, nematic-isotropic phase equilibria versus liq.-liq. demixing 7—16739
- liquid mixture phase transitions and singularities, catastrophe modelling 7—26903
- liquid phase sintering treatments, phase diagrams 7—7911
- liquids, entropy changes and fluctuations near tensile instability 7—6830
- lyotropic liq. crysts., high press. phase diagrams, re-entrant phenomenon obs. 7—12270
- metal and alloy temperature-conc.-density phase diagram calcs. 7—3282
- metals and alloys, phase diagrams, ab initio calc. using electronic and thermodynamic perturbation theory 7—17516
- methane, absorp. on graphite, multilayers, adsorpt. isotherms and heat of adsorpt. 7—32794
- methanol-$d_0(d_1)(d_4)$-cyclohexane-$d_0(d_{12})$, critical mixtures, isotope effects 7—12253
- micellar solutions, equilib. thermodynamic props. and phase separation theory 7—46876
- model microemulsion, phase equilibria and critical endpoints 7—17828
- multilevel interacting systems with single order parameter, thermodynamic model 7—12233
- nematic liquid crystals, global phase diagrams, second-order nematic-isotropic transitions 7—12274
- nonideal fluid mixtures, phase diagrams, Monte Carlo calcs. 7—51989
- octyloxybenzoyloxycyanostilbene, reentrant transition enthalpies, frustrated spin-gas model 7—63816
- P-T-X phase diagrams calc. using FORTRAN 77 programs PT-SYSTEM, TX-SYSTEM and PX-SYSTEM 7—38161
- packed antiferroelectric chains, thermodynamic features 7—53244
- paired metal hydrides, operational characts. and dynamic behaviour 7—32609
- peritectic transformations, simple rate prediction 7—22635
- phenol-d_6-D_2O, critical mixtures, isotope effects 7—12253
- Pirogov-Sinai theory and phase diagrams of alloys 7—58440
- poly(ethylene oxide)-NaSCN mixture, ionic conductivity and phase behaviour studies 7—32704
- poly(vinylidene fluoride)-poly(ethyl acrylate) blends, phase diagram and morphology 7—63538
- poly 2,6-dimethyl-1,4-phenylene oxide and poly styrene-co-p-fluorostyrene blends, miscibility, press. depend. 7—17533
- polycapramide, solns., viscosity props. and phase stability *(Russian)* 7—21074
- polyelectrolyte, weakly charged, in poor solvent, struct. phase transitions 7—51600
- polyethylene oxide-water system, high molecular, calorimetric obs. *(Russian)* 7—12325
- polymer solution, critical solution temperature, upper and lower, corresponding states theory prediction 7—63770
- polystyrene-polyvinylmethylether blends, phase decomp., small angle neutron scatt. 7—28021
- Potts model, antiferromagnetic, critical phases on fractals 7—24583
- n-propyl-4′-n-decyloxybiphenyl-4-carboxylate-n-butyl-4′-n-decyloxybiphenyl-4-carboxylate, smectic-A-hexatic-B-smectic-I point, existence and nature 7—2198
- pyrimidines, trinuclear, binary smectic systems with and without nematic gap 7—58141
- random surfaces on cubic lattice, critical behaviour, phase diagram 7—24582
- semiconductor-alloy phase diagram, first-principles self-consistent local-density total-energy calcs. 7—44751
- sequential antiferroelectric-ferroelectric phase transitions, phase diagrams 7—2988
- smectic A_1 binary mixture, nematic phase creation, phase diagram, transition enthalpy comp. depend. study 7—12269
- smectic mixtures of A_1 and A_d phases, nematic gap obs. 7—6792
- solns., viscosity props. and phase stability *(Russian)* 7—21074
- spaces of long range interactions on lattice systems, generic triviality of phase diagrams 7—9780
- steel, electrospark alloying with carbides, electron nature of interaction, phase comp. 7—8182
- steel, high-speed, phase comp. of powdered stock 7—53674
- steel, low alloy, structural transformations during continuous cooling and isotherms 7—22636
- steel, stainless, austenitic, low-activation, constitution, struct. and mech. props. 7—42195
- steel, stainless, austenitic-pearlitic, N effect on phase comp. and props. 7—53754
- submonolayer adsorbed film, phase diagram, intrinsic and extrinsic ordering forces, density functional theory calcs. 7—63952
- submonolayer film, phase diagram, relax. mechanisms, density functional theory calcs. 7—63953
- submonolayer ordering and multilayer adsorption, simple lattice gas models 7—12490
- substance properties for wide range around critical point 7—6757
- superconducting superlattices, phase diagram 7—2792
- ternary heterogeneous solutions, conc. triangle, press. and temp. effects *(Russian)* 7—26908
- tetraethyl ammonium MX_4 compounds (MzCo,Zn,Mn;X=Cl,Br), structural phase transitions 7—44801
- tetramethyl bisphenol A polycarbonate-styrenic polymer systems, phase props. 7—38209
- tetramethyl bisphenol-A polycarbonate-aliphatic polyester blends, phase props. 7—38210
- tetramethyl urea+water system, solid-liq. phase equil., freezing pts. 7—32616
- bis(tetramethylammonium) bromochlorocuprate single cryst. solid solns., phase diagram study 7—26944
- tetrathiofulvalene-p-chloranil, mixed-stack charge-transfer cryst., elec. cond. and phase diagram 7—52586
- thermal desorption spectra, simple rate eqn. derivation 7—21646
- thermodynamic formalism, computer calcs. 7—3269
- three-body forces and phase separation in micellar solutions 7—61299
- $(TMTSF)_2(ClO_4)_{1-x}(ReO_4)_x$, organic conductors, competition between structural instabilities 7—51740
- $(TMTSF)_2ClO_4$, mag. field induced phases, phase diagram studies 7—45752
- $(TMTSF)_2PF_6$, unified phase diagram, magnetotransport data anal. 7—45410
- $(TMTSF)_2ReO_4$ organic supercond., anion-ordering phase diagram studies 7—21434

phase diagrams continued
- transition metal cluster oxides, high-temp. multiphoton ionis. and fragmentation 7—36835
- water-oil-tenside microemulsion, three-phase regime 7—13826
- water-surfactant-oil microemulsion, spin-1 model 7—3612
- Yukawa systems, phase diagram 7—32606
- Ag-As-Se glasses, electrical conductivity studies 7—27369
- AgI phase diagram, molecular-dynamics simulation 7—26912
- Al alloy, binary, alloying capacity for solid soln. obtained by casting under press. 7—53716
- Al-Fe system, phase diagram, DTA obs. 7—39485
- Al-Ge-X and Al-Si-X alloys, amorphous ductile, with two separate phases, form. range and props. for X=Mn, Fe, Co or Ni 7—59493
- Al-Mg-Ce system, liquidus, intermetallic compound *(Chinese)* 7—7960
- Al-Mn (14 at.%), solidification, icosahedral and T-phase form. temp. rel. to cooling rates 7—53718
- Al-Zn-Ag, phase diagram tielines, anomalous SAXS studies 7—53705
- AlGaInAs layers on InP, LPE growth 7—33608
- $Al_{0.48}In_{0.52}As$:Si, MBE grown, crystalline and optical props. 7—52322
- AlSi-Ti(Ta) layered films, compound formation and Si behavior 7—21762
- Ar monolayers on ionic crystals, critical temps. 7—21666
- Au-GaAs, annealed, interface erosion 7—21683
- Au_4Cr, atomic ordering, X-ray struct. anal. *(Russian)* 7—1933
- c-BN, phase diagram, p,T,E 7—17517
- Bi, phase diagrams, appl. for online press. and temp. calibration 7—4853
- $Bi_4Ge_3O_{12}$ crystals, imperfection nature, precipitates and bubbles 7—21463
- Bi_2S_3-$PbBi_2S_4$ system, chemically twinned phases, X-ray diffr., TEM obs. 7—32462
- Bi_2S_3-SnS, quasibinary section of Sn-Bi-S system 7—13437
- CO-Ar system phase diagram, critical point determ., X-ray diffr. study *(Russian)* 7—6776
- $CaMnGe_2O_6$-$Ca_{0.5}Mn_{0.5}SiO_3$ cross section of $CaSiO_3$-$MnSiO_3$-$MnGeO_3$-$CaGeO_3$ system 7—2213
- CaO-Fe_2O_3 system, solid state reactions, ferrite growth and morphology 7—3236
- $Ca_{2-x}P_{1-x}Cl_{1+x}$ and Ca_3PCl_3, prep., crystal struct., thermal behaviour *(German)* 7—26717
- Cd-Hg-Te phase diagram, numerical descriptions, review 7—26913
- Cd-Sb melts, crystallisation and structural state, phase equilib. diagrams 7—46441
- $CdCl_2$-CdS-CdTe ternary system, liquidus surface anal. 7—33644
- Co-Al system, diffusion markers in thin films Co_2Al_9 formation 7—58549
- Co-Ni-As mixtures, phase diagram isothermal sections, binding 7—46418
- Co-Te system, phase diagram, DTA 7—46425
- CoCrAlY electron beam physical vapour deposition coating microstruct., TEM characterisation 7—52334
- CoO-H_2O and Co_3O_4-H_2O systems, hydrothermal equilib. thermodynamic props. of $Co(OH)_2$ 7—39492
- CoO-MnO system, thermodynamic props., phase diagram, miscibility gap 7—53706
- Cr-Al system, diffusion markers in thin, film $CrAl_7$ formation 7—58549
- Cr-Si system, thin film silicide phases, formation and microstructure 7—2435
- Cs-Se system, phase diagram 7—6759
- $CsH_{0.1}D_{0.9}AsO_4$, melting pt., phase diagram 7—21417
- Cu-Ag-Pb system, thermodynamic optimisation 7—46421
- Cu-Te system, p-T diagram 7—21404
- Cu_2HgI_4, order-disorder transition, differential scanning calorimetry, high-press. phase diagrams 7—58463
- $Cu_{3\pm x}Pd$, long-period superstructures 7—21430
- CuTlS(Se)-AgTlS(Se), solid solutions, phase formation 7—7976
- Er-Cr-B system, phase equilibr., isothermal section at 1270°C 7—22647
- Fe, phase diagrams, appl. for online press. and temp. calibration 7—4853
- Fe-Au, solute segregation, grain boundary structural transform. 7—22687
- Fe-Co-As mixtures, phase diagram isothermal sections, binding 7—46418
- Fe-Cr-Mo system, phase boundaries of intermetallic compounds *(Japanese)* 7—53697
- Fe-Mn-Ni system, melting diagram 7—3278
- Fe-N system, phase diagram, thermodynamic calc. 7—7973
- Fe-Nb-C system, austenite-nonstoichiometric precip. equilib. 7—3303
- Fe-Nd-B system, phase relations 7—46422
- Fe-Ni-W system, phase equilib., expt. and theoretical study 7—28013
- Fe-Pd-S system, phase equilib. 7—3272
- $Fe_{75}B_{25}$, polymorphous crystallisation into Fe_3B orthorhombic phase 7—37874
- FeNiAlCoTiCuS permanent magnetic material, phase comp. and ordering, atom probe FIM and TEM studies 7—33635
- FePd, thermal expansion and α-γ phase boundary lines 7—2239
- Ga-Te system, phase diagram, DTA 7—46425
- GaAs, semi-insulating, nonstoichiometry study, lattice parameter meas. 7—38220
- GaAs/GaPAsSb, double heterostruct., LPE, lattice matching, X-ray diffr., luminesc. 7—58884
- $Ga_{1-x}In_xAs_ySb_{1-y}$ system, low temp. phase equilib. 7—52001
- Ga_2S_3-MnS phase diagrams, metastable phases, thermal and structural features 7—38165
- Gd-Cr-C system, phase equilib., struct. 7—46423
- Gd-Sb, phase diagram, peritectic reactions, congruent melting, DTA, microstructural and X-ray anal. 7—39481
- Ge crystal, exciton gas-electron-hole liq. interactions, phase diagram, nuclei drift effects 7—2488
- GeO_2-TeO_2-V_2O_5 system, phase diagram and equil., quasi-binary section investig. 7—21405
- Ge_xS_{1-x}, glass, dielectric meas. 7—13077
- Ge_xSe_{1-x}, glass, dielectric meas. 7—13077
- GeTe, slight nonstoichiometry and high free carrier density, phase diagram study *(Russian)* 7—2191
- H plasmas, ionised Fe atom miscibility under solar interior conditions 7—14555
- H_2-D_2 mixtures adsorbed on graphite, phase diagrams 7—52180
- ^3He liquid, highly polarised, reentrant superfluidity 7—2295
- ^3He-^4He mixtures adsorbed on graphite, phase diagrams 7—52180
- ^4He, liq., in Vycor glass, thermodynamics of freezing and melting 7—52169
- Hg phase diagrams, appl. for online press. and temp. calibration 7—4853
- $Hg_{0.8}Cd_{0.2}Te$, Hg vacancies, heat of form. determ. 7—37969
- $Hg_{1-x}Cd_xTe_{1-y}Se_y$, existence region of wurzite struct. 7—53709
- $Hg_kPb_{1-k}Se(Te)$, quasiternary system, quasibinary phase diagrams 7—38172
- HgS-Ga_2S_3, incongruently melting compounds 7—13436

phase diagrams continued
InGaAs layers on InP, LPE growth 7−33608
In$_x$Mo$_6$Se$_{8-y}$, insertion cpd., synthesis and props. 7−32407
InP:Ge, Fermi level, determ. from phase diagram data of InP-Ge system 7−21808
K$_2$O-PbO-SiO$_2$, glass, props. rel. to phase diagram 7−13117
Kr monolayers on ionic crystals, critical temps. 7−21666
Li-In-Sb, ternary phase diagram, electrochem. investig. 7−58441
Li$_{1-x}$H$_x$NbO$_3$, struct. and props. 7−12017
LiKSO$_4$ phase diagram, critical points determ., press. depend., differential thermal anal. 7−6780
Li$_2$MoO$_4$, high-press. polymorphs, calorimetric study 7−32638
Li$_x$Mo$_6$Se$_{8-y}$I$_y$, Li electrochemical insertion, struct. studies 7−37947
LiNbO$_3$:MgO, melt growth and charactn. 7−58170
Li$_2$O-Al$_2$O$_3$-TiO$_2$, synthesis and props. 7−33643
Li$_2$O-ZrO$_2$-P$_2$O$_5$ system, phase equilib. and cpd. form. 7−28024
Li$_2$SO$_4$-Li$_2$CO$_3$ system, phase diagram and elec. cond. meas. 7−32612
Li$_2$WO$_4$, high-press. polymorphs, calorimetric study 7−32638
Mg phase diagram determ., HCP to BCC transition, fusion curve calc. 7−52043
MgCl$_2$-CaCl$_2$ melts, thermodynamic props. 7−26977
Mg$_{76}$Zn$_{24}$, amorphous, crystn., X-ray small angle scatt. 7−11935
Mn-C system, fusibility diagram in ε-solid soln. and carbide Mn$_7$C$_3$ region 7−7964
Mn-Ni-P, equilib. phase diagram at 1070K, X-ray anal. 7−46429
Mn-P melts, free energy of mixing and Mn$_3$P form. 7−65042
Mn-P-B system, isothermal cross section at 1070K, lattice parameters of phases 7−53702
MnAs, phase transitions, effect of external press. and chemical substitutions 7−63798
Mn$_{1-t}$Ni$_t$As, structural and magnetic phase diagrams 7−6784
Mo-Al system, diffusion markers in thin film MoAl$_{12}$ formation 7−58549
Mo$_x$Ni$_{100-x}$, x=20, 28, 35, 48, 63, amorphous, struct., short range order, thermal stability 7−21107
Na-Ga, liq., phase diagram and electrical resistivity 7−21408
NaNO$_2$, incommensurate ferroelec., in transverse elec. field, virtual Lifshitz point 7−45947
Na$_2$O-B$_2$O$_3$-SiO$_2$ ThO$_2$-rich porous glass ceramic, phase separation *(Afrikaans)* 7−13439
Na$_2$O-TiO$_2$-GeO$_2$ glasses, refractive index, density 7−59170
NbC$_x$, ordering behaviour, superstruct, refl. obs. 7−3267
Nd-Fe-B, phase diagram, permanent mag. anal. 7−39486
Ni (111) with adsorbed H, phase diagrams based on model interactions 7−21650
Ni/Al thin film interactions, phase formation sequence 7−21701
Ni-Al system, diffusion markers in thin film Ni$_3$Al formation 7−58549
Ni-Fe-Mn system, coexistence of Ni$_3$(FeMn) and Ni(MnFe) superstructures *(Russian)* 7−1946
Ni-Si system, phase diagram, thermodynamics 7−46424
Ni-Ti-H, α/β miscibility gaps, X-ray diffr. study 7−13430
Ni-V-H, α/β miscibility gaps, X-ray diffr. study 7−13430
NiTi, electronic phase diagram for B2-R transition 7−52388
PLZT ceramics *(Japanese)* 7−2981
PZT solid solutions, p-t-x diagram 7−64581
Pb phase diagrams, appl. for online press. and temp. calibration 7−4853
Pb-Sn-Ag system, eutectic temp. rel. to Ag content, phase diagram, thermodynamic props. 7−65005
Pb-Te system, phase equilib., optimisation and calc. 7−3270
PbO-Fe$_2$O$_3$, binary phase diagram, DTA, X-ray diffr. meas. 7−46434
PbO-K$_2$O-Nb$_2$O$_5$, polymorphism, DTA, X-ray phase anal. 7−6782
PbO-Nb$_2$O$_5$ oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
PbO-Nb$_2$O$_5$-Sc$_2$O$_3$ oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
Pb(S$_{1-x}$Te$_x$), quasibinary, phase diagram and miscibility gap calcs. 7−16764
PbTe-Gd$_2$Te$_3$ system, solid solns., synthesis and props. 7−21458
PbTe-MnTe$_2$ system, phase diagram, conductivity and thermoelectromotive force 7−63824
PbTe-Tb$_2$Te$_3$, solid solns., physicochemical anal. 7−21456
Pd-T system, solubility meas., comparison with Pd-D and PdH systems 7−21474
Pd-Te, phase diagram, DTA, X-ray powder diffr. studies 7−39483
Pd-Te system, phase diagram study 7−26934
Pd$_{0.8}$ Ag$_{0.2}$-T systems, solubility meas., comparison with Pd$_{0.8}$Ag$_{0.2}$-D and Pd$_{0.8}$Ag$_{0.2}$-H systems 7−21474
Pr-Co-B system, phase diagram over complete conc. range 7−3281
PrO$_x$-DyO$_{1.5}$(YO$_{1.5}$) solid solutions, phase diagrams and variable valency 7−33642
Pt (111), Xe adsorption, thermodynamic meas. 7−6982
Pt (111), Xe monolayers, high order commensurate locked phase 7−2349
Pt-Pd phase diagrams, thermodynamic calc. from expt. data on solidus temp. 7−3274
Pt-Ph phase diagrams, thermodynamic calc. from expt. data on solidus temp. 7−3274
Sb-Sb$_2$Se$_3$-SbI$_3$ system, phase diagrams investig. 7−2212
Sb-Sn system, phase diagram, thermodynamics 7−3283
SbCl$_5$ intercalated graphite, stage 2, basal plane resistivity and phase diagram 7−45258
Sb$_2$S$_3$, nonstoichiometric forms in PbSb$_2$S$_4$-Sb$_2$S$_3$ region of Pb-Sb-S phase diagram 7−6812
Sb$_2$S$_3$-I$_2$ system, SbSI form. and melting diagram 7−26919
Si films, phase diagram of laser induced melt morphologies 7−12131
Si thin film, laser-irradiated melt morphology and order-disorder transitions studies 7−44614
SiC short fibred filamentary crystals., phase comp. and morphology 7−65010
Si$_3$N$_4$-Ti, reaction under rapid thermal annealing 7−39334
Sn phase diagrams, appl. for online press. and temp. calibration 7−4853
Sn-Bi alloy, heterogeneous, fusion kinetics 7−3280
Sn-In-S ternary system, cryst. growth and charact. *(French)* 7−33645
Sn-Pb system, metastable quasi-eutectic struct., existence range 7−3275
Sn-R binary systems (R=La, Nd, Gd, Er, Lu), phase diagrams and equilib. 7−7961
Sn$_2$P$_2$(Se$_x$S$_{1-x}$)$_6$, ferroelec., phase p, T, x diagram *(Russian)* 7−17278
(SnSe)$_{1-x}$Sb$_x$ solid solns., phase diagrams and elec. props., comp. depend. 7−2172
SnTe-CdS, in SnTe+CdS$\rightleftharpoons$SnS+CdTe ternary reciprocal system 7−13438
SnTe-InSe, quasibinary section of Sn-In-Te-Se, physicochemical props. 7−7979
Sr(La$_{1/2}$Nb$_{1/2}$)O$_3$-PbZrO$_3$-PbTiO$_3$, hot-pressed ceramics, dielectric, piezoelectric and optical props. 7−64583
Ta$_{55}$-It$_{45}$ amorphous alloy, crystallisation study 7−58145
TaSe$_2$:H, polytype formation, impurity conc. depend. 7−63801
Tc-C system, phase diagram and components activity 7−7962
Th-Au system, phase diagram, DTA, micrography, X-ray anal. 7−17512
Ti alloy, two-phase ($\alpha+\beta$), vol. changes during polymorphic transform. 7−39506
Ti-Al-V, ternary phase diagram 7−28017
Ti-C-Ni system, stability regions and equil., TiC-Ni hard alloy form. 7−28016
Ti-S system, synthesis of sulphides under high press., phase diagram 7−44791
Ti-Zr, α-β transform. temp. study 7−38180
TiC-WC-TaC-Co hard metals, Ta conc. effect on comp. and physicomech. of carbide and Co phases 7−53708
TiH$_x$ struct. and phase transitions, X-ray diffr. anal. 7−52034
Tl phase diagrams, appl. for online press. and temp. calibration 7−4853
Tl$_2$GeSe$_3$-Tl$_2$SnSe$_3$ systems, phase equilibria 7−6760
Tl$_4$GeSe$_4$-Tl$_4$SnSe$_4$ systems, phase equilibria 7−6760
Tl$_2$S(Se)-GeS(Se), polythermal sections, physicochemical anal. 7−7975
V-Al system, diffusion markers in thin film Val$_3$ formation 7−58549
V-N system, phase equilib., crystallography, thermodynamic props. 7−28011
V-Si-N system at reduced N press., phase relations at 1273K, absence of supercond. 7−17518
V$_{3-x}$Mo$_x$S$_4$, struct. and phase relations, comp. depend., X-ray powder diffr. study 7−1978
(1-x)V$_2$O$_5$-xPbO, phase diagram in V$_2$O$_5$-rich region *(French)* 7−12265
W-Fe-Co-Ni system, isotherms of solidus and phase comp. above 1200°C 7−65006
W-Fe-Co-Ni system, phase equil., peritectic transform. 7−53701
W-Ti-Si system, metallisation materials, amorphous phase form. and stability 7−22640
Xe monolayers on graphite, low temp. phase diagram, striped helical Potts model calcs. 7−38327
Y-Si-Al-O-N ceramics, phase relationships 7−65011
Yb-Sb-Te ternary system, phase diagram investigs. 7−2174
Zn-Ho alloy, two-phase, partial thermodynamic props., 690 to 1020K 7−7963
Zr-Mn-H system, equilibrium props. 7−16756
Zr-Nb, high press. $\beta\rightarrow\omega$ transformation *(Russian)* 7−16727
Zr-Ru-Ir system, solidus surface projection of Zr-ZrRu-ZrIr partial system 7−7972
Zr-S system, ZrS$_2$ thermodynamic props., 298 to 1600K 7−28022
Zr-ZrRu-ZrIr partial system, phase diagram and crystn. 7−22642
ZrO$_2$, Y$_2$O$_3$ partially stabilised, phase diagram, microstruct. *(Japanese)* 7−53707
ZrO$_2$-Y$_2$O$_3$-CeO$_2$, phase relations, solubilities, 1100-1600°C 7−46435
ZrO$_2$-Y$_2$O$_3$-Co$_3$O$_4$ materials, Co$_3$O$_4$ effect on struct. and phase comp. 7−27990
ZrO$_2$-Y$_2$O$_3$-Nd$_2$O$_3$, phase relations, solubilities, 1100-1600°C 7−46435

phase diagrams, magnetic *see magnetic transitions*

phase equilibrium
see also phase diagrams; phase transformations; solutions
acetonitrile-1-propanol mixtures, vapour-liq. equilibria 7−38173
1-alcohol-n-alkylaromatic cpd. systems, excess thermodynamic props. model *(German)* 7−2232
alloy thin films, co-deposited, phase form. 7−59492
alloys, FCC, binary, with nearest neighbour interactions, ordering 7−21403
binary critical mixtures, universality 7−44758
binary fluid mixtures, eqn. of state, high temp. and high press. 7−21385
binary hard sphere mixtures eqns. of state, van der Waals perturbation term calcs. 7−12226
binary mixture with diffusion, mass transfer across moving interface, boundary condition 7−58436
binary system components, estimating intersolubility 7−44819
N,N′-bis(4-n-octyloxybenzal)-1,4-phenylenediamine, condis crystal props. 7−37909
β'-brass, elastic constants, phase stability, dynamic obs. 7−3347
brine-toluene-n-butanol-Na-dodecyl sulphate system, diffuse interface in oil-in-water microemulsions 7−59788
ceramic materials, intergranular glass phases, equilib. film thickness 7−46433
chemical process design, fluid props. and phase equilibria, conf., Lo-Skolen, Helsinger, Denmark (May 1986) 7−18473
coal liquefaction process, fluid-phase equilibrium prediction 7−40021
crystal growth, high temp., and phase diagram studies, high purity autoclaves 7−53511
crystal growth, interfacial, surface angles at three phase line, melt solidification conditions, thermodynamic analysis 7−27889
1,2-dichloroethane-benzene(toluene) (p-xylene) mixtures, liq.-vap. equilib. *(German)* 7−2161
diffusion layer growth kinetics, effects of metal-gas interface 7−26911
disequilibrium and self-organisation, book 7−24328
ethoxylated alcohol-n-alkane-water mixtures, phase behaviour patterns 7−21406
eutectic systems, simple, latent heat of fusion, temp. and conc. relationships *(Russian)* 7−38170
fluids, thermodynamic stability and viscosity behaviour or melting curve 7−12247
French Metallurgy Society meeting, Paris, France (Oct. 1986) *(French)* 7−29579
freons, liquid-vapour system, shock wave compression 7−31874
gas containing systems with cubic equations of state, phase behaviour 7−6752
glass ceramics, struct., phase relations 7−7982
halide glasses, phase equilibria, thermodynamic model 7−2150
n-heptane-water-alcohol, phase equilibria and phase diagrams at 298.2K 7−44760
III-V quaternary alloy semiconductors, thermodynamic anal. of MOVPE growth 7−16884
III-V semiconductor, ternary solid soln., miscibility gap in phase diagram 7−52057
immiscible melts, separation under reduced gravity *(German)* 7−22972
infinite-pressure excess functions and VLE *K* values from liquid-phase activity coefficients 7−16708

- **phase equilibrium** continued
  - interfaces, boundary-layer theory for dynamics and thermodynamics 7—26909
  - interfacial reactions, realistic modelling 7—21698
  - intergranular phase, continuous, morphological stability 7—63772
  - intermetallic phases, appl. as high temp. materials, review 7—22775
  - interstitial alloys, with nonequivalent positioning of interstitial atoms, phase diagram *(Russian)* 7—38163
  - liquid crystal-polymer mixtures, phase diagrams, nematic-isotropic phase equilibria versus liq.-liq. demixing 7—16739
  - liquid soln.-solid grain system, stability of steady states, diffusion effect 7—32622
  - magnetic and thermoelec. methods of phase analysis 7—28240
  - metal clusters, phase investig. 7—15772
  - metals, nonuniform liq., in partially ionised states, density functional theory 7—6504
  - methane - 2,2-dimethylbutane - 2,3-dimethylbutane, tricritical behaviour 7—12234
  - methane-alkane mixtures, vapour-liq. equilib. Wilson-Wegner expansion, vapour press. calcs. 7—12248
  - methanol-heptane (octane), liq.-liq. phase equilibrium at press. from 0.1 to 150 MPa 7—26931
  - mixtures containing components with large difference in mol. size or pot. energy, phase equilibrium 7—52078
  - model microemulsion, phase equilibria and critical endpoints 7—17828
  - multicomponent nonideal vapour-liq. and liq.-liq. systems, phase equilibrium 7—6769
  - multicomponent systems, association, thermodynamic functions *(German)* 7—21411
  - multicomponent systems, complete integration of Gibbs-Duhem eqn. phase boundaries *(Chinese)* 7—61298
  - nematic liquid crystals, global phase diagrams, second-order nematic-isotropic transitions 7—12274
  - Ostwald ripening, finite vol. fraction effects 7—12282
  - oxide glasses, phase equilibria, thermodynamic model 7—2150
  - paired metal hydrides, operational characts. and dynamic behaviour 7—32609
  - phase equilibria, thermodynamics, review *(Japanese)* 7—38226
  - phase rule, generalisations 7—63763
  - phase transition, transient problem steady-state problem 7—12236
  - PMMA-phosphate plasticizer systems, phase equilibrium and struct. *(Russian)* 7—63515
  - poly p-phenylene benzobisthiazole-poly 2,5(6)benzimidazole blends, phase separation morphology 7—7981
  - polyester-polyether segmented copolymer, melt spinning, fibre form., struct., phase separation 7—46407
  - polymer soln. mixtures, vapour-liq. equilib., quartic hard chain eqn. of state calcs. 7—12228
  - polymer solutions, phase equilibrium in static and dynamic conditions *(Russian)* 7—63434
  - polymolecular liquid films on energetically nonuniform substrates, stability and equilib. props. 7—6772
  - polystyrene-polyvinylmethylether blends, phase decomp., small angle neutron scatt. 7—28021
  - polyurethane, interpenetrating network, microphase struct., X-ray diffr. obs. 7—44410
  - rare earth alloys, R-Co-Fe system between 2:17 and 2:7 phase regions, phase equilibria, metallography, X-ray diffr., thermomagnetic anal. 7—17511
  - real gases, P-V-T isotherms 7—9623
  - solid metal-metallic melt systems, phase interactions, interface energies 7—3273
  - solid solutions, phase equilibrium across coherent interface 7—38152
  - spherical mols. model mixtures, phase equilibr. 7—38203
  - steel, C, thermodynamics of phase boundaries 7—65007
  - steel, Cr-Mo, thermodynamic props. of carbides, 985K 7—17536
  - steel, fine-grained, Zr effect on struct. and phase comp. 7—39525
  - steel, high-speed, phase comp. of powdered stock 7—53674
  - steel, low alloy, α/γ equilib. phase boundary calc. *(Chinese)* 7—7959
  - steel, plain C, peritectic reaction, temp. and comp., influence of alloying elements 7—13435
  - steel, stainless, austenitic, low-activation, constitution, struct. and mech. props. 7—42195
  - steel, stainless, austenitic-pearlitic, N effect on phase comp. and props. 7—53754
  - steel, Ti-N, ultra low C, precip./austenite equilib. 7—3302
  - supercritical fluid, nature 7—9622
  - terminal solutions, modified regular-soln. model 7—26980
  - tetrachloromethane-alcohol-cyclic ether, excess Gibbs free energies at 298.15K 7—44851
  - tetramethyl urea+water system, solid-liq. phase equil., freezing pts. 7—32616
  - thermodynamic props., partial derivatives 7—32682
  - transition metals, two-phase systems, preferential distrib. 7—28012
  - two-centre Lennard-Jones fluids, phase equilibria 7—32610
  - van der Waals fluid, phase transitions, theory 7—48251
  - vapour-gas-liquid systems with separate volumes of vapour and gas, limits of variation of specific vol. 7—51998
  - vapour-liquid equilibria, group contrib. eqn. of state calcs. 7—51985
  - vapour-liquid equilibria calcs., cubic equation of state 7—38174
  - vapour-liquid equilibrium, Wilson eqn. calcs. 7—52017
  - water-1-pentanol-hexane, liq.-liq.-vapour equilib., isobaric and isothermal conditions *(Russian)* 7—63788
  - Ag-Au-Zn ternary system, liq., thermodynamic functions *(German)* 7—44856
  - Ag-Sn-Te system, ternary, enthalpy of mixing *(German)* 7—21469
  - Ag_2Te-Ag_4SSe, thermoelectrical props. 7—45364
  - Al alloy, binary, alloying capacity for solid soln. obtained by casting under press. 7—53716
  - Al-Ba-La system, phase equilib. study 7—3279
  - Al-Fe-Ce, quasicrystalline decagonal phase, TEM 7—46492
  - Al-Fe-Si system, intermetallic phases, electron probe microanalysis, X-ray diffr. 7—59491
  - Al-Li-Zn-Mg-Cu alloys, microstruct. evolution 7—53739
  - Al-Mn, rapidly solidified, decagonal phase morphology 7—39499
  - Al-Mn (14 at.%), solidification, icosahedral and T-phase form. temp. rel. to cooling rates 7—53718
  - Al-Mn system, G-phase form. and stability range 7—22663
  - Al-Mn(-Si) rapidly solidified alloys, quasicrystal form. by electron beam melting 7—26915
  - Al-Mo (11 at.%), rapidly solidified, equilib. phase development 7—46436

- **phase equilibrium** continued
  - Al-Pd, rapidly solidified, decagonal phase morphology 7—39499
  - Al-R (R=Gd, Ho, Er, Y) alloys, intermediate phase metastable extensions, DSC and X-ray diffr. studies 7—21413
  - Al-Zn, disintegration kinetics, hardening temp. effects 7—52055
  - Al-Zr(Nb)(Mo), molten, thermodynamic props. 7—21450
  - Al_2O_3-Cr_2O_3-ZrO_2 system, subsolidus, high temp. phase relation 7—17519
  - Au-Ge-GaAs, interfacial reactions, struct. after annealing 7—27154
  - BN samples, quantitative phase anal., elimination of texture effects 7—63771
  - BN, wurtzitic compacts, sintered, particle size distrib., hardness, phase comp. 7—59603
  - BaO-RuO_2-Fe_2O_3 system, equilibria description 7—65340
  - BaO-TiO_2-$B_2O_3(V_2O_5)(MoO_3)$, phase equilib. 7—46430
  - $BaO.Nd_2O_3.5TiO_2$, ceramics, matrix phase struct. 7—39488
  - $Ba(PO_3)_2$-AlF_3-NaF system, glass form. and props. 7—11929
  - $Ba_2Ti_{5-x}Zr_xO_{12}$, synthesis, stability, cryst. chem. 7—53681
  - Bi-In-Sn alloys system, phase relationships 7—13433
  - $Bi_4Ge_3O_{12}$ single cryst. growth, characterisation and appls. 7—33550
  - CO_2-n-hexadecane supercritical system, phase equilib. and vapour density meas., high-press. multiproperty apparatus appl. 7—12249
  - $CaCO_3$-$MnCO_3$ mixed cryst., metastable formation range and morphology 7—26910
  - Cd-Sb melts, crystallisation and structural state, phase equilib. diagrams 7—46441
  - $Cd_2Nb_2O_7$ ceramic, high press. phase transition and dielec. props. 7—2177
  - CeO_{2-x}, thermodynamic model for nonstoichiometric ionic phases 7—32673
  - Co-base alloys, N and H solubility, equivalent influence of alloying elements 7—59495
  - Co-Cr-Re system, phase equilib., struct., microstructural, X-ray phase and durometric analyses 7—17513
  - Co-Ni-Mn system, thermodynamics and phase equilib. 7—65008
  - $CoAl_M$ phases, binding anal. 7—44445
  - CoO-H_2O and Co_3O_4-H_2O systems, hydrothermal equilib. thermodynamic props. of $Co(OH)_2$ 7—39492
  - CoO-MnO system, thermodynamic props., phase diagram, miscibility gap 7—53706
  - CoO-NiO system, immiscibility 7—38202
  - Co_3Ti, alloying behaviour, phase equilib. 7—7968
  - Cr-Li-K-C-O system, phase relationships at 650°C, appl. to corrosion processes in molten carbonate fuel cells 7—28020
  - Cr-Ti-C system, existence of quasibinary section Cr-TiC 7—3288
  - Cu-Based alloys, rel. between phase comp. and electron conc. *(Russian)* 7—53700
  - Cu-Li, prep. and props. 7—53663
  - Cu-Mn-Ge system, phase equilib. in Cu-rich alloys 7—3277
  - Cu-Mn-Sn, phase conc. nonuniformities rel. to annealing *(Russian)* 7—59494
  - Cu-Zn system, phase equilib., thermodynamic evaluation 7—3271
  - CuTlS(Se)-AgTlS(Se), solid solutions, phase formation 7—7976
  - Dy-Re-Fe(CO)(Ni), intermetallide-based solid solns., phase equilib. and mag. props. 7—22639
  - Eu-In-Te systems, phase equilib. investigs. 7—2173
  - Fe-Al-Co ordering alloys, phase separations 7—33634
  - Fe-B, B solubility in Fe 7—7971
  - Fe-base alloys, N and H solubility, equivalent influence of alloying elements 7—59495
  - Fe-Cr-Mn-Ni-C system, phase relationships at solidification temps. 7—28014
  - Fe-Cr-Mo system, phase boundaries of intermetallic compounds *(Japanese)* 7—53697
  - Fe-Cr-Ni-C system, phase relationships at solidification temps. 7—7969
  - Fe-Cr-Re system, interaction of intermediate phases, phase equilibria 7—17514
  - γ-Fe-Cu-C, C activity, effect of Cu 7—13432
  - Fe-Ge-Te, compound formation, microstructure, X-ray diffraction, dilatometry studies 7—7980
  - Fe-Mg-Si-O system, phase equilibria at high press. and temp., thermochemical data base 7—21407
  - Fe-Mn-C critical nucleus comp. of ferrite 7—7967
  - Fe-N alloys, phase state and precipitation, plastic deformation effects *(Russian)* 7—46551
  - Fe-Nd-B-Al sintered magnets, TEM studies 7—51999
  - Fe-Ni, electron irrad., low temp. phase transitions *(Russian)* 7—51832
  - Fe-Ni FCC alloys, low temp. phase equilib., mag. effects 7—26914
  - Fe-Ni system, liq., phase equilib., above 1200K, mag. contrib., thermodynamic analysis 7—7966
  - Fe-Ni system, phase equilibria, mag. contrib. to thermodynamic functions, below 1200K 7—7965
  - Fe-Ni-B system, distrib. equilib. in two-phase fields 7—22641
  - Fe-Ni-Cr, high-purity, irrad., void swelling and nucl.-induced phase transforms. 7—58340
  - Fe-Pd-N austenite, thermodynamics, 1315-1538K 7—13429
  - Fe-Pd-S system, phase equilib. 7—3272
  - Fe-Ti-C system, austenite-nonstoichiometric precip. equilib. 7—3303
  - Fe-V, amorphous and metastable cryst. alloys prod. by vap. quenching 7—46420
  - $FeAl_M$ phases, binding anal. 7—44445
  - FeAlNiCoCu permanent magnetic material, phase decomposition kinetics, atom probe FIM study 7—33669
  - $(Fe_{1-x}Co_x)_{80}B_{20}$, amorphous alloy, crystallisation kinetics *(Korean)* 7—26638
  - Fe_3O_4-$ZnFe_2O_4$ system, thermodynamic props., EMF obs., X-ray diffr. 7—22646
  - Fe_2SiO_4-Zn_2SiO_4, limited solid soln., cation ordering 7—51709
  - $Fe_2V_{4-x}Mo_xO_{13}$ type phases, Mossbauer spectra 7—38969
  - GaAs, LEC, undoped, stoichiometry 7—53563
  - GaAs-Bi, distrib. coeff. of Bi, crystn. from molten solns. 7—46428
  - $Ga_xIn_{1-x}P_yAs_{1-y}$, solid solns., thermodynamic stability 7—21453
  - Ga_2O_3, chem. transport in Ga_2O_3/N-H-Cl system 7—53519
  - Ga_2S_3-MnS phase diagrams, metastable phases, thermal and structural features 7—38165
  - GaSe laminar semicond. intercalation cpds., phase equilibria and stability studies *(Russian)* 7—21409
  - Gd oxychlorides, phase equilib., X-ray diffr. and spectro-luminesc. anal. 7—46143
  - Gd-Cr-C system, phase equilib., struct. 7—46423
  - Gd-Mg system, phase equilib. study 7—26935
  - Gd_2O_3-ZrO_3-Nb_2O_5 structure investig. 7—46427
  - GeO films, phase comp. and struct., substrate temp. effects 7—2219

phase equilibrium continued
GeO_2-TeO_2-V_2O_5 system, phase diagram and equil., quasi-binary section investig. 7−21405
GeTe-$GeSe_2$, polythermal section of Ge-Te-Se, effects of deviations from stoichiometry 7−7977
GeTe-PbSe, phase transformations, cation-anion substitution, electrophysical props. 7−7978
H_2-containing mixtures, interaction parameter in Peng-Robinson eqn. of state 7−16712
H_2-hydrocarbon vapour-liquid equilibria and saturated densities at high press. and temp. 7−16707
H_2O-CO_2(H_2S)(NH_3)(H_2SO_4)(H_3PO_4)($ZnCl_2$) ($CuCl_2$), thermodynamic meas., bibliography of data sources 7−52070
He-H_2 system, density inversions between fluid and solid phases at high pressures 7−58451
Hf-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7−28018
HfC, HfN, refractories, basic props., survey 7−64883
$HgGa_2S_4$-$HgIn_2S_4$ system, new multinary layered compound 7−53516
HgI_2, evaporation studies and phase stability 7−52025
InSe laminar semicond. intercalation cpds., phase equilibria and stability studies *(Russian)* 7−21409
La-Co-O system, nonstoichiometric K_2NiF_4-type phases 7−37936
La-Mg system, phase equilib. study 7−26935
La-Mn-O system, solid state equilibrium relationships 7−38160
$LaMgAl_{11}O_{19}$-$LaMgGa_{11}O_{19}$-$LaMgFe_{11}O_{19}$ system, solid solns, 7−39491
$Li_2B_4O_7$-Li_2SO_4-LiCl-H_2O, saturated soln., phase equilibrium, props. 7−40507
$Li_{1-x-y}Cu_xMnRuO_4$ system, prep. and characterisation *(German)* 7−26721
$Li_{1-y}MnRu_{1-x}Ti_xO_4$ system, characterisation of different phases *(German)* 7−26971
$Li_xNa_yTiS_2$ intercalated dichalcogenides, struct., electrochem. and thermodynamic props. studies 7−21167
Li_20-TiO_2-GeO_2, glass form., phase equilibria *(Russian)* 7−21118
Mg-Sm-Zn system, phase equilib. 7−46413
MgO-Cr_2O_3-ZrO_2 system, subsolidus, high temp. phase relation 7−17519
MgO-M_2O_3-ZrO_2 7−17519
Mn-Ni-P, equilib. phase diagram at 1070K, X-ray anal. 7−46429
Mn-P-B system, isothermal cross section at 1070K, lattice parameters of phases 7−53702
Mn-Sn, homogenised, mag. props., thermal expansion 7−2900
MnO_2-$BaMnO_3$ system, pseudo-binary, phase relation and thermal behaviour of synthetic hollandite, $Ba_xMn_8O_{18}$ *(Japanese)* 7−28026
NH_4AlPO_4-P_2O_5-H_2O system, phase relations, $AlPO_4$ stability 7−65009
Na_2O-B_2O_3-SiO_2, interaction with HNO_3, effect of volumes, radii of channels 7−13613
Na_2O-B_2O_3-SiO_2 glass ceramic, prep., SiO_2 replacement, phase separation, struct. 7−13428
Nb-B-C system, struct. and phase equilib. of Nb 7−22638
Nb-C alloy, thermotransport of C 7−46479
Nb-Hf-B system, phase equilib. in Nb corner 7−46415
Nd-Fe-C(Si)(Ge)(Pb)(Sn) ternary phase studies. X-ray anal. and Curie temp. meas. 7−7508
Nd_2O_3-P_2O_5-GeO_2, phase equilibria, X-ray diffr., thermal anal., fluoresc. spectra 7−6758
Ni-Al-Co-Cr-Ta, polycrystalline superalloys, microstruct. rel. to Ta content 7−46446
Ni-Al-Fe system, phase equilibria in the Ni-rich region 7−39487
Ni-Al-Mo, precip. in Ni-base superalloys 7−53745
Ni-Al-Mo-W system, constitution of Ni_3Al-Ni_3Mo-Ni_3W section 7−13434
Ni-B alloy, electroless, heat induced struct. changes 7−13639
Ni-B-Si ternary system, liq.-solid equilib. in Ni-rich region *(French)* 7−65004
Ni-base alloys, N and H solubility, equivalent influence of alloying elements 7−59495
Ni-GaAs, lateral reactions, hot-stage TEM 7−27030
Ni-Nb-C system, directionally solidified, phase equilib. and struct. 7−46416
Ni-Si system, phase diagram, thermodynamics 7−46424
$NiAl_M$ phases, binding anal. 7−44445
NiO-CuO solid solutions, tweed microstruct., investig. using TEM 7−44756
NiO-CuO solid solutions, evidence for long-range cation order, TEM investig. 7−44757
$Ni_{93.35}Sb_{6.65}$ and $Ni_{78.5}Sb_{21.5}$ alloys, characterisation studies *(French)* 7−28010
NiTa-GaAs, phase separation, cross-sectional TEM 7−27152
NpO_{2-x}, hypostoichiometric, O dissociation press., partial thermodynamic functions 7−17520
Pb-Bi system, heat of fusion *(Russian)* 7−44766
Pb-Sn-Ag solder alloys, phase equilibria 7−46426
$PbTiO_3$-$PbZrO_3$-$Pb(Mg_{1/3}Nb_{2/3})O_3$ system, comp. fluctuation in solid soln. *(Japanese)* 7−28025
Pd-B alloys, thermodynamic props. *(German)* 7−21486
Pd-GaAs, phase formation sequence, morphology 7−27153
Pd-H system, phase form., process *(Russian)* 7−33640
Pd-H system, struct. changes, phase rels. 7−22643
PdTi, enthalpy of form. by high temp. calorimetry 7−21410
Pt-Pd-Cu_2S-Ni_3S system, annealing, phase comp., DTA 7−46412
Pt-PtS system, phase equilib. 7−22644
Pu-O system, phase equilib., thermodynamics, 1400-1610 K 7−59496
Pu-Os-B system, phase equilibria and cryst. struct. 7−16781
Pu-Rh-B system, phase equilibria and cryst. struct. 7−16781
Pu-Ru-B system, phase equilibria and cryst. struct. 7−16781
Ru-Cu_2S system, annealing, phase comp., DTA 7−46412
Sb-Ge-Zn system, thermodynamic investig. *(German)* 7−53703
Sb-Zn 7−46441
Sc-Bi alloys, thermodynamic props. and phase equilib. 7−3276
Sc-Ga(In)(Sb), alloy form, thermodynamics 7−22637
Si-C-O system, predominance diagrams, thermodynamics of Si and SiC prep. 7−22645
Si-O system, solubilities of O in liq. and solid Si 7−26961
Si_3N_4-AlN-rare earth oxide systems, subsolidus phase relationships 7−39489
Sn-Bi system, heat of fusion *(Russian)* 7−44766
Sn-R binary systems (R=La, Nd, Gd, Er, Lu), phase diagrams and equilib. 7−7961
SnTe-CdS, in $SnTe+CdS \rightleftharpoons SnS+CdTe$ ternary reciprocal system 7−13438

phase equilibrium continued
Ta_2O_5-Fe-Fe_2O_3 system, equilibria at 1200°C 7−12301
$(Ti,Mo)O_2$ solid solution, activity-comp. relationship, 1350 to 1600K 7−28019
Ti binary alloys, rapidly quenched, metastable phase form. 7−21414
α-Ti, elastic constants, phase stability, dynamic obs. 7−3347
Ti-Al (6 to 16 wt.%), ordered DO_{19} phase form., DTA study 7−39484
Ti-Al-V, struct., martensitic transform., cooling rate depend. *(Russian)* 7−46469
Ti-Al-V, ternary phase diagram 7−28017
Ti-C-Ni system, stability regions and equil., TiC-Ni hard alloy form. 7−28016
Ti-Mo(W)-N, phase equilibria between high melting nitrides and refractory binder metals 7−28018
Ti_3Al, struct., phase comp. rel. to crystallisation rate and heat treatment 7−46442
TiC-WC-TaC-Co hard metals, Ta conc. effect on comp. and physicomech. of carbide and Co phases 7−53708
TiO_2-SnO_2 system outside coherent spinodal, phase transform. kinetics, role of aliovalent dopants 7−46432
U-Th-Sn, liq. N-nitride equilib. 7−46417
$U_{1-z}Ce_zO_{2+x}$, nonstoichiometry, chemical thermodynamics 7−52083
$U_{1-z}Ln_zO_{2+x}$ (Ln=Y, La, Nd, Gd), nonstoichiometry, chemical thermodynamics 7−52083
UO_2-CeO_2, sintering, solid soln. form. 7−3289
V-C alloy, thermotransport of C 7−46479
V-N system, phase equilib., crystallography, thermodynamic props. 7−28011
W-Fe-Co-Ni system, isotherms of solidus and phase comp. above 1200°C 7−65006
W-Fe-Co-Ni system, phase equil., peritectic transform. 7−53701
$(WCl_3)_n$, (n=1,2,3), electrographic investig. 7−13844
Y oxychlorides, phase equilib., X-ray diffr. and spectro-luminesc. anal. 7−46143
Y-Pd-Fe(Co)(Ni), intermetallides, interaction characts. and props. 7−46414
Y_2O_3-TiO_2 system, fluorite type solid soln. crystallisation 7−1882
Yb-In-Te system, phase equilibria 7−44761
ZnO-Bi_2O_3 mixtures, lattice parameters, depend. on Bi_2O_3 conc. 7−1974
Zr-H system, phase equilib. 7−7974
Zr-H_2 system, phase equilib. 7−21412
Zr-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7−28018
Zr-Ni metallic glasses, crystn. 7−21111
Zr-Ru-Ir system, solidus surface projection of Zr-ZrRu-ZrIr partial system 7−7972
ZrF_4-BaF_2-AlF_3 glass, viscous flow vs. phase separation, DSC study 7−44383
ZrO_2-MgO-P_2O_5 system, phase equilib. at 1573K 7−28023
ZrO_2-TiO_2, solubility of TiO_2 in ZrO_2 7−39490
ZrO_2-TiO_2 system, low-temp. phase relationships 7−46431
ZrO_2-Y_2O_3 ceramic system, phase equilib. and transform 7−22682

phase equilibrium diagrams *see phase diagrams*

phase-locked loops
Doppler ultrasonic flowmetry, signal analysis using PLL 7−50851
microprocessor-based linac main oscillator and beam stabilization using the phase-locked trigger *(Japanese)* 7−19622

phase measurement
coherent light signal, phase space-time distrib. meas. 7−25855
heterodyne interferometric profilometer 7−29980
meters, orthogonal with clipped signals, noise error statistical characts. 7−56302
NBS 50 kHz phase angle calibration standard 7−14963
optical phase meas. with subpicosecond resolution by time-domain interferometry 7−41451
optical signal phase meas. error when passed through multimode optical fibre 7−37013

phase modulation
see also phase shift keying
holographic solar concentrator, feasibility and basic principles 7−46919
interferometry, sinusoidal phase modulating, for surface profile meas. 7−9878
interferometry, sinusoidal phase modulating, measurement accuracy anal. 7−9881
laser beam apodisation with graded random phase window 7−31369
linear displacement meas. using spatial phase detection of 1D periodic pattern *(Japanese)* 7−56217
optical fibres, multisoliton pulse interaction, FM influence 7−43390
AlGaAs/GaAs waveguide phase modulators, wavelength depend. 7−43361
GaAs-$Al_xGa_{1-x}As$, p-n junction waveguide, phase modulation, orientation depend. 7−57536

phase modulation, optical *see optical modulation; phase modulation*

phase regulation *see phase control*

phase shift keying
InGaAsP DFB laser, phase noise and linewidth, effect on DPSK coherent system 7−31322

phase shift microphones *see microphones*

phase space methods
charged-particle beams, trajectory based phase-space anal. 7−42886

phase transfer function *see optical transfer function*

phase transformations
see also commensurate-incommensurate transformations; critical fluctuations; crystallisation; glass transition (glasses); heat of transformation; isothermal transformations; liquid crystal phase transformations; liquid-liquid transformations; liquid-vapour transformations; phase diagrams; phase equilibrium; solid-liquid transformations; solid-state phase transformations; solid-vapour transformations; spinodal decomposition; vaporisation
active rotator systems subject to noise, two-dimensional, cooperative phenomena and phase transitions 7−4673
adsorbed layers, conf., Oxford, England, (17-18 Dec. 1985) 7−29575
alloys, rapidly solidified, conf., Boston, MA, USA (Dec. 1985) 7−18496
antiferromagnetic Potts model, simple cubic lattice, critical fluctuations and phase transitions, Monte Carlo simulations 7−35457
atactic polystyrene solns., gelation, viscous flow meas. 7−32254
axial toroidal moments in electrodynamics and solid-state physics 7−31232
beam-solid interactions and phase transformations, conference, Boston, MA, USA (Dec. 1985) 7−9590

phase transformations continued
- biological membranes, microwave effects, rel. to crit. phase transition 7−40114
- biological motion, coordinated, nonequilib. phase transitions, critical fluctuations 7−28564
- book 7−35123
- Boolean cellular random nets, phase transitions 7−56171
- Cayley tree, interacting random walkers, polymer statistics 7−9792
- coherent phase transformations, asymptotic form of small density differences 7−24615
- collective effects in elements and compounds 7−58433
- complex dynamical systems, phase transform. 7−29954
- complex Sierpinski carpets, phase transform. 7−61303
- conference, critical phenomena and phase transitions, Brasov, Rumania, (1983) 7−48187
- conformal bootstrap in two dimensions 7−48529
- Couette flow, of liquid, nonsteady properties, phase transition conditions 7−31739
- Coulomb gases, 2D, hierarchical model with Kosterlitz-Thouless fixed point 7−9797
- crystal order parameter, relax. time near phase transition points, Raman scatt. studies 7−44738
- curved interface straightening, isoparametric finite elements 7−62963
- dimyristoylphosphatidic acid/cholesterol bilayers, thermodynamic props. and phase transition kinetics 7−17955
- dipalmytoylphosphatidylcholine vesicles, dynamic fluoresc. meas. on main phase transition 7−17954
- DL-α-dipalmitoylphosphatidylcholine, biomembrane, study by positronium annihilation 7−40116
- driven diffusive system, critical behaviour, field theoretic renormalisation group study 7−9811
- dye laser, coloured noise induced first-order phase transition 7−57309
- dynamical phenomena at surfaces, interfaces and superlattices, summer school, Erice, Italy, (July 1984) 7−1
- early Universe isothermal phase transform., entropy prod. 7−4598
- elastic and viscoelastic bodies, state of stress and strain during phase transitions 7−29961
- equilibrium, with bulk, interfacial and boundary energy 7−41313
- ferroelectrics, thermodynamics equilibr. critical exponents and stability 7−12237
- finite volume effects on critical behaviour, exactly solvable model 7−35487
- first order, statistical mechanics 7−38158
- first order phone transitions, pattern formation, book contrib. 7−51997
- first-order phase transitions, classification 7−14907
- fluctuation effects in an exactly solvable model of phase transitions 7−41318
- fluid displacement in porous medium, interphase mass transfer and phase transform. 7−51300
- fluorescein dye in ionic gel near phase transition, fluorescence obs. 7−13190
- fractal lattices with long-range interactions 7−29928
- freezing transition in disordered nonequilib. systems 7−32598
- frustration models, two-dimensional, ordering and phase transitions due to entropy gains 7−246
- generalised planar model, chiral and algebraic order, new phase transition scenario, Monte Carlo simulations 7−38877
- glass ceramic materials, liq. phase separation, nucleation and crystn., book 7−24327
- graphite surface with adsorbed methane, LEED 7−27129
- hard hypercube gas, parallel, ordering 7−9747
- Hedvall effect, non-Markovian description 7−63764
- hierarchical lattices, geometrical phase transitions and universality 7−41321
- hierarchical vector-valued ϕ^4 model, Maxwell rule and phase separation 7−48634
- hopping transport model, dynamics, phase transition 7−268
- icosahedral quasi-crystalline struct., mechanism for stabilisation 7−6753
- ID systems, ground state calcs. using effective potentials 7−32603
- intensity data, phase information 7−11971
- interfacial growth instability, scaling, simulation 7−44746
- Ising generalised mixed spin model, renormalisation group approach *(Chinese)* 7−9779
- Ising multispin interaction system, phase transition order, Monte Carlo simulation 7−18719
- Ising three-spin interaction model, phase transition order 7−18718
- Ising triangular lattice, 2×1 and 2×2 structures, phase transitions 7−63765
- Kauffman cellular automata, two-dimens., phase transitions 7−35400
- Kosterlitz-Thouless transition and Mayer expansion 7−48670
- lattice QCD, finite temperature, phase transitions 7−35804
- lattice spin system, microscopic anisotropy influence on phase boundary macroscopic behaviour 7−18730
- lattice U(1) Higgs gauge theory, phase structure 7−4983
- lipid A, free, multibilayer, phase transition behaviour, FTIR, endotoxic principle of gram-negative bacteria outer barrier 7−54500
- lipid bilayers and thin films, phase transition kinetics, lifetimes distrib. function 7−8510
- liquid mixture phase transitions and singularities, catastrophe modelling 7−26903
- mean field theory using random chessboard model 7−14889
- mechanics of normal and excited states 7−35490
- metal alloys, amorphisation from melt, determ. 7−6516
- microemulsions, interfacial phase transitions 7−33970
- migratory dynamics, stochastic theory 7−29956
- molecular fluids and multicomponent mixtures, interfacial phase transitions 7−32755
- Monte Carlo simulations nonuniversal critical dynamics 7−41323
- neutron stars, core phase transformations, equilib. configurations in general relativity 7−60705
- nonequilib. phase transforms., critical behaviour in fast-ionic-conductor and reaction-diffusion Ising models, Monte Carlo scaling 7−61304
- nonequilibrium chemical systems, dissipative structures 7−35488
- nonequilibrium transitions, mass and energy flux 7−12252
- nonisothermal transformation kinetics, Kissinger method 7−26901
- nonuniform fluids, one-particle density calcs. 7−278
- nuclear matter, baryon-quark phase transition effects on nuclear matter flow, oblique shock wave production 7−24949
- nuclear matter, thermodynamic properties, anal using saturating chiral field theory, phase transition calcs. 7−24948

phase transformations continued
- nucleus-nucleus collisions, ultrarelativistic, dilepton emission and the QCD phase transition 7−19290
- order parameter fluctuations, role in finite size effects determ. in system undergoing phase transformation 7−2143
- partition function zeroes on regular and hierarchical lattices 7−48628
- periodic structs., nonlinear phase dynamics, multiple-scale expansion method calcs. 7−29960
- polycapramide, solns., viscosity props. and phase stability *(Russian)* 7−21074
- polymer gel in pure and mixed solvent media, phase transition 7−63431
- poor decay of correlations and relevance for phase boundaries 7−48542
- Potts model, renormalisation and phase transitions, symmetry breaking 7−284
- quantum crystals, thermodynamics and eqns. of motion 7−32744
- quantum spin chain with three-spin interaction, conformal invariance and phase transition 7−202
- quark-gluon matter, phase transitions in mean field approx. 7−5049
- quark-gluon plasma-hadron resonance gas phase transition, q, $\bar{q}$ hadronisation 7−24946
- scleroglucan solns., low temp. sol-gel transition, rheological behaviour, optical rot. 7−51018
- self-ignition conditions for frontal phase transition in cylindrical volume 7−17795
- semiflexible chains, solution, statistical mechanics, path integral formulation 7−41232
- solns., viscosity props. and phase stability *(Russian)* 7−21074
- spin models, phase transitions, cluster size distrib., geometrical factors 7−41280
- spin-1 model with pair correlation, dynamics 7−41283
- square-lattice-gas model with anisotropic repulsive interactions, multicritical behaviour, transfer-matrix scaling 7−41291
- statistical physics, conference, Oaxtepec, Morelos, Mexico (Aug. 1985) 7−9584
- Stefan type problems, numerical methods 7−35489
- SU(2)×U(1) lattice gauge theory, phase transitions, Monte Carlo anal. 7−406
- sulphobetaine polymers, phase behaviour and soln. props. 7−38164
- surface reactions, irreversible, kinetic phase transitions, mean-field theory 7−33962
- SUSY electroweak model, N=1 supergravity extension, cosmology of phase transition 7−445
- symmetry appls. in phase transitions of crystals 7−55926
- symmetry-breaking transitions, state selection 7−48661
- TEM, conference, Boston, MA, USA (Dec. 1985) 7−35119
- temperature-driven first-order transitions, finite-size effects, Potts model, Monte Carlo calcs. 7−258
- thermal desorpt. kinetics, surface phase transitions influence, compensation effect 7−13815
- thermally conducting gas, isothermal phase discontinuity 7−31909
- three dimensional systems, phase transition of order 2 1/2, possibility of obs. by varying impurity conc. 7−44741
- three-dimensional O(2) model, phase transition, vortex string role, Monte Carlo calcs. 7−264
- transient problem, steady-state problem 7−12236
- two-dimensional, He scatt. study 7−59365
- two-polymer aqueous system, phase separation 7−37835
- U(1) lattice gauge-Higgs model, zero temperature, phase diagram anal. 7−56401
- universality in phase transitions on inhomogeneous structs. 7−41279
- Universe, effect of phase transitions on baryon asymmetry 7−24243
- Al_2O_3-Li_2O sol-gel technique for $LiAlO_2$ felt prep., phase transitions in gels 7−22601
- Ar, on graphite, fluid-solid monolayer transition, simulation 7−32796
- Cr-Ni (45 wt.%) amorphous free-standing thin films, struct. transformations, pulse laser irradiation 7−38382
- ^{3}He, superfluid A phase, textural transformation, A_2 transition, zero sound 7−2294
- ^{4}He, superfluid, critical temp. and nonzero momentum condensation 7−21557
- Mo-Ni thin films, struct., composition and homogeneity 7−2436
- Mo_5Si_3-Mo, lowest silicide phase coating, phase changes at high temps. 7−3497
- Pd-U-Si, growth of quasicrystalline phase from glassy state 7−58144
- $Pd_{58.8}U_{20.6}Si_{20.6}$ alloys, glassy to icosahedral quasicrystalline phase transition, elec. and mag. props. 7−37863

phase transitions *see phase transformations*

phased arrays (antenna) *see antenna phased arrays*

phased locked oscillators *see parametric oscillators*

phasons
- high accuracy universal polarimeter 7−17300
- incommensurate antiferromagnetic struct., equilib. states and precession excitation spectra, phase diagram study *(Russian)* 7−27521
- incommensurate CDW systems, long-range Coulomb effects 7−45189
- incommensurate phases, phasons, dynamic pinning mechanisms 7−45941
- incommensurately modulated phases, scatt. theory 7−26938
- quasi-one-dimensional conductors, coherent polaron superlattices and long-range Coulomb forces 7−45184
- quasicrystal diffraction patterns, distortion and peak broadening 7−11981
- quasicrystal transformations, topological constraints investig. 7−16472
- quasicrystals, phonons, phasons and dislocations 7−6732
- AlMn quasiperiodic material, disorder systematics, X-ray scatt. studies 7−11995
- K, CDW phason anisotropy, NMR linewidth 7−27614
- $K_2Pt(CN)_4Br_{0.3}.3.2H_2O$, disordered CDW cpd., Coulomb-induced pseudo-critical behaviour 7−45188
- K_2SeO_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7−51956
- K_2ZnCl_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7−51956
- $(NbSe_4)_3I$, quasi-1D, sp. ht., phason and low-energy excitation contribs. 7−21479
- Pr, longitudinally polarised antiferromagnetic phase, magnetic excitations, neutron scatt. interpretation 7−64445
- Rb_2ZnCl_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7−51956
- $(TaSe_4)_2I$, quasi-1D, sp. ht., phason and low-energy excitation contribs. 7−21479

phi mesons
- scalar lattice QCD, hadron static props., form factors, charge radii, lepton widths 7−49080
- NK$\rightarrow\phi$X, joint hadron prod., parton model comparison 7−19143
- NK$^{\pm}\rightarrow\phi$X, low p_T interactions, Lund model comparison 7−19142
- Np($\bar{p}$)$\rightarrow\phi$X, joint hadron prod., parton model comparison 7−19143
- Np($\bar{p}$)$\rightarrow\phi$X, low p_T interactions, Lund model comparison 7−19142
- N$\pi^{\pm}\rightarrow\phi$X, low p_T interactions, Lund model comparison 7−19142
- $\phi\rightarrow K^+K^-$, ϕK^+ spin-parity anal. in $K^+p\rightarrow\phi K^+p$, 13 GeV/c 7−554
- $\phi\rightarrow\pi^+\pi^-\gamma$, rare decay mode anal. 7−5086
- πN$\rightarrow\phi$X, joint hadron prod., parton model comparison 7−19143
- $\gamma\gamma\rightarrow K^+K^-\pi^+\pi^-$, vector meson prod., ϕ(1020) and K^{*0}(890) signals 7−5136

philosophical aspects
- complexity and classification 7−41051
- cosmogony and creation 7−60930
- cosmology, philosophical problems of state before Big Bang 7−66795
- extraterrestrial intelligence and societies 7−35125
- founding fathers of physics, Christian beliefs 7−60931
- heat theory principles, historically and critically elucidated, book 7−48265
- lens design, aberration theory and the meaning of life 7−50678
- materials science education frontiers, conf., Boston, USA (Dec. 1985) 7−35112
- metrology, methodological problems 7−48675
- physics, knowledge, beliefs and themata 7−29655
- physics and spirituality, unification 7−60929
- quantum state, nature 7−48267
- quantum theory of measurement, rel. to amplifiers and attenuators 7−64
- reality, science and faith 7−60928

phonographs *see gramophones*

phonon bottleneck *see phonons*

phonon-defect interactions
- *see also lattice localised modes*
- cohesion of solids under very high electronic excitation 7−51696
- crystal instability, defect-phonon interactions 7−44722
- edge dislocations, velocity in a crystalline solid, applied shear stress depend. 7−21206
- insulating crysts., delocalised positronium momentum distrib., phonon interactions and apparent mass anal. 7−45236
- ionic crysts., positronium dynamic props. calcs. 7−45233
- lattice thermal cond. reduction by point defects at intermediate temps., appl. to Ge-Si 7−52161
- local electron centre config. instability, quasilocal modes interaction model calcs. 7−58772
- mismatched overlayers, dislocation depinning, mol. dynamics investig. 7−7011
- quantum crystals, linear defects, zero-phonon friction mechanism 7−52186
- zero-gap type I state, spontaneous destruction in quantising mag. field 7−2460
- CaF_2 cryst., defect-induced hyper-Raman spectra obs. 7−53324
- InSb, large-k acoustic phonon imaging, freq. selectivity and isotopic defect scatt. effects 7−26885
- LiF crystals, phonon-dislocation scattering anal. 7−2131
- MgF_2 single crysts., positronium effective mass and phonon interactions, annihilation γ-rays ang. correl. meas. 7−45234
- ZrO_2, cubic zirconia, defect-induced hyper-Raman spectra obs. 7−53324

phonon dispersion relations
- BCC metals, volume interactions, phonon dispersion 7−6734
- cubic crystals, phonon dispersion, dispersive corrections to continuum elastic theory 7−26887
- FCC nonsimple metals, phonon dispersion, volume depend. energy 7−12219
- granular structures, phonon density of states and inverse decay length 7−6743
- graphite, phonon dispersion, two-body pot. 7−44715
- graphite, relax. time, parametrisation 7−2513
- graphite (001), surface phonon dispersion, inelastic atom scatt. study 7−52227
- interfaces and superlattices, phonons, Green's function method 7−2340
- ionic cryst.-semicond. superlattice interface excitations, classical anal. 7−52845
- noble metal surfaces, high resolution inelastic He-atom scatt., surface phonon dispersion relations 7−3144
- phonon-phonon interaction via paramag. centres 7−44719
- polyacetylene, electrons and phonons, semi-continuum model 7−64112
- quartz, phonon dispersion and mode coupling near incommensurate phase transition 7−58421
- rare gas floating monolayers, dynamics in self-consistent phonon theory 7−2362
- rare-gas solids, phonons, close to melting 7−63757
- superlattices, surface acoustic soliton, anal. 7−63938
- thiourea, paraelectric phase, mol. dynamics simulation 7−37920
- Toda chain, Langevin simulations 7−48544
- transition metals, lattice dynamics 7−51972
- AU clusters and bulk samples, Debye temps., EXAFS studies 7−2136
- C graphite with Kr monolayers, domain wall modes 7−38333
- Ca, FCC and BCC, lattice dynamics 7−38134
- $CeNi_5$, intermediate-valence intermetallic cpd., point contact spectroscopy 7−38139
- Cs BCC single cryst., lattice dynamics, coherent inelastic neutron scatt. study 7−21376
- Cu (100), c(2×2)N overlayer, surface phonon dispersion, LEED, AES and EELS studies 7−12459
- Cu (100), Rayleigh phonon dispersion, stress-induced freq. shift, EELS studies 7−27090
- Fe-Al, disordered, phonon dispersion curves 7−2124
- GaAs interatomic force consts. and normal modes, group theoretical method calcs. 7−32588
- GaAs, phonon dispersion, dispersive corrections to continuum elastic theory 7−26887
- GaAs-$Ga_{1-x}Al_xAs$ superlattices, Brillouin scatt. 7−3063
- Ge, metastable phases, vibr. props. 7−2126
- a-Ge, molecular dynamics simulation, struct. of solid phases 7−32293
- ^{3}He-^{4}He superfluid soln., phonon-impurity system kinetics, review *(Russian)* 7−52179
- β-HgI_2 crystals, phonon spectrum and vibr. mode symmetry, first-order Raman scatt. *(Russian)* 7−3056
- In, BCT, force constant models, elastic inconsistency 7−38140
- In, crystallographic equivalence between BCT and FCT structs. 7−37924

phonon dispersion relations continued
- InSb, large-k acoustic phonon imaging, freq. selectivity and isotopic defect scatt. effects 7−26885
- $KTa_{1-x}Nb_xO_3$, lattice dynamics, nonlinear shell model 7−51971
- Li-Mg disordered, phonons and martensitic phase transitions 7−58423
- LiC_6 intercalation cpd., phonon dispersion, two-body pot. 7−44715
- $LiInS_2$, lattice vibrs. and interatomic forces, IR reflectivity spectra anal. 7−26882
- Mo_3Si, A15 cpd., phonon dispersion and density of states, inelastic neutron spectra, electron-phonon coupling effects 7−2121
- NaCl-type lattices, (100) surface, surface atomic vibr. modes 7−2337
- NbC (001), surface phonon dispersion, double shell-model anal. 7−21608
- Ni (100), adsorbed N, surface phonon dispersion, adsorbate induced reconstruction 7−52225
- Ni-Al alloys, premartensitic behaviour, neutron scatt. study 7−44717
- P, black, interplanar forces caused by electron-lattice interaction 7−63547
- $Pd_{0.9}Ag_{0.1}D_{0.61}$, lattice dynamics and phonon line shapes 7−2120
- $PdT_{0.7}$, quasiharmonic phonon dispersion relation, coherent neutron scatt. study 7−38141
- Pt (111), clean and O covered, surface phonon dispersion, inelastic atom scatt. meas., lattice dynamical calcs. 7−52226
- Pt (111) with adsorbed Kr, adsorbate-substrate vibr. coupling 7−52221
- RbI single cryst. high press. Brillouin scatt. meas. 7−3061
- Si, metastable phases, vibr. props. 7−2126
- Si surface, (111)(2×1), obs. of 10 meV Einstein oscillator mode 7−38320
- Si/Si_xGe_{1-x} strained layer superlattices, folded phonon dispersion 7−44718
- TaC (001), surface phonon dispersion, double shell-model anal. 7−21608
- $(TaSe_4)_2I$, low-dimensional conductors, inelastic neutron scatt. study 7−52701
- TiC (100), surface phonon dispersion curves, EELS determ. 7−52224
- Zn, phonon spectrum fine structure 7−16702

phonon drag
- gas mixture nonequilib. flow through narrow channels, phonon drag effects 7−16253
- graphite, highly oriented, low temp. anomalies in thermoelec. power 7−17044
- identical metals, point-contact config., thermoelec. voltage, phonon drag and finite size effects 7−2582
- nonequilibrium gas-solid system, transport processes, kinetic theory calcs. 7−16254
- CdS, exoelectron emission, phonon drag, inhomogeneous energy distrib. 7−39366
- CsI:Na, exoelectron emission, phonon drag, inhomogeneous energy distrib. 7−39366
- Si MOS struct., phonon emission spectroscopy of 2D electron gas 7−27435
- TiS_2 intercalation cpd. with Mn, Fe, Co, Ni elec. resist. and thermopower studies 7−45331

phonon-electron interactions *see electron-phonon interactions*

phonon-exciton interactions
- dimer-lattice phonon interaction, lattice relax., exciton and electron condition terms 7−7130
- Frenkel exciton-optical phonon interaction, correl. functions, modified Lanczos algorithm 7−63752
- integral operator method anal. *(Chinese)* 7−12612
- molecular chains, solitary excitations, intramol. vibrs. anharmonicity 7−44712
- molecular crystal, temp. depend. of reson. splittings of mol. pairs 7−16700
- molecular systems, disordered, influence of noise on density of states and absorption 7−16949
- α-perylene, crysts., excitons, hydrostatic press. effects 7−52430
- solids, exciton-phonon processes, book chapters 7−29610
- two-phonon resonance light scatt., acoustic and optical phonons 7−64660
- CdS based ceramics, radiative recomb. at high excitation levels *(Russian)* 7−3090
- GaAs-AlGaAs and GaAs-AlAs quantum well structs., resonant Raman scatt., depend. on electric field 7−7707
- GaAs-AlGaAs quantum well heterostructures, spectroscopy of excitons and phonons 7−7706
- GaS_xSe_{1-x} crystals, phase transitions under press., exciton-phonon interaction 7−44785
- NaI, luminescence excitation spectrum of self-localised excitons, phonon structure 7−39153
- ZnTe:Cu, impurity related neutral complex with bound exciton, photoluminescence, absorpt., Zeeman meas. 7−45165

phonon-impurity interactions
- *see also lattice localised modes*
- cubic crysts., impurity centre-phonon interaction energy calcs. 7−32586
- cubic crysts., nonlinear phonon generation via localised modes 7−51978
- ferroelectrics, incommensurate phase, impurity-order parameter and -soft modes interactions 7−64584
- infinite insulating medium, phonon energy transfer, resonance-elastic and inelastic impurity scatt. calcs. 7−51963
- local electron centre config. instability, quasilocal modes interaction model calcs. 7−58772
- polar semiconductors, LO-phonon modes bound to neutral impurities 7−45178
- ruby, Cr weakly coupled ions, cooperative photon emission 7−59256
- semiconductors with a degenerate band, weak-coupling polarons 7−52443
- semiconductors with degenerate valence band edge, bound polarons 7−38466
- CdTe:Fe^{2+}, impurity vibronic coupling and near IR spectra characts. 7−26889
- GaAs:C, LVM absorpt. temp. depend. *(Chinese)* 7−59225
- GaAs:V^{2+} (Cr^{2+}) single crysts., acoustic relax. phenomena, phonon-impurity coupling, ultrasonic attenuation meas. 7−32581
- GaAs-$Al_xGa_{1-x}As$ quantum wells, doubly reson. LO phonon Raman scatt., photoluminescence spectra 7−53327
- GaF_2:Mn cubic cryst., local lattice instability near impurity, ESR study 7−53123
- GaP:Cr, impurity ion-lattice coupling, reson. phonon scatt. spectra 7−58420
- ^{3}He-^{4}He superfluid soln., phonon-impurity system kinetics, review *(Russian)* 7−52179
- $Hg_{1-x}Mn_xTe$ LPE crystals, magnetophonon reson. recomb. with phonon emission 7−63755
- n-InAs:Sn,Te, LPE growth, elec. characts. 7−33603

phonon-impurity interactions continued
- InP:Cr, impurity ion-lattice coupling, reson. phonon scatt. spectra 7—58420
- LiF, deformed crystal, lattice thermal conductivity, low temp. 7—52165
- $YAl_3(BO_3)_4$, pure and Nd doped crysts., acoustic wave absorpt. meas., temp. and freq. depend. 7—16697
- $ZnS:Fe^{2+}$, impurity vibronic coupling and near IR spectra characts. 7—26889

phonon-magnon interactions
- high freq. phonon generation in antiferromagnets, nonresonant parallel pumping *(Russian)* 7—33157
- parametric magnons, effect on spectra of other quasi-particles 7—52967
- $FeBO_3$, antiferromagnet, parametric excitation of magnons with a decay spectrum 7—52966

phonon-phonon interactions
- *see also Umklapp process*
- adsorbed atoms, thermal relax. in an intense laser field 7—38330
- atom-surface scattering thermal attenuation, multiphonon contrib. 7—39338
- biphonon line broadening caused by acoustic phonon interactions 7—44721
- frequency distrib. function anal., dielec. and scatt. props., orthogonalised moments method 7—64633
- glass, tunnel modes and kinetic props. at low and high temps. 7—21115
- glassy media, irradiated, excess electron capture, radiative and nonradiative mechanisms 7—27339
- metal film injector of phonons, temperature dynamics, effect of phonon-phonon scatt. in the substrate 7—2441
- nonradiative multi-phonon transition rate from different electronic bases, numerical evaluation 7—22326
- polyiodide chain complexes, thin films, optical absorpt. spectra meas. 7—22366
- spin system interacting with harmonically vibrating lattice, phonon-phonon interaction via paramag. centres 7—44719
- three-phonon complexes, bound, new type of states 7—44720
- two-phonon spectrum, anharmonic, damping and temp. modulation 7—6739
- $Bi_{12}GeO_{12}$:Cr, doped and undoped, three-phonon interactions 7—2127
- N_2, surface layer on graphite, motion investig. 7—32792
- Nb, tunnelling of H and D trapped by O(N), anelastic relax. meas. 7—39572
- $(NbSe_4)_2I$, lattice vibrs. at CDW transitions 7—51973
- $(TaSe_4)_2I$, lattice vibrs. at CDW transitions 7—51973

phonon-plasmon interactions
- ionic cryst.-semicond. superlattice interface excitations, classical anal. 7—52845
- polar semiconductors, phonon-plasmon coupling 7—33041
- semiconductor superlattices, dynamical screening, quasi-2D electron gas, electron-phonon interactions 7—45464
- semiconductors, negative differential resistance, scattering-induced, plasmon-phonon coupling and phonon reabsorption effects 7—2626
- semiconductors, Raman scatt. in the presence of photoexcited nonequilibrium carriers 7—27719
- n-GaAs, free carrier IR absorpt. spectra, scattering mechanisms, RPA calcs. 7—2604
- GaAs, longitudinal optical phonons, interaction with nonequilib. plasmons 7—45192
- GaAs, phonon-plasmon coupling in electron transport 7—33041
- n-GaAs slabs, ionised-impurity-mediated free-carrier absorption 7—17335
- GaP, photoexcited plasmon-phonon modes, time-resolved Raman scatt. 7—39106
- ScN compensated semimetal single crysts., electronic struct., reflectivity and elec. props. meas. 7—27253
- β-SiC crystals, free carrier conc., Raman scattering 7—59197
- $Zn_xHg_{1-x}Se$, far IR spectra study 7—22262

phonon softening *see soft modes*

phonons
- *see also crystal surface and interface vibrations; electron-phonon interactions; lattice phonons; phonon-defect interactions; phonon dispersion relations; phonon-exciton interactions; phonon-impurity interactions; phonon-magnon interactions; phonon-phonon interactions; phonon-plasmon interactions; spin-phonon interactions; tunnelling spectra; tunnelling spectroscopy; vibrational states in disordered systems*
- 1D hopping motion of heavy particle interacting with phonons by different couplings 7—44711
- exciton-phonon system, quantum chaos model 7—61231
- field theoretical approach to solid state physics 7—12934
- harmonic oscillator, phonon damped, scattering response 7—2114
- quasicrystal diffraction patterns, distortion and peak broadening 7—11981
- quasicrystals, phonons, phasons and dislocations 7—6732

phosphate glasses
- *for iron and vanadium phosphate semiconducting glasses see amorphous semiconductors*
- *see also phosphosilicate glasses*
- amorphous paramagnets, van Vleck susceptibility 7—7472
- corrosion studies, conventional and glancing angle EXAFS 7—59284
- fluorophosphate, for use in high-performance optics, props. comparison with fluorite 7—5962
- fluorophosphate glass:Er^{3+}, impurity luminesc. and absorpt. spectra studies 7—53386
- fluorophosphate glass, type OK1, interrelationship of refr. index, viscosity and F content 7—57492
- laser, L.P. 17.62, Q-switched and free lasing modes *(Rumanian)* 7—15875
- laser glasses, IR absorption of water 7—33416
- laser glasses, moisture proofing *(Chinese)* 7—5899
- leached, analytical electron microscopy studies using ultramicrotomic thin sections 7—6544
- leaching behavior of crystalline phosphate waste forms 7—19534
- $(Na_2O)_{25}(Li_2O)_{25}(P_2O_5)_{50}$ glass fibres, struct., birefringence, density and thermal shrinkage, drawing parameters depend. 7—6536
- nuclear waste glass suitability study, systems approach 7—5447
- optical dispersion, reflection spectra in vacuum and extreme UV region 7—27734
- oxynitride glass development, book contrib. 7—28003
- particle track detectors 7—42280
- rare earth phosphate glasses, structural investigation 7—6522
- reflection spectra in extreme UV region 7—22278
- $Ag_4P_2O_7$, glassy and cryst. states, thermal props., IR spectra 7—44845
- $AlPO_4$, glass, dielectric, charge buildup, influence on charging electron beam motion 7—44294
- BaO-Mg(Zn)O-P_2O_5 glasses, internal friction investig. 7—6721

phosphate glasses continued
- $Ba(PO_3)_2$-AlF_3-NaF system, glass form. and props. 7—11929
- $Ba(PO_3)_2$-LiBa(Mg)AlF_6 glasses, Raman spectra and network struct. studies 7—7695
- $Ba(PO_3)_2$-LiF gamma irradiated activated glasses, optical absorpt. and ESR spectra correls. 7—13030
- CaO-BaO-P_2O_5 glass fibres, stress optical studies 7—7673
- CaO-Sr(Ba)(Mg)(Zn)O-P_2O_5 glasses, internal friction investig. 7—6721
- $(CaO)_{25}(BaO)_{25}(P_2O_5)_{50}$ glass fibres, struct., birefringence, density and thermal shrinkage, drawing parameters depend. 7—6536
- $Ca(PO_3)_2:Du_{0.7}{}^{3+}$ glass, highly doped, fluorescence spectral width of $^5D_0$-$^7F_0$ transition 7—13189
- CdO-Al_2O_3-P_2O_5 glasses, EPR spectra, synthesis effects 7—64530
- Co_3O_4-P_2O_5 system, thermal analysis from room temp. to softening pt., vibr. anharmonicity, US vel. 7—12221
- CuO-P_2O_5 glass, containing Pr_6O_{11}, optical props. 7—17292
- CuO-P_2O_5 glasses containing NiO or CoO, elec. cond. 7—17025
- CuO-V_2O_5-Na_20-P_2O_5 phosphate glasses EPR of Cu^{2+} and Vo^{2+} ions. 7—59107
- FeO-PbO-P_2O_5 glasses, atomic environments, EXAFS studies 7—64787
- Fe_2O_3-P_2O_5-K_2O glasses, mixed valence, EXAFS studies 7—64786
- K_2O-P_2O_5-TiO_2 glass, IR spectra 7—46025
- K_2O-P_2O_5-WO_{3-x} mixed valence glasses, local order, EXAFS and X-ray diffusion studies 7—1903
- Li-Al_2O_3-P_2O_5:Ag glasses, Ag^0 centre thermal and photochemical conversion, spectroscopic consequences 7—39906
- $LiLaP_4O_{12}:Nd^{3+},Yb^{3+}$, metaphosphate glasses, Nd^{3+} to Yb^{3+} energy transfer, luminesc. study 7—22323
- $LiNdP_4O_{12}:Yb^{3+}$, metaphosphate glasses, Nd^{3+} to Yb^{3+} energy transfer, luminesc. study 7—22323
- Li_2O-P_2O_5:Eu^{3+}, laser-induced refractive-index gratings, four-wave-mixing techniques 7—11102
- Li_2O-P_2O_5-PON, nitrogen phosphate glasses, preparation from PON *(French)* 7—26657
- $LiYbP_4O_{12}:Nd^{3+}$, metaphosphate glasses, Nd^{3+} to Yb^{3+} energy transfer, luminesc. study 7—22323
- M_0O_3-P_2O_5 glasses, permittivity, temp. depend., microwave meas. 7—45912
- MoO_3-P_2O_3, low-temp. internal friction, longit. and transverse two-well systems rel. contrib. 7—12202
- MoO_3-P_2O_5, low-temp. acoustic relax. analysis methods 7—12216
- MoO_3-P_2O_5 glass system, US relax. studies in temp. range 4 to 300K 7—21366
- MoO_3-P_2O_5 glasses, thermal anal. between room temp. and softening point 7—12329
- $NaGe_2P_3O_{12}$ glass-ceramic, synthesis, thermal expansion meas. 7—46406
- Na_2O-Li_2O-P_2O_5 glass fibres, stress optical studies 7—7673
- Na_2O-P_2O_5 glasses, viscous flow meas. 7—11475
- Na_2O-P_2O_5-PON, nitrogen phosphate glasses, preparation from PON *(French)* 7—26657
- Na_2O-V_2O_5-P_2O_5, crystallised glass, containing V bronze crysts., elec. cond. 7—21922
- $NaPO_{2+x}N_y$ glass prep. and props., comp. calcs. 7—7951
- Nd:phosphate glass laser rods, thermal effects 7—50566
- $P_2O_5:Eu^{3+}$, laser-induced refractive-index gratings, four-wave-mixing techniques 7—11102
- P_2O_5-$Dy_2O_3(Pr_2O_3)$ glasses, struct., mag. and thermal props. 7—26658
- PbF_2-MnF_2-$Al(PO_3)_3$ glasses, conductivity and mechanical relax 7—16803
- PbO-Fe_2O_3-P_2O_5 glasses, liquid chromatography and Raman scattering studies 7—11946
- $Pb(PO_3)_2$-Fe_2O_3 glass, struct. props., chromatography and Raman spectra studies 7—21112
- SiO_2-GeO_2-P_2O_5, doped silica glass, dopant effect on OH absorpt. 7—27715
- SiO_2-P_2O_5 system, glass-ceramic materials, compaction kinetics using centrifugal forces 7—27999
- SiP_2O_7 glass, vibrational spectra of structural units 7—3034
- SrO-Ba(Mg)(Zn)O-P_2O_5 glasses, internal friction investig. 7—6721
- V_2O_5-P_2O_5-$Bi_2O_3(Sb_2O_3)$ glasses, DC conductivity 7—45316
- VPO_5 glass, NMR quadrupole interactions study 7—45838
- $Zn(PO_3)_2$-$CdCl_2$-KCl glasses, electrical conductivity and IR spectra 7—2253

phospholipid bilayers *see lipid bilayers*

phosphorescence
- *see also fluorescent screens; MIDP; phosphors*
- acridine dyes, PVA matrices, luminesc. spectra anal., external heavy-atom effect 7—42680
- 1,4-anthraquinone, T_1 state, Jahn-Teller distortion, phosphoresc. 7—42677
- 9,10-anthraquinone, vapour, fluoresc. and phosphoresc. study 7—939
- 1,4-anthraquinone phosphoresc. depend. on polycryst. matrix, Jahn-Teller pseudoeffect 7—50236
- anthrone, triplet-triplet energy transfer to donors in Shpolskii matrices, phosphoresc. 7—57122
- aromatic thiones, thermally activated delayed fluoresc., solvent effects, visible spectra anal. 7—31106
- benzaldehyde, vap., phosphoresc. quantum yield meas., excitation energy depend. 7—57119
- benzil, fluoresc. and phosphoresc., spectra, O effects 7—50233
- benzoic acid, fluoresc. and phosphoresc., acetic acid effect 7—57114
- biacetyl, triplet-state form. mechanism, electron impact induced phosphoresc. 7—42666
- bichromophoric mols., short-range intramol. electronic energy transfer, triplet-triplet transfer 7—20019
- bis-tetraethylammonium manganese tetrabromide crystals, deformation-induced after-glow 7—64705
- cellulose substrate, room-temp. phosphoresc., H-bonding props. 7—31102
- chlorobenzene, matrix isolated, triplet states, phosphoresc. 7—15636
- chlorophyll and derivatives, spin state in zero field, phosphoresc. emission 7—57124
- β-cyclodextrin synchronous wavelength scanning room temp. phosphoresc. 7—33452
- 4,4′-dibromobenzophenone-1,4-dibromonaphthalene in polymer films, phosphoresc. study 7—59244
- 1,4-dibromonaphthalene:acenaphthenequinone crysts., phosphorescence spectra and decay kinetics temp. depend. *(Russian)* 7—27751
- dibucaine, H bonding nature and vibr. structure, birefringence emission spectra anal. 7—19935
- DNA luminescence, dependence on excitation energy *(Russian)* 7—28470
- ESA Photon Counting Detector, intensifier phosphorescence rel. to response nonlinearity 7—34875

phosphorescence continued
- flavin derivatives, adsorbed on oxide layers, photophysics study 7–7738
- glyoxal, vibronic bands, rot. anal. 7–5712
- 9-hydroxyphenalenone-de(di) Shpolskii matrix isolated, H bonding, phosphoresc. 7–19926
- micelles synchronous wavelength scanning room temp. phosphoresc. 7–33452
- molecular systems, nonlinear absorpt. optical bistability, eikonal approx. 7–62797
- naphthalene:pyrene, triplet excitons, prompt and delayed fluoresc. 7–22298
- naphthalene with α-bromonaphthalene or α-chloronaphthalene impurities, intercombination conversion during exciton capture 7–46091
- naphthalene-tetrachlorophthalic anhydride charge transfer complex, triplet excitons, phosphorescence 7–39159
- organic cpds., in α-cyclodextrin-NaCl mixture, room-temp. luminesc. 7–36666
- photomultiplier anode current variation obs., for continuous and pulsed gamma radiation 7–30888
- platinum phthalocyanine, first excited states in mag. fields, Zeeman study 7–10643
- pyrozine, triplet lifetime, temp dependence, visible and IR phosphorescence spectra 7–22328
- quartz, as-grown or Li-, Na-, Cu- electrodiffused, radiation-induced conductivity 7–6691
- quinoxaline, triplet state, Shpol'skii ODMR spectra, spin-lattice relax. 7–62428
- tetraphenylchlorine, and halo derivatives, heavy atom effect on fluoresc. and phosphoresc. polarisation spectra 7–57123
- tetraphenylporphine, and halo derivatives, heavy atom effect on fluoresc. and phosphoresc. polarisation spectra 7–57123
- tris-1,10-phenanthroline rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7–50231
- tris-2,2′-bipyridine rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7–50231
- N-vinylcarbazole, lowest triplet state props., $AgClO_4$ influence, phosphoresc. spectra 7–62435
- C $RbCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7–15605
- CrO_2Cl_2 vibronic anal., CCl_4 and $SnCl_4$ matrices, emission and excitation spectra, MODOR spectra 7–15542
- $CsCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7–15605
- $KCl{:}Cr(CN)_6{}^{3-}$, phosphorescence spectrum, temp. dependence 7–7742
- $KrCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7–15605

phosphorescence microwave double resonance *see PMDR*

phosphorescence microwave photoexcitation spectroscopy *see PMDR*

phosphors
- *see also fluorescent screens; luminescence*
- alkaline earth sulphides, prep. and thermolum., review 7–17488
- cathodoluminophors, structuring principles 7–33460
- crystal, quantum yield, electron-hole pair hot escape effects 7–33433
- halophosphate:Sb phosphors, Sb location, Mossbauer spectra studies 7–63634
- inorganic materials, activator ion doped luminescence *(French)* 7–27774
- luminescence, conference, Rovno, USSR (Nov. 1984) 7–24263
- luminophors, Soviet-made, nomenclature and quality 7–33424
- oxide ionic crystals, broad gap, luminescence, synchrotron radiation studies 7–33432
- photometry with image intensifiers and integrating readout devices effect of phosphor persistence 7–9870
- proximity image intensifier persistence improvements with $Y_2O_2S{:}Tb$ phosphor 7–57598
- ^{239}Pu, determ. using crystallophosphor photoluminesc. 7–33981
- rare earth tantalate phosphors for radiographic screens, fundamental props. 7–47231
- RE-activated aluminate phosphors, UV stability, α-Al_2O_3 foreign phase influence *(German)* 7–27779
- reabsorption correction for luminophor, influence of refractive index 7–937
- storage phosphor system for computed radiography: destructive scanning 7–23444
- storage phosphor system for computed radiography: screen optics 7–23445
- X-ray phosphors, efficiency, light storage, and image information content 7–33425
- $BaO.Al_2O_3{:}Eu^{2+},Mn^{2+}$ phosphor, luminesc. props. 7–46112
- $BaO.Al_2O_3{:}Eu^{2+}$ phosphor, luminesc. props. 7–46112
- $BaS{:}Sm^{3+}$, photolum. of Sm^{3+} ions 7–59246
- $CaF_2{:}Sm^{2+},Nd^{3+}$ energy transfer efficiency 7–7734
- $CaS{:}Sm^{3+}$, photolum. of Sm^{3+} ions 7–59246
- $CaSO_4{:}Dy$, gamma radiation damage on thermolum. 7–38059
- $CaSO_4{:}Mn$, thermoluminescent dosimeter, phys. characts. *(Korean)* 7–34278
- Gd_2O_3-P_2O_5 phosphors, Eu^{3+} activated, luminesc. spectra, cryst. symm. 7–3080
- Gd_2O_2SiTb X-ray fluorescent screen for use in portable fluoroscope 7–61407
- $KCl{:}Tl^+$-type phosphors, Jahn-Teller-induced A-absorption and A-emission bands 7–53398
- LiF (TLD-100), thermoluminesc., 90 to 300K 7–3097
- LiF:Mg,Ti phosphor layer on borosilicate glass substrate, laser stimulated thermolum. 7–64703
- $MgS{:}Sm^{3+}$, photolum. of Sm^{3+} ions 7–59246
- ^{237}Np, determ. using crystallophosphor photoluminesc. 7–33981
- $SrS{:}Sm^{3+}$, photolum. of Sm^{3+} ions 7–59246
- YAG powders, hydrothermal growth, controlled nucleation, CRT phosphor prep. 7–13412
- Y_2O_3-P_2O_5 phosphors, Eu^{3+} activated, luminesc. spectra, cryst. symm. 7–3080
- $Y_2O_2S_2{:}Tb^{3+}$, phosphor, electronic struct., cathodoluminescence meas. 7–17350
- $YVO_4{:}Eu,Ga(Sc)(La)$, optical props. and electronic struct. 7–33423
- $(Yb_{0.95}Eu_{0.05})_2O_3$, luminophor, granulometric composition 7–22715
- ZnO:Cu(Bi), phosphor electroluminescence mechanism, spectral energy distrib. 7–7760
- ZnS, polycrystalline, AC driven thin film electrolum. displays 7–7762
- ZnS, ZnSe, crystal growth by chem. transport using NH_4Cl transport agent 7–59385

phosphors continued
- ZnS:Cu, electrophosphors, aging phenomena 7–27791
- ZnS:Cu, Mn (H), electroluminesc., simultaneous action of AC and DC fields 7–64699
- ZnS:Cu, solid solution, electroluminescent phosphor, compositional inhomogeneities 7–6800
- ZnS:Cu,Yb phosphor, AC electrolum. study 7–13233
- ZnS:Mn, electrolum. study 7–13234
- ZnS:Mn, impact excitation and Auger quenching 7–27827
- ZnS:Mn electroluminescent thin films, photothermal deflection spectroscopy 7–27804
- ZnS:Mn heavily doped phosphors, mechano and electroluminesc. 7–13240
- ZnS:TbF thin-film electroluminescent devices, excitation mechanism 7–46149
- ZnS-based electroluminescent phosphor, influence of surface Cu_2S 7–7759
- ZnS-CdS:Ag,Ni,Co phosphors, photolum., energy level model 7–59245

phosphorus
- *see also nuclei with .....*
- amorphous, passivation of III-V semiconductor surfaces 7–39778
- amorphous, radiative recomb., time-resolved photolum. study 7–13212
- amorphous, sputtered, response to intense ion bombardment 7–27447
- Appalachians of Quebec and Nova Scotia; Ti, P, Zr, Nb, Y geochemistry 7–23587
- atom, g_J factors, many-body calcs. 7–62265
- black, interplanar forces caused by electron-lattice interaction 7–63547
- black, resonant photoemission spectra 7–7815
- black, surface acoustic props., Brillouin scatt. study 7–38316
- determination in seawater, nitrate oxidation method 7–4227
- diamond:P, VPE, physicochem. basis of doping *(Russian)* 7–16587
- distribution, in SiO_2-Si layer system, SIMS 7–54254
- dopant diffusion into Si, solar cell junction form. 7–28401
- doping in a-Si:H,F made by thermal CVD for conductivity and p-n type control 7–17454
- ESA Photon Counting Detector, phosphor persistence rel. to response nonlinearity 7–34875
- grain boundary internal adsorption in Fe-base alloys, segregation study *(Russian)* 7–6961
- high-pressure superconductivity studies 7–38799
- II levels, hollow cathode discharge, self-alignment and radiative lifetime meas. 7–10678
- impurities in W monocrystals 7–6645
- impurity effects on radiation embrittlement of pearlitic steel 7–49535
- LPCVD production, anal and solar cell appls. 7–17452
- mouse liver, P containing metabolites, Zn powder injection, NMR obs. 7–8609
- Okanagan lake tributaries, BC, Canada, P content of suspended sediment and bioavailability 7–4070
- phosphate rock standard, anal. 7–33982
- plasma deposited coating; passivation of InP 7–3540
- SOI lateral solid phase epitaxy, selective P ion implantation 7–52359
- $CaSO_4{:}Dy$ phosphor, thermoluminesc. props. of a new prep., dosimetry appl. 7–28701
- CdTe:P-CdS solar cells, control of open circuit voltage by carrier density variation 7–17887
- $CuInS_2{:}P$, ion implanted, pulsed electron beam annealing 7–16644
- Fe-Cr alloys in acidic electrolytes, effects of P implantation on passivity 7–59658
- FeNiCr:Sb,P, grain boundary segregation, Auger and energy dispersive X-ray mapping 7–16571
- GaAs:P, ion implanted and pulse laser annealed, Raman study 7–6653
- $GaAs{:}P^+$, ion implantation damage 7–38024
- a-Ge:H, B, P, As, dopant incorporation and doping efficiency 7–44587
- Ge:P crystals, seeded growth in soft lined crucible, dopant distrib. 7–53559
- Ni:P plated mirrors, diamond-turned, surface finish meas. 7–26047
- P VI-XIII, in plasmas, spectra, 22-92 Å 7–15537
- P^+ ion source, RF, with metal discharge chamber 7–30114
- $P+Be^+$, K-shell X-ray prod. cross section meas. 7–15680
- ^{31}P NMR spectroscopy, in vivo, brain tumour photoradiation effects appl. 7–14101
- ^{31}P NMR studies of human brain at 2 T 7–18041
- Si:As,P, double diffused shallow junctions, rapid thermal annealing 7–22006
- $Si{:}As(P)(B)$-SiO_2 interface, segregation, transport coeffs. of impurities 7–63880
- Si:B,P highly doped epitaxial layers, growth by low press. VPE 7–39432
- Si:B,P solar cells produced by pulsed excimer laser annealing of ion-implanted junctions 7–8419
- Si:B(P), lateral diffusion, modeling LOCOS effects 7–33865
- Si:C,O,P, C precipitation after P junction diffusion 7–16779
- Si:C,P, C diffusion during annealing and P in-diffusion 7–16812
- Si:Ge,P, IR absorpt. band broadening 7–64669
- a-Si:H, B, P, As, dopant incorporation and doping efficiency 7–44587
- a-Si:H, P, electron nuclear double resonance expts. 7–2950
- a-Si:H,B/a-Si:H,P doping modulated superlattice, photo-induced excess conductivity 7–17051
- a-Si:H,P films, dopant conc. meas. and depth profiling by means of (p,γ) resonant reactions 7–12555
- a-Si:H,P films, ion implanted, photoelectric and optical props. 7–38615
- a-Si:H,P multilayer films, plasma CVD and elec. cond. studies 7–39428
- a-Si:H,P p-i-n solar cells, open-circuit volt., wavelength depend. 7–46948
- a-Si:H,P-Si_3N_4:H double barrier struct., reson. tunnelling 7–52848
- Si:O, P, Sb wafers, O precipitation during simulated CMOS cycles 7–38218
- Si:P, directional plasma etching, in SF_6+CFCl_3 discharge 7–39788
- Si:P, EPR temp. depend. g-shifts obs. 7–27600
- Si:P, heavily doped, plasma etching with trifluorochloromethane-Ar discharges, modelling of ion bombard. energy distrib. 7–28222
- Si:P, heavily doped, plasma etching with trifluorochloromethane-Ar discharges, modelling of etching rate and directionality 7–28223
- Si:P, heavily implanted, influence of precipitation on P diffusivity 7–6879
- Si:P, implanted ion distrib., lateral spreading, theoretical predictions and computer simulation 7–16604
- Si:P, impurities at dislocations and grain boundaries, high-resolution TEM imaging 7–37815
- Si:P, interactions and localisation problems, review 7–64178
- Si:P, ion implanted, dynamic annealing, dose rate effects 7–12093
- Si:P, ion implanted defect structs. rel. to implant energy 7–38079
- Si:P, localisation theory 7–64170

phosphorus continued
Si:P, MBE grown, coevaporation P doping 7—26773
Si:P, many-valley semicond., electron intervalley scatt., optical pumping study 7—52608
Si:P, meas. of heavy doping parameters 7—12855
Si:P, metallic, nearly-localised electron spin dynamics, EPR linewidth study 7—22110
Si:P, Ni^+, ion implantation and annealing 7—21245
n-Si:P, nonlinear optics near metal-insulator transition 7—20322
Si:P, polycrystal. thin film, carrier transport, temp. depend. study 7—22043
Si:P, polycrystalline, excimer laser photochemical directional etching 7—65226
Si:P, polycrystalline, high pressure reactive ion etching with HCl 7—28224
Si:P, polycrystalline films, LPCVD, charactn. 7—53615
Si:P, pulsed laser annealing, molten phase local nucleation study 7—63655
Si:P, pulsed laser processing via free carrier absorpt. 7—21273
Si:P, quenching thermodefect prod. Hall effect, EPR meas. 7—27293
Si:P, random and channelled implantation profiles and range parameters of dopants 7—21246
Si:P, retarded and enhanced dopant diffusion related to implantation-induced excess vacancies and interstitials 7—63881
a-Si:P, selective doping and solid phase epitaxial growth, MOSFET appls. 7—27893
Si:P, self-consistent multi-ion screening formalism 7—38505
Si:P, surface conc. manipulation for P diffusion using ambient control 7—6660
Si:P, tail diffusion model 7—16815
Si:P, transient enhanced dopant diffusion 7—52136
Si:P, transmutation doped, deform. pot. shear const. determ. 7—38086
Si:P,B, SiO_2 coated cryst., floating zone growth under microgravity 7—53575
Si:P,B(As) polycrystalline CVD film, etch rate free carrier depend., doping level and grain size depend. meas. 7—28219
n-Si:P,C, electron-irradiated and injection-annealed, vacancies, dislocations and C interstitials 7—51815
Si:P,O, heavily doped crystals, behaviour of O and dopants 7—32483
Si:P,O,D, donor passivation and reactivation 7—17031
Si:P,Sb, mixing of P and Sb ions by recoil implantation, sheet resist., annealing temp. depend. 7—21291
Si:P,Sb, Sb diffusion 7—44915
Si:P films, CVD and electrical props. 7—64913
Si:P heavily doped, plasma etching with trifluorochloromethane-Ar discharges, parametric modelling and impedance anal. 7—28221
Si:P LPCVD films, amorphous and polycrystalline, struct., elec. resist. meas. 7—52870
Si:P MOS source/drain structs., 2D P diffusion props. 7—32718
Si:P polycrystalline films, segregation at grain boundaries, NMR study 7—38953
Si:P slotted surface, IR emission showing organ pipe resonant modes 7—44873
Si:P solar cell emitter saturation current meas. by contactless photoconductivity decay method 7—13866
Si:P solar cells, effects of P prediffusion on properties 7—3677
Si:P solar cells, shallow junction formation by light-induced diffusion from spin-on source 7—8418
Si:P substrate for W CVD, effect of dopants and crystal perfection 7—22576
Si:P thermal donor props., impurity effects, DLTS, Hall effect, and admittance spectra meas. 7—21851
Si:P thin films, surface energy-driven grain growth during rapid thermal annealing 7—63994
Si:P/Pt system, impurity migration during silicide form. 7—6895
Si:P/SiO_2 interface, oxidation rates and oxide props., dopant effects determ. 7—12514
Si:P/Ti, enhanced grain growth by silicide form. 7—27142
Si:P^+, ion implanted, rapid thermal annealing, solar cell appls. 7—23193
Si:P(P,B) films, surface energy driven secondary grain growth 7—22740
Si:Sb(As)(P)(B) epitaxial films, low temp. deposited by low press. CVD, autodoping 7—27182
Si-Al, P, defect struct. and dynamics 7—16552
Si-P, dopant redistribution during high pressure oxidation, four-point probe meas. 7—27020
SiC:P thin films, impurity 7—27192
β-SiC:P^+ epitaxial films, ion implanted, rapid thermal annealing 7—16905
6H-SiC:P; impurity paramagnetic and elec. props. study 7—53130
a-$Si_{1-x}C_x$:H, P films, valence band localised holes, light-induced ESR spectra studies 7—53110
a-$Si_{1-x}C_x$:H,P thin films, H bonding and H content, IR spectra studies *(Chinese)* 7—12524
SiO_2:F, P fibres, dopant materials behaviour in MCVD process 7—20462
SiO_2:P, thermally grown, diffusion of ion-implanted dopants 7—38041
SiO_x:P films, pure and doped, low press. CVD growth, structural, optical, elec. props. 7—27186
SiP, doping by XeCl excimer laser irrad., ultra-shallow junction fabrication 7—58303
$TiSi_2$:P films on Si, impurity diffusion 7—7077

phosphorus alloys
see also phosphorus compounds
$CeNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7—22154
Co-Ni-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7—27581
Co-Ni-Re-P films for perpendicular mag. recording media, electroless deposition and mag. props. 7—27580
Co-P, amorphous, Curie temp. meas. 7—45669
Co-P, amorphous, pulse plated, electrochemical props., corrosion resist. *(Japanese)* 7—53954
Co-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7—27581
Co-W-P electroplated alloys, struct. and mag. props. *(Russian)* 7—2428
CoNiReP alloy films for perpendicular mag. recording, thickness depend. of perpendicular coercivity 7—59066
$Co_{80}P_{20}$, amorphous films, electrodeposited, optical and NMR spectra, annealing effect *(Russian)* 7—45831
Cr_3C_2-Ni-P hard metal, Cr_3C_2 solution in Ni matrix, liq. phase influence 7—53689
Cu-Ni-P, P addition effect on struct. and strength 7—53669
Cu-P alloy liquid metal ion sources, ion formation 7—64878
Cu-P powder, contact form. during liq. phase sintering 7—7925

phosphorus alloys continued
Cu-P-Pt-B liquid metal ion source, B^+ and P^{2+} ion emissions 7—41531
$EuNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7—22154
$EuNi_2P_2$, mixed valence system, interconfiguration fluctuation model 7—64188
(Fe,Co,Ni)-P layers, electrochemical deposition, struct. *(Chinese)* 7—7037
Fe-Cr-Mo-Mn-C-P, sintered, ageing and steam oxidation, effect of P 7—7930
Fe-Cu-P, sintered, ageing and steam oxidation, effect of P 7—7930
Fe-Ni-Cr-P, ion irrad., swelling suppression, effect of P modification 7—58358
Fe-Ni-P-C, amorphisation under action of high press. and shear deform. *(Russian)* 7—58163
Fe-P, amorphous alloys, electrodeposition and melt spinning prep., struct. anal. 7—11934
Fe-P, sintered compacts, struct. and mech. props., effect of P addition 7—7917
Fe-P amorphous alloy preparation by electroplating 7—17489
Fe-P system, sintering at atm. press. 7—64971
Fe-P-C system, ferritic, grain boundary segregation of P and C 7—39530
Fe-P-Cu(Ni)(Mo), sintered atomised powder premixes, mech. props. 7—7931
Fe_{50} Ni_{22} Cr_{10} P_{18} and Fe_{48} Ni_{34} P_{18} metallic glasses, spin waves, study by polarised neutron scatt. 7—12962
FeCSiP alloys, cast, graphite nodule shape effects, ultrasound vel. meas., comp. depend. 7—3285
$FeCr_{10}P_{13}C_7$ amorphous alloy, surface layer chemical bonds, XPS studies 7—12417
$Fe_{76}Cr_4P_8C_{12}$, amorphous alloy, mag. short range order above T_c, paramag. phase 7—45623
$(Fe_{0.15}Ni_{0.85})_{75}$ $P_{16}B_6Al_3$, static scaling in an amorphous metallic spin glass 7—38871
$Fe_{32}Ni_{36}Cr_{14}P_{12}B_6$ metallic glasses, corrosion in H_2SO_4, alloying effect 7—28201
$Fe_{40}Ni_{40}P_{20}$ amorphous alloy, electron struct. and surface struct., XPS and UPS studies 7—27238
$Fe_{48.5}Ni_{34}P_{17.5}$, small-angle polarized neutron scattering study 7—52939
$Fe_{40}Ni_{40}P_{14}B_6$ amorphous alloy, relax. struct. transforms., 80 to 300K 7—1890
$Fe_{40}Ni_{40}P_{14}B_6$ amorphous alloys, annealing, positron annihilation parameters anal. 7—39303
$Fe_{40}Ni_{40}P_{14}B_6$, amorphous ribbon, magnetoelastic, Matteucci effect meas. *(Spanish)* 7—53103
$Fe_{40}Ni_{40}P_{14}B_6$, ferromag. amorphous alloy, struct. relax., effect of surface 7—28062
$Fe_{40}Ni_{40}P_{14}B_6$ metallic glass, heterogeneous struct., EXAFS study 7—27816
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glasses, multiplet splitting, XPS study 7—27858
$Fe_{40}Ni_{40}P_{14}B_6$ metallic glasses, corrosion in H_2SO_4, alloying effect 7—28201
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glasses, superplastic deform. *(Russian)* 7—39599
$Fe_{40}Ni_{40}P_{14}B_6$, Metglas 2826, magnetic ribbons, inverse Wiedemann effect for very low torsions 7—45786
$Fe_{40}Ni_{40}P_{14}B_6$, Metglass 2826, crystn. behaviour, influence of annealing atm. 7—53768
$Fe_{40}Ni_{40}P_{16}B_4$, amorphous and crystallised alloys, surface oxidation behaviour 7—59666
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, amorphous spin glasses, relaxation 7—53000
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, metallic spin glass, time decay of saturated remanent magnetisation 7—59058
$(Fe_{0.5}Ni_{0.5})_{75}P_{16}B_6Al_3$, metallic glass, struct. relax., theory *(Russian)* 7—44397
$Fe_{70}Ni_{10}P_{13}C_7$, amorphous powder, crystallisation *(Russian)* 7—58162
Fe_2P, electronic struct., mag. props., KKR, LMTO methods, LSD approx. 7—64070
Fe_2P, mag. props. under high press., competing magnetic interactions 7—7542
$Fe_{80}P_{20}$, amorphous ribbons, structural relax., crystallisation, Mossbauer spectra *(Chinese)* 7—11918
$Fe_{82}P_{11}B_7$ metallic glass, mag. anisotropy and correlated hyperfine interactions 7—7505
$Fe_{80}P_{13}C_7$ alloy, metallic glass surface layers by rapid quenching, microhardness 7—3512
$Fe_{80}P_{13}C_7$, amorphous alloy powders, rapid quenching water atomisation process 7—46371
FePGa, amorphous, magnetoelastic props. 7—27591
$Fe_{80}Si_xP_{20-x}$ amorphous alloys, struct., mag. and elec. props. *(Korean)* 7—2893
Mn-P-B system, isothermal cross section at 1070K, lattice parameters of phases 7—53702
Mn_2P, electronic struct., mag. props., KKR, LMTO methods, LSD approx. 7—64070
Ni/Ni-P compositionally modulated films, electrodeposition 7—3209
Ni-Mo-B(P), metallic glasses, depth-composition profile, X-ray photoelectron study 7—63928
Ni-Mo-P, electroless plating prep., film props. 7—13392
Ni-P, amorphous electrodeposited alloys, short-range order *(Russian)* 7—32291
Ni-P, electrodeposition, pulse plating, corrosion resist. *(Japanese)* 7—53643
Ni-P, electroless coating on ultrahigh strength maraging steels, H embrittlement 7—28136
Ni-P, electroless coatings, wear rel. to counterface materials and heat treatment 7—33802
Ni-P, glassy, dissolution in H_2SO_4 and HCl electrolytes 7—28189
Ni-P alloy electroless deposits, hardening by baking treatments *(Japanese)* 7—33759
Ni-P amorphous alloy electrodeposition and corrosion obs. 7—27953
Ni-P coating, electrolytic, electron microscope obs. of struct., P content depend., amorphous layer form. 7—8157
Ni-P electrodeposited amorphous alloy, prep. and characterisation 7—22598
Ni-P electroless coatings, electronics components, thickness meas. 7—14920
Ni-P electroless coatings, corrosion resistance 7—17484
Ni-P electroless deposited amorphous coatings, wear resistance, crystallisation effects 7—53913
Ni-P glasses, local atomic struct., NMR and EXAFS studies 7—63504
Ni-P ion-implanted and melt spun amorphous alloys, crystn., TEM, RBS and DTA meas. 7—16439
Ni-P metallic glasses, electronic struct., XPS study 7—39357

phosphorus alloys continued
Ni-P-B electroless coatings, prep. and deposit characts. 7−59671
NiCoP onefold layer, domain propag. along hard axis 7−45727
$(Ni_{1-x}Cu_x)_{80}P_{20}$ pseudobinary metallic glass, low-temp. sp. ht. studies 7−12309
$Ni_{1-x}P_x$, amorphous glasses, electronic structure, calcs. 7−7101
$Ni_{1-x}P_x$ metallic glass, electronic struct. and props., LMTO calcs. 7−52409
Ni_2P, electronic struct., mag. props., KKR, LMTO methods, LSD approx. 7−64070
$Ni_{77}P_{23}$ amorphous alloy, struct. relax. and crystn., elec. resist. and X-ray diffr. obs. 7−1894
$Ni_{82}P_{18}$, amorphous state, electrical resistance meas. in gaseous H_2 7−32978
$Ni_{40}Pd_{40}P_{20}$ alloy glass, solid-liq. interfacial energy 7−2208
$Ni_{40}Pd_{40}P_{20}$, glass transition, internal friction by Collette torsion pendulum 7−38199
$Ni_{45}Pd_{35}P_{20}$ metallic glass, decomposition, crystallisation and embrittlement, atom-probe FIM study 7−33639
Pd-Rh-P-Si, surface alloy vitrification by laser treatment 7−21271
$Pd_{75}Fe_5P_{20}$ amorphous spin glasses, muon spin relax., temp. depend. meas. 7−45882
$Pd_{40}Ni_{40}P_{20}$ metallic glass, structural relax., shear and longitudinal sound. vel. meas. 7−51655
PdRhPSi(SiNi), amorphous laser processed surface alloy on cryst. Ni in NaOH soln., anodic characts. 7−28317
Pt-P alloy liquid metal ion sources, ion formation 7−64878
$YbNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7−22154

phosphorus compounds
see also phosphate glasses; phosphorus alloys; phosphosilicate glasses
heavy metal phosphates, IR spectrosc. investig. *(German)* 7−53299
organophosphorus compounds, gas-phase synthesis rel. to atmospheres of giant planets 7−24058
orthophosphates, ^{31}P NMR chem. shift, anisotropies, struct. and cation effects 7−50187
orthophosphates, vibr., Raman and IR spectra 7−3048
$Ar-PF_3$ complex, rot. and distortion consts., microwave spectrum 7−62353
$Ca_{2-x}P_{1-x}Cl_{1+x}$ and Ca_3PCl_3, prep., crystal struct., thermal behaviour *(German)* 7−26717
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, magnetic susceptibility appl. of dynamic scaling 7−59019
Li-P-O-N glass, prep. and characterisation 7−26654
$Li_2O-ZrO_2-P_2O_5$ system, phase equilib. and cpd. form. 7−28024
$Na_{1.7}P_4W_{14}O_{50}$ struct. refinement, single cryst. X-ray anal. study 7−58233
$NiPS_3$, near IR, visible, and near UV optical absorpt. spectra studies 7−46068
P halide complexes, single halide anions, Raman shift investig. 7−19869
P-containing compounds, Auger parameters and relativistic Dirac-Fock atomic calcs. 7−15651
$P_2As_2S_3$, occupationally disordered cryst., struct. 7−58218
$(PBr_4)^+(MBr_4)^{-1}$ complex, M=B, Al, Ga, In, mol. vibr., Raman and IR spectra anal. 7−46021
PF_3, integrated intensities and IR absorpt. bands, ab initio (3.1) calcs. 7−56953
PF_3 molecules, jet-cooled IR laser spectroscopy 7−41495
PF_5, ^{19}F NMR chem. shifts and NQR coupling consts. 7−50188
PH_2^-, electron affinity calc. with fourth order many body perturbation theory 7−42471
PH_3, accidental IR double reson. transition obs., electric field standards appl. 7−10644
PH_3, chemisorption bond energies on chemically modified Mo (100) surface 7−23056
PH_3 dipolar couplings in liq. crysts., anisotropic forces, NMR study 7−62413
PH_3 gas source for MBE, mass spectrometry 7−53592
PH_3, integrated intensities and IR absorpt. bands, ab initio (3.1) calcs. 7−56953
PH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
$(PMo_{10}V_2O_{40})^{5-}$, Keggin struct. 7−51732
$(PMo_9V_3O_{40})^{6-}$, Keggin struct. 7−51732
PN, pot. energy curves, dissoc. energy 7−19737
PO, interstellar, upper limits to abundances in dense mol. clouds 7−66713
PO_2, radiative lifetime and laser induced UV fluoresc. spectrum 7−42638
PO_2^-, form. enthalpy from $NaPO_3$ mass spectra 7−33952
PO_3^- form. enthalpy from $NaPO_3$ mass spectra 7−33952
PO_4^{n-} electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7−856
P_2O_5 doped fibre Raman laser, OTDR for single-mode fibre appl. 7−31517
P_2O_5, glass transition and viscosity meas. 7−58475
POBr, gaseous, form., mass spectrometric and matrix IR investig. 7−39908
$\alpha-P_4Se_3$, cryst., press depend. of Raman spectrum 7−33376
PX, PX^+ and PX^- where X = H, F and Cl, low-lying electronic states, ab initio calcs. 7−30937
$Pb_3P_{2x}V_{2-2x}O_8$ mixed system, substitution defects, first order transition spreading 7−58458
a-Si:H, PH_3, localised density of states, electrophotography study 7−32957
$Si:PF_5^+$, ion implanted, rapid thermal annealing, solar cell appls. 7−23193
$Si:PF_n^+$, ion implantation damage, backscattering channelling meas. 7−63675
$Si:PF_n^+$ ion implanted, recrystallisation kinetics during fast thermal annealing 7−16618
$SiO_2:P_2O_5$ fibres, single-mode, selective stimulated Raman scattering 7−31500
$V_2O_5-P_2O$ amorphous cathode Li secondary batteries, ethylene carbonate/2-methyltetrahydrofuran electrolyte 7−3635
$ZrO_2-MgO-P_2O_5$ system, phase equilib. at 1573K 7−28023

phosphosilicate glasses
alkaline earth metasilicate glasses, P_2O_5 added, struct., ^{31}P and ^{29}Si NMR 7−32302
borophosphosilicate glass, composition determ. by Rutherford backscatt. 7−17383
borophosphosilicate glass film, rapid isothermal fusion 7−21425
films, deposited by different CVD methods, phys. props. 7−27220
laser-induced flow modelling in multilayer struct. 7−38057
reflow characts, rapid thermal annealing 7−59553

phosphosilicate glasses continued
ring resonator fabricated in phosphosilicate glass films deposited by CVD 7−15968
standard, laser microprobe mass analysis, quantitative 7−54250
$Na_2O-CaO-Al_2O_3-SiO_2$ glass ceramic system, spherulitic growth, mech. props. 7−46405
$P_2O_4-B_2O_3-SiO_2$ CVD glass films, components characterization 7−45085
$P_2O_5-SiO_2$ glass/SiO_2 double layer dielec. films, X-ray irrad. effects 7−58332
$SiO_2-P_2O_5$ optical fibres, γ-irradiated, phosphorus oxygen hole centres 7−11083
$ZrO_2-CaO-P_2O_5-SiO_2$ glass ceramics, prep. and mech. props. *(Japanese)* 7−7942

photoacoustic effect
absorptance characts. of mirrors meas., by photoacoustic calorimetry 7−31432
acoustic tomography of pulsed laser beams 7−62944
biological systems, photoacoustics appl. 7−54463
chalcogenide thin films, glass-crystal transitions, photoacoustic studies 7−45073
cO_2-laser photoacoustic spectroscopy applied to low-level toxic-vapor monitoring 7−51378
coal, thermal charactn., piezoelectric photoacoustic microscopy 7−44643
composite media, thermoelastic waves, photothermal generation 7−44685
condenser microphones, photoacoustic response 7−57659
discharge plasmas, phenomenological approach to optoacoustic effect 7−31987
FeB, amorphous alloy, metallic glass ribbon, thermal diffusivity, photoacoustic study 7−45262
fibre optic sensors, multimode, with freq. output, photoacoustic excitation of mech. resonators 7−57581
flowing liquid, photoacoustic signal depend. on velocity 7−44695
fluorescence quantum yield from highly excited molecular states, photoacoustic-effect meas., triplet-state absorpt. 7−36678
gas, photoacoustics at low press., phase meas., condenser microphones influence 7−51376
gas, relaxing and viscous, photoacoustic signal 7−51375
gas concentration and gradient meas. in photoacoustically perturbed jet 7−37560
graphite limiter, porous, effective thermal props., photoacoustic meas. 7−44239
integrated circuit subsurface features, detect. by photoacoustic microscopy 7−50873
laser generation of acoustic waves in liquids and gases 7−20556
laser-generated ultrasound, detect. using confocal Fabry-Perot interferometer 7−50893
laser-generated ultrasound, epicentral waveforms 7−1356
metal-liquid-optically transparent dielec. system, acoustic radiation under dynamic changes in liq. struct. *(Russian)* 7−1357
microscopy, real-time theory 7−50872
nonsinusoidal light modulation, photoacoustic effect 7−42978
optically thick gas, sound generation, optoacoustic effect, thermal piston model 7−44091
optoacoustic interaction and phase conjugation of sound beams in piezoelectric semiconductors 7−62946
1-phenylcyclohexene, triplet energy state meas., photoisomerisation, time-resolved photoacoustic calorimetry study 7−28319
photoacoustic-thermal signal generation, finite element simulation 7−51947
photothermal, photoacoustic and rel. techniques 7−51946
photothermal generation of Rayleigh waves 7−43621
photothermal imaging, spatial resolution of subsurface structure 7−26110
piezoelectric material, with strain depend. dielec. const., modulational instability of laser beam 7−27677
powders and porous media, thermal diffusivity, photoacoustic technique meas. 7−4837
pulsed photoacoustic generation mechanisms 7−50892
Rayleigh waves using laser generation and EM acoustic transducer detection 7−44979
RF discharge as low press. contactless sonic wave sensor 7−43585
SAE interactions with cracks and slots, noncontacting study using lasers 7−46756
SAW reflections, two-component, from surface breaking slots 7−50819
semiconductor rod, laser irradiated, photoacoustic wave forms, temp. depend. 7−6728
semiconductor superlattices, doped, electromagnetic excitation of ultrasound 7−12213
semiconductors, Rayleigh wave excitation during optical pulse absorption 7−38314
semiconductors, ultrashort strain pulse excitation due to optical radiation absorpt. 7−32579
smectic A thin sample, thermal diffusivity determ., photoacoustic effect appl. 7−44812
surface-breaking cracks, noncontact detection using laser acoustic source and EM acoustic receiver 7−3551
thermal effects in materials with continuously varying optical and thermal properties in one dimension 7−44871
thermal wave/thermoacoustic microscopy, spatial resolution 7−26109
thermoacoustic radiation of sound by a moving laser source 7−62947
thermooptical sound generation in a metal 7−16052
time harmonic cylindrical SAW excitation 7−43470
transmission thermoacoustic imaging without contact 7−31601
ultrasonic pulse propag. using laser generation and electromagnetic acoustic transducer detection 7−26114
ultrasonic wave generation with picosecond holographic grating 7−10889
ultrasonics conference, San Francisco, USA (Oct. 1985) 7−11
US imaging of layered structures using nondestructive subnanosecond photoacoustic pulse generation 7−43581
US mode conversion, pulsed photoacoustic investig. 7−50894
water, sorption investigated using photoacoustic effect 7−54163
X-ray generated US signals, characts. and imaging appls. 7−43624
GaAs third order elastic constants, US displacement interferometry 7−2087
GaAs/$LiNbO_3$ struct., SAW parametric generation with light pumping 7−63934
Ge third order elastic constants, US displacement interferometry 7−2087
Hg liq.-optical fibre interface, optoacoustic effect study 7−44698
InP, optical generation and phase-sensitive detection of SAWs 7−58598
Nb, supercond., nondestructive inspection by scanning laser acoustic microscope 7−3566

photoacoustic effect continued
SF_6-Ar, photorefractive deflection technique using parallel and overlapping probe and pump beams appl. 7−51377
Si, SAW generation by optical irradiation 7−63933
Si thin wafers, photoacoustic pulses, optical detect. 7−54050
TiO_2-SiO_2 dielectric multilayer stacks, absorption meas. by photoacoustic technique 7−17331

photoacoustic spectra
actinide oxides, 7−27731
asbestos, fibres, Fourier transform photoacoustic spectroscopy 7−51952
benzophenone triplet+KI, laser-induced optoacoustic spectroscopy, lifetime determ. 7−25683
cadmium stearate Langmuir-Blodgett films on sapphire, thermal disordering, optoacoustic IR spectra anal. 7−52236
chlorophylls a and b and aggregates, spectra in nematic liq. crysts. and polyvinyl alcohol films 7−59930
coal, thermal props., scanning photoacoustic microscopy 7−23089
cyanobacterial heterocysts, photosystem I, energy conversion monitoring, photoacoustic spectra 7−47016
cyclobutene, IR spectra, vibr. struct. and C−H local mode dynamics 7−25510
differential cell design for in vivo photoacoustic meas. of skin absorbance 7−47293
dye, diffusion in polymer, time-depend. phenomena, impulse-response photoacoustic spectroscopy monitoring 7−42797
dye soln., degenerate four-wave mixing acoustic wave excitation 7−62786
ethylene-propylene rubber, dielectric props., water detection using photoacoustic spectroscopy 7−53298
E-glass fibre composite interfaces, surface studies using diffuse reflectance and photoacoustic FTIR spectra 7−46044
Kevlar 49 fibres, N-H groups, photoacoustic Fourier transform IR spectra 7−39118
methanol, two-colour multiphoton excitation by CO_2 and HF lasers 7−42716
PET, films, depth-profiling, FTIR photoacoustic spectroscopy 7−25686
polyethylene, dielectric props., water detection using photoacoustic spectroscopy 7−53298
polyvinylidine fluoride, films, depth-profiling, FTIR photoacoustic spectroscopy 7−25686
quartz, particle size effect on Fourier transform IR photoacoustic spectra 7−9909
3,3,3-trifluoropropyne, intracavity dye laser photoacoustic spectra for overtone excitation, IR spectra 7−10575
$Al_2Si_2O_5(OH)_4$, kaolinite, FTIR photoacoustic spectra 7−48881
CdS, carrier transport, defect effects, photoacoustic and photocurrent spectra 7−38626
CdS, nonradiative recombination, elec. transport, combined photoacoustic and photocurrent spectra 7−38582
CdS, nonradiative recomb., elec. transport, combined photoacoustic and photoconductive spectra, theory 7−38583
a-GaAs, optical absorpt. and refractive index spectra 7−27735
GaAs, surface and bulk nonradiative recombinations, photoacoustic study 7−33438
Ge-Sb-S glasses, bulk and thin film samples, optical and photo-acoustic props. study 7−22211
HCN, overtone transitions, self-broadening and intensity, photoacoustic spectra rot. relax. 7−20016
HT, rot. vibr., line position meas. in optoacoustic spectra 7−62456
Hg liq.-optical fibre interface, optoacoustic effect study 7−44698
Ho_2O_3, solids and liqs., photoacoustic spectroscopy, optical absorpt. coeffs. 7−51951
I, $(^2P_{1/2})$ state, absolute yield from I_2 photodissoc., optoacoustic spectrosc. meas. 7−49963
I_2, mag. predissoc., photoacoustics using RF laser optogalvanic detection 7−50273
SbSI, ferroelectric semiconductor, photoacoustic spectroscopy 7−16696
SnS, photoacoustic response and transmission spectra, thermoacoustic meas. 7−46014

photoacoustic spectroscopy
see also photoacoustic spectra
analytical spectroscopy methods review 7−54226
biological sample anal. appl. 7−3941
biological systems, photoacoustics appl. 7−54463
book, laser optoacoustic spectroscopy 7−55904
chromophore distrib. in solid determ. using impulse-response photoacoustic spectroscopy 7−51948
cO_2-laser photoacoustic spectroscopy applied to low-level toxic-vapor monitoring 7−51378
combustion diagnostics by pulsed photothermal and photoacoustic deflection spectroscopy 7−23016
diffuse reflectance and photoacoustic spectroscopy comparisons in UV, visible and IR regions 7−30099
Fourier transform near-, mid- and far-IR, noise sources and reduction strategies 7−48888
Fourier transform photoacoustic spectroscopy of solids 7−41496
Fourier-transform IR spectrometer, effect of quartz particle size 7−9909
FTIR photoacoustic spectra, phase analysis 7−48878
FTIR photoacoustic spectra, resolution enhancement by Fourier self-deconvolution 7−48881
FTIR photoacoustic spectroscopy use in depth profiling expts. 7−48880
high sensitivity spectroscopic techniques, review 7−56354
high-resolution submillimetre heterodyne spectrometer for atm. and astron. appl. 7−353
laser energy absorpt. meas. using differential joulemeter and optoacoustic cell calibration appl. 7−41500
laser generation of acoustic waves in liquids and gases 7−20556
laser photoacoustic spectroscopy of humid and polluted air 7−20569
metal mirrors, absorptance meas. at glancing incidence, photoacoustic calorimetry 7−20380
noncontacting systems and impulse response technique developments 7−30094
nondestructive evaluation of materials by photoacoustic microscope and photothermal beam deflection 7−20585
photovoltaic cells, photoacoustic signal, computer simulation 7−43588
polybutylene terephthalate fibres, phase transitions, surface characterisation, spectrosc. methods 7−63505
pulsed photoacoustic materials characterization 7−46755
scanning laser photoacoustic microscopy, phase transition studies 7−20582
solar cell photoacoustic measurements, computer simulation 7−8422

photoacoustic spectroscopy continued
sunscreen penetration into human skin, photoacoustic in vivo study 7−47153
time-delay-domain and pseudorandom-noise photoacoustic and photothermal wave processes 7−41479
time-dependent phenomena in materials, study by impulse response photoacoustic spectroscopy 7−42797
water and alcohol liquid-gas boundary studied by photoacoustic spectroscopy 7−51950
I_2, photodissoc., absolute $I(^2P_{1/2})$ yield laser optoacoustic meas. 7−49963
Pb-acid battery, study of positive plates by photoacoustic spectrophotometry 7−54283
SF_6, optoacoustic signal generated by pulsed IR radiation 7−41480

photobleaching *see optical saturable absorption*

photocapacitance
see also photodielectric effect
$Al/SiO_2/Si_3N_4/Si$ illuminated struct., nonlinear capacitance props. study 7−38731
Al-SiO_2-Si MOS capacitors, optical and thermal cross-section of interface states, photocapacitance meas. 7−38742
$Al_{0.55}Ga_{0.45}As$:Te edge region photocapacitance at constant bias, anal. 7−7287
GaAs, MISS, common anion rule, density distrib., photoionisation 7−38765
GaAs:B, ion implanted, near-intrinsic and extrinsic photocapacitance due to the EL2 level 7−7147
GaAs:In, strain effects, electrorefl. and photocapacitance study 7−22224
$GaAs_{0.6}P_{0.4}$ degraded LEDs, origin of nonradiative centres, photocapacitance, electrolum. spectra 7−53413
GaP, MISS, common anion rule, density distrib., photoionisation 7−38765
HgI_2 cryst., photoelec. props. study 7−17049
InGaAs, MISS, common anion rule, density distrib., photoionisation 7−38765
InGaAs/InP superlattices, effective mass filtering obs. 7−12799
InP, MISS, common anion rule, density distrib., photoionisation 7−38765
Si bicrystals and thin films, grain boundaries, electronic props. 7−7172
Si p^+-i-n^+ diodes, gamma irrad., capacitance detected mag. resonance 7−17243
Si Schottky diodes with dislocations, tunnelling transitions 7−52831
a-Si:H, mobility gap state transitions, transient photocapacitance studies 7−12669
a-Si:H solar cells, turn-off character, wavelength depend. 7−46951
a-Si:H/crystalline Si heterojunction, photosensitivity studies 7−38714
Si:Mn, optical props. *(Chinese)* 7−33043
$Zn_{0.25}Cd_{0.75}Se$ mixed crysts., electron and hole deep level traps 7−16980

photocatalysis *see catalysis*

photocathodes
see also photoemission
bialkali, in photomultiplier tube, wavelength dependence of quantum efficiency determ. 7−18879
electronics and vacuum physics, conf., Bratislava, Czechoslovakia (Sept. 1985) 7−24292
laser-driven metal-photocathode electron source 7−9921
photoelectronic source for swarm expts. in high-density gases 7−9925
TeV e^+e^- linear collider, cathode life and gas desorpt. meas. *(Japanese)* 7−19587
TeV e^+e^- linear collider, GaAs photocathode development *(Japanese)* 7−19589
Cs-Sb-based photocathodes, stability and O adsorption energies 7−38344
Cs_3Sb surface film, detection on multialkali photocathodes 7−46912
p-CuCNS photocathode sensitized with Acridine Orange, photocurrent quantum efficiency 7−33944
GaAs photocathodes, NEA, photoelectron energy spectra 7−13325
Ge, multipoint field photocathodes, fabrication and emission characteristics 7−13323

photocells *see photoelectric cells*

photochemical energy conversion *see chemical energy conversion*

photochemistry
see also photochromism; photodissociation; photoelectrochemical cells; photolysis; photosynthesis
airborne particles, photoelectric charging, implications for ion comp. and chem. reactions 7−28326
allyl halides, laser-induced chem. reaction kinetics 7−23035
allyl phenyl ether, photoisomerisation reaction mechanisms, IR multiphoton excitation study 7−62372
anthracene crystal monolayer, photodimer disorder effects, UV reflection spectra anal. 7−53362
anthracene-tetracene photoadduct in polymer matrix, photochemical hole burning 7−23038
bacteriorhodopsin in polymer matrices, photochemical activity rel. to hydration 7−8518
bis(9-anthrylmethyl) ether chemically attached to polystyrene, forced Rayleigh scatt. technique, self-diffusion meas. 7−39888
1,4-bis(β-pyrazinyl-2-vinyl)-benzene, solns. and solid state, irrad. and solvent effects, visible fluoresc. anal. 7−36674
1,4-bis(β-pyridyl-2-vinyl)benzene−2,5-distyryl pyrazine mixed crysts., photopolymerisation kinetics, fluoresc. spectra studies 7−33928
1,4-bis(β-pyridyl-2-vinyl)benzene and hydrochloride derivative, photopolymerisation kinetics, fluoresc. spectra studies 7−33928
bisphenol-A-polycarbonates, outdoor lifetime depend. on terrestrial UV irradiance spectrum 7−54357
bovine serum albumin, photoinduced ionisation by holographic relax. method 7−14046
brilliant cresyl blue-iminodiacetic acid system, in photogalvanic cell, solar energy photochem. conversion 7−39907
camphorquinone radical anion, photogenerated, time-resolved CIDEP spectra 7−57102
capron films, photodestruction kinetics with UV radiation, effects of tension 7−39905
chlorodifluoromethane, IR spectra, resonant vibr. energy exchange kinetics 7−36617
chlorodifluoromethane, IR spectra, rot. and vibr. relax. 7−36616
conference on laser appls. in chem. and biophys., Los Angeles, CA, USA (Jan. 1986) 7−40993
cyclic ketones, α-bond rupture, photochem. reaction, ab initio SCF CI calcs. 7−56998
1-cyclohexyl-phenyl-2-methyl ethylenes, synthesis and phys. props., photochemical stabilities 7−1870
defect mapping by in-water photocorrosion 7−59692

photochemistry continued
dialkylanilines, para-substituted, dual fluoresc. 7−10649
dichlorofluoromethane, relax. to photophysical steady state during IR absorpt. 7−36618
dihalogenomethylene sulphoxides, photochemistry, IR spectra *(German)* 7−31046
6b,8a-dihydrocyclobut(a)acenaphthylene, photoisomerisation, solvent and irradiation parameter effects, visible and UV spectra study. 7−33947
etch-resistant metals, photochem. machining 7−22909
ethylene in Ar and water, photo-isomerisation, trajectory study 7−8264
flavin derivatives, adsorbed on oxide layers, photophysics study 7−7738
glass:CdSSe gratings, darkening effect, optical phase conjugation 7−57476
glycolic acid, rot. isomerisation, ab initio SCF calcs., IR Ar matrix spectra 7−19851
group IVA atoms, photochemistry, electronic struct., matrix isolation spectra 7−3580
holographic gratings appl. to study of irreversible photochemical reactions 7−10891
holographic methods for investigating solid-state photochemistry 7−10890
III-V semiconds., ion beam damage-induced masking for photoelectrochem. etching 7−44628
interstellar clouds, grain mantles photo processing rel. to chemical evolution of molecules 7−48014
laser applications in chemistry, conf., Quebec City, Canada (June 1986) 7−41000
laser materials processing developments at GEC Hirst Research Centre (UK) 7−53581
methyl isocyanide, overtone-induced isomerisation, master eqn. formalism 7−13750
mid-latitude mesosphere and thermosphere, comp. modelling 7−14402
nonlinear UV-visible spectroscopy for analysing higher electron excitation states of org. mols. 7−4897
optical materials for energy efficiency and solar energy conversion, conf., San Diego, CA, USA (Aug. 1985) 7−48159
organic molecules, photochemical processes, ab initio quantum chemical calcs. 7−59772
organosulphur compounds, atm. photooxidation mechanisms anal. 7−54113
1,3-pentadiene, excited state polaris., photochem. 7−62303
1-phenylcyclohexene, triplet energy state meas., photoisomerisation, time-resolved photoacoustic calorimetry study 7−28319
photoformation of dielectric materials, review 7−53633
planetary atmospheres, gas-phase synthesis of organophosphorus compounds under UV irradiation 7−24058
polymethine dyes, photoisomer transform. schemes 7−39878
polyphenylacetylene thin films, photochemical polymerisation 7−17441
propanol-2 radical+CdS, photochemistry and radiation chemistry, nonlinear optical effects 7−46858
random organic solids, non-exponential relax. processes. 7−37058
reactors, industrial, using transparent particles, Monte Carlo modelling 7−59773
rhodamines, aq. micellar solns., flash lamp excitation, photostability, lasing props. 7−57308
salicylidenamines, thermochromic and photochromic, IR spectra, conformational influence 7−53310
semiconductor-electrolyte interface photoelectrochemical system, quantum yield interpretation and surface state model calcs. 7−23036
solid-state, phase-modulated holographic investig. 7−62645
spatial dissipative structures, generated by diffusion and photochem. bistability 7−46111
s-tetrazine, photochem. hole burning, Doppler-free saturation spectrosc. 7−36589
time-resolved IR spectroscopy system, data acquisition and processing 7−48884
triphenylmethane dyes, dual fluoresc. 7−10649
two-state system, strong nonadiabatic interactions and fast radiationless transitions 7−57128
two-step water photo-decomposition reactions for H_2 production 7−54365
vapour phase cryst. growth, ion/surface interactions, photo-induced reactions, review 7−53609
n-WSe_2-electrolyte interface, microwave photoelectrochemistry studies 7−27413
zinc tetra-2,3-pyridino porphyrazine, photoreduction, photochemical, electrochemical and spectroscopic study 7−33949
Ag film, adsorbed $NH_3(ND_3)(Xe)$ IR laser photodesorption spectroscopy 7−17825
Ag_3 clusters isolated in solid Xe matrices, reson. Raman scatt. and photoisomerisation process 7−25696
AgBr particles, spectral sensitization, dye decomposition and Ag form., efficiencies *(Japanese)* 7−35610
ArCl, formation in Cl_2 doped Ar, excited states anal., mol. fluoresc. study 7−19946
$BaTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7−2539
CdS, powder, metal-loaded, photoinduced electron-hole pair separation 7−59770
CdSe electrodes, photoanodic dissolution in NaCl soln. *(Japanese)* 7−23026
CdSe-polysulphide photoelectrochem. system. corrosion reactions, thermodynamic stability calcs. 7−28320
Cl_2, dopant in Ar, ArCl and Cl_2 formation and excited states anal., mol. fluoresc. study 7−19946
$CuCrO_2$:Ca, semiconductor, prep., opto-electronic props. 7−2705
Cu_2S-CdS heterojunction, form. by photoelectrochemical process, phys. props. under light irrad. 7−45456
$Fe(CO)_4$, IR laser-induced photochem. 7−65334
GaAs (100), surface Fermi level unpinning in air using photochem. 7−2655
GaAs molecular layer epitaxy, UV light effects, photo-assisted reactions and adsorpt. phenomena *(Japanese)* 7−7048
n-GaAs, photoelectrochemical etching, orientational depend. 7−65224
GaAs surface, Fermi level unpinning by flowing water 7−58843
GaAs, VPE growth, reaction mechanisms 7−58693
p-GaP, powder, metal-loaded, photoinduced electron-hole pair separation 7−59770
Ge-based chalcogenide thin films, amorphous, anomalous photoinduced transformations study 7−45070
a-$Ge_{30}S_{70}$ films, irreversible photobleaching 7−17353
H_2 production by TiO_2 thin film electrodes of photoelectrolysis solar cells 7−3725

photochemistry continued
H_2-octaethylporphin in polystyrene, photochemical hole, transmission spectrum, temp. broadening *(Russian)* 7−15617
$Hg_{1-x}Cd_xTe$, photochemical organometallic vapour phase epitaxy 7−27946
Hg_2Cl_2, photocatalytic props., O_2 photogeneration from water 7−54151
n-InP, minority carrier diffusion length meas. using a photoelectrochemical technique 7−33030
InP-aqueous electrolyte interfaces, laser induced photoelectrochemistry 7−27412
Li-Al_2O_3-P_2O_5:Ag glasses, Ag^0 centre thermal and photochemical conversion, spectroscopic consequences 7−39906
Li+HCl, laser catalysed reaction, pot. surfaces and transition dipoles 7−39861
Li_2O-SiO_2 based photosensitive glass, machining without photoresist 7−22865
$MgFe_2O_4$, photoelectrochemical props., effect of defects and doping 7−45385
MoO_3, adsorption of methanol, influence of photoinjected H on adsorptivity 7−63942
MoS_2 single crysts. grown in presence of Co, photoelectrochemical props. 7−8294
$MoSe_2$, melt grown layered crysts., optoelectronic props. 7−21946
$NiFe_{1.96}O_{4+\gamma}$ electrodes in aq. electrolytes, photoelectrochem. characts. meas. 7−46854
Np, valence state adjustment using laser photochem. in nucl. fuel reprocessing *(Japanese)* 7−61971
O atom, flame diagnostics by two-photon fluoresc., UV laser appl. 7−23015
O_3 form. in atm. effect of urban areas traffic pollution 7−3736
Ru complex, chiral probe for A-form helices of DNA and RNA 7−34096
$Ru(NH_3)_5$-bipyridylbutadiene-$Ru(NH_3)_5$ compound photoisomerisation mol. switching, electronic coupling parameter calc. 7−19678
Si (100), UV-stimulated interaction with Cl_2, reaction mechanisms for photon-enhanced etching 7−22926
Si, colloidal, prep., photochem. expts. 7−65332
Si, photo-oxidation under ArF excimer laser irradiation in O_2+NF_3 gas mixture 7−13658
Si, photochemical CVD at 200°C 7−59456
Si, photochemical etching in NF_3 gas, surface processes 7−59704
Si, reduced-pressure low temp. epitaxy, photochem. effects 7−59455
a-Si:H, photo-CVD deposition, initial processes *(Japanese)* 7−7053
Si:P, polycrystalline, excimer laser photochemical directional etching 7−65226
Si-SiO_2-Cu(Ni), light induced deposition of metal films on SOI substrates 7−46354
SiH_4+Hg, SiH_4 decomposition by $Hg(6^3P_1)$ photosensitisation 7−54149
SiO_2 deposition by photo-initiation 7−59454
$SrTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7−2539
s-tetrazine clusters, photophysics and photochemistry, laser induced fluoresc. 7−31098
TiNb oxide electrodes, photoelectrochemical characts., zero point of charge effect on flat band potential and O_2 evolution 7−33943
TiO_2 on glass substrate, photocatalysis 7−23066
TiO_2 sputtered thin film electrodes with low donor densities, photoelectrochemical behaviour 7−27359
V_2O_5, adsorption of methanol, influence of photoinjected H on adsorptivity 7−63942
WO_3, adsorption of methanol, influence of photoinjected H on adsorptivity 7−63942
WSe_2, melt grown layered crysts., optoelectronic props. 7−21946
n-WSe_2 single crystal, growth, struct. and photoelectrochem. props. 7−27879
ZnO films, elec. props., decomp., chemisorption of O^-, photocond. meas. 7−27445

photochromism
bacteriorhodopsin-biochrome films, reversible media for optical recording 7−57495
$\Delta^{2,2'}$-bi-(2H-1,4-benzothiazine), photochromism and thermochromism, quantum yield 7−46859
chalcogenide glasses, photodarkening process and defects 7−13112
chalcogenide glasses, photostruct. transform., energy accumulation *(Ukrainian)* 7−13110
12-(2^1,4^1-dinitrobenzyl)pyridine, nature and decay time of transient species, Raman spectroscopy 7−10599
glass photochromic diffusion waveguides., absorbing-mask mode selectors automatically matched to mode field 7−50739
glasses, degree of darkening depend. on radiation absorpt. cross section 7−37078
glasses, photochromic, modelling 7−57498
glasses, temporal change and conc. of photochromic centres *(German)* 7−57500
hologram, space-time, recording and reproduction in selective photochromic media 7−57280
organic molecules in conformationally inhomogeneous solvents, solvation effect on UV and fluoresc. spectra 7−50234
organic photochromic thin films, optical nonlinearity and resonant bistability 7−57442
polystyrene chemically attached to bis(9-anthrylmethyl) ether, forced Rayleigh scatt. technique, self-diffusion meas. 7−39888
salicylidenamines, thermochromic and photochromic, IR spectra, conformational influence 7−53310
spiroindolinonaphthoxazine, in glassy polymer matrix, thermal reaction anal. by photochromism 7−54088
spiroindolinonaphthoxazines in plastics, photochromic perform. 7−39091
waveguides, planar optically controlled, made of photochromic glasses, selective props. 7−1263
Ag halide photochromic glass, colouring and bleaching 7−57497
As_2S_3 thin films, photodarkened, reversible recording and erasure of holograms 7−50511
CdO-B_2O_3-SiO_2 glasses, photochromism, photocond. and ESR *(Japanese)* 7−22282
Cu, halides, photochromic glasses, elastic props., 20-500 °C *(Russian)* 7−21365
Ge-Se based glass films, photodarkening effect, exposure characts. *(Japanese)* 7−64706
MoO_3, amorphous films, X- and γ-irradiated, color center form. 7−44541
$Se_{100-x}Ge_x$ amorphous alloy, photodarkening, structure model anal. 7−3003

photoconducting devices
see also photoconductive cells; photodiodes; phototransistors
photoconductor X/γ-ray detectors and X-raybolometers 7−10361
photodetectors, transverse and longitudinal, responsivity and detectivity, light attenuation effects 7−48848
pulsed power supplies, IEEE conf., Arlington, VA, USA (1985) 7−35110
semiconductor position-sensitive sensor 7−41472
semiconductor radiative lifetime for IR detect. 7−35591
SOS, submicron-gap photocond. switching 7−52689
thermoplastic optical recording devices 7−37201
UV radiometers, detector elec. characteristics 7−41417
UV radiometers, detector optical characteristics 7−41418
Au-InP high-speed internal photoemission detectors enhanced by grating coupling to surface plasma waves 7−52688
CdTe film, polycryst., grown by UV-enhanced OMCVD, picosecond photocond. 7−52873
GaAs, drive for synchronously operated streak camera 7−18903
GaAs, neutron-damaged, photoconducting flat response detectors from UV to X-ray region 7−5563
HgCdTe photoconducting detector design for IR imaging 7−9900
InP:Fe, photoconducting flat response detectors from UV to X-ray region 7−5563
InP:Fe photoconductive detectors for VUV and soft X-ray regions 7−30084
a-Si photoconductor for liquid crystal spatial light modulator 7−43350

photoconducting materials
see also photoconductivity
electrophotographic films, small charge drift current characteristics 7−33047
fluorenone bisazo pigments, electrophotographic sensitivity *(Japanese)* 7−38611
photoconductor-liq. crystal rectifier, liq. crystal dielectric anisotropy, low-freq. inversion effect 7−45395
polyimide film, Kapton-H, photoreceptor, photoinduced discharge characteristics 7−25918
polyphosphazene photoconductive films as electrophotographic photoreceptors 7−57499
polyvinylcarbazole film based photoreceptor, photoinduced memory effect, appl. to laser recording *(Japanese)* 7−37076
α-titanylphthalocyanine photoreceptors for solid-state laser beam printers *(Japanese)* 7−37077
triphenylamine derivatives, guidelines for improving charge transport props. *(Japanese)* 7−38555
tunnelling superlattice photoconductors, perpendicular quantum transport 7−12811
$AgGa_{1-x}In_xSe_2$ thin films, evaporated, photosensitivity and optical props. study *(Korean)* 7−53423
$Bi_{12}SiO_{20}$ MIS-liquid crystal structure, dynamic image processing 7−57532
Fe_2O_3/o-toluidine photoelectrochemical imaging system *(Japanese)* 7−35590
Ge:Ga(Be)(Zn) extrinsic photoconductor material, cryst. growth and characterisation 7−64893
Sb_2S_3 thin films, vacuum deposited, elec. and photoconductive props. *(Korean)* 7−52682
a-Se, residual potential, dark discharge 7−27360
$Se_{1-x}Te_x$-Se photoreceptor, amorphous, xerographic time of flight technique for drift mobility determ. 7−58807
Si:H(F)-SiGe:H(F) amorphous multilayer struct., fabrication and near IR photoconductivity characts. 7−52797
ZnCdS:Ag/Cd(S,Se):Cu mixed photoconductor system for electrophotography 7−2636
ZnO powder-polyvinyl butyral films, dark discharge props. 7−58919

photoconductive cells
No entries

photoconductivity
see also photoconducting devices; photoconducting materials
2D electron systems, intersubband photoconductivity 7−52678
ambipolar photoconductors with surface states, photoelec. amplification 7−38620
amorphous semiconductor films, photo-assisted CVD and opto-electronic characterisation 7−33595
amorphous semiconductors, multiple trapping, effect of defect level 7−27237
amorphous semiconductors, photoconductivity behaviour during the approach to steady state 7−38637
anthanthrone-Ag struct., charge carrier photogeneration *(Japanese)* 7−38610
centrosymmetric doped cryst., negative coherent photovoltaic cond. calcs. 7−2634
copper phthalocyanine-anthanthrone heterojunction, charge carrier photogeneration *(Japanese)* 7−38610
diamond:B, hopping photoconductivity 7−38617
2,9-dimethylquinacridone, photoelectric props. expts. 7−33050
disordered systems, excitation diffusion and energy relax. 7−21792
3-ethyl-5-[2-(3-ethyl-2-benzothiazolinylidene)-ethylidene]-rhodanine, polymorphism and electronic props. 7−37959
ethylene-vinylacetate-Ag copolymer-metal contact, pot. barrier electronic props., photocurrent spectra meas. 7−27419
ethylene-vinylacetate-Au copolymer-metal contact, pot. barrier electronic props., photocurrent spectra meas. 7−27419
extrinsic photoconductors, spatio-temporal coherence and chaos, conf. Los Alamos, USA, Jan. 1986 7−48158
n-Ge, many-valley semicond., surface photogalvanic effect calcs. 7−52679
hierarchical lattices, phase transition universality sputtered, photoelec. props. 7−35486
hole quasienergy spectrum, anisotropic photocond. and nonlinear optical props. calcs. 7−38619
2-(2-hydroxy-4-alkoxybenzylideneamino)-9-methylcarbazoles, photocond, props. 7−38631
III-V semiconductors, elec. parameter mapping by numerical image processing of light beam induced current topography 7−33051
insulators, diffusion length meas. using photocarrier gratings 7−12750
ionic crystals, photocarrier motion, book chapter 7−29610
metal phthalocyanines, elec. and photocond., props., coordination metal effects *(Japanese)* 7−12753
MIS struct., barrier height, I-V characts. and tunnel currents under illumination calcs. 7−64356
organic photoconductive particles in thin layers, photoresponse characts. *(Japanese)* 7−38612

photoconductivity continued
phenazine-tetracyanoquinodimethane, photoconductivity and optical absorpt. coeffs. near band edge 7−2641
photoemission theory, selection rules, vertex corrections and approximations 7−27860
photoexcited semiconductor, fast carrier dynamics using modified Fresnel formula 7−31238
photopolystor characteristics, theoretical anal. 7−21931
poly (N-benzyldiphenylaminomethane) film, synthesis, elec. and optoelectronic props. 7−45384
poly-p-phenylene-1,3,4-oxadiazole, photoconduction, O_2 adsorption effects 7−52683
poly-p-phenylenevinylene films, photoconduction 7−12760
trans-polyacetylene, fast transient picosecond photocond., hot soliton excitations 7−64293
trans-polyacetylene, highly oriented, photoexcitations and photocond. response 7−64292
polyacetylene films, oriented, optical props., photocond. meas. 7−64717
trans-polyacetylene films, transient photocond. anisotropy 7−64294
polyacetylene thin films, photoexcited states, ps relax. 7−64291
polycarbonate doped with pyrazolines, photoconductivity and carrier mobility, press. effects 7−27363
polychlorophenylacetylene, elec. cond., carrier mobility, doping effect 7−52875
polydiacetylene, conductivity enhancement by chemical doping and ion implantation 7−21957
polyethylene:Si films, trapping states, TSC, optical absorpt. spectra, photocond. meas. 7−27345
polyethylene films with Si incorporation, localized gap states, space-charge-limited current 7−52530
polyimide, photoconduction, mol. orientation and chain alignment effects, X-ray diffr. meas. 7−27365
polyimide, photoconduction and mol. orientation 7−38629
polymers, conducting, nonlinear optical processes 7−62781
polyphenylacetylene, elec. cond., carrier mobility, doping effect 7−52875
polyphenylacetylene, plasma-polymerised, carrier traps 7−7263
polystors, inhomogeneous semiconductor structs., photoconductivity theory 7−21950
polythiophene film, photoinduced effects 7−52876
polyvinyl carbazole plasma CVD thin films, photoconductive props. study, IR and UV spectra meas., electrode effects 7−27367
polyvinyl carbazole thin films, plasma-CVD polymerised, photoconduction props. 7−38628
polyvinylcarbarzole, photoconduction, transition from dispersive to nondispersive transport 7−64283
polyvinylcarbazole, transient photocond., excitation light intensity effects 7−45391
quantum well heterostructures, intraband photocond. 7−64318
ruby:Cr, alternating-sign resonant photocond., impurity ion excitation 7−2643
scheelite structure crysts., optical and elec. props. 7−33431
semiconductor doping superlattices, physics and applications 7−52826
semiconductor quantum-well heterostructures, photoconductivity 7−58889
semiconductor superlattices, graded gap, carrier transport calc. 7−12848
semiconductor thin film, steady-state photoresponse under subbandgap illum., effect of surface states 7−64290
semiconductor-fluid interfaces, illum., adsorption, competition for photogenerated charge carriers 7−27105
semiconductors, compensated, impurity photoconductivity, field and spectrum dependences, exclusion effect 7−38635
semiconductors, optical beam induced minority carrier distrib. 7−17036
semiconductors, photoelectromagnetic effect under combined illum. 7−52673
semiconductors, photoelectrons subjected to parallel elec. and quantising mag. fields 7−64280
semiconductors, slow current relax. and assoc. effects 7−52671
SOS, submicron-gap photocond. switching 7−52689
superlattices, microstructures and microdevices, conf., Goteborg, Sweden (Aug. 1986) 7−35097
N,N,N′,N′-tetramethylbenzidine in various polar solvents, monophotonic ionisation 7−12758
transient, time-resolved microwave cond., semiconductor material characterisation 7−52692
transient photocond. responses, surface carrier recombination, excitation effects *(French)* 7−7286
transient photoconductivity measurements of amorphous semiconductors by subnanosecond nitrogen lasers 7−18806
triarylmethane dye, polymeric, sensitiser for poly-N-vinylcarbazole photocond. 7−12759
variable-gap structure, solar cell photon energy efficiency 7−34034
n-WSe_2-electrolyte interface, microwave photoelectrochemistry studies 7−27413
- 7−38565
AgBr/AgCl interface, photocarrier transfer and energy band location studies 7−45433
$AgGa_{1-x}In_xSe_2$ thin films, evaporated, photosensitivity and optical props. study *(Korean)* 7−53423
$Al_{0.3}Ag_{0.7}As$, femtosecond carrier dynamics 7−58829
AlGaAs intraband relaxation dynamics of photo-excited carriers 7−52691
AlGaAs-GaAs laser diodes, elec. field depend. of photoconductivity spectra 7−20227
$Al_{0.3}Ga_{0.7}As$/GaAs quantum wells, photocond. of confined donors 7−7282
$Al_xGa_{1-x}As$ homojunctions, minority-carrier diffusion, TOF studies 7−12797
$Al_xGa_{1-x}As$:Si, deep donor centres 7−45217
$Al_xGa_{1-x}As$/GaAs photoexcited heterojunction, charge transfer calcs. 7−12688
AlInAs-GaInAS superlattices, electronic transport and depletion by tunnelling 7−27395
AlInAs-GaInAs superlattices, quantum photoconductivity, effective mass filtering 7−12847
Al_2O_3-B_2O_3-SiO_2-Cu_2O glass, Cu activated, photoconductivity, lumin., influence of radiation defects 7−45381
As-Se glasses, defect levels and photoconductivities 7−12673
As_2S_3 amorphous films, persistent photocurrent 7−45389
$As_{40}S_{30}Se_{30}$ glasses, surface pot. relax., TSC meas. 7−64261
As_2Se_3 amorphous films, persistent photocurrent 7−45389
As_2Se_3, non-exponential photocurrrent decay, anal. 7−38633
As_2Se_3 single crystals, geminate pair recomb., photocond., photoluminescence meas. 7−38581
As_2Se_3:Ni films, electronic struct. and transport props. 7−12595

photoconductivity continued
α-As_2Te_3 films, hole transport investigation by transient field-effect and time-of-flight methods 7–22040
Au-$Bi_{12}GeO_{20}$-Au MSMS, short-wave light illuminated, photocurrent kinetics 7–22029
Bi-Ga two-layer film compositions, refl. and microstruct., temp. depend. 7–53428
$Bi_{12}GeO_{20}$ piezoelec. semicond., photovoltaic displacement current, Hall component meas. 7–64286
$Bi_{12}GeO_{20}$, pure and doped crystals phys. props. 7–7283
δ-Bi_2O_3 polycrystalline thin films, photoelectric props. 7–2638
$Bi_{1-x}Sb_x$, photoconductivity in the FIR spectral range 7–12756
$Bi_{12}Si(Ge)O_{20}$, light-induced field redistrib., photocond. studies 7–38623
$Bi_{12}SiO_{20}$, photo-induced impurity photoconductivity 7–7275
$Bi_{12}SiO_{20}$, photogalvanically active centres 7–45380
$Bi_{12}SiO_{20}$, pure and doped crystals phys. props. 7–7283
$Bi_{12}SiO_{20}$:Mn,Cr single crystals, photoconductivity 7–33044
p-$CdCr_2Se_4$ ferromag. semicond., photocond. relax. time tempt. depend. meas. 7–45383
$CdCr_2Se_4$-Ga, lightly doped, ferromag., photoconductivity, band struct. 7–7278
p-$Cd_xHg_{1-x}Te$, doped and undoped, minority carrier lifetime 7–45353
CdI_2 single cryst., lux-ampere characts., temp. depend. 7–7285
CdI_2, two-photon photocond. under double beam laser excitation 7–64285
CdO-B_2O_3-SiO_2 glasses, photochromism, photocond. and ESR *(Japanese)* 7–22282
CdS, acoustoelectronic system, solitons obs. 7–45401
CdS, carrier transport, defect effects, photoacoustic and photocurrent spectra 7–38626
CdS, film, charge transport, rel. to electrophysical props. 7–17121
CdS films, superlinearity of light-current characts. 7–64282
CdS, nonradiative recombination, elec. transport, combined photoacoustic and photocurrent spectra 7–38582
CdS, nonradiative recomb., elec. transport, combined photoacoustic and photoconductive spectra, theory 7–38583
CdS photoconductive thin films, optimum spray pyrolysis preparation conditions 7–17418
CdS, photoconductivity spectrum, surface excitons, localised hole in quantum inversion layer 7–12762
CdS single crysts., nonequilib. high-temp. vacuum annealing effects, intrinsic defect transform. 7–58764
CdS, temperature-electric instability, spontaneous oscillation states 7–38616
CdS:Cu,Cl photoconducting films, photolum. spectra studies *(Russian)* 7–46140
CdS:In-SnO_2 (glass), spray pyrolysed, photoelectrochemical studies 7–52830
a-CdS/n-Si heterojunctions, elec. props. 7–64342
CdS-Si and CdS-$CuInSe_2$ heterojunctions, struct., elec. and photoelectric props. 7–22001
CdSe:Cu, deep levels investigated by photoconductivity and space-charge region capacitance techniques 7–7148
CdSe:Cu, transient photocond. anal. 7–64288
$CdSe_xTe_{1-x}$ and $CdSe_xTe_{1-x}$:Cu films, deep local states, photosensitivity, spectral study 7–22371
CdTe amorphous thin films, electrical and optical props. 7–22045
CdTe film, polycryst., grown by UV-enhanced OMCVD, picosecond photocond. 7–52873
CdTe thin film solar cells, efficiency improvement 7–17883
CdTe-HgTe superlattices, IR material characterisation, transport phenomena anal. 7–64338
CdZnS/$CuInSe_2$ solar cells, transient current studies of junction activity 7–8409
$Cd_{0.8}Zn_{0.2}S$ films, solution-sprayed, photocurrent decay times 7–45525
$CePd_3$ mixed valence system, conduction carrier density, energy and temp. depend. 7–21882
$Co_{0.2}Ga_2S_{3.2}$ single crysts., optical props. and impurity energy levels meas. 7–13122
p-CuCNS photocathode sensitized with Acridine Orange, photocurrent quantum efficiency 7–33944
$CuInS_2$, heterogeneous, VLS growth, electronic defects, photocurrent spectra, photolum., EBIC analysis 7–27288
p-$CuInS_2$, strongly sublinear photocond. 7–52667
$CuInSe_2$, pH effects on surface properties 7–23201
Cu_2O electrodeposited film electrodes in photoelectrochemical cells, n-type photocond. obs. 7–17917
Fe_3O_4, small polaron conduction and short-range order 7–7239
FeS_2 polycryst. photoactive MOCVD films, photocond. and time-resolved microwave cond. meas. 7–45386
FeS_2-electrolyte photoactive interface, electronic props. 7–33086
$FeSi_2$ thin films, appl. to electro-optic VLSI interconnects 7–53427
$Ga_{1-x}Al_xAs$-GaAs, thickness and conc. of thin $Ga_{1-x}Al_xAs$ epitaxial films, determ. by photoemission jumps method *(French)* 7–38381
GaAs, characterisation by a microwave photoconductance technique 7–7281
GaAs device structures, γ-ray effects, surface generation-recombination processes 7–64349
GaAs epitaxial film shallow homojunction solar cells fabrication by Zn solid state diffusion method 7–17860
GaAs, femtosecond carrier dynamics 7–58829
GaAs, inhomogeneous characteristics, photoconductivity and optical absorption meas. 7–32439
GaAs intraband relaxation dynamics of photo-excited carriers 7–52691
GaAs, midgap levels, quenching and recovery spectra measured by double-beam photoconductivity 7–58769
GaAs multiple quantum wells, charge-carrier dynamics, contactless microwave photocond. meas. 7–21998
GaAs, neutral shallow donor inter-excited-state transitions, far IR photocond. in mag. field study 7–22249
GaAs p-n homojunction diode, photocurrent meas. of defect distribution 7–32851
GaAs, photoconductivity, slow-relaxation phenomena 7–58837
GaAs, photoconductivity oscillations, monochromatic IR illumination in mag. field 7–12763
GaAs, photoconductivity and Hall voltage kinetics, recombination and scattering centre recharging 7–27364
GaAs, semi-insulating, switching effect, deep level spectroscopy appl. 7–38630
GaAs, semi-insulating, surface photocond., surface topography meas. using scanning tunnelling microscopy 7–45376

photoconductivity continued
GaAs semiconductor/liquid junction device performance improvement 7–17098
GaAs, semiinsulating, electrophysical props., dislocation effects 7–16557
GaAs solar cells, transient current studies of junction activity 7–8409
GaAs, surface recombination velocity and bulk minority carrier lifetime 7–17037
GaAs:Si(Be)(Mg), rapid annealing, temp. depend. of damage removal and carrier activation 7–17032
GaAs:V, photocond. props. and thermally stimulated currents 7–7284
GaAs/$Al_{0.38}Ga_{0.62}As$ lattice-matched superlattice photoelectrochem. electrodes, photocurrent spectra 7–45377
GaAs/AlAs quantum wells, photoexcited transport 7–2674
GaAs/AlGaAs multiple-quantum-well structures, shallow donors, far infrared spectroscopy 7–39121
GaAs-$Al_xGa_{1-x}As$, internal photoemission method for determ. of band offsets 7–12832
GaAs-$Al_xGa_{1-x}As$ solar cell, operation with band-gap gradient in space charge region 7–54295
GaAs-AlAs heterojunctions, asymmetrically doped, photoresponse under external bias 7–38692
GaAs-AlAs multiple quantum wells, photoconductivity, photoreflectance and photolum. meas. 7–27368
GaAs-AlGaAs MQW, intraband relaxation dynamics of photo-excited carriers 7–52691
GaAs-AlGaAs quantum wells, high electric field, interband transitions, photocurrent spectra obs. 7–7289
GaAs-AlGaAs quantum wells, picosecond photolum. photocurrent spectra 7–13214
GaAs-AlGaAs quantum wells, FIR studies of shallow donors 7–52819
GaAs-$Ga_{1-x}Al_xAs$ quantum wells, interband photocond. and excitonic Landau level transitions in mag. field 7–27390
GaAs-GaAlAs, multiple quantum well struct., transient photoconductivity characterisation 7–52692
GaAs-GaAs-$Al_xGa_{1-x}As$ heterostructures, photosensitivity spectra 7–64319
n-$GaAs_{1-x-y}Sb_xP_y$ epitaxial film, impurity distrib., cond. and Hall mobility study 7–51808
$Ga_{0.47}In_{0.53}As$-InP heterojunction, MOCVD grown, 2D hole gas, Shubnikov-de Haas studies 7–21992
$Ga_{0.47}In_{0.53}As$-InP quantum wells, photocurrent and dark current, multiple steps obs. 7–12796
$Ga_xIn_{1-x}As_yP_{1-y}$, effective masses and alloy disorder effects, shallow donor photocond. 7–64289
GaN:Zn, pure and doped, electrophysical props., nonhomogeneous semicond. model 7–27292
GaSb-$Al_xGa_{1-x}Sb$ multi quantum wells, excitons, electric field effect, photocurrent spectra obs. 7–7288
GaSe amorphous film, high field kinetics of photocurrent 7–2748
GaSe:Mn single crystals, optical props. 7–27777
$Gd_3Ga_5O_{12}$, pure and doped, photoelectret, photoconductivity 7–45919
p-Ge, cubic crysts., magnetic field-induced circular photocurrent drag effect calcs. 7–58833
Ge, extrinsic photoconductors, nonlinear dynamics and chaos 7–52685
n-Ge:Au, electron heating, photocond., photo-Hall effect 7–12765
Ge:H films, post-deposition hydrogenated, electrical props. 7–32296
Ge:Ni, inhomogeneously photoexcited, cond. random spontaneous oscills. 7–52675
n-Ge:Ni, photocond., spontaneous oscills. in an electric field 7–52670
Ge:Sb, Cu, impurity photoconductivity, field and spectrum dependences, exclusion effect 7–38635
n-Ge:Sb, electron heating, photocond., photo-Hall effect 7–12765
Ge:Zn deep impurity, shallow positive acceptor, far IR photocond. meas. 7–7157
Ge-Si, p-n junctions, photoelectric props., effects of electron bombardment 7–7351
GeN_x:H, amorphous, reactively sputtered, optical and electronic props. 7–58830
$Ge_{28.5}Pb_{15}S_{56.5}$ glasses, surface pot. relax., TSC meas. 7–64261
GeS_2 amorphous films, persistent photocurrent 7–45389
GeSe amorphous films, persistent photocurrent 7–45389
$GeSe_2$ amorphous films, persistent photocurrent 7–45389
a-$Ge_{22}Se_{68}Bi_{10}$ thin film, photoconductivity 7–17052
Ge_xSi_{1-x}-Si strained layer superlattices, bandgap meas. 7–27408
$HgGa_2Se_4$, photocond., photoluminescence spectra, annealing and ion implantation effects 7–39152
$HgGa_2Se_4$, single cryst., deep levels, photocond. and photolum. spectra 7–7159
HgI_2 crystals, AC photoconductivity, temp. depend. 7–64278
HgI_2 single crysts., photoconduction, carrier surface generation and recombination 7–33045
HgI_2 solution-grown crystals, X-ray and γ-ray irrad. effect on elec. props., radiation detector performance 7–58838
In-Ga-As-P films highly excited, ps band filling 7–43261
$InAs_{0.3}Sb_{0.7}$ IR detector, photoresponsivity meas. 7–7274
InGaAs:Si LED, electrical and luminesc. props., ultrasonically-induced changes 7–22350
InGaAs/InP single quantum wells, transport and persistent photocond. props. 7–27385
n-InGaAsP/p-GaAs diodes, photocurrent meas. of defect distribution 7–32851
InP (110) cleaved surface and Schottky diodes 7–58850
InP epitaxial films, MOCVD grown, identification of acceptors and donors 7–58688
InP, neutral shallow donor inter-excited-state transitions, far IR photocond. in mag. field study 7–22249
InP, radiation-damaged photocond., Hertzian dipole meas. of picosecond photoresponses 7–52690
InP, surface recombination velocity and bulk minority carrier lifetime 7–17037
InP:Fe, transient photoconductive response 7–52681
InP-GaInAs, 2D electron gas, persistent photoconductivity 7–33046
InP-InGaAs single quantum wells, transport and persistent photoconductivity 7–38709
In_2S_3:Co, Co impurity energy levels *(Korean)* 7–33049
InSb, carrier lifetime, pressure depend. 7–52644
n-InSb MOS structures, heterogeneity of generation processes, expt. 7–17106
InSb:Tl, physicochemical behaviour of Tl 7–21452
KCl single crysts., laser excited dielec. props. and cond., X-ray irrad. effects study 7–27649

photoconductivity continued
- LiNbo$_3$, pure and Mg, Fe doped crysts., photoconductivity props. studies 7−38624
- Li$_x$TlGaSe$_2$, ion intercalated, dark current and photocurrent relax. meas. 7−38622
- Mg$_x$Cd$_{1-x}$Se single cryst. solid solns., local centres parameters determ. *(Russian)* 7−32953
- Mg$_x$Cd$_{1-x}$Se single crysts., impurity photocurrent temp. activation meas. and calcs. *(Russian)* 7−45394
- MgFe$_2$O$_4$, photoelectrochemical props., effect of defects and doping 7−45385
- Mg$_x$Zn$_{1-x}$Te-In Schottky barriers, C-V and photoelec. studies 7−64307
- Mn$_x$Zn$_{1-x}$Se, energy gap comp. depend., photocond. and absorpt. edge meas. 7−38454
- Na+electronegative molecule, thermal collisions, laser-induced ionis. mechanism 7−62488
- Nd$_3$Ga$_5$O$_{12}$, photoelectret, photoconductivity 7−45919
- Ni-ZnSe-SiO$_2$-Si struct., energy barriers for photocharging of trapping sights in ZnSe layer 7−52844
- NiFe$_{1.96}$O$_{4+\gamma}$ electrodes in aq. electrolytes, photoelectrochem. characts. meas. 7−46854
- NiSi$_2$-Si, Schottky barrier height, structural characterisation 7−27429
- Os single cryst., energy band struct. and optical absorpt. studies 7−16938
- PLZT, transparent ferroelectric ceramic, surface composition and structure 7−32765
- PbGa$_2$S$_4$ single cryst., optical absorption and photocond. studies 7−2635
- PbSe films, photosensitivity mechanism 7−58923
- Pb$_{0.75}$Sn$_{0.25}$Te:In, Ge(S)(Se), elec. resist., photocond., Hall effect meas. 7−17050
- PbTe doping superlattices, transport and magneto-optical props. 7−12852
- PbTe single-cryst. films, negative photocond., slow relax. and photomemory 7−58832
- PbTe-PbEuSeTe, compositional and doping superlattices, struct., electronic, optical and magnetooptical studies 7−53290
- PbTe-PbSnTe compositional and doping superlattices, struct., electronic, optical and magnetooptical studies 7−53290
- trans-polyacetylene, inter-chain versus intra-chain electron-hole photogeneration 7−27362
- Pt-a-Si:H Schottky barrier contact, photocurrent excitation nonadditivity effects 7−17099
- Sb$_2$S$_3$ thin films, vacuum deposited, elec. and photoconductive props. *(Korean)* 7−52682
- Se, trigonal, optical props., local field effects 7−22204
- p-Si (100), chemical etching with aq. K$_2$Cr$_2$O$_7$, XPS, UPS, LEED and TRMC meas. 7−46719
- Si alloys, amorphous, CVD, electrical and optical props. 7−33596
- Si, amorphous thin film solar modules, excitation intensity effects on photocurrent response 7−40000
- Si, characterisation by a microwave photoconductance technique 7−7281
- Si colour image sensor, based on wavelength dependence of radiation adsorption 7−4892
- Si, crystallised thin films, electrical characterisation 7−33116
- a-Si films, preparation in separated ultra-high vacuum reaction chamber 7−59434
- p-Si, impurity photocond. type inversion by fundamental absorp. band illumination 7−64287
- Si, liquid, electronic props., tight binding-mol. dynamics calcs. 7−16931
- Si materials for solar cells, nondestructive assessment using electrolyte-semiconductor boundary 7−13886
- Si metal tunnel-thin insulator-semiconductor structures, effects of high field corners 7−64348
- Si, microcrystalline films, carrier lifetime from transient photoconductivity meas. 7−7290
- Si, neutron-transmutation doped, spatially resolved carrier lifetime meas. 7−7257
- Si p$^+$-n junction, superlinear response in IR spectral region *(Chinese)* 7−52751
- Si periodic epitaxial structures, intraband IR absorpt., photocond. meas. 7−52674
- Si, polycrystalline films, undoped, nonlinear I-V characteristics 7−22039
- a-Si, prep. by low press. CVD, characts. 7−7884
- Si SIS struct. photoresponse kinetics, current flow mechanism 7−52854
- Si semiconductor-insulator-semiconductor structures, photocurrent amplification 7−64360
- Si single cryst. wafer, charge carrier kinetics, excess microwave cond. meas. 7−38580
- Si, single crystal, transient photoconductivity characterisation 7−52692
- Si, spin-dependent recombination and low-freq. ESR studies 7−38577
- Si, transmutation-doped, carrier recomb. props. at gamma-irrad. defects, transport meas. 7−38575
- p- Si wafer, minority-carrier diffusion length determ., photocurrent generation method 7−38579
- Si wafers, doped by neutron transmutation, minority carrier lifetime, photocond., annealing 7−38785
- Si:Au, laser radiation effects on impurity levels 7−12645
- Si:B(P) solar cell emitter saturation current meas. by contactless photoconductivity decay method 7−13866
- Si:C,O, heat-treated, photoconductivity relax., α traps 7−52677
- a-Si:H, ambipolar drift length meas. using steady-state photocarrier grating technique 7−45390
- Si:H, amorphous, transient photoconductivity characterisation 7−52692
- a-Si:H, carrier trapping and recombination, IR enhancement spectra of photoconductivity 7−33052
- a-Si:H, deep trapping, transient photocurrent saturation 7−21952
- a-Si:H, evaporated samples, post-hydrogenation, characts. 7−59103
- a-Si:H, glow discharge deposited, light soaking effects 7−52872
- a-Si:H, glow discharge prepared, steady-state photoconductivity 7−38632
- a-Si:H, laser-assisted CVD growth, optical props. 7−22210
- a-Si:H, neutral dangling bond defect, photocarrier processes 7−32962
- a-Si:H, non-exponential photocurrrent decay, anal. 7−38633
- a-Si:H, photocond. response, light soaking effects 7−45396
- a-Si:H, photoconductivity and light-induced changes 7−2640
- a-Si:H, photoconductivity exponent for recombination at dangling bonds 7−33054
- a-Si:H, photocurrent, surface recombination effects 7−33048
- a-Si:H, photolum. and photoconductivity studies 7−33456
- a-Si:H, recomb. at dangling bonds and steady-state photocond. Fermi level depend. calcs. 7−12734
- a-Si:H, surface deep hole trap, photocurrent studies 7−45424
- a-Si:H,B/a-Si:H,P doping modulated superlattice, photo-induced excess conductivity 7−17051

photoconductivity continued
- a-Si:H,F by thermal CVD, photosensitivity, spin density, conductivity and p-n type 7−17454
- a-Si:H,F films, H-radical-assisted CVD, hole transport 7−64264
- a-Si:H,F/a-SiGe$_x$:H,F multiple layered films for enhancement in photoresponse in near IR spectrum 7−52668
- a-Si:H,Ge single junction and tandem solar cells, thin film properties and corollary plasma diagnostics 7−13893
- a-Si:H,O films, RF sputtered, photoelec. props. 7−38627
- a-Si:H,P, electron lifetime, excitation energy depend. 7−45349
- a-Si:H,P(B) films, ion implanted, photoelectric and optical props. 7−38615
- a-Si:H and a-Si:H, B films, photoinduced changes in elec. props. 7−38634
- a-Si:H biased activated reactive layer evaporation and charactn. 7−59428
- a-Si:H doping modulated films, photocond., carrier separation effects 7−38641
- a-Si:H doping modulated multilayers, light-induced excess conductivity 7−38643
- a-Si:H doping modulated superlattices, light-induced excess cond., deposition effects 7−27410
- a-Si:H film, photoenhanced deposition and characts. 7−53635
- a-Si:H films, CVD, optical and electronic props. 7−33597
- a-Si:H films, CVD using microwave excited Ar plasma stream 7−64918
- a-Si:H films, charge carrier dynamics, influence of preparation conditions 7−33053
- a-Si:H films, contact potential difference, surface photovoltage and conductivity 7−58855
- a-Si:H films, density of states and photoconductivity 7−45392
- a-Si:H films, electron irrad., photocond., absorpt. coeff. spectral depend. 7−64279
- a-Si:H films, electronic props., effects of γ-irradiation 7−38584
- a-Si:H films, glow discharge deposited, persistent photoconductivity 7−58835
- a-Si:H films, high rate deposition and impurity doping effects *(Japanese)* 7−13385
- a-Si:H films, high rate deposition by RF planar magnetron sputtering *(Japanese)* 7−39373
- α-Si:H films, illumination effects on conductivity 7−7291
- a-Si:H films, light-induced defects and internal stresses 7−12751
- a-Si:H films, photo-enhanced CVD 7−33594
- a-Si:H films, photocond. characts. stabilisation *(Japanese)* 7−45393
- a-Si:H films, photoconductivity, thermal quenching obs. 7−52686
- a-Si:H films, RF glow discharge deposition, optical and electrical props. 7−33598
- a-Si:H films, reactive deposition 7−33592
- a-Si:H films, thermal-equilibrium defect processes 7−26640
- a-Si:H films deposited by dual ion beam sputtering, characterisation 7−32882
- a-Si:H films deposited in He atmosphere, characts. 7−45056
- a-Si:H films preparation by CVD 7−17453
- a-Si:H material and p-i-n cell, light-induced charge 7−17055
- a-Si:H material and solar cells, light induced effects 7−23139
- a-Si:H modulation doped multilayers, persistent photocond. studies 7−38642
- a-Si:H multilayer films, charge transfer doping, cond., photocond. meas. 7−38735
- a-Si:H pin solar cells, photocurrent, transient behaviour 7−46950
- a-Si:H solar cells, photoconductivity-open cct. voltage relation 7−8396
- a-Si:H solar cells, radiation damage by 12 MeV protons and annealing 7−13895
- a-Si:H/Ge:H superlattice struct., light absorption and photocond. studies 7−38715
- a-Si:H/SiN$_x$ interface, slow states, transient photoconductivity studies 7−38670
- a-Si:H/a-Ge:H multilayer films, photoconductivity enhancement 7−27443
- a-Si:H/a-SiC:H heterojunction, valence-band discontinuity, photocurrent-voltage measurements 7−58868
- a-Si:H/a-SiGe:H multilayers, reactive deposition 7−33592
- a-Si:H-SiN$_x$:H layered structures, effect of a-SiN$_x$:H composition on band bending near interface 7−45510
- Si:H(F)-SiGe:H(F) amorphous multilayer struct., fabrication and near IR photoconductivity characts. 7−52797
- Si:Mg, photothermal ionisation spectroscopy 7−45374
- Si:P, many-valley semicond., electron intervalley scatt., optical pumping study 7−52608
- a-Si:Se(Te) thermally evaporated films, photoelectronic props. 7−38640
- n-Si/methanol junction device performance improvement 7−17098
- Si-Ge:Au, reaction of Au centres to optical pumping 7−12755
- Si-InSb heterojunction, spectral characts. and detection props. 7−38712
- n-Si-MnO photoanodes, photoelectrochemical and struct. behaviour 7−54329
- Si-O amorphous films, structure and defects 7−58700
- Si-polymer contact solar cell fabrication 7−23168
- Si-PtSi thin film Schottky diodes, barrier height meas. 7−64308
- Si-SiO$_2$-InSb hybrid struct. spectral characts. and detection props. 7−38712
- SiC:H (F), amorphous, electronic and structural props. 7−17054
- SiC:H amorphous films, glow discharge deposited, photoconductivity, microstructure effects 7−58831
- a-SiC:H film prepared by magnetron sputtering, elec. and optical props. *(Japanese)* 7−12887
- a-SiC:H glow-discharge plasma deposition, photosensitivity, prep. conditions depend. 7−46338
- SiGe:H, amorphous, electronic and structural props. 7−17054
- a-SiGe:H, F glow discharge films, elec. and optical props. 7−46169
- a-SiGe:H,F glow discharge films, electronic transport and density of states 7−45114
- a-SiGe:H alloys for solar cells, electronic and optical props. 7−17899
- SiGe:H amorphous films, glow discharge deposited, photoconductivity, microstructure effects 7−58831
- Si$_{1-x}$Ge$_x$ films, optical band gap, photocond. props. 7−52672
- a-Si$_{1-x}$Ge$_x$:H, electron and hole transport 7−7259
- a-Si$_{1-x}$Ge$_x$:H, F, light-induced degradation meas. 7−45397
- a-SiN$_x$ amorphous glow discharge films, gap state distrib., photocurrent phase shift anal. 7−7421
- a-Si$_x$N$_{1-x}$:H,B films, DC sputtered, photoelectronic and optical props. 7−27361
- a-SiSn:Cl,H glow discharge films, elec. and optical props. *(Chinese)* 7−58805
- a-Si$_{1-x}$Te$_x$ amorphous alloys, electronic and optical props. 7−7234

photoconductivity continued
$Si_{1-x}(ZnS)_x$:H amorphous films, synthesis and characterisation 7—17420
$Sm_3Ga_5O_{12}$, photoelectret, photoconductivity 7—45919
Ta-Ta_2O_5-electrolyte system, conduction processes 7—38725
Ta_2O_5 film, photocurrent and elec. cond. mechanism, electrode interface effects studies 7—27366
Te, gyrotropic crystals, transient photocurrent 7—38618
Ti electrodes, passivated, photoelectrochemical studies 7—12757
TiO_2 sputtered thin film electrodes with low donor densities, photoelectrochemical behaviour 7—27359
$TlGaSe_2$, electric field induced photoconductivity 7—52676
$(TlGaSe_2)_x(TlInS_2)_{1-x}$ mixed crystals, photoresistive characteristics *(Russian)* 7—64281
p-$TlInSe_2$ single cryst., impurity photocond. studies 7—2642
U alloys, optical and elec. transport props., review 7—13119
V complex, vanadium(III)bis(2,2′-bipyridyl) chloride-Fe(III) system, photogalvanic effect 7—54145
$ZnIn_2S_4$, recombination kinetics, photoconductivity and photoluminesc. studies 7—2637
ZnO films, elec. props., decomp., chemisorption of O^-, photocond. meas. 7—27445
ZnO:Co, pulsed-laser induced photopots., time evolution, electron-hole recombination 7—45379
ZnO-electrolyte interface, photoconductivity and photocurrent spectra, influence of exciton absorption 7—45486
Zn_3P_2, optical props. 7—39067
Zn_3P_2, photoconductivity response, surface damage 7—21951
ZnS, fused polycryst. layers, photocond. and photolum. spectra, defect form. influence 7—46142
ZnS:Al, Cr, Fe crystals, recomb. luminesc., EPR and photocond. meas. 7—3076
ZnS_xSe_{1-x}:Mn^{2+}, Mn energy levels, photoconductivity bands 7—7156
ZnSe films, electrochemical co-deposition, photoelec. conversion characts. 7—46959
ZnSe:Fe, impurity ion photoionisation, EPR, photoconductivity spectra 7—52495
ZnTe films, vacuum deposition, elec. resist. and photocond. meas. 7—3179

photoconductors *see photoconducting materials*

photocopying
see also electrophotography
automated holographic mass production 7—25778
CW pulse transfer for high security holograms 7—25761
half-lenses for office copiers, comparison 7—43316
hologram copying using incoherent light 7—25759
Ag halide materials for hologram mass production 7—25780

photocurrent *see photoconductivity; photoemission*

photodarkening *see photochromism*

photodetectors
amorphous semiconductors for microelectronics appls., conf., Los Angeles, CA, USA (Jan. 1986) 7—24282
autodyne detection, theory and experiment 7—41465
carcinoma of bladder and bronchus, in situ localisation, hematoporphyrin derivative fluorescence detector 7—14148
CCD photodetector, absolute spectral sensitivity 7—18876
coherence image detection theory 7—48849
computer simulation of the photodetection process in optical range finding 7—41467
current technology, introduction, book 7—35597
electronic device for position-sensitive detectors in VUV spectroscopy 7—56356
far-IR photoconductive detectors, optical efficiency 7—35513
glow discharge in DC mag. field, optical detection voltage 7—15000
laser shadow method for transparent filament diameter meas. 7—29977
local investig. by scanning laser microprobe 7—30083
long-wavelength components by VPE 7—46343
matrix CCD photodetector in modulation spectrometer, synchronous integration 7—18885
multimode Gaussian beam photoreceiver recording 7—50612
optical fibre communication photodetectors for the 1—1.6 μm wavelength range 7—43443
optimal shape for power fluctuation dispersion minimal value 7—41469
optoelectronic semiconductor position-sensitive sensor 7—41472
plant stem diameter contactless measurement apparatus using LED and photodetector *(Japanese)* 7—23506
protection from strong exposures, cct. based on photomultiplier voltage control 7—30086
pyroelectric detector signals analysis by analogue technique 7—348
robust detector of optical radiation intensity modulated by subcarrier frequency 7—61374
scanning optical microscope using sequential imaging 7—48842
scanning spectrometer design and props. 7—56353
Schottky detectors, frequency and polarisation-selective 7—41470
sodium salicylate, relative fluorescent efficiency between 90 and 800 eV 7—13187
sodium salicylate as combined fluoresc./refl. coating for broad band detector *(German)* 7—4891
soft X-ray imaging with high-gain MCP detector systems 7—41564
SOS, submicron-gap photocond. switching 7—52689
specimen deform., simultaneous meas. of longit. and transverse, photoelec. method 7—33875
strain gauge, laser speckle, using spatial filtering detector 7—43821
Sun sensor for high precision attitude control *(Chinese)* 7—4286
temporal-spatial radiation functional meas. 7—30060
thermal detector of optical radiation based on ferromagnetic resonance 7—61375
time-domain beam former, optical implementation using linear photodiode array detector 7—42987
transverse and longitudinal, responsivity and detectivity, light attenuation effects 7—48848
UV imaging photon detector, large format for astronomical spectroscopy 7—56342
X-ray remote detect., coupling between plastic scintillators and light fibres 7—25320
AlGaAs injection heterolasers and integrated laser-photodetector pairs, prepared by microcleaving 7—31343
Au cathode photoelectric detectors, absolute photon sensitivity characterisation 7—24704
CdHgTe photodetectors for infrared measuring techniques *(Russian)* 7—4889

photodetectors continued
CdTe film, polycryst., grown by UV-enhanced OMCVD, picosecond photocond. 7—52873
Fe_2O_3/o-toluidine photoelectrochemical imaging system *(Japanese)* 7—35590
GaAlAs laser amplifier, high sensitivity picosecond optical pulse detection 7—50565
GaAlAs lasers, injection, photodetection props. 7—31379
Ge photodiodes, temperature and uniformity effects 7—61378
Ge-Si alloys, strained layer epitaxy, review of developments 7—52343
$Ge_{0.6}Si_{0.4}$ rib waveguide avalanche photodetectors for 1.3 μm optical fibre communication 7—9896
HgCdTe focal plane array photodetectors, growth, performance and array fabrication 7—15001
InGaAs/InP photodiodes, MOCVD growth and characts. 7—27932
InGaAs-InP 1.5 μm photodetectors, optical communication appls. 7—37202
InGaAsP lasers, injection, photodetection props. 7—31379
InP/InGaAs near-IR detector self-calibration feasibility determ. 7—15002
InP/InGaAsP device structures, LPE growth 7—33610
Si avalanche photodiode for photon correlation meas., passive quenching 7—41463
Si, IR pyrometer for thermodynamic temp. meas. between 683K and 933K 7—18788
Si interdigital Schottky diode structure with fast UV response 7—24701
Si MIS photodiode integrated arrays of photodetectors in spectral instruments 7—56335
Si masked ion-implanted devices for solar cell and optical sensor appls. 7—40006
Si photodetectors for optical position sensing 7—48691
Si photodiode quantum efficiency as absolute radiometric standard 7—14991
a-Si position sensitive photodetector *(Japanese)* 7—30093
a-Si:H junction position sensitive photodetector 7—56343
Si/Ti amorphous superlattices, high resolution photovoltaic position sensing 7—48847
Si-based sensors, deposition methods and appls. 7—48715

photodielectric effect
No entries

photodiffusion effects *see Dember effect*

photodiodes
see also avalanche photodiodes
1/f noise, extended Burgess' variance theorem 7—45412
bubble diameter meas. by fringe method, using laser Doppler anemometer 7—16278
coupler, bidirectional, active, compact for fibre optic transmission 7—6012
directly illuminated photodiode array, position sensitive detector for synchrotron X-ray radiation 7—42337
fluorescence EXAFS meas. from 2 to 25 keV using Si photodiode array detector 7—61413
information processing and communications appl. 7—1285
interferogram fringe analysis by photodiode array digitizer 7—30073
IR photodiodes for 3 to 14 μm, comparison 7—41466
IR technology and appls., conf., San Diego, CA, USA (Aug. 1985) 7—18487
laser power meas. standards scales intercomparison 7—15917
long-wavelength components by VPE 7—46343
monolithic optoelectronic ICs for high-speed fibre optic transmission 7—37203
p-i-n diode structures, low gap, Auger suppression and negative resist. 7—12812
plant stem diameter contactless measurement apparatus using LED and photodetector *(Japanese)* 7—23506
position sensitive particle detectors, high count rate, for synchrotron radiation expts. 7—42283
vacuum, NaI(Tl) scintillation counter appls. 7—42432
X-ray calibration of CCD sensors and photodiode array cameras, plasma diagnostics appl. 7—20939
n-γ radiation field dosimetry using miniature Si photodiodes 7—25262
AlGaAs injection heterolasers and integrated laser-photodetector pairs, prepared by microcleaving 7—31343
GaAs/Al_xGa_{1-x}As heterojunction photodiodes, band discontinuities 7—58871
GaAsP-GaAs(P) strained-layer superlattices, MOCVD and device prep. 7—7876
$GaAs_{1-x}P_x$:Be^+-GaP:Be^+ strained layer superlattices, ion implantation doping, optical and elec. props., device appls. 7—44583
$Ga_{0.28}In_{0.72}As/Al_{0.28}In_{0.72}As$ photodiode heterostructures, atm. press. MOCVD, 2 μm, sensitivity, structural charactn. 7—27933
GaSb-GaAs photodiode, low-temp. growth by plasma process *(Japanese)* 7—7061
Ge photodiodes, temperature and uniformity effects 7—61378
Ge, pyrometer for 60 to 1400°C range *(Rumanian)* 7—4856
HgCdTe:B^+, ion implanted n^+p junction, lifetime and carrier conc. profile 7—45450
InGaAs/InP photodiodes, MOCVD growth and characts. 7—27932
InGaAs-InAlAs MQW structure, anisotropic electroabsorpt. and optical modulation 7—13134
InGaAs-InP 1.5 μm photodetectors, optical communication appls. 7—37202
InGaAsP-InP heterostructures, light emission and degradation characts. 7—45455
InP/GaInAs/InP heterostructures, OMVPE, high speed p-i-n photodiodes, photolum., Hall meas. 7—27387
InP/InGaAs:Zn, PIN detectors, OMVPE growth 7—27931
Si interdigital Schottky diode structure with fast UV response 7—24701
Si MIS photodiode integrated arrays of photodetectors in spectral instruments 7—56335
Si p-i-n diode, spectral information coding by IR photoreceptors, colour vision analogue 7—35593
Si photodetectors for optical position sensing 7—48691
Si photodiode, edge illumination at UV wavelengths to improve quantum efficiency 7—41464
Si photodiode transfer-standard monochromatic comparator pyrometer 7—14947
Si photodiodes, use for dose depth distrib. meas. in oncology 7—60092
Si pin photodiode characteristics 7—42341
Si, quantum efficiency as absolute radiometric standard 7—14991
a-Si:H thin film solar cells, accelerated stress testing using photodiode array 7—28403

photodisintegration
see also deuteron photodisintegration; photofission
^{7}Be(γ,α)^{3}He, photodisintegration, relevance to nucleosynthesis in stars 7—49378
^{9}Be(γ,X), 3-body photodisintegration using hybrid method, $\alpha+\alpha+$n clusters 7—35996
^{3}H(γ,pnn), NN interactions for bound state wave function calcs. 7—5162
^{3}He(γ,ppn), NN interactions for bound state wave function calcs. 7—5162
^{6}Li(γ,d)^{4}He, photodisintegration, relevance to nucleosynthesis in stars 7—49378
^{16}O(γ,α)^{12}O, photodisintegration, relevance to nucleosynthesis in stars 7—49378

photodissociation
see also molecular photodissociation
1,4-dichlorobenzene, multiphoton ionisation dissoc. by two-colour picosecond laser mass spectrometry 7—31135
discrete states in the continuum, generation by coupling of bound states 7—36509
trimethylaluminium, UV laser photolysis for Al film growth 7—54153
$AgIn_5Se_8$ photoelectrodes, thermodynamic stability in electrolytes 7—54330
$CuIn_5S_8$ photoelectrodes, thermodynamic stability in electrolytes 7—54330
DF pulsed laser performance, gas mixture composition depend. 7—62682
DF-CO_2 pulsed laser performance, gas mixture composition depend. 7—62682
$Fe(CO)_5$, laser stimulated CVD, kinetics 7—64925
Ge_n^- semicond. cluster anions, photodetachment and photofragmentation 7—36837
H_2, photoionisation and photodissociation, six photon ionisation, vibrational levels 7—10682
I_2, photodissociation laser with thermal recirculation *(Czech)* 7—57301
N_2O, laser dissociation, laser enhanced oxidation of InP 7—39780
O^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7—25602
Si, film deposition by radical jet laser-induced CVD 7—59457
Si_n^-, semicond. cluster anions, photodetachment and photofragmentation 7—36837
W film deposition by photolytic dissoc., charactn. 7—17466

photodissociation lasers *see chemical lasers*

photodissociation of molecules *see molecular photodissociation*

photoelasticity
see also mechanical birefringence
2D model, principal stresses, image processing 7—37401
2D photoelastic shear-difference data, computer-assisted reduction 7—57775
classical mechanics and photoelasticity link, Lorentz group 7—11366
complex bodies, residual stresses, investig. by photoelastic methods *(Polish)* 7—43683
composite panel, whole-field strain determ. using coherent opt. processing 7—57779
composites and other bonded-material structures, limitations of photoelastic analysis 7—63094
creep testing using photoviscoelastic experiments *(German)* 7—22936
bis-cyclopentadienyl oligomers, optically active polymer form., moduli, photoelasticity *(Russian)* 7—63092
dynamic isochromatic method in expt. contact mechanics *(German)* 7—20667
dynamic photoelastic of wave propagation and energy transfer across contacts 7—16139
fibre optic sensor, photoelastic, response, spectral linewidth depend. 7—20446
fibre optic sensor development for high speed material diagnostics 7—65250
fibre optic strain gauge sensor, for detection of respiration and heart beats 7—47277
fractional moire strain analysis using digital imaging techniques 7—31713
glasses, photoelastic constants, evaluation method 7—39080
graphite fibre reinforced epoxy laminate, dynamic moire inteferometry of stress wave propag. 7—59717
Homalite 100, stress intensity factor, crack vel., photoelastic obs. 7—1498
integral gradient photoelasticity of solids ofrevolution 7—1418
ionic crystals, electronic polarisabilities and photoelastic behaviour 7—44444
laminate, dynamic moire inteferometry of stress wave propag. 7—59717
laminate, orthotropic photoelasticity appl. to stress state analysis 7—57778
laminate flaws, pulsed photothermoelastic quantitative eval. 7—54048
layer-periodic materials, stimulated Brillouin scatt. threshold, light and sound attenuation calcs. 7—3060
$LiNbO_3$ proton-exchange 128° Y-cut optical waveguides, acousto-optic interaction effects 7—62824
magnetic garnet films, stress induced optical anisotropy 7—53430
magnetooptic multilayer films, permittivity tensor, photoelastic modulated ellipsometry 7—41426
micro-cracking induced by Rayleigh wave 7—43794
microbend-induced birefringence in optical fibres, temp. dependence 7—43425
micropolariscope for automatic stress analysis 7—43815
optical crystals, (001) plates, photoelastic optical inhomogeneity 7—43272
paperboard, constitutive behaviour under uniaxial and biaxial loading 7—63019
piezooptical measuring transducers 7—4830
plastic zone size and shape around slit ends, direct meas. method 7—63085
plate, large square, central circular hole, uniaxial loading, elastic stress concs., photoelastic models 7—43682
plate with thin regions, stress conc., theoretical and photoelastic studies 7—57697
plates, composite, impact tensile loading, crack bifurcation modes 7—50993
plates of cubic crystals, stress determ. by photoelasticity method 7—51011
polyacrylamide gels, spontaneous birefringence and photoelasticity 7—22217
polymer liquid crystals, synthesis, characterisation and applications 7—17508
pressure sensor, using low-birefringence fibre 7—43429
principle strains in the plastic region, optical meas. using moire method and interferometry 7—17580
shrink connection, photoelastic investigation *(German)* 7—20671
stress analysis, automatic system 7—26231

photoelasticity continued
stress distribution around surface crack using scattered-light photoelasticity 7—37403
stress intensity factors, extraction from near-tip photoelastic data 7—63064
stress separation along lines of symmetry 7—31714
superlattices, photoelastic, elastic and dielectric consts. in long wavelength regime 7—33361
thin layered superlattices, effective dielectric and photoelastic constants, determ. 7—53268
HF solid, elastic and photoelastic anisotropy at high press. 7—2083
KCl crystals, rolling friction, elastoplastic deform. 7—16681
$LiNbO_3$:T surface, acousto-optic interaction, photoelastic and electro-optic contribs. 7—45982
$LiNbO_3$:Ti, acousto-optical diffr. elastic strain and electric field effects 7—45985
$LiTaO_3$, extremal directions of anisotropic diffraction and collinear acoustooptic interaction 7—17304
ND_3, elastic consts. and elasto-optic coeffs., Brillouin spectra anal. 7—53359
$NaBi(MoO_4)_2$, elastic and elastooptic props. 7—7672
Si polycrystalline ribbons, stress meas., photoelasticity determ. with aid of computer 7—31725
α-SiO_2, extremal directions of anisotropic diffraction and collinear acoustooptic interaction 7—17304
ZnSe photoelastic modulator for IR 7—43348

photoelectrets
$Gd_3Ga_5O_{12}$, pure and doped, photoelectret, photoconductivity 7—45919
$Nd_3Ga_5O_{12}$, photoelectret, photoconductivity 7—45919
$Sm_3Ga_5O_{12}$, photoelectret, photoconductivity 7—45919

photoelectric cells
see also photoconductive cells; photovoltaic cells
No entries

photoelectric devices
see also image sensors; photocathodes; photoconducting devices; phototubes
circular gauge, systematic errors correction, computerised calibration procedure 7—56244
colorimeter, for contactless skin colour meas. 7—60136
hollow mirror lightguide and diaphragms, optical system calcs. 7—43365
photosynthetic molecularly based electronic devices, efficiency 7—40375
spatial variables meas. with optoelectronic transmitted-light meas. system *(German)* 7—61314

photoelectric effects *see photoelectricity*

photoelectric electron emission *see photoemission*

photoelectric emission *see photoemission*

photoelectric tubes *see phototubes*

photoelectricity
see also Dember effect; photocapacitance; photoconductivity; photodielectric effect; photoelectrets; photoelectromagnetic effects; photoemission; photoionisation; photorefractive effect; photovoltaic effects
anode spot formation, time determ., photoelec. method 7—11789
bacteriorhodopsin model membranes, kinetic anal. of displacement currents 7—28475
donor-acceptor system, photoeffect injection sensitisation 7—45388
IR radiation ultrafast switching by laser produced Ge plasma 7—11020
metal-semiconductor junctions, formation, structural and electrical props. 7—38727
photorefractive crystals, photoinduced charge formation dynamics 7—7277
semiconductor-electrolyte interface photoelectrochemical system, quantum yield interpretation and surface state model calcs. 7—23036
semiconductors, cubic, photoionisation of deep acceptors, drag of holes by light 7—12754
semiconductors, extrinsic n-type, stochastic self-oscillations under intense illumination 7—2639
semiconductors, induced spin orientation and polarisation of paramagnetic centres interacting with photocarriers 7—7583
semiconductors, photosensitive, parametric instability due to a travelling illumination intensity grating 7—38614
short semicond. structs., photoexcited electron-hole plasma instability, numerical simulation 7—45367
steel, stainless, photoelec. response to monochromatic light 7—17048
Al films, angular dependent photoelectric yield and optical constants 7—45387
Al_2O_3:Cr^{3+}, ruby, optically excited crystals, critical Cr conc. depend. of electrical instability 7—7280
As_xSe_{100-x}, vitreous chalcogenide semicond. layers, deep trapping levels, photostimulated effects *(Russian)* 7—2754
$Bi_{12}GeO_{20}$, photoelectric props., influence of deep trapping centres 7—7279
$CdGeAs_2$, glassy, optoelectronic props., photoelectrochemical investigation 7—45382
$CdGeP_2$, glassy, optoelectronic props., photoelectrochemical investigation 7—45382
CdS polycryst. layers, photoelec. props. α-Cr_2O_3 regulator 7—45378
CdS:Gd, Cl film solar cells, gamma radiation effects on photoelectric properties 7—34032
CdSe(S) thin films, electrophys. props., electron irradiation effects study, solar cell appl. 7—16894
CdTe anomalous photovoltage films X-ray irradiation effects studies 7—58834
Cu_2O film-electrolyte interface, photoelectric effect 7—38723
GaAlAs strip waveguides, optical transistor effects, expt. study 7—37026
$Ga_{0.96}Al_{0.04}Sb$ layers, liq. phase epitaxial growth, elec. and photoelec. characterisation 7—39443
GaAs anomalous photovoltage films X-ray irradiation effects studies 7—58834
GaAs, photoconductivity, slow-relaxation phenomena 7—58837
GaP anomalous photovoltage films X-ray irradiation effects studies 7—58834
Ge anomalous photovoltage films X-ray irradiation effects studies 7—58834
Ge cleaved surface in liquid He, photo-EMF production, quasi-2D carrier diffusion in surface cond. gradient 7—38636
Ge, surface potential, photomemory effects 7—12775
n-HgCdTe, acceptor densities, photo-Hall determ. 7—58836
p-HgCdTe, minority carrier characterisation using light-modulated Hall effect 7—21934

photoelectricity continued
- n-InP, minority carrier diffusion length meas. using a photoelectrochemical technique 7—33030
- InSb MOS structures, electric field effects on characteristics 7—38738
- n-InSb, magnetic two-phonon resonance involving acoustic phonons 7—45355
- $Pb_{1-x}Sn_xTe$-PbTe graded-gap heterostruct., spectral photoelec. quantum efficiency 7—36961
- PbTe:Ga, doping during vapour phase growth, elec. props. 7—26774
- Se vitreous chalcogenide semicond. layers, deep trapping levels, photostimulated effects *(Russian)* 7—2754
- Si anomalous photovoltage films X-ray irradiation effects studies 7—58834
- Si exciton transport, optical time-of-flight investigation 7—64244
- Si polycrystalline layers, elec. props. and grain boundary carrier dynamics under solar illumination 7—38625
- a-Si:H films photo-CVD, photoelectric and structural props. 7—7869
- a-$Si_{1-x}C_x$:H, B(P) films, valence band localised holes, light-induced ESR spectra studies 7—53110
- In-SnO_2-n-$CdGeP_2$:In heterojunction, elec. and photoelec. props. 7—45478

photoelectrochemical cells
- *see also solar cells*
- accumulators, developments *(Spanish)* 7—23131
- chlorophyll photoelectrochemical solar cell, photoresponse, temp. effect 7—54324
- polythiophene film in electrochem. color switching cells, cycle life, stability and characts. 7—62815
- SnO_2 liquid junction solar cell sensitisation with conc. dyes 7—3646
- n-$AgInSe_2$/polyiodide junctions, photoelectrochemical activity 7—2704
- $AgIn_5Se_8$ photoelectrodes, thermodynamic stability in electrolytes 7—54330
- Bi_2CdS_4 thin film photoelectrodes, electrochemical photovoltaic cell appls. 7—17918
- CdS:In-SnO_2 (glass), spray pyrolysed, photoelectrochemical studies 7—52830
- CdS-CdSe-sulphide-polysulphide multiple junction photoelectrochemical cells 7—59863
- CdSe thin film liquid-junction photovoltaic cell, photoelectrochem. charactn. 7—54331
- CdSe-CdTe-selenide-polyselenide multiple junction photoelectrochemical cells 7—59863
- $CdSe_{0.65}Te_{0.35}$/aqueous polysulphide interface, photoelectrochemical props. 7—52829
- CdTe photoelectrochemical solar cells, effects of Ru surface modification 7—40017
- CdTe, Ru surface modified for solar cells XPS obs. 7—23202
- p-CuCNS photocathode for dye-sensitised photoelectrochemical cell 7—3709
- p-CuCNS photocathode sensitized with Acridine Orange, photocurrent quantum efficiency 7—33944
- $CuIn_5S_8$ photoelectrodes, thermodynamic stability in electrolytes 7—54330
- $CuInSe_2$ electrodeposited films, photoelectrochem. solar cells fabrication 7—3710
- $CuInSe_2$, pH effects on surface properties 7—23201
- n-$CuInSe_2$ photoelectrochemical cells 7—23199
- $CuInSe_2$ thin film photoelectrochemical cells 7—23200
- $CuInSe_2$-based photoelectrochem. solar cells, optical and electronic props. studies 7—46958
- Cu_2O electrodeposited film electrodes in photoelectrochemical cells, n-type photocond. obs. 7—17917
- FeS_2-electrolyte photoactive interface, electronic props. 7—33086
- GaAs/$Al_{0.38}Ga_{0.62}As$ lattice-matched superlattice photoelectrochem. electrodes, photocurrent spectra 7—45377
- H_2 production by photoelectrolysis of water and sunlight energy source 7—3723
- H_2 production by photoelectrolysis of H_2S using n-CdSe photoanode 7—54328
- InP electrodes, surface modified, time resolved photoelectrochemical meas. 7—27415
- p-InP/Co(Pt) photocathodes for photoelectrochemical solar cells, H_2 evolution from alkaline solns. 7—13922
- InSe single crysts., growth by travelling heater method, carrier conc., photoelectrochemical props. 7—59410
- Pd-Cr-SiO_x-p-Si MIS electrodes for electrochemical solar cells 7—34048
- Pt-SiO_x-n-Si MIS electrode for electrochemical solar cells 7—34048
- Sb_2S_3-electrolyte interfaces, electrochemical photovoltaic cell fabrication appl. 7—40016
- Si, H passivation of dislocations 7—54323
- Si photoelectrochemical and MIS solar cells, surface dislocation loops effect on J-V characts. 7—17862
- n-Si porous electrodes, photoelectrochem. behaviour 7—3711
- n-Si-MnO photoanodes, photoelectrochemical and struct. behaviour 7—54329
- TiO_2 films, sol-gel method prep., appl. to photoelectrochem. electrodes 7—7903
- TiO_2 photoanode thickness effect on quantum yield of photoelectrolytical cells 7—40018
- V complex, vanadium(III)bis(2,2′-bipyridyl) chloride-Fe(III) system, photogalvanic effect 7—54145
- ZnO thin film preparation by spray pyrolysis for photoelectrochemical solar cells 7—23166
- ZnSe films, electrochemical co-deposition, photoelec. conversion characts. 7—46959

photoelectrochemistry *see electrochemistry; photochemistry*

photoelectromagnetic effects
- semiconductors, photoelectromagnetic effect under combined illum. 7—52673
- GaAs/AlGaAs multiple-quantum-well structures, shallow donors, far infrared spectroscopy 7—39121

photoelectron multipliers *see photomultipliers*

photoelectron spectra
- *see also Auger effect; photoemission; ultraviolet photoelectron spectra; X-ray photoelectron spectra*
- actinide systems, photoelectron spectroscopy, review of present status 7—39348
- actinides, photoemission, final state multiplet, screening effects 7—39349
- adsorbate-induced initial states, angle-resolved photoemission cross section 7—17062
- adsorption of trace amounts on Cu (111), perturbation of surface electronic struct. 7—52720

photoelectron spectra continued
- alkali atoms, photoelectron spectra, correl. effects, CI study 7—62450
- alkali metal adsorbed layers on solid surfaces *(Japanese)* 7—21966
- alkali metal monohydroxides, high temp. photoelectron spectroscopy, ab initio MO calcs. 7—50251
- alkali-metal atoms, photoionisation cross sections, ab initio RRPA calcs. 7—36462
- p-aminotriphenylmethane dyes, in organic solvents, surface activity, He(I) photoelectron spectra 7—2300
- angle-resolved photoemission extended fine struct. for surface struct. determ. 7—7822
- angle-resolved photoemission spectra, low-energy modelling 7—46275
- angular resolved photoelectron spectroscopy fine struct., spherical wave corrections 7—64872
- atom, photoionisation, threshold effects in strong-field, non-perturbative realistic model 7—36563
- atomic multiphoton autoionisation by smooth laser pulses 7—15577
- atoms, laser-induced autoionization from a double Fano system 7—57034
- atoms, space charge effect on electron angular distribution after multiphoton ionisation 7—15568
- benzene, $^1B_{1u}$ state, photoionis., mass and photoelectron spectra 7—42681
- benzene, soln., photoelectron emission spectra and simulated spectra 7—5719
- benzene and azabenzene adsorbed on Cu(111) and Au(110), electron affinity levels studied by inverse photoemission 7—44991
- benzene like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7—50247
- bis(π-allyl) nickel, photoelectron spectrum, semi-empirical and ab initio Green's Function methods 7—30950
- 1,3-butadiene ions, photodissoc., photoelectron photoion coincidence study, isomerisation barrier meas. 7—36711
- butylamine, soln., photoelectron emission spectra and simulated spectra 7—5719
- cadmium arachidate, Langmuir-Blodgett films, angle-resolved photoemission with synchrotron radiation *(Japanese)* 7—3152
- continuum states, photoexcitation, dressed-reson. representation, appl. to laser-enhanced autoionis. 7—15655
- corrosion science, role of electron spectroscopy, review 7—22860
- cyanomethanes, He(I) photoelectron spectrum; vertical ionisation energies, LBCO-MO model 7—50249
- diatomic mols., orbital stress and transition stress calc., bond lengths, rot. consts. photoelectron spectra 7—42503
- dibenzotetraphene, radical cations, electronic and photoelectron spectra 7—57079
- dimethyl ether-sulphur dioxide complex, photoelectron spectra 7—15646
- dimethyl methylphosphonate, Auger and photoelectron spectra 7—57132
- ethylenes, fluorinated, photoelectron spectrosc. 7—42682
- evaporated clusters on CdTe, core level electron binding energy shifts, photoemission spectra 7—22451
- ferrocene, soln., photoelectron emission spectra and simulated spectra 7—5719
- FT photoelectron spectroscopy, correl. fn. and harmonic oscillator approx. 7—10665
- graphite, single cryst., synchrotron radiation-excited angle-resolved photoemission 7—17391
- halogen thiocyanates (isothiocyanates), ionis. pots., photoelectron spectrosc. and ab initio calcs. 7—25601
- halomethanes, natural hybrid orbitals and photoelectron spectra 7—56941
- heavy atoms, photoionisation, Cooper minima, relativistic effects 7—36561
- heavy clusters, ionis. dynamics, cluster ion-photoelectron coincidence 7—15791
- heavy-fermion metals, photoemission data interpretation, periodic Anderson model 7—7087
- insulating liquid surface, electrostatic charge effects on photoelectron spectroscopy 7—17069
- ionisation spectra calc., Green's function method 7—36684
- magnetic meas. at surfaces, high resolution, with spin polarised electrons 7—3119
- metal atoms, core excitation reson., decay channels 7—906
- metals, chemisorbed CO, affinity levels, energy and composition 7—59780
- methane, natural hybrid orbitals and photoelectron spectra 7—56941
- methane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7—50254
- methane ion, photoelectron spectrum, Jahn-Teller effect, ab initio SCF and CI calcs. 7—42683
- methyl fluoride, dissociative ionis., methylene and methyl ions, form., photoelectron spectra 7—10662
- methylbenzyl radicals, photoelectron spectrosc., thermochem. 7—10664
- molecular alignment parameters, circular dichroic photoelectron angular distrib. meas. 7—36687
- molecules, single-and multi-photon ionisation process dynamics 7—36701
- monohalobenzenes, electron struct., mol. reactivities, He Penning ionisation spectra and UV photoelectron spectra anal. 7—25642
- multiphoton ionization study of nonlinear processes in atoms 7—10510
- open-shell atoms, ions and excited states, photoionisation 7—36562
- pentaphenes, radical cations, electronic and photoelectron spectra 7—57079
- phosphabenzene, photoelectron spectrum, musical transcription technique appl. 7—50243
- phosphatidylcholine, photoelectron spectra 7—54493
- phosphatidylinositol, photoelectron spectra 7—54493
- photoelectron spin-polarisation spectroscopy, appl. in adsorbate physics 7—3145
- picosecond time-resolved photoemission spectroscopy of semiconductor surfaces 7—17394
- polyvinyl carbazole donor-acceptor complexes, luminesc. and photoemission spectra 7—46115
- quinone like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7—50247
- sulphone rings, four-membered, photoelectron and electron transmission spectra, sulphone effect 7—50253
- surface (110), calculated photoemission spectra 7—3151
- surface electronic struct., relativistic effects, high resolution angle-resolved photoemission study 7—52723
- surface science, synchrotron radiation studies, review 7—33977
- surface science techniques, book 7—60888
- tetrafluoromethane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7—50254
- thietane 1,1-dioxide, photoelectron and electron transmission spectra, sulphone effect 7—50253

photoelectron spectra continued
thiete 1,1-dioxide, photoelectron and electron transmission spectra, sulphone effect 7—50253
thin overlayers, thickness meas., conc. gradients and surface roughness influence 7—56216
Thomson scattering meas., photoelectron statistics effects 7—11800
transition metal compounds, photoelectron spectra, ligand-field theory 7—22440
trifluoroiodomethane, valence and core levels, variable energy photoelectron study 7—10666
trimethyl phosphite, Auger and photoelectron spectra 7—57132
X-ray standing wave along diffraction vector, method for crystal structure study 7—58104
Ag (111), Tamm surface state 7—58849
Ag (111) and (100), effective mass of image-potential states 7—64304
Ag surface, binding energy of image-potential states 7—64303
Ag-Au, valence level splitting 7—45139
Ag-CdTe (100) interface, photoemission studies, surface struct., growth behaviour, Schottky barrier and surface photovoltage 7—39352
Ag-Ge liquid alloy, structural phase transitions, photoemission studies 7—1836
AgCd, electronic structure, disordering effects *(Russian)* 7—32901
AlN formed by N ion implantation of Al, electronic struct. 7—58926
Am valence-band photoelectron spectrum interpretation 7—64875
Ar, photoionisation, photoelectron and electron momentum spectroscopy 7—36560
Ar-TEA gas mixtures, emission spectra in proportional counter 7—62226
$Ar^+ + N_2$, charge exchange reactions, TEPICO method anal. 7—20076
AsO_4^{n-}, electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7—856
Au (111) and (100)-(5×20), surface-atom valence-band photoemission 7—22447
Au-GaAs, contact, structural and elec. props. 7—27424
Au-GaAs (110) interface, photoemission studies, temp. effects 7—33517
$BrCN^+$, $\tilde{B}\ ^2\Pi$ state, radiationless transition, fluoresc.-photon coincidence study 7—31101
a-C:H, props., review 7—51630
CO, C1s satellites, near threshold meas. 7—10668
CaF_2-Si (111), UV irradiation-induced ordered struct., photoelectron spectroscopy study 7—7396
CaF_2-Si (111) interface, electronic struct. 7—38737
$Cd_{97}Ag_3$, Ag density of states, Auger and photoelectron spectra, Clogston-Wolff model calcs. 7—2451
CdTe (100), photoemission studies, surface struct., growth behaviour, Schottky barrier and surface photovoltage 7—39352
Ce alloys, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7—32900
Ce, core and valence photoemission, calc. 7—33516
Ce monopnictides and alloys, photoemission and bremsstrahlung isochromat spectra 7—3155
Ce, photoelectron and bremsstrahlung isochromat spectra 7—7817
$CeCu_6$ heavy fermion system, photoemission and inverse photoemission studies 7—3148
$CeH_{2.7}$, photoelectron spectra 7—22442
$Ce_xLa_{1-x}Cu_6$, electronic states, resonant photoemission study 7—53496
CeN, narrow band material, high resolution photoemission 7—33512
Cl, chemisorption, on Cu (111), site info. from EXAFS and photoelectron diffraction 7—32788
Cl_2^{2+} electronic states, double charge transfer technique 7—841
$CoCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7—53495
Cr (001), near-surface antiferromagnetism and surface ferromagnetism, photoelectron spectroscopy 7—59381
Cr, band structure 7—7105
Cs surface, adsorbed Xe, core-electron binding energies, photoemission studies 7—3146
Cu (100), effective mass of image-potential states 7—64304
Cu (111), K doped, anomalous surface-state penetration near band edge, photoemission studies 7—39361
Cu (111), Tamm surface state 7—58849
Cu surface, binding energy of image-potential states 7—64303
Cu-GaAs (110), electron struct., synchrotron radiation photoelectron spectroscopy 7—27420
Cu_n^- (n=1-10), cluster, photoelectron spectra 7—62561
$Cu_{75}Pd_{25}$, partial densities of states determ., valence band photoelectron spectra meas. 7—52390
CuSnBe bronze sheets, lamination investig., Auger and photoelectron studies *(Russian)* 7—13628
Cu_xY_{1-x} amorphous alloys, empty and occupied electronic states, inverse and direct photoemission spectroscopies study 7—32899
D_2O^+, $\tilde{B}^2B_2$ state predissoc., intramol. dynamics, photoelectron spectroscopy 7—42699
D_2O^+, mol. beam photoelectron spectrosc., femtosec. intramol. dynamics 7—36688
Eu, photoemission, orbital-collapse effects 7—15572
Fe, photoemission study, existence of valence band satellite 7—46274
Fe, photoemission study of valence band satellite, comment 7—46273
Fe, pulsed laser irradiated, spin-polarised photoemission 7—39360
Fe surface, polycryst., interaction with $O_2(N_2)$, electron spectrosc. obs. 7—7794
α-Fe surfaces, segregated elements, bonding state 7—16763
Fe ultrathin films on Pd (111), photoemission, LEED and AES studies 7—45068
Fe^+, excited state selected, one-colour UV multiphoton ionis. 7—36506
Fe-W (110), spin-resolved photoemission spectra of epitaxial Fe layers 7—46276
$FeCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7—53495
$FePS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7—38450
GaAs (001), chemisorption of CF_3 radicals, RHEED, photoelectron spectra, HF SCF calcs. 7—53497
GaAs/Al_xGa_{1-x}As quantum wells, excitonic transitions, photocurrent spectra studies 7—7816
p-GaAs/electrolyte, photoelectron emission spectra, thermodynamic consts. 7—12856
Ga_2O, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7—50252
GaP(As)(Sb), band structure, polarisation-dependent angle-resolved photoemission spectroscopy 7—21814
GaSb (110), intrinsic intergap surface state, angle-resolved photoemission 7—45423

photoelectron spectra continued
Ge (111) pure and As doped, surface electronic struct., photoemission studies 7—2658
Ge liquid, structural phase transitions, photoemission studies 7—1836
a-Ge/au interfaces, atomic intermixing, asymmetries 7—21682
H_2, photoionisation and photodissociation, six photon ionisation, vibrational levels 7—10682
H_2, single-and multi-photon ionisation process dynamics 7—36701
H_2, vibrational energy accommodation coeffs., photoelectron spectrosc. obs. 7—15691
HCl, Cooper minimum, photoelectron dynamics 7—942
H_2O^+, $\tilde{B}^2B_2$ state predissoc., intramol. dynamics, photoelectron spectroscopy 7—42699
H_2O^+, mol. beam photoelectron spectrosc., femtosec. intramol. dynamics 7—36688
H_2S, inner valence shell, photoionisation, ang. distrib. in 40 to 70 eV photon energy range 7—57131
HSCN (HNCS), ionis. pots., photoelectron spectrosc. and ab initio calcs. 7—25601
He + $Br_2(I_2)(ICl)(IBr)$, bound and continuum states, excitation transfer, optical and electron spectroscopy investig. 7—36689
He, 3^1D state electron impact excitation, electron-polarised photon coincidence study 7—36774
He, photoelectron satellites at threshold, photoelectron spectra anal. 7—36564
I, photoemission cross-section and ang. distrib. parameters, inner and outer shell ionisation 7—15565
In adatom on Si (100), bonding coordination number, synchrotron photoemission studies 7—45071
InO_2, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7—50252
InP (100), empty surface states, two-photon photoemission 7—53498
InP (110) surface, picosecond time-resolved photoemission study 7—46280
p-InP/electrolyte, photoelectron emission spectra, thermodynamic consts. 7—12856
InP(As)(Sb), band structure, polarisation-dependent angle-resolved photoemission spectroscopy 7—21814
KCl (100), sand gap photoemission yield spectroscopy 7—22445
Kr, two-electron-one-photon excitations, X-ray photoabsorpt. studies 7—36527
Kr-TEA gas mixtures, emission spectra in proportional counter 7—62226
Mn, vapour, photoelectron ang. distrib. and drag current, nondipole part 7—15575
$MnCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7—53495
$Mn_xSn_{1-x}Mo_6S_8$, Mn dopant props., supercond. transition temp., EXAFS, XANES, photoemission studies 7—46236
Mo-Si(111)(2×1) interface, early formation stage 7—27150
2H-MoS_2, photoionisation cross-sections for whole valence band, synchrotron radiation obs. 7—7812
N_2, photoelectron ang. distribs. including effects of coupling to $N_2(3\sigma g)^{-1}$ 7—36690
$(NH_3)_2$, dimer struct., electron spectra anal., HF calcs. 7—36686
NO, rot. resolved autoionising levels, wavelength depend. photoelectron spectra 7—25605
NO, rot. resolved laser photoelectron spectra, propensity rules 7—31113
Na, carrier scattering, photo- and secondary electron emission studies 7—13324
Na surface, interaction with O_2, photoemission and Auger studies 7—17063
Na thin films, photoelectron emission spectra 7—39347
NaCl (100), sand gap photoemission yield spectroscopy 7—22445
Nd, reson. ionisation photoelectron spectroscopy 7—19799
$NdAl_2$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7—32900
Ne, photoelectron satellites at threshold, photoelectron spectra anal. 7—36564
Ni (001), adsorbed Na, photoelectron diffraction spectrum calc. and Fourier transform anal. *(Chinese)* 7—13326
Ni (100) with adsorbed C, electronic struct. 7—7315
Ni (100) with adsorbed S, angle-resolved photoemission extended fine-structure oscillations 7—64873
Ni (110), adsorption and reaction of Co_2 and CO_2/O co-adsorption 7—52289
Ni (110), valence band satellite, obs. in photoelectron spectra 7—59377
Ni_3B, amorphous, surface electronic struct. during crystallisation and O_2 and CO adsorption 7—7308
NiCO, single-and multi-photon ionisation process dynamics 7—36701
$NiCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7—53495
$NiPS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7—38450
O^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7—25602
O_2, $C^3\Pi_g$ Rydberg state, excited-state photoelectron spectra 7—50250
O_2^- and O_4^-, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7—25602
O_2^+ predissociative photoionisation, triple coincidence, double time-of-flight study 7—36709
O_2^+, $X^2\Pi_g$ vibr. branching ratios, 905-1000 Å, autoionis. effect 7—50272
PO_4^{n-} electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7—856
Pd monolayers on Ta(110), morphology and struct. phase transitions 7—38374
Pd surface, adsorbed Xe, core-electron binding energies, photoemission studies 7—3146
Pd^-, core size role in photoelectron spectra 7—15571
Pr, reson. ionisation photoelectron spectroscopy 7—19799
$PrAl_2$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7—32900
Ru (001), adsorbed Xe multilayers, inverse photoemission spectra, final-state screening effects 7—13251
SF_6, dissociative photoionisation, triple coincidence, double time-of-flight study 7—36709
S_2N_2, photoelectron spectrum, valence ionic state calc. by many-body Green's function method 7—10667
SO_2^{2+}, double photoionisation, photoelectron ion-ion triple coincidence technique 7—50248
SO_4^{n-}, electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7—856
Sc^-, core size role in photoelectron spectra 7—15571
SeO_4^{n-}, electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7—856

photoelectron spectra continued
- Si (001), step related surface states angle resolved photoelectron spectra 7—52716
- Si (100), oxidation enhancement by Ce overlayers, $CeSiO_3$ formation 7—28226
- Si (111), thermal oxidation, initial stages, AES, LEED and photoelectron spectra studies 7—3543
- Si (111) with adsorbed Cs or Na, oxidation 7—54025
- Si (111)/Au interfaces, structural and electronic props., annealing effects 7—21679
- Si surface, O adsorpt., orientation depend., AES and photoelectron spectra 7—52237
- Si surfaces, (111)7×7-Ge and (111)5×5-Ge, angle-resolved photoelectron spectra 7—3150
- Si-InP (110) heterojunction, characterisation 7—33079
- Si-Yb interfaces, mixed valence of Yb, synchrotron radiation photoemission spectra, metal coverage and annealing temp. depend. 7—32966
- SiH_n, (n=1 to 4), photoion yield and thresholds, photoionisation mass spectra study 7—50242
- $SiH_3(D_3)$, ions and radicals, pot. energy curves and electron affinities determ., photoelectron spectra anal. 7—25603
- Sm overlayers on Al (111), homogeneous intermediate valence, photoemission 7—39351
- Sm, reson. ionisation photoelectron spectroscopy 7—19799
- SnO_2 (110), O deficient surface, photoemission study, comparison with TiO_2 (110) 7—46277
- Ti^+ excited state selected, one-colour UV multiphoton ionis. 7—36506
- $TiCl_4$, photoelectron and absorpt. spectra, MO calcs. 7—36636
- TiO_2 (110), O deficient surface, photoemission study, comparison with SnO_2 (110) 7—46277
- $TlInSe_2$, electronic struct., synchrotron radiation photoelectron spectra 7—52422
- TlO_2, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7—50252
- UO_2, band struct., angle resolved and reson. photoemission study 7—27856
- URh_3, 5f band narrowing, evidence from resonant photoemission 7—27855
- URh_3B, 5f band narrowing, evidence from resonant photoemission 7—27855
- URu_3, 5f band narrowing, evidence from resonant photoemission 7—27855
- URu_3B, 5f band narrowing, evidence from resonant photoemission 7—27855
- URu_2Si_2 heavy fermion system, core levels and band struct., electron spectra studies 7—52418
- V^+, excited state selected, one-colour UV multiphoton ionis. 7—36506
- V-Ge(111) interface, temp. depend. intermixing, core level photoemission study 7—21542
- VCl_4, photoelectron and absorpt. spectra, MO calcs. 7—36636
- W, photofield emission spectroscopy of bulk electronic states 7—13329
- Xe, 5p photoionis., angle- and spin-resolved photoelectron spectroscopy, expt. charactn. 7—904
- Xe, above-threshold multiphoton ionisation, circularly and linearly polarised light, PES spectra study 7—62338
- Xe ionisation, photoelectron angular distrib. 7—19794
- Xe, multiphoton ionisation, final state redistribution, electron energy spectra anal. 7—25468
- Xe, photoelectron angular distributions, ponderomotive effects 7—50037
- Xe photoionisation, photoelectron and electron momentum spectroscopy 7—36560
- Xe-TEA gas mixtures, emission spectra in proportional counter 7—62226
- Y^-, core size role in photoelectron spectra 7—15571

photoelectron spectroscopy
- ($\bar{2}01$) plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7—58846
- angle definition using channel arrays 7—35638
- benzene, high resolution laser threshold photoelectron spectroscopy 7—10669
- cyanomethane anion, photodetachment spectroscopy 7—10670
- data acquisition and processing on microcomputer, interfacing 7—48919
- high-temperature photoelectron spectrometer for vapour-phase species studies >2000K 7—35522
- pulsed gaseous free jets for UPS 7—36685
- real-time imaging of analyzed areas in surface analysis 7—12427
- standing X-ray wave excited photoelectron emission, energy dispersion meas. 7—366
- surface anal. methods *(Japanese)* 7—63921
- time-resolved VUV photoemission spectroscopy, expts. on Si and InP surfaces 7—18919
- XPS, data analysis, factor anal. and curve fitting 7—35639
- NO, high resolution laser threshold photoelectron spectroscopy 7—10669
- $Rb_{0.3}MoO_3$, ($\bar{2}01$) plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7—58846

photoemission
- *see also photoelectron spectra; photoemissive devices*
- Anderson impurity model, finite U, ground state and spectroscopic props. 7—2817
- angle-resolved, spherical wave corrections 7—64737
- benzene, adsorbed on Os (0001), mol. struct., angle-resolved UV photoemission spectral study 7—53492
- deep core XPS spectra, intrinsic and extrinsic plasmon excitation 7—22438
- diatomic molecules, photoemission processes, ab initio calcs. 7—19676
- dosimetry, interface phenomena, Monte Carlo prediction 7—56878
- epoxy resin, charged, photoemission meas. in insulating gases 7—27871
- ESD and photoemission, extended core-hole Hamiltonian 7—52252
- ferromagnets, electronic struct. determ. by spin- and angle-resolved photoemission, book contrib. 7—33522
- GEOS-2 satellite, long-term behaviour of photoelectron emission from elec. field double probe sensors 7—66426
- hexatriacontane, hot electron cond. and relax., internal photoemission for transport anal. method 7—45340
- intermediate-valence system, fluctuations and photoemission props. calc. in tetrahedral-cluster model 7—39354
- magnetic semiconductors, spin polarised photoemission by optical spin orientation, book contrib. 7—33520
- magnetic surfaces, electron scatt. and emission 7—59379
- magnetic surfaces, polarised electron probes 7—33264
- metals, electron work function in solns., photoemission law 7—22435
- metals, electron work functions in diglyme (diglyme-water), photo- and thermionic emission meas. 7—52731

photoemission continued
- metals, surface plasmon dispersion relation by ricochet photoemission 7—27280
- nonmagnetic metals and adsorbates, spin-resolved photoemission, book contrib. 7—33521
- photoelectron microscopy, applications to biological surfaces 7—8773
- photofield emission, current versus reciprocal field curves, semiquantitative anal. 7—33536
- polarised electrons in surface physics, book 7—29607
- polyacetylene, soliton width-relaxation effects 7—21828
- polyethylene dielec. thin films, hot-electron-induced damage and charge storage, electron spectra studies 7—27662
- PTFE, charged, photoemission meas. in insulating gases 7—27871
- quartz-filled epoxy resin, charged, photoemission meas. in insulating gases 7—27871
- semiconductor heterojunctions, breakdown of electron affinity rule, photoemission tests 7—2690
- semiconductors, MBE growth, RHEED and photoemission studies 7—2438
- semiconductors, photoelectrons subjected to parallel elec. and quantising mag. fields 7—64280
- semiconductors photoemission spectra, singularity anal. 7—39346
- solid surface, physics, conf., Smolenice, Czechoslovakia (Sept. 1984) 7—48170
- solid surfaces, ferromagnetic and nonmagnetic, spin-dependent electron scatt., photoemission and inverse photoemission calcs., book contrib. 7—33493
- surface and solid state physics based on spin polarised electrons *(German)* 7—64045
- theory, selection rules, vertex corrections and approximations 7—27860
- Ag monolayers, electronic struct. and binding energy, substrate effects, photoemission studies 7—39359
- Ag particles in Ag-O-Cs photoemitters and Ag aerosols 7—33518
- Al-Langmuir film-SnO_2, photovoltage spectra 7—64354
- Au-InP high-speed internal photoemission detectors enhanced by grating coupling to surface plasma waves 7—52688
- Ce metallic systems, valence band photoemission spectra anal. 7—13332
- $CeCu_6$ heavy fermion system, photoemission and inverse photoemission studies 7—3148
- Co evaporated films, photoemission spectra, correl. effects 7—39363
- Cr evaporated films, photoemission spectra, correl. effects 7—39363
- Cu, resonant photoemission, atomic correl. effect 7—907
- Fe (100), resonant photoemission near 3p-electron excitation threshold 7—64876
- Fe ferromagnets, spin-resolved photoemission and bremsstrahlung calcs. and data anal., book contrib. 7—33523
- Fe-B, metallic glasses, photoemission investig. *(Slovak)* 7—59369
- GaAlAs-Mo junctions, Schottky barrier height, electrical props. 7—64346
- GaAs (111) and (-1-1-1), electronic props., angle resolved photoemission studies 7—7327
- GaAs photoemission electron source, operating experience 7—41535
- GaAs/$Al_xGa_{1-x}As$ heterojunction photodiodes, band discontinuities 7—58871
- GaAs-$Al_xGa_{1-x}As$, internal photoemission method for determ. of band offsets 7—12832
- GaAs-AlGaAs heterojunctions, energy band discontinuities, internal photoemission meas. 7—13331
- Ge crystal, disordered surface layer, standing X-ray wave excited photoelectron emission, energy dispersion meas. 7—366
- Ge-based chalcogenide thin films, amorphous, anomalous photoinduced transformations study 7—45070
- InSb (-1-1-1) (3 × 3) reconstructed, X-ray diffr. studies 7—6951
- Ir (111), spin-resolved photoemission meas. of transitions to secondary unoccupied bands 7—53501
- NaCl, electron-phonon scatt. in XUV induced electron emission, Monte Carlo simulation 7—27861
- Ni ferromagnets, spin-resolved photoemission and bremsstrahlung calcs. and data anal., book contrib. 7—33523
- Ni, photoemission above Curie temp., cluster calcs. 7—7814
- Ni, quasi-particle and band-calc. spectra, w.r.t. valence band photoemission meas. 7—2474
- P, black, resonant photoemission spectra 7—7815
- Pd clusters on substrates, core-electron binding energy, photoemission initial and final state effects studies 7—27859
- Pd monolayer on Ta (110), heat of adsorpt. estimates from core-level shifts 7—52258
- Pd-Si, metallic glasses, photoemission investig. *(Slovak)* 7—59369
- Pt (111), spin polarised photoemission, relativistic energy bands obs. by vector anal., parity- and spin-mixing 7—7820
- Pt monolayer on Ta (110), heat of adsorpt. estimates from core-level shifts 7—52258
- PtSi/p-Si thin Schottky diodes, TEM, TED, I-V curve and photoemission characts. 7—12861
- S c(2×2) adsorbate geometry on Ni (001), angle-resolved-photoemission extended-fine struct. studies 7—27111
- Si pure and As-doped single-domain reconstructed (100) surface state dispersion and struct., LEED and photoemission studies 7—38667
- a-Si:H/c-Si heterojunctions, energy-band discontinuities, internal photoemission studies 7—58869
- Si-SiO_2-Cu(Ni), light induced deposition of metal films on SOI substrates 7—46354
- Si-silicide interfaces, electronic struct. 7—21972
- a-SiGe:H,F/Pd(Au)(Ni), Schottky barrier height, internal photoemission meas. 7—45501
- SiO_2 layers, thermally nitrided, charge transport 7—38791
- $SrTiO_3$ surface, adsorbed H_2O, photon stimulated ion desorption 7—52276
- V evaporated films, photoemission spectra, correl. effects 7—39363
- Y_2O_3 cathode, Van de Graaff 3 MV accelerator feasibility for short electron pulses generation 7—10314
- Yb-Si (111) interface mixed valence behaviour, angle-integrated photoemission study 7—13327
- Yb_3Si_5, mixed valence behaviour, angle-integrated photoemission study 7—13327

photoemission, inverse *see inverse photoemission spectroscopy*

photoemission spectra *see photoelectron spectra*

photoemissive devices
- *see also photocathodes; photoemission*
- No entries

photoemissivity *see photoemission*

photofission
  ^{209}Bi(γ,f), photoexcitation and fission mechanisms, threshold to Δ region 7—5301
  ^{237}Np(γ,f), 5.60-8.61 MeV, fragment ang. distribs., ang. anisotropies 7—49482
  ^{232}Th(γ,f), 5.8-12 MeV, cross section meas. 7—19309
  ^{232}Th(γ,f), cross section and n multiplicity meas. 7—10177
  Th(γ,f), photofission effects in γ-activation anal. 7—54207
  U(γ,f), photofission effects in γ-activation anal. 7—54207

photoflash lamps *see flash lamps*

photogalvanic cells *see photoelectrochemical cells*

photogalvanic effects *see photoconductivity; photovoltaic effects*

photogalvanic spectra *see optogalvanic spectra*

photogalvanic spectroscopy *see optogalvanic spectroscopy*

photoglow tubes *see phototubes*

photogrammetry
  35mm camera lenses used for photogrammetry, lens distortions and calibration 7—40393
  acquisition, graphical verification subsystem 7—40618
  aerial photographs, potential precision of monocular and stereoscopic obs. 7—47317
  aerial photography, retractable camera rig for light aircraft 7—29304
  aerial survey camera trials, for Wild RC10A and Zeiss RMK A 15/23 cameras 7—28817
  biomechanics research, photogrammetric techniques using high-speed cineradiography 7—23500
  block adjustment with COBLO program for microcomputers 7—28818
  body surface measurement and replication by photogrammetry and CAD 7—54695
  cameras for aerial photography, comparison of three modern aerial cameras *(French)* 7—47307
  cartography automation conf. London, England (Sept. 1986) 7—35105
  close-range photogrammetry, parallel orientation of stereometric camera base to datum plane 7—3970
  close-range photogrammetry, photographic plate flatness errors 7—358
  computerised line-matching problem in digital cartography and photogrammetry 7—47315
  conference, Kensington, NSW, Australia (Nov. 1985) 7—35082
  digital elevation models, comparative test of photogrammetrically sampled models 7—47316
  digital elevation models, performance evaluation of two bivariate processes using transfer functions 7—3971
  digital merging of Landsat TM and digitized NHAP data for 1:24000-scale image mapping 7—40607
  fracture surfaces, semi-automated topographic mapping through stereophotogrammetry 7—13691
  geodetic deformation and surface movements data analysis by statistical methods 7—28803
  hologrammetry for automatic inspection in hostile environments 7—31280
  image displacement on film during exposure due to motion of camera platform 7—54847
  image sensors, conf., Stuttgart, Germany (Sept. 1986) 7—60886
  inshore wave obs. with analytical stereoplotter 7—4224
  lake or sea depth determination for shallow waters, photogrammetric method 7—40573
  landscape mapping using space photo imagery 7—60153
  medical application of photogrammetry for study of body movement and shape 7—28753
  non-metric cameras calibration, finite element method 7—3969
  Nubia, Egypt, aerial techniques for groundwater prospecting 7—34698
  nuclear reactor inspection appl. 7—30610
  projective transformation of space imagery into mosaics and photomaps, minimisation of Earth curvature effect 7—65922
  radarclinometry, mathematical theory and algorithm 7—34372
  real-time photogrammetric input versus digitised maps: accuracy, timeliness and cost 7—40406
  rotationally symmetrical lens distortion and image deformation 7—37086
  SEM stereophotogrammetric method and system for three-dimens. eval. of features on flat substrates 7—40377
  SEM stereophotogrammetry, comparator design 7—56384
  stereo real-time metrology with CCD cameras 7—47314
  stereo vision, depth perception vertical exaggeration 7—47313
  stereo-radargrammetry, implications of Gestalt formations for Venus Radar Mapper 7—9379
  stereocomputer, three axis, for SEM photogrammetry 7—4934
  TEM images mapping, using photogrammetric plotting system 7—41361
  thematic mapper data geodetic correction to cartographic standards 7—60425
  Thematic Mapper used for map production 7—28816
  three coordinate measuring machine, photogrammetric checking 7—56369
  VIDARS anal. station, photogrammetric tools for panoramic sector scan imagery 7—18901
  Zeiss/Oberkochen PLANICOMP family for digital mapping 7—40619
  Zeiss/Oberkochen PLANIMAP system extensions 7—40620

photographic applications
  see also photolithography; remote sensing
  2D hybrid stress analysis, laser speckle photography, image processing techniques 7—31712
  3D object repositioning using a projected grating and photographic enlarger 7—41456
  automated photographs processing from large bubble chambers 7—36411
  cavitating flow in duct, high speed cine photographic obs. 7—51240
  ceramic/metal jointed interface, strain distrib. determ., laser speckle photography *(Japanese)* 7—54037
  cloud drops, exposure by camera technique 7—55277
  computerised photographs processing from bubble chambers 7—35498
  contrast sensitivity meas., photographic-based system 7—23498
  CR-39, automatic α-track acquisition with Frascati PEPR 7—30882
  dentin, human and supporting bone, elastic modulus meas. by laser speckle photography 7—34183
  droplet field visualization and characterization via digital image analysis 7—37577
  dynamic strain meas. by high-speed moire photography 7—20673
  facial skin features, image processing algorithms and photographic techniques 7—23501
  fast measurement techniques for research in dielectrics 7—30034
  flow vel. vector, automatic determ. from pathline photograph 7—37575

photographic applications continued
  forestry and range applications of high altitude reconnaissance technology 7—23905
  fringe contrast improvement in speckle photography, speckle reduction using vibr. optical fibre 7—9889
  glow discharge, high-voltage, electron beam meas, using photographic technique 7—63376
  KS-147A LOROP camera integration into RF-5E aircraft 7—18898
  KS-147A LOROP camera system 7—18897
  KS-147A LOROP camera system for RF-5E aircraft 7—18899
  magnetooptical apparatus for transparent, magnetic materials transitions meas. 7—30048
  metals, elastoplastic problems, numerical methods, double exposure speckle photography 7—57714
  multilens cameras for high velocity/low altitude photoreconnaissance 7—41515
  natural scene colour and spatial structure, photographic colorimetry 7—41420
  Newton's laws of rigid body mechanics, proof using stroboscopic photograph 7—55927
  optique applications to photography and television 7—3793
  organic liquid, multiple bubble collapse, high speed photography *(Chinese)* 7—11518
  orthoprojector optics design 7—50709
  PMMA, rubber toughened, dynamic crack propag., high speed photographic, transmitted caustics 7—39638
  progress of photography in 1985, review *(Japanese)* 7—56366
  refractive index fields, spatially extended, speckle photography 7—41431
  retinal blood flow visualisation and meas. by laser speckle photography 7—47212
  Russell effect and its use in nondestructive testing 7—46771
  speckle photography fringes, 2D digital processing, angular determ. accuracy 7—41441
  surface, 3D displacement meas. by white light speckle photography 7—29973
  underwater photography in deep ocean, National Geographic Society innovations 7—60430
  walking horse, technique to quantify skin displacement 7—28787
  X-ray oscillation photographs interpretation, crystal setting matrix determ. 7—32218
  Ag-based sensitive materials in colour photography *(Japanese)* 7—56365

photographic developers *see photographic materials*

photographic development *see photographic process*

photographic emulsions
  astronomical hypersensitisation techniques applied to photomicrography, Kodak 2415 film 7—56363
  hologram recording features on two-layer photographic material 7—43015
  IR objective testing, holographic method using graphitised photographic emulsions 7—57513
  noise level determ. for black and white photographic materials 7—15023
  Ag halide colour photographic materials *(Japanese)* 7—56358
  Ag halide emulsion multiple holographic transmission gratings 7—57267
  Ag halide materials for hologram mass production 7—25780
  Ag halides photographic plates, relief-phase holograms, copying 7—43013
  Ag ultradisperse particles in holographic emulsion, photolum. 7—33446
  AgBr, desorption of gelatin by means of sodium polystyrene sulphonate 7—15022
  AgBr films with optical absorpt., sensitizing dyes effect on ionic cond. 7—26999
  Ag$_2$HgI$_4$, photosensitivity near a superionic phase transition 7—41522

photographic filters *see optical filters*

photographic lenses
  see also aberrations
  3D camera projection system 7—50708
  35mm camera lenses used for photogrammetry, lens distortions and calibration 7—40393
  aerial survey cameras, rotationally symmetrical lens distortion and image deformation 7—37086
  angular scattering resolution meas. of lenses in array 7—43297
  aspheric lens, precision molded, for camera or compact disk systems 7—43318
  cinematograph projector, 35-mm, lens design 7—43284
  design, interactive computer program 7—50693
  design innovations 7—50674
  echelle spectrograph, camera lens system design 7—55475
  gradient-index lens system design for disc format cameras 7—30105
  IR zoom lens for thermal cameras and video equipment *(Japanese)* 7—57515
  space camera lenses, design 7—43314
  telephoto zoom lenses for 35 mm photography, design 7—50697
  testing method based on boiling phenomenon of laser speckle 7—43319

photographic light sources *see light sources; photography*

photographic material sensitivity
  astronomical hypersensitisation techniques applied to photomicrography, Kodak 2415 film 7—56363
  Cibachrome materials, permanence improvements under adverse display conditions 7—355
  colour negative film technology, recent progress *(Japanese)* 7—56364
  dichromated gelatin and light sensitivity for holographic purposes 7—25741
  fluorenone bisazo pigments, electrophotographic sensitivity *(Japanese)* 7—38611
  high speed photographic films *(Japanese)* 7—41523
  hologram recording features on two-layer photographic material 7—43015
  plates, low energy heavy molecular ion impact model 7—15028
  polyvinylcarbazole film based photoreceptor, photoinduced memory effect, appl. to laser recording *(Japanese)* 7—37076
  radiographic film and paper, sensitometry, image quality, test method 7—61394
  α-titanylphthalocyanine photoreceptors for solid-state laser beam printers *(Japanese)* 7—37077
  X-ray response, high-energy, model and meas. 7—24737
  Ag clusters, photographic role, size effects 7—15788
  Ag halides photographic plates, relief-phase holograms, copying 7—43013
  Ag-based sensitive materials in colour photography *(Japanese)* 7—56365
  AgBr films with optical absorpt., sensitizing dyes effect on ionic cond. 7—26999
  AgBr particles, spectral sensitization, dye decomposition and Ag form., efficiencies *(Japanese)* 7—35610

photographic materials
see also photographic emulsions
cellulose acetate, corona charged, electrothermographic characteristics 7—61391
cinema colour film development *(German)* 7—15021
dye solutions for transient polarisation holography, photoinduced anisotropy 7—11085
Eastman color high-speed negative film 7292, review 7—18904
fibre optic interferometer and appl. to photographic materials testing 7—30077
film role in UK TV over 50 years from 1936 7—41524
high stability developer for medical X-ray processing 7—47232
medical X-ray films, comparison of freshly exposed and preexposed control films in evaluation of processing 7—47233
phase diffraction gratings, 3-dimens., effective thickness 100 μm 7—10893
photorefractive polymer for optical recording of waveguide gratings 7—5963
photothermoplastic film for holographic interferometry 7—43016
plate, photographic, low energy heavy mol. ions impact, sensitivity estimation 7—61392
plate flatness as source of errors in close-range photogrammetry 7—358
progress of photography in 1985, review *(Japanese)* 7—56366
reflection holography, sheet film processing problems 7—25765
waste fixing solution electrolysis, programmed current control system *(Russian)* 7—35616
xerographic developer, materials design *(Japanese)* 7—56359
Ag content reduction, colour positive motion-picture films, photographic indices effect *(Russian)* 7—4905
Ag halides, image quality evaluation *(Japanese)* 7—24718
AgBr grain surface, Ag clusters, small, photolytic, oscill. of photoionisation thresholds 7—36841
SbI_3 film, photosensitive, heating effect on elec. cond., switching behaviour 7—58920
X-ray film calibration, imaging, spectroscopy, dynamic range modification 7—9932
ZnO powder-polyvinyl butyral films, dark discharge props. 7—58919

photographic process
see also photochemistry
Cibachrome materials, permanence improvements under adverse display conditions 7—355
computer controlled sound negative processing 7—4904
developing machines, film-drive system design 7—41521
dichromated gelatin and light sensitivity for holographic purposes 7—25741
donor-acceptor system, photoeffect injection sensitisation 7—45388
film processing laboratories development, state of the art and trends *(Russian)* 7—35618
latent image growth and structure model, quantum chem. CNDO calcs. of photographic process 7—28321
medical X-ray films, comparison of freshly exposed and preexposed control films in evaluation of processing 7—47233
metal plating process 7—56361
photographic process material management/quality control 7—54148
photophysical imaging processes, simulation algorithms 7—61398
progress of photography in 1985, review *(Japanese)* 7—56366
waste fixing solution electrolysis, programmed current control system *(Russian)* 7—35616
white light reflection holograms, processing techniques 7—25779
Ag, electrolytic recovery from fixing solutions, modern commercial equipment *(Russian)* 7—35612
Ag halide materials for hologram mass production 7—25780
Ag ultradisperse particles in holographic emulsion, photolum. 7—33446
Fe-tetrasulphonated phthalocyanines, photography, SERS and electrochemical studies 7—13155

photographic recording media *see photographic materials*

photographic techniques *see photography*

photography
see also cinematography; colour photography; electrophotography; microphotography; photographic applications; photographic lenses; photographic materials; photographic process; radiography; streak photography
astronomical photography, astrometric model for Tautenburg Schmidt plates 7—66432
cavitation in large scale shear flows 7—51244
chronophotography, light beam superfast scanning 7—48898
component TV signals, photographic recording 7—24719
computerised image detection system for Kiso Schmidt plates, appl. to Orion Association 7—55477
diffusely scattering objects image contrast, prod. by thick-layer transmission phase holograms 7—36921
dimensional information, translation into grey valves 7—56360
film digitisation, low cost solutions implementation 7—18893
film ends connection system in high speed processors *(Russian)* 7—35614
flow visualisation computer-aided data processing 7—6329
image quality evaluation in silver halide photography *(Japanese)* 7—24718
image registration by matching of closed loops *(Japanese)* 7—1034
imaging science education in the 1980s at thepolytechnic of Central London 7—37
Kinor film camera, crystal controlled electric drive use *(Russian)* 7—35617
MTF of photographic systems, determ. from edge traces *(German)* 7—1037
perforation wearout vs. sprocket tooth form and position *(Russian)* 7—35613
photometry, characteristic curves empirical expression 7—55480
picosecond electronic framing camera 7—20465
progress of photography in 1985, review *(Japanese)* 7—56366
radiating atoms on lamp filament, photography *(French)* 7—37080
Rao-Cramer resolution after optimal image reconstruction 7—20151
resolution of photographic device, estimate 7—50505
sealed pulse lamp for underwater photography *(Russian)* 7—61396
subpicosecond time-resolved infrared spectral photography 7—41502
surface inclination meas. by speckle photography 7—4884
X-ray, goniometer head attachments for cryst. characterisation in Weissenberg or precession geometry 7—16357
X-ray photograph darkening, eval. technique *(Czech)* 7—4936
X-ray screen-film-combinations, line spread function *(German)* 7—15044

photography continued
Ag, electrolytic recovery from fixing solutions, modern commercial equipment *(Russian)* 7—35612
CS_2 liquid, time-resolved IR spectral photography of shock-induced chemistry 7—27727

photoionisation
above threshold multiphoton ionisation 7—19805
above-threshold ionisation and electron scattering in intense laser fields 7—30992
acetylene, binding energies, ab initio HF calcs. 7—49894
acetylene, vap., REMPI and third harmonic generation 7—25612
acetylene, X-ray photoelectron spectrum study, diabatic model anal. 7—36448
active galactic nuclei, computational methods for emission-line spectrum 7—9534
active galactic nuclei, emission spectrum of high-density photoionisation models and low-ionisation lines 7—9535
alkali cluster beams, photoionis. mass spectra, abundance distribs. 7—15768
alkali earth metals, photoionisation cross sections 7—50039
alkali-metal atoms, photoionisation cross sections, ab initio RRPA calcs. 7—36462
n-alkyl benzene chromium tricarbonyls intramolecular vibr. relax. 7—5728
aniline, excited vibronic states, ion dip spectroscopy 7—19990
anthracene single and triplet states in liq. soln. photoionisation cross sections 7—25616
atom, by strong elec. fields, 1D model 7—36804
atom, threshold effects in strong-field, non-perturbative realistic model 7—36563
atomic and molecular clusters in beams, review 7—31204
atomic multiphoton autoionisation by smooth laser pulses 7—15577
atomic multipole transitions, positions of minima in multipole matrix elements 7—36550
atomic three- and four-level systems, strong field and ionisation dynamics 7—10525
atomic two-laser multiphoton ionisation, Raman-type resons. 7—50035
atoms, laser-induced autoionization from a double Fano system 7—57034
atoms, multiphoton ionisation theory, review 7—19793
atoms, photoionisation, ang. depend. electronic Green's fn., finite basis-sets 7—42570
atoms, space charge effect on electron angular distribution after multiphoton ionisation 7—15568
atoms, two-photon two-level interactions, ionisation and cascade decay effects 7—15574
atoms in a low field, review 7—898
benzene, ${}^1B_{1u}$ state, photoionis., mass and photoelectron spectra 7—42681
benzene, pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7—19958
benzene cations, energy-selected, multiphoton ionisation, TOFMS 7—10680
benzene chromium tricarbonyl-$d_0(d_6)$ deuteration effect on multiphoton dissoc. 7—5727
benzene like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7—50247
biphenyl, mol. vibr., supersonic jet spectroscopy, mol. fluoresc. and multiphoton ionisation spectra anal. 7—57129
bovine serum albumin, photoinduced ionisation by holographic relax. method 7—14046
1,3-butadiene ions, photodissoc., photoelectron photoion coincidence study, isomerisation barrier meas. 7—36711
carbon tetrafluoride, extreme UV photoexcitation study, UV fluoresc. anal. 7—36637
chloromethane, UV angle resolved photoelectron spectra using synchrotron radiation 7—50246
chlorotrifluoromethane, partial photoionis. cross sections, 27-70 eV 7—36708
chrysene, single and triplet states in liq. soln. photoionisation cross sections 7—25616
cluster dissociation dynamics following multiphoton ionisation 7—20082
complex scaling method appl. 7—42565
Crab Nebula, element abundances in filaments from photoionisation models 7—40904
η-cyclopentadienylnickel nitrosyl, dissoc. and multiphoton ionis., photofragment spectroscopy 7—50281
diatomic molecules, dissociative single and double photoionisation, photoion spectra anal. 7—19984
diatomic molecules, photoemission processes, ab initio calcs. 7—19676
1,4-dichlorobenzene, laser multiphoton ionisation fragmentation by linear reflection, kinetic energy release 7—36710
1,4-dichlorobenzene, multiphoton ionisation dissoc. by two-colour picosecond laser mass spectrometry 7—31135
1,4-dichlorobenzene, unimol. ionic form. rates, determ., pulsed laser-line. reflection TOF mass spectrometry 7—15667
dichlorodifluoromethane, partial photoionis. cross sections, 27-70 eV 7—36708
discrete states in the continuum, generation by coupling of bound states 7—36509
electron-atom collisions in external laser field, n-phonon processes 7—50038
ethane, ionisation by X-rays, effect of fluid density on energy absorpt. 7—31920
ethanol, photoionisation mass spectra, temp. effect 7—46818
ethylene photoionisation, ground state inversion pot., multicentre diffr. effects 7—947
ethylene-HCl van der Waals mol., dissociation energies and heats of formation, photoionisation study 7—19966
fluorene, single and triplet states in liq. soln. photoionisation cross sections 7—25616
fluoroform, partial photoionis. cross sections, 27-70 eV 7—36708
fluoromethane, dissociative photoionis., translational energy disposal and mechanisms 7—10663
fluoromethane, UV angle resolved photoelectron spectra using synchrotron radiation 7—50246
FT photoelectron spectroscopy, correl. fn. and harmonic oscillator approx. 7—10665
gas stream, photoionisation method for at. and mol. concs. determ. 7—39937
halogenated aromatic hydrocarbons, resonant two photon ionization in supersonic beams 7—19961
heavy atoms, photoionisation, Cooper minima, relativistic effects 7—36561

photoionisation continued
heavy clusters, ionis. dynamics, cluster ion-photoelectron coincidence 7−15791
n-hexane, photoionisation mass spectra, temp. effect 7−46818
high-Z elements, Ll, Lα, Lβ and Lγ X-ray prod. cross sections, meas. 7−19801
highly symmetric mols., two-photon transitions, molecules, magneto-optical interaction 7−10691
ice, cubic, proton transport, FTIR obs. 7−53340
inert gas atoms, multiple ionisation by intense laser pulse 7−62332
inert gas atoms ionisation by CO_2 laser, nonlinearity 7−62335
inert gases, multiphoton ionisation study 7−19798
inert gases multiphoton ionization in intense ultraviolet laser fields 7−19797
intergalactic medium photoionisation, dynamics of cosmological H II region 7−40938
interstellar bubbles, photoionisation contrib. to structure and evolution is multiphase interstellar medium 7−60764
interstellar medium, UV ionisation model for galactic halo gas 7−24171
interstellar S chem. in mol. shocks 7−48048
iodomethane, multiphoton ionisation 7−42698
ionisation spectra calc., Green's function method 7−36684
ionised gases, atomic and mol. physics, conf. Greifswald, Germany (Aug. 1986) 7−18499
ions, ionic and point-Coulomb relativistic Cooper minima, independent particle approx. calcs. 7−62276
laser induced two-photon ionisation absorption, seeding agents for particle track simulation 7−5540
laser spectroscopy, principles and appls. *(Slovak)* 7−24706
laser ultrasensitive high-resolution spectroscopy ofshort-lived radioactive atoms 7−10522
laser-plasma detection using biharmonic Nd laser 7−44254
laser-produced plasma for pulsed ion beam research 7−25291
metal β-diketonate, multiphoton ionisation mass spectra 7−19960
metal clusters, ionisation threshold, photoionisation TOF mass spectra 7−20085
metal clusters, photoionisation spectra, evolution, rel. to size 7−15769
methane, binding energies, ab initio HF calcs. 7−49894
methane, fine struct. near C-K edge region in photon W-value 7−19962
methane, ionisation by X-rays, effect of fluid density on energy absorpt. 7−31920
methane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7−50254
methane, photoionisation cross section, ground state inversion pot. method/diffr. theory 7−945
methane-d_0(-d_4), ionisation potential, photoionis. mass spectrosc. obs. 7−50271
methanol, multiphoton ionis., IR laser study 7−62475
methoxy(-d_3) radicals, gas-phase detection by reson.-enhanced multiphoton ionisation spectroscopy 7−31134
methyl fluoride, dissociative ionis., methylene and methyl ions, form., photoelectron spectra 7−10662
methyl fluoride clusters, photodissoc., photoionisation efficiency curves, appearance pots. 7−50435
1-methylallyl cation, photoionisation mass spectrometry, heat of form., ionisation energies, ab initio MO calcs. 7−13798
3-methylpentane, photoionisation mass spectra, temp. effect 7−46818
2-methylpyrazine singlet-triplet transitions in supersonic jet, multiphoton ionis. detect. 7−948
molecular alignment parameters, circular dichroic photoelectron angular distrib. meas. 7−36687
molecular beam studies of elementary photophysical processes 7−15700
molecular photoionisation, autoionisation struct. described using projector-operator formalism 7−42696
molecular threshold electron spectra, TEPSICO-II apparatus 7−18907
molecules, single-and multi-photon ionisation process dynamics 7−36701
monohalobenzenes, electron struct., mol. reactivities, He Penning ionisation spectra and UV photoelectron spectra anal. 7−25642
multielectron atoms, multiphoton excitation and ionisation 7−19796
multiphoton ionisation, continuum struct., high optical harmonics 7−50046
multiphoton stripping of atoms, review 7−42576
N_1^+ centre in KBr, selective two-step photoionisation using 1.06 μm radiation 7−38053
naphthalene single and triplet states in liq. soln. photoionisation cross sections 7−25616
nonlinear atomic, multi-quantum, interactions at high electric field strengths 7−20165
nonlinear processes, high order, multiphoton ionis. investig. 7−10528
open-shell atoms, ions and excited states, photoionisation 7−36562
organic vapours, photoionisation, average energy per photon 7−19970
phenetole cations, laser-induced dissoc., REMPI obs. 7−42711
phenylsilane vapour, VUV spectra and multiphoton ionisation study, photolysis prod. of Si 7−50172
photoionisation, ground state inversion pot., multicentre diffr. effects 7−947
plasma, emission characteristics, soft X-ray region, plasma diagnostics, radiative-collisional model study 7−62312
polyatomic molecules and ions, laser-induced dissoc., REMPI obs. 7−42711
ponderomotive potential, effect in above-threshold ionisation processes 7−19800
pyrazine, singlet-triplet transitions in supersonic jet, multiphoton ionis. detect. 7−948
quinone like molecules, complete valence ionisation spectra with ab initio many body Green's function method 7−50247
rare earth metals, partial photoionisation cross sections at 3d thresholds 7−57138
relativistic Cooper minima for ground-state atoms, independent-particle approx. calcs. 7−62275
resonance enhanced multiphoton ionisation spectra, reduction of 1+1 reson., populations and alignment factors 7−25621
resonant multiphoton ionisation, plasma diagnostics appls. 7−20954
satellite excitation, complementary branching ratios 7−10519
semiconductors, cubic, photoionisation of deep acceptors, drag of holes by light 7−12754
small molecules, multiple photoionisation and photodissociation, mass spectrometer and coincidence studies 7−19965
trans-stilbene, ground state, torsional motion, two-colour stimulated emission spectroscopy 7−50322
stimulated Raman scattering, off-resonant enhancement investig. 7−50148

photoionisation continued
symbiotic stars, hot star radiation model for nebular emission 7−55687
1,2,4,5-tetrafluorobenzene in supersonic jet, fluoresc. and five-photon ionisation spectra, tunnelling 7−10659
tetrafluoromethane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7−50254
tetrafluoromethane ion, lifetime, mass spectra 7−19969
tetraphenylporphyrin metal complexes, multiphoton ionisation mass spectra 7−19960
tissue-equivalent gas mixtures, photoionisation, average energy per photon 7−19970
transient species in supersonic, free jet expansion, laser induced fluoresc. 7−31099
transition dipole-solvent interaction in photoionization 7−50270
transition metal cluster oxides, high-temp. multiphoton ionis. and fragmentation 7−36835
transition metal tetraphenylporphines, multiphoton ionisation mass spectrometry 7−46885
trimethylgallium decomposition during CVD, effect of added hydrazine, multiphoton and electron ionisation mass analysis 7−23010
two-level atom, internal relax. effect on quantum fields 7−1048
uV-sustained glow discharge opening switch experiments 7−32132
van der Waals species, multiphoton ionis. 7−10694
vibrationally excited molecules, ions. by UV irrad. or electron impact, stochastic dynamics 7−19734
X-ray and UV induced ionisation of molecules 7−24001
X-ray lasers pumped by photoionisation 7−20210
p- xylene, laser ionisation time of flight mass spectra, mass resolution of 10,000 7−9918
p-xylene, resonant multiphoton ionisation dissoc. mechanism 7−8295
Ag clusters, small, photolytic, oscill. of photoionisation thresholds on AgBr grain surface 7−36841
AlF, photoionis., laser sputtering and high-temp. vaporisation reactions 7−15629
Am valence-band photoelectron spectrum interpretation 7−64875
Ar, photoionis. with synchrotron radiation, angle-resolved electron spectra 7−905
Ar, photoionisation, photoelectron and electron momentum spectroscopy 7−36560
Ar^+, $3p^44p$ configuration, multielectron photoionisation, relativistic HF calcs. 7−36567
Ar^+ photoionisation pumping via two-electron shakeup 7−20195
$Ar^++Ar(N_2)$, absolute spin-orbit state excitation cross sections, fine-struct. 7−42730
Ar^++N_2, charge exchange reactions, TEPICO method anal. 7−20076
Ar_2, excimer states, photoionisation cross sections 7−57137
ArXe, excited states, photoionisation and predissoc. 7−19959
BA, singly and doubly charged ion form. by nonlinear laser induced ionisation 7−42573
BF^+ radical cations in Ne matrix, generated by laser sputtering and high temp. sources, EPR, CI calcs. 7−25604
Ba atoms, multistep photoionisation, total angular momenta of autoionisation steps 7−50031
Ba, double Rydberg states, ionisation, two-photon and TOF mass spectra 7−19809
Ba neutral atoms, high-lying states, laser pumped, two-photon spectra 7−19811
Ba^+, photoionisation absolute cross section meas. 7−50034
Bi II, $6s^26p^2\ ^3P_0$-$6s^26pnd\ ^3D_1$ series in photoabsorption 7−25469
Bi_y cluster, laser vaporisation and photoionis., TOF mass spectrometry 7−31201
C atoms, double excitation and ionisation by strong pulsed laser 7−42571
C, photoionis. cross section, generalised RPAE calcs. 7−42574
C_2, photoionisation cross section, ground state inversion pot. method/diffr. theory 7−944
CCl, pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7−19958
CH radical, electronic struct., reson. multiphoton ionisation spectra anal. 7−50240
CO, 5σ photoionis., reson. effects calcs. 7−36705
CO, $B^2\Sigma^+$ state, electronic autoionis., cross section calc. 7−15656
CO, photoionisation cross sections, ground state inversion pot./diffr. theory 7−946
CO, soft X-ray induced fragmentation, Auger electron-ion coincidence study 7−36700
CO-$Xe(NH_3)$ mixtures, photoionis. discharge, energy characts. 7−21027
CO_2, photoionisation cross sections, ground state inversion pot./diffr. theory 7−946
CO_2-$Xe(NH_3)$ mixtures, photoionis. discharge, energy characts. 7−21027
CS, $^3\Sigma^+$-$a^3\Pi$ band system, reson. enhanced multiphoton ionis. detect. 7−5663
CS_2, photoabsorpt. and photofragmentation meas. 7−62460
Ca, laser-XUV excited state spectroscopy 7−19746
CaF_2, optical damage, laser mass spectrometric study 7−58319
C_N^a(a=+or−), abundance distrib., magic numbers, photoionis. mass spectroscopic investig. 7−15759
Cd^+, alignment after photoionis., fluoresc. radiation polarisation meas. 7−890
Cd^+ photoionisation pumping via two-electron shakeup 7−20195
Cl, photodissoc., third harmonic interference, polarisation effects, MPI spectra 7−50045
Cl, photoionisation cross section at 584 Å 7−36702
Cl plasma, photo-excitation and ionisation, transition energies, orbital relax. effect 7−37651
Cl_2, photoionis. cross section meas. 7−62461
Cl_2, photoionisation cross section at 584 Å 7−36702
$CoCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7−53495
Cs, 5s ionisation, PES satellite struct., CI approach 7−62296
Cs, gas phase atoms, detect. by 2-photon resonant ionisation spectroscopy 7−42533
Cs, laser initiation of discharge channels for pulsed ion beam research 7−25291
Cs, photoionisation in 650 to 760 Å UV spectra 7−50033
Cs, resonance ionisation in presence of buffer gas collisions 7−10527
Cs, vapour, two-photon reson. four-wave mixing and multiphoton ionis. in heat pipe oven 7−901
Cs vapour in heat pipe oven, two-photon resonant four-wave mixing obs. 7−43239
D, resonant IR two-photon ionisation 7−15573
D_2O, quantum state selective detection by (2+1) REMPI 7−36706

photoionisation continued
F I, excited levels, photoionisation cross-sections, Thomas-Fermi calcs. 7—10423
F, multiphoton ionisation spectroscopy 7—10534
F_2, photoionisation cross section, ground state inversion pot. method/diffr. theory 7—944
Fe^+, excited state selected, one-colour UV multiphoton ionis. 7—36506
$FeCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7—53495
^{221}Fr, radioactive isotope detection, laser resonant photoionisation method 7—42572
Ga atom during trimethylgallium CVD reaction, multiphoton-ionisation/mass spectrometric detection 7—25471
GaAs, MISS, common anion rule, density distrib., photoionisation 7—38765
GaAs, n-type, electron-irradiated, photoionization cross sections of E levels 7—64152
GaAs-$Ga_{1-x}Al_xAs$ heterojunctions, impurities, optical props. 7—27396
GaP, MISS, common anion rule, density distrib., photoionisation 7—38765
Ge surface, GeO stabilisation on laser irrad., X-ray photoelectron spectra anal. 7—46723
H discharge, at. and mol. meas. using reson. multiphoton ionisation 7—20955
H excited states, photoionisation in strong elec. fields 7—10526
H II regions, photoionisation models rel. to abundances and ionising star temp. determ. 7—40907
H, microwave ionisation of highly excited states, stochastic effects 7—15562
H, multiphoton absorption above ionisation threshold, Sturmian expansion appl. 7—36565
H, multiphoton excitation techniques for combustion diagnostics 7—17789
H, multiphoton ionisation, time-depend. theory 7—42568
H, multiphoton ionisation by intense laser field, integral eqn. approach 7—62339
H_2, atomic data relevant to edge plasmas 7—20063
H_2, $B'^1\Sigma_u^+$ and $D^1\Pi_u$ states, REMPI, photoelectron spectra 7—62469
H_2, double photoionisation cross sections and electron energies, ab initio calcs. 7—15654
H_2, $E,F^1\Sigma_g^+$ state, REMPI, ab initio calcs. 7—62470
H_2 excited states, rot. and vibr. branching ratios, UPS 7—5725
H_2, metastable, discharge rotational temp. and density determ., resonant multiphoton ionisation method 7—44105
H_2, photodissociation of doubly excited states, Lyman-α fluoresc. spectra anal. 7—19945
H_2, photoionisation and photodissociation, six photon ionisation, vibrational levels 7—10682
H_2, resonantly enhanced multiphoton dissociative ionisation, photoelectron spectroscopy 7—15645
H_2, resonantly enhanced multiphoton dissociative ionis. meas. 7—19968
H_2, single-and multi-photon ionisation process dynamics 7—36701
H_2, stepwise two-photon ion-pair production, mol. spectroscopy 7—10683
HBr, d shell photoionisation, shape resonances study 7—19964
HCl, photoionisation cross section, ground state inversion pot. method/diffr. theory 7—944
HCl photoionisation cross section by Stieltjes technique, channel coupling effect 7—31123
HD, photoionisation, multichannel quantum defect calcs., rovibr. frame transformation theory 7—25614
HI, d shell photoionisation, shape resonances study 7—19964
H_2O, photoionis. cross-sections and asymm. parameters 7—36707
H_2O, photoionisation cross section, ground state inversion pot. method/diffr. theory 7—945
H_2O, quantum state selective detection by (2+1) REMPI 7—36706
H_2O, vap., differential cross sections, semiempirical model 7—42695
HPNH, photoionisation cross-sections, MS X α calcs. *(French)* 7—5599
H_2S, inner valence shell, photoionisation, ang. distrib. in 40 to 70 eV photon energy range 7—57131
H_2Se, photoionisation, ionisation pot. and bond energies 7—19979
H_2Se, photoionisation and autoionisation, UV spectra 7—10524
He multielectron multiphoton ionisation 7—19795
He, photoelectron satellites at threshold, photoelectron spectra anal. 7—36564
He, photoelectron satellite branching ratios, asymmetry parameters, UV PES anal. 7—62333
He, photoionisation, partial cross-sections and Rydberg series resons. 7—903
He Rydberg state, absolute photoionisation cross section 7—62331
He, threshold double photoionisation 7—19804
He^+, photoionisation production and fluorescence angular distrib. 7—25451
He^+ photoionisation pumping via two-electron shakeup 7—20195
He+He, ionis. cross section meas. 7—62494
Hg clusters, photoionisation spectra, evolution, rel. to size 7—15769
Hg, clusters form., mass spectra study 7—50430
^{197}Hg, nuclear isomer separation, for gamma-ray laser 7—10091
I, four-photon ionisation, three-photon resons., AC Stark broadening 7—57036
I, photoemission cross-section and ang. distrib. parameters, inner and outer shell ionisation 7—15565
In plasma, laser ablated inner-shell photoionisation-pumped, optical gain at 185 nm 7—20193
In sputtered excited neutral atoms vel. distrib. meas. and deexcitation model calcs. 7—875
InGaAs, MISS, common anion rule, density distrib., photoionisation 7—38765
InP, MISS, common anion rule, density distrib., photoionisation 7—38765
K, two- and three-photon ionis. 7—30993
K_N, laser photoionisation of clusters containing up to 101 atoms 7—42822
KCl:Tl, photoionisation of Tl^+, intense excitation in A-absorption band *(Russian)* 7—16554
KI:Li $(F_2^+)_A$ centre, selective two-step photoionisation using 1.06 μm radiation 7—38053
Kr, 3p excitation, multiple photoionisation cross sections, TOF mass spectrometer anal. 7—19802
Kr autoionising region, multiphoton ionisation study 7—62336
Kr, photoionization cross sections of excited states, UPES anal. 7—50241
Kr, Rydberg states, four-photon excitation 7—62328
Kr, ultrasensitive laser isotope anal. 7—19803
Kr_2, excimer states, photoionisation cross sections 7—57137
Kr_2, photoionization cross sections of excited states, UPES anal. 7—50241

photoionisation continued
KrXe, excited states, photoionisation and predissoc. 7—19959
La, resonant UPS, 5p valence band interaction, photoionisation cross section 7—15564
Li^+ pumping by soft X-rays, EUV emission 7—20196
Li_2, isotopes, laser separation, double REMPI spectra 7—42694
Li_2, optical-optical double reson. and double reson. multiphoton ionis. 7—42742
Li_2, photoionisation and Auger electron emission, HF calcs. 7—36703
Li_2, vibr. excited by optical pumping, electron impact ionisation cross sections 7—62536
Mg, multiphoton ionis. investig. 7—30994
Mg, multiphoton ionisation, DC elec. field effects 7—62337
Mn, vapour, photoelectron ang. distrib. and drag current, nondipole part 7—15575
$MnCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7—53495
Mo field evaporated ions, energy distrib. obs. and evidence for post field ionisation 7—46281
2H-MoS_2, photoionisation cross-sections for whole valence band, synchrotron radiation obs. 7—7812
N, threshold double photoionisation 7—19804
N_2, $\bar{a}^1\Pi_g$ state, REMPI 7—31121
N_2, electron and photon collision cross section 7—18513
N_2, photoelectron ang. distribs. including effects of coupling to $N_2(3\sigma g)^{-1}$ 7—36690
N_2, photoionis. cross section, HF calcs. 7—42693
N_2, photoionisation discharge plasma, decay characts. 7—21038
N_2 pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7—19958
N_2, soft X-ray absorpt., at. ion yield 7—949
N_2 soft X-ray-induced fragmentation, Auger electron-ion coincidence studies 7—42697
N_2^+, photoion, resonant excitation, rot. distrib. 7—31122
N_2+Ar, electron transfer, state-to-state study 7—10714
N_2^++Ar, absolute state to state total cross sections meas. 7—46825
NH_3, double photoionisation and fragmentation, PIPICO method anal. 7—19985
NH_3, photoionisation cross section, ground state inversion pot. method/diffr. theory 7—945
NH_3, quantum resolved molecular-beam scattering 7—15695
NH_3^++NO, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7—20028
$(NH_3)_n$ (n=2 to 5), clusters, electronically excited $\tilde{A}$ states, two-photon ionis. mass spectroscopy 7—15761
NO $A^2\Sigma^+$-$X^2\Pi$ system, reduction of 1+1 reson. enhanced multiphoton ionisation spectra 7—25622
NO, $A(^2\Sigma^+)$ state, two-photon ionis., non-Franck-Condon behaviour 7—25615
NO, excited state, circular dichroism in photoelectron ang. distribs. 7—19909
NO, photoexcitation and ionisation cross sections, Stieltjes-orbital representations, HF calcs. 7—19677
NO, photofragment, REMPI and TOF mass spectra 7—25613
NO, rot. resolved laser photoelectron spectra, propensity rules 7—31113
NO-Kr, van der Waals species, multiphoton ionis. 7—10694
NO-Ne, van der Waals species, multiphoton ionis. 7—10694
NO^++NH_3, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7—20028
NO_2, photodissoc. REMPI study of photofragment energy 7—42709
N_2O, electronic autoionisation studies using vibr. resolved const. ionic spectroscopy, dispersed fluoresc. 7—25592
N_2O, photoionis. dynamics and vibr. branching ratios, fluoresc. spectra 7—15653
N_2O, photoionisation cross sections, ground state inversion pot./diffr. theory 7—946
Na, 3P state, photoionization polarization and correlation characteristics, energy dependence 7—5648
Na ion formation in vapour containing laser selected Rydberg atoms 7—10462
Na, laser excitation, competition between photoionization and two-photon Raman coupling 7—10529
Na, vapour, light-induced current calcs. and meas. 7—44096
Na+electronegative molecule, thermal collisions, laser-induced ionis. mechanism 7—62488
Na_2 photoionisation pumping via two-electron shakeup 7—20195
NaCl:Tl, photoionisation of Tl^+, intense excitation in A-absorption band *(Russian)* 7—16554
Ne, photoelectron satellites at threshold, photoelectron spectra anal. 7—36564
Ne, photoionis. with synchrotron radiation, angle-resolved electron spectra 7—905
Ne_2, excimer states, photoionisation cross sections 7—57137
NeXe excited states, photoionisation and predissoc. 7—19959
NiCO, single-and multi-photon ionisation process dynamics 7—36701
$NiCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7—53495
O, multiphoton excitation techniques for combustion diagnostics 7—17789
O, photoionis. cross section, generalised RPAE calcs. 7—42574
O_2, $C^3\Pi_g$ Rydberg state, excited-state photoelectron spectra 7—50250
O_2, photoionis. cross section, HF calcs. 7—42693
O_2, photoproduction cross sections, mass spectrometry, photoionisation and photodissociation 7—10681
O_2^+ predissociative photoionisation, triple coincidence, double time-of-flight study 7—36709
O_2^+, $X^2\Pi_g$ vibr. branching ratios, 905-1000 Å, autoionis. effect 7—50272
Pb, 6p subshell, admixed state effect on photoionisation 7—25470
Pd isoelectronic series, 4^{10} subshell, photoionis. and electron impact ionis. 7—902
Pr, resonant UPS, 5p valence band interaction, photoionisation cross section 7—15564
Ra atom, relativistic splittings of Cooper minima, RRPA study 7—862
Ra, photoionisation, 20-channel relativistic random phase calcs., interchannel coupling 7—36566
Rb transient excitation produced by nonresonant laser pulses 7—15569
Rh (111), clean and with adsorbed O, ion bombarded, desorbed atoms distributions 7—22420
S, UV photoionisation and autoionisation 7—10523
SF_6, dissociative photoionisation, triple coincidence, double time-of-flight study 7—36709

photoionisation continued
SO_2^{2+}, double photoionisation, photoelectron ion-ion triple coincidence technique 7−50248
Sb_x cluster, laser vaporisation and photoionis., TOF mass spectrometry 7−31201
Sb_xBi_y cluster, laser vaporisation and photoionis., TOF mass spectrometry 7−31201
Se, photoionisation and autoionisation, UV spectra 7−10524
SeH, photoionisation, ionisation pot. and bond energies 7−19979
Si:Mn, optical props. *(Chinese)* 7−33043
SiH_n, (n=1 to 4), photoion yield and thresholds, photoionisation mass spectra study 7−50242
$SiH_3(D_3)$, ions and radicals, pot. energy curves and electron affinities determ., photoelectron spectra anal. 7−25603
Sm, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
Sr, autoionizing levels meas. *(Chinese)* 7−5645
Sr ions, in air-acetylene flame, time decay, laser-induced ionis. detect. 7−62316
Sr, singly and doubly charged ion form. by nonlinear laser induced ionisation 7−42573
Sr^+−Ba mixture, laser-induced charge exchange, quasi-mol. model, fluores. anal. 7−36748
Tb, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
Te_2, isotope selective ionization 7−36699
Ti^+ excited state selected, one-colour UV multiphoton ionis. 7−36506
Tl atoms, detection using resonance ionisation 7−15570
V^+, excited state selected, one-colour UV multiphoton ionis. 7−36506
Xe, 4p excitation, multiple photoionisation cross sections, TOF mass spectrometer anal. 7−19802
Xe, 5p photoionis., angle- and spin-resolved photoelectron spectroscopy, expt. charactn. 7−904
Xe, 6s state, three-photon excitation and four-wave-mixing, two-colour interference effect 7−19812
Xe, above-threshold multiphoton ionisation, circularly and linearly polarised light, PES spectra study 7−62338
Xe, autoionisation under two- and three-phonon excitation 7−15561
Xe, autoionising region, multiphoton ionisation study 7−62336
Xe ion laser, short-wavelength, pumped by Auger decay, obs. 7−36938
Xe ionisation, photoelectron angular distrib. 7−19794
Xe multielectron multiphoton ionisation 7−19795
Xe multiphoton ionisation, suppression with circularly polarisation coherent light 7−19792
Xe, multiphoton ionisation, final state redistribution, electron energy spectra anal. 7−25468
Xe, multiphoton ionisation spectrum, space charge elimination pulse polarisation effects 7−15567
Xe, multiphoton ionisation study 7−19798
Xe, multiphoton ionisation 7−62330
Xe, multiple photoionisation, charge state of ions, TOF mass spectra anal. 7−50036
Xe, photoelectron angular distributions, ponderomotive effects 7−50037
Xe, photoionis. with synchrotron radiation, angle-resolved electron spectra 7−905
Xe photoionisation, photoelectron and electron momentum spectroscopy 7−36560
Xe, Rydberg states, four-photon excitation 7−62328
Xe, two-photon one-electron ionisation cross sections, RPA, LDA HF calcs. 7−49912
Xe-Ar, laser-induced collisional energy transfer, multiphoton ionisation study 7−57152
Xe_2, excited states, photoionisation and predissoc. 7−19959
XeF* laser pumping by Xe_2* excimer emission, photoionisation cross section determ. 7−31306
Yb, photoionisation, relativistic RPA calcs. 7−42567
Zn, detection and study by laser-enhanced ions. spectrometry 7−54202
Zn^+, alignment after photoionis., fluoresc. radiation polarisation meas. 7−890
Zr, ionis. pot. determ., two laser field-ionis. spectroscopy 7−5650
Zr, metal beam, laser prod. and diagnostics, rel. to isotope separation 7−42783

photoisomerisation *see photochemistry*

photolithography
see also masks; photoresists; X-ray lithography
acoustic microscope planar focusing lens design and operation 7−1341
blazed grating fabricated by synchrotron radiation lithography 7−37125
kinoform lens fabrication errors, effect on pupil function 7−25739
laser noise reduction with power stabilizers 7−5900
scale dividing, optical problems *(German)* 7−30106
soft X-ray lenses for X-ray microscopy, UV-holographic lithography fabrication 7−35652
Ag/AgCl electrodes fabricated with IC-compatible technologies, chemical sensor reference appl. 7−8343
As_2S_3 amorphous chalcogenide optical grid, submicron resolution, VLSI appls. 7−48899
Au-InP high-speed internal photoemission detectors enhanced by grating coupling to surface plasma waves 7−52688
Ge, multipoint field photocathodes, fabrication and emission characteristics 7−13323

photoluminescence
see also fluorescence; phosphorescence

Al_2O_3:Cr,Ga, Cr-Ga complexes, energy transfer 7−22321
alkali iodide crystals, luminesc. induced by photo-generated excitons, excitation spectra struct. 7−46103
anthracene crysts., polaritons, picosecond secondary emission studies 7−21825
anthracene single crysts., dislocation photolum. study, exciton scatt. effects *(Russian)* 7−22343
bis-tetraethylammonium manganese tetrabromide crystals, deformation-induced after-glow 7−64705
CdTe films, MBE growth, photoluminescence and TEM characterisation 7−22376
conference, Rovno, USSR (Nov. 1984) 7−24263
depolarisation of photolum. emitted by III-V semiconductors, determ. 7−53392
diamond, brown, vibronic coupling to nearly localised modes in luminescing bands 7−51980

photoluminescence continued
diamond, electron beam irrad., vacancies, photoluminescence, radiative decay time meas. 7−46107
4,4′-dibromobenzophenone-1,4-dibromonaphthalene in polymer films, phosphoresc. study 7−59244
trans-diphenylpolyenes in polymer film, transition moment, luminesc. 7−19943
double heterostructs., photon recycling, non-perfect optical confinement 7−33449
europium carboxylate, luminescence props. calcs. 7−42667
fluoride glass optical fibre, Pr^{3+} impurities, photoluminesc. anal. 7−37144
Fourier transform photoluminescence analysis, of trace impurities and defects in Si 7−53412
glass:Ce(Eu), stable and metastable impurity valence states, spectral props. *(Russian)* 7−27747
glass, laser damage initial stage, luminesc. and microwave absorpt. obs. 7−31375
glass with Hg ions, luminescence under strong pulsed laser irrad. 7−33427
heavy-metal fluoride glass fibres, impurity anal. using selectively excited photolum. 7−31473
II-VI semiconductor solid solutions, luminescence, exciton localisation 7−33429
III-V semiconductors, hot-electron photoluminescence, polarisation 7−46118
indole:naphthalene(anthracene)(tetracene) crysts., impurity complexes, photolum., thermolum. and absorpt. spectra studies *(Russian)* 7−46139
inert gas crystals, surface or bulk location of self-trapped excitons, luminesc. 7−46129
InP:Cu, band-edge photolum. quenching, impurity recomb. centre effects study 7−39177
ionic crystals, broad gap, luminescence, synchrotron radiation studies 7−33432
ionic crystals, recombination luminescence optical detection of magnetic resonance studies 7−33435
IR photoluminescence by Fourier transform spectroscopy 7−46134
laser diode heterostructures LPE growth on InP:S substrate, substrate quality evaluation 7−32453
liquid crystal anisotropic matrix, energy transfer 7−64693
metal oxides, intrinsic shortwave luminescence and electron excitation properties 7−33430
methylmethacrylate-dimethacrylate oxymethylanthracene polymer blend, γ-irrad., recomb. luminesc. spectra anal. 7−46145
nematic liq. crystal, impurity-molecule luminescence, rotational depolarisation kinetics 7−51629
ordered perovskites, Cr impurity photolum. thermal quenching, linear and quadratic coupling model calcs. 7−3085
p-type semiconductors, heavily doped, band-gap shifts 7−22333
parametric amplification sampling spectroscopy of luminescence, subpicosecond resolution in 1-16 μm range 7−9908
α-perylene, crysts., excitons, hydrostatic press. effects 7−52430
poly(ethylene oxide-propylene oxide-ethylene oxide) block copolymers, photoluminesc. probes 7−13199
cis-polyacetylene, photolum. quenching, lattice relax. approach 7−64698
polythiophene films, photolum. quenching by electrochemical doping 7−59254
polyvinyl carbazole donor-acceptor complexes, luminesc. and photoemission spectra 7−46115
quantum well structures, electro-optic props., device applications *(Japanese)* 7−22223
quantum well structures, linear optical props. elec. field depend. waveguide electroabsorpt. and sum rules 7−13133
quartz, X-ray induced blue luminescence, polarisation studies 7−3086
rare earth cpds., $RSc_3(BO_3)_4$, (R=Ce,Pr,Nd,Sm), preparation, struct. and props. 7−1968
rare earth trifluorides:Nd^{3+}, absorption and luminescence spectra, Stark sublevels 7−3077
reactive ion etching, AES, photoluminescence, SEM obs. 7−65241
scheelite structure crysts., optical and elec. props. 7−33431
semiconductor clusters, zero-dimensional excitons, optical spectra and luminesc. 7−12615
semiconductor doping superlattices, physics and applications 7−52826
semiconductor double heterostructures, luminescence radiation photon recycling 7−13208
semiconductor materials characterisation, electron, ion, X-ray and optical probe methods 7−27203
semiconductors, FIR absorption and near-IR photoluminescence spectroscopy of bound excitons 7−39122
sodium salicylate, relative fluorescent efficiency between 90 and 800 eV 7−13187
superlattices, microstructures and microdevices, conf., Goteborg, Sweden (Aug. 1986) 7−35097
synthetic silica glass, X-ray induced absorpt. and luminesc., heat treatment effects study 7−7733
terbium carboxylate, luminescence props. calcs. 7−42667
TGS:Fe^{3+} crystals, spatially distributed defects, luminescence studies 7−26770
tunnel junctions, prism coupled light emission 7−38770
X-ray phosphors, efficiency, light storage, and image information content 7−33425
AG, hot electron luminescence 7−17337
Ag clusters, SHG enhancement by transient resonances, laser induced luminesc. 7−20325
Ag ultradisperse particles in holographic emulsion, photolum. 7−33446
Ag_3AsS_3 undoped proustite crystals, photolum. obs. 7−33445
AgBr:Rh^{3+}, IR radiative recomb. 7−7748
$AgNa(NO_2)_2$, low temp. triplet exciton decay, photolum. decay temp. depend. meas. 7−21821
(Al, Ga)As/GaAs undoped quantum wells, Al and Ga interdiffusion, photoluminesc. study 7−2271
AlAs:Si MBE layers, photoluminesc. 7−39160
AlAs/GaAs superlattices, X-point excitons 7−33069
AlAs-GaAs quantum-wells, low temp. growth by modified MBE 7−39386
AlAs-GaAs superlattice waveguides in separate confinement heterostructure laser diodes, threshold current density 7−20267
Al_xGa_{1-x} As-GaAs multiple quantum wells, photoluminescence studies, press. depend. *(Chinese)* 7−13194
AlGaAs superlattice for visible laser diode, energy band structure *(Japanese)* 7−12823
AlGaAs:Sb, MBE growth, Sb doping 7−2038

photoluminescence continued

- AlGaAs/AlAs multiquantum-well structs., staggered band alignments 7—7361
- AlGaAs/GaAs, abrupt heterojunction structures, large area uniformity, MOVPE reactor design, photolum. studies 7—22524
- AlGaAs-GaAs, band-gap discontinuity, determ. by quantum oscillations of photolum. intensity 7—13217
- AlGaAs-GaAs single quantum well, MBE growth interruption, well width fluctuations 7—7865
- AlGaAs-GaAs single quantum wells with growth interrupted heterointerfaces, photoluminesc. 7—39168
- $Al_{0.26}Ga_{0.74}As$, instability of electron-nuclear spin system in strong mag. field, luminesc. study 7—7729
- $Al_{0.28}Ga_{0.72}As$, photoluminescence half-width and intensity, temp. depend. 7—39179
- $Al_{0.3}Ga_{0.7}As$-GaAs quantum well structure, electric-field-induced optical modulation, theory using Monte Carlo approach 7—17077
- $Al_{0.4}Ga_{0.6}As$-GaAs, intrabarrier recomb., luminesc. spectra anal. 7—53387
- $Al_xGa_{1-x}As$ films and multilayer structures, MOCVD growth and characterisation, review 7—33586
- $Al_xGa_{1-x}As$ MBE layers, deep electron traps, flux ratio effects 7—12641
- $Al_xGa_{1-x}As$:Be epitaxial layers, ion implanted, rapid thermal annealing 7—21257
- $Al_xGa_{1-x}As$:Mg/GaAs:Se quantum well heterostruct., photopumped laser operation 7—25818
- $Al_xGa_{1-x}As$:Si, deep donor centres 7—45217
- $Al_xGa_{1-x}As$:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7—21242
- $Al_xGa_{1-x}As$/GaAs quantum wells, photolum., periodic variation investig. 7—2688
- AlGaInP, MOCVD, photolum., quantum wells, double heterostruct. laser appl. 7—39405
- $Al_xGa_{1-x}N$, photoluminescence in the edge emission region 7—27778
- $Al_{0.48}In_{0.52}As$:Si, MBE grown, crystalline and optical props. 7—52322
- $Al_{0.48}In_{0.52}As$-$Ga_{0.47}In_{0.53}As$ SQW, electron temp. depend. on well width, photolum. obs. 7—12810
- $Al_{1-x}In_xAs$-GaAs strained layer superlattices, X-ray diffraction and excitation spectroscopy studies 7—12853
- Al_2O_3:V^{4+}, UV-visible absorpt. and luminesc. study 7—33447
- Al_2O_3-B_2O_3-SiO_2-Cu_2O glass, Cu activated, photoconductivity, lumin., influence of radiation defects 7—45381
- Al_2O_3-SiO_2:Cr mullite transparent glass ceramics, Cr^{3+} luminesc. 7—46102
- AlSb, hot electron luminesc. 7—46119
- Ar, solid, energy transfer during ion bombard. 7—64842
- As_2Se_3 single crystals, geminate pair recomb., photocond., photoluminescence meas. 7—38581
- BaFCl:$Sm^{3+}(Eu^{3+})(Gd^{3+})(Ho^{3+})(Er^{3+})(Yb^{3+})$, charge transfer excitation and emission spectra 7—64688
- $BaLaGa_3O_7$, luminescence props. 7—27768
- BiB_3O_6 and $Bi_3B_5O_{12}$, luminesc. studies, optical absorpt. edge 7—13209
- $Bi_{12}GeO_{20}$, pure and doped crystals phys. props. 7—7283
- $Bi_4Ge_3O_{12}$, luminescence excitation and reflection spectra 7—46090
- $Bi_{12}SiO_{20}$, pure and doped crystals phys. props. 7—7283
- $Ca_3Al_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7—53404
- $CaCrO_4$, spin-triplet state, luminescence and ODMR 7—64686
- CaF_2, epitaxial growth on GaAs (100)(111) 7—59437
- CaF_2:Ce, Mn crysts., energy transfer, optical absorpt. and luminesc. studies, X-ray irrad. effects 7—27773
- CaF_2:Ce,Mn, optically active sites, optical spectra 7—22305
- CaF_2:O crystals, O-vacancy centres, optical props. 7—7722
- CaF_2:Sm^{2+},Nd^{3+} energy transfer efficiency 7—7734
- $Ca_3Ga_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7—53404
- $Ca_3Ga_4O_9$:Nd^{3+}, luminescence and absorption spectra and stimulated emission 7—7732
- $Ca_{2-x}Nd_xGa_{2+x}Si_{1-x}O_7$, Ga gehlenite, cryst. struct. and optical props. 7—16525
- $Ca_3Sc_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7—53404
- $Ca_3Y_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7—53404
- Cd chalcogenides, cryst. growth by SSSR-zone melting method, photolum. 7—64897
- CdI_2, interband two-photon absorpt., freq. depend. 7—33451
- CdI_2:Br, indirect excitons, isoelectronic impurity effects, luminesc. spectra 7—27255
- $CdIn_2(Ga_2)S_4$ single crysts., phase transforms., photoluminesc. studies 7—2171
- $CdIn_2S_4$ optical props., annealing and γ-ray irradiation effects 7—13211
- $Cd_{1-x}Mn_xS$, crystal growth and charact. *(Japanese)* 7—7829
- $Cd_{1-x}Mn_xTe$ exciton localisation, time resolved photolum. study 7—46106
- $Cd_{1-x}Mn_xTe$, photoluminescence position and lifetime 7—13205
- $Cd_{1-x}Mn_xTe(Se)$, mag. field-induced exchange effects, photolum. meas. 7—27705
- CdS based ceramics, radiative recomb. at high excitation levels *(Russian)* 7—3090
- CdS crystal growth and charact. *(Japanese)* 7—7829
- CdS crystals, surface polaritons, luminescence 7—64098
- CdS, electron beam irradiated, red flash-like luminescent centres, annealing 7—7740
- CdS, electron-hole exchange interaction for donor-acceptor pairs as a function of separation distance 7—52537
- CdS, film, charge transport, rel. to electrophysical props. 7—17121
- CdS particles deposited on porous vycor glass electron transfer and photoluminesc. dynamics 7—64678
- CdS, photolum., exciton scatt. from defects and impurities, depend. on exciting light intensity 7—39156
- CdS plastically deformed cryst., reorientable defects, polarised luminesc. study 7—51749
- CdS single crysts., nonequilib. high-temp. vacuum annealing effects, intrinsic defect transform. 7—58764
- CdS/polymer composites, degenerate four-wave mixing 7—62795
- CdSe, exciton luminesc., polarisation depend. 7—59248
- CdSe, photogenerated high density electron-hole plasma, energy relax., rapid expansion 7—33039
- CdSe, stimulated photolum. 7—27776
- CdSe, strongly excited, electron-phonon interaction screening, luminesc. meas. 7—38606

photoluminescence continued

- CdSe:Cu films, radiative recomb. centres form., photolum. spectra studies *(Russian)* 7—33453
- $CdSe_xTe_{1-x}$, bound excitons, thermal dissoc., photoluminescence, reflectivity meas. 7—46122
- $CdSe_xTe_{1-x}$, bowing parameter of direct band gap, press. depend. 7—38453
- n-$CdSnAs_2$, photoluminescence 7—53393
- CdTe : $B^+(Cu^+)$ ion implantation damage, rapid thermal annealing, photolum. anal. 7—39162
- CdTe (001) films, MBE grown on InSb substrates, low temp. photolum. studies 7—22317
- CdTe epitaxial layers, MBE growth on GaAs substrates, photoluminesc. 7—46083
- CdTe grown on Si by LPMOCVD, physical props., photolum., exciton related emission peak 7—27181
- CdTe, MBE growth on GaAs substrates, struct. and optical props. 7—64907
- CdTe, MBE growth on Si using (Ca, Ba)F_2 buffer layer 7—46325
- CdTe MOVPE growth on InSb substrate, characts. 7—27920
- CdTe, OMVPE growth on InSb substrates 7—33577
- CdTe:In, photocorrosion, vacancies, photoluminescence spectra 7—27948
- CdTe/(Cd,Mn)Te superlattice, optical props. heterointerface effects 7—7736
- CdTe-CdMnTe, quantum wells, excitons and kinetics 7—12622
- CdTe-CdMnTe superlattices, photoluminesc. props. 7—13218
- CdZnTe, MBE growth on GaAs substrates, struct. and optical props. 7—64907
- $Cd_xZn_{1-x}Te$, second-order optical process, transient behavior, luminesc., Raman scatt. 7—64689
- Ce doped fluoride elpasolites, 5d-4f spectra, impact of ion-host interactions 7—39143
- CeF_3, epitaxial growth on Si (111) 7—59437
- $Cs_2NaHoBr_6$, excitation, electronic absorpt. and luminesc. spectra, crystal field splittings 7—46088
- Cs_2NaYCl_6:Cr, impurity photolum. spectra and lifetimes, thermal quenching and temp. depend. studies 7—3084
- Cu (I) iodide complexes, tetrameric, photoluminesc. 7—33437
- Cu/nS_2 films, LPE growth 7—46359
- CuCl microcrystals, excitons, size quantisation effects, luminesc. spectra anal. 7—53409
- CuCl single cryst. thin films, resonant two-photon absorption and emission 7—22310
- $CuInS_2$, heterogeneous, VLS growth, electronic defects, photocurrent spectra, photolum., EBIC analysis 7—27288
- $CuInSe_2$ polycrystalline thin film solar cells, donor-acceptor pair luminescence 7—17890
- Eu complexes, Eu(III)ethylenediamine tetraacetate and Eu(III)bis-citric acid, polarised luminescence studies 7—22313
- Eu^{3+} ions in liquid solution, luminescence, selective excitation 7—3089
- $Eu_2(MoO_4)_3$, nonresonant energy transfer between two different Eu^{3+} ion sites 7—46125
- $Eu(NO_3)_3.6H_2O$, soln., anomalous temp. depend. of luminesc. decay 7—46116
- $Ga_{0.60}Al_{0.40}As$, electron-hole plasma diffusion, spatially resolved gain and luminesce. spectra 7—12747
- $Ga_{0.65}Al_{0.35}As$-GaAs quantum wells, elect. field-induced decrease of exciton lifetimes 7—45481
- $Ga_{0.8}Al_{0.2}As$-GaAs-$Ga_{0.8}Al_{0.2}As$ quantum well structs., electroreflectance spectra, model 7—33365
- $Ga_{1-x}Al_xAs$, indirect-gap crystals, hot photolum., polarisation characts. 7—46092
- $Ga_{1-x}Al_xAs-GaAs$ superlattice, exciton CW-photoluminesc., excitation intensity depend. 7—59252
- GaAs (100), ambient induced surface effects, O adsorption, photolum., conductivity 7—45429
- GaAs (100), surface Fermi level unpinning in air using photochem. 7—2655
- GaAs, atomic layer epitaxy growth, photolum., Hall meas. 7—22527
- GaAs, band-gap shifts 7—22333
- GaAs, conduction band, deformation splitting and intervalley scattering, hot photoluminesc. study 7—2548
- GaAs, Czochralski grown, defect. conc., spatially resolved photoluminesc. 7—22341
- GaAs, dielectric protective coatings during heat treatment 7—33852
- GaAs, dislocation-complex defect interactions, photoluminescence studies 7—16608
- GaAs doping superlattices, temp. depend. of tunable lumin. 7—39182
- GaAs doping superlattices, pulsed and CW photoluminescence obs. 7—46138
- GaAs, electron-hole plasma diffusion, spatially resolved gain and luminesc. spectra 7—12747
- GaAs, emission lines, lifetimes and ionisation energies 7—22306
- GaAs epilayers, plasma enhanced metalorganic CVD 7—46336
- GaAs epitaxial films, MOCVD growth using tertiarybutylarsine source 7—59439
- GaAs epitaxial layers, MOCVD grown, influence of growth parameters on residual impurities 7—7047
- GaAs epitaxial layers, OMCVD growth, optimisation using photoluminesc. analysis 7—39396
- GaAs epitaxial layers, MOCVD growth, boundary layer effects, photoluminesc. study 7—64923
- GaAs epitaxial layers grown directly on Si (100) by low press. MOVPE, intrinsic photolum. 7—27924
- GaAs high quality layers grown on Si by MOCVD, photolum. intensity 7—27922
- GaAs, highly doped, polarised hot electron photoluminescence 7—46121
- GaAs, homoepitaxial growth, cross hatch defect structure 7—45054
- GaAs, hot anti-Stokes luminesc., picosecond spectroscopy 7—22336
- GaAs, hot optically excited carriers in a spin-split-off subband, energy relax. 7—22302
- GaAs, hydride VPE layers, deep level incorporation and background doping 7—17120
- GaAs, laser MOVPE growth 7—33580
- GaAs layers, MOVPE, Zn acceptor impurities, magnetophotolum. 7—22308
- GaAs, MBE layers, deep level defects, passivation by H_2 plasma exposure 7—21850
- GaAs MBE layers on Si (100), crystalline quality, rapid thermal annealing effects 7—12519

photoluminescence continued
GaAs MOCVD growth on Ge (100) and Si (100) substrates, antiphase and single domains 7−27925
GaAs, magneto-optical photoluminescent spectra studies 7−46148
GaAs, OMVPE, low pressure growth from trimethylgallium+AsH_3 7−17439
GaAs, passivation, by a-P and alkali metal polyphosphides 7−39778
GaAs, phonon hot spot, subTHz acoustic phonon emission 7−2118
GaAs, photoholes in the spin-split band, energy relax. and spin depolarisation 7−22301
GaAs, photoluminescence lines, mag. and strain field splitting 7−3079
GaAs photoluminescence rel. to Si substrate orientation 7−53411
GaAs pure and Si, Mn or Cu doped crysts., impurity and defect props., heat treatment, photolum. studies 7−39163
GaAs quantum wells, n-modulation-doped, negative absolute mobility of holes 7−7337
GaAs, residual acceptor assessment, Raman and selective pair luminescence studies 7−26771
GaAs sawtooth doping superlattices, photoluminescence, transport props. 7−52825
GaAs, semi-insulating, photoluminescence imaging using laser scanning microscope 7−53384
GaAs, semiconducting/semi-insulating reversibility 7−21939
GaAs semiinsulating LEC wafers, radiative centres, local photoluminescence study 7−33458
GaAs, shallow acceptor levels, photoluminesc. study 7−45209
GaAs, single domain epitaxial growth on Ge (100) 7−22578
GaAs single domain layer growth on Si wafers by MOCVD/MBE, heteroepitaxy 7−52357
GaAs, substrates, multi-technique approach to defect microstructure characterisation 7−52215
GaAs, surface region, heat-treated, photoluminescence, antisite defect obs. 7−39167
GaAs, VPE growth in hydride system, elec. props. 7−2751
GaAs: S, Sn, epitaxial layers, photoluminescence spectra 7−46095
GaAs:Cr, meas. of residual stress by Cr-related luminesc. lines 7−7726
GaAs:Cr,Se, impurity complex, luminescence study 7−53396
GaAs:Cu, neutral state of deep acceptors, photoluminescence spectra, Jahn-Teller effect 7−64149
GaAs:Er MBE layer, dopant trapping level, photolum. obs. 7−44581
GaAs:In, semi-insulating substrates and ingots, In content, nondestructive meas. 7−58305
GaAs:In annealed substrates, In distribution in surface region 7−44959
GaAs:Mg MBE layers, photoluminescence 7−22295
GaAs:Nb photolum., Zeeman spectra study 7−39175
GaAs:O LEC crystals, deep photoluminesc. band, fine struct. 7−46110
GaAs:Pr(Nd)(Yb), IR photoluminescence of rare earth impurities 7−64692
GaAs:S,Si epitaxial layers, close space vapour transport growth, photoluminescence and electrical props. 7−21776
GaAs:S surface elec. props. modification by plasma exposure 7−27346
GaAs:Si, shallow donor neutralisation by atomic H, photoluminescence study 7−22294
GaAs:Si,Se MOCVD epitaxial layer photolum. spectral shift and doping efficiency obs. *(Japanese)* 7−45076
GaAs:Si/$Al_xGa_{1-x}As$ quantum wells, photolum. studies 7−39178
GaAs:Si/AlAs multiquantum well structs., band struct. and photolum. studies 7−12843
GaAs:Si(B)-$Ga_{0.25}Al_{0.75}As$:Si(B) quantum wells, ion implanted, TEM and photolum. studies 7−58865
GaAs:Sn, epitaxial layers, current carrier distrib. 7−12530
GaAs:Sn, photolum. spectra, line shape anal., conduction band to deep acceptor transition 7−46098
GaAs:Sn(Te)(Zn) surface layers, luminesc., electrophys. parameters, effect of annealing 7−64680
GaAs:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7−21242
GaAs:Te VPE, vacancy-impurity complex capture, photolum. study 7−58678
GaAs:Ti, optical spectra 7−7720
GaAs:Zn, ion-implanted, acceptor-associated emission, selective self-optical compensation effect 7−22304
GaAs:Zn epilayers, metalorganic CVD, Zn incorporation 7−63996
GaAs:Zn(C) epilayers, low pressure MOCVD growth, impurity incorporation 7−59442
GaAs/Al quantum wells, MBE growth, photoluminescence and absorption linewidth studies 7−7749
GaAs/$Al_xGa_{1-x}As$ multi-quantum well structs., photoluminescence studies 7−3078
GaAs/$Al_xGa_{1-x}As$ quantum-well bound states, valence-band offsets 7−7313
GaAs/$Al_xGa_{1-x}As$ superlattices, optical transitions involving unconfined states, barrier width depend., photolum. spectra 7−52773
GaAs/AlAs single quantum well heterostructures confined by short-period superlattices, photoluminesc. 7−22296
GaAs/AlGaAs heterostructs. on Si substrate, MOCVD and MBE growth 7−7883
GaAs/AlGaAs multi-quantum well heterostructures, optical gain, well width depend 7−46130
GaAs/AlGaAs quantum wells, MBE growth, interface disorder studies 7−7026
GaAs/AlGaAs quantum wells, MBE growth and energy levels, photoluminescence meas. 7−7067
GaAs/AlGaAs quantum wells and double heterostruct. lasers, chemical beam epitaxy, photolum. 7−22523
GaAs/AlGaAs quantum well structures, MOCVD growth, photolum., TEM obs. 7−27929
GaAs/AlGaAs single and coupled double wells, energy depend. light hole mass. photolum. spectra anal. 7−38691
GaAs/AlGaAs single heterojunction quantum well structs., photolum. characts. 7−46085
GaAs/AlGaAs single quantum wells, interrupted MBE growth and temperature-dependent optical spectra 7−46082
GaAs/GaAlAs disordered superlattices, carrier localisation obs. 7−12818
GaAs/GaAlAs double quantum well structures, ambipolar carrier transport, optical TOF study 7−12802
GaAs/GaAlAs single quantum wells, steady-state photoluminescence studies 7−7750
GaAs/GaAlAs superlattice structs., metalorganic MBE growth 7−7864
GaAs/GaAlAs ultrathin layer systems, MOCVD growth and struct. props. 7−7063

photoluminescence continued
GaAs/GaPAsSb, double heterostruct., LPE, lattice matching, X-ray diffr., luminesc. 7−58884
GaAs-(AlGa)As heterostructure, modulation-doped, valence band mixing, and optical emission 7−7344
GaAs-$Al_{0.37}Ga_{0.63}As$ quantum wells, photolum. studies, MBE growth, effect of interruption 7−39150
GaAs-$Al_{0.3}Ga_{0.7}As$, thin single quantum well, MBE growth kinetics, normal and inverted interfaces 7−45045
GaAs-$Al_{0.44}Ga_{0.56}As$ quantum wells, MBE grown, tunnelling assisted photon emission, photoluminescence meas. 7−46120
GaAs-$Al_{0.7}Ga_{0.3}As$ single quantum well, photolum., transient response to electric field, carrier lifetime 7−7757
GaAs-$Al_{0.7}Ga_{0.3}As$ SQW structure, photolum. switching by pulsed elec. field 7−13197
GaAs-$Al_xGa_{1-x}As$ MBE superlattices, low temp. photoluminesc. spectra 7−22340
GaAs-$Al_xGa_{1-x}As$ MOCVD quantum well structures, time-resolved photolum. 7−53410
GaAs-$Al_xGa_{1-x}As$ quantum well structure, recomb. dynamics, photolum. obs. 7−12809
GaAs-$Al_xGa_{1-x}As$ quantum wells, doubly reson. LO phonon Raman scatt., photoluminescence spectra 7−53327
GaAs-AlAs $Al_xGa_{1-x}As$-AlAs, multi quantum well structs., picosecond spectra. 2D excitons 7−13215
GaAs-AlAs MBE MQW struct., photoluminesc. spectra *(Chinese)* 7−59240
GaAs-AlAs multiple quantum wells, photoconductivity, photoreflectance and photolum. meas. 7−27368
GaAs-AlAs short period superlattice, photoexcited carriers, dynamics 7−53402
GaAs-AlGaAs, high quality MOVPE quantum wells, optical props. 7−53406
GaAs-AlGaAs, multiple quantum well structs., 2s state, excitons, luminesc. study 7−22337
GaAs-AlGaAs modulation-doped quantum wells, photolum., giant oscillations, influence of mag. fields 7−7751
GaAs-AlGaAs modulation-doped heterointerface, photoluminescence spectra studies 7−46137
GaAs-AlGaAs multiple quantum wells, temp. depend. of photoreflectance 7−7753
GaAs-AlGaAs multiple quantum well structs., photolum. under high laser excitation 7−13213
GaAs-AlGaAs quantum wells, picosecond photolum. photocurrent spectra 7−13214
GaAs-AlGaAs quantum wells, etched ultrasmall structs., photolum. excitation spectra meas. 7−22293
GaAs-AlGaAs quantum well structs., luminesc. from 2s heavy hole exciton, low temp. 7−22338
GaAs-AlGaAs quantum wells, MBE grown, photolum. study 7−27758
GaAs-AlGaAs quantum wells, field-induced lifetime enhancements, ionisation of excitons 7−39181
GaAs-AlGaAs quantum wells, electron-phonon scatt. rate reduction by total spatial quantisation 7−45482
GaAs-AlGaAs superlattice, hot electrons, real space transfer effect, photolum. studies 7−39180
GaAs-anodic oxide interfaces, annealing, As enrichment, photoluminescence, Rutherford backscattering anal. 7−21687
GaAs-$Ga_{0.7}Al_{0.3}As$ heterojunction, donor-acceptor radiative recomb. mechanism, photolum. spectra study 7−17083
GaAs-$Ga_{1-x}Al_xAs$ modulation-doped quantum well, photoluminesc. studies 7−2687
GaAs-$Ga_{1-x}Al_xAs$ multiple quantum wells, intrinsic and extrinsic photolum. 7−39183
GaAs-$Ga_{1-x}Al_xAs$ quantum well structures, electronic props. 7−52817
GaAs-GaAlAs heterostructure, LPE grown, interface photoluminescence spectra 7−53390
GaAs-GaAlAs modulation doped quantum wells, hot carrier energy relax., time resolved photoluminescence spectra 7−52828
GaAs-GaAlAs multiple quantum well structs., quasi-2D electron-hole plasma, band-filling effects, band gap renormalisation 7−7754
GaAs-GaAlAs quantum wells, exciton binding energy, magneto-optical determ. 7−7752
GaAs-GaAlAs quantum wells, extrinsic photolum. 7−7755
GaAs-GaAlAs quantum wells, excitonic coupling in elec. field, photolum. spectra 7−64094
GaAs-GaAs:Cr(Te), VPE grown, photoluminescence study, effect of substrate doping 7−27771
GaAs-GaAs:In epitaxial layers, dislocation reduction, device performance effects 7−7354
GaAs-Ge heteroepitaxy on Si substrates, recrystallised Ge-on-insulator intermediate layers 7−52358
GaAs-Ge-SiO_2, semiconductor MBE layers on Ge islands on insulator, photolum. study 7−33455
GaAs-$In_xGa_{1-x}As$ strained layer superlattices, photolum. microimaging of dislocations 7−27161
GaAs-ZnSe, MBE growth on GaAs epilayers, nucleation and characterisation 7−45046
$GaAs_{1-x}Al_xAs$ MQW, MOCVD grown, excitons, photoluminescence spectra 7−38702
$GaAs_{0.12}P_{0.88}$:N, Te and GaP:N, Si(Te) epitaxial layers, minority carrier lifetimes, surface and interface recombination effects 7−7424
$GaAs_{1-x}P_x$:Be^+-GaP:Be^+ strained layer superlattices, ion implantation doping, optical and elec. props., device appls. 7−44583
$GaAs_{1-x}P_x$:N epitaxial layers, N conc. determ. 7−63989
GaInAs, Czochralski-grown, dislocation effects investig. 7−7261
GaInAs-InP, quantum well structures, adduct MOVPE, photolum., magnetoresist charactn. 7−27388
$Ga_{0.47}In_{0.53}As$:Be epitaxial films, ion implanted, rapid thermal and furnace annealing 7−22729
$Ga_{0.47}In_{0.53}As$-InP superlattices, MOCVD grown, room temp. excitons 7−21986
$Ga_{47}In_{53}As$, photoluminescence line shape of excitons 7−3087
$Ga_xIn_{1-x}As$, low-pressure MOVPE growth 7−7873
$Ga_xIn_{1-x}As$/GaAs heterostructures, low press. MOVPE, photolum., Auger profiling 7−27389
$Ga_xIn_{1-x}As$-GaAs strained layer superlattices, low temp. photolum. 7−53407
GaInAsP-InP BH laser fabrication, MOCVD epitaxy, validation by photoluminescence imaging 7−31360

photoluminescence continued
GaInP-AlGaInP-GaAs heterostructures, MOVPE, Hall effect, photolum. 7—39401
$Ga_xIn_{1-x}P$ epitaxial layers, OMVPE, surface morphology, photolum. 7—22557
$Ga_xIn_{1-x}P$ layers, MOVPE, photolum., comp. and growth temp. depend. 7—39403
$Ga_xIn_{1-x}P$, OMVPE growth and characterisation 7—3192
$Ga_xIn_{1-x}P/GaAs$ ($Al_yGa_{1-y}As$) heterostructures, OMVPE, photolum., lattice matching 7—39402
GaN:Zn, pure and doped, electrophysical props., nonhomogeneous semicond. model 7—27292
GaN:Zn films, MOVPE, electron cyclotron resonance plasma excitation, low temp. growth, photolum. 7—22549
GaN:Zn(Cd), time-resolved photoluminesc. study 7—22347
GaP, deep level centres at excited states, study by transient optical absorpt. spectroscopy 7—13188
GaP single crysts., anisotropic deep centres, polarised photolum. and thermolum. studies *(Russian)* 7—21867
GaP: Te(Zn), doping superlattices, growth and props. 7—64684
GaP:Pr(Nd)(Yb), IR photoluminescence of rare earth impurities 7—64692
$GaP\text{-}GaAs_xP_{1\text{-}x}$ strained layer superlattices, photolum. microimaging of dislocations 7—27161
GaS, layered, high temp. e-h liq., radiative recomb., luminesc. spectra study 7—17343
GaSb/AlSb single quantum wells, electroreflectance and photoluminescence studies 7—46136
GaSb-AlSb multiple quantum well structs., size-induced direct to indirect gap transition 7—7373
GaSb-AlSb quantum wells, optical transitions, obs. 7—46086
GaSb-AlSb quantum-well structures, $2E_g$ transitions 7—46128
GaSb0-AlSb quantum wells, nonparabolic behaviour under hydrostatic press. 7—64328
GaSe, gamma irrad., photoluminescence spectra, temp. depend. 7—17336
GaSe, photoexcited localised excitons thermalisation, stacking disorder effects, photolum. study 7—27770
GaSe, screening of excitons by free carriers, transmission, reflection and luminescence spectra 7—38460
GaSe, spontaneous and stimulated photoluminescence studies 7—22315
GaSe:Mn single crystals, optical props. 7—27777
$GdBO_3$, luminesc. of Sb^{3+} 7—33442
$GdBO_3:Pr^{3+}$, $Tb^{3+}(Sm^{3+})(Dy^{3+})$, host lattice sensitisation, energy transfer and photolum. 7—46113
$Gd_2(MoO_4)_3:Eu^{3+}$, nonresonant energy transfer between two different Eu^{3+} ion sites 7—46125
$Gd_2O_3\text{-}P_2O_5$ phosphors, Eu^{3+} activated, luminesc. spectra, cryst. symm. 7—3080
Ge, free exciton diffusion and decay, lumin. 7—32918
Ge:Zn, electron-hole droplet transport, suppression by deep impurities 7—58746
Ge:Zn, photolum. spectrum, effect of (001) uniaxial stress 7—33450
$Hg+NH_3$, photosensitised reaction, complex form., luminesc. spectra 7—8256
HgCdTe and HgTe-CdTe superlattices, IR photolum. by Fourier transform spectroscopy 7—46134
$HgGa_2Se_4$, photocond., photoluminescence spectra, annealing and ion implantation effects 7—39152
$HgGa_2Se_4$, single cryst., deep levels, photocond. and photolum. spectra 7—7159
HgTe-CdTe superlattices, IR optical props. 7—13166
HgTe-CdTe superlattices, IR photoluminesc. spectra 7—13219
In-Ga-P-As, gap width, temp. depend. 7—12602
$In_{0.53}$ $Ga_{0.47}As$-InP, epitaxial single quantum wells, spectroscopy of excited states 7—46126
$In_{0.18}Al_{0.82}As$-GaAs strained layer superlattices, Raman studies 7—12854
$In_xAl_{1-x}As/Au$ Schottky barrier heights, composition dependence 7—45431
$In_xAl_{1-x}As/GaAs$ strained-layer superlattices, effective mass reversal 7—17078
InAs, $In_xGa_{1-x}As$, atomic layer epitaxy growth, photolum., Hall meas. 7—22527
InAs/GaAs single quantum well structures grown by atomic layer epitaxy 7—22486
InAs/GaAs strained-layer superlattices, band struct., TEM, X-ray and photolum. spectra 7—38722
InAs-GaAs strained-layer superlattices, pseudo-alloy behaviour 7—7376
InAs-GaAs superlattice, electronic props. 7—52817
$In_{0.5}G_{0.5}P$ layers, LPE, elec. and optical props. 7—17119
InGaAs/InP quantum wires and boxes, low temp. photoluminesc. 7—59238
InGaAs-InP heterostruct., rare earth doped, elec. and photoluminescence props. 7—46133
$In_{0.53}Ga_{0.47}As/In_{0.52}Al_{0.48}As$ quantum wells, lamp annealing interdiffusion and optical props. 7—12502
$In_{0.53}Ga_{0.47}As$-InP layers, photolum. and laser emission 7—7739
$In_{1-x}Ga_xAs$, MOCVD, optical and elec. props. rel. to growth temp. 7—53613
$In_xGa_{1\text{-}x}As$-GaAs single-quantum-well heterostructs., pseudomorphic, optical characterisation 7—22303
$In_xGa_{1-x}As$, gas source MBE growth 7—52361
$In_xGa_{1-x}As$, photoluminescence determ. of effects due to In alloying 7—46096
$In_xGa_{1-x}As$ pseudomorphic quantum well lasers, carrier collection and stimulated emission 7—10928
$In_xGa_{1-x}As/In_yGa_{1-y}As$ and $(InAs)_m(GaAs)_n$ superlattices, MBE grown, optical studies 7—13221
InGaAsP double heterostructures for laser diodes, LPE growth, influence of P vapour ambient 7—46355
InGaAsP, optical gain spectra, effects of energy band struct. *(Chinese)* 7—59239
InGaAsP/InP heterostructures, carrier lifetimes and quantum efficiencies, photoluminesc. studies 7—64675
InGaAsP/InP multiquantum well layers, LPE, photolum., X-ray diffr. 7—53640
InGaAsP-GaAs double heterostructures, luminescence efficiency and surface recombination velocity 7—13196
InGaAsP-InP, heterolaser struct., distributed feedback conditions, luminesc. spectra anal. 7—50561
InGaAsP-InP double heterostructures, luminescence efficiency and surface recombination velocity 7—13196

photoluminescence continued
$In_{1-x}Ga_xAs_yP_{1-y}$:Te films, Fermi energy, dopant conc. depend. 7—52867
InGaP/InGaAlP multiquantum-well laser diodes, MBE growth and characterisation 7—62689
InGaP-InGaAlP MQW structs., room temp. excitons 7—58745
$In_{1-x}Ga_xP$, epitaxial films, radiative recomb. 7—59257
InGaPAs, LPE growth on GaAs, immiscibility effects 7—39442
InGaPAs/GaAs interface stress, Cr-related luminescence study 7—46101
$InMgGaO_4$, luminescence props. 7—17341
InP (100), ambient induced surface effects, O adsorption, photolum., conductivity 7—45429
InP, dislocation-complex defect interactions, photoluminescence studies 7—16608
InP epitaxial films, MOCVD grown, identification of acceptors and donors 7—58688
InP, epitaxial films, radiative recomb. 7—59257
InP epitaxial layers, MOVPE, elec. characts., photolum. 7—22519
InP films, hydride VPE, impurity incorporation, defect charactn. 7—53614
InP, MOVPE; morphology, photolum., carrier conc. and mobility 7—22518
InP, reactive ion etching, AES, photoluminescence, SEM obs. 7—65241
InP room temp. band edge photolum. intensity interpretation 7—27762
InP surfaces, sputter etched, optoelectronic and structural props. 7—13661
InP, ultrapure, atmospheric pressure OMVPE growth 7—13375
InP:Bi thin film, epitaxy, impurity distrib., photoluminesc. spectra anal. 7—53388
InP:Fe, OMVPE grown, electronic and optical props. 7—52868
InP:Fe, optical spectra 7—53372
InP:Fe, Si-implanted and rapid thermal annealed, photoluminesc. study 7—59243
InP:Yb LPE layers, luminesc. and elec. props. 7—59464
InP/GaInAs/InP heterostructures, OMVPE, high speed p-i-n photodiodes, photolum., Hall meas. 7—27387
InP-InP:As epitaxial layers, dislocation reduction, device performance effects 7—7354
InSb, density of excited electron-hole plasma 7—38608
n-InSb, impact ionisation electron-hole pair generation, high power optical wave elec. field effect. luminesc. obs. 7—33025
InSe, excitonic luminescence, influence of macroscopic inclusions 7—13204
InSe, photoluminescence, defects effects 7—39161
In_2Se_3, layered semicond., photolum. studies 7—7746
$InZnGaO_4$, luminescence props. 7—17341
$KAlSi_3O_8:Fe^{3+}$, orthoclase, absorpt. and luminesc. spectra 7—53383
KBr, aggregate colour centres, excitation and luminesc. 7—39173
KBr crystals, resonant secondary luminescence and vibr. F-centre relax. 7—33434
$KBr:MnO_4$, low temp. resonance Raman scatt. and luminescence 7—39101
KCl, aggregate colour centres, excitation and luminesc. 7—39173
KCl, vibronic mechanisms of excitation decay, defect formation 7—39158
KCl X-ray and γ-irrad., F-centre destruction owing to subsequent laser light excitation, luminesc. spectral characts. 7—27772
KCl:Tl, luminescence, intensive KrF laser irradiation *(Russian)* 7—17340
KCl:Tl, X-ray luminescence, grain size effects *(Russian)* 7—27767
KCl(Br), F-centre near-surface generation by synchrotron radiation 7—26744
KI, exciton self-localisation, radiation defects, lumin. studies 7—64681
$KI:Tl^+$ crysts., luminescence polarisation of dimer centres 7—22335
$K_2NaSc(Ga)F_6:Cr$, impurity photolum. spectra and lifetimes, thermal quenching and temp. depend. studies 7—3084
K_2ZnCl_4, X-ray induced luminesc. and thermoluminesc. spectra anal. 7—46132
$LaBO_3$, luminesc. of Sb^{3+} 7—33442
LaF_3, epitaxial growth on Si (111) 7—59437
$La_3Ga_{5.5}Ta_{0.5}O_{14}:Nd^{3+}$, luminescence and absorption spectra and low-threshold stimulated emission 7—7731
$La_3Lu_2Ga_3O_{12}:Nd^{3+}ZZ$ 7—10957
$LiCl:Pb^{2+}$, absorpt. and luminesc. spectra studies *(Russian)* 7—46141
LiF, F_2 laser active element, optically stable component 7—43116
$LiF:U^{6+}$, cryst., luminesc. excitation of impurity centres 7—13225
$LiNbGeO_5$, luminesc. and cryst. struct. 7—32403
$LuBO_3$, luminesc. of Sb^{3+} 7—33442
$Mg_xCd_{1\text{-}x}Se$ single cryst. solid solns., local centres parameters determ. *(Russian)* 7—32953
MgF_2, colour centres, luminesc. study 7—39172
MnS thin films, luminesc. and excitation spectroscopy studies 7—7741
$NaBr:CN^-$, IR vibrational fluoresc. obs. 7—27775
NaCl, X-ray and γ-irrad., F-centre destruction owing to subsequent laser light excitation, luminesc. spectral characts. 7—27772
NaCl:Mg, X-ray irrad., exciton interactions with impurity-vacancy dipoles, absorpt. and luminesc. spectra 7—45162
NaI crystals, bound excitation X-ray induced luminesc. spectra 7—53400
NaI, luminescence excitation spectrum of self-localised excitons, phonon structure 7—39153
$\beta\text{-}Na_2O\text{-}Al_2O_3\text{-}CdO:Cr^{3+}$, luminescence spectra 7—33448
$Na_5TbSi_4O_{12}$, superionic cond., photoluminescence spectra 7—46093
Nd, in glass, energy transfer rate, luminesc. 7—13192
NdF_3, epitaxial growth on Si (111) 7—59437
Ne:Ar(Kr)(Xe), solid, local phase transition near impurity center 7—26945
^{237}Np, determ. using crystallophosphor photoluminesc. 7—33981
Os complexes, OS(VI) nitrido systems, luminesc., excited-state distortion 7—50218
P, amorphous, radiative recomb., time-resolved photolum. study 7—13212
$PbHPO_4$, photostimulated luminescence near ferroelec. Curie temp. 7—64697
PbTe heteroepitaxial films, low temp. lumin. 7—39157
PbTe-PbEuTeSe multiquantum wells, electron-hole recomb., photolum. 7—13216
RbCl crystals, resonant secondary luminescence and vibr. F-centre relax. 7—33434
RbCl, self-trapped excitons, excitation-induced atomic motion 7—21822
RbCl:I, relaxed exciton states, optical conversion 7—53397
RbI crystals, bound excitation X-ray induced luminesc. spectra 7—53400
RbI, exciton self-localisation, radiation defects, lumin. studies 7—64681
Rb_2ZnCl_4, X-ray induced luminesc. and thermoluminesc. spectra anal. 7—46132
Ru complex, Creutz-Taube complex with HUO_2PO_4, synthesis, struct. and oxidation, IR and X-ray spectra anal. 7—46840
Ru complex, $Ru(bpy)_3^{2+}$, rigid solutions, luminescence, magnetic circular polarisation 7—64685

photoluminescence continued
Sb_2S_3 single crystal optical absorption and luminescence obs., 2 to 367K *(Japanese)* 7—39151
$ScBO_3$, luminesc. of Sb^{3+} 7—33442
$ScZnGaO_4$, luminescence props. 7—17341
Si, Czochralski, electron-irradiated, DLTS and photoluminesc. studies 7—7149
Si, dislocation luminescence lines, polarisation 7—39154
Si, dislocation photoluminescence, thermal quenching effects 7—39155
Si, dislocations and electron-hole radiative recombination 7—13203
Si epitaxial layers, impurity anal. by photoluminescence spectroscopy 7—7057
Si epitaxial layers, ultrahigh-purity, photoluminesc. studies 7—45033
a-Si films, superlattice structure, photo-CVD deposition; solar cell fabrication 7—59450
Si, Fourier transform photoluminescence analysis 7—53412
Si, isoelectronic bound exciton states, spin splitting, photolum. excitation spectra study 7—2493
Si MBE layers, defect characterisation, luminesc., TEM studies 7—13227
Si, neutron-irradiated, photoluminescence study of annealing process 7—51833
Si, ribbons, γ-irradiated, defect form., photoluminesc. investig. 7—46147
Si shallow p-n junctions, reactive ion etching damage, defects and leakage current studies 7—27411
Si, thermal donor-related isoelectronic centres, exciton binding, photoluminescence studies 7—21861
Si, transition metal dopant complexes photolum., review 7—45203
Si:B MBE layers, shallow states, photoluminescence spectra, doping level depend. 7—13228
Si:C, impurity concentration determ. by photoluminesc. method 7—46084
Si:C, photolum. detection of impurities introduced by dry etching processes 7—27748
Si:C,O, photoluminescence of C-O related complex defects 7—22346
Si:Ga, electron irradiated and annealed, photoluminescence spectra 7—13206
Si:Ge, irradiated, photoluminescence spectra 7—13207
a-Si:H, charge transport and relax., luminesc. long-time tail distribs. anal. 7—39185
a-Si:H, photolum. and photoconductivity studies 7—33456
a- Si:H, photoluminescence, high temp. annealing effects 7—7745
a-Si:H, photoluminescence, thermal quenching 7—53389
a-Si:H,P(B) films, ion implanted, photoelectric and optical props. 7—38615
a-Si:H photo-CVD coatings, characterisation using TFT structure 7—38561
a-Si:H ultrathin layers, CW photoluminescence, layer thickness depend. 7—13202
a-Si:H ultrathin layers, photoluminescence characts., layer thickness depend. in variety of sample configurations 7—46123
a-Si:H/a-SiN_x:H interface, deep states and photoluminescence spectra, transistor characts. 7—39186
Si:N,O, impurity interactions in optical defects 7—17348
Si:O, new donors, bound exciton recomb., photolum. study 7—22300
Si:O, optical transition at thermal donors 7—17346
Si:Sb, pot. enhanced doping during MBE growth, elec., optical props., cryst. quality 7—12112
Si-SiC superlattice structs. prep. by photo-CVD, solar cell appl. 7—54326
α-SiC:Al,B,O crysts., photolum. and electrolum. studies *(Russian)* 7—22344
Si_3N_4, amorphous, pulsed laser excited photolum. intensity and decay meas. 7—17344
SiO_2 glass and cryst., luminescence props. 7—33428
$Sr_{0.61}Ba_{0.39}Nb_2O_6$:Ce crysts., light emission obs. during freq.-degenerate laser pumping 7—15947
$SrCrO_4$, spin-triplet state, luminescence and ODMR 7—64686
SrF_2-$2YF_3$-Er^{3+}(Ho^{3+}), interionic interaction, occupation kinetics, stimulated emission 7—46072
$TlGaS_2$ crysts., photolum., magneto-optical characts. study 7—46089
$TlGaSe_2$ single cryst., photolum. and edge absorpt. spectra 7—59241
$TlGaSe_2(S_2)$:Nd^{3+}, photoluminescence spectrum *(Russian)* 7—64682
UO_2^{2+} interaction with SO_4 ions, photoluminescence decay 7—27780
W complex, pentacarbonylpyridino W(O), single cryst., polarised low temp. luminesc. 7—3094
Xe, solid, luminescence of trapped excitons, press. effects 7—64690
$(Y,Sc)_3Ga_5O_{12}$:Cr^{3+},Er^{3+}, spectral, luminesc. and lasing props., Stark sublevel lifetimes 7—25827
YAG:Mn^{4+}, luminesc. and fluoresc. line narrowing studies 7—46105
YAG:Nd^{3+}, luminescence decay 7—17342
YAG:Nd(Nd,Ce) single crysts., luminesc. and laser props. 7—10967
YAG:Ni (Ni, Zr) (Fe)$_3$ defect and optical props. 7—59258
YBO_3, luminesc. of Sb^{3+} 7—33442
YBO_3:Ho^{3+}(Er^{3+}), nonradiative energy transfer, activator ion interactions, laser-excited luminesc. study *(Russian)* 7—22345
$Y_{1-x}Er_xF_3$ and $Y_{1-x-y}Er_xTm_yF_3$, 1.5 μm IR excitation of visible lumin. via resonant energy transfer 7—46100
Y_2O_3-P_2O_5 phosphors, Eu^{3+} activated, luminesc. spectra, cryst. symm. 7—3080
YOCl:Er, Yb, antiStokes luminesc., 1.5 μm region 7—13223
Y_2O_2S:Pr^{3+}, luminescence spectra 7—7730
Yb, in glass, energy transfer rate, luminesc. 7—13192
$ZnIn_2S_4$, recombination kinetics, photoconductivity and photoluminesc. studies 7—2637
$Zn_{1-x}Mn_xTe$, photoluminescence position and lifetime 7—13205
ZnO:Co(Ni)(Cu), impurity electron states, optical spectroscopy 7—46127
ZnS, cryst., p-type cond., luminesc. 7—13226
ZnS, epitaxial film, TEM and photoelectron study 7—53408
ZnS, fused polycryst. layers, photocond. and photolum. spectra, defect form. influence 7—46142
ZnS, interband two-photon absorpt., freq. depend. 7—33451
ZnS, MBE growth on Si (100), photoluminesc. props. 7—3174
ZnS, rare earth impurities, electrolum. of Schottky barriers, photolum., charge compensation, and impurity electron states 7—64700
ZnS, ZnSe, crystal growth by chem. transport using NH_4Cl transport agent 7—59385
ZnS:Al, Cr, Fe crystals, recomb. luminesc., EPR and photocond. meas. 7—3076
ZnS:Al, temp. depend. of visible photolum., ESR studies 7—46099
ZnS:Er, impact cross section of Er^{3+} in luminesc. spectra 7—46150
ZnS:In, photoluminescence, D-A pair emission 7—22312
ZnS:In epitaxial films, photoluminescence. decay props. 7—39166

photoluminescence continued
ZnS:TbF thin-film electroluminescent devices, excitation mechanism 7—46149
ZnS:TbF_x, sputtered thin films, electrolum. and photolum. 7—7727
ZnS-CdS:Ag,Ni,Co phosphors, photolum., energy level model 7—59245
ZnSe cryst., low press. melt growth technique, photolum., laser appl. 7—33548
ZnSe, donor-acceptor pairs, time-resolved recombination luminescence 7—39165
ZnSe epitaxial layers, MOVPE grown, elec. and photolum. props. 7—7420
ZnSe, heteroepitaxial growth on GaAs, energy band gap, elastic strain effects 7—59242
ZnSe layers on Ge (100), MBE growth and photoluminesc. 7—7858
ZnSe MBE layers on GaAs, lattice mismatch effects, TEM, photolum. and X-ray diffr. studies 7—45042
ZnSe:Al, MOCVD growth, deep level characterisation 7—52519
ZnSe:As, MOCVD growth, exciton and deep emission bands 7—52367
ZnSe:Cl layers grown by MBE, blue photoluminesc. 7—52364
ZnSe:N, MBE growth and doping, photoluminescence studies 7—27749
ZnSe:Si, single crystal growth, chem. transport method *(Korean)* 7—27880
ZnSe/(Zn,Mn)Se superlattice, optical props. heterointerface effects 7—7736
ZnSe/GaAs:Cr heterostructure, interface stress 7—38352
ZnSe-GaAs:Cr, meas. of residual stress by Cr-related luminesc. lines 7—7726
ZnSe-ZnMnSe, quantum wells, excitons and kinetics 7—12622
ZnSe-ZnMnSe strained layer superlattices, quantum confinement effects 7—27403
ZnSe-ZnMnSe superlattices, photoluminesc. props. 7—13218
ZnSe-ZnS strained-layer superlattice, low pressure MOVPE growth 7—53604
ZnSe-ZnTe strained layer superlattices, MBE growth on InP substrates 7—13366
ZnTe epilayers, chemical transport growth, photoluminesc. props. 7—39413
ZnTe:Cl(Al), crystals, vacancy-impurity complexes, ODMR studies 7—2530
ZnTe:Cu, impurity related neutral complex with bound exciton, photoluminescence, absorpt., Zeeman meas. 7—45165
ZnTe:O, hot luminesc., reson. Raman scatt. studies 7—64695
ZnTe-ZnSe superlattices, photoluminesc. 7—17339
ZnTe-ZnSe(S) superlattices, hot wall epitaxial growth and photoluminesc. props. 7—13220
$ZrSiO_4$: rare earths, luminescence-spectra props., hydrothermal synthesis methods 7—64683

photolysis
see also photodissociation
1-acetonaphthone+diphenylamine, micellar soln. photoinduced electron transfer, mag. field effects 7—3579
benzophenone in diethylaniline, photolysis, excited triplet state with charge transfer struct. 7—42753
$\Delta^{2,2'}$-bi-(2H-1,4-benzothiazine), photochromism and thermochromism, quantum yield 7—46859
bromotrichloromethane, vac. UV photolysis, dichloromethylene radical form. 7—25594
carbon tetraiodide, crystal synthesis by trifluoroiodomethane+CO_2 IR irradiation 7—46831
cellulose acetate hollow-fibre membranes, ZnTPP modified, photosensitivity and photosynthesis 7—13811
chlorin, photoisomer, in n-octane, emission anisotropy 7—57052
chlorodifluoromethane photolysis, difluoromethyl IR spectra anal. 7—19836
cyclophane diarylcarbenes, triplet-singlet equilib., structural control 7—54147
di-tert-butyl ketone, laser flash photolysis, time resolved CIDNP, multiplet and net effects 7—10617
diacyl peroxides, vib. anal. for CO_2 dimer, IR spectra 7—15597
1,8-dichloroanthraquinone, triplet, excited state dynamics, transient absorpt. spectra 7—25530
p-dichlorobenzene, mol. beam excitation, photofragment energy distrib. 7—31130
1,2-trans-dichloroethylene, vibr. distribs., time-resolved FTIR photofragment emission spectroscopy 7—25508
dihalogenomethylene sulphoxides, photochemistry, IR spectra *(German)* 7—31046
dimethylditelluride, excimer laser photolysis, laser mass spectroscopy 7—22547
diode-array spectrometer for visible and near-IR absorption 7—41488
ethene, gas, CO_2 laser irradiation, end-point anal., IR spectroscopy detect. 7—65335
formaldehyde radical + formaldehyde radical, absorpt. cross section and rate const. determ. 7—28269
heptafluoroiodopropane-O_3, laser photolysis yielding IF 7—31089
hexafluoroethane, IR multiphoton dissoc. IR absorpt. spectra 7—42710
iron arene photoinitiators for imaging, resist materials 7—28322
ketene, photolysis, methylene radical prod. 7—50155
3-methoxybenzanthrone in soln., picosecond spectroscopy of intermolecular proton phototransfer 7—54150
methyl radical+H(D), rate const. determ., laser photolysis and reson. fluoresc. 7—8250
3- methylcyclobutane in gas phase, photolysis and sensitised decompositions 7—23040
methyldioxy radical self-reaction, rate constant, flash photolysis and UV spectral study 7—54075
molecular surfaces, chemistry and physics 7—15780
MOVPE, conf., Universal City, CA, USA (Apr. 1986) 7—18477
nitrile ylides, matrix photolysis of phenyl and azidostyrenes, isotopic shift, mol. struct. FT IR spectra anal. 7—31035
nonequilibrium selecting system, quantum-mechanical model, asymmetric interactions 7—19991
phenothiazine derivative-methylviologen systems, charge separation yield 7—28323
phenylsilane vapour, VUV spectra and multiphoton ionisation study, photolysis prod. of Si 7—50172
photoconsecutive and photoparallel reactions, kinetics 7—3598
photoconsecutive reaction, kinetics, search algorithm *(German)* 7—3599
semiconductors, time-resolved dielectric loss meas. 7—64562
sensitised organic reactions, IR-laser induced, vibr. energy transfer rate control 7—65336

photolysis continued
tetrachloromethane, vac. UV photolysis, dichloromethylene radical form. 7−25594
trifluoromethyl radical$+O_2$, rate const. meas., laser photolysis and time-resolved mass spectrometry 7−8249
trimethylaluminium, pyrolysis and photolysis, Al MOCVD appl. 7−7881
unimolecular reactions of isolated collisional gas phase and solvated molecules 7−13792
vinyl chloride, vibr. distribs., time-resolved FTIR photofragment emission spectroscopy 7−25508
BI_3-CS_2(COS), vapour phase flash photolysis, electronic absorpt. spectra 7−23041
CS, vibr. excited, mm-wave rot. spectrosc. obs. 7−36595
CS_2, photofragmentation dynamics using coherent VUV for product detect. 7−19976
$Co(CO)_3NO$, photofragmentation dynamics using coherent VUV for product detect. 7−19976
Cs_2, photolysis, prompt and delayed, two photon technique 7−23043
Cu complex, photolytic decomposition for deposition of Cu films 7−53617
DCl + OH (OD), reaction rates, vibr. excitation and isotopic substitution effect 7−22996
$Fe(CO)_5$, photofragmentation dynamics using coherent VUV for product detect. 7−19976
GaAs excimer-laser-stimulated CVD, polycryst. thin film growth and props. 7−64912
Ga_2O_3, surface O photoactivation, struct. *(Russian)* 7−65352
$Ge_{40}S_{60}$, amorphous film, photoinduced bleaching 7−13618
$H+CO_2$, rot. resolved hot atom collisional excitation by time-resolved diode laser spectra 7−10731
HO_2+HO_2, rate constant, flash photolysis and UV spectral study 7−54075
HO_2+methyldioxy radical, rate constant, flash photolysis and UV spectral study 7−54075
HgTe films, deposition by photolysis of (t-butyl)HgTe(t-butyl) 7−3197
MO, micrometer-scale line deposition using near UV laser light 7−59438
$Mn_2(CO)_{10}$, gas-phase, photodissoc. pathways and recomb. kinetics 7−59771
$Mn_2(CO)_{10}$, photolysis, thermal chem., photofragment vibr. excitation 7−23047
NH, collision-induced intersystem crossing investigated using ArF laser photolysis 7−42692
NH_3, 193 nm photolysis NH and ND generation, fluoresc. 7−62442
NO_3, visible and UV absorpt. spectra, temp. depend. 7−10608
N_2O_5, photolysis, NO_2 fluoresc. 7−36672
O_2^-, ads. on silica gel, photoform., rot. dynamics, ESR obs. 7−25566
OH + HCl (DCl), reaction rates, vibr. excitation and isotopic substitution effect 7−22996
Pt, micrometer-scale line deposition using near UV laser light 7−59438
SO, vibr. excited, mm-wave rot. spectrosc. obs. 7−36595
SiH_4, dissoc. under laser irrad., Si film deposition 7−13388
SnO_2 thin films, photochemical fabrication and micropatterning from SnI_2 7−46315
SnO_2:Sb thin films, doped and undoped, prep. by photolysis, phys. props. 7−22368
V complex, vanadium(III)bis(2,2′-bipyridyl) chloride-Fe(III) system, photogalvanic effect 7−54145
W, micrometer-scale line deposition using near UV laser light 7−59438

photomagnetic effect
carrier temp. effect on photomagnetic information recording 7−33262
photoinduced magnetism, exptl. and theoretical overview 7−52931
photoinduced phase transition in magnets 7−38923
$CdCr_2Se_4$, photoferromagnetic effect, magnetic impurity effects, magnetisation reversal characts. meas. 7−17154
$Cd_{0.8}Mn_{0.2}Te$, dil. mag. semicond., low temp. mag. spectroscopy 7−64477
$Cd_{1-x}Mn_xTe$, low-temperature magnetic spectroscopy with DC SQUID 7−48780
$Y_3Fe_5O_{12}$:Si, band model of photoinduced magnetic effects 7−17214
$Y_3Fe_5O_{12}$:Si, epitaxial film, domain struct. rearrangement, unpolarised light influence 7−45784
$Y_{1.5}Gd_{1.5}Fe_5O_{12}$ garnet, γ-irradiated, mag. props. *(Russian)* 7−27502

photomagnetoelectric effects *see photoelectromagnetic effects*

photometers
see also photometry; spectrophotometers
astronomical instrumentation and techniques, conf., Tucson, AZ, USA (March 1986) 7−48162
calibration, stable source of IR radiation 7−56317
Cuffey Iris Astrophotometer, partial automation 7−14494
FIR photometer, improved design 7−14492
five-band differential IR photometer for balloon-borne observations of diffuse sky radiation 7−14493
FOU instrument, luminance factor meas. of light diffusing materials 7−41423
Joint European Amateur Photometer (JEAP) 7−47712
laser radiation parameters measurement in machining lines, meter design 7−56316
light intensity distrib. meas. system, image processing unit *(Japanese)* 7−4881
monochromator of luminesc. photometer, spectral resolution capability, comparison with Fluoricord fluorimeter 7−37121
photoreceiver exposure measuring system for high-quality cameras 7−41516
portable, digital display, for recording irradiance from near UV to near IR 7−61366
quantum, absolute spectral density meas. of energy brightness 7−62769
remote sensing of Earth resources, imaging spectropolarimeter-photometer for satellite 7−40604
transducers, spectral match quality determ. 7−4878
universal collimator photometer for transmission and reflection coeff. meas. 7−41421
UV radiometers, detector elec. characteristics 7−41417
UV radiometers, detector optical characteristics 7−41418
Si:Bi hybrid array for photometric near-IR spectrometer 7−30103

photometric light sources
Xe lamp spectral distribution as standard white light source *(Japanese)* 7−1244

photometry
see also brightness; colorimetry; densitometry; spectrophotometry; stellar photometry
0754+101, BL Lac object, V-magnitude obs. during new visual outburst (1986 September 30) 7−29540

photometry continued
absolute determ. of light intensity from photocurrent statistics 7−36930
active galaxies, visible photometric obs. 7−66784
asteroids, eclipse-type light curves rel. to possible binary asteroids 7−18367
asteroids photometry, system from spectral props. of achondrites and ordinary chondrites 7−66521
astronomical photometry, 1/f noise 7−40716
astronomical photometry, appl. of photon-counting system to photon flux statistics 7−60558
astronomical photometry, data decomposition into sum of nonlinear functions 7−4347
astronomical photometry, deconvolution method for one-dimensional imaging 7−4348
band structure effects on precision 7−9872
blue compact galaxies, spectrophotometric anal. 7−40920
3C 273, quasar, UBVRI light var. 7−35062
3C 446, quasar, visible and IR photometric obs. 7−35059
candela SI base unit realisation 7−41425
Cas A, fast moving knot, IR spectral and photometric meas. 7−66708
centrifugal analyser with chain-driven continuous feed system 7−24683
Cl 0024+1654, cluster of galaxies, members three colour CCD photometry 7−14665
column density meter, high precision technique for line-of-sight vapour densities meas. 7−48695
P/Comet d'Arrest (1976 XI), search for periodic photometric vars. 7−55564
P/Comet Giacobini-Zinner (1984e), H_2O prod., CO_2^+ and plasma concentrations, spectrophotometric obs. 7−47793
P/Comet Giacobini-Zinner (1985 XIII), periodic photometric variations in near-nucleus zone 7−55564
P/ Comet Halley, (1982i), in situ photopolarimetric meas. of dust and gas in coma 7−14527
P/ Comet Halley (1982i), CN jets obs. 7−47788
P/Comet Halley (1982i), far-IR photometry obs. 7−18386
P/Comet Halley (1982i), JHK photometry and visual magnitude estimates (1987 January 28 to February 12) 7−66512
P/Comet Halley (1982i), photoelectric discovery of 52-hour periodicity in nuclear activity 7−55563
P/Comet Halley (1982i), photometry and activity of nucleus at pre-perihelion heliocentric distances > 4.6 AU 7−47763
P/Comet Halley (1982i), pre-perihelion photometry at Catania (Italy) Observatory 7−34930
P/Comet Halley (1982i), rot. period determ. from photometric obs. 7−47787
P/Comet Halley (1982i), sources of visual photometry 7−34941
P/Comet Halley (1982i), total visual magnitude estimates (1986 November 3 to December 4) 7−40781
P/Comet Halley (1982i) 7−40777
P/Comet Wilson (1986l), Feb. 1987 visual magnitudes 7−66513
Comet Wilson (1986l), total visual magnitude estimates (1986 October 17 to 23) 7−24079
comet Wilson (1986l), total visual magnitude estimates (1986 November 25 to December 7) 7−47772
Comet Wilson (1986l), total visual magnitude estimates (1986 December 20 to 27) 7−47781
Comet Wilson (1986l), visual magnitude estimate (1987 February 17) 7−66511
P/Comet Wiseman-Skiff (1987b), total visual magnitude estimates (1987 January 22 and 26) 7−55551
comets, optical and near-IR obs. rel. to wavelength depend. of grain scatt. 7−55535
511 Davida, speckle interferometry and photometry rel. to dimensions, rot. pole and albedo 7−24045
dwarf galaxies, low surface brightness, in Virgo cluster, H I synthesis obs. and surface photometry 7−4560
dwarf galaxies, spatial struct. determ. 7−29527
dwarf galaxies, surface brightness rel. to luminosity classification extension 7−60794
1E 0104.2+3153, identification with BAL QSO, visible and X-ray obs. anal. 7−66787
early-type elliptical galaxies in Virgo cluster, colour distribs. from surface-brightness meas. 7−48070
early-type galaxies with emission lines, spectroscopic and photometric characts. 7−60578
elliptical galaxies, more precise L-σ distance indicator 7−9541
elliptical galaxies, wind model, chem. and photometric props. 7−66733
errors due to matching problems *(Japanese)* 7−336
ESO 428-G14, new Seyfert 2 galaxy, photometric and spectroscopic study 7−9538
ESO-223-PN 10 and ESO-095-PN 12, planetary nebulae, abundance determ., spectrophotometric obs. anal. 7−66722
ESO-390-G 05, galaxy, abundance determ., spectrophotometric obs. anal. 7−66722
faint galaxies photometry, implications for cosmology and galaxy clustering 7−60915
FIRST observational potential 7−48093
fluorescent solar concentrators, performance evaluation using photometric method 7−59844
G1200−2038, dwarf galaxy with Seyfert characts., spectroscopy and imaging obs. 7−48069
galactic diffuse submm emission obs. 7−48091
galaxies, ANS UV photometry of M31, M33, M81, M101, NGC 2403, and Zwicky galaxies 7−29529
galaxies, multicolour photometry to 24th magnitude in two fields 7−60793
galaxies, optical and IR colour-luminosity relations for complete galaxy redshift sample 7−24213
galaxies automated surface photometry, calibration and validation of photometric technique 7−60575
galaxies in Virgo Cluster, dwarf irregular and elliptical, comparative photometric parameters 7−35053
galaxies luminosity function determination, non-parametric method for magnitude-limited samples 7−24212
galaxies luminosity profiles, statistical study using spheroid-disk composite models 7−55817
galaxies of IRAS minisurvey, near-IR photometry 7−40923
galaxies with box and peanut-shaped bulges, minor axis brightness profiles 7−29526
galaxy, NGC 253, photometric examination 7−55819
galaxy clusters, photometric props. of poor clusters 7−55843

photometry continued
galaxy clusters, RI CCD photometry of three distance clusters and BVRI photometry of comparison fields 7−29542
galaxy photometry, improved formulae for transformation of CGCG magnitudes to B_T^S system 7−48086
galaxy photometry, proceedings, Toulouse, France (September 1984) 7−24298
Galilean satellites, photometric obs. of mutual events (Project Omega 1985/86) 7−18370
gegenschein, blue light survey by D2B satellite 7−24065
geosynchronous debris in Earth orbit, CCD search 7−55413
giant planets, atm. study in submm range with FIRST 7−47743
giant planets, satellite photometry 7−34896
integral characts. determ. of light sources *(Czech)* 7−57501
Io, interpretation of phase curves of surface materials in terms of Hapke's function 7−55523
IR reflection nebulae in Orion Molecular Cloud 2, photometry, polarimetry and spectrophotometry 7−55765
IRA 03134+5958, optical identification as possible Herbig-Haro object 7−66720
IRAS galaxies, sub-millimetre obs. 7−9532
Johnson U passband characts. 7−4349
22 Kalliope, photoelectric photometry and pole orientation from magnitude-aspect' relations 7−47749
L1551 IRS 5, IR polarimetry of nearby refl. nebula 7−24186
BL Lac objects, short time-scale optical var. 7−14660
BL Lac objects, visible photometric obs. 7−66784
laser radiation parameters measurement in machining lines, meter design 7−56316
late-type galaxies, star formation rates determ. from surface photometry *(German)* 7−24207
lensing galaxy of triple QSO PG 1115+080, photometric obs. rel. to redshift 7−66781
M51, M100, obs. of stellar ovals and nuclear rings in galactic interiors 7−4568
M83, near-IR photometry characts. 7−60802
M87 close companions, photometric and spectral characts. 7−66735
Markarian 297, 325, clumpy irregular galaxies, U−G and G−K colours 7−24224
Markarian 35 (=NGC 3353), spectrophotometric characts. 7−40910
Markarian 705, Seyfert ring galaxy, B and V surface photometry 7−66732
Markarian galaxies, catalogue 7−55496
Mrk 421, optical variability on short time scale 7−14660
Neptune, geometric albedo between 2100 and 3350 Å 7−24062
Neptune, occultation determ. of oblateness and stratospheric methane mixing ratio 7−34927
Neptune, submillimetre and millimetre observations 7−24063
NGC 1023-1023A as interacting galaxies, spectral and photometric characts. 7−35037
NGC 1381, edge-on S0 galaxy, components, surface photometry anal. 7−55792
NGC 3347, spiral galaxy, UBVRI photometry rel. to light vars. 7−35034
NGC 3448, amorphous galaxy, photometry and H I dynamics 7−35041
NGC 3923 and 3051, shell galaxies, shell lumin. characts., spectrophotometric obs. 7−55796
NGC 4486, 4472 and 4406, elliptical galaxies in Virgo Cluster, colour gradients 7−35054
NGC 5236(M83), galaxy, surface photometry and lumin. characts. 7−29538
nightglow, continuum altitude profiles and origin 7−47605
NRAO 140, quasar, visible and IR photometric obs. 7−35059
OJ 287, BL Lac object, optical variation and outburst obs. (1980 to 1984) *(Chinese)* 7−4548
OJ 287, BL Lac object, V-photometric obs. 7−48076
optical variability on short time scale 7−14660
OX 169, quasar, visible and IR photometric obs. 7−35059
Palomar-Westerbork survey of northern spiral galaxies 7−40724
PG 1115+080, triple quasar, photometry of QSO components and lensing galaxy 7−66781
PG 1351+64, low-luminosity quasar, UV and optical variability obs. 7−55851
PHL 938, radio-quiet quasar, light curve *(Chinese)* 7−4583
Phoebe, rot. characts. and V-photometry 7−34918
phosphor persistence, effect on photometry with image intensifiers and integrating readout devices 7−9870
photographic photometry, characteristic curves empirical expression 7−55480
photomultipliers, one-electron characteristics, modulator operation effects 7−35568
photorefractive crystals, dynamic holographic recording process, microphotometric study 7−43005
PKS 0048-09, BL Lac object, visible and IUE obs. 7−60798
PKS 0521−36, radiogalaxy, optical jet and nucleus photometric characts. 7−55789
planetary nebulae, identification of misclassified objects from red and near-IR photometry 7−4542
Pluto-Charon eclipse events, December 1986, photometric obs. rel. to radii and albedos 7−55530
Pluto-Charon system, CCD imaging 7−40760
Pluto-Charon system, eclipse obs., April 1986, rel. to radii, orbital period, and orbital inclination 7−29424
Q1146+111B,C, double QSO, colours of field objects rel. to gravit. lens/string model 7−29554
quasar fields surveys, photometric catalogue for intermediate-redshift QSOs 7−55495
quasar in direction of LMC (0557−672), V-magnitude and redshift 7−4592
quasars, brightness scale length of outer regions rel. to active nuclei characts. *(Russian)* 7−55826
quasars, visible photometric obs. 7−66784
redefinition of photometry, problems of present definition and future trends 7−18855
reflection nebulae, CCD surface photometry of bright nebulae 7−55773
Saturn satellites, telescopic obs. 7−34919
Selected Area 57 quasar candidates catalogue of multicolour photometry, variability and astrometry 7−4591
Seyfert galaxies, brightness scale length of outer regions rel. to active nuclei characts. *(Russian)* 7−55826
Seyfert galaxies, luminosity function and space density 7−24202
Seyfert galaxies, surface brightness distrib. 7−40909

photometry continued
Shapley-Ames elliptical galaxies, interstellar dust content from IRAS obs. 7−66758
southern spiral galaxies, BV photometry and radial vel. 7−66768
spectral match quality determ. in photometric transducers 7−4878
spiral filament radiation approx. by radiation from cylindrical surface 7−37082
spiral galaxies, χ^2 minimisation scheme for bulge-to-disk ratios determination 7−48071
submm coherent and incoherent detect. techniques for FIRST mission 7−47711
Sun, intensity oscillations, ground-based photometric obs. 7−60615
thin films, thickness and optical constants determ. from photometric and ellipsometric data 7−41419
undisturbed background disk galaxies, surface brightnesses radial distrib. 7−66736
Uranus, geometric albedo between 2100 and 3350 Å 7−24062
Uranus, submillimetre and millimetre observations 7−24063
UV radiation meas. *(Japanese)* 7−338
UV-excess galaxies, Kiso survey 7−4351
Virgo Cluster irregular galaxies, UBV characts. 7−14666
Voyager 2 stellar occultation expt., evidence for tenuous outer ring material at Saturn 7−24056
Au films, optical thickness and filling factor determ. 7−39197
$LiNbO_3$, doped, holographic recording of gratings, microphotometric investig. 7−25735
O nightglow, energy transfer characts. 7−47603
PbO, $D1\text{-}X^1\Sigma^+$ system, band intensities distrib. 7−50082

photomultiplier tubes *see photomultipliers*

photomultipliers
afterpulsing in 130 mm diameter photomultiplier tubes 7−62229
anode current variation obs., for continuous and pulsed gamma radiation 7−30888
bialkali photocathode, wavelength dependence of quantum efficiency determ. 7−18879
CLEO II scintillation TOF system, tests of conventional and microchannel plate photomultipliers 7−25308
delay-line readout method for multicell detectors 7−831
detector for fluorescent X-ray adsorption spectroscopy 7−24751
FEU-130 photomultiplier characts. meas. 7−30889
neutron backscatter effects from photomultiplier assembly in TOF spectrometry at 144 keV 7−49786
one-electron characteristics, modulator operation effects 7−35568
photodetection protection from strong exposure, based on photomultiplier voltage control 7−30086
photometry, band structure effects on precision 7−9872
photon counting photomultipliers, noise power spectrum 7−40716
pulse radiolysis equipment, setup for simultaneous multiwavelength kinetic spectroscopy 7−56349
Raman spectroscopy, interferometric observation, photomultiplier and avalanche diode detectors appls. 7−61379
scintillation hodoscopes based on multipliers, load characts. 7−10357
sodium salicylate as combined fluoresc./refl. coating for broad band detector *(German)* 7−4891
thermal neutron imaging using position sensitive photomultiplier 7−49819
X-ray remote detect., coupling between plastic scintillators and light fibres 7−25320
Pb-glass detectors, removal of phototubes 7−49834

photon correlation spectroscopy
anisotropic particles, diffusion meas. using correlation spectroscopy 7−44088
laser fluctuation compensation 7−41487
liquid surfaces, thermal fluctuations, photon correlation spectroscopy 7−51197
microcomputer-based optical-displacement spectrometer, for kinetics of transparent fluids obs. 7−4894
microprocessor-based photon correlator 7−18887
n-fold time-resolved, two level atom, resonance fluorescence 7−10482
PMMA, photon correl. spectra above T_g evidence of two relax. processes 7−32650
polydisperse samples, histogram model 7−41482
radioactive atoms, laser spectroscopy photon correl. technique 7−19769
spherical and rodlike macromolecules binary mixture, photon correlation spectroscopy 7−42909
two-line spectrum, meas. by photon correl. and multichannel anal. techniques 7−24705
$^{24}Mg^+$ single stored ion, nonclassical resonance fluorescence radiation obs. 7−42545
Si avalanche photodiode for photon correlation meas., passive quenching 7−41463

photon counting
absolute determ. of light intensity from photocurrent statistics 7−36930
astronomical instruments and techniques, conf., Tucson, AZ, USA (March 1986) 7−48162
astronomical photon-counting system, appl. to statistical anal of recorded photon flux 7−60558
atomic two-level system, reson. fluorescence, photon statistics 7−49995
avalanche semiconductor detector for single optical photons, 60 ps time resolution 7−42335
cyclohexane, α and γ induced solute fluoresc., single photon counting expts. 7−62448
dead time correction of photon correlation functions 7−4877
detectors for space astronomy, wedge and strip image readout systems 7−47713
ergodic assumption tests in low-intensity interference expts. 7−29804
ESA Photon Counting Detector, nonlinearity meas. 7−34875
fibre birefringence determ. by normalised second-order factorial moment meas. 7−43376
grating spectrometer with imaging photon detector, for auroral and airglow obs. 7−34722
image acquisition system, performance analysis 7−30088
image classification at low light levels 7−42957
image processing in photon-counting imaging 7−31294
imaging microchannel plate detectors calibration, for EUV astronomy 7−29404
light wave interference, quantum fluctuation effects, laser gravitational obs. sensitivity implications 7−43039
nondemolitional meas. using nonlinear optical-fibre interferometer 7−62653
Particle Beam Fusion Accelerator Marx generators 7−30767

photon counting continued
- photomultiplier with bialkali photocathode, wavelength dependence of quantum efficiency determ. 7−18879
- photomultipliers, noise power spectrum 7−40716
- photomultipliers, one-electron characteristics, modulator operation effects 7−35568
- photon beam dose calculation, density correction algorithms *(Korean)* 7−28707
- picosecond Raman studies using 5 kHz tunable dye laser system 7−18881
- pyrometer, high-temp obs. of annealed and sintered W-Re alloys 7−28077
- quantum measurements of positions and interferometric noises 7−14921
- rhodamine 6G, hydrodynamically focused flow, laser induced fluoresc. detection 7−59811
- ring cavity, twin photon beam generation, intracavity four-wave mixing 7−62733
- satellite telescope, photon-counting array detectors 7−47714
- single mode cavity radiation, approach to equilibrium 7−5862
- single-photon wave packets, weakly localised, spatial depend. 7−43034
- subPoissonian photoelectron statistics generation using photo event triggered optical shutters 7−1061
- two-level atoms, two-photon absorpt. process 7−57039
- two-level system, laser driven, coupled to metastable state, photon count statistics 7−1051
- UV imaging photon detector, large format for astronomical spectroscopy 7−56342
- Au cathode photoelectric detectors, absolute photon sensitivity characterisation 7−24704
- ^{24}Mg^{+} single stored ion, nonclassical resonance fluorescence radiation obs. 7−42545
- Si avalanche photodiode for photon correlation meas., passive quenching 7−41463
- SiO_2, porous silicas, direct energy transfer in restricted geometries as probe of pore morphology 7−59251

photon-deuteron interactions
- *see also photon-deuteron scattering*
- $\delta d \to pp\pi^-$, pp invariant mass distrib., obs. of narrow resonance structure 7−24893
- $\gamma d \to pp\pi^-$, dibaryon resonance search, 2.16-2.32 GeV/c^2 mass region 7−24892
- $\gamma d \to \pi^0 d$, 400-1000 MeV, coherent large angle photoprod. 7−531
- $\tilde{\gamma} d \to \pi^0 d$, cross-section asymmetry, E_γ=0.4-0.8 GeV 7−5099
- $\gamma d \to \pi^0 np$ ($\pi^+ nn$), threshold photoproduction in break-up reactions, cross sections 7−49162

photon-deuteron scattering
- *see also photon-deuteron interactions*
- No entries

photon echo
- atomic vel. sampling stimulated photo echo 7−11073
- atoms, photon echo form. on reson. levels with HFS 7−43257
- degenerate systems, photon echoes 7−57485
- dibromodiphenylether-d_{10}:dibromobenzophenone-d_{10}, singlet-triplet transitions, photon echoes 7−15959
- dressed atoms, self-induced transparency and photon echo 7−15958
- long-lived stimulated echo effect, use in contemporary electronics 7−15820
- nonuniformly broadened media, oscill. induction signals and echoes 7−37059
- organic mixed crystals, impurities optical dephasing temp. and freq. depend. 7−22286
- particle system with eigen dipole moment, photon echo calcs. *(Russian)* 7−15956
- resorufin, in ethanol, glass, photon echo and hole burning meas. 7−15955
- resorufin, in ethanol glass, photon echo, temp. depend. 7−43256
- ruby, impurities optical dephasing temp. and freq. depend. 7−22286
- stimulated, information storage duration dependences calcs. 7−62798
- stimulated echo, resonance radiation retardation and advance 7−43255
- three-pulse excitation, wave front form. 7−37053
- two-level atoms, quantum evol., state selective reservoir effect 7−15835
- ultra-high-resolution echo spectroscopy in a strong magnetic field 7−43264
- Ar+Yb, collisional dephasing suppression investig. 7−15684
- Cs, atomic vel. sampling stimulated photo echo 7−11073
- Li Rydberg states, collisional line broadening, trilevel photo. echo meas. 7−19772
- Na, two-photon-excited state trilevel echo 7−19808
- Na vapour, time-delayed four wave mixing 7−10778
- Pr^{3+}:LaF_3 laser action, relax., photon echo technique 7−20229
- Y_2O_3:Eu^{3+}, impurities optical dephasing temp. and freq. depend. 7−22286
- Yb vapour, stimulated photon echo theory 7−31406
- ^{174}Yb+He(Ar), collisional velocity thermalisation, echo techniques 7−36732

photon-hadron interactions
- *see also photon-hadron scattering; photon-nucleon interactions*
- hadronic photoabsorption, energy depend. of total cross section, gluonic character 7−19113
- tracer photon beams, multi-particle finite states 7−5101

photon-hadron scattering
- *see also photon-hadron interactions*
- $\gamma\pi^+ \to \gamma\pi^+$, Compton scatt. cross section meas. 7−5103

photon interactions *see photon-deuteron interactions; photon-hadron interactions; photon-lepton interactions; photon-nucleus reactions; photon-photon interactions*

photon-lepton interactions
- *see also photon-lepton scattering*
- $\gamma e \to$ hadrons + jets, cross sections, perturbative QCD calcs. 7−24869
- $\gamma e \to eZ^0$, Feynman diagrams representing partial helicity amplitudes, substitution rules 7−49023
- $\gamma e \to W\nu_e$, W prod. and decay diff. cross sections, beam pol. and anomalous mag. moment effects *(Russian)* 7−30299

photon-lepton scattering
- *see also photon-lepton interactions*
- electron-atom scatt., two-photon exchange, Coulomb-gauge electrodynamics anal. 7−24829

photon-nucleon interactions
- *see also photon-nucleon scattering; photon-proton interactions*
- $\gamma N \to \pi N$, polarization observables coupled channel model predictions 7−5104
- $\gamma N \to \pi X$, cloudy bag model anal. 7−61698

photon-nucleon interactions continued
- $\gamma n \to W^- p$, high-energy photoproduction of *W* bosons 7−35881
- $\gamma n \to W^+ p$, distribution functions, electric quadrupole coupling 7−35882

photon-nucleon scattering
- *see also photon-nucleon interactions; photon-proton scattering*
- γN elastic scattering, 0-450 MeV, relativistic anal. 7−19114
- $\gamma N \to \gamma^- N$, cloudy bag model anal. 7−61698

photon-nucleus reactions
- *for inelastic photon-nucleus scattering, see "photon-nucleus scattering"*
- *see also photodisintegration; photon-deuteron interactions; photon-nucleon interactions*
- conf., Leningrad, USSR, April 1985 7−29574
- nuclear paramagnetic susceptibility, dispersive effects 7−49375
- photon activation analysis, photonuclear reaction yields 7−23115
- △ production in nuclei by electrons and photons 7−49358
- (γ, K^+), anal. with Coulomb, optical distortions, hypernuclear excitations 7−41973
- (γ,K^+), relativistic bound state wave functions 7−42073
- (γ, π^0), Pauli exclusion effects on form factors and s-wave repulsion 7−24968
- (γ,$\pi^\pm$), intermediate energies, model anal. 7−49370
- (γ,$\pi^\pm$), nuclear spin-isospin excitations 7−49302
- (γ,$\pi^+\pi^-$), test of π dispersion relation in nuclear matter 7−56666
- (γ,ψX), rescaling of parton distribs. 7−61883
- (γ,X), polarized e^+e^- pair prod. cross section calcs. with recoil effects 7−30411
- (γ,xγ'), quasimonochromatic γ-line formation mechanism 7−5225
- ^{A}Ni(γ,X), A=60, 61, 62, 4.5 GeV, fragment yields, dependence on target, residual nuclear isotopic spins 7−56665
- ^{27}Al(γ,2pn)^{24}Na, photodisintegration cross sections, excitation functions 7−19233
- ^{27}Al(γ,4p5n)^{18}F, photodisintegration cross sections, excitation functions 7−19233
- ^{10}B(γ,π^+), low-lying state prod. cross section and π^+ ang. distrib. 7−5223
- ^{7}Be(γ,X), giant resonances from microscopic approach 7−35988
- ^{9}Be(γ,γ'), quasimonochromatic γ-line formation mechanism, calc. for 2.22 MeV line 7−5225
- ^{10}Be(γ,π^+)$^{10}\vec{B}e^*$, recoil nuclear polarization study, γ-circular polarization asymmetry meas. 7−24969
- ^{209}Bi(γ,n)^{208}Bi, angular distributions, E1-E2 interference effects 7−49371
- ^{12}C(γ,n), data processing algorithms 7−10136
- ^{12}C(γ,pX), inclusive photoproton spectra meas. at intermediate energies 7−651
- ^{12}C(γ,p), 60, 80 MeV, cross section meas., θ_p=30-135° 7−24970
- ^{12}C(γ,π^0), 10 MeV above threshold, total cross sections, PWIA anal. 7−15210
- ^{12}C(γ,π^0), 135.8-190 MeV, cross section meas. 7−61855
- ^{13}C(γ,π^-)$^{13}N_{g.s.}$, cross section calcs. from ^{13}C, ^{13}N ground state wave fns. 7−49248
- ^{14}C(γ,n), inclusive, partial cross sections, comparisons with shell model calcs. 7−41972
- ^{133}Cs(γ,X), 100-1000 MeV, photospallation reactions 7−19235
- ^{133}Cs(γ,π^-xn)Ba, x=0, 2, 4, 5, 7, isotope yield meas. 7−19236
- ^{133}Cs(γ,π^+)^{133}Xe, isotope yield meas. 7−19236
- ^{63}Cu(γ,π^-n)^{62}Zn, isotope yield meas. 7−19236
- ^{65}Cu(γ,π^-3n)^{62}Zn, isotope yield meas. 7−19236
- Cu(γ,X), photospallation studies 7−19237
- Cu(γ,X), spallation reaction study 7−41974
- (γ,π), pion photoproduction in Coulomb field, virton-quark model 7−41978
- ^{2}H(γ, pn), forward and backward cross section meas. 7−61853
- ^{2}H(γ,n)^{1}H, asymmetry and angular distribution of deuteron photodisintegration in the 20-60 MeV range 7−49376
- ^{2}H(γ,pn), future experiment at ELSA stretcher ring 7−61860
- ^{2}H(γ,pn), nucleon angular distn., polarization meas., isolation of EI-MI interference contributions 7−56664
- ^{2}H(γ,pp)π^-, dibaryon resonance evidence 7−49372
- ^{2}H(γ,πn), threshold photoproduction in break-up reactions, cross sections 7−49162
- ^{2}H(γ,x), future experiment at ELSA stretcher ring 7−61860
- ^{3}H(γ,X), three-body forces, low energy understanding 7−61858
- ^{3}H(γ,x), future experiment at ELSA stretcher ring 7−61860
- $_{\Lambda}^{3}$H (γ,K^+)^{3}H, hybrid method using hyperspherical functions 7−41977
- ^{3}He(γ,X), three-body forces, low energy understanding 7−61858
- ^{3}He(γ,2pn), three-nucleon force effects, meson exchange 7−61856
- ^{3}He(γ,pd), differential cross sections, $\Sigma(\theta)$ meas. 7−56667
- ^{3}He(γ,x), future experiment at ELSA stretcher ring 7−61860
- ^{6}He(γ,X), giant resonances from microscopic approach 7−35988
- ^{127}I(γ,X), 100-1000 MeV, photospallation reactions 7−19235
- ^{127}I(γ,π^-xn)Xe, x=0, 2, 4, 5, 6, isotope yield meas. 7−19236
- ^{A}In (γ,X), A=113,115 cross-sections for deep-spallation reactions 7−41976
- ^{115}In, isomeric level, nonreson. excitation, secondary photon-atom contribs. 7−568
- ^{6}Li(γ,π^0), 10 MeV above threshold, total cross sections, PWIA anal. 7−15210
- ^{7}Li (γ,xn), 7.25-19.5 MeV, cross section meas. 7−19234
- ^{7}Li(γ,γ'), quasimonochromatic γ-line formation mechanism, calc. for 2.22 MeV line 7−5225
- ^{A}Li(γ,X), A=6,7, giant resonances from microscopic approach 7−35988
- ^{A}Li(γ,π^+), A=6,7, anal. of ^{6,7}He excited states 7−49250
- ^{14}N(γ,d)^{12}C, differential cross-sections and momentum distribs. 7−61854
- ^{14}N(γ,γ'), quasimonochromatic γ-line formation mechanism, calc. for 2.22 MeV line 7−5225
- ^{14}N(γ,π^+), unitarized impulse amplitude from threshold to Δ-region 7−653
- ^{93}Nb(γ,X), spallation cross section meas. using activation methods 7−30412
- ^{237}Np(γ,X), photonuclear cross-sections, branching 7−49483
- ^{16}O(γ,N), transition matrix elements, differential cross-section 7−49373
- ^{16}O(γ,p), coupled channels calc. based on continuum shell model at medium energies 7−35995
- ^{16}O(γ,π^+), ang. distrib. meas. at 320 MeV 7−41975
- ^{239}Pu (γ,X), photonuclear cross-sections, branching 7−49483
- ^{32}S(γ,5p3n)^{24}Na, photodisintegration cross sections, excitation functions 7−19233
- ^{32}S(γ,7p7n)^{18}F, photodisintegration cross sections, excitation functions 7−19233

photon-nucleus reactions continued
$^{34}S(\gamma,np)$, cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7−41971
$^{34}S(\gamma,p)$, cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7−41971
$^{28}Si(\gamma,3pn)^{24}Na$, photodisintegration cross sections, excitation functions 7−19233
$^{28}Si(\gamma,5p5n)^{18}F$, photodisintegration cross sections, excitation functions 7−19233
$^{159}Tb(\gamma,n)^{158}Tb$, angular distributions, E1-E2 interference effects 7−49371
^{232}Th, photofission, fragment angular and mass distribs. 7−49486
$^{232}Th(\gamma,f)$, 5.8-12 MeV, cross section meas. 7−19309
$^{169}Tm(\gamma,n)$, 8999 keV, ^{168}Tm, evidence for 17 keV level 7−30311
^{A}U, A=236,238 7−49486
$^{A}U(\gamma,X)$, A=233, 234 photonuclear cross-sections, branching 7−49483
$^{51}V(\gamma,X)$, 100-1000 MeV, photospallation reactions 7−19235
$^{51}V(\gamma,\pi^{-}xn)Cr$, x=0, 2, 3, isotope yield meas. 7−19236
$^{89}Y(\gamma,X)$, 100-1000 MeV, photospallation reactions 7−19235
$^{89}Y(\gamma,\pi^{-}xn)Zr$, x=0, 1, 2, 3, isotope yield meas. 7−19236

photon-nucleus scattering
see also photon-deuteron scattering; photon-nucleon scattering
forward Compton amplitude in GDR and Δ regions, dispersion relation anal. 7−49377
low-energy theorems for nuclear polarizabilities 7−650
(γ,γ), 40 MeV-pion threshold, nucleon polarization anal. 7−61857
(γ,γ'), hole state excitations in ^{15}N and ^{39}K, correlations with (d,τ) 7−61833
(γ,γ'), resonant γ-ray absorption, method of observation 7−30409
$Ba(\gamma,\gamma)$, scatt. meas. between 4.5 to 9.0 MeV 7−5222
$^{12}C(\gamma,\gamma)^{12}C$, Compton scatt., low-lying states, seagull terms, pion condensation 7−649
$^{44}Ca(\gamma,\gamma')$, 1^{+} level obs. *M*1 strength, *E*2-*M*1 transition obs., E2 strength determ. 7−19170
$^{140}Ce(\tilde{\gamma},\gamma)$, 6.7-8.7 MeV, giant M1 resonance, M1 transition strength distrib. 7−30400
$Ce(\gamma,\gamma)$, scatt. meas. between 4.5 to 9.0 MeV 7−5222
$^{56}Fe(\gamma,\gamma)$, dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
$^{4}He(\gamma,\gamma)^{4}He$, differential cross-section 7−652
$^{92}Mo(\gamma,\gamma)$, dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
$^{60}Ni(\gamma,\gamma)$, dipole resonance excitation, differential cross section calcs., quasiparticle phonon model 7−30410
$^{208}Pb(\vec{\gamma},\gamma')$, isoscalar 1^{+} state, proton and neutron contribs. constraints 7−19172
$^{208}Pb(\gamma,\gamma)^{208}Pb$, Compton scatt., low-lying states, seagull terms, pion condensation 7−649

photon-phonon excitations *see polaritons*

photon-photon interactions
see also photon-photon scattering
nondiffractive meson pair prod., perturbative QCD and resonance contribs. 7−41826
$e^{+}e^{-}\rightarrow e^{+}e^{-}\gamma^{*}\gamma^{*}\rightarrow e^{+}e^{-}R$, virtual photon-photon interactions, search for high-mass narrow resonances 7−41866
$\gamma\gamma\rightarrow$ hadrons, data compilation, struct. functions, resonance widths, cross sections 7−14722
$\gamma\gamma\rightarrow B\bar{B}$, baryon production, Q^{2} dependence, QCD anal. 7−19148
$\gamma\gamma\rightarrow D^{*\pm}X$, inclusive production, event rate and topology 7−61782
$\gamma\gamma\rightarrow\eta_{c}(2980)$, recent results on two-photon processes from DESY 7−61786
$\gamma\gamma\rightarrow$jets, $4\leq W\leq 12$ GeV/c^{2}, $W\equiv$invariant mass, quark-parton model, and low p_{T} vector dominance comparisons 7−61683
$\gamma\gamma\rightarrow$jets, recent results on two-photon processes from DESY 7−61786
$\gamma\gamma\rightarrow l^{+}l^{-}$, partial wave anal. 7−49193
$\gamma\gamma\rightarrow M^{+}M^{-}$ ($M=\pi,K$), next-to-leading-order perturbative QCD calcs. 7−61591
$\gamma\gamma\rightarrow\bar{p}p$, recent results on two-photon processes from DESY 7−61786
$\gamma\gamma\rightarrow\pi^{0}\pi^{0}$, π^{0} EM properties in dominance model of quark-loop anomalies 7−19147
$\gamma\gamma\rightarrow\pi^{+}\pi^{-}\pi^{0}$, cross section determ. outside A_{2} resonance region 7−526
$\gamma\gamma\rightarrow\pi\pi$, final-state interactions and anomalous low-energy prod. 7−56585
$\gamma\gamma\rightarrow\pi\pi$, resonance production, low energy parameters 7−10089
$\gamma\gamma\rightarrow q\bar{q}\gamma$, $1.0\leq p_{T}^{jet}\leq 4.0$ GeV/c, anal. of $\gamma\gamma$ interactions 7−61683
$\gamma\gamma\rightarrow q\bar{q}q\bar{q}$, $1.0\leq p_{T}^{jet}\leq 4.0$ GeV/c, anal. of $\gamma\gamma$ interactions 7−61683
$\gamma\gamma$ reactions, inclusive and exclusive final states, jets and total cross sections 7−61783
$\gamma\gamma\rightarrow X$, hadronic cross-section, pointlike contribution using VDM contribution 7−35918
$\gamma\gamma^{*}$ collisions, P_{T} and Q^{2} depend. of multijet prod., 2, 3, and 4 jets 7−5137
$\gamma p\rightarrow$ hadrons + jets, cross sections, perturbative QCD calcs. 7−24869
$\gamma p\rightarrow W^{+}n$, distribution functions, electric quadrupole coupling 7−35882
$\gamma\gamma\rightarrow e^{+}e^{-}$, cross section oscills., external field effects 7−30302
$\gamma\gamma\rightarrow K^{+}K^{-}\pi^{+}\pi^{-}$, vector meson prod., $\phi(1020)$ and $K^{*0}(890)$ signals 7−5136
$\gamma\gamma\rightarrow$pion pairs, comparison with current algebra 7−565

photon-photon scattering
see also photon-photon interactions
$\gamma\gamma\rightarrow\gamma\gamma$, elastic scatt., worden sum rule and perturbative QCD 7−24924

photon polarisation
monochromatic and polarised photons, prod. for photonuclear reaction studies 7−62153

photon production
heavy ion collisions, photon production mechanisms 7−49455
monochromatic and polarised photons, prod. for photonuclear reaction studies 7−62153
photon interferometry for heavy ion collisions 7−49446
quark-gluon plasma, $(\mu^{+}\mu^{-}\gamma)$, $(\pi^{0\pm}.\mu,^{+}\mu^{-})$ production rates as phase transition signals 7−24951
$\vec{e}^{+}\vec{e}^{-}\rightarrow e^{+}e^{-}\gamma$, bremsstrahlung amplitude calcs. 7−61712
$\vec{e}^{+}\vec{e}^{-}\rightarrow f\bar{f}\gamma$, bremsstrahlung amplitude calcs. 7−61712
$e^{+}e^{-}\rightarrow\gamma+2$ jets, quark charge test 7−61706
$e^{+}e^{-}\rightarrow\gamma\gamma$, differential cross-sections, QED predictions 7−35846
$e^{+}e^{-}\rightarrow\gamma\gamma$, $\gamma\gamma\gamma$, $\gamma\gamma\gamma\gamma$, $\sqrt{s}=29$ GeV, QED tests 7−61642
$\vec{e}^{+}\vec{e}^{-}\rightarrow H\gamma(\mu^{+}\mu^{-})$, helicity amplitudes, cross section calcs. 7−61641
$\gamma\gamma$ pair production in quark-gluon, hadron plasmas 7−49275
$hN\rightarrow\gamma\gamma_{opp}+X$, $\bar{q}q\rightarrow\gamma\gamma$, $gg\rightarrow\gamma\gamma$, $qg\rightarrow q\gamma\gamma$ mechanisms, perturbative QCD anal. 7−61592
$(p,\gamma X)$, rescaling of parton distribs. 7−61883

photon production continued
$pp\rightarrow\gamma\gamma X$, 63 GeV, photon production study 7−24919
$pp\rightarrow\gamma+jet_{opp}+X$, jet_{opp}=opposite-side jet events, nucleon gluon distribs., QCD anal. 7−61766
$\vec{p}p\rightarrow pp\gamma$, 280 MeV, anal. power for bremsstrahlung 7−24923
$\pi^{\pm}N\rightarrow\gamma X$, direct γ production, cross section ratio 7−49183
$\eta_{c}\rightarrow\gamma\gamma$, $R_{1}=\Gamma(\eta_{c}\rightarrow\gamma\gamma)/\Gamma(D^{+}\rightarrow\mu^{+}\nu_{\mu})$ calcs. bound state quark model anal. 7−61582
$\bar{p}p\rightarrow\pi^{\circ}(\eta)(\gamma)X$, 24.3 GeV inclusive production cross sections 7−61779
$^{232}Th(^{238}U, \gamma\gamma X)$, 6 MeV/nucleon, two-photon spectrum, correlated narrow-peak structure 7−19294

photon-proton interactions
see also photon-proton scattering
high P_{T} physics from the OMEGA proton collaboration 7−61697
X-ray binary systems, π^{0} prod. model for ultra-high-energy gamma-ray emission 7−47971
$\vec{\gamma}_{\vec{p}}\rightarrow\pi^{+}n$, polarization H parameter meas. at $E_{\gamma}=320$ MeV 7−41822
$\gamma p\rightarrow\gamma\pi^{+}n$, radiative π^{+} photoproduction cross section meas. 7−5103
$\gamma p\rightarrow\Delta pX$, diffractive production meas., cross-sections and distribs. 7−41823
$\gamma\vec{p}\rightarrow p\pi^{0}$ 0.9-1.5 GeV, polarisation parameter meas. 7−61701
$\gamma p\rightarrow\pi^{0}p$ 144.7-173 MeV, diff. cross section near threshold 7−49161
$\gamma p\rightarrow\pi^{+}\pi^{-}p$, $2\pi^{+}2\pi^{-}p$, $\pi^{+}\pi^{-}\pi^{0}\pi^{0}p$, observation of $\rho'(1600)$ 7−61711
$\gamma p\rightarrow W^{+}n$, high-energy photoproduction of *W* bosons 7−35881
$\gamma p\rightarrow\Xi^{-}pX$, diffractive production meas., cross-sections and distribs. 7−41823
$\gamma p\rightarrow p\pi^{0}$, 450 to 700 MeV, secondary proton polarisation *(Russian)* 7−15164

photon-proton scattering
see also photon-proton interactions
virtual photon-proton scatt., total cross section calcs. 7−35883

photon scattering *see photon-deuteron scattering; photon-hadron scattering; photon-lepton scattering; photon-nucleus scattering; photon-photon scattering*

photon transport theory
1.43 MeV γ-ray penetration of shields, benchmark data for Pb, Al, steel and graphite 7−5487
3D general geometry Monte Carlo calcs., vectorisation, reactor transport appls. 7−36088
BWR fuel assemblies, pin-to-detector γ-ray transmission function by adjoint Monte Carlo methods *(German)* 7−61984
Compton-sampling surface for photon transport soln. by Monte Carlo methods 7−61281
geometric progression formula for γ-ray buildup factor approx. 7−30475
LWR, in-core gamma effects, power distribs., detector response 7−42137
Monte Carlo electron interface studies, incorporation into photon cavity theory 7−36079
MORSE-CG code for pulsed fast reactor problems, Monte Carlo anals. 7−15229
particle beam fusion accelerator II (PBFA II), vacuum insulator stack failure mechanisms 7−30749
PSPHOT and PVPHOT, parallel algorithms for photon transport Monte Carlo analysis 7−36089

photons
see also cosmic ray photons; gamma-rays; light; photon transport theory; X-rays
boson-fermion duality in 4D, photon construction from neutrino pairs 7−41585
dark matter candidates, scatt. and annihilation cross sections 7−15089
free photon gas, Bose-Einstein condensation in thermal equilibrium 7−29885
gauge transformations 7−46
low light level optical interference from double slit and pinhole, particle-wave duality 7−31245
Poisson/sub-Poisson photon generation using electron feedback 7−10896
polarization propagator in external mag. field, W boson contrib. 7−61438
QED, photon splitting in a strong electromagnetic field 7−35779
quantum-field hypothesis in electrodynamics, implications for gravitons in general relativity 7−41164
semileptonic decay, bremsstrahlung, integration of photon quadrupole moment *(Spanish)* 7−61672
structure function, meas. and QCD anal. 7−49148
structure function, sensitivity to QCD scale parameter 7−35877
very low light intensity diffraction patterns, photon particle-wave duality study 7−31246
$e^{+}e^{-}\rightarrow e^{+}e^{-}+$hadrons, 7-70 $(GeV/c)^{2}$, photon structure fn. meas. QCD, parton model comparisons 7−540
$\vec{e}^{+}\vec{e}^{-}\rightarrow\gamma X$, identification of missing neutrals using long. pol., ν, $\tilde{\nu}$, $\tilde{\gamma}$ and $\tilde{H}^{0}$ 7−49127
$e^{+}e^{-}\rightarrow X$, single photon search and supersymmetric particle mass limits 7−533
$\tilde{\gamma}$ mass limits in sparticle production expt. 7−49142
$\bar{p}p\rightarrow X$, inclusive cross section for direct photon prod. 7−556
π^{0}/γ ratio meas. using dileptons, quark-gluon plasma diagnostics 7−41746

photonuclear reactions *see photon-nucleus reactions*

photophoresis
aerosol particle, transverse motion in a laser radiation field 7−46881

photoplasticity
moving dislocations in II-VI semiconductors, dislocations, effect on physical props. 7−7224
$As_{2}S_{3}$, glassy photodeformation 7−44654

photorefractive effect
AgCl-Ag films, photo-induced gratings due to radiative TE modes 7−22363
associative memory using optical resonator 7−20157
band transport model, simplified 7−27700
book, laser-induced dynamic gratings 7−9605
crystals, uses in holographic vibrometry 7−43819
cubic crystals, hologram diffraction efficiency and diffracted light polaris., optical activity effect 7−43020
degenerate four-wave mixing, forward phase conjugate wave in photorefractive media 7−50652
dye laser, CW, with intracavity photorefractive element, mode selection 7−43167
electro-optic materials for data storage and processing 7−43021
ferroelectric crystals, polarisation reversal of light beam wavefronts 7−1235
grating interactions in photorefractive materials 7−25948
gratings and phase-conjugate waves, phase shifts 7−43341

photorefractive effect continued
- holographic beam coupling in anisotropic photorefractive media 7—57273
- holographic grating storage, photorefractive piezoelectric cryst. boundary influence on induced field struct. 7—43344
- image correlation by four-wave mixing in photorefractive media, computational model 7—42950
- $LiNbO_3$:Cu(Er)(Mg)(H), laser-induced grating characteristics 7—62746
- matrix vector multiplication by four-wave mixing in photorefractive media 7—42991
- multi-grating phase conjugation in photorefractive media 7—31403
- multiple phase-conjugate beam coupling in photorefractive crystals 7—25902
- optical associative memories based on photorefractive oscillations 7—20154
- optical erasure of sinusoidal holographic gratings in photorefractive materials, kinetics 7—10886
- optical ring resonator, photorefractive gain, multimode operation 7—57377
- oscillation with photorefractive gain, review 7—11008
- photoinduced charge formation dynamics in photorefractive crystals 7—7277
- polymer for optical recording of waveguide gratings 7—5963
- quasidegenerate optical oscillators, vector four-wave mixing calcs. *(Russian)* 7—31397
- reflection grating real-time holography, multistability 7—5856
- semiconductors, photorefractive effect for optical processing 7—57438
- speed, fundamental limit 7—57494
- two-dimensional optical beam switching techniques using dynamic holography 7—25755
- As_2S_3 films photorefractive effect investig. using optical filtering 7—45990
- $Ba_{2-x}Sr_xK_{1-y}Na_yNb_5O_{15}$, ferroelectric tungsten bronzes, crystal growth and optical appl. 7—39085
- $BaTiO_3$ double phase conjugation mirror, anal., demonstration and laser appl. 7—43252
- $BaTiO_3$, electro-optic props. 7—39088
- $BaTiO_3$, forward- and backward-stimulated photorefractive scatt. 7—57461
- $BaTiO_3$ imaging threshold detector using phase-conjugate resonator 7—6019
- $BaTiO_3$ phase-conjugate mirror, partial cancellation of specular reflection 7—5956
- $BaTiO_3$, photo-excited holes, photorefractive meas. of mobility anisotropy 7—21918
- $BaTiO_3$, photorefractive conical diffraction 7—7655
- $BaTiO_3$ photorefractive crystals, image amplification by two- and four-wave mixing 7—11042
- $BaTiO_3$ photorefractive devices, effect of temp. variation 7—20368
- $BaTiO_3$, photorefractive props. 7—22205
- $Bi_{12}GeO_{20}$ crystals, photorefractive parameters determ. using transient grating anal. 7—3004
- $Bi_{12}GeO_{20}$, electrogyratory and electrooptic coupling 7—27701
- $Bi_{12}GeO_{20}$ photorefractive crystals, degenerate four-wave mixing involving internal reflections 7—37047
- $Bi_{12}GeO_{20}$, real time holographic image recording, diffraction efficiency *(Korean)* 7—25743
- $BiSi_{12}O_{20}$ crystals, operative transformation of optical signals 7—36892
- $Bi_{12}SiO_{20}$ 7—27701
- $Bi_{12}SiO_{20}$ crystal, phase conjugate signal at elevated temps. 7—43242
- $Bi_{12}SiO_{20}$ degenerate four-wave mixing, forward phase conjugate wave 7—50652
- $Bi_{12}SiO_{20}$ photorefractive gratings, buildup and decay, effect of electric field 7—17306
- $Bi_{12}SiO_{20}$ photorefractive crystals, hologram fixing at room temp. 7—20160
- $Bi_{12}SiO_{20}$ photorefractive crystal, wave mixing with moving gratings, appl. to phase conjugation 7—20363
- $Bi_{12}SiO_{20}$, photorefractive, hologram recording, real-time defect enhancement using inversion props. 7—25771
- $Bi_{12}SiO_{20}$, photorefractive effect, simplified band transport model 7—27700
- GaAs photorefractive, enhanced two-beam mixing gain using alternating electric fields 7—43203
- GaAs, photorefractive beam coupling with picosec. pulses 7—31386
- GaAs, photorefractive effect, temperature and intensity dependence 7—45951
- GaAs:Cr, photorefractive behaviour using two-beam coupling 7—31387
- $LiNbO_2$:Fe photorefractive crystals, light-induced scattering 7—10887
- $LiNbO_3$, doped, holographic recording of gratings, microphotometric investig. 7—25735
- $LiNbO_3$, photoinduced light scatt. 7—3011
- $LiNbO_3$ photorefractive crystals, dynamic holographic recording process, microphotometric study 7—43005
- $LiNbO_3$ piezoelectric photorefractive crystal, hologram writing and reconstruction 7—57268
- $LiNbO_3$:Fe, asymmetric photoinduced scattering of light 7—17282
- $LiNbO_3$:Fe crystals, refractive index gratings, microphotometric study 7—62649
- $LiNbO_3$:Ti(H) waveguides, photorefractive susceptibility, charactn. methods 7—26024
- $LiNbO_4$ crystal, surface photorefractive effect under UV laser irradiation 7—2057
- $LiTaO_3$:Cr crystal, photoinduced light scatt., noise holographic grating mechanism 7—62775
- $Sr_{0.6}Ba_{0.4}Nb_2O_6$, doped and undoped, photorefractive props. 7—39057
- $Sr_{0.6}Ba_{0.4}Nb_2O_6$, photorefractive props. 7—22205
- $Sr_{0.6}Ba_{0.4}Nb_2O_6$ photorefractive props. 7—45955
- $Sr_{0.6}Ba_{0.4}Nb_2O_6$:Ce(Fe), photorefractive props. 7—45955
- $Sr_{1-x}Ba_xNb_2O_6$, ferroelectric tungsten bronzes, crystal growth and optical appl. 7—39085
- $Sr_xBa_{1-x}Nb_2O_6$ photorefractive crystal, wavefront-reversing mirror characts, 7—43247

photoresistors
- autocollimation focusing devices for optical systems, photoresistors used as image analyzer 7—37110
- cameras, exposure-measuring systems, photoresistors 7—41518

photoresists
- *see also electron resists*
- dry etching using image reversal photoresists. *(Japanese)* 7—65199
- gratings on reflecting substrates interference pattern 7—1042
- iron arene photoinitiators for imaging, resist materials 7—28322

photoresists continued
- microelectric photoresists, uncoated, SEM inspection, low-loss electron images 7—9927
- Polaform process, holographic embossing at Polaroid 7—25751
- polyimide films, microwave plasma etching, anisotropy rel. to ion energy 7—53936
- Si, etching rates in CF_4/O_2 plasmas, effect of photoresist or Al masking 7—65222
- SiO_2, etching rates in CF_4/O_2 plasmas, effect of photoresist or Al masking 7—65222

photosphere
- background magnetic field distrib., relation to geomag. activity 7—18400
- cellular convection theory, nonlinear bifurcation 7—55459
- circular polarisation spectra, effects of finite spectral resolution on Stokes V profile 7—47803
- convective zone outer layer, spectral lines pressure shift diagnostic study 7—40793
- Doppler measurements, spatial smearing errors rel. to limb effect and large-scale vel. fields 7—66551
- dynamical effects on coronal mag. field, implications for coronal current sheets form. 7—66539
- facula models and CN lines 7—24112
- faculae, Fe I lines, shifts and asymmetries 7—66529
- faculae, hillock and cloud model 7—55593
- Fraunhofer lines, strong lines for wings and weak lines centres, from. depths in photosphere 7—4406
- global oscillation spectrum, anal. of daily power spectra of vel. meas. 7—47798
- global solar magnetic field, relaxation to form of May 1981 flare complex 7—4410
- granulation and dark networks, morphology and classification 7—47816
- granulation deformation near and in sunspot regions 7—4415
- granulation detection 7—60572
- granulation lifetime and evol. 7—34961
- granulation structure, granules size distrib. from high. resolution images 7—66550
- granulation structure, photospheric intensity fluctuations at mesogranulation scale 7—47800
- IR emission lines near 12 microns, non-LTE study 7—66534
- large-scale structure of sunspot and surrounding photosphere 7—4416
- line tying conditions for coronal mag. fields MHD stability 7—24103
- magnetic field line topology in active regions 7—24099
- magnetic field obs. atlas (1976 to 1985) 7—4428
- magnetic field of May 1981 flare complex, kinematics of mag. field decrease 7—4411
- magnetic fields, semi-regularities 7—24101
- magnetic fields generation and var. 7—24109
- magnetic fluxtubes, numerical magnetostatic solns. 7—47804
- magnetic fluxtubes diagnostics, use of Stokes profiles 7—60613
- observations from Antarctica *(French)* 7—9453
- plasmas, time-dependent radiative transfer, analytical methods 7—55451
- polar faculae, latit. migration during solar activity cycle (1970 to 1978) 7—34966
- propagating waves diagnostics, effects of pure acoustic waves on Fe I line profiles 7—55591
- radiative convection in stratified atmosphere, implications for granulation scales 7—29389
- solar, force free mag. fields in spherical coordinates *(German)* 7—14549
- spectral lines in 430 to 670 nm wavelength range with large Stokes V-amplitudes outside sunspots, catalogue 7—66554
- sunspot group, June 1963, mag. field and photospheric development 7—29451
- sunspots, compressive waves propag. through fibril mag. fields 7—66541
- sunspots, simultaneous meas. of umbral oscills. in photosphere, chromosphere and transition region 7—66542
- sunspots and sunspot groups, meridional motions (1917 to 1983) 7—47810
- surface velocities, obs. using Stable Solar Analyzer instrument 7—9375
- temperature diagnostics for photospheric inhomogeneities, appl. of Mn I and C I lines 7—66553
- turbulence in photosphere, determ. by observation of spectra, 'crossing' method 7—47731
- vector magnetic field measurement, principle of Solar Magnetic Field Telescope *(Chinese)* 7—4330
- weak CN lines in solar spectrum, reliability of identifications in 413.9 to 421.5 nm region 7—4412
- CN spectrum, oscillator strengths and dissociation energies 7—4327
- $^{12}C/^{13}C$ ratio in solar photosphere, determ. from CO vibr.-rot. bands 7—55598
- Fe I, 532.419 nm line form. depth in photosphere mag. field *(Chinese)* 7—66525
- Fe I lines, 5-min oscills. in wings and bisectors 7—66530
- Fe II 396.94 nm solar line in Ca II H and K wings 7—4398
- H spectra, visible and IR lines in photospheric models 7—29454
- $^{16}O/^{18}O$ ratio in solar photosphere, determ. from CO vibr.-rot. bands 7—55598

photosynthesis
- bacteria reaction centre, electron transfer mechanism 7—23315
- bacteria reaction centres, recomb. kinetics, electric field depend. 7—47017
- bacterial, femtosec. electron and energy transfer meas. 7—54468
- bacterial photosynthetic reaction centres, charge recombination, ultrafine interaction, mag. field effect 7—8516
- bacterial photosynthetic reaction centres, Stark effect 7—28482
- bacteriochlorophyll, excitation energy transfer to reaction centre in photosynthesis 7—8517
- bacteriochlorophyll a, config. for photosynthesis, SCF HF INDO calcs. 7—858
- cellulose acetate hollow-fibre membranes, ZnTPP modified, photosensitivity and photosynthesis 7—13811
- chlorophyll *a*, pigment in dioleylphosphatidylcholine monolayer, fluoresc. conc. quenching master eqn. 7—50219
- chlorophyll a, early form. of longwave aggregated forms 7—40095
- chlorophyll a/b-protein complex II, light-harvesting, of higher plants, review 7—59951
- chlorophyll chloroplasts, temp. damage and acclimation mechanisms of photosynthetic apparatus 7—59955
- chlorophyll chloroplasts, temp. stress and prolonged darkening effect on photosynthetic apparatus 7—59956
- chlorophyll fluorescence, appl. in ecophysiology 7—47299
- chlorophyll in vivo, exciton states and exciton interaction processes, nonlinear transmission effects 7—59931

photosynthesis continued
chlorophyll in vivo, large absorpt. unit reflected in fluoresc. enhancement effect 7—59932
chlorophyll pigment concentration using low-altitude airborne ocean colour data 7—14163
chlorophyll-H_2O system, ab initio LCAO SCF MO calcs., ionisation pot., electron affinity, intermol. mechanics 7—8520
chlorophyll-protein complex II, light-harvesting, long-wavelength fluoresc. emission 7—59933
chlorophylls a and b and aggregates, spectra in nematic liq. crysts. and polyvinyl alcohol films 7—59930
chloroplast matrix, pea, protein-synthesising apparatus, light quality effect, sedimentary props. 7—59952
conference, Mirow, Germany (Sept.-Oct. 85) 7—55885
conifers exposed to environmental pollutants, time-resolved fluoresc. rel. to photosynthetic system 7—47156
cyanobacterial heterocysts, photosystem I, energy conversion monitoring, photoacoustic spectra 7—47016
efficiency of photosynthesis 7—47020
electron transfer in bacterial photosynthesis 7—13974
energy harvest efficiency of energy crop, photosynthetic energy storage rate 7—46962
green-leaf thermoluminescence, effect of oxygen on electron transport 7—8523
leaves of higher plants, fluoresc. induction transitions, photosynthesis 7—8519
mesophyll chloroplasts from sugar cane, photosynthetic electron transport 7—59953
mesophyll plastid, maize, greening under extreme low-light intensity 7—59954
molecular structures, impure, noncoherent excitation migration and fluorescence quenching 7—59247
molecularly based electronic devices, efficiency 7—40375
orientationally disordered photosynthetic unit, optical props. calcs. 7—53256
photosystem I reaction centre, photochemically active subunit, dichroism spectra 7—8514
photosystem II reaction centre, spectral and functional props. 7—28480
polymer, gels, zinc phthalocyanin containing, fluoresc., photosynthesis model 7—8515
thylakoid membrane, light scatt., photo-induced changes, surface charge effect 7—59934
thylakoid membrane, light scatt., photo-induced changes, temp. treatment effect 7—59935
thylakoid membranes and functional subunits, organisation, linear dichroism and fluoresc. polarisation obs. 7—59944
turf grasses, physiological response to trampling pressure 7—34184
H_2 production efficiency from light energy conversion by photosynthetic bacterium Rhodobacter sphaeroides 8703 7—65644
Hg_2Cl_2, photocatalytic props., O_2 photogeneration from water 7—54151
O_2 evolving Mn complex, X-ray edge and EXAFS studies 7—65722

photothermal conversion
see also solar absorber-convertors
cavity type solar receiver with thermodynamic transducer, heat loss investigation 7—54341
hybrid photovoltaic-photothermal solar conversion system with cogeneration 7—54351
hybrid quantum/thermal solar concentration systems using spectral selectivity 7—39967
liquid optical filter anal. for hybrid solar energy conversion 7—50724
liquid solar collector using mixed dye solution 7—65579
thin-film multilayer filter designs for hybrid solar energy conversion systems 7—50723

photothermal effects
aerosol flow and vapour characterisation by photothermal methods 7—51345
buried layer, three-layer sample, photothermal exam. 7—48724
ceramics, thermal inertia measurement, reflective-cavity method investig. 7—46753
electronic materials and their microstructure, thermal wave imaging studies 7—8237
gas velocity imaging using photothermal deflection effect 7—20817
graphite, thin absorber layer on Cu and glass, thermal wave appls. 7—48723
III-V semiconductors, defect recognition and image processing, conf., Montpellier, France (July 1985) 7—29596
image contrast processes in thermal and thermoacoustic imaging 7—43587
laminate flaws, pulsed photothermoelastic quantitative eval. 7—54048
laser enhanced plating and etching using photothermal effects 7—59651
layered materials, semitransparent, modulated photothermal radiometric anal. 7—54033
magnetic materials, nondestructive eval., FMR photothermal-deflection spectroscopy 7—53137
materials, photothermal methods of optical charactn. 7—28249
mylar, ultrasonically excited thin sheet, depth-depend. 2D thermal-wave source profiling 7—48725
NDT, scanned local thermal-wave probing 7—46766
nondestructive evaluation, thermal-wave imaging 7—46754
photoacoustic, photothermal and rel. techniques 7—51946
photoacoustic-thermal signal generation, finite element simulation 7—51947
photodisplacement techniques for defect detection 7—44865
photovoltaic cells, photothermal signals, injected current-related distortion 7—28398
pyroelectric detection of radiation-induced thermal wave phenomena 7—43615
radiometry, expt. aspects 7—41371
rotating solids, thermal-wave imaging 7—54047
solid surface, thermal-wave transient behaviour 7—54034
thermal effects in materials with continuously varying optical and thermal properties in one dimension 7—44871
thermal wave imaging with thermoacoustic detection 7—43586
thermally insulating films on thermally conducting substrates, opto-thermal transient emission radiometry 7—9829
thermographic laser calorimeter for absorptance meas. in optical coatings 7—41389
vertical interfaces, solid, photothermal beam-deflection imaging 7—48721
welding seams, photothermal nondestructive radiometric eval. 7—46752
Al alloys, photothermal-optical-beam-deflection imaging, nonlin. effects 7—48722

photothermal effects continued
Al, photothermal-optical-beam-deflection imaging, nonlin. effects 7—48722
$(NH_4)_2ZnBr_4$, thermosensitive photo-selective phenomenon is single crysts., Raman scatt. obs 7—46038
PbTe films and electrical contacts with Au, Al and Ag, photothermal deflection meas. 7—38784
SF_6-Ar, photorefractive deflection technique using parallel and overlapping probe and pump beams appl. 7—51377
Si single crystal, reactive ion etching-induced damage, nondestructive thermal wave monitoring 7—28230
ZnS:Mn electroluminescent thin films, photothermal deflection spectroscopy 7—27804

photothermal imaging *see photothermal effects*

photothermal spectroscopy
see also photothermal effects
air gap thickness underneath an opaque film, meas. by pulsed photothermal radiometry 7—41334
book, laser optoacoustic spectroscopy 7—55904
carbons, IR exam. with photothermal beam deflection spectroscopy 7—46010
combustion diagnostics by pulsed photothermal and photoacoustic deflection spectroscopy 7—23016
Fourier transform IR photothermal beam deflection spectroscopy of complex gas/solid systems 7—41497
Fourier transform photoacoustic spectroscopy of solids 7—41496
gas flow velocity meas. by photothermal deflection spectroscopy 7—11563
NDT of materials, subsurface control by photothermal radiometry 7—33898
nondestructive evaluation of materials by photoacoustic microscope and photothermal beam deflection 7—20585
nonlinear effects in photothermal beam deflection imaging 7—48722
pulsed photothermal deflection spectroscopy in flowing medium 7—41475
pyroelectric calorimeter for photothermal spectroscopy 7—15011
quantitative photothermal deflection meas. of thermal diffusivity in hot gas 7—30007
ray tracing for crossed beam photothermal deflection spectroscopy 7—41477
semiconductors, transport and defect investigation, review 7—48732
solar cells, spectral response determ. by photothermal spectroscopy 7—23173
solid-liq. interface, Fourier-transform IR spectroscopy with photothermal beam deflection appl. 7—52234
surface analysis by laser induced thermal waves *(German)* 7—8334
thermo-optical absorption spectroscopy utilising transient volume holograms 7—15015
time-delay-domain and pseudorandom-noise photoacoustic and photothermal wave processes 7—41479
trace gas analysis, by intracavity He-Ne laser thermal deflection 7—61381
velocimetry in laminar and turbulent flows using the photothermal deflection effect with a transient grating 7—31901
vertical interfaces, solid, photothermal beam-deflection imaging 7—48721
GaAlAs/GaAs heterostructure, absorption coeff. and thermal conductivity meas. by photothermal spectroscopy 7—41474
Ge (111) cleaved surface, optical props. and atomic struct. 7—58595
Si (111) cleaved surface, optical props. and atomic struct. 7—58595
a-Si films, surface passivation, study by photothermal deflection spectroscopy 7—59689
Si, thermal and electronic transport, photothermal deflection spectroscopy 7—32731
a-Si:H,B, RF sputtered films, optical and electrical props. 7—33470
a-Si:H,B(As) RF sputtered coatings, gas-phase doping efficiency 7—63471
Si:O, thermal donors, photothermal ionisation spectroscopy and IR transmission meas. 7—16987
a-SiN:H films, optical absorption const. evaluation by photothermal deflection spectroscopy 7—22361
SiO deposited on CaF_2, surface separation and vol. absorpt. in photothermal spectroscopy 7—53297
ZnS:Mn electroluminescent thin films, photothermal deflection spectroscopy 7—27804

phototransistors
logic gate, non-reson. optoelectronic, using GaAs-AlGaAs MQW electroabsorpt. modulator 7—37139

phototubes
see also photocathodes; photomultipliers
femtosecond streak camera 7—18895
high-speed photography, videography and photonics, conf., San Diego, CA, USA (Aug. 1985) 7—18486
IR streak camera for use in 1.0 to 1.6 μm region 7—18896
Reticon 1024SF linear arrays and stripline microchannel plates, subnanosecond spectroscopy appl. 7—24708

photovoltaic cells
see also solar cells
accumulators, developments *(Spanish)* 7—23131
ASTM standards for solar cell and module meas. 7—8410
benzoxazinone derivative dye for fluorescent solar concentrator appls. 7—54278
concentrator research progress 7—17903
diffused top layer resistance calc. 7—59845
electric power appls. of photovoltaics, technology assessment 7—3648
encapsulant, properties of new SSP system, comparative study 7—13914
flat-plate photovoltaic arrays, thermal characterisation 7—3685
global and direct solar radiation meas. and photovoltaic testing results in Jeddah 7—23144
hybrid quantum/thermal solar concentration systems using spectral selectivity 7—39967
multi-junction photovoltaic cells with vertical p-n junctions 7—34035
non-imaging optics in photovoltaic concentration 7—8361
photoacoustic signal, computer simulation 7—43588
photothermal signals, injected current-related distortion 7—28398
polycrystalline semiconductor thin film photovoltaic devices 7—40002
pump powered by asynchronous machine, optimal control *(French)* 7—59839
research based on general semiconductor research 7—3678
self-consistent detailed balance treatment of solar cell 7—13859
solar cells, magnetic fields 7—13860
solar H_2 technology, water electrolysis *(German)* 7—65642
technology breakout in energy conversion, conf., San Diego, CA, USA (Aug. 1986) 7—60875
thermophotovoltaic energy conversion, optimum efficiency of single and multiple bandgap cells 7—23185

photovoltaic cells continued
- thermophotovoltaic energy conversion, optimum efficiency of single and multiple bandgap cells 7−59847
- variable-gap structure, solar cell photon energy efficiency 7−34034
- Bi_2CdS_4 thin film photoelectrodes, electrochemical photovoltaic cell appls. 7−17918
- CdS thin films, electrochem. bath deposition, photovoltaic cell props. 7−7900
- CdS/CdTe sintered solar cell photovoltaic props. rel. to CdS film sintering conditions *(Korean)* 7−65476
- CdTe film in a photovoltaic cell, electrodeposition and props. 7−64938
- $CuInSe_2$ photovoltaic devices, analysis using admittance spectroscopy 7−7171
- GaAs thin film photovoltaic cells, large-scale manufacture, hazard characterisation of AsH_3 gas and GaAs waste 7−39998
- a-Si alloy development for photovoltaic power devices 7−34045
- a-Si p-i-n solar cells, CVD deposition from Si_2H_6 7−59841
- a-Si photovoltaic modules, electrochemical degradation 7−17870
- Si photovoltaic power unit for H_2 production from H_2O electrolysis 7−46973
- Si, ramp assisted foil casting and photovoltaic appls. 7−16609
- Si solar cell fabrication using masked ion implantation using SiO_2 7−23165
- Si solar cell photovoltaics, edge-defined film fed growth 7−17413
- a-Si solar cells, dynamic inner collection efficiency 7−39992
- Si:H, amorphous, dendritic web, Czochralski flat plate modules and concentrator module, price comparison 7−17904
- a-Si:H thin film photovoltaic production, safety and industrial engineering 7−13894

photovoltaic effects
- *see also Dember effect*
- centrosymmetric doped cryst., negative coherent photovoltaic cond. calcs. 7−2634
- direct-gap semiconductor, reversible picosecond brightening during interband absorpt. of intense light pulses 7−12761
- electro-optic materials for data storage and processing 7−43021
- electroluminescence related to photovoltaic effect 7−38638
- holographic grating storage, photorefractive piezoelectric cryst. boundary influence on induced field struct. 7−43344
- III-V semiconductor, resonant photovoltaic effect during NMR 7−53158
- phenazine, drift mobilities, photovoltaic appls. 7−21906
- photoemf measurement in semiconductor, by two-capacitors method 7−30037
- photogalvanomagnetic effect, short-circuit current in relaxational conditions 7−52680
- polyvinyl carbazole thin films, plasma-CVD polymerised, photoconduction props. 7−38628
- RF solid-state oscillator for optogalvanic spectroscopy, NO detection using overtone transition 7−9904
- semiconductor bicrystal, diffusion length and grain boundary recomb. vel. determ. by laser excitation 7−41402
- semiconductor grain boundary photovoltaic effect, scanning laser beam obs. anal. 7−12766
- semiconductors, polycrystalline, beam induced current characterisation, appl. to Si solar cells 7−7267
- superconductors, photoelectric effect 7−38817
- thin films, conference, India (Jan. 1985) 7−4619
- (Al, Ga)As-GaAs superlattices, Si migration during MBE growth 7−27171
- Al-Langmuir film-SnO_2, photovoltage spectra 7−64354
- AlAs-GaAs superlattices, Si migration during MBE growth 7−27171
- $Bi_{12}SiO_{20}$, photogalvanically active centres 7−45380
- CdS thin film MIS structs., band bending and interface state density 7−7402
- CdS-$CuGaSe_2$ solar cells, physical properties and photovoltaic potential of $CuGaSe_2$ thin films 7−12889
- CdTe films, illum. with monochromatic light, anomalous photovoltaic effect 7−52684
- CdTe/GaAs heterojunction, defect and impurity states, photovoltage meas. 7−17065
- $CuGaSe_2$ thin films, physical props, and photovoltaic potential 7−22047
- $CuInS_2$-SnO_x:F sprayed solar cells, photovoltaic props. 7−54322
- GaAs/Au(Cr) Schottky barriers, hole diffusion length, photon and electron excitation studies 7−2707
- Ge, p-type, photon drag effect *(Chinese)* 7−33042
- Ge-Si, p-n junctions, photoelectric props., effects of electron bombardment 7−7351
- a-GeSi:H,F double Schottky barrier structures, surface photovoltage meas. and calc. 7−17093
- HgI_2 cryst., photoelec. props. study 7−17049
- InAs-GaSb superlattices, transient photovoltaic effect 7−12764
- Na, vapour, light-induced current calcs. and meas. 7−44096
- Na+electronegative molecule, thermal collisions, laser-induced ionis. mechanism 7−62488
- Pb_3O_4 thin film, electronic props., electrochem. technique characterisation 7−7416
- PbS/PbSe heterostructure, band offsets, photovoltaic study 7−58872
- Pt-$CdInGaS_4$-In surface-barrier structs., photovoltaic effect and SCL currents 7−52687
- Si, nondegenerate, minority carrier diffusion length and doping density 7−33031
- Si, polycrystalline, for solar cell appls., photovoltaic props., effect of impurities and defects 7−38639
- Si, transverse photovoltaic effect due to intervalley diffusion of electrons under laser excitation conditions 7−38613
- a-Si:H/$CuInS_2$ heterojunctions, photovoltaic behaviour, c-v meas. 7−7340
- Si:Ti(V)(Cr)(Fe)(Zr) polycrystalline solar cells, structural, elec., photovoltaic props., impurity effects 7−39990
- Si/Ti amorphous superlattices, high resolution photovoltaic position sensing 7−48847
- Si-Ti amorphous superlattices, electronic and photoelectronic props. 7−12795
- Si-Ti amorphous superlattice films, lateral photoeffect 7−45487
- Si-Ti amorphous superlattice films, lateral photovoltage, wavelength dependence 7−45488
- SiC:H (F), amorphous, electronic and structural props. 7−17054
- SiGe:H, amorphous, electronic and structural props. 7−17054
- TaS_3 quasi-1-D conductor, laser-induced EMF and CDW effects 7−17053

photovoltaic effects continued
- V complex, vanadium(III)bis(2,2′-bipyridyl) chloride-Fe(III) system, photogalvanic effect 7−54145
- ZnS cubic cryst., spatially oscillating piezophotovoltaic effect meas. 7−52669
- ZnS, cubic piezoelectric crystals, influence of uniaxial mechanical stresses on linear photovoltaic effect 7−7276
- ZnSe, thin films, surface electron states *(Russian)* 7−21971

photovoltaic generators, solar *see photovoltaic cells; solar cells*

photovoltaic power systems
- 500 kW solar energy generating facility for H_2 production by electrolysis *(German)* 7−28417
- Advanced Photovoltaic Solar Array Program, Si solar cells for spacecraft power 7−65489
- array performance and life-cycle cost simulation 7−17913
- car battery manufacturing plant power generation system 7−3692
- central station PV array design practices 7−17881
- concentrating photovoltaic arrays, test date anal. 7−17907
- concentrator photovoltaic array field performance characts. for desert environment 7−65415
- DC-AC orthogonal core type convertor, appl. to photovoltaic power system 7−34037
- energy generation prediction for residential photovoltaic arrays 7−3686
- hybrid photovoltaic-photothermal solar conversion system with cogeneration 7−54351
- insolation availability and peak demand matching at 6 MW photovoltaic facility 7−4169
- mobile solar energy H_2 generating system 7−65652
- parabolic dish concentrator with 24 kW Stirling engine power conversion unit 7−17849
- photovoltaic and thermal concentrator system with linear Fresnel lens at DFW airport, performance 7−17852
- photovoltaic water pumps, performance, reliability and maintainability 7−13889
- photovoltaics for electric power appls., technology assessment 7−3648
- polygon concentrator with discontinuous optical surface, photovoltaic power system appl. 7−17850
- residential systems, prototype performance 7−17875
- semiconductor solar electric station-storage battery-solar stand, testing 7−34033
- solar cell appl. of future *(German)* 7−65462
- solar photovoltaic and thermal collector, theoretical anal. and design 7−54347
- solar power, photovoltaics specialists conf., Las Vegas, NV, USA (1985) 7−14
- solar power supplies for instruments and control equipment 7−23137
- solar radiation availability and energy coat for tracking and nontracking photovoltaic power systems 7−3691
- solar-hydrogen project, dimensions, costs and timing *(German)* 7−46938
- thermal energy storage for organic Rankine cycle solar dynamic space power systems 7−65625
- thermal energy storage for space solar power system, phase change materials compatibility 7−65628
- tracking and concentrator collectors, linear and Fresnel optics, cost comparison 7−17853
- a-Si alloy ultralight photovoltaic modules consisting of solar cells, space and terrestrial appls. 7−65485
- Si photovoltaic power unit for H_2 production from H_2O electrolysis 7−46973
- Si solar cells, terrestrial, production costs and conversion efficiency 7−17869
- Si:H, amorphous, dendritic web, Czochralski flat plate modules and concentrator module, price comparison 7−17904

phthalocyanines *see organic compounds*

physical chemistry
- *see also chemical analysis; chemical equilibrium; chemical reactions; chemical structure; crystal chemistry; electrochemistry; nuclear chemistry; pH; photochemistry; radiation chemistry; radiochemistry; solvated electrons; surface chemistry; thermochemistry*
- coupled logistic maps for physico-chem. process modelling 7−59824
- electrorheological fluids, optimisation for electrical control of viscosity and torque 7−44641

physical data, collections of *see collections of physical data*

physical instrumentation control
- astronomical telescope, 90 cm Schmidt-Cassegrain type, computer-aided control system 7−4337
- Bayard-Alpert vacuum gauge controller with logarithmic response 7−14959
- circular traveling wave motor, speed control characts. and digital servosystem 7−35511
- conductometer, microprocessor HF contactless, design 7−59808
- cryogenic temp. controller, for diffusion coeff. of Kr in liquid Ar determ. 7−30020
- decomposition study instrument 7−59818
- differential scanning calorimeter automation 7−24654
- digital controller for a magnetic suspension system 7−333
- diode compact linear array external cavity laser, wavelength control 7−43154
- dye laser system, high resolution computer controlled 7−20249
- electrodynamic drive of Mossbauer spectrometer, controller design 7−35508
- eye examination setup, OAP-311, rational refraction system 7−8747
- Fourier transform, spectrometer, microcomputer-controlled, path difference control 7−48861
- Fourier transform spectrometer, Los Alamos design with microprocessor control 7−48860
- gas reaction expts., remote-controlled glass-Teflon high-vacuum stopcock design 7−321
- hazardous gas monitoring system in chem. manufacturing facility, open path FTIR air monitor 7−54416
- insertion device Beam Line Wunder design at SSRL 7−42256
- JEM-2000FX TEM control, using LSI-11/23 computer 7−30130
- laser photoplotters for phototemplates fabrication, optical radiation control 7−25834
- magnetic suspension systems with digital controllers 7−332
- magneto-optical elements of particle channels, optical remote control system for power supplies 7−42268
- manipulating system for microlitre volumes of liquid reagents 7−41362
- mass spectrum extremes meas., automatic digital recording system 7−30109

physical instrumentation control continued
  medical microscopy blood smear analysis automation, image processing 7−65832
  microwave spectrometer, electromagnet power system improvement using dual control 7−30057
  multilayer monochromators and supermirrors, X-ray and neutron, controlled sputter deposition 7−33563
  multilayer soft X-ray coatings, automatic electron-beam deposition system 7−3184
  multilayer soft X-ray reflection coatings, automatic electron beam deposition 7−33571
  optical figure generation using feedback from IR phase-shifting interferometer 7−37219
  photographs processing from large bubble chambers 7−36411
  pipetting device, microvolume, for atomic absorpt. spectrometry 7−4900
  quasi-elastic light scattering, data acquisition and evaluation 7−56239
  scanning spectrometer design and props. 7−56353
  servo-controlled lasers progress and appls. 7−20307
  soliton laser stabilisation, feedback from pulse-shaping fibre, servo control 7−50602
  spectrofluorimeter, laser pulse, LIS-201, automated ultrashort-time, for UV and visible regions 7−4896
  spectrometer, IR, for surface EM waves, computerised control system 7−41511
  stereometric camera, parallel orientation of camera base to datum plane in close-range photogrammetry 7−3970
  thermophysical props. of metals meas., 600 to 4000K range 7−4843
  turbomolecular pump, automatic ventilation system 7−18797
  US displacement meas. system, microcomputer controlled *(German)* 7−56222
  X-ray set, diagnostic, optical centering unit adjustment device 7−28664
  X-ray spectrometer, Cauchois-type, computer-controlled 7−56395
  Ar ion laser, wideband power regulation system 7−31347
  H_2 thermal absorption or desorption studies, microcomputer controlled apparatus 7−21668
physical metallurgy *see metallurgy*
physical optics
  airborne scatterers, multi-(bi)-static HF (PO/GO) radar target imaging 7−25706
  antenna far field pattern, reflector support boom effect 7−50472
  bandwidth extrapolation through iterative deconvolution 7−62637
  bistatic rough surface scattering cross section for physical optics model, variation 7−20138
  Born vs. Rytov approximations, is the debate over? 7−62593
  complex structure backscatter, flat-plate physical optics approximation 7−57217
  energy transport with partially coherent light 7−43326
  fields, perfectly conducting screen aperture, line integrals 7−15802
  Fresnel optics, nonlocal corrections calcs. 7−45957
  inverse optics, conf., San Diego, CA, USA (Aug. 1985) 7−60869
  Kennaugh's physical optics impulse response. for slightly bistatic case 7−42862
  open resonators, Huygens-Fresnel principle and integral eqns. 7−31244
  phase retrieval, practical appl. for the space telescope 7−62638
  phase retrieval based on theoretical models for multi-dimens. band-limited signals 7−62636
  phase retrieval method apparent limitations 7−62635
  radar cross-sections, physical theory of diffraction, double reflections anal. 7−42863
  Schwartzschild objective in X-ray optics, image form. in multilayer optics, SHADOW program 7−30144
physics
  see also physics computing
  condensed matter physics, theoretical topics, book 7−48198
  knowledge, belief and themata in physics 7−29655
  remote site instruction in physics: a test of the effectiveness of a new teaching technology 7−18518
physics computing
  see also computerised instrumentation; spectroscopy computing
  1D chain with random distribution of linear side branches and loops, electronic props. 7−64191
  2D and 3D MHD equilibrium and stability codes, comparison of BETA, HERA and STEP 7−11627
  3-D vector-values data visualization method *(Japanese)* 7−51031
  3D flow obs. by interferometry and image processing 7−37576
  3D Ising model program, vectorisation on the CDC CYBER 205 7−41281
  acousto-optic interactions anal., multiple plane wave approach 7−17305
  advection-diffusion eqn., accurate finite difference methods and Pascal listing 7−16148
  aggregation, efficient algorithm for Brownian dynamics simulation 7−48552
  Air-track kinematics and ultrasonic ranging module interface for Apple IIe 7−35148
  alkali halides, colour centres, Hartree-Fock cluster computations 7−16985
  alkaline earth oxides, colour centres, Hartree-Fock cluster computations 7−16985
  alloy, solidification, differential thermal anal., modelling *(French)* 7−65024
  alloys, ion projection ranges and their distrib., personal computer programs *(Japanese)* 7−6659
  atom probe data, software package for on-line anal. 7−30128
  atomic and molecular orbitals, reduction of orbital sets, computer program OFMO 7−49865
  atomic collision cascade mol. dynamics computer simulations in insulators 7−26793
  atomic struct. refinement, algorithm and program for Borrmann effect 7−21045
  Bessel functions product with Gaussian, integral evaluation 7−48304
  biharmonic equation in rectangular prism, vector processing routine, TDPOIS 7−48636
  Bridgman growth, interface temp. distrib., furnace stability, computer calc. 7−53546
  calcium oxalate, crystal growth and aggregation, computer model, partial size distribution 7−16463
  channel flow, rectangular turbulent promoters, computer generation 7−37549
  chromatography, computer simulation of physic-chemical stochastic processes 7−65379
  clarinet playing, vocal tract resonance 7−50863

physics computing continued
  coincidence boundary migration, calc. of activation energy for defect movement using computer simulation techniques 7−21218
  collapse of MRL 38 mm shaped charge, database for computer modelling 7−63192
  composite, digital image correlation methodology use for deform. quantification 7−59718
  composite plate, spectral analysis of natural grid features for surface analysis 7−63096
  compression test, high speed, microcomputer system, split Hopkinson bar technique 7−13686
  computability and physical theories 7−18589
  computational physics, undergraduate physics option at Univ. of Birmingham 7−29643
  computational physics teaching 7−48226
  computer-aided sound propagation anal. method *(Japanese)* 7−20483
  conf., London, England (September 1985) 7−18492
  conjugated systems, computer reaction simulation, hybrid model 7−49874
  continuum dynamics, introduction 7−4800
  continuum dynamics, parallel algorithms 7−4683
  creep modelling for engineering design 7−22776
  criticality excursions in fissile solutions using CRITEX program 7−19373
  crystal density functions, program package for multipole anal. 7−58092
  crystal structure determ. using automatic Fourier, Patterson and superposition methods 7−32219
  crystal structures, modified MULTAN approaches 7−51559
  crystal structures, nonconvex, polygonal mesh and quad-tree display algorithms 7−51672
  γ-crystallin IIIb, 3D model, construction from electron density maps using machine graphics 7−23301
  crystallites, 2D, crack growth, computer modelling 7−43787
  crystallography, 3D intensity data from single crystal reflections, graphical display 7−11829
  cut model reconstructed from a three-dimensional datarepresented by Miller-Bravais indices and a simulationof Hirano bodies 7−6572
  D0 experiment at Fermilab, data acquisition system 7−19672
  data acquisition suites, multichannel, with time-scale conversion and storage CRT, design 7−61321
  DELPHI, γ-ray spectrum analysis code 7−15201
  detached flow around profiles with ang. points, computer modelling 7−43924
  diamond, tilt boundary struct., computer modelling 7−16579
  dielectric constant determ. using six-port reflectometer 7−18821
  digital image processing techniques used in astronomy, appl. to diffr. data 7−11828
  DIII-D Tokamak, physics analysis database 7−5429
  directional solidification, solute distrib. coeff., numerical analysis 7−28027
  discommensuration patterns, dynamics 7−44749
  dislocation loops, small hexagonal, diffraction contrast images and lattice fringe patterns, computer simulation 7−44325
  disordered adsorbates, calc. of elastic diffuse LEED intensities 7−44315
  distance geometry conformational configuration 7−49919
  DOSKMF2 code for gamma radiation field meas. on high dose rate radiation equipment 7−15417
  DREAM data reduction and error anal. routines, appl. to single cryst. diffr. intensity meas. 7−16348
  droplet field visualization and characterization via digital image analysis 7−37577
  elastoplastic finite element analysis, precision and efficiency increase *(Chinese)* 7−43691
  electrocrystallisation, kinetics, computer simulation studies 7−58173
  electron energy loss in thin films, Monte Carlo program MCSDA 7−51894
  electron linac, control system for Photon Factory 7−5498
  electron microscope objects characterized by linear elements, three-dimens. reconstruction 7−56377
  electron Monte Carlo transport, PRESTA algorithm 7−49854
  electrophoretic separation of macromolecules, two-dimensional multivariate data analysis 7−54440
  electrostatic lens for positron studies, transfer-matrix subroutines 7−62616
  EM particle in cell codes, Maxwell's equations 7−50443
  EPR spectrometer, automated, for structural anal. of disordered solids 7−58109
  ESR spectrum, computer anal. and simulation 7−45798
  EXCALC code applied to general relativity and Poincaré gauge theory 7−61174
  exploding metallic foils time-dependent behaviour and hydrodynamic expansion, computer model 7−32036
  fast clustering algorithm for e/γ ALEPH calorimeter 7−42445
  FELICIT, multigroup neutron transport code, inclusion of anisotropic scatt. 7−19324
  FELTRAN finite element code, appl. to multigroup neutron transport 7−19345
  FENDER, finite element diffusion code, extension to 3D problems 7−19343
  FENDER diffusion code, anal. of voided regions, radiation streaming problem 7−19331
  field emission gun scanning electron microscope columns, computer modelling 7−41548
  films, grain structures and grain growth 7−16903
  films grown from a partly ionised molecular beam, computer simulation of structure 7−7060
  FIRECRACKER 3, computer program for X-ray powder diffractometers calibration 7−14931
  first integrals for π-systems, DISSYS program 7−48299
  FLARE code for two-dimens. turbulent combustion 7−20815
  flow, determinacy of degenerate equilibria 7−57782
  flow, large-range, calibration by changeable water level system with computer simulation 7−37592
  flow, transient velocity profiles, real-time estimation using Kalman filtering techniques 7−37582
  flow meas., multichannel time counter and data acquisition system 7−37571
  flow modelling in 3-D fracture networks 7−56799
  flow problems, stiff ODE solver software, selection 7−26239
  flow vel. vector, automatic determ. from pathline photograph 7−37575
  flow visualisation computer-aided data processing 7−6329
  fluid, instability for shear-induced order-disorder transition 7−35287
  fluid dynamics, Glimm's method, introduction and FORTRAN listing *(Spanish)* 7−20678
  fluid dynamics, implicit soln. methods 7−51020

physics computing continued
fluid mechanics numerical expt., computational methods 7—43836
fluorescent lamp plasma computer modelling 7—20929
FRED, 2D free electron laser simulation code, comparison of predictions with X-ray FEL feasibility study 7—1132
FRED code, use in ELF microwave free electron laser expt. for comparisons with 2D simulations 7—1190
fusion energy experiment controlled by an expert system 7—5437
fusion neutron multi-group double-differential cross-sections using PROF-DD code system 7—56852
fusion physics, simulations 7—5307
fusion reactor neutral beam source conditioning with AI techniques 7—19462
gas dynamics in 1D, AZTEC software 7—26237
gas flows, high vorticity, computational limitations associated with Monte Carlo and mol. dynamics method 7—57857
GF11 supercomputer for QCD calcs. 7—61556
glass, softening point determ., numerical method, calculator program *(Czech)* 7—6796
glycerin, motion of sphere studied using videotapes, viscosity meas. 7—35149
GPED automatic background subtraction, software system 7—15710
gradient time-shape measurement by NMR 7—14985
graphics display of 3-D analysis data 7—4826
GRESS automated procedure for adding sensitivity calc. capability to ORIGEN2 point depletion code, HLW appl. 7—36290
groundwater flow in permeable geologic media for nuclear waste evaluation using 3D-SEEP code 7—60103
heat conduction, boundary value problems, eigenvalues eval. 7—62949
heavy gas atoms, particle behaviour simulation 7—9749
HEP computing in US, future plans for $p\bar{p}$ and e^+e^- colliders 7—19146
HERB high-rate CAMAC acquisition system 7—42444
Hermitian matrix linearisation using LINRZ program 7—48269
HETC/LHI/SGS radiation transport code system 7—48637
high energy physics, computational needs 7—10316
high energy physics event processing on vector computer 7—15180
holographic image recording using computer control 7—25758
holographic optical element construction optics, design considerations 7—50715
Hubble Space Telescope, performance prediction using OSAC code 7—40707
ideal MHD equations, scalar form, normal modes in axisymmetric toroidal geometry, PEST codes 7—11619
IKONET, distributed accelerator and experiment control applications 7—19560
imaging bandpass electron energy analyser 7—375
industrial turbulent flow, 3D, computation by FEM 7—43876
insertion device Beam Line Wunder design at SSRL 7—42256
interactive system for diverse experimental data preliminary processing 7—4825
interfacing to microcomputer 7—35166
ionic crystals, grain boundaries, review 7—6632
ions implanted into single crystals, depth distributions 7—6667
isolated molecules, SCF computer program in molecular orbitals basis set 7—49913
jet flow visualisation, image processing using streamline coordinates 7—37572
jets, modulated, numerical modeling 7—63190
JFT-2M tokamak, data processing system 7—15405
Josephson junction in microwave field, devil's staircase fractal dimension and decay constants 7—38821
Langmuir probe technique for plasma parametermeasurement in a medium density discharge 7—11782
large aspheric optics, rapid fabrication using computer-controlled opt. surfacing unit 7—37224
laser Doppler velocimetry, multi-pt. system using phase diffraction grating 7—37605
laser image plotter for high-information-density images recording 7—26043
lattice gauge theory simulation using the APE computer 7—61488
lattice models, parallel computations in physics 7—48593
lattice QCD, large scale computing aspects 7—49068
lattice relationships analysis program 7—11830
ledge interphase boundaries, growth kinetics, computer modelling 7—65041
ledged interphase boundaries, growth kinetics, computer modelling 7—65040
LEED intensity meas. using real-time digital video processor 7—44317
Lennard-Jones potential, linear molecules, molecular dynamics with vector computer 7—50285
lens design, conf., Cherry Hill, USA (June 1985) 7—48161
lens design, EASE development and user friendliness 7—57514
lens design, interactive computer program 7—50693
lens design innovations 7—50674
lens design program, intelligent, development 7—50676
lens design program by microcomputer with artificial intelligence 7—50677
lens design program using simultaneous linear inequalities, improved version 7—50681
lens design software, human dimension 7—50675
Liesegang ring form., microcomputer algorithm 7—17827
light charged particles, equilibrium behaviour 7—9750
linear accelerators, RF cavity design and codes 7—62128
linear accelerators, Wake Field calculations using the MAFIA 3D BCI code 7—62138
linear elastic beam elements of MODULEF library *(French)* 7—31655
linear elastic fracture mechanics, computerised R-functions method 7—63066
low-earth-orbit satellite tracking and data acquisition, use of microcomputer systems 7—55425
macromolecular structure refinement programs, PROTIN and PROLSQ, addition of symmetry-related contact restraints 7—51572
MAD, accelerator, design tool kit 7—10315
MAFIA, 3D EM CAD system for magnets, RF structs., and transient wake-field calcs. 7—62136
magnetic confinement expt. control system, design 7—5427
magnetic domain wall motion, computer simulation 7—53099
magnetic hysteresis, digital simulation, simplified 7—64489
magnetic scintillation electron spectrometer for cosmic radiation meas., specifications computing 7—40715

physics computing continued
magnetron sputtering cathode, CAD using finite-element program 7—46316
many-electron Schrödinger eqn. for molecular systems, computational considerations 7—4700
MARC/PN neutron transport code, recent developments 7—19341
Markov chain algorithms for canonical ensemble simulation 7—48520
martensitic transformations, 2D magnetic-analogue model 7—26905
mass transport along surfaces, computer modelling, book contrib. 7—27082
McMOLDYN/H2O computer simulation package for aqueous systems 7—44330
metal, Fermi surface, pseudopotential calcs., program set review *(Russian)* 7—64050
metal displacement cascade damage computer simulation using binary collision approx. code *(Japanese)* 7—32535
metal hydride hydrogen storage beds, temp.-comp. relations, computer calcs. 7—8448
metal-insulator-metal (semiconductor) structs., circuit anal., automated 7—27438
metals, dual-phase, simulation of growth process of minor phase grains 7—65050
metals, FCC, quantitative assessment of forest hardening 7—65055
metals, HCP, computer simulation of twin boundaries 7—38014
MFTF-B data triggered data processing 7—15399
microprocessor and minicomputer-based 7—1033
microprocessor measurement of electrolyte concentration by a conductometric method *(Polish)* 7—54143
microprocessor-based linac main oscillator and beam stabilization using the phase-locked trigger *(Japanese)* 7—19622
Mie scattering coefficients algorithm 7—50479
MIMIMARS halo model and computer code 7—15335
minicomputer appl. for radiocarbon anal. control and meas. 7—34682
minute spatial displacement field determ. from multiple interferometric holograms, fast algorithm *(Chinese)* 7—56215
mirage effect, 3D calcs. using personal computer 7—50484
molecular conformational studies, topology manipulation and coordinates algorithm using MOLTW program 7—50398
molecular design, computer-aided, conf., London, England (Oct. 1986) 7—50429
molecular indices, topological and structural, software suite calc. 7—10373
molecular liquids, molecular dynamics study using CYBER 205 7—51599
Monte Carlo computer code system for ionization chamber response analysis, development and testing 7—42433
Monte Carlo turbulence simulation using rotational approx. to von Karman spectra 7—31759
multi-ADC data acquisition and transfer system for nuclear physics expts. 7—25335
multibody equations of motion, generation using computer technique *(German)* 7—29739
multichannel optoelectronic processor with correlation-function processing 7—25740
multichannel scaling with a VIC-20 or Commodore 64 7—49841
multicomponent aerosol modelling, numerical implementation for reactor accident mitigation 7—56800
multigroup neutron diffusion equation, 3D, soln. using finite element method 7—19344
multilattice microcanonical simulation algorithm, 2D Ising model calcs. 7—24597
multilayered devices, algorithm for dose profile calc. using personal computer 7—56877
multiparticle diffusion, fractal kinetics 7—24604
multiphoton processes, squeezing props. and photon statistics using SQSIMUL code 7—50520
multiprocessor system for parallel proton tracking 7—19591
MWPC imaging, derandomising buffer and microcomputer memory 7—42309
MWPCs, 3D algorithm for induced charge distrib. calc. 7—36394
neutron shields for medium-energy accelerators, use of neutron transport codes 7—42258
nonequilibrium flows, transient processes, EM radiation field effect, shock wave effects 7—43979
nonequilibrium processes, computer simulation 7—18688
nuclear fuel criticality calculation code SIMCRI 7—10192
OEKFAK factual database on nuclear technology *(Russian)* 7—35133
office information retrieval system using concepts of the AIR/PHYS physics data bank *(German)* 7—14721
Olympic main coliseum, acoustic simulation *(Japanese)* 7—62915
one-dimensional incommensurate system, energy-dependent metal-insulator transition, computer exptl. evidence 7—58743
ONETRAN code computation of dose profiles for 100 to 1250 keV photons 7—56874
online FASTBUS processor for LEP 7—19590
optical analysis and simulation, microcomputer-based image processing aids 7—36891
optical design, aberration display technique 7—50689
optical design, two-component objective calc. 7—43294
optical design program for Apple Macintosh 7—50692
optical design software for personal computers 7—43308
optical figure generation using feedback from IR phase-shifting interferometer 7—37219
optical system design, 3D simulator appl. 7—62814
optical system design, interactive ray-tracing program integrated with solid-modelling CAD system 7—50679
Ostwald ripening, computer modelling 7—65038
P-T-X phase diagrams calc. using FORTRAN 77 programs PT-SYSTEM, TX-SYSTEM and PX-SYSTEM 7—38161
parallel computing in lattice theory 7—61487
parallel-pipelined data driven processor, development status 7—19671
parity dependent NBCS formalism at finite nuclear temp. using NUCPAR program 7—49256
partially ionized gases, scalar DC electrical conductivity 7—51381
Particle Beam Fusion Accelerator II (PBFA II), computer model of vacuum system design 7—30773
Particle Beam Fusion Accelerator II (PBFA II), energy transport meas. and computer simulation 7—30764
particle beam fusion accelerator II (PBFA II) data acquisition system with waveform recorders 7—30753
particle in cell codes, vectorising interpolation routines 7—50462
particle physics experiments, design and simulation system 7—49194
PCTRAN Plus software for vibration analysis 7—57737

physics computing continued
PDP-8 on-line computer for missing mass spectrometer data handling 7−9824
photographs processing from bubble chambers 7−35498
photographs processing from large bubble chambers 7−36411
photophysical imaging processes, simulation algorithms 7−61398
physics education, computer use 7−38
piezoelectric crystals, frequency and electrochem. data collection and anal. 7−53239
pipe flow studies, microcomputer appl. 7−14733
PIXE, accurate anal. using INK computer program 7−54216
plane layered media, global matrix formulation of wave phenomena 7−61125
plasma fluctuation diagnostic software tool development 7−11737
plasma pot. calcs. from meas. Langmuir probe characts. 7−18306
plastocyanin, paramag. Cu^{2+} containing, spectroscopic and computer simulation study 7−8494
plates and rings, SPATE stress studies under in-plane loading 7−63086
plunging breaking waves, velocity and force measurements in the splash zone, laser anemometry 7−63237
polar plots of intensity of scattered acoustic waves from a rigid cylinder 7−50797
polyatomic molecules, vibr. spectra, automated interpretation 7−10549
polymer microcrystals, natural, diffr. data from electron diffr. patterns 7−11862
position sensitive detector data treatment, possible use of OCCAM and transputers 7−10355
position sensitive detectors, 2D detector data for crystallography, fast treatment using processor arrays 7−10354
potential flow hydrodynamic coeffs., energy derived, algorithm 7−6177
Princeton Large Torus data acquisition and analysis system 7−5424
PROCESS, source term calculation program for personal computers, results 7−42175
propagation of boundary effects in large systems on vectorprocessors 7−4989
protein crystallography, restrained least-squares procedure using Numerix MARS-432 array processor 7−34105
protein structure refinements, model-fitting procedure incorporating the double-null technique 7−54450
PRUD-W code for accelerating structures design 7−5501
PUFF-PLUME emergency response atmospheric dispersion model, field eval. at SRL 7−34292
pyroelectric detector signals analysis by analogue technique 7−348
QCD and lattice gauge, theory, numerical simulation using Cray supercomputers 7−61557
QCD spin-depend. static pots., SPINSUB vectorised code for Monte Carlo computation 7−41721
QED, Feynman graphs and amplitudes, automatic generation using GRAND program 7−49043
quasi-elastic light scattering, data acquisition and evaluation 7−56239
radiation protection and shielding analysis, personal computer experience 7−42235
radioactive waste repositories, long term risk assessment using MELODIE code 7−5486
radiography, technique for L shaped object generation by computer program 7−3555
random and channelling backscattering spectra, anal. by versatile computer programs 7−64840
random magnetic materials, numerical simulations with a special purpose computer 7−17182
range and damage profile parameter predictions on a microcomputer, analytical approx. 7−62241
raster graphics devices, display and anal. of geometry of molecular cpds. 7−56236
reactor sensitivity anal. using computer calculus 7−30477
recoil separator, adaptable computer control system 7−5520
rectangular cavity with moving wall, turbulent 3D fluid flow using FLOW3D code 7−37441
rectangular rigid frame, structural anal. by the ε-method using a digital computer 7−14761
RF accelerating cavities, 3D calcs. using the URMEL-3D code 7−62137
rigid molecules, new rigid motion algorithm for MD simulations 7−50284
rotating cone in external stream, boundary layer eqns., FORTRAN code 7−37468
scanning electron microscopy, online digital recording system 7−4933
Schwartzschild objective in X-ray optics, image form. in multilayer optics, SHADOW program 7−30144
Science Toolkit, software, with light and temperature probes, for Apple II 7−35180
selection system for particles with lifetimes of 1-0.1 psec, in vertex detector 7−10364
SEM, structural improvements, computerisation *(German)* 7−48921
SEM images acquisition and enhancement, using microcomputer 7−377
semiconductor lasers field spectra computing asymmetry due to noise obs. *(Japanese)* 7−15862
semiconductors, deep trap profiles determ. 7−58768
semiconductors, solid-phase epitaxial regrowth, amorphous-crystalline interface evolution 7−12568
shakuhachi, Japanese wooden flute, pitch temperament correction *(Japanese)* 7−43578
shell, inclined Timoshenko-type, triangular finite element construct. 7−1415
shock waves, simulation in 3D 7−6247
SIMPLE hydrodynamics benchmark, restructuring for CHiP architecture 7−16145
sintering, solid-state, neck shape and limiting grain boundary diffusion/surface diffusion 7−64951
SIXTUS-2 code, soln. of two-dimensional diffusion critical problem in hexagonal geometry 7−19327
soft X-ray streak camera, absolute calibration 7−18963
software engineering in physics, conf. NoveMesto na Morave, Czechoslovakia (Sept. 1985) 7−18471
solid state materials, computer modelling 7−51676
soliton bag model, characteristics using BAG program 7−49087
star-like polymers, swelling in good solvent, Monte Carlo calcs. *(Russian)* 7−63436
statistical mechanics systems, transputer array simulation 7−48519
steady flow problems, press.-vel. components, algorithm comparison 7−37417
steel, composition-treatment-structure property correlation, computer software development 7−3329
steel, stainless, high velocity shock impact, numerical simulation of sample recovery fixture 7−38120
STEM focused electron probes, Fourier analysis 7−18934
STEM objective lens, high excitation, Munro programs data variations effect on predicted opt. props. 7−18933
stopping powers for ion bombardment using EDEP1 program 7−51895
streamlines and pathlines, plotting on microcomputer 7−16272
stress, FEA using microcomputer 7−48357
structural phase transitions in highly anisotropic systems, dynamics 7−32605
substance macroscopic properties; MINDO/3 semiempirical approximation program calc. 7−10434
SUMMER VME trigger processor 7−19592
surface tension measurement system, automatic 7−52192
surface tension measurements, optimisation algorithm 7−14929
TEM lens shape with min. spherical aberration coeff., computation method 7−18936
TeV e$^+$e$^-$ linear accelerator, DENKAI program for static field simulation *(Japanese)* 7−19588
TFTR CAMAC data-acquisition system 7−5426
thermophysical meas. automation, software for a microcomputer data-acquisition andcontrol system 7−4824
thermophysical meas. automation, universal microcomputer-controlled system 7−4854
thermophysical properties, calcs., microcomputer interactive FORTRAN programs 7−11260
Thomson scattering meas., photoelectron statistics effects 7−11800
three dimensional Ising model, simulation on Cyber 205, fast algorithm 7−9794
three-channel plasma diagnostic data handling system based on the VAX 11/780 and the LeCroy 3500 signal analyzer 7−26527
TMAP, fusion safety analysis code for tritium movement and inventory predictions 7−36258
TMX-U data analysis, database tools 7−5428
TMX-U diagnostic data base, evolution 7−5423
tomographic analysis of the evolution of plasma crosssections 7−1741
TOPAZ time projection chamber, FASTBUS digitizer system 7−62244
trace metals in seawater, interaction with humic acid 7−54383
transport in solids, computer simulation studies, book contrib. 7−26994
TRIATOM, SELECT and ROTLEV codes for triatomic molecules, rovibrational levels calcs. 7−42582
TRISM, finite element transport code, spatial and angular flux approximations and accelerations 7−19342
turbulent, fully developed 2D channel flow, visualisation and image processing 7−37574
turbulent flow behind disk, press.-strain correl model 7−31758
turbulent flowfield visualisation, computer generated, for flow around cubic model 7−37447
turbulent mass transfer at mobile interface, computer simulation 7−43865
two-lens cemented objective, struct. parameters automated calc. 7−37085
tyred wheels, noise investigation, array processor use *(German)* 7−6041
underwater acoustics, finite element analysis appl. *(French)* 7−11209
undulator radiation, spectral properties, calc. in far field approx. 7−31225
undulator spectra, computer simulations and modeling 7−31226
unsteady compressible cascade flows anal. using boundary element and free vortex method 7−43962
unsteady jets, 3D surface shape estimation by image processing 7−37573
upper Hessenberg sparse matrix algorithm for modal identification on minicomputers 7−62970
velocity-field measurement by pixel-based temporal mutual-correlation analysis of dynamic image 7−20823
vibration transducer with multichannel adaptive system for dynamic parameters meas. 7−61326
video/computer technology role in exptl. mech. 7−63093
visco-resistive MHD instabilities computation, cylindrical equilibria disturbances 7−11620
VME/VMX parallel multiprocessor system for the data acquisition of the UA1 streamer tubes 7−19665
X-ray mirror substrates, grazing incidence, precision machining/metrology facility 7−37222
X-ray oscillation patterns processing using the Nord-100 computer 7−16359
X-ray oscillation photographs interpretation, crystal setting matrix determ. 7−32218
X-ray pole figures, computer plotting 7−26589
X-ray texture analysis, TZ-6 texture attachment, ICPOFI program system 7−8214
Al polycrystalline target, sputtering by 40 keV Ar$^+$ ions, computer simulation 7−64848
CdSe lattice defects, digital struct. anal. by ion beam thinning for high resolution electron microscopy 7−6616
Cu, dislocation-mechanics-based constitutive relations for material dynamics calcs. 7−63706
Cu polycrystalline target, sputtering by 40 keV Ar$^+$ ions, computer simulation 7−64848
Fe, dislocation-mechanics-based constitutive relations for material dynamics calcs. 7−63706
Fe, low energy ^{4}He ion range and damage distribs. 7−63674
Fe:He(C), distribution and migration of interstitial impurities in the field of a screw dislocation core 7−6669
GaAs solar cells with corrugated surface, computer code for performance eval. 7−3667
Ge, tilt boundary struct., computer modelling 7−16579
H atom, positron annihilation, computer expt. 7−36791
H_2O, dissoc. and ion pair form., rate consts., computer simulation 7−28294
He-H mixtures, positron annihilation, simulation 7−36792
InGaAsP epitaxial films, strain mapping by an X-ray diffraction technique 7−21786
Mo, low energy ^{4}He ion range and damage distribs. 7−63674
Na_2O-B_2O_3-Al_2O_3 glass struct., NMR and computer simulation 7−1898
Nb-Zr, mixed dislocations, nuclei atomic configs., computer modelling *(Russian)* 7−58281
Ni polycrystalline target, sputtering by 40 keV Ar$^+$ ions, computer simulation 7−64848
Ni-Ag(001), Au doped, thin films, interphase boundaries, struct. and composition 7−27158
Ni-Cr, carburisation, kinetics, diffusion and precipitation *(German)* 7−8194
Ni_3Al, computer simulation of grain boundaries, effect of comp. 7−21228

physics computing continued
Si, tilt boundary struct., computer modelling 7—16579
Si:B, magnetic Czochralski growth, computer simulation of B transport 7—32344
Si:B(P), lateral diffusion, modeling LOCOS effects 7—33865
Si-SiO$_2$ interface, computer simulation of high-resolution TEM images 7—44318
VSi$_2$, sputter yield, computer simulation technique 7—33505

physics fundamentals
see also classical field theory; complementarity; elementary particles; fundamental law tests; mechanics; quantum field theory; quantum theory; relativity; thermodynamics; units (measurement)
Bell's theorem and retroactivity 7—61158
Cartan's contortion, relation to Eotvos torsion expt. 7—4326
causal violations and tachyons *(French)* 7—9664
constants, probability law 7—18544
constants, theory 7—55941
cosmology, big bang and unified theories of Universe *(French)* 7—60841
coupling constants, evidence for variation 7—41670
Einstein's inertia-energy relationship, deduction using isotropic light signal 7—55931
elementary particle fine structure constant, numerical value explanation *(German)* 7—49122
fourth dimension 7—9663
Fresnel approx., validity and physical explanation 7—55935
fundamental constants derived from two-dimensional harmonic oscillations in an electrically structured vacuum 7—55942
induced causality in astrophysics, alternatives to general relativity 7—47676
length, differentiation method 7—48346
material content of Universe, conference, London, England (October 1985) 7—55884
Newton's laws of rigid body mechanics, proof using stroboscopic photograph 7—55927
photon anticorrelation effect on beam splitter, classical wave model compatibility 7—56068
Planck length as cosmological constraint, derivation 7—34852
proton gyromagnetic ratio meas. in terms of quantum magnetic flux 7—61687
quantum potentials, introduction into QED 7—41135
thermodynamical mechanical work, discussion on use of conventions *(Spanish)* 7—61306
Wheeler's notion of law without law in physics 7—18545

physiological models
see also brain models; neurophysiology; physiology
acetylcholine receptor channel, gating kinetics and permeation, appls. of statistical methods for model discrimination 7—59961
active fibres, line source models 7—54526
adaptive thermal modelling, concept for meas. of local blood perfusion in heated tissues 7—65715
agar phantom electrically adaptable for tissue simulation in 5-40 MHz range, hyperthermia cancer treatment 7—65713
airlift-loop bioreactor with external loop, hydrodynamic model 7—40179
alternating electric field, model for action on a human 7—34187
arterial bifurcation, numerical simulation of pulsatile blood flow 7—65794
arterial flow in the presence of a stenosis 7—34176
arterial pressure, mean, computer control with Na nitroprusside: adaptive model-based system 7—40359
arterial pressure pulses, simulations using a transmission line model 7—23388
arterial pulse as a soliton, nonlinear differential eqn. 7—60023
arterial system, human, under periodic body accel., finite element anal. of blood flow through model 7—34178
ascending limb of Henle's loop, active transport and steady state distrib. of Na$^+$ *(Chinese)* 7—28485
associate recognition and storage in model network of physiological neurons 7—47028
autoregressive EEG modelling, best AR model order 7—54539
axons, anal. of models or external stimulation 7—23329
biomembrane excitation, pulse and const. current stimulation, electrical circuit simulation 7—28479
bioprosthetic valves, closed, influence of stent height upon stresses on cusps, finite element model 7—23387
blood, phase separation of erythrocytes, platelets and plasma at branches 7—54664
blood pressure, diastolic, mean and systolic, numerical model of oscillometric determ. 7—65805
bronchial mechanics and density dependence of max. expiratory flow, anal. 7—8621
burns patients, dynamic analysis of reanimation treatment effects 7—40202
cable theory applied to blowfly receptor cells and large monopolar cells 7—47038
cardiac arrhythmia haemodynamics, simulation with a real-time computer model 7—3826
cardiac conduction, time dependent anatomically detailed model 7—40130
cardiac conduction system included external pacemakers, math. model 7—40129
cardiac muscle, contracting, nonlinear viscoelastic behaviour 7—8642
cardiac Purkinje strands, K$^+$-activated electrogenic Na$^+$ pumping 7—28490
cardiomagnetism, inverse problem soln. using a current multipole expansion of primary sources 7—54641
cardiovascular models for real time applications 7—34094
carotid siphon model, pulsatile blood flow anal. 7—40197
cell death by exposure in vitro to X-rays and 1,3-bis(2-chloroethyl)-1-nitrosourea, predictive models 7—60046
cell survival and radiation induced chromosome aberrations 7—47167
central nervous system topological models 7—13980
cerebral circulation in man, global math. model 7—40193
chromatic adaptation and colour constancy, possible dichotomy 7—28520
chromaticity horizontal cells in retina of freshwater turtle 7—47063
cochlea, equivalent cct. modelling 7—47085
Cochlear hydromechanics modelling 7—65762
cochlear nonlinear 2-stage model with automatic gain control 7—47091
cochlear vibrations, model of effect of outer hair cell motility 7—8586
colour constancy, mechanisms 7—28530
colour vision, formal connections between lightness algorithms 7—28523
colour vision, surface spectral reflectance, evaluation of linear models 7—28522

physiological models continued
colour vision, von Kries colour constancy, heuristic anal. 7—28533
computer stereo vision model based on human binocular vision 7—23361
conference on bioengineering, New Haven, CT, USA (March 1986) 7—16
critical masking interval meas. for click in wideband noise 7—57634
cytochrome oxidase, redox-linked proton translocation: importance of gating electron flow 7—23316
dichromatic confusion lines and colour vision models 7—54565
DNA content of cells, distrib. modelling problem 7—47303
Donnan equilibrium, effects of interionic forces 7—28474
drug absorption, open 2-compartment model for double site 7—59908
dynamics of the transcapillary fluid and plasma protein exchange 7—65729
ECG mapping, simulation in an analog heart-thorax model *(German)* 7—40083
EEG, alpha rhythm in normal state, generation model 7—8536
electrically stimulated muscle, discrete-time model 7—3779
electrocardiology, inverse soln. in 1D using a membrane model 7—8554
electroretinogram, single flash, electronic simulation model *(Japanese)* 7—59979
electrosensitivity in rays, spatial mechanisms analysis 7—47030
EMG-force model of elbow's antagonistic muscle pair 7—59966
excitable medium models, rotating spiral waves 7—46995
external counterpulsation in the presence of arrhythmias, computer simulation anal. 7—14156
extracellular potentials around active excitablestructures with short geometric inhomogeneities 7—8538
extracellular potentials of single muscle fibres, fibre end influence 7—8540
eye, human, mathematical model of age-related accommodative loss 7—54556
eye tracking of periodic square wave target motion 7—54554
fatigue in isometric contraction in a single muscle fibre: compartmental Ca^{2+} flow model 7—34179
femoropatellar joint, trajectory pattern and load-bearing capacity when diseased *(Japanese)* 7—8638
foot, biomech. model 7—40191
force-interval relationship in heart muscle of mammals, Ca^{2+} compartment model 7—54648
fractionated radiotherapy, appl. of linear-quadratic model on incomplete, normal tissue recovery between fractions 7—3863
frequency discrimination in the mammalian cochlea: theory versus experiment 7—54599
functional neuromuscular stimulation, parameter selection and upper limb characterisation 7—3764
glass model of proteins 7—13953
glucose-insulin kinetics during intravenous glucose tolerance tests in diabetics, electrical equivalent circuit model 7—59910
glutamine synthetase, novel subunit-subunit interactions in struct., atomic model 7—8480
haemoglobin, human, cooperative free energies for nested allosteric models 7—23272
haemorheology, effect of couple stresses on unsteady convective diffusion in fluid flow through a channel 7—3811
heart, left ventricle over cardiac cycle, simulation model *(Japanese)* 7—47146
heart's pathological sinus mode modelled by system of interconnected pacemaker cells 7—54518
hemodynamic regulation modelling 7—54667
human gait anal. math. model, quasi-linearisation technique 7—65791
hyperthermia, local, small-scale temp. fluctuations in perfused tissue 7—8499
immunological tumour escape, Monte Carlo simulation 7—13947
inflation waves induced by axial accel. of the aorta 7—8637
injury currents, elec. and math. props. in wound healing 7—8552
joint angle control of human arm, constraint anal., model 7—23375
left ventricle, ^{201}Tl perfusion imaging simulated by a dynamic model 7—34267
left ventricle, spatial energy balance within a struct. model 7—54502
left ventricular ejection fraction calc. through anal. of model, effect of scintigram background correction 7—54728
linear-lumped-parameter modelling of pulmonary impedance in monkeys 7—54642
lipid bilayers, charged, short range forces between, theoretical model 7—28478
living cell model for electric field and overvoltage effects *(Polish)* 7—60031
long jumpers, elite male, model of technique characts. 7—28557
lumbar intervertebral segment study, nonlinear finite element model 7—65792
lungs, elastic stability and surface tension 7—54662
matching impedance of a nonuniform transmission line: application to cochlear modeling 7—54605
medical drug elimination from body, multifactorial physiological flow model 7—54425
mitochondria, math. model of regulation of steady values of vol. and ΔpH 7—40119
motor unit action pot., model for decomposition, algorithm 7—3780
motor unit action pot., model for decomposition, simulated pots. 7—3781
multi-jointed limb movement and posture control, simulation studies 7—65784
muscle energy expenditure minimisation during inspiration in linear models of respiratory system 7—54647
muscle fibre, frog, action potential parameter changes at different temps., math. modelling 7—3773
musculoskeletal model of the human lower extremity 7—28575
musculotendon actuator models for neuromuscular stimulation system CAD 7—28573
myocardial electrical propag., 3D anisotropic model 7—40131
myoglobin-facilitated diffusion of O$_2$, anoxia reduction 7—28484
myosin helix-coil transitions, possible role in the microscopic mechanism of muscle contraction 7—59923
neural network, spin-glass model with Monte Carlo dynamics 7—23292
neural networks, asymmetric temporal association, effects of thermal noise 7—34122
neural networks, statistical props. 7—8534
neural spike-output systems, minimum-order Wiener modelling 7—23320
neuromuscular diseases, computerised electromyographic signal processing 7—54541
neuronal nets, self-stabilisation, compensation algorithm for synaptogenesis 7—47027
neuronal structure, synaptic integration and behavior 7—59970

physiological models continued
  neurons, polarisation by extrinsically applied elec. fields 7−40132
  noise-induced neural impulses, rel. to Bonhoeffer-van der Pol model, Monte Carlo calcs. 7−17967
  nystagmus induced by off vertical axis rotation, three-dimensional model 7−47047
  observer internal noise 7−23332
  pancreatic β-cell, bursting, effect of intracellular Ca^{2+}-sensitive K^+ channel 7−28483
  peripheral auditory system, computational model, speech recognition research appl. 7−43555
  peripheral auditory transduction model using phase vocoder with modified channel signals 7−47116
  peristalsis, modelling and analysis considering intraluminal pressure *(Japanese)* 7−47147
  Phycomyces, system anal. of light-growth response, wavelength 7−23401
  Phycomyces, system anal. of light-growth response with sum-of-sinusoids test stimuli 7−23400
  Phycomyces light-growth response, system anal., photoreceptor and hypertropic mutants 7−23402
  phyllotaxis, universal model considering entropy and hierarchical primordia 7−65676
  planar musculoskeletal model for studying posture induced by functional neuromuscular stimulation 7−28574
  polymer, gels, zinc phthalocyanin containing, fluoresc., photosynthesis model 7−8515
  primary visual cortex and hypercolumn math. model 7−23339
  propagation through electrically coupled cells, how a small SA node drives a large atrium 7−40128
  protein dynamics and reaction rates, usefulness of simple models 7−13951
  protein stability and struct., rel. to specific contacts, harmonic system perturbation theory 7−59924
  proteins, large scale fluctuations, possible model 7−28441
  quaternary gas diffusion between alveolar and blood compartments, simulation 7−54508
  radiobiological effect of α-emitting nuclides incorporated in the lungs microdistrib. of radioactive substance and radiation protection *(Russian)* 7−47172
  random collision model rel. to diffusion and collision in mitochondrial electron transport 7−17963
  regurgitant flow through heart valves: hydraulic model applicable to US Doppler meas. 7−28563
  renal filter control, system dynamics model 7−40201
  respiratory impedance data fitted models, statistical measures of parameter estimates 7−28550
  respiratory mechanics, structural model of thorax and abdomen 7−54663
  retinal functions, simulation with Gaussian derivative model 7−3786
  retinal optical intensity profile model for computer-aided visual acuity assessment 7−59976
  retinex theory of colour vision, anal. rel. to human colour constancy 7−28529
  rib response and breakage due to anteroposterior loads 7−28562
  Riccati equations describing impedance relations for forward and backward excitation in the one-dimensional cochlea model 7−65765
  saccadic eye movement effect on threshold perception, model study 7−65757
  saccadic eye movements, time-optimal control 7−59978
  semi circular canal, mech. model *(French)* 7−3800
  slow flow system in long permeable tubule, one- and two-dimensional models 7−47142
  smooth pursuit eye movement, control characts., model *(Japanese)* 7−47040
  soft tissue, finite deform., anal. of mixture model in uni-axial compression 7−65806
  soft tissues, 2D, constitutive model and its appl. to expt. data 7−23381
  somatosensory evoked pot. and sensory action pot. phenomena, simulation by 2D pot. field modelling 7−34166
  spatio-temporal model of ganglion cell receptive field in the cat retina 7−23338
  speech recognition using a cochlear model 7−43554
  spinal motion segments, human, internal displacements from in vitro loading, expt. results and finite element model predictions 7−3833
  spinal motoneurones, dynamic effects of inputs upon outputs of γ-motoneurones 7−54515
  steady-state macromolecular transport across a multilayered arterial wall, math. model 7−65793
  stimulus-response process in central nervous system, model for trained movement 7−54519
  thermoregulatory consequences of NMR imaging 7−18051
  tibial components, bone stresses beneath, effect of interface, finite element modelling 7−40188
  tidal breathing, normal and obstructed lungs, estimation of mech. parameters in multicompartment models 7−3817
  time domain finite-difference modelling of biological systems in 3D 7−23268
  time domain finite-difference modelling of biological systems in 3D, hyperthermia appl. 7−23269
  tissue equivalent phantom materials for negative pions 7−65850
  torso, human, automated system for elec. props. modelling 7−40137
  triceps surae muscle-tendon complex, human, model, jumping appl. 7−34174
  tumour cell heterogeneous population model, radiation therapy optimisation 7−60074
  tympanic membrane, fibrous dynamic continuum model 7−47107
  utricular afferents response to sinusoidal vibrations, simulation using spike generator mechanism model 7−47132
  vascular tissues, heat transport mechanisms: model comparison 7−65716
  ventricular mechs., model selection, sensitivity anal. approach 7−40196
  vergence eye movement system, dual-mode dynamic model 7−28513
  visual accommodative system, human, computational model of error detector 7−54548
  vocal fold oscillation simulation using lumped mass-springs 7−60020
  Wolff-Parkinson-White preexcitation syndrome, computer simulation with a modified Miller-Geselowitz heart model 7−3765
  zwitterionic lipid bilayers, dielec. props. of polar head group region 7−8504
  N transport in tissues, phenomenological models 7−54509

physiological optics *see vision*
physiology
  see also blood; haemodynamics; hearing; neurophysiology; physiological models; speech; vision
  electrical shock, safety criteria, conf., Toronto, Ontario, Canada (Sept. 1983) 7−18500
  electrophysiological systems—a quantitative description 7−65739
  hormonal steroids, physiological levels detection by Fourier transform IR spectroscopy 7−54833
  melanin content of human skin, evidence for past climates? 7−66289
  nuclear medicine, dynamic function studies, factor anal. using a priori physiological information 7−14123
  Swedish perspectives on the use of computers in cardiology 7−28741
  teeth, nuclear microprobe analysis *(French)* 7−46890
physisorption *see adsorption; sorption*
pi mesons *see pions*
pick-up reactions
  (α,X), theoretical treatments, review 7−42039
  (n,d), anal. using singular integral eqns. 7−42019
  (p,d), anal. using singular integral eqns. 7−42019
  ^{208}Pb (^{58}Ni, ^{59}Ni), quasielastic transfer meas. and DWBA anal. 7−42065
  ^{119}Sn(p,d), nuclear response probing with pick-up reactions, giant pairing resonance 7−41964
  ^{120}Sn(p,t), nuclear response probing with pick-up reactions, giant pairing resonance 7−41964
  ^{A}Zr(n,α)$^{A-3}$Sr, A=90,91 α-spectra meas., pick-up and knock-on theories 7−49408
pick-up tubes, television *see television camera tubes*
pick-ups
  No entries
pickups *see pick-ups*
pictorial bandwidth compression *see bandwidth compression*
picture processing
  see also computer vision; computerised picture processing; pattern recognition
  2D linear prediction model, texture image partitioning 7−36903
  2D NMR technique transform. into 1D technique using Gaussian pulses 7−24678
  2D target reconstruction using normalisation and recorrelation, noise elimination 7−36908
  3D object repositioning using a projected grating and photographic enlarger 7−41456
  acoustic holography, image processing using liquid crystal convertor 7−1319
  active binarisation processes, stability 7−36896
  adaptive image transform coding techniques, review 7−1036
  advanced image processing and planetological appl., conference, Vulcano, Italy (September 1985) 7−24270
  alloys, morphological analysis of eutectic structures 7−7987
  amplitude-phase retrieval problem in optical system involved nonunitary transformation 7−42993
  anisotropic porous media, relationship between specific surface area and spatial correlation fns. 7−50501
  astronomical object image construction using coherency functions, atm. distortion compensation 7−55481
  astronomical object optical image, atmosphere and spatial spectrum distortion, statistical model 7−57255
  astronomical speckle imaging by filtered weighted-shift-and-add technique 7−47726
  automatic classification of zooplankton 7−40385
  automatic image binarisation in electron microscopy *(French)* 7−36900
  automation, structure statistical parameter evaluation *(Russian)* 7−10877
  bacterial motion; speed-distribution measurement of crowded particles by dynamic image processing utilizing pixel-based temporal-correlation analysis *(Japanese)* 7−47301
  binarization of sampled images and holograms rational carrier-period 7−36897
  biological macromolecules, anomalous member identification of noisy image set 7−13957
  blurred images in speckle noise, digital restoration by two-step procedure 7−15821
  broadband image subtraction by spectral dependent sampling 7−5849
  Cauchy/Schwarz inequality, constraint in power spectrum/autocorrelation anal. and image reconstruction 7−42996
  coded aperture imaging, Fourier space anal. 7−57250
  color coding medical ultrasound tissue images with frequency information 7−34201
  colour image correlation 7−62631
  colour image recording, computer generated linear tricolour sampling pattern 7−42952
  correlation using pulsed dynamic holography, expt. study 7−20147
  deconvolution, iterative algorithm with quadratic convergence 7−42969
  deformation meas., moire technique using digital processing 7−43822
  digital fluoroscopy, medical imaging 7−47271
  digital image processing, appl. in petrographic parameters quantification *(Spanish)* 7−34740
  digital image recovery from shifted phase holograms 7−57254
  digital images restoration theory, additive noises, constrained generalised inverse matrix 7−36909
  digital optical computing with symbolic substitution logic 7−10859
  Doppler imaging radars, response characts. determ. using speckle 7−55322
  dynamic constraints, image restoration 7−36907
  eddy current nondestructive testing, automatic classification and recognition of defects 7−39841
  edge detection in uncorrelated speckle 7−42984
  edge detection using zero crossings of random field model directional derivatives 7−36905
  electron holographic interferometry, quantitative phase anal. and magnetic field meas. appl. 7−41538
  electron microscope image reconstruction, geometrical transformation groups for 3D object 7−371
  electron microscope images, 3D reconstructions of individual particles 7−41546
  electron microscopy, high-resolution, image deconvolution using direct method 7−11860
  environmental change, remote detect., data struct. appls. 7−4240
  fiberscope using SiO_2 image fiber, picture image transmission system 7−31482

picture processing continued
  field ion micrographs, image processing, video digitiser and frame memory system 7—30122
  filtering, noncoherent, for automating testing of semiconductor structures 7—20153
  flaws reconstruction, using model-based elastic wave inverse scattering 7—54069
  fourier analysis of object boundaries from two dimensional digitized images 7—36906
  Fourier magnitudes, continuous object distributions reconstruction 7—42959
  Fourier transform, complex-valued objects reconstruction 7—42960
  Fourier transform, phase retrieval from two intensity measurements 7—42964
  fractional moire strain analysis using digital imaging techniques 7—31713
  Fresnel holograms, in-line, phase retrieval and twin-image elimination 7—43008
  Gabor filters applied to electronic speckle patterninterferometer images 7—9892
  grey level textures description, curvature primal sketching 7—36902
  Hartley transform intensity for image reconstruction 7—31260
  heart, contracting, canine, 3D reconstruction using cine CT 7—28759
  holographic correlator, signal parameters, medium nonlinearity and filter spatial limitations effect 7—50514
  holography, Fourier phases, signal processing 7—57275
  human visual image coding, important obs. 7—65754
  hybrid optical-digital processor for texture analysis 7—25726
  image anal., similarity measures between images 7—42999
  image correction for radiometric effects in remote sensing 7—55290
  image correlation by four-wave mixing in photorefractive media, computational model 7—42950
  image deblurring by spectrum analysis *(Korean)* 7—57256
  image processing, optical median filtering using threshold decomposition 7—43331
  image processing, resolution and robustness, regularization principle 7—42968
  image reconstruction, constrained, of complex waveforms 7—42971
  image reconstruction, Fresnel zone transforms, stationary phase approx. 7—42963
  image reconstruction, maximum entropy data analysis 7—10874
  image reconstruction, phase retrieval, support irreducibility 7—42962
  image registration by matching of closed loops *(Japanese)* 7—1034
  image resolution limits resulting from mechanical vibrations 7—20158
  image restoration, automatic multidimensional deconvolution 7—42967
  image restoration, linear degradation effects, iterative algorithm 7—42970
  image restoration from Fourier-transform magnitudes by generalized projections 7—42974
  image restoration via the shift-and-add algorithm, appl. to extended chromosphere of Betelgeuse 7—40719
  image transforms, logical convolutions, possibility theory 7—42973
  infrared radiation wavefront inversion, thermomagnetic image recording 7—43245
  laser scanner, image capture capabilities and PCB inspection applic. 7—57601
  left ventricular wall sequences, 3D, asynergic regions detect. by a clustering technique 7—40357
  luminescence imaging document analyser 7—57599
  magnetocardiographic data measurement and its movie display *(Japanese)* 7—14073
  material stress inspection by digital thermographic image processing 7—33896
  materials testing, optical techniques 7—33897
  medical diagnostic imaging system trends *(Japanese)* 7—15824
  medical ultrasound, imaging, speckle artifact removal 7—65823
  medical US images, deterministic approach towards speckle reduction 7—60060
  meteorological imagery textural features classification 7—9151
  microfocal radiography, focal spot meas. 7—3554
  minimum relative entropy method as soln. to missing short-baseline problem in radioastronomy 7—55478
  MIS-liquid crystal structures, pseudocolour image synthesis 7—31252
  MM-wave holography, 2D image reconstruction method from holograms sampled by using Fresnel zone plates *(Japanese)* 7—43017
  moire fringe suppression in sampling of halftone images 7—36898
  monochrome still image noise reduction by a hybrid method based on an anisotropic stochastic model *(Japanese)* 7—42998
  morphology, introduction 7—35262
  MR imaging systems, clinical software *(Japanese)* 7—15826
  multispectral image processing of temperature sensitivetracer particles 7—4833
  natural scene colour and spatial structure, photographic colorimetry 7—41420
  nMR imaging with a rotary field gradient 7—24682
  NMR surface-coil images, algorithm for compensation for sensitivity of surface coil 7—47195
  noise in images, conf. London, England, (Jan. 1987) 7—60884
  nonlinear feedback, chaos, cooperation and quantised feedback 7—42947
  nonlinear feedback, chaos, cooperation and stability 7—42946
  nonlinear feedback, chaos and cooperation 7—42945
  object interpretation using boundary based perceptually valid features 7—23362
  object-field reconstruction, ill-posed problems, precision 7—42966
  optical range images, segmentation using sine wave coding and Fourier transformations 7—42951
  optical-correlation filter synthesis by iterative technique 7—5848
  optical-digital joint Fourier transform classification of liver echotexture 7—34209
  perception model of curves in dot figures, role of virtual lines 7—65758
  phase closure with a rotational shear interferometer 7—56324
  phase closure with rotational shear interferometers 7—36895
  phase recovery with dual nonredundant arrays 7—42956
  phase retrieval, trigonometric polynomials, factorisation 7—42958
  phase retrieval by differential intensity measurements 7—42965
  phase retrieval for discrete functions with support constraints 7—42961
  phase retrieval from a dichromatic analysis of speckles 7—31261
  phase unwrapping, cellular automata method 7—42976
  phase-retrieval stagnation problems and solutions 7—31257
  photo-emitter membrane spatial light modulator for image processing 7—37135
  photoelastic 2D model, principal stresses, image processing 7—37401
  photon counting image acquisition system 7—31294

picture processing continued
  pixel-selected ray-tracing for image generation *(Japanese)* 7—57264
  polystyrene spheres, monodispersed, microscope images, image processing algorithm 7—4888
  porous materials, fluid permeability, SEM images, digital image anal. 7—4923
  projection operator for reconstructing images from sparse, ungridded data 7—36910
  pseudo-colour coding using gratings 7—31267
  pure orientation filtering, scale invariant image processing tool for perception research and data compression 7—60005
  quasi interferometric set up, pseudocolour encoding, spatial frequency domain 7—62640
  Radarsat synthetic aperture radar system for remote sensing satellite 7—47578
  radiographic images, convolution filtering technique for estimating scatt. distribs. 7—23457
  randomisation techniques for moire fringe suppression 7—42980
  Rao-Cramer resolution after optimal image reconstruction 7—20151
  real-time image processing using self-pumped phase conjugate mirror 7—20156
  real-time optical image subtraction based on wave polarization 7—57260
  reconstruction from Fourier-transform phase using moments 7—42985
  reconstruction of complex-valued propagating wave fields by Hilbert-Hankel transforms 7—42975
  reconstruction of images according to projections *(Russian)* 7—34235
  reconstruction of multidimensional signals from zero crossings 7—42972
  remote sensing, processing techniques for digital sonar images from GLORIA 7—4220
  remote sensing data inversion techniques 7—47723
  retinal ganglion cell processing of spatial information in cats 7—54560
  scanning heterodyne reconstruction of coded aperture images 7—10878
  scanning moire topography, fringe sequence number automatic determ. *(Japanese)* 7—14919
  scanning tunnelling microscope data, information and image processing 7—30132
  Seasat SAR imagery, methods for extracting sea ice data 7—23867
  sectioned optimization methods for image restoration 7—62643
  self similar hierarchical transforms, block transform coding and human visual system model bridge 7—62641
  SHIMaDZU intelligent medical imaging system *(Japanese)* 7—15825
  Shimadzu magnetic resonance imaging system, SMT-50 *(Japanese)* 7—15827
  shock experiments, velocity-interferometer data, digital image processing 7—18868
  skeletal maturity, fuzzy grammars for syntactic recognition from X-rays 7—34317
  spatial filters for replicating images 7—5976
  spatial light modulator, high-gamma, for nonlinear optical processing 7—25959
  spatial-frequency image filtering in laser scanning microscopes *(Russian)* 7—41458
  speckle, interferometer, imaging, in space, image reconstruction by speckle masking 7—31258
  speckle interferometry, phase-averaging method modification 7—41447
  speckle reduction in laser microscope images using rotating optical fibre 7—1038
  statistical transformation of images, texture nonuniformity 7—50506
  stellar spectroscopy, image processing by FFT *(French)* 7—14499
  STEM microanalytical system design 7—56382
  stereo vision algorithm using difference of recursive filters to obtain binary Laplacian image 7—28535
  stereo-radargrammetry, implications of Gestalt formations for Venus Radar Mapper 7—9379
  superresolving deconvolution by nonnegative leastsquares method *(Japanese)* 7—10875
  superresolving pupils, emulation through image postprocessing 7—15822
  supersonic expansion, density meas. using beam-deflection optical tomography 7—44080
  system theory, conf., Knoxville, TN, USA (Apr. 1986) 7—14714
  thermoplastic optical recording devices 7—37201
  three-dimensional digital binary images, distance transformation, reconstruction *(Japanese)* 7—57265
  transform techniques for electro-optical pre-detectorsignal processing 7—5852
  triple correlation as phase closure technique 7—20152
  visual characterization of speech spectrograms 7—43566
  whole body X-ray CT scanner SCT-2500T *(Japanese)* 7—18092
  X-ray images, HF spatial filtration *(Russian)* 7—54730
  X-ray real-time imaging for weld inspection, methods and equipment 7—54045
  $Bi_{12}SiO_{20}$ MIS-liquid crystal structure, dynamic image processing 7—57532
  GaAs, LEC growth, solid-liq. interface, meniscus shape, X-ray image processing appl. 7—17406
  Ni, intergranular cavitation in high temp. creep, fractographic techniques appl. 7—53804
  a-Si solar cells, vidicon mode characterisation 7—8421

PID control *see three-term control*

piecewise-linear techniques
  contour dynamic, rotational flow simulation appl. 7—16194
  phase-change material storage design for passive solar heating 7—8447

piezo-magneto-optical effects *see magneto-optical effects; piezo-optical effects*

piezo-optical effects
  see also piezoreflectance
  anthracene in benzene, fluorescence spectral shifts, laser-driven shock compression 7—27781
  bisphenol-A polycarbonate, stressed, reversible mol. orientation, IR studies 7—50428
  cubic bodies, combinatorial spectra, sensitive splitting under stress 7—13125
  glass waveguides, ion-exchanged, stress 7—31454
  glycerol, fluorescence spectral shifts, laser-driven shock compression 7—27781
  inhomogeneous crysts., optical props. as function of form. and obs. conditions 7—45980
  nematic liquid crystals, Frank constants, effects of compression 7—63702
  quartz, synthetic, edge dislocations, optical contrast, birefringence topography studies *(Chinese)* 7—59176

piezo-optical effects continued
- Al, reflectivity meas. on shock-unloading solids 7—27693
- Al_2O_3, minerals, shock induced radiation 7—27694
- $Bi_{12}GeO_{20}$ crysts., elastooptical and elastogyration coeffs. 7—59179
- CS_2 liquid, time-resolved IR spectral photography of shock-induced chemistry 7—27727
- CS_2, shocked liquid, absorpt. spectra 7—27743
- CS_2, spectroscopic studies at high press. 7—27742
- CaO-BaO-P_2O_5 glass fibres, stress optical studies 7—7673
- GaAs, conduction band, deformation splitting and intervalley scattering, hot photoluminesc. study 7—2548
- GaAs, photoluminescence lines, mag. and strain field splitting 7—3079
- GaAs, Raman phonon piezospectroscopy, IR meas. 7—64647
- GaAs, stress-induced doubly resonant Raman scattering 7—46029
- GaAs:Cu, neutral state of deep acceptors, photoluminescence spectra, Jahn-Teller effect 7—64149
- GaInAsP/InP laser diodes, amplification piezoeffect 7—5889
- Ge, quenched, SA_2 acceptor, uniaxial stress effects, far IR optical study 7—64673
- Ge:Ga, impurity g-factor determ. piezo-Zeeman spectra obs. 7—16982
- Ge:Zn, photolum. spectrum, effect of (001) uniaxial stress 7—33450
- KCl, minerals, shock induced radiation 7—27694
- KCl(Br) γ-irrad. single crysts., piezolum. and thermolum. spectral shift meas. 7—27796
- K_2ZnCl_4, incommensurate phase, piezo-optical effects, birefr. meas. 7—45973
- LiF, minerals, shock induced radiation 7—27694
- $LiYF_4$:Tm^{3+} crystal, Tm optical spectrum, press. induced linear dichroism, electron-phonon interaction 7—3069
- MgO, minerals, shock induced radiation 7—27694
- $NaBi(MoO_4)_2$, elastic and elastooptic props. 7—7672
- NaCl, minerals, shock induced radiation 7—27694
- Na_2O-Li_2O-P_2O_5 glass fibres, stress optical studies 7—7673
- α-P_4Se_3, cryst., press depend. of Raman spectrum 7—33376
- Si, dislocation luminescence lines, polarisation 7—39154
- Si:N,O, impurity interactions in optical defects 7—17348
- Si:O, electronic struct. and atomic symmetry of the thermal donor 7—16986
- SiO_2, minerals, shock induced radiation 7—27694
- $SrTiO_3$:H(D), O—H and O—D stretching vibrs. under applied electric field and uniaxial stress 7—44723
- TlBr, strain derivatives of dielec. constants, strain-optical constants calc. 7—17259
- TlCl, strain derivatives of dielec. constants, strain-optical constants. calc. 7—17259

piezoelectric devices
- *see also crystal filters; crystal resonators; piezoelectric transducers*
- actuators for scanning tunnelling microscopy, behaviour and calibration 7—18926
- chemical piezoelectric sensor and sensor array characterisation 7—54200
- high-sensitivity piezoelectric equipment for deflectinglight beam *(Russian)* 7—6353
- LELA experiment, piezoelectric translators, performance 7—1135
- mirror with variable curvature design and fabrication, using bimorph piezoelectric plate 7—31423
- piezodriven spindle for specimen holder in SEM 7—48922
- piezoresistance thick-film strain gauges, design and fabrication 7—48704
- polarisation state control using fibre optic techniques 7—43421
- SAW transducer, layered struct. tempering *(German)* 7—31615
- surface acoustic $\Delta v/v$ waveguides on anisotropic piezoelec. substrates, approx. anal. *(Japanese)* 7—43603
- transverse piezoresistance gauges, stress meas. in shock loaded targets 7—29999

piezoelectric effects *see piezoelectricity*

piezoelectric filters *see crystal filters*

piezoelectric materials
- *see also piezoelectric semiconductors; piezoelectric thin films; piezoelectricity*
- axisymmetric vibration of a piezoelectric solid cylinder guided by a thin film 7—31562
- biomedical US probe and array using PZT-polymer 1:3 composite 7—3848
- biomedical US transducers, PZT rod-polymer composite piezoelec. plate tailoring 7—3849
- bone materials used as US transducers, charactn. 7—60130
- ceramics, equiv. ccts. for thickness mode *(French)* 7—2976
- ceramics, parameter meas. by laser interferometry 7—9888
- ceramics, prep. and industrial appls. 7—13096
- ceramics, props. meas., conf., Soverato, Italy (Sept. 1986) 7—9582
- ceramics with low Q coeff., equiv. ccts. *(French)* 7—2977
- composite electroceramics, book contrib. 7—27645
- cubic crysts., acoustic props. changes in elec. field 7—64295
- diglycine nitrate, alanine-doped, dielectric props. 7—45908
- elastoelectric response to cyclic stresses obs., using computerised system 7—39810
- ferroelectric piezomaterials, thermal stability of the resonance freq. 7—64579
- finite thickness piezoelectric plate, thermo-piezo stresses, thermal and pol. fields 7—27667
- frequency and electrochem. data collection and anal. 7—53239
- glass ceramics, development in China, review 7—6527
- longitudinal energy flux in the reflection of a transverse wave at the boundary of a piezoelectric crystal with vacuum 7—50804
- low-Q, k_t and Q_m determ. methods 7—2985
- low-Q piezoelec. material constants, automated meas. system 7—328
- noncentrosymmetric laser crystals, struct. and props. study review 7—62709
- one-dimensional periodic composite piezoelectric materials, Floquet matrix and US propagation 7—2109
- piezoceramic-polymer-composites, damping props. 7—64575
- piezoceramics, electrical response to shock waves 7—63178
- polyvinylidene fluoride, shock response, ferroelec. and piezoelec. props. meas. 7—32568
- polyvinylidene fluoride sheet evaluation for large sonar arrays 7—2986
- PZT piezoceramics, reorientational polarization effects on stability and isotropy *(French)* 7—59153
- quartz, rotated Y-cut, reflected bulk acoustic wave characts. 7—44702
- quartz, SC cut, compression and flexure stress effects *(French)* 7—65098
- quartz analogues, family of binary III-V compounds 7—59395
- SH wave propag. in piezoelectric ceramic plates 7—21603

piezoelectric materials continued
- TGS crystals, nitro-aniline doped, dielec. and piezoelec. props. 7—22192
- vinylidene fluoride-trifluoroethylene copolymer, shock response, ferroelec. and piezoelec. props. meas. 7—32568
- $Ag_2Pb_4Nb_{10}O_{30}$, ferroelectric with tetragonal W-bronze struct., first-order transition 7—39048
- $AlPO_4$, berlinite, high-temp. X-ray diffr. studies 7—12015
- $AlPO_4$, berlinite, hydrothermal cryst., growth, X-ray topography, bulk acoustic wave device characts. 7—59391
- α-$AlPO_4$, berlinite, piezoelec. and elastic props., effect off defects on phys. props. 7—51909
- $AlPO_4$ berlinite: characterization of crystals with a low water concentrations and design of bulk wave resonators 7—59396
- $Ba(Ca_{1/3}Nb_{2/3})O_3$-$PbZrO_3$-$PbTiO_3$ ceramics, hot-pressed, ferroelectric phase transitions 7—7652
- $BaTiO_3$-based ceramic, nonlin. electromechanical parameter meas. 7—13094
- GaAs/$LiNbO_3$ struct., SAW parametric generation with light pumping 7—63934
- $K_2Pb_4Nb_{10}O_{30}$, ferroelectric with tetragonal W-bronze struct., first-order transition 7—39048
- $Li_2B_4O_7$, temp. compensated piezoelectric cryst. SAW study 7—12452
- $LiBnO_3$, charactn. by γ-ray diffr. 7—54061
- Li_2GeO_3, single cryst., nonlin. electromechanical parameter meas. 7—13094
- $LiNaSO_4$, trigonal, phys. props. 7—13099
- $LiNbO_3$, freq. temp. coeffs. of vibration modes *(Chinese)* 7—13093
- $LiNbO_3$, nonlinear elastic, piezoelectric, electrostrictive and dielectric consts. 7—64573
- $LiNbO_3$ piezoelectric photorefractive crystal, hologram writing and reconstruction 7—57268
- $LiNbO_3$, proton exchanged, SAW props. study 7—12454
- $LiNbO_3$, shallow gratings, leaky surface waves, trapping and temp. compensation 7—12449
- $LiNbO_3$/CdSe multilayer structs. with ohmic contacts, electroacoustic conversion, SAW excitation 7—58839
- $LiNbO_3$/InSb layered struct. with transverse drift, SAW detection 7—12447
- $LiNbO_3$-Si, acoustoelectronic storage, effects of illumination, temp. change, electric fields 7—7405
- $LiNb_{0.1}Ta_{0.9}O_3$ single cryst., piezoelec., pyroelec., dielec. and elastic consts. 7—53565
- Li_2TiO_3, shallow gratings, leaky surface waves, trapping and temp. compensation 7—12449
- $NaNO_2$, cryst., piezoelec. strain consts., calcs. 7—53238
- PLZT ceramics *(Japanese)* 7—2981
- PLZT-PZN electro-optic ceramics, elec., opt. and switching props. 7—7646
- PZT 65/35 DISC, partially and fully poled, mechanical reson. associated with electrical reson. 7—59162
- PZT ceramics, pulsed TEA CO_2 laser irrad., signal generation 7—16623
- PZT composites, hydrostatic piezoelec. response, finite element modelling 7—64574
- PZT piezoelectric ceramic prop. meas., applied compressive stress parallel to polar axis 7—45939
- PZT:Bi piezoelectric ceramics, vacancies, positron lifetimes 7—37980
- PZT:Nb ceramics, sintering, pair doping, elec. characts. 7—39469
- PZT-adhesive-PZT (glass), acoustic boundary waves propag. along thin layer between two bonded substrates 7—21602
- $Pb(Mg_{1/3}Nb_{2/3})O_3$ ceramics for microdisplacement actuators, electrostrictive characts. *(Japanese)* 7—17270
- $PbNb_2O_6$-$BiTiMO_6$ (M=Nb, Sb), solid soln. ceramics, piezoelec. const. studies 7—2980
- $PbTiO_3$ based glass ceramics piezoelectricity, pyroelectricity and ferroelectricity 7—7654
- $PbTiO_3$ ceramic; complex piezoelec. d_{31} coeff., temp. behaviour 7—13097
- $PbTiO_3$ piezoelectric fibres, synthesis by hydrothermal reaction *(Japanese)* 7—64974
- $PbTiO_3$:La piezoelectric ceramics, vacancies, positron lifetimes 7—37980
- $PbTi_xZr_{1-x}O_3$ piezoceramic, annealing in gaseous media with controllable comp., effect on electrophysical props. 7—8012
- $Pb(Zn_{1/3}Nb_{2/3})O_3$-$PbTiO_3$, perovskite ceramic powder, prep. dielec. and piezoelec. props. 7—46380
- $PbZrO_3$-based piezoelectric ceramics containing$Pb(Zn_{1/3}Nb_{2/3})O_3$ 7—2984
- $PbZr_{1-x}Ti_xO_3$-polyethylene 3-0 connected composite, dielec. and piezoelec. props. 7—45937
- $Rb_2Pb_4Nb_{10}O_{30}$, ferroelectric with tetragonal W-bronze struct., first-order transition 7—39048
- SbSI, single cryst., nonlin. electromechanical parameter meas. 7—13094
- Se, multilayered structure, piezoelectric effect *(Russian)* 7—64572
- SiO_2, electroelastic consts. meas. *(Chinese)* 7—39040
- $Sr_{1-x}Ba_xNb_2O_6$ bronze piezoelectric for SAW device applications 7—17271
- $Sr(La_{1/2}Nb_{1/2})O_3$-$PbZrO_3$-$PbTiO_3$, hot-pressed ceramics, dielectric, piezoelectric and optical props. 7—64583
- ZnO-SiO_2 multilayer structures, SAW propag. characts. 7—21601

piezoelectric oscillations
- acoustic resonance techniques for temp., stress and impurity characterization 7—45938
- biomedical US transducers, PZT rod-polymer composite piezoelec. plate tailoring 7—3849
- ceramic shell, applied theory modification 7—43750
- PZT disc, elec. excitable mech. reson. modes 7—39042
- Si-Al optically excited diaphragms, reson. freq., temp. depend. 7—18971
- ZnS cubic cryst., spatially oscillating piezophotovoltaic effect meas. 7—52669

piezoelectric resonators *see crystal resonators*

piezoelectric semiconductor materials *see piezoelectric semiconductors*

piezoelectric semiconductors
- acoustic props. under hopping conduction conditions 7—16692
- acoustoelectric effects, interaction of ultrasound with Mössbauer gamma rays, effect of conduction electrons 7—33056
- amplified acoustic noise anal., Bragg light diffr. method 7—43625
- electro-magneto-thermo-elasticity, classical irreversible thermodynamic approach 7—58393
- laser beam modulational instability in piezoelec. material with strain depend. dielec. const. 7—27677
- optoacoustic interaction and phase conjugation of sound beams in piezoelectric semiconductors 7—62946

piezoelectric semiconductors continued
semiconductors, anisotropic, electro-magneto-thermo-elasticity, extended irreversible thermodynamic approach 7—58394
small-signal conductivity, diffusion of electrons, system with nonequilib. phonons 7—45313
AlN formed by N ion implantation of Al, electronic struct. 7—58926
$Bi_{12}GeO_{20}$ piezoelec. semicond., photovoltaic displacement current, Hall component meas. 7—64286
CdS, Brillouin spectra of acoustoelectronic interaction 7—7292
CdS, single crystal, US wave absorption, impurity distrib. effect., electron-probe X-ray anal. 7—53241
CdSe, single crystal, US wave absorption, impurity distrib. effect., electron-probe X-ray anal. 7—53241
GaAs, piezoelectric, SAW slowness surfaces 7—38315
ε-GaSe, acoustoelectronic interaction, piezoelectric effect 7—45399
Ge, drag thermoelec. power, anisotropy parameter, carrier density depend. 7—38603
$Hg_{0.8}Cd_{0.2}Te$, low temp. hot electron energy relax. time in extreme quantum limit mag. fields 7—33035
$LiIO_3$, acoustoionic interaction 7—39041
α- $LiIO_3$, cryst., elastic wave attenuation, freq. and temp. depend. *(Russian)* 7—21364
ZnO films on Si substrates, layer acoustic mode propagation, electroelastic effect 7—44978
ZnO, grain boundary inhomogeneity phenomena, microcontact meas. *(German)* 7—58893
ZnO piezoelectric thin films, layer struct., RHEED and X-ray diffr. studies 7—16888
ZnO thin film layered struct., SAW rapid attenuation 7—44983
ZnO-AlN-glass, SAW characts. study 7—12448
ZnO-Si structures, transverse acoustoelectric effect 7—45398
ZnO-YIG-$Gd_3Ga_5O_{12}$ surface magnetostatic wave scatt. by SAW 7—64507
ZnS, cubic piezoelectric crystals, influence of uniaxial mechanical stresses on linear photovoltaic effect 7—7276

piezoelectric thin films
nylon 11 films, heavily plasticized, field-induced dipole reorientation and piezoelec. response 7—33337
polyvinylidene fluoride films, active gauge for initiation diagnostics 7—30000
polyvinylidene fluoride piezoelec. film transducer, charge output stress depend., gauge accuracy 7—29997
polyvinylidene fluoride piezoelectric film stress gauge response under impact loading 7—29996
AlN, RF reactive sputtering, effects of N content 7—39383
PLZT, ferroelectric films, properties and applications 7—59156
$PbTiO_3$, ferroelectric films, properties and applications 7—59156
ZnO films on Si substrates, layer acoustic mode propagation, electroelastic effect 7—44978
ZnO piezoelectric thin films, layer struct., RHEED and X-ray diffr. studies 7—16888
ZnO thin film layered struct., SAW rapid attenuation 7—44983
ZnO-YIG-$Gd_3Ga_5O_{12}$ surface magnetostatic wave scatt. by SAW 7—64507

piezoelectric transducers
accelerometers, dynamic matching for differential acceleration measurement 7—56229
acoustic emission piezoelectric receiving transducer, reciprocity calibration 7—62937
acoustic transducer, mechanical impulse response, optical probing 7—20551
anisotropic piezoceramics for US probes 7—1362
biomedical US transducer array performance with PZT-polymer composite piezoceramic 7—3850
biomedical US transducers, PZT rod-polymer composite piezoelec. plate tailoring 7—3849
broad-band electrical matching of transducers for acoustic microscopy 7—62940
ceramic rings, dynamic characts. 7—16048
composite piezoelec. transducers, limit thickness of piezoelec. plates 7—50885
composite piezoelectric sensors, elec. characts., hydrophone appl. 7—62943
double-ended tuning fork quartz accelerometer, design and characts. 7—56230
electroacoustic, bimorph diaphragm design *(Japanese)* 7—43620
electroacoustic polymer microphones and earpieces *(German)* 7—43614
electroceramic transducers, sensors, and actuators 7—20557
fibre optic sensors, piezoelectric copolymer jacketed single-mode fibers forelectric-field sensor application 7—6011
flowmeter, vortex shedding type with piezoelectric sensor 7—37602
laser scanner using stacked piezoelectric ceramic actuators 7—20312
manganin foil stress gauges, piezoresist. response meas. 7—29998
manganin stress gauges, dynamic release curves from resistive hysteresis props. 7—35506
manganin stress gauges, dynamically loaded, piezoresistive response 7—29992
narrow-strip element resonance freq. dispersion diagrams, texture and ionic substitution effects 7—1363
NBS conical transducer analysis 7—50887
nondestructive evaluation of adhesively bonded joints 7—13717
off-centric concave transducer for acoustic microscopy 7—20566
piezoceramic thin tube transducers, electromechanical parameter calcs. *(Chinese)* 7—11239
piezoceramic transducers with modular oscillators, magnetostriction transducers replacement prospects 7—11240
piezooptical measuring transducers 7—4830
planar ultrasonic transducers using $LiTaO_3$ poled with interdigital electrodes 7—20564
polymer plates, flexural vibration freqs. 7—6067
polymerisation process computer control, using US sensors 7—8278
polyvinylidene fluoride piezoelec. film transducer, charge output stress depend., gauge accuracy 7—29997
polyvinylidene fluoride piezoelectric film stress gauge response under impact loading 7—29996
proximity sensor using a single piezoceramic ultrasonictransducer 7—9827
quartz fluid density sensor pressure transducer, design and characts. 7—56249
quartz resonator temperature transducer with no activity dips, expt. and theoretical study 7—56268

piezoelectric transducers continued
rabbit nictitating membrane response to piezoceramic vibrotactile CS, classical conditioning 7—8775
single-phase unidirectional SAW transducer analysis 7—57658
steel flatpack soil stress gauge, shock loading, elec. noise anal. 7—30001
tall thin piezoelectric bar, two-dimensional equivalent circuit 7—1366
temperature sensor using quartz tuning fork resonator, design, fabrication and characts. 7—56269
terminal selection using acoustic triangulationtechnique 7—1355
thickness mode, back-face only elec. connections 7—43619
thickness-mode piezoelectric transducer constants, automatic meas. and calibration system 7—1369
three-dimensional scanner for scanning tunnelling microscopy 7—376
ultrasonic, admittance graph calcs. *(Chinese)* 7—57655
ultrasonics conference, San Francisco, USA (Oct. 1985) 7—11
US displacement meas. system, microcomputer controlled *(German)* 7—56222
US phased arrays, mechanical, electric and piezoelectric interaction 7—1365
US piezoelectric transducer pressure field calc. and expt. 7—1367
US transducer, internal loss effects *(Korean)* 7—57662
US transducer array elements, 2D displacement anal. 7—43617
VDF-TrFE piezoelectric film US transducers 7—20562
wide-range low-voltage piezoelec. bimorph 7—21049
wideband multiple-mode transducer design 7—57656
$BaTiO_3$ piezoelectric ceramics, studies for appl. in electromechanical filters 7—20558
CuAl-quartz, SAW resonators, annealing behaviour and phase noise performance 7—11242
$LiNO_3$ strip-type resonator 7—57657
$LiNbO_3$ bulk-acoustic-wave transducer consisting of interdigital electrodes on grooved surface 7—43613
$LiTaO_3$ strip-type resonator 7—57657
PZT piezoelectric ceramic prop. meas., applied compressive stress parallel to polar axis 7—45939
Si, polycrystalline, as strain gauge material 7—45322
Si-Al optically excited diaphragms, reson. freq., temp. depend. 7—18971

piezoelectricity
see also electrostriction; piezoelectric devices; piezoelectric materials; piezoelectric oscillations
acoustoelectronic interaction of surface acoustic waves in structures with a piezoelectric insulator layer 7—63932
ceramic actuators for scanning tunnelling microscopy, behaviour and calibration 7—18926
ceramic shell, applied theory modification 7—43750
ceramic shell, piezoelectric, high frequency vibrations 7—22191
chiral smectic-C liq. cryst., light diffr. props. in external elec. field 7—64604
crystal electrode substrates, Fe electrodeposition and corrosion obs. 7—39707
crystalline dielectrics, piezoelec. and flexoelec. responses, surface contribs., unified approach 7—22193
ferroelectric crystal, first order ferroelec. transition in external mag. field 7—2994
finite piezoelectric media, elec. and elastic multipole defects 7—43673
holographic grating storage, photorefractive piezoelectric cryst. boundary influence on induced field struct. 7—43344
interface between same piezoelectric substrate materials Stoneley waves propag., theoretical anal. *(Japanese)* 7—32781
layer with periodic system of electrodes, plane problem of electroelasticity 7—2983
piezo-electric polaron, mobility at low temps. 7—7127
polymers, piezoelectricity, elec. cond. effects, three-phase model calcs. 7—33336
thermal piezoelectric half space problem with generalized thermal coupling 7—59150
transverse-wave reflection at a piezoelectric-semiconductor interface under acoustic bonding conditions 7—16005
underwater acoustics, finite element analysis appl. *(French)* 7—11209
volume elastic waves in piezoelectrics, theoretical study 7—44684
$BaTiO_3$ single cryst., elastic and piezoelec. coeffs. 7—2979
$Bi_4Ge_3O_{12}$ single cryst. growth, characterisation and appls. 7—33550
$Bi_{12}Si(Ge)O_{20}$ crysts., sillenite struct., dielec., elastic and piezoelec. props. calcs. 7—51714
$Ga_{0.47}In_{0.53}As/Al_{0.7}In_{0.3}As$ superlattices, electronic struct., strain-induced elec. field effects 7—7358
KH_2PO_4 crystal, bifurcation response near ferroelectric transition 7—39051
$La_3Ga_5SiO_{14}$, elastic and piezoelectric consts., temp. depend. 7—53242
YZ-$LiNbO_3$, dislocation electric fields and small-angle grain boundaries, ferroelectric domains 7—3000
$LiNbO_3$, γ-irradiated, elastic and piezoelectric props. 7—45935
PZT:Nb ceramics, sintering, pair doping, elec. characts. 7—39469

piezooptical effects *see piezo-optical effects*

piezoreflectance
2,4-hexadiyne-1,6-diol-bis (p-toluene sulphonate), phase transitions, piezomodulated reflection spectroscopy 7—27691
KI, piezoreflectance in vacuum UV region, 5 to 30 eV 7—59178
RbI, piezoreflectance of excitons in fundamental absorpt. region 7—22219

piezoresistance
manganin foil stress gauges, piezoresist. response meas. 7—29998
manganin stress gauges, dynamically loaded, piezoresistive response 7—29992
transverse piezoresistance gauges, stress meas. in shock loaded targets 7—29999
Al, high purity, elec. cond., low-temp. plastic deform. effects *(Russian)* 7—17009
Ge polycrystalline films, photoassisted CVD prep. 7—3200
Ge-Si alloys, piezoresistance under uniaxial elastic deform. *(Russian)* 7—58813
Si films, n-channel inversion layers, piezoresist. effect studies 7—45318
n-Si, piezoresistance associated with bending of the energy relief at the bottom of the conduction band 7—13095
Si, piezoresistance sensitivity, shear stress effects *(Chinese)* 7—12713
p-Si, piezoresistivity investig., nonlinear effects 7—7248
Si, polycrystalline, as strain gauge material 7—45322
Si:Mn, temperature-electric instability, elastic compression effect 7—64239
Yb foils, piezoresistance response studies 7—32985
Yb vapour deposited foils, piezoresist. response of stress gauges 7—32986

piezoresistive devices *see piezoelectric devices*

piles (nuclear fission) *see fission reactors*

pinch effect
- 2T-40M reversed-field pinch, plasma-surface interactions 7—63336
- acceleration effects, breakoff in plasma pinch conditions, capacitor model 7—37734
- astrophysical thin jets stability, pinch effect mechanism 7—29473
- asymmetrically driven coaxial line, field asymmetry calc. 7—32076
- axisymmetric Bennett pinch stability, two fluid approx., relativistic electromagnetic hydrodynamic calcs. 7—44232
- axisymmetric toroidal pinch, elliptic cross section, main plasma column shape, shell noncircularity, toroidal drift, safety factor profile 7—11672
- beat-waves in Z-pinch plasma, VULCAN Nd:glass laser meas. 7—11702
- Cat-D fueled reversed-field pinch reactor assessment 7—5419
- CERN Antiproton Collector, 400 kA pulse generator with pseudo-spark switches for plasma lens 7—32078
- compact reversed field pinch reactors, conceptual design issues 7—5418
- compact torus form. by rot. relativistic electron beam 7—37729
- compressible plasma, tearing mode instability 7—44145
- conf., Saskatoon, Canada, May 1986 7—29595
- current discharge, n-filamentous Z-pinch, radial movement anal., high electric field effect 7—63261
- dynamical pinch discharges, power limits 7—32149
- EM mass driver, projectile velocity calc. 7—49671
- ETA-BETA II, plasma termination characts. 7—31943
- Eta-Beta II reversed field pinch, heating and confinement studies 7—26497
- ETL-TPE 2 experiment, high beta and high temperature plasma, toroidal fast field, power supply *(Japanese)* 7—11668
- expanded boundary reversed field pinch, MHD equilibrium calcs. 7—31959
- EXTRAP Z-pinch, resistive effects 7—44225
- Extrap Z-pinch, temp. and density, boundary conditions effects 7—51497
- field reversed configuration, compact toroid research 7—6440
- field reversed configurations, closed separatrix, numerical study 7—51488
- field-reversed configuration plasma, ion rot. vel. meas. by neutral beam probe spectroscopy 7—44222
- field-reversed configurations, electrostatic confinement in edge layer 7—26492
- field-reversed configurations, local and nonlocal lower hybrid drift waves, 1D transport models 7—51495
- field-reversed ion rings, stability 7—26487
- field-reversed pinch, steady state, plasma ion cyclotron resonance heating, bootstrap current, diamagnetic current 7—6417
- finite beta in reversed field pinches, derivation 7—11680
- flux, energy, and particle lifetime measurements for well formed field reversed configurations 7—51490
- focused discharges, correlation of D-D neutron yield and D$^+$ energy spectrum 7—32071
- force-free reversed field pinch configurations, MHD stability anal. 7—51422
- FRP-1, trapped flux oscillations 7—31967
- FRX-C/T compact toroid translation expt., design and performance 7—25225
- fusion energy prod., magnetically confined ion beam fusion reactor investig. 7—63346
- fusion reaction kinetics in plasma focus, gyrating particle model 7—63345
- gas-puff Z pinch, hard and soft X-ray emission temporal development 7—11765
- gas-puff Z-pinch plasma X-ray source characts. 7—20925
- high temp. micropinch plasma, spectral source of multiply charged ions 7—44249
- high-current discharges, pinch current sheet near mag. separatrix surface, MHD eqn. soln. 7—51482
- Hiroshima Torus-1, reversed field pinch effects expt. *(Japanese)* 7—32041
- hydromagnetic waves compressional, damping and excitation on plasma column 7—11610
- hypocycloidal pinch device development for dye laser pumping *(Korean)* 7—62719
- imploding shock plasmas, compression using Z-pinch discharge 7—1700
- inertial confinement fusion concept, MHD eqns. appls. 7—44213
- ion beam generation and focusing from conical pinched electron beam diode 7—11806
- large s field reversed config., design, scaling and kinetic effects 7—26495
- laser coupling to high Z plasma 7—32028
- light ion beam fusion research on Reiden IV particle beam accelerator 7—11807
- magnetic field swelling around civil axis *(Japanese)* 7—51501
- magnetic pressure variation in coaxial plasma experiments with low inductance drivers 7—32077
- magnetohydrodynamic stability of plasmas with aligned mass flow 7—44132
- Maryland spheromak, mag. equilib. determ. 7—32057
- micropinch discharge with plasma point source, X-ray emission, anode material at. number effect 7—44233
- multimode optical fibre probe in Z-pinch plasma expt., Faraday rotation 7—11785
- Multipinch, design and construction of composite vacuum vessel 7—25229
- narrow band gap semicond., with symm. electron and hole spectra, pinch effect 7—17047
- noncircular RFP expts. at Wisconsin 7—32061
- nonhydrodynamical phase of plasma-focus discharge, num. modeling 7—63347
- nonthermal ion collisions in mag. field, PF-150 plasma focus device neutron source 7—63365
- OHTE/RFP 5MA machine, design proposals 7—26498
- one-dimensional model, F-θ pumping with partial relaxation 7—44221
- PBX tokamak, Z-dependent impurity accumulation 7—44115
- pellet compression schemes, indirect irradiation by relativistic electron beam 7—11808
- plasma focus, Mather-type, shock and magnetosonic waves, sheath current meas. 7—32073
- point pinch diode for intensive ion beam generation, cylindrical target compression 7—10323
- poloidal magnetic field in EXTRAP system, breakdown 7—63326
- Poseidon plasma focus device, deuteron, neutron and proton meas., neutron production analysis 7—32072
- proto S-1/C spheromak, particle diffusion meas. 7—31942
- pulse generation circuit for fast-rising pinching magnetic field, circuit anal. 7—32135

pinch effect continued
- pulsed power technique research at IAE in Beijing 7—11693
- relaxation and magnetic reconnection in plasmas 7—6389
- REPUTE-1, RFP plasma, relaxation processes 7—32050
- resistive tearing mode in a weakly two-dimensional sheet pinch 7—44154
- reversed field pinch, asymmetric configuration with global invariants 7—51487
- reversed field pinch, behaviour of peripheral plasma 7—51509
- reversed field pinch, electron temp. and density meas. 7—20922
- reversed field pinch, plasma behaviour 7—16320
- reversed field pinch, TPE-1R, TPE-1R(M), quiescent period *(Japanese)* 7—11673
- reversed field pinch, ZT-40M, current meas., Faraday rotation meas. technique in twisted fibre 7—25981
- reversed field pinch at HBTX, basic principles 7—30663
- reversed field pinch dynamics, numerical simulation 7—51412
- reversed field pinch dynamics simulation, consistent boundary conditions 7—11681
- reversed field pinch fusion power reactor, 1000 MWe, plasma parameters *(Japanese)* 7—16319
- reversed field pinch plasma, effects of impurity by 0-dimensional simulation anal. *(Japanese)* 7—32040
- reversed field pinch plasma, TPE-1R(M), radiation loss, Fe impurity, electron temperature, electron density 7—11706
- reversed field pinches, analytic force-free fields and F-theta curves 7—26485
- reversed field pinches, current driven drift waves, dynamo effect, transport 7—31956
- reversed field pinches, fusion application prospects 7—16327
- reversed field pinches, theory 7—32049
- reversed-field pinch rising current operation, num. simulation 7—11682
- RFP, current driven instabilities, nonlinear evolution 7—30648
- RFP, operation without conducting shell 7—32058
- RFP, poloidal divertor for impurity control 7—6429
- RFP plasma equilib. with external coils, numerical calc. 7—32060
- RFX, first wall and vacuum vessel design, technological aspects 7—25187
- RFX fusion expt., Italy, AC network transient anal. 7—30666
- RFX fusion expt., Italy, design criteria for switching units 7—30667
- RFX fusion expt., Italy, power supply protection against plasma disruption and fault conditions 7—30668
- RFX vacuum vessel, structural and thermal anal. using FEM 7—25178
- short field-reversed-field configurations, equilib. props. 7—37730
- spheromak plasma, interactions with toroidal fluxes and currents 7—31985
- spheromak plasma, mag. flux injection through inductive transformer 7—32056
- theta pinch, low freq. instability detect. through H-like atom satellites 7—37683
- theta pinch, MHD equilib. plasma, flute drift mixing 7—26482
- tokamak-pinch expt., design and operation 7—15367
- toroidal z pinch equilibria 7—63324
- TPE-1R(M), start-up phase, volt-second consumption meas. 7—11654
- TPE-1RM15 RFP expt., design, construction and plasma parameters 7—32059
- TPE-2, basic plasma parameters, diagnostics *(Japanese)* 7—11705
- TPE-2, high beta toroidal screw pinch, objects and design *(Japanese)* 7—11667
- TPE-2, high current pulse, high energy density capacitor *(Japanese)* 7—11796
- TPE-2, MHD behaviour and fluctuations, optical and mag. diagnostics 7—11607
- TPE-2, pulsed power system, high voltage coaxial cable, polyethylene-insulated, breakdown properties *(Japanese)* 7—11797
- TPE-2 plasma, beta and energy confinement *(Japanese)* 7—11669
- TPE-2 plasma, light impurities generation and removal *(Japanese)* 7—11671
- TPE-2 plasmas, energy equilibr. transport props. *(Japanese)* 7—11670
- virtual cathode oscillator, pinched diode driven, dynamics 7—44261
- X-ray laser program at Sandia, gas puff Z-pinch implosions 7—20207
- Z pinch, Faraday rot., laser beam probing 7—1720
- z pinch kinetic stability of 2D Vlasov equilibr. 7—1680
- Z-pinch, corona form. radiative loss, dynamics, ID approx. 7—51483
- Z-pinch, high energy density, implosion dynamics, correlation to electrical parameters 7—32070
- z-pinch cylindrical linear implosions driven by exploding foil opening switches 7—32035
- Z-pinch discharge control by capacitor bank discharging, plasma compression 7—44211
- z-pinch like plasma produced by pseudo-spark diode 7—32075
- Z-pinch plasma, hydrodynamics and radiation cooling 7—6428
- Z-pinch toroidal, metal vacuum chamber, magnetic flux generation *(Japanese)* 7—11674
- Z-pinches, neutron prod. mechanism 7—63329
- ZT-P experiment, results 7—26499
- Ar gas puff Z-pinch implosions, X-ray emission, appl. to X-ray lasers 7—26483
- Ar plasma, relativistic electron beam gas puff Z pinch, spectroscopic studies 7—58044
- C III, Z-pinched plasma, Stark broadening of spectral lines 7—36537
- D plasma pinch, particle acceleration and neutron prod. 7—63330
- He plasma, spectral line Stark broadening for theta-pinch turbulent plasma parameter meas. 7—44255
- He Z-pinch plasma, visible emission in afterglow 7—32092
- Ne gas puff Z-pinch implosions, X-ray emission, appl. to X-ray lasers 7—26483
- Ne, imploding Z pinch for X-ray laser research 7—20918
- Ne plasma, Z-pinch, quantitative X-ray spectroscopy 7—37723

pincushion distortion *see aberrations*

Piobert lines *see Luders bands*

pion-baryon interactions
- *see also pion-baryon scattering; pion-hyperon interactions; pion-nucleon interactions*
- No entries

pion-baryon scattering
- *see also pion-baryon interactions; pion-hyperon scattering; pion-nucleon scattering*
- Skyrme model for baryons, π-baryon S-matrix in adiabatic approx. 7—30197

pion decay
- X-ray binary systems, π^0 decay model for 7—47971
- $\pi \rightarrow 3\ e\nu$, electroweak case for EHF 7—49132

pion decay continued
$\pi\to 3e\nu$ rare and forbidden decays, review 7−56549
$\pi\to e\nu$, generation mixing for massive neutrinos 7−512
$\pi\to\gamma\gamma$, partial decay widths in QCD with coloured light scalars 7−19105
$\pi\to$hadrons, partial decay widths in QCD with coloured light scalars 7−19105
$\pi\to l\nu$, lepto-quark effects in E_6 superstring models 7−61651
$\pi^0\to 4\gamma$ branching ratio, experimental limitations 7−15163
$\pi^0\to e^+e^-$, branching ratio two-photon processes, form factor 7−35855
$\pi^0\to e^+e^-$, constraints on axions 7−35854
$\pi^0\to e^+e^-$, importance of expt. cuts 7−19100
$\pi^0\to e^+e^-$ branching ratio meas. 7−49131
$\pi^0\to e^+e^-\gamma$, two-photon-exchange contribution calcs. 7−61653
$\pi^0\to e\bar{e}\gamma$, form factor information 7−15145
$\pi^0\to\gamma\gamma$, meson-quark coupling constants, one-loop quark model 7−61695
$\pi^+\to ae^+\nu$, a=axion, branching ratio calc., chiral Lagrangian anal. 7−511
$\pi^+\to ae^+\nu_e$, a=axion, constraints on variant axion models 7−30237
$\pi^+\to e^+e^-e^+\nu$, constraints on short-lived axions 7−511
$\pi^+\to e^+\nu\gamma$, axial vector to vector weak π^+ form factor meas. 7−10055
$\pi^+\to e^+\nu_e\gamma$, pion axial-vector to vector form factor ratio meas. 7−41802

pion-hyperon interactions
see also pion-hyperon scattering
No entries

pion-hyperon scattering
see also pion-baryon interactions
No entries

pion interactions *see meson-meson interactions; pion-baryon interactions; pion-nucleus reactions; pion-pion interactions*

pion-nucleon interactions
see also pion-nucleon scattering; pion-proton interactions
$N\pi^\pm\to\phi X$, low p_T interactions, Lund model comparison 7−19142
$\pi d\to\pi NN$, relativistic Fadeev calcs. 7−61733
$\pi^+d\to\eta X$, 10.5 GeV/c, A-dependence of η inclusive production 7−30296
$\pi^+d\to\eta X$, $\eta\to 2\gamma$, 10 GeV, differential cross section meas., quark-fusion model anal. 7−5124
$\pi N\to\phi_{ps}B$, partial wave anal., Skyrme model comparison 7−15171
$\pi N\to\phi X$, joint hadron prod., parton model comparison 7−19143
$\pi N\to\rho N$, vector-meson prod., helicity-amplitude relations from skyrmion model 7−41838
$\pi^-N\to$charmed mesons, search results 7−61765
$\pi^-N\to\mu^+\mu^-$, 194 GeV/c, $\mu^+\mu^-$ angular distrib. meas., QCD comparisons 7−563
$\pi^-N\to p_{back}X$, on nuclear targets, 40 GeV/c, invariant cross sections 7−35914
$\pi^-N\to\phi\phi X$, interpretation as four-quark states 7−41839
$\pi^-N\to\pi X$, 4 GeV/c in ^{12}C, multiplicity of charged and neutral particles 7−19131
$\pi^-N\to\rho^0X$, 300 GeV/c, $p_T>2$ GeV/c, evidence for QCD higher twist mechanisms 7−61740
$\pi^-N\to X$, in emulsion, parameter summarized cross section meas. 7−41849
$\pi^+N\to\mu^+\mu^-X$, 80, 225 GeV, pion struct expt. 7−61693
$\pi^+n_\uparrow\to\pi^+\pi^-p$, 6,12 GeV/c, spin dependence of ρ^o production 7−30293
$\pi^+N\to\pi^+\pi^+\pi^-$, 202 GeV, exptl. constraints on production of $J^{PC}=1^{-+}$, I=1 hybrid mesons 7−564
$\pi^\pm N\to f(1270)X$, status on f-meson data 7−56576
$\pi^\pm N\to\gamma X$, direct γ production, cross section ratio 7−49183
$\pi^\pm N\to pX$, inclusive distributions, isospin subtraction technique 7−35916
$^{12}C(\pi^-,\rho^0)$, 5 GeV/c, total cross section meas. for ρ^0N interactions 7−5106
$\pi^+N\to\pi^-X$, role of coherent diffraction in inclusive production of particles on nuclei 7−41860

pion-nucleon scattering
see also pion-nucleon interactions; pion-proton scattering
low energy scatt., isospin-even forward scatt. amplitude as QCD test 7−41835
$\pi d\to\pi d$, relativistic Fadeev calcs. 7−61733
πN, elastic scattering, partial wave anals., SAID computer package 7−550
$\pi N\to\pi N$, isospin-even forward scatt. amplitude as low-energy QCD test 7−56572
$\pi N\to\pi N\gamma$, polarization structure anal. 7−19130
πn elastic partial wave scatt. anal. 7−41836

pion-nucleus reactions
for inelastic pion-nucleus scattering, see "pion-nucleus scattering"
see also pion-nucleon interactions
absorption on diprotons, correct soln. from $(\vec{p},\pi^-)$ anal. power 7−61923
conf., Washington, DC, USA, April 1986 7−60881
cumulative dibaryon resonance obs. in pion-nucleus interactions 7−36060
eta-mesic nucleus expt. signature for (π^+, p) reactions 7−31190
scattering of electrons, nucleons, and pions as probes of nuclear structure, review 7−56593
$(\pi,2\pi)$, double charge exchange reactions, contact diagram, reply to comment 7−49480
$(\pi,2\pi)$ reactions, contact term in $\pi-p\to\pi^+\pi^-n$ reaction 7−49479
(π^+,K^+), hypernuclear experiment at KEK 7−41930
(π^+, π^-), A=12-56, nonanalogue double charge exchange, cross sections, form factors, transitions, shell model 7−30456
(π^+,π^-), $\pi\Delta$ interaction as dominant reaction mechanism 7−25008
$(\pi^\pm, \pi^0)$ on A=40-208, isovector monopole and dipole giant resonances, RPA-DWIA anal. 7−30398
$(\pi,\pi'X)$, pion interactions with few-body systems, expts. at SIN 7−61919
(π,X), few nucleon system anal., sensitivities of N, π probes to reaction mechanisms and nuclear props. 7−61872
(π,X), pion interactions with few-body systems, expts. at SIN 7−61919
π-nucleus optical potential, variational anal. 7−24965
$\pi^+(\Delta^-,\Delta^+)\pi^-$, reaction mechanism anal., selection rule, connection with 2β-decay on $J^P=0^+$ nuclei 7−30454
$\pi^+(\Delta^0,\Delta^{++})\pi^-$, reaction mechanism anal., selection rule, connection with 2β-decay on $J^P=0^+$ nuclei 7−30454
$^{27}Al(\pi,\eta)$, expt. results 7−36053
$^{197}Au(\pi^-X)$, comparison with $(p,{}^3He\alpha)$ reactions 7−24980
$^9Be(\pi,\eta)$, expt. results 7−36053
$Bi(\pi^\pm,2N)$, 165, 245 MeV, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
$^AC(\pi,\eta)$, A=12,13, expt. results 7−36053
$^{12}C\ (\pi^-,pp)$, multiple-scatt. processes obs., intranuclear cascade model calcs. 7−42079
$^{12}C(\pi^-,X)$, 40 GeV/c, hadron jet production, jet props., quark, diquark fragmentation 7−61753
$^{12}C(\pi^-,X)$, comparison with $(p,{}^3He\alpha)$ reactions 7−24980
$^{12}C(\pi^+, \pi^+p)^{11}B$, angular and momentum distribs. 7−61921
$^{12}C(\pi^+,K^+)^{12}C$, scattering DWIA calcs., shell model configuration features 7−711
$^{12}C(\pi^+,\pi^-p)$, 250 MeV, proton angular distn. meas. 7−42075
$^{14}C(\pi^+, \pi^-)$, energy dependence of the six-quark bag mechanism 7−42077
$^{14}C(\pi^+,\pi^-)^{14}O$, sequential nature of charge exchange, multiple scatt. anal. 7−36055
$^{14}C(\pi^+,\pi^0)^{14}N$, sequential nature of charge exchange, multiple scatt. anal. 7−36055
$^{40}Ca(\pi^\pm,\pi^0)$, isovector giant resonance excitations 7−49478
$^{59}Co(\pi^-,X)$ comparisons with $(p,{}^3He\alpha)$ reactions 7−24980
$C(\pi^-,X)$, pion and proton pair formation at 5 GeV, correlations 7−61920
$C(\pi^-,X)$, search for H^0 strangeness −2 dibaryon at 40 GeV/c 7−30453
$C(\pi^\pm,2N)$, 165, 245 MeV, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
$Cu(\pi^-,X)$, search for H^0 strangeness −2 dibaryon at 40 GeV/c 7−30453
$Fe(\pi^\pm,2N)$, 165, 245, MeV, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
$^2H(\pi,X)$, absorption form factor and off-shell behaviour, perturbative approach 7−5295
$^2H(\pi^-,\mu^+\mu^-)$, high mass dimuon prod., scaling violation, differential nuclear effects 7−61924
$^2\vec{H}(\pi^+,\pi^+pn)$, 180, 228, 294 MeV, vector analyzing power meas., relativistic Fadeev calc. comparisons 7−30452
$^3H(\pi,X)$, two-nucleon absorption model anal. 7−56705
$^3He(\Pi,pn)$, diproton $(^1S_0)$ Π-absorption, partial-wave anal. 7−19306
$^3He(\pi,X)$, four-body wave function for the threshold energy 7−36061
$^3He(\pi,X)$, two-nucleon absorption model anal. 7−56705
$^3He(\pi,\gamma)^3He$, direct 3N pion absorption processes 7−61925
$^3He(\pi^-,nn)$ cross section, partial wave anal. and quark cluster calcs. 7−36054
$^3He(\pi^-,\pi^+)$, cross section meas. and model comparisons 7−710
$^4He(\pi^-,d)$, fast d prod., cluster model anal. 7−49472
$^4He(\pi^+, K^+)$, hypernucleus production cross section calcs., PWIA anal. 7−10118
$^4He(\pi^+,\pi^-)$, cross section meas. and model comparisons 7−710
$^4He(\pi^\pm,\pi^\mp)$, inclusive double charge exchange, pion spectra shapes 7−49481
$^AHe(\pi,\eta)$, A=3,4, expt. results 7−36053
$^{165}Ho(\pi^-,xn)$, n-γ coincidence spectra. 7−49477
$^6Li\ (\pi^+, \pi^+p)^5He$, angular and momentum distribs. 7−61921
$^6Li(\pi^-,pp)$, multiple-scatt. processes obs., intranuclear cascade model calcs. 7−42079
$^7Li(\pi,\eta)$, expt. results 7−36053
$^{24}Mg(\pi^+, N)$, 200 MeV, single nucleon removal, γ-rays, diff. cross sections, PWIA, intranuclear cascade 7−30455
$^{60}Ni(\pi^\pm,\pi^0)$, isovector giant resonance excitations 7−49478
$^AO(\pi^\pm,2N)$, 165 MeV, A=16, 18, cross sections, quasideuteron component, final state interaction, reaction mech. 7−36059
$^{16}O(\pi^+,\pi^0p)$ cross section, coincidence meas. 7−42078
$PB(\pi^-; X)$, search for H^0 strangeness −2 dibaryon at 40 GeV/c 7−30453
$^{208}Pb(\pi,\eta)$, expt. results 7−36053
$(\pi^+, \eta X)$, 10.5 GeV/c, A-dependence of η inclusive production 7−30296
$Si(\pi^-, \pi^+\pi^-\pi^-)$, diffraction dissociation at 40 GeV, partial-wave anal. 7−42080
$^{40}Sn(\pi,\eta)$, expt. results 7−36053
$^{120}Sn(\pi,\eta)$, expt. results 7−36053
$^{120}Sn(\pi^\pm,\pi^0)$, isovector giant resonance excitations 7−49478
$W(\pi^-,\Upsilon)$, 286 GeV/c, high statistics study and cross section calcs. 7−15222
$W(\pi^-,\mu^+\mu^-)$, high mass dimuon prod., scaling violation, differential nuclear effects 7−61924

pion-nucleus scattering
see also pion-nucleon scattering
S-wave pion-nucleus optical potential, rescattering contribution in nuclear medium polarization model 7−5296
(π,π), low energy scatt., model independent versus model dependent optical pots. 7−712
(π, π),$\leq$80 MeV, dispersive effects in low energy scatt., diff. cross sections 7−49476
(π,π'), angular distrib., and vibr. level virtual excitation, optical pot. calcs. *(Chinese)* 7−25009
$^{12}C(\pi,\pi')$, 800 MeV/c, Glauber transition density method anal. *(Chinese)* 7−49475
$^{12}C(\pi,\pi'\gamma)$, 116-226 MeV, π-γ angular correlation meas., Δ-hole model predictions 7−19307
$^2\vec{H}\ (\pi,\pi)$, dynamical observables determ. for vector and tensor pol. targets 7−49368
$^2\vec{H}\ (\pi^+, \pi^+)$, vector analyzing power meas. at 0.74 GeV/c 7−42076
$^2H(\pi,\pi)$, approx. symmetries of spin observables 7−36058
$^2\vec{H}(\pi,\pi)$, tensor analyzing power meas., resolution of dibaryon resonance production problem 7−30451
$^3H(\pi,\pi')$, charge symmetry breaking in ^3He-^3H system, anal. using n-p binding energies 7−56706
$^3H(\pi,\pi)$, 142, 180, 217 MeV, matter form factors, comparisons with $^3He(\pi,\pi)$ 7−56600
$^3H(\pi,\pi)^3H$, elastic scatt., form factor determ. 7−61926
$^3He(\pi,\pi')$, charge symmetry breaking in ^3He-^3H system, anal. using n-p binding energies 7−56706
$^3He(\pi,\pi)$, 142, 180, 217 MeV, matter form factors, comparisons with $^3H(\pi,\pi)$ 7−56600
$^3He(\pi,\pi)^3He$, elastic scatt., form factor determ. 7−61926
$^{20}Ne(\pi^+,\pi^+)^{20}Ne$, effective cluster interaction test 7−49471
$^{208}Pb(\pi^\pm, \pi^{\pm\prime})$ isoscalar 10.5 MeV giant 2^+ state, diff. cross sections, RPA calcs 7−25007

pion-pion interactions
see also pion-pion scattering
No entries

pion-pion scattering
see also pion-pion interactions
EM form factors and $\pi\pi$ scattering, consistency in $\rho(1600)$ region, dispersion relation anal. 7−567
low energy meson physics in the superconducting quark model 7−35811
$\pi\pi$ scattering, inclusion of quark-gluon degrees of freedom, dispersion anal. 7−5008

pion-pion scattering continued
- $\pi\pi$ scattering, three channel N/D model anal., π form factors and vertex fns. 7−61739
- $\pi\pi$ scattering predictions from π-form factor model 7−30270

pion production
- coherent Primakoff effect, pion creation in aligned diamond cryst. 7−22389
- heavy ion collisions, relativistic hydrodynamics, entropy, π prod., quark-gluon plasma, review 7−615
- heavy-ion collisions, pion production, microscopic anal. 7−49467
- nuclear paramagnetic susceptibility, dispersive effects 7−49375
- P_T dependence of $\pi^{\pm}$, $K^{\pm}$, p and $\bar{p}$ prod. in central rapidity region of e^+e^- and pp 7−61757
- photon-hadron interactions involving tracer photon beams, multi-particle finite states 7−5101
- quark-gluon plasma, $(\mu^+\mu^-\gamma)$, $(\pi^{0\pm}.\mu,^+\mu^-)$ production rates as phase transition signals 7−24951
- relativistic heavy ion collisions, EM processes, giant resonances, π and e^+e^- prod. 7−19270
- technipion production and decay, order-α_s QCD effects 7−35806
- X-ray binary systems, π^0 prod. model for ultra-high-energy gamma-ray emission 7−47971
- $A_2\to\pi^+\pi^-\pi^0$, observation of $e^+e^-\to e^+e^-A_2(1320)$ 7−526
- $\alpha\alpha$, $\sqrt{S_{NN}}=31$ GeV, invariant cross section meas. 7−61899
- $\alpha\alpha\to\pi^0X$, $\sqrt{S_{NN}}=31$ GeV, high p_T invariant cross section meas. 7−35907
- $B(\bar{B})\to D^{*\pm}n\pi$ (n=1, 2, 3), B meson reconstruction, branching ratios 7−61658
- $B_-\to B_+\pi$ (B=baryon), anal. using effective chiral Lagrangian method 7−49084
- $B^{\pm}\to D^0\bar{D}^0\pi^{\pm}$, CP violation anal. 7−61657
- $D^0\to K^-\pi^+$, lifetime meas. 7−41795
- $D^0\to K^-\pi^+\pi^-\pi^+$, lifetime meas. 7−41795
- $D^+\to K^-\pi^+\pi^+$, lifetime meas. 7−41795
- dd, $\sqrt{S_{NN}}=31$ GeV, invariant cross section meas. 7−61899
- $dd\to\pi^0X$, $\sqrt{S_{NN}}=31$ GeV, high p_T invariant cross section meas. 7−35907
- $\delta d\to pp\pi^-$, pp invariant mass distrib., obs. of narrow resonance structure 7−24893
- $e^+e^-\to e^+e^-K_S{}^0K^{\pm}\pi^{\mp}$, two photon spin-1 meson production obs. 7−24900
- $e^+e^-\to$jets, pion and kaon multiplicities 7−61705
- $e^+e^-\to\pi^0X$, angular distribs., differential cross-sections and mean multiplicity 7−35890
- $e^+e^-\to\pi^+\pi^-\pi^0\pi^0$ reaction cross section up to 1.40 GeV 7−49164
- $e^+e^-\to\pi X$, Bose-Einstein correlations among identical pions, Fourier transform technique, string model comparisons 7−61707
- $e^+e^-\to\pi\pi\pi\pi$, cross sections, N/D model anal. 7−61739
- $e^+e^-\to\tau^+\tau^-\to\pi^-\pi^-\pi^+\pi^0\nu_\tau$, branching ratio determ., evidence for $\tau^-\to\omega\pi^-\nu_\tau$, branching ratio meas. 7−61674
- $e^+e^-\to X$, Bose-Einstein correlations, string model predictions and Monte Carlo calcs. 7−24898
- $\eta\to3\pi^0$, electromagnetic mixing calcs. in η' and η decay 7−19104
- $\eta'\to3\pi^0$, electromagnetic mixing calcs. in η' and η decay 7−19104
- $\eta'\to\eta\pi^0\pi^0$, electromagnetic mixing calcs. in η' and η decay 7−19104
- $(\gamma,\pi^{\pm})$, intermediate energies, model anal. 7−49370
- $(\gamma,\pi^{\pm})$, nuclear spin-isospin excitations 7−49302
- $(\gamma,\pi^+\pi^-)$, test of π dispersion relation in nuclear matter 7−56666
- $\vec{\gamma}\vec{p}\to\pi^+n$, polarization H parameter meas. at $E_\gamma=320$ MeV 7−41822
- $\gamma d\to pp\pi^-$, dibaryon resonance search, 2.16-2.32 GeV/c^2 mass region 7−24892
- $\gamma d\to\pi^0d$, 400-1000 MeV, coherent large angle photoprod. 7−531
- $\gamma d\to\pi^0np$ (π^+nn), threshold photoproduction in break-up reactions, cross sections 7−49162
- $\gamma\gamma(e^+e^-)\to\pi^0\pi^0$, π^0 EM properties in dominance model of quark-loop anomalies 7−19147
- $\gamma\gamma\to M^+M^-$ ($M=\pi,K$), next-to-leading-order perturbative QCD calcs. 7−61591
- $\gamma\gamma\to\pi^+\pi^-\pi^0$, cross section determ. outside A_2 resonance region 7−526
- $\gamma\gamma\to\pi\pi$, final-state interactions and anomalous low-energy prod. 7−56585
- $\gamma\gamma\to\pi\pi$, resonance production, low energy parameters 7−10089
- $\gamma N\to\pi N$, polarization observables coupled channel model predictions 7−5104
- $\gamma N\to\pi X$, cloudy bag model anal. 7−61698
- $\gamma p\to\gamma\pi^+n$, radiative π^+ photoproduction cross section meas. 7−5103
- $\gamma\vec{p}\to p\pi^0$ 0.9-1.5 GeV, polarisation parameter meas. 7−61701
- $\gamma p\to\pi^0p$ 144.7-173 MeV, diff. cross section near threshold 7−49161
- (K^-,π), stopped-K hypernuclear expt. at KEK 7−41930
- $(K^-,\pi Y^*)$, hypernuclear formation, pole graph method anal. 7−42074
- $K^-\to\pi^-\pi^0\pi^0$, matrix element determ., confirmation of $\Delta T=1/2$ rule 7−56540
- $K^-\to\pi^0\pi^0e\bar{\nu}$, decay probability, form factor meas. 7−56538
- $K_L{}^0\to\pi^-l^+\nu_l$, l^+ polarization, effects of heavy subdominantly coupled neutrino mixing 7−61652
- $K^-d\to N\Lambda\pi$, three-body multichannel, two body interaction anal. 7−36057
- $K^-d\to N\Sigma\pi$, three-body multichannel, two body interaction anal. 7−36057
- $K^-p\to\pi^-\Sigma^+$, 5-140 GeV, extensive reaction anal., strange Regge trajectory props. 7−61747
- $K^-p\to\pi^-\Sigma^+$, pole plus cut model anal. 7−15174
- $\Lambda_c{}^+\to\bar{K}^0p\pi^+\pi^-$, $\Lambda_c{}^+$ polarization meas. from $^{12}C(n,\Lambda^{c+})$, 40-70 GeV/c 7−5088
- $\Lambda_c{}^+\to\Lambda^0\pi^+\pi^+\pi^-$, $\Lambda_c{}^+$ polarization meas. from $^{12}C(n,\Lambda_c{}^+)$, 40-70 GeV/c 7−5088
- μp deep inelastic interactions, 280 GeV, Bose-Einstein correlations for pions 7−5102
- $NN\to NN\pi$, quark interchange in pion prod. 7−30286
- $NN\to\pi NN$, relativistic Fadeev calcs. 7−61733
- $NN\to\pi d$, relativistic Fadeev calcs. 7−61733
- $np\to d\pi$, charge symmetry breaking in the n-p system 7−30434
- $\nu(\bar{\nu})N\to\pi X$, diffractive PCAC dominated π-production 7−15143
- $\nu_\mu d\to\pi X$, 1.6 GeV, exclusive π production anal. 7−19117
- $\nu N\to\pi^0X$, neutral current coherent π^0 prod. 7−41780
- (p,π^+), relativistic stripping model anal. in Δ resonance region 7−49400
- $\bar{p}d\to{}^3He\pi^0$, 733 MeV, charge independence test 7−5113
- $\bar{p}d\to\pi^-\pi^0p$, charged π spectra and evidence for $\bar{p}N$ bound states 7−24903
- $\bar{p}d\to\pi^-\pi^+n$, charged π spectra and evidence for $\bar{p}N$ bound states 7−24903
- $\bar{p}d\to t\pi^+$, 733 MeV, charge independence test 7−5113

pion production continued
- $pN\to p\pi$, 100 GeV, momentum distn. calcs., multiple-quark stripping 7−10150
- $\bar{p}n\to\pi^-\pi^-\pi^-\pi^+\pi^+$, evidence for quasinuclear bound states in broad struct. 7−5117
- $\bar{p}p$, 32 GeV/c, π^+ prod., inclusive and semi-inclusive diff. cross sections in rapidity 7−35913
- pp, $\sqrt{S_{NN}}=31$ GeV, invariant cross section meas. 7−61899
- $pp\to d\pi^+$, 725 MeV-2.3 GeV, analyzing power meas., excitation of N* isobars 7−5123
- $\bar{p}p\to K^0(\bar{K}^0)K^{\mp}\pi^{\pm}$, meas. possibilities for T-, CP-, CPT-violation parameters in $\bar{K}^0(K^0)$decay 7−10053
- $\bar{p}p\to$kaons, kaon-pion branching ratio anal. 7−49171
- $pp\to K\pi NX$, inclusive spectra, quark-gluon string model anal. 7−61769
- $pp\to pn\pi^+$, 800 MeV, unitary meson-exchange calc., spline function method 7−30288
- $\bar{p}p\to\bar{p}p$, $\pi^+\pi^-$, K^+K^-, antiproton spin physics expt. at LEAR 7−49170
- $pp\to\pi^0X$, $\sqrt{S_{NN}}=31$ GeV, high p_T invariant cross section meas. 7−35907
- $\bar{p}p\to\pi X$, charged particle multiplicity, dual parton and quark fragmentation models 7−19135
- $(\pi,\pi'X)$, pion interactions with few-body systems, expts. at SIN 7−61919
- $\pi^+n_{\uparrow}\to\pi^+\pi^-p$, 6,12 GeV/c, spin dependence of ρ° production 7−30293
- $\pi^+N\to\pi^+\pi^+\pi^-$, 202 GeV, exptl. constraints on production of $J^{PC}=1^{-+}$, I=1 hybrid mesons 7−564
- $\pi p\to K\pi NX$, inclusive spectra, quark-gluon string model anal. 7−61769
- $\rho^-\to\pi^-\gamma$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
- $\rho^-\to\pi^-\pi^0$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
- $\tau\to\nu_\tau\pi$, branching fraction meas. 7−49144
- $\tau^-\to\pi^+\pi^-\pi^-\nu_\tau$, branching ratio 7−35874
- $\Upsilon'\to\Upsilon\pi\pi$, 3S to 1^1P_1 transition, QCD multipole expansion 7−41797
- $\Upsilon^*\to\pi^+\pi^-\Upsilon$, decay modes and branching fraction from 3S state 7−41794
- $^{12}C(^{12}C,\pi^-\Lambda)$, 4.2, 4.5 A GeV/c, reaction analysis 7−708
- $^{12}C(\gamma,\pi^0)$, 10 MeV above threshold, total cross sections, PWIA anal. 7−15210
- $C(\pi^-,X)$, pion and proton pair formation at 5 GeV, correlations 7−61920
- (γ,π), pion photoproduction in Coulomb field, virton-quark model 7−41978
- $\gamma\gamma\to$pion pairs, comparison with current algebra 7−565
- $\gamma p\to p\pi^0$, 450 to 700 MeV, secondary proton polarisation *(Russian)* 7−15164
- $^1H(\vec{d},\pi^0)^3He$, 500-2200 MeV, tensor anal. power and diffr. cross section 7−30406
- $^2H(\gamma,\pi n)$, threshold photoproduction in break-up reactions, cross sections 7−49162
- $^2H(\vec{p},\pi^+)^3H$, 1 GeV region, backward angles anal. power, large variations 7−30405
- $^6Li(e,\pi^+e)^6He$, elastic pion electroproduction, differential cross section 7−41980
- $^6Li(\gamma,\pi^0)$, 10 MeV above threshold, total cross sections, PWIA anal. 7−15210
- $^7Li(\alpha,\pi^-\Lambda)$, 4.5 A GeV/c, reaction analysis 7−708
- $^{40}Ne(B,\pi^-\Lambda)$, $B={}^{16}O$, ^{12}C, 4.5 A GeV/c, reaction analysis 7−708
- $\bar{p}p\to\pi^\circ(\eta)(\gamma)X$, 24.3 GeV inclusive production cross sections 7−61779

pion-proton inclusive interactions
- $\pi^-p\to$light gluinos, production cross section calcs. 7−10079
- $\pi^+\to\eta X$, 10.5 GeV/c, A-dependence of η inclusive production 7−30296
- $\pi p\to K\pi NX$, inclusive spectra, quark-gluon string model anal. 7−61769
- π^-p, 40 GeV/c, secondary charged particle multiplicity correlations 7−5132

pion-proton interactions
- *see also pion-proton inclusive interactions; pion-proton scattering*
- lepton pair angular distn. in Drell-Yan-like processes 7−24920
- $(\pi,2\pi)$ reactions, contact term in $\pi-p\to\pi^+\pi^-n$ reaction 7−49479
- π^-p, 700-3500 MeV/c, non-hydrogen events 7−5119
- π^-p, 900-1700 MeV/c charged channel data anal. 7−5118
- $\pi^-p\to$charm hadrons, 360 GeV/c, hadron decay props. 7−562
- $\pi^-p\to\eta^0\Delta^0(1232)$, 3.3 GeV/c, differential cross section and total cross section 7−35904
- $\pi^-p\to\eta\eta'n(\eta\eta n)$, cross sections, double-Reggeon graph contributions, mass spectra structure in $\phi\pi^0$ and $\eta\eta'$ systems 7−61770
- $\pi^-p\to\eta\pi^+\pi^-\eta$ isobar-model partial wave anal., pseudoscalar reson. detection 7−549
- $\pi^-p\to Gn$, G(1590) existence and props. 7−61748
- $\pi^-\vec{p}\to\gamma n$, $p_\pi=301$-625 MeV/c analyzing power meas. near Δ and Roper resonances 7−5121
- $\pi^-p\to$hadron jets, 40 GeV/c, jet props., quark, diquark fragmentation 7−61753
- $\pi^-p\to K_s{}^0K_s{}^0n$, amplitude anal. at 40 GeV/c 7−41847
- $\pi^-p\to K_s{}^0K_s{}^0n$, systematic study of 2^{++} meson spectrum 7−555
- $\pi^-p\to K\bar{K}\pi$, Dalitz plot anal. 7−61737
- $\pi^-p\to\phi\phi n$, interpretation as four-quark states 7−41839
- $\pi^-p\to\phi\pi n$, cross sections, double-Reggeon graph contributions, mass spectra structure in $\phi\pi^0$ and $\eta\eta'$ systems 7−61770
- $\pi^-p\to\pi^-\pi^+\gamma$, time of flight distrib. near $\eta'(958)$ 7−10073
- $\pi^-p\to\pi^0n$, 625 MeV/c, analyzing power meas. 7−5122
- $\pi^-p\to\psi n$, 13.5 GeV/c, exclusive ψ search, cross section meas. 7−552
- π^-p reaction, meson polarisation investig. 7−49181
- $\pi^-p\to\rho^-p$, spin effects at high $P_\perp$ 7−30292
- π^+p, 250 GeV/C, maximum particle densities in rapidity space 7−61752
- π^+p, 250 GeV/c, cross sections and charged multiplicity distribs. 7−24909
- π^+p, $\sqrt{s}=22$ GeV, particle production from clusters 7−61750
- $\pi^+p\to(\eta^0,\omega^0)\Delta^{++}$, 16 GeV/c, helicity amplitude anal. 7−15173
- $\pi^+p\to K^+\Sigma^+$, 5-140 GeV, extensive reaction anal., strange Regge trajectory props. 7−61747
- $\pi^+p\to K^+\Sigma^+$, pole plus cut model anal. 7−15174
- $\pi^+p\to X$, rapidity depend. of negative and all-charged multiplicities 7−558
- $\pi^{\pm}p\to f(1270)X$, status on f-meson data 7−56576
- $\pi^-\vec{p}\to\pi^0n$, left-right asymm. in Roper resonances region, partial wave anal. comparison 7−35903
- $\pi^+\rho\to\rho^{\pm,0},\omega$, 250 GeV/c, inclusive cross section meas. 7−61755

pion-proton scattering
- *see also pion-proton interactions*
- $\pi p\to\pi p$, spin rotation parameter meas. 7−61734
- π^-p atom, scattering length-level shift discrepancy, accuracy of Deser-Goldberger-Baumann-Thirring formula 7−56608

pion-proton scattering continued
- $\pi^-\vec{p}$, 450 meV, elastic scatt., spin rot. parameter meas. near low-lying resonance 7—61735
- $\pi^+p\rightarrow\pi^\pm p$, elastic scattering, analysing power and transversity cross sections 7—41831
- $\pi^\pm p$ elastic scatt., 67-139 MeV, diff. cross sections 7—30289

pion scattering *see meson-meson scattering; pion-baryon scattering; pion-nucleus scattering; pion-pion scattering*

pions
- π-form factor model, construction using conformal mapping, ρ-meson contributions 7—30270
- chiral invariant model for π field around static source 7—10034
- decay constant calcs. and dynamical symmetry breaking in QCD 7—24843
- dynamical chiral symmetry breaking in Nambu-Jona-Lasinio model, pion props. 7—437
- effective gauge theory for low energy mesons, stable and unstable classical solns. 7—427
- gluons in nuclei and pions 7—30250
- low energy meson action from QCD, extended Skyrme model, anomaly terms 7—5052
- low energy meson physics in the superconducting quark model 7—35811
- mass determ. from ^{24}Mg pionic 4f-3d transition 7—596
- micrononcausal Euclidean wave functions assuming Yukawa type couplings 7—41596
- polarisabilities, sum rules 7—10087
- QCD, x-space sum rules and π wave function 7—41734
- QCD effective action for π and vector mesons 7—15117
- QCD probes of charge radii and possible sum rules 7—35805
- quark confinement theory, Nambu-Goldstone scalars and symm. restoration 7—35808
- quark-gluon substructure in nuclei 7—49064
- scalar lattice QCD, hadron static props., form factors, charge radii, lepton widths 7—49080
- stars, characts. and obs. manifestations 7—40794
- structure function, Fock state expansion of hadronic wave function in QCD *(Chinese)* 7—24887
- structure functions, second moments, QCD sum-rule calcs. 7—5094
- U(1) problem on a lattice, massless π^0 and massive η 7—48996
- wave function, nonlocal condensates and QCD sum rules 7—41747
- $\phi\pi^0$ resonance, evidence for four-quark states 7—15127
- π dispersion relation in nuclear matter, test using $(\gamma,\pi^+\pi^-)$ 7—56666
- π distribution amplitude moments and QCD sum rules 7—30246
- π form factor, QCD anal. 7—61686
- π-η mass difference in lattice QCD, U(1) problem, strong coupling expansion 7—41810
- $\pi^0\rightarrow e^+e^-\gamma$, two-photon-exchange contribution calcs. 7—61653
- π^0 EM properties in dominance model of quark-loop anomalies 7—19147
- π^0/γ ratio meas. using dileptons, quark-gluon plasma diagnostics 7—41746
- $\pi^+\rightarrow ae^+\nu_e$, a=axion, constraints on variant axion models 7—30237
- $\pi^+\rightarrow e^+\nu\gamma$, axial vector to vector weak π^+ form factor meas. 7—10055
- π^+-π^0 mass difference and Weinberg sum rules, phenomenological anal. 7—41809

pipe diffusion *see diffusion in solids*

pipe flow
- *see also channel flow*
- acoustic impedance of orifices, effect of grazing turbulent pipe flow 7—43463
- air, laminar flow and heat transfer in tube bank, finite element calcs. 7—51313
- air crossflow, tube surface press. fluctuations, statistical anal. 7—44048
- air finger rise in cylindrical tube, rate determ. 7—57910
- air flow in pipes, local heat transfer coeffs. meas. 7—11412
- air-water countercurrent flow in horizontal tubes, flooding study 7—57902
- air-water-sand flow in horizontal pipe, heat transfer and pressure drop 7—37515
- annular dispersed two-phase flow in vertical pipes 7—20781
- annular duct, convective heat transfer, turbulent to laminar reverse transition *(Japanese)* 7—11543
- annular thermal entry problem, num. solns. 7—16180
- annular to intermittent flow transition in inclined pipes 7—20782
- annuli turbulent swirling flow, principal characteristics 7—20737
- attenuation prediction, num. method appl. 7—31732
- biological peristaltic pumping, effect of peripheral layer viscosity 7—54661
- blood oscillatory flow in viscoelastic tube, wave motions near instability limit 7—51316
- boiling, flow, critical heat flux prediction 7—43898
- branched gas circuits, acoustical charact. anal. using signal graphs 7—63219
- bubble column with draught tube and sieve plate, size of bubbles and liq. circulation 7—37517
- buoyancy effects in vertical open tubes, thermal and mass 7—31787
- capillary impregnation kinetics of initial stage 7—63218
- capsule pipelines, fluid mech., required pressure drops for hydraulic and pneumatic capsules 7—16256
- Carbopol-934 turbulent non-Newtonian mass transfer in circular tube 7—63187
- cavitating flow in duct, high speed cine photographic obs. 7—51240
- cavitation inception in oil hydraulic pipeline 7—20804
- cavitation tunnel, flow meas. using laser Doppler velocimeter 7—37607
- circular orifice, 3-D hydrodynamic interaction of a finite sphere, num. soln. 7—51303
- circular tube, heat transfer problems with axial cond., soln. using linear operator method 7—20726
- circular tubes, average heat transfer coeff., empirical correl. 7—1565
- circular tubes in semiinfinite medium, heat transfer, numerical model 7—63152
- compositional two-phase flow behaviour in pipelines, press. and temp. profiles prediction 7—20800
- compressible isentropic spiral flow between two coaxial circular cylinders, instability 7—6216
- conical three-D diffusor or confusor, mass transport, numerical soln. 7—26353
- continuous longitudinal-transverse motion of liq. in annular heat generating layer *(Russian)* 7—49578
- convection, steady, bimodal, in cylinder at large Prandtl numbers 7—57837
- convergent tube, oscillatory incompressible fluid laminar flow 7—20794

pipe flow continued
- Couette flow, axial laminar, characteristics in concentric and eccentric double tube models *(Japanese)* 7—11379
- Couette flow, axial laminar, characteristics in concentric circular double tube model *(Japanese)* 7—11378
- Couette flow, axial laminar, characteristics in eccentric circular double tube model *(Japanese)* 7—11377
- creeping flows in curved channels *(Polish)* 7—44054
- crossflow heat transfer in tube bundles at low Reynolds numbers 7—63151
- cryogenic systems with long dead-end pipelines, pressure increase 7—31880
- curved pipes, dilute polymer soln. flow, drag reduction, pressure loss in 360° bends 7—16211
- curved pipes, multiple laminar flows 7—26343
- curvilinear coordinates for 3D laminar, duct flow 7—16269
- cylindrical compressible flow, circumferential distortion, surge interaction and rotating stall *(French)* 7—1638
- cylindrical MHD pumps, two-dimens. flows 7—51330
- diffusion, in shear flows, Taylor limit investig. 7—57925
- difluoroethane resonant mols., capillary flow, laser light effects in transitional flow regions 7—57927
- dispersive transport modelling in porous media, solute motion in pipes and capillary tubes 7—23753
- domestic gas meter using coherently modulated US carrier 7—1659
- drainage discs effect on condensing heat transfer of vertical fluted tubes 7—20711
- dropwise condensation heat transfer on a horizontal tube 7—20704
- duct, cross shaped cross section, parametric study of friction and heat transfer 7—26276
- duct, scalene triangular, rib-roughened, turbulent friction factors study 7—57812
- duct blocking effect on crossflow and heat transfer in cylinder 7—1629
- duct with moving walls, longitudinal dispersion 7—51319
- ducts, parallel shear flow, sound propag. 7—62871
- extended bubbles, velocities in inclined tubes 7—16231
- extraction column, operating with two-phase drops, design *(German)* 7—51311
- fibre optic petal flowmeter for low gas pipe flows 7—44081
- film flow in vertical pipes with and without interfacial stress, long-wave eqn. 7—11540
- finite length straight pipe subject to waterhammer, wall elastic deform. 7—37544
- finned tube, transverse flow of viscous fluid, local heat transfer *(Russian)* 7—31881
- finned tubes, transverse flow of viscous fluid, heat transfer *(Russian)* 7—31882
- flexible pipe conveying fluid with pulsating flow, lateral vibr. 7—26349
- flooding in elbow between vertical and horizontal (near-horizontal) pipes 7—1632
- flooding in elbow between vertical and horizontal (near-horizontal) pipes 7—1633
- flow and heat-transfer at the intake of a radially symmetrical longitudinal flow heat exchanger *(German)* 7—30619
- flow meas. in flow straightener/flowmeter package 7—57948
- flow-induced vibrations in pipe, anal. 7—11273
- flowing packed particle beds in circular tubes, const. wall heat flux, local Nusselt numbers 7—1626
- fluid-conveying pipe, effect of elastic foundation and dissipative forces on stability 7—1471
- foam, liquid-gas system, rheological model 7—20779
- forced convection of drag reducing fluids in vertical pipes, buoyancy effect on heat transfer 7—26278
- frequency-dependent refl. from mech. discontinuities 7—63222
- friction experiment appl. of TK!Silver for students in Fluid Mechanics Laboratory 7—16260
- frictional flow properties of coal-oil slurries at low Reynolds number 7—20801
- front motion, metastability and subcritical bifurcations 7—51056
- gas, permeable walls, turbulent flow, heat transfer, phys. props. temp. depend effect 7—63217
- gas bubble rise vel. in liq.-filled tube, surface tension and viscosity effects 7—57903
- gas flow in rough tubes, turbulent energy balance 7—51312
- gas flow struct. and impurity distrib., num. calcs. 7—51124
- gas pulsation calculations for pipeline systems 7—44043
- gas trunk-line transportation, math. model including turbulence and heat conduction 7—63220
- gas-flow rate through conducting pipe, three-point-pressure meas. technique 7—51350
- gas-liq. descending annular flow, phase boundary turbulence and heat exchange 7—63201
- gas-liquid flow in film-type evaporators, fluid dynamics study 7—11503
- gas-liquid flow in inclined pipes, flow pattern transitions, unified model 7—57900
- gas-liquid flow in inclined pipes, press. loss. liq. holdup study 7—63196
- gas-liquid slug flow in horizontal pipelines, press. meas. 7—57921
- gas-liquid two-phase flow in tube, stat. eval., froth, wave flow requires 7—16230
- gas-solid flow pattern transition in vertical pneumatic conveying, statistical anal. 7—57906
- gas-solid two-phase flow, in circular pipe, sudden expansion, diameter ratio influence 7—31871
- gas/solid flow pressure drop in pipe entrance section *(German)* 7—16259
- gases, premixed turbulent combustion, second-order closure prediction 7—57942
- heat carriers in vertical pipes of low-head natural circulation systems, limiting thermal loads 7—43917
- heat exchange between tube and surrounding water-saturated soil 7—63153
- heat exchangers with oval-shaped tubes, heat transfer and press. drop on shell-side 7—51112
- heat generating fluid in horizontal cylinder, natural convection 7—20702
- heat pipe, high-temperature parameters, conjugate problem calc. 7—51104
- heat transfer to surface of vertical tube with crossflow 7—51144
- heat transfer with viscous dissipation in semi-infinite tube, functional analysis 7—37458
- heated gas flow in circular tube, friction factor studies *(Japanese)* 7—57924
- helically coiled steam-generator ducts, flow struct. and heat transfer 7—63205

pipe flow continued
high viscosity fluid in heated or cooled pipe, flow with viscosity gradient and frictional resistance 7—26350
high water fluid properties, determ. using capillary viscometer 7—57929
horizontal annular flow measurements using pulsedphoton activation and film thickness distributionmodelling 7—5357
horizontal annular pipes, two-phase flow regimes during heat transfer crisis 7—63200
horizontal eccentric annular cavity, natural convective heat transfer reduction by baffles 7—20701
horizontal flow past partially heat infinite vertical cylinder embedded in porous medium 7—6309
Housner eqn. for free vibration in pipe, solns. *(Chinese)* 7—51309
hydraulic drag coefficient determination in Couette flow at high Re 7—43841
hydraulic pipeline, single capsule motion 7—26339
hydraulic transport in container-carrying pipelines 7—6317
hydraulic turbine, draft tube, 3D turbulent flow anal. 7—51026
hydrocarbons, liquefied, nonsteady discharge during rupture of pipelines 7—44057
hydrodynamically developed flow through doubly connected ducts 7—51314
inclined square enclosure, natural convection, wall conduction influence 7—26122
isothermal transient two-phase flow in pipelines, mathematical simulation 7—20799
jet cooling and finned walls for improved heat transfer in power installations 7—63140
Karman vortex flowmeter, fluid flow around bluff body 7—37601
laminar duct flow, heat cond., numerical soln. 7—57790
laminar flow stability criteria and lower critical Reynolds number 7—1530
laminar forced convection inside ducts with temp. periodic variation 7—31736
laminar free convective heat transfer in vertical uniform heat flux ducts 7—43891
laminar natural convective flow along isothermal vertical surface, stability 7—31744
laminar pulsating flow in curved pipes, axial vel. profiles 7—37543
laminar to turbulent flow transition sinusoidal flow modulation in straight circular pipe 7—16262
liquid filled distensible tube systems, dissipation and dispersion exhibition, wave propag. and refl. 7—1627
liquid filled viscoelastic tubes, wave propag., 2D initial boundary value problem, transform soln. 7—37477
liquid film, laminar downflow over cylindrical surface, thermal entry region, heat transfer 7—51096
liquid flow in coaxial pipes, heat transfer study 7—63137
liquid metal blankets with helical veins, MHD flow 7—51325
liquid-filled cylinders, bubble-driven flow, fluid and bubble meas., numerical soln. 7—16237
liquid-gas, nonuniform stratified flow through horizontal tubes 7—31862
liquid/liquid two-phase annular flow, flow behavior and heat transfer to flowing liquids *(German)* 7—16176
local pressure drop in pipelines operating underpressure 7—6316
low-grade coal-liquid CO_2 slurry plastic viscosity and yield stress obs. 7—39952
mass concentration waves dynamics in two-phase gas-liquid bubble mixture in pipe 7—6287
mass transfer in fluids flowing through rot. nonaligned straight tubes, medical device appl. 7—65803
mean mass temp and conc. in turbulent chemically nonequilibrium pipe flow *(Russian)* 7—51342
measurement of flow rate by speed-area method using convergent nozzles 7—57959
MHD conversion, two-phase liquid metal gas flow in vertical pipes 7—65496
MHD heat transfer in cylinder, temp. distrib., implicit calcs. 7—51324
MHD unsteady flow in tube of variable cross section in axial mag. field 7—44059
microcomputer appl. to pipe flow calcs. 7—14733
mixed-convective heat transfer to liquids at supercrit. press. in vertical pipes 7—57830
natural convection in narrow-gap spherical annuli, stability to axisymmetric disturbances 7—31789
Newtonian fluid in a pipe, Navier-Stokes eqn. soln. 7—11551
Newtonian fluid in cylindrical pipe, convective heat transfer 7—6210
Newtonian liquid-gas stratified flow, interfacial level gradient effects 7—37509
non-Newtonian freezing liquid, buried pipeline wall icing investig. 7—63189
non-Newtonian liquid-air stratified flow through tubes 7—37510
nonNewtonian media, highly viscous, hydrodynamics and heat transfer 7—43985
oil-water core-annular flow in pipe loop, turbulent lubricating film model 7—57922
Oldroyd fluid through circular pipe, unsteady flow 7—63112
open-flow systems, rel.-depend. Lyapunov exponents as measure of chaos 7—61240
orifice flowmeter, flow coeff. meas. for large diameter pipe 7—37590
oscillatory rectangular duct flows with turbulence transition, laminar phase vel. distribs. 7—16257
oval twisted tubes, transverse streamline gas flow, characts. *(Russian)* 7—11548
parallel rotating heat pipe, heat transfer characts. *(Japanese)* 7—57841
phase change process in cylindrical annulus with axial fins on inner tube 7—51273
pipe friction coefficient of turbulent flow in a circular pipe 7—43871
pipe laminar thermal energy region, transient unsteady convective heat transfer 7—31775
plane pipe, nonsteady heat convection study 7—63135
plane-wave propagation in a uniform pipe in the presence of a mean flow and a temperature gradient 7—43483
plate array aligned in rectangular duct flow, heat transfer, press. drop 7—31788
pneumatic transport, flow density, energy optimisation *(German)* 7—16258
porous-walled duct flow with gas injection, acoustic boundary layer 7—20793
potential flow, 2D with separation in unsymmetrical bends 7—11538
potential flows, linear and nonlinear acoustic wave eqns. 7—16015
quasisteady free convection regime in a vertical cylindrical vessel 7—20716

pipe flow continued
radial fingering pattern of immiscible liqs. in circular Hele-Shaw cell 7—63160
radial transport in tubular polymerization reactors 7—6315
Rayleigh-Taylor instability, steady solns. in 3D bounded domain, bifurcation theory 7—16228
reattachment of flow downstream of sudden pipe expansion, turbulent heat transfer 7—51134
rectangular tube, oscillatory flow of incompressible viscous fluid, exact solns. *(Chinese)* 7—51308
rectilinear pipes with multiply connected cross sections, laminar vel. distribs. 7—57920
review, flow in tubes and arteries: a comparison 7—3815
Rivlin-Ericksen fluid, viscoelastic, unsteady flow through rectilinear tube 7—57884
rocks, single fracture characts. and gas flour 7—23641
rod bundles, turbulent inclined flow prediction 7—37439
rotating concentric cylinders, same or opposite directions, turbulence and vortices 7—16255
rotating cylindrical cavity, inertial waves in fluid, time-depend. complex eigenfrequencies 7—57856
rotating nonaligned straight tube, finite element soln. 7—43930
rough annuli, heat transfer anal. 7—1548
rough tubes, in staggered bundles, local features of flow 7—1628
shear flow, vorticity and vel. struct. function eqn. isotropic forms 7—51090
shock wave propagation, in tube, boundary disturbance form. 7—31838
sink-flow boundary layers, num. simulations 7—43882
slow flow system in long permeable tubule, one- and two-dimensional models 7—47142
snow/water mixture flow in pipe, snow fraction meas. 7—26348
sphere, rolling motion in a liquid contained in tube, retarding wall effects 7—44013
sphere motion in air flow through horizontal pipe 7—26344
spiral tube bundles, heat and mass transfer 7—43905
steady flow dispersion, gently curving tube, low Dean number, Monte Carlo and num. solns. 7—44053
steady flow in collapsible tube, flow limitation, oscills. of tube and flow velocity 7—51196
steady laminar flow through a twisted pipe of elliptical cross-section 7—37429
steady-state flow in channels, heat transfer calcs., three-parameter model 7—51123
steam-generating tube flowrate fluctuations, eval. 7—44049
steam-water dispersed flow heat transfer in vertical round tube, post-dryout regime *(Chinese)* 7—11419
steam-water violent condensation shock mechanism 7—57901
steam-water void fraction for vertical upflow in 73.9 nm pipe 7—1609
Stirling cycle simulation, globally-implicit finite-difference method 7—65553
Stirling engine, pressure drops anal. under reversing flow conditions 7—65548
Stirling engine components, meas. with reversing flow test facility 7—65551
Stirling engine heat exchangers, oscillating flow 7—65550
Stirling engine heater tubes, single and double-row, heat transfer 7—65549
stratified flow, entrainment, sheared density interface study 7—51266
stratified fluid enclosed in cylinder through-flow, thermal adjustment 7—31856
stratified-slug transition in horizontal tubes, inlet and outlet effects 7—57894
subcooled water in narrow annuli low vel. flow, boiling crisis 7—11507
supersonic turbulent flow through square duct, cross-flow vel. profiles 7—20748
surfactant systems, drag reduction, physico-chem. props., rheology 7—43992
swing type valve plate installed in duct flow characts. 7—26345
swirling flow, axisymmetric vortex breakdown in circular pipe 7—26286
swirling flow in narrow annuli with tangential air inlets 7—43926
swirling flow through pipe bend, analytical study 7—57853
swirling pipe flow with air suction, fluid mech. fundamentals 7—16187
T-junction with horizontal inlet, two-phase flow, phase separation 7—1607
T-junction with horizontal inlet, two-phase flow, press. differences 7—1608
Taylor-vortex flow, dynamical system 7—11434
thin tubes, Knudsen flows, dynamics of test particle, diffusion approx. 7—11470
thin-walled collapsible tubes, self-excited oscills., blood appl. 7—3827
toroidal loop, two-phase natural circulation 7—26280
transient velocity profiles, real-time estimation using Kalman filtering techniques 7—37582
transition intermittency in open flows, and intermittency routes to chaos 7—44055
transition sections between ducts of equal area, design 7—11547
tube, cylindrical with perforated baffles, hydraulic drag 7—44046
tube, periodically constricted, transition to inertial and nonsteady flows 7—11541
tube banks, staggered, heat transfer characts. in crossflow of air with varying temp. differences *(Russian)* 7—1556
tube bundle with spacers, flow of water, convective heat transfer 7—51146
tube bundles, single- and multi-row, vibrations in crossflow 7—1630
tubes, liquid filled, heat transport 7—37542
tubes and channels, porous-walled, injection-induced flows 7—31876
tubes fitted with helical heat transfer enhancers, fluid friction 7—57828
tubes with internal turbulence promoters, heat transfer coeffs. 7—43889
tubular cantilevered beams conveying compressible fluid, unstable oscillation 7—4670
turbulent developing flow at entrance to smooth pipe 7—51067
turbulent developing flow in U-bend of circular cross section 7—16267
turbulent flow in cylindrical tube with internal perforated baffles, drag crisis 7—43867
turbulent lubrication flow in annular channel 7—16266
turbulent pipe flow, heat transfer 7—43860
turbulent pulsating pipe flow, wall shear stress meas. 7—16264
turbulent slugs in pulsatile pipe flow, behaviour 7—37551
turbulent swirling flow in diffusers, Navier-Stokes eqn. soln. 7—6222
twisted oval tube, heat transfer and hydraulic drag coeffs. 7—1631
two-fluid flow in elbows and return bends, numerical modelling 7—37545
two-phase flow, calc. of two-phase pressure drops in piping components 7—20798

pipe flow continued
two-phase flow through breaks in horizontal pipe, stratified flow 7—770
two-phase pipe flow, flooding behaviour anal. using Navier-Stokes eqn. 7—11494
two-phase pipe flow, friction pressure drop correlation calc. 7—26336
two-phase transient flow in steam-generator pipe 7—6279
underground pipe, freezing liquid transport, cooling effect 7—57923
unsteady wall shear stress ion an elastic tube *(French)* 7—63215
US meas. of liquids in closed pipe-lines, compensation method *(German)* 7—26373
use of Kalman filters in data compression of gastransmission pipeline data 7—11553
vapour flow characts. of slender cylindrical heat pipes 7—11375
vapour flow in low temp. heat pipes, effect of evaporation and condensation zones 7—63136
velocity distribution of turbulent flow in a pipe 7—43883
velocity profile measurement by ultrasound Doppler shift method 7—37585
vertical annular countercurrent two-phase flow, flooding, liq. flow rate effect 7—1634
vertical wind tunnel for water drop studies 7—6293
vibration, nonlinear of uniformly curved pipes conveying fluid, perturbation soln. 7—6138
viscoelastic fluid, laminar flow in curved pipe of circular cross section with varying curvature 7—16215
viscoelastic fluids, flow phenomena, statistical study 7—31845
viscoelastic liquid discharge influences 7—57930
viscoelastic Maxwell fluid, MHD oscillatory motion between 2 plates or 2 coaxial cylinders 7—6319
viscous fluid convective thermal motion instability in tube 7—31804
viscous incompressible flow in rectangular pipe, soln. of unsteady Navier-Stokes equations, vorticity/velocity vector anal. *(French)* 7—63216
visualization in steel pipes using real-time neutron radiography 7—37583
void fraction local distribution in pipe, impedance probe 7—37523
volume cycling in tapered pipe, dye streak meas., Eulerian and Lagrangian velocity profiles 7—44051
wall-turbulence hypothesis, refinement 7—57814
water, supercritical, heat transfer and turbulent flow in vertical tube 7—51142
water, turbulent pipe flows, forced convection correl. in near-critical region 7—51093
water flow in capillary, surface and kinetic energy, laboratory exercise 7—18528
water flow in curved pipe, freezing fracture 7—26347
water flow in tubes, heat transfer crisis, control expt. errors 7—63130
yield stress, time depend. prop., meas. tech. 7—43834
CO_2, turbulent pipe flows, forced convection correl. in near-critical region 7—51093
^4He, superfluid, quantised vortex lines, turbulent motion 7—52168
Li liquid flow through thin walled elbow in uniform magnetic field 7—37555
N_2 liq., forced flow in horizontal pipe, film boiling 7—51277
N_2-H_2O mixture in a vertical pipe, automatic identification of two-phase flow regimes 7—6295
NO_2, liq., supersonic vel. at 20 MPa and temp. up to 450K *(Russian)* 7—51221
N_2O_4 condensation in equilibrium maintaining chemical reaction, heat and mass transfer *(Russian)* 7—51341
SF_6 resonant mols., capillary flow, laser light effects in transitional flow regions 7—57927

pipeline processing
data driven processor, development status 7—19671
optical parallel array logic system, architecture without memory elements 7—20144

pitch detection *see acoustic variables measurement*

PIXE *see ion microprobe analysis; X-ray chemical analysis*

PLA *see cellular arrays; integrated logic circuits*

planet Mercury *see Mercury (planet)*

planetaria
No entries

planetary atmospheres
chemistry of atmospheres of planets and comets, book 7—48210
conducting body moving through magnetoplasma, plasma wave generation 7—9369
convection columns in rotating, heated cylindrical annulus 7—51128
convection simulation in zero-gravity, using electrostatic forces to simulate radial gravity field 7—29393
energetic ions, bombardment of satellites and ring particles 7—40691
fast neutral atoms emission and effects on solar wind, cometary exosphere analogue 7—55521
fast protons interactions with planetary satellite surfaces 7—40692
general circulation of baroclinic planetary atmosphere, effect of surface drag 7—34655
giant planets, atm. study in submm range with FIRST 7—47743
giant planets, density inversions between fluid and solid phases in He-H_2 system at high press. 7—58451
giant planets, gas-phase synthesis of organophosphorus compounds 7—24058
giant planets, relations between spherical albedo and observable characts. of planetary atmosphere 7—24031
impact erosion 7—34894
impact-induced volatile loss during planetary accretion, meas. on Murchison carbonaceous chondrite 7—34949
In torus, O I and S I densities from UV spectra 7—55522
internal polarised radiation in multilayered atmospheres, computation 7—14377
interplanetary micro-organisms, heat exposure expt. rel. to entry into planetary atmosphere 7—9275
Io plasma ribbon model 7—24053
Io plasma torus boundaries, radio emission 7—40751
ionosphere, radio windows theory 7—4255
ionospheres of Earth, Mars and Venus, electrical and electrothermal conductivities 7—34781
IR radiation transfer in Mars and Venus, transmission of the CO_2 15 μm band 7—40688
Jupiter, continuum radiation, periodic amplitude var. 7—47756
Jupiter, Great Red Spot, Rossby autosoliton and stationary physical model 7—40750
Jupiter, Great Red Spot, simulation *(Russian)* 7—47695

planetary atmospheres continued
Jupiter, HF and MF emission rel. to solar wind plasma and mag. field characts. 7—4362
Jupiter, HF emissions, control by Io 7—40752
Jupiter, HF radiation from northern and southern hemispheres, ray-tracing 7—60595
Jupiter, Io plasma torus, stability study 7—9406
Jupiter, Io plasma torus and the source of Jovian kilometric radiation (bKOM) 7—34912
Jupiter, Iogenic ions outward diffusion and associated heating 7—9405
Jupiter, lightning in water clouds 7—18369
Jupiter, magnetosphere IMF control and convection 7—29422
Jupiter, magnetosphere inner region, observational constraints on interchange models 7—66497
Jupiter, magnetosphere-Io torus system characts. 7—47758
Jupiter, NH_3 abundance and cloud opacities determ. from Voyager IRIS data 7—24051
Jupiter, physical and visual simulation 7—34910
Jupiter, radio wavelength zone-belt struct. of atmos. 7—40749
Jupiter, radiowave emission at 1.2 kHz, magnetosphere source region 7—9404
Jupiter, upper troposphere, zonal mean characts., Voyager IR obs. anal. 7—24052
Jupiter, water vapour abundance and distrib. 7—60594
Jupiter ionosphere, origin of Io-phase-dependent S-bursts in decametric radio spectra 7—47753
Jupiter magnetosphere, centrifugal field line breaking and upper limit to Io mass injection 7—66496
Jupiter magnetosphere, localisation of S-component sources of decametric radio emission 7—24049
Jupiter magnetosphere, similarity model illustrating effects of toroidal mag. field and rotation 7—9407
Jupiter magnetosphere, two-dimensional radial plasma outflow model 7—66498
Jupiter magnetosphere trapped particles affected by Ganymede and Callisto 7—24054
magnetosphere dominated by corotation study of steady state plasma transport 7—40728
magnetosphere of pole-on type, calc. of field line twist and field-aligned currents 7—24034
magnetospheres, interchange instability 7—60588
magnetospheres, plasma diagnostics 7—14510
magnetospheres, radio windows theory 7—4255
magnetospheres, stability against interchange motions of mag. flux tubes and their plasma 7—9390
magnetospheres, struct. of Alfven wings assoc. with conductor moving through magnetoplasma 7—23989
magnetospheres, transverse magnetic fields, time-depend. plasma interaction 7—60527
Mars, atmosphere normal modes 7—40533
Mars, atmosphere remote sensing using IR pressure modulation and filter radiometry 7—47747
Mars, conference on atm. and climate, Washington, DC, USA (July 1986) 7—9598
Mars, dust injection mechanism 7—34904
Mars, effect of impact-generated gas cloud on solid ejecta accel. 7—55585
Mars, flowing water evidence 7—60592
Mars, global dust storms interannual variability 7—40737
Mars, mass fractionation during transonic escape of gases rel. to loss of water 7—55508
Mars, meteorology in AD 1964 to 1983 period 7—55514
Mars, noble gases implantation in shergottite meteorites 7—55581
Mars, polar cap seasonal changes, CO_2 exchange with atmosphere 7—40733
Mars, sunlight absorption in IR CO and CO_2 bands 7—4358
Mars, theory of tides in atmosphere, treatment of IR radiative damping 7—29208
Mars, tidal theory in geometric height and log-press. coords. 7—29323
Mars, vapour jets from oblique impacts as process for ejecting SNC meteorites 7—34957
Mars, vertical struct. of limb hazes from scattered light profiles 7—55513
Mars, violet light photographic technique 7—18364
Martian dust, MECA workshop, Tempe, Arizona (February 1986) 7—29603
Mercury, K discovery in planetary atmosphere 7—24036
Mercury, magnetosphere, energetic particles impulsive accel. and transport 7—9392
Mercury, magnetosphere electron bursts originating from Jupiter 7—9391
Mercury, Na sputtering from surface rel. to Na atmosphere 7—24037
Mercury, nature and variability of Na atmosphere 7—24038
Mercury, surface dust transport due to electrostatic charging 7—40730
Mercury magnetosphere, electron bursts observed by Mariner 10 spacecraft 7—9393
meteoroids ablation, radiative heat exchange determ. using radiant heat conduction approximation 7—34948
molecular astrophysics, NATO conf., Bad Windsheim, Germany (1984 July) 7—9589
molecular spectra of the outer planets and satellites 7—14511
multilayer atmosphere, diffuse refl. 7—4308
Neptune, atmospheric temp. struct. from submillimetre and millimetre observations 7—24063
Neptune, geometric albedo between 2100 and 3350 Å rel. to Rayleigh-Raman scatt. atmosphere 7—24062
Neptune, magnetic field and magnetosphere struct. 7—24064
Neptune, occultation determ. of oblateness and stratospheric methane mixing ratio 7—34927
partially open magnetospheres with and without magnetodisks, analytical models 7—55443
plasma conf., Sukhumi, USSR (May 1986) 7—48174
radiative transfer, soln. of time-dependent transfer eqn. by F_n-method 7—14480
radiative transfer, statistical description of radiation fields on basis of invariance principle 7—23986
radiative-transfer problems with reflective boundary conditions, modified spherical-harmonic method 7—34853
Saturn, Cassini mission and interaction between magnetosphere and surfaces 7—40754
Saturn, Cassini mission characts. 7—40668
Saturn, connection between ring system and atmosphere 7—9409
Saturn, EUV emission altitude var., evidence for low latitude proton precipitation 7—9412

planetary atmospheres continued
Saturn, kilometric radiowave emission and centrifugal flute instability 7−24061
Saturn, ribbon feature in 45°-50° North light zone, baroclinically unstable model 7−40753
Saturn, satellite plasma tori 7−9411
Saturn H_2 number density in upper atmosphere, calc. using temperature models 7−14517
Saturn magnetosphere, contrib. to dynamical evolution of E-ring 7−9408
semiannual oscillations 7−29418
shallow water flow incident upon slender orography, semi-geostrophic response to elongated ridge 7−29122
solar wind interactions, conf., Toulouse, France (1986 June-July) 7−55873
terrestrial planets, atmospheres comps. rel. to Martian underground water 7−24043
Uranus, atmospheric temp. struct. from submillimetre and millimetre observations 7−24063
Uranus, deep atmosphere chem. models 7−66500
Uranus, geometric albedo between 2100 and 3350 Å rel. to Rayleigh-Raman scatt. atmosphere 7−24062
Uranus, H Lyman α emission characts. 7−9414
Uranus, lightning due to electrostatic discharges and radiowave emission 7−18372
Uranus, methane-d, detect. at 1.6 μm wavelength 7−55529
Uranus, sporadic narrow-band radio emissions 7−34926
Uranus, Voyager-2 encounter overview 7−4364
Venus, atmospheric water vapour profile from Vega 1 and 2 expts. 7−55511
Venus, bow shock location controlled by IMF, and ion pickup 7−23964
Venus, central nightside ionosphere, major ions median density altitude profiles 7−34900
Venus, H velocity distrib. influenced by charge exchange 7−55509
Venus, He I density from 58.4 nm emission meas. and implications for outgassing history 7−9396
Venus, ionosphere, energetic ions on nightside seen by Pioneer spacecraft 7−60591
Venus, ionosphere enhancements due to solar flares 7−9395
Venus, ionotail, config. and evidence for ionospheric ion escape 7−60590
Venus, lightning evidence 7−47746
Venus, lightning not proved by Pioneer Venus orbiter radioemission obs. 7−66491
Venus, magnetosheath, origin of large-amplitude mag. fluctuations 7−34901
Venus, mass fractionation during transonic escape of gases rel. to loss of water 7−55508
Venus, mesosphere, solar fluxes and heating rates 7−24040
Venus, mesosphere and thermosphere, circulation, temp. and density variations 7−40732
Venus, microwave spectrum, laboratory meas. of constituent gas opacities 7−47744
Venus, polar ionosphere near terminator, Venera 15 and 16 radio occultation data 7−66490
Venus, research history *(Russian)* 7−24042
Venus, sunlight absorption in IR CO and CO_2 bands 7−4358
Venus, UV aurora, 130.4 nm obs. anal. 7−47745
Venus, UV balloon obs. 7−14512
Venus ionosphere, electron and ion concs. and ionisation sources 7−34902
Venus ionosphere, two-dimensional model of thermal struct. 7−24039
water in planetary bodies, occurrence and physical state 7−34895

planetary magnetism
general aspects (book) 7−48216
Io plasma torus boundaries, radio emission 7−40751
Jupiter, continuum radiation, periodic amplitude var. 7−47756
Jupiter, HF emissions, control by Io 7−40752
Jupiter, mag. field models for HF radiation emission 7−60595
Jupiter, magnetosphere-Io torus system characts. 7−47758
Jupiter magnetosphere, centrifugal field line breaking and upper limit to Io mass injection 7−66496
Jupiter magnetosphere, localisation of S-component sources of decametric radio emission 7−24049
Jupiter magnetosphere, origin of Io-phase-dependent S-bursts in decametric radio spectra 7−47753
Jupiter magnetosphere, similarity model illustrating effects of toroidal mag. field and rotation 7−9407
Jupiter magnetosphere, two-dimensional radial plasma outflow model 7−66498
magnetospheres, interchange instability 7−60588
magnetospheres, plasma diagnostics 7−14510
magnetospheres, stability against interchange motions of mag. flux tubes and their plasma 7−9390
Mars 7−66493
Mercury, magnetosphere, energetic particles impulsive accel. and transport 7−9392
Moon, palaeomagnetism rel. to problem of planetary dynamo fields 7−34892
Neptune, magnetic field and magnetosphere struct. 7−24064
Neptune, magnetic field prediction 7−40758
partially open magnetospheres with and without magnetodisks, analytical models 7−55443
Saturn, ring system dust particle interactions with mag. field and plasma 7−34924
toroidal fields, Namikawa-Matsushita antidynamo theorem extension 7−18352
Uranus, magnetic field *(Japanese)* 7−47761
Uranus, magnetic field prediction 7−40758
Uranus, sporadic narrow-band radio emissions 7−34926
Uranus, Voyager-2 encounter overview 7−4364
Venus, ionotail, solar wind induced mag. field characts. 7−60590
Venus, magnetosheath, origin of large-amplitude mag. fluctuations 7−34901

planetary nebulae
abundances of C III and N IV, C II and N III recomb. lines anal. 7−4538
astrophysical significance of planetary nebulae, review *(German)* 7−55776
binary nucleus, influence on structure 7−55757
central star luminosity evol. 7−60651
central stars, evolution study 7−40801
central stars, improved non-LTE Balmer line profiles 7−55603
central stars, stellar winds props. from IUE obs. 7−47879

planetary nebulae continued
central stars, terminal vels. of stellar winds from IUE obs. 7−47880
central stars, visual magnitudes and Zanstra temps., visible CCD obs. 7−66589
central stars, Zanstra temp. method 7−60653
α CMa (Sirius), IUE search for PN ejecta rel. to white-dwarf thermonuclear runaway 7−34977
Cn1-1, dust and central star characts. 7−35019
R CrB stars and planetary nebulae, IRAS obs. 7−66600
CRL 618, proto-planetary nebula, H_2 S(1) line profile 7−35031
DDDM-1, C-poor halo planetary nebula, element abundances from optical and UV obs. 7−60766
element abundances determ., implications of new atomic data for astrophysics 7−40689
ESO-223-PN 10 and ESO-095-PN 12, abundance determ., spectrophotometric obs. anal. 7−66722
G339.2−0.4, kinematical study using narrowband interferometry 7−24191
IC 1297, double-ring nebula, spectrum and chemical analysis 7−60759
IC 351, high-resolution obs., fluxes and electron temp. 7−14629
internal motions, determ. for 32 genuine planetary nebulae and misclassified object 7−4541
IRAS 1912+172P09, new binary planetary nebula, spectroscopy and JHKL photometry 7−48046
IUE Atlas of Planetary Nebulae and related objects, status report 7−48056
Magellanic Cloud nebulae, angular diameters from speckle interferometry 7−60756
in Magellanic clouds, IUE survey 7−48055
misclassified planetary nebulae, identifications from red and near-IR photometry 7−4542
NGC 2346, central star V651 Mon, light curve 7−4516
NGC 3242, kinematical study using narrowband interferometry 7−24191
NGC 40, NGC 6543, constraints on origin and evolution of nuclei from IUE data 7−47888
NGC 6210, 6826 and 6543, nuclei mass loss rates 7−66694
NGC 6543, mass loss from central star 7−40804
NGC 7027, electron impact excitation rate coeffs. for Mg^{3+} and Mg^{4+} rel. to Mg abundance gradient 7−55455
NGC 7293 (Helix Nebula), outer filament high radial vel. 7−60767
NGC 7293 (Helix Nebulae), IRAS flux densities 7−66699
nuclei, hydrostatic evolutionary sequences 7−66572
PK 97+3°1 (A 77), misclassified planetary nebulae, identification as compact H II region 7−4541
radio continuum spectra of compact planetary nebulae, wind-shell model 7−55751
Sharpless 216, kinematical study using narrowband interferometry 7−24191
SMC N2, mass determ. by speckle interferometry 7−24183
spectroscopic observations, results for 21 genuine and misclassified planetary nebulae 7−66703
submm spectral characts. 7−48058
type I planetary nebulae, convective overshooting rel. to progenitor mass and He and N abundances 7−40797
UV spectra interpretation, dissertation 7−66724
velocity fields, conf., Trieste, Italy (August-September 1982) 7−35118
YM 29, planetary nebula central star, search for stellar wind *(Russian)* 7−40812
YM 29 (Sharpless 274) spectrograms and emission-line study 7−55756

planetary rings
confinement by shepherding satellites 7−34897
distance formula for planetary and satellite systems, generalised formula 7−47741
Earth, ring form. due to Moon volcanic ejecta, implications for Cretaceous-Tertiary extinctions 7−8953
exponential distance laws for ring systems, appl. to Jupiter, Saturn and Uranus *(French)* 7−34911
formation due to satellites break-up 7−55507
giant planets, conf., Vulcano, Italy (September 1985) 7−29597
Neptune, satellite corotation resonances theory for arc rings 7−4363
nonlinear density waves in planetary rings, steady-state struct. 7−55506
numerical simulation of planetary rings, effects of binary encounters 7−66499
particles, bombardment by energetic ions 7−40691
Saturn, Cassini mission and interaction between magnetosphere and surfaces 7−40754
Saturn, Cassini mission near-IR objectives 7−40755
Saturn, connection between ring system and atmosphere 7−9409
Saturn, dynamical evolution of E-rings 7−9408
Saturn, F-ring, braided struct. prod. 7−24060
Saturn, IUE spectral obs. 7−47759
Saturn, large-amplitude stationary periodic wave theory rel. to rings fine struct. 7−23987
Saturn, occultation candidate stars (1986-91), VI obs. 7−24124
Saturn, profiling by radio occultation 7−34886
Saturn, ring features, ALPO obs. (1966-80) 7−18371
Saturn, ring system mass determ. from planetary rot. freq. 7−14508
Saturn, small particle phenomena 7−34924
Saturn, struct. and evol. 7−24059
Saturn and G.D Cassini (1625-1712) 7−29651
Saturn E-ring structure, implications of Voyager evidence for additional small satellites 7−24055
Saturn G-ring, evidence for outer shepherding satellite 7−55526
Saturn ring system, bending waves anal. using Voyager radio occultation data 7−55527
Saturn ring system, nonlinear study of Mimas 5:3 density wave 7−24057
Uranus, occultation candidate stars (1985-90), VI obs. 7−24124
Uranus, Voyager-2 encounter overview 7−4364

planetary satellite atmospheres
Dione-Tethys torus, fast neutral atoms emission and effects on solar wind 7−55521
In torus, O I and S I densities from UV spectra 7−55522
Io, control of Jupiter HF emissions 7−40752
Io, Jovian magnetosphere, Iogenic ions outward diffusion and associated heating 7−9405
Io, upper limit to mass injection into Jupiter magnetosphere from centrifugal field line breaking 7−66496
Io cold plasma torus, mass and energy balance model 7−9403
Io plasma ribbon model 7−24053

planetary satellite atmospheres continued
- Io plasma torus, contrib. to 2D radial plasma outflow model of Jupiter magnetosphere 7—66498
- Io plasma torus, fast neutral atoms emission and effects on solar wind 7—55521
- Io plasma torus, stability study 7—9406
- Io plasma torus and the source of Jovian kilometric radiation (bKOM) 7—34912
- Io plasma torus boundaries, radio emission 7—40751
- Io torus-Jupiter magnetosphere system characts. 7—47758
- molecular spectra of the outer planets and satellites 7—14511
- Saturn, satellite plasma tori 7—9411
- Titan, amino acids synthesis 7—34858
- Titan, appl. of Fourier transform IR spectra study of the $2\nu_9$ band of propyne 7—50119
- Titan, atm. and surface characts. determ. from projected Cassini mission 7—40757
- Titan, Cassini mission encounter dynamics 7—40671
- Titan, N_2 spectral emission and photoelectron fluxes due to solar EUV radiation 7—9413
- Titan, study of collision-induced absorpt. spectra in N_2-methane mixture 7—50097
- Titan, Voyager IRIS spectra rel. to N_2+N_2 collisions 7—60521
- Titan (Saturn VI), HCN detect. at 88 GHz 7—9410
- Titan H I torus, fast neutral atoms emission and effects on solar wind 7—55521
- Titan Probe within Cassini mission 7—40670

planetary satellites
- *see also Moon; planetary satellite atmospheres*
- 1980 S 18, 1980 S 20, 1980 S 31, possible G-ring shepherding satellite, evidence from ground-based obs. 7—55526
- advanced image processing and planetological appl., conference, Vulcano, Italy (September 1985) 7—24270
- American Astronomical Society, 18th annual meeting of Division for Planetary Sciences, conf., Paris, France (November 1986) 7—24255
- asteroid satellites and binary asteroids, implications for occultation obs. 7—18367
- bidirectional reflectance spectroscopy, extinction coeff. and opposition effect in particulate medium 7—24033
- bombardment by energetic ions in atm. of primary 7—40691
- break-up and form. of rings 7—55507
- Callisto, trapped particles in Jovian magnetosphere influenced by planetary satellites 7—24054
- cartographic coordinates and rotational elements, IAU/IAG/COSPAR Working Group report (1985) 7—34893
- Charon, eclipse obs., April 1986, rel. to radius, orbital period, and orbital inclination 7—29424
- Charon, radius and albedo from occultation by Pluto (1986 December 29) 7—55530
- conductor motion through magnetoplasma, assoc. Alfven wings struct. 7—23989
- cratering in icy targets 7—34863
- Deimos, crater ejecta blocks, size and distrib. 7—34903
- distance formula for planetary and satellite systems, generalised formula 7—47741
- Enceladus, dust grains ejection rel. to dynamical evolution of E-rings 7—9408
- Europa, tidal heating in internal ocean model 7—47757
- exponential distance laws for satellite systems, appl. to Jupiter, Saturn and Uranus *(French)* 7—34911
- Galilean satellite eclipse timings: 1983/5 report. I 7—18368
- Galilean satellite eclipse timings, for AD 1983 to 1985 period 7—55524
- Galilean satellite system, energy budget and orbital accel. 7—29423
- Galilean satellites, anal. of occultation obs. and comparison with theories 7—47754
- Galilean satellites, compact ephemerides (August 1987 to February 1988) 7—4295
- Galilean satellites, heliometer obs. (1891 to 1906) comparison with modern ephemerides 7—24048
- Galilean satellites, photometric obs. of mutual events (Project Omega 1985/86) 7—18370
- Galilean satellites mutual phenomena, conf., Bagneres de Bigorre, France (April 1986) 7—60856
- Ganymede, early thermal profiles and strength of lithosphere 7—40748
- Ganymede, geology and surface features 7—34917
- Ganymede, tectonic framework of grooved terrain 7—24050
- Ganymede, terrain types and local-style stratigraphy of grooved terrain 7—55525
- Ganymede, trapped particles in Jovian magnetosphere influenced by planetary satellites 7—24054
- giant planets, conf., Vulcano, Italy (September 1985) 7—29597
- giant planets, gaps in satellite systems 7—14506
- giant planets, protosatellite accretion disks, global characts. 7—34914
- giant planets, satellite photometry 7—34896
- giant planets satellites, orbital stability 7—34898
- icy satellites, mantle comps. rel. to Martian underground water 7—24043
- icy satellites, optical consts. of H_2O-NH_3 ice mixtures 7—23993
- Io, contrib. to origin of S-bursts in decametric radio spectra 7—47753
- Io, ground-based IR obs. anal. 7—34916
- Io, Jovian magnetosphere, Iogenic ions outward diffusion and associated heating 7—9405
- Io, mag. flux tube vels. rel. to localisation of S-component sources of Jovian decametric emission 7—24049
- Io, upper limit to mass injection into Jupiter magnetosphere from centrifugal field line breaking 7—66496
- Io cold plasma torus, mass and energy balance model 7—9403
- IO interaction with Jovian magnetosphere, struct. of Alfven wings 7—23989
- Io plasma torus, stability study 7—9406
- Io surface materials, phase curves interpretation in terms of Hapke's function 7—55523
- Io-dependent HF radiation from Jupiter 7—60595
- Jupiter, cratering characts. rel. to Saturn satellites 7—34920
- Jupiter, mutual satellite phenomena, longitude discrepancy resolution 7—40747
- Jupiter, satellite positions and flux density meas. by VLA in SHF 7—40746
- Jupiter, satellites geological mapping 7—34915
- Jupiter icy satellites, radar glory from buried craters 7—34913

planetary satellites continued
- Lindblad resonances in planetary ring systems, struct. of nonlinear density waves 7—55506
- lunar natural satellites collision orbits with Moon via method of surface of section 7—9387
- lunar satellites, relation to precessional dynamo model for lunar palaeomag. field 7—34892
- masses and orbited freqs., relation to planetary masses and rot freqs. 7—14508
- Mercury, limiting direct and retrograde orbits of possible satellites 7—24035
- Mimas, anal. of 5:3 and 7:4 bending wave in ring system using Voyager radio occultation data 7—55527
- Mimas, nonlinear study of 5:3 density wave in ring system 7—24057
- motion about rotationally symmetric primary 7—40676
- Neptune, satellite corotation resonances theory for arc rings 7—4363
- orbital motion, reduction of magnitude of correl. coeffs. between orbital elements 7—29384
- orbital perturbations, Henon mapping with Pascal 7—34836
- outer planet's small bodies, surface materials 7—40729
- Pandora (1980 S 26), F-ring shepherd satellite, evidence for assoc. tenuous outer ring material 7—24056
- Phobos, crater ejecta blocks, size and distrib. 7—34903
- Phobos mission (for 1988-89) *(French)* 7—66419
- Phoebe, rot. characts. and V-photometry 7—34918
- Pluto-Charon 1987 mutual events 7—47760
- Pluto-Charon system, CCD imaging 7—40760
- Pluto-Charon system, eclipses, diffr. theory 7—55528
- precursor disks, density waves 7—34862
- ring confinement by shepherding satellites 7—34897
- rotation, instability of retrograde resonance rot. of natural celestial bodies 7—47671
- rotational elements and cartographic coordinates, IAU/IAG/COSPAR Working Group report (1985) 7—34893
- Saturn, Cassini mission and interaction between magnetosphere and surfaces 7—40754
- Saturn, Cassini mission characts. 7—40668
- Saturn, Cassini mission near-IR objectives 7—40755
- Saturn, cratering due to fragments from Hyperion 7—34922
- Saturn, cratering record 7—34920
- Saturn, evidence for additional small satellites from Voyager imaging obs. 7—24055
- Saturn, icy elastic lithosphere-convective mantle interaction 7—34921
- Saturn and G.D Cassini (1625-1712) 7—29651
- Saturn inner moons, ice, ion bombardment, classical dynamics model 7—23996
- Saturn satellites, telescopic obs. 7—34919
- Saturnian satellites, compact ephemerides (April to October 1987) 7—4295
- size distribution 7—47750
- solar wind-planetary body interaction, collisionless plasma expansion study 7—31950
- surfaces, interaction with fast protons 7—40692
- Titan, N_2 spectral emission and photoelectron fluxes due to solar EUV radiation 7—9413
- Titan, precursor disk density waves 7—34862
- Titan, surface microwave imaging 7—40756
- Titan, surface volatiles 7—34923
- Triton, surface volatiles 7—34923
- Triton, Voyager 2, encounter plans 7—29375
- Uranian satellites, compact ephemerides (April to October 1987) 7—4295
- Uranus, pre-Voyager perspective 7—40759
- Uranus, Voyager-2 encounter overview 7—4364
- Uranus satellite system, mass determ. and orbital characts. 7—34928
- Uranus satellites, general theory 7—14518
- Uranus satellites discovery, historical anal. for Ariel and Umbriel 7—66501
- Venus, limiting direct and retrograde orbits of possible satellites 7—24035
- water in planetary bodies, occurrence and physical state 7—34895

planetoids *see asteroids*

planets
- *see also asteroids; Earth; Jupiter; Mars; Mercury (planet); Neptune; planetary satellites; Pluto; Saturn; solar nebula; Uranus; Venus*
- accretion, implications of shock-induced volatile loss from Murchison carbonaceous chondrite 7—34949
- advanced image processing and planetological appl., conference, Vulcano, Italy (September 1985) 7—24270
- American Astronomical Society, 18th annual meeting of Division for Planetary Sciences, conf., Paris, France (November 1986) 7—24255
- Asteron, hypothetical planet as origin of small bodies 7—29417
- bidirectional reflectance spectroscopy, extinction coeff. and opposition effect in particulate medium 7—24033
- cartographic coordinates and rotational elements, IAU/IAG/COSPAR Working Group report (1985) 7—34893
- convection in rotating hemispherical shell with radial gravity, Spacelab simulation expts. 7—55450
- distance formula for planetary and satellite systems, generalised formula 7—47741
- earliest crust form. 7—60147
- electric and gravitational forces, and the ballistic theory of light 7—29836
- external potentials expansions of ellipsoidal bodies, analytical continuation 7—47719
- extrasolar, search methods 7—55722
- extrasolar planetary systems around nearby stars, catalogue of possible candidates 7—66480
- extrasolar planetary systems detect., 36th International Astronautical Congress, Stockholm, Sweden (October 1985) 7—2
- formation, Earth accumulation and initial state 7—34367
- formation around stars, theory for 1 solar mass star 7—55497
- giant planets, accretion and evol., effects of solid cores 7—24026
- giant planets, conf., Vulcano, Italy (September 1985) 7—29597
- giant planets, formation era, planetesimal dissolution in envelopes 7—24027
- giant planets, protosatellite accretion disks, global characts. 7—34914
- giant planets-terrestrial planets boundary origin 7—14506
- graphical orbit display in UCSD Pascal 7—55479
- gravitational lensing by low mass objects (stars and planets), diffraction effects 7—40682
- gravitational potential expansion, convergence improvement methods 7—47742

planets continued
mafic minerals, Gaussian anal. of temp. effects on reflectance spectra in 1-μm region 7—29006
motion about nearby binary stars, restricted elliptical three-body problem 7—29517
N-body problem, Hamiltonian eqns. in post-Newtonian approximation 7—47672
optical reflection from planetary surfaces, operator-eigenvalue theory 7—24032
orbital motion, secular perturbations due to polar flattening of Sun 7—29452
outer planets, semimajor axes secular var. 7—60587
periastron precession in general relativity 7—48244
perturbations of short-period comets, Tisserand criterion appl. 7—29383
planetesimals collision and ureilites form. 7—66522
primordial rotations, 3D numerical expts. 7—66483
protoplanets, nonlinear tidal interaction with primordial solar nebula 7—47737
resonant orbits, stability in planetary systems with spheroidal star 7—47670
retrograde motion demonstration model machine 7—18531
right ascension determ. using photoelectric transit instrument, correction method *(Chinese)* 7—4343
rotating nonspherical planet, librational motion of equatorial satellite 7—34831
rotation, instability of retrograde resonance rot. of natural celestial bodies 7—47671
rotation axes inclination, analytical study 7—9388
rotational elements and cartographic coordinates, IAU/IAG/COSPAR Working Group report (1985) 7—34893
solar nebula, pre-planetary disk, radiation press. effects 7—14506
solar wind interactions, conf., Toulouse, France (1986 June-July) 7—55873
solar wind interactions, review *(Russian)* 7—40663
solar wind-planetary body interaction, collisionless plasma expansion study 7—31950
temperature characts. 7—24125
thermal emission, model spectrum reconstruction 7—66484
three-body problem, elliptic restricted case, critical orbits, appl. to planets in binary systems 7—23979
two-layer planet with Burgers-body mantle, moment of inertia, effect of faulting 7—14509
water in planetary bodies, occurrence and physical state 7—34895

planimeters *see area measurement*

plants (industrial) *see industrial plants*

plants (power) *see power plants*

plasma
see also electromagnetic wave propagation in plasma; plasma-beam interactions; plasma boundary layers; plasma impurities; plasmons; relativistic plasmas; solid-state plasma
0634-20, radiogalaxy, extended lobes non-relativistic electron density 7—35038
Alfven wave stimulated Brillouin scatt. in low-density plasmas in ionospheric conditions 7—44146
AMPTE artificial comet release, solar wind—Ba ions collisionless coupling 7—60483
anomalously weakly damped plasma waves excited by the finite amplitude ballistic process 7—55353
astrophysical, Alfven normal modes in non-uniform plasma, viscous damping 7—57992
astrophysical, Alfven-gravity spectrum of an incompressible slab 7—57991
astrophysical, anisotropic X-ray transfer in strongly magnetised plasma in X-ray pulsar (4U 1626—67) 7—55727
astrophysical, appl. of spectral theory and to ideal MHD eqns. 7—34854
astrophysical, axial vector contrib. to plasma neutrino energy loss rate in stellar interiors 7—55608
astrophysical, charged particle motion in strongly curved mag. fields, third integral 7—9366
astrophysical, conf., Sukhumi, USSR (May 1986) 7—48174
astrophysical, discrete Alfven waves in planar flux tubes 7—37661
astrophysical, dynamic relaxation technique for struct. and stability of coronal mag. fields 7—55592
astrophysical, models of partially open magnetospheres with and without magnetodisks 7—55443
astrophysical, modulational instability of finite-amplitude Alfven waves 7—34855
astrophysical, relativistic plasma waves propag., global nonlinear aspects 7—1728
astrophysical, role of Planck-Larkin partition function in occupation numbers for reacting plasmas 7—55440
astrophysical, screened non-resonant nucl. reaction rates 7—34848
astrophysical, shocks stability modification by cosmic rays accel. 7—34861
astrophysical, X-ray continuum emission from optically thin plasmas 7—18349
astrophysical plasma, numerical methods for MHD calcs. 7—55449
astrophysical struct. of Alfven wings assoc. with conductor moving through magnetoplasma 7—23989
atmosphere, electron precipitation, correlated electron and X-ray meas. 7—47624
atmospheric microwave plasma emission characteristics in near IR 7—55318
atmospheric plasmas, high power radiowave interactions 7—29362
aurora, electrostatic potential due to high-speed plasma flow 7—14403
auroral, ion cyclotron wave explosive instability effects 7—1684
auroral arc electrodynamics correlation with neutral winds 7—47609
auroral E-region, radar irregularities due to plasma instability types 7—60447
auroral electrons and HF waves generation 7—34775
beam-generated electrostatic electron waves in magnetosphere and ionosphere 7—47645
bowshock, upstream particle injection event of magnetospheric origin 7—60477
3C 445, radiogalaxy, extended lobes non-relativistic electron density 7—35038
XZ Cep, eclipsing binary, shell electron density characts. 7—4511
Cerenkov class of radiation within the ionospheretraversed by the geomagnetic field and irregularities 7—9286
FK Com stars, outer atm. characts., UV spectral obs. 7—47936
P/Comet Giacobini-Zinner (1984e), H_2O prod., CO_2^+ and plasma concentrations, spectrophotometric obs. 7—47793
plasma continued
P/Comet Giacobini-Zinner (1984e), ion comp. and upstream wind obs. 7—60604
P/Comet Giacobini-Zinner (1984e), ion tail structures and vel. fields near ICE encounter time 7—18376
P/Comet Giacobini-Zinner (1984e), plasma regime, ICE sampling 7—40764
P/ Comet Halley, (1982i), energetic particles obs. by Giotto spacecraft 7—14529
P/ Comet Halley (1982i), cometary ion obs. at and within cometopause region 7—14530
P/ Comet Halley (1982i), effects of cometary plasma on spacecraft charging 7—14473
P/Comet Halley (1982i), occultation of PKS 2314+03, scintillation meas. 7—18381
P/Comet Halley (1982i), Pioneer Venus obs. during inferior conjunction 7—18382
P/ Comet Halley (1982i), plasma and neutral gas meas. from Vega 1 and 2 spacecraft 7—14523
P/Comet Halley (1982i), pre-perihelion tail characts. and solar wind effects 7—24068
P/Comet Halley (1982i), Vega APV-V electric field and plasma meas. *(Russian)* 7—14538
P/ Comet Halley (1982i), wave and plasma meas. on Vega-1 and Vega-2 spacecraft 7—14524
P/Comet Halley (1982i) plasma tail, electron density irregularities from radio source scintillation obs. 7—66516
cometary ionospheres, electron cooling by vibr. and rot. excitation 7—29435
cometary plasma and neutral gas meas. by Vega 1 and 2 at P/Comet Halley (1982i) *(Russian)* 7—14536
comets, ions interacting with solar wind, evol. 7—60600
comets, stability of plasma tail and tail rays 7—24076
comets ionised tail rays creation 7—47789
conducting body moving through magnetoplasma, plasma wave generation 7—9369
conference, Japanese Physical Soc. Nishinomiya-shi, Nyogo-ken, Japan (Sept. 1986) *(Japanese)* 7—48186
cosmic plasma universe model, cosmogony, X-ray and X-ray spectra, Saturnian rings 7—14486
cyclotron harmonic waves, propagation paths in mag. meridian plane 7—9313
cyclotron line formation in a hot plasma including Compton cooling, appl. to X-ray binary stars 7—60514
Cyg. X-1 and related sources, electron pair prod. rel. to bimodal spectral behaviour 7—9510
Cygnus Loop, high-resolution X-ray spectroscopic evidence of nonequilib. conditions 7—48037
D-region, electron density profile determ. using antenna outputs of VLF waves *(Japanese)* 7—66394
D-region, ion composition use for mesosphere H_2O estimation 7—60435
dayside auroral ionosphere, ion convection and elec. fields 7—55348
dayside magnetopause, flux transfer events and multiple X-line reconnection 7—44126
dayside magnetopause, flux transfer events particle simulation 7—44127
E-region, equatorial irregularities, phase vel. depend. on polarisation elec. field 7—47628
Earth bow shock wave, charged particle flow fine struct. 7—60475
Earth magnetosheath, MHD turbulence obs. 7—34786
electron-ion collision frequency dependence of plasma parameters 7—66382
equatorial electrojet, irregularities phase vel. height profiles, elec. fields determ. 7—60453
equatorial electrojet, type II irregularities phase vel., elec. fields determ. 7—60454
F_2-layer, ionisation response to solar 10.7 cm flux 7—14408
F_2-layer, noon bite-out phenomenon at Waltair 7—66385
F-region, equatorial American sector, vertical plasma drifts 7—34773
F-region, HF-enhanced plasma line temporal evol. 7—34776
F-region, high-latitude, electron temp. during solar max. and winter conditions 7—34772
galaxies radio trails, bending by galactic winds and rot. 7—35045
gamma-ray burst sources, spectra and thermal synchrotron radiation 7—48103
geomagnetic tail, field lines geometry 7—37653
half-gyrofrequency whistler-mode waves in magnetospheric plasma 7—60495
P/Halley (1982i), ion tail structures and vel. flows 7—18374
high-altitude auroral zone, ray tracing of Z-mode emissions from source regions, assoc. plasma characts. 7—47642
inner magnetosphere, plasma boundaries 7—9324
interchange instabilities driven by magnetic buoyancy, for solar interior 7—66456
interplanetary Alfvenic fluctuations propagation direction determ., systematic errors 7—47659
interplanetary medium, mag. cloud chamber effects behind flare-generated shock waves 7—4282
interplanetary shocks preceded by solar filament eruptions 7—47655
interstellar electron density determ. from pulsars interstellar scintillation 7—40856
interstellar H radio recombination line broadening 7—29390
interstellar medium, limits of validity of isothermal approximation for shock waves 7—60742
interstellar molecular clouds, MHD shocks theory for oblique mag. fields 7—66454
interstellar scintillation use for meas. of pulsar space vel. 7—60698
Io plasma ribbon model 7—24053
Io plasma torus and the source of Jovian kilometric radiation (bKOM) 7—34912
Io plasma torus boundaries, radio emission 7—40751
Io torus-Jupiter magnetosphere system characts. 7—47758
ionosphere, 3D plasma cloud dynamics 7—47629
ionosphere, 3D spectrum of plasma fluctuations during radio sounding 7—40628
lower ionosphere, ambipolar diffusion coeff. determ. via radio waves resonance scattering method 7—47613
ionosphere, auroral radar spectra obtained with SABRE, statistical study 7—47627
outer ionosphere, charact. freqs. of deuteron whistlers in five-component plasma 7—18335

plasma continued
ionosphere, collision frequency, vertical distrib., multifrequency radioabsorpt. meas. 7−55278
ionosphere, collisional ion cyclotron instability, effect of finite current channel width 7−47630
ionosphere, duct propag. of short-period MHD wave based on International Reference Ionosphere model 7−66392
ionosphere, effect of electron temp. on electron number density and dynamics of equatorial E-region 7−66390
ionosphere, elec. dipole field in inhomogeneous plasma 7−29330
ionosphere, electron and ion temperatures model 7−9314
ionosphere, electron beam expts. 7−55354
ionosphere, electron density determ., VHF transionospheric signal time delay at subauroral latitudes anal. 7−23933
ionosphere, electron density variations at VLF signals refl. height 7−60448
ionosphere, equatorial electrojet type II irregularities modification by finite amplitude type I waves 7−34778
ionosphere, harmonic waves above and below lower hybrid freq. 7−55351
ionosphere, HF modification, small scale plasma density depletions form. 7−4263
ionosphere, interhemispheric plasma transport 7−14409
ionosphere, ion-acoustic double layers, finite amplitude theory 7−37702
ionosphere, Langmuir probe measurements in sheath of highly charged body 7−37744
ionosphere, midday polar cusp and polar cap plasma convection rel. to auroral emissions 7−34777
ionosphere, near-field radiation from pulsed electron beams in space 7−66391
lower ionosphere, new plasma model rel. to appl. of whistlers as diagnostic technique 7−66381
ionosphere, newly-born ion effect and thermal effect on whistlers 7−40572
ionosphere, nonlinear shift of whistler wave parameters 7−66380
ionosphere, plasma characteristics meas. by Space Shuttle plasma diagnostics package, Shuttle-induced perturbations 7−47625
ionosphere, plasma concentration vars. in main ionospheric trough during mag. storm (1978 December 18 to 19) 7−34780
ionosphere, plasma instabilities rel. to nonlinear wave structs. generation 7−66386
ionosphere, plasma oscills. excitation rel. to intense SHF radiation energy dissipation 7−4262
ionosphere, plasma parameters meas. in vicinity of Space Shuttle 7−29360
ionosphere, pot. calcs. from meas. Langmuir probe characts. 7−18306
ionosphere, radio windows theory 7−4255
ionosphere, relationship between EM drift components at mid and low latits. 7−9315
ionosphere, resonant phenomena accompanying seismic-ionospheric electrical interaction 7−28890
ionosphere, spacecraft aerodynamics, collisionless plasma expansion study 7−31950
ionosphere, thermal electron quenching of N(^{2}D), implications for photoelectron flux and thermal electron temp. 7−14412
ionosphere, wave processes and interactions *(Russian)* 7−9298
ionosphere, waves generated by electron beams 7−34774
ionosphere, whistler duct electron content, nose extension method use *(Chinese)* 7−29258
ionosphere convection morphology and particle precipitation assoc. with dayside aurora 7−55352
ionosphere parametric turbulence in mag. field 7−1697
ionosphere plasma, upper hybrid resonance and turbulence excitation by intense radio wave 7−55362
ionosphere plasma depletion experiment (due to Spacelab-2), prod. of window for galactic background radioemission obs. 7−60469
ionosphere plasma waves phase vel. height profiles, use for equatorial electrojet elec. fields determ. 7−60414
jet injection into ionosphere elec. field eqns. 7−51416
Jupiter ionosphere, origin of Io-phase-dependent S-bursts in decametric radio spectra 7−47753
Jupiter magnetosphere, centrifugal field line breaking and upper limit to Io mass injection 7−66496
Jupiter magnetosphere, two-dimensional radial plasma outflow model 7−66498
late-type supergiant eclipsing binaries, chromospheric ionisation and opacity, UV, spectra 7−40869
AD Leo, UV Cet star, giant flare, atm. characts. 7−55676
β Lyr, electron temp. in wind 7−55731
magnetopause, appl. of microscopic stress nonequilib. theory 7−34785
magnetopause, drift kinetic magnetosound-Alfven mode instability *(Chinese)* 7−55368
magnetopause neutral points location in static MHD equilib. model 7−34798
magnetosphere, charged particle motion in magnetotail 7−9335
magnetosphere, comp and plasma props. of magnetotail plasma sheet 7−34789
magnetosphere, current-driven double layers, field-aligned current density and pot. difference 7−34802
magnetosphere, EM ion cyclotron beam anisotropy instability rel. to left-hand polarised waves in magnetotail 7−66400
magnetosphere, evidence for large bulk ion conic heating region 7−47632
magnetosphere, foreshock, EM ion beam instabilities growth at cyclotron harmonic wave numbers 7−60489
magnetosphere, geosynchronous region, bounce-phase bunched ion distrib. model, elec. field effects 7−47639
magnetosphere, gyroresonant pitch angle scatt. by whistler mode waves 7−60490
magnetosphere, ISEE-3 energetic ion results (EPAS) in deep geomag. tail 7−29367
magnetosphere, laboratory obs. of ion conics by plasma vel.-space tomography 7−44250
magnetosphere, magnetoacoustic oscills. excitation mechanism and dynamics in bow shock 7−44173
magnetosphere, Pi 2 pulsations damping obs. rel. to Birkeland currents 7−47631
magnetosphere, plasma behaviour near geosynchronous orbit 7−60480
magnetosphere, plasma density at geostationary orbit 7−47646
inner magnetosphere, plasma pitch-angle and radial diffusion rel. to charged particle fluxes 7−4275
magnetosphere, plasma sheet boundary layer, thermal catastrophe and substorms 7−60478

plasma continued
magnetosphere, plasmasheet boundary, field-aligned plasma flow generation 7−60488
magnetosphere, polar parabolic heavy ion flow 7−60455
magnetosphere, quasi-electrostatic half-electron-gyrofrequency VLF emissions 7−4272
magnetosphere, radio windows theory 7−4255
magnetosphere, simulation of Pc 1 mag. pulsations generation 7−66401
magnetosphere, small plasma beams and clouds, transverse deflection and dissipation 7−60484
magnetosphere, struct. and dynamics of distant magnetotail from ISEE-3 plasma meas. 7−29366
magnetosphere, sub proton-gyrofrequency waves in multicomponent plasma in mag. field 7−63266
magnetosphere, synchronous orbit electron injections, fine struct. and pitch angle depend. 7−47638
magnetosphere, tail, energetic ion enhancements assoc. with travelling compression region 7−60485
magnetosphere, ULF-modulated electrostatic wave 7−47644
magnetosphere, wave processes and interactions *(Russian)* 7−9298
magnetosphere, whistler wave stimulated Brillouin scatt. off kinetic Alfven waves 7−51440
magnetosphere, whistler waves and ion-cyclotron waves interaction 7−60482
magnetosphere convective flows and spatial gradients determ. methods 7−9230
magnetosphere EM wave linear mode conversion 7−37686
magnetosphere foreshock, energetic O$^+$ burst during upstream particle event 7−60476
magnetosphere ion foreshock and quasi-parallel shocks 7−6379
magnetospheres, interchange instability 7−60588
magnetotail, broadband noise generation by beam acoustic instability 7−34801
magnetotail, chaotic particle dynamics near 2D mag. neutral point 7−34799
magnetotail, ion tearing mode simulations with open boundary conditions 7−34800
magnetotail, mag. field results from ISEE-3 Geotail Mission 7−29369
magnetotail, plasma and mag. field var. assoc. with substorms 7−60486
magnetotail, plasma dynamics and mag. fields *(Russian)* 7−9321
magnetotail reconnection, effect of external elec. field, implications for plasmoid form. 7−9323
Mercury, magnetosphere, energetic particles impulsive accel. and transport 7−9392
mid-latitude medium scale travelling ionospheric disturbances, source regions characts. 7−60446
midday auroral oval, rocket meas. of electron influx 7−55349
molecular clouds, plasma characts. and Cherenkov microwave emission-line mechanism *(Chinese)* 7−66690
near-Earth shocks, microstructure 7−55410
neutron stars and pulsars, polar cap plasma flow 7−37654
Orion Nebula intense 6.7-keV Fe X-ray emission line detect. from high-temp. plasma 7−55780
PHL 957, quasar, associated electron cloud characts. 7−35061
planetary atmospheres, fast protons interactions with planetary satellite surfaces 7−40692
planetary atmospheres energetic ions, bombardment of satellites and ring particles 7−40691
planetary magnetism, stability against interchange motions of mag. flux tubes and their plasma 7−9390
planetary magnetospheres, similarity model illustrating effects of toroidal mag. field and rotation 7−9407
planetary nebulae, line and continuum spectra of rarefied cosmic plasma *(German)* 7−55776
plasmapause, electron density var., GEOS-2 obs. 7−60449
plasmasheet boundary layer, slow mode shock struct. 7−60487
plasmasphere, flux tube refilling after mag. storm, temporal features 7−47623
plasmosphere, H$^+$ and He$^+$ flow along mag. field lines 7−9299
polar cap F-region, plasma patches dynamics 7−34779
post-noon auroral oval dynamics 7−55350
Prognoz-10, algorithms for satellite crossing times of solar wind shocks determ. 7−55417
Saturn, Cassini mission and interaction between magnetosphere and surfaces 7−40754
Saturn, EUV emission altitude var., evidence for low latitude proton precipitation 7−9412
Saturn, ring system dust particle interactions with mag. field and plasma 7−34924
Saturn, satellite plasma tori 7−9411
solar atmosphere, collisional heating by nonthermal electrons in tapered mag. loop 7−66557
solar atmosphere, current sheets form. model 7−66539
solar corona, 3D model of preflare energy build-up in filament cct. 7−66558
solar corona, electron beam injection angle from obs. of type III radio bursts 7−66562
solar corona, form. model for transient events with forerunners 7−66538
solar corona, lower limit to type III burst brightness temps. rel. to metre-wave microbursts obs. 7−66561
solar corona, plasma mag. field configuration illumination rel. to strange recurring type I burst pattern 7−66560
solar microwave millisecond spike bursts, mechanism 7−9370
solar quiescent prominences, static current-sheet models 7−66540
solar regions, active, magnetic field dynamics model 7−34965
solar wind, collisional relaxation of vel. distribs 7−34818
solar wind, compound stream formation, effects on solar energetic particles and galactic cosmic rays 7−47656
solar wind, double-peaked proton distribution functions, stability anal. 7−47660
solar wind, electrostatic potential jump at Earth bow shock from ion components meas. 7−34821
solar wind, erosion of ices 7−26814
solar wind, generalised Compton-Getting transformation for nonrelativistic particles 7−34810
solar wind, Helios obs. rel. to generation and propag. of Type III radio bursts 7−47801
solar wind, interaction with Periodic Comet Halley (1982i) 7−14522
solar wind, ion accel. through drift and diffusion at interplanetary shocks 7−47658

plasma continued
solar wind, ion composition meas. using Prognoz-10 BIFRAM instrumentation 7−55409
solar wind, large-scale disturbances 7−23968
solar wind, loop structure behind travelling shock event, props. 7−60501
solar wind, merged interaction regions, coalescence between 6.2 and 9.5 AU 7−47657
solar wind, near-Earth shock, ions distrib. function dynamics 7−55406
solar wind, near-Earth shocks, plasma waves characts., BUDVAR complex obs. 7−55407
solar wind, particle interaction with Alfven solitons rel. to proton heating 7−66418
solar wind, shock-associated energetic particles, Intershock project EPSW expts. obs. 7−55408
solar wind, shocks fine struct., BIFRAM plasma spectrometer meas. 7−55405
solar wind, speeds of exciting electrons for type III radio bursts 7−66533
solar wind, velocity variations around Hale type sector boundaries 7−47662
solar wind characts. *(Italian)* 7−60622
solar wind cosmic ray aspects 7−35124
solar wind flow upstream of the coronal slow shock 7−66415
solar wind high-speed streams role in link between disappearing solar filaments and geomag. activity 7−4277
solar wind interactions, conf., Toulouse, France (1986 June-July) 7−55873
solar wind ion acceleration by interplanetary travelling shocks 7−34819
solar wind perturbation in foreshock 7−9322
solar wind plasma conditions and Pc 3-4 energy densities 7−60493
solar wind props., correl. with Jupiter MF and HF emission 7−4362
solar wind shocks, subcritical and supercritical, mag. field and energetic particle obs. 7−34820
solar wind-magnetosphere interaction, interplanetary magnetic field effects on plasma exchange 7−29370
solar wind-planetary body interaction, collisionless plasma expansion study 7−31950
space plasma diagnostic techniques 7−14510
spacelab-2 experiments 7−23973
star atmospheres, ion lines Stark broadening 7−60515
stars, ion line Stark broadening 7−55615
stars, photospheric plasmas, time-dependent radiative transfer, analytical methods 7−55451
stellar atmospheres, effect of Hall currents on thermal-convective instability of composite plasma 7−4437
stellar axion emission rates in nonrelativistic degenerate regime 7−55458
Sun, active prominence (1978 June 13) dynamics 7−4405
Sun, active region ejected plasma clouds, energy interconnection with assoc. shock waves 7−4421
Sun, atmosphere plasmoids, energy balance 7−66450
sun, broad-band solar radio bursts of spike type, origin and VHF obs. 7−4404
Sun, chromosphere limb spectra, Fe II emission curve of growth 7−24116
Sun, corona, nearly half circular plasma arch confined by mag. field *(Chinese)* 7−66526
Sun, Corona minor ions, Coulomb friction and Alfven waves effects 7−60623
Sun, coronal electron densities 7−24118
Sun, coronal mag. fields MHD stability, photospheric line tying conditions 7−24103
Sun, current sheets, effects of longitudinal mag. field 7−4403
Sun, electron-cyclotron maser instability as a source of plasma radiation 7−66449
Sun, emerging fluxtube, response to current-driven instability 7−66451
Sun, eruptive prominence at several solar radii, physical conditions 7−4426
Sun, flare, microwave emitting electrons energy determ. from microwave and X-ray emission data anal. 7−4419
Sun, flare elec. fields and plasma characts. 7−24105
Sun, flare electrons and VHF and UHF emission 7−4400
Sun, flare energy release, laboratory simulation 7−24000
Sun, flare process in topologically non-equilib. MHD system 7−24119
Sun, flare proton events prediction 7−47812
Sun, flares, delayed acceleration process, radio and X-ray obs. anal. 7−24107
Sun, flares, X-ray and γ-ray time profiles, particle propag. effects 7−24106
Sun, flares onset, role of protons 7−24120
Sun, ideal MHD stability of line-tied coronal magnetohydrostatic equilib. 7−23999
Sun, inner corona, spectral obs. during 1973 June 30 total eclipse 7−24117
Sun, post flare loops obs. at 1980 February 16, total eclipse 7−4424
Sun, quasi-perpendicular magnetosonic shock wave, proton acceleration 7−9455
Sun, quiescent prominence, density and temp., EHF brightness temp. obs. 7−4407
Sun, turbulent current sheet energy release rate *(Russian)* 7−24098
Sun, twisted mag. loops, dynamics 7−4311
transverse magnetic fields, time-depend. plasma interaction 7−60527
travelling ionospheric disturbances and daylight mid-latitude spread-F 7−60451
Uranus, charged particles and H Lyman α emission characts. 7−9414
Venus, central nightside ionosphere, major ions median density altitude profiles 7−34900
Venus, ionotail, config. and evidence for ionospheric ion escape 7−60590
Venus ionosphere, two-dimensional model of thermal struct. 7−24039
H, atomic data relevant to edge plasmas 7−20063
H II regions, electron temperatures determ. 7−60746
H II regions, galactic electron temp. gradient, dust effects 7−48073
H plasmas, ionised Fe atom miscibility under solar interior conditions 7−14555
NaK, Stark effect, appl. to plasma local electric field determ. 7−26563
Xe-Ar:H, plasma, comp. eval. 7−1733

plasma accelerators *see collective accelerators*

plasma applications
see also plasma arc spraying; plasma deposition; plasma devices
acetylene black, prod. in plasma reactor, design and energy concepts 7−20965
alloy ingot preparation, thermal plasma arc melting 7−27968

plasma applications continued
carbon tetrafluoride, beam-plasma discharge for plasmachemical appls. 7−37706
electric discharge production, plasma processing appls. *(Japanese)* 7−6405
energetic requirements for isotope separation by plasma methods 7−63359
exploding metallic foils time-dependent behaviour and hydrodynamic expansion, computer model 7−32036
fast plasma mixing excitation method for CW gas lasers 7−15893
gas-puff Z-pinch plasma X-ray source characts. 7−20925
hydrocarbons and fluorocarbons, plasma polymerised, cross-linking and average coordination 7−8276
imploding thin-films plasma source, for atomic spectrometry, prod., characterisation 7−48850
industrial appls. of plasma *(French, English)* 7−20966
metal, nitriding, laser-plasma synthesis, melting processes calc. 7−28176
metallic materials, nucl. anal. *(German)* 7−54211
metallic targets, laser-prod. plasma ion acceleration 7−16318
meteorites, cleansing and reduction, appl. to Odessa Fe meteorite 7−34956
methane-H_2 plasma, epitaxial growth mechanism of diamond crystal 7−12532
oil, spectrochem. anal. using plasma torch *(French)* 7−35602
plasma electronics, review 7−1789
plasma source ion implantation 7−26547
plasma-electrolyte metal heating mechanism 7−46857
polyethylenes, supermol. struct., glow-discharge induced transformations *(Russian)* 7−63523
polyurethane sponges, hydrophilic plasma surface treatment, geometric factors 7−22856
proton beam focusing by z-discharged plasma channel, expt. and theoretical results 7−11804
semiconductor interfaces, bonding and adhesion, characterisation techniques, electronic struct. 7−27418
superradiance generated in lasers with filamentary plasma active medium 7−1044
surface treatments, surface temperature monitoring by pyrometric method 7−18779
tetrafluoromethane/O_2 plasma etching reactor, CF and CF_2 radicals, laser induced fluorescence detection 7−58068
thermal plasmas, fundamentals and applications 7−33621
thermochemical treatment of steel in an electrolyticplasma 7−3500
thermonuclear fusion research by sheet plasma, vol. prod. H^- and D^- ion source 7−32105
X-ray laser development, stimulated emission enhancement in confined plasma column at PPPL 7−25793
Cl_2, plasma etching reactor, atomic Cl conc. and gas temp., laser spectroscopic meas. 7−58069
Cu, plasma nitriding, sputtering and redeposition of cathode material 7−39752
Fe cathode surface, plasma nitriding, N conc. profile modelling 7−54188
Fe, pure, plastic softening by H plasma charging 7−59590
Fe-Mn-Al, plasma nitriding, sputtering and redeposition of cathode material 7−39752
GaAs:S surface elec. props. modification by plasma exposure 7−27346
H^-, D^- vol. prod. ion source by sheet plasma, proton accelerator and thermonuclear fusion research applications *(Japanese)* 7−5511
H^+, pulsed ion beam, inductive post-acceleration obs., beam energy meas. 7−11805
He plasma, heating with H^+ beam, spectrosc. appls. 7−48864
InP, field assisted plasma grown oxide 7−39772
SF_6 beam-plasma discharge for plasmachemical appls. 7−37706
SF_6-O_2 discharges, LF and RF, etching and surface modification of polyimide films 7−22858
Si, low-temp. plasma nitridation process, props. and appls. 7−33867
Si, oxide growth by plasma anodisation, current efficiency and temp. depend. 7−39777
Si, plasma assisted oxidation below 800°C 7−39783
Si, polycrystalline, chemistry of plasma etching with H_2 and Cl_2 7−54021
Si/Al, oxidation by microwave excited O_2+N_2 mixture plasma *(Japanese)* 7−65198
Si-SiO_2 interface, wet oxidised, RF plasma annealing effects 7−54026
Si-SiO_2 struct., interfacial charged centres, low temp. RF plasma treatment 7−2661
SiC powders, prep. by CVD method using RF-plasma *(Japanese)* 7−3250
Ti, plasma nitriding, sputtering and redeposition of cathode material 7−39752
WF_6, in plasma centrifuges, W recovery 7−46846
WO_3 thin films, transparent, amorphous, prep. by dip-coating method 7−53644
$Z+I_4$, dissoc. in plasmas, metal prod. 7−46845

plasma arc sprayed coatings
ceramic coatings, plasma sprayed on stainless steel, hot isostatic pressing, hardness, bond strength 7−13624
ceramic coatings, thermo-sprayed, microstruct. studies *(Japanese)* 7−22628
powdered materials, gas-thermal coating, substrate porosity effect 7−53999
Al_2O_3, particle shape of plasma sprayed oxides, SEM obs. 7−2403
CeO_2-ZrO_2-Y_2O_3 thermal barrier coating, plasma-sprayed, thermal and mech. props. *(Japanese)* 7−27899
Fe based eutectic alloy powder, plasma coatings with interstitial phases, tribotechnical props. 7−17731
$MgAl_2O_4$, Ar^+ ion irrad., XPS and RBS characterisation 7−32514
$MgAl_2O_4$, particle shape of plasma sprayed oxides, SEM obs. 7−2403
Mo, oxidation-preventing coating, high temperature, low-pressure plasma spraying 7−28182
Ni-Co-Cr-Al-Y, plasma sprayed, high temp. tensile and creep behaviour 7−28083
Ni-Cr-Al (20, 12.5 wt.%), coatings containing dispersed oxides, high temp. oxidation 7−33842
NiCoCrAlY, plasma sprayed coatings, low cycle fatigue behaviour 7−22793
Pt on Si, struct. and comp. of silicides formed in photon annealing, Auger obs. 7−2402
TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7−3255
TiN coating, on steel, ion-plasma appl., laser alloying, dynamic surface strength 7−17730
WC-Co, plasma sprayed coatings, wear, adherence, heat treatment effect 7−33555

plasma arc spraying
- hot gas spraying, particle impact interaction with substrate 7—27894
- jet, contamination with electrode metal vapour jets 7—1793
- polyethylene, disperse, heating in gas-thermal spraying 7—26536
- powder particulates heat and momentum transfer, jet temp. vel. distrib. *(French)* 7—7843
- powdered materials, gas-thermal coating, substrate porosity effect 7—53999
- process parameters control, math. model 7—3477
- thermographic look at plasma spraying 7—24648
- Al_2O_3 coating, thickness meas. and control during thermal spraying 7—61315
- $SmCo_5$ aligned deposits, plasma spraying 7—39371
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7—3255

plasma ashing *see sputter etching*

plasma-beam interactions
- *see also electromagnetic wave propagation in plasma*
- ASDEX, neutral injection, lower hybrid and ion cyclotron reson. heating 7—6409
- beam-generated waves in a large plasma chamber 7—57994
- beat-wave accelerator, collinear optical mixing of relativistic electron plasma waves 7—11614
- bounded beam-plasma system, nonlinear self-excited oscills. calcs. 7—16311
- bounded plasma-electron beam system, nonlinear interaction, instability and oscills. *(Russian)* 7—58029
- carbon tetrafluoride, beam-plasma discharge for plasmachemical appls. 7—37706
- charged particle quasi-linear diffusion, acceleration and heating 7—1675
- charged particles stopping power 7—32003
- charged particles traversing plasma sheath in oblique mag. field 7—44183
- cold plasma, nonlinear waves stability anal. 7—1690
- collective focusing of an intense pulsed ion beam 7—44191
- compact torus form. by rot. relativistic electron beam 7—37729
- compensated electron flows, propag. in finite system, numerical simulation *(Russian)* 7—20125
- conf., Saskatoon, Canada, May 1986 7—29595
- conference, Schliersee, Germany (April 1986) 7—4629
- current drive by lower hybrid waves, effect of escape of resonant particles 7—26481
- dense plasma channel, large scale resistive instability of relativistic electron beam 7—51431
- diatomic polar mol. plasma, quasimonochromatic electric field influence on spectral line shift 7—37757
- dielectric surface-relativistic electron beam interaction, expt. investig. 7—44195
- dissipative beam-plasma instability nonlinear theory 7—1708
- dissipative plasma, beam relax. initial modulation effect 7—51463
- electron acceleration in a laser-irradiated plasma 7—11651
- electron beam, parametric excitation of ion cyclotron wave and plasma heating 7—51466
- electron beam, relativistic, self-pinched, propagation in dense plasma, transverse two stream instability, dispersion relations 7—32000
- electron beam in beam-induced ion channel, transverse instability 7—58027
- electron beam injection, diffusion coeff. calcs. 7—20871
- electron beam propag. in ion focused regime, transverse oscills. 7—51467
- electron beam propagation through plasma into vacuum, computer simulation studies 7—63305
- electron beam-H collisions in flaring solar atm. 7—34843
- electron beam-ionospheric plasma interaction, waves generation 7—34774
- electron beams in ionosphere and magnetosphere, generation of growing electrostatic electron waves 7—47645
- electronegative gases, beam-plasma discharge, physical props. 7—32001
- electrostatic instabilities in hot electron beams 7—58028
- EM ion beam instabilities, one and two dimens. simulations 7—6379
- EM ion cyclotron beam anisotropy instability, contrib. to left-hand polarised mag. waves in magnetotail 7—66400
- EM wakefields for axisymmetric charge distrib. moving through cold uniform plasma, 2D dynamics 7—44263
- equilibrium structure of highly compressed electron-ionbeams at various ion charges 7—6393
- explosive generation of the second harmonic of beam spacecharge oscillations in a transverse slow electromagnetic wave 7—44142
- fan instability of accelerated electrons in tokamak 7—63269
- fast heavy-ion charge states, effect of dielectronic recombination 7—16310
- fast ion beam interaction, ion waves excitation dynamics 7—51465
- fusion power multiplication factor using beam-plasma effect 7—58030
- Gaussian EM beam nonlinear interaction with electrostatic upper hybrid wave 7—26436
- high-β plasma, ion beam excitation of lower hybrid freq. magnetoacoustic oscills. 7—44173
- high-current relativistic electron beam, ionisation wavefront struct. and propag. vel. 7—51469
- inert gas beam plasma, evolution of states, heating effect 7—44193
- inert gas cold quasistationary beam plasma, state evaluation 7—31996
- ion acceleration via wave-particle interaction in apulsed beam-plasma system 7—11653
- ion beam propagation across magnetic field, nonlinear effects 7—44194
- ion beam-plasma system, in HF elec. field, parametric instability *(Russian)* 7—1710
- ion beams, intense, propagation across plasma-filled magnetic cusp 7—42261
- ion thermal conductivity associated with cyclotron heating in a tokamak 7—63308
- ions in gases and plasmas, mean excitation energies 7—63306
- JET, ICRH and neutral beam injection heating 7—6432
- JET H neutral beam heating of D^+ plasma 7—6415
- JT-60, high power heating expts. 7—6439
- Langmuir turbulence, electron probe beam study 7—1699
- laser acceleration of particles, strong internal elec. fields in nonlinear force produced cavitons 7—11662
- laser guided discharges and appls., pulsed power considerations 7—37801
- laser plasma, fast electron prod., absorpt. coeff. 7—63282
- laser wiggler beat waves in plasma, HF amplification 7—20117
- light ion beam fusion research on Reiden IV particle beam accelerator 7—11807
- magnetic mirror, beam-plasma, electron cyclotron instability 7—44227

plasma-beam interactions continued
- magnetic pumping by magnetosonic waves in the presence of noncompressive electromagnetic fluctuations 7—26449
- magnetically confined plasmas, fishbone oscillations 7—26413
- mean excitation energies for arbitrarily stripped ions in dense and hot matter 7—37704
- metal cathode, hot, evaporating, in stationary vacuum arc with diffuse cathode emission, thermal conditions 7—58087
- metal targets, ion beam driven expansions, plasma-induced energy deposition effects 7—51475
- microwave discharge, plasma corona, large amplitude plasma waves and particle acceleration 7—63380
- molecular gas, beam-plasma discharge at retarding pot. 7—37705
- neutral beam heat on JET 7—16314
- neutral beam injected mirrors, relax. to steady state 7—37731
- nonlinear amplitude-modulated stationary waves in a uniform plasma 7—44140
- nonlinear plasma dynamics in the plasma wake-field accelerator 7—44192
- nonlinear space-charge and transverse mag. waves with longitudinal wiggler, stimulated Raman scatt. 7—44182
- nonrelativistic electron beam injection into fully ionised plasma and spacecraft charging 7—44188
- nonrelativistic electron beam propag. in plasma in mag. field 7—44187
- particle acceleration in localised electrostatic wave packet, electron reheating 7—26446
- particle-wave interaction, nonreson. nature, semiclassical quasilinear theory 7—63250
- pellet compression schemes, indirect irradiation by relativistic electron beam 7—11808
- planar magnetic cusp confinement system, stability 7—63332
- plasma channel, axisymmetric erosion of relativistic electron beam 7—31998
- plasma channel, ion hose instability of relativistic electron beam 7—31999
- plasma channel, relativistic electron beam propagation, ion density model, Langmuir probe and beam transport meas. 7—31997
- plasma cylinder, ion beam interactions, natural Alfven oscills. stability 7—51428
- plasma diagnostic equipment, irradiation effects, conf., Nagoya, Japan (Jan. 1986) 7—18503
- plasma electronics, review 7—1789
- PLT, current drive, heating, RF expts. 7—6410
- positron trap, tool for plasma physics 7—63348
- Princeton beta expt. tokamak, neutral beam injection effect on MHD instabilities 7—6403
- pulsed power technique research at IAE in Beijing 7—11693
- relativistic 7—11652
- relativistic electron beam, plasma current induction 7—20870
- relativistic electron beam injection in tokamaks, macroscale particle simulation 7—44186
- relativistic electron beam interaction, space charge effect 7—1709
- relativistic electron beam interaction, static transverse periodic mag. field generation 7—44185
- relativistic electron beam interaction with preformed channels in gaseous atmospheres 7—44190
- relativistic electron beam propagation in the ion-focused regime 7—44189
- relativistic electron beam Raman scatt., 1D theory and simulation 7—26445
- resonant electrons in monochromatic EM wave, relativistic motion and damping during transverse propag. 7—26444
- resonant interaction between charged particles and plasma waves 7—26443
- resonant particle interactions with plasma waves, damping rate, analytic soln. 7—51468
- small cold beam-plasma system, wave power enhancement by DC elec. field 7—6383
- TFTR, high-density pellet-fuelled discharge confinement 7—6442
- TFTR, plasma-wall interactions heating and diagnostics study 7—63291
- TFTR confinement 7—6436
- thermonuclear plasmas, collective modes and high-energy components 7—51491
- tokamak plasma, beam-plasma kink instability *(Chinese)* 7—37717
- Tokamak plasma, slow-time evolution, transport limits, phenomenological theory 7—1725
- trapped-particle induced nonlinear ion-acoustic waves in magnetised plasma 7—31962
- Trivelpiece-Gould waves in plasma excited by electron beam, instability, external RF field effect 7—63267
- two-stage beam-plasma system, electron heating instabilities 7—32002
- two-stage plasma-beam system, electron heating 7—11659
- velocity control of plasma prod. rate 7—31924
- wave coupling in a modified beam plasma system, 1D model 7—63277
- waveguide, multiwave parametric plasma-beam interactions, nonlinear eqn. 7—6401
- X-ray amplifier pumped by kinetic energy of clusters 7—20239
- X-ray free electron laser and laser electron acceleration based on megagauss mag. fields 7—20240
- Ar plasma, relativistic electron beam gas puff Z pinch, spectroscopic studies 7—58044
- H_2 discharge, electron beam energy relax. mechanism in electrode sheath 7—51464
- He plasma, heating with H^+ beam, spectrosc. appls. 7—48864
- N_2 high press. electron beam drives discharge, cathode sheath dynamics 7—1706
- SF_6 beam-plasma discharge for plasmachemical appls. 7—37706

plasma boundary layers
- Alcator C edge plasma, directional asymmetries 7—63300
- arc mantle studies in dual flow plasmas 7—26559
- ASDEX Tokamak, ohmic and auxiliary heating, impurity prod. 7—63293
- combustion product plasma, boundary layers, alkali atom distribs., nonequilib. chemical reactions effects 7—57990
- cylindrical discharge, hollow and coaxial plasma, collisional drift instability 7—44164
- DENSEPACK array of Langmuir probes, Alcator C Tokamak fusion expt. appl. 7—20940
- DITE tokamak, detached plasmas, density and temp. profiles 7—63339
- fluid equations, solns. for three-component plasma in presence of fast primary electrons 7—31984
- ionisation wave front, diffusional-electrodynamic instability 7—20973
- JET, edge phenomena, probe diagnostics 7—63334
- magnetic field compression by liner, self-similar solutions 7—44231

plasma boundary layers continued
  modified Penning discharge, edge turbulence studies 7—16331
  nonuniform plasma-mol. system, thermal radiation field calcs. *(Russian)* 7—31948
  plasma cylinder, ion beam interactions, natural Alfven oscills. stability 7—51428
  plasma-vacuum interface, viscosity and mag. shear effect on Rayleigh-Taylor modes 7—44163
  plasma-wall interaction in fusion devices, conf. Princeton, NJ, USA (May 1986) 7—60861
  scrapeoff layer, energy deposition, power fluxes, diagnostics 7—63302
  surface waves; two-dimens. leak at boundary, surface wave packet anal. 7—31971
  surface waves at a plasma–metal boundary, propagating at right angles to a magnetic field 7—37699
  TEXTOR, ICRH, plasma-wall interaction study 7—6414
  TEXTOR, plasma-wall interactions, heating, review 7—63289
  TEXTOR liner, radial H flux meas. 7—63352
  TFTR, detached plasma, MARFEs phenomena, diagnostics 7—63341
  TFTR, detached plasmas, impurities study 7—63340
  tokomak, toroidally symmetric, thermal instability MARFE phenomena review 7—63290
  Ar electric arc initial section of plasmatron channel, calc. based on MHD eqns. 7—63395
  Be, fusion machine wall material erosion and impurity prod. 7—62074
  C, fusion machine wall material erosion and impurity prod. 7—62074
  H plasma, low n Balmer line intensities, T-tube glass-to-plasma boundary layer study 7—37701
  H plasma, T-tube boundary layer effects on spectral intensities ratios, temp. determ. 7—37635

plasma collision processes
  see also plasma transport processes; plasma-wall interactions 7—44290
  2D flow, MHD model 7—1679
  2D magnetised Rayleigh-Taylor instability, spectral characts. of assoc. turbulence, ionosphere appl. 7—44170
  afterglow, inelastic collisions quenching cross sections 7—42746
  afterglows, electron distribution function, metastable atom+atom collision effects 7—21030
  air, positive corona discharge, influence of water mols., mass spectra anal. 7—32180
  alkali metal plasma, ternary recombination coeffs., cumulative ionisation 7—44102
  anisotropic plasma, scattering form factor calcs. from test particle model and BBGKY method *(Chinese)* 7—6357
  ballooning mode in collisional plasmas, gyrokinetic theory *(Chinese)* 7—37660
  bombardment of planetary satellites and ring particles 7—40691
  charged nuclear particles, energy loss in heat plasma 7—36436
  charged particle quasi-linear diffusion, acceleration and heating 7—1675
  charged particle stopping power 7—37625
  charged particles stopping power 7—32003
  collisional effects in cloud-in-cell scheme, laser-plasma heating due to parametric instabilities 7—26479
  collisional plasma column, whistler waves, dispersion and damping meas. 7—51455
  condensed dispersed phase plasma, ionisation equilib. shift 7—31929
  conference, Orleans, France (Sept. 1985) 7—4616
  critical ionisation velocity process 7—31924
  current-driven ion acoustic instability in collisional plasma, kinetic theory 7—26419
  cylindrical discharge, hollow and coaxial plasma, collisional drift instability 7—44164
  D+T, rate enhancement in nonuniform magnetoplasma 7—42196
  degenerate four-wave mixing and phase conjugation 7—25899
  dense plasma, atomic species description model 7—63255
  dilute test particle, thermal relax. model problem 7—44098
  discharges, high-pressure, stability, electron dissoc. attachment effects 7—51540
  dispersion equations for two collision models *(Chinese)* 7—6355
  drift and MHD interchange modes in unsheared slab geometry, collision operators comparison 7—11637
  drift instabilities in presence of collisions, nonlinear evolution 7—58005
  drifting tri-Maxwellians, energy and momentum collisional transfer 7—1670
  effective collision freq. meas. on weakly ionized turbulent plasma 7—31928
  electric conductivity, freq. depend., of slightly nonideal plasmas 7—20872
  electrical conductivity of a dense plasma 7—11599
  electron beam, self-pinched hollow, filamentation instability 7—11642
  electron distribution fn. in anode sheath of glow discharge, kinetic problem soln. 7—37627
  electron distribution function at electron cyclotron resonance 7—63252
  electron-ion collision frequency dependence of plasma parameters 7—66382
  electronegative gas microwave discharge, layerless kinetic instability 7—37792
  energy-equipartition frequency and resist., mag. field depend. 7—44114
  exothermic reactions, nonlinear heat conduction, two-temp. hydrodynamic eqns. 7—51401
  fast protons interactions with planetary satellite surfaces 7—40692
  finite current channel width, effect on collisional ion cyclotron instability, ionospheric appl. 7—47630
  heating by ion collisions 7—32016
  heating of plasma by collisional magnetic pumping 7—16315
  high temperature plasmas, collision term of kinetic eqn. for charged particles, shear viscosity 7—31926
  highly stripped ions, collisional-radiative model 7—26474
  hot plasma emission lines, unresolved arrays and sub-arrays *(French)* 7—6370
  inert gas, hollow cathode discharge, at. energy level excitation, laser lines 7—1804
  inert gas afterglow, step by step excitation electron distrib. 7—26572
  inert gas atoms, anisotropic collisions with atoms and ions, intermultiplet mixing 7—57154
  integral stochastic alpha particle losses in a tokamak reactor 7—31957
  ion sound turbulence, current-driven, in inhomogeneous plasma, anomalous resistivity 7—44172
  ion thermal conductivity associated with cyclotron heating in a tokamak 7—63308

plasma collision processes continued
  ion velocity distributions, distortion in ICRH presence, semi-analytical anal. 7—58039
  isotropic Coulomb system, plasma oscills., absence of collisional damping 7—44138
  laser assisted charge exchange reactions, theoretical and expt. investig. *(French)* 7—5759
  laser fusion and hot-electron transport, mag.-field generation 7—26470
  laser plasma, expanding, charge composition and temp., ternary recombination effects 7—63251
  laser target plasma emission characteristics, soft X-ray region, plasma diagnostics, radiative-collisional model study 7—62312
  laser-ablated plasma, collisional Weibel instability, nonlocal anal. 7—58013
  laser-produced plasma fluctuations, kinetic model 7—26469
  linear resonant EM wave absorpt., collisional and thermal effects, numerical anal. 7—26435
  magnetised coaxial cylindrical double plasmas, radial pot. form. with unstable waves 7—51461
  magnetised plasma subjected to external EM radiation in lower hybrid reson. region, temp. relax. 7—44100
  magnetized Fokker-Planck equation with quasilineardiffusion for nonaxially symmetric velocitydistribution functions 7—11590
  metal plasma arc switches, appl. of particle orbit theory 7—37768
  methane, deposition plasma, homogeneous and heterogeneous chemistry, deposition of C:H 7—39424
  microwave-afterglow studies, electron heating, dissoc. recombination, electron temp. and density 7—11813
  mirror-trapped collisional plasma, axial confinement, mirror ratio scaling 7—37727
  momentum transfer cross sections, expt. data fit 7—20845
  neutral beam injected mirrors, relax. to steady state 7—37731
  nonideal plasma, bremsstrahlung approx. scheme 7—37652
  nonself maintained discharge with nonuniform external ionisation, current-cond. channel form. 7—58090
  nonthermal ion collisions in mag. field, PF-150 plasma focus device neutron source 7—63365
  particle acceleration in localised electrostatic wave packet, electron reheating 7—26446
  particle-wave interaction, nonreson. nature, semiclassical quasilinear theory 7—63250
  Phaedrus-B, tandem mirror, ion trapping and pumping in thermal barrier region 7—32065
  phase shift in impact approx., trajectory effects 7—51388
  plasma atomic kinetics, evolutionary problems soln. by Monte Carlo method 7—20864
  plasma heating by collisional magnetic pumping, soln. of differential eqn. 7—32021
  plasma source, electron impact self-alignment 7—37626
  plasma stimulated thin film prod., description of plasma processes 7—22575
  recombination-nonequilibrium plasma, gas dynamics eqns. soln. *(Russian)* 7—44108
  relativistic electron beam interaction with preformed channels in gaseous atmospheres 7—44190
  relaxation of solar wind velocity distribs, Fokker-planck theory 7—34818
  relaxation processes in Ar afterglow cylindrical plasma *(Spanish)* 7—51392
  RF ion source, ion energy distrib., radial extraction, injected electron beam 7—30118
  RF plasma electron kinetics, attachment and ionis., self-consistent treatment 7—20850
  RF plasma electron kinetics, current density 7—20849
  RF plasma electron kinetics investig. strict time depend. 7—20848
  RF plasma sheath, ion transport, Monte Carlo modeling 7—37797
  RF wave ionisation instability in weakly ionised plasma 7—51429
  rotating magnetic fields, RF driven, plasma confinement appl., self-consistent calc. 7—796
  runaway phenomenon, diffusion with varying drag 7—57977
  small cold beam-plasma system, wave power enhancement by DC elec. field, weak collisions 7—6383
  solar cells, biased concentrator, plasma interactions 7—59840
  spheromak plasma, interactions with toroidal fluxes and currents 7—31985
  stellarators, neoclassical transport 7—58047
  strongly magnetised plasma, ordinary EM wave bremsstrahlung emission 7—51410
  superthermal ion species, collisional transport in magnetised plasma 7—57978
  tearing modes, collisional and semicollisional, finite ion temp. effects 7—58003
  tearing modes in sheared slab, linear stability study 7—37671
  tetrafluoromethane-O_2 mixtures, electron gas investig. 7—20861
  TEXT, digital spectral anal. diagnostic for transport, turbulence and scatt. 7—25233
  thermal ion-acoustic fluctuations in collisionally dominated plasmas, laser scatt. meas. 7—11711
  thermal relaxation of 2D plasma in uniform mag. field 7—44101
  thyratron plasmas, self-consistent modeling 7—32122
  time-dependent line transport calcs., Monte Carlo scheme 7—20897
  tokamaks, alpha particles, vel. distrib. and current drive, finite Larmor radius effects 7—63328
  toroidal plasma, collisional electrostatic drift modes 7—1724
  toroidal systems, plasma equilibr. dissipative model 7—11685
  whistler approximation in collisional plasma, applicability range 7—6378
  X-ray laser development, stimulated emission enhancement in confined plasma column at PPPL 7—25793
  Al plasma, K-shell reson. lines, spot spectroscopy diagnostics 7—37742
  Al^{10+} recombining laser plasma, soft X-ray amplification 7—63321
  Ar dense plasma, elec. cond. determ. 7—37642
  Ar, ionis. behind normal plasma shock waves, conservation eqns. 7—31980
  Ar plasma, electron mobility and conductivity, numerical solns. 7—31944
  Ar, plasma characts., study of high current discharges appl. to pulsed-power devices 7—32188
  Ar plasma column prod. by EM surface wave, recomb. controlled regime 7—20908
  Ar surface wave discharges, influence of excitation frequency 7—63386
  Ar, weakly ionised plasma, high frequency instability, inelastic collisions study 7—31975
  Au plasma, atomic processes, collisional-radiative and average-ion hybrid models 7—51387

plasma collision processes continued
C fibre plasma, laser produced, population inversion and gain meas. 7—26505
C plasma, laser-irrad. fibres, hydrodynamics and atomic kinetic simulations study 7—63319
CO, RF molecular plasma, electron energy distrib. functions 7—37636
F IX, excitation by laser flame recharging in plasma 7—20851
H ion, diffusion coeff. in plasma, gyro-radius effect 7—31936
H, ion recomb. and level pops., role of charge exchange 7—31925
H non-ideal plasma, effect of electron scatt. on conductivity 7—44109
H plasma, collisions, Stark broadening calcs. 7—10493
H plasma, computer simulated binary collision hypotheses, Stark broadening 7—10492
H plasma, electron swarm development in nonuniform electric field crossed with mag. field 7—51390
H plasma, ion collisions, low-energy charge exchange, XUV spectra 7—20032
H plasma diagnostics using ion impact Stark broadening 7—51517
H^+ plasma, beat wave saturation by collisional damping meas. 7—58058
H^+ plasma, electron scattering, momentum transfer 7—51389
$H^++He^+(Ne^{9+})(Ar^{17+})(Fe^{25+})$, Fine-struct. excitation, plasma screening effects, ion-sphere and Debye-Huckel models 7—62509
He, forbidden lines intensities, diagnostics 7—51516
He isoelectronic series, electron scatt., plasma screening effect, distorted wave approach study 7—62532
He, plasma, collision induced transitions between singlet and triplet levels, laser fluoresc. 7—20846
He plasma, ion collisions, low-energy charge exchange, XUV spectra 7—20032
He-Cd positive column discharge 441.6 nm laser level *(French)* 7—11811
He-like ion plasma, electron excitation rates 7—20847
Hg, excited atoms, superelastic electron collisions, plasma prop. meas., plasma electron spectroscopy 7—20852
Kr, electron impact, low energy, in afterglow 7—20060
LaB_6 pulsed hot cathode discharge, for uniform plasma production 7—32006
Li like ion plasma, population inversion collisional-radiative model 7—25463
N_2, photoionisation discharge plasma, decay characts. 7—21038
N_2 plasma, thermal, nonequilibrium, total rate coeffs. calc. 7—1672
NF_3+O_2, plasma etching of Si, kinetic model 7—39787
Na resonant laser interaction produced, collision processes 7—37628
Ne, $2p^53d$ level population in Hf discharge afterglow, press. depend. 7—20853
Ne, high-frequency discharge, dissoc. recomb. of excited atoms in afterglow 7—10456
Ne pulsed transverse discharge, population inversion, secondary process influence 7—58084
O, nonequilibrium plasma, collisional-radiative model 7—37624
O VII, excitation by laser flame recharging in plasma 7—20851
O_2, $b^1\Sigma_g{}^+$ state excitation in gas discharge plasma 7—19735
O_2, glow discharge, metastable at. and mol. processes 7—16342
O_2, plasma, weakly ionised, electron heating and ionis. by RF fields 7—20862
SF_6, electron swarm kinetics with attachment and ionis., higher-order Boltzmann eqn. calcs. 7—20854
SF_6, RF molecular plasma, electron energy distrib. functions 7—37636
SF_6+O_2, plasma etching of Si, kinetic model 7—39787
Se XXIV and XXV plasma, dielectronic recombination calcs. 7—26510
Se XXV plasma, laser produced, electron impact, laser transitions 7—26508
Si, polycrystalline, chemistry of plasma etching with H_2 and Cl_2 7—54021
$SiH_4+Si_2H_6+Ar+H_2$, plasma enhanced CVD of a-Si:H, integrated model 7—39423
Xe plasma, electron mobility and conductivity, numerical solns. 7—31944

plasma confinement
see also magnetic traps; pinch effect; plasma focus; plasma impurities; plasma-wall interactions
2T-40M reversed-field pinch, plasma-surface interactions 7—63336
absorption of electron cyclotron radiation in tokamakplasmas with a superthermal tail in the electronvelocity distribution 7—11589
ACT-I, fast wave current drive 7—32074
Alcator C edge plasma, directional asymmetries 7—63300
Alfven wave heating, density fluctuation obs. at reson. layers, probe meas. 7—58057
Alfven-resonant modes destabilisation by resistivity and dimag. drifts 7—44151
anisotropic plasmas, loss-cone type distribution, electron cyclotron emission and absorpt. anal. 7—20890
anomalous thermal confinement in tokamaks, microinstability based model 7—51404
anomalous thermal confinement on ohmically heated tokamaks 7—37725
anomalous transport and the coupling of plasma diffusion and heat flow 7—44106
aperture limiter shadow of T-10 tokamak, Langmuir probe meas. 7—51394
ASDEX, neutral injection, lower hybrid and ion cyclotron reson. heating 7—6409
ASDEX Tokamak, ohmic and auxiliary heating, impurity prod. 7—63293
ASDEX tokamak, sawtooth oscillation suppression by lower hybrid current drive 7—1693
ASDEX tokamak temporal behaviour of plasma current distrib. during lower-hybrid current drive 7—44160
ATFSR, moderate aspect ratio torsatron, design and confinement models 7—25177
axisymmetric Bennett pinch stability, two fluid approx., relativistic electromagnetic hydrodynamic calcs. 7—44232
axisymmetric instability in tokamak, num. study 7—6376
axisymmetric ring confinement system with retrograde-drifting particles 7—63331
axisymmetric tokamak plasma, dynamical modeling of transport and positional control 7—11629
axisymmetric toroidal pinch, elliptic cross section, main plasma column shape, shell noncircularity, toroidal drift, safety factor profile 7—11672
beat wave current drive, weak-turbulence theory 7—1698
boundary parameter meas. using Langmuir probes in JET 7—51395
Cascade inertial confinement fusion reactor, design 7—15327
CASTOR tokamak, plasma form. and sustainment by multijunction grill 7—58032

plasma confinement continued
charged particle trapping in mag. neutral sheet by mag. field and EM wave 7—11690
chemical sputtering of carbon in tokamak discharge 7—51537
compact tokamak ignition expts., ohmic ignition prospects 7—15338
compact torus, self-consistent modeling of quasi-steady state evolving to ignition 7—56854
compact torus form. by rot. relativistic electron beam 7—37729
compression by liner, self-similar solutions 7—44231
computational physics conference, Eibsee, Germany (May 1986) 7—48137
conference, Schliersee, Germany (April 1986) 7—4629
confinement time scaling in tokamaks 7—32052
confinement time scalings in tokamaks, MHD model 7—31949
CT-6B tokamak feedback control, stability *(Chinese)* 7—6427
CTCC-I, sawtooth activity of decaying spheromak 7—26416
current drive, In JIPP T-IIU, by LOOP antennas 7—6443
current drive by asymmetrical heating of ions 7—32010
current sustainment and ramp up by electron cyclotron waves, WT-2 tokamak 7—51403
DC current drive, AC helicity injection 7—32012
dense bounded plasma, fusion neutron scatt., recoil nuclei energy transport props. 7—63344
density profiles across mag. field gradient, single detector diagnostics 7—44246
DITE tokamak, detached plasmas, density and temp. profiles 7—63339
divertor effects, radiation loss, impurity confinement 7—11688
double sawtooth oscillations in the text tokamak 7—20921
ECH stochastic heating in the Proto-Cleo Torsatron 7—32014
ECRH expts. in tokamaks and stellarators 7—6411
electric arc, deflected wall-stabilised relax. process, thermodynamics soln. 7—44273
electron beam accelerator, vacuum pulse conditioning and risetime sharpening 7—30659
electron cyclotron heating in tokamaks, Fokker-Planck studies 7—51405
electron energy, anomalous thermal transport in tokamaks 7—37733
EM wave linear mode conversion 7—37686
energetic particle stabilisation of ballooning modes in tokamak 7—37685
energetic trapped particle-induced resistive interchange-ballooning modes, theory 7—11679
energy confinement time measurement, RF heated Tokamak and mirror plasmas 7—44234
energy deposition of fast α-particles in a fully ionized deuterium-tritium plasma 7—10289
energy relaxation, during tail-anisotropy instability in lower-hybrid current rise 7—6385
energy transport requirements for tokamak reactors in the second ballooning stability regime 7—15333
Eta-Beta II reversed field pinch, heating and confinement studies 7—26497
ETL-TPE 2 experiment, high beta and high temperature plasma, toroidal fast field, power supply *(Japanese)* 7—11668
fast-opening switch for magnetically confined plasma rings 7—26540
fiber-optic current sensor with heterodyne detection 7—1775
filamentary structures and plasma vortices induced by behaviour of toroidal magnetic surfaces 7—63265
flute modes in mirrors, ponderomotive stabilisation, feedback control and numerical results 7—44224
Frascati Tokamak, confinement and heating study 7—6438
free boundary calculations in 3D using spectral Green's function method 7—51414
free boundary plasma equilibria, Volterra's series solns. 7—58046
FRP-1, trapped flux oscillations 7—31967
fusion devices, sputtering yields and plasma contamination 7—56843
fusion energy prod., magnetically confined ion beam fusion reactor investig. 7—63346
fusion machines, plasma-surface interactions, design studies 7—63298
generalized magnetohydrostatic equilibria 7—37659
Grad-Shafronov equations, isoperimetric inequalities and nonexistence 7—55993
Heliotron configuration, stability, toroidal field effects 7—26489
Heliotron DR, confining field, ohmic heating 7—16321
high magnetic field tokamaks, confinement, impurity control and heating 7—20920
high-beta tokamak operation in the second stability regime 7—37722
hot-electron generation and transport in high-intensity laser interaction 7—26431
hot-electron instability in mirror geometry 7—31960
hydromagnetic waves compressional, damping and excitation on plasma column 7—11610
I energy confinement time improvement using particle fueling optimisation 7—11686
ICF, 2-D Lagrangian studies of symmetry and stability of laser fusion targets 7—51479
ICF, effect of UV irradiation on anode plasma production 7—6424
ICF, experimental approaches to heavy ion fusion 7—6425
ICF, laser implosion, effect of capsule aspect ratio on hydrodynamic efficiency 7—51480
ICF, numerical analysis for nonuniform implosion of target 7—6387
ICF, self-similar ion beam fusion plasmas 7—5443
ICF, use of pulsed power technology 7—10286
ICF target experiments, preliminary performance with Nova 7—15371
ICRF current drive experiment on JIPP T-IIU 7—51471
ICRF heating on Alcator C, impurity generation 7—51472
ICRF wave catalyst in beam-heated plasma 7—16313
ICRH induced particle losses in stellarators 7—16326
ignited tokamak devices with ohmic-heating dominated startup 7—15332
imaging method diagnostics for plasma density fluctuations 7—1738
inertial confinement fusion, Nova laser facility 7—1778
inertial confinement fusion light balance meas., light-integrating cylinder 7—44253
integral stochastic alpha particle losses in a tokamak reactor 7—31957
interchangeable module stellarator, mag. field struct., electron beam meas. 7—44216
ion beam incident on pellet, ablative corona generation 7—1803
Ion Bernstein Wave heating on JIPP T-IIU tokamak 7—6416
ion diode, beam production and propagation 7—30656
ion losses from Jupiter-1M electromagnetic trap ring cusp *(Russian)* 7—32048
ion thruster, inert gas, plasma confinement by surface mag. fields 7—51486
ion trapping rates in tandem mirror reactors 7—15334

plasma confinement continued
JET, edge phenomena, probe diagnostics 7—63334
JET, ICRH and neutral beam injection heating 7—6432
JET, impurity behaviour study 7—6441
JET and TFCX, plasma performance with sawtoothing, ignition 7—1685
JET H neutral beam heating of D$^+$ plasma 7—6415
JET joint undertaking, 1985 annual report 7—6474
JET plasma, ICRF waves anal. 7—1723
JET plasma, vertical position stabilization and shape control 7—15314
JFT-2M, ICRF heating, confinement studies 7—11660
JIPP T-IIU Tokamak, density fluctuations, far-IR laser scatt. 7—44257
JIPP T-IIU Tokamak, mag. field config. disruptive behaviour 7—44168
JT-60, high power heating expts. 7—6439
JT-60, ohmic heating, diagnostics study 7—63335
JT-60 tokamak, global particle balance in ohmically heated divertor discharge 7—20927
KALIF ion accelerator, beam comp. investig. in anode plasma 7—30742
laser fusion, comment on state of the art 7—26473
laser heating of plasmas confined in strong solenoidal magnetic fields, optimal control theory anal. 7—58041
laser light absorption and scattering, computer simulation 7—26500
laser plasma, microsecond confinement below breakdown intensity 7—6426
laser-target irrad., hot electron generation and transport, external mag. field effects 7—37711
launching system of LHRF and ICRF heating on JT-60 7—19502
light ion beam propagation, electrostatic two-stream and EM filamentation instabilities 7—6368
limiter material, effect of heat and particle fluxes 7—20866
limiter tokamak, particle fluxes, scrape-off layer struct. 7—63301
linear stability of counter-streaming two strong ionbeams 7—6422
low Z impurity behaviour in TFTR 7—20919
lower hybrid current drive, circuit anal. on tokamak 7—16328
lower hybrid current drive, simulation model 7—11597
lower hybrid resonance, accessibility to slow wave in tokamak, full wave theory 7—37678
magnetic curvature drift instability 7—37675
magnetic field surface in torsatron 7—32053
magnetic fluctuations during current rise in divertor discharge 7—11689
magnetic flux-compression generators for energy supply of plasma focus loads 7—63369
magnetic helicity in a toroidal plasma 7—31951
magnetic quadrupole, short wavelength drift waves, linear theory 7—44228
magnetically confined vacuum arcs, plasma parameter meas. 7—32163
magnetoelectrostatic confinement, limitations 7—51484
Maryland spheromak, mag. equilib. determ. 7—32057
MHD confinement, appl. of spectral theory and to ideal MHD eqns. 7—34854
MHD equation implications for inertial confinement fusion concept 7—44213
MHD equilibr., nonlinear problem, Newton-like methods 7—44134
MHD equilibria with islands and stochastic regions, 3D calcs. 7—51415
microinstabilities in weak density gradient tokamak systems 7—37677
microparticle-initiated losses in magnetically insulated transmission lines 7—30658
MIDAAS, ion diode, extraction performance 7—30657
minority heating current drive, numerical studies 7—32011
mirror loop system for TFTR 7—1771
mirror-cusp device, RFC-XX-M, LF microinstability studied by Fraunhofer diffr. method 7—63275
multichannel tangential bolometer on PBX, operation 7—1774
multidipole confinement of Ar and K plasma 7—44229
Nagoya University Institute of Plasma Physics, Annual Review (April 1985-March 1986) 7—63249
neoclassical impurity transport and poloidal asymmetry obs. in JET 7—51449
NET, plasma-wall interaction study 7—63297
neutral beam heat on JET 7—16314
noncircular RFP expts. at Wisconsin 7—32061
nonlinear growth of external modes at small q in atokamak 7—6372
nontoroidal mag. confinement concepts 7—26496
Ohmic energy confinement in tokamaks 7—37726
Ohmic tokamak discharges, density limits, thermal cond. models 7—11657
OHTE/RFP 5MA machine, design proposals 7—26498
particle control for impurities and fuel in DIVA and Doublet III 7—11687
PBX Tokamak, high-β plasmas, bean-shaped configurations 7—20924
pellet injection into hot plasma, review 7—6437
PISCES facility, erosion and redeposition expt. 7—63292
plasma cylinder solitary surface waves eqns. 7—26410
plasma transport coefficients for nonsymmetric toroidalconfinement systems 7—11678
plasma-wall interaction in fusion devices, conf. Princeton, NJ, USA (May 1986) 7—60861
PLT, current drive, heating, RF expts. 7—6410
PLT, plasma confinement in toroidal discharges sustained by a highly conducting plasma current 7—32044
poloidal β meas. in JET with diamagnetic loop 7—1772
positron trap, tool for plasma physics 7—63348
potential well near electron collecting anode, ion pumping 7—1721
power transmission by laser beam, direct energy converter and laser produced plasma confinement 7—3720
Princeton beta expt. tokamak, neutral beam injection effect on MHD instabilities 7—6403
probes for edge plasma studies in TFTR 7—1779
proto S-1/C spheromak, particle diffusion meas. 7—31942
proton source, high purity, pulsed with cryogenic plasma diode 7—30815
PS-3.5 spheromak, flow field study by C impurity spectral line shifts 7—26403
pulsed power technique research at IAE in Beijing 7—11693
radiation loss profiles in TFTR, high asymmetry 7—1770
relativistic electron beam injection in tokamaks, macroscale particle simulation 7—44186
relativistic electron gun, laser-pulsed 7—30653
resistive Alfven spectrum of tokamaklike configurationsin straight cylindrical geometry 7—11639
resistive fluid turbulence in diverted tokamaks and the edge transport barrier in H-mode plasmas 7—44171
resistive internal m=1 mode in tokamak, review of calcs. 7—51426
reversed field pinch at HBTX, basic principles 7—30663

plasma confinement continued
reversed field pinch plasma, TPE-1R(M), radiation loss, Fe impurity, electron temperature, electron density 7—11706
reversed field pinches, analytic force-free fields and F-theta curves 7—26485
reversed field pinches, fusion application prospects 7—16327
reversed-field pinch rising current operation, num. simulation 7—11682
RF heating and current drive in tokamaks 7—51470
RFC-XX-M, confinement times 7—11692
RFP plasma equilib. with external coils, numerical calc. 7—32060
rotating magnetic fields, RF driven, plasma confinement appl., self-consistent calc. 7—796
S-1 spheromak, current transformer 7—32055
S-1 Spheromak flux core, use of explosive forming to manufacture resistive vacuum torus 7—25204
S-1 Spheromak program, recent progress 7—32051
sawtooth stabilization through island pressure enhancement 7—58002
scaling of incremental energy confinement time in the JFT-2M tokamak 7—37732
scrape-off layer in toroidal system, impurity control effects 7—11691
short field-reversed-field configurations, equilib. props. 7—37730
soft X-ray diode array diagnostic for JET 7—1787
spectroscopic diagnostics on JET 7—11791
spherical fuel pellet compression using laser beams 7—32027
Spheromak, compact toroid research 7—6440
spheromak CTX, mag. helicity conservation 7—26493
spheromak diagnostics, mag. field information from electron cyclotron emission 7—11743
spheromak plasma, interactions with toroidal fluxes and currents 7—31985
spheromak plasma, mag. flux injection through inductive transformer 7—32056
spheromak plasmas, mag. flux conversion and relax. toward minimum energy state 7—26488
spheromak shift instability, critical field index for passive coil stabilisation 7—44230
stellarators system with helical axis and longitudinal mass flow, resistive ballooning modes 7—51492
stimulated soft X-ray emission in a confined plasma column 7—11603
surface layer modification at solid walls in high temp. plasma expts. 7—63343
T-10 tokamak, electron temp. meas. by C-pellet injection 7—26387
T-10 tokamak, H pellet injection effect on discharge characts. 7—1718
T-10 tokamak, large-scale perturbation, radial struct. 7—51427
T-10 tokamak, plasma-wall interactions 7—63294
T-15 tokamak, plasma-wall interactions, diagnostics 7—63299
T-15 tokamak with Fe-core, plasma equilib., mathematical models 7—63327
tandem mirror with quadrupole symmetry, analytic equilib. 7—26490
target implosion, wavelength depend. study 7—26471
TCA Tokamak, density fluctuations, long wavelength turbulence 7—1727
TCA Tokamak, ohmically heated, radiated power loss meas. 7—58055
TEXTOR, ICRH, plasma-wall interaction study 7—6414
TEXTOR, plasma-wall interactions, heating, review 7—63289
TEXTOR liner, radial H flux meas. 7—63352
TEXTOR Tokamak microturbulence, CO$_2$ laser scatt. meas. 7—58015
TFR, correlation between low-freq. turbulence and energy confinement 7—32043
TFTR, detached plasma, MARFEs phenomena, diagnostics 7—63341
TFTR, detached plasmas, impurities study 7—63340
TFTR, high-density pellet-fuelled discharge confinement 7—6442
TFTR, plasma-wall interactions heating and diagnostics study 7—63291
TFTR confinement 7—6436
thermal instabilities and poloidal asymmetries in the tokamak edge plasma 7—51436
thermal stabilization of an elongated tokamak by variation of plasma elongation 7—15337
thermonuclear Alfven loss-cone instability in mirror reactor, quasilinear theory 7—51435
thermonuclear plasma, thermal stability for temp. depend. confinement time, Kaye-Goldston scaling 7—30647
thermonuclear plasmas, collective modes and high-energy components 7—51491
thin metallic coatings for first wall of fusion devices, behaviour during plasma-wall interaction 7—51489
three-temperature plasma model, soln. method, inertial confinement fusion target design studies appl. 7—10278
time-resolved derivation of heat fluxes from quantitative infrared thermography and its relationship to photoacoustics 7—44210
TM-G tokamak, energy confinement at high plasma densities 7—51499
tokamak, accelerated electrons, fan instability 7—63269
tokamak, broadband mag. and density fluctuations, correl. integral 7—44218
Tokamak, compact ignition designs, plasma predictions 7—15315
tokamak, compact ignition experiments, startup, confinement, α-effect assessments 7—15316
tokamak, cyclotron heating, ion thermal cond. 7—63308
Tokamak, dynamics of plasma column, numerical model 7—26480
Tokamak, high-confinement regime with ion cyclotron-resonance heating 7—44197
tokamak, L-mode plasmas, incremental energy confinement time 7—58042
Tokamak, mag. helicity, MHD current drive 7—51494
Tokamak, neoclassical ion thermal cond. impurity contrib., finite aspect ratio effect 7—26395
Tokamak, peripheral plasma, turbulent transport coeffs., MHD and drift instabilities 7—63279
tokamak, plasma column, dynamics calc. equivalent current method 7—44212
Tokamak, plasma equilibrium control 7—11684
tokamak, scrape-off layer, probe meas. 7—63351
tokamak, T-7, current drive by lower hybrid waves, temp. depend. of efficiency 7—51522
tokamak, tearing modes suppression by ECRH *(Chinese)* 7—37716
Tokamak, transition from state with low- to high-poloidal beta 7—51493
tokamak current drive, anal. of θ pumping 7—63342
Tokamak de Varennes program, overview 7—32054
Tokamak device, feedback control, stable region *(Chinese)* 7—37714
Tokamak discharge, start-up phase electron Bernstein wave current drive 7—44161
tokamak edge plasma props. 7—20928
tokamak energy confinement and ignition, fusion alpha heating effects 7—11677

plasma confinement continued
tokamak interior wall, elec. arc form. 7—51457
tokamak plasma, beam-plasma kink instability *(Chinese)* 7—37717
tokamak plasma, clumps in drift-wave turbulence, trajectory stochastic treatment 7—6388
tokamak plasma, current generation by asymmetrical heating 7—51485
tokamak plasma, electron cyclotron wave damping, power depend. 7—58006
tokamak plasma, electron density diagnostics by Fe XXII line intensity ratios 7—26516
tokamak plasma, electron density evolution 7—37647
Tokamak plasma, electron vel. space diffusion induced by electron cyclotron waves 7—44117
tokamak plasma, energy confinement stability, microscopic transport 7—6435
tokamak plasma, equilib. config., ideal MHD mode stability, limiting β scaling 7—1717
tokamak plasma, high β, ECRH for creating energetic electrons *(Chinese)* 7—37718
tokamak plasma, iron-cored, positional instabilities 7—26484
tokamak plasma, non-circular, axisymmetric modes, feedback stabilization *(Chinese)* 7—37720
Tokamak plasma, slow-time evolution, transport limits, phenomenological theory 7—1725
Tokamak plasma, thermal instability and anomalous cond. 7—44162
Tokamak plasma equilibrium with nonuniform current distrib. 7—32045
Tokamak plasma pressure profiles, optimization against high MHD ballooning modes *(Chinese)* 7—6382
tokamak plasma scrape-off layer particle flux penetration 7—16298
tokamak plasmas, C coating, effect on ICRH, Fe impurity radiation loss 7—6418
tokamak plasmas, inner-shell X-ray line spectra of Ti, Cr, Fe and Ni ions 7—6371
tokamak T10, transport processes during injection of H pellets 7—63259
tokamak T-7, impurity transport, mag. islands effect 7—44112
tokamak transport, phenomenological relations 7—11602
tokamak with flowing plasma, tearing modes *(Chinese)* 7—37715
tokamak with helical mag. limiter, edge plasma, electric and mag. struct. 7—44219
tokamak with poloidal magnetic diverter, transport in plasma near wall, 2D model 7—44111
tokamak-pinch expt., design and operation 7—15367
tokamaks, alpha particles, vel. distrib. and current drive, finite Larmor radius effects 7—63328
tokamaks, carbonisation, plasmachemical in situ deposition 7—63296
tokamaks, filament instability in presence of ferromagnetic 7—44166
tokamaks, impurity confinement time meas. 7—44226
tokamaks, ion-temp. gradient driven turbulence theory 7—26430
tokamaks, low freq. modes, generalised moment eqns. 7—58043
tokamaks, natural current profiles 7—37721
tokamaks, plasma-wall interactions, impurity behaviour 7—63338
tokamaks, resistive tearing mode, set of equations 7—11675
tokamaks, Soviet, confinement study, transport coeffs. 7—6433
tokomak, toroidally symmetric, thermal instability MARFE phenomena review 7—63290
toroidal, flux surface averaging, diffusion coeff., electron cyclotron reson. heating 7—20844
toroidal configuration with anisotropic press., Pfirsch-Schluter current 7—51498
toroidal device, ambipolar electrostatic plugging of field error losses 7—20916
toroidal device, striking characteristics of plasma discharge, filament orientation depend. 7—20905
3D toroidal geometry, sharp boundary MHD equilib. 7—26486
toroidal helical systems, magnetohydrodynamic equilib. and stability 7—63264
toroidal mode driven by ion temperature gradients and magnetic-field curvature 7—58045
toroidal plasma, collisional electrostatic drift modes 7—1724
toroidal plasma, quasilinear stabilisation of ballooning modes 7—51448
toroidal plasma equilibria in an external magneticmultipole field 7—1726
toroidal plasma stability, noncircular cross section, beta value, aspect ratio, elongation *(Japanese)* 7—11699
toroidal systems, plasma equilibr. dissipative model 7—11685
toroidal z pinch equilibria 7—63324
torus, constant-alpha force-free fields, boundary integral eqn. approach 7—51418
torus, H_2/CH_4 and H_2 glow discharge cleaning *(Chinese)* 7—6431
torus, mag. field line flow, Hamiltonian problem stochastic stability 7—44133
TPE-1R(M), start-up phase, volt-second consumption meas. 7—11654
TPE-1RM15 RFP expt., design, construction and plasma parameters 7—32059
TPE-2, basic plasma parameters, diagnostics *(Japanese)* 7—11705
TPE-2, high beta toroidal screw pinch, objects and design *(Japanese)* 7—11667
TPE-2, MHD behaviour and fluctuations, optical and mag. diagnostics 7—11607
TPE-2 plasma, beta and energy confinement *(Japanese)* 7—11669
TPE-2 plasma, light impurities generation and removal *(Japanese)* 7—11671
TPE-2 plasmas, energy equilibr. transport props. *(Japanese)* 7—11670
transport coefficient, profile consistency andconfinement scaling 7—11593
transport scalings in tokamaks, thermodynamic approach 7—44214
troidal plasma devices, system for mapping magnetic field errors 7—51500
Tuman-2A tokamak, plasma electron thermal conductivity determ. and radiative loss meas. 7—6471
two-ion ICRF heating in Tokamaks 7—16337
wave turbulence, second sound, anomalous plasma diffusivity 7—37688
Wendelstein VII-A stellarator, ECRH study 7—6434
X-ray diagnostics for mag. fusion 7—1783
X-ray drive ICF, radiation transport modelling 7—6420
X-ray imaging systems for TFTR 7—1785
X-ray laser development, stimulated emission enhancement in confined plasma column at PPPL 7—25793
X-ray perpendicular bremsstrahlung emission of suprathermalelectrons 7—1784
X-ray spectroscopic methods for diagnosis of laser-imploded targets 7—1782
Z-pinch discharge control by capacitor bank discharging, plasma compression 7—44211

plasma confinement continued
Z-pinch toroidal, metal vacuum chamber, magnetic flux generation *(Japanese)* 7—11674
ZT-P experiment, results 7—26499
Be I isoelectronic series, atomic and spectral data for typical tokamak plasma conditions 7—24322
C III, Z-pinched plasma, Stark broadening of spectral lines 7—36537
Cu XIII and XVII, excitation rate coeff. meas. in TEXT 7—44223
D^+ JET tokamak plasma, ion cyclotron emission spectra meas. 7—58067
D-T direct drive implosions, neutron sources for diagnostics development 7—1776
H_2 pellet fueling system for plasma fusion confinement magnetic valve design 7—11683
HD Tokamak plasma, fast Alfven wave propag., expt. meas. 7—58014
He plasma, spectral line Stark broadening for theta-pinch turbulent plasma parameter meas. 7—44255
MnI(II), modified wall stabilised arc, hook measurements study 7—37755
Ni XXVII plasma, X-ray spectral diagnostics 7—20931
Ti XXI lines in electron-cyclotron heated tokamak plasmas, nonthermal X-rays, time resolved meas. 7—11658

plasma containment *see plasma confinement*

plasma density
absorption of electron cyclotron radiation in tokamakplasmas with a superthermal tail in the electronvelocity distribution 7—11589
actively cooled Langmuir probe for long pulse appls., design and fabrication 7—26517
air, atmospheric, optical discharge plasma sustained by Nd laser radiation, diagnostics 7—63355
Alcator C, high energy X-ray meas. during lower hybrid current drive 7—32082
Alcator C edge plasma, directional asymmetries 7—63300
Alcator C tokamak, nonthermal electron distrib. functions during LH heating and current drive 7—11740
Alcator-C, centrally peaked impurity profiles obs. 7—11774
Alfven wave heating, density fluctuation obs. at reson. layers, probe meas. 7—58057
Alfven wave stimulated Brillouin scatt. in low-density plasmas in ionospheric conditions 7—44146
anomalous transport effects on plasma convection in poloidal limiter shadow of a tokamak 7—37637
aperture limiter shadow of T-10 tokamak, Langmuir probe meas. 7—51394
ATF, FIR interferometer, development of high power FIR lasers 7—11757
ATF, FIR interferometer system design, radial density profile determ 7—11758
ATF two-dimens. Thomson scatt. system for temp. and density meas. 7—1751
backward Compton scatt. for electric field probes in high-density relativistic plasma 7—1759
beat-wave heating with density profile steepening 7—37712
blast waves in laser-produced plasma, spectroscopic and interferometric meas. 7—6392
boundary layer in presence of fast primary electrons, fluid eqn. solns. 7—31984
boundary parameter meas. using Langmuir probes in JET 7—51395
CASTOR tokamak, plasma form. and sustainment by multijunction grill 7—58032
cathode crater formation, in metal-vapor vac. arcs, time-depend. description 7—26560
collisionless plasma expansion, electron distrib. effects 7—11613
confinement, scaling of incremental energy confinement time in the JFT-2M tokamak 7—37732
coupled dense plasma, Mott transition theory 7—20860
cryogenic decaying plasma, electron temp. meas. in 4.2 K He gas 7—37629
cusped magnetic field ion source, plasma props. calcs. 7—20915
cylindrical discharge, hollow and coaxial plasma, collisional drift instability 7—44164
cylindrical plasma, azimuthal mag. field diffusion 7—1674
DC discharge planar magnetron device, plasma production for thin film preparation 7—1711
dense plasma, atomic species description model 7—63255
DENSEPACK array of Langmuir probes, Alcator C Tokamak fusion expt. appl. 7—20940
determination by probing with heavy-ion beams 7—26388
diocotron and magnetron instabilities in crossed fields 7—26424
discharges, high-pressure, stability, electron dissoc. attachment effects 7—51540
DITE tokamak, detached plasmas, density and temp. profiles 7—63339
double freq. laser irrad. plasma, density profile, elec. field struct. *(Chinese)* 7—6394
double stimulated Brillouin scattering in a nonuniformlaser plasma 7—6396
drift wave type instability, nonlinear saturation, phenomenological theory 7—1696
EBT, hot electron ring geometry, implications for stability 7—44215
EBT, neutral density and particle confinement time meas. 7—1722
ECRH in tandem mirror, electrostatic potential, electron density 7—6363
effective $K\alpha$ X-ray excitation rates for plasmaimpurity measurements 7—11762
electron bound states in dense plasma, spectral displacement *(French)* 7—11605
electron cyclotron wave damping for oblique propag. in hot tokamak plasmas 7—37668
electron density determ. from neutral gas temp. *(Czech)* 7—31930
electron diffusion transport coeffs., Boltzmann-Vlasov formulation 7—31947
electron distribution fn. in anode sheath of glow discharge, kinetic problem soln. 7—37627
electron distribution function, meas. in low temp. plasma by probe method 7—57979
electron distribution function at electron cyclotron resonance 7—63252
electron losses from Jupiter-1M EM trap *(Russian)* 7—16301
electron resonant acceleration during RF heating of a weakly magnetised inhomogeneous plasma 7—26466
electron-ion flow with anisotropic press., current equilibr. 7—51417
electrostatic beam instabilities in a positive/negative ion plasma 7—51442
electrostatic ion probe for tokamak-plasma-edgediagnostic 7—11781

plasma density continued
electrostatic resistive interchange turbulence, dynamics and fluctuation spectra 7—11636
elementary process determ. by Langmuir probes 7—20945
EM wave propag. in plasma, skin-layer problem, numerical simulation 7—63283
Eta-Beta II reversed field pinch, heating and confinement studies 7—26497
Extrap Z-pinch, temp. and density, boundary conditions effects 7—51497
flowing plasmas, expansion into regions of weak localized mag. field 7—31952
fluctuations, far-IR laser scatt. study in JIPP T-IIU Tokamak 7—44257
Frascati Tokamak, confinement and heating study 7—6438
freestreaming mode and ion-acoustic wave excitation by voltage pulse 7—11617
fusion power multiplication factor using beam-plasma effect 7—58030
gas discharge, cathode fall, optogalvanic diagnostics 7—32187
gas-puff Z pinch, hard and soft X-ray emission temporal development 7—11765
glow discharge, high-voltage, electron density, temp. meas. using Langmuir probe 7—63375
glow discharges, modeling, theoretical and computational problems 7—37796
gun plasma injection studies in IMS 7—32013
heavy ion beam probe, temperature and fluctuation correlation meas. 7—1755
heavy ion beam probe for simultaneous radial and poloidal wave number meas. 7—1756
heavy ion beam probing at ATF and Heliotron-E 7—26520
high current heavy atom beam system for plasma diagnostics 7—1758
high density plasma, electron-ion recombination 7—31927
high-current vacuum arc near Cu cathode, spectroscopic meas. and anal. 7—26558
holographic interferometric determ. of electron density distrib. in race track plasma 7—11707
hot laser-produced plasmas, Stark-broadened Lyman line asymmetry 7—63356
hot plasma, absolute parametric decay instability 7—63272
hot-electron instability in mirror geometry 7—31960
hot-ion production from a gas-injected washer gun 7—63309
imaging method diagnostics for plasma density fluctuations 7—1738
inert gas dense plasmas, temp. and density profiles, Stark linewidth and shift 7—37752
interelectrode flashover in the presence of a weakly ionised plasma channel created by laser irradiation 7—44281
interparticle correlations in dense high-temp. plasma, elec. microfields probability densities 7—1736
interparticle correlations in dense high-temp. plasmas, polaris. shifts of spectral lines 7—1737
ion acoustic motions of plasma with two temperature electron distrib. function 7—63274
ion beam generation and focusing from conical pinched electron beam diode 7—11806
ion charge state distrib., near ECR freq. heated plasma 7—32022
ion thruster, inert gas, plasma confinement by surface mag. fields 7—51486
ionised gases, atomic and mol. physics, conf. Greifswald, Germany (Aug. 1986) 7—18499
ISX-B, beam heated plasmas, toroidal energy density eval., temp. and density surfaces 7—31931
jet injection into ionosphere elec. field eqns. 7—51416
JET microwave interferometer, plasma electron density meas. 7—44242
JT-60, ohmic heating, diagnostics study 7—63335
JT-60 tokamak, global particle balance in ohmically heated divertor discharge 7—20927
Langmuir probe technique for plasma parametermeasurement in a medium density discharge 7—11782
large amplitude caviton meas. in plasma waveguide 7—31965
laser drilling in subatmospheric press. atms. of air, plasma transients, electron temp. and density 7—20914
laser filamentation in a thermally unstable plasma 7—44179
laser heated exploding foils, hydrodynamics, appl. to soft X-ray laser design 7—44209
laser light absorption and scattering, computer simulation 7—26500
laser target plasma emission characteristics, soft X-ray region, plasma diagnostics, radiative-collisional model study 7—62312
laser-ablated plasma, collisional Weibel instability, nonlocal anal. 7—58013
laser-plasma interactions, density profile steepening, self-consistent treatment 7—26438
laser-produced plasma density and flow vel. variation near critical density region 7—16317
light negative ions sources, plasma physics, conf., Palaiseau, France, March 1986 7—9601
limiter tokamak, particle fluxes, scrape-off layer struct. 7—63301
linear thyratron in tetrode configuration, develop. 7—32120
low Z impurity behaviour in TFTR 7—20919
lower hybrid heating, refl. coeff., power depend. 7—58033
magnetic mirrors, Monte Carlo simulation for space-varying mag. fields *(Chinese)* 7—37719
magnetically confined vacuum arcs, plasma parameter meas. 7—32163
measurement of the plasma density in a microsecond-range vacuum diode by optical interferometry 7—63253
metal targets, ion beam driven expansions, plasma-induced energy deposition effects 7—51475
microwave cavity, imperfect, plasma density meas. 7—63350
microwave-afterglow studies, electron heating, dissoc. recombination, electron temp. and density 7—11813
mirror-cusp device, RFC-XX-M, LF microinstability studied by Fraunhofer diffr. method 7—63275
mirror-trapped collisional plasma, axial confinement, mirror ratio scaling 7—37727
multi-fluid, steady state model for rotation and separation in a fully ionized, magnetized plasma column 7—26548
Multichannel far infrared interferometer, MIRI, signal processing for electron density meas. 7—25232
multichannel FIR collective scatt. and interferometry systems for fusion diagnostics 7—25215
multichannel soft X-ray diode spectrometer, high density plasma diagnosis appl. 7—37743

plasma density continued
multichannel Thomson scatt. systems with high spatial resolution for plasma diagnostics 7—1765
multichord, near infrared interferometers for theCTX and ZT-40M experiments 7—11753
multitip explosive emission cathode plasma generation dynamics, probe meas. 7—51478
NET, plasma-wall interaction study 7—63297
neutral beam heat on JET 7—16314
neutral-particle densities outside the TMX-U plasmaedge 7—1777
non-neutral ion plasma generation and diagnostics 7—51513
nonlinear bound on unstable fluctuation level in low-density non-neutral plasma 7—57998
nonlinear drift-tearing mode stability in semicollisional regime, analytical theory 7—44153
nonlinear ion-acoustic waves, Korteweg de Vries eqn., self-similar soln. 7—31973
nonthermal ion collisions in mag. field, PF-150 plasma focus device neutron source 7—63365
Ohmic tokamak discharges, density limits, thermal cond. models 7—11657
one-component plasma in external field, molecular dynamics study of particle arrangement 7—1730
optogalvanic signal origin rel. to plasma parameters 7—30971
oscillations, low-frequency, energy-loss rate and enhanced diffusion 7—37664
overdense plasma layer, total transparency 7—26434
parametric interaction of a two-level system with anelectron plasma in a strong RF electric field 7—6359
partially ionized gases, scalar DC electrical conductivity 7—51381
pellet compression schemes, indirect irradiation by relativistic electron beam 7—11808
pellet injection into hot plasma, review 7—6437
Penning discharge, electron plasma column, density diagnostics 7—37741
phase space density holes, equilib. state of fast charged particles bunch 7—31974
photoionisation plasma density determ. by ion arrival time method 7—26525
plasma atomic kinetics, evolutionary problems soln. by Monte Carlo method 7—20864
plasma channel, ion hose instability of relativistic electron beam 7—31999
plasma channel, relativistic electron beam propagation, ion density model, Langmuir probe and beam transport meas. 7—31997
plasma cylinder, ion beam interactions, natural Alfven oscills. stability 7—51428
plasma edge cathode for pulsed electron extraction 7—32106
plasma sheath dynamics of focus discharges, parameter eval. 7—63304
plasma stimulated thin film prod., description of plasma processes 7—22575
Plasma-Materials Interactions Test Facility electron cyclotron resonance microwave plasma system 7—51477
positron trap, tool for plasma physics 7—63348
probe measurements of the density and temperature profiles inthe JET plasma boundary 7—5431
profiles across mag. field gradient, single detector diagnostics 7—44246
pulsed arc plasma Balmer beta core, electron density meas. 7—6477
quasistationary plasma, reflectometry, freq. modulated EM waves 7—63257
REPUTE-1, RFP plasma, relaxation processes 7—32050
reversed field pinch, behaviour of peripheral plasma 7—51509
reversed field pinch, electron temp. and density meas. 7—20922
reversed field pinch fusion power reactor, 1000 MWe, plasma parameters *(Japanese)* 7—16319
reversed field pinch plasma, TPE-1R(M), radiation loss, Fe impurity, electron temperature, electron density 7—11706
RF current drive, investig. 7—11594
RF current drive in tokamak devices, bootstrap effect 7—51400
RF plasma electron kinetics, current density 7—20849
RFC-XX, plasma prod. with rot. ion cyclotron waves excited by Nagoya Type-III antennas 7—37709
RFP plasma equilib. with external coils, numerical calc. 7—32060
RIE, etch mechanisms, modelling 7—39785
runaway electrons, velocity-space struct. 7—11586
schlieren method for fusion plasma particle density distrib. meas. 7—58060
second harmonic emission wave, generation scale length anal., weak turbulence approx. 7—31972
soft X-ray average recombination coeff., average charge for metallic impurities 7—11761
spectroscopic studies of plasma during CW laser materials interaction 7—63313
stimulated Raman backscatter instability threshold intensity 7—44247
stream interaction with neutral gas in aligned mag. field 7—51419
subcritical plasma, highly inhomogeneous electron acceleration and nonresonant elec. field enhancement 7—11600
subcritical plasma, ion acoustic wave generation by standing EM field 7—57997
T-10 tokamak, optimum current density profile, electron-cyclotron resonance heating 7—44198
T-shock tube, current disruption wave generation 7—63281
tandem mirror, thermal barrier potential, electron cyclotron reson. heating 7—51496
tandem mirrors, MHD modes with finite Larmor radius, destabilisation 7—26491
tandem volume sources, spectroscopic meas. of atomic populations and temps. 7—10345
Tara, 137 GHz gyrotron diagnostic for instability studies 7—11750
TARA tandem mirror, heavy ion beam probe design 7—25223
Tara tandem mirror central cell, Thomson scatt. methods for optical diagnostics 7—1747
TCA Tokamak, density fluctuations, long wavelength turbulence 7—1727
TCA Tokamak, ohmically heated, radiated power loss meas. 7—58055
tetrachloromethane, dissoc. in RF plasma, probe diagnostic and relative emission intensity meas. 7—32095
TEXT, plasma density and poloidal field meas. using injected Li beam 7—6452
TEXTOR, plasma boundary structure, effects on impurity release, density meas. 7—16325
TEXTOR tokamak, current distrib. meas. by FIR polarimetry 7—11738
TEXTOR Tokamak microturbulence, CO_2 laser scatt. meas. 7—58015
TFR, correlation between low-freq. turbulence and energy confinement 7—32043

plasma density continued
TFTR, detached plasma regime study using MIRI FIR interferometer 7—11760
TFTR, detached plasmas, impurities study 7—63340
TFTR, high-density pellet-fuelled discharge confinement 7—6442
TFTR, optically thin electron cyclotron emission meas. using Michelson interferometer 7—11755
TFTR, parametric study of electron density profile evol. following injection 7—11759
TFTR confinement 7—6436
TFTR plasmas, Faraday rotation and line electron density meas. using FIR interferometer 7—11754
thermonuclear fusion research by sheet plasma, vol. prod. H^- and D^- ion source 7—32105
thermonuclear plasmas, collective modes and high-energy components 7—51491
three-channel plasma diagnostic data handling system based on the VAX 11/780 and the LeCroy 3500 signal analyzer 7—26527
thyratron current and plasma quantities intrinsic relationships, thyratron plasma cond. 7—32121
TM-G tokamak, energy confinement at high plasma densities 7—51499
tokamak, broadband mag. and density fluctuations, correl. integral 7—44218
tokamak, scrape-off layer, probe meas. 7—63351
tokamak current drive, anal. of θ pumping 7—63342
tokamak microturbulence propag. direction diagnostics using homodyne spectroscopy 7—11748
tokamak plasma, 2D density distrib. using phase imaging interferometry 7—11739
tokamak plasma, electron density diagnostics by Fe XXII line intensity ratios 7—26516
tokamak plasma, electron density evolution 7—37647
tokamak plasma, multichannel submillimeter wave interferometer 7—37749
tokamak plasmas, inner-shell X-ray line spectra of Ti, Cr, Fe and Ni ions 7—6371
tokamak T10, transport processes during injection of H pellets 7—63259
tokamak transport, phenomenological relations 7—11602
tokomak, toroidally symmetric, thermal instability MARFE phenomena review 7—63290
tomographic analysis of the evolution of plasma crosssections 7—1741
toroidal device, ambipolar electrostatic plugging of field error losses 7—20916
toroidal plasma, collisional electrostatic drift modes 7—1724
toroidal plasma equilibria in an external magneticmultipole field 7—1726
TPE-1RM15 RFP expt., design, construction and plasma parameters 7—32059
TPE-2 plasma, beta and energy confinement *(Japanese)* 7—11669
TPE-2 plasmas, energy equilibr. transport props. *(Japanese)* 7—11670
trifluorochloromethane-Ar discharges, for plasma etching of Si:P, parametric modelling and impedance anal. 7—28221
trifluoromethane plasma in planar reactor, probe meas. 7—37750
Tuman-2A tokamak, plasma electron thermal conductivity determ. and radiative loss meas. 7—6471
turbulent transport coeffs. in peripheral plasma in tokamak, MHD and drift instabilities 7—63279
two-layer target compression stability, laser plasma X-ray line obs. and gas-dynamic calcs. 7—51481
two-stage beam-plasma system, electron heating instabilities 7—32002
two-temperature plasma cloud, electron-positron pair equilibria, stability analysis 7—40677
underdense coronal plasma, laser interaction physics 7—26432
vacuum arc centrifuge, ion and electron temp. meas., rotation vel. meas. 7—26582
vortex structures, pulsed plasma stream, snow-plow model calcs. 7—31953
wave coupling in a modified beam plasma system, 1D model 7—63277
wave-particle interactions and energetic tail formation in the electron distribution 7—26433
waveguide coupling during lower hybrid current drive in a tokamak 7—26450
Z-discharge plasma, H atom density from H_α and H_β spectral line intensities 7—26512
Al, hot dense plasma, at. props. and transition probabilities 7—57032
Al plasma, high density, high temp. at. pot., comparison with bremsstrahlung Gaunt factors, density functional theory 7—63254
Al, plasma, K-shell reson. lines, spot spectroscopy diagnostics 7—37742
Al^{10+}, recombining laser produced plasma, population inversion 7—26509
Ar, dense plasmas, continuum ξ-factor determ. 7—20865
Ar, flowing afterglow, metastable influence, expt. apparatus description 7—58073
Ar, hollow cathode arc, steady-state low-press., diagnostics 7—26561
Ar II, dense plasma, spectral line study 7—36552
Ar, ionis. behind normal plasma shock waves, conservation eqns. 7—31980
Ar plasma, collisional drift instability in a variable radial electric field 7—16303
Ar plasma, DC pulse generation, creation and stabilisation processes study 7—32098
Ar plasma, electron mobility and conductivity, numerical solns. 7—31944
Ar surface wave discharges, influence of excitation frequency 7—63386
B-like ion plasma, dielectronic satellites 7—58054
Be I isoelectronic series, atomic and spectral data for typical tokamak plasma conditions 7—24322
C III, Z-pinched plasma, Stark broadening of spectral lines 7—36537
C plasma, laser-irrad. fibres, hydrodynamics and atomic kinetic simulations study 7—63319
C^{5+}, plasma, Balmer line Stark broadened profiles 7—26513
C-Se plasma, radiation cooling and gain calc. for C VI 182 Å line 7—6360
CO_2 laser Thomson scatt., detection limits for α-particle meas. 7—1763
Cl I, arc plasma, Stark broadening of spectral lines study 7—36536
Cs strongly coupled cluster plasma, elec. cond. 7—37649
Cs, surface-ionised plasma in hot cavity, power-shifted microwave reson. 7—58020
F, H-like, plasma, spectral series *(French)* 7—11794
H^- ion prod., dependence on plasma and wall parameters 7—25288
H ion, diffusion coeff. in plasma, gyro-radius effect 7—31936
H, lines in arc plasma, shift meas. 7—11709
H neutrals in bounded plasma slab, kinetic theory, analytical solns. 7—57981
H non-ideal plasma, effect of electron scatt. on conductivity 7—44109
H plasma, β spectral line peak asymmetry 7—51518

plasma density continued
H plasma, low n Balmer line intensities, T-tube glass-to-plasma boundary layer study 7—37701
H^- hybrid volume source, ion and electron density profiles 7—10340
H^- ion volume prod., effect of chamber volume and gas pressure 7—10347
H^- multipole plasma source, neutral H level populations, spectroscopic meas. 7—817
H^- tandem multipole ion source, plasma parameter meas. by Langmuir probe anal. 7—10339
H^- tandem multipole source, plasma parameter meas. using Langmuir probe technique 7—10338
H^- volume ion sources, modelling of vibrational population distrib. 7—10344
H^+ beam, space charge compensation by pregenerated plasma 7—44200
H^+ plasma, beat wave saturation by collisional damping meas. 7—58058
H_2, metastable, discharge rotational temp. and density determ., resonant multiphoton ionisation method 7—44105
H_β profiles at high electron densities from optical discharges 7—6447
He gas, temperature and density meas. in decaying plasma 7—31934
He glow discharge, electron conc. meas. in anode region 7—11788
He I plasma, Stark parameters meas. of 447.15 nm line electron density determ. 7—36540
He I plasma, Stark parameters meas. of 492.2 nm line, electron density determ. 7—36541
He plasma, optically orientated, density kinetic model calcs. 7—51391
He plasma, spatial resolved line-intensity meas., electron density determ. 7—36641
He plasma, spectral line Stark broadening for theta-pinch turbulent plasma parameter meas. 7—44255
Hg, excited atoms, superelastic electron collisions, plasma prop. meas., plasma electron spectroscopy 7—20852
I, arc in air, plasma comp., Gibbs free energy calcs. 7—37795
K, plasma confinement in spindle cusp mag. field 7—32042
K, surface-ionised plasma in hot cavity, power-shifted microwave reson. 7—58020
Kr, dense plasmas, continuum ξ-factor determ. 7—20865
Li, arc in air, plasma comp., Gibbs free energy calcs. 7—37795
Li hollow cathode discharge, spectrosc. obs. 7—21008
Li like ion plasma, population inversion collisional-radiative model 7—25463
MnI(II), modified wall stabilised arc, hook measurements study 7—37755
N II pulsed arc, Stark broadened lines 7—36534
N_2, plasma, electron velocity distrib., self-consistent determ. 7—20859
Na plasma, creation by resonant laser interaction study 7—32033
Ne discharge, high-current, low-pressure, radial distrib. of neutral gas density 7—20952
Ne II, Stark parameters meas. 7—36538
Ne, plasma, Stark broadening and shift parameters, visible spectra anal. 7—62310
Ne pulsed transverse discharge, population inversion, secondary process influence 7—58084
Ne-like ion recombination in finite density plasma, rate coeff. calc. 7—57982
Ne-like ions, in laser-prod. plasma, density-sensitive line emission 7—6448
O, nonequilibrium plasma, collisional-radiative model 7—37624
O_2, plasma, weakly ionised, electron heating and ionis. by RF fields 7—20862
SF_6, high-current discharges, optical diagnostics 7—37775
Se XXV plasma, laser produced, electron impact, laser transitions 7—26508
Si plasma, laser prod., electron density sensitive emission line ratios 7—32081
SiH_4, RF discharge, electron props., Monte Carlo simulation 7—21036
Th, plasma, XUV spectra, isotope line identification, HF and DF calcs. 7—15487
Xe plasma, electron mobility and conductivity, numerical solns. 7—31944
Xe plasma, equilib. comp., numerical methods study 7—31935
XeCl excimer laser, discharge-pumped, electron density, $H\beta$ line Stark broadening meas. 7—5873

plasma deposited coatings
assisted CVD deposited thin films for microelectronic appls. 7—22562
boiling heat transfer coefficient, plasma-deposited coating particle size effect 7—50916
C thin films, RF discharge deposition, mech., elec. and optical props. 7—22509
CVD, plasma-enhanced, plasma-surface interactions, book contrib. 7—27943
diamond crystallisation, conf., Warsaw, Poland (June 1985) 7—18469
diamond films, microwave plasma CVD synthesised, thermal conductivity meas. 7—38417
fluorocarbon films plasma deposited on Si, ellipsometry studies 7—22373
fluoropolymer film formed in C_2F_6-H_2 RF discharge, chem. struct. and growth, deposition conditions depend. 7—21745
fluoropolymers, film, deposited in glow discharge, XPS study 7—27206
hexamethyldisiloxane films, plasma polymerised, dielec. breakdown 7—33328
hexamethyldisiloxane films, plasma polymerised, dielec. props., complex permitt. 7—33316
metal-SiO_xN_y-SiO_2-Si system, plasma oxynitride effect on interface charge 7—38761
polymer glow discharge films, IETS meas. *(German)* 7—42718
polymer-metal composite thin films, elec. behaviour 7—52856
polystyrene plasma deposited thin films, ionic cond., free vol. model calcs. and meas., press. depend. 7—27009
polyvinyl carbazole plasma CVD thin films, photoconductive props. study, IR and UV spectra meas., electrode effects 7—27367
polyvinyl carbazole thin films, plasma-CVD polymerised, photoconduction props. 7—38628
powdered coating bonding during plasma deposition, diffusion kinetic mechanism 7—32874
a-Si:H solar cells stability, role of Si—H bonds studied by Fourier transform infrared spectroscopy 7—13896
transition metal amorphous alloy coatings, microindentation response, microstruct. and composition effects 7—46625
Al, on Cr steel, SCC behaviour 7—17686
Al-Mg and Al-Zn-Mg alloys, plasma-coated, heat treatment effect on fine struct. and failure mechanism 7—3496
AlSb-GaSb superlattices, low-temp. growth by plasma process *(Japanese)* 7—7061

plasma deposited coatings continued
BN films, microwave plasma CVD process 7−17435
BN MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7−22023
C amorphous films for InP MIS structs., ion-beam sputtering and plasma deposition 7−7400
C films, diamond-like, microwave plasma CVD process 7−17435
C films, plasma deposited from methane, elec. conductivity, optical absorpt. 7−38786
C films, transparent, sputter- and plasma-deposition 7−22474
C insulating films for MIS struct., interfacial characts. 7−2732
C layers, arc plasma deposition, struct., mech. props. *(Russian)* 7−22581
C layers, deposition, by RF plasma decomp., physical props. 7−22508
C layers, nucleation in HF hydrocarbon plasma 7−17476
C MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7−22023
a-C thin films, bonding core-EELS and ^{13}C NMR studies 7−21099
C thin films, electrophys. props., MIS struct. as tool for anal. 7−17268
C thin surface layers on steel substrates, anticorrosion props., ion bombardment effects study 7−27202
C:H amorphous films, glow discharge deposited from CH_4+H_2, annealing behaviour 7−64922
a-C:H diamond-like coating on Ge, rain erosion resistance improvement obs. 7−31435
a-C:H films, glow discharge deposited, valence electron props., electron energy loss spectra study 7−13288
a-C:H films, plasma deposited, optical props. 7−27799
a-C:H plasma grown films, struct., physical props. 7−58713
a-C:H polymeric plasma-activated CVD films, tribological and mechanical props. studies 7−16920
Cu-Mg amorphous alloys, 2D weak localisation effects 7−21871
$Fe_{3-2}N$, hexagonal, prep. by plasma reaction, mag. characts. 7−13380
GaAs epilayers, plasma enhanced metalorganic CVD 7−46336
p-GaSb, low-temp. growth by plasma process *(Japanese)* 7−7061
GaSb-GaAs photodiode, low-temp. growth by plasma process *(Japanese)* 7−7061
Ge, amorphous and partially crystallised, X-ray absorpt. investig. of struct. *(German)* 7−46241
Ge:H films, post-deposition hydrogenated, electrical props. 7−32296
a-Ge:H glow discharge deposited thin films, H content determ., spectroscopic ellipsometry study 7−38365
HfN films, colour, aging and tempering effects 7−46159
n-InSb, low-temp. growth by plasma process *(Japanese)* 7−7061
$In_{2-x}Sn_xO_{3-y}$-WO_3-MgF_2-Au, electrochromic coatings for solar windows 7−53621
Ni-Al-Cr based alloy plasma-sprayed thermal barrier coatings, sp. ht. and thermal cond. meas. and 2D computer simulation 7−7076
P, passivation of InP 7−3540
Si, amorphous, small-angle scatt. of electrons in STEM obs. of defects and voids 7−21754
Si films, amorphous-crystalline mixtures, annealing effect on optical props. 7−59273
Si:B, amorphous, solar cell, roll-to-roll mass prod. process 7−17902
Si:H, amorphous film, optical absorption and bandgap rel. to temp. *(Korean)* 7−59228
a-Si:H, distrib. of states study by capacitance-voltage method 7−7089
a-Si:H, glow discharge thin films, deposition rate, optical props., influence of substrate temp. 7−59460
a-Si:H, plasma deposited NMR, Pake doublet 7−27617
a-Si:H, prep. in rotary plasma isolated reactor and props. 7−7891
a-Si:H, RF glow discharge prod., high deposition rate study 7−7889
a-Si:H,B, thin films, thermoelectric power 7−58826
a-Si:H,Cl glow discharge films, Raman scatt. 7−39116
a-Si:H,F films, dark discharge mechanism of surface potential *(Japanese)* 7−17034
a-Si:H,F/a-Si:H,F,Ge multiple junction solar cells on stainless steel substrates 7−13902
Si:H binary alloys, crystallisation of polysilane 7−21105
a-Si:H films, bond angle distortions, substrate temp. effects, Raman study 7−7882
a-Si:H films, electron irrad., photocond., absorpt. coeff. spectral depend. 7−64279
a-Si:H films, glow discharge deposited, persistent photoconductivity 7−58835
a-Si:H films with columnar morphology, Raman scatt. study 7−64644
a-Si:H solar cells deposited from disilane, blue response and efficiency improvement 7−17877
a-Si:H solar cells prod. by positive-column glow-discharge method 7−8397
Si:H-$Si_{1-x}C_x$:H amorphous super struct., hot electron generation 7−52794
a-Si:H-SiN_x:H interface, compositional profile, Rutherford backscatt. study 7−13292
Si-N-H glow-discharge films, elec. and optical props., comp. depend. 7−58933
Si-O amorphous films, structure and defects 7−58700
a-(Si-Ge):H, prep. in rotary plasma isolated reactor and props. 7−7891
SiC:H, amorphous CVD film, electron optical characterisation 7−52372
a-SiC:H, elec., optical and local structure props. 7−45089
a-SiC:H,B, thin films, thermoelectric power 7−58826
SiC:H amorphous films, glow discharge deposited, photoconductivity, microstructure effects 7−58831
a-SiC:H glow discharge films, IR vibr. spectra 7−53434
a-$Si_{1-x}C_x$:H,B(P) thin films, H bonding and H content, IR spectra studies *(Chinese)* 7−12524
a-$Si_{1-x}C_x$:H thin films, struct. investig., electron diffr. studies 7−2430
Si_xC_{1-x}:H, amorphous, local atomic arrangement, EELS and electron diffraction 7−44378
a-SiGe:D, F, vibr. modes, Fourier transform IR spectra studies 7−46053
a-SiGe:H, F glow discharge films, elec. and optical props. 7−46169
a-SiGe:H,F alloy films, F incorporation and annealing props. 7−44588
a-SiGe:H,F glow discharge films, microcrystallinity studies 7−45088
a-SiGe:H,F glow discharge films, electronic transport and density of states 7−45114
a-SiGe:H alloys for solar cells, electronic and optical props. 7−17899
SiGe:H amorphous films, glow discharge deposited, photoconductivity, microstructure effects 7−58831
a-SiGe:H films, NMR, ESR and IR studies 7−45833
a-SiN:H, electrical behaviour 7−2627
a-SiN_x amorphous glow discharge films, gap state distrib., photocurrent phase shift anal. 7−7421
SiN_x:H,B microcrystalline films, B doping 7−44586

plasma deposited coatings continued
a-SiN_x:H CVD film, IR and ^{29}Si NMR studies 7−38952
a-SiN_x:H dielectric films with low defect density 7−39036
SiN_x:H films, amorphous, glow discharge deposited, IR absorpt. and Raman scatt. spectra 7−46003
a-SiN_x:H plasma-enhanced CVD film props. rel. to SiH_4-N_2 gas vol. ratio, RF power and substrate temp. *(Korean)* 7−3201
SiN_x-Si:H amorphous multilayer films, charge transfer doping, cond., photocond. meas. 7−38735
a-$Si_{1-x}N_x$ films, plasma CVD deposited, as antireflective coatings for solar cells *(Japanese)* 7−23141
a-$Si_{1-x}N_x$:H,B films, ESR and IR spectra studies 7−7780
a-$Si_{1-x}N_x$:H films, H_2 evolution 7−17445
Si_3N_4 films, plasma deposited, bonds and defects 7−17437
Si_3N_4 films prep. by ECR plasma CVD, phys. and elec. props. 7−58716
Si_3N_4/GaAs buried interface, EXAFS studies in total reflection and dispersive modes 7−64765
Si_3N_4-SiC film, hybrid material prepared by plasma CVD, microhardness and internal stress 7−13616
Si_3N_4-SiC film, hybridisation by plasma CVD 7−13379
SiO_2, diffusion of F, consts. and profiles meas. 7−58540
SiO_2 films, plasma deposited, diamond abrasion props. 7−13608
SiO_2, plasma assisted vapour deposited and laser fused coatings, corrosion protective props. 7−28208
SiO_2 thin films, production from glow discharge decomp. of NO-SiH_4 mixtures, elec. props. 7−22512
SiO_2-P_2O_5 glass films, deposited by different CVD methods, phys. props. 7−27220
SiO_x thin films, plasma enhanced CVD deposited, Si chem. states, IR spectra, XPS, AES 7−21721
SiON-GaAs interface, plasma enhanced CVD deposited SiON, NH_3 plasma pretreatment effects 7−7874
SiO_xN_y films, PECVD deposited, props. as selective diffusion barrier 7−2440
SiO_xN_y films, plasma-enhanced CVD deposited, annealing 7−32861
SiO_xN_y plasma-enhanced CVD films as selective Zn diffusion barriers 7−12539
a-SiSn:Cl,H glow discharge films, elec. and optical props. *(Chinese)* 7−58805
TiN coatings, ion plasma deposition on high speed tool steel, struct. and thickness 7−28177
TiN films, colour, aging and tempering effects 7−46159
TiN films on tool steel, plasma-assisted CVD deposited, interfacial composition 7−52303
TiN ion plated films, tempering effects 7−59461
ZnSe layer growth by plasma-assisted epitaxy 7−52365
ZrO_2-Y_2O_3 plasma-sprayed thermal barrier coatings, sp. ht. and thermal cond. meas. and 2D computer simulation 7−7076

plasma deposition
activated reactive evaporation 7−33576
amorphous hydrogenated semiconductors, NMR studies, rel. to growth process 7−38405
assisted CVD deposited thin films for microelectronic appls. 7−22562
C thin films, RF discharge deposition, mech., elec. and optical props. 7−22509
composite polymer-metal films 7−7887
conference on plasma processing, Palo Alto, CA, USA (April 1986) 7−35109
CVD, plasma-enhanced, plasma-surface interactions, book contrib. 7−27943
CVD using a triode reactor *(Japanese)* 7−22569
DC discharge planar magnetron device, plasma production for thin film preparation 7−1711
DC discharge plasma CVD method *(Japanese)* 7−22570
diamond crystallisation, conf., Warsaw, Poland (June 1985) 7−18469
1-1difluoroethylene fluorination by nonequilibrium plasma at atm. press 7−46347
fluorocarbons, polymer form. and deposition from RF plasmas 7−22571
forced constructed type plasma-jet generator for plasma processing 7−27944
glow discharge cathode spot, entry into capillary hole 7−32160
metal clusters, dispersed in polymeric matrices, synthesis and props. 7−17370
metal vapours using directional evaporator with hollow cathode, flow cross section, ion current density 7−3202
metallic thin films, plasma-enhanced CVD for metallisation appls. 7−17459
MOVPE, conf., Universal City, CA, USA (Apr. 1986) 7−18477
optical diagnostic studies in plasmas and plasma processing, review 7−37758
plasma film polymerisation, ion bombardment effects, deposition rates, IR, UV and visible absorpt. spectra studies 7−28312
plasma stimulated thin film prod., description of plasma processes 7−22575
polyacetylene films, glow discharge polymerisation and photoablation study 7−63650
polymer films, I-doped, prep. by glow discharge polymerisation, elec. conductivity 7−22584
polymer films, RF and microwave plasma deposition, effect of frequency 7−39437
polymer-metal composite thin films, plasma deposition, optical props. 7−27947
RF discharges, characterisation by electrode self-bias voltage 7−21020
RF plasma CVD for large-area film deposition *(Japanese)* 7−22568
RF plasma CVD reactor, flow, temp., conc. fields, num. simulation 7−26501
semiconductor processing and fabrication techniques, laser diagnostic methods 7−22500
steel, tool and mild, ion nitriding process with variations 7−53989
tokamaks, carbonisation, plasmachemical in situ deposition 7−63296
Al film deposition using magnetron-plasma CVD system 7−64931
BN film formation on InSb, plasmachemical methods 7−33584
C, dielectric film growth, on GaAs and InP substrates 7−39420
C layers, arc plasma deposition, struct., mech. props. *(Russian)* 7−22581
C layers, deposition, by RF plasma decomp., physical props. 7−22508
a-C:H, diamondlike, dielectric film, props. rel. to deposition parameters 7−39419
a-C:H, film, optical and compositional props. 7−39206
a-C:H, film, optical and electronic props. rel. to deposition parameters 7−38406

plasma deposition continued
a-C:H, film, optical energy gap, density, hardness 7−39204
a-C:H, film, plasma emission spectroscopy, chem. anal. 7−38407
a-C:H, films, plasma deposition characterisation of hydrocarbons used 7−39422
C:H, homogeneous and heterogeneous chemistry of methane deposition plasma 7−39424
C:H amorphous film's, plasma deposition, discharge elec. characteristics 7−46344
C:H films, carbonization in acetylene discharge 7−17444
CuInSe thin films, flash evaporation prep. and characterisation 7−7893
$CuInSe_2$, flash evaporation, elec. and optical props. 7−7892
$Fe_{3-2}N$ film, hexagonal, prep. by plasma reaction, mag. characts. 7−13380
a-Ga_xAS_{1-x}:H, plasma deposition in RF capacitively coupled system 7−64927
GaAs, MOCVD, plasma stimulation, growth kinetics, elec. props. 7−22548
GaN:Zn films, MOVPE, electron cyclotron resonance plasma excitation, low temp. growth 7−22549
Ge, epitaxial films, remote plasma-enhanced CVD 7−39395
a-Ge:H, elec. props., effect of H plasma press. *(Korean)* 7−27332
GeS and GeSe, chalcogenide glasses for IR fibres, plasma deposition 7−37191
a-GeSi:H, deposition kinetics and structural control 7−45087
H, excited state, translational energy distrib. in DC discharge, spectroscopic meas. 7−20946
InP:Si, substrate, encapsulated annealing, using SiN encapsulant 7−39779
MoO_3, amorphous electrochromic films, plasma enhanced CVD 7−22561
Si deposition from SiH_4-Ar-H_2 system 7−23011
Si epitaxial films, low temp. growth by very low press. CVD 7−27936
Si films, plasma-enhanced chemical vapour deposition model anal. 7−27937
a-Si, large are uniform thin films, production by scanning plasma method *(Japanese)* 7−17449
a-Si monolithically interconnected photovoltaic panels, single chamber glow discharge manufacturing process 7−13892
Si solar cells, polycrystalline, efficiency improvement using plasma treatments 7−13909
a-Si technology, review of developments 7−38551
a-Si:F,H films, glow discharge deposition, B doping efficiency 7−17436
a-Si:H, C superlattice struct., solar cell performance 7−46945
a-Si:H, deposition rates in diode and triode discharges 7−3193
a-Si:H, form. by ion flux control under toroidal mag. field *(Japanese)* 7−17446
a-Si:H, glow discharge deposited, nucleation, substrate temp. effects 7−22504
a-Si:H, glow discharge deposition, surface roughness evolution 7−64933
a-Si:H, glow discharge prepared, steady-state photoconductivity 7−38632
a-Si:H, glow-discharge deposition, growth kinetics, radical separation technique 7−22513
a-Si:H, plasma enhanced CVD, integrated model 7−39423
a-Si:H,D, H abstraction from surface, HD formation 7−39914
a-Si:H,F films, glow discharge decomposition from Si_2F_6 7−64924
a-Si:H,P multilayer films, plasma CVD and elec. cond. studies 7−39428
a-Si:H and a-Si:H, B films, photoinduced changes in elec. props. 7−38634
a-Si:H doping modulated superlattices, light-induced excess cond., deposition effects 7−27410
a-Si:H film, photo-assisted plasma CVD 7−33593
a-Si:H films, CVD using microwave excited Ar plasma stream 7−64918
a-Si:H films, charge carrier dynamics, influence of preparation conditions 7−33053
a-Si:H films, discharge and CVD deposition, surface reactions 7−33601
a-Si:H films, glow discharge deposition 7−65325
a-Si:H films, glow-discharge-deposition, initial nucleation and growth 7−63997
a-Si:H films, high rate deposition and impurity doping effects *(Japanese)* 7−13385
a-Si:H films, plasma CVD, deposition kinetics *(Japanese)* 7−17450
a-Si:H films, RF glow discharge deposition, optical and electrical props. 7−33598
Si:H microcrystalline films, glow discharge prep., elec. and optical props. 7−7415
a-Si:H solar cell on polymer substrate, roll-to-roll prep. 7−59861
a-Si:H/a-$Si_{1-x}C_x$:H superlattices, glow-discharge deposition 7−7879
a-Si:H/a-Si_3N_4:H superlattices, plasma deposition methods 7−39439
Si:H(Sn,H)(C,H), amorphous alloy fabrication and characterisation 7−8389
Si-Si_3N_4, nitridation of Si (100) by RF plasma, XPS study 7−33515
a-Si_{1-x} C_x:H films prepared by plasma CVD method, props. *(Japanese)* 7−12543
Si_3 N_4 insulating thin film deposition, remote plasma enhanced low temp. CVD process 7−13389
a-SiC films, glow discharge deposition from tetramethyldisilane 7−64919
β-SiC, ultrafine powder synthesis in thermal arc plasmas 7−27916
a-SiC:H glow-discharge plasma deposition, photosensitivity, prep. conditions depend. 7−46338
a-SiC:H thin films, glow discharge deposition, energy gap and activation energy 7−46352
a-SiC:H(B), thin film, solar cells fabricated by plasma deposition *(Korean)* 7−33585
a-$Si_{1-x}C_x$:H films, glow discharge deposition, optical emission spectroscopic diagnostics 7−39412
$Si_{1-x}C_x$ thin films, glow discharge deposition and struct. props. 7−64932
a-$Si_{1-x}C_x$:H, Si-Kβ spectra, soft X-ray emission spectra *(Japanese)* 7−13268
$SiCl_4$ + X^+(X=He,Ne,Ar,H), optical emission spectra rel. to PCVD 7−26531
SiF_4 + X^+ (X=He,Ne,Ar,H), optical emission spectra rel. to PCVD 7−26531
SiF_4-O_2, microwave discharges, mass spectrometric study 7−32169
a-SiGe:H,F films, glow discharge deposition and elec. props. 7−64917
a-$Si_{1-x}Ge_x$:H,F alloy films, RF glow discharge deposition in ultrahigh vacuum reactor 7−53619
SiN films, plasma CVD deposition and props. *(Japanese)* 7−13381
SiN, microwave plasma deposition, fabrication and characterisation 7−39421
SiN_x:H,B, microcrystalline, wide-gap, RF glow discharge deposition 7−22503
Si_3N_4 film formation on InSb, plasmachemical methods 7−33584

plasma deposition continued
Si_3N_4, plasma CVD on steel substrate *(Japanese)* 7−27939
Si_3N_4 thin films, growth by microwave-excited plasma 7−59458
a-Si_3N_4:H films, plasma enhanced CVD, chemical and mech. props. 7−38420
a-Si_3N_4:H films deposited by plasma enhanced CVD, optical and elec. props. 7−39205
Si_3N_4-SiC film, hybridisation by plasma CVD 7−13379
Si_xN_y, remote plasma enhanced CVD 7−39425
SiO_2 films, low-temperature plasma-enhanced CVD deposition 7−33581
SiO_2 insulating thin film deposition, remote plasma enhanced low temp. CVD process 7−13389
SiO_2 layers obtained by plasmochemical decomposition, optical props. 7−20390
SiO_2, plasma deposition rates, influence of insulating film 7−3203
SiO_2 thin films, growth by microwave-excited plasma 7−59458
Si_xO_y, remote plasma enhanced CVD 7−39425
SiO_xN_y films, deposited by plasma-enhanced CVD, charact. 7−2413
SiO_xN_y films, plasma-enhanced CVD growth 7−22514
$Si_xO_yN_z$, plasma enhanced CVD, characterisation 7−39426
$Si_xO_yN_z$, remote plasma enhanced CVD 7−39425
Ti films, deposition by arc evaporation 7−63392
TiN films, deposition by arc evaporation 7−63392
TiN hard coatings deposition onto tool steel substrates by plasma-assisted CVD 7−53977
TiN, plasma enhanced CVD, rel. to reactive sputtering 7−39427
Ti(O,C,N) hard coatings deposition onto tool steel substrates by plasma-assisted CVD 7−53977
WO_3, amorphous electrochromic films, plasma enhanced CVD 7−22561

plasma devices
see also magnetohydrodynamic convertors; plasma diodes; plasma focus; plasma guns; plasma switches; stellarators; Tokamak devices
AC plasma displays, discharge development 7−21012
centrifuge, W recovery from WF_6 7−46846
conducting plate in two-temp. plasma, pot. distrib. in Debye discontinuity 7−58025
currentless plasma heating in Heliotron E 7−32015
cutoff waveguide antenna, exciter for fusion plasma heating, transient anal. in 3D space *(Japanese)* 7−11801
Double-EAGLE two-molecular pulsed power machine, X-ray prod. to drive imploding plasma loads, nuclear effects simulation 7−30151
double-plasma device, magnetised, for wave studies 7−51425
E×B type devices, discharge phenomena *(Japanese)* 7−51539
ECR-type ion source, multipole field optimisation 7−15432
electron emitter stabilised by grid 7−16341
electrostatic ion-cyclotron instability excited by a current to a strip collector 7−51447
ETL-TPE 2 experiment, high beta and high temperature plasma, power supply *(Japanese)* 7−11668
fast plasma mixing excitation method for gas lasers 7−15899
fusion machines, plasma-surface interactions, design studies 7−63298
heavy atom spectra sources for use with high resolution Fourier transform spectrometer 7−50403
Heliotron DR, confining field, ohmic heating 7−16321
heliotrons, ripple transport, electric rotation effect calcs. 7−31938
ion source with plasma cathode, long lifetime 7−48913
isotope separation by plasma methods, energy consumption 7−63359
jet torch, gas tunnel type, characteristics 7−37767
laminar plasmatron cathodic jet, optospectroscopic studies 7−26535
layered synthetic microstructures, X-ray diagnostic for magnetic fusion device instabilities 7−37748
linear thyratron in tetrode configuration, develop. 7−32120
lower hybrid wave heating and current drive, review 7−6413
magnetised virtual cathode microwave generator, high-efficiency 7−20964
magnetoplasma, single-ended, electron hole and electron wave pulse evolution 7−51460
microchannel plate, use as collimators for high-energy charged particles 7−51524
nonlinear plasma dynamics in the plasma wake-field accelerator 7−44192
PISCES facility, erosion and redeposition expt. 7−63292
plasma edge cathode for pulsed electron extraction 7−32106
RF plasma torch, inductively coupled, two-temperature model 7−63361
soft X-ray laser development at Princeton, progress 7−20251
solution microvolumes, high-freq. inductively coupled plasma discharge, emission spectral anal. 7−46909
stellarator plasmas, MHD equilibrium and stability anal. 7−51502
surface discharges as intense photon sources for light-ion fusion accelerator cleaning 7−37800
T-shock tube, current disruption wave generation 7−63281
thermonuclear plasmas, collective modes and high-energy components 7−51491
TMX-U, halo recycler, design, operation 7−25201
tokamak transport, phenomenological relations 7−11602
torch for emission spectrochemical analysis of oil *(French)* 7−35602
toroidal device, striking characteristics of plasma discharge, filament orientation depend. 7−20905
TPE-2, high beta toroidal screw pinch, objects and design *(Japanese)* 7−11667
TPE-2, high current pulse, high energy density capacitor *(Japanese)* 7−11796
TPE-2, pulsed power system, high voltage coaxial cable, polyethylene-insulated, breakdown properties, fast discharge circuit *(Japanese)* 7−11797
TPE-2 plasma, beta and energy confinement *(Japanese)* 7−11669
vacuum-arc centrifuge, rotational props. 7−56253
virtual cathode oscillations, anal. and simulation 7−51445
virtual cathodes and microwave emission, 2D features 7−44262
Ar, inductively coupled plasma torch, gas flow dynamics, light scatt. technique 7−11795
Cs, surface-ionised plasma in hot cavity, power-shifted microwave reson. 7−58020
H^- ion source, generation using tandem multicusp plasma generator 7−15438
H^- multipole plasma source, neutral H level populations, spectroscopic meas. 7−817
He microwave-induced plasma in laminar flow torch, spectrosc. temp. determ. 7−37738
K, surface-ionised plasma in hot cavity, power-shifted microwave reson. 7−58020

plasma diagnostic techniques
- *see also plasma probes*
- 160 keV JET neutral beam injectors, single-beamlet system, ion optics study 7—11783
- actively cooled Langmuir probe for long pulse appls., design and fabrication 7—26517
- ATF torsatron at ORNL, facility design and preparation 7—25226
- bolometric measurements on high temp. plasma 7—1734
- Bragg rotor spectrometer for tokamak diagnostics 7—10352
- coincidence techniques for fusion product meas. 7—11728
- compact mass/energy charge exchange analyzers, conceptual design 7—1744
- concentration determination, absorpt. method using Fabry-Perot interferometer 7—11790
- conference, Orleans, France (Sept. 1985) 7—4616
- debris collection from implosion of microballoons 7—11717
- density determination by probing with heavy-ion beams 7—26388
- DIII-D, plasma diagnostic set, design, installation and operation, eng. and physics problems 7—25217
- diode-array coupled time-resolved transmission grating spectrometer 7—18968
- double parallel-plate electrostatic analyzer for Taraendloss studies 7—11736
- double scatter neutron time-of-flight spectrometer as aplasma diagnostic 7—11719
- electric field measurement using atom beam-Doppler spectroscopy 7—11710
- electrostatic probe technique for RF plasma 7—26515
- end-loss ion spectrometer for plasma-fueling sources 7—11734
- extreme UV space- and time-resolving spectrograph for high temp. plasma diagnostics 7—6462
- Faraday cup for intense electron beam pulses 7—51515
- fast discharges, time resolved spectroscopic study *(French)* 7—10724
- fiber sensor neutron streak camera for ICF diagnostics 7—11721
- field patterns of microstrip antenna in two component plasma 7—6397
- focal point, X-ray radiation diagnosis using diffusion chamber 7—63358
- forbidden spectral lines in plasma 7—44240
- fusion plasma edge diagnostics, charged particle transmission through probe apertures 7—25159
- fusion plasma spectroscopy, double crystal monochromators, crystal, props. 7—15043
- green light 2ω as an X-ray streak camera fiducial 7—11771
- grid effects on velocity analyzers of variable geometry 7—361
- heavy ion beam probe diagnostic systems forstellarators 7—1753
- heavy ion beam probe for simultaneous radial and poloidal wave number meas. 7—1756
- heavy ion beam probing at ATF and Heliotron-E 7—26520
- Heliotron E, diamagnetism and beta in beam heated currentless plasmas 7—32005
- high current heavy atom beam system for plasma diagnostics 7—1758
- high temperature plasma diagnostics, conf., Hilton Head Island, SC, USA, (Mar. 1986) 7—9585
- holographic device for recording rectilinear discharge propag. on a surface, lighting simulation 7—26575
- holographic interferometry appls. 7—58066
- imploding plasma expts., optical, and UV/X-ray imaging diagnostics 7—11784
- in situ calibrations of grazing incidence vacuum monochromators, for X-ray laser research 7—41570
- inertial confinement fusion light balance meas., light-integrating cylinder 7—44253
- injected neutral He beam for plasma diagnostics 7—1757
- ion speed distrib. meas. in DD plasma 7—11723
- ion temperature diagnostic based on He neutral beam scatt. 7—1742
- ionisation gauge for plasma measurements in mag. field 7—20933
- Janus, a bidirectional, multifunctional plasmadiagnostic for Alcator C Tokamak 7—1739
- JET neutron spectrometry 7—11713
- JET soft X-ray diode array diagnostic 7—25164
- Kalman filters for signal processing and beam modulation 7—1761
- LED current sensor for electrostatic double probes 7—63357
- Los Alamos X-ray characterization facilities for plasma diagnostics 7—20938
- magnetic diffusion props. of gases in hostile environments, meas. methods 7—26519
- mass spectrometric diagnostics of plasmas formed by exploding cathode whiskers 7—44269
- mass spectrometry 7—32101
- MEQALAC low-β in accelerator for plasma diagnostics 7—26528
- metal multilayers subject to high radiation flux, X-ray optics changes 7—30135
- MFTF-B, background gas pressure diagnostic, electrical and mech. design 7—25220
- microsecond-range vacuum diode, density meas. by optical interferometry 7—63253
- microwave cavity, imperfect, plasma density meas. 7—63350
- mobile CARS instrument for combustion and plasma diagnostics 7—44238
- modulated grid Faraday cup plasma instruments, response function 7—23972
- molecular origin of background light in Thomson scattering measurements 7—32089
- monochromatic X-ray imaging, development and appl. 7—11780
- multichannel bolometer for radiation measurements on the TCA tokamak 7—20943
- multichannel detector for plasma VUV diagnostics 7—5567
- Multichannel far infrared interferometer, MIRI, signal processing for electron density meas. 7—25232
- multichannel FIR collective scatt. and interferometry systems for fusion diagnostics 7—25215
- multidimensional ion velocity distrib. meas. by optical tomography 7—20942
- multilayer structures, convex surfaces for soft X-ray diffr., plasma spectra appl. 7—37100
- multimode optical fibre probe in Z-pinch plasma expt., Faraday rotation 7—11785
- neutron calorimeter as a fusion diagnostic 7—11726
- neutron diagnosis of compressed ICF targets 7—11718
- neutron diagnostics on TFTR utilizing the Campbellingtechnique 7—11724
- neutron fluctuation measurements on TFTR 7—11729

plasma diagnostic techniques continued
- neutron streak camera, UO$_2$ cathode characteristics 7—11720
- neutron streak tube for ICF meas 7—11722
- Nova, ICF, neutron spectroscopy 7—11715
- optical, UV and X-ray imaging diagnostics for imploding plasma expts. 7—6467
- optical fiducials for X-ray streak cameras at LLE 7—11772
- optical multichannel analyzer and vacuum spectrometer for plasma VUV appl. 7—6461
- optical techniques, absolute calibration, geometrical parameters 7—26511
- PBX high time resolution ion temp. profile meas., Charge-exchange recombination spectroscopy 7—1745
- Phaedrus-B Tandem Mirror, Thomson scatt. electron temp. meas. in east end cell 7—26522
- photoionisation plasma density determ. by ion arrival time method 7—26525
- plasma diagnostic equipment, irradiation effects, conf., Nagoya, Japan (Jan. 1986) 7—18503
- plasma fluctuations meas., integrated data acquisition and handling system based on digital time series anal. 7—25231
- PLT and PDX perpendicular charge exchange analyzers 7—1743
- pulsed soft X-ray source for laser-plasma diagnosticcalibrations 7—11766
- quartz bolometer for hot plasma diagnostics 7—11708
- quasistationary plasma, reflectometry, freq. modulated EM waves 7—63257
- radiochemistry and secondary reactions for thediagnostics of laser-driven fusion plasmas 7—11716
- receiver, W-band microwave, for electron temperature meas. in Tokamak TJ-1 7—44241
- reversed field pinch, ZT-40M, current meas., Faraday rotation meas. technique in twisted fibre 7—25981
- reversed field pinch plasma, TPE-1R(M), radiation loss meas. 7—11706
- RFC-XX-M mirror-cusp device, plasma waves and turbulence meas. using CO$_2$ laser 7—26529
- single beam single detector diagnostic of plasma density profiles 7—44246
- soft X-ray calibration of diffracting materials 7—26514
- space plasma diagnostic techniques 7—14510
- spectroscopic apparatus, multipoint optical multichannel analyser-based 7—58061
- spectroscopic diagnostics on JET 7—11791
- STOR-M tokamak, ion temperature diagnostic based on He^0 beam scattering 7—26521
- TARA tandem mirror, heavy ion beam probe design 7—25223
- temperature measurement of Tokamak plasma 7—60922
- TEXT, diagnostic neutral beam system for impurities 7—25216
- TEXT, digital spectral anal. diagnostic for transport, turbulence and scatt. 7—25233
- TEXT heavy ion beam probe system 7—1754
- TFTR, 14.7 MeV proton emission meas. 7—11730
- TFTR, neutral beam interlock system using infrared pyrometry 7—6469
- TFTR, neutron activation system analysis program 7—11725
- TFTR, nuclear reaction diagnostics of fast confined andescaping alpha particles 7—11732
- TFTR diagnostic neutral beam for ion temp. meas. 7—6468
- TFTR diagnostics for neutral beam species meas. 7—6470
- thermographic look at plasma spraying 7—24648
- Thomson scattering meas., photoelectron statistics effects 7—11800
- three-channel plasma diagnostic data handling system based on the VAX 11/780 and the LeCroy 3500 signal analyzer 7—26527
- time-resolved 14-MeV neutron detector for tritonconfinement studies 7—11733
- time-resolved X-ray spectrographic instrumentation for laser fusion and X-ray laser studies 7—18961
- TMX-U, $E\|B$ end-loss-ion analyser 7—25218
- TMX-U, neutral particle time-of-flight analyser for escaping particle vel. distrib. 7—25219
- TMX-U, plasma potential diagnostic, hardware and calibration system 7—25224
- TMX-U, time-of-flight neutral particle analyzer, velocity distn., ion temp. meas. 7—32093
- TMX-U diagnostic computer system, improvements 7—36255
- TMX-U $E\|B$ end-loss ion spectrometers 7—11735
- Tokamak plasma diagnostics by meas. poloidal magnetic field, using Zeeman splitting in Li 7—1740
- Tokamak plasma modelling and atomic processes, conf., Nagoya, Japan (July, 1985) 7—14716
- tokamak plasmas, feasibility of using positrons for transport studies 7—6450
- tokamak T-10, electron temp. meas. by C-pellet injection 7—26387
- tokamaks, α-particle diagnostic approaches 7—11714
- tomographic analysis of the evolution of plasma crosssections 7—1741
- TPE-2, electric and magnetic probes, laser scattering, interferometer, soft X-rays and bolometer techniques *(Japanese)* 7—11705
- TPE-2, high beta toroidal screw pinch, objects and design *(Japanese)* 7—11667
- TPE-2, MHD behaviour and fluctuations, optical and mag. diagnostics 7—11607
- troidal plasma devices, system for mapping magnetic field errors 7—51500
- UV and visible spectroscopy for plasma diagnostics 7—32102
- velocity analyser with variable geometry, grid effects expt. verification 7—362
- windowless position-sensitive X-ray detector for aRowland circle crystal spectrometer 7—11764
- X-ray calibration of CCD sensors and photodiode array cameras 7—20939
- X-ray diagnostics, Ag soft X-ray filter 7—63353
- X-ray elliptical analyzer spectrograph appl. to laser produced plasma 7—32088
- X-ray framing camera for laser fusion expts. 7—20944
- X-ray framing camera for laser plasma diagnostics 7—11779
- X-ray line spectra of laser plasma, CCD measurements, 1 to 10 Å 7—58065
- X-ray microscope, axisymm.. grazing incidence, figure tolerancing 7—30136
- X-ray multilayer optic development for plasma diagnostic and source enhancement 7—44251
- X-ray switching and shuttering techniques in laser produced plasma 7—11767
- zone-plate imaging of n emitted from laser fusion target 7—1746
- Ar$^+$, target sputtering, surface analysis, glow discharge optical spectroscopy *(French)* 7—20998

plasma diagnostic techniques continued
- Cu I plasma, at. quantities, diagnostic determ., capillary discharge technique 7−11787
- Hg, excited atoms, superelastic electron collisions, plasma prop. meas., plasma electron spectroscopy 7−20852
- N_2 laser, four-channel TEA, for interferometric meas. on plasma focus 7−43188
- Na films, meas. set-up for laser blow-off process 7−11792
- Si surface barrier detector for fusion neutron spectroscopy 7−11727
- ZnS scintillator for TFTR fusion product emission meas. 7−11731

plasma diagnostics
- *see also plasma density; plasma diagnostic techniques; plasma diagnostics by laser beam; plasma temperature*
- ablation plasma and shock waves, laser interaction, holographic interferometry 7−31981
- absorption spectroscopy of a laser-produced plasma 7−11778
- air, positive corona discharge, influence of water mols., mass spectra anal. 7−32180
- Alcator C, high energy X-ray meas. during lower hybrid current drive 7−32082
- Alcator C plasmas, poloidal rot. velocity meas. 7−6456
- Alcator C tokamak, nonthermal electron distrib. functions during LH heating and current drive 7−11740
- Alcator C vertical viewing electron cyclotron emissiondiagnostic 7−11742
- Alcator-C, centrally peaked impurity profiles obs. 7−11774
- Alfven wave heating, density fluctuation obs. at reson. layers, probe meas. 7−58057
- Alfven wave heating, diagnostics, review 7−6412
- anisotropic electron velocity distrib., probe method 7−51507
- anisotropic plasmas, loss-cone type distribution, electron cyclotron emission and absorpt. anal. 7−20890
- anode glow oscillations, mechanism 7−20892
- anode spot formation, time determ., photoelec. method 7−11789
- Ar, gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7−62320
- arc facility for investigating non-local thermalequilibrium plasmas 7−1773
- arc mantle studies in dual flow plasmas 7−26559
- arc-generated flow phenomena in high-power repetitively-pulsed gas-flow spark gaps 7−32192
- arcs critical current density, V-I characts. 7−26553
- ASDEX tokamak temporal behaviour of plasma current distrib. during lower-hybrid current drive 7−44160
- asymmetrically driven coaxial line, field asymmetry calc. 7−32076
- asymmetry of Stark-broadened Lyman lines fromlaser-produced plasmas 7−11776
- ATF, FIR interferometer, development of high power FIR lasers 7−11757
- ATF, FIR interferometer system design, radial density profile determ 7−11758
- axisymmetric magnetic mirror, whistler mode electron cyclotron reson. plasma startup and heating, X-ray meas. 7−37707
- axisymmetric mirror at high beta, stabilisation study 7−44217
- blast waves in laser-produced plasma, spectroscopic and interferometric meas. 7−6392
- carbon tetrachloride glow discharges, spectral and probe diagnostics 7−32153
- CASTOR tokamak, plasma form. and sustainment by multijunction grill 7−58032
- chemical sputtering of carbon in tokamak discharge 7−51537
- CLEO plasma, electron cyclotron heated, X-ray imaging by tangential projection 7−32087
- collisional plasma column, whistler waves, dispersion and damping meas. 7−51455
- P/Comet Giacobini-Zinner (1984e), ICE radio receiver meas. 7−40765
- compact torus form. by rot. relativistic electron beam 7−37729
- conf., Saskatoon, Canada, May 1986 7−29595
- current discharge, n-filamentous Z-pinch, radial movement anal., high electric field effect 7−63261
- current drive, formula for combined ohmic and RF contributions with RF pulse. 7−44119
- current induced by relativistic electron beam, direct meas. 7−20870
- cusped magnetic field ion source, plasma props. calcs. 7−20915
- DC arc, atomic space-time distrib. 7−20993
- DC plasma etching of Si in SF_6/O_2 mixtures, mass spectrometric transient study 7−8203
- dense plasma, H Lα line Stark-broadened profile meas. 7−20935
- dense plasma generation by ballistic compressors 7−16312
- density profiles across mag. field gradient, single detector diagnostics 7−44246
- diamagnetic loop, extended freq. compensation 7−16336
- diatomic polar mol. plasma, quasimonochromatic electric field influence on spectral line shift 7−37757
- digital signal processing for noise removal from plasma diagnostics 7−15400
- DIII-D tokamak, grating spectrometer for electron cyclotron emission meas. 7−11741
- discharge plasma ion energy determ. with azimuthal electron drift, intensive cathode sputtering regime 7−1732
- dispersive plasma-satellites of dipole-forbidden transition of glow discharge 7−63391
- DITE tokamak, detached plasmas, density and temp. profiles 7−63339
- divergence angle of intense pulsed ion beam extracted from dual-current-feed magnetically insulated diode 7−11802
- double induced Mandelstam-Brillouin scatt., π states 7−11606
- double scatter in time of flight spectrometer for fusion plasma, electronics implementation 7−15368
- double scatter neutron time-of-flight spectrometer for fusion plasma measurements 7−15450
- double-plasma device, magnetised, for wave studies 7−51425
- EBT, neutral density and particle confinement time meas. 7−1722
- effective $K\alpha$ X-ray excitation rates for plasmaimpurity measurements 7−11762
- electric conductivity, freq. depend., of slightly nonideal plasmas 7−20872
- electric field calculations using the ELF codes for glow discharge switches and electrode design 7−32134
- electric field strength, detect. by dynamic Stark effect 7−21001
- electric fields, ions and chemistry in RF discharges 7−26579
- electric microfield distrib. in plasma, mean spherical model, exact soln. 7−32084
- electrically conducting body, electron dynamics in near wake 7−58052

plasma diagnostics continued
- electrolyte, pulsed discharge, plasma composition determ. 7−20991
- electron bound states in dense plasma, spectral displacement *(French)* 7−11605
- electron collectors in gas discharges 7−44296
- electron distribution function, meas. in low temp. plasma by probe method 7−57979
- electron distribution function at electron cyclotron resonance 7−63252
- electron temp. determ. from X-ray continuum radiation 7−58064
- electron temperature measurements from line ratios of He-and H-like argon in the Alcator C tokamak 7−11763
- elementary process determ. by Langmuir probes 7−20945
- escape factors for Stark-broadened line profiles 7−11777
- external meas. on plasma etch chamber, interpretation 7−26518
- fast wave conversion in a mirror field, observation of plasma heating 7−1712
- fiber-optic current sensor with heterodyne detection 7−1775
- field-reversed configuration plasma, ion rot. vel. meas. by neutral beam probe spectroscopy 7−44222
- filtered X-ray diodes for imploding plasma experiments 7−11769
- fluctuation diagnostic software tool development 7−11737
- focused discharges, correlation of D-D neutron yield and D^+ energy spectrum 7−32071
- foil implosion system design for Pioneer I experiments 7−32137
- forced constructed type plasma-jet generator for plasma processing 7−27944
- forward Raman scattering obs. in laser-produced plasma 7−11712
- Frascati Tokamak, confinement and heating study 7−6438
- fusion reactivity, calc. in high-temp. plasma 7−44256
- GAMMA-10, tandem mirror, hot electron meas. by X-ray, plug potential formation with thermal barrier 7−32062
- gas discharge, cathode fall, optogalvanic diagnostics 7−32187
- gas-puff Z pinch, hard and soft X-ray emission temporal development 7−11765
- gasdynamic effects during the late stages of a laser spark 7−16345
- glow discharge, cathode region, electron energy, spectrosc. investig. 7−21007
- glow discharge, high-voltage, electron beam meas, using photographic technique 7−63376
- glow discharge, high-voltage, electron density, temp. meas. using Langmuir probe 7−63375
- graphite limiter, porous, effective thermal props., photoacoustic meas. 7−44239
- gyrotrons for plasma diagnostics, development 7−1780
- heat flux distrib. determ. on PF anode surface 7−63258
- heavy ion beam probe, temperature and fluctuation correlation meas. 7−1755
- HF discharge, plasma jet prod., thermophysical and gasdynamic parameters 7−11812
- high temperature plasma diagnostics, conf., Hilton Head Island, SC, USA, (Mar. 1986) 7−9585
- high voltage spark discharges, light scatt. diagnostics 7−20971
- high-current vacuum arc near Cu cathode, spectroscopic meas. and anal. 7−26558
- high-power, twin-frequency FIR lasers for plasmadiagnostic applications 7−11751
- highly magnetized active plasmas, instabilities below ion cyclotron frequency 7−20891
- highly stripped ions, collisional-radiative model 7−26474
- hollow cathode discharge, optogalvanic effects 7−20992
- hollow cathode discharge at direct and HF current, temp. meas., spectroscopic study 7−20994
- hot inhomogeneous plasma, time-depend. neutron spectra 7−63349
- hot laser-produced plasmas, Stark-broadened Lyman line asymmetry 7−63356
- HT-6B Tokamak device, soft X-ray fluctuations meas. 7−51506
- hydrogenic emitters in plasmas, spectral line shapes, ion-dynamic effects 7−32085
- imploding plasma experiments, diagnostics for Pioneer I 7−32038
- imploding thin-film plasma, anal. characterisation using space- and time-resolved spectrosc. 7−51505
- implosion plasma flow driven, 'quick-fire' experiments 7−32139
- in hollow-cathode discharge, diagnostics using CARS and scanned probe laser 7−16333
- inert gas afterglow, step by step excitation electron distrib. 7−26572
- inert gas dense plasmas, temp. and density profiles, Stark linewidth and shift 7−37752
- inertial confinement fusion, Nova laser facility 7−1778
- infrared and far-infrared obs., asymmetric power spectra 7−32091
- interchangeable module stellarator, mag. field struct., electron beam meas. 7−44216
- interparticle correlations in dense high-temp. plasma, elec. microfields probability densities 7−1736
- interparticle correlations in dense high-temp. plasmas, polaris. shifts of spectral lines 7−1737
- inverse bremsstrahlung absorption in the planar corona of a laser target 7−16335
- ion beam-target interaction, ablation process obs., backlighting technique 7−11793
- ion thruster, inert gas, plasma confinement by surface mag. fields 7−51486
- ion-acoustic wave reflection from discharge-tube walls, expt. obs. 7−26411
- JET, edge phenomena, probe diagnostics 7−63334
- JET, impurity behaviour study 7−6441
- JET, optimization and development plans 7−15311
- JET diagnostic systems, interfacing aspects 7−15369
- JET microwave interferometer, plasma electron density meas. 7−44242
- JET plasma, vertical position stabilization and shape control 7−15314
- JET spectroscopic diagnostics in VUV region 7−6451
- JT-60, high power heating expts. 7−6439
- JT-60, ohmic heating, diagnostics study 7−63335
- JT-60 neutral beam injectors, performance at test bed facility 7−25168
- JT-60 tokamak, global particle balance in ohmically heated divertor discharge 7−20927
- laminar plasmatron cathodic jet, optospectroscopic studies 7−26535
- Langmuir probe measurements in sheath of highly charged body, model study 7−37744
- large area 200 ps gated microchannel plate detector for plasma diagnostics 7−6464
- laser created X-ray source, study and appls. 7−61418

plasma diagnostics continued
laser fusion, ionisation-radiation physics 7—26504
laser generated hot electron transport in an externally applied magnetic field 7—26478
laser plasma, dielectronic satellites intensities 7—44244
laser plasma, extreme UV and soft X-ray light source 7—63320
laser plasma, soft X-ray spectra from elemental targets 7—1714
laser plasma, stimulated Raman scatt. Thomson scatt., electron spectroscopy and IR diagnostics 7—37745
laser target plasma emission characteristics, soft X-ray region, plasma diagnostics, radiative-collisional model study 7—62312
laser-accelerated foils, flash X-ray radiography 7—58040
laser-blow-off plasmas, velocity distrib. meas. 7—20879
laser-target irrad., hot electron generation and transport, external mag. field effects 7—37711
layered synthetic microstructures, X-ray diagnostic for magnetic fusion device instabilities 7—37748
light negative ions sources, plasma physics, conf., Palaiseau, France, March 1986 7—9601
linear thyratron in tetrode configuration, develop. 7—32120
Lisitano coils, Al and Cu, plasma production, comparisons *(Japanese)* 7—11655
localized electrostatic oscillations excited by low power microwaves in plasma waveguide 7—26418
low pressure processing plasmas, spectroscopic diagnostics and kinetics 7—37762
low-temp. plasma, low freq. electric field parameters, mol. fluoresc. diagnostics 7—37756
luminescence from plasma generated by laser evaporation of dielectrics 7—63354
magnetic field surface in torsatron 7—32053
magnetic flux compression generator powered plasma focus device expts. 7—63372
magnetic helicity in a toroidal plasma 7—31951
magnetic multipole line-cusp Ar$^+$ ion source, magnetic field effects on plasma props. *(Chinese)* 7—6407
magnetic pressure variation in coaxial plasma experiments with low inductance drivers 7—32077
magnetically confined vacuum arcs, plasma parameter meas. 7—32163
magnetically insulated diode with virtual cathode, electron energy increase 7—1790
metal vapour-inert gas mixture, low current steady state and periodic pulse discharge, props. 7—63379
methane, pyrolysis in plasma jet and behind shock wave, chem. species distrib., calc. and meas. 7—37751
methanol pumping sources, differ free stabilisation using absorption cell 7—11756
MFTF-B, diagnostic control, data acquisition and data processing 7—5422
MFTF-B ion cyclotron resonance heating startup antenna 7—26462
MHD channel, electric current fluctuations accompanying interelectrode breakdown 7—63248
MHD channels, pot. difference meas. across boundary layers 7—44267
micropinch plasma, high temp., spectral source of multiply charged ions 7—44249
microwave discharge, spatial profiles and time evolution of gas parameters 7—21015
microwave discharge in TE wave beam intersection, ionisation instability 7—37793
microwave generated plasma characteristics 7—26578
mirror loop system for TFTR 7—1771
mirror-cusp device, RFC-XX-M, LF microinstability studied by Fraunhofer diffr. method 7—63275
molecular gas, beam-plasma discharge at retarding pot. 7—37705
molecular process modeling in thermal plasmas by shock tube technique 7—31982
multichannel soft X-ray diode spectrometer, high density plasma diagnosis appl. 7—37743
multichannel tangential bolometer on PBX, operation 7—1774
multichord, near infrared interferometers for theCTX and ZT-40M experiments 7—11753
multichordal charge exchange recombination spectroscopyon the DIII-D tokamak 7—6453
Nagoya University Institute of Plasma Physics, Annual Review (April 1985-March 1986) 7—63249
negative ion detection using anodic wall probe 7—16339
neoclassical impurity transport and poloidal asymmetry obs. in JET 7—51449
neutral-beam performance analysis using a CAD camera 7—1766
neutral-particle densities outside the TMX-U plasmaedge 7—1777
nonequilibrium plasma, collisional-radiative model 7—37624
nonlinear space-charge and transverse mag. waves with longitudinal wiggler, stimulated Raman scatt. 7—44182
nonthermal ion collisions in mag. field, PF-150 plasma focus device neutron source 7—63365
optical diagnostic studies in plasmas and plasma processing, review 7—37758
optogalvanic effect, plasma and gas spectroscopy with tunable lasers 7—48862
optogalvanic signal origin rel. to plasma parameters 7—30971
oscillating electric fields in low temperature plasmas, mol. fluoresc. meas. 7—20958
particle balance meas. using diagnostic system in TMX-U 7—1767
particle number densities, masses and size distrib. meas. 7—37761
Penning discharge, electron plasma column, density diagnostics 7—37741
Phaedrus-B Tandem Mirror, Thomson scatt. electron temp. meas. in east end cell 7—26522
pinhole closure mode for high energy density expts. 7—11773
plasma channel, relativistic electron beam propagation, ion density model, Langmuir probe and beam transport meas. 7—31997
plasma focus, Mather-type, shock and magnetosonic waves, sheath current meas. 7—32073
plasma processing, conf., Palo Alto, CA, USA (April 1986) 7—35109
plasma sheath dynamics of focus discharges, parameter eval. 7—63304
plasma waves in laser fusion plasmas, review 7—26405
Plasma-Materials Interactions Test Facility electron cyclotron resonance microwave plasma system 7—51477
plasma-wall interaction in fusion devices, conf. Princeton, NJ, USA (May 1986) 7—60861
plasmatron, two-jet, electric arc characteristics in transverse mag. field 7—63360
PLT tokamak plasma, time-resolved spectra in 80-330 Å region 7—6466

plasma diagnostics continued
poloidal β meas. in JET with diamagnetic loop 7—1772
poloidal field meas. using Zeeman effect and charge exchange recombination 7—6459
polyformaldehyde plasma, optical and thermodynamic props. 7—11592
Poseidon plasma focus device, deuteron, neutron and proton meas., neutron production analysis 7—32072
positive ion energy distrib. in plasma etching reactors 7—37759
positron trap, tool for plasma physics 7—63348
post-arc cond., circuit breaker arc, plasma parameters meas. 7—32183
potential calcs. from meas. Langmuir probe characts. 7—18306
potential formation and thermal insulation between different temp. plasmas, investig. 7—32079
power transmission and shine-through calorimetric meas. during NBI in TFR 7—58056
pre-formed plasmas, emission and stimulated Raman scatt. from thin foil, spectra anal. 7—20937
Princeton beta expt. tokamak, neutral beam injection effect on MHD instabilities 7—6403
probe exposure to tokamak plasma, SIMS study 7—37740
probe measurements of the density and temperature profiles inthe JET plasma boundary 7—5431
probes for edge plasma studies in TFTR 7—1779
pulsed arc plasma Balmer beta core, electron density meas. 7—6477
pulsed gas-flow spark gaps 7—6475
pulsed power technique research at IAE in Beijing 7—11693
radiation diagnostics for X-ray laser experiments onProto-II 7—11775
radiation features, reconstruction from projections measured with two bolometer arrays 7—51514
radiation loss profiles in TFTR, high asymmetry 7—1770
Raman scattering of laser radiation to far UV by excited states of He and Ne 7—25886
relativistic 7—11652
relativistic electron beam driven turbulent plasmas, electric field and fluctuations meas. 7—26524
relativistic electron beam Raman scatt., 1D theory and simulation 7—26445
REPUTE-1, RFP plasma, relaxation processes 7—32050
resonant multiphoton ionisation, plasma diagnostics appls. 7—20954
resonant wave scattering by magnetic fluctuations in Tokamak discharge, microwave diagnostic technique extension 7—58059
reversed field pinch, behaviour of peripheral plasma 7—51509
reversed field pinch, TPE-1R, TPE-1R(M), quiescent period *(Japanese)* 7—11673
reversed field pinch plasma, TPE-1R(M), radiation loss meas. 7—11706
RF discharge, optogalvanic detected IR spectra 7—20970
RF plasma diagnostics by double probe V-I characts., electron temp. determ. *(Chinese)* 7—37737
RF plasma electron kinetics, current density 7—20849
rotated arc, non-LTE studies, spectroscopic diagnostics 7—1805
S-1 Spheromak program, recent progress 7—32051
schlieren method for fusion plasma particle density distrib. meas. 7—58060
scrapeoff layer, energy deposition, power fluxes, diagnostics 7—63302
shell target compression stability in Progress laser facility, X-ray plasma diagnosis 7—1715
shock wave interaction with decaying laser sparkle plasma 7—31983
slitless intensified readout gated spectrometer 7—4940
slow ion acoustic double layers, expt. obs. 7—37684
soft X-ray average recombination coeff., average charge for metallic impurities 7—11761
soft X-ray diode array diagnostic for JET 7—1787
soft X-ray imaging system for measurement of noncircular Tokamak plasmas 7—44252
soft X-ray laser beam, divergence meas. 7—1210
solar convective zone outer layer, spectral lines pressure shift diagnostic study 7—40793
solar flares, radio emission, anomalous scattering on plasmons 7—29446
solid-fuel MHD generators, thermal UHF radiation, temp. meas. 7—44265
spatially resolved plasma spectroscopy using multifiber commutator 7—6454
spectra from a cooling Planckian source, Gedanken expt. 7—1673
spectral line broadening in neutral gases and plasmas, comparison *(French)* 7—11703
spectral line splitting in plasmas interacting with strong EM wave 7—20951
spectral measurements from laser-produced plasma inOMEGA 7—11768
spectroscopic studies of plasma during CW laser materials interaction 7—63313
spheromak diagnostics, mag. field information from electron cyclotron emission 7—11743
SPRED multichannel VUV spectrograph upgrade for TFTR and PBX tokamaks 7—6463
stark broadening calcs., joint probability distrib. 7—37746
Stark-broadened Hα line, theory of two-photon polarisation spectroscopy 7—20936
steepest descent inversion of plasma spectral intensities 7—51510
stimulated Brillouin scattering of a two-mode pump wave in an expanding laser plasma 7—44120
strongly magnetised plasma, ordinary EM wave bremsstrahlung emission 7—51410
sub proton-gyrofrequency waves in multicomponent plasma in mag. field 7—63266
switch plasma diagnostics using laser induced fluorescence, H thyratron plasma 7—32099
T-10 tokamak, H pellet injection effect on discharge characts. 7—1718
T-10 tokamak, large-scale perturbation, radial struct. 7—51427
T-15 tokamak, plasma-wall interactions, diagnostics 7—63299
T-7 tokamak, toroidal current and loop voltage temporal evol., RF-current drive expt. interpretation 7—57983
tandem volume sources, spectroscopic meas. of atomic populations and temps. 7—10345
Tara, 137 GHz gyrotron diagnostic for instability studies 7—11750
TARA tandem mirror, ECE diagnostic using fast scanning Michelson interferometer 7—11744
TCA Tokamak, ohmically heated, radiated power loss meas. 7—58055
tetrachloroethene discharges, radical reactions, spectrosc. investig. 7—20990
tetrachloroethene-O$_2$ discharges, radical reactions, spectrosc. investig. 7—20990

plasma diagnostics continued
tetrachloromethane, dissoc. in RF plasma, probe diagnostic and relative emission intensity meas. 7—32095
tetrafluoroethene, optical and thermodynamic characts. 7—31933
tetrafluoromethane ion, lifetime, mass spectra 7—19969
TEXT, ECRH absorption and propagation studies viacollective Thomson scattering 7—11749
TEXT, plasma density and poloidal field meas. using injected Li beam 7—6452
TEXT diagnostics, digital complex demodulation applied to interferometry 7—11752
TEXT plasma ion temp. profile meas. 7—6458
TEXTOR, plasma-wall interactions, heating, review 7—63289
TEXTOR liner, radial H flux meas. 7—63352
TEXTOR tokamak, current distrib. meas. by FIR polarimetry 7—11738
TEXTOR Tokamak microturbulence, CO$_2$ laser scatt. meas. 7—58015
TFTR, detached plasma, MARFEs phenomena, diagnostics 7—63341
TFTR, detached plasma regime study using MIRI FIR interferometer 7—11760
TFTR, electron cyclotron meas. with fast scanning heterodyne radiometer, temp. meas. 7—11747
TFTR, optically thin electron cyclotron emission meas. using Michelson interferometer 7—11755
TFTR, parametric study of electron density profile evol. following injection 7—11759
TFTR, plasma-wall interactions heating and diagnostics study 7—63291
TFTR, recent results 7—30650
TFTR confinement 7—6436
TFTR plasmas, Faraday rotation and line electron density meas. using FIR interferometer 7—11754
thermal plasmas, high press., radiation emission coeffs. 7—26551
thin films, laser spot effects, hydrodynamic simulations 7—11611
thioformaldehyde, RF discharge, optogalvanic detected IR spectra 7—20970
Thomson scatt. diagnostics, deconvolution of H-α profiles 7—6457
time averaged emitting probes for plasma processing studies 7—26441
time-resolved Thomson spectrometer study of plasma focus produced ions 7—32094
TMX-U, optically thin perpendicular electron cyclotron emission from hot electrons 7—11745
TMX-U, perpendicular electron cyclotron emission meas. system for electron temp. 7—11746
TMX-U, time-of-flight neutral particle analyzer, velocity distn., ion temp. meas. 7—32093
TMX-U overview, diagnostics system 7—15358
Tokamak, compact ignition designs, plasma predictions 7—15315
tokamak, scrape-off layer, probe meas. 7—63351
tokamak current drive, anal. of θ pumping 7—63342
tokamak microturbulence propag. direction diagnostics using homodyne spectroscopy 7—11748
tokamak plasma, 2D density distrib. using phase imaging interferometry 7—11739
Tokamak plasma pressure profiles, optimization against high MHD ballooning modes *(Chinese)* 7—6382
tokamak plasmas, inner-shell X-ray line spectra of Ti, Cr, Fe and Ni ions 7—6371
tokamak spectroscopic diagnostics, spatial scanning method 7—6455
tokamak with helical mag. limiter, edge plasma, electric and mag. struct. 7—44219
tokamaks, impurity confinement time meas. 7—44226
tokamaks, plasma-wall interactions, impurity behaviour 7—63338
toroidal current density in tokamak plasma device determ. by multibeam FIR interferometry polarimetry 7—37739
toroidal device, ambipolar electrostatic plugging of field error losses 7—20916
toroidal plasma parameters, RF field effects meas. 7—20858
toroidal plasma stability, noncircular cross section, beta value, aspect ratio, elongation *(Japanese)* 7—11699
toroidal variation of power radiated from TFTR 7—1769
TPE-1R(M), start-up phase, volt-second consumption meas. 7—11654
TPE-2, basic plasma parameters, diagnostics *(Japanese)* 7—11705
TPE-2, high beta toroidal screw pinch, objects and design *(Japanese)* 7—11667
TPE-2, MHD behaviour and fluctuations, optical and mag. diagnostics 7—11607
TPE-2 plasma, beta and energy confinement *(Japanese)* 7—11669
transition arrays, unresolved, appl. to plasma temp. diagnostics 7—51396
trifluoromethane plasma in planar reactor, probe meas. 7—37750
two-ion ICRF heating in Tokamaks 7—16337
two-layer target compression stability, laser plasma X-ray line obs. and gas-dynamic calcs. 7—51481
two-stage beam-plasma system, electron heating instabilities 7—32002
Unmagnetized plasma, study of plasma modes close to ion plasma freq. 7—20888
vacuum arc centrifuge, ion and electron temp. meas., rotation vel. meas. 7—26582
vertical high-resolution Bragg X-ray spectrometer for thetokamak fusion test reactor 7—10281
visible emission spectroscopy of electron beam produced rare gas plasma 7—32090
wave coupling in a modified beam plasma system, 1D model 7—63277
x-ray conversion efficiency as a function of atomic number for 0.26-μm-laser—irradiated targets 7—32025
X-ray diagnostics for mag. fusion 7—1783
X-ray diagnostics in laser plasma production 7—1781
X-ray emission meas. from laser plasmas 7—11770
X-ray imaging, Conf., San Diego, CA, USA (Aug 1986) 7—40995
X-ray imaging system for TFTR, MHD studies 7—1786
X-ray imaging systems for TFTR 7—1785
X-ray laser development, stimulated emission enhancement in confined plasma column at PPPL 7—25793
X-ray perpendicular bremsstrahlung emission of suprathermalelectrons 7—1784
X-ray pulse height analyser data, probabilistic modelling, plasma electron temperature, enhancement factor calcs. 7—5566
X-ray spectroscopic methods for diagnosis of laser-imploded targets 7—1782
XUV interferential mirrors and appl. to plasma radiation studies 7—25927
XUV radiation source using laser-produced plasma 7—24746

plasma diagnostics continued
Z-pinch, high energy density, implosion dynamics, correlation to electrical parameters 7—32070
Z-pinch, toroidal, field profiles, plasma current, electron temperature, beta value *(Japanese)* 7—11674
Z-pinch plasma, hydrodynamics and radiation cooling 7—6428
Zeeman spectroscopy using high-intensity Li beam 7—6460
Al freely burning arc discharge, self-reversed reson. spectral lines 7—32157
Al, hot dense plasma, at. props. and transition probabilities 7—57032
Al isoelectronic series highly ionised atoms injected into PLT and TFTR discharges, spectra 7—19748
Al, laser irrad. planar target, simultaneous meas. shock breakout and X-ray transmission 7—44207
Al laser plasma, population inversion X-ray spectra 7—26506
Al, laser-produced line plasmas, soft X-ray spectroscopy techniques 7—11701
Al plasma, high density, high temp. at. pot., comparison with bremsstrahlung Gaunt factors, density functional theory 7—63254
Al, plasma, K-shell reson. lines, spot spectroscopy diagnostics 7—37742
Al plasma, KrF laser produced, ablation parameters 7—44206
Al^{10+} recombining laser plasma, soft X-ray amplification 7—63321
Al^{10+}, recombining laser produced plasma, population inversion 7—26509
Ar dense plasma, elec. cond. determ. 7—37642
Ar, dense plasmas, continuum ξ-factor determ. 7—20865
Ar discharge, nonequilib. behaviour of electrons 7—21039
Ar, flowing afterglow, metastable influence, expt. apparatus description 7—58073
Ar gas puff Z-pinch implosions, X-ray emission, appl. to X-ray lasers 7—26483
Ar, H-like and doubly excited He-like, dielectronic satellite spectra, transition rates and energies 7—51512
Ar, high-pressure plasma, elec. and optical props. 7—26552
Ar, hollow cathode arc, steady-state low-press., diagnostics 7—26561
Ar II, dense plasma, spectral line study 7—36552
Ar, inductively coupled plasma torch, gas flow dynamics, light scatt. technique 7—11795
Ar, laser-sustained plasma, power absorpt. 7—32024
Ar plasma, DC pulse generation, creation and stabilisation processes study 7—32098
Ar plasma, relativistic electron beam gas puff Z pinch, spectroscopic studies 7—58044
Ar, plasma characts., study of high current discharges appl. to pulsed-power devices 7—32188
Ar positive column, spectrosc. investig. 7—21010
Ar RF discharge plasma, electron and ion transport meas. 7—20874
Ar, RF discharge plasma, electron swarm, time-resolved spectroscopy 7—20959
Ar, spectral lines, determ. of transition probabilities using 27.12 MHz inductively-coupled plasma 7—50023
Ar surface wave discharges, influence of excitation frequency 7—63386
Ar, sustained plasmas, continuous wave laser gas heating 7—32023
Ar$^+$, transition probabilities and radiative lifetimes, saturated fluoresc. spectra anal. 7—42543
Ar-H$_2$, low-press. plasma, form. and vanishing charact. times 7—32097
Ar-H$_2$ mixture, plasma jet, 941.04 Å emission 7—11704
Ar-hexamethyldisiloxane glow discharge, charge carrier prod. 7—32172
Ar-I, positive column, spectrosc. investig. 7—21010
Ar-SF$_6$ plasma, negative ion detect., wall probe method appl. 7—20960
Ar+CO$_2$(N$_2$), vacuum UV lines, Stark broadening 7—891
Au ions, laser produced spectra and QED effects 7—37747
Au plasma, atomic processes, collisional-radiative and average-ion hybrid models 7—51387
Au, plasma, X-ray spectroscopic diagnostics *(French)* 7—6445
Au plasma laser produced, X-ray line absorpt. 7—20878
B-like ion plasma, dielectronic satellites 7—58054
B$_n$N$_m$$^+$ cluster ions in laser plasma, laser ionisation mass spectrometry *(German)* 7—42816
Ba ion beam magnetic field and space pot. diagnostic for STM plasma 7—1764
Bi ions, laser produced spectra and QED effects 7—37747
Br plasma, laser produced, oscillator strengths, X-ray transitions, ab initio calcs. 7—16334
C ablation plasmas, laser induced, emission spectra 7—26530
C fibre plasma, laser produced, population inversion and gain meas. 7—26505
C III, Z-pinched plasma, Stark broadening of spectral lines 7—36537
C plasma, nonuniform, shock wave propag. investig 7—44174
C^{5+}, plasma, Balmer line Stark broadened profiles 7—26513
Ca XIX, laser plasma, dielectronic satellites intensities 7—44244
Cl atom conc. meas. in plasma etching reactor 7—37760
Cl plasma, photo-excitation and ionisation, transition energies, orbital relax. effect 7—37651
Co$_2$-N$_2$-He laser mixture, beam-driven discharge, gasdynamic processes 7—50538
Cs, nonideal plasma, elec. cond. meas. 7—37643
Cs plasma, first reson. doublet absorpt. 7—37753
Cu foil plasma, laser-vaporised, X-ray laser expt. 7—63323
Cu plasma, X-ray spectroscopic diagnostics 7—6465
Cu XIII and XVII, excitation rate coeff. meas. in TEXT 7—44223
D$^+$ JET tokamak plasma, ion cyclotron emission spectra meas. 7—58067
D-T direct drive implosions, neutron sources for diagnostics development 7—1776
D$_2$ discharge, surface effects at very high E/n 7—21040
F, H-like, plasma, spectral series *(French)* 7—11794
F-like ions, Zr^{31+} to Sn^{41+}, X-ray transitions 7—25445
Fe I, II, excited state level populations in ICP discharge 7—30963
GaAs, neutron-damaged, photoconducting flat response detectors from UV to X-ray region 7—5563
H atoms, low-energy, from tokamak plasma, detection by means of H$^-$ formation on W surfaces 7—44248
H discharge, at. and mol. meas. using reson. multiphoton ionisation 7—20955
H, excited state, translational energy distrib. in DC discharge, spectroscopic meas. 7—20946
H, flux from wall into plasma, spectroscopic meas. 7—20901
H, lines in arc plasma, shift meas. 7—11709
H plasma, α line shift and profile 7—44243
H plasma, β spectral line peak asymmetry 7—51518
H plasma, electron temperature determ. from He-like ion resonance/intercombination lines *(Chinese)* 7—6362

plasma diagnostics continued
- H plasma, ion collisions, low-energy charge exchange, XUV spectra 7—20032
- H plasma, low n Balmer line intensities, T-tube glass-to-plasma boundary layer study 7—37701
- H plasma, low-density, H Lyman-α line, Stark broadening 7—32086
- H plasma, T-tube boundary layer effects on spectral intensities ratios, temp. determ. 7—37635
- H plasma diagnostics using ion impact Stark broadening 7—51517
- H pulsed plasma, stability measures Balmer-β line spectrum 7—11615
- H^- hybrid and tandem sources, high resolution VUV light emission meas. 7—10346
- H^- multipole plasma source, neutral H level populations, spectroscopic meas. 7—817
- H^+ plasma, beat wave saturation by collisional damping meas. 7—58058
- H-like ions in laser plasma, freq. redistrib., Stark broadening of lines 7—44203
- H_2 discharge, diagnostics by resonant multiphoton ionization 7—15657
- H_β profiles at high electron densities from optical discharges 7—6447
- H(D), T-tube plasma, β-line central dip, ion dynamic effects anal. 7—36542
- HD Tokamak plasma, fast Alfven wave propag., expt. meas. 7—58014
- He, atom, with turbulent flow, two electron group model for RF ionisation 7—31921
- He DC glow discharge positive column, gas temp. 7—32151
- He, forbidden lines intensities, diagnostics 7—51516
- He glow discharge, cathode fall, spectroscopic diagnostics 7—37763
- He glow discharge, electron conc. meas. in anode region 7—11788
- He I excited states in He-Se laser discharge, population density ratios determ. from Kirchhoff's law 7—58072
- He I plasma, Stark parameters meas. of 447.15 nm line electron density determ. 7—36540
- He I plasma, Stark parameters meas. of 492.2 nm line, electron density determ. 7—36541
- He microwave-induced plasma in laminar flow torch, spectrosc. temp. determ. 7—37738
- He, plasma, excited state lifetimes determ. 7—20947
- He plasma, ion collisions, low-energy charge exchange, XUV spectra 7—20032
- He plasma, spatial resolved line-intensity meas., electron density determ. 7—36641
- He plasma, spectral line Stark broadening for theta-pinch turbulent plasma parameter meas. 7—44255
- He thyratron with linear geometry, excited state densities 7—20963
- He Z-pinch plasma, visible emission in afterglow 7—32092
- He-Cd discharge in concentric hollow-cathode struct., spectrosc. obs. 7—20953
- He-like ion plasma, electron excitation rates 7—20847
- He-SF_6 glow discharge, mag. control, electron energy distrib. 7—26555
- Hg arc discharge, high-pressure, heat transport obs. 7—21009
- Hg arc plasmas, diagnostics of excitation nonequilibrium using self-reversed emission lines 7—51511
- Hg, high pressure decaying arc., spectroscopic temp. meas. 7—11809
- Hg-Ar, low press. electrical discharge, isotope effects, hyperfine struct. 7—37786
- Hg-Ar mixture, pulsed-periodic discharge plasma, optical characts. time depend. 7—37782
- Hg-Ar mixtures, in discharge, current variations and plasma parameters 7—21011
- Hg-Ar mixtures, in positive column, radius and plasma parameter variation 7—20956
- Hg-Tl high press. lamp arcs, partial press. determ. 7—26554
- InI-Hg arc, high-press., spectroscopic studies 7—44278
- InP:Fe, photoconducting flat response detectors from UV to X-ray region 7—5563
- K plasma, electron thermal cond., hot-wire meas. 7—20950
- Kr, dense plasmas, continuum ξ-factor determ. 7—20865
- Kr, gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7—62320
- Li hollow cathode discharge, spectrosc. obs. 7—21008
- Li like ion plasma, population inversion collisional-radiative model 7—25463
- Li, spectral emission line profile, laser produced plasma, polarisation shift *(French)* 7—6446
- MnI(II), modified wall stabilised arc, hook measurements study 7—37755
- N II pulsed arc, Stark broadened lines 7—36534
- N_2, in gas discharge, vibr. levels excitation , CARS obs. 7—20021
- N_2 in RF discharge, low press., pulsed laser optogalvanic spectroscopy 7—37769
- N_2, nonequilib. weakly ionised plasma, electron transport coeffs. 7—6365
- N_2, plasma jet, post-discharge, radical spatial distrib. 7—20969
- N_2 quasisteady glow discharges, current contraction study 7—32152
- NH radical, rot.-vibr. anal. for $X^3\Sigma^-$ state, IR Fourier transform spectra 7—19847
- NO_3^- production in negative corona discharge, mass spectra 7—32175
- Na, freely burning arc discharge, self-reversed reson. spectral lines 7—32157
- Na plasma, creation by resonant laser interaction study 7—32033
- Na^+, in Ar, velocity distrib. fns., meas. 7—20961
- Ne discharge, high-current, low-pressure, radial distrib. of neutral gas density 7—20952
- Ne, gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7—62320
- Ne gas puff Z-pinch implosions, X-ray emission, appl. to X-ray lasers 7—26483
- Ne II, Stark parameters meas. 7—36538
- Ne, imploding Z pinch for X-ray laser research 7—20918
- Ne plasma, optically transparent, radiation cooling power and ionisation equilib. 7—44121
- Ne plasma, Z-pinch, quantitative X-ray spectroscopy 7—37723
- Ne pulsed transverse discharge, population inversion, secondary process influence 7—58084
- Ne^{2+} in Ar plasma afterglow, ambipolar diffusion coeff. meas. 7—20949
- Ne-Ar mixtures, transient cataphoretic segregation in a discharge tube 7—20988
- Ne-like ion plasma, laser produced, reson. transitions, X-ray diagnostics 7—20932
- Ne-like ion recombination in finite density plasma, rate coeff. calc. 7—57982
- Ne-like ions, Ca XI to Mn XVI, laser plasma, spectra 7—49989
- Ne-like ions, in laser-prod. plasma, density-sensitive line emission 7—6448

plasma diagnostics continued
- Ne_2^+ glow discharge, time depend. of spectral line intensities from afterglow plasma 7—32142
- Ni XXVII plasma, X-ray spectral diagnostics 7—20931
- Ni-like ion plasma, laser produced, reson. transitions, X-ray diagnostics 7—20932
- O DC discharge, O, $O_2(^1\Delta)$ and O_3 conc. meas. 7—20957
- O_2, microwave discharge, elementary processes investig. 7—32177
- O_2, plasma, weakly ionised, electron heating and ionis. by RF fields 7—20862
- O_2 RF discharge, charge carrier distrib., power and press. depend. 7—32096
- P VI-XIII, in plasmas, spectra, 22-92 Å 7—15537
- Pb ions, laser produced spectra and QED effects 7—37747
- SF_6 double nozzle arcs, flow field determ., spectroscopic temp. meas. 7—26583
- SF_6 RF discharges, etching of Si wafers, diagnostic meas. 7—28214
- Se XXIV and XXV plasma, dielectronic recombination calcs. 7—26510
- Se XXV plasma, laser produced, electron impact, laser transitions 7—26508
- Si, excimer laser photoablation, spectroscopic characts. of plasma 7—54019
- Si II, space resolved distribs. in T-tube 7—20948
- Si, laser ablation, cluster and plasma formation, time-resolved X-ray monitoring 7—37710
- Si plasma, laser prod., electron density sensitive emission line ratios 7—32081
- Si, plasma etching with tetrafluoromethane and N_2O, role of O_2 in etching 7—3535
- Si XIII and XIV, laser-heated plasma, 2l-3l′ and 2l-4l′ transitions 7—57021
- a-Si:H,Ge single junction and tandem solar cells, thin film properties and corollary plasma diagnostics 7—13893
- SiF_4-O_2, microwave discharges, mass spectrometric study 7—32169
- SiH_4, Si_2H_6 and SiH_2Cl_2 plasmas, optical emission spectroscopy, mass spectrometry and laser-induced fluorescence 7—37764
- SiH_4-Ar plasma, particle number densities, masses and size distrib. meas. 7—37761
- SiH_4-Ar-H_2 plasma, Si deposition 7—23011
- Sr ions, Ne-like laser plasma, photoexcitation, X-ray and XUV spectra 7—26507
- Th ions, laser produced spectra and QED effects 7—37747
- Th, plasma, XUV spectra, isotope line identification, HF and DF calcs. 7—15487
- Ti, H-like, dielectronic satellite spectra 7—19741
- Ti IV, plasma-induced atomic level broadening 7—63262
- Ti vacuum arc characterisation and struct. of deposited Ti and TiN films 7—63392
- Ti XXI lines in electron-cyclotron heated tokamak plasmas, nonthermal X-rays, time resolved meas. 7—11658
- U ions, laser produced spectra and QED effects 7—37747
- V II, in arcs, transition probabilities, IR emission spectroscopy 7—5633
- V V, plasma-induced atomic level broadening 7—63262
- W (100), IR surface-wave interferometry, plasma frequency meas. appl. 7—44245
- XVIII, Mg-like spectrum 7—25443
- Xe, gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7—62320
- Xe plasma, Cs additive, conc. depend. anal. 7—51399
- Xe-Ar:H, plasma, comp. eval. 7—1733
- XeCl excimer laser, discharge-pumped, electron density, Hβ line Stark broadening meas. 7—5873

plasma diagnostics by laser beam
- air, atmospheric, optical discharge plasma sustained by Nd laser radiation, diagnostics 7—63355
- ATF two-dimens. Thomson scatt. system for temp. and density meas. 7—1751
- backward Compton scatt. for electric field probes in high-density relativistic plasma 7—1759
- beat-waves in Z-pinch plasma, VULCAN Nd:glass laser meas. 7—11702
- density fluctuations, far-IR laser scatt. study in JIPP T-IIU Tokamak 7—44257
- dye laser diagnostic system for Li beam spectroscopy in a tokamak 7—1760
- extreme UV space- and time-resolving spectrograph for high temp. plasma diagnostics 7—6462
- fine spectral struct. in microwave field, intracavity laser spectroscopy obs. 7—16338
- FIR lasers, optically pumped, appl. in plasma diagnostics 7—5877
- frequency-resolved multiple k scattering diagnostic using Thomson scatt. 7—1748
- holographic interferometric determ. of electron density distrib. in race track plasma 7—11707
- imaging method diagnostics for plasma density fluctuations 7—1738
- imaging of continuum emission for diagnostics of laser sustained plasmas 7—20930
- ion conics, laboratory obs., vel.-space tomograph 7—44250
- JET spectroscopic diagnostics in VUV region 7—6451
- laser harmonic spectroscopy use as plasma target diagnostic 7—26503
- laser plasma, emission and interferometric tomography, image reconstruction algorithm 7—11786
- laser plasma, stimulated Raman scatt. Thomson scatt., electron spectroscopy and IR diagnostics 7—37745
- laser-Doppler anemometry, MHD channel flow, secondary flow meas. 7—16302
- laser-plasma detection using biharmonic Nd laser 7—44254
- laser-plasma interactions, density profile steepening, self-consistent treatment 7—26438
- laser-target interactions, temporally resolved target potential measurements 7—63315
- methanol high power FIR cavity laser system with long-term stability 7—36982
- multichannel Thomson scatt. systems with high spatial resolution for plasma diagnostics 7—1765
- multichordal charge exchange recombination spectroscopyon the DIII-D tokamak 7—6453
- nonlinear Raman spectroscopy combustion and plasma diagnostics appl. 7—16332
- optical characts. freq. depend. 7—32083
- probe investigation of laser produced plasmas 7—11663

plasma diagnostics by laser beam continued
- RFC-XX-M mirror-cusp device, plasma waves and turbulence meas. using CO_2 laser 7–26529
- solid-state lasers, broad-band, conc. of emission spectrum in near IR 7–43114
- stimulated Raman backscatter instability threshold intensity 7–44247
- stimulated Raman scatt. of laser light filament 7–51454
- synchronized ruby/N_2 laser system for plasma prod. and diagnostics 7–31356
- Tara tandem mirror central cell, Thomson scatt. methods for optical diagnostics 7–1747
- TCA Tokamak, density fluctuations, long wavelength turbulence 7–1727
- tetrafluoromethane plasma, CF_3 radical, reaction probability with Si surface 7–23059
- tetrafluoromethane/O_2 plasma etching reactor, CF and CF_2 radicals, laser induced fluorescence detection 7–58068
- TFTR edge Thomson scattering system 7–1749
- TFTR Thomson scatt. system, feasibility study for q profile meas. 7–1750
- thermal ion-acoustic fluctuations in collisionally dominated plasmas, laser scatt. meas. 7–11711
- Thomson scatt. plasma diagnostics, ruby filters for stray light reduction 7–1752
- Tokamak, temp. meas. 7–60922
- tokamak plasma, electron density diagnostics by Fe XXII line intensity ratios 7–26516
- tokamak plasma, multichannel submillimeter wave interferometer 7–37749
- TPE-2, basic plasma parameters, diagnostics *(Japanese)* 7–11705
- turbulent particle containing flows of high temp. gas, laser diagnostics 7–1731
- two-ion ICRF heating in Tokamaks 7–16337
- Z pinch, Faraday rot., laser beam probing 7–1720
- Z-discharge plasma, H atom density from H_α and H_β spectral line intensities 7–26512
- Al plasma created by laser at 1.05, 0.53 and 0.26 μm, soft X-ray imaging to study thermal transport 7–1735
- C plasma, long-laser-pulse produced, gain condition 7–20913
- CO_2 high-power long-pulse laser design for alpha particle Thomson scatt. 7–1762
- CO_2 laser Thomson scatt., detection limits for α-particle meas. 7–1763
- CO_2 TEA laser, high-power modulation by injection-locked mode-beating, plasma diagnostics appl. 7–62738
- Cl_2, plasma etching reactor, atomic Cl conc. and gas temp., laser spectroscopic meas. 7–58069
- H-like ion plasma, laser interaction, X-ray line emission self absorpt. and escape factors 7–37689
- H_2, metastable, discharge rotational temp. and density determ., resonant multiphoton ionisation method 7–44105
- He, plasma, collision induced transitions between singlet and triplet levels, laser fluoresc. 7–20846
- He-like ions, plasma, laser interaction, X-ray line emission self absorpt. and escape factors 7–37689
- N_2, glow discharge, 1^+ absorpt. system, gas heating dynamics 7–37790
- N_2 in hollow-cathode discharge, diagnostics using CARS and scanned probe laser 7–16333
- N_2 metastable states in gas discharge, vibr. level population dynamics 7–37754
- N_2, microwave nonself-sustained discharge, instability 7–37791
- O_2-Ar etching plasmas, spatially resolved detection of O atoms by two-photon laser-induced fluorescence 7–20917
- SF_6, high-current discharges, optical diagnostics 7–37775
- SiN_4 and NH_3, radical emission cross sections for plasma diagnostics *(Japanese)* 7–20934

plasma diodes
- collective ion acceleration, selective effects 7–11798
- composite discharge sustained by N_2 injection from capillary plasmatron 7–1798
- conf., Saskatoon, Canada, May 1986 7–29595
- divergence angle of intense pulsed ion beam extracted from dual-current-feed magnetically insulated diode 7–11802
- duoplasmatron ion source, electron beam generation 7–32114
- duoplasmatron ion source, optimum operating conditions *(Korean)* 7–25281
- electron cloud, oscillating, form. in diode with thin anode foil 7–44258
- erosion opening switch performance for HV ion diode expts. 7–32126
- inverted coaxial diode with magnetic insulation, operating characts. 7–51523
- ion beam generation and focusing from conical pinched electron beam diode 7–11806
- ion beam production, magnetically insulated diode 7–6472
- jet energy dissipation in gaseous target 7–1791
- light ion beam fusion research on Reiden IV particle beam accelerator 7–11807
- magnetically insulated diode with virtual cathode, electron energy increase 7–1790
- magnetically insulated gaps, obliquely propag. EM wave linear stability 7–44260
- metallurgical furnaces with arc plasmatrons, AC appls. to feeding plants *(Polish)* 7–11799
- microsecond-range vacuum diode, density meas. by optical interferometry 7–63253
- multitip explosive emission cathode plasma generation dynamics, probe meas. 7–51478
- optical plasmatron, subsonic gas vortex motion 7–44264
- particle beam fusion accelerator-II (PBFA-II), design of applied-B ion diode 7–36343
- pellet compression schemes, indirect irradiation by relativistic electron beam 7–11808
- Pierce diodes, stability, external circuit effects 7–6473
- planar type, effect of current rise time on maximum current 7–44270
- plasmatron, low temp. plasma jet, press. profile, flying pilot probe meas. 7–32118
- plasmatron, two-jet, electric arc characteristics in transverse mag. field 7–63360
- plasmotron system with natural gas-air mixtures, operation 7–1788
- point pinch diode for intensive ion beam generation, cylindrical target compression 7–10323
- Proto II accelerator, low inductance diode design for imploding plasma loads, insulator breakdown 7–30760

plasma diodes continued
- proton source, high purity, pulsed with cryogenic plasma diode 7–30815
- pulse power radial transmission line, matching problems 7–32075
- pulsed power technique research at IAE in Beijing 7–11693
- relativistic electron beam diodes, electrode design and appls. 7–20967
- relativistic non-neutral electron flow, macroscopic extraordinary-mode stability props. 7–44259
- self-magnetically-insulated plasma-focus diode, intense pulsed light-ion beam source 7–11803
- two-jet plasmatron, elec. arc interaction with solid body 7–44280
- virtual cathode oscillator, pinched diode driven, dynamics 7–44261
- virtual cathodes and microwave emission, 2D features 7–44262
- Ar arc plasmatron, natural gas high temp. pyrolysis 7–39886
- Ar electric arc initial section of plasmatron channel, calc. based on MHD eqns. 7–63395
- H duoplasmatron arc, plasma emission mechanism 7–26532
- H^+, pulsed ion beam, inductive post-acceleration obs., beam energy meas. 7–11805
- Li, plasma generation for PBFA-II ion diodes 7–20962
- N_2, jet, subsonic flow at reduced press., temp. study 7–51520

plasma displays *see gas-discharge displays*

plasma etching *see sputter etching*

plasma filled waveguides
- Buneman instability in waveguides, simulation of nonlinear dynamics 7–44165
- currents in earthquake zone, ionospheric MHD waveguide oscills. 7–14407
- cylindrical plasma-filled waveguide, compressional hydromag. waves, self-interaction 7–11649
- FTU tokamak, lower hybrid electron mode additional heating system 7–26455
- large amplitude caviton meas. in plasma waveguide 7–31965
- localised electron plasma oscillations, excitation at reson. surface by low-power microwaves 7–11646
- localized electrostatic oscillations excited by low power microwaves in plasma waveguide 7–26418
- magneto-acoustic wave, second harmonic reson. 7–44181
- magnetoactive plasma waveguides, non periodic waves 7–63287
- MHD waveguides in a nonuniform plasma 7–6400
- multiwave parametric plasma-beam interactions, nonlinear eqn. 7–6401
- nonlinear propagation of whistlers in reduced-density ducts in a magnetized plasma 7–26409
- nonlinear space-charge and transverse mag. waves with longitudinal wiggler, stimulated Raman scatt. 7–44182
- plane plasma waveguide with random density inhomogeneities, parametric interaction of waves 7–58023
- potential wave propag., strictional nonlinearity effect 7–20898
- rectangular plasma waveguides, excitation study *(Japanese)* 7–63288
- relativistic 7–11652
- relativistic electron beam interaction, space charge effect 7–1709
- relativistic electron pulse transport in ohmic-conductivity plasma, num. study 7–6399
- RF heating by cylindrical plasma waveguide modes 7–32019
- TMX-U ECRH circular waveguide system development 7–26451
- toroidal current drive expt. by $m=+1, -1$ nonaxisymmetric Alfven wave 7–44139
- unipole multipactoring discharge in the LHRF launcher 7–26440

plasma flow
- *see also plasma focus; plasma magnetohydrodynamics*
- ablation controlled arcs, stagnation press. elec. field strength 7–26332
- air-blown electric arc, gas dynamics 7–11817
- Alcator C edge plasma, directional asymmetries 7–63300
- arc mantle studies in dual flow plasmas 7–26559
- arc-generated flow phenomena in high-power repetitively-pulsed gas-flow spark gaps 7–32192
- arcs, cross flow effects 7–26550
- asymmetric dual-flow interrupter nozzles, flow field study 7–26331
- auroral plasma, electrostatic potential due to high-speed plasma flow 7–14403
- bucket iron sources, magnetic flux effect obs. 7–20881
- cathode arc plasma flow in a Knudsen layer 7–58088
- collisionless plasma expansion, electron distrib. effects 7–11613
- collisionless plasma expansion, plasma wakes study 7–31950
- combustion product plasma, boundary layers, alkali atom distribs., nonequilib. chemical reactions effects 7–57990
- composite discharge sustained by N_2 injection from capillary plasmatron 7–1798
- compressed ideal MHD sheared flow, Kelvin-Helmholtz instabilities 7–1686
- conical target compression and heating study 7–11666
- corona field, charged aerosol particle motion 7–32156
- current sheet dynamics, coaxial plasma accelerator, atm. initial press., num. anal. 7–31945
- cusped magnetic field ion source, plasma props. calcs. 7–20915
- dense gas, high-current arc development, hydrodynamic effects study 7–51529
- density fluctuations, far-IR laser scatt. study in JIPP T-IIU Tokamak 7–44257
- electric arc in flow with well-developed turbulence, investig. 7–26566
- electrically conducting body, electron dynamics in near wake 7–58052
- electron-ion flow with anisotropic press., current equilibr. 7–51417
- electrostatic Kelvin-Helmholtz instability produced by a localized electric field perpendicular to an external magnetic field 7–44157
- exothermic reactions, nonlinear heat conduction, two-temp. hydrodynamic eqns. 7–51401
- expansion into regions of weak localized mag. field 7–31952
- filamentary structures and plasma vortices induced by behaviour of toroidal magnetic surfaces 7–63265
- finite-β plasma, nonlinear short wavelength drift waves 7–63270
- flute-Alfven vortices during RF heating of inhomogeneous plasma, nonlinear generation 7–63271
- gas-blast circuit breaker, nozzle arc dynamic behaviour 7–26556
- grid effects on velocity analyzers of variable geometry 7–361
- heat transfer limitation as a cause of turbulence 7–51424
- HF discharge, plasma jet prod., thermophysical and gasdynamic parameters 7–11812
- high-density plasmas, Vlasov-Poisson eqns., linear stability anal. 7–51439
- implosion plasma flow driven, 'quick-fire' experiments 7–32139
- ion acceleration in the nonlinear stage of the Buneman instability 7–44141

plasma flow continued
- jet spraying, powder particulates heat and momentum transfer, jet temp. vel. distrib. *(French)* 7−7843
- laminar plasmatron cathodic jet, optospectroscopic studies 7−26535
- laser plasma, fast electron prod., absorpt. coeff. 7−63282
- laser-generated pellet coronas, steady ID outflow form. 7−37785
- laser-plasma ablation, steady-state theory, self-regulating flow 7−58024
- laser-produced plasma density and flow vel. variation near critical density region 7−16317
- lasers, plasma recombination, similar to thermionic convertors 7−10915
- low-pressure discharge, hydrodynamic description, singularity removal 7−20882
- magnetized plasma, kinetic eqn. soln. 7−20857
- magnetohydrodynamic stability of plasmas with aligned mass flow 7−44132
- neoclassical impurity transport and poloidal asymmetry obs. in JET 7−51449
- numerical simulation, book 7−48214
- opening switch for magnetic energy storage 7−32124
- optical breakdown, supersonic turbulent propag. regime 7−20836
- optical plasmatron, subsonic gas vortex motion 7−44264
- plasmapause, bi-Maxwellian transport eqns. for SAR arcs 7−55365
- plasmatron, low temp. plasma jet, press. profile, flying pilot probe meas. 7−32118
- potential formation in a plasma flowing along aconverging magnetic field *(Japanese)* 7−6374
- PS-3.5 spheromak, flow field study by C impurity spectral line shifts 7−26403
- pulsed compression with an imploding gas puff as plasma-flow opening switch 7−32136
- pulsed gas-flow spark gaps 7−6475
- radiating plasma streams, erosion and microscopic inhomogeneities 7−11650
- rarefied plasma flow, heat transfer to metallic or nonmetallic particle 7−20868
- recombination-nonequilibrium plasma, gas dynamics eqns. soln. *(Russian)* 7−44108
- resistive tearing modes in the presence of equilibriumflows 7−11640
- RF plasma CVD reactor, flow, temp., conc. fields, num. simulation 7−26501
- RF plasma torch, inductively coupled, two-temperature model 7−63361
- shear Alfven vortices, nonlin. eqns., num. anal. 7−58011
- stellarators system with helical axis and longitudinal mass flow, resistive ballooning modes 7−51492
- stream interaction with neutral gas in aligned mag. field 7−51419
- super-Alfven plasma flow, collisionless interaction 7−11612
- supersonic arc jet, expansion 7−21016
- surface waves, two-dimens. leak at boundary, surface wave packet anal. 7−31971
- switches, gasdynamics appls. 7−32110
- thermal solitary vortices in current-carrying edge plasmas 7−44128
- tokamak with flowing plasma, tearing modes *(Chinese)* 7−37715
- torus, mag. field line flow, Hamiltonian problem stochastic stability 7−44133
- transmission line code modelling of plasma flow switches 7−32141
- transport, pressure anisotropy effects 7−37640
- turbulence, effect on plasma viscosity and ion transport, hollow cathode arc expts. 7−44169
- turbulent particle containing flows of high temp. gas, laser diagnostics 7−1731
- two-stream plasma, instabilities, water-bag model anal. 7−20887
- velocity analyser with variable geometry, grid effects expt. verification 7−362
- vortex structures, pulsed plasma stream, snow-plow model calcs. 7−31953
- wake of metallic body in plasma flow, mag. field effect 7−37655
- wall ablation models for plasma flow switches 7−32140
- Z-pinch, corona form. radiative loss, dynamics, ID approx. 7−51483
- Ar arc plasmatron, natural gas high temp. pyrolysis 7−39886
- Ar electric arc initial section of plasmatron channel, calc. based on MHD eqns. 7−63395
- Ar, gas pressure effect on arc cathode erosion and cathodic plasma expansion 7−32164
- Ar, inductively coupled plasma torch, gas flow dynamics, light scatt. technique 7−11795
- Ar, laser-sustained plasma, power absorpt. 7−32024
- Ar laser-sustained plasma in axisymmetric flowfields, 2D model 7−11661
- Ar plasma, laser-sustained, theory 7−20911
- Ar, sustained plasmas, continuous wave laser gas heating 7−32023
- Cs plasma in hollow-cathode arc 7−16344
- D-T mixture, plasma focus, inductive explosive magnetic generator current source study 7−44299
- F IX, excitation by laser flame recharging in plasma 7−20851
- He, atom, with turbulent flow, two electron group model for RF ionisation 7−31921
- He diaphragmed discharge, multiple contraction 7−20972
- He, gas pressure effect on arc cathode erosion and cathodic plasma expansion 7−32164
- K additions, redistribution mechanism in MHD generator channel 7−1794
- K, plasma confinement in spindle cusp mag. field 7−32042
- N plasma particle-gas mass transfer, Knudsen effect 7−31937
- N_2, destruction and heat transfer of heat-shielding coating 7−63263
- N_2, jet, subsonic flow at reduced press., temp. study 7−51520
- O VII, excitation by laser flame recharging in plasma 7−20851
- SF_6, gas pressure effect on arc cathode erosion and cathodic plasma expansion 7−32164
- SF_6 puffer-type circuit breakers, effects of aerodynamic shocks on performance 7−51223

plasma focus
- axial magnetic field and azimuthally streaming medium energy deuterons in a plasma focus 7−63364
- conf., Saskatoon, Canada, May 1986 7−29595
- discharge, magnetically driven sheath, elec. signal simulation 7−44184
- drivers, efficiency parameters for reactor conditions 7−63373
- dynamical pinch discharges, power limits 7−32149
- focused discharges, correlation of D-D neutron yield and D^+ energy spectrum 7−32071
- fusion reaction kinetics in plasma focus, gyrating particle model 7−63345
- glass insulated probe in plasma, time required for probe surface meas. 7−37697

plasma focus continued
- heat flux distrib. determ. on PF anode surface 7−63258
- hypocycloidal pinch device development for dye laser pumping *(Korean)* 7−62719
- inductive energy storage plasma focus device, num. simulation 7−63371
- inductive-capacitive energy storage supply 7−63370
- Joule heating in PF anode during current flow, theoretical investig. 7−63311
- laser pumping, plasma focus utilisation 7−63366
- magnetic flux compression generator powered plasma focus device expts. 7−63372
- magnetic flux-compression generators for energy supply of plasma focus loads 7−63369
- Mather-type plasma focus, shock and magnetosonic waves, sheath current meas. 7−32073
- Mather-type two-gun plasma focus device, anal. of dense plasma foci 7−32112
- nonhydrodynamical phase of plasma-focus discharge, num. modeling 7−63347
- nonthermal ion collisions in mag. field, PF-150 plasma focus device neutron source 7−63365
- particle beam source, rms beam emittance 7−30807
- plasma lens characteristics investig. 7−37735
- plasma sheath dynamics of focus discharges, parameter eval. 7−63304
- Poseidon plasma focus device, deuteron, neutron and proton meas., neutron production analysis 7−32072
- radiation transport in an ionizing current sheath, MHD eqns. 7−51409
- RMS emittance of plasma focus particle beams 7−32113
- self-magnetically-insulated plasma-focus diode, intense pulsed light-ion beam source 7−11803
- sheath develop., Mather's type plasma focus geometry, geometrical conditions anal. 7−32182
- switching problems, inductive storage plasma focus device, num. calc. 7−63368
- time-resolved Thomson spectrometer study of plasma focus produced ions 7−32094
- voltage amplification in dense plasma focus, appl. to car spark plugs 7−63374
- wave coupling in a modified beam plasma system, 1D model 7−63277
- X-ray calibration of CCD sensors and photodiode array cameras, plasma diagnostics appl. 7−20939
- X-ray radiation diagnosis using diffusion chamber 7−63358
- Ar-N_2 laser pumping by plasma focus generated charged particle beams, num. calcs. 7−63367
- D-T mixture, plasma focus, inductive explosive magnetic generator current source study 7−44299
- N_2 laser, four-channel TEA, for interferometric meas. on plasma focus 7−43188

plasma generation *see plasma production*

plasma guns
- coaxial rotating plasma gun for plasma stream production *(Japanese)* 7−6406
- deflagration gun, simple model including self-consistent electric and magnetic field 7−32138
- electron beam controlled discharges, charactn. and switching performance 7−26533
- EM projectile accelerators, arc-driven, 3D plasma model 7−32117
- gas-injected washer gun, hot-ion production 7−63309
- HF discharge, plasma jet prod., thermophysical and gasdynamic parameters 7−11812
- implosion, plasma flow driven, 'quick-fire' experiments 7−32139
- light ion beam fusion research on Reiden IV particle beam accelerator 7−11807
- pulse formation and accel., high power and switching appls. 7−32125
- pulsed electron beam generation by cold cathode plasma guns, appl. to laser excitation 7−26534
- rail gun, electrical characteristics of an EDMA device 7−32116
- rail gun, operation of an EDMA device 7−32115
- steam-generating tube flowrate fluctuations, eval. 7−44049

plasma heating
- *see also plasma focus; plasma production and heating by laser beam*
- ACT-I, fast wave current drive 7−32074
- Alcator C, impurity sources during lower hybrid heating 7−37724
- Alcator C tokamak, nonthermal electron distrib. functions during LH heating and current drive 7−11740
- Alfven wave heating, density fluctuation obs. at reson. layers, probe meas. 7−58057
- Alfven wave heating, diagnostics, review 7−6412
- ASDEX, neutral injection, lower hybrid and ion cyclotron reson. heating 7−6409
- ASDEX Tokamak, ohmic and auxiliary heating, impurity prod. 7−63293
- ASDEX tokamak, sawtooth oscillation suppression by lower hybrid current drive 7−1693
- ATF torsatron at ORNL, facility design and preparation 7−25226
- axisymmetric magnetic mirror, whistler mode electron cyclotron reson. plasma startup and heating, X-ray meas. 7−37707
- braided electrons form. during cyclotron heating, relativistic effects 7−63307
- cathode crater formation, in metal-vapor vac. arcs, time-depend. description 7−26560
- charged particle quasi-linear diffusion, acceleration and heating 7−1675
- charged particles stopping power 7−32003
- CLEO plasma, electron cyclotron heated, X-ray imaging by tangential projection 7−32087
- collisional ion heating 7−32016
- collisional magnetic pumping, soln. of differential eqn. 7−32021
- collisional magnetic pumping for plasma heating 7−16315
- collisionless plasma, longitudinal oscillations, macroscopic interpretation 7−11596
- compact tokamak ignition expts., ohmic ignition prospects 7−15338
- computational physics conference, Eibsee, Germany (May 1986) 7−48137
- conf., Saskatoon, Canada, May 1986 7−29595
- conference, Schliersee, Germany (April 1986) 7−4629
- confinement, scaling of incremental energy confinement time in the JFT-2M tokamak 7−37732
- Constance B, high beta hot electron expts., ECRH-induced diffusion, electron micro-instabilities 7−32064
- current drive, formula for combined ohmic and RF contributions with RF pulse. 7−44119
- current drive by asymmetrical heating of ions 7−32010

plasma heating continued
currentless plasma heating in Heliotron E 7—32015
cutoff waveguide antenna, exciter for fusion plasma heating, transient anal. in 3D space *(Japanese)* 7—11801
cyclotron heating in tokamak, ion thermal cond. 7—63308
cylindrical arc, conductivity, characts. asymptotic calcs. 7—32154
cylindrical plasma, wave field calc. using multiple shooting technique 7—44137
DC current drive, AC helicity injection 7—32012
discharge, high-current, spot behaviour and local cathode heating 7—58089
drifting biMaxwellian plasma, resonant three-wave coupling coeffs. 7—11633
EBT, hot electron ring geometry, implications for stability 7—44215
ECH stochastic heating in the Proto-Cleo Torsatron 7—32014
ECRH expts. in tokamaks and stellarators 7—6411
ECRH heating, nonlinear effects 7—31968
ECRH in tandem mirror, electrostatic potential, electron density 7—6363
ECRH to provide access to tokamak second stability region 7—26465
electron beam, parametric excitation of ion cyclotron wave and plasma heating 7—51466
electron beam accelerator, vacuum pulse conditioning and risetime sharpening 7—30659
electron cyclotron absorption at down-shifted frequency in PLT 7—20884
electron cyclotron heating in tokamaks, Fokker-Planck studies 7—51405
electron cyclotron reson. heating of mag. confined plasmas using TE01 to TM11 mode convertors 7—37708
electron heating in collisions 7—31924
electron resonant acceleration during RF heating of a weakly magnetised inhomogeneous plasma 7—26466
EM ion beam instabilities, one and two dimens. simulations 7—6379
EM mass driver, projectile velocity calc. 7—49671
EM projectile accelerators, arc-driven, 3D plasma model 7—32117
energy confinement time measurement, RF heated Tokamak and mirror plasmas 7—44234
energy deposition of fast α-particles in a fully ionized deuterium-tritium plasma 7—10289
Eta-Beta II reversed field pinch, heating and confinement studies 7—26497
ETL-TPE 2 experiment, high beta and high temperature plasma, toroidal fast field, power supply *(Japanese)* 7—11668
fast wave conversion in a mirror field, observation of plasma heating 7—1712
field-reversed pinch, steady state, plasma ion cyclotron resonance heating, bootstrap current, diamagnetic current 7—6417
filtered X-ray diodes for imploding plasma experiments 7—11769
flute-Alfven vortices during RF heating of inhomogeneous plasma, nonlinear generation 7—63271
Frascati Tokamak, confinement and heating study 7—6438
FTU tokamak, lower hybrid electron mode additional heating system 7—26455
GAMMA-10, tandem mirror, hot electron meas. by X-ray, plug potential formation with thermal barrier 7—32062
geometric optics at lower hybrid frequencies 7—37693
gridded power tubes for plasma heating applications 7—26459
gun plasma injection studies in IMS 7—32013
gyrotron appls. in fusion research 7—49617
gyrotron development in the framework of the European Fusion Programme 7—49618
gyrotrons for plasma diagnostics, development 7—1780
HDCT design for compression and auxiliary heating study 7—16330
Heliotron DR, confining field, ohmic heating 7—16321
Heliotron E, diamagnetism and beta in beam heated currentless plasmas 7—32005
high magnetic field tokamaks, confinement, impurity control and heating 7—20920
high power RF cone bushings for PLT ion cyclotron heating 7—26460
hot-electron instability in mirror geometry 7—31960
hot-ion production from a gas-injected washer gun 7—63309
ICF, experimental approaches to heavy ion fusion 7—6425
ICF, self-similar ion beam fusion plasmas 7—5443
ICRF, using folded waveguide coupler 7—58035
ICRF antenna and feedthrough development at ORNL 7—26457
ICRF current drive experiment on JIPP T-IIU 7—51471
ICRF heating on Alcator C, impurity generation 7—51472
ICRF wave catalyst in beam-heated plasma 7—16313
ICRH, technical feasibility of very high power tetrodes 7—26458
ICRH induced particle losses in stellarators 7—16326
ignited tokamak devices with ohmic-heating dominated startup 7—15332
ignition-burn experimental research with TIBER tokamak 7—19472
imploding advanced fuel pellet, neutron heating effects, simulation 7—6421
inert gas beam plasma, evolution of states, heating effect 7—44193
inhomogeneous magnetoactive plasma, particle heating by low-amplitude wave 7—32009
inhomogeneous plasma, particle heating in upper hybrid resonance region 7—32004
Ion Bernstein Wave heating on JIPP T-IIU tokamak 7—6416
ion charge state distrib., near ECR freq. heated plasma 7—32022
ion diode, beam production and propagation 7—30656
ion distribution, collisionless evolution, in presence of ion cyclotron reson. heating 7—58036
ion velocity distributions, distortion in ICRH presence, semi-analytical anal. 7—58039
ion-acoustic wave parametric excitation by electron-cyclotron wave 7—37672
ionisation, anomalous, conversion of kinetic energy into electron heat and electrostatic waves 7—26394
ISX-B, beam heated plasmas, toroidal energy density eval., temp. and density surfaces 7—31931
JET, edge phenomena, probe diagnostics 7—63334
JET, ICRH and neutral beam injection heating 7—6432
JET, impurity behaviour study 7—6441
JET, neutral injection and ICR heating, status 7—30649
JET, Ohmic heating 7—5430
JET, plasma heating in electron cyclotron range freqs. 7—16323
JET, upgraded ICRF heating system, design and technology 7—49674
JET H neutral beam heating of D^+ plasma 7—6415
JET ICRF system automatic matching procedure 7—58071
JET neutral injection system, operational test in test bed 7—25169
JET plasma, ICRF waves anal. 7—1723

plasma heating continued
JFT-2M, ICRF heating, confinement studies 7—11660
JFT-2M 60 GHz second harmonic electron cyclotron heating 7—62079
JFT-2M tokamak fast wave heating via phased loop antenna array 7—58038
Joule heating in PF anode during current flow, theoretical investig. 7—63311
JT-60, computer system for neutral beam injection equipment 7—25237
JT-60, high power heating expts. 7—6439
JT-60, ohmic heating, diagnostics study 7—63335
JT-60 neutral beam injectors, performance at test bed facility 7—25168
klystron design for 500 kW lower hybrid resonance heating 7—26452
launching system of LHRF and ICRF heating on JT-60 7—19502
linear stability of counter-streaming two strong ionbeams 7—6422
low-n shear Alfven spectra in axisymmetric toroidal plasmas 7—37676
lower hybrid current drive, circuit anal. on tokamak 7—16328
lower hybrid current drive, Parail-Pogutse instability 7—51473
lower hybrid heating, refl. coeff., power depend. 7—58033
lower hybrid heating, vacuum window device anal. 7—57995
lower hybrid wave heating and current drive, review 7—6413
magnetic mirrors, fast wave plasma heating, diamagnetism obs. 7—20907
magnetic pumping by magnetosonic waves in the presence of noncompressive electromagnetic fluctuations 7—26449
magnetoinductance particle codes with guiding centre electron motion, two-, three-dimensional 7—44236
metal cathode, hot, evaporating, in stationary vacuum arc with diffuse cathode emission, thermal conditions 7—58087
metal targets, ion beam driven expansions, plasma-induced energy deposition effects 7—51475
metal vapour plasma, rail gun operation 7—32115
MFTF-B, 1000 kW ICRH amplifiers 7—26461
MFTF-B ion cyclotron resonance heating startup antenna 7—26462
microparticle-initiated losses in magnetically insulated transmission lines 7—30658
microwave discharge, plasma corona, large amplitude plasma waves and particle acceleration 7—63380
microwave plasma interaction, reson. absorpt. 7—44178
microwave-afterglow studies, electron heating, dissoc. recombination, electron temp. and density 7—11813
MIDAAS, ion diode, extraction performance 7—30657
minority heating current drive, numerical studies 7—32011
mm-wave irrad., high power mode conversion for linearly polarized HE_{11} hybrid mode output 7—44196
neutral beam heat on JET 7—16314
nonlinear ion heating in magnetized plasma by monochromatic low-frequency waves 7—58034
nonself maintained discharge with nonuniform external ionisation, current-cond. channel form. 7—58090
numerical simulation, book 7—48214
Oak Ridge RF test facility for ion cyclotron resonance heating systems 7—26456
Ohmic energy confinement in tokamaks 7—37726
Ohmic tokamak discharges, density limits, thermal cond. models 7—11657
ohmic-heating coils, design optimization using simplex method *(Chinese)* 7—5421
particle acceleration in localised electrostatic wave packet, electron reheating 7—26446
particle beam fusion, Nagoya, Japan (Nov. 1985) 7—4636
Phaedrus-B, phased antenna experiments in the central cell 7—32067
Phaedrus-B, tandem mirror, ion trapping and pumping in thermal barrier region 7—32065
plasma cylinder, ion beam interactions, natural Alfven oscills. stability 7—51428
PLT, current drive, heating, RF expts. 7—6410
PLT, RF heating techniques and equipment, review 7—25176
polyethylene, disperse, heating in gas-thermal spraying 7—26536
power transmission and shine-through calorimetric meas. during NBI in TFR 7—58056
Princeton beta expt. tokamak, neutral beam injection effect on MHD instabilities 7—6403
radiating plasma with current, instability, Joule heating and radiation effect 7—29456
reversed field pinch, TPE-1R, TPE-1R(M), quiescent period *(Japanese)* 7—11673
reversed field pinch fusion power reactor *(Japanese)* 7—16319
reversed field pinch plasma, TPE-1R(M), radiation loss, Fe impurity 7—11706
RF discharge, electron acceleration by self-generated stochasticity 7—32166
RF fields, focused, for local control of plasmas 7—6398
RF heated, low-dimensional chaos in a driven damped nonlinearSchrodinger equation 7—6408
RF heating and current drive in tokamaks 7—51470
RF heating by cylindrical plasma waveguide modes 7—32019
RF ion source, ion energy distrib., radial extraction, injected electron beam 7—30118
RFC-XX, plasma prod. with rot. ion cyclotron waves excited by Nagoya Type-III antennas 7—37709
surface layer modification at solid walls in high temp. plasma expts. 7—63343
T-10 tokamak, optimum current density profile, electron-cyclotron resonance heating 7—44198
T-10 tokamak, plasma-wall interactions 7—63294
tandem mirror, axisymmetric thermal barrier form., hot electron prod. 7—11656
tandem mirror, microwave heating, shift in plasma column position 7—51476
tandem mirror, thermal barrier potential, electron cyclotron reson. heating 7—51496
Tara tandem mirror, heating, gas press. meas. and control 7—63337
Tara tandem mirror experiment, recent results 7—32066
target implosion calcs. using shock wave 7—6419
TCA Tokamak, ohmically heated, radiated power loss meas. 7—58055
tearing-mode control by localized electron cyclotron heating in FTU tokamak 7—16322
TEXT, ECRH absorption and propagation studies viacollective Thomson scattering 7—11749
TEXTOR, ICRH, plasma-wall interaction study 7—6414
TEXTOR, plasma-wall interactions, heating, review 7—63289
TEXTOR Tokamak microturbulence, CO_2 laser scatt. meas. 7—58015
TFTR, high-density pellet-fuelled discharge confinement 7—6442

plasma heating continued
TFTR, plasma-wall interactions heating and diagnostics study 7—63291
TFTR confinement 7—6436
TFTR lower hybrid current drive launcher, thermal considerations 7—26454
TFTR lower hybrid current drive launcher design, predictive model 7—26453
TFTR neutral beam heating system, present status 7—25167
TFTR status and recent results 7—15310
thermal plasma, turbulent flow, thermal contraction of current at anode 7—44118
thermally inhomogeneous plasma immersed in strong mag. field, self-filamentation instability 7—51443
TMX-U central cell heating and fueling expts. 7—32069
TMX-U ECRH circular waveguide system development 7—26451
TMX-U ion cyclotron resonant heating slot antenna 7—26464
TMX-U ion cyclotron resonant heating system 7—26463
TMX-U overview, cyclotron resonance heating systems 7—15358
TNT-A Tokamak, localized electron heating expts. by ion Bernstein waves 7—1713
Tokamak, compact ignition designs, plasma predictions 7—15315
tokamak, compact ignition experiments, startup, confinement, α-effect assessments 7—15316
Tokamak, high-confinement regime with ion cyclotron-resonance heating 7—44197
tokamak, L-mode plasmas, incremental energy confinement time 7—58042
Tokamak, polarization converted coupler for plasma current drive experiments 7—32020
tokamak, tearing modes suppression by ECRH *(Chinese)* 7—37716
tokamak energy confinement and ignition, fusion alpha heating effects 7—11677
tokamak FT-1, electron cyclotron heating, nonlinear phenomena 7—26447
tokamak plasma, current generation by asymmetrical heating 7—51485
tokamak plasma, high β, ECRH for creating energetic electrons *(Chinese)* 7—37718
Tokamak plasma, slow-time evolution, transport limits, phenomenological theory 7—1725
tokamak plasmas, C coating, effect on ICRH, Fe impurity radiation loss 7—6418
tokamak T-10, electron temp. meas. by C-pellet injection 7—26387
tokamaks, carbonisation, plasmachemical in situ deposition 7—63296
tokamaks, plasma-wall interactions, impurity behaviour 7—63338
tokamaks, Soviet, confinement study, transport coeffs. 7—6433
toroidal, flux surface averaging, diffusion coeff., electron cyclotron reson. heating 7—20844
toroidal magnetised plasma, fast wave excitation 7—26414
TPE-1R(M), start-up phase, volt-second consumption meas. 7—11654
TPE-1RM15 RFP expt., design, construction and plasma parameters 7—32059
TPE-2, high beta toroidal screw pinch, objects and design *(Japanese)* 7—11667
TPE-2 high current pulse, high energy density capacitor *(Japanese)* 7—11796
transport coefficient, profile consistency andconfinement scaling 7—11593
turbulent plasma, resonant ion heating, transfer processes 7—6390
two-ion hybrid resonance heating, simulation study 7—51474
two-ion ICRF heating in Tokamaks 7—16337
two-stage plasma-beam system, electron heating 7—11659
unipole multipactoring discharge in the LHRF launcher 7—26440
vacuum arc, turbulence, particle acceleration, Buneman instability 7—1796
waveguide coupling during lower hybrid current drive in a tokamak 7—26450
Wendelstein VII-A stellarator, ECRH study 7—6434
X-ray drive ICF, radiation transport modelling 7—6420
Al, laser irrad. planar target, simultaneous meas. shock breakout and X-ray transmission 7—44207
Ar II, dense plasma, spectral line study 7—36552
CO_2 gas laser, double coupled waveguide, RF excitation expt. exam. 7—31361
CO_2-N_2-He mixtures, self-sustained and nonself-sustained glow discharges 7—44290
Cs, surface-ionised plasma in hot cavity, power-shifted microwave reson. 7—58020
H_2 discharge, electron beam energy relax. mechanism in electrode sheath 7—51464
He plasma, heating with H^+ beam, spectrosc. appls. 7—48864
K, surface-ionised plasma in hot cavity, power-shifted microwave reson. 7—58020
N_2, glow discharge, 1^+ absorpt. system, gas heating dynamics 7—37790
Ne II, Stark parameters meas. 7—36538
O_2, plasma, weakly ionised, electron heating and ionis. by RF fields 7—20862
Ti XXI lines in electron-cyclotron heated tokamak plasmas, nonthermal X-rays, time resolved meas. 7—11658

plasma impurities
see also plasma-wall interactions
2T-40M reversed-field pinch, plasma-surface interactions 7—63336
Alcator C, impurity sources during lower hybrid heating 7—37724
Alcator-C, centrally peaked impurity profiles obs. 7—11774
ASDEX Tokamak, ohmic and auxiliary heating, impurity prod. 7—63293
boundary parameter meas. using Langmuir probes in JET 7—51395
charged particles traversing plasma sheath in oblique mag. field 7—44183
conference, Schliersee, Germany (April 1986) 7—4629
DC arc, atomic space-time distrib. 7—20993
divertor effects, radiation loss, impurity confinement 7—11688
effective $K\alpha$ X-ray excitation rates for plasmaimpurity measurements 7—11762
fusion devices, sputtering yields and plasma contamination 7—56843
fusion power multiplication factor using beam-plasma effect 7—58030
high magnetic field tokamaks, confinement, impurity control and heating 7—20920
ICRF heating on Alcator C, impurity generation 7—51472
ion sputtering, rel. to angle to mag. field lines 7—63303
jet, contamination with electrode metal vapour jets 7—1793
JET, edge phenomena, probe diagnostics 7—63334
JET, impurity behaviour study 7—6441
JET, wall effects and impurities 7—56845
JET and TFCX, plasma performance with sawtoothing, ignition 7—1685

plasma impurities continued
JET spectroscopic diagnostics in VUV region, impurity influx study 7—6451
limiter material, effect of heat and particle fluxes 7—20866
low Z impurity behaviour in TFTR 7—20919
neoclassical impurity transport and poloidal asymmetry obs. in JET 7—51449
numerical simulation, book 7—48214
p- 7—21010
particle control for impurities and fuel in DIVA and Doublet III 7—11687
PBX tokamak, Z-dependent impurity accumulation 7—44115
plasma-wall interaction in fusion devices, conf. Princeton, NJ, USA (May 1986) 7—60861
probe exposure to tokamak plasma, SIMS study 7—37740
proto S-1/C spheromak, particle diffusion meas. 7—31942
PS-3.5 spheromak, flow field study by C impurity spectral line shifts 7—26403
radiating plasma streams, erosion and microscopic inhomogeneities 7—11650
retention in ASPEX divertor chamber 7—51407
reversed field pinch plasma, effects of impurity by 0-dimensional simulation anal. *(Japanese)* 7—32040
reversed field pinch plasma, TPE-1R(M), radiation loss, Fe impurity, electron temperature, electron density 7—11706
RFP, poloidal divertor for impurity control 7—6429
scrape-off layer in toroidal system, impurity control effects 7—11691
soft X-ray average recombination coeff., average charge for metallic impurities 7—11761
spectroscopic diagnostics on JET 7—11791
T-10 tokamak, plasma-wall interactions 7—63294
TCA Tokamak, ohmically heated, radiated power loss meas. 7—58055
TEXT, diagnostic neutral beam system for impurities 7—25216
TEXTOR, plasma boundary structure, effects on impurity release, density meas. 7—16325
TFTR, detached plasmas, impurities study 7—63340
TFTR, plasma-wall interactions heating and diagnostics study 7—63291
thermal instabilities and poloidal asymmetries in the tokamak edge plasma 7—51436
Tokamak, neoclassical ion thermal cond. impurity contrib., finite aspect ratio effect 7—26395
tokamak, scrape-off layer, probe meas. 7—63351
tokamak edge plasma props. 7—20928
Tokamak plasma modelling and atomic processes, conf., Nagoya, Japan (July, 1985) 7—14716
tokamak plasmas, C coating, effect on ICRH, Fe impurity radiation loss 7—6418
tokamak plasmas, inner-shell X-ray line spectra of Ti, Cr, Fe and Ni ions 7—6371
tokamak T-7, impurity transport, mag. islands effect 7—44112
tokamaks, carbonisation, plasmachemical in situ deposition 7—63296
tokamaks, impurity confinement time meas. 7—44226
tokamaks, ion-temp. gradient driven turbulence theory 7—26430
tokamaks, plasma-wall interactions, impurity behaviour 7—63338
Tokoloshe tokamak, metal deposition on walls, toroidal dependence 7—1792
torus, H_2/CH_4 and H_2 glow discharge cleaning *(Chinese)* 7—6431
TPE-2 plasma, light impurities generation and removal *(Japanese)* 7—11671
TPE-2 plasmas, energy equilibr. transport props. *(Japanese)* 7—11670
Be, fusion machine wall material erosion and impurity prod. 7—62074
C, fusion machine wall material erosion and impurity prod. 7—62074
H, ion recomb. and level pops., role of charge exchange 7—31925
K additions, redistribution mechanism in MHD generator channel 7—1794
Ne^{2+} in Ar plasma afterglow, ambipolar diffusion coeff. meas. 7—20949
Si II, space resolved distribs. in T-tube 7—20948
Xe plasma, Cs additive, conc. depend. anal. 7—51399

plasma in solids *see solid-state plasma*

plasma instability
see also plasma oscillations
2D and 3D MHD equilibrium and stability codes, comparison of BETA, HERA and STEP 7—11627
2D magnetised Rayleigh-Taylor instability, spectral characts. of assoc. turbulence, ionosphere appl. 7—44170
absolute and convective instabilities 7—57993
Alfven ion-cyclotron instability in high-beta plasmas, simulation study 7—44155
Alfven-resonant modes destabilisation by resistivity and dimag. drifts 7—44151
anisotropic plasmas, loss-cone type distribution, electron cyclotron emission and absorpt. anal. 7—20890
anomalous thermal confinement in tokamaks, microinstability based model 7—51404
arcs, railgun, interchange instability 7—11814
asymmetrically driven coaxial line, field asymmetry calc. 7—32076
auroral E-region, radar irregularities due to plasma instability types 7—60447
auroral plasma, ion cyclotron wave explosive instability effects 7—1684
axisymmetric Bennett pinch stability, two fluid approx., relativistic electromagnetic hydrodynamic calcs. 7—44232
axisymmetric instability in tokamak, num. study 7—6376
axisymmetric MHD stable sloshing ion distributions 7—57985
axisymmetric mirror at high beta, stabilisation study 7—44217
axisymmetric plasma, numerical simulation of ideal MHD stability 7—51413
axisymmetric ring confinement system with retrograde-drifting particles 7—63331
axisymmetric tokamak plasma, dynamical modeling of transport and positional control 7—11629
ballooning mode in collisional plasmas, gyrokinetic theory *(Chinese)* 7—37660
ballooning modes, ideal and kinetic, compressibility effects, elimination of finite Larmor radius stabilisation 7—11638
beam-generated waves in a large plasma chamber 7—57994
beat waves in hot magnetised plasma, decay 7—1692
Bernstein modes, nonlinear Landau damping 7—11634
bounded plasma, dynamic equilib. in external electric field, geometry effect 7—63268

plasma instability continued
Buneman instability in waveguides, simulation of nonlinear dynamics 7−44165
circular cross-section tokamak, β-limits in H-mode-like discharges 7−11625
cold plasma, evolution of waves due to nonlinear interaction, modulational instability 7−26408
cold plasma, nonlinear waves stability anal. 7−1690
collisional edge plasma, spatially ordered structure formation 7−20886
collisional effects in cloud-in-cell scheme, laser-plasma heating due to parametric instabilities 7−26479
collisional ion cyclotron instability, effect of finite current channel width ionospheric appl. 7−47630
collisionless internal kinks in high temp. plasmas 7−37666
compact toroid research 7−6440
compact torus, self-consistent modeling of quasi-steady state evolving to ignition 7−56854
compressed ideal MHD sheared flow, Kelvin-Helmholtz instabilities 7−1686
compressible plasma, tearing mode instability 7−44145
computational physics conference, Eibsee, Germany (May 1986) 7−48137
conf., Saskatoon, Canada, May 1986 7−29595
Constance B, high beta hot electron expts., ECRH-induced diffusion, electron micro-instabilities 7−32064
convective Alfvén ion cyclotron instability in anisotropic turbulent plasma 7−26421
critical boundary of ordinary mode EM instability 7−6380
CT-6B tokamak feedback control, stability *(Chinese)* 7−6427
CTCC-I, sawtooth activity of decaying spheromak 7−26416
current enhancement for hose-unstable electron beams 7−11598
current-driven instability, effect on emerging solar fluxtube 7−66451
current-driven ion acoustic instability in collisional plasma, kinetic theory 7−26419
cyclotron instability due to plasma streams, Nyquist criteria *(Chinese)* 7−6381
cylindrical diode, relativistic non-neutral electron flow, macroscopic extraordinary-mode stability props. 7−44259
cylindrical discharge, hollow and coaxial plasma, collisional drift instability 7−44164
cylindrical plasma, azimuthal mag. field diffusion 7−1674
dense plasma channel, large scale resistive instability of relativistic electron beam 7−51431
density fluctuations, far-IR laser scatt. study in JIPP T-IIU Tokamak 7−44257
diocotron and magnetron instabilities in crossed fields 7−26424
discharges, high-pressure, stability, electron dissoc. attachment effects 7−51540
dissipative beam-plasma instability nonlinear theory 7−1708
dissipative plasma, beam relax. initial modulation effect 7−51463
drift and tearing modes in a sheared cylinder 7−37674
drift instabilities in presence of collisions, nonlinear evolution 7−58005
drift instability, time development 7−51430
drift kinetic magnetosound-Alfven mode instability at the magnetopause *(Chinese)* 7−55368
drift rippling mode stabilisation, parallel electron heat conduction 7−16304
drift wave type instability, nonlinear saturation, phenomenological theory 7−1696
drift waves, current-driven in shearless and sheared mag. fields, particle simulations 7−51444
drift-wave fluctuations in sheared magnetic field, 3D particle simulation 7−44237
EBT, hot electron ring geometry, implications for stability 7−44215
ECRH expts. in tokamaks and stellarators 7−6411
ECRH to provide access to tokamak second stability region 7−26465
electric arc, deflected wall-stabilised relax. process, thermodynamics soln. 7−44273
electric discharges, spiral solitons and filamentation 7−44298
electromagnetic hot plasma waves around electron cyclotron harmonics 7−58001
electron beam, parametric excitation of ion cyclotron wave and plasma heating 7−51466
electron beam, self-pinched hollow, filamentation instability 7−11642
electron resonant acceleration during RF heating of a weakly magnetised inhomogeneous plasma 7−26466
electron whistlers in plasmas, EM modulation 7−58000
electron-cyclotron maser instability as a source of plasma radiation, solar appl. 7−66449
electron-cyclotron maser instability in relativistic plasmas 7−11694
electronegative gas microwave discharge, layerless kinetic instability 7−37792
electrostatic beam instabilities in a positive/negative ion plasma 7−51442
electrostatic instabilities in hot electron beams 7−58028
electrostatic ion cyclotron instabilities, mechanism, double layers 7−20893
electrostatic ion cyclotron instability near threshold 7−11641
electrostatic ion-cyclotron instability excited by a current to a strip collector 7−51447
electrostatic Kelvin-Helmholtz instability produced by a localized electric field perpendicular to an external magnetic field 7−44157
electrostatic waves in warm isotropic plasma, modulational stability 7−58010
EM ion beam instabilities, one and two dimens. simulations 7−6379
EM ion beam instabilities growth at cyclotron harmonic wave numbers, magnetospheric appl. 7−60489
EM ion cyclotron beam anisotropy instability, contrib. to left-hand polarised mag. waves in magnetotail 7−66400
EM wave amplification by ring-beams distrib. of moderately relativistic electrons 7−51503
energetic particle stabilisation of ballooning modes in tokamak 7−37685
energetic trapped particle-induced resistive interchange-ballooning modes, theory 7−11679
energy principle, toroidal plasma stability, noncircular cross section, beta value, aspect ratio, elongation *(Japanese)* 7−11699
energy relaxation, during tail-anisotropy instability in lower-hybrid current rise 7−6385
energy sources, quantum, excitation and ionisation processes 7−20894
energy transport requirements for tokamak reactors in the second ballooning stability regime 7−15333
energy variations at the onset of the tearing instability 7−44147
expanded boundary reversed field pinch, MHD equilibrium calcs. 7−31959

plasma instability continued
explosive generation of the second harmonic of beam spacecharge oscillations in a transverse slow electromagnetic wave 7−44142
EXTRAP Z-pinch, resistive effects 7−44225
F-region nighttime irregularities, mid-latitude rocket-borne obs. 7−40639
fan instability of accelerated electrons in tokamak 7−63269
fast ion beam interaction, ion waves excitation dynamics 7−51465
field-reversed configuration plasma, ion rot. vel. meas. by neutral beam probe spectroscopy 7−44222
field-reversed ion rings, stability 7−26487
filament instability in presence of ferromagnetic 7−44166
flute modes in mirrors, ponderomotive stabilisation, feedback control and numerical results 7−44224
force-free reversed field pinch configurations, MHD stability anal. 7−51422
forward Raman scattering obs. in laser-produced plasma 7−11712
Gaussian ripple growth on beam in collisionless magnetosphere 7−26437
gyrotrons for plasma diagnostics, development 7−1780
HDCT design for plasma equilibrium and instability study 7−16330
heat structures on cathode metal surface in caesium vapours conditioned by emission instability, experimental studies *(Russian)* 7−6358
Heliotron configuration, stability, toroidal field effects 7−26489
Heliotron E, stability calcs. for $m=1/n=1$ mode using 3D MHD equilibrium and stability code 7−31958
high-β plasma instabilities excitation at geostationary orbit, Pc 5 generation 7−11644
high-beta tokamak operation in the second stability regime 7−37722
high-density plasmas, Vlasov-Poisson eqns., linear stability anal. 7−51439
highly magnetized active plasmas, instabilities below ion cyclotron frequency 7−20891
hot electron plasma, stochastic instability and precessional modes 7−20883
hot plasma, absolute parametric decay instability 7−63272
hot-electron instability in mirror geometry 7−31960
HT-6B Tokamak device, soft X-ray fluctuations meas. 7−51506
hydromagnetic Rayleigh-Taylor instability in cylindrical implosions 7−31966
ICF, 2D Lagrangian simulations 7−11676
ICF, laser implosion, effect of capsule aspect ratio on hydrodynamic efficiency 7−51480
ICF, numerical analysis for nonuniform implosion of target 7−6387
ICF, observation of hydrodynamic instability in sphericaltarget implosion with Gekko XII green laser 7−5440
ICRF current drive experiment on JIPP T-IIU 7−51471
ideal MHD equations, Galerkin method for differential equations with regular singular points 7−11624
ideal MHD equations, scalar form, normal modes in axisymmetric toroidal geometry, PEST codes 7−11619
ideal MHD stability of line-tied coronal magnetohydrostatic equilib. 7−23999
inhomogeneous plasma, two-plasmon decay, unstable modes anal. 7−20889
inhomogeneous plasmas, Alfven modes, ideal MHD eqns. 7−37663
integral stochastic alpha particle losses in a tokamak reactor 7−31957
interchange instabilities driven by magnetic buoyancy, for solar interior 7−66456
interchange mode in mirrors, parametric stabilisation by ICRF 7−37669
inverted coaxial diode with magnetic insulation, operating characts. 7−51523
ion acceleration in the nonlinear stage of the Buneman instability 7−44141
ion acceleration via wave-particle interaction in apulsed beam-plasma system 7−11653
ion acoustic soliton propag. in nonideal plasmas 7−26417
ion acoustic turbulence evolution 7−51451
ion beam acoustic instability and broadband noise generation in magnetotail 7−34801
ion beam propagation across magnetic field, nonlinear effects 7−44194
ion beam-plasma system, in HF elec. field, parametric instability *(Russian)* 7−1710
ion dynamics, anomalous Doppler reson., single-particle and collective descriptions 7−51438
ion sound wave, scattering phenomenon, drift wave, renormalised nonlinear dielectric function, weak turbulence theory 7−11616
ion tearing mode simulations with open boundary conditions 7−34800
ion-acoustic wave parametric excitation by electron-cyclotron wave 7−37672
ion-cyclotron instabilities, connection with plasma double layer 7−20895
ionisation wave front, diffusional-electrodynamic instability 7−20973
ionised gases, atomic and mol. physics, conf. Greifswald, Germany (Aug. 1986) 7−18499
ISX-B, beam heated plasmas, toroidal energy density eval., temp. and density surfaces 7−31931
JET, MHD equilibrium profile depend. on p and q profiles, ESCO code anal. 7−25161
JET, sawtooth oscillation rapid collapse 7−5433
JET and TFCX, plasma performance with sawtoothing, ignition 7−1685
JET plasma, vertical position stabilization and shape control 7−15314
JFT-2M tokamak, vertical instability anal. 7−36247
kinetic stability of 2D Vlasov equilibr. 7−1680
kink instability in solar convective zone mag. flux tubes 7−14476
kink stability of long ion layers 7−6386
Langmuir turbulence, electron probe beam study 7−1699
laser beam filamentation in plasma 7−58021
laser corona, anomalous filamentation, current instability and excitation 7−26549
laser coupling to high Z plasma 7−32028
laser filamentation in a thermally unstable plasma 7−44179
laser fusion and hot-electron transport, mag.-field generation 7−26470
laser harmonic spectroscopy use as plasma target diagnostic 7−26503
laser-ablated plasma, collisional Weibel instability, nonlocal anal. 7−58013
laser-produced plasma, Raman scattered light obs. 7−26398
laser-produced plasma fluctuations, kinetic model 7−26469
layered synthetic microstructures, X-ray diagnostic for magnetic fusion device instabilities 7−37748
light ion beam propagation, electrostatic two-stream and EM filamentation instabilities 7−6368
linear stability of counter-streaming two strong ionbeams 7−6422
linearised compressible and resistive MHD equations, finite element semi-discretisation 7−11623

plasma instability continued
linearly stable and unstable simulation plasma, nonlinear intermittent fluctuations growth 7−11700
low-n shear Alfven spectra in axisymmetric toroidal plasmas 7−37676
low-frequency electromagnetic perturbations in tandem mirrors, var. quadratic calcs. 7−37680
lower hybrid current drive, Parail-Pogutse instability 7−51473
lower hybrid drift instability and reconnection ofmagnetic lines of force 7−6377
lower hybrid drift solitons, stability 7−63273
magnetic curvature drift instability 7−37675
magnetic field config. disruptive behaviour, control of $m=2/n=1$ magnetic island in JIPP T-IIU Tokamak 7−44168
magnetic fluctuations during current rise in divertor discharge 7−11689
magnetic mirror, beam-plasma, electron cyclotron instability 7−44227
magnetised coaxial cylindrical double plasmas, radial pot. form. with unstable waves 7−51461
magnetised plasma, parametric turbulence in mag. field 7−1697
magnetised two-ion plasma, LF drift induced instabilities 7−1687
magnetohydrodynamic stability of plasmas with aligned mass flow 7−44132
magnetoinductance particle codes with guiding centre electron motion, two-, three-dimensional 7−44236
magnetoplasma, fluctuations control by using shaped ferromag. material 7−31961
magnetosphere, electron distrib. instability in auroral kilometric radiation source region 7−47640
magnetosphere, Kelvin-Helmholtz instability of structured plasma layer 7−55382
magnetosphere, quasi-electrostatic half-electron-gyrofrequency VLF emissions 7−4272
Mandelstam-Brillouin scattering, modulation and self-focusing instabilities 7−58022
maser, electron cyclotron instability, kinetic and temp. restrictions 7−14484
maser synchrotron instability and magnetosphere auroral kilometric radiation 7−47641
metal-NH$_3$ generator as pulsed and continuous power source 7−63362
MHD equilibrium and stability calcs., stellarator expansion methods 7−11626
MHD high power generator, stability of nonuniform subsonic flow against quasi 1D acoustic oscillations 7−44266
MHD mode reconstruction from projections 7−1681
MHD stability of solar corona mag. fields 7−24103
microinstabilities in weak density gradient tokamak systems 7−37677
microscopic stress nonequilib. theory, appl, to magnetopause 7−34785
microwave discharge, nonself-sustained, energy deposition into high-pressure gas 7−21014
microwave discharge, plasma parameters in contracted region, ionis. wave propag. 7−21013
microwave discharge in TE wave beam intersection, ionisation instability 7−37793
mirror trap, drift cyclotron loss-cone instability, 3D mode struct. 7−37728
mirror-cusp device, RFC-XX-M, LF microinstability studied by Fraunhofer diffr. method 7−63275
modified Penning discharge, edge turbulence studies 7−16331
modulational instability and wave collapse in mag. field 7−1682
modulational instability of finite-amplitude Alfven waves, theory 7−34855
modulational instability of ion-acoustic soliton in a microcomponent plasma 7−26427
neutral beam injected mirrors, relax. to steady state 7−37731
noncircular tokamaks, ideal MHD props., ballooning and kink modes, stable β-values 7−11628
nonisothermal plasma, nonlinear ion plasma waves 7−1683
nonlinear bound on unstable fluctuation level in low-density non-neutral plasma 7−57998
nonlinear drift-tearing mode stability in semicollisional regime, analytical theory 7−44153
nonlinear excitation of electron-acoustic waves, threshold power flux and instability growth rate determ. 7−44149
nonlinear growth of external modes at small q in atokamak 7−6372
nonlinear instabilities, reactive and resistive versions, theory investig. 7−44148
nonlinear Langmuir waves collapse, intrinsic electron nonlinearity effect calcs. 7−16306
nonrelativistic electron beam propag. in plasma in mag. field 7−44187
numerical simulation, book 7−48214
one-dimensional model, F-θ pumping with partial relaxation 7−44221
parametric interaction of a two-level system with anelectron plasma in a strong RF electric field 7−6359
particle beam fusion, Nagoya, Japan (Nov. 1985) 7−4636
PBX Tokamak, high-β plasmas, bean-shaped configurations 7−20924
Pearlstein-Berk mode of drift waves in slab geometry, variational anal. 7−26422
period-doubling phenomena obs. in basic plasma expt. 7−63276
Pioneer I foil implosion experiments 7−32037
planar magnetic cusp confinement system, stability 7−63332
plasma cylinder, ion beam interactions, natural Alfven oscills. stability 7−51428
plasma flows, heat transfer limitation as a cause of turbulence 7−51424
plasma fluctuations meas., integrated data acquisition and handling system based on digital time series anal. 7−25231
plasma waves in laser fusion plasmas, review 7−26405
plasma-vacuum interface, viscosity and mag. shear effect on Rayleigh-Taylor modes 7−44163
PLT, current drive, heating, RF expts. 7−6410
positron trap, tool for plasma physics 7−63348
Princeton beta expt. tokamak, neutral beam injection effect on MHD instabilities 7−6403
radiating plasma with current, instability, Joule heating and radiation effect 7−29456
relativistic electron beam injection in tokamaks, macroscale particle simulation 7−44186
resistive Alfven spectrum of tokamaklike configurationsin straight cylindrical geometry 7−11639
resistive internal $m=1$ mode in tokamak, review of calcs. 7−51426
resistive tearing mode in a weakly two-dimensional sheet pinch 7−44154
resistive tearing modes in the presence of equilibriumflows 7−11640
reversed field pinch, asymmetric configuration with global invariants 7−51487

plasma instability continued
reversed field pinches, current driven drift waves, dynamo effect, transport 7−31956
reversed-field pinch rising current operation, num. simulation 7−11682
RF wave ionisation instability in weakly ionised plasma 7−51429
RFC-XX-M, negative potential mode 7−32068
RFP, current driven instabilities, nonlinear evolution 7−30648
ring laser with two-anode element, reactive oscillations 7−50589
rotating plasma, thermosolutal instability, Coriolis force and ion Larmor radius effects 7−44135
S-1 Spheromak program, recent progress 7−32051
satellite double stimulated Brillouin scattering 7−51453
sawtooth stabilization through island pressure enhancement 7−58002
scattering by electrons in weak laser field 7−1691
shocks instability in astrophysical environment, cosmic ray effects 7−34861
slow ion acoustic double layers, expt. obs. 7−37684
slowly rotating plasma, low-freq. instability 7−26404
small cold beam-plasma system, wave power enhancement by DC elec. field 7−6383
steady state whistler turbulence and stability of thermal barriers in tandem mirrors 7−37681
stellarator plasmas, MHD equilibrium and stability anal. 7−51502
stellarators system with helical axis and longitudinal mass flow, resistive ballooning modes 7−51492
sub proton-gyrofrequency waves in multicomponent plasma in mag. field 7−63266
Sun, atmosphere, MHD waves nonlinear propag., nonperiodic behaviour and energy cascade onset 7−66455
surface waves excitation by intense EM pump wave 7−1694
switches, gasdynamics appls. 7−32110
T-10 tokamak, large-scale perturbation, radial struct. 7−51427
tandem mirror, axisymmetric stabilising element 7−1719
tandem mirror, Phaedrus, ion cyclotron freq. stabilisation of $m=1$ interchange mode 7−44220
tandem mirrors, MHD modes with finite Larmor radius, destabilisation 7−26491
Tara, 137 GHz gyrotron diagnostic for instability studies 7−11750
Tara tandem mirror, heating, gas press. meas. and control 7−63337
tearing instability and solar flares energy release 7−24000
tearing modes, collisional and semicollisional, finite ion temp. effects 7−58003
tearing modes in sheared slab, linear stability study 7−37671
tearing-mode control by localized electron cyclotron heating in FTU tokamak 7−16322
TEXT, sawtooth phenomena, expt.-theory comparison, soft X-ray emission 7−37667
thermal instabilities and poloidal asymmetries in the tokamak edge plasma 7−51436
thermal solitary vortices in current-carrying edge plasmas 7−44128
thermal stabilization of an elongated tokamak by variation of plasma elongation 7−15337
thermal-convective instability of composite plasma in stellar atmosphere, effect of Hall currents 7−4437
thermally inhomogeneous plasma immersed in strong mag. field, self-filamentation instability 7−51443
thermonuclear Alfven loss-cone instability in mirror reactor, quasilinear theory 7−51435
theta pinch, low freq. instability detect. through H-like atom satellites 7−37683
Tokamak, mag. helicity, MHD current drive 7−51494
tokamak, noncircular cross-section, plasma transport/stability anal. 7−16324
Tokamak, plasma equilibrium control 7−11684
tokamak, tearing modes suppression by ECRH *(Chinese)* 7−37716
Tokamak, transition from state with low- to high-poloidal beta 7−51493
Tokamak device, feedback control, stable region *(Chinese)* 7−37714
tokamak plasma, beam-plasma kink instability *(Chinese)* 7−37717
tokamak plasma, energy confinement stability, microscopic transport 7−6435
tokamak plasma, equilib. config., ideal MHD mode stability, limiting β scaling 7−1717
tokamak plasma, high β, ECRH for creating energetic electrons *(Chinese)* 7−37718
tokamak plasma, iron-cored, positional instabilities 7−26484
tokamak plasma, non-circular, axisymmetric modes, feedback stabilization *(Chinese)* 7−37720
Tokamak plasma, thermal instability and anomalous cond. 7−44162
Tokamak plasma pressure profiles, optimization against high MHD ballooning modes *(Chinese)* 7−6382
tokamak simulation, multihelicity tearing mode growth, MHD eqns. anal. 7−26502
tokamak T-7, impurity transport, mag. islands effect 7−44112
tokamak with flowing plasma, tearing modes *(Chinese)* 7−37715
tokamak-pinch expt., design and operation 7−15367
tokamaks, low freq. modes, generalised moment eqns. 7−58043
tokamaks, resistive tearing mode, set of equations 7−11675
tokamaks, second region of stability accessibility, ballooning and kink modes 7−11622
tokamaks, Soviet, confinement study, transport coeffs. 7−6433
tokomak, toroidally symmetric, thermal instability MARFE phenomena review 7−63290
toroidal helical systems, magnetohydrodynamic equilib. and stability 7−63264
toroidal mode driven by ion temperature gradients and magnetic-field curvature 7−58045
toroidal plasma, quasilinear stabilisation of ballooning modes 7−51448
toroidal resistive MHD instabilities, time stepping code calc., INTOR appl. 7−11621
toroidal z pinch equilibria 7−63324
torus, mag. field line flow, Hamiltonian problem stochastic stability 7−44133
trapped electron drift mode, effect of toroidal coupling and finite beta 7−51437
trapped-particle instability, collisionless, curvature-driven, production 7−11643
Trivelpiece-Gould waves in plasma excited by electron beam, instability, external RF field effect 7−63267
turbulence, effect on plasma viscosity and ion transport, hollow cathode arc expts. 7−44169

- **plasma instability** continued
  - turbulent transport coeffs. in peripheral plasma in tokamak, MHD and drift instabilities 7—63279
  - two-stage beam-plasma system, electron heating instabilities 7—32002
  - two-stream plasma, instabilities, water-bag model anal. 7—20887
  - ultrarelativistic colliding plasmas, electrostatic instabilities 7—58049
  - unstable gravity modes, dynamic stabilisation 7—57991
  - vacuum arc, gas ion effect on plasma instabilities 7—1797
  - vacuum arc, turbulence, particle acceleration, Buneman instability 7—1796
  - vertical position control of INTOR elongated plasma 7—62075
  - visco-resistive MHD instabilities computation, cylindrical equilibria disturbances 7—11620
  - warm ion plasma, ion-acoustic waves nonlinear oblique modulation 7—1689
  - wave-particle interactions and energetic tail formation in the electron distribution 7—26433
  - whistler wave, EM filamentation instability 7—37691
  - whistler waves, stimulated Brillouin scattering in low-density collisionless plasmas 7—58019
  - X-ray imaging system for TFTR, MHD studies 7—1786
  - Z-discharge channel, ion beam pulse propagation in 2-D 7—6369
  - Ar plasma, collisional drift instability in a variable radial electric field 7—16303
  - Ar plasma in axial magnetic field, weakly ionized instability study 7—57989
  - Ar, weakly ionised plasma, high frequency instability, inelastic collisions study 7—31975
  - Cs, arc, low-voltage, ionisation instability appearance 7—44289
  - H plasma in axial magnetic field, weakly ionized instability study 7—57989
  - H pulsed plasma, stability measures Balmer-β line spectrum 7—11615
  - H_2-Ar, externally sustained discharge, instability mechanism 7—63381
  - HD Tokamak plasma, fast Alfven wave propag., expt. meas. 7—58014
  - KrF e-beam sustained discharge laser, efficiency, ionization instability 7—31307
  - N_2 microwave nonself-sustained discharge, instability 7—37791
  - N_2, nonequilib. weakly ionised plasma, electron transport coeffs. 7—6365
  - N_2, subnormal glow discharge, instability study 7—32181
- **plasma interactions** *see plasma collision processes*
- **plasma jets**
  - contamination with electrode metal vapour jets 7—1793
  - dust grain formation in space, simulation using plasma jet 7—66458
  - energy dissipation in gaseous target 7—1791
  - HF discharge, plasma jet prod., thermophysical and gasdynamic parameters 7—11812
  - injection into ionosphere elec. field eqns. 7—51416
  - jet spraying, powder particulates heat and momentum transfer, jet temp. vel. distrib. *(French)* 7—7843
  - jet torch, gas tunnel type, characteristics 7—37767
  - laminar plasmatron cathodic jet, optospectroscopic studies 7—26535
  - laser-produced plasmas, line-focused, filamentation and jets 7—63317
  - methane, pyrolysis in plasma jet and behind shock wave, chem. species distrib., calc. and meas. 7—37751
  - plasma edge cathode for pulsed electron extraction 7—32106
  - plasmatron, low temp. plasma jet, press. profile, flying pilot probe meas. 7—32118
  - stagnation region, blunt body heat transfer coeff. investig. 7—43892
  - supersonic arc jet, expansion 7—21016
  - two-jet plasmatron, elec. arc interaction with solid body 7—44280
  - Ar-H_2 mixture, plasma jet, 941.04 Å emission 7—11704
  - Cu I plasma, at. quantities, diagnostic determ., capillary discharge technique 7—11787
  - KrF-SF_6 mixtures, excimer mol. excitation in steady-state plasma jet 7—58070
  - N_2, jet, subsonic flow at reduced press., temp. study 7—51520
  - N_2, plasma jet, post-discharge, radical spatial distrib. 7—20969
  - β-SiC, ultrafine powder synthesis in thermal arc plasmas 7—27916
  - XeF-SF_6 mixtures, excimer mol. excitation in steady-state plasma jet 7—58070
- **plasma magnetohydrodynamics**
  - 2D and 3D MHD equilibrium and stability codes, comparison of BETA, HERA and STEP 7—11627
  - 2D flow, MHD model 7—1679
  - Alfven normal modes in non-uniform plasma, viscous damping, solar atm. appl. 7—57992
  - Alfven-gravity spectrum of an incompressible slab, astrophysical appl. 7—57991
  - anisotropic plasma fluid stress tensor and its dispersion rels. 7—11609
  - anomalous thermal confinement on ohmically heated tokamaks 7—37725
  - arc- extinguishing devices for protecting anode wall in MHD channel 7—44291
  - astrophysical plasma, conf., Sukhumi, USSR (May 1986) 7—48174
  - astrophysical plasma, numerical methods for MHD calcs. 7—55449
  - axisymmetric Bennett pinch stability, two fluid approx., relativistic electromagnetic hydrodynamic calcs. 7—44232
  - axisymmetric MHD stable sloshing ion distributions 7—57985
  - axisymmetric plasma, numerical simulation of ideal MHD stability 7—51413
  - axisymmetric tokamak plasma, dynamical modeling of transport and positional control 7—11629
  - axisymmetric toroidal pinch, elliptic cross section 7—11672
  - ballooning mode in collisional plasmas, gyrokinetic theory *(Chinese)* 7—37660
  - ballooning modes, ideal and kinetic, compressibility effects, elimination of finite Larmor radius stabilisation 7—11638
  - blowup of force-free bipolar magnetic field in infinite region of space 7—40687
  - calorimetric study of laser-irradiated thin foil targets 7—32026
  - channel flow, coupled fluid and electrodynamic anal. 7—26401
  - channel flow, secondary flow meas. 7—16302
  - charged particle motion in strongly curved mag. fields, third integral 7—9366
  - circular cross-section tokamak, β-limits in H-mode-like discharges 7—11625
  - collisional edge plasma, spatially ordered structure formation 7—20886
  - compressed ideal MHD sheared flow, Kelvin-Helmholtz instabilities 7—1686
  - compressible dissipative plasma, 3D self-organisation process, variation method and MHD simulation 7—51423
- **plasma magnetohydrodynamics** continued
  - computational physics conference, Eibsee, Germany (May 1986) 7—48137
  - conf., Saskatoon, Canada, May 1986 7—29595
  - confined plasma, MHD equilibr., nonlinear problem, Newton-like methods 7—44134
  - confinement time scalings in tokamaks, MHD model 7—31949
  - convection in horizontal magnetic field with periodic boundary conditions 7—4328
  - CTCC-I, sawtooth activity of decaying spheromak 7—26416
  - currents in earthquake zone, ionospheric MHD waveguide oscills. 7—14407
  - cylindrical plasma, wave field calc. using multiple shooting technique 7—44137
  - DC arcs, equivalent circuits synthesis, math. modelling based on MHD description of plasma *(Russian)* 7—57986
  - density fluctuations, far-IR laser scatt. study in JIPP T-IIU Tokamak 7—44257
  - discrete Alfven waves in planar flux tubes 7—37661
  - divertor effects, radiation loss, impurity confinement 7—11688
  - double-plasma device, magnetised, for wave studies 7—51425
  - drift and MHD interchange modes in unsheared slab geometry, collision operators comparison 7—11637
  - electric current fluctuations accompanying interelectrode breakdown in MHD channel 7—63248
  - EM ion beam instabilities, mag, field fluctuations 7—6379
  - energy relax. and self organisation 7—44131
  - equilibria with islands and stochastic regions, 3D calcs. 7—51415
  - ETA-BETA II, plasma termination characts. 7—31943
  - expanded boundary reversed field pinch, MHD equilibrium calcs. 7—31959
  - exploding foil opening switches, 1-D MHD plasma simulations using MAGPIE code 7—32035
  - explosive MHD generators, assessment 7—65497
  - field-reversed mirrors, axisymm. eigenmodes calcs. 7—32046
  - finite beta in reversed field pinches, derivation 7—11680
  - flare impulsive phase, explosive coalescence of magnetic islands 7—60528
  - force-free reversed field pinch configurations, MHD stability anal. 7—51422
  - forced oscills. in MHD generator channels 7—32104
  - free boundary calculations in 3D using spectral Green's function method 7—51414
  - fusion plasma particle density distrib. meas. method 7—58060
  - fusion reactor self-cooled liquid metal blankets, anal. of MHD effects 7—15363
  - generalized magnetohydrostatic equilibria 7—37659
  - Grad-Shafranov equation under a conformal mapping transform., hydromagnetic plasma equilibrium 7—37656
  - helically symmetric equilibria, numerical computation 7—51411
  - Heliotron E, diamagnetism and beta in beam heated currentless plasmas 7—32005
  - Heliotron E, stability calcs. for m=1/n=1 mode using 3D MHD equilibrium and stability code 7—31958
  - high-β plasma instabilities excitation at geostationary orbit, Pc 5 generation 7—11644
  - high-beta tokamak operation in the second stability regime 7—37722
  - high-current discharges, pinch current sheet near mag. separatrix surface, MHD eqn. soln. 7—51482
  - hot-electron instability in mirror geometry 7—31960
  - HT-6B Tokamak device, soft X-ray fluctuations meas. 7—51506
  - hydromagnetic waves compressional, damping and excitation on plasma column 7—11610
  - ICRF current drive experiment on JIPP T-IIU 7—51471
  - ideal MHD equations, appl. of spectral theory of linear operators 7—34854
  - ideal MHD equations, Galerkin method for differential equations with regular singular points 7—11624
  - ideal MHD equations, scalar form, normal modes in axisymmetric toroidal geometry, PEST codes 7—11619
  - ideal MHD stability of line-tied coronal magnetohydrostatic equilib. 7—23999
  - inertial confinement fusion concept, MHD eqns. appls. 7—44213
  - inhomogeneous plasmas, Alfven modes, ideal MHD eqns. 7—37663
  - interchange instabilities driven by magnetic buoyancy, for solar interior 7—66456
  - interelectrode breakdown in MHD ducts 7—37765
  - ion tearing mode simulations with open boundary conditions 7—34800
  - isolated current-sheet system enclosed by free boundaries, global dynamics, rapid collapse 7—37657
  - JET, MHD equilibrium profile depend. on p and q profiles, ESCO code anal. 7—25161
  - jet injection into ionosphere elec. field eqns. 7—51416
  - JT-60, ohmic heating, diagnostics study 7—63335
  - kinetic stability of 2D Vlasov equilibr. 7—1680
  - kink instability in solar convective zone mag. flux tubes 7—14476
  - large s field reversed config., design, scaling and kinetic effects 7—26495
  - limiter tokamak, particle fluxes, scrape-off layer struct. 7—63301
  - linearised compressible and resistive MHD equations, finite element semi-discretisation 7—11623
  - low-frequency electromagnetic perturbations in tandem mirrors, var. quadratic calcs. 7—37680
  - magnetic field config. disruptive behaviour, control of m=2/n=1 magnetic island in JIPP T-IIU Tokamak 7—44168
  - magnetic field topology near neutral points in resistive MHD and collisionless plasma approximations 7—37653
  - magnetic helicity in a toroidal plasma 7—31951
  - magnetic relaxation, Hall effect 7—57988
  - magnetized plasma, kinetic eqn. soln. 7—20857
  - magnetogravity wave propag. in plane-layer medium with nearly horizontal mag. field 7—44144
  - magnetopause neutral points location in static MHD equilib. model 7—34798
  - magnetotail, chaotic particle dynamics near 2D mag. neutral point 7—34799
  - metal-NH_3 generator as pulsed and continuous power source 7—63362
  - MHD equilibrium and stability calcs., stellarator expansion methods 7—11626
  - MHD surface waves in cylindrical finite β plasma 7—26415
  - MHD waveguides in a nonuniform plasma 7—6400
  - mode reconstruction from projections 7—1681
  - multiple X-line reconnection, assoc. plasma dynamics 7—44126

plasma magnetohydrodynamics continued
  multiple X-line reconnection, flux transfer events particle simulation 7—44127
  neutron stars and pulsars, polar cap plasma flow 7—37654
  noncircular tokamaks, ideal MHD props., ballooning and kink modes, stable β-values 7—11628
  nonhydrodynamical phase of plasma-focus discharge, num. modeling 7—63347
  nonlinear collisional drift wave in mag. field with shear, model eqn. 7—51420
  nonlinear growth of external modes at small q in atokamak 7—6372
  nonlinear MHD eqns., symmetries, solns., conservation laws 7—44124
  numerical simulation, book 7—48214
  oblique incidence of helicons on a plane boundary between magnetoactive plasma and anisotropic medium *(Slovak)* 7—57987
  particle simulation methods in plasma physics 7—51504
  PBX high time resolution ion temp. profile meas., Charge-exchange recombination spectroscopy 7—1745
  PBX Tokamak, high-β plasmas, bean-shaped configurations 7—20924
  Phaedrus-B, phased antenna experiments in the central cell, suppression of MHD activity 7—32067
  Pioneer I foil implosion experiments 7—32037
  plasma-filled waveguide, magneto-acoustic wave, second harmonic reson. 7—44181
  plasma-vacuum interface, viscosity and mag. shear effect on Rayleigh-Taylor modes 7—44163
  plasmas with sub-Alfvenic flows aligned parallel to equilibr. mag. field, stability 7—44132
  plasmatron, two-jet, electric arc characteristics in transverse mag. field 7—63360
  plasmoids, energy balance, solar appl. 7—66450
  plasmons dynamic behaviour in resistive MHD model 7—26406
  PLT, current drive, heating, RF expts. 7—6410
  Princeton beta expt. tokamak, neutral beam injection effect on MHD instabilities 7—6403
  pulsars, radio emission mechanism, due to instability of relativistic plasma 7—55698
  radial wall jet, magnetogasdynamic, in presence of uniform transverse mag. field 7—6373
  radiation transport in an ionizing current sheath, MHD eqns. 7—51409
  relativistic MHD with anisotropic press., Hamiltonian theory 7—44130
  renormalized reduced magnetohydrodynamics turbulence theory 7—11608
  reversed field pinch, plasma behaviour 7—16320
  reversed field pinch dynamics, numerical simulation 7—51412
  reversed field pinch dynamics simulation, consistent boundary conditions 7—11681
  reversed-field pinch rising current operation, num. simulation 7—11682
  rotating ion beam propagation, MHD anal. 7—6375
  S-1 Spheromak program, recent progress 7—32051
  sawtooth stabilization through island pressure enhancement 7—58002
  shocks instability in astrophysical environment, cosmic ray effects 7—34861
  singularly perturbed systems, appl. of Tikhonov theory to plasma MHD eqns. 7—44125
  slagging coal combustors 7—63363
  slowly rotating plasma, low-freq. instability 7—26404
  small plasma beams and clouds, transverse deflection and dissipation in mag. media, AMPTE appl. 7—60484
  soft X-ray diode array diagnostic for JET 7—1787
  solar regions, active, magnetic field dynamics model 7—34965
  standing oscillations in spherical dipole filed investig. 7—44129
  stellar atmospheres, magnetohydrostatic equilibria for plasma in gravitational field, theory 7—47819
  stellarator plasmas, MHD equilibrium and stability anal. 7—51502
  stellarators system with helical axis and longitudinal mass flow, resistive ballooning modes 7—51492
  sub proton-gyrofrequency waves in multicomponent plasma in mag. field 7—63266
  Sun, atmosphere, MHD waves nonlinear propag., nonperiodic behaviour and energy cascade onset 7—66455
  Sun, coronal mag. fields MHD stability, photospheric line tying conditions 7—24103
  Sun, emerging fluxtube, response to current-driven instability 7—66451
  Sun, flare energy release, laboratory simulation 7—24000
  Sun, flare process in topologically non-equilib. MHD system 7—24119
  Sun, photosphere mag. fields generation and var. 7—24109
  surface waves, exptl. evidence 7—37658
  system of eqns. on special Riemann manifold 7—65939
  system of eqns. using Riemann theta functions 7—65940
  tandem mirror, axisymmetric stabilising element 7—1719
  tandem mirror, Phaedrus, ion cyclotron freq. stabilisation of $m=1$ interchange mode 7—44220
  tandem mirrors, MHD modes with finite Larmor radius, destabilisation 7—26491
  target implosion calcs. using shock wave 7—6419
  Taylor's minimum energy principle, appl. to ideal MHD plasma with fluid velocity 7—51421
  tearing-mode control by localized electron cyclotron heating in FTU tokamak 7—16322
  theta pinch, MHD equilib. plasma, flute drift mixing 7—26482
  thin films, laser spot effects, hydrodynamic simulations 7—11611
  Tokamak, mag. helicity, MHD current drive 7—51494
  tokamak current drive, anal. of θ pumping 7—63342
  tokamak plasma, energy confinement stability, microscopic transport 7—6435
  tokamak plasma, equilib. config., ideal MHD mode stability, limiting β scaling 7—1717
  tokamak plasma, non-circular, axisymmetric modes, feedback stabilization *(Chinese)* 7—37720
  Tokamak plasma pressure profiles, optimization against high MHD ballooning modes *(Chinese)* 7—6382
  tokamak simulation, multihelicity tearing mode growth, MHD eqns. anal. 7—26502
  tokamaks, second region of stability accessibility, ballooning and kink modes 7—11622
  3D toroidal geometry, sharp boundary MHD equilib. 7—26486
  toroidal helical systems, magnetohydrodynamic equilib. and stability 7—63264
  toroidal multipolar expansions, anal. of MHD equilibria 7—20880
  toroidal resistive MHD instabilities, time stepping code calc., INTOR appl. 7—11621

plasma magnetohydrodynamics continued
  toroidal systems, plasma equilibr. dissipative model 7—11685
  torus, constant-alpha force-free fields, boundary integral eqn. approach 7—51418
  torus, mag. field line flow, Hamiltonian problem stochastic stability 7—44133
  TPE-2, MHD behaviour and fluctuations, optical and mag. diagnostics 7—11607
  trapped electron drift mode, effect of toroidal coupling and finite beta 7—51437
  turbulence, effect on plasma viscosity and ion transport, hollow cathode arc expts. 7—44169
  turbulent relaxation processes in magnetohydrodynamics 7—26402
  turbulent transport of mag. fields 7—60511
  turbulent transport of mag. fields 7—60512
  twisted mag. loops, dynamics, solar appl. 7—4311
  Venus, magnetosheath, origin of large-amplitude waves 7—34901
  visco-resistive MHD instabilities computation, cylindrical equilibria disturbances 7—11620
  wake of metallic body in plasma flow, mag. field effect 7—37655
  wall ablation models for plasma flow switches 7—32140
  X-ray imaging system for TFTR, MHD studies 7—1786
  X-ray imaging systems for TFTR 7—1785
  Z-pinch plasma, hydrodynamics and radiation cooling 7—6428
  Al plasma, laser-supported detonation waves in obliquely incident beam 7—11648
  Ar electric arc initial section of plasmatron channel, calc. based on MHD eqns. 7—63395
  Ar plasma in axial magnetic field, weakly ionized instability study 7—57989
  C plasma, laser-irrad. fibres, hydrodynamics and atomic kinetic simulations study 7—63319
  H plasma in axial magnetic field, weakly ionized instability study 7—57989

plasma measurement techniques *see plasma diagnostic techniques*

plasma oscillations
  see also plasma waves
  Alfven wave stimulated Brillouin scatt. in low-density plasmas in ionospheric conditions 7—44146
  anode glow oscillations, mechanism 7—20892
  ASDEX tokamak, sawtooth oscillation suppression by lower hybrid current drive 7—1693
  axisymmetric Bennett pinch stability, two fluid approx., relativistic electromagnetic hydrodynamic calcs. 7—44232
  beat wave current drive, weak-turbulence theory 7—1698
  bounded beam-plasma system, nonlinear self-excited oscills. calcs. 7—16311
  bounded plasma-electron beam system, nonlinear interaction, instability and oscills. *(Russian)* 7—58029
  charged particle quasi-linear diffusion, acceleration and heating 7—1675
  collisionless plasma, longitudinal oscillations, macroscopic interpretation 7—11596
  convection amplification of wave beams in nonuniform plasma during stimulated Brillouin scatt. 7—63286
  current drive, In JIPP T-IIU, by LOOP antennas 7—6443
  currents in earthquake zone, ionospheric MHD waveguide oscills. 7—14407
  diatomic polar mol. plasma, quasimonochromatic electric field influence on spectral line shift 7—37757
  discharges, high-pressure, stability, electron dissoc. attachment effects 7—51540
  double layers, 3D, inducing ion-cyclotron oscillations in collisionless plasma 7—6402
  double sawtooth oscillations in the text tokamak 7—20921
  electron beam propag. in ion focused regime, transverse oscills. 7—51467
  electronegative gas microwave discharge, layerless kinetic instability 7—37792
  explosive generation of the second harmonic of beam spacecharge oscillations in a transverse slow electromagnetic wave 7—44142
  field-reversed mirrors, axisymm. eigenmodes calcs. 7—32046
  forced oscills. in MHD generator channels 7—32104
  FRP-1, trapped flux oscillations 7—31967
  high-β plasma, ion beam excitation of lower hybrid freq. magnetoacoustic oscills. 7—44173
  high-current relativistic electron beam, ionisation wavefront struct. and propag. vel. 7—51469
  hot spherical plasma, dissipative expansion in a homogeneous gaseous medium *(Rumanian)* 7—11591
  hot-cathode discharge, Langmuir oscills. self-excitation 7—37794
  hydromagnetic waves compressional, damping and excitation on plasma column 7—11610
  inhomogeneous conducting films, plasma waves 7—57996
  ion beam propagation across magnetic field, nonlinear effects 7—44194
  ion-acoustic wave reflection from discharge-tube walls, expt. obs. 7—26411
  isotropic Coulomb system, plasma oscills., absence of collisional damping 7—44138
  isotropic universe, longitudinal plasma oscillations generated by gravit. perturbations 7—61185
  JET, sawtooth oscillation rapid collapse 7—5433
  laser plasma, electron-positron pair prod. 7—63285
  laser-produced plasma fluctuations, kinetic model 7—26469
  localised electron plasma oscillations, excitation at reson. surface by low-power microwaves 7—11646
  localized electrostatic oscillations excited by low power microwaves in plasma waveguide 7—26418
  low-frequency, energy-loss rate and enhanced diffusion 7—37664
  low-temp. plasma, low freq. electric field parameters, mol. fluoresc. diagnostics 7—37756
  MHD standing oscillations in spherical dipole filed investig. 7—44129
  millimeter-wave generation via plasma three-wave mixing 7—26423
  nonideal plasma, longitudinal oscills., effect on plasma props. 7—31970
  nonlinear excitation of electron-acoustic waves, threshold power flux and instability growth rate determ. 7—44149
  partially ionised plasma, periodic nonlinear oscillations with continuity eqn. in Lotka-Volterra form 7—16307
  PBX high time resolution ion temp. profile meas., Charge-exchange recombination spectroscopy 7—1745
  plasma cylinder, ion beam interactions, natural Alfven oscills. stability 7—51428

plasma oscillations continued
plasmatron, two-jet, electric arc characteristics in transverse mag. field 7−63360
profile consistency in tokamaks, transport models 7−51408
relativistic electron beam Raman scatt., 1D theory and simulation 7−26445
REPUTE-1, RFP plasma, relaxation processes 7−32050
resistive internal $m=1$ mode in tokamak, review of calcs. 7−51426
resonant electrons in monochromatic EM wave, relativistic motion and damping during transverse propag. 7−26444
RF wave ionisation instability in weakly ionised plasma 7−51429
second harmonic emission wave, generation scale length anal., weak turbulence approx. 7−31972
subcritical plasma, highly inhomogeneous electron acceleration and nonresonant elec. field enhancement 7−11600
surface waves excitation by intense EM pump wave 7−1694
T-10 tokamak, large-scale perturbation, radial struct. 7−51427
TEXT, sawtooth phenomena, expt.-theory comparison, soft X-ray emission 7−37667
TEXTOR Tokamak microturbulence, CO_2 laser scatt. meas. 7−58015
toroidal, flux surface averaging, diffusion coeff., electron cyclotron reson. heating 7−20844
turbulence, effect on plasma viscosity and ion transport, hollow cathode arc expts. 7−44169
vacuum arc, turbulence, particle acceleration, Buneman instability 7−1796

plasma panel displays *see gas-discharge displays*

plasma probes
see also Langmuir probes
2T-40M reversed-field pinch, plasma-surface interactions 7−63336
Alfven wave heating, density fluctuation obs. at reson. layers, probe meas. 7−58057
anisotropic electron velocity distrib., probe method 7−51507
carbon tetrachloride glow discharges, spectral and probe diagnostics 7−32153
charge distrib. in elec. sheath region, math. expression 7−51462
collector probes, surface layer analysis 7−58053
density determination by probing with heavy-ion beams 7−26388
double probe measurements, electron emission effects, continuum theory 7−51508
electron beam propag. in ion focused regime, transverse oscills. 7−51467
electron collectors in gas discharges 7−44296
electron distribution function, meas. in low temp. plasma by probe method 7−57979
electronic device for taking probe current second derivative *(Czech)* 7−32080
electrostatic ion probe for tokamak-plasma-edgediagnostic 7−11781
electrostatic shock pots., direct obs., low impedance emissive probe technique 7−51433
exposure to tokamak plasma, SIMS study 7−37740
glass insulated probe in plasma, time required for probe surface meas. 7−37697
heavy ion beam probe, temperature and fluctuation correlation meas. 7−1755
heavy ion beam probe diagnostic systems forstellarators 7−1753
heavy ion beam probe for simultaneous radial and poloidal wave number meas. 7−1756
jet energy dissipation in gaseous target 7−1791
Langmuir turbulence, electron probe beam study 7−1699
magnetic flux compression generator powered plasma focus device expts. 7−63372
methane, pyrolysis in plasma jet and behind shock wave, chem. species distrib., calc. and meas. 7−37751
multitip explosive emission cathode plasma generation dynamics, probe meas. 7−51478
negative ion detection using anodic wall probe 7−16339
plasmatron, low temp. plasma jet, press. profile, flying pilot probe meas. 7−32118
potential measurements in RF plasmas, use of emitting probes 7−26523
RF plasma diagnostics by double probe V-I characts., electron temp. determ. *(Chinese)* 7−37737
RF plasma potential meas. using emitting probes 7−20941
self-integrating electric and mag. probes for diagnosing intense transient fields 7−26526
TARA tandem mirror, heavy ion beam probe design 7−25223
tetrachloromethane, dissoc. in RF plasma, probe diagnostic and relative emission intensity meas. 7−32095
TEXT heavy ion beam probe system 7−1754
three-channel plasma diagnostic data handling system based on the VAX 11/780 and the LeCroy 3500 signal analyzer 7−26527
time averaged emitting probes for plasma processing studies 7−26441
tokamak, scrape-off layer, probe meas. 7−63351
wave potential meas. using varying emitted electron currents 7−58062
Ar-SF_6 plasma, negative ion detect., wall probe method appl. 7−20960
H beam probes, data acquisition storage and processing system *(Chinese)* 7−6449
HD Tokamak plasma, fast Alfven wave propag., expt. meas. 7−58014
Hg low press. plasma, elec. double layers 7−1705
Hg-Ar mixtures, electron energy distrib. functions meas. 7−21028

plasma production
see also exploding wires and foils; plasma production and heating by laser beam
anode plasma production processes of low temperaturetype pulsed ion source 7−6423
CASTOR tokamak, plasma form. and sustainment by multijunction grill 7−58032
coaxial rotating plasma gun for plasma stream production *(Japanese)* 7−6406
combustion product plasma, boundary layers, alkali atom distribs., nonequilib. chemical reactions effects 7−57990
conf., Saskatoon, Canada, May 1986 7−29595
CT-6B tokamak discharge, electron cyclotron resonance preionisation *(Chinese)* 7−58031
DC discharge planar magnetron device, plasma production for thin film preparation 7−1711
dense plasma generation by ballistic compressors 7−16312
diode, planar vacuum type effect of current rise time on maximum current 7−44270
electric discharge production, plasma processing appls. *(Japanese)* 7−6405

plasma production continued
electron beam accelerator, vacuum pulse conditioning and risetime sharpening 7−30659
electron emitter stabilised by grid 7−16341
electronegative gases, beam-plasma discharge, physical props. 7−32001
ETL-TPE 2 experiment, high beta and high temperature plasma, power supply *(Japanese)* 7−11668
exploding cathode whiskers, plasma form., mass spectrometric diagnostics 7−44269
explosive electron emission in microwave fields, excitation and evolution 7−63310
generator for long pulse 10×40 neutral beam 7−32007
hollow oval magnetron for large-area low-energy ions 7−6404
hot cathode plasma discharge, role of filament orientation and limiter 7−32017
hot spherical plasma, dissipative expansion in a homogeneous gaseous medium *(Rumanian)* 7−11591
ICF, effect of UV irradiation on anode plasma production 7−6424
imploding thin-films plasma source, for atomic spectrometry, prod., characterisation 7−48850
ion beam incident on pellet, ablative corona generation 7−1803
Lisitano coils, Al and Cu, plasma production, comparisons *(Japanese)* 7−11655
magnetic mirror, beam-plasma, electron cyclotron instability 7−44227
magnetic multipole line-cusp Ar^+ ion source, magnetic field effects on plasma props. *(Chinese)* 7−6407
microparticle-initiated losses in magnetically insulated transmission lines 7−30658
microsecond-range vacuum diode, density meas. by optical interferometry 7−63253
multitip explosive emission cathode plasma generation dynamics, probe meas. 7−51478
non-neutral ion plasma generation and diagnostics 7−51513
parallel plate accelerator, time evolution of plasma column 7−19562
plasma electron emitter, grid-stabilised, expt. 7−44297
Plasma-Materials Interactions Test Facility electron cyclotron resonance microwave plasma system 7−51477
proton source, high purity, pulsed with cryogenic plasma diode 7−30815
pulse neutral beam source, 10×40 cm, 120 kV testing 7−32008
reentrant cavity as a low-power plasma source 7−44199
reversed field pinch, TPE-1R, TPE-1R(M), quiescent period *(Japanese)* 7−11673
RF high-power plasma source 7−20906
solid discharge ion source for heavy ion fusion 7−25290
tandem mirror, axisymmetric thermal barrier form., hot electron prod. 7−11656
toroidal device, striking characteristics of plasma discharge, filament orientation depend. 7−20905
TPE-2, high current pulse, high energy density capacitor *(Japanese)* 7−11796
Z-pinch toroidal, metal vacuum chamber, magnetic flux generation *(Japanese)* 7−11674
Ar II, dense plasma, spectral line study 7−36552
Ar plasma column prod. by EM surface wave, recomb. controlled regime 7−20908
$Ar+CO_2(N_2)$, vacuum UV lines, Stark broadening 7−891
Cl I, arc plasma, Stark broadening of spectral lines study 7−36536
D-T mixture, plasma focus, inductive explosive magnetic generator current source study 7−44299
H atom, low-energy, prod., energy and particle reflection coeff. meas. 7−26448
H, excited state, translational energy distrib. in DC discharge, spectroscopic meas. 7−20946
H plasma, low n Balmer line intensities, T-tube glass-to-plasma boundary layer study 7−37701
H plasma, T-tube boundary layer effects on spectral intensities ratios, temp. determ. 7−37635
H^- and D^- extraction from large magnetic multipole source 7−58037
H^- generation and cathode plasma formation in magnetically insulated diode 7−10342
H^- hybrid and tandem sources, high resolution VUV light emission meas. 7−10346
H^+ beam, space charge compensation by pregenerated plasma 7−44200
H(D), T-tube plasma, β-line central dip, ion dynamic effects anal. 7−36542
He plasma, spatial resolved line-intensity meas., electron density determ. 7−36641
He-Ar(Ne) lasers, pumping by CO_2-laser induced optical break-down 7−62668
LaB_6 pulsed hot cathode discharge, for uniform plasma production 7−32006
Li, arc in air, plasma comp., Gibbs free energy calcs. 7−37795
MnI(II), modified wall stabilised arc, hook measurements study 7−37755
Na capillary-discharge plasma for pulsed-power X-ray laser expts. 7−32018
Ne II, Stark parameters meas. 7−36538

plasma production and heating by laser beam
absorption spectroscopy of a laser-produced plasma 7−11778
air, atmospheric, optical discharge plasma sustained by Nd laser radiation, diagnostics 7−63355
air, laser plasma, secondary spark-over under microsecond pulses 7−11665
air, optical breakdown near solid rough surface, time of appearance 7−26386
asymmetry of Stark-broadened Lyman lines fromlaser-produced plasmas 7−11776
beat-wave heating with density profile steepening 7−37712
blast waves in laser-produced plasma, spectroscopic and interferometric meas. 7−6392
calorimetric study of laser-irradiated thin foil targets 7−32026
cannonball target, absorpt. of 0.53 μm laser light 7−20923
cavity-structured targets, stimulated Brillouin scatt. suppression obs. 7−43238
collisional effects in cloud-in-cell scheme, laser-plasma heating due to parametric instabilities 7−26479
compact torus, self-consistent modeling of quasi-steady state evolving to ignition 7−56854
conical target compression and heating study 7−11666
coupling to high Z plasma 7−32028
density and flow vel. variation near critical density region 7−16317

plasma production and heating by laser beam continued
double freq. laser irrad. plasma, density profile, elec. field struct. *(Chinese)* 7—6394
double stimulated Brillouin scattering in a nonuniformlaser plasma 7—6396
drilling in subatmospheric press. atms. of air, plasma transients 7—20914
droplets, laser-induced explosion, spatially resolved spectra 7—42632
electron acceleration by CO_2 laser 7—32029
electron-ion recombination in high density plasma 7—31927
emission and interferometric tomography, image reconstruction algorithm 7—11786
emission characteristics, soft X-ray region, plasma diagnostics, radiative-collisional model study 7—62312
fast electron form. in caviton field, depend. on laser radiation parameters 7—44204
fast ion generation in laser-plasma interactions 7—26467
foils, laser-accelerated, flash X-ray radiography 7—58040
glass, fused spots formed by laser radiation, interferometric study 7—2054
glass, gamma-irradiated, plasma production by laser beams 7—44379
glass, molten, jet formation during absorpt. wave propag. 7—46251
highly charged ions, laser produced spectra and QED effects in plasma 7—37747
highly stripped ions, collisional-radiative model 7—26474
hot laser-produced plasmas, Stark-broadened Lyman line asymmetry 7—63356
hot-electron generation and transport in high-intensity laser interaction 7—26431
ICF, 2-D Lagrangian studies of symmetry and stability of laser fusion targets 7—51479
ICF, laser implosion, effect of capsule aspect ratio on hydrodynamic efficiency 7—51480
ICF, observation of hydrodynamic instability in sphericaltarget implosion with Gekko XII green laser 7—5440
ICF target experiments, preliminary performance with Nova 7—15371
imaging of continuum emission for diagnostics of laser sustained plasmas 7—20930
imploding cylindrical plasmas as X-ray laser media 7—63322
inertial confinement fusion, Nova laser facility 7—1778
inhomogeneous plasma, two-plasmon decay, unstable modes anal. 7—20889
interelectrode flashover in the presence of a weakly ionised plasma channel created by laser irradiation 7—44281
inverse bremsstrahlung absorption in the planar corona of a laser target 7—16335
laser beam coherence props. control with plasma filter 7—1209
laser created X-ray source, study and appls. 7—61418
laser fusion, comment on state of the art 7—26473
laser fusion, direct drive, thermal electron transport, review 7—26391
laser fusion, ionisation-radiation physics 7—26504
laser fusion and hot-electron transport, mag.-field generation 7—26470
laser fusion physics, conf., Vancouver, BC, Canada (June 1986) 7—24256
laser generated hot electron transport in an externally applied magnetic field 7—26478
laser harmonic spectroscopy use as plasma target diagnostic 7—26503
laser heated exploding foils, hydrodynamics, appl. to soft X-ray laser design 7—44209
laser heating of plasmas confined in strong solenoidal magnetic fields, optimal control theory anal. 7—58041
laser interactions with condensed matter, review 7—12125
laser light absorption and scattering, computer simulation 7—26500
laser plasma, dielectronic satellites intensities 7—44244
laser plasma, electron-positron pair prod. 7—63285
laser plasma, extreme UV and soft X-ray light source 7—63320
laser plasma, fast electron prod., absorpt. coeff. 7—63282
laser plasma, stimulated Raman scatt. Thomson scatt., electron spectroscopy and IR diagnostics 7—37745
laser plasma at axis of conical target, compression and heating 7—44202
laser plasma spherically symmetric modulated spontaneous mag. field 7—44205
laser supported detonation waves, oblique incident beam on Al, computational study 7—63312
laser-fusion pellet, essential features 7—26468
laser-generated pellet coronas, steady ID outflow form. 7—37785
laser-produced plasma fluctuations, kinetic model 7—26469
laser-target interaction expts., ion-vel. distrib. 7—26476
laser-target irrad., hot electron generation and transport, external mag. field effects 7—37711
laser-triggered electrical breakdown of gases, unconventional geometries 7—44095
lasing action in soft X-ray wavelength range 7—62678
line-focused laser-irradiated target experiments 7—26439
line-focused laser-produced plasmas, filamentation and jets 7—63317
luminescence from plasma generated by laser evaporation of dielectrics 7—63354
magnetised electron transport, bifurcation 7—44208
metal processing by pulse-periodic CO_2 laser radiation, physical laws 7—51824
metal vapor formed by laser irradiation, breakdown 7—63316
metallic targets, laser-prod. plasma ion acceleration 7—16318
microsecond confinement below breakdown intensity 7—6426
nonlocal electron heat transport by not quite Maxwell-Boltzmann distributions 7—16300
nonlocal heat flow, model 7—20912
optical discharge, laser dragon, breakdown along a beam in vapour of target 7—58086
optical discharge in air of reduced density containing solid particles 7—26475
optimal heating of plasmas with constant density 7—63314
photoionisation pumping via two-electron shakeup using soft-X-ray flux from laser produced plasma 7—20195
picosecond light pulses scattered by optically induced gratings in semiconductors, frequency shift and spectral changes 7—1024
planar targets irradiated by 0.27 μm laser, mass ablation rate and pressure meas. 7—46250
plasma effects in laser fusion: past and future 7—26472
plasma free expansion dynamics in vacuum 7—20910
plasma waves in laser fusion plasmas, review 7—26405
power transmission by laser beam, direct energy converter and laser produced plasma confinement 7—3720
pre-formed plasmas, emission and stimulated Raman scatt. from thin foil, spectra anal. 7—20937

plasma production and heating by laser beam continued
probe investigation of laser produced plasmas 7—11663
Raman scattered light obs. 7—26398
Rayleigh-Taylor instability in laser accelerated foils, track detector study 7—37435
relativistic electron gun, laser-pulsed 7—30653
second harmonic emission wave, generation scale length anal., weak turbulence approx. 7—31972
shell target compression stability in Progress laser facility 7—1715
shock wave interaction with decaying laser sparkle plasma 7—31983
shock waves initiated by gigawatt CO_2 laser pulse in transparent target, holographic interferometry 7—38052
soft X-ray emission for laser pumping 7—20196
soft X-ray emissions from various targets irradiated by long wavelength lasers 7—20877
soft X-ray spectra from elemental targets 7—1714
soft X-rays, plasma sources using low power pulsed lasers 7—20909
soft X-rays from laser produced plasmas, focusing 7—18955
soft X-rays from lasers, undulators and plasmas, coherence props. 7—18956
solid targets, laser beam interaction problems, numerical simulation 7—44201
spectral measurements from laser-produced plasma inOMEGA 7—11768
spectroscopic studies of plasma during CW laser materials interaction 7—63313
spherical fuel pellet compression using laser beams 7—32027
spherical target, uniformity of energy deposition using six or twelve laser beams 7—11664
stimulated Brillouin scattering of a two-mode pump wave in an expanding laser plasma 7—44120
stimulated soft X-ray emission in a confined plasma column 7—11603
strong internal elec. fields in nonlinear force produced cavitons, laser acceleration of particles 7—11662
super-Alfven plasma flow, collisionless interaction 7—11612
surfaces, energy coupling during laser matter interaction 7—58327
synchronized ruby/N_2 laser system for plasma prod. and diagnostics 7—31356
target implosion, wavelength depend. study 7—26471
temporally resolved target potential measurements 7—63315
thin films, laser spot effects, hydrodynamic simulations 7—11611
time resolved second harmonic emission from laser produced plasmas, cut off, retardation characts. 7—37695
two-layer target compression stability, laser plasma X-ray line obs. and gas-dynamic calcs. 7—51481
wave-particle interactions and energetic tail formation in the electron distribution 7—26433
wire target surface laser irrad. plasma prod., mag. field variation 7—16316
x-ray conversion efficiency as a function of atomic number for 0.26-μm-laser—irradiated targets 7—32025
X-ray diagnostics in laser plasma production 7—1781
X-ray elliptical analyzer spectrograph appl. to laser produced plasma 7—32088
X-ray emission meas. from laser plasmas 7—11770
X-ray framing camera for laser fusion expts. 7—20944
X-ray laser research, in situ calibrations of grazing incidence vacuum monochromators 7—41570
X-ray line spectra of laser plasma, CCD measurements, 1 to 10 Å 7—58065
X-ray microscope using multilayer optics with a laser-produced plasma source 7—30138
X-ray partially coherent radiation, props. and appls. 7—24738
X-ray source, femtosecond using laser produced plasma 7—18954
X-ray spectroscopic methods for diagnosis of laser-imploded targets 7—1782
X-ray switching and shuttering techniques in laser produced plasma 7—11767
XUV radiation source 7—24746
Al, laser irrad. planar target, simultaneous meas. shock breakout and X-ray transmission 7—44207
Al laser plasma, population inversion X-ray spectra 7—26506
Al, laser-produced line plasmas, soft X-ray spectroscopy techniques 7—11701
Al, plasma, K-shell reson. lines, spot spectroscopy diagnostics 7—37742
Al plasma, KrF laser produced, ablation parameters 7—44206
Al plasma, laser-supported detonation waves in obliquely incident beam 7—11648
Al plasma created by laser at 1.05, 0.53 and 0.26 μm, soft X-ray imaging to study thermal transport 7—1735
Al^{10+} recombining laser plasma, soft X-ray amplification 7—63321
Al^{10+}, recombining laser produced plasma, population inversion 7—26509
Ar, laser-sustained plasma, power absorpt. 7—32024
Ar laser-sustained plasma in axisymmetric flowfields, 2D model 7—11661
Ar plasma, laser-sustained, theory 7—20911
Ar, sustained plasmas, continuous wave laser gas heating 7—32023
Au heating by Raman-compressed KrF laser, electron temp meas., radiation loss and radiative energy transport 7—37713
Au plasma, atomic processes, collisional-radiative and average-ion hybrid models 7—51387
Au, plasma, X-ray spectroscopic diagnostics *(French)* 7—6445
Au plasma laser produced, X-ray line absorpt. 7—20878
Be IV ion, 4f to 5g transition generation obs. in recombining laser plasma 7—57303
Br plasma, laser produced, oscillator strengths, X-ray transitions, ab initio calcs. 7—16334
Br XXV to XXI, spectra and energy levels 7—25444
C ablation plasmas, laser induced, emission spectra 7—26530
C fibre, laser produced plasma, XUV expansion coded recombination lasers 7—62679
C fibre plasma, laser produced, population inversion and gain meas. 7—26505
C plasma, laser-irrad. fibres, hydrodynamics and atomic kinetic simulations study 7—63319
C plasma, long-laser-pulse produced, gain condition 7—20913
CO_2 laser system for plasma heating 7—32031
Ca XIX, laser plasma, dielectronic satellites intensities 7—44244
Cs, laser initiation of discharge channels for pulsed ion beam research 7—25291
Cu foil plasma, laser-vaporised, X-ray laser expt. 7—63323
Cu plasma, Ne-like, gain expt. 7—20876

plasma production and heating by laser beam continued
  Cu target, plasma surface coupling of laser radiation, NaCl effects 7−63318
  F IX, excitation by laser flame recharging in plasma 7−20851
  F-like ions, Zr^{31+} to Sn^{41+}, X-ray transitions 7−25445
  GaAs, laser evaporation, spectroscopic study 7−58324
  H-like ions in laser plasma, freq. redistrib., Stark broadening of lines 7−44203
  In plasma, laser ablated inner-shell photoionisation-pumped, optical gain at 185 nm 7−20193
  KrF laser ablation in single and and multilayer targets 7−26477
  KrF laser produced plasma, stimulated Brillouin scatt. 7−32032
  KrF laser system, Aurora, for inertial confinement fusion studies 7−15894
  KrF laser-matter interaction in the long pulse, low intensity regime 7−32030
  Li, laser-produced plasma for pulsed ion beam research 7−25291
  Li like ion plasma, population inversion collisional-radiative model 7−25463
  Li, plasma generation for PBFA-II ion diodes 7−20962
  Li, spectral emission line profile, laser produced plasma, polarisation shift *(French)* 7−6446
  N_2 breakdown plasma, Zr and Ti nitridation due to TEA CO_2 laser irrad. 7−2052
  Na films, meas. set-up for laser blow-off process 7−11792
  Na plasma, creation by resonant laser interaction study 7−32033
  Na resonant laser interaction produced, collision processes 7−37628
  Na, vapour ionization by laser resonance saturation 7−19791
  Ne-like ion plasma, laser produced, reson. transitions, X-ray diagnostics 7−20932
  Ne-like ions, Ca XI to Mn XVI, laser plasma, spectra 7−49989
  Ni-like ion plasma, laser produced, reson. transitions, X-ray diagnostics 7−20932
  O, Rydberg transitions, IR laser absorpt. spectra 7−57017
  O VII, excitation by laser flame recharging in plasma 7−20851
  Rb XXIX 7−5626
  Se XXV plasma, laser produced, electron impact, laser transitions 7−26508
  Si, laser ablation, cluster and plasma formation, time-resolved X-ray monitoring 7−37710
  Si plasma, laser prod., electron density sensitive emission line ratios 7−32081
  Si XIII and XIV, laser-heated plasma, 2l-3l′ and 2l-4l′ transitions 7−57021
  Sr ions, Ne-like laser plasma, photoexcitation, X-ray and XUV spectra 7−26507
  Sr XXX X-ray lines, wavelengths and identifications 7−5626
  Th, plasma, XUV spectra, isotope line identification, HF and DF calcs. 7−15487
  XVIII, Mg-like spectrum 7−25443
  Y XXXI X-ray lines, wavelengths and identifications 7−5626

plasma sheaths
  see also plasma confinement
  anode glow oscillations, mechanism 7−20892
  axisymmetric toroidal pinch, elliptic cross section, shell noncircularity effects 7−11672
  charge distrib. in elec. sheath region, math. expression 7−51462
  charged particles traversing plasma sheath in oblique mag. field 7−44183
  double layer, connection with ion-cyclotron instabilities 7−20895
  double layer, form. by current-drawing grid, characts. 7−31992
  double layers, 3D, inducing ion-cyclotron oscillations in collisionless plasma 7−6402
  double sheath near electron sources, space charge effects 7−31995
  electron distribution fn. in anode sheath of glow discharge, kinetic problem soln. 7−37627
  external meas. on plasma etch chamber, interpretation 7−26518
  filamentary structures and plasma vortices induced by behaviour of toroidal magnetic surfaces 7−63265
  focus device geometry, sheath develop. 7−32182
  focus discharge, magnetically driven sheath, elec. signal simulation 7−44184
  freestreaming mode and ion-acoustic wave excitation by voltage pulse 7−11617
  heavy ion plasma double layers, particle-in-cell simulations 7−31993
  instabilities, energy sources, quantum, excitation and ionisation processes 7−20894
  ion sheath-induced nonlinear response of antenna in isotropic plasma 7−31990
  Langmuir probe measurements in sheath of highly charged body, model study 7−37744
  magnetised coaxial cylindrical double plasmas, radial pot. form. with unstable waves 7−51461
  magnetised plasma, double layers and multidimensional solitons 7−51446
  magnetoplasma, single-ended, electron hole and electron wave pulse evolution 7−51460
  Maxwellian electron plasma, ion-acoustic double layers, finite amplitude theory 7−37702
  motion in collisional plasma, external triggering 7−20903
  plasma sheath dynamics of focus discharges, parameter eval. 7−63304
  potential dip form. due to current disruption 7−31994
  pulsed mode thermionic convertor 7−26442
  RF discharge, diode type, plasma and electrode potentials 7−26571
  RF discharge, electron acceleration by self-generated stochasticity 7−32166
  RF discharge, sheath props. 7−21021
  RF plasma diagnostics by double probe V-I characts., electron temp. determ. *(Chinese)* 7−37737
  RF plasma reactors, plasma sheaths, modelling 7−31991
  RF plasma sheath, ion transport, Monte Carlo modeling 7−37797
  RF sheath, dynamics between ionic and electronic plasma frequencies 7−58026
  RIE, etch mechanisms, modelling 7−39785
  SCL current flow in spherical double sheath 7−20902
  slow ion acoustic double layers, expt. obs. 7−37684
  structure in front of bipolar potential wall 7−20904
  theoretical and computational problems 7−37796
  time averaged emitting probes for plasma processing studies 7−26441
  trifluorochloromethane-Ar discharges, for plasma etching of Si:P, parametric modelling and impedance anal. 7−28221

plasma sheaths continued
  trifluorochloromethane-Ar discharges, for plasma etching of Si:P. modelling of ion bombard. energy distrib. 7−28222
  Ar discharge, thermionic cathode double sheath-plasma interaction 7−1707
  D-T mixture, plasma focus, inductive explosive magnetic generator current source study 7−44299
  H_2 discharge, electron beam energy relax. mechanism in electrode sheath 7−51464
  H_2, low temp. plasma, electrode sheath, calcs. 7−37703
  Hg low press. plasma, elec. double layers 7−1705
  N_2 high press. electron beam drives discharge, cathode sheath dynamics 7−1706
  SF_6, plasma, reactive ion etching of SiO_2 7−39693

plasma shock waves
  ablation plasma and shock waves, laser interaction, holographic interferometry 7−31981
  air plasma, laser, decaying, shock wave interaction mechanism 7−44175
  arc mantle studies in dual flow plasmas 7−26559
  arc-generated flow phenomena in high-power repetitively-pulsed gas-flow spark gaps 7−32192
  astrophysical plasma, conf., Sukhumi, USSR (May 1986) 7−48174
  P/Comet Giacobini-Zinner (1984e), plasma regime, ICE sampling 7−40764
  P/Comet Halley (1982i), ELF plasma waves, Vega APV-N detections *(Russian)* 7−14539
  Earth bow shock wave, charged particle flow fine struct. 7−60475
  electrostatic shock pots., direct obs., low impedance emissive probe technique 7−51433
  focus discharge, magnetically driven sheath, elec. signal simulation 7−44184
  gasdynamic effects during the late stages of a laser spark 7−16345
  glow discharge, shock wave acceleration 7−6478
  high Mach number perpendicular shocks with resistive electrons, simulation and appl. to bowshock 7−6391
  high-β plasma, ion beam excitation of lower hybrid freq. magnetoacoustic oscills. 7−44173
  imploding shock plasmas, compression using Z-pinch discharge 7−1700
  interaction with decaying laser sparkle plasma 7−31983
  ion acoustic motions of plasma with two temperature electron distrib. function 7−63274
  laser supported detonation waves, oblique incident beam on Al, computational study 7−63312
  methane, pyrolysis in plasma jet and behind shock wave, chem. species distrib., calc. and meas. 7−37751
  MHD shock waves in interstellar mol. clouds, theory for oblique mag. fields for oblique mag. fields 7−66454
  molecular process modeling in thermal plasmas by shock tube technique 7−31982
  plasma focus, Mather-type, shock and magnetosonic waves, sheath current meas. 7−32073
  plasma sheath dynamics of focus discharges, parameter eval. 7−63304
  potential meas. using varying emitted electron currents 7−58062
  quasi-perpendicular magnetosonic shock wave, proton acceleration 7−9455
  quasiparallel, wave precursors 7−1701
  recombination-nonequilibrium plasma, gas dynamics eqns. soln. *(Russian)* 7−44108
  slow shocks in Earth magnetotail, relation to EM ion cyclotron beam anisotropy instability 7−66400
  stability in astrophysical environment, modification by cosmic rays accel. 7−34861
  T-shock tube, current disruption wave generation 7−63281
  target implosion calcs. using shock wave 7−6419
  vortex structures, pulsed plasma stream, snow-plow model calcs. 7−31953
  Z-pinch discharge control by capacitor bank discharging, plasma compression 7−44211
  Al laser irrad. planar target, simultaneous meas. shock breakout and X-ray transmission 7−44207
  Al plasma, laser-supported detonation waves in obliquely incident beam 7−11648
  Ar, ionis. behind normal plasma shock waves, conservation eqns. 7−31980
  C plasma, nonuniform, shock wave propag. investig 7−44174
  He-Ar(Ne) lasers, pumping by CO_2-laser induced optical break-down 7−62668
  Xe, radiative wave generation by laser-driven supercritical shock, expt. obs. 7−1591

plasma simulation
  Alfven ion-cyclotron instability in high-beta plasmas, simulation study 7−44155
  axisymmetric plasma, numerical simulation of ideal MHD stability 7−51413
  axisymmetric toroidal pinch, elliptic cross section, 2D, numerical method 7−11672
  beat waves, saturation, anal. and simulation 7−31964
  beat-wave heating with density profile steepening 7−37712
  charge distrib. in elec. sheath region, math. expression 7−51462
  classical one-component plasma, equilib. props. in 3D and 2D, review *(French)* 7−32039
  collective electromagnetic interactions in magnetised plasmas, nonlinear aspects 7−58050
  collisional edge plasma, spatially ordered structure formation 7−20886
  collisionless plasma model solutions, velocity space filamentation problem 7−51393
  compressible dissipative plasma, 3D self-organisation process, variation method and MHD simulation 7−51423
  computational physics conference, Eibsee, Germany (May 1986) 7−48137
  critical ionisation velocity process 7−31924
  cylindrical plasma, wave field calc. using multiple shooting technique 7−44137
  dense gas, high-current arc development, hydrodynamic effects study 7−51529
  drift instabilities in presence of collisions, nonlinear evolution 7−58005
  drift waves, current-driven in shearless and sheared mag. fields, particle simulations 7−51444
  drift-wave fluctuations in sheared magnetic field, 3D particle simulation 7−44237
  dynamics, simulation using many particles 7−37736
  ECRH in tandem mirror, electrostatic potential, electron density 7−6363
  electric microfield distrib. and radial distrib. function 7−11698

plasma simulation continued
  electron beam propagation through plasma into vacuum, computer simulation studies 7—63305
  electron hole and electron wave excitation in plasma with transverse effects 7—58051
  electron swarms, scatt. cross-sections, diffusion theory 7—20873
  electron-cyclotron maser instability in relativistic plasmas 7—11694
  electrostatic potential development, particle in cell model in stellarator 7—31940
  electrostatic resistive interchange turbulence, dynamics and fluctuation spectra 7—11636
  EM ion beam instabilities, one and two dimens. simulations 7—6379
  EM wakefields for axisymmetric charge distrib. moving through cold uniform plasma, 2D dynamics 7—44263
  EM wave propag. in plasma, skin-layer problem, numerical simulation 7—63283
  energy principle, toroidal plasma stability, noncircular cross section, beta value, aspect ratio, elongation *(Japanese)* 7—11699
  ESD simulation difficulties and test procedures *(French)* 7—37787
  exploding foil opening switches, 1-D MHD plasma simulations using MAGPIE code 7—32035
  field-reversed ion rings, stability 7—26487
  fluorescent lamp plasma computer modelling 7—20929
  focus discharge, magnetically driven sheath, elec. signal simulation 7—44184
  free boundary calculations in 3D using spectral Green's function method 7—51414
  glow discharge, cathode region, electron energy, spectrosc. investig. 7—21007
  glow discharge stability, Schottky theory calcs. 7—21018
  heavy ion plasma double layers, particle-in-cell simulations 7—31993
  helical tori, finite aspect ratio, stellarator approx. formulae 7—6444
  high Mach number perpendicular shocks with resistive electrons appl. to bowshock 7—6391
  hollow cathode effect, modelling 7—21006
  hydrogenic emitters in plasmas, spectral line shapes, ion-dynamic effects 7—32085
  hydromagnetic Rayleigh-Taylor instability in cylindrical implosions 7—31966
  ICF, 2-D Lagrangian studies of symmetry and stability of laser fusion targets 7—51479
  ICF, numerical analysis for nonuniform implosion of target 7—6387
  imploding advanced fuel pellet, neutron heating effects, simulation 7—6421
  inductive energy storage plasma focus device, num. simulation 7—63371
  ion charge state distrib., near ECR freq. heated plasma 7—32022
  JT-60 discharge optimization, plasma modelling and simulation study 7—15360
  laser light absorption and scattering, computer simulation 7—26500
  laser-produced plasmas, nonlocal heat flow, model 7—20912
  linearly stable and unstable simulation plasma, nonlinear intermittent fluctuations growth 7—11700
  lower hybrid current drive, simulation model 7—11597
  magnetic mirrors, Monte Carlo simulation for space-varying mag. fields *(Chinese)* 7—37719
  magnetic phenomena driven by parallel ion motion, simulation 7—26412
  magnetic pumping by magnetosonic waves in the presence of noncompressive electromagnetic fluctuations 7—26449
  magnetised virtual cathode microwave generator, high-efficiency 7—20964
  magnetoinductance particle codes with guiding centre electron motion, two-, three-dimensional 7—44236
  MHD mode reconstruction from projections 7—1681
  minority heating current drive, numerical studies 7—32011
  multiply charged ions in hot dense plasma, line shapes, simulation *(French)* 7—11696
  nonrelativistic electron beam injection into fully ionised plasma and spacecraft charging 7—44188
  nonrelativistic electron beam propag. in plasma in mag. field 7—44187
  numerical simulation, book 7—48214
  one-component plasma in external field, molecular dynamics study of particle arrangement 7—1730
  particle beam fusion, Nagoya, Japan (Nov. 1985) 7—4636
  particle simulation methods in plasma physics 7—51504
  Pioneer I foil implosion experiments 7—32037
  potential formation and thermal insulation between different temp. plasmas, investig. 7—32079
  pulsed power technique research at IAE in Beijing 7—11693
  quasi-perpendicular magnetosonic shock wave, proton acceleration 7—9455
  relativistic electron beam injection in tokamaks, macroscale particle simulation 7—44186
  relativistic electron beam Raman scatt., 1D theory and simulation 7—26445
  relativistic Langmuir waves, anal. and simulation 7—31964
  reversed field pinch dynamics, numerical simulation 7—51412
  reversed field pinch dynamics simulation, consistent boundary conditions 7—11681
  reversed field pinch plasma, effects of impurity by 0-dimensional simulation anal. *(Japanese)* 7—32040
  reversed-field pinch rising current operation, num. simulation 7—11682
  RF heating and current drive in tokamaks 7—51470
  RF plasma CVD reactor, flow, temp., conc. fields, num. simulation 7—26501
  RF plasma sheath, ion transport, Monte Carlo modeling 7—37797
  solid targets, laser beam interaction problems, numerical simulation 7—44201
  theoretical and computational problems 7—37796
  thermal relaxation of 2D plasma in uniform mag. field 7—44101
  thin films, laser spot effects, hydrodynamic simulations 7—11611
  tokamak plasma, electron density evolution 7—37647
  tokamak plasma, multihelicity tearing mode growth, MHD eqns. anal. 7—26502
  Tokamak plasma modelling and atomic processes, conf., Nagoya, Japan (July, 1985) 7—14716
  tokamak with poloidal magnetic diverter, transport in plasma near wall, 2D model 7—44111
  TPE-2, MHD behaviour and fluctuations, optical and mag. diagnostics 7—11607
  turbulent heat flows, numerical simulation 7—37687
  two-ion hybrid resonance heating, simulation study 7—51474
  virtual cathode oscillations, anal. and simulation 7—51445
  virtual cathodes and microwave emission, 2D features 7—44262

plasma simulation continued
  wave-particle interactions and energetic tail formation in the electron distribution 7—26433
  X-ray laser development, stimulated emission enhancement in confined plasma column at PPPL 7—25793
  Z-discharge channel, ion beam pulse propagation in 2-D 7—6369
  Ar discharge, homogeneous longit. mag. field effects 7—21026
  H plasma, Balmer-α line Stark broadening, simulation 7—11697
  H plasma, computer simulated binary collision hypotheses, Stark broadening 7—10492
  H^- volume ion sources, modelling of vibrational population distrib. 7—10344
  N_2 streamers, 2D numerical simulation 7—32190
  Na, vapour ionization by laser resonance saturation 7—19791

plasma sprayed coatings *see plasma arc sprayed coatings*

plasma spraying *see plasma arc spraying*

plasma switches
  100 TW particle beam fusion accelerator for inertial confinement fusion program 7—30664
  CERN Antiproton Collector, 400 kA pulse generator with pseudo-spark switches for plasma lens 7—32078
  conf., Saskatoon, Canada, May 1986 7—29595
  CROSSATRON modulator switch development 7—26537
  diffuse discharge opening switches 7—37766
  diffuse discharge switches 7—32109
  diffuse discharge switching appls., temp. depend. electron transport studies 7—32189
  electric field calculations using the ELF codes for glow discharge switches and electrode design 7—32134
  electron beam controlled discharges, charactn. and switching performance 7—26533
  erosion opening switch, long conduction time 7—51519
  erosion opening switch, physics and appls. 7—32111
  erosion opening switch performance for HV ion diode expts. 7—32126
  erosion switch, reflecting system 7—44268
  exploding foil opening switches, 1-D MHD plasma simulations using MAGPIE code 7—32035
  exploding metallic foils for switching elements in pulsed power systems 7—26539
  explosive driven opening switch techniques 7—32107
  fast-opening switch for magnetically confined plasma rings 7—26540
  foil implosion system design for Pioneer I experiments 7—32137
  fuses for high performance opening switch applications 7—32108
  gasdynamics appls. 7—32110
  imploding plasma experiments, diagnostics for Pioneer I 7—32038
  implosion, plasma flow driven, 'quick-fire' experiments 7—32139
  ion beam opening switch and plasma opening switch performance 7—26545
  light ion beam fusion research on Reiden IV particle beam accelerator 7—11807
  magnetic energy storage in vacuum, plasma opening switches at Pollux pulse power generator 7—32127
  MEATGRINDER circuit for enhanced energy transfer of inductive energy to imploding plasma loads 7—32131
  metal plasma arc switches, appl. of particle orbit theory 7—37768
  opening switch for magnetic energy storage 7—32124
  opening switches, plasma compression, in planar geometry, multimegampere operation 7—32119
  PBFA II Plasma Erosion Opening Switch geometry effect on current transfer 7—26543
  PBFA II vacuum magnetically insulated transmission line redesign to inductive energy store 7—30755
  plasma opening switch experiments on PBFA I using flashboards 7—26542
  plasma opening switch performance on Supermite and PBEA II 7—26541
  pulse formation and accel., high power and switching appls. 7—32125
  pulse generation circuit for fast-rising pinching magnetic field, circuit anal. 7—32135
  pulsed compression with an imploding gas puff as plasma-flow opening switch 7—32136
  pulsed power applications of the plasma erosion opening switch 7—32129
  pulsed power appls. of plasma erosion opening switches 7—32128
  pulsed power supplies, IEEE conf., Arlington, VA, USA (1985) 7—35110
  pulsed power technique research at IAE in Beijing 7—11693
  reflex switch for HV pulse sharpening, radiation source appls. 7—32123
  staged plasma-erosion opening-switch current rise time sharpening using BLACKJACK 3 generator 7—32130
  Supermite flashboard, flux characteristics 7—26546
  switch plasma diagnostics using laser induced fluorescence, H thyratron plasma 7—32099
  switching problems, inductive storage plasma focus device, num. calc. 7—63368
  thyratron current and plasma quantities intrinsic relationships, thyratron plasma cond. 7—32121
  thyratron plasmas, self-consistent modeling 7—32122
  transmission line code modelling of plasma flow switches 7—32141
  two-dimensional modeling of the plasma opening switch 7—26544
  UV sustained radial glow discharge opening switch investigation 7—32133
  uV-sustained glow discharge opening switch experiments 7—32132
  UV-sustained glow discharge opening switches 7—26538
  wall ablation models for plasma flow switches 7—32140
  Al electrically exploded foil opening switches, high performance 7—32034
  He thyratron with linear geometry, excited state densities 7—20963
  He-SF_6 glow discharge, mag. control, electron energy distrib. 7—26555

plasma temperature
  absorption of electron cyclotron radiation in tokamakplasmas with a superthermal tail in the electronvelocity distribution 7—11589
  air, atmospheric, optical discharge plasma sustained by Nd laser radiation, diagnostics 7—63355
  Alcator C edge plasma, directional asymmetries 7—63300
  Alcator-C, centrally peaked impurity profiles obs. 7—11774
  Alfven ion-cyclotron instability in high-beta plasmas, simulation study 7—44155
  anomalous thermal confinement in tokamaks, microinstability based model 7—51404
  anomalous thermal confinement on ohmically heated tokamaks 7—37725
  anomalous transport effects on plasma convection in poloidal limiter shadow of a tokamak 7—37637
  aperture limiter shadow of T-10 tokamak, Langmuir probe meas. 7—51394

plasma temperature continued
arc mantle studies in dual flow plasmas 7—26559
ASDEX tokamak, sawtooth oscillation suppression by lower hybrid current drive 7—1693
ASDEX tokamak temporal behaviour of plasma current distrib. during lower-hybrid current drive 7—44160
ATF two-dimens. Thomson scatt. system for temp. and density meas. 7—1751
axisymmetric MHD stable sloshing ion distributions 7—57985
axisymmetric mirror at high beta, stabilisation study 7—44217
blast waves in laser-produced plasma, spectroscopic and interferometric meas. 7—6392
boundary parameter meas. using Langmuir probes in JET 7—51395
collisionless electron plasma, plane EM wave propag., solitary wave solns. 7—16309
conducting plate in two-temp. plasma, pot. distrib. in Debye discontinuity 7—58025
coupled dense plasma, Mott transition theory 7—20860
cryogenic decaying plasma, electron temp. meas. in 4.2 K He gas 7—37629
current drive, In JIPP T-IIU, by LOOP antennas 7—6443
cusped magnetic field ion source, plasma props. calcs. 7—20915
cylindrical arc, conductivity, characts. asymptotic calcs. 7—32154
DC discharge planar magnetron device, plasma production for thin film preparation 7—1711
dense plasma, atomic species description model 7—63255
DENSEPACK array of Langmuir probes, Alcator C Tokamak fusion expt. appl. 7—20940
DITE tokamak, detached plasmas, density and temp. profiles 7—63339
double stimulated Brillouin scattering in a nonuniformlaser plasma 7—6396
drift wave type instability, nonlinear saturation, phenomenological theory 7—1696
EBT, hot electron ring geometry, implications for stability 7—44215
ECRH expts. in tokamaks and stellarators 7—6411
electron density determ. from neutral gas temp. *(Czech)* 7—31930
electron temp. determ. from X-ray continuum radiation 7—58064
electron temperature measurements from line ratios of He-and H-like argon in the Alcator C tokamak 7—11763
electrostatic beam instabilities in a positive/negative ion plasma 7—51442
electrostatic ion probe for tokamak-plasma-edgediagnostic 7—11781
elementary process determ. by Langmuir probes 7—20945
energetic trapped particle-induced resistive interchange-ballooning modes, theory 7—11679
Eta-Beta II reversed field pinch, heating and confinement studies 7—26497
ETL-TPE 2 experiment, high beta and high temperature plasma, power supply *(Japanese)* 7—11668
Extrap Z-pinch, temp. and density, boundary conditions effects 7—51497
fast electron form. in caviton field, depend. on laser radiation parameters 7—44204
field-reversed configuration plasma, ion rot. vel. meas. by neutral beam probe spectroscopy 7—44222
fusion power multiplication factor using beam-plasma effect 7—58030
fusion reactivity, calc. in high-temp. plasma 7—44256
gas discharge, cathode fall, optogalvanic diagnostics 7—32187
gas-puff Z pinch, hard and soft X-ray emission temporal development 7—11765
glow discharge, high-voltage, electron density, temp. meas. using Langmuir probe 7—63375
glow discharge, shock wave acceleration 7—6478
heat flux distrib. determ. on PF anode surface 7—63258
heat structures on cathode metal surface in caesium vapours conditioned by emission instability, experimental studies *(Russian)* 7—6358
heavy ion beam probe, temperature and fluctuation correlation meas. 7—1755
heavy ion beam probe for simultaneous radial and poloidal wave number meas. 7—1756
heavy ion beam probing at ATF and Heliotron-E 7—26520
high current heavy atom beam system for plasma diagnostics 7—1758
high-current vacuum arc near Cu cathode, spectroscopic meas. and anal. 7—26558
hollow cathode discharge at direct and HF current, temp. meas., spectroscopic study 7—20994
hot inhomogeneous plasma, time-depend. neutron spectra 7—63349
hot plasma emission lines, unresolved arrays and sub-arrays *(French)* 7—6370
hot-electron instability in mirror geometry 7—31960
hot-ion production from a gas-injected washer gun 7—63309
HT-6B Tokamak device, soft X-ray fluctuations meas. 7—51506
I energy confinement time improvement using particle fueling optimisation 7—11686
imaging of continuum emission for diagnostics of laser sustained plasmas 7—20930
inert gas afterglow, step by step excitation electron distrib. 7—26572
inert gas dense plasmas, temp. and density profiles, Stark linewidth and shift 7—37752
inhomogeneous plasma, two-plasmon decay, unstable modes anal. 7—20889
injected neutral He beam for plasma diagnostics 7—1757
ion acoustic motions of plasma with two temperature electron distrib. function 7—63274
Ion Bernstein Wave heating on JIPPT-IIU tokamak 7—6416
ion charge state distrib., near ECR freq. heated plasma 7—32022
ion temperature diagnostic based on He neutral beam scatt. 7—1742
ion thruster, inert gas, plasma confinement by surface mag. fields 7—51486
ion-acoustic solitons in two-ion warm plasma, ion temp. effect 7—44150
ion-acoustic wave reflection from discharge-tube walls, expt. obs. 7—26411
ionosphere, collisional ion cyclotron instability, effect of finite current channel width 7—47630
ISX-B, beam heated plasmas, toroidal energy density eval., temp. and density surfaces 7—31931
JET spectroscopic diagnostics in VUV region, ion temp. study 7—6451
jet spraying, powder particulates heat and momentum transfer, jet temp. vel. distrib. *(French)* 7—7843
laminar plasmatron cathodic jet, optospectroscopic studies 7—26535
Langmuir probe technique for plasma parametermeasurement in a medium density discharge 7—11782

plasma temperature continued
laser drilling in subatmospheric press. atms. of air, plasma transients, electron temp. and density 7—20914
laser filamentation in a thermally unstable plasma 7—44179
laser harmonic spectroscopy use as plasma target diagnostic 7—26503
laser heated exploding foils, hydrodynamics, appl. to soft X-ray laser design 7—44209
laser plasma, expanding, charge composition and temp., ternary recombination effects 7—63251
laser plasma at axis of conical target, compression and heating 7—44202
laser target plasma emission characteristics, soft X-ray region, plasma diagnostics, radiative-collisional model study 7—62312
laser-plasma interactions, fast ion generation 7—26467
light negative ions sources, plasma physics, conf., Palaiseau, France, March 1986 7—9601
linear resonant EM wave absorpt., collisional and thermal effects, numerical anal. 7—26435
linear stability of counter-streaming two strong ionbeams 7—6422
low-temp. plasma, low freq. electric field parameters, mol. fluoresc. diagnostics 7—37756
luminescence from plasma generated by laser evaporation of dielectrics 7—63354
magnetic curvature drift instability 7—37675
magnetic field config. disruptive behaviour, control of m=2/n=1 magnetic island in JIPP T-IIU Tokamak 7—44168
magnetic multipole line-cusp Ar^+ ion source, magnetic field effects on plasma props. *(Chinese)* 7—6407
magnetically confined vacuum arcs, plasma parameter meas. 7—32163
magnetised plasma subjected to external EM radiation in lower hybrid reson. region, temp. relax. 7—44100
maser, electron cyclotron instability, kinetic and temp. restrictions 7—14484
metal cathode, hot, evaporating, in stationary vacuum arc with diffuse cathode emission, thermal conditions 7—58087
metal targets, ion beam driven expansions, plasma-induced energy deposition effects 7—51475
methane, pyrolysis in plasma jet and behind shock wave, chem. species distrib., calc. and meas. 7—37751
MHD waveguides in a nonuniform plasma 7—6400
microwave discharge, spatial profiles and time evolution of gas parameters 7—21015
microwave-afterglow studies, electron heating, dissoc. recombination, electron temp. and density 7—11813
molecular process modeling in thermal plasmas by shock tube technique 7—31982
multichannel FIR collective scatt. and interferometry systems for fusion diagnostics 7—25215
multichannel Thomson scatt. systems with high spatial resolution for plasma diagnostics 7—1765
multichordal charge exchange recombination spectroscopyon the DIII-D tokamak 7—6453
negative ion detection using anodic wall probe 7—16339
neutral beam heat on JET 7—16314
nonlinear drift-tearing mode stability in semicollisional regime, analytical theory 7—44153
nonlinear excitation of electron-acoustic waves, threshold power flux and instability growth rate determ. 7—44149
nonlinear ion-acoustic waves, Korteweg de Vries eqn., self-similar soln. 7—31973
optogalvanic signal origin rel. to plasma parameters 7—30971
partially ionized gases, scalar DC electrical conductivity 7—51381
PBX high time resolution ion temp. profile meas., Charge-exchange recombination spectroscopy 7—1745
Phaedrus-B Tandem Mirror, Thomson scatt. electron temp. meas. in east end cell 7—26522
PISCES facility, erosion and redeposition expt. 7—63292
plasma stimulated thin film prod., description of plasma processes 7—22575
Plasma-Materials Interactions Test Facility electron cyclotron resonance microwave plasma system 7—51477
PLT, plasma confinement in toroidal discharges sustained by a highly conducting plasma current 7—32044
PLT and PDX perpendicular charge exchange analyzers 7—1743
positron trap, tool for plasma physics 7—63348
potential formation and thermal insulation between different temp. plasmas, investig. 7—32079
probe measurements of the density and temperature profiles inthe JET plasma boundary 7—5431
profile consistency in tokamaks, transport models 7—51408
relativistic magnetised plasmas, linear waves 7—44235
relaxation processes in Ar afterglow cylindrical plasma *(Spanish)* 7—51392
reversed field pinch, electron temp. and density meas. 7—20922
reversed field pinch, TPE-1R, TPE-1R(M), quiescent period *(Japanese)* 7—11673
reversed field pinch fusion power reactor, 1000 MWe, plasma parameters *(Japanese)* 7—16319
reversed field pinch plasma, TPE-1R(M), radiation loss, Fe impurity, electron temperature, electron density 7—11706
reversed field pinches, current driven drift waves, dynamo effect, transport 7—31956
RF current drive in tokamak devices, bootstrap effect 7—51400
RF discharge, electron acceleration by self-generated stochasticity 7—32166
RF ion source, ion energy distrib., radial extraction, injected electron beam 7—30118
RF plasma diagnostics by double probe V-I characts., electron temp. determ. *(Chinese)* 7—37737
RF plasma torch, inductively coupled, two-temperature model 7—63361
RFC-XX, plasma prod. with rot. ion cyclotron waves excited by Nagoya Type-III antennas 7—37709
RFP plasma equilib. with external coils, numerical calc. 7—32060
shock wave interaction with decaying laser sparkle plasma 7—31983
slow ion acoustic double layers, expt. obs. 7—37684
solid-fuel MHD generators, thermal UHF radiation, temp. meas. 7—44265
spectra from a cooling Planckian source, Gedanken expt. 7—1673
spectroscopic studies of plasma during CW laser materials interaction 7—63313
STOR-M tokamak, ion temperature diagnostic based on He^0 beam scattering 7—26521

plasma temperature continued
stream interaction with neutral gas in aligned mag. field 7−51419
T-10 tokamak, H pellet injection effect on discharge characts. 7−1718
T-10 tokamak, large-scale perturbation, radial struct. 7−51427
T-shock tube, current disruption wave generation 7−63281
tandem mirror, axisymmetric thermal barrier form., hot electron prod. 7−11656
tandem mirror transport, temp. gradient effect on neoclassical scaling 7−51406
tandem mirrors, MHD modes with finite Larmor radius, destabilisation 7−26491
tandem volume sources, spectroscopic meas. of atomic populations and temps. 7−10345
TARA tandem mirror, ECE diagnostic using fast scanning Michelson interferometer 7−11744
Tara tandem mirror central cell, Thomson scatt. methods for optical diagnostics 7−1747
tearing modes, collisional and semicollisional, finite ion temp. effects 7−58003
tetrachloromethane, dissoc. in RF plasma, probe diagnostic and relative emission intensity meas. 7−32095
TEXT plasma ion temp. profile meas. 7−6458
TEXTOR Tokamak microturbulence, CO_2 laser scatt. meas. 7−58015
TFTR, electron cyclotron meas. with fast scanning heterodyne radiometer, temp. meas. 7−11747
TFTR, neutral beam interlock system using infrared pyrometry 7−6469
TFTR, optically thin electron cyclotron emission meas. using Michelson interferometer 7−11755
TFTR diagnostic neutral beam for ion temp. meas. 7−6468
thermal plasma, turbulent flow, thermal contraction of current at anode 7−44118
Thomson scatt. plasma diagnostics, ruby filters for stray light reduction 7−1752
three-temperature plasma model, soln. method, inertial confinement fusion target design studies appl. 7−10278
thyratron current and plasma quantities intrinsic relationships, thyratron plasma cond. 7−32121
TMX-U, optically thin perpendicular electron cyclotron emission from hot electrons 7−11745
TMX-U, perpendicular electron cyclotron emission meas. system for electron temp. 7−11746
TMX-U, time-of-flight neutral particle analyzer, velocity distn., ion temp. meas. 7−32093
tokamak, T-7, current drive by lower hybrid waves, temp. depend. of efficiency 7−51522
tokamak plasma, energy confinement stability, microscopic transport 7−6435
tokamak plasmas, C coating, effect on ICRH, Fe impurity radiation loss 7−6418
tokamak plasmas, inner-shell X-ray line spectra of Ti, Cr, Fe and Ni ions 7−6371
tokamak T10, transport processes during injection of H pellets 7−63259
tokamak T-10, electron temp. meas. by C-pellet injection 7−26387
Tokamak TJ-1, electron temp. meas. using W-band microwave receiver 7−44241
tokamak transport, phenomenological relations 7−11602
tokomak, toroidally symmetric, thermal instability MARFE phenomena review 7−63290
toroidal plasma parameters, RF field effects meas. 7−20858
TPE-1RM15 RFP expt., design, construction and plasma parameters 7−32059
TPE-2 plasma, light impurities generation and removal *(Japanese)* 7−11671
transition arrays, unresolved, appl. to plasma temp. diagnostics 7−51396
trifluoromethane plasma in planar reactor, probe meas. 7−37750
turbulent transport coeffs. in peripheral plasma in tokamak, MHD and drift instabilities 7−63279
two-ion plasmas, ion-acoustic waves 7−11632
two-stage beam-plasma system, electron heating instabilities 7−32002
two-stage plasma-beam system, electron heating 7−11659
two-temperature plasma cloud, electron-positron pair equilibria, stability analysis 7−40677
vacuum arc, turbulence, particle acceleration, Buneman instability 7−1796
vacuum arc centrifuge, ion and electron temp. meas., rotation vel. meas. 7−26582
warm ion plasma, ion-acoustic waves nonlinear oblique modulation 7−1689
whistler approximation in collisional plasma, applicability range 7−6378
Z-pinch, toroidal, field profiles, plasma current, electron temperature, beta value *(Japanese)* 7−11674
Al freely burning arc discharge, self-reversed reson. spectral lines 7−32157
Al plasma, high density, high temp. at. pot., comparison with bremsstrahlung Gaunt factors, density functional theory 7−63254
Al, plasma, K-shell reson. lines, spot spectroscopy diagnostics 7−37742
Al^{10+}, recombining laser produced plasma, population inversion 7−26509
Ar gas puff Z-pinch implosions, X-ray emission, appl. to X-ray lasers 7−26483
Ar, hollow cathode arc, steady-state low-press., diagnostics 7−26561
Ar II, dense plasma, spectral line study 7−36552
Ar, laser-sustained plasma, power absorpt. 7−32024
Ar plasma, DC pulse generation, creation and stabilisation processes study 7−32098
Ar plasma, electron mobility and conductivity, numerical solns. 7−31944
Ar, sustained plasmas, continuous wave laser gas heating 7−32023
Ar-SF_6 plasma, negative ion detect., wall probe method appl. 7−20960
Au heating by Raman-compressed KrF laser, electron temp meas., radiation loss and radiative energy transport 7−37713
Be I isoelectronic series, atomic and spectral data for typical tokamak plasma conditions 7−24322
C ablation plasmas, laser induced, emission spectra 7−26530
C III, Z-pinched plasma, Stark broadening of spectral lines 7−36537
C-Se plasma, radiation cooling and gain calc. for C VI 182 Å line 7−6360
CO_2 laser Thomson scatt., detection limits for α-particle meas. 7−1763
Cl_2, plasma etching reactor, atomic Cl conc. and gas temp., laser spectroscopic meas. 7−58069
Cu foil plasma, laser-vaporised, X-ray laser expt. 7−63323
Cu XIII and XVII, excitation rate coeff. meas. in TEXT 7−44223
F, H-like, plasma, spectral series *(French)* 7−11794

plasma temperature continued
H^- ion prod., dependence on plasma and wall parameters 7−25288
H neutrals in bounded plasma slab, kinetic theory, analytical solns. 7−57981
H non-ideal plasma, effect of electron scatt. on conductivity 7−44109
H plasma, electron temperature determ. from He-like ion resonance/intercombination lines *(Chinese)* 7−6362
H plasma, low n Balmer line intensities, T-tube glass-to-plasma boundary layer study 7−37701
H plasma, T-tube boundary layer effects on spectral intensities ratios, temp. determ. 7−37635
H^- hybrid volume source, ion and electron density profiles 7−10340
H^- ion volume prod., effect of chamber volume and gas pressure 7−10347
H^- tandem multipole ion source, plasma parameter meas. by Langmuir probe anal. 7−10339
H^- tandem multipole source, plasma parameter meas. using Langmuir probe technique 7−10338
H^- volume ion sources, modelling of vibrational population distrib. 7−10344
H^+ beam, space charge compensation by pregenerated plasma 7−44200
H-like ion plasma, laser interaction, X-ray line emission self absorpt. and escape factors 7−37689
H_2, metastable, discharge rotational temp. and density determ., resonant multiphoton ionisation method 7−44105
H_β profiles at high electron densities from optical discharges 7−6447
He DC glow discharge positive column, gas temp. 7−32151
He diaphragmed discharge, multiple contraction 7−20972
He gas, temperature and density meas. in decaying plasma 7−31934
He microwave-induced plasma in laminar flow torch, spectrosc. temp. determ. 7−37738
He, plasma, collision induced transitions between singlet and triplet levels, laser fluoresc. 7−20846
He plasma, spectral line Stark broadening for theta-pinch turbulent plasma parameter meas. 7−44255
Hg, high pressure decaying arc., spectroscopic temp. meas. 7−11809
I, arc in air, plasma comp., Gibbs free energy calcs. 7−37795
K plasma, electron thermal cond., hot-wire meas. 7−20950
Li, arc in air, plasma comp., Gibbs free energy calcs. 7−37795
Li hollow cathode discharge, spectrosc. obs. 7−21008
Li like ion plasma, population inversion collisional-radiative model 7−25463
N II pulsed arc, Stark broadened lines 7−36534
N_2, glow discharge, 1^+ absorpt. system, gas heating dynamics 7−37790
N_2, jet, subsonic flow at reduced press., temp. study 7−51520
N_2 plasma, thermal, nonequilibrium, total rate coeffs. calc. 7−1672
Na, freely burning arc discharge, self-reversed reson. spectral lines 7−32157
Na plasma, creation by resonant laser interaction study 7−32033
Na, vapour ionization by laser resonance saturation 7−19791
Ne gas puff Z-pinch implosions, X-ray emission, appl. to X-ray lasers 7−26483
Ne II, Stark parameters meas. 7−36538
Ne, plasma, Stark broadening and shift parameters, visible spectra anal. 7−62310
O, nonequilibrium plasma, collisional-radiative model 7−37624
O_2, plasma, weakly ionised, electron heating and ionis. by RF fields 7−20862
SF_6 double nozzle arcs, flow field determ., spectroscopic temp. meas. 7−26583
SF_6, high-current discharges, optical diagnostics 7−37775
Se XXV plasma, laser produced, electron impact, laser transitions 7−26508
Xe plasma, electron mobility and conductivity, numerical solns. 7−31944
Xe plasma, equilib. comp., numerical methods study 7−31935

plasma theory
see also Debye-Huckel theory
acceleration effects, breakoff in plasma pinch conditions, capacitor model 7−37734
adiabatic-invariant change due to separatrix crossing 7−31932
alkali metal plasma, phase diagram, eqn. of state study 7−37634
anisotropic plasma, scattering form factor calcs. from test particle model and BBGKY method *(Chinese)* 7−6357
anisotropic plasma fluid stress tensor and its dispersion rels. 7−11609
astrophysical plasma, conf., Sukhumi, USSR (May 1986) 7−48174
auroral plasma, electrostatic potential due to high-speed plasma flow 7−14403
axisymmetric instability in tokamak, num. study 7−6376
boundary layer in presence of fast primary electrons, fluid eqn. solns. 7−31984
bounded beam-plasma system, nonlinear self-excited oscills. calcs. 7−16311
charge cluster plasmas, screening pot. calc. 7−44099
charge distrib. in elec. sheath region, math. expression 7−51462
charged particle dynamics near parabolic magnetic field reversal, deterministic chaos 7−26389
charged particle stopping power 7−37625
charged particle transport in fully ionized plasma, flux-limited diffusion model 7−36246
classical one-component plasma, equilib. props. in 3D and 2D, review *(French)* 7−32039
collective electromagnetic interactions in magnetised plasmas, nonlinear aspects 7−58050
collisional effects in cloud-in-cell scheme, laser-plasma heating due to parametric instabilities 7−26479
collisional magnetic pumping, soln. of differential eqn. 7−32021
collisional plasma, degenerate four-wave mixing and phase conjugation 7−25899
collisionless electron plasma, plane EM wave propag., solitary wave solns. 7−16309
collisionless internal kinks in high temp. plasmas 7−37666
collisionless plasma expansion, electron distrib. effects 7−11613
conducting plate in two-temp. plasma, pot. distrib. in Debye discontinuity 7−58025
Coulombic systems, interacting, thermodynamic functions and self-energy 7−16963
coupled dense plasma, Mott transition theory 7−20860
current-driven ion acoustic instability in collisional plasma, kinetic theory 7−26419

plasma theory continued
cyclotron line formation in a hot plasma including Compton cooling, appl. to X-ray binary stars 7−60514
cylindrical plasma, azimuthal mag. field diffusion 7−1674
cylindrical plasma-filled waveguide, compressional hydromag. waves, self-interaction 7−11649
dense plasmas, elec. cond., nonideality effects 7−37644
diatomic polar molecules, radiation spectrum, plasma elec. field effects 7−19956
dilute test particle, thermal relax. model problem 7−44098
diocotron and magnetron instabilities in crossed fields 7−26424
dispersion equations for two collision models *(Chinese)* 7−6355
drift waves, nonlinear interaction, kinetic eqn., anomalous thermal cond. 7−44143
ECRH heating, nonlinear effects 7−31968
electric conductivity, freq. depend., of slightly nonideal plasmas 7−20872
electric microfield distrib. and radial distrib. function 7−11698
electric microfield distrib. in plasma, mean spherical model, exact soln. 7−32084
electroacoustic solitary wave in rarefied nonisothermalplasma 7−11645
electron bound states in dense plasma, spectral displacement *(French)* 7−11605
electron cyclotron waves in nearly parallel stratified plasmas, propag. and adsorpt. 7−44156
electron density determ. from neutral gas temp. *(Czech)* 7−31930
electron hole and electron wave excitation in plasma with transverse effects 7−58051
electrostatic beam instabilities in a positive/negative ion plasma 7−51442
electrostatic modes beat-resonant coupling theory 7−37670
EM field, explosive buildup at plasma boundary, surface waves and whispering-gallery modes interaction 7−50457
EM wave amplification by ring-beams distrib. of moderately relativistic electrons 7−51503
EM wave propagation, surface wave excitation during total transmission through plasma slabs 7−1704
energetic trapped particle-induced resistive interchange-ballooning modes, theory 7−11679
exponential Taylor states in circular cylinders 7−44104
field reversed configurations, closed separatrix, numerical study 7−51488
fluorescence redistribution functions, in plasma, model *(French)* 7−11604
fully nonlinear ion acoustic waves in a magnetoplasma, electron drift effects 7−37665
generalized magnetohydrostatic equilibria 7−37659
geometric optics, reduction of order 7−51441
Grad-Shafranov equation under a conformal mapping transform., hydromagnetic plasma equilibrium 7−37656
Grad-Shafronov equations, isoperimetric inequalities and nonexistence 7−55993
guiding centre and guiding centre bounce motion in Hamiltonian form 7−20855
gyrokinetic current response operators for the Vlasov equation 7−51397
Heliotron E, stability calcs. for m=1/n=1 mode using 3D MHD equilibrium and stability code 7−31958
high density plasma, electron-ion recombination 7−31927
high temperature plasmas, collision term of kinetic eqn. for charged particles, shear viscosity 7−31926
Holtsmark distrib., cumulative and derivative, rational approx. 7−6361
hot spherical plasma, dissipative expansion in a homogeneous gaseous medium *(Rumanian)* 7−11591
ideal MHD equations, appl. of spectral theory of linear operators 7−34854
inert gas, contracted discharge, ionisation waves, 2D theory 7−16343
inert gas cold quasistationary beam plasma, state evaluation 7−31996
inert gas plasma, phase transitions study 7−37633
inhomogeneous, echoes hydrodynamic theory 7−44167
inhomogeneous conducting films, plasma waves 7−57996
interchange mode in mirrors, parametric stabilisation by ICRF 7−37669
interparticle correlations in dense high-temp. plasma, elec. microfields probability densities 7−1736
interparticle correlations in dense high-temp. plasmas, polaris. shifts of spectral lines 7−1737
inverse bremsstrahlung absorption in the planar corona of a laser target 7−16335
ion lines Stark broadening in stellar plasma 7−60515
ion pressure and work function in an effusion experiment 7−44107
ion velocity distribution functions, eval. 7−20863
ion velocity distributions, distortion in ICRH presence, semi-analytical anal. 7−58039
ionised gas physics, conf., Sibenik, Yugoslavia, (Sept. 1986) 7−24307
ISX-B, beam heated plasmas, toroidal energy density eval., temp. and density surfaces 7−31931
kinetic theory without Markovian approx., Vlasov eqn. integration along particle orbits 7−26390
Knudsen effect on plasma-particle mass transfer, self-diffusion 7−1678
laboratory plasmas, weakly and strongly coupled, unified eqn. of state 7−11576
Langmuir solitons theory 7−1671
laser plasma, expansion, transverse mag. field effect 7−26393
laser-blow-off plasmas, velocity distrib. meas. 7−20879
linear resonant absorpt. in inhomogeneous plasmas, validity of Denisov's anal. 7−26400
linear wave conversion in a two-dimensional nonuniformplasma 7−6356
lower hybrid waves with square-wave spectrum, steady-state current drive 7−26407
lower-hybrid resonance mode conversion in Tokamak plasma, analytic study 7−58012
magnetised compressible media, spatial mapping and time reversal 7−20097
magnetised plasma, double layers and multidimensional solitons 7−51446
magnetised plasma, ion-wave turbulence, Langmuir waves, maser theory 7−58008
magnetised plasmas, particle guiding centres, overall constant calc. 7−20869
magnetized plasma, kinetic eqn. soln. 7−20857
Maryland spheromak, mag. equilib. determ. 7−32057
metal targets, ion beam driven expansions, plasma-induced energy deposition effects 7−51475
metal vapour, nonideal plasma, thermopower study 7−37645
multi-fluid, steady state model for rotation and separation in a fully ionized, magnetized plasma column 7−26548
multiple ionised plasma, Debye screening model 7−37630

plasma theory continued
multiply charged ions in hot dense plasma, line shapes, simulation *(French)* 7−11696
Nagoya University Institute of Plasma Physics, Annual Review (April 1985-March 1986) 7−63249
neutral beam injected mirrors, relax. to steady state 7−37731
nonideal plasma, bremsstrahlung approx. scheme 7−37652
nonideal plasma, fully ionised, cond. calcs. 7−37648
nonisothermal plasma, nonlinear ion plasma waves 7−1683
nonlinear amplitude-modulated stationary waves in a uniform plasma 7−44140
nonlinear growth of external modes at small *q* in atokamak 7−6372
nonlinear instabilities, reactive and resistive versions, theory investig. 7−44148
nonuniform plasma-mol. system, thermal radiation field calcs. *(Russian)* 7−31948
occupation numbers for reacting plasmas, role of Planck-Larkin partition function 7−55440
Ohmic energy confinement in tokamaks 7−37726
one-component plasma, correl. function and microfield calcs. *(French)* 7−11587
overdense plasma layer, total transparency 7−26434
phase space density holes, equilib. state of fast charged particles bunch 7−31974
phase transition critical value estimation 7−37631
plasma atomic kinetics, evolutionary problems soln. by Monte Carlo method 7−20864
plasma dispersion function, numerical computation 7−44103
plasma renin assay calculation using Lotus 1-2-3 7−11585
plasma-molecular systems, spatially nonuniform, thermal radiation power spectral distrib. calcs. *(Russian)* 7−44122
plasmons dynamic behaviour in resistive MHD model 7−26406
polyformaldehyde plasma, optical and thermodynamic props. 7−11592
pulsed power technique research at IAE in Beijing 7−11693
quasilinear diffusion coeff. of particle moving in field of many waves 7−29621
quasilinear diffusion in a relativistic magnetically active plasma 7−11601
radiating plasma with current, instability, Joule heating and radiation effect 7−29456
radiation pressure on moving plasma 7−26397
radiative Gaunt factors 7−49673
rarefied magnetised plasma, external source field nonlinear modifications calcs. 7−44180
recombination-nonequilibrium plasma, gas dynamics eqns. soln. *(Russian)* 7−44108
relativistic electron beam interaction, static transverse periodic mag. field generation 7−44185
relativistic electron beam Raman scatt., 1D theory and simulation 7−26445
relativistic electron pulse transport in ohmic-conductivity plasma, num. study 7−6399
relativistic MHD with anisotropic press., Hamiltonian theory 7−44130
relativistic plasma, solitons of rounding EM waves, kinetic eqns. 7−11695
relaxation, entropy prod. 7−57980
relaxation and magnetic reconnection in plasmas 7−6389
resistive tearing modes in the presence of equilibriumflows 7−11640
reversed field pinch, asymmetric configuration with global invariants 7−51487
RF heated, low-dimensional chaos in a driven damped nonlinearSchrodinger equation 7−6408
RF plasma electron kinetics, attachment and ionis., self-consistent treatment 7−20850
RF plasma electron kinetics, current density 7−20849
RF plasma torch, inductively coupled, two-temperature model 7−63361
Rosseland mean free path lower bound, variational calcs. 7−44123
rotating plasma, thermosolutal instability, Coriolis force and ion Larmor radius effects 7−44135
runaway electrons, velocity-space struct. 7−11586
self-consistent kinetic equations., soln. method *(Russian)* 7−56141
shear Alfven vortices, nonlin. eqns., num. anal. 7−58011
shock waves, quasiparallel, wave precursors 7−1701
singularly perturbed systems, appl. of Tikhonov theory to plasma MHD eqns. 7−44125
space charge formation at plasma-wall boundary, similarity anal. 7−20899
space-time echo in an unmagnetized weakly turbulent plasma 7−51452
spectra from a cooling Planckian source, Gedanken expt. 7−1673
spectral line broadening in neutral gases and plasmas, comparison *(French)* 7−11703
spherically symmetric inhomogeneous isotropic media, fields of sources calcs. 7−37696
stationary states of nonlinear Schrodinger eqn. *(French)* 7−63256
stellarator plasmas, MHD equilibrium and stability anal. 7−51502
strong internal elec. fields in nonlinear force produced cavitons, laser acceleration of particles 7−11662
strongly magnetized plasma, Thomson scattering of o-mode and z-mode below cyclotron frequency 7−37650
surface waves at a plasma-metal boundary, propagating at right angles to a magnetic field 7−37699
surface waves excitation by intense EM pump wave 7−1694
synchrotron absorpt.-emission coeff. in plasmas 7−26399
system theory, conf., Knoxville, TN, USA (Apr. 1986) 7−14714
tearing modes in sheared slab, linear stability study 7−37671
tetrafluoromethane-O_2 mixtures, electron gas investig. 7−20861
thermal synchrotron radiation from optically thin thermal plasma 7−48103
thermally inhomogeneous plasma immersed in strong mag. field, self-filamentation instability 7−51443
three-temperature plasma model, soln. method, inertial confinement fusion target design studies appl. 7−10278
time-dependent line transport calcs., Monte Carlo scheme 7−20897
time-dependent ponderomotive force, review 7−58007
tokamak, plasma column, dynamics calc. equivalent current method 7−44212
tokamak, tearing modes suppression by ECRH *(Chinese)* 7−37716
tokamak plasma, non-circular, axisymmetric modes, feedback stabilization *(Chinese)* 7−37720
tokamak plasma, quasilinear analysis 7−63325
tokamak with flowing plasma, tearing modes *(Chinese)* 7−37715
tokamaks, anomalous transport theories, conceptual and expt. bases 7−37641

plasma theory continued
tokamaks, natural current profiles 7—37721
tokamaks, resistive tearing mode, set of equations 7—11675
toroidal, flux surface averaging, diffusion coeff., electron cyclotron reson. heating 7—20844
toroidal plasma, stochastic diffusion driven by single wave 7—51398
turbulent plasma, resonant ion heating, transfer processes 7—6390
two-component plasma, correl. function and microfield calcs. *(French)* 7—11587
two-component plasmas, strongly degenerate, thermodynamics 7—16962
two-ion-species, magnetised plasma, Alfven surface waves 7—1695
warm collisional plasma, suprathermal drift, evolutional soln. 7—1676
X-ray continuum emission from optically thin plasmas, approximation formulae for nonrelativistic average Gaunt factors 7—18349
Ar plasma, laser-sustained, theory 7—20911
Ar plasma, non-isothermal, excited level populations 7—11588
Au plasma, atomic processes, collisional-radiative and average-ion hybrid models 7—51387
C-Se plasma, radiation cooling and gain calc. for C VI 182 Å line 7—6360
CO, weakly ionised collision-dominated RF plasmas, electron kinetics 7—20856
Cs plasma, elec. cond., linear response theory 7—37646
F, H-like, plasma, spectral series *(French)* 7—11794
H neutrals in bounded plasma slab, kinetic theory, analytical solns. 7—57981
H plasma, Balmer-α line Stark broadening, simulation 7—11697
H plasma, electron swarm development in nonuniform electric field crossed with mag. field 7—51390
H plasma, phase transitions study 7—37633
H-like atoms, spectral restructuring in magnetised plasma in quasimonochromatic elec. field 7—19776
H-like ions in laser plasma, freq. redistrib., Stark broadening of lines 7—44203
He discharge, positive column, electron energy distrib. function calcs. 7—21031
He, glow discharge positive column, radial behaviour, self-consistent soln. 7—21034
He plasma, optically oriented, density kinetic model calcs. 7—51391
N_2, glow discharge, electron kinetics, Boltzmann and vibr. rate balance eqns., self-consistent solns. 7—21035
N_2, plasma, electron velocity distrib., self-consistent determ. 7—20859
Ne plasma, optically transparent, radiation cooling power and ionisation equilib. 7—44121
Ne-like ion recombination in finite density plasma, rate coeff. calc. 7—57982
O, nonequilibrium plasma, collisional-radiative model 7—37624
O_2 RF discharge, electron energy distrib. function determ. 7—21032
O_2, singlet form. kinetics in gas discharge plasma, expt. investig. 7—21037
SF_6, electron swarm kinetics with attachment and ionis., higher-order Boltzmann eqn. calcs. 7—20854
SF_6 plasma, electrostatic interaction effect on composition 7—37632

plasma thermocouples *see plasma devices; thermocouples*

plasma torches *see plasma devices*

plasma transport processes
see also Vlasov equation
air, ionisation by fast electron pulse, nonequilib. conductivity 7—6364
Alcator C edge plasma, directional asymmetries 7—63300
alpha effect, cyclonic events, rel. to current helicity 7—57984
anisotropic electron velocity distrib., probe method 7—51507
anisotropic plasmas, loss-cone type distribution, electron cyclotron emission and absorpt. anal. 7—20890
anode spot formation, time determ., photoelec. method 7—11789
anomalous thermal confinement in tokamaks, microinstability based model 7—51404
anomalous transport and the coupling of plasma diffusion and heat flow 7—44106
anomalous transport effects on plasma convection in poloidal limiter shadow of a tokamak 7—37637
arcs, cross flow effects 7—26550
arcs critical current density, V-I characts. 7—26553
axisymmetric tokamak plasma, dynamical modeling of transport and positional control 7—11629
axisymmetric toroidal pinch, elliptic cross section 7—11672
beat wave current drive, weak-turbulence theory 7—1698
CASTOR tokamak, plasma form. and sustainment by multijunction grill 7—58032
cathode layer dynamics, effect on externally sustained discharge current 7—21024
charged particle motion in strongly curved mag. fields, third integral 7—9366
charged particle quasi-linear diffusion, acceleration and heating 7—1675
charged particle transport calcs., finite element method, ICF appl. 7—36244
charged particle transport in degenerate electron gases, ICF plasma appls. 7—36241
charged particle transport in fully ionized plasma, flux-limited diffusion model 7—36246
collisional ion heating, transport effects 7—32016
collisionless plasma, longitudinal oscillations, macroscopic interpretation 7—11596
collisionless plasma, turbulent mag. transport and relax., self-consistency constraints 7—20867
compact tokamak ignition expts., ohmic ignition prospects 7—15338
compact torus, self-consistent modeling of quasi-steady state evolving to ignition 7—56854
condensed dispersed phase plasma, ionisation equilib. shift 7—31929
confinement time scaling in tokamaks 7—32052
conical target compression and heating study 7—11666
Constance B, high beta hot electron expts., ECRH-induced diffusion, electron micro-instabilities 7—32064
corona field, charged aerosol particle motion 7—32156
coupled dense plasma, Mott transition theory 7—20860
current discharge, n-filamentous Z-pinch, radial movement anal., high electric field effect 7—63261
current drive, formula for combined ohmic and RF contributions with RF pulse. 7—44119
current drive, In JIPP T-IIU, by LOOP antennas 7—6443
current enhancement for hose-unstable electron beams 7—11598
current induced by relativistic electron beam, direct meas. 7—20870

plasma transport processes continued
current sheet dynamics, coaxial plasma accelerator, atm. initial press., num. anal. 7—31945
current sustainment and ramp up by electron cyclotron waves, WT-2 tokamak 7—51403
cylindrical arc, conductivity, characts. asymptotic calcs. 7—32154
cylindrical diode, relativistic non-neutral electron flow, macroscopic extraordinary-mode stability props. 7—44259
cylindrical plasma, azimuthal mag. field diffusion 7—1674
dense bounded plasma, fusion neutron scatt., recoil nuclei energy transport props. 7—63344
dense gas, high-current arc development, hydrodynamic effects study 7—51529
dense plasmas, elec. cond., nonideality effects 7—37644
density fluctuations, far-IR laser scatt. study in JIPP T-IIU Tokamak 7—44257
diamagnetic loop, extended freq. compensation 7—16336
diffusion coefficient, weak turbulence theory approx. calcs. 7—20871
diode, planar vacuum type effect of current rise time on maximum current 7—44270
discharge plasma ion energy determ. with azimuthal electron drift, intensive cathode sputtering regime 7—1732
Doublet III Tokamak, mag. fluctuations and edge transport 7—44116
drift charge collection during a single particle upset 7—49792
drift waves, nonlinear interaction, kinetic eqn., anomalous thermal cond. 7—44143
drifting tri-Maxwellians, energy and momentum collisional transfer 7—1670
ECRH expts. in tokamaks and stellarators 7—6411
electric arc, deflected wall-stabilised relax. process, thermodynamics soln. 7—44273
electric conductivity, freq. depend., of slightly nonideal plasmas 7—20872
electrical conductivity of a dense plasma 7—11599
electron cyclotron heating in tokamaks, Fokker-Planck studies 7—51405
electron diffusion transport coeffs., Boltzmann-Vlasov formulation 7—31947
electron distribution fn. in anode sheath of glow discharge, kinetic problem soln. 7—37627
electron energy, anomalous thermal transport in tokamaks 7—37733
electron longitudinal diffusion in two-component magnetised plasma 7—20875
electron losses from Jupiter-1M EM trap *(Russian)* 7—16301
electron swarms, scatt. cross-sections, diffusion theory 7—20873
electrostatic potential development, particle in cell model in stellarator 7—31940
energy deposition of fast α-particles in a fully ionized deuterium-tritium plasma 7—10289
energy transport requirements for tokamak reactors in the second ballooning stability regime 7—15333
energy-equipartition frequency and resist., mag. field depend. 7—44114
ETA-BETA II, plasma termination characts. 7—31943
exothermic reactions, nonlinear heat conduction, two-temp. hydrodynamic eqns. 7—51401
EXTRAP Z-pinch, resistive effects 7—44225
fan instability of accelerated electrons in tokamak 7—63269
fast electron form. in caviton field, depend. on laser radiation parameters 7—44204
fast heavy-ion charge states, effect of dielectronic recombination 7—16310
field-reversed configurations, local and nonlocal lower hybrid drift waves, 1D transport models 7—51495
field-reversed pinch, steady state, plasma ion cyclotron resonance heating, bootstrap current, diamagnetic current 7—6417
fluctuation diagnostic software tool development 7—11737
flute-Alfven vortices during RF heating of inhomogeneous plasma, nonlinear generation 7—63271
flux corrected transport algorithm, first-order hyperbolic equations 7—51402
Hall currents, effect on thermal-convective instability of composite plasma in stellar atmosphere 7—4437
heat flux distrib. determ. on PF anode surface 7—63258
high pressure arc plasmas, variational and transport props. 7—31941
high-current microwave discharge plasma, time varying ion acceleration 7—11815
Hiroshima Torus-1, reversed field pinch effects expt. *(Japanese)* 7—32041
hot-electron generation and transport in high-intensity laser interaction 7—26431
hyper-resistivity produced by tearing mode turbulence 7—37639
ICRH induced particle losses in stellarators 7—16326
imploding advanced fuel pellet, neutron heating effects, simulation 7—6421
impurity retention in ASPEX divertor chamber 7—51407
induced drift currents in circular planar magnetrons 7—63260
inhomogeneous magnetoactive plasma, particle heating by low-amplitude wave 7—32009
ion acoustic waves, active mol. plasmas, heavy particle polarisability effects 7—31977
ion cyclotron waves, non-parallel electric and magnetic fields, Vlasov eqns. anal. 7—31976
ion distribution, collisionless evolution, in presence of ion cyclotron reson. heating 7—58036
ion thermal conductivity associated with cyclotron heating in a tokamak 7—63308
ion trapping rates in tandem mirror reactors 7—15334
ionisation, anomalous, conversion of kinetic energy into electron heat and electrostatic waves 7—26394
isolated current-sheet system enclosed by free boundaries, global dynamics, rapid collapse 7—37657
JET, plasma heating in electron cyclotron range freqs. 7—16323
Joule heating in PF anode during current flow, theoretical investig. 7—63311
Knudsen effect on plasma-particle mass transfer, self-diffusion 7—1678
laser fusion, direct drive, thermal electron transport, review 7—26391
laser fusion, ionisation-radiation physics 7—26504
laser fusion and hot-electron transport, mag.-field generation 7—26470
laser fusion physics, conf., Vancouver, BC, Canada (June 1986) 7—24256
laser generated hot electron transport in an externally applied magnetic field 7—26478
laser plasma, expansion, transverse mag. field effect 7—26393
laser prod. plasma, magnetised electron transport, bifurcation 7—44208
laser-plasma interactions, fast ion generation 7—26467
laser-produced plasma fluctuations, kinetic model 7—26469

plasma transport processes continued
laser-produced plasmas, nonlocal heat flow, model 7—20912
laser-target irrad., hot electron generation and transport, external mag. field effects 7—37711
light ion beam propagation, electrostatic two-stream and EM filamentation instabilities 7—6368
limiter material, effect of heat and particle fluxes 7—20866
limiter tokamak, particle fluxes, scrape-off layer struct. 7—63301
lower hybrid current drive, simulation model 7—11597
lower hybrid wave heating and current drive, review 7—6413
magnetic curvature drift instability 7—37675
magnetic field config. disruptive behaviour, control of m=2/n=1 magnetic island in JIPP T-IIU Tokamak 7—44168
magnetic helicity in a toroidal plasma 7—31951
magnetic phenomena driven by parallel ion motion, simulation 7—26412
magnetically insulated gaps, obliquely propag. EM wave linear stability 7—44260
magnetised plasmas, particle guiding centres, overall constant calc. 7—20869
magnetized Fokker-Planck equation with quasilineardiffusion for nonaxially symmetric velocitydistribution functions 7—11590
magnetoinductance particle codes with guiding centre electron motion, two-, three-dimensional 7—44236
metal vapour, nonideal plasma, thermopower study 7—37645
methane, pyrolysis in plasma jet and behind shock wave, chem. species distrib., calc. and meas. 7—37751
MHD channel flow, secondary flow meas. 7—16302
microwave-afterglow studies, electron heating, dissoc. recombination, electron temp. and density 7—11813
MIMIMARS halo model and computer code 7—15335
minority heating current drive, numerical studies 7—32011
mode conversion of a propagating to nonpropagating wave 7—37673
molecular process modeling in thermal plasmas by shock tube technique 7—31982
momentum transfer cross sections, expt. data fit 7—20845
neoclassical impurity transport and poloidal asymmetry obs. in JET 7—51449
neoclassical ion thermal cond. in tokamak, impurity contrib., finite aspect ratio effect 7—26395
NET, plasma-wall interaction study 7—63297
nonideal plasma, elec. cond., multiple scatt. contrib. in H 7—16299
nonideal plasma, fully ionised, cond. calcs. 7—37648
nonlinear growth of external modes at small q in atokamak 7—6372
nonlinear gyrokinetic theory, direct interaction and anomalous thermal transport in tokamaks 7—37638
nonlocal electron heat transport by not quite Maxwell-Boltzmann distributions 7—16300
numerical simulation, book 7—48214
Ohm's law, heat flux effects 7—31939
Ohmic tokamak discharges, density limits, thermal cond. models 7—11657
optogalvanic signal origin rel. to plasma parameters 7—30971
oscillations, low-frequency, energy-loss rate and enhanced diffusion 7—37664
particle beam fusion, Nagoya, Japan (Nov. 1985) 7—4636
PBX tokamak, Z-dependent impurity accumulation 7—44115
plasma electronics, review 7—1789
plasma focus drivers, efficiency parameters for reactor conditions 7—63373
plasma lens characteristics investig. 7—37735
plasma sheath dynamics of focus discharges, parameter eval. 7—63304
plasma transport coefficients for nonsymmetric toroidalconfinement systems 7—11678
plasmatron, two-jet, electric arc characteristics in transverse mag. field 7—63360
PLT, current drive, heating, RF expts. 7—6410
positron trap, tool for plasma physics 7—63348
pressure anisotropy effects 7—37640
profile consistency in tokamaks, transport models 7—51408
proto S-1/C spheromak, particle diffusion meas. 7—31942
pulsed beam-driven discharge, cathode spots evolution 7—63378
pulsed power technique research at IAE in Beijing 7—11693
quasilinear diffusion coeff. of particle moving in field of many waves 7—29621
quasilinear diffusion in a relativistic magnetically active plasma 7—11601
radiation pressure on moving plasma 7—26397
radiation transport in an ionizing current sheath, MHD eqns. 7—51409
rarefied plasma flow, heat transfer to metallic or nonmetallic particle 7—20868
relativistic electron beam injection in tokamaks, macroscale particle simulation 7—44186
relaxation processes in Ar afterglow cylindrical plasma *(Spanish)* 7—51392
REPUTE-1, RFP plasma, relaxation processes 7—32050
resistive fluid turbulence in diverted tokamaks and the edge transport barrier in H-mode plasmas 7—44171
resonant transformation of electrostatic energy in ExBfield system 7—6367
reversed field pinch, TPE-1R, TPE-1R(M), quiescent period *(Japanese)* 7—11673
reversed field pinch plasma, TPE-1R(M), radiation loss, Fe impurity, electron temperature, electron density 7—11706
reversed field pinches, current driven drift waves, dynamo effect, transport 7—31956
RF current drive, investig. 7—11594
RF current drive in tokamak devices, bootstrap effect 7—51400
RF discharge, electron acceleration by self-generated stochasticity 7—32166
RF ion source, ion energy distrib., radial extraction, injected electron beam 7—30118
RF plasma electron kinetics, current density 7—20849
RF plasma sheath, ion transport, Monte Carlo modeling 7—37797
ripple transport, electric rotation effect calcs. in heliotrons and stellarators 7—31938
Rosseland mean free path lower bound, variational calcs. 7—44123
rotating ion beam propagation, MHD anal. 7—6375
rotating magnetic fields, RF driven, plasma confinement appl., self-consistent calc. 7—796
runaway phenomenon, diffusion with varying drag 7—57977
schlieren method for fusion plasma particle density distrib. meas. 7—58060
stellarators, neoclassical transport 7—58047

plasma transport processes continued
subcritical plasma, highly inhomogeneous electron acceleration and nonresonant elec. field enhancement 7—11600
superthermal ion species, collisional transport in magnetised plasma 7—57978
T-10 tokamak, optimum current density profile, electron-cyclotron resonance heating 7—44198
T-7 tokamak, toroidal current and loop voltage temporal evol., RF-current drive expt. interpretation 7—57983
tandem mirror transport, temp. gradient effect on neoclassical scaling 7—51406
TCA Tokamak, ohmically heated, radiated power loss meas. 7—58055
TEXT, digital spectral anal. diagnostic for transport, turbulence and scatt. 7—25233
TFR, correlation between low-freq. turbulence and energy confinement 7—32043
thermal plasma, turbulent flow, thermal contraction of current at anode 7—44118
thermal plasmas, high press., radiation emission coeffs. 7—26551
thermal relaxation of 2D plasma in uniform mag. field 7—44101
thermal solitary vortices in current-carrying edge plasmas 7—44128
thermionic converter, effect of Nb:O$^-$ polycrystal collector on output characts. 7—44271
thermonuclear fusion research by sheet plasma, vol. prod. H$^-$ and D$^-$ ion source 7—32105
three-channel plasma diagnostic data handling system based on the VAX 11/780 and the LeCroy 3500 signal analyzer 7—26527
thyratron current and plasma quantities intrinsic relationships, thyratron plasma cond. 7—32121
TM-G tokamak, energy confinement at high plasma densities 7—51499
Tokamak, compact ignition designs, plasma predictions 7—15315
Tokamak, dynamics of plasma column, numerical model 7—26480
tokamak, noncircular cross-section, plasma transport/stability anal. 7—16324
tokamak, T-7, current drive by lower hybrid waves, temp. depend. of efficiency 7—51522
tokamak current drive, anal. of θ pumping 7—63342
Tokamak discharge, start-up phase electron Bernstein wave current drive 7—44161
Tokamak fusion reactor core, one-dimensional transport model *(Chinese)* 7—5420
tokamak interior wall, elec. arc form. 7—51457
tokamak plasma, electron density evolution 7—37647
Tokamak plasma, electron vel. space diffusion induced by electron cyclotron waves 7—44117
tokamak plasma, energy confinement stability, microscopic transport 7—6435
Tokamak plasma, slow-time evolution, transport limits, phenomenological theory 7—1725
Tokamak plasma, thermal instability and anomalous cond. 7—44162
Tokamak plasma equilibrium with nonuniform current distrib. 7—32045
Tokamak plasma modelling and atomic processes, conf., Nagoya, Japan (July, 1985) 7—14716
tokamak plasma scrape-off layer particle flux penetration 7—16298
tokamak plasmas, C coating, effect on ICRH, Fe impurity radiation loss 7—6418
tokamak plasmas, feasibility of using positrons for transport studies 7—6450
tokamak plasmas, inner-shell X-ray line spectra, diffusion coeffs. meas. 7—6371
tokamak T10, transport processes during injection of H pellets 7—63259
tokamak T-7, impurity transport, mag. islands effect 7—44112
tokamak transport, phenomenological relations 7—11602
tokamak with poloidal magnetic diverter, transport in plasma near wall, 2D model 7—44111
tokamaks, anomalous transport theories, conceptual and expt. bases 7—37641
tokamaks, impurity confinement time meas. 7—44226
tokamaks, ion-temp. gradient driven turbulence theory 7—26430
tokamaks, natural current profiles 7—37721
tokamaks, resistive tearing mode, set of equations 7—11675
tokamaks, Soviet, confinement study, transport coeffs. 7—6433
toroidal, flux surface averaging, diffusion coeff., electron cyclotron reson. heating 7—20844
toroidal current drive expt. by m=+1, −1 nonaxisymmetric Alfven wave 7—44139
toroidal mode driven by ion temperature gradients and magnetic-field curvature 7—58045
toroidal multipolar expansions, anal. of MHD equilibria 7—20880
toroidal plasma, stochastic diffusion driven by single wave 7—51398
TPE-1R(M), start-up phase, volt-second consumption meas. 7—11654
TPE-2 plasmas, energy equilibr. transport props. *(Japanese)* 7—11670
transport coefficient, profile consistency andconfinement scaling 7—11593
transport scalings in tokamaks, thermodynamic approach 7—44214
trifluoromethane plasma in planar reactor, probe meas. 7—37750
Tuman-2A tokamak, plasma electron thermal conductivity determ. and radiative loss meas. 7—6471
turbulence, second sound, anomalous plasma diffusivity 7—37688
turbulent heat flows, numerical simulation 7—37687
turbulent plasma, resonant ion heating, transfer processes 7—6390
turbulent transport coeffs. in peripheral plasma in tokamak, MHD and drift instabilities 7—63279
vacuum arc, turbulence, particle acceleration, Buneman instability 7—1796
vacuum breakdown in pulsed-power plasma expts., diode perveance 7—32184
vacuum-plasma boundary movement, axisymmetric AC helicity injection effects 7—26396
virtual cathodes and microwave emission, 2D features 7—44262
Vlasov's eqn., one dimens. soln., finite elements method 7—31946
warm collisional plasma, suprathermal drift, evolutional soln. 7—1676
X-ray drive ICF, radiation transport modelling 7—6420
Z-discharge channel, ion beam pulse propagation in 2-D 7—6369
Z-pinch, corona form. radiative loss, dynamics, ID approx. 7—51483
Z-pinch, toroidal, field profiles, plasma current, electron temperature, beta value *(Japanese)* 7—11674
Zubarev-McLennan states, appl. of linear response theory 7—44110
Al plasma created by laser at 1.05, 0.53 and 0.26 μm, soft X-ray imaging to study thermal transport 7—1735
Ar dense plasma, elec. cond. determ. 7—37642
Ar discharge, nonequilib. behaviour of electrons 7—21039

plasma transport processes continued
Ar, high-pressure plasma, elec. and optical props. 7−26552
Ar laser-sustained plasma in axisymmetric flowfields, 2D model 7−11661
Ar plasma, collisional drift instability in a variable radial electric field 7−16303
Ar plasma, electron mobility and conductivity, numerical solns. 7−31944
Ar RF discharge plasma, electron and ion transport meas. 7−20874
Ar, RF discharge plasma, electron swarm, time-resolved spectroscopy 7−20959
Ar-hexamethyldisiloxane glow discharge, charge carrier prod. 7−32172
C, cathode erosion and power flow in vac.-arc centrifuge 7−26562
C fibre plasma, laser produced, population inversion and gain meas. 7−26505
Cs, nonideal plasma, elec. cond. meas. 7−37643
Cs plasma, elec. cond., linear response theory 7−37646
Cs strongly coupled cluster plasma, elec. cond. 7−37649
Cu-air plasma, composition and conductivity *(French)* 7−11595
D-T mixture, plasma focus, inductive explosive magnetic generator current source study 7−44299
H ion, diffusion coeff. in plasma, gyro-radius effect 7−31936
H non-ideal plasma, effect of electron scatt. on conductivity 7−44109
H plasma, electrical conductivity 7−1677
H^+ beam, space charge compensation by pregenerated plasma 7−44200
H(D), T-tube plasma, β-line central dip, ion dynamic effects anal. 7−36542
He, metastable state, positive column, ionis. process investig. 7−20057
He plasma, spectral line Stark broadening for theta-pinch turbulent plasma parameter meas. 7−44255
Hg arc discharge, high-pressure, heat transport obs. 7−21009
Hg-Ar mixtures, in discharge, current variations and plasma parameters 7−21011
K plasma, electron thermal cond., hot-wire meas. 7−20950
Mg, cathode erosion and power flow in vac.-arc centrifuge 7−26562
N plasma particle-gas mass transfer, Knudsen effect 7−31937
N_2, nonequilib. weakly ionised plasma, electron transport coeffs. 7−6365
N_2 plasma, thermal, nonequilibrium, total rate coeffs. calc. 7−1672
Ne discharge, positive column, ionisation-diffusion waves, Kolmogorov entropy 7−44277
Ne^{2+} in Ar plasma afterglow, ambipolar diffusion coeff. meas. 7−20949
O_2, microwave discharge, elementary processes investig. 7−32177
O_2 RF discharge, charge carrier distrib., power and press. depend. 7−32096
Xe plasma, Cs additive, conc. depend. anal. 7−51399
Xe plasma, electron mobility and conductivity, numerical solns. 7−31944
Xe plasma, equilib. comp., numerical methods study 7−31935

plasma turbulence
2D magnetised Rayleigh-Taylor instability, spectral characts. of assoc. turbulence, ionosphere appl. 7−44170
Alcator C plasmas, poloidal rot. velocity meas. 7−6456
anomalous thermal confinement on ohmically heated tokamaks 7−37725
beat wave current drive, weak-turbulence theory 7−1698
collisional effects in cloud-in-cell scheme, laser-plasma heating due to parametric instabilities 7−26479
collisionless plasma, turbulent mag. transport and relax., self-consistency constraints 7−20867
conditional eddies in plasma turbulence 7−16308
convective Alfvén ion cyclotron instability in anisotropic turbulent plasma 7−26421
diffusion coefficient, weak turbulence theory approx. calcs. 7−20871
drift wave, renormalised nonlinear dielectric function, weak turbulence theory 7−11616
drift waves, nonlinear interaction, kinetic eqn., anomalous thermal cond. 7−44143
echo in a weakly turbulent plasma 7−63278
effective collision freq. meas. on weakly ionized turbulent plasma 7−31928
electric arc in flow with well-developed turbulence, investig. 7−26566
electrical arc, interaction with turbulent gas flow, semiempirical model 7−32155
electrostatic resistive interchange turbulence, dynamics and fluctuation spectra 7−11636
EM drift vortices, nonlinear eqns. 7−20896
field-reversed configurations, local and nonlocal lower hybrid drift waves, 1D transport models 7−51495
filamentary structures and plasma vortices induced by behaviour of toroidal magnetic surfaces 7−63265
heat flows, numerical simulation 7−37687
hollow cathode arc effect on plasma viscosity and ion transport 7−44169
hyper-resistivity produced by tearing mode turbulence 7−37639
ion acoustic turbulence evolution 7−51451
ion beam propagation across magnetic field, nonlinear effects 7−44194
ion sound turbulence, current-driven, in inhomogeneous plasma, anomalous resistivity 7−44172
ionosphere plasma, upper hybrid resonance and turbulence excitation by intense radio wave 7−55362
JET spectroscopic diagnostics in VUV region, rotation velocity study 7−6451
Langmuir turbulence, electron probe beam study 7−1699
Langmuir turbulence, Zakharov eqns., nonlinear Schrodinger limit 7−11647
laser corona, anomalous filamentation, current instability and excitation 7−26549
laser plasma, supersonic turbulent propag. of optical discharge 7−63280
magnetic fields transport 7−60512
magnetic fields turbulent transport 7−60511
magnetic plasma rotation in a metallurgical process reactor 7−26429
magnetised plasma, ion-wave turbulence, Langmuir waves, maser theory 7−58008
magnetised plasma, parametric turbulence in mag. field 7−1697
magnetised weakly turbulent plasma, echoes 7−31979
MHD, turbulent relax. processes 7−26402
MHD channel flow, secondary flow meas. 7−16302
MHD high power generator, stability of nonuniform subsonic flow against quasi 1D acoustic oscillations 7−44266
modified Penning discharge, edge turbulence studies 7−16331
nonlinear gyrokinetic theory, direct interaction and anomalous thermal transport in tokamaks 7−37638
nonlinear Langmuir waves collapse, intrinsic electron nonlinearity effect calcs. 7−16306
one-dimensional model, *F-θ* pumping with partial relaxation 7−44221

plasma turbulence continued
optical breakdown, supersonic turbulent propag. regime 7−20836
particle-wave interaction, nonreson. nature, semiclassical quasilinear theory 7−63250
plasma flows, heat transfer limitation as a cause of turbulence 7−51424
pulsed gas-flow spark gaps 7−6475
relativistic electron beam driven turbulent plasmas, electric field and fluctuations meas. 7−26524
relaxation and magnetic reconnection in plasmas 7−6389
renormalised dispersion eqn. calcs., correl. time effects on plasma waves 7−51450
renormalized reduced magnetohydrodynamics turbulence theory 7−11608
resistive fluid turbulence in diverted tokamaks and the edge transport barrier in H-mode plasmas 7−44171
resonant ion heating, transfer processes 7−6390
reversed field pinches, current driven drift waves, dynamo effect, transport 7−31956
reversed field pinches, theory 7−32049
RFC-XX-M mirror-cusp device, plasma waves and turbulence meas. using CO_2 laser 7−26529
rotating ion beam propagation, MHD anal. 7−6375
rotating plasma, thermosolutal instability, Coriolis force and ion Larmor radius effects 7−44135
slowly rotating plasma, low-freq. instability 7−26404
solar flares, radio emission, anomalous scattering on plasmons 7−29446
space-time echo in an unmagnetized weakly turbulent plasma 7−51452
steady state whistler turbulence and stability of thermal barriers in tandem mirrors 7−37681
TCA Tokamak, density fluctuations, long wavelength turbulence 7−1727
TEXT, digital spectral anal. diagnostic for transport, turbulence and scatt. 7−25233
TEXT, ECRH absorption and propagation studies viacollective Thomson scattering 7−11749
TEXTOR Tokamak microturbulence, CO_2 laser scatt. meas. 7−58015
TFR, correlation between low-freq. turbulence and energy confinement 7−32043
thermal plasma, turbulent flow, thermal contraction of current at anode 7−44118
Tokamak, mag. helicity, MHD current drive 7−51494
Tokamak, peripheral plasma, turbulent transport coeffs., MHD and drift instabilities 7−63279
tokamak microturbulence propag. direction diagnostics using homodyne spectroscopy 7−11748
tokamak plasma, clumps in drift-wave turbulence, trajectory stochastic treatment 7−6388
tokamak with flowing plasma, tearing modes *(Chinese)* 7−37715
tokamaks, anomalous transport theories, conceptual and expt. bases 7−37641
tokamaks, ion-temp. gradient driven turbulence theory 7−26430
turbulent particle containing flows of high temp. gas, laser diagnostics 7−1731
two-stream plasma, instabilities, water-bag model anal. 7−20887
vacuum arc, turbulence, particle acceleration, Buneman instability 7−1796
vortex structures, pulsed plasma stream, snow-plow model calcs. 7−31953
wave turbulence, second sound, anomalous plasma diffusivity 7−37688
Ar plasma, collisional drift instability in a variable radial electric field 7−16303
C, cathode erosion and power flow in vac.-arc centrifuge 7−26562
He plasma, spectral line Stark broadening for theta-pinch turbulent plasma parameter meas. 7−44255
Mg, cathode erosion and power flow in vac.-arc centrifuge 7−26562

plasma vortices *see plasma flow*

plasma-wall interactions
see also plasma impurities
2T-40M reversed-field pinch, plasma-surface interactions 7−63336
Alcator C, impurity sources during lower hybrid heating 7−37724
Alcator C edge plasma, directional asymmetries 7−63300
arcing at plasma-wall contact 7−37698
ASDEX Tokamak, ohmic and auxiliary heating, impurity prod. 7−63293
conducting plate in two-temp. plasma, pot. distrib. in Debye discontinuity 7−58025
erosion opening switch performance for HV ion diode expts. 7−32126
fusion devices, conf. Princeton, NJ, USA (May 1986) 7−60861
fusion devices, first wall, materials selection 7−25155
fusion devices, plasma interactive components, neutron damage, sputter erosion 7−49623
fusion devices, sputtering yields and plasma contamination 7−56843
fusion machines, plasma-surface interactions, design studies 7−63298
fusion reactor first wall, plasma disruption damage calc. 7−791
fusion reactors, first wall materials, plasma-wall interactions 7−25156
glass insulated probe in plasma, time required for probe surface meas. 7−37697
graphite, plasma interactive component surfaces, H recycling props. 7−63295
graphite, pyrolitic, sputtering with O ions at various target temps. 7−49633
ion source, plasma boundary-extractor electrode distance, erosion effects 7−18918
ion sputtering, rel. to angle to mag. field lines 7−63303
ion thruster, inert gas, plasma confinement by surface mag. fields 7−51486
ion-acoustic wave reflection from discharge-tube walls, expt. obs. 7−26411
JET, edge phenomena, probe diagnostics 7−63334
JET, impurity behaviour study 7−6441
JET, wall effects and impurities 7−56845
laser-plasma ablation, steady-state theory, self-regulating flow 7−58024
limiter tokamak, particle fluxes, scrape-off layer struct. 7−63301
metal target, charged, subjected to laser plasma, pot. dynamics 7−51459
NET, plasma-wall interaction study 7−63297
Odessa Fe meteorites, plasma cleansing and reduction 7−34956
oxide growth by plasma anodisation, ionic transport processes 7−65162
parameter gradients neat ceramic surfaces, origin investig. 7−20900
particle control for impurities and fuel in DIVA and Doublet III 7−11687
PISCES facility, erosion and redeposition expt. 7−63292
Plasma-Materials Interactions Test Facility electron cyclotron resonance microwave plasma system 7−51477

plasma-wall interactions continued
plasma-metal interface, surface wave dispersion, intermediate dielec. layer effects 7—37700
probe exposure to tokamak plasma, SIMS study 7—37740
pulsed power applications of the plasma erosion opening switch 7—32129
pulsed power appls. of plasma erosion opening switches 7—32128
radial wall jet, magnetogasdynamic, in presence of uniform transverse mag. field 7—6373
radiating plasma streams, erosion and microscopic inhomogeneities 7—11650
redeposited material behaviour and struct. changes, 7—51458
scrapeoff layer, energy deposition, power fluxes, diagnostics 7—63302
sheath structure in front of bipolar potential wall 7—20904
space charge formation at plasma-wall boundary, similarity anal. 7—20899
spacecraft HV solar cell array glass encapsulation for protection against plasma 7—65490
spectroscopic diagnostics on JET 7—11791
sputtering, preferential, collisional aspects using Monte Carlo method 7—53464
staged plasma-erosion opening-switch current rise time sharpening BLACKJACK 3 generator 7—32130
steel, austenitic, in fusion reactor first wall, gas thermal desorption by plasma streams 7—49616
steel, austenitic stainless, materials erosion and redeposition studies at PISCES facility, net erosion under redeposition 7—49637
steel, austenitic stainless, oxidation state in divertor of Heliotron E plasma device, XPS obs. 7—17704
surface layer modification at solid walls in high temp. plasma expts. 7—63343
T-10 tokamak, plasma-wall interactions 7—63294
T-15 tokamak, plasma-wall interactions, diagnostics 7—63299
TCA Tokamak, first wall damage, H recycling models 7—801
TEXTOR, ICRH, plasma-wall interaction study 7—6414
TEXTOR, plasma-wall interactions, heating, review 7—63289
TEXTOR liner, radial H flux meas. 7—63352
TFTR, plasma-wall interactions heating and diagnostics study 7—63291
thin metallic coatings for first wall of fusion devices, behaviour during plasma-wall interaction 7—51489
tokamak, scrape-off layer, probe meas. 7—63351
tokamak edge plasma props. 7—20928
tokamak interior wall, elec. arc form. 7—51457
tokamak plasma scrape-off layer particle flux penetration 7—16298
tokamak with poloidal magnetic diverter, transport in plasma near wall, 2D model 7—44111
tokamaks, carbonisation, plasmachemical in situ deposition 7—63296
tokamaks, plasma-wall interactions, impurity behaviour 7—63338
Tokoloshe tokamak, metal deposition on walls, toroidal dependence 7—1792
tokomak, toroidally symmetric, thermal instability MARFE phenomena review 7—63290
TPE-2 plasma, light impurities generation and removal *(Japanese)* 7—11671
TPE-2 plasmas, energy equilibr. transport props. *(Japanese)* 7—11670
vapour shield formation effects in tokamaks 7—19514
Ar-SF$_6$ plasma, negative ion detect., wall probe method appl. 7—20960
Be, fusion machine wall material erosion and impurity prod. 7—62074
C, cathode, chem. sputtering in H$_2$ and O$_2$ plasmas 7—32171
C, fusion machine wall material erosion and impurity prod. 7—62074
C:H films, carbonization in acetylene discharge 7—17444
Cu, materials erosion and redeposition studies at PISCES facility, net erosion under redeposition 7—49637
H$^-$ ion prod., dependence on plasma and wall parameters 7—25288
H$^-$ multicusp ion source, wall effect on volume prod. 7—25289
H atoms, low-energy, from tokamak plasma, detection by means of H$^-$ formation on W surfaces 7—44248
H, flux from wall into plasma, spectroscopic meas. 7—20901
He glow discharge, wall effects on electron component in ion sound regime 7—21029
SiC-C alloy coated graphite as armour tiles, post-exposure anal. after high heat loadings 7—49632

plasma waveguides *see plasma filled waveguides*

plasma waves
see also magnetohydrodynamic waves; plasma oscillations; plasma shock waves
2D and 3D MHD equilibrium and stability codes, comparison of BETA, HERA and STEP 7—11627
Alfven wave heating, density fluctuation obs. at reson. layers, probe meas. 7—58057
Alfven wave heating, diagnostics, review 7—6412
Alfven wave stimulated Brillouin scatt. in low-density plasmas in ionospheric conditions 7—44146
Alfven waves, nonaxisymmetric current drive expt. 7—44139
Alfven-gravity spectrum of an incompressible slab, astrophysical appl. 7—57991
Alfven-resonant modes destabilisation by resistivity and dimag. drifts 7—44151
anomalously weakly damped plasma waves excited by the finite amplitude ballistic process 7—55353
ASDEX tokamak temporal behaviour of plasma current distrib. during lower-hybrid current drive 7—44160
auroral plasma, ion cyclotron wave explosive instability effects 7—1684
backward Compton scatt. for electric field probes in high-density relativistic plasma 7—1759
beam-generated electrostatic electron waves ion magnetosphere and ionosphere 7—47645
beam-generated waves in a large plasma chamber 7—57994
beat wave current drive, weak-turbulence theory 7—1698
beat waves, saturation, anal. and simulation 7—31964
beat waves in hot magnetised plasma, decay 7—1692
beat-wave accelerator, collinear optical mixing of relativistic electron plasma waves 7—11614
beat-wave equations, relativistic solitary-wave solutions 7—20885
beat-waves in Z-pinch plasma, VULCAN Nd:glass laser meas. 7—11702
Bernstein modes, nonlinear Landau damping 7—11634
Bernstein waves, use in localized electron heating expts. in TNT-A Tokamak 7—1713
bistability and multistability in cyclotronresonance 7—11618
blast waves in laser-produced plasma, spectroscopic and interferometric meas. 7—6392

plasma waves continued
bounded beam-plasma system, nonlinear self-excited oscills. calcs. 7—16311
Buneman instability in waveguides, simulation of nonlinear dynamics 7—44165
circular cross-section tokamak, β-limits in H-mode-like discharges 7—11625
cold, wave and energy propag. directions 7—57999
cold plasma, evolution of waves due to nonlinear interaction, modulational instability 7—26408
cold plasma, nonlinear waves stability anal. 7—1690
collective electromagnetic interactions in magnetised plasmas, nonlinear aspects 7—58050
collisional plasma column, whistler waves, dispersion and damping meas. 7—51455
collisionless plasma, turbulent mag. transport and relax., self-consistency constraints 7—20867
conducting body moving through magnetoplasma, plasma wave generation 7—9369
conf., Saskatoon, Canada, May 1986 7—29595
conference, Schliersee, Germany (April 1986) 7—4629
convection amplification of wave beams in nonuniform plasma during stimulated Brillouin scatt. 7—63286
convective Alfvén ion cyclotron instability in anisotropic turbulent plasma 7—26421
current drive by asymmetrical heating of ions 7—32010
current drive by lower hybrid waves, effect of escape of resonant particles 7—26481
current sustainment and ramp up by electron cyclotron waves, WT-2 tokamak 7—51403
currents in earthquake zone, ionospheric MHD waveguide oscills. 7—14407
cyclotron harmonic waves, propagation paths in mag. meridian plane 7—9313
cylindrical discharge, hollow and coaxial plasma, collisional drift instability 7—44164
cylindrical plasma, wave field calc. using multiple shooting technique 7—44137
cylindrical plasma-filled waveguide, compressional hydromag. waves, self-interaction 7—11649
diocotron and magnetron instabilities in crossed fields 7—26424
discharge tube, conical, striation excitation 7—6479
discrete Alfven waves in planar flux tubes 7—37661
dispersion equations for two collision models *(Chinese)* 7—6355
dispersive plasma-satellites of dipole-forbidden transition of glow discharge 7—63391
dissipative beam-plasma instability nonlinear theory 7—1708
double layers, 3D, inducing ion-cyclotron oscillations in collisionless plasma 7—6402
double stimulated Brillouin scattering in a nonuniformlaser plasma 7—6396
double-plasma device, magnetised, for wave studies 7—51425
drift and MHD interchange modes in unsheared slab geometry, collision operators comparison 7—11637
drift and tearing modes in a sheared cylinder 7—37674
drift instabilities in presence of collisions, nonlinear evolution 7—58005
drift kinetic magnetosound-Alfven mode instability at the magnetopause *(Chinese)* 7—55368
drift solitons, theory 7—44158
drift wave type instability, nonlinear saturation, phenomenological theory 7—1696
drift waves, current-driven in shearless and sheared mag. fields, particle simulations 7—51444
drift waves, nonlinear interaction, kinetic eqn., anomalous thermal cond. 7—44143
drift waves, self-similar, in 2D 7—44159
drift-wave fluctuations in sheared magnetic field, 3D particle simulation 7—44237
drifting biMaxwellian plasma, resonant three-wave coupling coeffs. 7—11633
E-region, equatorial irregularities, phase vel. depend. on polarisation elec. field 7—47628
echo in a weakly turbulent plasma 7—63278
ECRH expts. in tokamaks and stellarators 7—6411
effective collision freq. meas. on weakly ionized turbulent plasma 7—31928
electroacoustic solitary wave in rarefied nonisothermalplasma 7—11645
electromagnetic hot plasma waves around electron cyclotron harmonics 7—58001
electron acceleration in a laser-irradiated plasma 7—11651
electron acoustic waves, nonlinear propag., higher-order terms effect 7—44136
electron beam, parametric excitation of ion cyclotron wave and plasma heating 7—51466
electron cyclotron absorption and amplification in mirror-confined plasmas, ang. and momentum distrib. depend. 7—37679
electron cyclotron absorption at down-shifted frequency in PLT 7—20884
electron cyclotron fluctuations in magnetised plasma, quasi-linear relativistic treatment 7—37690
electron cyclotron wave damping for oblique propag. in hot tokamak plasmas 7—37668
electron cyclotron waves in nearly parallel stratified plasmas, propag. and adsorpt. 7—44156
electron whistlers in plasmas, EM modulation 7—58000
electrostatic beam instabilities in a positive/negative ion plasma 7—51442
electrostatic ion cyclotron instability near threshold 7—11641
electrostatic ion cyclotron waves of collisional type, Q machine expts. 7—55375
electrostatic modes beat-resonant coupling theory 7—37670
electrostatic resistive interchange turbulence, dynamics and fluctuation spectra 7—11636
electrostatic waves in magnetosphere 7—34801
electrostatic waves in warm isotropic plasma, modulational stability 7—58010
EM drift vortices, nonlinear eqns. 7—20896
EM ion beam instabilities growth at cyclotron harmonic wave numbers, magnetospheric appl. 7—60489
EM wakefields for axisymmetric charge distrib. moving through cold uniform plasma, 2D dynamics 7—44263
EM wave linear mode conversion 7—37686
EM wave regeneration in inhomogeneous magnetised plasma 7—31988

plasma waves continued
energy relaxation, during tail-anisotropy instability in lower-hybrid current rise 7−6385
equatorial electrojet, irregularities phase vel. height profiles, elec. fields determ. 7−60453
equatorial electrojet, type II irregularities phase vel., elec. fields determ. 7−60454
exothermic reactions, nonlinear heat conduction, two-temp. hydrodynamic eqns. 7−51401
explosive generation of the second harmonic of beam spacecharge oscillations in a transverse slow electromagnetic wave 7−44142
F-region, HF-enhanced plasma line temporal evol. 7−34776
fast ion beam interaction, ion waves excitation dynamics 7−51465
fast magnetosonic surface wave dissipation 7−31969
fast wave conversion in a mirror field, observation of plasma heating 7−1712
field-reversed configurations, local and nonlocal lower hybrid drift waves, 1D transport models 7−51495
finite-β plasma, nonlinear short wavelength drift waves 7−63270
flute-Alfven vortices during RF heating of inhomogeneous plasma, nonlinear generation 7−63271
forced plasma-maser effects, stochastic motion 7−51434
four-wave processes involving two low frequency waves 7−37662
freestreaming mode and ion-acoustic wave excitation by voltage pulse 7−11617
fully nonlinear ion acoustic waves in a magnetoplasma, electron drift effects 7−37665
Gaussian EM beam nonlinear interaction with electrostatic upper hybrid wave 7−26436
Gaussian ripple growth on beam in collisionless magnetosphere 7−26437
generation, laser interactions and particle acceleration, review *(French)* 7−31954
geometric optics, reduction of order 7−51441
geometric optics at lower hybrid frequencies 7−37693
gyrotrons for plasma diagnostics, development 7−1780
gyrotropic plasma, semibounded, parametric excitation of surface cyclotron waves 7−51432
Hamiltonian systems with indefinite kinetic energy, evolution eqns. for plasma waves 7−18594
harmonic waves above and below lower hybrid freq. in ionosphere 7−55351
HF waves generation by auroral electrons 7−34775
high-beta collisionless plasma LF waves 7−1688
hot plasma, absolute parametric decay instability 7−63272
hot-cathode discharge, Langmuir oscills. self-excitation 7−37794
hydromagnetic waves compressional, damping and excitation on plasma column 7−11610
ICRF plasma heating, using folded waveguide coupler 7−58035
ICRF wave catalyst in beam-heated plasma 7−16313
ideal MHD equations, Galerkin method for differential equations with regular singular points 7−11624
ideal MHD equations, scalar form, normal modes in axisymmetric toroidal geometry, PEST codes 7−11619
inert gas, contracted discharge, ionisation waves, 2D theory 7−16343
inhomogeneous conducting films, plasma waves 7−57996
inhomogeneous plasma, echoes, hydrodynamic theory 7−44167
inhomogeneous plasma, two-plasmon decay, unstable modes anal. 7−20889
inhomogeneous plasmas, Alfven modes, ideal MHD eqns. 7−37663
interchange mode in mirrors, parametric stabilisation by ICRF 7−37669
ion acceleration via wave-particle interaction in apulsed beam-plasma system 7−11653
ion acoustic motions of plasma with two temperature electron distrib. function 7−63274
ion acoustic soliton, two-dimens. evolution 7−26428
ion acoustic soliton propag. in nonideal plasmas 7−26417
ion acoustic turbulence evolution 7−51451
ion acoustic waves, active mol. plasmas, heavy particle polarisability effects 7−31977
ion acoustic waves, nonlinear oblique modulation, KBM perturbation technique 7−26420
ion acoustic waves in magnetised plasma, nonlin. modulation 7−58009
ion Bernstein waves, parametric excitation by magnetosonic wave, nondipole approx. calcs. 7−31955
ion charge state distrib., near ECR freq. heated plasma 7−32022
ion conics, laboratory obs., vel.-space tomograph 7−44250
ion cyclotron waves, non-parallel electric and magnetic fields, Vlasov eqns. anal. 7−31976
ion dynamics, anomalous Doppler reson., single-particle and collective descriptions 7−51438
ion sound wave, scattering phenomenon, drift wave, renormalised nonlinear dielectric function, weak turbulence theory 7−11616
ion-acoustic soliton, 2-dimens. evolution 7−37682
ion-acoustic soliton reflection from planar boundary 7−44152
ion-acoustic solitons in two-ion warm plasma, ion temp. effect 7−44150
ion-acoustic wave parametric excitation by electron-cyclotron wave 7−37672
ion-acoustic wave reflection from discharge-tube walls, expt. obs. 7−26411
ionisation, anomalous, conversion of kinetic energy into electron heat and electrostatic waves 7−26394
ionisation wave front, diffusional-electrodynamic instability 7−20973
ionosphere, HF modification, small scale plasma density depletions form. 7−4263
ionosphere, phase vel. height profiles, use for equatorial electrojet elec. fields determ. 7−60414
ionosphere, waves generated by electron beams 7−34774
ionosphere plasma, upper hybrid resonance and turbulence excitation by intense radio wave 7−55362
ionosphere plasma wave beam effect on lower ionosphere plasma, nonlinear effects 7−14411
ionospheric plasma waves, energy balance between plasma and plasma waves 7−60445
JET, asymmetric $k_\parallel$ spectrum excitation by phasing the ICRF antennae 7−49672
JET, plasma heating in electron cyclotron range freqs. 7−16323
JET plasma, ICRF waves anal. 7−1723
JFT-2M tokamak fast wave heating via phased loop antenna array 7−58038
Langmuir solitons theory 7−1671
Langmuir turbulence, electron probe beam study 7−1699

plasma waves continued
Langmuir turbulence, Zakharov eqns., nonlinear Schrodinger limit 7−11647
Langmuir waves in solar corona, scatt. rel. to lower limit to type III burst brightness temps. 7−66561
large amplitude caviton meas. in plasma waveguide 7−31965
large amplitude ion acoustic waves nonlinear damping by high freq. elec. field *(Japanese)* 7−16305
laser plasma spherically symmetric modulated spontaneous mag. field 7−44205
laser-plasma interactions, density profile steepening, self-consistent treatment 7−26438
laser-produced plasma, Raman scattered light obs. 7−26398
LF electrostatic waves assoc. with auroral kilometric radiation, generation 7−47640
linear stability of counter-streaming two strong ionbeams 7−6422
linear wave conversion in a two-dimensional nonuniformplasma 7−6356
linearised compressible and resistive MHD equations, finite element semi-discretisation 7−11623
low-*n* shear Alfven spectra in axisymmetric toroidal plasmas 7−37676
low-temp. plasma, low freq. electric field parameters, mol. fluoresc. diagnostics 7−37756
lower hybrid current drive, simulation model 7−11597
lower hybrid drift instability and reconnection ofmagnetic lines of force 7−6377
lower hybrid drift solitons, stability 7−63273
lower hybrid heating, vacuum window device anal. 7−57995
lower hybrid resonance, accessibility to slow wave in tokamak, full wave theory 7−37678
lower hybrid waves with square-wave spectrum, steady-state current drive 7−26407
lower-hybrid resonance mode conversion in Tokamak plasma, analytic study 7−58012
magnetic helicity in a toroidal plasma 7−31951
magnetic mirrors, fast wave plasma heating, diamagnetism obs. 7−20907
magnetic phenomena driven by parallel ion motion, simulation 7−26412
magnetic pumping by magnetosonic waves in the presence of noncompressive electromagnetic fluctuations 7−26449
magnetic quadrupole, short wavelength drift waves, linear theory 7−44228
magnetically confined plasmas, fishbone oscillations 7−26413
magnetised coaxial cylindrical double plasmas, radial pot. form. with unstable waves 7−51461
magnetised plasma, double layers and multidimensional solitons 7−51446
magnetised plasma, intrinsic EM solitary vortices 7−11630
magnetised plasma, ion-wave turbulence, Langmuir waves, maser theory 7−58008
magnetised plasma subjected to external EM radiation in lower hybrid reson. region, temp. relax. 7−44100
magnetised two-ion plasma, LF drift induced instabilities 7−1687
magnetogravity wave propag. in plane-layer medium with nearly horizontal mag. field 7−44144
magnetoinductance particle codes with guiding centre electron motion, two-, three-dimensional 7−44236
magnetoplasma, single-ended, electron hole and electron wave pulse evolution 7−51460
magnetosphere, quasi-electrostatic half-electron-gyrofrequency VLF emissions 7−4272
magnetospheric waves, whistler waves and ion-cyclotron waves interaction 7−60482
magnetotail, broad-band electrostatic waves, review 7−60481
Maxwellian electron plasma, ion-acoustic double layers, finite amplitude theory 7−37702
Maxwellian plasma, collisionless, EM wave, relativistic distrib. function 7−1729
MHD equilibrium and stability calcs., stellarator expansion methods 7−11626
MHD standing oscillations in spherical dipole filed investig. 7−44129
MHD surface waves, exptl. evidence 7−37658
MHD surface waves, mag. field direction variation effects 7−31963
MHD surface waves in cylindrical finite β plasma 7−26415
MHD waveguides in a nonuniform plasma 7−6400
microwave discharge, plasma parameters in contracted region, ionis. wave propag. 7−21013
microwave discharge in TE wave beam intersection, ionisation instability 7−37793
microwave plasma interaction, reson. absorpt. 7−44178
millimeter-wave generation via plasma three-wave mixing 7−26423
mirror trap, drift cyclotron loss-cone instability, 3D mode struct. 7−37728
mirror-cusp device, RFC-XX-M, LF microinstability studied by Fraunhofer diffr. method 7−63275
mode conversion of a propagating to nonpropagating wave 7−37673
modified Penning discharge, edge turbulence studies 7−16331
modulational instability and wave collapse in mag. field 7−1682
modulational instability of ion-acoustic soliton in a microcomponent plasma 7−26427
noncircular tokamaks, ideal MHD props., ballooning and kink modes, stable β-values 7−11628
nonideal plasma, longitudinal oscills., effect on plasma props. 7−31970
nonisothermal plasma, nonlinear ion plasma waves 7−1683
nonlinear Alfven waves and the plasma vortices 7−58004
nonlinear amplitude-modulated stationary waves in a uniform plasma 7−44140
nonlinear collisional drift wave in mag. field with shear, model eqn. 7−51420
nonlinear drift-tearing mode stability in semicollisional regime, analytical theory 7−44153
nonlinear excitation of electron-acoustic waves, threshold power flux and instability growth rate determ. 7−44149
nonlinear high-freq. TM antisymmetric surface waves on thin unmagnetised plasma slab 7−11635
nonlinear instabilities, reactive and resistive versions, theory investig. 7−44148
nonlinear ion-acoustic waves, Korteweg de Vries eqn., self-similar soln. 7−31973
nonlinear Langmuir waves collapse, intrinsic electron nonlinearity effect calcs. 7−16306
nonlinear magnetosonic waves, relativistic theory 7−6384
nonlinear propagation of whistlers in reduced-density ducts in a magnetized plasma 7−26409

plasma waves continued
  ordinary wave, multispecies magnetised weakly ionised plasmas, BGK model study 7—31978
  particle acceleration in localised electrostatic wave packet, electron reheating 7—26446
  particle-wave interaction, nonreson. nature, semiclassical quasilinear theory 7—63250
  Pearlstein-Berk mode of drift waves in slab geometry, variational anal. 7—26422
  period-doubling phenomena obs. in basic plasma expt. 7—63276
  phase space density holes, equilib. state of fast charged particles bunch 7—31974
  plane plasma waveguide with random density inhomogeneities, parametric interaction of waves 7—58023
  plasma cylinder solitary surface waves eqns. 7—26410
  plasma dispersion function, numerical computation 7—44103
  plasma electronics, review 7—1789
  plasma waves in laser fusion plasmas, review 7—26405
  plasma-beat wave accelerator, pump depletion 7—32103
  plasma-filled waveguide, magneto-acoustic wave, second harmonic reson. 7—44181
  plasma-metal interface, surface wave dispersion, intermediate dielec. layer effects 7—37700
  plasmons dynamic behaviour in resistive MHD model 7—26406
  PLT, current drive, heating, RF expts. 7—6410
  ponderomotive interactions in collisionless plasma, hydrodynamics 7—44113
  quasilinear diffusion coeff. of particle moving in field of many waves 7—29621
  radiation features, reconstruction from projections measured with two bolometer arrays 7—51514
  reflection and propagation of ion acoustic solitons 7—26426
  refraction and reflection of large amplitude ion acoustic wave 7—26425
  relativistic electron beam Raman scatt., 1D theory and simulation 7—26445
  relativistic Langmuir waves, anal. and simulation 7—31964
  relativistic magnetised plasmas, linear waves 7—44235
  relativistic plasma, solitons of rounding EM waves, kinetic eqns. 7—11695
  relativistic plasma waves propag., global nonlinear aspects 7—1728
  resistive Alfven spectrum of tokamaklike configurationsin straight cylindrical geometry 7—11639
  resonant interaction between charged particles and plasma waves 7—26443
  resonant particle interactions with plasma waves, damping rate, analytic soln. 7—51468
  reversed field pinches, current driven drift waves, dynamo effect, transport 7—31956
  RF current drive, investig. 7—11594
  RF wave ionisation instability in weakly ionised plasma 7—51429
  RFC-XX, plasma prod. with rot. ion cyclotron waves excited by Nagoya Type-III antennas 7—37709
  RFC-XX-M mirror-cusp device, plasma waves and turbulence meas. using CO_2 laser 7—26529
  scattering by electrons in weak laser field 7—1691
  second harmonic emission wave, generation scale length anal., weak turbulence approx. 7—31972
  shear Alfven vortices, nonlin. eqns., num. anal. 7—58011
  sheath structure in front of bipolar potential wall 7—20904
  slow ion acoustic double layers, expt. obs. 7—37684
  small cold beam-plasma system, wave power enhancement by DC elec. field 7—6383
  solar wind, near-Earth shocks, plasma waves characts., BUDVAR complex obs. 7—55407
  soliton stability in plasmas and hydrodynamics, review 7—105
  stimulated Brillouin scatt. spectra in laser-plasma interactions, ion-acoustic wave damping *(Chinese)* 7—58016
  stimulated Brillouin scattering of a two-mode pump wave in an expanding laser plasma 7—44120
  stimulated radio emission of the ionospheric plasma at the second harmonic of the pump wave frequency 7—29331
  stimulated Raman scatt. of laser light filament 7—51454
  streamer plasma polarisation behind an ionisation wavefront 7—1799
  sub proton-gyrofrequency waves in multicomponent plasma in mag. field 7—63266
  subcritical plasma, ion acoustic wave generation by standing EM field 7—57997
  Sun, twisted mag. loops, dynamics 7—4311
  surface wave discharge in conical plasma column 7—21019
  surface waves, two-dimens. leak at boundary, surface wave packet anal. 7—31971
  surface waves at a plasma–metal boundary, propagating at right angles to a magnetic field 7—37699
  T-10 tokamak, H pellet injection effect on discharge characts. 7—1718
  tandem mirror, Phaedrus, ion cyclotron freq. stabilisation of m=1 interchange mode 7—44220
  thermal ion-acoustic fluctuations in collisionally dominated plasmas, laser scatt. meas. 7—11711
  thermal solitary vortices in current-carrying edge plasmas 7—44128
  thermonuclear Alfven loss-cone instability in mirror reactor, quasilinear theory 7—51435
  theta pinch, MHD equilib. plasma, flute drift mixing 7—26482
  time resolved second harmonic emission from laser produced plasmas, cut off, retardation characts. 7—37695
  time-dependent ponderomotive force, review 7—58007
  TM-G tokamak, energy confinement at high plasma densities 7—51499
  tokamak, T-7, current drive by lower hybrid waves, temp. depend. of efficiency 7—51522
  Tokamak discharge, start-up phase electron Bernstein wave current drive 7—44161
  tokamak FT-1, electron cyclotron heating, nonlinear phenomena 7—26447
  tokamak microturbulence propag. direction diagnostics using homodyne spectroscopy 7—11748
  tokamak plasma, clumps in drift-wave turbulence, trajectory stochastic treatment 7—6388
  tokamak plasma, current generation by lower hybrid waves, appl. of quasilinear anal. 7—63325
  tokamak plasma, electron cyclotron wave damping, power depend. 7—58006
  Tokamak plasma, electron vel. space diffusion induced by electron cyclotron waves 7—44117
  tokamaks, low freq. modes, generalised moment eqns. 7—58043

plasma waves continued
  tokamaks, second region of stability accessibility, ballooning and kink modes 7—11622
  toroidal magnetised plasma, fast wave excitation 7—26414
  toroidal plasma, collisional electrostatic drift modes 7—1724
  toroidal plasma, stochastic diffusion driven by single wave 7—51398
  toroidal resistive MHD instabilities, time stepping code calc., INTOR appl. 7—11621
  transient reflection, Lorentz medium half-space, TM polarisation, closed-form soln. 7—31989
  trapped-particle induced nonlinear ion-acoustic waves in magnetised plasma 7—31962
  Trivelpiece-Gould waves in plasma excited by electron beam, instability, external RF field effect 7—63267
  turbulence, second sound, anomalous plasma diffusivity 7—37688
  turbulent plasma, renormalised dispersion eqn. calcs., correl. time effects on plasma waves 7—51450
  two-ion hybrid resonance heating, simulation study 7—51474
  two-ion plasmas, ion-acoustic waves 7—11632
  two-ion-species, magnetised plasma, Alfven surface waves 7—1695
  two-stream plasma, instabilities, water-bag model anal. 7—20887
  ULF-modulated electrostatic wave for magnetosphere 7—47644
  Unmagnetized plasma, study of plasma modes close to ion plasma freq. 7—20888
  vacuum arc, gas ion effect on plasma instabilities 7—1797
  visco-resistive MHD instabilities computation, cylindrical equilibria disturbances 7—11620
  warm ion plasma, ion-acoustic waves nonlinear oblique modulation 7—1689
  warm plasma, plasma wave transformation at ionisation front 7—58017
  wave coupling in a modified beam plasma system, 1D model 7—63277
  wave-particle interactions and energetic tail formation in the electron distribution 7—26433
  waveguide coupling during lower hybrid current drive in a tokamak 7—26450
  Wendelstein VII-A stellarator, ECRH study 7—6434
  whistler approximation in collisional plasma, applicability range 7—6378
  whistler wave, nonlinear interaction, form. of periodic and solitary envelopes 7—11631
  whistler wave stimulated Brillouin scatt. off kinetic Alfven waves 7—51440
  whistler waves, stimulated Brillouin scattering in low-density collisionless plasmas 7—58019
  Z-pinch, corona form. radiative loss, dynamics, ID approx. 7—51483
  Ar plasma, collisional drift instability in a variable radial electric field 7—16303
  Ar plasma in axial magnetic field, weakly ionized instability study 7—57989
  Ar surface wave discharges, influence of excitation frequency 7—63386
  H plasma in axial magnetic field, weakly ionized instability study 7—57989
  H^+ plasma, beat wave saturation by collisional damping meas. 7—58058
  HD Tokamak plasma, fast Alfven wave propag., expt. meas. 7—58014
  He glow discharge, wall effects on electron component in ion sound regime 7—21029
  He, plasma, excited state lifetimes determ. 7—20947
  Hg low press. plasma, elec. double layers 7—1705
  Ne, discharge, positive column, ionisation-diffusion waves, Kolmogorov entropy 7—44277

plasmatrons *see plasma diodes*

plasmoids *see plasma*

plasmon-phonon interactions *see phonon-plasmon interactions*

plasmons
  see also phonon-plasmon interactions; solid-state plasma; surface plasmons
  Auger electron spectra of the metallic elements $_{47}$Ag to $_{51}$Sb, main and satellite structures 7—7795
  Coulomb interaction, effect on Peierls gap 7—32933
  Coulombic systems, interacting, thermodynamic functions and self-energy 7—16963
  coupled 2D electron systems, field theoretical treatment of plasma modes 7—58758
  deep core XPS spectra, intrinsic and extrinsic plasmon excitation 7—22438
  echo in a weakly turbulent plasma 7—63278
  electron correlation, band gaps and quasiparticle energies calcs. for semiconductors and insulators 7—27278
  electron gas, dielectric function, dynamical local-field factor 7—21840
  electron gas, disordered, interacting, quasi-2D, plasmon dispersion relations calcs. 7—38485
  electron liquid at any degeneracy, thermodynamic and dielectric props. 7—7135
  graphite, secondary-electron emission and electron-energy loss spectra 7—33491
  image formation by plasmon loss electrons in small spheres 7—16369
  inhomogeneous plasma, two-plasmon decay, unstable modes anal. 7—20889
  laser light absorption and scattering, computer simulation 7—26500
  lateral multiwire semiconductor superlattice, plasmon band struct. 7—38697
  magnetised weakly turbulent plasma, echoes 7—31979
  metal surfaces, plasmon effects on image states 7—7309
  metallic superlattices, electron scatt. by plasmons 7—32931
  metallic superlattices, plasmon spectra 7—64137
  metals, appearance pot. spectra, many-body effects, single-particle excitation contrib. calcs. 7—22387
  metals, plasmon linewidth, memory-function approach 7—45193
  metals, resonant displacement of levels of interacting localised plasmons and atoms of gas-filled pores *(Russian)* 7—32935
  nondestructive depth profiling using secondary emission spectroscopy 7—27836
  nonlocal metal optics, screened electromagnetic propagators, Green's function calcs. 7—27260
  organic conductors, IR absorption spectra and electron-electron interactions 7—46032
  organic linear chain conductors, IR and near IR props. 7—22247
  p-doped semiconds., dielec. functions, band-gap narrowing anal. 7—52482
  periodic electron system, dielectric function, VAA theory, plasmon damping 7—32930
  plasma waves in laser fusion plasmas, review 7—26405

plasmons continued
plasmon dispersion relations, correl. and inhomogeneity corrections, local density approx. calcs. 7—21839
semiconductor superlattices, I-type, intersubband collective excitations *(Chinese)* 7—12804
semiconductor superlattices, layered electron gas plasmons, Raman scatt., Green's functions calcs. 7—17313
semiconductor superlattices, plasmons, Raman spectra, EELS and finite-size effects 7—27392
semiconductor superlattices, type I, memory function and dynamic conductivity in a mag. field 7—52775
semiconductor superlattices with periodic, quasiperiodic and random spacings, plasmon spectra 7—21842
semiconductors, nonequilibrium carrier recomb. processes, plasmon effects, luminesc. spectra calcs. 7—58818
semiconductors, plasmon linewidth, memory-function approach 7—45193
semimetals, effect of interband transitions on acoustic spectra 7—38478
simple liquid metals, pseudoclassical approach to electron and ion density correlations 7—6503
SIS layered structures with metallised surfaces, interface excitations 7—22031
small metal particles, optical props., struct. dependences 7—17284
small metallic spheres, plasmon excitations, EELS study in STEM 7—32937
small particle or interface charact., appl. of parallel detection EELS 7—33499
superlattices, inverse dielectric function, local field effects, spatial dispersion 7—52489
thin metal films, plasmon excitations, density oscillations 7—52484
two dimensional, electron gas, spatially periodic charge density, magnetoplasma mode dispersion calcs. 7—12638
two-dimensional, electron gas, spatially periodic charge density, magnetoplasma modes study 7—12637
two-dimensional electron systems, exchange potentials and plasma modes 7—7139
two-dimensional electronic systems, plasmons and intersubband resonances 7—52730
underdense coronal plasma, laser interaction physics 7—26432
zincblende crystals, homopolar and heteropolar energy gaps 7—21811
Al and Al alloys, appearance potential spectroscopy, matrix elements 7—59305
Al, bremsstrahlung isochromat spectra, electron-energy losses 7—22377
Al films, chemisorption of O, Al-O bond lengths, photoemission EXAFS meas. 7—64871
AlGaAs/GaAs selectively doped heterointerface under high elec. field appl., 2D plasmon 7—52637
$Al_xGa_{1-x}As$-GaAs heterostructures, 2D electron space charge layers, plasmon and magnetoplasmon excitation 7—38696
AlMn, quasicrystalline phases, plasmon electron energy loss spectroscopy and electrical resistivity 7—3123
AlMnSi, quasicrystalline phases, plasmon electron energy loss spectroscopy and electrical resistivity 7—3123
Al_2O_3 thin films, spectral ellipsometric TEM and electron spectra studies 7—27208
Be, polycrystalline. plasmon dispersion, EELS meas. 7—27283
Ce (001), H_2 adsorption, initial stages of hydride form., UPS, LEED and EELS studies 7—21629
Fe-Si thin films, silicide formation, AES and EELS studies 7—32862
GaAs, electron-electron interactions, appl. for hot electron decay 7—32934
GaAs, phonon and plasmon deformation potentials, FIR spectra under uniaxial stress 7—26886
GaAs, space-charge layer effective mass in parallel mag. field 7—2469
GaAs-$Al_xGa_{1-x}As$ junction, 2D electron gas, plasmons, radiation absorpt. and emission 7—2686
GaAs-$Al_xGa_{1-x}As$ superlattice, dimensionality of subbands, plasmon dispersion 7—52765
GaAs-$Ga_{1-x}Al_xAs$ superlattice, plasmon propagation across layers 7—27276
Ge, electron mean free path needed for excitation of volume and surface plasmons 7—21838
HgCdTe, p-type, acceptor conc., IR reflectance studies 7—64600
Mg, bremsstrahlung isochromat spectra, electron-energy losses 7—22377
Si, bremsstrahlung isochromat spectra, electron-energy losses 7—22377
n-Si, complex dielectric fn., carrier interactions, Monte Carlo calcs. 7—33041
a-$Si_{1-x}C_x$:H thin films, struct. investig., electron diffr. studies 7—2430
Ti, plasmon spectra and energy, high energy EELS studies 7—12635
TiC_x, reactively sputtered film, characterisation by TEM 7—45092
TiH_2, plasmon spectra and energy, high energy EELS studies 7—12635

plastic afterflow *see recovery-creep*

plastic crystals
2-adamantanone, order-disorder transition obs. by FRIR spectroscopy 7—53342
bicyclo (222) octane, plastic phase, monomolecular reorientational dynamics, Raman scatt. study *(French)* 7—26675
bicyclooctene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7—53207
P-carborane, plastic cryst. phases, mol. notions 7—63528
2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7—46018
condis crystal concepts for small mols. 7—37908
cyclooctane, plastic cryst., positron annihilation study 7—39224
cyclosilanes, plastic and condis crysts., thermal anal. 7—37910
dislocation moment, classical and statistical thermodynamics 7—29958
hard ellipsoids of revolution, phase diagrams calcs. 7—2192
norbornane, plastic cryst. phases, mol. reorientations, incoherent quasielastic neutron scatt. 7—63527
norbornene, mol. plastic cryst., muonium adduct radicals, temp. depend. 7—53207
paraffins, lamellar crysts., microhardness and temp. variation 7—12197
sulpholan, phase transitions and positronium formation and lifetime 7—36828
tricosane, pseudohexagonal rotator phase, disorder at bilayer interface, mol. dynamics calcs. 7—58165
LiF plastic crystals, formation of cracks at cleavage fracture front 7—44674
$LiNaSO_4$, BCC, rotator phase, solid electrolyte behaviour, thermodynamic props. 7—21139

plastic deformation
see also Bauschinger effect; buckling; creep; ductility; elastoplasticity; kink bands; Luders bands; necking; plastic flow; serrated yielding; shape memory effects; slip; superplasticity
-0 7—17622
acoustic emission signal amplitude correlation with material deform. rate 7—33895
acoustoelastic effect, influence of plastic deformation, stress distribs. in slightly orthotropic materials 7—16069
acoustoplastic effect during active deformation of crystal 7—44700
adiabatic shear bands, initiation, growth and interaction 7—63728
adiabatic shear bands, nucleation, growth and coalescence, computational models 7—26837
amorphous polymers, craze accumulation during deformation in creep conditions *(Russian)* 7—63740
amorphous polymers, yield stress rel. to ageing, nonequilib. glassy state 7—46562
amorphous solid polymers, yield prediction, nonlinear viscoelastic constitutive eqn. 7—22767
annular membranes, large deformations under vertical edge loads 7—6107
axial-torsional deformation, plastic-strain-controlled, endochronic constitutive eqn. 7—12192
bar material, dilutely voided, instability in uniaxial tension 7—53787
bars, plastic impact, contact duration 7—37393
BCC crystals, tensile crack stress intensity coeff. 7—13591
beam, shock-loaded, large plastic strains eval. 7—43752
bending plate element, transverse shear deformation *(Chinese)* 7—26153
bisphenol-A polycarbonate, biaxial deform., yield behaviour, anisotropy effect 7—8070
α-brass, hot rolled, recrystallized microstruct., deform. processes 7—13500
brass, polycrystalline α-phase, low temp. solid-solution hardening, yield stress anal. 7—3321
α-brass, rolling deform. texture, shear band angles 7—33724
brass, yield loci, expt. investig. 7—51923
brass sheet formability, grain struct. and stress raisers influence 7—3376
CDW, depinning and quasi-commensurate transition, plastic deformation analogy 7—12628
ceramic composites, sintering, role of shear deform. 7—64988
ceramic cylindrical nuclear fuels, computer modelling, review 7—720
ceramics and coated carbides for matching stainless steels, failure mechanisms 7—3432
classical rigid/plastic materials, constitutive dual pots. 7—50957
clay, anisotropically consolidated, plasticity model for mechanical behaviour 7—14265
colliding bodies, penetration model accounting for ductile props. 7—58398
composite, digital image correlation methodology use for deform. quantification 7—59718
composite material failure under compression, complex stressed state case, continuous theory 7—62974
convergent bounding principle for a class of elastoplastic strain-hardening solids 7—43704
crack initiation at grain-boundary triple points in high-temp. deform., continuum mech. model 7—28104
crack-containing body, elastoplastic problem of antiplanar deform., discontinuous solns. 7—11343
crystalline materials, dislocation glide, tension, hardness effects *(Spanish)* 7—51779
cubic bodies, combinatorial spectra, sensitive splitting under stress 7—13125
cutting tool materials, mech. props., wear-resist. relations 7—3443
cyclic loading, creep plasticity problem 7—63003
discs and rings, subjected to rolling contact, stress intensity factors for small cracks in rim 7—57761
disk, clamped, dynamic plastic deform. under electrohydraulic impulsive press. 7—26157
dislocation dynamics, bias stress expts. using a two-wave acoustic method 7—63621
dislocation emission from cracks, electron microscope obs. 7—38005
ductile materials, determining relationships derivation by method of orientation averaging 7—6112
edge dislocations, velocity in a crystalline solid, applied shear stress depend. 7—21206
elastoplastic bodies, Landau phase transitions, order parameter fluctuation effects calcs. 7—44739
elastoplastic shells under finite deformation, general dynamic theory *(German)* 7—6116
elastoplastic solids, dynamic deform. processes, computation with allowance for continual failure 7—43696
electrical ceramics, high-alumina, sintered state range widening, temp. depend. of melt apparent viscosity 7—46396
engineering materials, general yield criterion depend. on void growth 7—1444
fatigue crack propagation rate, plastic deform. effect 7—13561
FCC crystal, constrained and unconstrained deform., multiple slip 7—44657
films, amorphous, mag. anisotropy, influence of plastic deform. *(Russian)* 7—45660
Frenkel defect recombination zone, influence of uniaxial tension *(Russian)* 7—37970
glass fibre reinforced epoxy, cross-reinforced wound, deform. and failure in tensile loading 7—17633
glass fibre reinforced plastics, surface deform. modelling 7—2236
glass fibre reinforced PVC matrix, acoustic emission during irreversible deform. 7—3380
grain boundary sources for dislocations, analytical treatment 7—44568
graphite fibre reinforced epoxy laminates, dynamic response at high shear strain rates 7—3371
graphite particle dispersed Al-Si alloys, powder extruded, wear characts. *(Japanese)* 7—53909
Hall-Petch parameters, relationship with σ_0 in deform. curve *(Russian)* 7—38092
homogeneous deformation in single crystal under stress *(French)* 7—1435
hot deformation, simulated, determ. of CCT diagrams by thermal anal. 7—59557
hot gas spraying, particle impact interaction with substrate 7—27894
ice, dynamic recrystallization and fabric development during shear deformation 7—55096
Inconel 600, recovery kinetics, X-ray determ. 7—22722
inelastic half-space with cylindrical cavity, load problem, wave interaction 7—11305

plastic deformation continued
infinite plate with a rigid circular inclusion, decohesive carrying capacity, material effects 7−63000
instability phenomena in solids, conf., Trieste, Italy (Aug. 85) 7−55896
intragranular heterogeneity of deformation and crystal rotation 7−53786
junction of rough surfaces, run-in mechanism with plastic initial contact 7−16680
kinematic hardening and large plastic deformations 7−6110
kinematic hardening in finite deform. plasticity, corotational rates 7−1433
lattice damage due to dynamic loading, simulation 7−26835
limit loads, yield surface conditions 7−26170
local strain hardening and nonuniformity of plastic deformation 7−22751
material, mechanical behavior representation rel. to internal damage 7−53838
material strength determ. at high strain rates, freely expanding ring test 7−54044
materials, anisotropic perfectly plastic, plane strain crack tip stress field 7−38106
mechanoluminescence studies of crystal structure 7−59268
metal superlattices, elastic and plastic props. 7−27085
metallic glasses, amorphous material behaviour in friction 7−28151
metallic materials, with elliptic inclusions, plastic deform. 7−28067
metallic sliding friction, fatigue wear mechanism 7−8135
metals, compression pulses, nanosecond, attenuation 7−58413
metals, ductile, new workability criterion 7−13533
metals, FCC, cyclic deform., dipolar wall spacings in dislocation struct. 7−53825
metals, inhomogeneity of elastic and plastic deform. 7−58399
metals, irradiated, deformation, impurity atmosphere effects *(Russian)* 7−59569
metals, irradiated, deformation rate, impurity atmosphere effects *(Russian)* 7−33727
metals, plastic deformation, high density current action 7−46550
metals, polycryst., expt. simulation of intercryst. sliding and fracture 7−2095
metals, strength, durability and fracture, time depend. in microsecond range 7−46597
metals, stress application, irreversible thermodynamics 7−28098
metals and alloys, plastic deform. in conditions of quasihydrostatics *(Russian)* 7−59586
microdeformations in plasticity theory 7−21325
minimum elastic strain energy, deform. 7−38097
misoriented crystals, advanced plastic deformation theory *(Russian)* 7−16669
moving defect with irreversible deformation zone and criterion of nonlinear dynamic fracture of solids 7−26204
moving dislocations in II-VI semiconductors, dislocations, effect on physical props. 7−7224
Nimonic 105, Ni-base superalloys, precip. and tensile deform. behaviour 7−65078
Nimonic 80, coupled plastic and creep damage at finite deform. *(Japanese)* 7−33736
Nimonic 80A, coupled effect of plastic damage and creep damage at finite deform. 7−46599
nonhardening material, plane strain, axisymmetric extrusion, viscoplastic FEM 7−63009
nonlinear hardening model for elasto-plastic materials *(Chinese)* 7−26154
phase transformations in solids, plastic deformation and thermodynamic hysteresis 7−16714
photothermoplastic film, deform. props. treatment process parameters 7−43281
plastics, yield condition under biaxial stress fields, prediction *(Japanese)* 7−46563
plate, infinite, dynamic plastic deformation 7−26163
plate, stiffened tension, with eccentric crack, elastic-plastic finite element analysis *(Chinese)* 7−16119
plates, circular incompressible, variational principle for large axisymmetric strain 7−31660
PMMA, stress cracking in air, mol. wt. distrib. effect 7−50992
poly γ-benzyl L-glutamate film, solidified, cholesteric struct., colour rel. to stretching and temp. 7−44354
poly γ-methyl L-glutamate film, solidified, cholesteric struct., colour rel. to stretching and temp. 7−44354
polyaminobismaleimide resin, dynamic recovery and embrittlement 7−38108
polyaminobismaleimide thermoset resin, plastic deform. behaviour 7−33738
polyarylates, amorphous, glassy, plastic deform. in stress relax. and creep regimes *(Russian)* 7−63730
polybutylene terephthalate-tetrahydrofuran-propylene oxide copolymer, deform. thermodynamics *(Russian)* 7−21335
polycarbonate, fracture, effect of rolling orientation on ductile-brittle transition 7−46644
polycarbonate, friction and wear, molecular orientation, uniaxial prestraining effect 7−13609
polycarbonate-polyarylatarylene sulfonoxide block copolymer blend film sample, nick self-dulling *(Russian)* 7−44665
polycrystalline aggregate, continuous constraints model for large strain grain deformations 7−32550
polycrystalline alloys, plastic deform., stress induced martensitic transform. *(Japanese)* 7−13514
polyethylene, charged particle exoemission rel. to deform. and fracture 7−7827
polyethylene, cold-rolled low-density, morphology and transport props. 7−13519
polyethylene, extended under press., hydrostatic press. effect on damage accumulation, struct. reorganisation 7−8065
polyethylene, lin., deform. process, morphological study 7−13518
polyethylene, oriented in heptane, uniaxial stretching, thermodynamics *(Russian)* 7−63731
polyethylene films, drawing, mech. props. rel. to polymerisation temp. 7−59488
polyethylene terephthalate glycol, films, uniaxially stretched, amorphous orientation and induced crystallisation 7−16448
polymer-dominated multi-material systems, hygrothermal process interdependence and elasto-viscoplastic behaviour 7−53785
polymers, deformation, elastic and plastic, IR spectrosc. obs. *(Russian)* 7−64659
polypropylene, isotactic, craze struct., deform. temp. effect *(Russian)* 7−37356

plastic deformation continued
polypropylene, quenched, isotactic, glass transition, effect of drawing 7−12278
polystyrene, compressed, shear bands, macromolecular orientation, small-angle neutron scatt. 7−53821
polystyrene, tensile impact, craze vol. and microstruct., synchrotron SAXS 7−53893
porous, anisotropic and variable strength media, applied theories of plasticity 7−16072
porous body, deformability criterion based on continual model 7−64958
powder metallurgical materials, plastic working in presence of free surface, math. modelling 7−53651
principle strains in the plastic region, optical meas. using moire method and interferometry 7−17580
PVC, friction and wear, molecular orientation, uniaxial prestraining effect 7−13609
PVC, rubber modified or filled, damage kinetics, AE analysis 7−54063
PVC sheets, biaxial tensile behaviour 7−17579
PWR fuel cladding, plastic deformation behaviour for Zircaloy and Zr-Nb, EPSI-MOD2 code *(German)* 7−19339
pyroxene, mineral lattice defects and crystalline plasticity, review *(French)* 7−34476
r(ε) function calculation, maximal error method appl., plastic anisotropy coeff. 7−61101
rate-type finite elasticity constitutive law, elastic and elastic-plastic deformation 7−57700
reactor piping systems, cycle-dependent material props. 7−10222
revolving bodies, dynamic contact with rigid wall, deform. and fracture investig. 7−31663
rigid cylindrical body embedding into ideally plastic tube 7−11299
rolling of adsorption-plasticised strip, surface layer rheology influence on stressed and strained state 7−17582
rotating disc with jump-like nonhomogeneity, elastic, limit and decohesive carrying capacities 7−63001
rotational deformations role in spherical particles form. in fatigue fracture 7−17612
rough surfaces, elastoplastic deform. in real contact zones, friction coeffs. calc. 7−16136
rupture during compression along near-surface fractures 7−43795
shape memory effects in plastic transform. conditions *(Russian)* 7−33656
shear band, modelling of instability at tip 7−26838
sheet metal forming limits under complex strain paths using void growth and coalescence model 7−13532
sheets, thin voided viscoplastic, instabilities during tension 7−16076
shell of revolution with hole, elastic-plastic axisymmetric state under concentric loading 7−16078
shells, axisymmetric sandwich, numerical shakedown anal. 7−26161
shells, noncircular cylindrical, dynamic anal., thickness shear deformation theories 7−6141
shells of revolution, anisotropic, physically nonlinear deformation 7−11307
shock compression induced modification and synthesis, book contrib. 7−27957
slip line field method for load limit *(Chinese)* 7−16071
solid bodies, three dimensional, stress and strain determ. *(German)* 7−20670
sphalerite single crystals, plastic behaviour between 473 and 873K, dislocation structure, TEM anal. 7−2093
steel, Al killed, tensile testing, deform. heating 7−65105
steel, alloy, structure evolution during strong plastic deformation *(Russian)* 7−3358
steel, austenite, strain-induced martensitic transform., strain rate effect 7−7996
steel, austenitic, martensite transform. start temp. increase in electrolytic H impregnation, internal microstresses role 7−17690
steel, austenitic stainless, ductile failure under biaxial loading, thermal transients, analytical model 7−59609
steel, austenitic stainless, high press. deform., twinned struct., TEM obs. *(Russian)* 7−46578
steel, austenitic stainless, Mo-N alloyed, static recrystn. and hot ductility 7−3327
steel, austenitic stainless, plastic creep, laws of high temp. behaviour *(French)* 7−13523
steel, austenitic stainless, single cryst., SCC and pot. depend. in $MgCl_2$ soln. *(Japanese)* 7−33831
steel, austenitic stainless, strain martensite determ., eddy current method 7−3559
steel, austenitic stainless, strain rate sensitivity, strain hardening and yield behaviour 7−53829
steel, austenitic stainless, swelling by electron irrad., influence of appl. stress *(Japanese)* 7−16632
steel, C, n *(Japanese)* 7−17558
steel, Cr, austenitisation, recrystallisation, pearlite transform. rel. to hot deform. 7−28033
steel, Cr type, dislocation struct. after hydraulic pressing followed by austempering 7−3334
steel, Cr-Mo, friction pair, contact zone surface struct. and mech. props. *(Russian)* 7−59640
steel, Cr-Mo, friction pair, surface layer structural modifications *(Russian)* 7−39678
steel, Cr-Mo type, deformed, struct. and mech. props. after long ageing 7−8106
steel, Cr-Mo type, temp. and deform. rate conditions influence on mech. props. 7−33752
steel, Cr-Mo-V, creep crack growth at 838K, const. load behaviour 7−17625
steel, Cr-Ni-Mo, Ge and melting method influence on mech. props. at high temp. 7−8025
steel, cryogenic, Al alloying effect on mech. and mag. props. 7−39679
steel, dual-phase, strength differential effect 7−46547
steel, duplex stainless, decomp. of deformed ferrite, TEM obs. 7−28091
steel, fatigue, microstruct. changes, thermometric assessment *(German)* 7−17641
steel, ferritic, yielding and fracture in transition region of quasistatic to dynamic loading 7−13581
steel, ferritic-martensitic stainless, warm forming *(Polish)* 7−13507
steel, Hadfield, cold-deformed, fine struct. anal., brittle fracture *(Russian)* 7−59570
steel, high strength structural, finishing monitoring by magnetic structurescope based on the Barkhausen effect 7−28241

plastic deformation continued
steel, high-C, hardened, mech. prop. changes on tempering, martensite decomp. role 7—3375
steel, HSLA, electron channelling line width degradation, dependence on deform. mode 7—39613
steel, HSLA, Nb, ductile fracture, plastic deform. mechanisms 7—28115
steel, low alloy, damaged surface, comp., displacement dislocations, Auger spectra *(Russian)* 7—59620
steel, low alloy, microstruct., mech. props. rel. to cooling rate 7—46514
steel, low alloy, pearlite free, fracture energy, effect of microstruct. parameters *(Russian)* 7—33787
steel, low C, cold forgeability, notches, geometry, friction conditions, microstruct. 7—33697
steel, low C, fatigue fracture surface, plastic deform., X-ray diffr. study *(Japanese)* 7—8097
steel, low C, microhardness, temp. depend in coarse-plastic transition region *(Russian)* 7—46638
steel, low C, struct. rel. to deform. method *(Russian)* 7—46580
steel, maraging, hydraulically pressed, struct., texture and hardening *(Russian)* 7—3323
steel, mech. props. and failure character after repeated thermomech. strengthening of surface layer 7—53994
steel, microstrain distribution under simple and complex loading 7—28096
steel, mild, plastic deform. modelling under nonproportional deform. path 7—13535
steel, Ni-Co-Mo, managing, ultrahigh strength, delayed fracture in H environment 7—28135
steel, Ni-Co-W, maraging, martensite-austenite reversible transforms. during tensile deform. and thermal cycling 7—17528
steel, Ni-Cr, deform. dislocation struct., fracture 7—33740
steel, Ni-Cr, duplex phase, plastic deform. modelling 7—28084
steel, Ni-Cr, tensile flake form., H damage, dislocation transportation *(Chinese)* 7—8077
steel, notched specimens, cyclic deform., thermoelastic effect *(German)* 7—33746
steel, packet martensite deformation, struct. and crystal geometry *(Russian)* 7—3357
steel, plain C, cold-rolled, texture and lattice deform. states *(German)* 7—53765
steel, pressure vessel with surface fatigue cracks, leak-before-break failures analysis 7—65141
steel, rotor type, deformed, microcrack dimens. rel. to acoustic emission parameters and struct. 7—65258
steel, secondary-hardening, bainitic embrittlement 7—3405
steel, stainless, ferritic, annealed hot-rolled plates, texture heterogeneous, correl. with plastic deform. struct. *(French)* 7—13483
steel, stainless, Ni-Cr precision alloy, spread of local overloads in microstruct. of aged and nonaged specimens 7—8061
steel, stainless, pipe, subjected to bending deform., fracture instability, effect of multiple circumferential through-wall cracks 7—65122
steel, stainless, transition class, deform. method effect on microstruct. 7—3299
steel, strengthening of parts and semifinished products in thelast stage of heat treatment 7—8024
steel, stress-strain curves, approx. functions 7—59591
steels, deformation steel, model taking into account inhomogeneous microscopic behaviour *(French)* 7—63725
strain-limit control in cyclic deformation testing, using servohydraulic testing machine 7—28233
strain-space plasticity formulation for hardening-softening materials with elastoplastic coupling 7—26164
stress anal. of wire drawing dies and boreholes, expt. study *(German)* 7—22769
stress concentration zone under static and cyclic loading, plastic strains 7—26846
strip with hole, fatigue resist., effect of multiple local plastic deform. 7—59625
subsurface failure in compression along macrocracks, spatial problem 7—26159
superalloy $L1_2$ structures, high temp. deform. mechanisms *(French)* 7—22766
surface film formation in friction, physicochem. processes 7—21347
surface formation energy in plastic deformation of solids in media 7—16853
tensile tests, nonisothermal, anal. using measured temp. distrib. 7—65245
thermoplastic medium 'frost' deform. anal., Fresnel diffraction at random phase screen inverse problem parameterisation *(Russian)* 7—50494
thin elasto-viscoplastic layers, wave propag. 7—1481
tribochemistry, chemical reaction increase by friction 7—46868
truss, three-bar, elastic/perfectly plastic, nonuniqueness, causes and consequences 7—11276
tubular specimens, mech. tests in high-press. chamber, stress-strain tensor functional construct. 7—59716
twinning in plastic deformation, simple model 7—38018
two-phase solid, cyclically loaded, residual stresses 7—63010
two-section deformation processes with curved sections, plasticity relations 7—43710
type II superconductors, flux-line lattice, elastic and plastic props. 7—27481
viscoplasticity, nonlinear FEM anal. 7—63008
W single crystals, cyclic deform. 7—22773
wear in rolling contact 7—22845
weld eigenstresses, stress optical modelling *(German)* 7—21494
yield surface, influence of plastic deformation *(Russian)* 7—63011
Zircalloy, mech. eqns. of state of material irrad. at 573K in deform. in working direction 7—8064
Zircaloy-4, cold worked, anelastic contrib. to high temp. stress relax., model 7—65072
Zircaloy-4, low cycle deform. at elevated temps. 7—22832
Zircaloy-4 fuel sheaths, failure model, circumferential temp. effect 7—728
Zircaloy-4 PWR fuel cladding, deformation, embrittlement and oxidation during LOCA 7—25036
Ag halides, polycrystalline low loss fibres, plastic deformation mechanism 7—37189
Ag in self-lubricating coatings for extreme temps. 7—3444
Ag specimen, contact resist. meas., deform., fretting effects 7—9848
Ag-Ag_4RbI_5-Ag ionic conducting system, elec. current press. and relax. effects, plastic deform. obs. 7—52123
Al, acoustic emission during deform. of high-purity single crysts. 7—59588
Al, crystals with edge dislocations, 2D angular correlation of positron annihilation radiation 7—39242

plastic deformation continued
Al, defect struct. during plastic deformation, periodic variation 7—44656
Al, deformed, acoustic emission on heating 7—51958
Al disks, 1100 rolling contact deform. 7—17594
Al, heterogeneous shock wave response, holographic interferometry studies 7—32571
Al, high purity, elec. cond., low-temp. plastic deform. effects *(Russian)* 7—17009
Al, hysteresis behaviour of medium temp. peaks *(French)* 7—63742
Al, plastic deform. and supercond. props., 0.5 to 4.2K *(Russian)* 7—8055
Al, plastic deformation under impact loading, metallography, SEM and TEM studies *(Russian)* 7—3361
Al, polycrystalline, deformed, positron trapping and annihilation 7—39258
Al, sheet, anisotropic, work hardening and limit strain assessment in biaxial stretching 7—13534
Al single crystals, cyclic deform. at low const. plastic strain amplitude 7—65114
Al thin films on Si substrates, plastic props., meas. by submicron indentation hardness, substrate curvature techniques 7—58720
Al, US deform, modelling of reduced bandwidth distortion to wide-area electron channelling mapping 7—16694
Al, yield loci, expt. investig. 7—51923
Al-Cu (2 wt.%) single crystals, rolled, shear band form. rel. to ϑ' precipitates 7—3385
Al-Cu (2 wt.%) single crystals, rolled, shear band form., ϑ precip. 7—28099
Al-Cu-Mg, 2024, averaged, yield loci, expt. investig. 7—51923
Al-Cu-Mg, Al-Mg, plastic deform., AE, X-ray obs. *(Russian)* 7—46579
Al-Cu-Mg, deformed, dislocation struct., AE obs., electron microscopy *(Russian)* 7—39832
Al-Cu-Mg, hot workability, recrystallisation during torsional deform. *(Korean)* 7—46559
Al-Li base alloys, deform. and fracture 7—39594
Al-Li-Cu-Mg-Zr, yield stress, temp. and strain rate depend. *(Japanese)* 7—33734
Al-Li-Zr rapidly solidified alloy, plastic deform. characts. 7—22777
Al-Mg, deformed, dislocation struct., AE obs., electron microscopy *(Russian)* 7—39832
Al-Mg (Mn), plastic deform. and supercond. props., 0.5 to 4.2K *(Russian)* 7—8055
Al-Mg alloys 5056 and 5083, recrystn. kinetics after hot deform. 7—3328
Al-Ti, rapid solidification processed/mechanically alloyed, high temp. deform. 7—65100
Al-Zn-Mg-Cu, notched and unnotched bars, macroscopic shear localisation and fracture 7—46633
Al(-Mg), AE during deform., effect of struct. state *(Russian)* 7—38127
Al_2O_3 fibre reinforced Al composites, compressive failure modes, dead weight or machine loading 7—39663
Au-Cd (47.5 at.%), stress induced martensitic transform., pseudoelasticity 7—39610
B fibre reinforced Al tube under multi-axial loadings, elastic-plastic deformation 7—46548
BE prototype limiter for JET, thermal fatigue tests, microcracking 7—5415
BN, graphite-like powder particles, shock compression effects 7—39453
BN, wurtzite-like, deformation and high-press. phase transitions 7—44804
BaF_2, phase transitions, influence of shear deformation 7—21429
$BaTiO_3$, perovskite, TEM study of dislocations 7—38003
Be, AE as function of grain size during plastic deform. *(Russian)* 7—59582
Bi-Pb, superconducting transition temp., effect of plastic deform. 7—52879
Bi-Pb alloys, supercond. and normal state, thermal cond., effect of plastic deform., 1.5-300K 7—17132
Bi-Tl, superconducting transition temp., effect of plastic deform. 7—52879
Bi-Tl alloys, supercond. and normal state, thermal cond., effect of plastic deform., 1.5-300K 7—17132
C fibres, pretorsional deform., annealing, acid treatment, struct., mech. props 7—22768
a-C:H polymeric plasma-activated CVD films, tribological and mechanical props. studies 7—16920
$CaTiO_3$, perovskite, TEM study of dislocations 7—38003
Cd-Zn electroplated steel, extrusion, deform. force rel. to comp. and struct. 7—3367
CdS plastically deformed cryst., reorientable defects, polarised luminesc. study 7—51749
Co-Ni-Ti-based alloys, critical shear stress asymmetry during stretching and compression *(Russian)* 7—8054
Co-TaC, rapid quenching, microstruct. 7—65023
Co_3Ti, effect of plastic deformation on mag. props. 7—33259
Copper, extrusion, dislocation density determ. *(Russian)* 7—58285
Cr, deformation interaction of incorporation and substitution atoms 7—46556
CsI, internal friction, plastic deformation, crystallographic orientation 7—12205
Cu, crystals with edge dislocations, 2D angular correlation of positron annihilation radiation 7—39242
Cu, cyclically deformed, positron trapping 7—39260
Cu, dislocation mechanism based model for stage II fatigue crack propagation rate 7—21338
Cu, dynamic softening during deform. at high temps. and strain rates 7—33690
Cu, electrotech. grade, acoustic emission characts. in elastoplastic deform. 7—39816
Cu, hot rolled, recrystallized microstruct., deform. processes 7—13500
Cu, neutron-irradiated single crysts., plastic deform. and stress inhomogeneity 7—22746
Cu, plastic deform. and supercond. props., 0.5 to 4.2K *(Russian)* 7—8055
Cu, polycrystalline, annealed, large deform., combined tension-torsion, incremental plasticity theory 7—46554
Cu powder, porosity influence on mech. and tribotech. characts. in high-speed friction 7—8119
Cu, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7—59546
Cu single crystal, deformed, lattice parameter changes through long-range internal stresses *(German)* 7—16673
Cu single crystals, fatigue crack initiation mechanism, persistent slip band model 7—53869
Cu, single crysts., mech. instability during tension at high temps. 7—13505

plastic deformation continued
- Cu, single crysts., with different orientations, strain localisation during high temp. deform. 7−13506
- Cu, steady state deform. 7−21334
- Cu, structure evolution during strong plastic deformation *(Russian)* 7−3358
- Cu, third-order elastic modulus, effect of plastic deform. *(Russian)* 7−46544
- Cu-Al, dynamic recrystallisation, grain boundary bulging 7−39540
- Cu-Al-Co(Mn)(Fe)(Ni), stacking fault energy determ. *(Russian)* 7−12082
- Cu-Al-Ni, cryst. struct. of α''_1 martensite formed during deform. *(Russian)* 7−53814
- Cu-Al-Ni, shape memory alloys, polycrystalline, cyclic deform., fatigue above transform temp. 7−3434
- Cu-Al-Ni shape memory alloys, polycrystalline, cyclic deform. and fatigue above transform. temp. 7−3433
- Cu-Co, age hardened, tensile deform., acoustic emission characts. 7−13536
- Cu-Fe alloy, BCC and FCC Fe particles, field ion microscopy studies 7−33667
- Cu-Fe-Al, cold rolled, γ to α transform. of fine α-Fe precipitates, mag. props. 7−3300
- Cu-GeO_2, dispersion hardened polycrysts., intermediate temp. embrittlement 7−53903
- Cu-Nb, supercond. composites, low temp. plasticity, annealing hardening, strength *(Russian)* 7−59579
- Cu-Ni, dynamic recrystallisation, grain boundary bulging 7−39540
- Cu-Zn, embrittlement in solidification process 7−3435
- Cu-Zn-Al shape memory alloys, rapidly solidified, microstruct. and props. *(Chinese)* 7−8043
- Cu-Zr, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
- CuAlNi deformed single cryst., internal friction amplitude depend. *(Russian)* 7−13491
- $CuFeS_2$, natural chalcopyrite single crystals, deformed, TEM study 7−38002
- CuNiSn, high-strength heterophase cryst., deform. mechanism investig. *(Russian)* 7−13509
- $(Fe,Ni)_3V$, LRO alloys, mech. props., effects of strain rate and long-term ageing 7−53796
- Fe, Armco, mag. internal friction, cathodic charging effect 7−17212
- Fe, cast, diffusion interaction with steel in forging, explosive treatment and thermal cycling 7−28070
- Fe, plastic deform., H permeation, dislocation traps 7−65082
- α-Fe, plastic deformation, magnetoacoustic and Barkhausen emission study 7−45749
- Fe, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
- Fe, rolling texture, effect of parity 7−59548
- α-Fe single crystals, plastically deformed, dislocation arrangement anal. using magnetic small-angle neutron scatt. 7−2021
- Fe, surface damage, plastic deform., 4-293 K *(Russian)* 7−59581
- α-Fe:H, H induced softening, yield stress reduction 7−39607
- Fe-base alloys, interstitial impurity-dislocation binding energy *(Russian)* 7−58310
- Fe-base ferrite alloys, deform. behaviour, influence of mech. twinning *(German)* 7−17603
- Fe-Co-V, ordered alloy, plastic deform., antiphase boundaries *(Russian)* 7−39596
- Fe-Mn, kinetics of α-phase form. and role in shape memory effect *(Russian)* 7−46581
- Fe-Mn-Al alloy, mag. props., struct. and deform. texture 7−2892
- Fe-N alloys, phase state and precipitation, plastic deformation effects *(Russian)* 7−46551
- Fe-Ni, creep in vacuum and air, relationships governing deform. and failure 7−28097
- Fe-Ni alloys, diffusion, plastic deformation effects *(Russian)* 7−58531
- Fe-Ni-P-C, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
- Fe-Si, grain oriented, hot rolling texture, thickness variations 7−8009
- Fe-Si (3 wt.%), Goss orientation rel. to hot rolling conditions 7−8018
- Fe-Si (3 wt.%), recrystallisation texture regulation using small deformations 7−13472
- Fe-Si (3.2 wt.%), mag. props., influence of substructural features 7−12996
- Fe-Si (5.8 at.%) bicrystals, plastic deform., coincident twin boundaries 7−13502
- Fe-Si single crystals, deformed, dipole drift mechanism of early stages of dislocation pattern 7−38098
- Fe-Si-B (10, 15 at.%), metallic glass, plastic deform. resist. 7−13521
- $Fe_{84}B_{16}$ amorphous alloy, interstitial element segregation during fracture *(Russian)* 7−53875
- $Fe_{80}B_{14.5}Si_{3.5}C_2$ metallic glass, laser beam irrad., high energy, shear band form. and cracking 7−59606
- $Fe_{40}Ni_{40}B_{20}$ amorphous alloy, effect of plastic deform. on mech. and mag. props. *(Russian)* 7−53810
- $Fe_{67}Si_{33}$ thin amorphous films, plastic deform. *(Russian)* 7−59585
- GaAs, antisite defects formation during plastic deformation 7−37988
- GaAs, crack form., quenching by dislocation ensembles *(Russian)* 7−44680
- GaAs, dislocation core struct. 7−38007
- GaAs, plastically deformed, spatial distrib. of dominant electron and hole traps 7−7160
- GaAs, plastically deformed, Hall effect meas. 7−27351
- GaAs, plastically deformed or electron or neutron irradiated, antisite defects 7−37987
- GaAs, Raman phonon piezospectroscopy, IR meas. 7−64647
- GaAs semiinsulating LE wafers, radiative centres, dislocations after plastic deform., local photoluminescence study 7−33458
- GaAs, strain-induced defects, ERP anal. 7−45821
- GaAs, undoped, thermal activation of plastic deform., 528-813K 7−6710
- GaAs:Cr, meas. of residual stress by Cr-related luminesc. lines 7−7726
- Ge deformed single cryst., AC conductivity at 4.2K 7−7245
- Ge single crystal, microstruct. of fragments *(Russian)* 7−38107
- Ge single crysts., plasticity meas. near yield peak *(Russian)* 7−44664
- In-Sn solid solns., strain ageing kinetics investig. *(Russian)* 7−13467
- InSb, α dislocations, motion, small shear stresses 7−44553
- K, electron-electron and electron-phonon interactions, plastic deform. effects 7−12710

plastic deformation continued
- K-Rb dilute alloy, electron-electron and electron-phonon interactions, plastic deform. effects 7−12710
- KCl, γ-irradiated, influence of plastic deformation on colour centre conc. 7−44538
- Li, stacking faults, X-ray and neutron diffr. patterns 7−16580
- LiF crystals, influence of deformation temp. on change in density 7−44655
- LiF, deformed crystal, lattice thermal conductivity, low temp. 7−52165
- LiF, γ-irradiated, influence of plastic deformation on colour centre conc. 7−44538
- LiF, highly pure single crystals, dislocation mobility 7−26754
- $LiNbO_3$, heterogeneous shock wave response, holographic interferometry studies 7−32571
- Li_2O single crystals, compressive creep and plastic deform. at high temp. 7−51920
- Mg, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
- MgO, deformed and annealed, red cathodoluminescence spectrum 7−27792
- MgO, electron irrad., stored energy, differential thermal anal. studies 7−32503
- MgO:Fe, small angle [001] twist boundaries, Fe solute effect 7−32459
- Mg_2SiO_4:V, forsterite, high temp. deform., creep study 7−21332
- Mo, deformation interaction of incorporation and substitution atoms 7−46556
- Mo, hydroextruded single crystals, nonuniformity of texture deform. *(Russian)* 7−33695
- Mo, microhardness, temp. depend in coarse-plastic transition region *(Russian)* 7−46638
- Mo, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
- Mo, single cryst., recrystallised after hydraulic extrusion, wide-angle boundaries of anomalous grain 7−44563
- Mo single cryst., rolling, dynamic recovery rel. to deform. temp. *(Russian)* 7−65095
- Mo single crystals, struct. changes during annealing after bending deform. *(Russian)* 7−44446
- Mo, single crystals and polycrystals, high-angle boundaries of deformation origin 7−6712
- Mo, single crysts., deform. in US field, var. in angle of misorientation of substruct. *(Russian)* 7−53812
- Mo-Re (27 wt.%), rolling, reorientation, annealing effect *(Russian)* 7−39598
- Mo-TiC eutectic composites, yield strength in temp. range 285 to 2270 K 7−53831
- NaCl single crystals, temp. distrib. under ultrasonic deform. 7−51916
- Nb, polycrystalline, deformation under H absorption 7−46549
- Nb, pure, tensile deform., brittle fracture, H effect, SEM obs. *(Chinese)* 7−8078
- Nb, shape-memory effect and microstrain during hydride form. 7−16670
- Nb, shock-synthesised superconductor, characterisation 7−38116
- Nb single crystals, cyclic deform., dislocation behaviour 7−63729
- Nb single crystals, twinned interlayers, superconductivity at fields higher than H_{c2} *(Russian)* 7−52917
- $NbC_{0.97}$, single cryst., mechanical stresses, thermo-EMF 7−21944
- Ni alloy, heat-resisting, hot strain rate effect on microstruct. and mech. props. 7−39559
- Ni alloy, surface plastic deformation by microballs, low-cycle damage 7−17698
- Ni, deformed, microtwin formation 7−38095
- Ni, dynamically deform., polygonisation, recrystallisation *(Russian)* 7−46504
- Ni, fatigued, crystal defects, positron annihilation studies 7−46213
- Ni, magnetic biaxial anisotropy induced by plastic deformation 7−59006
- Ni, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
- Ni, structure evolution during strong plastic deformation *(Russian)* 7−3358
- Ni-B, implanted, mech. props., disorder and amorphicity 7−53819
- Ni-base alloys, microcryst. powders, shock consolidated, microshear bonding 7−22745
- Ni-base superalloy, CMSX-2 creep anisotropy, TEM anal. *(French)* 7−22764
- Ni-CO, limitations of dynamic recovery as revealed by temp. change tests at large strains 7−22723
- Ni-Cr wire, irreversible magnetisation, effect of plastic deformation 7−53041
- Ni-P, implanted, mech. props., disorder and amorphicity 7−53819
- Ni_3Al, dislocation bowing and partial separation during in situ straining, TEM obs. 7−63617
- $Ni_{66}Cr_{34}$ alloy, plastic strain rate difference with Cr_2O_3 oxide *(French)* 7−17682
- Ni_3Ga, atomic ordering, strain disruption *(Russian)* 7−53808
- Pb-Sn solder, deform. props. 7−46590
- PbCaSn, rolling deform. texture, shear band angles 7−33724
- Pd-Ag-Fe (1 and 2 at.%), plastically deformed, elec. resist., short range order effects 7−27318
- Pd-H system, plastically deformed, H-dislocation interactions 7−6671
- $Pd_{100-x}Ag_x$, plastically deformed, elec. resist., short range order effects 7−27318
- Si, broken dislocation bonds, annealing effects, optical polarisation of nuclear moments study 7−38008
- Si, dislocated, charge carrier recomb. processes 7−7264
- Si, dislocation luminescence lines, polarisation 7−39154
- Si, optical polarisation of nuclear moments in Si with 1D defects 7−7602
- Si, radiation defect thermal ionisation, effect of dislocations on activation energy 7−6680
- Si ribbons, dendritic web grown, high temp. mech. behaviour, strain rate and temp. depend. of yield stress 7−65099
- Si, thermoplastic deformation, nondestructive ultrasonic detection 7−12215
- Si:B plastically deformed crysts., dislocation struct. and elec. activity, annealing effects study 7−37998
- SiC, CVD, microstruct. around indentation, TEM obs. *(Japanese)* 7−22822
- SiC whisker or particle reinforced Al composites, deform. thermal expansion, strengthening mechanisms 7−3373
- SiC(6H) single crystals, plastically deformed, dislocation glide motion 7−63624

plastic deformation continued
- Sn, phase transitions, Doppler broadened positron annihilation studies 7−38190
- Sn, superconducting transition temp., effect of plastic deform. 7−52879
- Sn surface, plastic deformation, multiplied dislocations, density gradient 7−26757
- Sn-Pb eutectic alloys, low temp. plasticity and morphology *(Russian)* 7−13510
- SrF_2, phase transitions, influence of shear deformation 7−21429
- Ti alloy, two-phase, microstruct. and failure nature correl. 7−8110
- Ti alloy metastable phases, plasticity *(Russian)* 7−33729
- Ti alloys, microstruct. and slip characts. 7−8050
- Ti alloys, ω-phase, special features of twinning *(Russian)* 7−44570
- Ti alloys, rolling deformation, $\beta \rightarrow \alpha'$ transformations *(Russian)* 7−46454
- Ti, heat treated, softening, in situ HVEM obs. 7−17548
- Ti, impact produced adiabatic shear bands, deform. twins, dislocation density, HVTEM obs. 7−22753
- Ti, rolling, texture form., metastable high press. phase transform *(Russian)* 7−65029
- Ti sheet, mech. behaviour, effect of texture and orientation rel. between neighbouring grains 7−53763
- Ti-Al-V (6,4 wt.%), α morphology rel. to thermomech. treatment 7−46520
- Ti-Al-V (6,4 wt.%), powder metallurgy, thermomechanically treated, deform. behaviour 7−53908
- Ti-Cr, β-eutectoid, deform. behaviour of retained β phase 7−39589
- Ti-V(Mo)(Nb)(Fe), metastable β-phase alloys, mech. twinning TEM obs. 7−6633
- Ti_3Al-Nb-Er rapidly solidified alloy, microstruct. effects and dispersoid stability 7−22669
- TiC-WC-TaC-Co three-phase sintered carbides, Ta content influence on struct. and props. 7−65097
- $TiC_{0.98}$, single cryst., mechanical stresses, thermo-EMF 7−21944
- TiN, deformation-induced stacking faults, synthesis by vibratory milling 7−44572
- TiNi alloy, amorphisation by high press. shear deform. *(Russian)* 7−8053
- TiNi alloy, shape memory and reversibility effects, deform. effects *(Russian)* 7−13508
- Tl halides, polycrystalline low loss fibres, plastic deformation mechanism 7−37189
- V, polycrystalline, deformation under H absorption 7−46549
- V, shape-memory effect and microstrain during hydride form. 7−16670
- VN, deformation-induced stacking faults, synthesis by vibratory milling 7−44572
- W, deformation interaction of incorporation and substitution atoms 7−46556
- W thin films on Si substrates, plastic props., meas. by submicron indentation hardness, substrate curvature techniques 7−58720
- W wire, K-doped, non-sag struct. form., model 7−7957
- WC-Co composites, plastic deform. mechanisms, dislocation struct., TEM obs. *(French)* 7−22765
- $(YEuTmCa)_3(FeGe)_5O_{12}$ films, planar anisotropy and magnetisation, ion irrad. effects study 7−2906
- Zn, deformation, action of series of elec. pulses 7−44659
- Zn, deformation recovery, positron annihilation spectroscopy 7−21329
- Zn, microhardness, temp. depend in coarse-plastic transition region *(Russian)* 7−46638
- Zn polycrystalline, internal friction, temp., time and amplitude depend, heat expansion anisotropy effects *(Russian)* 7−16687
- ZnO crystals, real struct. during growth process, effect of plastic deform. 7−11974
- $ZnS:Cr^+$, Fe^{3+} single crysts., impurity centre charge exchange, plastic deform. effects, ESR spectra studies 7−16984
- ZnS(Se), plastic deform., thermal activation anal. 7−2091
- ZnSe-GaAs:Cr, meas. of residual stress by Cr-related luminesc. lines 7−7726
- Zr, doped with O, mech. props. and elec. resist. at 4.2 K influence of annealing *(French)* 7−59554
- $ZrC_{0.95}$, single cryst., mechanical stresses, thermo-EMF 7−21944
- ϵ-ZrH_x, shape memory effect *(Russian)* 7−59577
- ZrO_2, Y_2O_3 partially stabilised, stress-induced phase transform., obs. by Raman microprobe *(Japanese)* 7−22683
- ZrO_2:Ti, ion implantation, mech. props. 7−28102

plastic flow
- *see also ductility; Luders bands; necking; rheology*
- 2D viscous flows, time-dependent, incompressible, finite element anal. 7−26165
- alloys, amorphous, friction and wear behaviour rel. to microstruct. and surface chem. 7−8127
- alloys, structurally superplastic flow, texture, neutron and X-ray obs. 7−46589
- BCC metals, polycrystalline, dislocation struct., strain hardening *(Russian)* 7−59545
- beams and frames, elastic-plastic with unilateral boundary conditions 7−1442
- brass, pressed component, strain distrib. 7−13530
- β-brass bicrystals, Bauschinger effect, grain boundary contrib. 7−46574
- CDW, depinning and quasi-commensurate transition, plastic deformation analogy 7−12628
- compressible materials, complex math. model of plastic flow 7−64959
- cordierite glass and glass-ceramic, comparative single-point diamond scratching behaviour 7−46654
- Cottrell-Stokes law, thermally activated dislocation glide studies 7−2094
- dislocation distribution growth by climb and glide over non-planar surfaces 7−16556
- dislocation structure, low energy, props. and effects 7−63622
- elastico-plastic flow in a rot. annulus, non-homogeneity effects 7−57710
- highly deformed materials, low energy dislocation struct. 7−63614
- instabilities, dislocation models 7−38099
- instability phenomena in solids, conf., Trieste, Italy (Aug. 85) 7−55896
- local strain hardening and nonuniformity of plastic deformation 7−22751
- metal powders, shock wave induced consolidation, microlevel numerical modelling 7−27965
- metal sheet, forming limit diagram in negative minor strain region 7−65090
- metals, adiabatic shear bands, struct., review 7−32549
- metals, deformed, heterogeneous dislocation distrib., two-parameter description 7−44547
- metals, FCC, quantitative assessment of forest hardening 7−65055
- metals, local and macroscopic viscosities in solid state 7−46555

plastic flow continued
- metals, sheet, history depend. forming limits, hardening models 7−59542
- metals, unstable plastic deformation at low temp., superconducting transition effects *(Russian)* 7−6709
- metals laser radiation, nature of mass transfer *(Russian)* 7−32494
- molecular dynamics study, plastic flow at high strain rates 7−26834
- natural polycrystalline quartz aggregates, grain size sensitive plastic flow 7−53824
- nonequilibrium processes, computer simulation 7−18688
- plastic multicomponent materials, yield conditions 7−57705
- plates, rectangular, transversely loaded, upper and low bounds 7−43700
- polycrystalline aggregate, continuous constraints model for large strain grain deformations 7−32550
- polycrystals, rate-dependent, finite elasto-plastic deformation 7−16671
- porous ductile material, yield surface curvature and void nucleation effect on plastic flow 7−51919
- porous material, rheological model, applic. to powder densification by hot isostatic pressing *(French)* 7−13400
- porous plastic solids, necking and failure, effect of yield surface curvature 7−43715
- quasi-steady state isochoric plane flow meas., noisy data anal. 7−63727
- rate plasticity equations, numerical integration scheme 7−63004
- rod penetration, flow field model 7−11360
- rod penetration models, extension of hydrodynamic theory 7−20665
- rough surface, boundary layer in plastic medium flow 7−26169
- sheet metals with complex strain bending histories, elastic-plastic springback 7−37348
- sheets, thin with plastic anisotropy, radial stressing 7−43699
- shock viscosity, steady shock wave profiles, calc. 7−26839
- shock-induced solid-solid phase transformations, nonequilib. mol. dynamics calcs. 7−17646
- slow, frictionless ring forming: further exactsolutions for a wide class of ductile materials 7−6111
- solid solutions, effective activation energy 7−44557
- steel, Al-killed, flow behaviour after tensile prestraining and strain ageing 7−17595
- steel, C, plane load wave, elastic precursor decay, eqn. of state 7−33751
- steel, dual phase, work hardening, accommodation strains in ferrite phase, finite element analysis 7−17550
- steel, duplex stainless, ferrite-austenite flow localisation during plane strain punch stretching 7−17593
- steel, gouging abrasive near mechanism, investig. with aid of pendulum single-pass grooving 7−22846
- steel, hot working of austenite, transition from multiple- to single-peak recrystn. 7−65057
- steel, low C, dynamic recrystn., transition of flow behaviour 7−53756
- steel, low C pearlitic, microstruct.-flow stress relationship 7−33739
- steel, Mn, Hadfield, strain hardening, plastic flow 7−28055
- steel, structural, flow stress, high temp. and strain rate *(Chinese)* 7−13504
- styrene-isoprene diblock copolymer solns., visco-plastic flow 7−11477
- superplastic alloys, plastic instabilities and uniaxial tensile ductilities, effect of grain growth 7−53820
- superplastic flow, void growth mechanism 7−28086
- tensile flow stress beyond necking, determ. at very high strain rate 7−63726
- time depend. plasticity theory, stress relax., creep, plastic flow 7−43703
- Zircaloy-4, temp. depend. of elongation 7−65094
- Al alloys, hot workability, determ. of high temp. flow stress *(Korean)* 7−28076
- Al, explosively launched expanding ring test, computer simulation and anal. 7−33878
- Al, hardness, effect of thermomech. history 7−53873
- Al quenched, tensile flow stress, effect of grain size and strain 7−22756
- Al steady-wave shock compression, thermoplastic shear 7−51937
- Al under shock loading conditions, constitutive relation 7−26865
- Al-Fe-Si-TiO_2, dispersion hardened, strength props., effect of matrix particle size and oxide vol. fraction 7−17544
- Al-Mg (5 wt.%) polycrystals, high temp. deform., microstruct. 7−13501
- Al-Mg-Si, annealed, plastic flow under multiaxial cyclic loading 7−33725
- Al-Si thin film metallisations, Hall-Petch relation 7−2442
- Al-Zn-Mg alloy, precipitation hardening, plastic flow instability 7−22757
- Al-Zn-Mg-Cu, 7475, superplasticity, constitutive eqn., evaluation of parameters 7−65085
- Al_2O_3, profiled, plastic flow in surface layers during diffusion welding 7−33730
- Be, superplastic flow, electron microscopy studies *(Russian)* 7−3360
- Cd, polycrystalline rolled sheets, flow stress, hydrostatic press. effect, 600 MPa *(Japanese)* 7−33735
- Co, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7−59575
- Co-Al-Fe(Ni), B2, slow plastic flow props. between 1100 and 1400 K 7−46565
- Cu, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7−59575
- Cu-Al_2O_3 films, dispersion strengthened, flow stress, temp. depend. *(Russian)* 7−53815
- Fe, pure, plastic softening by H plasma charging 7−59590
- Fe, single crysts., flow stress at 225, 250 and 273 K, orientation depend. 7−53832
- $Ga_{1-x}In_xAs$, high-temperature hardness 7−44675
- NaCl filamentary crystals, yield stress and plastic flow 7−51917
- Ni binary alloys, solid soln. hardening, flow stress, Young's modulus 7−13465
- Ni, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7−59575
- Ni-SiO_2 films, dispersion strengthened, flow stress, temp. depend. *(Russian)* 7−53815
- NiAl, slow plastic creep props. between 1200 and 1400 K, effect of comp. and grain size 7−65084
- Pb, deforming stress and defect struct. in low temp. anomaly region *(Russian)* 7−38093
- Pb, superconducting transition, deform. strengthening, dislocation density *(Russian)* 7−58939
- Pb-Tl alloy single crysts., plasticity and internal friction changes at supercond. transition *(Russian)* 7−26832
- Si:O, dendritic web growth, plastic flow, O effects 7−16471
- Tb, single crysts., plastic strain between 77 and 683 K 7−21327
- (Ti,Mo)C, solid solution hardening of TiC by Mo 7−46498
- Ti, fracture, deform., porosity effect 7−22750
- Ti-Al-Nb-Zr, plastic deform., elect. resist. oscills. 7−20605

plastic flow continued
- Ti-Al-V (6,4 wt.%), fracture, deform., porosity effect 7−22750
- TiAl, deform. at high temp., flow and brittle fracture stress *(Japanese)* 7−13516
- U based intermetallic compounds, fission gas swelling, cryst. struct. stability 7−42115
- W fibre reinforced Fe-Cr-Al superalloy, surface cladding and matrix deform., thermomech. loading 7−46568
- Zn, amplitude-dependent internal friction, press. depend. *(Russian)* 7−58409
- Zr, yield point in range 1.5 to 500K temp. relationship *(Russian)* 7−53807
- ZrO$_2$-Al$_2$O$_3$ composite, Y$_2$O$_3$-stabilised, compressive deform. 7−28100

plastic strain *see plastic deformation*

plastic theory *see plasticity*

plasticity
- *see also elastoplasticity; photoplasticity; superplasticity*
- acoustoelastic effects caused by plastic anisotropy growth 7−62991
- bar, cylindrical, of elliptical cross section, plastic torsion, exact moment 7−43690
- bar material, dilutely voided, instability in uniaxial tension 7−53787
- barrier puncture with brittle fracture by rigid cone 7−43786
- beams/plates under combined loading, finite element dynamic inelastic analysis 7−63002
- biphase polycrystalline materials, max. plasticity, struct. conditions *(Russian)* 7−51921
- ceramics, plasticity, model representations 7−11368
- classical rigid/plastic materials, constitutive dual pots. 7−50957
- clay, anisotropically consolidated, plasticity model for mechanical behaviour 7−14265
- compact tension specimens, crack length measurement by pot. drop method, improved anal. 7−31695
- concrete, endochronic plasticity theory 7−37351
- concrete, inelastic behaviour, damage mechanics constitutive theory, FEM model 7−53833
- Cosserat media, inelastic behaviour of plane frictionless block-systems 7−1432
- crack closure, plasticity-induced, under plane strain conditions, finite element anal. 7−37379
- creep-plasticity constitutive models suitable for thermal loading 7−51925
- cyclic, time-independent constitutive theories 7−1439
- cyclic plasticity and creep, constitutive modelling using internal time concept 7−1437
- discontinuity surfaces in a rigid plastic anal. 7−43697
- elastic-plastic shrink fit with supercritical interference 7−43662
- electrodiffusion diagnosis of rheological and rheodynamic characteristics of viscoelastic and nonlinear-viscoplastic fluids 7−43823
- finitely deforming rigid-plastic materials, Lagrangian strain space formulation 7−6109
- Hastelloy X, thermomech. response, viscoplastic constitutive model 7−8059
- highly excited crystals, mixed state and defect struct. 7−45584
- infinite plate with a rigid circular inclusion, decohesive carrying capacity, material effects 7−63000
- kinematic hardening and large plastic deformations 7−6110
- ligament, plastic, ahead of edge-crack, combined loading 7−11349
- local approach of fracture, continuum damage mechanics 7−50988
- materials, anisotropic perfectly plastic, plane strain crack tip stress field 7−38106
- mathematical theory of materials 7−57703
- metallic superlattices, mech. props. and diffusion 7−52377
- metals, creep crack growth prediction by a local approach 7−53841
- metals, plasticity and viscoplasticity 7−46552
- metals, polycrystalline, internal friction temp. spectrum and microplasticity *(Russian)* 7−16684
- microdeformations in plasticity theory 7−21325
- multicomponent materials, time-depend. theory, kinematic hardening 7−57704
- multicomponent materials, yield conditions 7−57705
- nonhardening material, plane strain, axisymmetric extrusion, viscoplastic FEM 7−63009
- nonlinear fracture problems, path-independent integral, finite element approach 7−63068
- nonlinear hardening materials, constitutive model of cyclic plasticity 7−6113
- nonstationary random vibrs. of yielding multi-degree of freedom systems 7−6130
- phenomenological theory variant, determining relationships derivation by method of orientation averaging 7−6112
- photoviscoplastic polymers, hydrostatic pressure effect meas. 7−11365
- plastic zone size and shape around slit ends, direct meas. method 7−63085
- plates, rectangular, viscoplastic, impulsively-loaded, dynamic plastic anal. with finite deflection 7−37355
- plates and shells, surface-flawed, line-spring anal. using deform. theory 7−63021
- polymers, glassy, bimaterial interface, cracks, incipient plastic zone shape, elastic consts. effect 7−53874
- porous, anisotropic and variable strength media, applied theories of plasticity 7−16072
- power law materials, neck form. invariance to strength and strain rate 7−17597
- pyroxene, mineral lattice defects and crystalline plasticity, review *(French)* 7−34476
- rate plasticity equations, numerical integration scheme 7−63004
- reactive shear bands, dimensional anal., numerical integration 7−33931
- reinforcing bar behaviour under compression, stress-strain relationship 7−1440
- rock-like materials, viscoplastic, damage and failure 7−1507
- rocks and concretes, failure process, dynamic description 7−57738
- rod, long, plastic wave propag., strain and temp. distrib. *(Japanese)* 7−31678
- rotating elastic-plastic shrink fit with hardening 7−43663
- semi-infinite crack, SCC growth rate rel. to plasticity 7−31704
- sheets, thin voided viscoplastic, instabilities during tension 7−16076
- sheets, thin with plastic anisotropy, radial stressing 7−43699
- singular loading surfaces, plasticity theory 7−11300
- stationary problems with unilateral constraints for displacements and stresses 7−57702

plasticity continued
- steel, austenitic, Mn-Cr, hardening characts. and hydroextrusion parameters *(Russian)* 7−59540
- steel, high tensile, HT55, ΔKth testing method for plastic zone size at fatigue crack tip 7−17748
- steel, HSLA, high strain-rate behaviour, Bodner-Partom viscoplastic constitutive model description 7−33754
- steel, metastable, anomalous plasticity, slip, microtwinning and martensitic transformations *(Russian)* 7−8056
- steel, Ni-Cr-Mo, ΔKth testing method for plastic zone size at fatigue crack tip 7−17748
- steel, stainless, wire, electroplastic drawing, struct. and physicomech. studies *(Russian)* 7−8057
- strain gauge sensitivity in plastic range 7−6168
- styrene-isoprene diblock copolymer solns., visco-plastic flow 7−11477
- tensile loaded crack, plastic zone size ahead of crack tip 7−16116
- time depend. plasticity theory, stress relax., creep, plastic flow 7−43703
- two-section deformation processes with curved sections, plasticity relations 7−43710
- viscoplastic deformation of annular plates 7−1448
- viscoplastic finite element analysis of rapid fracture 7−63061
- viscoplastic liquid impregnation of heated filler, axisymm. problem 7−44040
- viscoplastic threads, transverse impact of cone *(Russian)* 7−63083
- viscoplasticity, nonlinear FEM anal. 7−63008
- Al alloy A5083-0, ΔKth testing method for plastic zone size at fatigue crack tip 7−17748
- Al-Cu-Mg, growth by Stepanov's method, macro- and microstructure, strength, plasticity meas. 7−33546
- C, fractographic studies 7−17645
- Cr alloy, low alloy, strength parameters, effect of dynamic strain ageing *(Russian)* 7−46505
- Fe-Si, melt quenched, struct. formation 7−13480
- Fe-Si, plasticity, influence of thermomechanical parameters 7−13512
- Ge single crysts., plasticity meas. near yield peak *(Russian)* 7−44664
- Pb-Tl alloy single crysts., plasticity and internal friction changes at supercond. transition *(Russian)* 7−26832
- Si ribbon growth, dislocation dynamics and thermal viscoplastic stresses 7−2017
- SiC, 6H single crysts., dislocation glide induced plasticity *(Japanese)* 7−21215
- SmCo$_5$ and Sm$_2$Co$_{17}$ plastic magnets, magnetisation process, depend. of surface flux density 7−27548
- SmCo$_5$ powder in nylon-12 and polybutylene tetraphthalate, thermoplastic magnet, heat resistance 7−27567
- Ti binary alloys, reduced technological plasticity and struct. *(Russian)* 7−17583
- TiO$_2$, polycryst. rutile, plasticity isotherm variations *(French)* 7−65083
- Zn, neutron irradiated, yield-stress recovery 7−22720

plastics
- *see also carbon fibre reinforced plastics; glass fibre reinforced plastics; polymers*
- aminoplastic thin standards prep. method for X-ray microanalysis 7−60142
- composites, layered, periodic necking instability 7−43709
- contoured substrates, post magnetron sputter and reactive sputter coating 7−53588
- designing with plastics and advanced plastic composites, book 7−4642
- epoxy matrices, microstruct. 7−33632
- fibre optic technology introduction 7−50764
- films, plasma fluorination, surface structure determ. 7−27196
- foams, stress relax. curves, charactn. 7−44688
- glass-plastic melt, thermal cond., effect of type and content of binder 7−58553
- Homalite 100, stress intensity factor, crack vel., photoelastic obs. 7−1498
- Melinex, energy straggling and stopping power of 4 and 5.486 MeV α-particles 7−34199
- misch metal-Fe-B melt-spun magnets, mag. and structural props. 7−53032
- optical fibre cables, sheath retraction 7−11165
- optical fibre star coupler, fabrication 7−31468
- photothermoplastic film, deform. props. treatment process parameters 7−43281
- photothermoplastic material, electrostatic sensitisation pot. and parameters of scorotron 7−38683
- plexiglass, laser-driven shock waves using dye laser irrad. 7−32569
- PMMA, plastic materials for joint endoprostheses *(German)* 7−34342
- polyethylene, plastic materials for joint endoprostheses *(German)* 7−34342
- polyethylene film, low density, elec. props. rel. to nuclear irrad., 5K 7−53232
- polypropylene, hot isostatic pressing, mech. strength improvement 7−7955
- scintillators light yield and scintillation response duration determ. 7−36416
- surfaces, wettability control by plasma treatment, etching effects 7−53927
- telecommunications appl., conf., London, England (Sept. 1986) 7−9591
- thermal ageing, reaction kinetics *(German)* 7−46529
- thermoplastic, freezing, developing flows with very low heat generation 7−6084
- thermoplastic optical recording devices 7−37201
- thermoplastic rubber/liquid crystal polyester dualcoextrusion coating system for optical fiber drawing 7−11190
- thermoplastics, injection moulding, fully-developed flows 7−11264
- thermoplastics, US welding technique *(Japanese)* 7−20570
- thermosetting plastics, simulation with abrasives using organic liqs., bond strength investig. 7−38301
- ultrasonic microwelding with welding tip pair 7−20578
- waveguides for optical dividers and mixers, development 7−11191
- yield condition under biaxial stress fields, prediction *(Japanese)* 7−46563

plastics industry
- designing with plastics and advanced plastic composites, book 7−4642

plate tectonics *see tectonics*

plates (anodes) *see anodes*

plating (electroplating) *see electroplating*

platinum
- *see also nuclei with ......*
- adsorption, of Bi, on (111) surface, growth modes, spectrosc., LEED and work function investig. 7−27102
- adsorption and thermal accommodation on vitreous SiO$_2$ surface 7−27133
- adsorption of trifluoromethanesulphonic acid and H$_3$PO$_4$ electrolytes in fuel cells, O solubility, diffusion coeff., reduction rate meas. 7−28395

platinum continued
anode in fuel cell, performance in presence of CO and CO$_2$, CO poisoning adsorption parameters calc. 7−13855
anode in phosphoric acid fuel cell electrolyte, H$_2$S poisoning 7−46933
atom, Auger transitions, relative intensities for KMX and KXY groups 7−25442
atom, photon cross section meas. 7−57016
catalysed crystallisation of Li$_2$O-SiO$_2$ 7−6524
catalyst particles, adsorbed S-induced faceting, TEM study 7−27109
catalysts, SiO$_2$ supported, muon relax. rate rel. to temp. and loading 7−33315
chemisorption of Si, Pt-Si interfacial growth, intermixing, SEXAFS obs. 7−64772
chemisorption on Si (111) and interface form., EXAFS and X-ray absorpt. resonance spectra studies 7−38336
clusters in Y-zeolite, atomic and electronic struct. and chemical reactivity 7−32677
conduction electrons, gyromag. factor calcs. 7−7099
crystallites supported on C black, surface struct., TEM study 7−32778
DNA, platinated, site specifically, biological activity probe for anticancer drugs 7−34095
electrode, CN$^-$ oxidation, polarisation modulation IRRAS 7−17836
electrode, in anhydrous methanol solns., added water effects 7−33936
electrodes, adsorpt. of CO, vibr. spectrum, electrochemical pot., stark tuning rate 7−10570
electrodes, porous, in solid-electrolyte cell, polarization 7−23027
etching by photochem. machining 7−22909
Fermi surface curvature, de Haas-van Alphen effect meas. 7−2467
film, adhesion on sapphire, ion beam induced enhancement 7−21292
film adhesion on thermally grown alumina, O enhancement 7−46790
film on Si, struct. and comp. of silicides formed in photon annealing, Auger obs. 7−2402
films, sputter deposition, effect of ion bombardment of growing film 7−64009
heater and temp.-sensitive element for small blackbody 7−35518
liquid, thermoelectric power calc. 7−12704
microcrystals, charact. using high resolution electron microscopy 7−32676
micrometer-scale line deposition using near UV laser light 7−59438
monocrystal surface (100), O$_2$ homonuclear isotope exchange kinetics, temp. and press. depend. 7−3608
MOSFET, Pt-gate, ammonia sensitivity, dependence on gate electrode morphology 7−61330
oxidation, EELS studies 7−3128
paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
particles on a-Al$_2$O$_3$, ethylene hydrogenation, intrinsic size effects 7−3607
permeability of H in Ag-P^{2}d, Pt, Ag, Au alloys and metals at 2 kbar and high temp. 7−27011
polymer-Pt system, enhanced ATR spectra of polymer surface layers 7−22266
resistance thermometer, low temperature measurement, errors 7−9833
Schottky diode fabrication using photo-CVD 7−7869
small crystals, atomic-resolution study of struct. rearrangements 7−32243
small metallic particles, surface fractal dimension 7−38308
small particles in amorphous materials, far-IR absorpt. spectra 7−64623
sputtered film, microstruct., thickness effect studied by X-ray diffr. method 7−21756
sputtered films on ZrO$_2$ substrates, agglomeration and electrical conduction props. 7−52859
structural stability of reconstructed (110) surfaces 7−7326
surface, {110}, chemisorbed benzene and pyridine, influence of orientation on H-D exchange reactions 7−59781
surface, (001), hyperfine fields 7−58847
surface, (100), FCC, hexagonal reconstruction 7−58591
surface, (100) with underpotential deposited Pb 7−58646
surface, (110), catalytic CO oxidation, kinetic oscillations 7−28346
surface, (110), hybridisation of electronic bands, spin-polarised UV photoemission spectra 7−45421
surface, (110), water adsorption 7−21644
surface, (111), adsorbed CO, He thermal beam scattering 7−53475
surface, (111), adsorption and desorption of NO, CO or H$_2$ 7−21643
surface, (111), adsorption of ethylene oxide, XPS, TDS, AES, EELS studies 7−33963
surface, (111), clean and CO covered, LEED structural anal. 7−2376
surface, (111), clean and O covered, surface phonon dispersion, inelastic atom scatt. meas., lattice dynamical calcs. 7−52226
surface, (111), coadsorption of K and CO, structural and vibrational studies 7−52266
surface, (111), contaminated with Si or oxidised Si, interaction with water 7−27134
surface, (111), O adsorbate-induced surface-phonon softening 7−58600
surface, (111), physisorbed Kr films, impurity-quenched orientational epitaxy 7−45003
surface, (111), reaction of coadsorbed C$_2$N$_2$ and H$_2$ 7−54186
surface, (111), spin polarised photoemission, relativistic energy bands obs. by vector anal., parity- and spin-mixing 7−7820
surface, (111), studies of CO adsorbate vibr. modes, inelastic He atom scatt. obs. 7−32782
surface, (111), with adsorbed CO, He-adsorbate scatt., potentials and total scatt. cross-sections 7−59363
surface, (111), with adsorbed CO, molecule-substrate vibr. mode, IR emission spectra study 7−57126
surface, (111), with adsorbed Kr, adsorbate-substrate vibr. coupling 7−52221
surface, (111), with adsorbed S, surface crystallography using LEED and R factor analysis 7−27120
surface, (111), with coadsorbed CO and K, inverse photoemission 7−52726
surface, (111), with incommensurate graphite overlayer, LEED 7−63930
surface, (111) vibr. states of scatt. NO molecules 7−968
surface, adsorbed NO, high-speed ramped field desorption spectra 7−32810
surface, adsorption of CO, vibr. spectra 7−12475
surface, chemisorbed state of acetylene, ethylene and ethane 7−52261
surface, clean and H-covered, He atom diffr. intensity calcs. 7−3139
surface, CO$_2$ molecules impact, quantum theory of energy exchange 7−64865
surface, electron stimulated adsorption of water vapour 7−63955
surface, graphite island form., FEM, SEM and AES studies 7−32805
surface, ion probe microanalysis effect of O$_2$ admission 7−17380
surface 111, adsorbed CO, vibr., site conversion, IR spectra 7−58613

platinum continued
surface (100), CO oxidation, kinetic oscillations, computer simulations 7−23061
surface (100), defect struct. rel. to catalytic behaviour, scanning tunnelling microscopy study 7−6930
surface (100), low temp. field evaporation of clusters, surface reconstruction, field ion microscopy studies 7−44973
surface (110), deuteration of adsorbed pyridine 7−7006
surface (110), spin-polarised angle-resolved photoemission study 7−53505
surface (110), surface energy anisotropy, surface reconstruction 7−2346
surface (110), surface self-diffusion, directional depend., surface energy anisotropy 7−6956
surface (110) nucleation and orientation of adsorbed graphite layers 7−21664
surface (111), electrodeposition of Pb from aq. HCl soln. 7−27954
surface (111), NO and CO electronically stimulated adsorbate rotation and desorpt. studies 7−45006
surface (111), thiophene and thiolane monolayers, EELS and XPS study 7−19949
surface (111), Xe adsorption, thermodynamic meas. 7−6982
surface (111), Xe monolayer, thermal He scatt. data anal., comment 7−21633
surface (111), Xe monolayers, high order commensurate locked phase 7−2349
surface (111), Xe overlayer raft orientation, mol. dynamics study 7−38334
surface (lll), ketene adsorbed layers, surface chemistry, substrate temp. influence, EELS 7−46867
surface characterisation by neutron inelastic scatt. from adsorbed H 7−7000
surface desorption of previously adsorbed tracer amounts of Cs and K 7−58636
surface struct., RHEED and reflection electron microscopy studies 7−32232
surface struct. of electrochemical electrode, observation of electro-faceting 7−16841
surface structure and adsorbate bonding, NMR studies 7−13050
surfaces, impurity segregation, high resolution AES studies 7−33668
surfaces, stepped, with adsorbed CO, coupled harmonic oscillator models 7−52230
thermal expansion meas. 7−44864
thin film resistance thermometer, low temp. high mag. field use 7−14941
thin films, X-ray telescope mirrors, surface scatt. meas. by triple axis spectrometer 7−37104
thin-film thermometers, frequency response investig. 7−48741
underpotential deposit on SnO$_2$:F electrode 7−44998
wire, heat transfer characteristics 7−12693
X-ray photoabsorption cross sections 7−46240
Al/Pt/Si structures, PtSi formation 7−63972
Co-Pt bilayer thin films, annealing behaviour, mag. props. 7−59079
p-CuCNS photocathode, dye-sensitized, stabilisation by Pt deposition 7−27416
GaAs-Pt reacted ohmic contact charactn., effect of Mg layer 7−7387
In-Pt-GaAs, heterojunction ohmic contacts, interfacial struct. 7−27155
p-InP/Co(Pt) photocathodes for photoelectrochemical solar cells, H$_2$ evolution from alkaline solns. 7−13922
In$_{2-x}$Sn$_x$O$_{3-y}$SnO$_2$-Pt-Si:H solar cells 7−8395
Pb-Pt composite films oxidation, KPS 7−27867
Pd-Pt, mixed layers, electroplated on stainless steel support, oxidation catalyst appl. 7−22596
Pd-Pt matrix-marker layer system, cascade mixing, projectile mass depend. 7−58375
Pt,O$_2$(g)/stabilised ZrO$_2$ interfaces, electrode reactions, theory 7−65329
Pt,O$_2$(g)/stabilised ZrO$_2$ interfaces, electrode reactions, electrochem anal. 7−65330
Pt (111) surface, physisorbed Xe, He scattering apparatus for gas-surface interaction studies 7−33503
Pt resistance thermometers for industrial appls. *(Dutch)* 7−308
Pt thin films on TiO$_2$ (110), XPS and depth profile data 7−22437
Pt/H$_3$(PMo$_{12}$Mo$_{40}$).22H$_2$O-polyethylene oxide interface, audiofrequency behaviour 7−52693
Pt/Hg$_{1-x}$Cd$_x$Te interface, overlayer-cation reaction, XPS, UPS and LEED studies 7−65349
Pt/Si interfaces, silicide form. kinetics during thermal annealing 7−16897
Pt/Si:S(Tl)(Ge)(P) system, impurity migration during silicide form. 7−6895
Pt/SiN/Si structure, nucleation kinetics and spatial distribution of spherulotic PtSi clusters 7−21675
Pt/TiO$_2$ thermally treated model catalysts, CO adsorption 7−54184
Pt-a-Si:H Schottky barrier contact, photocurrent excitation nonadditivity effects 7−17099
Pt-Al$_2$O$_3$ catalysts, small angle X-ray scatt. anal. 7−16352
Pt-Al$_2$O$_3$ composites, small metal particles, high resolution electron microscopy and X-ray diffr. meas. 7−46376
Pt-CdInGaS$_4$-In surface-barrier structs., photovoltaic effect and SCL currents 7−52687
Pt-GaAs, metallurgical reactions, heavy ion Rutherford backscattering spectrometry 7−53488
Pt-R contact, R=Gd, Tb, Dy, Ho, Tm, mag. order destruction by cold current 7−52980
Pt-S surface, effect of S-induced surface reconstruction on CO adsorption 7−6987
Pt-Si, high energy density pulsed ion beam irradiation, study of reacted layers 7−52151
Pt-Si interface, defects in PtSi$_x$ formation 7−21195
Pt-Si interface, PtSi formation and passivation 7−21709
Pt-SiO$_2$ catalysts, small angle X-ray scatt. anal. 7−16352
Pt-SiO$_x$-n-Si MIS electrode for electrochemical solar cells 7−34048
Pt+He$^+$(Ne^{3+}), L subshell ionisation probabilities vacancy sharing 7−15697
Pt$_2$, MO calcs. with optimised Pt relativistic pseudopot. 7−10451
Si:Pt, deep levels and diffusion profiles 7−58767
Si:Pt, self-consistent one-electron states of 5d transition-atom impurities 7−32950
Si/Pt, silicide film form., MOS-VLSI appls. 7−7870
Si/Pt/Si layered marker evolution on ion irrad., computer simulation 7−21302
Si-Au-Pt interfaces, PtSi formation, RBS studies 7−58547
Si-Pt, Pt$_2$Si formation, TEM study 7−38267
Si-Pt interfacial atomic struct. and cpd. form., FIM studies 7−32846

platinum continued
- Sn-Pt composite films, oxidation, KPS 7−27867
- ZrO_2-Pt cell for H_2 production from T_2O water decomposition 7−3581

platinum alloys
- *see also platinum compounds*
- binary alloys, surface segregation, struct. and composition 7−7013
- fast-quenched, struct. and props. *(Russian)* 7−59555
- Ag_xPt_{1-x}, Al-K_α XPS intensities 7−27870
- Al/V.PtSi/Si Schottky barrier diode metallisation system 7−2666
- Al-Ni-Pt, high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7−53987
- AlPt-Si, interfacial interactions, Rutherford backscattering spectrometry, TEM 7−12505
- AuPt, heat of form. and cryst. struct., linear augmented STO calcs. 7−51705
- Au_xPt_{1-x}, Al-K_α XPS intensities 7−27870
- Au_xPt_{1-x}, mag. susceptibility, 77 to 450K 7−17164
- Co-Pt, order-disorder transformation kinetics 7−52047
- Co-Pt sputtered films, mag. props., O impurity effects 7−33238
- Co-Pt thin films, sputtered, TEM study 7−21757
- $Co_{90}Pt_{10}$, sputtered thin film recording media, micromag. and struct. studies 7−33243
- CoPtTi thin films, magnetic and microstructural props. 7−33230
- Cu-P-Pt-B liquid metal ion source, B^+ and P^{2+} ion emissions 7−41531
- Cu-Pt (25.7 at.%), transform. from short-range order to $L1_2$ and $L1_{2-s}$ ordered states 7−53726
- Cu-Pt (48.1 at.%), elec. resist. var. during ordering under press. *(Russian)* 7−33810
- Cu-Pt-Pd ternary alloys, L1-type ordered phases 7−16493
- $Cu_{1-x}Pt_x$ disordered system, X-ray absorpt. edges *(German)* 7−46241
- Cu_3Pt ordering kinetics, comp. depend., X-ray and DTA studies 7−26940
- Dy-Tb-Pt ternary alloys, evaporation, thermodynamic props., Knudsen effusion method 7−32627
- Fe-Pt, dilute alloys, ferromagnetic, internal mag. fields, impurity conc. dependence 7−38858
- Fe-Pt (36 at.%), cryst. struct., permanent mag. props. *(Japanese)* 7−53036
- Fe-Pt Invar alloys, premartensitic transform., local structural change, EXAFS study 7−63556
- Fe-Pt Invar disordered alloys, premartensitic transform., mag. anomalies 7−7495
- Fe-Pt-N austenites, thermodynamics 7−63844
- $(Fe_{1-x}Mn_x)$Pt alloys, mag. phase diagram 7−64434
- Fe_3Pt, Invar, paramag. phase, inelastic neutron scatt. meas. 7−27493
- Gd-Pt, formation enthalpies, calorimetric determ. 7−65341
- HfPt, electronic struct. calcs. 7−45200
- Ir-Pt (2 at.%), surface segregation, AES study 7−27066
- Ni-Pt, order-disorder transformation kinetics 7−52047
- Ni-Pt, surface segregation, composition anal., AES studies 7−7999
- NiFe/SiO_2/CoPt multilayer magnetoresistors sensitivity anal. 7−48786
- Pt-Al liq. alloys, enthalpies of mixing 7−46487
- Pt-Al-Cr coatings, structure and 700°C hot corrosion behaviour 7−53973
- Pt-In liq. alloys, enthalpies of mixing 7−46487
- Pt-Ni alloys, surface segregation, ISS study 7−52208
- Pt-P alloy liquid metal ion sources, ion formation 7−64878
- Pt-Pb bimetallic systems, Fermi level density of states, XPS studies 7−46278
- Pt-Pd phase diagrams, thermodynamic calc. from expt. data on solidus temp. 7−3274
- Pt-Pd-Cu_2S-Ni_3S system, annealing, phase comp., DTA 7−46412
- Pt-Ph phase diagrams, thermodynamic calc. from expt. data on solidus temp. 7−3274
- Pt-Rh alloy, thermal expansion meas. 7−44864
- Pt-Rh alloys, surface composition, lattice vibrational entropy 7−52207
- Pt-Rh surfaces, N_2 and CO adsorption, temp. depend. and work function studies 7−33960
- Pt-Sn bimetallic systems, Fermi level density of states, XPS studies 7−46278
- Pt-W, Pt diffusion and platelet defect form. *(Russian)* 7−44895
- Pt-Zr internally oxidised alloys, morphology, struct. and stability *(Russian)* 7−33687
- PtCo, order-disorder transform. kinetics, temp. depend., magnetisation meas. 7−63797
- PtMn dilute alloy, longitudinal magnetoresist. meas. 7−12700
- $Pt_3Mn_xFe_{1-x}$, mag. state near critical composition *(Russian)* 7−17170
- PtMnGa, Curie temp., hydrostatic press. effect 7−27527
- PtSi contact metallurgy by different formation processes 7−21709
- Pt_xSi_{1-x}/n-GaAs contacts, elec. and metallurgical characts. 7−64345
- Pt_3Sn oxidation at low pressure, AES, ESCA, ISS study 7−17725
- PtTi-Si, interfacial interactions, Rutherford backscattering spectrometry, TEM 7−12505
- Pt_3Ti (111), chemisorption induced surface core level shifts 7−22448
- Pt_3Ti (111), chemisorption of CO and O_2 7−27131
- Ti-Pt/n-GaAs system, Schottky barrier height, doping depend. 7−2708
- $U_{0.95}$ $Th_{0.05}$ Pt_3, ground state antiferromag. order, neutron diffr. meas. 7−38847
- $U(Pt,Pd)_{31}$ heavy-fermion alloys, resistivity 7−17012
- UPt_3, anisotropic superconductivity 7−7461
- UPt_3, band struct., theoretical XPS intensities 7−39353
- UPt_3, doped, strain-dependent mag. anomalies 7−12978
- UPt_3, heavy electron coupling to lattice, US attenuation meas. 7−2129
- UPt_3, heavy fermion superconductors, Fermi surface and cooperative phenomena 7−2771
- UPt_3, heavy fermion supercond., Cooper pair states, atomic representation 7−45550
- UPt_3 heavy fermion supercond., muon spin relax. and Knight shift meas. 7−45888
- UPt_3, heavy fermion superconductivity and normal state props. 7−52412
- UPt_3, heavy fermion systems, Gruneisen parameter electron-phonon coupling 7−2138
- UPt_3 heavy fermion system, muon Knight shift study 7−45886
- UPt_3 heavy-fermion superconductors, induced moment mag. form factors 7−12909
- UPt_3, heavy-fermion superconductors, Landau-Khalatnikov US damping 7−12912
- UPt_3, heavy-fermion system, development of antiferromag. correlations 7−64435
- UPt_3, heavy-fermion system, magnetoacoustic effects in high mag. fields 7−64506
- UPt_3, hybridisation, electronic struct. and props. 7−45136

platinum alloys continued
- UPt_3 Kondo lattice, low-temp. sp. ht., suscept. and resist. meas., press. depend. anal. 7−7220
- UPt_3, possible superconductivity in nearly antiferromagnetic itinerant fermion systems 7−38802
- UPt_3 single crysts., electronic structure., low energy reflectivity study 7−45137
- UPt_3, superconductivity, simple transition metal-type and heavy fermion behaviour 7−12897
- UPt_3, superconductivity, one-component Fermi liquid theory 7−22066
- UPt_3, upper critical field, ang. and temp. depend. 7−7459
- UPt_2Si_2, $ThPt_2Si_2$, magnetochemistry and crystal chemistry 7−58976
- $U_{1-x}Th_xPt_3$, Fermi surface instability modification by Th substitution in UPt_3 7−2766
- V_3Pt, superconducting A15 cpds., resistivity and magnetoresistance 7−32982

platinum compounds
- *see also platinum alloys*
- complex, $(H_3O)_{0.33}Li_{0.8}(Pt(C_4N_2S_2)_2)1.67$ H_2O, synthetic conductor, spin-carrying defects 7−44524
- dithiolenes, struct., elec. and optical props. 7−44516
- glasses, anomalously high bulk cond. meas. in metal-glass structs. 7−17029
- silicide formation, defects study by scanning Auger microscopy 7−21195
- silicides, formation kinetics, dopant effects 7−21697
- $K_2Pt(CN)_4Br_{0.3}.3.2H_2O$, disordered CDW cpd., Coulomb-induced pseudo-critical behaviour 7−45188
- $K_2Pt(CN_4)Br_{0.3}.3.2H_2O$, quasi 1D conductor, near IR conductivity, pseudogap model 7−45298
- Pt complex, $[Pt(NH_3)_2(OH)_2(C_5H_7N_3O)_2](NO_3)_2.2H_2O$, metal stabilised cytosine iminooxo tautomer, form. and geometry 7−26710
- Pt complex, diaminodichloplatinum(II), isomers orbital study, coordination with DNA, relativistic multiple scatt. $X\alpha$ calcs. 7−56973
- Pt complex, mixed-valence binuclear, near UV spectra 7−62398
- Pt complex, platinum(II) diiodo-L-histidinate, cryst. and mol. struct. determ. 7−12032
- Pt complex, tetrakistrimethylphosphine Pt(0), synthesis and mol. vibr. study, Raman and IR spectra anal. 7−42627
- Pt complexes, ^{17}O NMR study 7−10625
- Pt complexes, binuclear with bis(dimethylphosphino)methane ligands, NMR study 7−13045
- Pt complexes, CO ligand σ and π interactions 7−64663
- Pt complexes, halogen-bridged mixed-valence, soliton model 7−64184
- Pt complexes, triphenylphosphine complexes, vibr., IR and Raman spectra 7−33397
- Pt-PtS system, phase equilib. 7−22644
- Pt-Si-Si, interface electronic states *(Chinese)* 7−58845
- $PtBr_6^{2-}$, NMR chemical shift, nuclear shielding, rovibr. averaging 7−25550
- PtCO, MO calcs. with optimised Pt relativistic pseudopot. 7−10451
- $PtCl_6^{2-}$, NMR chemical shift, nuclear shielding, rovibr. averaging 7−25550
- PtH, MO calcs. with optimised Pt relativistic pseudopot. 7−10451
- $(Pt(NH_3)_4)$ $(PtCl_2(NH_3)_4)$ $(HSO_4)_4$, quasi 1D cpd., valence fluctuation and negative thermal expansion 7−45248
- $Pt(NH_3)_2Cl_2$, relativistic and nonrelativistic electronic struct. and bonding, multiple scatt. wave study 7−36461
- $Pt_2(P_2O_5H_2)_4^{4-}$, electronic struct., bonding and spectra SCF EHT calcs. 7−42489
- PtSi, silicides formed in photon annealing of Pt on Si, struct. and comp. 7−2402
- PtSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7−2263
- PtSi/p-Si thin Schottky diodes, TEM, TED, I-V curve and photoemission characts. 7−12861
- PtSi/Si heterogeneous interface struct., defects, and coherency, HRTEM meas. *(Japanese)* 7−7019
- PtSi/Si Schottky diodes, surface imperfection induced elec. leakage paths 7−2719
- PtSi-Si, interfacial metallurgical interactions, elec. characts., effect of H 7−52834
- PtSi-Si thin film Schottky diodes, barrier height meas. 7−64308
- Pt_2Si, oxidation, catalytic effect of near-noble metal on Si oxidation 7−3545
- $PtTe_2$, electronic struct. determ. by self-consistent LMTO-ASA method 7−7111
- $UPtGa_5$, structural chemistry, mag. behaviour 7−16513

pleochroism
- *see also dichroism*
- No entries

plexiglas *see plastics*

PLL *see phase-locked loops*

plotters
- integrated communication aids for the blind 7−40367
- laser image plotter for high-information-density images recording 7−26043
- laser photoplotters for phototemplates fabrication, optical radiation control 7−25834
- Zeiss/Oberkochen PLANICOMP family for digital mapping 7−40619

plugs (electric) *see electric connectors*

Pluto
- 1987 Pluto-Charon mutual events 7−47760
- CCD imaging 7−40760
- Charon occultation and transit, December 1986, photometric obs. rel. to radii and albedos 7−55530
- Charon-Pluto mutual eclipse events, first-order modelling 7−34925
- discovery and announcement, historical account by discoverer 7−18546
- eclipse phenomena, CCD obs., April 1986, rel. to radius, orbital period, and orbital inclination 7−29424
- eclipses of Pluto-Charon system and Fraunhofer diffr. theory 7−55528
- planetary perturbations by Pluto, effects on cometary motion 7−4297

plutonium
- *see also nuclei with ......*
- *see also fission of plutonium*
- aqueous soln., reaction rate consts. of radiation-produced transients 7−60903
- biological behaviour, consequence for radiation protection *(French)* 7−40223
- enrichment in marine aerosols 7−3742

plutonium continued
fallout, food ingestion in Japan 7–28723
isotopes, radiochem. determ. in atmospheric samples 7–3616
Mururoa Atoll coral samples, nucl. techniques for Pu content determ. 7–54415
nuclear fuels, diffusion processes, review 7–19350
nuclear waste, leaching by salt solns. 7–36272
Process Facility Modification Project for PUREX plant 7–30582
^{239}Pu, determ. using crystallophosphor photoluminesc. 7–33981
radioassay of Pu or Am in biological samples, low-energy photon detector 7–54819
solid state and thermodynamic props., f-electron bonding and struct., review 7–12321
solubility, influence for nuclear waste repositories 7–36271
Virgin Islands, Pu fallout and natural radioactivity of coral 7–60274
waste management facility, Pu incorporation, comparison of various methods of routine monitoring 7–40312
^{A}Pu, A=239,240, conc. in Japanese human tissues 7–18081
^{A}Pu, A=239,240, lakes, seasonal anoxia, actinide release 7–60286
^{238}Pu, radioisotope thermoelectric generators for implanted pacemakers 7–28699
^{239}Pu, ^{240}Pu and ^{242}Pu, conc. determ. by isotope dilution-thermal ionisation mass spectrometry 7–10769
^{239}Pu and ^{244}Cm, lung clearance and translocation following inhalation, rat obs. 7–34290
^{239}Pu and extended γ-radiation, biochem. changes in rat tissues induced by combined effect *(Russian)* 7–47175
^{239}Pu cancer risk, reduction by chelation therapy, mouse expts. 7–18029
^{239}Pu, migration in soil and resuspension 7–28421
^{241}Pu in low-level radioactive wastes from reactors, determ. 7–30516
^{233}U-Pu hybrid cycle power system, growth, anal. calcs. 7–49681
^{233}U-Pu hybrid fuel cycle systems, reactor strategy *(Japanese)* 7–49682

plutonium alloys
Al-Ga (1.0 wt.%), atmospheric oxidation in range 150 to 500 °C. 7–28197
Pu-Fe(Ta)(Si) alloys, formation amorphous or metastable structures 7–16421
δl-Pu-Ga (1.5 wt.%) foils, cold rolling, annealing, microstruct., TEM obs. 7–59544
Pu-Os-B system, phase equilibria and cryst. struct. 7–16781
Pu-Rh-B system, phase equilibria and cryst. struct. 7–16781
Pu-Ru-B system, phase equilibria and cryst. struct. 7–16781
PuSb, heat capacity meas. 7–12975
PuSb, hybridisation-mediated anisotropic mag. behaviour 7–2850

plutonium compounds
see also plutonium alloys
moderately delocalised, mag. behaviour, anisotropy of crit. correlations 7–7474
nuclear fuels, diffusion processes, review 7–19350
$CaPuTi_2O_7$, substituted zirconolite, high level waste, self-irrad. effects, mech. props. 7–805
$Na_3(U_{1-y}Pu_y)O_4$ formation on breached LMR fuel element, thermal effects 7–30558
$(Pu, R)O_2$, (R=Nd, Y), reactor fuels, thermal conductivity 7–19352
PuB_x, synthesis and crystallographic studies *(French)* 7–17487
PuF_6 and PuF_5 mols., ionisation and appearance pots. meas. bond dissociation energy calcs. 7–10765
PuF_6, IR-active fundamentals and combination bands, vibr. force consts. 7–25511
PuF_6, low lying 5f to 5f excitations, ab initio study, electron correl. effects 7–42502
$Pu(NO_3)_4$, critical soln., heating-up, nucleation and boiling 7–19368
$Pu(NO_3)_4.2$ TBP, Pu mass transfer rate coefficients 7–56770
PuO_2, photoacoustic-spectroscopy 7–27731
PuO_2, reduction solvent salts, regeneration and recycle 7–25082
PuO_2, simulated LMFBR fuel pin, FCCI and I-assisted mass transfer 7–49537
PuOS, synthesis and crystallographic studies *(French)* 7–17487
PuOSe, synthesis and crystallographic studies *(French)* 7–17487
PuSb, moderately delocalised f-electrons,, anisotropic mag. behaviour 7–12968
$PuSb_{1-x}Te$, mag. props. 7–12938
$PuSb_{1-x}Te_x$ single crystals, mag. meas. 7–12959
UO_2-PuO_2 solid soln. form. simulation 7–3289
$(U_{0.3}Pu_{0.7})C$, hyperstoichiometric, hot hardness, 293-1573K 7–59608
$U_{1-x}Pu_xC$, mixed carbide fuel, thermodynamic props., effect of O and N impurities 7–58507
$(UPuR)O_2$, (R=Nd, Eu), reactor fuels, thermal conductivity 7–19352

PMDR
chlorophyll and derivatives, spin state in zero field, phosphoresc. emission 7–57124

PMOS integrated circuits *see field effect integrated circuits*

PMOS transistors *see insulated gate field effect transistors*

PMPS *see PMDR*

PMR *see proton magnetic resonance*

PMR imaging (biomedical) *see biomedical NMR*

pneumatic control equipment
fluid control and meas., conf., Tokyo, Japan (Sept. 1985) 7–29593

pneumatic logic *see fluidics*

pneumodynamics
see also lung
airways resistance, conversion between plethysmograph and perturbational meas. 7–3901
blood gases, effect of ventilation and blood flow in lung 7–34173
bronchial mechanics and density dependence of max. expiratory flow, anal. 7–8621
central airway resistance, dependence on freq. and tidal vol., model study 7–8620
conference on biomechanics, Mons, Belgium (Sept. 1986) *(French)* 7–9578
convective momentum near airway bifurcation, rel. to ventilation distrib. during HF oscill. 7–14037
effective airway resistance as determined by body plethysmography, meas. reliability 7–40187
gas transport during oscill. flow, effect of turbulent jet 7–8635
glottal opening and flow, measurement of effects on glottal impedance 7–47128
infants, noisy ventilatory waveforms, robust computer algorithm for breaths. detect. 7–28737

pneumodynamics continued
linear-lumped-parameter modelling of pulmonary impedance in monkeys 7–54642
lung mechanic modeling with fixed tracheal stenosis 7–3818
muscle energy expenditure minimisation during inspiration in linear models of respiratory system 7–54647
NMR imaging, optical detection of respiration and heart beats 7–47277
plethysmograph, granular strain gauge, for use as respiratory belt 7–14141
plethysmography, whole-body, online real-time data processing system 7–3922
postural changes induced modification of pulmonary gas mixing 7–8618
pulsed US air flowmeter, design and construction 7–3845
respiratory gas anal. *(Japanese)* 7–28560
respiratory impedance, calcs. from forced random noise data, microcomputer-based system 7–3913
respiratory impedance data fitted models, statistical measures of parameter estimates 7–28550
respiratory pressure data analysis for detecting breathing circuit faults in ventilated patients 7–40330
respiratory proprioceptor system in man, noninvasive technique for exam. 7–40374
respiratory transfer impedances with press. input at mouth and chest 7–8619
scintigram-standard radiograph superimposition, image processing system, ventilation index determ. 7–40259
synchronous HF jet ventilation during acute hypovolemia, haemodynamic effects, dog obs. 7–8616
systems analysis of respiratory control *(Japanese)* 7–14033
tidal breathing, normal and obstructed lungs, estimation of mech. parameters in multicompartment models 7–3817
ventilation, simple low-resistance flap valve for expt. studies 7–3890
ventilation distributions, recovery by gas wash-out of a mech. pump 7–3816
volume cycling in tapered pipe, appl. to airway bifurcation 7–44051
volume of lung, effect on pulmonary mechs. in guinea pigs 7–8626
wind instruments, aerodynamic analysis of playing methods 7–54645

PNO calculations
No entries

Pockels effect
linear Pockels response of a monolayer Langmuir-Blodgett film 7–13131
parallel logic gate using Pockels effect modulators, fundamental components for optical digital computing 7–43347
review of electro-optic devices, Pockels cell 7–50729
rod-plane gap, space-charge behaviour evaluation using Pockels' cells 7–20980
ND_3, elastic consts. and elasto-optic coeffs., Brillouin spectra anal. 7–53359

Pockels readout optical modulator *see electro-optical devices; optical modulation*

point contact spectroscopy
metallic alloys and cpds., phonon point contact spectroscopy, review *(Russian)* 7–12788
microcontact spectroscopy, contact temp. determ. 7–12790
quantum point-contact spectroscopy, motion on manifold 7–29951
$CeNi_5$, intermediate-valence intermetallic cpd., point contact spectroscopy 7–38139
Tc-Ag point contacts, current-voltage characts., temp. depend. studies *(Russian)* 7–7335
U_2Zn_{17}, heavy fermion system, point contact spectroscopy meas. 7–52748
W-Ni, point contact, harmonic mixing props. in 30-120 THz freq. region 7–17072

point contacts
see also point contact spectroscopy
β-$(BEDT\text{-}TTF)_2I_3$/Cu point contact spectra 7–27383
identical metals, point-contact config., thermoelec. voltage, phonon drag and finite size effects 7–2582
short superconducting point contacts, equilib. fluctuations, nonzero energy relax. time *(Russian)* 7–52897
Au-Au point contacts, electronic thermal cond. temp. depend. study *(Russian)* 7–12789
Bi, superconducting phases, nonlinear I-V characts. struct., point contact obs. 7–2763
Gd, microcontact spectroscopy, contact temp. determ. 7–12790
Ge point contacts, nonlinear elec. cond. effects due to electron-phonon interactions *(Russian)* 7–52628
K halides, injection of charge carriers from a point contact 7–6868
Mo-Ce alloy point contacts, low temp. I-V characts., thermoelec. effects obs. 7–27382
Nb-In point contact, observation of chaotic noise 7–7445
Nb-W, superconductor-normal metal point contacts in field of CO_2 laser 7–38684
Pt-R contact, R=Gd, Tb, Dy, Ho, Tm, mag. order destruction by cold current 7–52980
Si point contact solar cells, modelling and expt. results 7–13869
Si, SIPOS and polysilicon films for low minority carrier current saturation point contact solar cells 7–8416
TaS_3, orthorhombic, CDW state, point contact study 7–52468
W-Ni MIM diode as difference frequency IR detector, long-term stability 7–24700

point defect scattering
used for carrier scattering by point defects
$Cu_{2-x}Se$, electrical resistivity, temp. and carrier density dependences 7–38556
V_3GE solid solns. of Fe, Cr and Co, elec. resist. *(Russian)* 7–45273
V_3Si solid solns. of Fe, Cr and Co, elec. resist. *(Russian)* 7–45273

point defects
see also colour centres; interstitials; point defect scattering; vacancies (crystal)
alkali halides, RbCl, KCl, KBr, CsBr, luminescing solids, nonradiative decay channels of electronic excitations 7–27760
alloys, ion bombardment-induced segregation and redistribution 7–58381
atomic structure models, electron microscope images, computer simulation 7–16380
austenitic steels, small precips., moire imaging in TEM 7–46490
defect mapping by in-water photocorrosion 7–59692
diamond, volume expansion during ion implantation, point defect creation and interactions 7–51890
dislocations, fluctuation unpinning from point defects, one-dimensional diffusion eqn. 7–26752

point defects continued
- dispersion forces, free energy via response functions 7—57144
- III-V semiconductor quantum well structures, destruction mechanism due to impurity diffusion 7—63971
- incomplete crystals, surfaces, defects, interfaces and layered structures, theory 7—16926
- ionic crystals, grain boundaries, review 7—6632
- lattice thermal cond. reduction by point defects at intermediate temps., appl. to Ge-Si 7—52161
- metal and alloys, irradiation damage, instantaneous processes 7—58314
- metals, fatigue deformed, stimulated electron emission kinetics *(Russian)* 7—3156
- metals, irradiated, deformation rate, impurity atmosphere effects *(Russian)* 7—33727
- metals, irradiated, internal stress, diffusion relaxation 7—58313
- metals, radiation point defects, diffusion processes, defect drains 7—6894
- nonmetallic crysts., radiation-induced struct. changes, mechanisms and criteria 7—63651
- optical beam induced current images, defects in semiconductors 7—51759
- polarisation of solids by point defects, multipole theory 7—13086
- quartz:Li, $(SiO_4/Li)^0$ centre, correlated ESR and thermoluminescence studies 7—22140
- quartz, point defects computer modelling 7—58265
- radiation damage and defects, computer simulation studies 7—2048
- radiation effects in materials for optical interferometric devices 7—44618
- semiconductor crystals, point defect behaviour, influence of isovalent impurities as sources of elastic stresses 7—51756
- semiconductors, crystal excitation by electric discharges, point defect ionisation 7—33331
- semiconductors, defects, electroreflectance characterisation 7—64606
- semiconductors, implanted ions diffusion redistribution, effect of radiation defects 7—51810
- space group band representations, appl. to theory of phase transitions and point defects 7—1927
- steel, stainless, ion trapping of D^+, mechanisms 7—64857
- AgBr-AgI crystals, strain-ageing 7—6627
- β-AgI, anharmonic thermal vibrs., X-ray diffr. 7—51982
- Al, ion trapping of D^+, mechanisms 7—64857
- Bi, ultrasound absorption, amplitude and orientation dependences 7—26873
- Bi_2Te_3 doped crystals, energy formation of antisite defects 7—21204
- Cu commercial alloys, low neutron dose effects on tensile props., yield stress 7—51863
- Cu, low neutron dose effects on tensile props., yield stress 7—51863
- Cu single crystals, fatigue crack initiation mechanism, persistent slip band model 7—53869
- Cu-Ti, amorphisation, high resolution electron microscopy 7—44377
- Cu-Ti alloy system, electron irrad.-induced amorphisation, chemical disordering effects study 7—16640
- α-Fe, cryst., point defect and edge dislocation interaction simulation and radiation creep rate estimation 7—21216
- Fe-Ni-Cr-P, ion irrad., swelling suppression, effect of P modification 7—58358
- GaAs, antisite defects formation during plastic deformation 7—37988
- GaAs, EL2 and As antisite defect props., review *(Japanese)* 7—7152
- GaAs FET arrays, electrical parameter mapping 7—32438
- GaAs, IR imaging 7—32238
- GaAs, inhomogeneous characteristics, photoconductivity and optical absorption meas. 7—32439
- GaAs, ion implanted and laser irradiated, defect studies 7—32432
- GaAs, metastable defects, electronic Raman scatt. of nonequilibrium holes 7—26748
- GaAs, plastically deformed or electron or neutron irradiated, antisite defects 7—37987
- GaAs, point defects, props. and processes, dislocation form. and characterisation *(Japanese)* 7—7151
- GaAs, positron lifetime, electron beam effects and temp. depend. 7—39280
- GaAs semi-insulating cryst. characts., IC substrate appls. *(Japanese)* 7—6622
- GaAs, semiinsulating, electrophysical props., dislocation effects 7—16557
- GaAs, surface region, heat-treated, photoluminescence, antisite defect obs. 7—39167
- GaAs thin semi-insulating wafers, EL2 distrib., dislocation network correl., near IR absorpt. maps and X-ray topographs 7—21203
- GaAs, uniformity imaging 7—32481
- GaAs:In, doped and undoped, EL2 maps from computer based IR image analysis 7—32237
- GaAs:In, strain effects, electrorefl. and photocapacitance study 7—22224
- GaAs:In MBE layers, defect density reduction by isoelectronic In doping 7—3176
- $GaAs_{1-x}P_x:Be^+$-$GaP:Be^+$ strained-layer superlattices, ion implantation doping, structural study 7—38030
- GaN:Sb, antisite dopant incorporation, Mossbauer spectra study 7—12086
- GaSb single crystals, intrinsic point defects and microdefects, TEM studies 7—44529
- InAs:Sb(Ga)(Mn), single crystal, elec. inhomogeneity, effects of isovalent impurities 7—7229
- InP, electron irrad. damage, impurity effects 7—12154
- KI, exciton self-localisation, radiation defects, lumin. studies 7—64681
- Kr, defect props. in condensed two-dimensional lattice 7—2018
- $LiTaO_3$ low freq. dielec. response, charged point defect migration contrib. anal. 7—38984
- $MgO(Al_2O_3)_n$, electron beam irrad., point defect aggregation, screw dislocation climb 7—63662
- $Mn_{1-\Delta}O$, manganosite, relax. kinetics in $CO-CO_2$ mixtures 7—58539
- Mo, ion trapping of D^+, mechanisms 7—64857
- Nb, ion trapping of D^+, mechanisms 7—64857
- Ni and Ni-Cu, gamma-irradiated, point defect migration 7—6893
- β-NiAl alloys, structural vacancies and T-antistruct. atoms, positron trapping study 7—39300
- NiAl thin films, ion irrad. induced amorphisation studies rel. to cascade parameters 7—63671
- Ni_3Al, thermal and elec. cond., temp. and comp. depends. 7—64200
- Pb, deforming stress and defect struct. in low temp. anomaly region *(Russian)* 7—38093
- $PbMoO_4$ crysts., point defects, absorpt. and fluoresc. props. 7—64674
- PbTe, thermoelectric props., effect of dielectric inclusions 7—12746
- Pd-In alloys, constitutional and thermal defects, positron lifetime study 7—39299
- RbI, exciton self-localisation, radiation defects, lumin. studies 7—64681

point defects continued
- Sb_2Te_3 doped crystals, energy formation of antisite defects 7—21204
- Sb_3Te_3 crysts., pure and Cd-doped, point defects, reflectivity and elec. props. room temp. meas. 7—33008
- Si, electron and ion irradiation induced amorphisation, point defect dispersion and mobility 7—11916
- Si, heavily doped crystals, behaviour of O and dopants 7—32483
- Si MBE layers, deep levels, DLTS meas. 7—12667
- Si, recombination channels, dislocations interaction with point defects, lumin. study 7—46094
- Si single crystals, defect struct., high DC elec. fields, X-ray diffr. 7—44530
- $Si:Ar^+$, ion implanted thin film, defect form., dose depend. study 7—51793
- Si:B plastically deformed crysts., dislocation struct. and elec. activity, annealing effects study 7—37998
- Si:B(As)-Ti(Co), silicide formation using rapid thermal processing, defect behaviour 7—32726
- Si:B(P), lateral diffusion, modeling LOCOS effects 7—33865
- $Si:Ge^+$, ion implanted and annealed, crystalline to amorphous transformation, TEM study 7—32643
- Si:O,C, intrinsic point defects and impurity interactions 7—16611
- Si:P MOS source/drain structs., 2D P diffusion props. 7—32718
- SiO_2, cryst. and amorphous, point defects and electronic props. 7—64082
- SiO_2 glass and cryst., luminescence props. 7—33428
- SiO_2, stoichiometric and sub-stoichiometric, defect creation, photoablation, pulsed UV irrad. 7—58315
- TiN (100) epitaxial film sputtering, defect density, ion irrad. effects, TEM study 7—58684
- V polycrystalline films, struct. defect disappearance, activation energy, elec. resist. meas. 7—26740
- VD_x, force dipole tensor and elastic consts., diffuse X-ray scatt. obs. 7—26831
- Xe, defect props. in condensed two-dimensional lattice 7—2018
- Zr, doped with O, mech. props. and elec. resist. at 4.2 K influence of annealing *(French)* 7—59554

point groups *see crystal atomic structure; crystal symmetry*

point of sale systems
- hologram scanner, optical design for bar code reading 7—25783

point to point radio links *see radio links*

Poiseuille flow
- combined mode heat transfer analysis utilizing radiation scaling 7—63225
- diffusion, in shear flows, Taylor limit investig. 7—57925
- forced Rayleigh scattering appl. to hydrodynamic meas. 7—11572
- incompressible fluid flow, implicit finite difference method 7—37416
- laminar flow through axisymmetric sudden expansions, shear layer instabilities obs. 7—11376
- pipe flow, laminar to turbulent flow transition, sinusoidal flow modulation 7—16262
- plane Poiseuille flow, direct reson. excitation 7—57928
- reactive plane Poiseuille flow, criticality disappearance in thermal ignition 7—1650
- separation of Poiseuille flow downstream of step, generation and development of perturbations 7—44045
- smectic A liquid crystals, screw dislocation dynamics 7—21090
- stability, suspended particle effect 7—1613
- turbulent flow in 2D labyrinth, simulation 7—43873
- velocity profile measurement by ultrasound Doppler shift method 7—37585
- viscoelastic liquid discharge influences 7—57930
- viscous fluid convective thermal motion instability in tube 7—31804
- He II, subcritical flows, second-order effects 7—16833

Poisson ratio
- adhesive lap joints, yield strength in tension, compression and torsion, Poisson ratio 7—39591
- amorphization of a disclination core 7—6624
- beam, two-layer cpd., damping characts., influence of quality of adhesion 7—50972
- cylindrical shell, thin walled with winding, ultimate press. rel. to prestressing 7—31650
- elastic Ising antiferromagnets on a triangular lattice 7—33185
- elastostatics with generalised boundary conditions, Poisson ratio independence 7—14771
- graphite, nucl. grade, polycryst., deform. under press., elastic moduli rel. to struct., neutron irrad. effect 7—28069
- laminates, cross-ply, cracked, stiffness reduction anal. 7—44644
- plasticity-induced crack closure, under plane strain conditions, finite element anal. 7—37379
- plate, cracked, bending, stress intensity factor computation via path-independent integral 7—37380
- polymer films, strain measurement with laser speckle gauge, Poisson ratio evaluation 7—43821
- polymer films, stress development during thermal cycling, bending beam technique 7—28063
- random honeycomb network, 2-D, rigid and nonrigid bonds, universal Poisson's ratio 7—44647
- Schmid factors, anisotropic, in constrained systems 7—58397
- shear moduli, positive/negative, for small and large deformations of elastic materials 7—6088
- shells, spherical, with delaminations, bifurcation of equilib. 7—31669
- steel, austenitic, Cr-Mn, thermal and mech. props., fusion reactor appl. 7—53795
- steel, austenitic stainless, elastic moduli at 4 K, C and N effects 7—46541
- steel, Cr-Mo-V, bainitic, high strain amplitude fatigue, cyclic stress and diametral strain response 7—39643
- stress relaxation functions, shear, uniaxial and biaxial 7—26855
- Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7—12698
- LiO_2, elastic and creep props., porosity and temp. depend. 7—53780
- Ru, electronic, structural and cohesive props., theoretical study 7—37922
- SiO_2 gels. prep. using tetraethoxysilane, elastic moduli 7—46537

polar cap absorption *see ionospheric electromagnetic wave propagation*

polar semiconductor materials *see polar semiconductors*

polar semiconductors
- *see also ferroelectric semiconductors; piezoelectric semiconductors*
- binary compound polar semiconductors with nonparabolic energy bands, electronic struct. 7—2478
- carrier-carrier interaction and picosecond phenomena 7—45309

polar semiconductors continued
conductivity tensor of doped polar semiconductors, interference effects 7—12711
LO-phonon modes bound to neutral impurities 7—45178
negative momentum relaxation rate and transport 7—12712
phonon-plasmon coupling in polar semiconductors 7—33041
polaritons, secondary emission spectra, energy relax. 7—27755
quasi-2D, hot carriers 7—12807
CdSe, photogenerated high density electron-hole plasma, energy relax., rapid expansion 7—33039
GaAs, crystal polarity, convergent beam electron diffr. study 7—21162
GaAs epilayers grown on Ge or Ge/Si substrates, defects 7—21778

polarimeters
see also polarimetry
correlation (balanced) polarimeter for RATAN-600 radio telescope, polarisation characts. 7—66465
fibre optic magnetometer, polarimetric DC using composite metallic glass resonator 7—14981
fibre optic sensors for nondestructive evaluation of composite materials 7—20448
IKAR-16 automated solar spectral-polarisation complex of RATAN-600 radio telescope, configuration and software 7—66460
micropolariscope for automatic stress analysis 7—43815
modulator, magneto-optic, highly efficient low field *(French)* 7—5989
optimum design of a polarimeter for visible light 7—339
polarisation state control of optical instruments, using fibre optics or Bragg cells 7—14992
radioastronomical polarimeter spectrometer 7—14495
radioastronomical polarisation systems, props. of Muller matrices 7—66464
real-time heterodyne fibre polarimetry with narrow- and broad-band sources 7—35569
remote sensing of Earth resources, imaging spectropolarimeter-photometer for satellite 7—40604
TFTR plasmas, Faraday rotation and line electron density meas. using FIR interferometer 7—11754
three-dimensional He-recoil MWPC for fast polarizedneutrons 7—5542
TRIUMF, polarimeter for medium resolution spectrometer 7—49861
$p(\bar{p})$ polarized beam production from Λ^0, $(\bar{\Lambda}^0)$ decays 7—30796
^{23}Na beam, polarisation components meas. 7—61875

polarimetry
see also ellipsometry; polarimeters
group theory and polarisation algebra 7—56319
high accuracy universal polarimeter, accuracy improvement, appl. to ferroelec. tetramethylammonium tetrachlorozincate 7—17300
laser losses and efficiency meas. 7—43106
phase plate choice, rel. to polarized light props. investig. *(Russian)* 7—61369
polarisation state control using fibre optic techniques 7—43421
radioastronomical polarimetry, polarisation characts. of correlation (balanced) polarimeter 7—66465
radioastronomical polarimetry, props. of Muller matrices of polarisation systems 7—66464
real-time heterodyne fibre polarimetry with narrow- and broad-band sources 7—35569
spin stabilizer containing ^{129}Xe oriented by exchange interaction 7—5574
TEXTOR tokamak, current distrib. meas. by FIR polarimetry 7—11738
twisted optical fibre, Faraday rotation meas. using rotating polarisation and analogue phase detect. 7—25981
vacuum UV light polarisation, freq. conversion and fluorescence studies 7—10849
$\bar{p}$ polarization technique for low energy storage rings, anal. for LEAR 7—30911
^{3}He target, polarized, EM physics 7—56919
W complex, W (VI)-mannitol, IR and NMR spectrosc. 7—50136
W complex, W (VI)-sorbitol, IR and NMR spectrosc. 7—50136

polarisability
see also atomic polarisability; molecular polarisability
alkali halides, refractive index, Szigeti charge, dielec. parameters ab initio calcs. 7—13082
apertures, magnetic polarizability anal. 7—58096
covalent solids, lattice dynamics, quadrupolar charge deform., adiabatic formulation 7—26879
diatomic crystals, second-order scattering, nonlinear polarisabilities 7—59210
electron plasma, two-dimensional, dynamic polarizability calcs. 7—32929
inorganic crystals, optical rotary power and refractive index 7—33357
ionic crystals, electronic polarisabilities and photoelastic behaviour 7—44444
molecular optoelectronics theory, effect of molecular elongation 7—50618
oxides, rutile-type, dipole polarisabilities, cohesive energies and press. derivatives of bulk moduli 7—2967
rare earth cpd. crystals, magnetooptic anisotropy, ionic polarisability in cryst. field 7—53285
small metal particles, dynamic polarisability, jellium model, RPA calcs. 7—52460
$Al(OH)_x$ aggregate fractal structs., X-ray scatt. functions 7—32381
Ar crystal, dielec. const., density depend., in-cryst. polarisability calc. 7—22175
CdI_2, layered cryst., Raman scatt. intensities and atomic bonding 7—22257
GaSe, layered cryst., Raman scatt. intensities and atomic bonding 7—22257
^{4}He liq., electric permittivity, microwave meas. 7—13074
HgI_2, red, layered cryst., Raman scatt. intensities and atomic bonding 7—22257

polarisation
see also beta-ray polarisation; deuteron polarisation; dielectric polarisation; electromagnetic wave polarisation; electron spin polarisation; gamma-ray polarisation; neutron polarisation; nuclear polarisation; photon polarisation; polarisation in elementary particle interactions; polarisation in elementary particle scattering; polarisation in nuclear reactions and scattering; proton polarisation
coherency matrix description for electron 7—15811
corrosion rates determ., polarisation curves, mass transport effect 7—28191
gravitational waves, antenna patterns of interferometric detectors for linearly polarised waves 7—55453
isoperimetric inequalities for capacity, polarisation and virtual mass 7—31208

polarisation continued
longitudinally polarised W and Z bosons, relationship to Goldstone partners, gauge invariance 7—41702
low energy meson physics in the superconducting quark model 7—35811
pions and H(1190) meson, polarisabilities, sum rules 7—10087
polarizable vacuum, confining classical potential, two-particle case 7—42870
protonic solid electrolyte fuel cells, polarisation model 7—65454
QED with pair creating external field, pol. operator 7—19063
quasiparticles, polarisation operator in condensed media *(Russian)* 7—16923
randomly oriented particle layer, vector solution for mean EM fields 7—14365
seismic waves, appl. of polarisation method to three-component seismic meas. 7—47344
seismic waves, complex polarisation anal. of particle emotion 7—28867
US inspection, horizontally polarised transverse waves appl. 7—28247
π^0 EM properties in dominance model of quark-loop anomalies 7—19147
^{209}Bi, muonic, repolarisation of μ^- after capture, μ-e decay asymmetry 7—15183
^{2}H sources, optically pumped, tensor polarised 7—62171
$\Lambda_c{}^+$, polarisation determination from cascade decays 7—41865
Pb-acid batteries, mass transport during plate formation 7—39985

polarisation in elementary particle interactions
hyperon polarization in hadronic collisions 7—35908
KEK, recent topics on spin physics 7—30910
NN interaction, Skyrme model anal., polarization effects 7—49254
photon-hadron interactions involving tracer photon beams, multi-particle finite states 7—5101
$d\gamma \to pn$, 50-100 MeV, differential cross section asymm. meas. 7—49374
$\vec{e}d \to e'np$, neutron electric form factor 7—35880
$e^+e^- \to$ hadrons, asymmetries, electroweak radiative corrections, Z_0 resonance 7—15166
$\vec{e}^+\vec{e}^- \to e^+e^-\gamma$, bremsstrahlung amplitude calcs. 7—61712
$e^+e^- \to e^+\tilde{\gamma}\tilde{e}^-$, longitudinally polarized beams, longitudinal and P-violating asymmetries, supergravity GUT calcs. 7—5082
$e^+e^- \to \bar{f}f$, $f \neq e$, ν_e, t, forward-backward and polarization asymmetries for $SU(2)_L \times U(1)_Y \times U(1)_{Y*}$ and $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$ 7—61708
$\vec{e}^+\vec{e}^- \to \bar{f}f\gamma$, bremsstrahlung amplitude calcs. 7—61712
$\vec{e}^+\vec{e}^- \to \gamma X$, identification of missing neutrals using long. pol., ν, $\tilde{\nu}$, $\tilde{\gamma}$ and $\tilde{H}^0$ 7—49127
$e^+e^- \to$ hadrons, washing out final state interactions for longit. pol. asymmetry 7—24896
$e^+e^- \to$ heavy Majorana fermions $\to l^+l^-$, cross sections, tests for Majorana nature, CP-, CPT-invariance 7—61702
$\vec{e}^+\vec{e}^- \to H\gamma(\mu^+\mu^-)$, helicity amplitudes, cross section calcs. 7—61641
$e^+e^- \to \bar{t}t$, polarization asymmetries, one-loop electroweak corrections 7—534
$e^+e^- \to W^+W^+ \to$ four fermions, beam polarization effects, γWW, ZWW vertex meas. analysis 7—61640
$e^+e^- \to X$, effects of Z′-bosons from superstring or nonlinear σ models 7—444
$e^+e^- \to Z^0 \to \bar{b}b, \bar{t}t$, unpolarized and polarized forward-backward asymmetries, properties 7—538
$e^+e^-0 \to X$, sparticle pair prod. with polarized beams 7—61493
$\vec{\gamma}_{\vec{p}} \to \pi^+n$, polarization H parameter meas. at $E_\gamma=320$ MeV 7—41822
$\vec{\gamma}d \to pn$, cross-section asymmetry, $E_\gamma=0.4$-0.8 GeV 7—5099
$\vec{\gamma}d \to \pi^0 d$, cross-section asymmetry, $E_\gamma=0.4$-0.8 GeV 7—5099
$\gamma e \to W\nu_e$, W prod. and decay diff. cross sections, beam pol. and anomalous mag. moment effects *(Russian)* 7—30299
$\gamma N \to \pi N$, polarization observables coupled channel model predictions 7—5104
$\gamma\vec{p} \to p\pi^0$ 0.9-1.5 GeV, polarisation parameter meas. 7—61701
$h_1h_2 \to V(t\bar{t})X$, $V(t\bar{t}) \to \gamma$, Z^0, $Z^0 \to l\bar{l}$, weak neutral currents, expt. possibilities, lepton longitudinal polarization 7—5098
$K_L{}^0 \to \pi^- l^+ v_l$, l^+ polarization, effects of heavy subdominantly coupled neutrino mixing 7—61652
$\vec{L}\vec{N}$, polarised deep inelastic scatt. from cloudy bag model 7—49159
$\Lambda^0(\bar{\Lambda}^0)$ decays, production of polarized p,$\bar{p}$ beams 7—30796
$\Lambda_c{}^+ \to \bar{K}^0p\pi^+\pi^-$, $\Lambda_c{}^+$ polarization meas. from $^{12}C(n,\Lambda^{c+})$, 40-70 GeV/c 7—5088
$\Lambda_c{}^+ \to \Lambda^0\pi^+\pi^+\pi^-$, $\Lambda_c{}^+$ polarization meas. from $^{12}C(n,\Lambda_c{}^+)$, 40-70 GeV/c 7—5088
$NN \to \pi d$, cross-section and polarisation meas. *(Russian)* 7—61736
$\bar{N}N$ spin physics 7—49168
$\nu \to W^+W^-e$, massive neutrino decay probability calcs. in steady magnetic field, polarization effects 7—5089
$\vec{p}$-p polarization, Coulomb effects 7—5108
$\vec{p}d \to {}^3He\pi^0$, 733 MeV, charge independence test 7—5113
pd elastic scattering, polarized target double and triple spin correlation parameters 7—56569
$\vec{p}d \to t\pi^+$, 733 MeV, charge independence test 7—5113
$\vec{p}N \to \vec{\Lambda}X$, 13, 18 GeV/c, polarization transfer meas. 7—30294
$\vec{p}\vec{p} \to (\gamma,Z^0) \to \mu^+\mu^-X$, spin-spin asymmetry anal., inclusion of Z^0 effects, relevance to sea-quark polarization 7—19134
$pp \to d\pi^+$, 725 MeV-2.3 GeV, analyzing power meas., excitation of N* isobars 7—5123
$\vec{p}p \to \Delta^{++}n$, partial wave anal. in dibaryon resonance region 7—35895
pp elastic scatt., polarisation effects, energy depend. 7—24913
$pp \to \Lambda^0X$, $\sqrt{s}=31$-62 GeV, Λ^0 polarization meas. 7—61760
$\vec{p}\vec{p} \to \Delta X$, analyzing power and spin transfer meas. 7—41853
$\vec{p}p \to pn\pi^+$, partial wave anal. in dibaryon resonance region 7—35895
$\vec{p}p \to \vec{p}p$, $\pi^+\pi^-$, K^+K^-, antiproton spin physics expt. at LEAR 7—49170
$\vec{p}p \to pp\gamma$, 280 MeV, anal. power for bremsstrahlung 7—24923
$\vec{p}\vec{p} \to X$, total cross-section difference, energy dependence 7—24902
$\pi d \to NN$, cross-section and polarisation meas. *(Russian)* 7—61736
$\pi N \to \rho N$, vector-meson prod., helicity-amplitude relations from skyrmion model 7—41838
$\pi^+n_\uparrow \to \pi^+\pi^-p$, 6,12 GeV/c, spin dependence of ρ^o production 7—30293
$\pi^-\vec{p} \to \gamma n$, $p_\pi=301$-625 MeV/c analyzing power meas. near Δ and Roper resonances 7—5121
$\pi^-p \to \pi^0n$, 625 MeV/c, analyzing power meas. 7—5122
π^-p reaction, meson polarisation investig. 7—49181
ρ^0N in $^{12}C(\pi^-, \rho^0)$, 5 GeV/c, total cross section meas. for polarized/unpolarized ρ^0 7—5106
$\gamma p \to p\pi^0$, 450 to 700 MeV, secondary proton polarisation *(Russian)* 7—15164
$K_L \to \mu^+\mu^-$, muon polarization, effect of left-right squark flavour mixing 7—35737

polarisation in elementary particle interactions continued
$K^-p \to \Lambda X$, Λ polarization, energy dependence and p_t variance, QCD comparisons 7−61754
$pN \to \Lambda^\circ X$, polarisation in inclusive production, A dependence 7−15177
$pp \to Z^0Z^0 \to$ leptons, Higgs detection by Z^0 polarisation determ. 7−24914
$\pi^-\vec{p} \to \pi^0 n$, left-right asymm. in Roper resonances region, partial wave anal. comparison 7−35903
$\bar{\nu}N \to \rho^0$, tensor polarization meas. of ρ^0, charged current interaction 7−5083

polarisation in elementary particle scattering
elastic scattering, effects on spin asymmetries at 90° 7−30291
pd elastic scattering, anal. of three-body interactions using spin observable meas. 7−30280
spin asymmetries in hadron elastic scatt. at 90°, exchange contribs. 7−30298
$\vec{d}p$ elastic scattering, backward angle T_{20} values and the ΔΔ deuteron wave fn. component 7−56567
$e(\vec{e})p$, nucleon structure fns., SUSYQCD anal. 7−61689
$e(\mu,\tau)N$ elastic scattering, nucleon form factors from polarized lepton scatt. 7−56556
$\vec{e}N \to e'N$, polarization expts. at CEBAF 7−35999
γ polarization propagator in external mag. field, W boson contrib. 7−61438
$\vec{n}\vec{n}$, 50 MeV, spin correlation meas., relevance to NN force models 7−61731
NN elastic scattering, new mechanism for spin effects 7−61744
np, elastic scatt. energy-depend. phase shift anal. 7−56564
$\vec{n}p$, low energy scatt., anal. power, spin depend. 7−24904
np elastic scattering, intermediate energies, spin meas. 7−30278
np elastic scattering, n-p analyzing powers, difference meas. 7−30434
np scattering, $E_n=189$ MeV, charge symmetry breaking search 7−5112
$(\vec{p},\vec{p}')$, universal Gamow-Teller quenching 7−49419
pd scattering, low energy, Coulomb polarization effect on Coulomb modified scattering length 7−41829
$\vec{p}\vec{n} \to pn$, A_{nn} parameter meas. expt., progress report 7−5109
$\vec{p}p$, 800 MeV, parity violation meas. 7−30279
pp, elastic scatt. energy-depend. phase shift anal. 7−56564
pp, elastic scattering, spin-correlation parameters, oscillation 7−61728
pp elastic scattering, 198.5 MeV, time reversal invariance test in strong interaction, polarization-analyzing power comparisons 7−5110
$\vec{p}p$ elastic scattering, 22 GeV/c, high $P_\perp{}^2$ spin effects 7−30290
pp elastic scattering, 447-560 MeV, double- and triple-spin parameter meas. 7−19127
$\vec{p}p$ elastic scattering, 655, 1017 MeV, analyzing power, narrow structure search 7−56566
pp elastic scattering, polarisation correlation and asymmetry parameters 7−61729
$\vec{p}p \to pp$, excitation functions and high resolution search for narrow dibaryons 7−5209
$pp \to pp$, polarisation transfer parameter meas. 7−41832
$\bar{p}p \to \bar{p}p$, polarization observables, asymmetry meas., proposed LEAR expt. 7−49170
$pp \to pp'\gamma$, cross sections and analyzing power, pot. model calcs. 7−5115
pp scatt., 2.75, 2.92, 3.25, 3.48 GeV/c, total cross section differences for parallel/antiparallel longitudinal spin states 7−19128
$\vec{p}p$ scattering, 45 MeV, P-violation meas. 7−5111
$\vec{p}p$ scattering, 50 MeV, longitudinal analyzing power meas. 7−5114
$\pi\vec{d}$ elastic scattering, dynamical observables determ. for vector and tensor pol. targets 7−49368
$\pi^+\vec{d}$ elastic scatt., vector analyzing power meas. at 0.74 GeV/c 7−42076
$\pi N \to \pi N\gamma$, polarization structure anal. 7−19130
$\pi^-\vec{p}$, 450 meV, elastic scatt., spin rot. parameter meas. near low-lying resonance 7−61735

polarisation in nuclear reactions and scattering
2jth rank tensor polarization in reactions involving a spin j particle 7−41952
$^7\mathrm{Li}(\vec{p},\pi^-)^8\mathrm{B}$, $E_p=200$ MeV, cross section, analyzing power angular distrib. meas. 7−56677
conf., Washington, DC, USA, April 1986 7−60881
differential cross-section, direct reaction contribution 7−621
heavy-ion collisions, nuclear polarization potential due to single-particle transfer 7−5276
KEK, recent topics on spin physics 7−30910
P-A theorem and time symmetry in nuclear reactions 7−5205
S-wave pion-nucleus optical potential, rescattering contribution in nuclear medium polarization model 7−5296
spin correlation parameter for reactions of the type $\bar{1}/2+\bar{1}/2 \to 1+0$ 7−622
tidal symmetry in scatt. of polarised projectiles. 7−15208
$^{27}\mathrm{Al}(\vec{n},X)$, 5-17 MeV, spin-spin pots., nuclear Ramsauer effect, optical pots. 7−24966
$(\vec{d},\vec{d})$, existence of T_L and T_P tensor pots. 7−642
$(\vec{d},\vec{d})$, Fourier-Bessel anal. for optical pot. 7−648
(d,d), polarizability and breakup model for heavy nuclei 7−15214
(d,d) on spinless nuclei, elastic high energy scatt., polarisation effects, multiple diffr. scatt. theory calcs. *(Russian)* 7−56686
$(\vec{d},p)$, direct stripping anal. powers, DWBA anal., optical pots. 7−634
(d,p), $j=l-1/2$ transfer reactions at intermediate energy, far-side dominance 7−638
$(\vec{e},e')$, polarization expts. at CEBAF 7−35999
$(\vec{e},e'\vec{p})$, many-body theory calcs. 7−41983
(γ,γ) scattering amplitude, low-energy theorems for nuclear polarizabilities 7−650
(γ,X), polarized e^+e^- pair prod. cross section calcs. with recoil effects 7−30411
$^1\mathrm{H}(\vec{d},2pn)$, 95 MeV, tensor analyzing power meas. 7−61898
Λ production in nucleus-nucleus reactions, polarization study 7−5253
$(\vec{n},\gamma)$, j-dependence, direct-semidirect model study 7−49394
$(\vec{N},N)$, density depend, of effective NN interaction, optical pot. radius parameters 7−49252
$(\vec{N},X)$, parity nonconservation in resonance interaction 7−5240
$(\vec{p},\gamma)$, angular distribs. of analysing power 7−683
$(\vec{p},\vec{p})$, elastic scatt., spin rotation parameter meas. 7−664
$(\vec{p},\vec{p})$, on $^{12}\mathrm{C}$, $^{24}\mathrm{Mg}$, $^{28}\mathrm{Si}$, $^{40}\mathrm{Ca}$, $^{58}\mathrm{Ni}$, $^{90}\mathrm{Zr}$, $^{208}\mathrm{Pb}$ analysing powers and cross-sections, optical potential shape 7−662
$(\vec{p},p)$, recoil corrections to coordinate space Dirac eqn. 7−42005
$(\vec{p},p^1)$ on A=152-192, γ-vibr. band, hexadecapole excitation, mass no. depend. 7−49202
$(\vec{p},p')$, hexadecapole moments of medium weight transitional nuclei 7−674

polarisation in nuclear reactions and scattering continued
(p,p′), polarization transfer meas. and spin-dependent isoscalar response fns. 7−24982
$(\vec{p},\pi^-)$, analysing power to give correct soln. for pion absorption on diprotons 7−61923
(p,t) excitations, anal. power through one- and two-step mechanisms 7−625
$^{16}(\vec{p},p')^{16}\mathrm{O}$, excitation of T=1 and T=0 0^- states 7−670
$^{27}\mathrm{Al}(\vec{p},\vec{p})^{27}\mathrm{Al}$, depolarisation parameter meas., optical model effects 7−663
$^{27}\mathrm{Al}(p,p)^{27}\mathrm{Al}$, spin-spin potential determ. in optical model from depolarisation 7−660
$^{197}\mathrm{Au}(d,np)$, 9,10.5,12 MeV, sub-Coulomb breakup, tensor anal. power meas., DWBA comparisons 7−19261
$^{11}\mathrm{B}(\vec{d},n)^{12}\mathrm{C}$, 4.44 MeV, finite-range calcs., anomalous anal. power 7−49367
$^{11}\mathrm{B}(\vec{p},\gamma)^{12}\mathrm{C}$, analysing powers and differential cross-sections 7−685
$^7\mathrm{Be}(\vec{p},\vec{\Lambda}X)$, 13, 18 GeV/c, polarization transfer meas. 7−30294
$^8\mathrm{Be}(\vec{p},\vec{p}')$, 303 MeV, backward-angle scatt., inclusive analyzing power and scattering mechanisms 7−56676
$^9\mathrm{Be}(\vec{p},\pi^\pm)$, ang. distrib. of differential cross section and analyzing power 7−5241
$^{10}\mathrm{Be}(\gamma,\pi^+)^{10}\vec{\mathrm{B}}\mathrm{e}^*$, recoil nuclear polarization study, γ-circular polarization asymmetry meas. 7−24969
$^A\mathrm{C}(\vec{p},\pi^\pm)$, A=12,13 analysing power behaviour and isospin dependence of cross-sections 7−42006
$^{11}\mathrm{C}(p,p)$; 0^+ level formation ΔI=0 parity mixing in $^{14}\mathrm{N}$, expt., status 7−49238
$^{12}\mathrm{C}(^3\vec{\mathrm{H}}\mathrm{e},pp)$, differential cross sections and analysing powers 7−42032
$^{12}\mathrm{C}(\vec{d},^6\mathrm{Li})^8\mathrm{Be}$, vector analysing power meas. 7−49431
$^{12}\mathrm{C}(\vec{d},p)$, 12 MeV, anal. powers for stripping reaction leading to bound and unbound states 7−630
$^{12}\mathrm{C}(\vec{d},p)$, 56 MeV, polarisation transfer, anal. power ang. distribs. 7−636
$^{12}\mathrm{C}(n,\Lambda_c{}^+)$ 40-70 GeV/c, $\Lambda_c{}^+$ polarization meas. 7−5088
$^{12}\mathrm{C}(n,n)$, analyzing powers and $^{13}\mathrm{C}$ level struct. determ. 7−61797
$^{12}\mathrm{C}(\vec{p},\gamma)^{13}\mathrm{N}$ 7−685
$^{12}\mathrm{C}(\vec{p},\vec{p}')$, 303 MeV, backward-angle scatt., inclusive analyzing power and scattering mechanisms 7−56676
$^{12}\mathrm{C}(\bar{p},\bar{p}')$, $\bar{p}$ asymmetry meas., LEAR expt. 7−49170
$^{12}\mathrm{C}(\vec{p},p')^{12}\mathrm{C}$, analysing power meas. 7−682
$^{12}\mathrm{C}(\vec{p},p')^{12}\mathrm{C}$, mixing of breathing oscillation into β-vibrationalstates 7−671
$^{12}\mathrm{C}(\vec{p},p')^{12}\mathrm{C}$, spin transfer in 1^+ states excitations 7−679
$^{13}\mathrm{C}(^3\mathrm{He},\vec{p})^{15}\mathrm{N}$, 13.7 MeV, polarization comparisons with $^{15}\mathrm{N}(\vec{p},^3\mathrm{He})^{13}\mathrm{C}$ analyzing power meas. 7−5251
$^A\mathrm{Ca}(\vec{p},\vec{n})$, 134 MeV, A=40,48, Gamow-Teller and spin-dipole strength, spin-flip 7−30407
$^{40}\mathrm{Ca}(\vec{d},^3\mathrm{He})$, analyzing powers, tensor pots. and D-state amplitudes 7−56662
$^{40}\mathrm{Ca}(\vec{d},\alpha)$, analyzing powers, tensor pots. and D-state amplitudes 7−56662
$^{40}\mathrm{Ca}(\vec{d},\vec{d})$, 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
$^{40}\mathrm{Ca}(\vec{d},t)$, analyzing powers, tensor pots. and D-state amplitudes 7−56662
$^{40}\mathrm{Ca}(\vec{p},2p)$, 200 MeV, analyzing powers, cross section calcs., DWIA anal. 7−19251
$^{40}\mathrm{Ca}(p,p')$, 500 MeV, proton polarization observable meas., 3^-, 5^- level transitions 7−49399
$^{45}\mathrm{Ca}$ beta-decay, longitudinal electron polarization meas., relevance to deviations from parity violation 7−56650
C(d,X), vector and tensor analysing power meas. 7−10158
Cd, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
$^A\mathrm{Cd}(\vec{p},\vec{p})$, A=106, 110, 114 isospin dependence on optical potential 7−661
$^A\mathrm{Cd}(\vec{p},p)^A\mathrm{Cd}$, A=112, 114, 116 elastic and inelastic scatt., nuclear structure 7−667
$^{140}\mathrm{Ce}(\vec{\gamma},\gamma)$, 6.7-8.7 MeV, giant M1 resonance, M1 transition strength distrib. 7−30400
$(\vec{d},N)$, 23 MeV on A=16-209, 1f7/2 transfer, DWBA problems 7−629
$^{168}\mathrm{Er}(\vec{p},p')^{168}\mathrm{Er}$, γ-vibration band excitation, hexadecapole degree of freedom 7−676
$^{54}\mathrm{Fe}(\vec{p},^3\mathrm{He})$, 65 MeV, reaction mech. investigation, optical pots. 7−627
$^A\mathrm{Ge}(\vec{p},p)^{14}\mathrm{Ge}$, A=70, 72, 74, 76 elastic and inelastic scatt. optical model fitting 7−669
$^1\mathrm{H}(\vec{d},\gamma)^3\mathrm{He}$, tensor analyzing powers, anal. of $^3\mathrm{He}$,$^4\mathrm{He}$ wavefunction D-state components 7−30415
$^1\mathrm{H}(\vec{d},\pi^0)^3\mathrm{He}$, 500-2200 MeV, tensor anal. power and diffr. cross section 7−30406
$^1\mathrm{H}(\vec{n},\gamma)$, 180-270 MeV, diff. cross section and anal. power meas. 7−19245
$^1\mathrm{H}(\vec{p},\vec{p}^1)$, 800 MeV parity nonconservation meas. 7−10149
$^1\mathrm{H}(\vec{p},\vec{p}')$, 500 MeV, pN analyzing powers, spin-rotation-depolarization parameters 7−19255
$^1\vec{\mathrm{H}}(\bar{p},\bar{p}')$, $\bar{p}$ asymmetry meas., LEAR expt. 7−49170
$^2\vec{\mathrm{H}}(\pi,\pi)$, dynamical observables determ. for vector and tensor pol. targets 7−49368
$^2\vec{\mathrm{H}}(\pi^+,\pi^+)$, vector analyzing power meas. at 0.74 GeV/c 7−42076
$^2\mathrm{H}(^6\vec{\mathrm{L}}\mathrm{i},\alpha)^4\mathrm{He}$, off-resonance analyzing power meas. 7−5204
$^2\mathrm{H}(\vec{d},\gamma)^4\mathrm{He}$, M1, E1, M2, E2 transitions, $^4\mathrm{He}$ D state anal. 7−19262
$^2\mathrm{H}(\vec{d},\gamma)^4\mathrm{He}$, tensor analyzing powers, anal. of $^3\mathrm{He}$,$^4\mathrm{He}$ wavefunction D-state components 7−30415
$^2\mathrm{H}(\vec{d},n)^3\mathrm{He}$, $E_{cm}=20$-150 keV, polarized and unpolarized cross section calcs. DWBA anal. 7−10159
$^2\mathrm{H}(\vec{d},\gamma)^4\mathrm{He}$, analysing powers and cross-sections 7−49427
$^2\mathrm{H}(\vec{e},e'n)$, d disintegration by pol e^-, neutron electric form factor 7−61862
$^2\mathrm{H}(\vec{e},e'n)^1\mathrm{H}$, neutron electric form factor 7−35880
$^2\mathrm{H}(\vec{e},e'\vec{p}n)$, proton polarisation and neutron electric form factor *(Russian)* 7−15212
$^2\mathrm{H}(e^-,e^-)$, tensor polarisation and spin observables as perturbative QCD test 7−35998
$^2\mathrm{H}(\vec{\gamma},\vec{p}n)$, 300-500 MeV, photodisintegration by linearly pol. γ, pol. parameters 7−35991
$^2\vec{\mathrm{H}}(\gamma,pn)$, nucleon angular distn., polarization meas., isolation of EI-MI interference contributions 7−56664
$^2\mathrm{H}(\vec{\gamma},n)$, 50-100 MeV, differential cross section asymm. meas. 7−49374
$^2\mathrm{H}(\vec{n},\gamma)$, photon asymmetry meas. and parity violation 7−30424
$^2\mathrm{H}(n,2np)$, 12 MeV, n-p final state interaction, analyzing power meas. 7−61887
$^2\mathrm{H}(\vec{n},n)^2\mathrm{H}^*$, analysing power meas. 7−61891

polarisation in nuclear reactions and scattering continued
^{2}H($\vec{p}$,2pn), 14.1 MeV, three-body force effects 7−61888
^{2}H($\vec{p}$,γ), 100-200 MeV, differential cross section and analyzing power meas. 7−41997
^{2}H($\vec{p}$,γ)^{3}He, analyzing powers, anal. of quasi-deuteron effect 7−30415
^{2}H($\vec{p}$,$\vec{n}$)2p, K_y^y meas. at 0° 7−690
^{2}H($\vec{p}$,np), cross section and transverse polarization transfer at 160 MeV 7−42003
^{2}H($\vec{p}$,$\vec{p}'$), 500 MeV, pN analyzing powers, spin-rotation-depolarization parameters 7−19255
^{2}H(p,p), anal. of three-body interactions using spin observable meas. 7−30280
^{2}H(p,π^{0})^{3}He, precision test of charge independence 7−36002
^{2}H($\vec{p}$,π^{+})^{3}H, 1 GeV region, backward angles anal. power, large variations 7−30405
^{2}H(p,π^{+})^{3}H, precision test of charge independence 7−36002
$^{2}\vec{\mathrm{H}}$(π,π), tensor analyzing power meas., resolution of dibaryon resonance production problem 7−30451
$^{2}\vec{\mathrm{H}}$(π^{+},π^{+}pn), 180, 228, 294 MeV, vector analyzing power meas., relativistic Fadeev calc. comparisons 7−30452
^{3}H($^{3}\vec{\mathrm{H}}$e,d)^{4}He, 18-33 MeV, analyzing power meas., charge symmetry violation anal. 7−5252
^{A}H($\vec{d}$,d), A=1,2, vector and tensor analysing power meas. 7−10158
^{3}He(d,p), 18-22 MeV, forward angle cross sections and anal. powers 7−632
^{4}He(d,d), multi three-cluster coupling model anal., polarisation 7−588
^{4}He($\vec{p}$,p), 46 MeV, parity nonconservation, longitudinal anal. power 7−35944
^{A}Hf($\vec{p}$,p′)^{A}Hf, A=178, 180 multipole moment relation in optical potential 7−677
^{180}Hf, longitudinal conversion-electron polarization 7−30377
In, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
^{6}Li($\vec{d}$,α)^{4}He, 6.88-7.04 MeV, meas. of spin dependences for isospin forbidden decay ^{8}Be→d+^{6}Li 7−5204
^{6}Li(e,π^{+}e)^{6}He, elastic pion electroproduction, differential cross section 7−41980
^{7}Li(α,Λ), 3.7 GeV/A, Λ polarization study 7−5253
^{7}Li($\vec{p}$,p), 1.9-2.6 MeV, analyzing powers and angular distributions, T-invariance test 7−5239
^{7}Li($\vec{p}$,π^{+})^{8}Li, E_p=200 MeV, cross section, analyzing power angular distrib. meas. 7−56677
Li(d,X), vector and tensor analysing power meas. 7−10158
^{175}Lu, longitudinal conversion-electron polarization 7−30377
^{24}Mg($\vec{p}$,^{3}He), 89.6 MeV, diff. cross section and anal. power ang. distribs. 7−628
^{24}Mg($\vec{p}$,d), 30-40 MeV, l=0 transition, anal. powers and diff. cross sections 7−623
^{24}Mg($\vec{p}$,p′)^{24}Mg, mixing of breathing oscillation into β-vibrationalstates 7−671
^{25}Mg($\vec{p}$,$\vec{p}$)^{25}Mg, depolarisation parameter meas., optical model effects 7−663
^{26}Mg($\vec{d}$,d), 52 MeV, elastic and inelastic scatt., struct. depend. of anal. powers 7−646
^{A}Mo($\vec{d}$, $\vec{d}$), A=92, 100, 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
^{A}Mo($\vec{p}$,$\vec{p}$), A=92-98, 100 isospin dependence on optical potential 7−661
^{92}Mo($\vec{p}$,p′), 2^{+} state excitation and azimuthal asymmetry meas. 7−42011
^{15}N($\vec{p}$,^{3}He)^{13}C, analyzing power meas., comparisons with ^{13}C(^{3}He,$\vec{p}$)^{15}N polarization data 7−5251
^{23}Na($\vec{p}$,α_0)^{20}Ne, analysing power meas. 7−61875
^{22}Ne($\vec{p}$, α), 5 MeV, ^{11}F parity nonconserving asymmetry in decay transitions 7−61794
^{A}Ni($\vec{d}$,$\vec{d}$), A=58-64, 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
^{58}Ni($\vec{p}$,^{3}He), 65 MeV, reaction mech. investigation, optical pots. 7−627
^{58}Ni($\vec{p}$,p′X), q-scaling of continuum analysing powers 7−680
^{58}Ni($\vec{p}$,$\vec{p}'$X), spin excitations in continuum by polarisation transfer 7−681
^{58}Ni($\vec{p}$,p′)^{58}Ni, inelastic scatt. to 1^{+} states in M1 resonance region 7−673
^{60}Ni(^{16}O, ^{16}O)^{60}Ni, polarisation potential in optical model 7−19271
^{60}Ni($\vec{p}$,p′)^{60}Ni, inelastic scatt. to 1^{+} states in M1 resonance region 7−673
Ni(d,X), vector and tensor analysing power meas. 7−10158
^{16}O($\vec{d}$,^{6}Li)^{12}C, vector analysing power meas. 7−49431
^{16}O(γ,N), transition matrix elements, differential cross-section 7−49373
^{16}O($\vec{p}$,2p), 200 MeV, analyzing powers, cross section calcs., DWIA anal. 7−19251
^{16}O($\vec{p}$,2p)^{15}N, cross-sections and analysing powers 7−684
^{A}Os(^{32}S,^{32}S^{1}), A=190, 192, 100 MeV, nuclear deorientation during recoil in vacuum, γ-ray ang. correls. 7−10135
^{206}Pb($^{23}\vec{\mathrm{N}}$,X), subbarrier fusion cross sections and tensor analyzing powers 7−19293
^{207}Pb($\vec{t}$,p), analyzing power and cross section meas. and DWBA calcs. 7−5248
^{208}Pb(^{16}O, ^{16}O)^{208}Pb, polarisation potential in optical model 7−19271
^{208}Pb(d,d), polarizability and breakup, cross section calcs. 7−15214
^{208}Pb(d,np), 10.5,12 MeV, sub-Coulomb breakup, tensor anal. power meas., DWBA comparisons 7−19261
^{208}Pb(d,p), 12.3, 15.0 MeV, ang. distribs. of anal. powers and diffr. cross section 7−631
^{208}Pb(d,p), D-state to S-state ratio, tensor analysing power meas. 7−24986
^{208}Pb($\vec{\gamma}$,γ'), isoscalar 1^{+} state, proton and neutron contribs. constraints 7−19172
^{208}Pb(p,p′), 500 MeV, proton polarization observable meas., 3^{-} level transitions 7−49399
^{208}Pb(p,t), 22 MeV, j-shell depend. signature of anal. power for 3^{+} excitations 7−626
^{208}Pb($\vec{p}$,t), anal. powers and cross sections for unnatural parity transitions 7−624
Pb(d,X), vector and tensor analysing power meas. 7−10158
^{A}Pd($\vec{d}$,$\vec{d}$), A=104-110, 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
^{147}Pm beta-decay, longitudinal electron polarization meas., relevance to deviations from parity violation 7−56650
^{A}Pt(^{32}S,^{32}S^{1}), A=194, 196, 100 MeV, nuclear deorientation during recoil in vacuum, γ-ray ang. correls. 7−10135
^{104}Ru($\vec{d}$,d), 23 MeV, neutron-proton moment differences in a triaxial nucleus 7−644
^{32}S($\vec{d}$,d), 52 MeV, effective interaction and mass distribs., Fourier-Bessel anal. 7−647
^{34}S($\vec{p}$,p′)^{34}S, investigation of first three 2^{+} states 7−672

polarisation in nuclear reactions and scattering continued
^{A}Se($\vec{p}$,p)^{A}Se, A=76, 78, 80 elastic and inelastic scatt. optical model fitting 7−669
^{28}Si($\vec{d}$,d), 52 MeV, elastic and inelastic scatt., struct. depend. of anal. powers 7−646
^{28}Si($\vec{d}$,$\vec{p}$), 18 MeV, polarisation transfer meas., d D-state effects 7−633
^{28}Si($\vec{d}$,p), 56 MeV, polarisation transfer, anal. power ang. distribs. 7−636
^{28}Si($\vec{p}$,^{3}He), 89.6 MeV, diff. cross section and anal. power ang. distribs. 7−628
^{28}Si($\vec{p}$,p′)^{28}Si, analysing power and differential cross-section 7−666
^{28}Si($\vec{p}$,$\vec{p}$)^{28}Si, energy dependence of β_2 and β_4 7−665
^{29}Si($\vec{d}$,α)^{27}Al, 12.3 MeV, microscopic DWBA anal. 7−19265
^{30}Si($^{3}\vec{\mathrm{H}}$e,α), CCBA, DWBA anal. 7−42034
^{30}Si($\vec{d}$,α), 12.3 MeV, microscopic DWBA anal. 7−19265
^{17}Sm($\vec{p}$,p)^{A}Sm, A=148, 150, 152, 154, elastic and inelastic scatt., nuclear structure 7−667
^{144}Sm($\vec{d}$,p), 19 MeV, ^{145}Sm single particle config. splitting, J assignments 7−572
^{152}Sm($\vec{p}$,p)^{152}Sm, optical model for polarisation data 7−668
Sn, laser spectroscopy struct. study, core polarization contrib. to nucl. radii 7−49236
^{116}Sn($\vec{d}$,$\vec{d}$), 23 MeV, dynamical deuteron pol. pot., Fourier-Bessel anal. 7−645
^{116}Sn(d,p), 79 MeV, far-side dominance in large-l transfer, anal. powers, cross sections 7−640
^{116}Sn(d,p), 79 MeV, vector and tensor anal. powers, j-depend., DWBA anal. 7−637
^{116}Sn(d,p), 80 MeV, far-side dominance for spin-depend. observables, theoretical implications 7−639
^{116}Sn(d,p), intermediate energy, l=0 reaction mech., DWBA anal., anal. powers 7−641
^{120}Sn ($^{7}\vec{\mathrm{L}}$i, ^{7}Li), differential cross section and analysing power meas., coupled channels calcs. 7−15219
^{120}Sn($^{7}\vec{\mathrm{L}}$i, ^{7}Li′), analyzing power and spin-orbit interaction, coupled channels formalism 7−61908
Sn(d,p), low energy, vector anal. power and pol., d D-state effects, DWBA anal. 7−635
^{86}Sr($\vec{d}$,p)^{87}Sr, DWBA anal., differential cross-sections and vector analysing powers 7−694
^{88}Sr($\vec{p}$,p′)^{88}Sr, effective interactions, analysing power and structure 7−675
^{232}Th($\vec{p}$,p′)^{232}Th, quadrupole and hexadecapole moments 7−678
^{46}Ti($\vec{d}$,α)^{44}Sc, 7-9.75 MeV, spin-parity meas. 7−19165
^{48}Ti($^{23}\vec{\mathrm{N}}$a,X), subbarrier fusion cross sections and tensor analyzing powers 7−19293
^{48}Ti($\vec{d}$,α)^{46}Sc, 7-9.75 MeV, spin-parity meas. 7−19165
^{204}Tl beta-decay, longitudinal electron polarization meas., relevance to deviations from parity violation 7−56650
^{238}U($\vec{p}$,p′)^{238}U, quadrupole and hexadecapole moments 7−678
^{A}W (^{32}S,^{32}S^{1}), A=182, 184, 186, 100 MeV, nuclear deorientation during recoil in vacuum, γ-ray ang. correls. 7−10135
^{A}W($\vec{p}$,p′)^{A}W, A=182, 184 multipole moment relation in optical potential 7−677
^{136}Xe(d,p), D-state to S-state ratio, tensor analysing power meas. 7−24986
^{89}Y(n,n), differential cross section and analyzing powers, optical model study 7−5243
^{A}Zr($\vec{p}$,p′), A=90, 92, 2^{+} state excitation and azimuthal asymmetry meas. 7−42011
^{A}Zr($\vec{p}$,$\vec{p}$), A=90, 92, 94, 96 isospin dependence on optical potential 7−661
^{90}Zr($\vec{d}$,$\vec{d}$), 22 MeV, ang. distribs. of cross sections and anal. powers 7−643
^{90}Zr($\vec{p}$,$\vec{p}'$), 319 MeV, Gamow-Teller strength, Δ-isobar quenching effects 7−49422
^{90}Zr($\vec{p}$,$\vec{p}'$), 319 MeV, spin-flip spectra, microscopic anal. 7−10147

polariscopes *see polarimeters*

polaritons
7−33386
ABC-free theory, from semi-infinite medium to quantum well 7−52441
anthracene crysts., polaritons, picosecond secondary emission studies 7−21825
bilayer systems, long-range surface phonon-polaritons, damping props. 7−12881
bounded nonlocal media, EM field, with several resons. 7−10819
classical grating and bigrating, light diffr., surface polariton resonant excitation 7−20129
direct-gap semiconds., coherent polariton waves, anti-Stokes scatt. props. 7−16955
excitonic polaritons, relationship between microscopic theory and phenomenological Maxwell eqns. 7−38462
ferromagnetic films, surface and guided magnetic polariton dispersion relations 7−38463
ferromagnetic thin films, density of energy for localised retarded modes 7−7569
grating structs., determ. of surface polariton minigaps, const.-freq. and const.-angle scans 7−2506
high-intensity, study near threshold for stimulated Mandelstam-Brillouin scatt. 7−52442
luminescence, conference, Rovno, USSR (Nov. 1984) 7−24263
metal-barrier-metal multilayer structs., resonant tunnelling in the presence of surface EM waves 7−52852
metals, scanned CW laser beam, surface EM wave rule 7−45172
multilayered structures, polariton dispersion relations 7−7125
nematic liquid crystal, guided modes and surface plasmon-polaritons obs. with attenuated total refl. 7−64664
nonlinear resonator, multistable excitation of a channelled surface polariton 7−38658
nonlinear surface polaritons 7−2507
nonlinear TE polarised surface plasmon polaritons guided by metal films 7−5946
nonlocal metal optics, screened electromagnetic propagators, Green's function calcs. 7−27260
optical phonon spectrum transform. obs. under laser pulse bombardment, CARS study 7−51967
polar semiconductors, polaritons, secondary emission spectra, energy relax. 7−27755
polariton luminesc., anal. 7−27756
quartz crystal, Sn or Au coated, surface polariton propag. 7−27259
resonant optical medium surface, nonlinear refl. and refraction of scanning laser beam, integrodifferential eqns. method calcs. 7−43209

polaritons continued
- Schottky detectors, frequency and polarisation-selective 7—41470
- semiconducting plane-parallel slabs, normal-incidence exciton transmission and refl. spectra 7—39058
- semiconductors, surface magnetoplasmons, dispersion characteristics 7—12636
- small metal particles, optical props., struct. dependences 7—17284
- straight-band semicond., macrofilled polariton mode, polariton-phonon interaction instabilities *(Russian)* 7—32921
- superlattices, optical applications 7—17283
- surface polaritons, absorpt. by molecules near metallic surface 7—58749
- surface polaritons refl. at dielec. barrier 7—64099
- surface-polariton solitons 7—45171
- tunnel junctions, prism coupled light emission 7—38770
- two-phonon resonance light scatt., acoustic and optical phonons 7—64660
- Ag surfaces, corrugated, plasmon surface-polariton reson. studied with pyroelectric calorimeter 7—52440
- Al/Al_2O_3/Au tunnel junction, electromagnetic modes anal. 7—27439
- Al-ethyl alcohol interface, surface polaritons, four-wave mixing 7—43244
- Al_2O_3, corundum, single crystals, IR absorpt. and transmission spectra study 7—53305
- Al_2O_3, dispersion of surface polaritons 7—2505
- Al_2O_3, uniaxial, transverse bulk polaritons, IR refl. 7—17319
- Au thin films, optical characterisation using surface plasmon-polaritons 7—53425
- $BaMnF_4$ magnetic system with linear magneto-elec. coupling, electromag. mode calcs. 7—45791
- $BaMnF_4$, magnon polaritons, wave propagation in mag. systems with spontaneous electric polarisation 7—12961
- $(Bi_{1-x}Sb_x)_2Te_3$ single crystal, optical constants, IR spectra study 7—46030
- CdS crystals, surface polaritons, luminescence 7—64098
- CdS, excitonic polaritons, transmission and damping 7—58748
- CdS, transmission and damping of excitonic polaritons 7—58747
- Cr, surface EM wave absorpt., 4-350K 7—33354
- CuCl, off-centre model, vibr. and struct. props. 7—17316
- GaAs/$Ga_{1-x}Al_xAs$ multilayered structures, polariton dispersion relations 7—7125
- GaAs-$Ga_{1-x}Al_xAs$ superlattices, optical props. 7—3007
- InSe, excitonic luminescence, influence of macroscopic inclusions 7—13204
- $LiIO_3$ crystal, coherent four-photon scatt. by polaritons 7—22273
- $LiIO_3$, noncollinear stimulated Raman scatt. by polaritons 7—43221
- MgO, single crystals, IR absorpt. and transmission spectra study 7—53305
- NH_4Cl, propagation and dephasing of phonon polariton pulses 7—16954
- $Rb_{0.3}MoO_3$, IR reflectivity and Raman scatt. from midgap-state exciton-polaritons 7—33386
- SiO_2-SiC layer systems, waveguide polaritons 7—7126
- TiO_2, single crystals, IR absorpt. and transmission spectra study 7—53305
- ZnS_xSe_{1-x} polariton dispersion with Fermi reson., Raman scatt. cross-section *(Ukrainian)* 7—12623
- ZnS_xSe_{1-x}, scatt. of light by polaritons 7—39100
- ZnTe, obs. of time evolution from reson. Raman scatt. to excitonic-polariton luminesc. 7—33390
- ZrO_2, single crystals, IR absorpt. and transmission spectra study 7—53305

polarization in elementary particle interactions *see polarisation in elementary particle interactions*

polarization in elementary particle scattering *see polarisation in elementary particle scattering*

polarographs *see polarography*

polarography
- *see also voltammetry (chemical analysis)*
- MA 5450 polarograph *(Slovenian)* 7—23082
- organic surfactants, on electrode surface, polarographic maxima of the third kind 7—13838
- CdSe thin films, electrodeposited from $SeSO_3^{2-}$ soln., comp. performance, polarography, RBS, cyclic voltammetry, power meas. 7—2411

polarons
- *see also small polaron conduction*
- 1D hopping motion of heavy particle interacting with phonons by different couplings 7—44711
- A15 superconductors, anomalous ultrasound absorption 7—17135
- absorption spectra, temp. effects 7—58752
- acoustic polarons, drift velocity in 1D polymer chain 7—12708
- alkali halides, F-F′ conversion, polaron theory 7—21201
- antiferromagnetic semiconductor, bound magnetic polarons, spin dynamics 7—7502
- bipolaron formation, Monte Carlo computer simulation studies 7—27268
- bipolaron ground state energy, adiabatic approx. calcs. *(Russian)* 7—32924
- bound magnetic polarons, variational model in adiabatic approx. 7—12624
- conducting polymers, statistical mechanics of localised states 7—64116
- dilute magnetic semicond. quantum wells, 2D magnetic polaron effect calcs. 7—38467
- diluted mag. semiconductors, bound mag. polaron, anal. 7—58751
- dimer-lattice phonon interaction, lattice relax., exciton and electron condition terms 7—7130
- dissociation energy and thermodynamic props. of bipolarons 7—52450
- ferromagnetic semicond., donor state, thermally induced abrupt shrinking 7—52510
- ground-state wave function symm. study 7—21829
- heavy particle one-dimensional hopping motion, phonon and electron gas interactions, localisation, scaling eqn. calcs. 7—12634
- magneto-optical absorpt. of polarons 7—39094
- mobility, collision time calc. 7—21826
- molecular polaron with q^2 coupling, functional integral 7—16957
- molecular polaron with q^2 coupling, mean-field approx. 7—16958
- narrow-gap cpd. semiconds., weak-coupling polarons, band nonparabolicity effects, comment 7—21830
- one-dimensional polaron model, collective excitation spectrum, quantum inverse scatt. method calcs. 7—12625
- periodic nonlinear media, nonperturbative bistability 7—20320
- piezo-electric polaron, mobility at low temps. 7—7127
- polar semiconductors, LO-phonon modes bound to neutral impurities 7—45178
- polaronic states in a slab of a polar crystal 7—2512
- poly-p-phenylene sulphide: SO_3, electron motion, proton NMR T_1 studies 7—33289
- polyacetylene, dynamical cond. of soliton lattice and polaron lattice, continuum model 7—45174

polarons continued
- polyacetylene, ground, excited, polaronic, solitonic and impurity states calcs., doping effects 7—45131
- trans-polyacetylene, Na doped, polaron mobility and conductivity 7—64113
- trans-polyacetylene, phonons around solitons and polarons, IR activities 7—64118
- polyacetylene, semiconducting polymer, fast response nonlinear optical props. 7—1241
- trans-polyacetylene, soliton-lattice to polaron-lattice transition 7—64117
- trans-polyacetylene, solitons, phys. characts., dynamical corrections 7—27267
- trans-polyacetylene(-d), ns time resolved photoinduced absorption spectrum 7—64668
- trans-polyacetylene chain, bipolaron form. and desorpt., Su-Schrieffer-Heeger model calcs. 7—52454
- polyanthracene:I, charged elementary excitations, EPR study 7—7246
- polyarylenephthalide conducting polymers, bipolaron elec. cond. study 7—64104
- polydiacetylene, IR photoinduced absorpt., bipolarons 7—53313
- polymers, conjugated, ferromagnetic, polaron spins by doping, PPP model struct. anal. 7—52944
- polymers, conjugated, optical spectra and Coulomb interactions 7—64596
- polyparaphenylene, disorder doped, electron density of states 7—58726
- polythiophene, doped, polaron and bipolaron excitations, Huckel approx. calcs. 7—52448
- polythiophene, IR activity of photoexcitations 7—7703
- polythiophene, radiation-induced doping, elec. and ESR studies 7—38545
- polythiophene, semiconducting polymer, fast response nonlinear optical props. 7—1241
- polythiophene films, photolum. quenching by electrochemical doping 7—59254
- polyyne infinite chain, solitons, polarons and phonon spectrum calcs. 7—12626
- polyynes, strongly coupled Peierls insulators, soliton, polaron and photoexcitation props. 7—64114
- quasi-1D conductors, Peierls state, mechanisms of nonlinear conductivity, electrodynamics *(Russian)* 7—32997
- quasi-1D mol. systems, polaron struct., interchain electron hopping effects calfs. 7—16959
- quasi-1D semicond. heterostructs., polaron transport props. calcs. 7—12627
- quasi-2D strongly-coupled electron-phonon systems, CDW and superconductivity, polaron theory 7—58750
- quasi-one-dimensional conductors, coherent polaron superlattices and long-range Coulomb forces 7—45184
- self-trapping on a dimer, discrete nonlinear Schrodinger eqn., time-depend. solns. 7—18721
- semiconductors, quasi-1D, bipolaron-impurity complexes 7—45180
- semiconductors with a degenerate band, weak-coupling polarons 7—52443
- semiconductors with degenerate valence band edge, bound polarons 7—38466
- small polaron form., path-integral and scaling theories 7—2510
- small radius, effective mass studies 7—38465
- soliton diffusion in one-dimensional continuum ϕ^4 theory 7—41113
- strong coupling electron systems, CDW, supercond., effect of randomness 7—27459
- strongly coupled electron-phonon systems, 1D and 2D, BCS pairing versus bipolaron crystallisation 7—45552
- subsystem interaction with boson field, kinetics, appl. to weak electron-phonon interaction 7—32591
- synthetic metals science and technology, conf., Kyoto, Japan (June 1986) 7—60872
- time-ordered products method for equilib. thermodynamic props. 7—38470
- triplet bipolaron systems, superconducting A and B phases *(Chinese)* 7—58949
- tunneling, heavy particle in a metal, electronic polaron effects 7—52118
- two-dimensional polaron, cyclotron reson. spectrum calc. 7—45175
- $Al_xGa_{1-x}As$ heterojunction, tunnelling current modulation by optical phonons 7—27394
- $Cd_{1-x}Mn_xTe$ exciton localisation, time resolved photolum. study, mag. polaron effects 7—46106
- CdSe, optimally annealed in molten Cd, DC galvanomagnetic props. 7—27352
- CuO-P_2O_5 glasses containing NiO or CoO, elec. cond. 7—17025
- EuTe, bound magnetic polarons, spin dynamics 7—7502
- Fe_3O_4 Mott-Wigner glass, polaronic order-disorder transition, muon spin rot. meas. 7—44787
- GaAs/$Al_xGa_{1-x}As$ heterostructs., 2D electron gas, polaron screening effects, optical absorpt. calcs. 7—2511
- GaAs/$Al_xGa_{1-x}As$ superlattices, magnetophonon oscills. damping, polar-optical phonon contrib. calcs. 7—27391
- GaAs/AlGaAs modulation doped heterostructs., transport props. studies 7—52752
- GaAs-GaAlAs heterojunctions, cyclotron resonance, screening effects 7—38706
- GaInAs/InP heterojunction, 2D electron gas nonequilib. cyclotron reson. obs. 7—12845
- ^3He, solid, anomalous low-temp. susceptibility at high molar vol. 7—38296
- ^3He, solid-liquid melting pressure magnetisation curve 7—63900
- HgCdTe IR photodetectors, magnetoresist. and cyclotron resonance characterisation 7—64054
- $In_{2-x}Sn_xO_{3-y}$-WO_3-MgF_2-Au, electrochromic coatings for solar windows 7—53621
- KCl, solvated electron melt, polaron theory 7—45173
- NbO_2, semicond., AC cond. meas., 4-196K, 5-92 kHz 7—45327
- Si(111), surface structure, temp. depend. polaron shifts 7—7325
- SnO_2 (110), O deficient surface, photoemission study, comparison with TiO_2 (110) 7—46277
- TiO_2 (110), O deficient surface, photoemission study, comparison with SnO_2 (110) 7—46277
- TiO_2 (110), O deficient surfaces, electronic excitations, EELS 7—58853

poles and towers
- prismatic guyed mast, bending and torsional freqs. 7—57711

poles and zeros
- Askey-Wilson polynomials, zeros in symmetric association scheme 7—60967
- temperature plane zeros, scaling theory and multicritical mean-field models 7—56202
- weight-1 6j coefficients, complete determ. of zeros 7—29795

poling *see dielectric polarisation*

polishing
- *see also electrolytic polishing*
- alloys, surface-modified, cross-section precip. extraction replica technique 7—54042
- density standard, 1-kg Si sphere, polishing 7—56224
- field ion microscope specimens, sharpening and polishing method 7—29986
- large aspheric optics, rapid fabrication using computer-controlled opt. surfacing unit 7—37224
- mirror, large, prod. using single point diamond crushing combined with polishing 7—37220
- mirrors, large, production using single-point diamond crushing followed by polishing 7—26048
- optical fibres, polished, D-shape, geometrical birefringence 7—62837
- optical glasses, secondary ion mass spectroscopy and ellipsometric investig., correlation of results 7—43458
- Polytron polishing pad material, comparison with pitch and polyurethane 7—37211
- sialon, abrasive polishing problems 7—53939
- steel, C, microhardness load depend., influence of surface roughness *(Japanese)* 7—46622
- steel, migration-effect of N$^+$ implantation, during wear *(Chinese)* 7—53998
- telescope mirror, Keck Observatory 10m, design and development work status, fabrication plans 7—40693
- telescope technology for Far Ultraviolet Spectroscopic Explorer 7—40709
- ultrasmooth surfaces preparation, book contrib. 7—28165
- ultrasonic optical component processing 7—20478
- Cu, ion irrad., sputtering and lattice damage, cryst. orientation effect 7—64843
- Cu, surface, ellipsometric study of reflection 7—13121
- Cu/Pb-Sn solder interfacial reactions, Cu$_3$Sn intermetallic formation 7—44924
- Fe, migration-effect of N$^+$ implantation, during wear *(Chinese)* 7—53998
- Fe-C, ferrite and cementite refl., polishing conditions effect *(German, English)* 7—22938
- GdGG laser material, characts. of polishing cpds. 7—37212
- Ge, single crystal, optical constants, surface polishing effects 7—59175
- InP (111), chemically polished and etched, characterisation of native oxide layer, ion scatt. spectra, AES, ESCA 7—22925
- InP-Au(Al) Schottky barriers, defects introduced by mech. polishing 7—39768
- InSb surface, oxidation at room temp. 7—46734
- MgO single crystals, vibr. polishing in water 7—3479
- Mo, etching, new method 7—39749
- Ni electroless plated mirrors, diamond-turned, surface finish meas. 7—37218
- Si materials science and technology, conf., Boston, MA, USA (May 1986) 7—29598
- Si surface polishing strain-free and flat to better than $\lambda/20$ 7—11179
- Si:B-Mo interface, specimen preparation by chemical etching and polishing, for electron studies 7—29989
- Si:H, B(Al)(GA)(In), polishing, acceptor compensation by atomic H 7—33860
- SiC ceramics, hot pressed, grinding, surface damage, bending strength *(Japanese)* 7—17602
- TiC based hard metals, abrasive polishing problems 7—53939
- Zr-Nb (2.5 wt.%) H and D profiling at surface, effect of surface prep. 7—59668
- ZrO$_2$, Y$_2$O$_3$ stabilised, phase transform., mech. props., surface struct. rel. to polishing *(Japanese)* 7—53791

pollution
- *see also air pollution; pollution detection and control; radioactive pollution; water pollution*
- Bangladesh ship scrapping area on Chittagong coast, pollution study 7—18212
- conference, Santa Clara, USA (Jan. 1986) 7—41018
- energy, environmental damage and environmental policy, economic anal. *(German)* 7—40055
- light pollution, mathematical model for predicting night-sky glow 7—9172
- low-level counting, conference, Bratislava, Czechoslovakia (Oct. 1985) 7—24272
- night sky illumination 7—3746
- nuclear waste glasses, water chemistry and dissolution kinetics in geological disposal site 7—59906
- oceanic sediment barrier, geological and geochemical props. for HLW disposal 7—5463
- polychlorinated aromatic compounds in soil around wood-preserving facilities in Finland 7—54375
- polycyclic aromatic hydrocarbons (PAH), in soil and air in Norway, effect of Al plant 7—54374
- soil, ^{137}Cs content use to determine atm. aerosol scavenging characts. 7—55188
- soil pollution, anion adsorption on oxides, clay minerals and soils 7—54379
- trees, in Europe, disease and death 7—54376

pollution detection and control
- *see also air pollution detection and control; remote sensing; water pollution detection and control*
- adsorptive uptake by waste inactive microbial biomass 7—40313
- coal-fired power plants, environmental control systems using integrated design strategy 7—28438
- computers in environmental science, conf., Los Angeles, CA, USA (Nov. 1986) 7—48175
- energy and environment 7—17924
- environment monitoring system for multiphase and porous media, modelling 7—59904
- instrumentation, monitoring parameters and sampling characts. 7—17933
- neutron activation analysis for pollutant meas., low neutron flux technique 7—54212
- portable gas chromatograph evaluation for transformer site polychlorinated biphenyl meas. 7—46994
- rough surface autoradiography method, radwaste repository rock radionuclide distrib. appl. 7—54410
- zeolites use, conf., Burgas, Bulgaria (June 1985) 7—60885
- Pu content of Mururoa Atoll coral samples, nucl. techniques 7—54415

polonium
- *see also nuclei with ......*
- atom, Auger transitions, relative intensities for KMX and KXY groups 7—25442
- coal fly ash radionuclides chemical anal. using alpha, gamma and X-ray fluorescence spectroscopy 7—23266
- ocean chemical composition, ^{210}Po and ^{210}Pb in Gulf of Mexico seawater 7—34552
- ^{210}Po α-source, use in determining Al, F, N content in samples 7—65360
- ^{210}Po, spontaneous deposit counting method *(Chinese)* 7—9237
- ^{210}Po-coated geological and synthetic samples, ESR dating 7—47569

polonium compounds
- No entries

polyelectrolytes *see electrolytes; polymers*

polygonisation *see recovery*

polymer alloys *see polymer blends*

polymer blends
- aromatic copolyamide, conformational and optical characts., flow birefringence data *(Russian)* 7—44420
- binary polymer liquids, 2-dimens. films, spinodal decomp. 7—38208
- binary polymer mixtures, homogeneous, near-critical quenching kinetics 7—13482
- block copolymer, heterogeneous, single-chain neutron scatt., de Gennes scatt. formalism calcs. 7—44418
- block copolymer, weight average molecular weight calcs. and Callot inequality 7—50427
- block copolymer-homopolymer system, phase separation, statistical theory 7—38213
- block copolymers, mol. wt. and comp. heterogeneity, determ. 7—6556
- block copolymers, prep. using polymeric peroxycarbamate 7—13769
- block copolymers, superstructs., equilib. parameters calcs. *(Russian)* 7—63518
- butadiene-styrene graft block copolymers, low-mol. cpds. diffusion *(Russian)* 7—36834
- carboxylated rubber, study of maleic acid residue and vinylic monomer on props. 7—39902
- cellulose acetate-polyarylate films, phase separation, porous struct. and strength *(Russian)* 7—26967
- conducting polymers, heterocyclic and aromatic, review 7—58797
- copolyamides, aromatic, multiunit models, PMR spectra *(Russian)* 7—20080
- copolyester, liq. cryst., low temp. thermal cond. 7—6899
- copolyester, liquid crystalline, molecular motion, NMR obs. 7—17228
- copolymer gels, water swellable, with L-lysine pendant group, optical resolution of DL-lysine 7—64601
- Z-diethylaminoethyl methacrylate-N-vinyl-2-pyrrolidone, binding to methyl orange 7—49975
- N,N-dimethyl-N,N-diallyl ammonium chloride-acrylamide copolymer, soln., viscometric obs. 7—2245
- diphenyldiacetylene derivatives, liq. cryst. polymers and copolymers, props. 7—51621
- dynamics, RPA calcs. 7—37836
- epoxide-diene polyblock networks, phase struct. var. with composition *(Russian)* 7—63522
- epoxy-polyamide mixture, dynamic props. in wide temp.-freq. range 7—33721
- ethylene copolymers, crystalline struct., electron microscopy 7—44404
- ethylene copolymers, electric breakdown and high-field conduction meas. 7—39011
- ethylene-acrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7—53337
- ethylene-hexene copolymer, creep and recovery in small uniaxial deform. region 7—13527
- ethylene-propylene copolymers, lamellar morphology, transmission electron microscopic investig. 7—21132
- ethylene-tetrafluoroethylene copolymer, cryst.-mesophase transition, struct. obs. 7—21436
- ethylene-vinyl acetate/polyethylene double layer dielec. films, TSC phenomena obs. 7—27663
- ethylene-vinyl alcohol copolymers, ultrathin membranes, prep. and props. 7—54178
- ethylene-vinylacetate-Ag copolymer-metal contact, pot. barrier electronic props., photocurrent spectra meas. 7—27419
- ethylene-vinylacetate-Au copolymer-metal contact, pot. barrier electronic props., photocurrent spectra meas. 7—27419
- ethylene—aromatic monomer copolymers, elec. props. and breakdown voltages, new insulating materials 7—39010
- films, Fourier transform IR/ATR spectroscopy studies 7—53333
- fluorinated ethylene-propylene copolymer, hole schubweg models 7—21936
- fluoroelastomer copolymers and tercopolymers, glass transition temps. 7—12280
- fluoroelastomer copolymers and terpolymers, glass transition temps. calcs. 7—16745
- Hexsyn rubber, high-flex ozone resistant, prep. and appl. 7—13767
- intensity spectroscopy and FTIR as tool for struct. and intermol. interactions determ. 7—53338
- isophthalic acid-phenylene diamine-DMFA-H$_2$O copolymer, diffusion kinetics, mass-thermal anal. method *(Russian)* 7—23096
- maleic acid-vinylpyrrolidone copolymers, viscometric behaviour in dil. soln. 7—32694
- melts, temperature-composition superposition *(Russian)* 7—6851
- methacrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7—53337
- methylmethacrylate-dimethacrylate oxymethylanthracene, γ-irrad., recomb. luminesc. spectra anal. 7—46145
- microdispersions, preparation 7—22631
- microrheology, blend morphology origination, influence of coalescence 7—43828
- microrheology, deform. of Newtonian drops submerged in Newtonian fluid flowing through converging cone 7—43827
- natural rubber/polybutadiene elastomers, C black distrib., flow behaviour depend. 7—43832
- Novolac phenol-formaldehyde resin-nylon-6 blend, thermally stimulated discharge 7—64561
- Nylon 6 membranes, decrystallised acrylic acid grafted, reverse osmosis, fine struct. 7—65346
- nylon-6-rubber-modified rubber blends, mixing effect on morphology, mech. and impact props. 7—37903
- oligocaprolactone glycol-PVC, amorphous matrix, crystallisation *(Russian)* 7—11969

polymer blends continued
- PMMA, rubber toughened, dynamic crack propag., high speed photographic, transmitted caustics 7—39638
- PMMA with low mol. weight additives, polymer destruction by UV and γ radiation by vibr. cross-relaxation 7—42800
- poly(1,4-dimethylene-trans-cyclohexyl suberate) mol. wt. blends, fracture energy and morphology 7—37899
- poly(acrylic acid-co-vinylamine), sequence distrib. and ionis. const., C-13 NMR 7—10793
- poly(dimethylsiloxane)/polystyrene interpenetrating networks, size of phase separated regions, small-angle neutron scatt. anal. 7—11961
- poly(ether sulphone)-poly(dimethylsiloxane)-poly(ether sulphone), elastic modulus in glass transition range 7—63722
- poly(ethylene oxide-propylene oxide-ethylene oxide) block copolymers, photoluminesc. probes 7—13199
- poly(vinyl alcohol)-poly(dimethylsiloxane) graft copolymers, surface studies 7—32307
- poly(vinylidene fluoride)-poly(ethyl acrylate) blends, phase diagram and morphology 7—63538
- poly 2,6-dimethyl-1,4-phenylene oxide and poly styrene-co-p-fluorostyrene blends, miscibility, press. depend. 7—17533
- poly p-phenylene benzobisthiazole-poly 2,5(6)benzimidazole blends, phase separation morphology 7—7981
- poly-N$^{\varepsilon}$-trifluoroacetyl-L-lysine-polysarcosine diblock copolymers, ESCA of surfaces 7—21588
- poly-p-phenylenevinylene film, opt. and elec. props., band gap 7—46161
- polyacetylene copolymers and composites, physical props., electrochemistry and environmental stability 7—2587
- polyamide 6-ethylene-co-vinylacetate blends, morphology-prop. rel. in injection moulded samples 7—63506
- polyamide 6-polyethylene blends, miscibility, mech. props. 7—59535
- polyaryl ether ketone blends, isomorphic behaviour, miscibility, glass transition and melting temps. 7—44416
- polyarylate-polydimethylsiloxane rigid block copolymers, domain struct., electron microscopy *(Russian)* 7—63520
- 1,2-polybutadiene-natural rubber blends, tear failure, blend ratio, crosslinking, HAF black content 7—65126
- cis-1,4-polybutadiene-poly(styrene-co-butadiene) blend, phase dissolution kinetics 7—63831
- polybutene-1-polypropylene blends, polybutene-1 crystallinity enhancement 7—63509
- polybutylene terephthalate-tetrahydrofuran-propylene oxide copolymer, deform. thermodynamics *(Russian)* 7—21335
- polycarbonate-polyarylatarylene sulfonoxide block copolymer blend film sample, nick self-dulling *(Russian)* 7—44665
- polycarbonate-polyarylatarylene sulfonoxide block copolymer blends, crit. stress determ., nick self-dulling model *(Russian)* 7—44681
- polycarbonate-polystyrene-acrylonitrile, coextruded multilayer composites, tensile props. 7—59572
- polydimethyl siloxane based polyurethane, phase segregation degree quantitative determ. 7—3307
- polydiphenylborosiloxane/aminimide-cured epoxy resin composites, friction and abrasion props. 7—39677
- polyelectrolytes, interpenetrating chains, structure and viscosity 7—58121
- polyester-polycarbonate blend, crystallising crazes, probable source of solvent stress cracking resist. 7—13621
- polyester-polyether segmented copolymer, melt spinning, fibre form., struct., phase separation 7—46407
- polyethylene, crosslinkable, EPDM rubber blends, rheology., mixing torque obs. 7—43825
- polyethylene, mixture with incompatible polymers, surface layer of films investig. 7—37888
- polyethylene blends, melting, crystallisation, DSC, X-ray diffr., Raman spectra 7—44411
- polyethylene blends, melting, crystallisation, relax., DSC, light scatt. 7—44412
- polyethylene blends, melting and crystallisation, small angle light scatt. 7—44413
- polyethylene filaments, low and high mol. wt. blend, tensile strength 7—17599
- polyethylene oxide-melaminoformaldehyde cocured copolymer, crystallisation and melting *(Russian)* 7—26923
- polyethylene-linear polythene blends, rheological and mech. props. 7—1914
- polyethylene-polyacrylic acid copolymer, radiation grafted, struct.-morphology, obs. *(Russian)* 7—16452
- polyethylene-polybutylmethacrylate blend, dynamic mech. props. *(Russian)* 7—20595
- polyethylene-polystyrene blends, US attenuation and velocity meas. 7—51953
- polyethylene/ionomer blends, insulating material, aging characteristics 7—39025
- polyfuran and copolymers, electronic struct., cond. props., ab initio cryst. orbital calcs. 7—52410
- polyisoprene, cis- and trans-, blends, props., meas. 7—13517
- polyisoprene-poly(isoprene-g-styrene) copolymer, phase separation study 7—38211
- polymer soln. mixtures, vapour-liq. equilib., quartic hard chain eqn. of state calcs. 7—12228
- polyolefins, mixture with incompatible polymers, surface layer of films investig. 7—37888
- polypropylene, isotactic, blends with aliphatic sequence polymers, epitaxial relationship 7—51666
- polypropylene sheets, highly oriented, adhesion in laminates 7—8245
- polypropylene-cryo-ground rubber blends melt flow, dynamic mech. props. 7—12346
- polypropylene-EPDM elastomer multicomponent blend, CaCO$_3$ filled, mech. and rheological props. 7—3381
- polypropylene-ethylene-propylene copolymer blends, isotactic, mechanical props. and morphology 7—63539
- polypropylene-polyethylene blends, γ-irrad., mech. and thermal props. 7—21137
- polypyrrole and copolymers, electronic struct., cond. props., ab initio cryst. orbital calcs. 7—52410
- polystyrene, blend of linear and cyclic, melt viscosity, mol. wt. depend. 7—16794
- polystyrene, normal and deuterated blends, isotope effects on interdiffusion 7—27029
- polystyrene blends, secondary relax. dielec. props., memory effect 7—53221
- polystyrene mixtures in benzene solns. light scatt. virial coeffs. 7—44737

polymer blends continued
- polystyrene-b-(ethylene-co-propylene) diblock copolymers, micelle form., small angle neutron scatt. 7—11887
- polystyrene-poly(2,6-dimethyl-1,4-phenyleneoxide) blend, fast mutual diffusion meas. 7—2241
- polystyrene-poly(vinyl methyl ether), binary mixtures, spinodal decomposition 7—44822
- polystyrene-poly 2-chlorostyrene blend system, miscibility, vol. changes 7—44830
- polystyrene-polybutadiene block copolymer, single-chain neutron scatt., de Gennes scatt. formalism calcs. 7—44418
- polystyrene-polyvinyl methyl ether, crit. mixture, late stage spinodal decomposition 7—26955
- polystyrene-polyvinylmethylether blends, phase decomp., small angle neutron scatt. 7—28021
- polystyrene/poly(vinylmethylether), spinodal decomposition, thermal fluctuation 7—21460
- polystyrene/styrene-methyl methacrylate random copolymer blend, DSC obs. of miscibility 7—12291
- polysulphide rubber-butadiene-acrylonitrile copolymer/PVC blend, mech. props., ageing and solvent resist. 7—39593
- polythiophene and copolymers, electronic struct., cond. props., ab initio cryst. orbital calcs. 7—52410
- polyurethane, interpenetrating network, microphase struct., X-ray diffr. obs. 7—44410
- polyurethane-polysiloxane interpenetrating polymer network, morphology, dynamic mech. investig. 7—37901
- polyvinyl alcohol-polyvinyl acetate blends, TSDC, effect of blending 7—13084
- polyvinylidene fluoride-trifluoroethylene copolymers, pyroelectric conversion materials 7—65498
- PTFE-polypropylene copolymer soln., γ-irrad. effects 7—63658
- PVC, impact fracture regularities, matrix morphological struct. effects *(Russian)* 7—16677
- PVC, rubber modified or filled, damage kinetics, AE analysis 7—54063
- PVC-chlorinated PVC, miscible blends, rheological and mech. props. 7—8040
- PVC-polyethylene toughened blends, co-crosslinking technique 7—28005
- PVC-polyvinyl butyral (phenolformaldehyde resin), thermophys. props. *(Russian)* 7—27040
- PVC-styrene-butadiene rubber blends, bending in elastic range 7—39606
- PVC-thermoplastic copolyester elastomer blends, γ-irrad., mech props., fractography 7—21317
- PVDF/PMMA blends, electret props., effects of structure, open-circuit thermally stimulated current anal. 7—13087
- rubber blends, cryo-ground, rheology rel. to natural rubber matrix viscosity 7—59566
- rubber modified epoxy resin, tribological props. 7—17664
- rubber toughened epoxy polymers, toughness rel. to dispersed rubber phase vol. fraction 7—65125
- rubber toughened plastic, surface embrittlement, fracture mechanics 7—28161
- silk fibre filled thermoplastic elastomer, tensile rupture 7—39635
- styrene copolymers, glass transition, enthalpy relax, kinetics *(Russian)* 7—6797
- styrene-butadiene-styrene block copolymer, thermoxidative degradation kinetics, fission track study 7—39877
- styrene-butadiene-styrene block copolymer films, crazing, voiding, fibrillation, TEM obs. 7—17672
- styrene-isoprene block copolymers, mol. architecture effect, phase separation 7—38212
- styrene-isoprene-styrene block copolymer system, ferrite-filled, matrix-filler interactions 7—3352
- styrene-n-butyl acrylate emulsion copolymers, microstruct., ^{13}C NMR 7—11958
- tetrafluoroethylene-perfluoroethylene copolymers, composition-props. correls. *(Russian)* 7—16746
- tetramethyl bisphenol A polycarbonate-styrenic polymer systems, phase props. 7—38209
- tetramethyl bisphenol-A polycarbonate-aliphatic polyester blends, phase props. 7—38210
- trifluoroethylene-tetrafluoroethylene copolymer, five-fold symmetry in quasicrystalline polymers 7—1918
- two-polymer aqueous system, phase separation 7—37835
- underwater polymer composition rel. to acoustic props., Young's and longitudinal bulk modulus meas. 7—1304
- VDF-TrFE piezoelectric film US transducers 7—20562
- VF$_2$-TrFE random copolymers, Curie point meas., thermal and processing history depend. 7—33341
- N-vinyl carbazole-alkyl methacrylate random copolymers, thermodynamic props. *(Russian)* 7—26982
- vinyl pyrrolidone copolymers, highly swollen hydrogels preparation 7—21073
- vinylidene cyanide-vinyl acetate alternate copolymer, dielec. relaxation 7—7639
- vinylidene fluoride-trifluoroethylene copolymer, shock response, ferroelec. and piezoelec. props. meas. 7—32568
- vinylidene-trifluoroethylene copolymer, ferroelec. phase transition, X-ray diffr. investig. 7—53249
- H bonding, enthalpy-IR freq. shift correl., acid-base interaction 7—51667
- Ru complex, Ru(bipyridine)$_3^{2+}$-methylviologen copolymer, quenching 7—31107
- VDF/TrFE copolymer ferroelectric phase transition, observation using US spectroscopic system 7—20521

polymer coatings *see polymer films*

polymer crystal structure *see polymer structure*

polymer fibres
- advanced polymer developments 7—28007
- cellulose fibres, native and regenerated, chain modulus, intramolecular H bonding 7—17575
- Dralon fibres, gamma-irradiated, optical props. 7—39068
- Kevlar, surface, diffuse reflectance FTIR spectroscopy, fibre accessibility and water absorption 7—46040
- Kevlar 49 fibres, N-H groups, photoacoustic Fourier transform IR spectra 7—39118
- Kevlar fibres, epoxy reinforced, failure, lifetime distrib., kinetic approach 7—39533
- mat-reinforced polymeric composite, thermal expansion and elastic characteristics 7—33631
- nylon bicomponent fibres, optical props., interf. determ. 7—45974

polymer fibres continued
PEEK, fibre, struct. refinement in orthorhombic unit cell 7—16449
PET, heat treatment kinetics 7—44407
PET, sonic modulus, peculiarities *(Japanese)* 7—33715
poly(p-phenylene terephthalamide) fibres mech. props., stochastic model 7—39661
poly 3-ethyl, 3-methyl oxetane, oriented fibres, WAXS 7—6555
poly-peri-naphthalene, 1D graphite polymer, morphology and struct. 7—44400
polyacrylonitrile fibres, shrinkage, IR spectra investig. 7—59206
polyacrylonitrile fibres, stabilised, chem. struct., XPS obs. 7—32541
polybutylene terephthalate, heat treatment kinetics 7—44408
polybutylene terephthalate fibres, phase transitions, surface characterisation, spectrosc. methods 7—63505
polydiacetylene single crystal fibres in composites, stress-induced twinning 7—16567
polyester fibres, fatigue and creep failure under cyclic loading 7—28110
polyester-polyether segmented copolymer, melt spinning, fibre form., struct., phase separation 7—46407
polyether ether ketone, fibre, struct. refinement in orthorhombic unit cell 7—11957
polyethylene, ultra-high modulus, tensile strength, effect of mol. wt. 7—39590
polyethylene filaments, low and high mol. wt. blend, tensile strength 7—17599
polypropylene, quenched, isotactic, glass transition, effect of drawing 7—12278
strength spectrum, discontinuous 7—17610

polymer filaments *see polymer fibres*

polymer films
see also dielectric thin films; insulating thin films
acrylate coating developments for opt. fibres 7—25974
aminoplastic thin standards prep. method for X-ray microanalysis 7—60142
binary polymer liquids, 2-dimens. films, spinodal decomp. 7—38208
bisphenol-A polycarbonate, stressed, reversible mol. orientation, IR studies 7—50428
blend films, Fourier transform IR/ATR spectroscopy studies 7—53333
capacitors, radiation-induced space charge 7—45516
capron films, photodestruction kinetics with UV radiation, effects of tension 7—39905
cellulose acetate-polyarylate films, phase separation, porous struct. and strength *(Russian)* 7—26967
cellulose film, countercurrent diffusion of $AgNO_3$ and HCl 7—12377
coatings for optical fibres 7—11192
colloidal grains with adsorbed polymer layers, neutron scattering anal. 7—21621
conducting polymer films produced by Ar^+ irradiation of HPR-204, physical and elec. props. 7—26808
conductive, synthesis methods 7—64999
conjugated, extended π-electron systems, deposition, charactn. and appl. 7—64001
diacetylene, ion beam induced polymerisation 7—32525
1-1difluoroethylene fluorination by nonequilibrium plasma at atm. press 7—46347
electron beam induced polymerisation for film deposition 7—27898
ethyl cellulose films, creep, liq. cryst. soln. casting 7—8069
ethylene-vinyl acetate/polyethylene double layer dielec. films, TSC phenomena obs. 7—27663
fluoropolymer film formed in C_2F_6-H_2 RF discharge, chem. struct. and growth, deposition conditions depend. 7—21745
fluoropolymers, deposited in glow discharge, XPS study 7—27206
FTIR surface EM wave spectroscopy, Otto config. 7—46162
glazings for Ag mirror protection, evaluation and modification 7—37094
glow discharge films, IETS meas. *(German)* 7—42718
hexamethyldisiloxane films, plasma polymerised, dielec. breakdown 7—33328
hexamethyldisiloxane films, plasma polymerised, dielec. props., complex permitt. 7—33316
high modulus, fabrication by solid-state rolling 7—46525
incompatible polymers mixtures, surface layer of films investig. 7—37888
insulating films, residual voltage polarity 7—17262
IR film thickness gauging, optical interference suppression 7—33472
Kapton foil, N ion energy loss meas. and calcs. 7—63694
laser beam modulator and pulse former using electro-optic spectral hole burning 7—20288
layered structures, Raman and IR spectroscopy 7—3059
light scattering, struct. aspects of dichromatic laser speckle patterns 7—42931
liquid films on energetically nonuniform substrates, stability and equilib. props. 7—6772
metal embedded polymer film, plasma deposition, negative ion form. 7—7887
multicomponent gas permeation, meas. method 7—51304
mylar, ultrasonically excited thin sheet, depth-depend. 2D thermal-wave source profiling 7—48725
Mylar+U^{68+}(U^{83+})(Xe^{45+}), electron stripping, cross section meas. 7—64849
Mylar foil, N ion energy loss meas. and calcs. 7—63694
Nafion film, countercurrent diffusion of $AgNO_3$ and HCl 7—12377
nonlinear optical materials 7—37021
nylon 11 films, heavily plasticized, field-induced dipole reorientation and piezoelec. response 7—33337
nylon films, thermally stimulated and pyroelectric currents, H bond struct. effects 7—27664
optically transparent, radiation-induced transient darkening 7—39056
patterning by dry photoetching technique involving UV laser 7—34232
PEEK film, unit cell parameters, annealing temp. depend., WAXS obs. 7—64008
PET, biaxially oriented sheets, orientation rel. to mech. compliance 7—53781
PET, drawn sheets, molecular orientation, Raman spectra, refractive index 7—53318
PET, ester interchange reactions, small-angle neutron scatt. obs. 7—23004
PET, films, depth-profiling, FTIR photoacoustic spectroscopy 7—25686
PET, radiation-induced stress change during electron irrad. 7—16631
PET, three-dimens. IR spectroscopy 7—46041
PET film, solvent induced crystallisation, morphology, SEM obs. 7—44406

polymer films continued
PET films, crystallisation induced by integral sorption of organic vapours 7—12473
PET films, crystallisation under strain, annealing, morphology, mech. props. 7—44415
PET films, discontinuous levels of strength, determ. method *(Russian)* 7—13700
PET films, low frequency dielectric response 7—13091
PET films, one-way drawn, trichroic IR absorpt. spectra 7—33381
PET films, quenched, crystallisation kinetics rel. to methylene chloride vapour sorption 7—44405
PET films, trichroic IR absorpt. analysis, methods description 7—33380
PET films, viscoelastic props. 7—28066
PET membranes, permeability and struct. in adsorpt.-active medium *(Russian)* 7—28347
photoetching, action of vacuum UV radiation 7—13622
photoetching using soft X-rays 7—22859
phthalocyanine polymer films, I_2 implantation 7—26776
plasma polymerisation, ion bombardment effects, deposition rates, IR, UV and visible absorpt. spectra studies 7—28312
PMMA, 9,10-bis-(phenylethynyl)anthracene fluoresc. quenching *(Russian)* 7—10661
PMMA, on glassy C, IR external refl. spectroscopy obs. 7—41509
PMMA and Microdeposit 23M, As^+ ion bombardment, appl. for ion beam lithography and masking 7—26810
PMMA films, transparent, radiation strength, low-molecular-weight additives effects 7—43273
PMMA-3-nitroaniline composite films, SHG obs. 7—62771
PMMA/polystyrene double layer system, dielec. const. and loss factor, temp. and freq. depend. 7—22190
poly(2,6-naphthoquinone) deposited film, time-separated two-step oxidation and electrochem. props. 7—22855
poly(ethylene oxide)-$LiCF_3SO_3$ evaporated electrolyte films, struct. and ionic cond. characts. 7—64002
poly(N-vinylcarbazole) films and solns., localised exciton hopping, fluoresc. studies 7—52435
poly(p-phenylene) films, elec. cond. enhancement by heat treatment 7—64361
poly(p-phenylene) films, heat treated, electrical conductivity, thermoelectric power 7—52557
poly(p-phenylene sulfide), UV photoelectron spectra 7—15748
poly(p-phenylene vinylene) films, highly graphitisable, elec. conductivity, thermoelectric power 7—32916
poly(phenylene vinylene), oriented films, IR spectra 7—37896
poly(vinyl acetate), on Cu, FTIR surface EM wave spectroscopy, Otto config. 7—46162
poly 2-aminopyridine films, electrochemical synthesis, SEM obs. 7—53691
poly 2-hydroxy ethyl methacrylate films, swollen membranes, phenylalanine solute diffusion 7—28343
poly γ-benzyl L-glutamate film, solidified, cholesteric struct., colour rel. to stretching and temp. 7—44354
poly γ-methyl L-glutamate film, solidified, cholesteric struct., colour rel. to stretching and temp. 7—44354
poly (N-benzyldiphenylaminomethane) film, synthesis, elec. and optoelectronic props. 7—45384
poly ether ether ketone film, zone annealing prep., dynamic modulus, tensile strength 7—8038
poly-δ-N-carbobenzoxy L-ornithine films, packing polymorphism of α-helices 7—11955
poly-δ-N-carbobenzoxy-L-ornithine films, packing polymorphism of α-helices 7—16447
poly-di-n-hexylsilane, conform. kinetics and packing, spectrosc. obs. 7—37887
poly-p-phenylene sulphide, solution-grown crystals and crystalline thin films, morphology 7—16441
poly-p-phenylene vinylene, electron diffr. struct. investig. 7—44409
poly-p-phenylenevinylene, opt. and elec. props., band gap 7—46161
poly-p-phenylenevinylene films, photoconduction 7—12760
polyacetylene:AsF_6^- ($ClSO_3^-$) ($FeCl_4^-$) metallic elec. cond. studies 7—64231
polyacetylene:I (AsF_5) films, synthesis, elec. and optical props. 7—63513
polyacetylene:I films, liquid crystal polymerisation synthesis under mag. fields 7—65318
polyacetylene:K films, doping, redox potential studies 7—32475
trans-polyacetylene, highly oriented polarised Raman scatt. 7—7685
polyacetylene, I_2-doped, quantitative optical study 7—53380
polyacetylene, prepared by Durham route, EPR meas. 7—64529
polyacetylene film synthesis using $Ti(OBu)_4$ catalyst, ESR study 7—65317
polyacetylene films; optical harmonic generation 7—37041
polyacetylene films, doped, electronic struct., elec. cond. and thermopower 7—64065
polyacetylene films, glow discharge polymerisation and photoablation study 7—63650
polyacetylene films, oriented, optical props., photocond. meas. 7—64717
polyacetylene films, oxygen-exposed, IR transmission spectra 7—13181
polyacetylene films, polymerisation condition effect on morphology 7—37906
polyacetylene films, preparation, density and crystallinity *(Chinese)* 7—12537
polyacetylene films, synthesised via Durham precursor route, struct. and morphological study 7—37897
trans-polyacetylene films, transient photocond. anisotropy 7—64294
polyacetylene thin films, photoexcited states, ps relax. 7—64291
polyacrylic acid-Al interface, reactivity, comp., XPS 7—28334
polyacrylonitrile, XPS studies 7—53507
polyacrylonitrile film, electro-polymerisation for organic reference specimen 7—24639
polyamic acid films, vapour deposition technique 7—7855
polyaniline films, electrochemical switching mechanism 7—64710
polyaniline films on platinized n-Si, photo-assisted electrochromic behaviour 7—27697
polyazulene, in situ optical and ESR studies during electrochemical doping 7—26670
polybutadiene thin films, elec. cond. in sandwich config., I-V characts. meas., electrode effects 7—27449
polycarbonate doped with pyrazolines, photoconductivity and carrier mobility, press. effects 7—27363
polycarbonate films, prep. on solid surfaces in vacuum, use of laser radiation 7—7862
polycarbonate films, pure and N-isopropylcarbazole doped, low freq. relative permittivity temp. depend. meas. 7—27666

polymer films continued
polycarbonate-polyarylatarylene sulfonoxide block copolymer blend film sample, nick self-dulling *(Russian)* 7—44665
polychlorophenylacetylene, elec. cond., carrier mobility, doping effect 7—52875
polychlorotrifluoroethylene-Au composite films, optical response in visible region, effective medium approach 7—53433
polydiacetylene film, degenerate four-wave mixing meas. 7—57475
polydiacetylene Langmuir-Blodgett films, ion beam irradiation 7—6690
polydodecane amide films, thermal ageing in wet atmos., anal. *(Russian)* 7—7073
polyester powder films on Zn coated steel substrates, cratering and pin holes 7—13647
polyesteramidourethane, segmented, struct., polar low mol. wt. cpds. effects *(Russian)* 7—26673
polyetherimide, RF elec. props., 10 kHz to 1 MHz 7—48779
polyethersulphone transparent film substrate for a-Si solar cell 7—8394
polyethylene:Si films, trapping states, TSC, optical absorpt. spectra, photo-cond. meas. 7—27345
polyethylene, oriented films, oxidation effects on dynamic and struct. parameters *(Russian)* 7—17823
polyethylene coatings, oxidation effect on adhesional strength *(Russian)* 7—8151
polyethylene dielec. thin films, hot-electron-induced damage and charge storage, electron spectra studies 7—27662
polyethylene film, electrolum. meas., electrode work function effects 7—27789
polyethylene film, low density, diffusion and sorption of liquids, IR ATR spectrosc. obs. *(German)* 7—53302
polyethylene film, low density, elec. props. rel. to nuclear irrad., 5K 7—53232
polyethylene film, TSC due to dipolar depolarisation in temp. gradient 7—59141
polyethylene films, charge storage lifetime, structural effects 7—27344
polyethylene films, drawing, mech. props. rel. to polymerisation temp. 7—59488
polyethylene films, electrical conduction, breakdown characts., effects of gamma radiation 7—27658
polyethylene films, high field dielectric loss meas. 7—17264
polyethylene films, picosecond Raman scatt. after IR excitation, ultrafast vibr. energy transfer 7—64621
polyethylene films, stretched, aromatic mol. orientation, triplet state ESR spectra 7—25564
polyethylene films, surface modification by corona discharge 7—39691
polyethylene films with Si incorporation, localized gap states, space-charge-limited current 7—52530
polyethylene lightly doped films, breakdown strength meas., injected space charge effects study 7—39019
polyethylene terephthalate, RF elec. props., 10 kHz to 1 MHz 7—48779
polyethylene terephthalate films, struct., effect of rolling *(Russian)* 7—13476
polyethylene terephthalate glycol, films, uniaxially stretched, amorphous orientation and induced crystallisation 7—16448
polyethylene terephthalate/polyvinylidene fluoride double layer dielec. films, TSC phenomena obs. 7—27663
polyethylene thin films, high-field elec. cond. studies 7—64378
polyethylene-Al interface, reactivity, comp., XPS 7—28334
polyethylene-tetrafluoroethylene, row crystallised film, deform. mechanism 7—44663
polyethylene/W interface struct. and defects, FIM obs. 7—27151
polyimide, Cr interface chemistry 7—46871
polyimide, XeCl laser ablated, conical structures obs. 7—3467
polyimide adhered films, solvent induced crack-like defects 7—46653
polyimide encapsulants, laser induced etching 7—53941
polyimide film, etching and surface modification in plasmas, XPS, SEM and contact angle meas. 7—28166
polyimide film, etching and surface modification in SF_6-O_2 discharge 7—22858
polyimide film, Kapton-H, photoreceptor, photoinduced discharge characteristics 7—25918
polyimide films, laser ablation in pressurized gas ambients 7—46661
polyimide films, microwave plasma etching, anisotropy rel. to ion energy 7—53936
polyimide films, prep. and adhesion to Ag surface, XPS 7—65314
polyimide films, prep. on solid surfaces in vacuum, use of laser radiation 7—7862
polyimide films, uniaxially-stretched, conductivity and dielec. losses 7—39005
polyimide films, UV laser ablation 7—59648
polyimide films, vibr., EELS and UPS study 7—46257
polyimide thin films, friction and wear rel. to struct. 7—8130
polyimide thin films, plasma-assisted etching, ion bombardment effects, quartz cryst. microbalance studies 7—28211
polyimides, RF elec. props., 10 kHz to 1 MHz 7—48779
cis-polyisoprene films, crystallisation kinetics and morphology 7—6553
polymer-metal composite thin films, elec. behaviour 7—52856
polymer-metal system, enhanced ATR spectra of polymer surface layers 7—22266
polymerisation, beam-induced, time constants and reaction cross sections meas. 7—7875
polynaphthylene films, elec. cond. enhancement by heat treatment 7—64361
polyolefines, oriented, mech. props. and mol. mobilities *(Russian)* 7—63723
polyoxy-(allyl)phenylene electrochemically prepared film, elec. props., permittivity and solubility 7—27665
polyphenylacetylene, elec. cond., carrier mobility, doping effect 7—52875
polyphenylacetylene, plasma-polymerised, carrier traps 7—7263
polyphenylacetylene thin films, photochemical polymerisation 7—17441
polyphenylene sulphide coatings, internal struct., curing effect 7—22861
polyphosphazene photoconductive films as electrophotographic photoreceptors 7—57499
polypropylene, isotactic, polymorphic forms, FTIR far-IR obs. 7—53339
polypropylene, post-γ-irrad. grafting of butadiene, ESR obs. 7—33948
polypropylene, radiation-induced stress change during electron irrad. 7—16631
polypropylene evaporated films, SCL currents 7—21924
polypropylene film, DC, AC and impulse breakdown strength temp. depend. meas. 7—39016
polypropylene film, fibrillation, sonic pulse propag., stress-strain meas. 7—26669

polymer films continued
polypropylene film electrets, corona-charge mechanism 7—53227
polypropylene films, charge storage lifetime, structural effects 7—27344
polypropylene films, Cu-filled, struct. and elec. cond. 7—64301
polypropylene films, electron irradiated, structural study by X-ray diffr. 7—44422
polypropylene films, glass isotactic, crystallisation, struct., dynamic mech. props. 7—16445
polypropylene films, isotactic, struct., quenching temp. effect 7—11950
polypropylene films, morphology and dielec. props., impregnants effects 7—39024
polypropylene foil, coherent transition X-ray meas. under e^- bombardment 7—5698
polypyrrole films, elec. cond., molecular anisotropy, WAXS 7—51669
polypyrrole films on platinized n-Si, photo-assisted electrochromic behaviour 7—27697
polypyrrole salt films, conductivities, acid and base effects 7—12893
polypyrrole-phthalocyanine conducting complexes, spectroelectrochemical props. 7—3023
polysilane thin films, nonlinear optical props. 7—31392
polystyrene, atatic, uniaxially drawn, CO_2 sorption 7—32812
polystyrene film, electrolum. meas., electrode work function effects 7—27789
polystyrene film, electron thermalisation and trapping 7—27343
polystyrene films, craze microstruct., low angle electron diffr., Fourier transforms of TEM images 7—13560
polystyrene films, ion bombarded, primary chemical events, IR study 7—26809
polystyrene plasma deposited thin films, ionic cond., free vol. model calcs. and meas., press. depend. 7—27009
polystyrene thin film surfaces, electronic excitation, secondary electron emission studies 7—53460
polystyrene-3-nitroaniline composite films, SHG obs. 7—62771
polysulphone films, prep. on solid surfaces in vacuum, use of laser radiation 7—7862
polytetrafluoroethylene films, prep. on solid surfaces in vacuum, use of laser radiation 7—7862
polythiophene, vibrational spectra and elec. conductivity 7—2598
polythiophene film, photoinduced effects 7—52876
polythiophene film in electrochem. color switching cells, cycle life, stability and characts. 7—62815
polythiophene films, electrochemically polymerised, optical studies 7—51670
polythiophene films, photolum. quenching by electrochemical doping 7—59254
polytrifluorochloroethylene films, prep. on solid surfaces in vacuum, use of laser radiation 7—7862
polytrimellitamideimide film, molecular aggregation, SAXS obs. 7—51665
polytrimellitamideimide films, dynamic mech. props., glass transition, molecular aggregation effect 7—53782
polyurethane biomaterials, hydrolytic stability in model biological media, surface morphology changes 7—17673
polyvinyl acetate film, trichroic IR absorpt. analysis, methods description 7—33380
polyvinyl alcohol, elec. cond., 293 to 353K 7—45530
polyvinyl alcohol, interaction of nematic liquid crystals 7—11907
polyvinyl alcohol film with natural dyes, optical props., effect of dye conc. 7—22324
polyvinyl alcohol films, fluorescence lifetime meas., single-photon counting technique 7—22311
polyvinyl alcohol films, heat treatment, light irrad., polyene mixtures, absorpt. spectra 7—53432
polyvinyl butyral with ZnO powder, dark discharge props. 7—58919
polyvinyl carbazole plasma CVD thin films, photoconductive props. study, IR and UV spectra meas., electrode effects 7—27367
polyvinyl carbazole thin films, plasma-CVD polymerised, photoconduction props. 7—38628
polyvinylcarbazole film based photoreceptor, photoinduced memory effect, appl. to laser recording *(Japanese)* 7—37076
polyvinylidene film, oriented phase I, trichroic IR absorpt. 7—33382
polyvinylidene films, void strict., SEM obs. 7—6552
polyvinylidene fluoride, modifications under high energy heavy ion, X-ray and electron irrad., XPS study 7—38076
polyvinylidene fluoride, three-dimens. IR spectroscopy 7—46041
polyvinylidene fluoride films, active gauge for initiation diagnostics 7—30000
polyvinylidene fluoride films, surface potential decay 7—58858
polyvinylidene fluoride films, TSD studies 7—13085
polyvinylidene fluoride piezoelec. film transducer, charge output stress depend., gauge accuracy 7—29997
polyvinylidene fluoride piezoelectric film stress gauge response under impact loading 7—29996
polyvinylidine fluoride, films, depth-profiling, FTIR photoacoustic spectroscopy 7—25686
polyvinyltrimethylsilane membranes, modified by acrylonitrile, gas permeability and diffusion *(Russian)* 7—8301
preparation by glow discharge polymerisation, elec. conductivity of I-doped polymer films 7—22584
protective coatings of optical elements between operations 7—37062
PTFE, chem. modified, humidity sensor appls. 7—9839
PTFE, radiation-induced stress change during electron irrad. 7—16631
PTFE antifriction coatings, thickness and uniformity, X-ray fluoresc. method 7—17661
PVC coating on polymerisation-modified fillers, morphological struct. *(Russian)* 7—63517
PVDF, elec. field-induced gas emission meas., ionic charge transport study 7—27872
PVDF films, thermal Barkhausen effect, spontaneous polarisation 7—59142
PVDF pyroelectric film, improved poling conditions 7—64577
PVF_2 films, thermally stimulated discharge current characts., injecting contacts effects 7—38995
pyroelectric behaviour for IR detection 7—7644
radiation-induced implantation in metallic substrates 7—8163
radiation-induced stress change during electron irrad. 7—16631
RF and microwave plasma deposition, effect of frequency 7—39437
secondary coating of optical fibres 7—11169
strain measurement with laser speckle gauge, Poisson ratio evaluation 7—43821
stress development during thermal cycling, bending beam technique 7—28063

polymer films continued
styrene-butadiene-styrene block copolymer films, crazing, voiding, fibrillation, TEM obs. 7—17672
surface, excimer laser micromachining and surface microstruct. modification 7—53940
surface FTIR-ATR spectroscopy, lower limit of thickness of measurable surface layer 7—41508
surface IR external reflection spectroscopy of thin films on glassy C electrodes 7—41509
Teflon clad As-S glass IR fibre, optical loss due to water diffusion 7—57556
tensile properties, stress meas. techniques 7—52380
thermal diffusivity measurements, pulsed method 7—44928
thickness and absolute fringe order, interferometric determ. method 7—292
three-dimensional IR spectroscopy technique 7—46041
transparent, half-tone refraction transparencies, real-time recording 7—57489
TSC phenomena effects on double-layer dielectric films, carrier interaction and interface characts. 7—45934
UV curable coatings for optical fibres, stabilisation 7—11167
UV curable resin coated fibre with low-temp. and lateral props. 7—11168
UV curable resins for cabling optical fibres 7—11166
vinylidene fluoride-trifluoroethylene piezoelectric copolymer jacketed single-mode fibers forelectric-field sensor application 7—6011
X-ray photoetching 7—7792
Ag/polymer mirrors, specularity and stability 7—37095
Ag-backed polyacrylonitride films, photostabilisation studies 7—37107
Au-polymer composite thin films, plasma deposition, optical props. 7—27947
CdS/polymer composites, degenerate four-wave mixing 7—62795
H_2 generation from optical fibre coatings UV curable acrylated resins 7—11171
Pd-PET membranes, H diffusivity and solubility, meas. by nonequilib. stripping potentiostatic method 7—6809

polymer melt structure *see liquid structure; polymer melts*

polymer melts
ABS polymers, molten, having good dispersion of rubber particles, rheological props. 7—16214
blends, temperature-composition superposition *(Russian)* 7—6851
Carnauba wax, liq., complex impedance 7—17026
chains, dynamics, reptation, model simulation 7—57197
composites containing anisometric particles, flow and flow orientation 7—37498
crystallisation, localised diffusion, reptation effect 7—44414
diblock copolymers under steady flow, nonequilib. struct., neutron and X-ray scatt. 7—20763
dynamic measurements, mol. wt. and mol. wt. distrib. 7—43829
dynamics, RPA calcs. 7—37836
elongational flow, thermodynamics nonlinear theory 7—43991
equations of state, multiple hole energy model 7—21388
ferrite-filled, highly loaded, melt rheology 7—12345
filled polymer, matrix mol. wt. effect on rheological props. 7—16141
kinetic theory, polydispersity effects 7—51601
nets, high elasticity, mol. theory with allowance for topological constraints 7—37839
nonequilibrium extensions of Simha-Somcynsky equilib. theory 7—21387
nonexponential density relax. and dynamic form factor in reptation regime 7—16395
paraffins, chain-folded crystn., time-resolved X-ray study 7—37902
PMMA, photon correl. spectra above T_g evidence of two relax. processes 7—32650
polybutyl methacrylate, tensile flow, stress-strain behaviour, temp. depend., mol. wt. 7—6847
polydimethylsiloxane melt, molecular orientation induced by elongational and shearing strains 7—44347
polyethylene, melt viscosity, chain entanglement 7—6848
polyethylene, oriented, temp-induced crystallisation 7—11954
polyethylene, triple-step shear-strain, constitutive eqns. 7—43831
polymer-substrate interfaces, electron diffraction 7—16378
polymolecular, diffusional relax. of composition *(Russian)* 7—26618
polyolefines, struct., dielec. props., crystallisation conditions effects *(Russian)* 7—64564
polyoxyethylene, conformation, vibrational spectra, normal coordinate analysis 7—53317
polypropene, molten, glass fibre reinforced, rheological props. *(French)* 7—11369
polypropylene, $CaCO_3$ filled, on-line US monitoring of extrusion 7—59725
polypropylene, melt viscosity, chain entanglement 7—6848
polypropylene melt viscosity in shearing flow, mathematical models 7—44882
polypropylene melts, fibre filled, rheological behaviour under steady and oscillatory shear 7—37413
polypropylene oxide 4000, liq. and glassy states, dielec. props. 7—17266
polypropylene-cryo-ground rubber blends melt flow, dynamic mech. props. 7—12346
polystyrene, blend of linear and cyclic, melt viscosity, mol. wt. depend. 7—16794
polystyrene, proton-spin-lattice relaxation times, determ. using NMR relaxation 7—10797
polystyrene melt viscosity in shearing flow, mathematical models 7—44882
polystyrene melts, tensile stress, recoverable strain, rubberlike elasticity 7—44884
polyurethene granule prod. from melt, optimal heat transfer 7—6210
PVC compounds, nonplasticised, slip flow 7—6260
PVC-chlorinated PVC, miscible blends, rheological and mech. props. 7—8040
rheology, conf., Ann Arbor, MI, USA (Oct. 1985) 7—18481
ring polymers, equilib. statistics and dynamics 7—25692
siloxane-silica network-like structs., mag. relax. PMR study 7—38960
solidification, rate-controlled, zone model 7—1917
strained, chain retraction, length fluctuations, small angle neutron scatt. 7—51606
structure, nonperturbative integral eqn. theory calcs. 7—44345
styrene-isoprene-styrene block copolymer system, ferrite-filled, matrix-filler interactions 7—3352
thermoplastic, freezing, developing flows with very low heat generation 7—6084
thermoplastic polymers, molten state, with glass fibres, rheological props. *(French)* 7—63097

polymer melts continued
thermoplastics, injection moulding, fully-developed flows 7—11264
viscoelastic fluids, flow phenomena, statistical study 7—31845
viscoelastic fluids, kernel function for constitutive eqn. 7—6172
viscoelasticity near a critical point 7—57781

polymer mixtures *see polymer blends*

polymer solid structure *see polymer structure*

polymer solution structure *see liquid structure; polymer solutions*

polymer solutions
n-vector model and polymers, parametric eqn. of state 7—51986
absorbed polyelectrolytes, effect on convective flow and diffusion in porous membranes 7—11536
alkali metal poly(styrenesulphonate)s, enthalpy of dilution, large dielectric constant solvent 7—21483
(n-l) alkane-butanone-polydimethylsiloxane solns., total and preferential sorption coeffs. 7—6499
alkylene-aromatic polyester, thermotropically mesogenic, solns., Kerr effect 7—7674
anisotropic viscous behaviour, transport phenomena 7—32272
aromatic polyester, hydrodynamic and dynamooptical props. *(Russian)* 7—39077
atactic polystyrene solns., gelation, viscous flow meas. 7—32254
branched, sol-gel transitions 7—12254
branched polymers, viscoelastic props. near gelation threshold, frequency dependence 7—58390
bubbles growth and collapse 7—37531
capillary viscometer for evaluating low-viscositysolutions at elevated temperatures 7—11570
Carbopol-934 turbulent non-Newtonian mass transfer in circular tube 7—63187
carboxymethylcellulose, monosubstituted, cadoxene solns., diffusion, sedimentation and flow birefringence *(Russian)* 7—63859
cascade, theory of drag reduction 7—11474
cavitation damage and noise spectra in a polymer soln. 7—62887
cellulose complex, in water-methanol media, acidic props. *(Russian)* 7—63437
chain dynamics, temp. depend. cubic lattice model simulation 7—998
chain model, Edwards' continuous two-parameter, critical amplitudes 7—26616
chain molecules, self-diffusion coefficients, conc. depend. *(Russian)* 7—62555
chains, dynamics, reptation, model simulation 7—57197
chemical process design, fluid props. and phase equilibria, conf., Lo-Skolen, Helsinger, Denmark (May 1986) 7—18473
cloud points meas., using pressurised apparatus 7—9871
colloidal suspensions in polymeric suspending fluids, dichroism and birefringence meas. 7—11478
concentrated, relax. of long wavelength density fluctuations 7—37838
conducting polymer solns., scaling laws for charge transport 7—17002
cresyl violet in polymer solution, picosecond rot. reorientation 7—44339
critical solution temperature, upper and lower, corresponding states theory prediction 7—63770
curved pipes, dilute polymer soln. flow, drag reduction, pressure loss in 360° bends 7—16211
deoxyhaemoglobin S, solns. and gels, quasi-elastic laser light scatt. 7—28464
dilute, flow modification in strong elongational flows 7—16212
dilute polymer macromol. soln., interaction effects, spontaneous symm. breaking, replica method calcs. 7—15758
dilute solns. viscosity semi-empirical theory 7—44885
dilute viscous theta solns., internal viscosity model, viscometric predictions 7—6173
N,N-dimethyl-N,N-diallyl ammonium chloride-acrylamide copolymer, soln., viscometric obs. 7—2245
dynamic light scatt. from once broken rod molecules, initial relax. times 7—33404
electrodiffusion diagnosis of rheological and rheodynamic characteristics of viscoelastic and nonlinear-viscoplastic fluids 7—43823
elongational flow of polymer solns. phase changes obs. 7—51237
entangled polymer dynamics, reptation model 7—58125
equations of state, multiple hole energy model 7—21388
ethyl cellulose solns., lyotropic mesophase system, refractometry 7—53261
fibre suspensions in Newtonian fluids and polymer solns., capillary flow 7—6318
flow, elastic deformation effects 7—43670
gas-liquid two-phase flow of drag reducing fluids, heat transfer 7—16175
gel in pure and mixed solvent media, phase transition 7—63431
gelling, rheology, mol. network model 7—51016
gels, NMR line shape 7—17229
gels, zinc phthalocyanin containing, fluoresc., photosynthesis model 7—8515
high water fluid properties, determ. using capillary viscometer 7—57929
highly viscous pseudo-plastic non-Newtonian solns. in bubble columns, hydrodynamics, mixing 7—16234
Hookean dumbbell suspensions in steady state shear flow, hydrodynamic interaction, num. investig. 7—31868
Hookean dumbbells with anisotropic hydrodynamic drag and Brownian motion, Giesekus model 7—16216
isotope-induced quantum-phase transitions in the liquidstate 7—12295
Kuhnian polymer chain, geometrical props. 7—32256
lipid bilayer, mol. dynamics simulation 7—40115
liquid cryst. polymer solns., optical microscopy, Freedericksz transition, permitt. meas. 7—1864
macromolecular chains, internal correlations 7—5797
macromolecular shapes, universal features 7—5798
maleic acid-vinylpyrrolidone copolymers, viscometric behaviour in dil. soln. 7—32694
microdispersions, preparation 7—22631
microemulsions, interfacial props., critical roughening composition, disordered struct. 7—11893
molecular translational mobility, flow and thermodynamic swelling effects *(Russian)* 7—16393
nets, high elasticity, mol. theory with allowance for topological constraints 7—37839
nonequilibrium extensions of Simha-Somcynsky equilib. theory 7—21387
nonline., elastic props, convective transfer processes 7—43824
nylon-6,6, crystallisation, supercooling, temp. depend. of fold length 7—21072
nylon-6, crystallisation, supercooling, temp. depend. of fold length 7—21072

polymer solutions continued
- osmotic coefficients for polyelectrolyte solutions with ionic mixtures from Poisson-Boltzmann eqn. 7−13806
- P6/6M-ACAP system, diffusion coeff., conc. depend 7−12339
- phase equilibria, thermodynamics, review *(Japanese)* 7−38226
- phase equilibrium in static and dynamic conditions *(Russian)* 7−63434
- PMMA, syndiotactic, thermoreversible gelation 7−65358
- poly(1,3-propylene phosphate), hypercoiled to extended coil state transition study 7−31194
- poly(2-vinylpyridine), protonated, dil. soln. with trifluoroacetic acid, excimer emission, fluoresc. anal. 7−31196
- poly(4-vinylpyridine), protonated, dil. soln. with trifluoroacetic acid, excimer emission, fluoresc. anal. 7−31196
- poly(γ-benzyl L-glutamate) aggregation with rhodamine B, fluoresc. depolarisation 7−31096
- poly(butyl methacrylate), excluded vol. effect, viscometric study 7−63705
- poly(ethylene oxide) chains in dil. aq. soln., dynamic moduli 7−37414
- poly(ethylene oxide-propylene oxide-ethylene oxide) block copolymers, photoluminesc. probes 7−13199
- poly(methacrylic acid), methanol soln., viscosity, alkali metal cpds. effects 7−38234
- poly(N-vinylcarbazole) films and solns., localised exciton hopping, fluoresc. studies 7−52435
- poly(tetrafluoroethylene) dispersions, high resolution electron microscopy 7−44341
- poly(vinyl acetate), network, mechanical and swelling behaviour investig. 7−12185
- poly(vinyl alcohol), network, mechanical and swelling behaviour investig. 7−12185
- poly 2-methoxy-4,6-di(p,p′-)isopropylidine diphenyloxy-s-triazine, soln., viscosity 7−63426
- poly α-methylstyrene soln., stereoirregular, unperturbed dimensions, temp. depend., viscometry 7−32259
- poly-4-hydroxystyrene, dil. soln. props., light scatt. and viscosity meas. 7−39135
- poly-γ-benzyl-L-glutamate, cholesteric soln., elec. field effects *(Russian)* 7−11909
- poly-γ-methyl L-glutamate, non-Newtonian viscosity in helix-coil transition region 7−51605
- poly-m-phenylenisophthalamide, in dimethyl acetamide, hydrodynamic props., conform. characts. *(Russian)* 7−11894
- poly-N-vinylcarbazole; solns., nonexponential picosec trapping, electronic energy transport 7−13198
- poly-p-decylstyrene solns., optical and hydrodynamic investig. *(Russian)* 7−13167
- poly-p-phenylene sulphide, conducting polymer solution, chemical structure, EPR and ^{19}F NMR studies 7−2938
- trans-polyacetylene, doped, in soln., IR spectral props., conjugation lengths depend. 7−64655
- polyacrylic acid, pyrene substituted, solns., fluoresc. quenching, polyelectrolyte effects 7−62446
- polyalanine fragment, solvent struct. hydration, Monte Carlo simulation 7−23299
- polyamide 6, aq. solns., stationary diffusion of acids *(Russian)* 7−63433
- polyamide acids, optical anisotropy *(Russian)* 7−37837
- polyamide hydrazides, aromatic, p- and m-phenylene units effects on struct.-prop. rels. 7−51604
- polyamidobenzimidazole solns., hydrodynamic and optical props. *(Russian)* 7−26619
- polyampholytes, styrene-based, synthesis and rheological props. 7−11891
- 1,4-polybutadiene soln., stereoirregular, unperturbed dimensions, temp. depend., viscometry 7−32259
- polybutyl methacrylate, solns., viscosity-mol. wt. rels. and unperturbed dimensions 7−63425
- polycapramide, solns., viscosity props. and phase stability *(Russian)* 7−21074
- polydiacetylene solutions, semidilute, rod-coil transition, aggregation 7−15752
- polydisperse polymer solution, size distrib. fn. determ., light scatt. appl. *(Russian)* 7−5806
- polydodecanamide, solns., viscosity props. and phase stability *(Russian)* 7−21074
- polyelectrolyte, weakly charged, in poor solvent, struct. phase transitions 7−51600
- polyelectrolyte chain in soln. containing counterions, size study 7−58122
- polyelectrolyte solns., small-angle scatt. 7−44338
- polyelectrolyte solns., spin relax., local order with cylindrical interfaces, translational diffusion, continuous diffusion model 7−64540
- polyelectrolyte solutions, small angle X-ray scatt. 7−11886
- polyelectrolytes, interpenetrating chains, structure and viscosity 7−58121
- polyethylene, low-density, viscoelastic flow problems, integral constitutive models 7−16213
- polyethylene, soln. crystallisation kinetics and morphology 7−21148
- polyethylene glycol, tetrahydrofuran soln., mol. weight determ., size exclusion chromatography 7−50424
- polyethylene oxide, aq. solns., dynamics, nucl. mag. relax. obs. 7−57194
- polyethylene oxide-water system, high molecular, calorimetric obs. *(Russian)* 7−12325
- polyhexazocyclane, solns., viscosity props. *(Russian)* 7−63864
- polyimides, dil. soln., structurisation *(Russian)* 7−42810
- polymer flooding of oil formations with bottom water, quasi-1D model 7−51359
- polymer soln. mixtures, vapour-liq. equilib., quartic hard chain eqn. of state calcs. 7−12228
- polymer solutions, structural approach, dumbbell model, extensional shearing and rot. flow *(French)* 7−6259
- polymethacrylic acid, salt-free solns., chain dimensions, small-angle scatt. 7−11885
- polymethacrylic acid, solns., chain dimens., small-angle scatt. obs. 7−16389
- polymethacrylic acid, solns., hydration and conform. obs. 7−5802
- polyol, in soln., US vel., density and viscosity meas. 7−32693
- polyoxyethylene, conformation, vibrational spectra, normal coordinate analysis 7−53317
- polyoxyethylene solns. influence of surface pot. of SiO_2 7−6968
- polyoxypropylene diol, solns., structs. and thermodynamics near consolute temps. *(Russian)* 7−63435
- polypropylene oxide in toluene, dielec. relax. in liq. and glassy states 7−7638
- polystyrene, colloidal cryst. in semidilute aq. suspension, ordering process 7−13829

polymer solutions continued
- polystyrene, cycloalkane and n-alkane solns., phase behaviour, cloud point curves 7−52030
- polystyrene, dil. soln., viscosity semi-empirical theory 7−44885
- polystyrene, linear, atactic, chain size determ., rel. to intensity light scatt. 7−16388
- polystyrene, linear atactic, solns., chain size determ., rel. to solvent quality 7−11884
- polystyrene, solns., coil-globule transition, theory *(Russian)* 7−15756
- polystyrene, solns., static screening length behaviour 7−20078
- polystyrene, solns., structs. and thermodynamics near consolute temps. *(Russian)* 7−63435
- polystyrene in ethyl acetate, cyclohexane solns. props. 7−11889
- polystyrene in methyl ethyl ketone, SAXS, particle scatt. factor of model branched star 7−6498
- polystyrene interactions in bad solvent, experimental study 7−58124
- polystyrene latex, gradient coagulation under microflotation conditions 7−8319
- polystyrene latex spheres, particle size and vel. meas. using phase Doppler particle analyser 7−29968
- polystyrene lattices, soln., salt-induced aggregation kinetics, quasielastic light scatt. 7−59796
- polystyrene mixtures in benzene solns. light scatt. virial coeffs. 7−44737
- polystyrene solns., excimer fluoresc., conc. depend. 7−7743
- polystyrene solns., integrated intensity light scatt., conc., temp., mol. wt. depend. 7−46056
- polystyrene solutions, slit-length-smeared SAXS curves evaluation using indirect Fourier transformation routines 7−51571
- polystyrene spheres, monodispersed, microscope images, image processing algorithm 7−4888
- polystyrene sulphonate, ionomers, in soln., dynamics, neutron spin echo obs. 7−51607
- polystyrene-b-(ethylene-co-propylene) diblock copolymers, micelle form., small angle neutron scatt. 7−11887
- polystyrene-based lattices, dil. suspensions, ordered struct., charge density and size effects 7−26615
- polystyrene-based lattices, dil. suspensions, ordered struct. 7−26614
- polystyrene-cis-decalin gels, isotactic, compression modulus, conc. depend. 7−32536
- polystyrene-PMMA-toluene mixtures, interaction parameters 7−63424
- polystyrene-poly 2-chlorostyrene blend system, miscibility, vol. changes 7−44830
- polystyrene-polybutadiene-toluene, mono- and polydisperse solns., interaction parameter determ. 7−10795
- polystyrene/poly(methylphenylsiloxane) liquid mixtures, phase separation processes, structure function scaling law test 7−1832
- polytrimethylamine-p-vinylbenzimide, aq. solns., negative thixotropy and thermoreversible gelation 7−51608
- proflavine aromatic polyimides, dynamical behaviour, fluoresc. depolarisation 7−31193
- PTFE-polypropylene copolymer soln., γ-irrad. effects 7−63658
- PTMM, synthesis, soln. props., chain flexibility 7−11890
- pyrene substituted polyacrylic acid solns., interpolymer interactions, photophysical obs. 7−46109
- rheology, conf., Ann Arbor, MI, USA (Oct. 1985) 7−18481
- rod-like particle fluid, transport props., mol. dynamics 7−42802
- rodlike molecules in soln., flow, phase separation, orientation distrib. 7−43989
- scleroglucan solns., low temp. sol-gel transition, rheological behaviour, optical rot. 7−51018
- semidilute, scaling laws for correlation length and radius of gyration 7−26610
- semidilute soln., dynamical scatt. factor, renormalisation group study 7−1834
- silicone rubber and silicone oil, convergent flow into rectangular slit, rel. distribs. meas. 7−6339
- slender body, motion in quiescent polymer solns. 7−11523
- slightly viscoelastic liquids, backmixing in multistage mixer columns 7−16749
- soap-mineral oil lubricating grease, 12 Li-hydroxysterate greases, thick film, ambient pressure, shear flow transient tests *(French)* 7−6169
- sodium polystyrene sulphonate, aq. solns., small-angle X-ray scatt., mol. wt. effects 7−16391
- solvent self-diffusion 7−6844
- spinodal separation kinetics *(Russian)* 7−16392
- star-like polymers, swelling in good solvent, Monte Carlo calcs. *(Russian)* 7−63436
- styrene-isoprene diblock copolymer solns., visco-plastic flow 7−11477
- sulphobetaine polymers, phase behaviour and soln. props. 7−38164
- surface and interface dynamics study 7−63917
- suspensions, Cotton-Mouton constant, cluster integral expansion 7−3025
- thermodynamic props. 7−16386
- thermodynamic props. prediction by group contrib. method 7−32683
- thermodynamics, lattice theory, free volume theory and effective volume theory 7−32255
- two-polymer aqueous system, phase separation 7−37835
- urea-formaldehyde polymer, struct. swelling and titration *(Russian)* 7−6500
- viscoelastic, boiling, rheological investig. 7−51015
- viscoelastic fluids, flow phenomena, statistical study 7−31845
- viscoelastic liquids, bubble velocity and coalescence 7−16232
- viscosity equation 7−6849
- weak-flow effects, renormalisation-group anal. 7−20764
- S, equilibrium polymerization and polymer solns. as multicritical phenomena 7−28310
- Zn-neutralised ionomers, conc. solns. in nonpolar solvent, viscoelastic behaviour 7−51609

polymer structure
- advanced polymer developments 7−28007
- aerospace polymers, electron irrad. effects on AC and DC elec. props. and unpaired electron densities 7−58339
- alkali cellulose, composition, reacting struct. fractions concept 7−11959
- amorphous, structured, strain-dependent birefringence under creep conditions *(Russian)* 7−27690
- amorphous polymers, microstruct., diffusion, positron annihilation investig. *(Russian)* 7−63524
- amorphous polymers, relax. of free vol., diffusional contrib. *(Russian)* 7−16453
- amorphous polymers, supermol. struct. form. *(Russian)* 7−16451

polymer structure continued
- amorphous polymers, yield stress rel. to ageing, nonequilib. glassy state 7—46562
- aniline, substituted, polymerisation and characterisation 7—33929
- bisphenol-A-based epoxy resins, physical props. rel. to curing 7—46539
- bisphenol-A-type epoxide resin, mech. and dielec. relax., alkyl side chains effect 7—45925
- blend, intensity spectroscopy and FTIR as tool for struct. and intermol. interactions determ. 7—53338
- block copolymer, heterogeneous, single-chain neutron scatt., de Gennes scatt. formalism calcs. 7—44418
- block copolymers, mol. wt. and comp. heterogeneity, determ. 7—6556
- block copolymers, superstructs., equilib. parameters calcs. *(Russian)* 7—63518
- butadiene elastomers, soot-filled, struct., IR spectra 7—39127
- capron, oriented and nonoriented, relax. transitions *(Russian)* 7—26671
- cellulose acetates, units distrib., NMR spectrosc. obs. *(Russian)* 7—15757
- cellulose fibres, native and regenerated, chain modulus, intramolecular H bonding 7—17575
- chain, eqn. of state, entropy spring model 7—21394
- clusters, total electronic energies, size depend. 7—36836
- comb-like polymers, with mesogenic side fragments, conform. and optical anisotropy *(Russian)* 7—63516
- copolyamides, aromatic, multiunit models, PMR spectra *(Russian)* 7—20080
- copolyester, liquid crystalline, molecular motion, NMR obs. 7—17228
- crystallisation, localised diffusion, reptation effect 7—44414
- dicyclohexyl-18-crown-6, A and C isomers, struct., X-ray diffr. study 7—42799
- dimethyl tin diacetate, solid-state and soln. struct., ^{2}H and ^{3}C NMR spectra study 7—25431
- dimethyl tin diacetate hydrolyzate, solid-state and soln. struct., ^{2}H and ^{3}C NMR spectra study 7—25431
- epoxide resin-fatty monoepoxyesters, relax. props., struct. *(Russian)* 7—64565
- epoxide resins, mech. and dielec. relax. rel. to spiro-ring struct. 7—17572
- epoxide-diene polyblock networks, phase struct. var. with composition *(Russian)* 7—63522
- epoxy polymers, amine cured, struct., positronium annihilation spectroscopy 7—46176
- epoxy-amine networks, build-up and etherification, statistical structural model 7—13768
- epoxydiane polymers, struct., X-ray diffr. and IR spectra *(Russian)* 7—11968
- ethyl cellulose films, creep, liq. cryst. soln. casting 7—8069
- ethylene copolymers, crystalline struct., electron microscopy 7—44404
- ethylene-acrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7—53337
- ethylene-propylene copolymers, lamellar morphology, transmission electron microscopic investig. 7—21132
- ethylene-tetrafluoroethylene copolymer, cryst.-mesophase transition, struct. obs. 7—21436
- ferromagnetic conjugated polymers, polaron spins by doping, PPP model struct. anal. 7—52944
- fibre, discontinuous strength spectrum 7—17610
- fibre reinforced composites, fibre and matrix orientations 7—39478
- fluorinated ethylene-propylene copolymer, hole schubweg models 7—21936
- fluoropolymers, film, deposited in glow discharge, XPS study 7—27206
- friction, electrophysical phenomena 7—17654
- glassy polymers, fracture mechanisms, scaling analysis 7—46618
- 2,4-hexadiyne-1,6-diol-bis (p-toluene sulphonate), phase transitions, piezo-modulated reflection spectroscopy 7—27691
- hydrocarbons and fluorocarbons, plasma polymerised, cross-linking and average coordination 7—8276
- hydroxy alkyl phenyl vinyl ketones, polymer prep. and struct. 7—54120
- insulating, elec. cond. and breakdown phenomena 7—45306
- insulating material, dielec. breakdown strength rel. to lamella struct. 7—53237
- interfaces, bonding and adhesion 7—28265
- internal pressure in relation to the structure of polymers 7—31195
- cis-1,4-isoprene, mol. orientation, FT IR dichroism 7—17322
- linear polymers, struct., thermophys., props. *(Russian)* 7—12334
- macromolecules in filled polymers, conform. *(Russian)* 7—20081
- metalloporphyrin stacked polymeric structs., difference EXAFS spectra studies 7—63508
- methacrylic acid copolymers, struct. analysis using Fourier self-convolution of IR spectra 7—53337
- methoxy, alkyl phenyl vinyl ketones, polymer prep. and struct. 7—54120
- microcrystals, natural, diffr. data from electron diffr. patterns 7—11862
- mixtures, H bonding, enthalpy-IR freq. shift correl., acid-base interaction 7—51667
- molecular ordering, optical microscopy, review 7—11953
- Nylon 6 membranes, decrystallised acrylic acid grafted, reverse osmosis, fine struct. 7—65346
- nylon-6-rubber-modified rubber blends, mixing effect on morphology, mech. and impact props. 7—37903
- oligocaprolactone glycol-PVC, amorphous matrix, crystallisation *(Russian)* 7—11969
- bis-(p-toluene sulphonate) of 2,4-hexadiyne-1,6-dial, polymer single crystal, permittivity, phase transition 7—51663
- paraffins, chain-folded crystn., time-resolved X-ray study 7—37902
- PEEK, fibre, struct. refinement in orthorhombic unit cell 7—16449
- PEEK film, unit cell parameters, annealing temp. depend., WAXS obs. 7—64008
- PEEK matrix for high performance composites, processing, struct. and props. 7—3262
- perfluorinated sulfocation-exchanger membrane, struct., low-mol. fractions influence *(Russian)* 7—39891
- PET, biaxially oriented sheets, orientation rel. to mech. compliance 7—53781
- PET, drawn sheets, molecular orientation, Raman spectra, refractive index 7—53318
- PET, friction and wear under water lubrication, degree of crystallinity effect 7—3454
- PET, highly branched, synthesis and characterisation 7—11960
- PET, three-dimens. IR spectroscopy 7—46041
- PET fibres, heat treatment kinetics 7—44407
- PET fibres, sonic modulus, peculiarities *(Japanese)* 7—33715
- PET film, solvent induced crystallisation, morphology, SEM obs. 7—44406

polymer structure continued
- PET films, crystallisation under strain, annealing, morphology, mech. props. 7—44415
- PET films, one-way drawn, trichroic IR absorpt. spectra 7—33381
- PET membranes, permeability and struct. in adsorpt.-active medium *(Russian)* 7—28347
- PMMA, ion beam damage effects, surface characterisation by SIMS 7—26817
- PMMA, microdefect accumulation kinetics during optical irradiation 7—38050
- PMMA, noncryst., relax. phenomena and elec. fluctuations *(Russian)* 7—16454
- PMMA based materials, craze resist., struct., water absorpt. 7—59602
- PMMA layers, metal-polymer struct., degrad. during mech. fracture *(Russian)* 7—20660
- PMMA-phosphate plasticizer systems, phase equilibrium and struct. *(Russian)* 7—63515
- poly(ε-caprolactone), crystn. nucleation and spherulitic growth rates 7—37905
- poly(dimethylsiloxane)/polystyrene interpenetrating networks, size of phase separated regions, small-angle neutron scatt. anal. 7—11961
- poly(ethylene terephthalate), changes in molecular conformations produced by crystallization and drawing, neutron scatt. anal. 7—10799
- poly(n-alkyl methacrylates), surface mobility and struct. transitions, dynamic contact angle meas. 7—32758
- poly(p-phenylene terephthalamide), single cryst. and spherulites, morphology and struct. investig. 7—11949
- poly(phenylene vinylene), oriented films, IR spectra 7—37896
- poly 2-aminopyridine films, electrochemical synthesis, SEM obs. 7—53691
- poly 3-ethyl, 3-methyl oxetane, oriented fibres, WAXS 7—6555
- poly 4-methyl pentene-1, heat of fusion calc., PVT meas., X-ray diffr. 7—52007
- poly γ-benzyl L-glutamate film, solidified, cholesteric struct., colour rel. to stretching and temp. 7—44354
- poly γ-methyl L-glutamate film, solidified, cholesteric struct., colour rel. to stretching and temp. 7—44354
- poly m-phenylene sulphide, SbF_5 doping, elec. cond., IR spectra 7—17006
- poly p-phenylene benzobisthiazole-poly 2,5(6)benzimidazole blends, phase separation morphology 7—7981
- poly-1,4-phenylenesulphide, struct., comparative analysis with small mol. model 7—44419
- poly-3,3-diethyloxetane, spherulitic growth rates 7—1915
- poly-δ-N-carbobenzoxy L-ornithine films, packing polymorphism of α-helices 7—11955
- poly-δ-N-carbobenzoxy-L-ornithine films, packing polymorphism of α-helices 7—16447
- poly-di-n-hexylsilane, conform. kinetics and packing, spectrosc. obs. 7—37887
- poly-ether-ether-ketone crystallisation, investig. 7—6558
- poly-p-phenylene sulphide, SO_3-doped, mol. structure, ^{1}H NMR, ^{13}C CP/MAS NMR and IR studies 7—2939
- poly-p-phenylene sulphide, solution-grown crystals and crystalline thin films, morphology 7—16441
- poly-p-phenylene vinylene films, electron diffr. struct. investig. 7—44409
- poly-peri-naphthalene, 1D graphite polymer, morphology and struct. 7—44400
- polyacetylene:I_2 complexes, monosubstituted, isomerism, elec. cond., UV spectra 7—45289
- polyacetylene:I (AsF_5) films, synthesis, elec. and optical props. 7—63513
- polyacetylene, cond., fast FTIR and IR intensity spectra, struct. and electronic props. 7—53335
- trans-polyacetylene, Durham-route, conformational defects, resonance Raman scatt. studies 7—62554
- polyacetylene, growth, struct., optical props. and photo-induced spin states 7—16455
- polyacetylene, undoped, elec. props., thermal isomerisation and impurity effects 7—64232
- polyacetylene films, polymerisation condition effect on morphology 7—37906
- polyacrylate radicals trapped in polymeric network, struct. and stability, EPR obs. 7—5801
- polyalkyl α-bromoacrylates, tacticity anal. using 19 mHz ^{13}C NMR 7—53155
- polyamide 6-ethylene-co-vinylacetate blends, morphology-prop. rel. in injection moulded samples 7—63506
- polyamide hydrazides, aromatic, p- and m-phenylene units effects on struct.-prop. rels. 7—51604
- polyaniline, doped, thermoplastic amorphous-crystalline conversion 7—32315
- polyaniline, geometry, MNDO calcs. and NMR studies 7—32314
- polyanion-polycation complexes, charge density and side-chain branching struct. effects 7—21136
- polyarylate-polydimethylsiloxane rigid block copolymers, domain struct., electron microscopy *(Russian)* 7—63520
- 1,2-polybutadiene, mol. motion, glass transition, loss curve, NMR, ^{13}C spin-lattice relax. 7—17234
- polybutadiene, sequence distribs., polymerisation kinetics, IR spectra, NMR 7—16444
- 1,2-polybutadiene-natural rubber blends, tear failure, blend ratio, cross-linking, HAF black content 7—65126
- polybutadienes, high-temp, struct. transition obs. *(Russian)* 7—63820
- polybutene-1, heat of fusion, X-ray diffr. obs. 7—52008
- polybutene-1-polypropylene blends, polybutene-1 crystallinity enhancement 7—63509
- polybutylene, crystallisation, electron microsc. obs. 7—32309
- polybutylene, crystallisation, X-ray scatt., differential scanning calorimetry and torsion pendulum investig. 7—32308
- polybutylene terephthalate fibres, heat treatment kinetics 7—44408
- polycarbonate, friction and wear, molecular orientation, uniaxial prestraining effect 7—13609
- polychloroprene 7—39632
- polydiacetylenes, electronic struct., substituent-induced strain effect, MNDO calcs. 7—10427
- polydienes, sequence distribs., Bernoullian process analysis, non-steady state kinetic method 7—17787
- polydienes, sequence distribs., kinetic treatment of first order Markovian process 7—16443
- polydienes, sequence distribs., statistical treatment 7—16442
- polydihalogenoacetylene, bond alternation and solitons 7—63511
- polydimethylsiloxane, swollen in benzene, network struct., cryoscopic obs. 7—21135

polymer structure continued
polydimethylsiloxane elastomeric networks, ^{29}Si NMR 7−44402
polydimethylsiloxanes, crosslinked, network struct. irregularity, PMR line shapes *(Russian)* 7−5803
polydodecane amide films, thermal ageing in wet atmos., anal. *(Russian)* 7−7073
polyemeraldine, defect states, MNDO calcs. 7−25398
polyester-polyether segmented copolymer, melt spinning, fibre form., struct., phase separation 7−46407
polyesteramidourethane, segmented, struct., polar low mol. wt. cpds. effects *(Russian)* 7−26673
polyesters, aromatic, conformational reorganisation viewed by Raman spectra 7−32311
polyether ether ketone, fibre, struct. refinement in orthorhombic unit cell 7−11957
polyetheretherketone, penetrant durability rel. to processing and struct. 7−65168
polyethylene:Si films, trapping states, TSC, optical absorpt. spectra, photocond. meas. 7−27345
polyethylene, chain setting angle, powder X-ray analyses 7−11964
polyethylene, chlorinated, prep., mech. and thermal props. 7−28006
polyethylene, cold-rolled low-density, morphology and transport props. 7−13519
polyethylene, continuous melt extrusion, morphology, strength 7−39472
polyethylene, cross-linked, C black composites, permittivity, percolative model 7−45913
polyethylene, dielec. and mechanical relaxations, rate theory eqn. calcs. 7−26983
polyethylene, extended under press., hydrostatic press. effect on damage accumulation, struct. reorganisation 7−8065
polyethylene, high density, struct. and props. *(Russian)* 7−44421
polyethylene, interlamellar links, environmental stress cracking agent effect 7−53928
polyethylene, lin., deform. process, morphological study 7−13518
polyethylene, low density, γ relax., chain segment lengths, thermostimulated depolarisation meas. 7−11948
polyethylene, low density, bulk crystallisation kinetics, morphology 7−37893
polyethylene, low density, crosslinked, morphology, transmission electron microscopy 7−37894
polyethylene, low density, crystallisation and melting behaviour 7−37892
polyethylene, low-density, amorphous phase, ^{1}H NMR meas. in temp. range 270 to 385K 7−37890
polyethylene, melt-crystallised, lamellar morphology, transmission electron microscopic investig. 7−21132
polyethylene, monoclinic form, hydrostatic compression effect 7−44690
polyethylene, oriented, struct. transform. resulting from ionising radiation *(Russian)* 7−26947
polyethylene, oriented, temp-induced crystallisation 7−11954
polyethylene, porous, struct. investig. by contrast variation X-ray scatt. *(Russian)* 7−63521
polyethylene, semicrystalline, elastic modulus meas. method 7−13683
polyethylene, single cryst., regime II growth from dil. soln. in n-octane 7−21133
polyethylene, single cryst. growth mode and lateral habit, impurity effects 7−26668
polyethylene, spherulitic low density, dielec. relax. of dipolar aromatics, glass transition 7−45924
polyethylene, struct., spin dynamics, NMR study 7−59124
polyethylene, struct. change by ionising irradiation, DSC investig. *(Russian)* 7−21138
polyethylene blends, melting, crystallisation, DSC, X-ray diffr., Raman spectra 7−44411
polyethylene blends, melting, crystallisation, relax., DSC, light scatt. 7−44412
polyethylene blends, melting and crystallisation, small angle light scatt. 7−44413
polyethylene crystals, twinned, nucleation controlled growth 7−44401
polyethylene filled with short glass fibres, structural organisation and mech. props. *(Russian)* 7−6560
polyethylene films, charge storage lifetime, structural effects 7−27344
polyethylene oxide, single cryst. growth mode and lateral habit, impurity effects 7−26668
polyethylene single crystals, high temp. soln. growth rates, morphology 7−17402
polyethylene terephthalate, partially oriented solid, struct. and order, 2D-MAS-NMR 7−51661
polyethylene terephthalate films, struct., effect of rolling *(Russian)* 7−13476
polyethylene terephthalate glycol, films, uniaxially stretched, amorphous orientation and induced crystallisation 7−16448
polyethylene terephthalate glycol, uniaxially stretched, amorphous orientation and induced crystallisation 7−11956
polyethylene-linear polythene blends, rheological and mech. props. 7−1914
polyethylene-polyacrylic acid copolymer, radiation grafted, struct.-morphology, obs. *(Russian)* 7−16452
polyethylene-polyamines, struct., ^{13}C NMR obs. *(Russian)* 7−13047
polyethylenes, crosslinked, nucleation density, morphology, transmission electron microscopy 7−37895
polyethylenes, supermol. struct., glow-discharge induced transformations *(Russian)* 7−63523
polyimide, photoconduction, mol. orientation and chain alignment effects, X-ray diffr. meas. 7−27365
polyimide thin films, friction and wear rel. to struct. 7−8130
polyisoprene, sequence distribs., polymerisation kinetics, IR spectra, NMR 7−16444
cis-polyisoprene films, crystallisation kinetics and morphology 7−6553
cis-1,4-polyisoprene networks, uniaxial extension, stress-strain relation 7−39605
polyisoprene vulcanizate, double step retraction, molecular models comparison 7−16685
polyisoprene-poly(isoprene-g-styrene) copolymer, phase separation study 7−38211
polymer melt struct., nonperturbative integral eqn. theory calcs. 7−44345
polymer surfaces, erosive wear by steel ball blasting 7−3446
polymers, branched, Monte Carlo and exact series anal. of lattice animals 7−48622
polymers, conductive, structural regulation, dopant effects 7−63512
polymers, semicrystalline, EPR, elastic modulus data, mol. mobility phenomena 7−37900

polymer structure continued
polyolefines, struct., dielec. props., crystallisation conditions effects *(Russian)* 7−64564
polyoxyethylene, conformation, vibrational spectra, normal coordinate analysis 7−53317
polyoxymethylene, ageing, residual stress, crystallinity, WAXS 7−39550
polyoxymethylene, highly drawn, morphology, temp. depend. crystal modulus 7−37889
polyoxymethylenes, low temp. dielec. relax., crystallite surface folds motion contrib. study *(Russian)* 7−17267
polyoxypropylene, cross-linked model networks, swelling, elastic stress-strain props. 7−46540
polyoxypropylene diol, solns., structs. and thermodynamics near consolute temps. *(Russian)* 7−63435
polyparaphenylene: Na, electron and cryst. struct., EELS and electron diffr. studies 7−63514
polyphenylacetylene:I, conformational defects, ESR studies 7−64531
polyphenylene sulphide coatings, internal struct., curing effect 7−22861
p-polyphenyls, electron microscopical studies 7−16440
polyphenyls, hydrogenated p-terphenyl and deuterated biphenyl, structural transitions *(French)* 7−12256
polyphosphazene 7−39632
polypropylene, five-fold symmetry in quasicrystalline polymers 7−1918
polypropylene, high-oriented, struct. rel. to physico-mech. props. *(Russian)* 7−26672
polypropylene, isotactic, γ-phase morphology 7−6554
polypropylene, isotactic, blends with aliphatic sequence polymers, epitaxial relationship 7−51666
polypropylene, isotactic, chain folding anal., tacticity and crystallographic symmetry 7−37891
polypropylene, isotactic, craze struct., deform. temp. effect *(Russian)* 7−37356
polypropylene, isotactic, lamellar morphology, transmission electron microscopic investig. 7−21132
polypropylene, isotactic, polymorphic forms, FTIR far-IR obs. 7−53339
polypropylene film, fibrillation, sonic pulse propag., stress-strain meas. 7−26669
polypropylene films, charge storage lifetime, structural effects 7−27344
polypropylene films, electron irradiated, structural study by X-ray diffr. 7−44422
polypropylene films, glass isotactic, crystallisation, struct., dynamic mech. props. 7−16445
polypropylene films, isotactic, struct., quenching temp. effect 7−11950
polypropylene mica filled composites, struct.-mech. props. relations 7−1919
polypyrrole, conducting, struct. calcs. 7−21134
polypyrrole films, elec. cond., molecular anisotropy, WAXS 7−51669
polyselenophene, electronic and struct. modifications during doping, EXAFS and XANES studies 7−63507
polysilane model compounds, struct., electronic props., MNDO calc. 7−44403
polystyrene, compressed, shear bands, macromolecular orientation, small-angle neutron scatt. 7−53821
polystyrene, glass bead filled, sonic modulus, peculiarities *(Japanese)* 7−33715
polystyrene, inclination angle, small angle neutron scatt. determ. 7−16362
polystyrene, monodisperse, fracture, chain scission, mol. wt., temp. depend. 7−33776
polystyrene, noncryst., relax. phenomena and elec. fluctuations *(Russian)* 7−16454
polystyrene, solns., structs. and thermodynamics near consolute temps. *(Russian)* 7−63435
polystyrene, tensile strength, effects of temp. and mol. wt. *(Japanese)* 7−33737
polystyrene blends, secondary relax. dielec. props., memory effect 7−53221
polystyrene films, craze microstruct., low angle electron diffr., Fourier transforms of TEM images 7−13560
polystyrene-based lattices, dil. suspensions, ordered struct., charge density and size effects 7−26615
polystyrene-based lattices, dil. suspensions, ordered struct. 7−26614
polystyrene-polybutadiene block copolymer, single-chain neutron scatt., de Gennes scatt. formalism calcs. 7−44418
polythiophene, conducting, struct. calcs. 7−21134
polytrifluoroethylene, ferroelec. order and phase transition 7−13105
polytrimellitamideimide film, molecular aggregation, SAXS obs. 7−51665
polytrimellitamideimide films, dynamic mech. props., glass transition, molecular aggregation effect 7−53782
polytrimethylene, terephthalate, elastic moduli of cryst. region *(Japanese)* 7−33714
polyurethane, interpenetrating network, microphase struct., X-ray diffr. obs. 7−44410
polyurethane-CaCO$_3$ composites, segmented, dielec. relax., glass transition 7−45926
polyurethane-polysiloxane interpenetrating polymer network, morphology, dynamic mech. investig. 7−37901
polyurethanes, molecular struct., morphology, phase mixing, mech. props. 7−51664
polyvinyl formal, thermooxidation, dielec. props. rel. to chemical struct. 7−45927
polyvinyl methyl ether, ageing, enthalpy relax. meas. 7−8029
polyvinyl methyl ether, chain motions, dielec. props. 7−45928
polyvinylidene film, oriented phase I, trichroic IR absorpt. 7−33382
polyvinylidene films, void strict., SEM obs. 7−6552
polyvinylidene fluoride, modifications under high energy heavy ion, X-ray and electron irrad., XPS study 7−38076
polyvinylidene fluoride, struct., melting and crystn. *(Russian)* 7−6563
polyvinylidene fluoride, three-dimens. IR spectroscopy 7−46041
PTFE single-crystal, lattice imaging studies 7−11951
PTFE surface chemical struct. and adhesive props., effects of low-energy electron bombardment 7−44963
PVC, crystallinity, small-angle neutron scatt. investig. 7−63510
PVC, friction and wear, molecular orientation, uniaxial prestraining effect 7−13609
PVC, impact fracture regularities, matrix morphological struct. effects *(Russian)* 7−16677
PVC, noncryst., relax. phenomena and elec. fluctuations *(Russian)* 7−16454
PVC, plasticized, small-angle neutron scattering structure anal. 7−11963
PVC, pure and plasticized, orientation, Fourier transform IR study 7−44661

polymer structure continued
PVC, rubber modified or filled, damage kinetics, AE analysis 7−54063
PVC, suspensions, grain formation 7−22694
PVC coating on polymerisation-modified fillers, morphological struct. *(Russian)* 7−63517
PVDF/PMMA blends, electret props., effects of structure, open-circuit thermally stimulated current anal. 7−13087
rubber, crosslinked chain entanglement and orientational effect, form factor, deform. depend. 7−6711
rubber, gel and mol. wt. influence on mech. props. 7−37904
rubber, natural, low temp. crystallisation, shear and compressive strain 7−6559
rubber, natural, mol. orientation, FT IR dichroism 7−17322
rubber toughened epoxy polymers, toughness rel. to dispersed rubber phase vol. fraction 7−65125
semicrystalline, overcrowding in amorphous state 7−58164
semicrystalline polymer, loop entanglement in constrained liq. region, asymptotic behaviour 7−26666
short-chain network, orientation functions 7−6557
solvent welded joints, struct. and strength rel. to bonding solvent 7−28263
stress relax., bond breaking, free vol. effects 7−22742
styrene-butadiene rubber, tear strength, crosslinking, viscoelastic loss mechanisms 7−39632
styrene-butadiene-styrene block copolymer films, crazing, voiding, fibrillation, TEM obs. 7−17672
styrene-isoprene block copolymers, mol. architecture effect, phase separation 7−38212
styrene-n-butyl acrylate emulsion copolymers, microstruct., ^{13}C NMR 7−11958
styrene-n-butyl acrylate emulsion copolymers, microstruct., ^{13}C NMR 7−16390
thermotropic polymer, structure and structure formation 7−11962
three-dimensional IR spectroscopy technique 7−46041
trifluoroethylene-tetrafluoroethylene copolymer, five-fold symmetry in quasicrystalline polymers 7−1918
unit structure and chemical individuals *(Russian)* 7−6561
X-ray diffraction, real time studies, Vidicon system 7−11839
Cu complex, Cu (II) α,ω-dicarboxylato polybutadiene, microstruct. investig. 7−16450
S, polymeric, energy surface struct. and electronic props. 7−2472

polymerisation
n-vector model and polymers, parametric eqn. of state 7−51986
acetonitrile, chemisorption on Ni (111), XPS 7−21641
acetylene, solid, high-press. props., polymerisation paths 7−58412
aminoplastic thin standards prep. method for X-ray microanalysis 7−60142
aniline, substituted, polymerisation and characterisation 7−33929
ARB polymerisation, reversible, mol. wt. distrib. 7−8274
autocatalytic replication of polymers 7−54121
1,2,3,5-benzenetetracarboxylic anhydride+4,4-oxydianiline, polymerisation, XPS 7−65314
benzoic acid, adsorption and reactions on oxidised Al, SIMS and XPS 7−65351
benzonitrile, chemisorption Ni (111), XPS 7−21641
bicritical phenomenon 7−3588
bis(9-anthrylmethyl) ether chemically attached to polystyrene, forced Rayleigh scatt. technique, self-diffusion meas. 7−39888
1,4-bis(β-pyrazinyl-2-vinyl)-benzene, solns. and solid state, irrad. and solvent effects, visible fluoresc. anal. 7−36674
1,4-bis(β-pyridyl-2-vinyl)benzene−2,5-distyryl pyrazine mixed crysts., photopolymerisation kinetics, fluoresc. spectra studies 7−33928
1,4-bis(β-pyridyl-2-vinyl)benzene and hydrochloride derivative, photopolymerisation kinetics, fluoresc. spectra studies 7−33928
block copolymers, prep. using polymeric peroxycarbamate 7−13769
cadmium arachidate, Langmuir-Blodgett films, struct. disorder and polymerisation competition at elevated temp., IR spectra obs. 7−46163
computer control, using US sensors 7−8278
conducting polymers, heterocyclic and aromatic, review 7−58797
conductive polymers, structural regulation, dopant effects 7−63512
CR-39, free radical addition polymerisation, computer simulation 7−42366
CR-39, polymerisation kinetics, IR spectroscopy 7−42365
CR-39 polycarbonate, structure property correlation in dosimetry, track etching 7−32313
bis-cyclopentadienyl oligomers, optically active polymer form., moduli, photoelasticity *(Russian)* 7−63092
diacetylene, ion beam induced polymerisation 7−32525
diethyl fumarate, polymerisation rates at high pressures 7−39889
1-1difluoroethylene fluorination by nonequilibrium plasma at atm. press 7−46347
dimethacrylate paste with silanated silicate particles, photopolymerised, filler influence on fracture 7−3426
epoxy resins, cure monitoring, fluoresc. method using organic dyes 7−22339
epoxy resins, polymerisation kinetics, dielectric behaviour anal. *(French)* 7−46847
epoxy-amine networks, build-up and etherification, statistical structural model 7−13768
epoxyorganosilicon oligomer, structurisation and curing, rheokinetics *(Russian)* 7−26173
trans-ethyl cinnamate, polymerisation rates at high pressures 7−39889
film deposition, electron beam induced polymerisation 7−27898
film deposition by polymerisation, beam-induced, time constants and reaction cross sections meas. 7−7875
fluorocarbons, polymer form. and deposition from RF plasmas 7−22571
fluoropolymer film formed in C_2F_6-H_2 RF discharge, chem. struct. and growth, deposition conditions depend. 7−21745
gelation, 3D kinetic model, critical behaviour 7−14904
heterogeneous Ziegler-Natta polymerisation, mol. weight distribs. using two-site model 7−17786
Hexsyn rubber, high-flex ozone resistant, prep. and appl. 7−13767
hydrocarbons and fluorocarbons, plasma polymerised, ~~cross~~-linking and average coordination 7−8276
hydroxy alkyl phenyl vinyl ketones, polymer prep. and struct. 7−54120
initiation of polymerization with ultrasound 7−50897
kinetic gelation, spatial correlations 7−35446
melamine+formaldehyde, polymerisation, mol. wt. determ. 7−62552
methoxy, alkyl phenyl vinyl ketones, polymer prep. and struct. 7−54120
methyl thiocyanate, adsorption and reactions on Ni (111) 7−21640
monolayer polymerisation, optical SHG investig. 7−39887

polymerisation continued
nylon 6 composites, formed by in situ polymerisation of caprolactam, mech. performance 7−39575
organisation coating of quartz optical fibres, polymerisation rate, thermophys. anal. 7−20461
perfluorinated sulfocation-exchanger membrane, struct., low-mol. fractions influence *(Russian)* 7−39891
PET, highly branched, synthesis and characterisation 7−11960
phenol-formaldehyde resins, sequence struct. anal., NMR spectra 7−50177
plasma film polymerisation, ion bombardment effects, deposition rates, IR, UV and visible absorpt. spectra studies 7−28312
poly(acrylic acid-co-vinylamine), sequence distrib. and ionis. const., C-13 NMR 7−10793
polyacetylene:I (AsF$_5$) films, synthesis, elec. and optical props. 7−63513
polyacetylene:I films, liquid crystal polymerisation synthesis under mag. fields 7−65318
polyacetylene film synthesis using Ti(OBu)$_4$ catalyst, ESR study 7−65317
polyacetylene films, glow discharge polymerisation and photoablation study 7−63650
polyacetylene films, polymerisation condition effect on morphology 7−37906
polyacetylene films, preparation, density and crystallinity *(Chinese)* 7−12537
polyacrylamide gels, spontaneous birefringence and photoelasticity 7−22217
polyacrylonitrile film, electro-polymerisation for organic reference specimen 7−24639
polyamide acid, supermol. struct. change in thermal imidisation *(Russian)* 7−42809
polyamide acids, dil. soln., structurisation *(Russian)* 7−42810
polybutadiene, sequence distribs., polymerisation kinetics, IR spectra, NMR 7−16444
polydienes, sequence distribs., Bernoullian process analysis, non-steady state kinetic method 7−17787
polydienes, sequence distribs., kinetic treatment of first order Markovian process 7−16443
polyester resins, polymerisation kinetics, dielectric behaviour anal. *(French)* 7−46847
polyesters, mesomorphic, synthesis by polymerisation of bifunctional monomers 7−1853
polyethylene, low density, bulk crystallisation kinetics, morphology 7−37893
polyethylene, low density, crystallisation and melting behaviour 7−37892
polyethylene-polybutylmethacrylate blend, dynamic mech. props. *(Russian)* 7−20595
polyimides, dil. soln., structurisation *(Russian)* 7−42810
polyisoprene, sequence distribs., polymerisation kinetics, IR spectra, NMR 7−16444
polymer films, I-doped, prep. by glow discharge polymerisation, elec. conductivity 7−22584
polymer-metal composite thin films, plasma deposition, optical props. 7−27947
polymeric films, prep. on solid surfaces in vacuum, use of laser radiation 7−7862
polymers, conjugated, elec. cond., chain rigidity effects 7−64230
polymers and related cpds., electronic props., Winter School, Kirchberg, Austria (March 1985) 7−4613
polyphenylacetylene thin films, photochemical polymerisation 7−17441
polyphenylmethylsiloxane, cyclic, preparation and fractionation 7−23013
polypyrrole, diffusion-controlled polymerisation, growth instability 7−28311
polypyrrole electronically conductive polymer, fibrillar/microporous morphology control 7−26667
polystyrene, chain length distrib., meas. and estimated comparison 7−13766
polystyrene, incorporation of stilbene (p-fluorostilbene) during radical polymerisation, NMR investig. 7−39890
polystyrene latexes, monodisperse, kinetics obs., space-flight dilatometer/reactor development and testing 7−13770
polystyrene-based polymers, O_2 permeation behavior, bulky substituents effect 7−10796
polythiophene, polymerisation from mono-, bi- and trithiophene oligomers, electronic props. 7−2597
polythiophene films, electrochemically polymerised, optical studies 7−51670
polyvinyl carbazole thin films, plasma-CVD polymerised, photoconduction props. 7−38628
polyyne, one-dimensional conjugated, synthesis and props. 7−65000
poly[bis(trifluoroethoxy)phosphazene] membranes, synthesis, casting, diffusion testing 7−13812
PVC, suspensions, grain formation 7−22694
PVC coating on polymerisation-modified fillers, morphological struct. *(Russian)* 7−63517
PVC-oligoesteracrylate, impulse NMR investig. *(Russian)* 7−5804
pyrrole polymerisation, diffusion-controlled statics and dynamics, fractal and dendritic growth in electrochem. cell 7−59758
ring polymers, equilib. statistics and dynamics 7−25692
simulation of polymerisation kinetics 7−54122
statistical methods, conf., Oaxtepec, Mexico, Jan. 1986 7−24268
surfactant vesicles studied by positron annihilation 7−39268
synthetic metals science and technology, conf., Kyoto, Japan (June 1986) 7−60872
Titan tholins, production by d.c. discharge and form. of amino acids, implications for Titan atm. 7−34858
unit structure and chemical individuals *(Russian)* 7−6561
vinylbenzyl ester-maleic anhydride donor-acceptor complex, alternating copolymerisation *(Russian)* 7−65319
$(CSe)_n$, polymerised, metallic and supercond. 7−7433
Cu plates, monomer films form. and polymerisation 7−65347
K_2O-SiO_2, melt, degree of polymerisation, SiO_4 tetrahedra 7−11921
Na_2O-SiO_2, melt, degree of polymerisation, SiO_4 tetrahedra 7−11921
S, equilibrium polymerization and polymer solns. as multicritical phenomena 7−28310
S_n, liq., chem. reactions, mol. dynamics simulation 7−39862
$(SN)_x$, repolymerisation, mass spectrometric study 7−54119
S_2N_2, excited states, ab initio CI calcs. 7−42491

polymers
see also carbon fibre reinforced plastics; elastomers; filled polymers; glass fibre reinforced plastics; glass transition (polymers); liquid crystal

polymers continued
polymers; plastics; polymer blends; polymer fibres; polymer films; polymer melts; polymer solutions; polymer structure; rubber
2D, exact surface and wedge exponents 7−51668
3D shapes, Brownian dynamics investig. 7−25689
ablation by pulsed UV laser 7−34232
acoustic polarons, drift velocity in 1D polymer chain 7−12708
acrylic resin, fracture toughness, effect of notch sharpness and plate thickness *(Japanese)* 7−51007
adhesives, peeling-pressure sensitive, photon and radiowave bursts, time and size correl. 7−28262
adsorption effects in chromatography of polymers *(Russian)* 7−46907
adsorption on small particles investig. *(Russian)* 7−36832
advanced polymer developments 7−28007
aerospace polymers, electron irrad. effects on AC and DC elec. props. and unpaired electron densities 7−58339
aluminium polyfluorophthalocyanine, IF$_5$ chemical doping 7−52600
amorphous, secondary relax. processes, thermal history effect 7−63819
amorphous, yield stress rel. to ageing, nonequilib. glassy state 7−46562
amorphous polymers, craze accumulation during deformation in creep conditions *(Russian)* 7−63740
amorphous solid polymers, yield prediction, nonlinear viscoelastic constitutive eqn. 7−22767
amylose triesters, conformations, side group effects 7−20079
aniline, substituted, polymerisation and characterisation 7−33929
anisotropic crystals with chain structure, elastic Green tensor 7−6700
Aramid fibre reinforced composite beams, viscoelastic-plastic anal. in flexure 7−33717
asbestos-brucite-polyphenylene sulphide composites 7−53925
band struct., direct space exchange lattice sums, convergence props. 7−21797
beam charged, ion spot phenomenon anal. 7−58356
bisphenol A polycarbonate crystals, melting point rel. to vapour induced crystallisation and annealing treatment 7−32312
bisphenol-A polycarbonate, biaxial deform., yield behaviour, anisotropy effect 7−8070
bisphenol-A polycarbonate, molecular wt. determ. 7−10800
bisphenol-A-based epoxy resins, physical props. rel. to curing 7−46539
bisphenol-A-polycarbonates, outdoor lifetime depend. on terrestrial UV irradiance spectrum 7−54357
bisphenol-A-type epoxide resin, mech. and dielec. relax., alkyl side chains effect 7−45925
bovine fibrinogen solns., proton spin-lattice relax. 7−34111
branched, corrections to scaling 7−1921
branched polymers, anal. of 3D lattice animals using partial generating function method 7−24587
branched polymers, asymptotic props. on a fractal lattice 7−48595
capron, relax. and phase transitions, spectrosc. investig. *(Russian)* 7−63811
carboxylato-telechelic polyisoprene, mech. props. 7−38096
trans-β-carotene, finite solid polyene, amorphous and cryst., visible absorpt. and wavelength-selective reson. Raman spectra 7−64641
carrier mobility measurement techniques 7−58800
cation-exchange resin, granulated, ionic composition, pulsed elec. field effects 7−54134
Cayley tree, interacting random walkers, polymer statistics 7−9792
cellulose acetate, membranes, osmosedimentation, performance, morphology 7−13816
cellulose acetate hollow-fibre membranes, ZnTPP modified, photosensitivity and photosynthesis 7−13811
cellulose acetate membranes, struct., kinetic and thermodynamic parameters 7−54172
cellulose derivatives, substituents, distrib., ^{13}C NMR obs. 7−31197
cellulose membrane, permeation of tartrazine 7−6881
ceramic-polymer composites, piezoelec. sensors, elec. characts., hydrophone appl. 7−62943
chain, non-crystalline, orientation evaluation using polarised fluoresc. method *(Japanese)* 7−995
chain expansion with excluded vol. interaction 7−42807
chain interacting with interface, critical exponents 7−14878
chitin nitrate, sedimentation vel., mol. mass and conform. parameters *(Russian)* 7−10803
chitozane, sedimentation vel., mol. mass and conform. parameters *(Russian)* 7−10803
closed ring chain, cooperative single-quantum excitations 7−25690
components made from copolymer of styrene with acrylonitrile, birefringence 7−43271
composite structure, thermal and thermomech. response 7−8150
composites, laminated, struct.-performance maps 7−17574
computer simulation of 1D crystal growth 7−16466
conducting, electronic cond., conjugation length depend. 7−64228
conducting, high temperature, synthesis reactions 7−2594
conducting, laser desorption/Fourier transform mass spectral analysis 7−1920
conducting, nonlinear optical processes 7−62781
conducting polymers, heterocyclic and aromatic, review 7−58797
conducting polymers, statistical mechanics of localised states 7−64116
conductive, structural regulation, dopant effects 7−63512
conductive, synthesis methods 7−64999
conformal invariance properties of two-dimensional polymers 7−48608
conjugated, elec. cond., chain rigidity effects 7−64230
conjugated, optical spectra and Coulomb interactions 7−64596
conjugated polymers, correlation effects and excited states 7−27279
conjugated polymers, impurities, nonlinear dynamics 7−64115
conjugated polymers, self-localised excitations 7−64168
continuous relaxation time spectra, graphoanalytic and computer calcs *(Russian)* 7−63519
corrosive medium and mech. stress effect *(Russian)* 7−65166
CR-39 polycarbonate, structure property correlation in dosimetry, track etching 7−32313
CR-39 polymer dosimeters, electrochemical development of particle tracks 7−30873
creep behaviour, nonlinear isochronous stress-strain rels. *(German)* 7−13529
crystallisation, assoc. acoustic emission due to stress release 7−44704
cycloaliphatic epoxy resin, ageing, irradiation environmental conditions effect 7−33707
cyclohexyl group relaxation in polymers *(Spanish)* 7−50423
bis-cyclopentadienyl oligomers, optically active polymer form., moduli, photoelasticity *(Russian)* 7−63092
deformation, elastic and plastic, IR spectrosc. obs. *(Russian)* 7−64659

polymers continued
deformation isothermal conditions, dynamometric curves *(Russian)* 7−8073
deformation under impact, transient high temp. meas. 7−22802
dense polymers, two-dimensional, exact critical exponents 7−24572
dicyclohexyl-18-crown-6, A and C isomers, struct., X-ray diffr. study 7−42799
dielectric, in partial discharge, depression rel. to elec. ageing *(Russian)* 7−26577
dielectric characteristics of polymer-metallic filler systems *(Russian)* 7−39002
dielectric dispersions, complex plane, anal. methods 7−22176
dielectrics, injection role in charge accumulation process 7−33026
dimethylsiloxane-ethylene oxide copolymer containing Na salt, ionic conductivity 7−2255
14,4′- diphenylmethane diisocyanate 1,4- butanediol, thermal degradation 7−8272
diphilic polyelectrolytes, conc. effect on wetting of Teflon 7−38302
directed polymers in random medium, fluctuations 7−33199
disordered polymer chain, configurational statistics, random monomers 7−35433
dosimeters, internal heating during electrochemical etching 7−30872
durable optical adhesives for optical components *(Japanese)* 7−62850
dye molecule doped, pressure-induced optical shifts and compressibilities 7−25606
dynamic parameters measurement, vibr. transducer design 7−61326
dynamics, Rouse-Zimm model, renormalisation group calcs. 7−25691
elastic moduli, semiempirical method calc. 7−51908
electrical conductivity mechanisms of polymeric materials *(Korean)* 7−52604
electroacoustic polymer microphones and earpieces *(German)* 7−43614
electroactive, electrode appls. for nonaqueous secondary batteries 7−65437
electrolyte developments, book contrib. 7−27008
electronic props., Winter School, Kirchberg, Austria (March 1985) 7−4613
electronic struct. and orientation on Pt, XANES studies 7−64058
electronic structures, self-consistent, first principles calcs. 7−7090
engineering polymers, hydrophilic modification 7−23012
entangled liq. polymers, molar mass polydispersity index, dynamic rheological meas. 7−43830
epoxide networks, crosslinked, sorption and diffusion of chloroform vapours *(Russian)* 7−27021
epoxide resins, mech. and dielec. relax. rel. to spiro-ring struct. 7−17572
epoxide resins, spiro type, acid anhydride cured, mech. relax. props. 7−21349
epoxy aniline phenolformaldehyde binder, mol. mobility and relax. processes, C filler conc. influence *(Russian)* 7−21447
epoxy insulation study using X-ray computing tomograph 7−13679
epoxy matrices, microstruct. 7−33632
epoxy plate, subjected to rapid cooling on both surfaces, residual stress anal. 7−63007
epoxy polymers, amine cured, struct., positronium annihilation spectroscopy 7−46176
epoxy polymers, compact tension specimen casting, fatigue crack growth rate testing 7−13681
epoxy resin, charged, photoemission meas. in insulating gases 7−27871
epoxy resin, elec. props., γ-irradiation effects 7−39023
epoxy resin, viscoelastic behaviour 7−21348
epoxy resins, cure monitoring, fluoresc. method using organic dyes 7−22339
epoxy resins, cured, with perfluorobutenyloxy group, dielec. props. 7−53222
epoxy resins, effects of epoxy number and hardener on properties *(German)* 7−22973
epoxy resins, polymerisation kinetics, dielectric behaviour anal. *(French)* 7−46847
epoxy spacers exposed to sparks and SF$_6$ arcing byproducts, surface characterisation 7−39692
epoxy-epoxyester polymers, relax. and specific orientation in surface layers *(Russian)* 7−63918
epoxyamine network glassy polymers, mol. motions, impulse NMR obs. *(Russian)* 7−13048
ethyl cellulose, sintering, activation energy 7−64998
ethylene propylene, fluorinated, ionis. pot. and work function meas. using low-energy electron beam 7−22397
ethylene-propylene rubber, dielectric props., water detection using photoacoustic spectroscopy 7−53298
expanded polystyrene, thermal flux meas., compensated heat flow meter appl. 7−4838
ferromagnetic conjugated polymers, polaron spins by doping, PPP model struct. anal. 7−52944
fibrin gels, proton spin-lattice relax. 7−34112
flashover potential, surface anal. using ESCA 7−33990
flexible, Kirkwood-Riseman model, preaveraging approximation corrections 7−10787
flexible polymers, in limited volumes, behavior *(Russian)* 7−25694
fluoroplastic, submicrosecond elastic loading, material relax. phenomena 7−12186
formulation of new materials 7−13341
four-dimensional polymer chains, asymptotic logarithmic behaviour 7−4779
fracture, weak chem. bond effect *(Russian)* 7−42811
free-resistant material, Sb$_2$O$_3$ influence on effectiveness, chem. anal. *(Russian)* 7−65378
friction, electrophysical phenomena 7−17654
gas-filled polymers, action as cutoff optical filters in the IR region 7−57529
gaseous diffusion, eqn. of state, free vol. concepts 7−21390
gaseous uptake at high pressure, meas. technique 7−41348
Gaussian polymer chain, translational diffusion coeff. 7−62551
gels, self-diffusion coeff. calcs. 7−52099
generator overheating faults in insulation, detection by gas and capillary chromatography 7−28382
giant orbital, nature and props. 7−31198
glasses, enthalpy relax. determ. *(Japanese)* 7−38197
glassy, bimaterial interface, cracks, incipient plastic zone shape, elastic consts. effect 7−53874
glassy, non-Fickian sorption, effect of mol. size 7−38324
glassy epoxy polymer V notched specimens, quasi brittle fracture *(Polish)* 7−46744

polymers continued
glassy polymers, fracture mechanisms, scaling analysis 7—46618
glassy polymers, time depend. nonlinear deform. 7—63733
granular solids on hot moving interface, melting, approx. soln., nonNewtonian boundary layers 7—32614
heterocyclic aromatic polymers, laser desorption FT mass spectrosc. anal. 7—23085
high polymers, spherulite crystallization and spherulitic morphology 7—11967
high-melting, heat capacity anal. 7—63754
highly conducting, electronic structure, correlation effects 7—64064
highly conjugated polymers, giant nomadic polarisation investig. 7—7635
HV co-axial cable in pulsed power system, polyethylene insulated, breakdown properties *(Japanese)* 7—11797
hydrocarbons and fluorocarbons, plasma polymerised, cross-linking and average coordination 7—8276
p-hydroxybenzoic acid-based polymers, pyrolysis, thermal stability, thermogravimetric and gas chromatographic mass spectral anal. 7—54208
hygrothermal process interdependence and elasto-viscoplastic behaviour in polymer-dominated multi-material systems 7—53785
imperfect, oscills., freq. distrib. density calcs. 7—42814
implanted cardiostimulators, polymeric insulation degradation *(Czech)* 7—23487
insulating, elec. cond. and breakdown phenomena 7—45306
insulating material, dielec. breakdown strength rel. to lamella struct. 7—53237
insulation, dielec. breakdown, review of Japanese research 7—45931
insulation, water treeing, failure and growth mechanisms 7—39034
insulation, water treeing, ion penetration 7—39031
insulation, water treeing and morphology 7—39029
insulators, electric and mechanical breakdown, space environment effects simulation 7—39013
insulators, radiation effects, conf., Guildford, England (July 1985) 7—29590
insulators, radiation effects, Japanese research 7—44606
integrated optics appl., polymer waveguide fabrication 7—25911
interaction with small mol., iterative transfer perturbation method 7—19709
interfaces, bonding and adhesion 7—28265
interfacial bonding and adhesion, conf., Aspen, CO, USA (Aug. 1985) 7—24269
internal friction, amplitude depend., cooperative movement parameter near the glass transition temp. 7—2099
interstellar molecules, geometrical cross-section of N-mer 7—48016
intrachain conformational energetics, mol. modelling 7—62549
ion bombardment effects 7—32524
ion-implanted, fractal elec. cond., current transients, percolative transition calcs. 7—2645
IR spectroscopy, Ottawa, Ont., Canada (June 1985) 7—48160
isolated flexible chains, tagged with chromophores, electronic excitation transport 7—15751
isotactic poly-1-butene, crystalline forms, thermodynamic stabilities 7—12038
isotactic polybutene-1, high press. crystallisation and melting 7—12242
iterative transfer perturbation method, appl. to interaction between polymer and small molecules 7—64049
lamellar, semicrystalline, chain folding models 7—41248
laser etching and deposition, basic mechanisms, review 7—53923
latexes, colloidal and film-forming props., phase inversion obs. 7—8277
LDPE, partially crystalline, viscoelastic and acoustic props. on hydrostatic compression 7—33719
light-sensitive polymers, imaging props. of static and Doppler 3D holograms 7—50510
linear, relaxational interaction, theory 7—12203
linear and ring, shapes, Brownian dynamics 7—42804
linear polymers, collapse transition, lattice self-avoiding walk model 7—35452
linear polymers, collapse transition on fractal lattices, interacting self-avoiding walk model 7—48603
linear viscoelastic materials, dynamic props. by wave propagation testing, PMMA appl. 7—16090
macromolecular dynamics, hydrostatic press. effects *(Russian)* 7—16690
magnesium poly(styrenesulphonate)s, enthalpy of dilution, large dielectric constant solvent 7—21483
materials modification with ion beams, review 7—16647
materials science and processing, outline of trends 7—46282
membranes, diffusion under strain, thermodynamics 7—44886
membranes, sorption meas. using quartz cryst. microbalance 7—54171
metal-dielectric systems, adhesion calc. 7—7023
metal-nonmetal transitions, superconductivity 7—2486
metal-polymer two-layer plates under bending load, strength and stiffness calc. 7—57713
metalloporphyrin stacked polymeric structs., difference EXAFS spectra studies 7—63508
microarchitecture formation, nonlinear diffusion equations 7—4795
mixture, self-diffusion coeff. calcs. 7—52099
mixtures of liquid crystals and polymers, phase diagrams, nematic-isotropic phase equilibria versus liq.-liq. demixing 7—16739
molecular electronics, developments and research 7—7221
molecular polymer chain, exciton-lattice interactions, bisoliton creation, continuum approx. calcs. 7—2499
molecular weight, distrib. between crosslinks 7—50425
molecular weight determination by NMR spectroscopy 7—50426
molecularly doped, charge carriers, pseudo-percolation, Monte Carlo study 7—2613
NDT, computed tomography appl. 7—28254
NDT appls. of computed tomography, basic principles 7—28253
neck propag., plane strain 7—44658
network, welding 7—15754
network polymers, deform. under compression, resistance, struct. factors *(Russian)* 7—13538
nonequilibrium phenomena, real-time NMR measurement system 7—2944
nonFickian mass transport through polymers, viscoelastic theory 7—61295
nonlinear optical materials 7—25870
nonlinear optical processes 7—37022
nylon, friction and wear props., temp. effects 7—8132
nylon 66 7—53842
nylon 6 and 66, impact strength in dry and moist states 7—3414
nylon-12 matrix containing $SmCo_4$ powder, thermoplastic magnet, heat resistance 7—27567

polymers continued
nylon-6,6, fatigue crack propag., temp. and absorbed water effect 7—39662
one-dimensional polymer, vibronic interactions, HMO calcs. 7—26878
optical cementing and sealing compounds, volatility 7—20477
optical fibre cables, sheath retraction 7—11165
optical recording media, diffusion processes studied by holographic relaxometry 7—36914
organic polymer ferromagnet, prep., ESR and Mag. props. 7—64439
oriented, thermally stimulated shrinkage forces, induction time 7—13484
oriented, thermally stimulated shrinkage forces, induction time 7—17560
oriented, time-depend. fracture strength, microscopic mol. kinetics, statistical calcs. 7—32556
oriented polymers, elasticity modulus, temp.-time depend. *(Russian)* 7—21324
osmotic pressure second virial coeffs. of linear, ring, regular star, regular comb polymers 7—10798
oxalate (2,2′-bipyridine) iron polymer, slow paramag. relax., Mossbauer spectra 7—27638
paraffins, brominated, longit. acoustic mode, Raman spectra 7—50149
PEEK, cryst., mech. relax., electron beam irrad. effects 7—16686
PEEK, fracture toughness, temp. and strain-rate effects 7—39660
PEEK, melting behaviour, molecular anal. using Fourier transform spectroscopy, thermal anal. 7—12244
PEEK and C fibre reinforced PEEK materials potential as bioimplants 7—60126
perfluoropolyether lubricant on magnetic disc surface, ion-induced volatilisation for quantitative anal. 7—39933
perfluorosulfonated ionomer membranes, interpretation of small-angle X-ray and neutron scatt. 7—32310
permittivity, loss tangent and refractive index meas., mm-wave technique 7—18820
persistence length correlation with Euler buckling fluctuations 7—31668
PET, biaxially oriented, effects of thermal treatment 7—12193
PET, conformational reorganisation viewed by Raman spectra 7—32311
PET, friction and wear under water lubrication, degree of crystallinity effect 7—3454
PET, high-modulus, rod prod. by microwave heat drawing 7—22735
PET, high-temp. viscoelasticity and heat-setting, strain recovery meas. 7—63721
PET and PVC coated steel sheet, corrosion resist. and adhesion strength *(Japanese)* 7—8165
PET substrates for reactively ion plated TiO_2 films, interface structure, ESCA studies 7—7897
phase diffraction gratings, 3-dimens., effective thickness 100 μm 7—10893
phenol formaldehyde binder, simulation with abrasives using organic liqs., bond strength investig. 7—38301
phenol formaldehyde resin, carbonisation chemistry and product mech. props. 7—46802
phenol formaldehyde resin-glass hollow microspheres, inverse sedimentation in rubber solutions 7—38325
phenol-formaldehyde novolac resin, thermally stimulated depolarisation current meas. using blocked electrodes 7—17261
phenol-formaldehyde resins, sequence struct. anal., NMR spectra 7—50177
phenolformaldehyde polymer friction against WC-CO hard alloy, physicochem. process 7—28149
photopolymer for matched spatial filtering, hologram grating recording 7—57527
photorefractive polymer for optical recording of waveguide gratings 7—5963
photoviscoplastic polymers, hydrostatic pressure effect meas. 7—11365
phthalocyanine metallomacrocyclic assemblies, $[Si(Pc)O]_n$, molecular metals, conduction props. 7—2585
phthalocyanines, polymeric structural arrangements 7—16544
piezoelectricity, elec. cond. effects, three-phase model calcs. 7—33336
plasma oxidation, rates and mechanisms 7—23065
plastisols, mixed powder, rheology 7—53656
plastisols, multicomponent, form., thermodynamics *(Russian)* 7—65359
PMDA-ODA polyimide, XPS, mol. orbital anal. 7—50255
PMMA, brittle fracture, Rayleigh wave emissions 7—31699
PMMA, brittle-viscous transition, mechanism *(Russian)* 7—21448
PMMA, charge motion and self-relaxation, pulsed electro-acoustic meas. 7—27655
PMMA, craze zone micromechanics at stationary crack tip 7—33775
PMMA, environmental fatigue, initiation of wavy striation *(Japanese)* 7—33814
PMMA, environmental stress cracking in methanol, mol. props. effects 7—65153
PMMA, erosion resistance, angular particle impingement at normal incidence 7—3442
PMMA, failure at high loading rates, correlation of relaxation and energy characteristics 7—46598
PMMA, glass transition, Gibbs-DiMarzio theory 7—12281
PMMA, glass transition, high press. *(Russian)* 7—63821
PMMA, glass transition temp. and stress relax. 7—52049
PMMA, ion beam damage effects, surface characterisation by SIMS 7—26817
PMMA, modified, γ-ray effects, dielec. props. 7—22185
PMMA, nonmagnetic samples, ferromag. behaviour 7—53040
PMMA, photoetching, by UV radiation 7—65165
PMMA, plastic optical fibres, for near IR transmission, prep. 7—62834
PMMA, refractive index, thermal variations 7—33369
PMMA, relax. transforms. from relax. spectrometry *(Russian)* 7—63822
PMMA, shock wave propagation phenomena 7—51941
PMMA, shock-compressed, refractive index, laser interferometric meas. 7—30081
PMMA, stress cracking in air, mol. wt. distrib. effect 7—50992
PMMA, surface crack profile measurement method and results 7—22939
PMMA, swelling caused by CS_2 imbibition, light scatt. investig. 7—62628
PMMA, temp. change during rapid compressive deform., thermoelastic coeffs. 7—13495
PMMA, Tg and Tu tacticity depend., DSC investig. 7—12277
PMMA, two-stage deform. recovery, annealing study under dimensional constraint 7—32554
PMMA, UV laser ablation, laser-induced fluoresc. studies 7—23021
PMMA, UV laser photoablation, mass spectroscopic studies 7—22853
PMMA based materials, craze resist., struct., water absorpt. 7—59602
PMMA dielectric, sub-ohmic I-V characts. below glass transition temp. 7—27335

polymers continued
PMMA layers, metal-polymer struct., degrad. during mech. fracture *(Russian)* 7—20660
PMMA plate, crack tip propagation measurement by pulsed holographic microscopy *(Japanese)* 7—46780
PMMA surfaces, excimer laser irradiated, XPS studies 7—51822
PMMA thick resist, III-V semicond. integrated optoelectronics, micrograting form. by HV electron beam lithography 7—31443
PMMA-merocyanine dye Langmuir-Blodgett multilayer mixtures, deposition studies, SHG obs. 7—58715
polaroid K, reson. Raman scatt., absorpt. spectra, amplitude mode model anal. 7—64658
poly(4′-vinylbenzo-18-crown-6), ion-binding characts., eval. 7—10469
poly(4-(3-pyridyl), 8-methyl, 2,3-6,7-quinolino), soluble aromatic ladder polymer, preparation and props. 7—2593
poly(α-methylstyrene) adsorbed monolayer on mica, intermolecular force meas. 7—21623
poly(α-methylstyrene) surfaces, excimer laser irradiated, XPS studies 7—51822
poly(γ-benzyl L-glutamate), α-helical, conformational and dynamic props., 2D nucl. Overhauser expts. 7—15749
poly(ε-caprolactone), crystn. nucleation and spherulitic growth rates 7—37905
poly(C) and poly(I).poly(C) complexes with model phospholipid membranes, IR spectroscopic obs. 7—40094
poly(ethylene oxide)-KAg_4I_5, room temp. ionic cond. comp. depend. meas. 7—12363
poly(ethylene oxide)-$LiAg_4I_5$, room temp. ionic cond. comp. depend. meas. 7—12363
poly(ethylene oxide)-NaSCN mixture, ionic conductivity and phase behaviour studies 7—32704
poly(ethylene terephthalate), irradiated, phys. and dielec. props. 7—33332
poly(N,N′-bis(phenoxyphenyl)-pyromellatitimide), valence electronic struct., UPS spectrum 7—42806
poly(n-alkyl methacrylates), surface mobility and struct. transitions, dynamic contact angle meas. 7—32758
poly(p-phenylene sulphide), etching technique for enhancement of morphological textures 7—44417
poly(p-phenylene terephthalamide), single cryst. and spherulites, morphology and struct. investig. 7—11949
poly(phenylene vinylene), oriented films, IR spectra 7—37896
poly(propylene oxide), glassy and liq. states, water effect on dielectric props. 7—38987
poly(tetrahydrofurandiyls), conformational anal. 7—10794
poly(vinyl alcohol) fibres, high modulus, zone drawing 7—59487
poly(vinyl alcohol) hydrogels, elastodynamics, Brillouin scatt. meas. 7—39136
poly(vinylidene fluoride), α-polymorph, melting behaviour and isothermal lamellar thickening 7—12240
poly 4-methyl pentene-1, heat of fusion calc., PVT meas., X-ray diffr. 7—52007
poly m-phenylene sulphide, SbF_5 doping, elec. cond., IR spectra 7—17006
poly-1,4-phenylenesulphide, struct., comparative analysis with small mol. model 7—44419
poly-3-methylthiophene electrode, IR techniques, in-situ spectroelectrochemistry 7—54144
poly-4(3-pyridyl),8-methyl,2,3-6,7-quinolino ladder polymer,electronic props.,I doping effects 7—64526
poly-4-methylpentene-1, mechanical degradation, free radical form., ESR *(Russian)* 7—8275
poly-α-methylstyrene, glass transition, Gibbs-DiMarzio theory 7—12281
poly-ε-caprolactone, crystallisation from melt, real-time pulse NMR meas. 7—27621
poly-cis-isoprene, highly entangled, spin-spin relax. time, NMR meas. and model calcs. 7—33291
poly-L-aspartate-Al^{3+}, interactions, Raman spectra investig. of conform. changes 7—57071
poly-L-lysine, conform., in aq. soln., pH effects, vibr. circular dichroism effects 7—10783
poly-N-vinylcarbazole, photocond., polymeric triarylmethane dye sensitiser 7—12759
poly-N-vinylcarbazole as holographic recording material 7—25746
poly-p-phenylene:K, heavily doped, elec. cond., chain length depend. 7—32975
poly-p-phenylene and poly-p-phenylenevinylene, conducting polymers, NH_3 doping effects 7—2583
poly-p-phenylene benzobisthiazole-epoxy composite, adhesive behaviour 7—65278
poly-p-phenylene sulphide: SO_3, electron motion, proton NMR T_1 studies 7—33289
poly-p-phenylene vinylene, conducting polymer with electron donating side-chains 7—2588
poly-p-phenylene-1,3,4-oxadiazole, photoconduction, O_2 adsorption effects 7—52683
poly-vinylacetate-Cu, thin polymer films, Fourier transform IR ellipsometry 7—53334
polyacene, one-dimensional graphite series, electronic props. 7—64063
polyacenic skeletons, low temp. ordered states, superconductivity 7—64396
trans-polyacetylene: Br, polarised K edge XANES, short range order multiple scatt. calcs. 7—53445
polyacetylene:AsF_5, identification of dopant species, X-ray absorpt. and Mossbauer spectra 7—65377
polyacetylene:Br(I), polarised EXAFS and near edge spectra studies 7—64778
polyacetylene:I_2 complexes, monosubstituted, isomerism, elec. cond., UV spectra 7—45289
polyacetylene:I_3^-, semicond. soliton lattice-metal phase transition, photomodulation spectra studies 7—21819
trans-polyacetylene:I, electron spin-lattice relax. and phase memory time, spin echo studies 7—64512
polyacetylene:I, metallic, effective mass, magnetoreflection studies 7—64056
polyacetylene:I, photoexcitation spectra 7—64657
trans-polyacetylene:I, polarised L_1 edge XANES anal., short range order full multiple scatt. calcs. 7—53444
trans-polyacetylene:Na, undoped and doped, momentum depend. dielec. functions, EELS study 7—64144
polyacetylene:SbF_5, identification of dopant species, X-ray absorpt. and Mossbauer spectra 7—65377
polyacetylene, acceptor doped, positronium halide formation 7—36819

polymers continued
polyacetylene, alkali metal doped, role of spin-orbit coupling in EPR spectra 7—64527
polyacetylene, alkali metal doped, semiconductor-metal transition, EPR study 7—64528
polyacetylene, alkaline metal doped, ab initio SCF MO calc. of electronic struct. 7—64048
trans-polyacetylene, Br doped, polarised XANES theoretical studies 7—64823
polyacetylene, CDW, interaction and disorder 7—64136
trans-polyacetylene, charged-soliton dynamics 7—45176
polyacetylene, cis and trans molecules, conformations and dynamics 7—62553
polyacetylene, cond., fast FTIR and IR intensity spectra, struct. and electronic props. 7—53335
polyacetylene, continuum model, random disorder, supersymmetric treatment 7—45111
polyacetylene, Coulomb correlations, optical gap 7—64142
polyacetylene, detection of soliton shape modes 7—38469
trans-polyacetylene, diffusive motion of solitons 7—64106
polyacetylene, doped, DC elec. cond. studies 7—33018
polyacetylene, Durham, isomerisation and doping, ESR study 7—64510
polyacetylene, Durham, struct., X-ray scatt. 7—37898
trans-polyacetylene, Durham-route, conformational defects, resonance Raman scatt. studies 7—62554
polyacetylene, dynamical cond. of soliton lattice and polaron lattice, continuum model 7—45174
polyacetylene, dynamical phonon conductivity, determ. 7—64111
polyacetylene, electrochemical oxidation, additive effects 7—65331
polyacetylene, electron momenta, Hartree-Fock-Roothaan calc. 7—42466
trans-polyacetylene, electron transport accompanying molecular vibr. 7—64227
polyacetylene, electron-electron interactions, optical gap, negative spin density 7—2473
polyacetylene, electrons and phonons, semi-continuum model 7—64112
trans-polyacetylene, equivalent orbital theory, electronic struct. study 7—64062
polyacetylene, exact continuum model *(Chinese)* 7—5795
trans-polyacetylene, fast transient picosecond photocond., hot soliton excitations 7—64293
polyacetylene, ground, excited, polaronic, solitonic and impurity states calcs., doping effects 7—45131
polyacetylene, growth, struct., optical props. and photo-induced spin states 7—16455
trans-polyacetylene, highly oriented, photoexcitations and photocond. response 7—64292
trans-polyacetylene, IR activity of phonons around a soliton 7—64107
polyacetylene, laminated, neutron scatt., appl. of 2D scattering distrib. anal. 7—11844
polyacetylene, localised modes of soliton, IR absorpt. 7—64108
trans-polyacetylene, momentum depend. dielec. function, EELS meas. 7—21843
polyacetylene, muon spin resonance studies 7—53202
cis-polyacetylene, muonium substituted radical, hyperfine coupling constant 7—50407
polyacetylene, N-containing analogues, electronic structs, conduction props., ab initio study 7—32911
trans-polyacetylene, Na doped, polaron mobility and conductivity 7—64113
trans-polyacetylene, neutral soliton diffusion, EPR, PMR meas. 7—64513
trans-polyacetylene, neutral soliton pair production, breaking of charge conjugation symmetry 7—64110
trans-polyacetylene, optical absorpt. due to soliton lattice 7—64109
polyacetylene, order parameter and optical absorption, quantum fluctuations 7—63750
polyacetylene, p-type doped, reaction with H_2O 7—65316
trans-polyacetylene, phonon dynamical conductivity around charged soliton 7—6740
trans-polyacetylene, phonons around solitons and polarons, IR activities 7—64118
trans-polyacetylene, photogenerated exciton-breather state 7—21823
trans-polyacetylene, photoinduced IR vibrational modes, lattice dynamical calcs. 7—26891
cis-polyacetylene, photolum. quenching, lattice relax. approach 7—64698
trans-polyacetylene, photoproduction of neutral soliton pairs 7—27265
trans-polyacetylene, pristine, neutral soliton dynamics, anisotropic ESR T_1 and line width 7—7585
polyacetylene, Raman scatt. from CDW, ab initio calcs. 7—46015
trans-polyacetylene, random soliton distrib., localisation and density of states calcs., renormalised virtual cryst. method 7—52453
trans-polyacetylene, reson. Raman scatt. from amplitude modes, temp. effects 7—64654
cis-polyacetylene, resonance Raman scatt. *(Chinese)* 7—7683
polyacetylene, self-consistent calc. of solitons 7—64105
polyacetylene, semiconducting polymer, fast response nonlinear optical props. 7—1241
trans-polyacetylene, soliton diffusion, memory-function formalism 7—7128
trans-polyacetylene, soliton diffusion and acoustic phonon scatt. calcs. 7—45177
trans-polyacetylene, soliton dynamics, effects of randomly fluctuating forces and energy dissipation 7—32923
polyacetylene, soliton width-relaxation effects 7—21828
trans-polyacetylene, soliton-lattice to polaron-lattice transition 7—64117
polyacetylene, solitons, electronic props., local space approx. 7—52506
trans-polyacetylene, solitons, phys. characts., dynamical corrections 7—27267
polyacetylene, solitons and IR-active localised vibrational states, Su-Schrieffer-Heeger model calcs. 7—2134
trans-polyacetylene, spin photogeneration, light-induced ESR studies 7—64514
trans-polyacetylene, third order nonlinear optical susceptibility, meas. by third harmonic generation 7—57471
trans-polyacetylene, third order optical susceptibility, $2A_g$ excited state obs. 7—62782
trans-polyacetylene, triplet solitonic excitations, optical gap 7—2496
polyacetylene, undoped, elec. props., thermal isomerisation and impurity effects 7—64232
polyacetylene, vibronic interaction, HMO calcs. 7—26878
trans-polyacetylene, vibronic states of bond alteration defect, ESR spectrum 7—64511

polymers continued
trans-polyacetylene, with broken symm., reson. Raman scatt., photoinduced absorpt. spectra 7—64656
trans-polyacetylene, within the extended tight-binding picture, interband transitions, hoping processes 7—27678
trans-polyacetylene(-d), ns time resolved photoinduced absorption spectrum 7—64668
polyacetylene breakdown in discharge radical form., IR spectra 7—18890
trans-polyacetylene chain, bipolaron form. and desorpt., Su-Schrieffer-Heeger model calcs. 7—52454
polyacetylene films, synthesised via Durham precursor route, struct. and morphological study 7—37897
polyacrylamide gels, spontaneous birefringence and photoelasticity 7—22217
polyacrylate radicals trapped in polymeric network, struct. and stability, EPR obs. 7—5801
polyacrylonitrile-based cathodes, performance in Li-I_2 solid state batteries 7—54282
polyamic acid, XPS, mol. orbital anal. 7—50255
polyamide, cavitation erosion tests *(German)* 7—33809
polyamide acid, supermol. struct. change in thermal imidisation *(Russian)* 7—42809
polyamides, aliphatic, nonhomogeneous thermooxidative degradation during heat ageing *(Russian)* 7—28060
polyaminobismaleimide resin, dynamic recovery and embrittlement 7—38108
polyaminobismaleimide thermoset resin, plastic deform. behaviour 7—33738
polyampholytes acrylic acid-2-methyl-5-vinylpyridine, surface activity at liq.-gas interface determ. 7—6924
polyaniline, ^{15}N- and ^{2}H-substituted derivatives, vibrational spectra 7—53351
polyaniline, conducting polymer, electronic and electrochem. props., MNDO calc. 7—2462
polyaniline, conduction mechanism 7—2591
polyaniline, doped, thermoplastic amorphous-crystalline conversion 7—32315
polyaniline, geometries, bond struct., electrochemistry, MNDO calcs. 7—15750
polyaniline, geometry, MNDO calcs. and NMR studies 7—32314
polyaniline, localised mol. excitons, UV absorpt. spectra 7—31192
polyaniline and aniline oligomers, spectroscopic and elec. props. 7—64653
polyanthracene:I, charged elementary excitations, EPR study 7—7246
polyaryl ether ether ketone, solubility and diffusion of water 7—44917
polyaryl-ether-ether-ketone, semicryst., mech. relax., electron beam irrad. effects 7—12204
polyarylate, mol. motions in glass transition region, thermally stimulated depolaris. current 7—38586
polyarylate, relaxation time, viscosity, above glass transition 7—12344
polyarylate, track effects on chemical etching 7—36380
polyarylates, amorphous, glassy, plastic deform. in stress relax. and creep regimes *(Russian)* 7—63730
polyarylenephthalide conducting polymers, bipolaron elec. cond. study 7—64104
polyazulene, electrochem. and mag. props. 7—52929
polybis(pyrrolyl)phosphazene, synthesis and electrochemical oxidation 7—65315
polybis-benzimidazobenzisoquinolinones, dielec. β-relax., −150 to 80°C 7—7637
polybithiophene electrode, IR techniques, in-situ spectroelectrochemistry 7—54144
cis-1,4 polybutadiene, crosslinked, anomalous thermal conductivity 7—27038
1,2-polybutadiene, mol. motion, glass transition, loss curve, NMR, ^{13}C spin-lattice relax. 7—17234
polybutadiene acrylates, UV-curable optical fibre coating material, low-temp. modulus 7—51911
1,4-polybutadienes, thermodynamic flexibility, continuum model *(Russian)* 7—10802
polybutene-1, heat of fusion, X-ray diffr. obs. 7—52008
polybutyl methacrylate, tensile flow, stress-strain behaviour, temp. depend., mol. wt. 7—6847
polybutylene tetraphthalate containing $SmCo_5$ powder, thermoplastic magnet, heat resistance 7—27567
polycarbonate, absorption/resorption currents and thermally stimulated resorption 7—58820
polycarbonate, erosion resistance, angular particle impingement at normal incidence 7—3442
polycarbonate, failure at high loading rates, correlation of relaxation and energy characteristics 7—46598
polycarbonate, fatigue crack propag. and fracture toughness, specimen thickness and geometry influence *(German)* 7—3438
polycarbonate, fracture, effect of rolling orientation on ductile-brittle transition 7—46644
polycarbonate, friction and wear, molecular orientation, uniaxial prestraining effect 7—13609
polycarbonate, impact props. and residual stress state, thermal treatment effects 7—32557
polycarbonate, J-integral as fracture criterion 7—39631
polycarbonate, molecularly doped polymer, hole transport 7—52616
polycarbonate, shock-loaded, tension-recompression response method study 7—33879
polycarbonate, two-stage deform. recovery, annealing study under dimensional constraint 7—32554
polycarbonate nucleopore membranes, $MgCl_2$ diffusion 7—3603
polycarbonate sheets, ductile fatigue crack propagation 7—11966
polycarbonate substrate, post magnetron sputter and reactive sputter coating 7—53588
polycarbonate track detectors, electron spin resonance studies 7—33276
polycarbonates, dynamic viscoplasticity, compressive strain rate effects *(French)* 7—11297
polydiacetylene, acoustic polarons, drift velocity in 1D polymer chain 7—12708
polydiacetylene, conductivity enhancement by chemical doping and ion implantation 7—21957
polydiacetylene, IR photoinduced absorpt., bipolarons 7—53313
polydiacetylene, nonlinear optical processes, time-resolved degenerate four-wave mixing meas. 7—20370
polydiacetylene cryst., Raman spectra, press. depend. 7—27726
polydiacetylene crystals, nonlinear optical applications 7—37023

polymers continued
polydiacetylene fragments, extended Pariser-Parr-Pople model, 2^1A and 1^3B states 7—52486
polydiacetylene pTS-FBS single crystal, electric field induced SHG 7—43214
polydiacetylene-toluene-sulphonate, single crystal, transient photoinduced reflectance change study 7—53257
polydiacetylenes, analogies to inorganic semiconductors and graphite 7—2592
polydiacetylenes, electronic struct., substituent-induced strain effect, MNDO calcs. 7—10427
polydiacetylenes, third order nonlinear optical susceptibilities 7—57439
polydiacetylenes as nonlinear waveguide materials 7—25871
polydialkoxyphosphazenes, mol. mobility, NMR investig. *(Russian)* 7—25693
polydienes, sequence distribs., Bernoullian process analysis, non-steady state kinetic method 7—17787
polydienes, sequence distribs., kinetic treatment of first order Markovian process 7—16443
polydienes, sequence distribs., statistical treatment 7—16442
polydihalogenoacetylene, band alternation and soliton excitations, Huckel model anal. 7—5601
polydihalogenoacetylene, bond alternation and solitons 7—63511
polydimethylsiloxane, liq., spreading, existence and role of thin precursor film 7—44954
polydimethylsiloxane, mech. induced sorption on SiO_2, chain binding, collective and multiple aggregate processes 7—12474
polydimethylsiloxane, refr. index and thermal expansion coeff. variations with temp. 7—39060
polydimethylsiloxane elastomeric networks, ^{29}Si NMR 7—44402
polydimethylsiloxane oligomers, FT-IR spectra, Fourier self-deconvolution appl. 7—25687
polyelectrolyte solutions, extensive force, num. eval. 7—46853
polyelectrolytes, counterion condensation, Poisson-Boltzmann eqn. sol. 7—52029
polyelectrolytes, highly asymmetrical, spinodal curve 7—21466
polyene chains, electronic struct., long-range electrostatic effects and terminal group influence 7—56987
polyenes, optical props., configuration depend. 7—10673
polyepoxide co sulphide, elec. cond., press. and temp. depend. 7—21516
polyester fibre-epoxy resin insulator, prebreakdown space charge injection meas. 7—39017
polyester resins, polymerisation kinetics, dielectric behaviour anal. *(French)* 7—46847
polyester thermoelastoplastics, softening, thermodynamics *(Russian)* 7—63847
polyesters, cycloaliphatic, stress optical behaviour 7—45975
polyether electrolytes, $LiClO_4(LiCF_3SO_3)$ conducting species 7—32690
polyether sulphone, flexed plate impact testing, moulded notch effect 7—59713
polyetheretherketone, crystalline/amorphous ratio in carbon fibre composite 7—11947
polyetheretherketone, dry and lubricated wear, speed effects 7—33805
polyetheretherketone, penetrant durability rel. to processing and struct. 7—65168
polyetheretherketone, phys. ageing characts. 7—65110
polyethersulphone, flexed plate impact testing of notched specimens 7—22799
polyethersulphone, temp.-dependent mech. behaviour, use as matrices for short fibre reinforced laminates 7—17620
polyethylene, branched, phase transforms. obs., positron lifetime meas. 7—46231
polyethylene, charged particle exoemission rel. to deform. and fracture 7—7827
polyethylene, chlorinated, prep., mech. and thermal props. 7—28006
polyethylene, cold-rolled low-density, morphology and transport props. 7—13519
polyethylene, continuous melt extrusion, morphology, strength 7—39472
polyethylene, creep behaviour, stress relax. expts. 7—46546
polyethylene, dielectric props., water detection using photoacoustic spectroscopy 7—53298
polyethylene, dilation by sorption of CO_2 7—12469
polyethylene, disperse, heating in gas-thermal spraying 7—26536
polyethylene, ductile fracture, essential work 7—53842
polyethylene, electron beam charged, space charge decay currents 7—27338
polyethylene, extended under press., hydrostatic press. effect on damage accumulation, struct. reorganisation 7—8065
polyethylene, failure prediction from initiation stage of slow crack growth 7—22801
polyethylene, form-stable high density, latent thermal storage unit performance 7—65602
polyethylene, fracture toughness, high press. tension testing 7—28111
polyethylene, high and low density, dielec. γ relaxation 7—39004
polyethylene, high density, latent thermal storage unit, heat transfer, numerical anal. 7—65603
polyethylene, high density, temp. change during rapid compressive deform., thermoelastic coeffs. 7—13495
polyethylene, interlamellar links, environmental stress cracking agent effect 7—53928
polyethylene, IR Fresnel lenses design and manufacture at British aerospace 7—31428
polyethylene, lamellas, thermodynamic characts., DSC investig. *(Russian)* 7—21422
polyethylene, lin., deform. process, morphological study 7—13518
polyethylene, linear, DSC, origins of endothermic peaks 7—11952
polyethylene, linear, melt-crystallised, surface melting 7—6766
polyethylene, linear, quantitative permanganic etching 7—8148
polyethylene, linear high density, creep and recovery in small uniaxial deform. region 7—13527
polyethylene, low density, γ relax., chain segment lengths, thermostimulated depolarisation meas. 7—11948
polyethylene, low density, bulk crystallisation kinetics, morphology 7—37893
polyethylene, low density, crosslinked, morphology, transmission electron microscopy 7—37894
polyethylene, low density, crystallisation and melting behaviour 7—37892
polyethylene, low density, electric breakdown and high-field conduction meas. 7—39011
polyethylene, low density, environmental stress cracking in methanol, heat treatment effect 7—8146

polymers continued
polyethylene, low density, IR spectroscopy under high elec. stresses 7−39129
polyethylene, low density, with antioxidants, irrad., DSC melting behaviour 7−21421
polyethylene, low density semicrystalline, elec. strength temp. depend. meas. and calcs. 7−39015
polyethylene, low-density, AC elec. treeing phenomena, ramp voltage effects 7−39009
polyethylene, low-density, amorphous phase, ^{1}H NMR meas. in temp. range 270 to 385K 7−37890
polyethylene, low-density, elec. discharges and tree channels under impulse voltages 7−27657
polyethylene, low-density, near-UV emission obs. during electrical-tree initiation 7−59259
polyethylene, medium-density, noncontact monitoring of cyclic loading and stress relax. by US backscatter 7−59724
polyethylene, monoclinic form, hydrostatic compression effect 7−44690
polyethylene, oriented, temp.-induced crystallisation 7−16446
polyethylene, oriented in heptane, uniaxial stretching, thermodynamics *(Russian)* 7−63731
polyethylene, polarisation and depolarisation currents superposition, time depend. meas. and calcs. 7−27652
polyethylene, positron annihilation radiation lifetime, Doppler broadening 7−39217
polyethylene, positron mobility meas. 7−46175
polyethylene, radiation effects at high press. 7−21260
polyethylene, semicrystalline, elastic modulus meas. method 7−13683
polyethylene, single cryst. growth mode and lateral habit, impurity effects 7−26668
polyethylene, space charge form., needle-plane arrangement, partial discharge and TSC meas. 7−39008
polyethylene, spherulitic low density, dielec. relax. of dipolar aromatics, glass transition 7−45924
polyethylene, struct., spin dynamics, NMR study 7−59124
polyethylene, struct. change by ionising irradiation, DSC investig. *(Russian)* 7−21138
polyethylene, thermal diffusivity, meas. by laser flash method, 4.2-300K 7−24647
polyethylene, thermally stimulated luminesc. and depolarisation, electron trapping studies 7−27651
polyethylene, ultra-high mol. wt., erosion resistance, angular particle impingement at normal incidence 7−3442
polyethylene, water tree growth, anion penetration 7−39030
polyethylene, water treeing under DC and AC voltages 7−39028
polyethylene, water-treeing, chemical structure and additives effects 7−39032
polyethylene crystals, twinned, nucleation controlled growth 7−44401
polyethylene filled with short glass fibres, structural organisation and mech. props. *(Russian)* 7−6560
polyethylene glycol, phosphate ester crosslinked complexes, ionic cond., temp depend., glass transition 7−52128
polyethylene glycols, adsorpt.-exclusion behaviour during chromatography *(Russian)* 7−23095
polyethylene IR absorption spectra modification by elec. fields 7−53352
polyethylene naphthalate, electrolum. and electronic conduction in high DC fields 7−27788
polyethylene oxide, single cryst. growth mode and lateral habit, impurity effects 7−26668
polyethylene oxide-disubstituted benzene intercalates, Fourier transform IR spectra 7−13153
polyethylene single crystals, high temp. soln. growth rates, morphology 7−17402
polyethylene terephthalate, glass transition and crystallisation studies, positron annihilation meas. 7−46230
polyethylene terephthalate, polarisation and depolarisation currents superposition, time depend. meas. and calcs. 7−27652
polyethylene-d$_4$, NMR quadrupole spectra, orientation motional correl. times, T$_2$ meas. 7−45834
polyethylene-metal, adhesion of metal films, effects of Ar$^+$ bombardment 7−28267
polyethyleneoxide, cryst., eqn. of state, anharmonic theory calcs. 7−32596
polyethylenes, crosslinked, nucleation density, morphology, transmission electron microscopy 7−37895
polyethylenes, dielectric breakdown, threshold field meas. 7−39018
polyformaldehyde plasma, optical and thermodynamic props. 7−11592
polyfuran and copolymers, electronic struct., cond. props., ab initio cryst. orbital calcs. 7−52410
polygermanes, alkyl substituted, soluble, thermochromism 7−64619
polyimide, photoconduction and mol. orientation 7−38629
polyimide, temp.-dependent mech. behaviour, use as matrices for short fibre reinforced laminates 7−17620
polyimide - SiO$_2$ interface, locus of failure, XPS study 7−28261
polyimide surface, in situ anal. of H,C,N and O using direct recoil time-of-flight technique 7−54242
polyisobutylene, glass transition, mol. wt., Gibbs-Dimarzio statistical mech. theory 7−44815
cis-1,4-polyisoprene, mol. orientation, FT IR dichroism 7−13159
cis-polyisoprene, relax. time discontinuous spectra, relax. transitions *(Russian)* 7−44642
polyisothianaphthene, electronic struct. and conduction properties 7−45119
polyisothianaphthene and derivatives, valence effective Hamiltonian band struct. calcs. 7−16936
polymer chains, ring shaped, coil props. 7−57198
polymer-substrate interfaces, electron diffraction 7−16378
polymethylene chains, equilib. flexibility, continuum model *(Russian)* 7−5805
polymethylene chains, pretransitional states, disordering mechanisms 7−57196
polymethylenes, melting characts., continuum model *(Russian)* 7−63782
polymethylmethacrylate scintillator, active charged-particle protection of neutral-radiation detectors 7−10358
polymethyne dues, MO coeffs., effective additive parameter method 7−56945
polymethynes, restricted HF MINDO/3 calcs. 7−10432
polyolefin insulating materials, bow-tie and vented-tree formation 7−39033
polyoxy-2,6-dimethyl-1,4-phenylene, sulphonated, ultrafiltration membrane prep. 7−54174

polymers continued
polyoxyethylene, conformation, vibrational spectra, normal coordinate analysis 7−53317
polyoxyethylene-p-dihalogenobenzene intercalates, struct. 7−13154
polyoxymethylene, ageing, residual stress, crystallinity, WAXS 7−39550
polyoxymethylene, cryst., eqn. of state, anharmonic theory calcs. 7−32596
polyoxymethylene, highly drawn, morphology, temp. depend. crystal modulus 7−37889
polyoxymethylene, polymorphism and mol. aggregation, Raman microprobe, vibr. spectra 7−13152
polyoxymethylene, tubes, microwave heat drawing, tensile load and precursor size effects 7−22734
polyoxypropylene, cross-linked model networks, swelling, elastic stress-strain props. 7−46540
polyparaphenylene: Na, electron and cryst. struct., EELS and electron diffr. studies 7−63514
polyparaphenylene, conducting polymer, non-Curie like susceptibility, exchange-coupled pair model 7−52930
polyparaphenylene, disorder doped, electron density of states 7−58726
polyparaphenylene, vibr. studies, IR and Raman spectra 7−63758
polyperinaphthalene, pristine and doped, elec. conductivity 7−2589
polyphenanthrene, one-dimensional graphite series, electronic props. 7−64063
polyphenylacetylene:I, conformational defects, ESR studies 7−64531
polyphenylene oxide, dry and lubricated wear, speed effects 7−33805
polyphenylene oxide article surface, nonstationary thermal field created by IR laser radiation, chem. processes control 7−16622
polyphenylenesulphide:As conducting polymers, ion implantation techniques 7−21923
polyphenylmethylsiloxane, cyclic, preparation and fractionation 7−23013
polyphenyls, hydrogenated p-terphenyl and deuterated biphenyl, structural transitions *(French)* 7−12256
polyphosphazene salt complexes with LiSO$_3$CF$_3$, ionic conductors, dimensional stability 7−63872
polypropenylenes, thermodynamic flexibility, continuum model *(Russian)* 7−10802
polypropylene, ductile-brittle transition and size effects 7−39634
polypropylene, electret and mechanical props., supermolecular structure effects *(Russian)* 7−64560
polypropylene, electrical cond., temp. and thickness depend. 7−38655
polypropylene, five-fold symmetry in quasicrystalline polymers 7−1918
polypropylene, hot isostatic pressing, mech. strength improvement 7−7955
polypropylene, ionis. pot. and work function meas. using low-energy electron beam 7−22397
polypropylene, IR spectroscopy under high elec. stresses 7−39129
polypropylene, irradiated, phys. and dielec. props. 7−33332
polypropylene, isotactic, γ-phase morphology 7−6554
polypropylene, isotactic, chain folding anal., tacticity and crystallographic symmetry 7−37891
polypropylene, isotactic, crazing, energetic characts. *(Russian)* 7−12201
polypropylene, isotactic, polymorphic forms, FTIR far-IR obs. 7−53339
polypropylene, isotactic, position annihilation lifetime investig. 7−32501
polypropylene, macroradical termination, segmented mobility and low-mol. radicals *(Russian)* 7−65312
polypropylene, microindentation hardness and dynamic mech. moduli near glass transition 7−13564
polypropylene, oriented, thermal expansion behaviour 7−6839
polypropylene, space charge form., needle-plane arrangement, partial discharge and TSC meas. 7−39008
polypropylene, spin diffusion effects on NMR spin-lattice relax. 7−27623
polypropylene IR absorption spectra modification by elec. fields 7−53352
polypropylene oxide, undiluted state diffusion coeff., temp. depend. 7−38255
polypropylene oxide 4000, liq. and glassy states, dielec. props. 7−17266
polypropylene oxide 4000, liq. and glassy states, dielec. relax. and permittivity 7−13083
polypropylene sheets, highly oriented, adhesion in laminates 7−8245
polypropylene terephthalate, conformational reorganisation viewed by Raman spectra 7−32311
polypyrene fusenes, subgraph enumeration, transfer-matrix method 7−10377
polypyrrole:BF$_4^-$,O, dopant distrib., atom probe anal. 7−32480
polypyrrole, conducting polymer, non-Curie like susceptibility, exchange-coupled pair model 7−52930
polypyrrole, diffusion-controlled polymerisation, growth instability 7−28311
polypyrrole, oxidation, atom-probe study 7−46822
polypyrrole and copolymers, electronic struct., cond. props., ab initio cryst. orbital calcs. 7−52410
polypyrrole electronically conductive polymer, fibrillar/microporous morphology control 7−26667
polypyrrole-halogen charge transfer complexes, chemically synthesized, elec. props. 7−27313
polyselenophene, electronic and struct. modifications during doping, EXAFS and XANES studies 7−63507
polysilane model compounds, struct., electronic props., MNDO calc. 7−44403
polystyrene, ageing after quenching, positron lifetime distributions 7−39566
polystyrene, chain length distrib., meas. and estimated comparison 7−13766
polystyrene, compressed, shear bands, macromolecular orientation, small-angle neutron scatt. 7−53821
polystyrene, cryst. colloidal array filter 7−37117
polystyrene, glass transition, enthalpy relax. kinetics *(Russian)* 7−6797
polystyrene, glass transition, Gibbs-DiMarzio theory 7−12281
polystyrene, highly entangled, spin-spin relax. time, NMR meas. and model calcs. 7−33291
polystyrene, inclination angle, small angle neutron scatt. determ. 7−16362
polystyrene, incorporation of stilbene (p-fluorostilbene) during radical polymerisation, NMR investig. 7−39890
polystyrene, mass diffusion of camphorquinone, holographic relax. studies 7−21529
polystyrene, monodisperse, fracture, chain scission, mol. wt., temp. depend. 7−33776
polystyrene, monodisperse lattices, He-Ne laser transmission, attenuation coeff., specific turbidity meas. 7−62617
polystyrene, nanosecond proton and He ion pulse radiolysis studies 7−21297
polystyrene, photodegradation, spectral differences, solvent effects 7−6675

polymers continued
polystyrene, plastic optical fibres, for near IR transmission, prep. 7—62834
polystyrene, refractive index, thermal variations 7—33369
polystyrene, slow crack propag., crazing and fracture, acoustic emission study 7—32555
polystyrene, solid, liq., p-substituted and crosslinked, heat capacity 7—44844
polystyrene, tensile impact, craze vol. and microstruct., synchrotron SAXS 7—53893
polystyrene, tensile strength, effects of temp. and mol. wt. *(Japanese)* 7—33737
polystyrene, tracer diffusion meas. using Si and the elastic recoil detect. 7—39337
polystyrene, two-stage deform. recovery, annealing study under dimensional constraint 7—32554
polystyrene diffusion in porous silica 7—12351
polystyrene latex spheres, aggregation kinetics, laser light scatt. 7—13827
polystyrene latex spheres, colloidal dispersion, high freq. elastic moduli calc. 7—38083
polystyrene latex suspensions, aq., semidilute, ordering process of colloidal crysts. 7—17829
polystyrene latexes, monodisperse, kinetics obs., space-flight dilatometer/reactor development and testing 7—13770
polystyrene submicron size sphere in aq. suspensions, multiple light scatt. 7—59220
polystyrene-based polymers, O_2 permeation behavior, bulky substituents effect 7—10796
polystyrene-divinylbenzene, 2,2′-dipyridylamine binding, transition metal complexes form. 7—23014
polystyrene-polyisoprene copolymers, processability-conductivity correlation 7—64229
polysulfone, relaxation time, viscosity, above glass transition 7—12344
polysulphones, degradation and stabilisation, review 7—59652
polytetrahydrofuran, cryst., eqn. of state, anharmonic theory calcs. 7—32596
polythiophene, conjugated, optical spectra and Coulomb interactions 7—64596
polythiophene, doped, polaron and bipolaron excitations, Huckel approx. calcs. 7—52448
polythiophene, IR activity of photoexcitations 7—7703
polythiophene, polymerisation from mono-, bi- and trithiophene oligomers, electronic props. 7—2597
polythiophene, radiation-induced doping, elec. and ESR studies 7—38545
polythiophene, semiconducting polymer, fast response nonlinear optical props. 7—1241
polythiophene and copolymers, electronic struct., cond. props., ab initio cryst. orbital calcs. 7—52410
polythiophene derivatives, bandgaps, conductivities 7—64061
polythiophene electrode, IR techniques, in-situ spectroelectrochemistry 7—54144
polytrifluoroethylene, ferroelec. order and phase transition 7—13105
polytrimethylene, terephthalate, elastic moduli of cryst. region *(Japanese)* 7—33714
polyurethane foam, form., exotherm data acquisition using microcomputer 7—54118
polyurethane foams, shock wave attenuation capabilities 7—33972
polyurethane insulation, thermal and elec. aging, prebreakdown phenomena, FTIR spectra study 7—39568
polyurethane semicarbazides, segmented, microphase ply separation initiation *(Russian)* 7—6562
polyurethane sponges, hydrophilic plasma surface treatment, geometric factors 7—22856
polyvinyl acetate, slow motions in solid, ^{13}C spin-echo spectrosc. 7—27628
polyvinyl alcohol gel, effect of gelation time on wetting by water 7—39927
polyvinyl alcohol thermoelectrets, thermovoltaic effects 7—22178
polyvinyl carbazole donor-acceptor complexes, luminesc. and photoemission spectra 7—46115
polyvinyl carbazole material for HOEs 7—25745
polyvinyl formal, thermooxidation, dielec. props. rel. to chemical struct. 7—45927
polyvinyl methyl ether, ageing, enthalpy relax. meas. 7—8029
polyvinyl methyl ether, chain motions, dielec. props. 7—45928
polyvinylcarbarzole, photoconduction, transition from dispersive to nondispersive transport 7—64283
polyvinylcarbazole, transient photocond., excitation light intensity effects 7—45391
polyvinyldiphenylanthracene, excited singlet state annihilation, fluoresc. 7—62432
polyvinylene, reson. Raman scatt., absorpt. spectra, amplitude mode model anal. 7—64658
polyvinylidene fluoride, Form I, ferroelectric switching characts., microdomain nucleation and growth model 7—22197
polyvinylidene fluoride, partially crystalline, viscoelastic and acoustic props. on hydrostatic compression 7—33719
polyvinylidene fluoride, shock response, ferroelec. and piezoelec. props. meas. 7—32568
polyvinylidene fluoride, struct., melting and crystn. *(Russian)* 7—6563
polyvinylidene fluoride sheet evaluation for large sonar arrays 7—2986
polyvinylidene fluoride/PZT, composites, dielec. behaviour 7—38992
polyvinylpyrrolidone protective layer on small colloidal Pt particles 7—32676
polyvinyltrimethyl silane, membrane, asymmetric, gas permeability, temp. depend. *(Russian)* 7—17822
polyvinyltrimethyl silane, plasticised, low-mol. cpd. translational and rot. mobility *(Russian)* 7—44818
polyyne, one-dimensional conjugated, synthesis and props. 7—65000
polyyne infinite chain, solitons, polarons and phonon spectrum calcs. 7—12626
polyynes, strongly coupled Peierls insulators, soliton, polaron and photoexcitation props. 7—64114
porphyrin coordination polymers, pyrazine-bridged, optical and conductive props. 7—2586
positive and negative ion exoemission, physicochemical conception 7—13301
Proto II accelerator, low inductance diode design for imploding plasma loads, insulator breakdown 7—30760
PTFE, amorphous and cryst., irradiated, thermal characts. *(Russian)* 7—6681

polymers continued
PTFE, bonding and surface struct., ESCA investigation, electron beam interactions 7—51662
PTFE, charged, photoemission meas. in insulating gases 7—27871
PTFE, dry and lubricated wear, speed effects 7—33805
PTFE, erosion resistance, angular particle impingement at normal incidence 7—3442
PTFE, oriented, annealing, crystn. lattice temp. behaviour *(Russian)* 7—6840
PTFE and PVDF, aging, irradiation by X-rays, electron and ion beams, XPS study 7—32498
PTFE single-crystal, lattice imaging studies 7—11951
PVC, brittle-viscous transition, mechanism *(Russian)* 7—21448
PVC, dynamic mechanical props., structure-regulating additives effect *(Russian)* 7—37344
PVC, field induced thermally stimulated relax. 7—27654
PVC, friction and wear, molecular orientation, uniaxial prestraining effect 7—13609
PVC, gels, Brillouin light scatt. 7—42798
PVC, glass transition, Gibbs-DiMarzio theory 7—12281
PVC, impact fracture regularities, matrix morphological struct. effects *(Russian)* 7—16677
PVC, impact strength, morphology influence *(Russian)* 7—44682
PVC, implosive compaction of powders 7—33630
PVC, mech. props. in β-transition region *(Russian)* 7—63724
PVC, pure and plasticized, orientation, Fourier transform IR study 7—44661
PVC, rigid, stabilised, crystallinity detection by hardness testing 7—8223
PVC, suspensions, grain formation 7—22694
PVC, thermal degradation, fluoresc. study 7—33422
PVC, unplasticised, satisfactory service life under static load 7—8219
PVC based 7—39473
PVC sheets, biaxial tensile behaviour 7—17579
PVC surface, sputtered, AES, electron beam induced dissociation 7—20077
PVC-oligoesteracrylate, impulse NMR investig. *(Russian)* 7—5804
PVC-poly(1,3-propylene phosphate) membrane, cond. percolation 7—33958
PVC-polycaprolactone interface, diffusion, temp. and time depend. 7—32723
PVC/valinomycin overlayered substrates for K^+ selective electrodes 7—65375
pyrolysis mass spectrometry characterization 7—46900
quartz-filled epoxy resin, charged, photoemission meas. in insulating gases 7—27871
quasi-one-dimensional, electron-electron interaction effects 7—64143
radiation sensitivity, temp. depend. 7—15668
radiation-induced stress change during electron irrad. 7—16631
Raman spectra charactn. 7—53296
randomly coiled, endpoint distrib. for neighbor avoiding walks 7—48597
redox polymer-TiO_2 detector junctions, flatband pot. meas. 7—13787
representation, matching polynomial of a polygraph 7—5796
resin, pyrolytic, spreading over surfaces with regular and random reliefs 7—6926
resists, bonds, radiation effects and crosslinking 7—37907
ring and ladder, electronic π-band struct., MO calcs. 7—56943
ring polymers, dynamics in presence of fixed obstacles 7—36830
$(SCN)_x$:I, prep., elec. cond. 7—52597
self-avoiding chain molecules, generic model 7—24552
self-avoiding network of fixed topology, renormalisation and exact critical exponent 7—260
semiconductor polymer electrode kinetics in Li cells 7—54285
semicrystalline, EPR, elastic modulus data, mol. mobility phenomena 7—37900
semiflexible polymers, collapse transition, Monte Carlo simulation 7—10785
sheared cholesteric polymer refractive index evolution mechanisms study 7—13120
shock absorption characteristic, expt. technique 7—8222
shock loaded target, stress meas. using transverse piezoresist. gauge 7—29999
silane XLPE, electrical breakdown study 7—27659
solid, solvent swelling and noninvasive visualisation by ESR imaging 7—45797
solid dielectrics, breakdown and prebreakdown phenomena, charge transport and dielectric aging 7—39014
spherulites, elastic deform., effect of spherical axis 7—33718
spin diffusion effects on NMR spin-lattice relax. 7—27623
strength of cemented joints in polymer materials, device for meas. 7—54036
stress relax., bond breaking, free vol. effects 7—22742
stress/strain coupled diffusion studied by vibrational time-delay technique 7—51012
superdielectric polymers, nomadic polarisation 7—33323
surfaces, erosive wear by steel ball blasting 7—3446
surfaces, IR laser irradiation, physico-chem. and chem. transforms 7—65350
surfaces, UV laser ablation dynamics 7—39684
synthetic metals science and technology, conf., Kyoto, Japan (June 1986) 7—60872
teflon, nonmagnetic samples, ferromag. behaviour 7—53040
Teflon, wetting, effect of diphilic polyelectrolytes conc. 7—38302
Teflon-Ag coated glass composite, 3D continuum percolation system, nonuniversal behaviour of conductivity exponent, exptl. obs. 7—38656
Teflon-FEP electrets, stability, stretching effects 7—27650
thermal ageing, reaction kinetics *(German)* 7—46529
thermal destruction in nonsteady heating in hot gas stream 7—26126
thermally curing resin viscosity estimation from US shear wave reflectivity 7—1523
thermodegradation kinetics, softening effect *(Russian)* 7—46844
thermoluminesc. and oxyluminesc., review *(Japanese)* 7—59267
thermoreactive, polyphenylene-type, tribochem. processes and wear resist. 7—28148
thermoviscoelastic properties prediction in complex stressed state 7—17573
three-dimensional IR spectroscopy technique 7—46041
tilted illumination studies of crystalline polymers 7—16372
Toms effect, reduction of turbulent diffusivity by addition of polymers *(French)* 7—16173
triarylmethane dye, polymeric, sensitiser for poly-N-vinylcarbazole photocond. 7—12759

polymers continued
N-trifluoroacetylated poly(ε-caprolactam), gel permeation chromatographic anal., calibration procedure 7—65374
uniform branched polymers, lattice models, uniform combs in two-dimensions 7—237
US wave attenuation for monitoring quality 7—8240
US welding problem, approx. formulation 7—16109
vibrational spectra, vibr. freqs. calcs. 7—42813
vitreous, optical props., review 7—20375
XLPE, cable insulation, water treeing, microstructural effects 7—39027
XLPE, dielectric properties modification due to corona discharges, humidity effects 7—39022
XLPE insulation, water treeing 7—39026
Al-polyethylene-Al thin film structures, anomalous Poole-Frenkel effect obs. 7—52851
(CF_n)-Li battery, complex impedance plots *(Japanese)* 7—23129
$(CSe)_n$, polymerised, metallic and supercond. 7—7433
Cu complexes, with polymeric sorbents, ESR investig. *(Russian)* 7—42812
H_2 degradation reduction in optical cables, materials selection 7—11172
H_2 generation from optical fibre cable materials 7—11170
InSb/Teflon SIS structs., EM magnetoplasma Gaussian beams, propag. and size resonances study 7—58905
$PbZr_{1-x}Ti_xO_3$-polyethylene 3-0 connected composite, dielec. and piezoelec. props. 7—45937
trans-polyacetylene, inter-chain versus intra-chain electron-hole photogeneration 7—27362
poly(ethylene oxide)-$RbAg_4I_5$, room temp. ionic cond. comp. depend. meas. 7—12363
Pt/$H_3(PMo_{12}Mo_{40}).22H_2O$-polyethylene oxide interface, audiofrequency behaviour 7—52693

polymorphic transformations
see also displacive transformations; order-disorder transformations; reverse martensitic transformations
7—39072
alloys, polymorphic transformations, composition-inhomogeneous states form. *(Russian)* 7—3296
$(BEDT\text{-}TTF)_2I_3$, α to superconducting β phase transform., heat absorpt. and resist. temp. depend. meas. 7—63808
2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7—46018
II-VI solid solutions with wurtzite structure 7—32348
inorganic crystals, atomic coordination numbers and defects, geometric estimate 7—63571
lead (II) carboxylates, thermotropic phase transitions, DSC meas. 7—21441
materials, transform. toughened, transformed zone size during steady state cracking 7—39641
naphthalene derivatives, β R-substituted, polymorphism, review and comparative study *(French)* 7—32349
phase transition temp. determ. in optical ovens for refractory materials 7—30014
quartz, intermediate phase between α ad β phase 7—1936
quartz, intermediate phase between α and β phases 7—1937
steel, alloy, electrical resistivity and magnetisation, temp. depend. 7—38535
steel, austenitic stainless, electrical resistivity and magnetisation, temp. depend. 7—38535
steel, C, shock compressed unloading above phase transition point 7—12266
steel, low-C, polymorphic transform. kinetics 7—33653
triglycerides, obs. of physical ageing by positron lifetime meas. 7—39229
Ag-Zn, dynamics of β' to ζ transform., elec. resist. obs. *(Japanese)* 7—53720
Ag_2Te, domain struct. and phase transforms., electron diffr. and microscopy studies 7—58194
BN, wurtzite-type and zincblende-type, struct. changes by shock treatments 7—22676
BaF_2, precip. from aq. soln., orthorhombic to cubic transform. 7—17502
Ce, isostruct. transforms., EMF pulses *(Russian)* 7—52038
Co alloys, polymorphic transformations, 1D disordered struct. form. *(Russian)* 7—16478
Co single crystal foils, α- and β-phase, ion transmission and sputtering 7—59322
Co-C, long period struct. development *(Russian)* 7—63559
Co-C alloy, α-phase struct., influence of C, polymorphic transformation 7—52033
Co-W, ageing, polymorphism, cellular mechanism *(Russian)* 7—59514
CsI, press. induced structural instability, ab initio pseudopotential techniques 7—52042
CsSCN, thermal vibrs. below structural phase transition at 470 K, neutron diffr. 7—63759
$Cu_{1.80}Fe_{0.05}S$, structural phase transitions, X-ray diffr. study 7—1935
Cu_2FeSnS_4, stannite, melting, polymorphic transition temp. 7—44764
$Cu_{2-x}S$ and $Cu_{2-x}In_yS$ crystals, structural transformations 7—38185
$Cu_{48}Ti_{52}$, amorphous, crystallisation, intermediate long period superlattice phase form. 7—21098
Fe, polymorphic forms stability, elastic consts. in 20 to 1470°C range, enthalpy of fusion rel. to self-diffusion activation energy 7—6781
Fe, polymorphism interpretation 7—51700
Fe-Cr-Co(-Si), permanent magnet alloys, microstruct., mag. props., Si content effect 7—22117
$Fe_{75}B_{25}$, polymorphous crystallisation into Fe_3B orthorhombic phase 7—37874
FeF_3, pyrochlore struct., soft chemistry synthesis and thermal transitions 7—17396
GeTe, $\alpha-\gamma$ phase transformation kinetics, effect of heat treatment 7—63795
GeTe-PbSe, phase transformations, cation-anion substitution, electrophysical props. 7—7978
He, high density props., exponential-six pot. 7—32742
K, compression and polymorphism, up to 400 kbar 7—32632
$K_3CO(CN)_6$, polytypism and phase transition, lattice dynamical calcs. 7—12262
$K_3Fe(CN)_6$, polytype phase transforms., ^{14}N NQR study 7—26690
K_2HfF_6, polymorphism, TDPAC investig. 7—2188
Li_2HfF_6, hyperfine interactions, temp. depend. 7—12679
Li_2MoO_4, high-press. polymorphs, calorimetric study 7—32638
Li_2WO_4, high-press. polymorphs, calorimetric study 7—32638
Li_2ZrF_6, hyperfine interactions, temp. depend. 7—12679
Mg, transformation matrices for hexagonal and trigonal crystals 7—63541

polymorphic transformations continued
Mn allotropic phases nucleation during laser annealing, melting, solidification and regrowth 7—12143
$(NH_4)_2HfF_6$, thermally activated α-β transition 7—12258
β-NaN_3, microscopic theory of elastic softening 7—16665
NaOD, low temp. phase transform., heat capacity, calorimetric study 7—16785
$Ni_xCd_{1-x}Mn_2O_4$ spinels, cation distrib., structural transitions and Jahn-Teller distortion 7—58227
O, solid, α-β phase transition, magnetoelastic coupling and antiferromag. order effects 7—58193
$PbO\text{-}K_2O\text{-}Nb_2O_5$, polymorphism, DTA, X-ray phase anal. 7—6782
Pd-U-Si glassy alloys, glassy-to-icosahedral polymorphous crystn. transform., X-ray and electron diffr. studies 7—6515
$RbNO_3$, optical absorpt. spectrum, temp. depend. near successive phase transition points 7—27736
β-SiC powder, sintering, phase transform. rel. to additives *(Japanese)* 7—17527
Si_3N_4 powders, high press. not pressing, mech. props., thermal cond. temp. depend. 7—3231
$Sm(NO_3)_3.6H_2O$, electrical and optical props. 7—59223
Sn, phase transitions, Doppler broadened positron annihilation studies 7—38190
Sn, phase transitions, positron lifetime study 7—39265
$TaSe_2$:H, polytype formation, impurity conc. depend. 7—63801
Ti alloy, heat cycling regimes and effects 7—8028
Ti alloy, two-phase ($\alpha+\beta$), vol. changes during polymorphic transform. 7—39506
Ti, rolling, texture form., metastable high press. phase transform *(Russian)* 7—65029
Ti-Zr, α-β transform. temp. study 7—38180
$TlH_2P(As)O_4$, cryst. struct. and polymorphic transformations, X-ray and thermal anal. 7—1972
U-Si-Fe, β to α phase transform., dilatometry, metallography 7—28036
$U_{1-x}Th_xRe_2$, polymorphic transform., supercond. crit. temp., low temp. sp. ht. meas. 7—17125
Yb-Sb-Te ternary system, phase diagram investigs. 7—2174
Zr (0001) HCP to BCC phase transition He^+ capture effects, AES, TDS and SIMS studies 7—58590
ZrO_2, nondestructive phase transform. of single cryst. at high press. 7—59511
ZrO_2, partially stabilised, phase stability, elec. cond., fusion reactor elec. insulator appl. 7—52618
ZrO_2 single crystals, stabilised, growth by skull melting technique, charactn. 7—53560
ZrO_2, Y_2O_3 stabilised, phase transform., mech. props., surface struct. rel. to polishing *(Japanese)* 7—53791

polymorphism
see also crystal structure; isomorphism; polymorphic transformations
2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7—46018
cyano derivatives, mesomorphic phases, polymorphism 7—2193
4,4′-di-n-alkoxy-2-hydroxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7—1866
4,4′-di-n-alkoxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7—1866
diphenyldiacetylene derivatives, liq. cryst. polymers and copolymers, props. 7—51621
electronic behaviour of polytypes, rel. to energy conversion 7—38447
3-ethyl-5-[2-(3-ethyl-2-benzothiazolinylidene)-ethylidene]-rhodanine, polymorphism and electronic props. 7—37959
4-hydroxybiphenyl, cryst. packing rel. to mol. geometry and thermal motion 7—26736
ice, formation of cubic phase from water aerosol droplets 7—60364
mercury carboxylates, thermotropic phase transition temps. and heats of phase changes 7—2155
metal phthalocyanine films, electro-absorpt. spectra, charge transfer excitation 7—27695
methyl cyanide-$d_0(d_3)$, lattice vibrs., Raman and IR spectra study 7—46019
micas, synthetic, growth spirals and complex polytypism, occurrence frequencies 7—37997
nitrobenzyloxy derivatives, mesomorphic phases, polymorphism 7—2193
oleic acid, polymorphism, order-disorder phase transition, IR and Raman spectra anal. 7—33379
organic crystals, polymorphism and nonlinear optical activity 7—57400
poly(vinylidene fluoride), α-polymorph, melting behaviour and isothermal lamellar thickening 7—12240
poly-δ-N-carbobenzoxy L-ornithine films, packing polymorphism of α-helices 7—11955
poly-δ-N-carbobenzoxy-L-ornithine films, packing polymorphism of α-helices 7—16447
polyoxymethylene, polymorphism and mol. aggregation, Raman microprobe, vibr. spectra 7—13152
polypropylene, isotactic, polymorphic forms, FTIR far-IR obs. 7—53339
polypyrrole, conducting, struct. calcs. 7—21134
polythiophene, conducting, struct. calcs. 7—21134
sitosteryl chloride-cholesteryl laurate binary mixture, polymorphism 7—12267
terminal nonpolar cpd. binary systems, reentrant nematic phases, phase diagrams, X-ray diffr. 7—21442
three-dimensional polymatroids, classification *(Russian)* 7—16474
$Ag_4P_2O_7$, high-press. polymorph, characterisation 7—1991
$AlPO_4$, berlinite, synthesis and charactn. of new polymorphic modification 7—53534
Al_2SiO_5 polymorphs, dislocation strain energy 7—16555
BN, polymorphism studies, temp. and press. effects 7—1934
$Ca_3(PO_4)_2$ polymorph form. from apatite decomp. 7—44796
Co-C, long period struct. development *(Russian)* 7—63559
Co-W, ageing, polymorphism, cellular mechanism *(Russian)* 7—59514
$CuSeO_3$, cryst. struct. of three modifications, X-ray diffr. study *(German)* 7—32410
Fe, polymorphism interpretation 7—51700
InSe crystals, melt-grown, electron diffr. study 7—1994
K, compression and polymorphism, up to 400 kbar 7—32632
$K_3CO(CN)_6$, polytypism and phase transition, lattice dynamical calcs. 7—12262
KNO_2-I, orientational mobility of NO_2^- ions, IR spectral study 7—7690
$LaCO_3OH$ polymorphs, prep., cryst. data, X-ray powder diffr., IR spectra, TGA curves 7—32392

polymorphism continued
- Li_3BN_2, synthesis, polymorph struct., ionic cond. meas. 7−32388
- $LiNbO_3$, ilmenite modifications, vibr. spectra 7−22243
- $Mg_3(PO_4)_2.8H_2O$, synthetic, and bobierrite, cryst. structures 7−32376
- $NaNbO_3$, ilmenite modifications, vibr. spectra 7−22243
- $Na_8Ti_{3.5}O_2(OH)_2[SiO_4]_4$, polymorphous modification of natisite, cryst. struct., X-ray diffr. 7−26709
- $NbSe_2$, 2H polymorph, electronic density of states, phase matching of CDWs, NMR study 7−64538
- Ni close packed polytypic struct., stacking order, mol. dynamics computer simulation studies 7−51691
- SiC, 27R and 33R polytypes, struct. identification by Raman scatt. 7−59205
- SiC, 3C and 2H polytypes, energy differences between structurally different crystals 7−7144
- α-SiC, 6H polytype, Kikuchi map 7−58225
- SiC polytype heteroepitaxial growth, and identification by Raman scatt. study 7−63992
- SiC polytypes, lattice imaging studies on struct. and disorder 7−37933
- SiC, polytypism, confirmation of ANNNI-like model 7−63540
- SiC:Tc, N, 6H polytype, ESR of $(TiN)^0$ impurity pairs 7−2926
- $SnS_2(Se_2)$, polytypes, electronic behaviour, rel. to energy conversion 7−38447
- SnSe thin films, vacuum deposited, high temp. phase form., X-ray diffr. study 7−32873
- TaS_2:H polytype form. and stability, impurity effects 7−44440
- $TaSe_2$, 2H polytype, high resolution TEM study of triply incommensurate phase 7−6813
- V_2H, cryst. struct. of tetragonal and monoclinic forms, X-ray diffr. study 7−44456
- α-ZnP_2, polytypism and incommensurability 7−6593
- ZnS, CVD films on sapphire substrates, epitaxial nature 7−3199
- Zr-Cr-Fe, polytype structures, TEM, electron diffr. obs. 7−37925
- $ZrTe_5$, struct. polytypes 7−51718

polynomials
- *see also splines (mathematics)*
- *q*-Pollaczek polynomials and a conjecture of Andrews and Askey 7−61053
- approximation by the iterative combination of exponential type operators 7−56021
- Askey-Wilson and q-Jacobi polynomials, asymptotics 7−35199
- Askey-Wilson polynomials, zeros in symmetric association scheme 7−60967
- axisymmetric conductors, magnetostatic fields, Fe effects, Legendre polynomial expansion 7−62567
- benzenoid hydrocarbons, combinatorial Clar sextet theory 7−15510
- Bernoulli polynomials, imaginary roots *(French)* 7−60933
- Bessel function roots, summability 7−35201
- Bessel function zeros, monotonicity properties 7−35200
- Bezoutians and intertwining matrices 7−60952
- binary type, two identities 7−60945
- block-Toeplitz band matrices, determinant 7−48282
- boundary integral equation on polygonal domains, superconvergent approxs. to soln. 7−48323
- cable knots, 2-variable polynomial 7−48335
- Chebyshev collocation methods for parabolic eqns., heat eqn., advection-diffusion eqn. 7−48649
- Chebyshev polynomials and quadratic path integrals 7−41093
- dielectrics, elec. fields, computer calc. 7−42837
- divergence free functions, polynomial approx. *(French)* 7−60987
- elastic body, three-dimens., asymptotics of stress-strain state in vicinity of pointed inclusion 7−6096
- EM field problems, polynomial distribution over curved triangular domain, potential integral 7−36847
- failure criteria of composites, exptl. verification 7−22812
- finite plane isotropic elastic medium, straight crack, complex path independent integrals 7−43792
- fission reactor criticality problems, 3-dimensional, soln. by simplified response matrix technique 7−49531
- Fokker-Planck equation solns., polynomial expansion and integral eqn. methods 7−61291
- fully symmetric interpolatory rules for multiple integrals 7−48327
- Gaussian process max. distribution analysis using Monte Carlo method 7−48338
- generalized Chebyshev polynomials 7−61054
- growth of polynomials with zeros inside or outside a circle 7−24350
- heat transfer, 1D problem solns. polynomial approx. 7−50907
- Hilbert's basis theorem, proofs, formal power series ring analogue 7−48287
- identities among certain triangular matrices 7−24353
- integer solutions 7−35192
- intertwining and testing matrices corresponding to a polynomial 7−60953
- Killing tensors in spaces of constant curvature 7−29663
- Kirchhoff-plate bending using C^1 finite elements *(Spanish)* 7−18598
- L-kernel approach to quantisation of phase space polynomials 7−61147
- Legendre polynomial nodal model for 2D diffusion problems 7−30466
- Lie algebra of second-order matrices, polynomial identities *(French)* 7−60969
- Lie superalgebras, polynomial identities 7−60942
- linear and nonlinear permutation polynomials, permutation of matrices over a field 7−60956
- linear systems, stability problems *(German)* 7−29674
- local polynomials, appl. to estimation of parameters of dynamical system from obs. 7−34887
- Macdonald identities, sign variations 7−35197
- matrix polynomials, common multiples, divisors and eigenvalues 7−55955
- matrix polynomials, similarity condition for factorisation 7−55959
- matrix polynomials subject to small perturbations 7−14749
- minimal polynomial of a resolvent 7−60951
- miscible binary/ternary liquid mixture, viscosity models assessment and improvement 7−2246
- multispectral imagery dimension reduction and interpretable, Chebyshev polynomials 7−4236
- multivariate Meixner classes of invariant distributions of random matrices 7−24361
- nonhomogeneous partial derivative equation, existence of solution 7−61000
- nonlinear Schrodinger eqn., local and nonlocal conserved quantities 7−56063

polynomials continued
- nonuniform lattices, classical orthogonal polynomials of discrete variable *(Russian)* 7−56170
- operator theory, symposium, Athens, Greece (Aug. 1985) 7−55878
- orthogonal polynomials and oscillation criteria for second order linear difference eqns. 7−24381
- orthogonal polynomials in Lie algebras 7−60972
- Painleve analysis, Yoshida's theorems and direct methods in the search for integrable Hamiltonians 7−61030
- periodic multilayer design using Chebysheff polynomials 7−43322
- polymer representation, matching polynomial of a polygraph 7−5796
- polynomial vector field, limit cycles 7−18550
- rational complex planar splines, mapping props. for interpolants from polynomial functions 7−29716
- s-orthogonal polynomials, coeffs. computation by iterative process 7−48291
- semiinfinite band matrix, polynomial factorisation 7−60958
- shell, inclined Timoshenko-type, triangular finite element construct. 7−1415
- Stokes equations, collocation method, variational problem *(French)* 7−55973
- structure factor of characteristic polynomial and proof of Hosoya-Randic conjectures 7−14748
- Sylvester resultant matrix, structure of the inverse 7−48284
- thermometric characts. of planar semiconductor diodes correction *(Czech)* 7−61334
- Tisserand's polynomials in artificial Earth satellites theory, connection with inclination functions 7−47664
- trigonometric polynomials, factorisation 7−42958
- q-ultraspherical polynomials, product and addition formulae 7−35198
- (WN, pn).(C,1) method, absolute total effectiveness of degree P 7−35193
- Z-matrix, nonnegativity of principal minors, polynomial algorithm 7−29665

polytypism *see polymorphism*

Pomeranchuk poles and trajectories
- bare pomeron trajectory calcs., vacuum Regge singularity Green's function in QCD 7−41773
- double-pomeron exchange glueball production 7−61768
- EAS characts. calcs. using above-critical pomeron theory with additive quark model 7−14449
- hadron-nucleus reactions, superhigh energy cross sections in critical and supercritical Pomeron models 7−19090
- Klein-Gordon equation, gluonium and Regge trajectories 7−9974
- meson dynamics beyond the quark model, final state interactions, glueballs, CC anal. 7−24844
- multipomeron exchange processes, improved Regge-eikonal model and multiplicity distribs. 7−19089
- $hN\rightarrow h'X$,100 GeV, longitudinal hadron momentum distrib. calcs. and reggeon, pomeron exchange, quark-parton model anal. 7−61749
- NN elastic scattering in the critical and supercritical Pomeron models 7−41844
- $pp\rightarrow pp\pi^+\pi^-x\pi^0$, x=0,1,2, diffractive dissociation, 360 GeV/c quark-diquark fragmentation 7−553

Pomerons *see Pomeranchuk poles and trajectories*

Pontryagin maximum principle *see maximum principle*

Poole-Frenkel effect
- field-dependent behaviour 7−12727
- local field-enhanced electronic conduction, activation energy and Poole-Frenkel const. calcs. 7−38570
- poly (N-benzyldiphenylaminomethane) film, synthesis, elec. and optoelectronic props. 7−45384
- polyethylene thin films, high-field elec. cond. studies 7−64378
- polyoxy-(allyl)phenylene electrochemically prepared film, elec. props., permittivity and solubility 7−27665
- semiconductors, impure, Poole-Frenkel effect and donor ionisation pot. 7−21926
- Al-polyethylene-Al thin film structures, anomalous Poole-Frenkel effect obs. 7−52851
- $Ga_{1-x}Al_xAs$ MIS and SIS structures, prep. by metallorganic chem. hydride method, electrophysical props. 7−22018
- $Ge_4Se_{6-x}Te_x$ amorphous chalcogenide, elec. cond., prep. technique effects 7−7237
- In/GaAs:Cu/In struct., I-V characts., carrier recomb. and generation, impurity thermionic field ionisation effects *(Russian)* 7−22030
- La_2O_3 film, amorphous, DC cond. mechanism 7−22055
- Si:O, energy levels and capture cross-sections of thermal donors 7−16988
- Si_3N_4 films in MIS structs., cond. characts. 7−38793
- Si_3N_4 thin films, electronic conduction 7−58932
- Ti electrodes, passivated, photoelectrochemical studies 7−12757

popcorn noise *see random noise*

population inversion
- *see also laser theory; lasers; stimulated emission*
- alkali metal atoms, collision induced amplified emission 7−10513
- alkali metal atoms, population capture, optical-microwave pumping 7−25464
- alkali metal vapour, optically pumped in RF field, spatial transport of population inversion 7−19782
- alkali metal-mol. gas mixture, cooling in supersonic nozzle, population inversion of electronic states 7−31304
- atomic array, cooperative spontaneous emission, small-sample limit 7−50047
- atomic state, distrib. fn. in recomb. lasers 7−19784
- atoms, Zeeman spectra struct. in strong reson. EM field 7−57029
- fluoromethane, mol. beam, laser Stark spectra, two-zone Ramsey fringes obs. 7−42663
- fluoromethane, multiphoton coherent excitation study 7−36698
- gas lasers, condensed and compressed, review 7−36952
- gases, RF wave-induced population inversion and magnetisation transport calcs. 7−51384
- hot-hole cyclotron resonance maser with negative effective hole masses 7−15838
- 2-(o-hydroxyphenyl)benzimidazole, excited state proton transfer, pulsed liq. lasers, pop. inversion obs. 7−50549
- inner-shell excitation by nonlinear processes in atoms 7−10510
- laser media inversion filament form. due to interatomic interactions via superradiation field 7−50529
- multi-mode laser with modulated inversion, dynamic props. 7−50530
- passive modulation laser of resonator Q-factor *(Russian)* 7−43172
- periodically modulated laser subharmonic bifurcation and bistability, periodic solns. study 7−62662

population inversion continued
- plasma recombination lasers similar to thermionic convertors 7−10915
- relativistic e^--e^+ γ-ray laser 7−10906
- RF wave-induced population inversion and magnetisation transport calcs. 7−51384
- satellite excitation, complementary branching ratios 7−10519
- small-area pulses, coherent propagation in YAG:Nd and ruby activated crysts. 7−43038
- sodium salicylate, excited state proton transfer, pulsed liq. lasers, pop. inversion obs. 7−50549
- solid lasers made from activated ionic crystals, review 7−36971
- two-level atoms, coherently driven, first-order phase transition 7−62749
- two-level atoms, intrinsic optical bistability, quantum-electrodynamical many-body treatment. 7−37019
- two-level atoms in nonlinear Fabry-Perot system, output-input characts. 7−15923
- X-ray laser expts. 7−62678
- X-ray laser program at Sandia, gas puff Z-pinch implosions 7−20207
- X-ray laser research at CEL-V 7−20209
- X-ray lasers pumped by photoionisation, steady state inversion 7−20210
- Al laser plasma, population inversion X-ray spectra 7−26506
- Al, Na-like ions, steady-state population inversion 7−19780
- Al^{10+}, recombining laser produced plasma, population inversion 7−26509
- Ar^+, transition probabilities and radiative lifetimes, saturated fluoresc. spectra anal. 7−42543
- ArF, photodissoc., CARS 7−11062
- Au^{51+}, Ni-like, population inversion, ionisation model 7−25462
- B I isoelectronic sequence, short wavelength laser calcs. 7−20214
- Be I isoelectronic sequence, short wavelength laser calcs. 7−20214
- C fibre, laser produced plasma, XUV expansion coded recombination lasers 7−62679
- C fibre plasma, laser produced, population inversion and gain meas. 7−26505
- C I isoelectronic sequence, short wavelength laser calcs. 7−20214
- C plasma, laser-irrad. fibres, hydrodynamics and atomic kinetic simulations study 7−63319
- C plasma, long-laser-pulse produced, gain condition 7−20913
- C-Se plasma, radiation cooling and gain calc. for C VI 182 Å line 7−6360
- CO_2-N_2-H_2O gasdynamic lasers, collisional relaxation mechanisms 7−20181
- COSe, photodissoc., CARS 7−11062
- Ge light hole Landau level inversion, light amplification in crossed elec. and mag. fields 7−31293
- H-like Balmer alpha lines, recomb. and photo-pumping mechanisms for gain prod. 7−20212
- H_2, maximum specific deposited energy, role of VV processes 7−31303
- Li like ion plasma, population inversion collisional-radiative model 7−25463
- Ne pulsed transverse discharge, population inversion, secondary process influence 7−58084
- SiF chemical laser, feasibility 7−15853
- Sm, ${}^7F_1 \rightarrow {}^7F_0{}^0$ transition, Hanle effect, obs. of incoherent population effect and ground-state incoherence components 7−10515
- Sr ions, Ne-like laser plasma, photoexcitation, X-ray and XUV spectra 7−26507

porosity
- *see also porous materials*
- α-Al_2O_3 powders, high press. compaction, density, pore size, grain size 7−13413
- anisotropic and variable strength media, applied theories of plasticity 7−16072
- B_4C, thermal stress fracture, grain size and porosity effects *(Japanese)* 7−8087
- bronze, powder particle shape effect on stability props. 7−7927
- bronze powder, regularity of struct. of porous materials 7−53676
- cement paste, low-porosity, subcrit. crack growth in alcohol media 7−59650
- cement stone in contact with large filler, pore struct. 7−8244
- composite electroceramics, book contrib. 7−27645
- crystalline rocks, nonsorbing species porosity and diffusivity 7−23639
- elastic wave attenuation in rocks containing fluids 7−6718
- flexible polymers, in limited volumes, behavior *(Russian)* 7−25694
- flow through porous media with large number of scales, Brinkman's eqns., Foldy's approx. 7−16251
- fluid interfaces, phase transitions, local density approx. and smoothed density approx. study 7−63912
- fluidised beds, gas-solid-liquid, fluid dynamics, correls. 7−16250
- gas-thermal coating of powdered materials, substrate porosity effect 7−53999
- glass, sintered, pore size distrib. meas., dynamic water expulsion method improvement 7−13678
- graphite, neutron irradiation, macrostruct. and porosity studies 7−2069
- graphite, nucl. grade, fracture processes and oxidation effects 7−28157
- graphite, nucl. grade, polycryst., deform. under press., elastic moduli rel. to struct., neutron irrad. effect 7−28069
- graphite, nucl. grade, thermally and radiolytically corroded, microstruct. rel. to elastic modulus 7−25033
- graphite, nuclear material, corrosion and irrad. induced porosity 7−51836
- graphite, polygranular, failure models assessment 7−46596
- graphite particulate composites, opt. and scanning electron microscopic obs. of graphite struct. 7−22933
- gypsum systems, Young's modulus rel. to porosity 7−46533
- liquid phase sintering, pore filling, critical grain size for liq. flow 7−46364
- magnetic anisotropy and microstructure analysis by mag. measurement 7−33166
- magnetic meas. methods 7−28240
- marine sediments, bulk physical props. estimation at depth from seafloor geophysical meas. 7−55009
- metals, resonant displacement of levels of interacting localised plasmons and atoms of gas-filled pores *(Russian)* 7−32935
- molten carbonate fuel cells, fabrication of bubble press. barriers 7−13856
- optical measurements of porosity and fluid motionin packed beds 7−6304
- percolation systems, porosity, conductivity fluctuations and the amplitude of the long-time tail 7−35478
- PET film, solvent induced crystallisation, morphology, SEM obs. 7−44406
- polyurethane foams, shock wave attenuation capabilities 7−33972

porosity continued
- porous material prep. from montmorillonite-α-naphthylamine complex, oxidation, struct. 7−27986
- porous solids, kinetics of press. assisted final stage densification, pore size distrib., computer simulation 7−59477
- powder, heredity phenomenon in sintering, pore vol. reduction rate increase in temp. jump 7−53655
- powder metallurgy materials, permeable, homogeneity of porous struct. 7−64960
- powdered material, contact wetting angle determ. method 7−52193
- reactive solid, pore growth, scaling theory 7−255
- sandstones, porosity and clay content effects on wave vels. 7−47429
- sintered materials, flame spray coating deposition process character 7−54002
- sintering, intermediate and final-stage, microstruct. development 7−64952
- sphene glass ceramics, radioactive waste immobilisation, sintering, porosity 7−27984
- steel, Cr-Mo-V, porosity assoc. with insoluble carbides, probable effect on rolling contact fatigue 7−17639
- steel, Ni, p/m type, fracture struct. features 7−33789
- steel, P/M, produced by hot forming, strength characts., influence of porosity, C content and compacting method 7−53823
- steel, stainless, neutron irradiated, microstruct. and swelling, Si and N impurity effects *(Russian)* 7−2217
- steel, Zn phosphated, corrosion resist., cyclic voltammetry, SEM obs. 7−65181
- tracer dispersion in a binary mixture of spheres *(French)* 7−63211
- Al, anodising by chromic acid, surface struct., abrasion resist., hardness, adhesion props. 7−13646
- Al-Si-Mg (7, 0.3 wt.%), strength and ductility, effect of macroporosity 7−3386
- AlN, hot pressed ceramic, porosity effect on elec. cond. 7−7223
- Al_2O_3 film, transparent, growth from ultrafine alumina sol characteris. 7−13395
- Al_2O_3-MgO, diphasic xerogels, densification, sintering, isostructural seed, epitaxy 7−27987
- Al_2O_3-TiN composite, interfacial reaction and mass transport of components during sintering 7−3254
- BeO powder prop., porous struct. changes during heating of powdered hydroxide and basic carbonate 7−22617
- C fibre reinforced C, multidirectional composites, macroporosity and interface cracks 7−46513
- C, glass-like, heat treatment, pore growth kinetics 7−58147
- $CaCO_3$ porous minerals, dynamic shock-loaded response 7−26863
- $CaZrO_3$, sintering, porosity, mech. props., corrosion resist. 7−39664
- Cd-Zn electroplated steel, extrusion, deform. force rel. to comp. and struct. 7−3367
- Cu fibre, porous, physicomech. props. and model prediction 7−3353
- Cu powder, porosity influence on mech. and tribotech. characts. in high-speed friction 7−8119
- Cu/Ni/Cr, multilayer deposits, corrosion protective props. 7−8187
- Cu-Sn-Pb system, struct. form. during sintering 7−64967
- $CuMo_6S_{8-y}$ porous film, prep. on Cu_2S by solid-gas reaction, secondary battery appl. 7−27897
- Fe, Armco, annealed and cold worked, neutron irrad. damage 7−2067
- Fe, porous, segregation of impurity elements, alloying elements selection and activated sintering 7−53742
- Fe powders, hot pressing, fracture toughness, intergranular failure rel. to porosity 7−13596
- Fe-graphite diffusion chromised materials, high-temp. interaction in hydrogen 7−17671
- Fe-Sn mixed powder compacts, activated sintering *(Korean)* 7−3221
- $Fe_{76}Nd_{16}B_8$ plasma sprayed permanent magnets, characts. 7−45754
- LiF, pore-grain boundary configs., fracture surface, SEM obs. 7−32458
- LiO_2, elastic and creep props., porosity and temp. depend. 7−53780
- Li_2SiO_3 pellets, sintering, density, struct., porosity 7−53682
- MgO compacts, sintering, densification and porosity rel. to $Mg_3(PO_4)_2$ additions 7−17505
- Mo powder, sintering of porous bodies, rate growth and heredity phenomena 7−53652
- Ni fibre, porous, physicomech. props. and model prediction 7−3353
- Ni powder, heredity phenomenon in sintering, pore vol. reduction rate increase in temp. jump 7−53655
- Ni powder, ultradisperse, recrystallisation inhibition at high press. *(Russian)* 7−59481
- Ni-Cr fibre, porous, physicomech. props. and model prediction 7−3353
- $Ni_{52.5}Mo_{38}Cr_8B_{1.5}$ metallic glass, shock consolidated, wear props. 7−28154
- NiSn-SiC composite coatings, electrodeposition, wear resist., hardness, porosity 7−33613
- PZT ceramics, ordered void struct., dielec. const., flexure strength 7−63607
- $PbTi_xZr_{1-x}O_3$ piezoceramic, annealing in gaseous media with controllable comp., effect on electrophysical props. 7−8012
- Si-aqueous electrolyte interfaces, impedance spectra, freq. dispersion 7−27414
- SiC whisker reinforced Al, flame spraying fabrication and forging, whisker distrib. and strengths 7−59483
- Si_3N_4, surface flaws effect on strength 7−59638
- $SrO.5.6Fe_2O_3$, doped with kaolin and BaB_2O_4, sintering temp., effect on structural and mag. parameters 7−7543
- (Ti,Cr)B_2 sintered electrode exposed to liq. Al, degradation, effect of segregated Cr 7−28045
- Ti, fracture, deform., porosity effect 7−22750
- Ti parts prod. from TiH_x powder by hot pressing 7−27973
- Ti-Al-Nb (6,2 wt.%), fusion weld, defect regions, cracking, porosity, interstitials analysis 7−28109
- Ti-Al-V (6,4 wt.%), fracture, deform., porosity effect 7−22750
- TiN magnetron sputtered films, electrochemically measured porosity 7−46317
- TiN reactively RF sputtered coatings, structural defects and porosity, electrochem. polarisation meas. 7−52333
- UO_2, oxidative sintering, microstruct. 7−3239
- W base heavy metal alloys, mech.-props., porosity, impurity effects 7−17495
- W-Cu compacted pseudoalloys, elastic props., deform. diagram and pores effect 7−33722
- WC, powder, sintering of porous bodies, rate growth and heredity phenomena 7−53652
- ZrO_2-SiO_2 optical films, struct. modification by coevaporation 7−45064

porous materials
- *see also flow through porous media*
- acoustic props., recent developments 7—11200
- active C, organic compounds adsorption, intradiffusional kinetics model 7—32830
- anisotropic and variable strength media, applied theories of plasticity 7—16072
- anisotropic porous media, relationship between specific surface area and spatial correlation fns. 7—50501
- boiling heat transfer to mixtures, capillary porous coating thickness effect 7—51101
- boundary length and internal surface area meas. 7—40376
- brittle porous solid, strength and elastic modulus, acousto-US study 7—21321
- brittle solids, porous, Young's modulus 7—58396
- bronze, powder particle shape effect on stability props. 7—7927
- bronze powder, regularity of struct. of porous materials 7—53676
- capillary porous heat exchangers, heat transfer improvement 7—11417
- capillary porous materials for heat pipes, struct. and hydraulic props. 7—44039
- capillary porous solid-liquid systems, mass exchange in elec. field 7—12398
- capillary-porous bodies, heat and mass transfer, mathematical models 7—62957
- catalysts, temp.-programmed desorpt., modeling and expt. verifications 7—13799
- cellulose acetate-polyarylate films, phase separation, porous struct. and strength *(Russian)* 7—26967
- cement paste, low-porosity, subcrit. crack growth in alcohol media 7—59650
- ceramics, made of hollow spherical particles, struct. and strength 7—3234
- ceramics, multiphase, sintering 7—64963
- ceramics, porosity and thermal shock behaviour *(German)* 7—22707
- clay, anisotropically consolidated, plasticity model for mechanical behaviour 7—14265
- composite electroceramics, book contrib. 7—27645
- composites, porous and dense, prep. from sol-gel 7—65002
- composites, transport props., pore-size parameter studies 7—38657
- compressible materials, complex math. model of plastic flow 7—64959
- crack in porous medium, elastic-hydrodynamic problem of fluid inflow 7—11534
- DC cond. and percolation threshold calcs., metal-insulator composite mean-field theories 7—45253
- deformability criterion of porous body 7—64958
- diffusion and heat transfer, practical eqns. 7—6855
- dynamic analysis of saturated porous media, higher order, mixed, and Hermitean finite element procedures 7—14263
- dynamic response of saturated porous media, evaluation of u-w and u-π finite element methods 7—14262
- elastic porous media, liquid and/or gas saturated, compressional wave propagation 7—31677
- elastic-plastic problem soln. with increasing strain hardening of material 7—11304
- electrolytic conduction in porous media with charges 7—63858
- environment monitoring system for multiphase and porous media, modelling 7—59904
- ethylene-vinyl alcohol copolymers, ultrathin membranes, prep. and props. 7—54178
- fabric dependence of anisotropic strength criterion 7—38084
- fibres, hollow microporous, liquid-liquid extractions 7—54179
- filtration through gas-liquid foam, fluid flow model 7—51301
- fluid in pore, phase behaviour modelling 7—2141
- fluid permeability, SEM images, digital image anal. 7—4923
- fractal networks, anomalous diffusion, NMR field gradient expt., spin-echo amplitude 7—27627
- fractal pores, nucl. mag. relax. 7—27625
- freezing of liquid-saturated porous media 7—62966
- glass, sintered, pore size distrib. meas., dynamic water expulsion method improvement 7—13678
- graphite, nucl. grade, fracture processes and oxidation effects 7—28157
- graphite, nucl. grade, polycryst., deform. under press., elastic moduli rel. to struct., neutron irrad. effect 7—28069
- graphite, nucl. grade, thermally and radiolytically corroded, microstruct. rel. to elastic modulus 7—25033
- graphite, polygranular, failure models assessment 7—46596
- graphite limiter, effective thermal props., photoacoustic meas. 7—44239
- gypsum systems, Young's modulus rel. to porosity 7—46533
- hysteresis phenomena in boiling of trifluorotrichloroethane at porous surface 7—6770
- injection of Hg, elec. resist. devil's staircase, fluid displacement kinetics and thermodynamics 7—44041
- kinetics of press. assisted final stage densification, pore size distrib., computer simulation 7—59477
- layer, radiation absorption and radiative transfer 7—57674
- layered media, Biot waves propagation 7—6028
- Lennard-Jones fluid, behaviour in narrow pores 7—32250
- liquid boiling heat transfer in porous struct. 7—51102
- liquid films, adsorption on porous substrates, thermodynamic stabilities 7—12408
- microstructure characterization and bulk properties of disordered two-phase media 7—52068
- microstructure-thermomech. prop. correls. 7—12380
- minerals, N_2 adsorption, isotherm calcs. 7—6969
- moist, thermal props. at temps. below 0°C 7—4834
- moist soil drying model, integral methods for partial differential eqn. 7—66187
- multicomponent media, wave similarity problems 7—43740
- multicomponent systems, pores filled with two-component molecular gas, coalescence *(Russian)* 7—59490
- nonlinear compaction model for sandstone 7—4027
- perfluoropolyether lubricant on magnetic disc surface, ion-induced volatilisation for quantitative anal. 7—39933
- permeable fibre materials, thin sheets, determ. of ave. pore size by optical method 7—22961
- permittivity and resistivity meas. of elastic, fibrous and porous materials *(Czech)* 7—61355
- plastic solids, necking and failure, effect of yield surface curvature 7—43715
- plate, vibrs. under action of acoustic disturbances 7—43520
- polyethylene, porous, struct. investig. by contrast variation X-ray scatt. *(Russian)* 7—63521

porous materials continued
- polypyrrole electronically conductive polymer, fibrillar/microporous morphology control 7—26667
- polyurethane sponges, hydrophilic plasma surface treatment, geometric factors 7—22856
- porous-brittle solids, micromechanical model 7—26849
- powder metallurgy materials, permeable, homogeneity of porous struct. 7—64960
- powdered material, contact wetting angle determ. method 7—52193
- preparation from montmorillonite-α-naphthylamine complex, oxidation, struct. 7—27986
- radiative transfer study using oxides single crystals, IR absorpt. and transmission spectra study 7—53305
- random packing of identical particles, model development 7—3613
- random pattern extension to the stochastic network pore model 7—9758
- rheology, model, applic. to powder densification by hot isostatic pressing *(French)* 7—13400
- rock, porous, permeability, percolation concept anal. 7—47436
- rocks, brine saturated, permittivity freq. depend., Bergman-Milton theory of bounds appl. 7—23635
- rocks, crystalline, pore vol. and transport prop. changes during press. cycling 7—40471
- sandy rock, pore moisture thawing and freezing, aq.-phase press. influence 7—52004
- silica aerogels, photon-fracton crossover, Brillouin scatt. meas. 7—46878
- silica monolithic gels, autoclave prepared Raman studies 7—8314
- silicate porous glass, wear resistance and grinding hardness, struct. effect, grinding method meas. 7—57614
- sintered materials, characts., influence of porosity 7—7910
- steady-state shock wave parameters in porous compressible materials, approximate calcs. 7—31653
- steel, carburising process for dense and porous materials, math. model 7—39745
- steel, stainless, ion trapping of D^+, mechanisms 7—64857
- steel structural, powder, hardenability and hardness penetration, effect of comp. and porosity 7—22807
- strain hardening, compaction eqns. 7—64953
- thermal diffusivity, photoacoustic technique meas. 7—4837
- tight-binding solids, theory of electron trapping by micropores 7—21870
- Vycor, thermodynamics of freezing and melting of liq. ^4He in small pores 7—52169
- Vycor leached porous glass, fractal struct., SANS, SAXS, and energy transfer meas., comment and reply 7—44398
- wave features of nonlinear theory of porous media 7—56054
- weak disturbance velocity measurement, bulk density in porous media 7—31826
- zirconia transparent gel-monolith from Zr alkoxide, controlled hydrolysis prep. 7—8313
- Al, ion trapping of D^+, mechanisms 7—64857
- Al_2O_3 anodic porous film on Al, microstruct. 7—22882
- Al_2O_3 ceramics, elec. cond. and fluid flow permeability correls. 7—38566
- Al_2O_3, sintered, small-angle neutron scatt. from porosity 7—39825
- Al_2O_3-Cu, effective thermal cond. determ. 7—27037
- Al_2O_3-Nb_2O_5-rich material from Nb_2O_5-Al_2O_3-B_2O_3-Na_2O glass 7—51658
- B_4C, fast neutron irradiated, thermal cond. meas. 7—6900
- CeO_2:$Y^{3+}(Gd^{3+})(La^{3+})$, grain boundary effect, elec. meas. 7—38248
- Ci, porous sintered, rolling technology optimisation 7—53673
- Cu alloys, neutron irrad., cond. changes, porosity swelling and transmutation contrib. 7—51838
- Cu fibre, porous, physicomech. props. and model prediction 7—3353
- Cu-He system, closed swelling layer, internal stress distrib. *(Russian)* 7—59571
- Fe, segregation of impurity elements, alloying elements selection and activated sintering 7—53742
- Fe-Cu, pore form. during sintering, effect on mech. props. 7—64970
- Fe-graphite diffusion chromised materials, high-temp. interaction in hydrogen 7—17671
- Fe-P, sintered compacts, struct. and mech. props., effect of P addition 7—7917
- Mo and alloys, containing pores, segregation effects *(Russian)* 7—59533
- Mo, ion trapping of D^+, mechanisms 7—64857
- Mo porous electrodes for alkali metal thermoelec. convertor, voltammetric studies 7—28405
- $Na_2CaAl_2Si_4O_{12}.6H_2O$, zeolite, adsorption and desorption of ethylene, TPD study 7—32826
- Na_2O-B_2O_3-Ga_2O_3-Y_2O_3 glass, porous, leaching and sintering 7—7953
- Na_2O-B_2O_3-Nd_2O_3, SiO_2 substituted, leaching of $Na_2O-B_2O_3$, X-ray study of $NdBO_3$ 7—51657
- Na_2O-B_2O_3-SiO_2 glass, porous, sintering temp, glass transition temp. *(Japanese)* 7—7954
- Na_2O-B_2O_3-SiO_2 glass ceramic, prep., SiO_2 replacement, phase separation, struct. 7—13428
- Na_2O-B_2O_3-SiO_2 ThO_2-rich porous glass ceramic, phase separation *(Afrikaans)* 7—13439
- Nb, ion trapping of D^+, mechanisms 7—64857
- Ni fibre, porous, physicomech. props. and model prediction 7—3353
- Ni, Ni ion irrad., pore conc., effect of pre-implanted He *(Russian)* 7—32513
- Ni-Cr fibre, porous, physicomech. props. and model prediction 7—3353
- NiO porous cathode model for molten carbonate fuel cell 7—3640
- PZT ceramics, ordered void struct., dielec. const., flexure strength 7—63607
- Pt electrodes, porous, in solid-electrolyte cell, polarization 7—23027
- Si, oxidation, 2D model 7—39791
- Si, porous, W deposition for buried conductor formation 7—3189
- Si porous amorphous sputtered films, oxidation, IR spectra studies 7—3532
- n-Si porous electrodes, photoelectrochem. behaviour 7—3711
- Si porous films, IR absorpt. study 7—39149
- Si porous layers on p-substrates, oxide form. rel. to SOI struct. realisation 7—39771
- Si SOI structures using buried layers of oxidised porous Si 7—13660
- Si SOI technology, two-step oxidation technique on MBE film 7—22912
- Si:As porous layer, impurity diffusion under incoherent light exposure 7—38258
- SiC powder compacts, formed by cold isostatic pressing, influence of shape and size on homogeneity *(Japanese)* 7—64981
- SiO_2, porous, neutron-diffr. study 7—16536
- SiO_2, porous silicas, direct energy transfer in restricted geometries as probe of pore morphology 7—59251

porous materials continued
- Ti filters, filters, hydrodynamic compaction and sintering 7−7915
- W-Cu-Ti(Zr), saturation rate of porous W with Cu, effect of Ti and Zr 7−3220
- ZrO_2-Al_2O_3 composite powder, thermal decomposition prep. for porous ceramics 7−13422
- ZrO_2-Y_2O_3 ceramics, with straight, uniform-sized channels 7−22627
- $ZrSiO_4$, burnt zircon with alkali hardeners, humidity sensitivity 7−18793

porous media *see porous materials*

porphyrins *see organic compounds*

Portevin-Le Chatelier effect *see serrated yielding*

posistors
- No entries

position control
- *see also attitude control*
- advanced technology optical telescopes, conf., Tucson, United States (March 1986) 7−55886
- automatic focus control for head alignment 7−5968
- electrodynamic thermogravimetric analyzer for aerosol particle kinetics obs. 7−3620
- fibre optic position verification device, radiation therapy appl. 7−47213
- flexible US scanner using industrial robot for NDT 7−22970
- human prosthesis systems, control properties 7−18095
- implantable gait simulation using microprocessor-controlled trigger switches 7−34353
- piezodriven spindle for specimen holder in SEM 7−48922
- piezoelectric actuators for scanning tunnelling microscopy, behaviour and calibration 7−18926
- remote radwaste canister level and turntable positioning system 7−42202
- scanning tunnelling microscopy, design criteria 7−4920
- scanning X-ray interferometer translation stage 7−56240
- sensory feedback in upper limb prostheses, robotics perspective 7−34347
- solar cell array shadow-following module and sun-tracking control 7−17897
- solar electric station heliostat field, crossover effect on automatic control system 7−54267
- TMI-2, integrated defuelling system, remote tools and support equipment 7−49610
- wide-range low-voltage piezoelec. bimorph 7−21049

position finding *see navigation*

position measurement
- 3D coordinate meas. using position-sensitive device *(Japanese)* 7−29981
- 3D object repositioning using a projected grating and photographic enlarger 7−41456
- Cartesian oval fibre-optic lens as linear to angular position converter 7−43407
- collimated synchrotron radiation, Z-shaped wire profile and position monitor 7−35625
- electronic device for position-sensitive detectors in VUV spectroscopy 7−56356
- fibre optic position verification device, radiation therapy appl. 7−47213
- geostationary satellite, position meas. using ground radiobeacons 7−60503
- glycerin, motion of sphere studied using videotapes, viscosity meas. 7−35149
- laser-based system with triangulation format 7−24625
- lightning surge and transient protection and warning systems 7−34663
- marine geodesy in North America 7−47312
- optical position sensing using Si photodetectors 7−48691
- optoelectronic semiconductor position-sensitive sensor 7−41472
- photogrammetric checking of a three coordinate measuring machine 7−56369
- proximity sensors, flow meas. with beam-scanning LDV 7−37604
- quantum measurements of positions and interferometric noises 7−14921
- relativistic electron beam current and position monitor 7−19596
- sextants, subject to tilting, precision props. 7−41341
- star camera and aspect determ. system for balloon-borne payloads 7−55418
- ultrasonic remote sensor for position meas. *(German)* 7−61327
- a-Si:H junction position sensitive photodetector 7−56343
- Si/Ti amorphous superlattices, high resolution photovoltaic position sensing 7−48847

position sensitive particle detectors
- *see also bubble chambers; cloud chambers; spark chambers*
- 2D, design and testing 7−49833
- 2D detector data for crystallography, fast treatment using processor arrays 7−10354
- air proportional counters, detection efficiency 7−62231
- ALEPH time projection chamber, gating grid 7−30844
- ALEPH time projection chamber, TPC90 test model 7−30842
- ALEPH time projection chamber, wire gain and track distortion studies 7−30843
- ARGUS vertex drift chamber, design and performance 7−30840
- asymmetric small angle neutron scatt., optimum geometry 7−1819
- attenuation length measurements in narrow drift channels 7−42303
- Bragg rotor spectrometer for tokamak diagnostics 7−10352
- breakdown phenomena associated with very large gains in drift chambers 7−42297
- calorimeters using thin MWPCs operating in a high gain mode 7−42292
- CCDs, use in vertex detection 7−42334
- CHARM II neutrino detector, test results of streamer-tube system 7−30851
- CLEO II drift chamber, design and construction 7−36396
- complex ions, neutralisation in proportional counters and MWPCs, cathode effects 7−42299
- conf., Munich, Germany, March 1986 7−40990
- conf., Vienna, Austria, February 1986 7−40989
- conversion electron Mossbauer spectroscopy using high temp. proportional detector 7−48926
- CP violation experiment, detector configuration and trigger 7−41786
- CP/M VMEBUS control system for MWPC HV power supplies 7−30912
- crystallography, single-crystal diffraction data, collection with area detectors 7−11825
- cylindrical drift chamber for CMD-2 detector at VEPP-2M 7−36392
- data treatment, possible use of OCCAM and transputers 7−10355
- delay-line readout method for multicell detectors 7−831
- DELPHI forward EM calorimeter, edge effects *(Spanish)* 7−49789
- DELPHI time projection chamber, space meas. accuracy tests on half-scale prototype 7−30846

position sensitive particle detectors continued
- dimethyl ether as a drift-chamber gas 7−5550
- double wire drift chambers for in-beam expt. at LEAR 7−42302
- drift chamber calibration using lasers, review 7−42284
- drift chamber constructed of aluminized mylar tubes 7−62225
- drift chamber for high-energy heavy ions 7−62207
- drift chamber for the Mark II detector at SLAC Linear Collider 7−36398
- drift chambers for a large-area, high-precision muon spectrometer 7−62208
- drift chambers with controlled charge collection geometry for the NA34/HELIOS experiment 7−36387
- drift chambers with delay line readout in limited streamer mode 7−30850
- drift charge collection during a single particle upset 7−49792
- drift properties of electrons in methane and methane noble gas mixtures 7−42304
- drift tubes in VENUS muon detector, tension meas. system 7−49805
- drift-pots for small angle elastic scattering at the Fermilab Collider 7−36385
- EELS parallel detection setups 7−18943
- electron analyser with position sensitive detector, scattered electrons influence 7−36377
- EM shower position determination, accuracy of wide-gap drift chamber 7−5539
- fluorescence detection systems for EXAFS meas. 7−61415
- gamma camera, electronically collimated, gas scintillation utilisation 7−65845
- gaseous detectors, design improvements 7−42281
- high count rate position sensitive detectors for synchrotron radiation expts. 7−42283
- high density spiral projection chamber, end-cap detectors for OBELIX expt. at LEAR 7−36395
- high gain thin gap multiwire gas detector for the OPAL hadron calorimeter 7−42293
- high intensity positron beam and ang. correl. expt. techniques and apparatus, Cu single cryst. data 7−42274
- high pressure Xe gas time projection chamber, electron trajectories, Monte Carlo simulation 7−49801
- high resolution 2-dimensional readout of drift chambers 7−42310
- high resolution vertex chamber, test of full scale sector 7−30839
- high resolution vertex drift chamber for Mark II SLC Upgrade detector, prototype results 7−36399
- high spatial resolution positron emission tomograph 7−36421
- horizontal drift chambers for focal plane polarimeter 7−49808
- induction drift chamber 7−36389
- jet chamber with long drift paths in mag. field, pulse shape anal. 7−42301
- L3 high resolution muon drift chambers, systematic errors in track position meas. 7−36393
- large acceptance mag. detector for CEBAF 7−36379
- large solid angle μ detector for TeV region 7−42313
- Laue indexing, orientation matrix approach 7−16346
- LEED with position-sensitive detection, comparison with positron diffr. 7−26597
- limited streamer drift tubes with conductive plastic walls, cathode readout 7−25309
- low background scintillation installation for double beta decay experiments 7−19630
- low matter density cylindrical proportional chambers 7−19629
- LSI detector for low energy ESCA electrons 7−19668
- microchannel plate chevron as position sensitive detector for β-spectrometers 7−25313
- microprocessor controlled high density multiwire proportional chambers, 2D angular correlation of positron annihilation 7−36422
- microstrip vertex detector for E687 expt. at Tevatron 7−30837
- microvertex detector for UA1 expt., design and operation 7−30841
- microvertex detector in FNAL E687 expt., Monte Carlo program and pattern recognition 7−5537
- microvertex detectors, designs, radiation damage effects 7−42286
- miniature drift chamber, construction and behaviour 7−36390
- modular multidrift vertex detector 7−30838
- multielement proportional chamber for double beta-decay expt. 7−25315
- multiple neutron event detector 7−19635
- multisectional wire chamber for pulsed X-ray and VUV studies 7−30855
- multiwire chambers filament tension meas., using automated electronic tensometer 7−30004
- multiwire coordinate detectors, uses in molecular biology and crystallography 7−47297
- multiwire drift chamber, electric field calcs. *(Chinese)* 7−25319
- multiwire position sensitive chambers for compound anal. in thin layer chromatography 7−19643
- multiwire position sensitive proportional chamber *(Rumanian)* 7−15457
- multiwire proportional chambers for time-resolved studies on muscle 7−47144
- multiwire proportional counter space point finding processor 7−42317
- muon chambers of ARGUS detector, design, testing and use 7−36413
- MWPC based system for digitizing electrophoretic gels 7−47296
- MWPC imaging, derandomising buffer and microcomputer memory 7−42309
- MWPC in streamer chamber triggering system 7−49832
- MWPCs, 3D algorithm for induced charge distrib. calc. 7−36394
- neutron diffraction, SXD, the single crystal facility at ISIS 7−11848
- neutron diffraction crystallography data, single cryst., integration using position sensitive detector 7−11841
- neutron diffraction spallation time of flight data from 2D position sensitive detector, anal. 7−11847
- neutron position sensitive scintillation detector for fragment correlations 7−62212
- neutron scattering expts., evaluation of data from 1D-PSD used in TOF method 7−11846
- OPAL jet chamber full scale prototype 7−36397
- Oxford MDM-2 spectrometer, hybrid focal plane detector 7−5551
- parallel electrode position sensitive detector system for high counting rates 7−47295
- parallel plate avalanche counter for high resolution minimum ionizing particle detection 7−30853
- photodiode arrays, position sensitive detector for synchrotron X-ray radiation 7−42337
- positron camera for industrial appl. 7−42320
- positron imaging, electron gamma shower for Monte Carlo calcs. 7−36424

position sensitive particle detectors continued
  proportional chamber, multielement, for ^{136}Xe $\beta\beta$ decay 7−42287
  protein crystallography, neutron, data-collection facility equipped with linear detector 7−14168
  protein crystallography with synchrotron X-radiation source, electronic area detector data reduction system 7−14167
  radiation damage to drift chambers, lab. study of aging effects 7−42298
  real time digital display with adjustable persistencetime for 2-D detectors, appl. in X-ray crystallography 7−11849
  response characterisation, statistical methods applied to PSD data 7−11840
  ROSAT position sensitive proportional counter, radiation entrance window development 7−29405
  scintillator-photodiode hodoscope, electromagnetic shower position detection 7−42442
  selection system for particles with lifetimes of 1-0.1 psec, in vertex detector 7−10364
  semiconductor detectors, principles and new developments 7−42343
  semiconductor detectors and readout electronics, present directions and outstanding problems 7−42322
  semiconductor detectors for nuclear radiation, review 7−49835
  semiconductor drift chamber detector concepts 7−42326
  single crystal diffr data evaluation from 2 D PSDs workshop, Grenoble, France (Nov. 1985) 7−9581
  single photon detectors with optically shielded wires, operation in transverse mag. fields 7−30847
  SLD central drift chamber, two-cell prototype 7−36391
  small-angle neutron scatt. spectrometer 7−32227
  stress meas., accuracy of X-ray diffr. method 7−16353
  thermal neutron imaging using position sensitive photomultiplier 7−49819
  three-dimensional He-recoil MWPC for fast polarizedneutrons 7−5542
  time expansion chamber as vertex detector for MARK J at DESY 7−30836
  time projection chamber, avalanche broadening due to wire E×B effect 7−30845
  time-resolved electron energy loss spectroscopy 7−373
  TOPAZ time projection chamber, design, construction and calibration 7−30848
  TOPAZ time projection chamber, FASTBUS digitizer system 7−62244
  TPC, space resolution 7−25328
  track finding with the Mark II/SLC drift chamber 7−42311
  two dimensional angular correlation of positron annihilation using a scintillation camera 7−36420
  two-dimensional angular correlation of positron annihilation apparatus 7−36419
  UA2 vertex detector, FASTBUS based 100 MHz FADC system for drift chambers 7−42306
  VENUS central drift chamber, charged particles, pattern recognition algorithm 7−822
  VENUS drift chamber, global pattern recognition method 7−42315
  wide-gap electrodeless drift chamber, characts. and use at HYPERON spectrometer 7−10353
  windowless position-sensitive X-ray detector for aRowland circle crystal spectrometer 7−11764
  wire chamber advances for Mossbauer spectroscopy expts. 7−36384
  wire chambers, use in structural biology 7−47294
  X-ray diffraction, real time studies, Vidicon system 7−11839
  X-ray position detection, 6 μm position resolution, use of wire proportional chambers 7−42288
  Ar, liquid ionisation drift chamber, coordinate resolution 7−49806
  CsI(Na) scintillation detector, single-coordinate, position-sensitive, space resolution determ. 7−10359
  NaI π^0 and η^0 detector, energy resolutions by Monte Carlo simulations 7−49816
  Pb scintillation calorimeter for electron and pion detection, radiation damage props. 7−15451
  Si, amorphous layer radiation detector development 7−30858
  Si barrier detectors for charged particle detection *(Czech)* 7−62204
  Si detector, 1 m^2 array for UA2 expt., construction and performance 7−42342
  Si detector with 2D pad readout, performance 7−30857
  Si detectors, large area, properties and radiation stability 7−42333
  Si detectors for Small Angle Spectrometer of Fermilab Collider Detector, construction, performance 7−42340
  Si drift chamber for two-dimensional particle detection 7−25324
  Si drift chambers, electron dynamics 7−42329
  Si microstrip detectors with VLSI readout, test beam results 7−42330
  Si, photon counting image acquisition system, performance analysis 7−30088
  Si position sensitive detector, Tevatron beam tube tests 7−30856
  Si position sensitive detectors for the Helios expt., test procedures 7−42336
  Si position sensitive detectors for the Helios expt., X-Y tracking modules, design, testing 7−42338
  Si position-sensitive photodetectors, fabrication procedure 7−49791
  Si radial drift chambers for low noise radiation detection 7−42318
  Si sampling calorimeters, position resolution 7−15465
  Si strip detectors, radiation damage 7−42332
  Si vertex detector for CERN NA14 expt., operation 7−42339
  Xe gamma-quantum detector 7−36412

positioning *see position control*

positive column
  see also glow discharges
  discharge, constricted, charged particles, radial distribution 7−63382
  discharge tube, conical, striation excitation 7−6479
  gas discharges, dynamical behaviour, relation to elementary processes 7−20999
  glow discharge, shock wave acceleration 7−6478
  low-pressure discharge, hydrodynamic description, singularity removal 7−20882
  p- 7−21010
  thyratron plasmas, self-consistent modeling 7−32122
  vacuum arc, turbulence, particle acceleration, Buneman instability 7−1796
  Al freely burning arc discharge, self-reversed reson. spectral lines 7−32157
  Ar positive column, spectrosc. investig. 7−21010
  Ar-hexamethyldisiloxane glow discharge, charge carrier prod. 7−32172
  Ar-SF$_6$ plasma, negative ion detect., wall probe method appl. 7−20960
  He DC glow discharge positive column, gas temp. 7−32151

positive column continued
  He discharge, positive column, electron energy distrib. function calcs. 7−21031
  He glow discharge, population difference and pulse-mode optogalvanic effect 7−26570
  He, glow discharge positive column, radial behaviour, self-consistent soln. 7−21034
  He, metastable state, positive column, ionis. process investig. 7−20057
  He-Cd positive column discharge 441.6 nm laser level *(French)* 7−11811
  He-SF$_6$, low pressure glow discharge, magnetic control 7−32161
  Hg-Ar discharge, Hg 6^{3}P$_1$ and 6^{1}P$_1$ reson. level population study 7−57011
  Hg-Ar mixture, pulsed-periodic discharge plasma, optical characts. time depend. 7−37782
  Hg-Ar mixtures, electron energy distrib. functions meas. 7−21028
  Hg-Ar mixtures, in positive column, radius and plasma parameter variation 7−20956
  Na, freely burning arc discharge, self-reversed reson. spectral lines 7−32157
  Ne discharge, high-current. low-pressure, radial distrib. of neutral gas density 7−20952
  Ne-Ar mixtures, transient cataphoretic segregation in a discharge tube 7−20988

positive feedback *see feedback*

positive ray sources *see ion sources*

positive rays *see ion beams*

positive temperature coefficient thermistors *see thermistors*

positons *see positrons*

positron annihilation *see electron-positron interactions*

positron annihilation in liquids and solids
  2D angular correlations, reconstruction of momentum densities, appl. to V data 7−39232
  alkali halide crystals, positronium momentum distrib., effective mass determ., annihilation γ-rays ang. correl. meas. 7−45235
  alkali metals, 2D ang. correlation of positron annihilation radiation 7−39231
  alkali metals, positron annihilation, high-momentum components and core enhancement effects 7−46195
  alkali metals, positron annihilation rate distrib., momentum-depend. enhancement factors 7−39221
  alloys, α-FCC, positron annihilation and vacancy-impurity binding 7−39289
  amorphous polymers, microstruct., diffusion, positron annihilation investig. *(Russian)* 7−63524
  analysis of data 7−39283
  annihilation parameters calc. from arbitrary wave functions 7−46190
  austenitic stainless steel, defects study by positron annihilation 7−39296
  basic unsolved problems 7−39223
  chalcogenide glassy semiconds., defects and microheterogeneity, positron annihilation studies 7−46220
  cholesteryl hydrogen phthalate, glass transition study, positron lifetimes meas. 7−38201
  concentrated disordered alloys, positron annihilation in vacancies 7−39290
  conference, New Delhi, India (Jan. 1985) 7−41006
  crystal lattice effects 7−39222
  cyclohexylamine-water mixtures, positronium study 7−36823
  cyclooctane, plastic cryst., positron annihilation study 7−39224
  p-cynophenyl p′-n-heptylbenzoate, liq. cryst., phase transition studies 7−38195
  p-cynophenyl p′-n-heptylbenzoate-p-nitrobenzylidene-p′-n-heptyloxyaniline, liq. cryst. mixtures, phase transition studies 7−38196
  n-decane, liquid, positron mobility 7−39285
  defects caused by implanted He atoms, study by monoenergetic positron beam 7−39293
  defects in solids analysis by positron annihilation apparatus 7−39219
  diamond, positron planar channelling radiation energy levels. variational calcs. 7−63696
  3,3,-diethylpentane, positronium yield and viscosity 7−36820
  diffusion-influenced trapping and detrapping reactions 7−46212
  DL-α-dipalmitoylphosphatidylcholine, biomembrane, study by positronium annihilation 7−40116
  elastomers, positron lifetime and annihilation radiation ang. correl. meas. 7−46229
  electron and two-photon momentum distrib., ab initio calc. using LMTO formation 7−46182
  electron polarizability, electron density and pick-off annihilation lifetime 7−39226
  electron positron bound pairs, motional mag. field effect on spin states in condensed matter 7−39225
  electron-positron correlation pot., two-density depend. 7−46194
  electron-positron interactions, review 7−46179
  electron-positron systems, two-component density-functional theory, self-consistent density calcs. 7−27277
  electronic structure, positron annihilation wavefunction effects 7−7092
  energy bonds and positron annihilation studies of solids 7−64728
  epoxy polymers, amine cured, struct., positronium annihilation spectroscopy 7−46176
  equilibrium vacancy ensemble, study using angular correlation of positron annihilation-radiation 7−39233
  fast process diagnosis using positron annihilation 7−13253
  Fermi surface, 2D angular correlation studies 7−39236
  Fourier transform of positron annihilation ang. correlation curves 7−46191
  glycol-water mixtures, positronium formation and inhibition in liq., solid and glassy phases 7−36822
  graphite physisorbed surfaces, positron lifetime studies 7−39269
  graphite surface with physisorbed Ar, N$_2$ or O$_2$, positronium formation 7−33483
  graphite-K intercalation cpd., C$_8$K, positron annihilation spectra, effect of H absorption 7−39270
  graphite-K intercalation cpds., positron localisation 7−39271
  n-hexane, liquid, positron mobility 7−39285
  insulating crysts., delocalised positronium momentum distrib., phonon interactions and apparent mass anal. 7−45236
  ionic solids, positron ejection and the possibility of moderators for slow muons 7−64732
  lifetime meas. methods and apparatus 7−39218
  lifetime spectrum in amorphous materials, annealing effects *(Chinese)* 7−27814
  liquid crystals, positron annihilation, review 7−39273

positron annihilation in liquids and solids continued
Lock-Crisp-West theorem, approx. validity 7—46186
lyotropic liquid crystals studied by positron annihilation techniques 7—38194
metal surface state positron annihilation 2D ang. correl., jellium model calcs. 7—3106
metal surfaces, glazing-angle scattering and neutralization of positron beam 7—46178
metal surfaces, production of energetic positronium 7—3109
metallic alloys, positron localisation, affinity to solute clusters and size limitations 7—46200
metals, defect profiles, low energy positron meas. 7—64731
metals, positron annihilation studies, review 7—46180
metals, positron-vacancy interactions, calc. taking lattice relax into consideration *(Russian)* 7—53442
metals, struct. changes under action of thermal cycling *(Russian)* 7—53752
metals and alloys, electronic structure, positron annihilation studies, review 7—45126
metals and alloys, electronic structure, positron studies 7—64730
microcrystals on SiO_2, adsorption of H_2, positron annihilation studies 7—39311
microprocessor controlled high density multiwire proportional chambers, 2D angular correlation of positron annihilation 7—36422
momentum depend. enhancement factors, theories, rel. to exptl. data 7—46193
momentum-dependent enhancement factors for an electron gas of high density 7—46192
naphthalene derivatives, activation effects of substituents, positron annihilation studies 7—39230
non-metallic solids, positron and positronium behaviour, review 7—38516
organic conductors, positron annihilation 7—39277
organic liquid mixtures, positron interactions 7—39228
organic liquids, positronium formation 7—36814
n-pentane, liquid, positron mobility 7—39285
polyacetylene, acceptor doped, positronium halide formation 7—36819
polycrystals, positron annihilation at grain boundaries 7—46196
polyethylene, branched, phase transforms. obs., positron lifetime meas. 7—46231
polyethylene, positron annihilation radiation lifetime, Doppler broadening 7—39217
polyethylene, positron mobility meas. 7—46175
polyethylene terephthalate, glass transition and crystallisation studies, positron annihilation meas. 7—46230
polypropylene, isotactic, position annihilation lifetime investig. 7—32501
polystyrene, ageing after quenching, positron lifetime distributions 7—39566
position diffusion towards spheroidal inclusions *(Russian)* 7—39216
positron annihilation, 2D angular correlation studies 7—39237
positron bound states, formation and annihilation decay 7—45231
positron lifetime spectra, multicomponent anal., reliability tests 7—39287
positron lifetime spectra anal., Fourier transform method 7—39282
positron small angle incidence on cryst., radiation processes, incoherent multiple scatt. effects calcs. 7—44625
positron-phonon interaction and positron diffusion in solids, review 7—38240
o-positronium, gamma ray energy spectrum in 3 gamma decay 7—36817
ortho-positronium, lifetime in positron spur, paramag. particles effects 7—16633
positronium formation at low positron energy in cryst. and amorphous ice 7—27815
positronium formation in voids 7—39234
PVC: cholesteryl acetate, raw and moulded, crystallinity determ., positron lifetime studies 7—46228
α-quartz, neutron irradiated and annealed, positron annihilation and mag. susceptibility meas. 7—39274
quartz, positronium-impurity interactions 7—39215
radiative energy loss by relativistic electrons and positrons in crystals 7—21306
rapid process diagnostics by electron-positron annihilation 7—46210
selective enhancement of different electron populations by electron-positron attraction 7—46181
simple metals, positron studies 7—64729
slow positron lifetime studies pulsed positron beam production for 7—35630
solids, surfaces and atoms, positron studies, Waltham, MA, USA (Dec. 1984) 7—60877
solubility in Fe, positron annihilation study 7—46208
source correction and backscattering, determ. 7—39284
steel, 4340, positron annihilation parameter and H behaviour, effects of tempering temps. 7—46205
steel, ferritic, reactor material, neutron irrad., positron annihilation studies 7—46215
steel, stainless, ion irrad., positron annihilation studies 7—46219
steel, stainless, neutron irradiated, defect clusters, positron annihilation lifetime meas. 7—51853
strained layer superlattices, struct. effects on positron channelling radiation 7—63979
sub-surface defects, study by variable energy positrons 7—39286
surface defect distribution, reconstruction from positron annihilation parameters 7—39307
surface-positron interaction effects 7—3111
surfactant vesicles studied by positron annihilation 7—39268
2,2,4,4-tetramethylpentane, positronium yield and viscosity 7—36820
transition metal alloys, disordered, electron struct. and positron annihilation *(Russian)* 7—45133
trapping and annihilation and Peierls-Nabarro dislocation core model 7—39263
trapping at grain boundaries 7—39264
triglycerides, obs. of physical ageing by positron lifetime meas. 7—39229
two-dimensional angular correlation of positron annihilation radiation 7—39239
water-organic mixtures, positron annihilation and compressibility 7—39227
Ag, positron annihilation at surface 7—39308
Ag, positron trapping by vacancies, high resolution lifetime studies 7—46211
Ag, thermal equilibrium vacancies, positron lifetime studies 7—44535
Ag thermal vacancy form., positron lifetime meas., BaF_2 scintillator appl. 7—42434
Al (100), positron surface states, 2D ang. correl. of annihilation radiation, momentum density study 7—39305

positron annihilation in liquids and solids continued
Al (110), Ar^+ sputtered, vacancy-type defect distribs., variable energy positrons study, mol. dynamics simulations 7—12429
Al (110), sputtered defect profile, variable-energy positron beam meas. 7—38077
Al alloy, ageing, positron annihilation study 7—39295
Al alloys, positron traps, classification in age-hardenable alloys 7—38517
Al, crystals with edge dislocations, 2D angular correlation of positron annihilation radiation 7—39242
Al, divacancy effect, annihilation radiation Doppler broadening meas. 7—37982
Al, divacancy migration and small vacancy cluster form. 7—37977
Al, high purity samples, Doppler-broadened positron annihilation spectra, fast Fourier transform/power spectra deconvolution method 7—33481
Al, neutron irrad., positron trapping rates, temp. depend. 7—46218
Al, polycrystalline, deformed, positron trapping and annihilation 7—39258
Al, positron annihilation at surface 7—39308
Al, positron lifetime spectroscopy, determ. of source correction and backscattering 7—39284
Al, quenched, secondary defect form., isochronal annealing, positron lifetime study 7—39298
Al, relaxation process studied by positron annihilation 7—6698
Al, shocked. polycryst. positron annihilation ang. correlation studies 7—46197
Al, Superconducting, positron annihilation 7—45556
Al-Ag (5.9 at.%), precip., positron study 7—46485
Al-Fe-Ce-La-Nd-Rr alloys rapidly quenched, positron annihilation studies 7—46184
Al-Ge, dilute alloys, quenched, formation and growth of vacancy type clusters, positron annihilation study 7—39294
Al-H(He) systems, vacancy-impurity centres, positron lifetime meas. 7—39254
Al-He ion irrad. system, bubble form., positron lifetime meas. 7—37966
Al-He system, He bubble form. by proton irrad., positron studies 7—44526
Al-He system, He bubbles, mol. dynamics simulations and positron states 7—58778
Al-Hf dilute quenched cold-worked alloys, vacancy migration recovery processes, PAC and positron annihilation studies 7—39545
Al-Mg(Ca)(Zn)(Si)(Ge) dilute alloys, divacancy effect, annihilation radiation Doppler broadening meas. 7—37982
Al-Ni binary system., solid soln. types study by positron annihilation 7—46207
Al-Si, dilute alloys, quenched, formation and growth of vacancy type clusters, positron annihilation study 7—39294
Al-Zn alloy, positron lifetime and ang. correlation study 7—45860
Al_2O_3 surfaces, catalytic reactions, studies by positron annihilation 7—39309
Ar fluid, positronium bubble and positron induced clusters, positron lifetime meas. 7—39246
$As_xGe_{50-x}Se_{50}$, amorphous struct. study, positron lifetime spectra meas. 7—37886
Au dilute alloys, electron irrad., positron lifetime meas. 7—39250
Au, positron lifetime in vacancy clusters 7—39259
Au, quenched, vacancy clustering, positron annihilation 7—44534
Au, thermal equilibrium vacancies, positron lifetime studies 7—44535
BN, pyrolytic, macrodefects study 7—44523
B_2O_3-Li_2O-LiCl-Al_2O_3, amorphous ionic conductor, crystallisation, position annihilation study *(Chinese)* 7—37872
Bi, positron trapping in deformation induced defects 7—39257
$Bi_4Ge_3O_{12}$ crysts., positron annihilation parameters determ., gamma irrad. effects 7—46223
$CU_xMo_6Se_{7.6}$, Chevrel phase cpds., positron annihilation studies 7—46201
Cd, positron detrapping at low temps., thermally activated mechanism 7—39252
Cd, positron lifetimes, prevacancy effect 7—37973
CdTe, positron annihilation in defects at crystal surface, defect anal. 7—39306
CdTe single crystals, anisotropy of positron annihilation 7—39214
CeB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7—39241
Co-Ga binary system, β-phase solid soln., positron annihilation studies 7—46185
$(Co_{0.85}Fe_{0.06}Ni_{0.08}Nb_{0.01})_{75}Si_{10}B_{15}$ amorphous alloys, structural relax. and crystn., positron annihilation studies 7—37869
$Co_{85}Fe_5Si_8B_2$ amorphous alloys, annealing, positron annihilation parameters anal. 7—39303
CoO-Al_2O_3 dispersed oxides, positron annihilation 7—39275
Co_xSi_{1-x} polycrystalline alloys, positron lifetime, Doppler studies 7—33480
$CoSiF_6.6H_2O$, phase transitions detected by positron lifetime meas. 7—38191
Cr, paramagnetic, two-photon momentum distrib. 7—45128
Cr, positron annihilation radiation, 2D angular correlation distrib. 7—53440
Cr vacancy formation enthalpy, positron annihilation studies 7—44536
Cr_3Si, A15 cpds., 2D angular correlation of positron annihilation radiation 7—39238
Cs, positron annihilation and pressure-induced electronic s-d transition 7—22378
Cu, crystals with edge dislocations, 2D angular correlation of positron annihilation radiation 7—39242
Cu, cyclically deformed, positron trapping 7—39260
Cu, H trapping, positron annihilation spectra 7—33482
Cu, positron lifetime temp. depend., two-state trapping model, vacancy form. enthalpy calcs. 7—3107
Cu, positron trapping by vacancies, high resolution lifetime studies 7—46211
Cu single cryst., high intensity positron beam and ang. correl. expts. 7—42274
Cu surface, characterisation with intense positron beams 7—13256
Cu, thermal equilibrium vacancies, positron lifetime studies 7—44535
Cu, vacancy formation enthalpy, positron annihilation studies 7—7787
Cu-Al, H trapping, positron annihilation spectra 7—33482
Cu-Al-Zn-Mn-Ni shape memory alloy, positron annihilation study 7—46206
Cu-Ge (15.0 wt.%), Fermi surface, 2D angular correlation of positron annihilation radiation 7—39243
α-Cu-Ge alloys, determ. of quantum mechanical density matrix from angular correlation of positron annihilation data 7—39245
Cu-Kr system, Kr bubble growth, positron annihilation studies 7—39247

positron annihilation in liquids and solids continued
- Cu_3Au, electron irradiation, long range ordering, recovery, vacancy migration and clustering, positron lifetime study 7—39543
- Cu_3Au, quenched, vacancies, ordering and annealing, positron lifetime and elec. resist. meas. 7—39544
- CuB:He, neutron irradiated, annealing behaviour of defects, positron annihilation study 7—39291
- $CuO-Al_2O_3$ dispersed oxides, positron annihilation 7—39275
- CuSb(In), vacancy formation enthalpy, positron annihilation studies 7—7787
- $Cu_{50}Ti_{50}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
- CuZn (Ni) (Al) (Ge) random alloys, positron state, rel. to 2D ang. correlation 7—45230
- CuZnAl alloys, β-phase, defects study by positron annihilation 7—39297
- $Cu_{50}Zr_{50}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
- $Cu_{57}Zr_{43}$, glass metals, temp. depend. of positron trapping effect 7—39292
- Fe, dilute alloys, electron irrad., positron lifetime meas. 7—39250
- Fe, electrodeposited, grain struct. and size, positron lifetime study 7—46209
- d-Fe, ferromag., positron spin polarisation relax. study 7—46203
- Fe, nanocrystalline, positron lifetime spectroscopy 7—46177
- Fe, neutron irradiated, defect clusters, positron annihilation lifetime meas. 7—51853
- Fe, positron annihilation, high press. Doppler broadening expts. in diamond anvil 7—46189
- Fe-B metallic glasses, imperfection struct., positron annihilation studies 7—37885
- Fe-C-H system, H charged, methane bubble form., positron studies 7—37967
- Fe-Cr, neutron irradiated, defect clusters, positron annihilation lifetime meas. 7—51853
- Fe-Cr-B metallic glasses, imperfection struct., positron annihilation studies 7—37885
- Fe-Cu, dilute alloys, electron irradiated, vacancy-solute interaction, positron lifetime, muon spin rotation studies 7—39288
- Fe-H system, dislocated single crystals, positron trapping reduction on H charging 7—39262
- Fe-H system, electron and neutron irrad., positron lifetime meas. 7—44603
- Fe-H system, H-defect interactions study by positron annihilation 7—38046
- Fe-Ni, martensitic transform., defect form., positron annihilation study *(Chinese)* 7—39213
- Fe-Ni alloys, martensitic transform., positron annihilation study of defects 7—39266
- Fe-Ni-Co alloy, H damage, lattice distortion, defect and crack generation, positron lifetime study 7—39675
- Fe-Ni-Si-B metallic glasses, imperfection struct., positron annihilation studies 7—37885
- Fe-Si-B amorphous alloys, electron momentum distrib. and Fermi energy, Doppler broadening positron annihilation 7—39220
- Fe-W-B metallic glasses, imperfection struct., positron annihilation studies 7—37885
- $Fe_{80}B_{20}$, glass metals, temp. depend. of positron trapping effect 7—39292
- FeCo alloy, electronic struct., effect of ordering, positron annihilation and Mossbauer effect study 7—45142
- $Fe_{1-x}Co_x$, spin-polarised positron annihilation and mag. moments 7—53439
- $Fe_{67}Co_{18}B_{14}S$ metallic glass, magnetic aftereffect, thermal treatment, positron lifetime study 7—38907
- $Fe_{14}Nd_2B$ permanent magnet, Dy substituted positron annihilation studies 7—3108
- $Fe_{40}Ni_{40}B_{20}$, amorphous, positron annihilation studies 7—45859
- $Fe_{38}Ni_{40}Mo_4B_{18}$, metallic glass, positron annihilation *(Chinese)* 7—64726
- $Fe_{40}Ni_{38}Mo_4B_{18}$, amorphous, positron annihilation studies 7—45859
- $Fe_{40}Ni_{40}Mo_4B_{16}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
- $Fe_{40}Ni_{40}P_{14}B_6$ amorphous alloys, annealing, positron annihilation parameters anal. 7—39303
- $(Fe_{0.6}Ni_{0.4})_{82}Si_8B_{10}$ amorphous alloys, structural relax. and crystn., positron annihilation studies 7—37869
- $Fe_{40}Ni_{40}Si_{16}B_4$ metallic glass, positron trap depth distrib. determ., lifetime and Doppler effect meas. 7—39304
- GaAs and GaAs:Te, defect study by positron annihilation *(Chinese)* 7—13254
- GaAs, defects, positron lifetime spectra 7—37979
- GaAs, dislocation containing, positron annihilation 7—39279
- GaAs, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7—2536
- GaAs, neutron-irradiated, vacancy annealing, positron-lifetime study 7—64727
- GaAs, positron lifetime, electron beam effects and temp. depend. 7—39280
- GaP, neutron irradiated and as-grown, vacancy defects, positron studies 7—2012
- Gd-Fe sputtered amorphous films, structural relax., positron lifetime meas. 7—37870
- Ge, positron planar channelling radiation energy levels. variational calcs. 7—63696
- H_2O, positron age-momentum correlation meas. 7—36440
- $Hg_{1-x}Cd_xTe$, electron-irradiated, positron annihilation 7—38060
- HgTe, electron-irradiated, positron annihilation 7—38060
- In, impurity-induced vacancy clustering, positron studies 7—38044
- In, monovacancy formation enthalpy, positron annihilation Doppler broadening studies 7—37976
- In, positron annihilation parameters, prevacancy effect 7—39251
- In, positron lifetimes, prevacancy effect 7—37973
- In, vacancy formation study by positron lifetime spectroscopy with β^+-γ- and γ-γ-coincidences 7—39261
- InP, grown-in defects, slow positron beam and positron labelling studies 7—44527
- $KAl_2(AlSi_3O_{10})(OH)_2$, cryst., struct. anisotropy, positron annihilation method 7—13255
- KCl crysts., positron annihilation and ang. correl. meas., low temp. positronium self-tapping 7—46226
- KCl, positron annihilation at low temps. 7—53441
- KCl, positron lifetime meas. 7—53438
- $KCl_{100-x}Br_x$ mixed cryst., positron annihilation, lifetime, and ang. correl. meas. 7—46227

positron annihilation in liquids and solids continued
- $KMg_3(AlSi_3O)_{10}(OH)_2$, cryst., struct. anisotropy, positron annihilation method 7—13255
- LaB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7—39241
- LiF, γ-irrad., positron annihilation, temp. depend. 7—3110
- LiF γ-irradiated crysts., F-centres, positron annihilation and optical absorpt. meas. 7—44542
- LiF ionic crysts., band-gap-energy positron emission, comment 7—45227
- Li_3N:H, doped and undoped fast ionic conductor, positron annihilation 7—39276
- MgF_2 single crysts., positronium effective mass and phonon interactions, annihilation γ-rays ang. correl. meas. 7—45234
- MgO, positron lifetime spectra, impurity effects 7—39278
- $Mg_{70}Zn_{30}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
- Mn-Al-C ferromag. alloys, phase, transformations. and struct. defects, positron annihilation study 7—46461
- Mo, alpha-particle-induced defects, annealing, positron annihilation studies 7—44633
- Mo, cold worked, defect annealing behaviour, positron annihilation studies 7—37975
- Mo, positron trapping by vacancies, loops and voids, positron annihilation studies 7—46216
- Mo-H proton irradiated system, defect annealing, positron lifetime studies 7—38043
- Mo-H system, neutron irrad., H-void interactions 7—44604
- Mo-H system, positron trapping by voids, temp. depend. 7—46217
- Mo-N system, neutron irrad., isochronal annealing, positron annihilation studies 7—46531
- NaCl positron annihilation parameters, irrad. effects determ. 7—46224
- NaCl, positron annihilation parameters; beta irrad. effects determ. 7—46225
- NaCl, positron annihilation at low temps. 7—53441
- NaCl(Br)(I) aqueous solns., positron trapping model, time-depend. rate const., ang. correl. 7—46222
- NaCl(F) 7—46226
- NaF ionic crysts., band-gap-energy positron emission, comment 7—45227
- NaF, positron annihilation at low temps. 7—53441
- NaY zeolite, Au impregnated, positron lifetime spectra 7—17358
- Nb (110), vacancy formation, positron studies 7—44537
- Nb, Fourier transform of 2D angular correlation 7—38439
- Nb, polycrystalline, electron momentum distrib. for ang. correlation of positron annihilation radiation 7—46188
- Nb, positron annihilation Doppler broadening studies 7—39255
- Nb-H system, alpha-particle irrad., defect annealing behaviour 7—44605
- Nb-H system, electron irrad., vacancy recovery, positron lifetime studies 7—37972
- Nb_3Ir, A15 cpds., 2D angular correlation of positron annihilation radiation 7—39238
- Nb_xMb_{1-x} alloys and elemental metals, 2D angular correlation spectra studies, band struct. 7—39235
- $NbSe_2$, 2H polytype, CDW phase transition study by means of positron annihilation 7—38476
- NdB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7—39241
- Ni (110), defects developed by epitaxial growth of Ni film or ion bombardment 7—63924
- Ni, electron irrad., H-defect interactions, positron annihilation study 7—6674
- Ni, fatigue cycling, lattice defect characterisation 7—37978
- Ni, fatigued, crystal defects, positron annihilation studies 7—46213
- Ni, quenched and deformed, vacancy clustering, positron annihilation 7—44534
- Ni, spin polarised positron annihilation 7—46187
- Ni-H proton irradiated system, defect annealing, positron lifetime studies 7—38043
- Ni-H system, H-defect interactions, positron annihilation studies 7—39256
- Ni-Kr system, Kr bubble growth, positron annihilation studies 7—39247
- β-NiAl alloys, structural vacancies and T-antistruct. atoms, positron trapping study 7—39300
- Ni_3Al and NiAl, positron annihilation and DSC studies of diffusion mechanisms 7—46204
- Ni_3(Fe,Nb), order-disorder transformation, positron annihilation study 7—39509
- Ni_3Fe, order-disorder transformation, positron annihilation study 7—39509
- Ni_3Ga, 2D electron-positron momentum density and Fermi surface 7—45127
- Ni_3Ga, momentum density distribs., Compton scatt., positron annihilation, symmetrised APW method 7—64069
- NiMnSb, half-metallic ferromagnet, positron-annihilation study 7—21802
- $Ni_{60}Nb_{40}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
- NiO, substoichiometric, positron annihilation meas. 7—37981
- O monolayer surface on exfoliated graphite, positron annihilation study at low temps. 7—38346
- PZT:Bi piezoelectric ceramics, vacancies, positron lifetimes 7—37980
- $Pb_{0.93}Ge_{0.07}Te$, glassy and cryst., defect struct., positron annihilation studies 7—46221
- $PbTiO_3$:La piezoelectric ceramics, vacancies, positron lifetimes 7—37980
- Pd, angular correlation of positron annihilation radiation, calc. 7—39244
- Pd-In alloys, constitutional and thermal defects, positron lifetime study 7—39299
- PdH, angular correlation of positron annihilation radiation, calc. 7—39244
- $Pd_{80}Si_{20}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
- PrB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7—39241
- o-Ps, in Ar, localisation 7—6684
- Re, Fermi surface, 2D angular correlation of positron annihilation radiation 7—39240
- Ru, Fermi surface, 2D angular correlation of positron annihilation radiation 7—39240
- Si, as-grown float-zone crysts., self-disorder vacancy associates, positron annihilation meas. 7—46232
- Si, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7—2536
- Si, neutron irradiated, recovery 7—39567
- Si, positron diffusion 7—39281
- Si, positron planar channelling radiation energy levels. variational calcs. 7—63696

positron annihilation in liquids and solids continued
- a-Si pure and H doped films, defects and microvoids, positron annihilation study 7−45086
- Si:H floating zone single crysts., neutron irrad., isochronal annealing behaviour, positron annihilation studies 7−21288
- Si:O, positron annihilation study 7−3105
- Si-SiO_2 interface, study using variable energy positron beam 7−38063
- 6H-SiC, positron and positronium states, neutron irradiation effects 7−45232
- SiO_2 aerogel, kinetic energy of positronium emitted from surface 7−39310
- SiO_2 fine powder, 3 photon annihilation yield meas., sum energy analyser appl. 7−42435
- Sn, phase transitions, Doppler broadened positron annihilation studies 7−38190
- Sn, phase transitions, positron lifetime study 7−39265
- β-Sn, positron lifetimes, prevacancy effect 7−37973
- Ta-H system, electron irrad., vacancy recovery, positron lifetime studies 7−37972
- TaS_2, 1T polytype, CDW transition obs. by positron annihilation 7−39267
- $TaSe_2$, 2H polytype, CDW transition obs. by positron annihilation 7−39267
- $TaSe_2$ crystals, ZH polytype, positron meas., CDW phase transition 7−46202
- $(TaSe_4)_2I$, electronic struct., positron annihilation and UPS study 7−53500
- $(TaSe_4)_2I$, ID CDW system, positron annihilation 7−39272
- Ti, Fermi surface, 2D angular correlation of positron annihilation radiation 7−39240
- $Ti_{1-y}V_yH_x$, FCC-FCT transition, positron annihilation obs. 7−32641
- Tl, positron lifetimes, temp. depend. 7−39253
- U, vacancy formation and phase transformations, positron annihilation studies 7−39248
- V, 2D angular correlations, reconstruction of momentum densities 7−39232
- V, Fourier transform of 2D angular correlation 7−38439
- V, positron annihilation radiation, 2D angular correlation distrib. 7−53440
- V-Fe-H alloys, positron annihilation near crit. electron conc. 7−46199
- V-Mo disordered alloy electron-positron pair momentum density and Fermi surface calc. 7−45129
- W, electron and proton irrad., thermal annealing, positron annihilation studies 7−46214
- W, vacancy formation enthalpy, positron annihilation studies 7−37974
- W-H system, H-defect interactions, positron annihilation studies 7−38045
- Zn, deformation recovery, positron annihilation spectroscopy 7−21329
- Zn, electron irradiated, positron lifetime spectra, temp. depend. 7−39249
- Zn, selective enhancement of different electron populations by electron-positron attraction 7−46181
- Zn single crystals, positron annihilation, tempo. depend. angular correlation study 7−7786
- Zn-Al-Mg alloy, defect and grain boundary diffusion-controlled positron trapping study 7−39301
- Zr, momentum density distrib. in α and ω phases by position annihilation meas. 7−46183
- $Zr_{75}Fe_{25}$, hydrogenised, positron lifetime and Mossbauer study 7−46198

positron emission tomography *see radioisotope scanning and imaging*

positron scattering *see electron-electron scattering; electron-nucleon scattering; electron-nucleus scattering; electron spectra; hadron electroproduction; secondary emission*

positron scattering (atoms) *see atomic electron impact excitation; atomic electron impact ionisation; elastic scattering of electrons by atoms and molecules*

positron scattering (molecules) *see elastic scattering of electrons by atoms and molecules; molecular electron impact dissociation; molecular electron impact excitation; molecular electron impact ionisation*

positron states
- alkali halide crystals, positronium momentum distrib., effective mass determ., annihilation γ-rays ang. correl. meas. 7−45235
- alkali halides, positron states, hopping- and tunnelling-diffusion calcs. 7−44921
- bound states, formation and annihilation decay 7−45231
- concentrated disordered alloys, positron annihilation in vacancies 7−39290
- conference on positron annihilation, New Delhi, India (Jan. 1985) 7−41006
- elastomers, positron lifetime and annihilation radiation ang. correl. meas. 7−46229
- electron-positron correlation pot., two-density depend. 7−46194
- electron-positron systems, two-component density-functional theory, self-consistent density calcs. 7−27277
- insulating crysts., delocalised positronium momentum distrib., phonon interactions and apparent mass anal. 7−45236
- ionic crysts., positronium dynamic props. calcs. 7−45233
- light particle localisation in simple fluids, quantum kinetic theory 7−38489
- metal surface, low energy positron interactions, elastic and inelastic scatt. calcs. 7−39330
- metal surfaces, low energy positron diffr. pattern calcs., scatt. processes anal. 7−39331
- metallic alloys, positron localisation, affinity to solute clusters and size limitations 7−46200
- metallic surfaces, positronium momentum spectra 7−52532
- metals, nonthermal positrons, resonance trapping at vacancies 7−45226
- metals, positron self-trapping and adiabatic diffusion 7−45228
- metals, reaction rate approach to e^+, μ^+ and π^+ trapping 7−45229
- non-metallic solids, positron and positronium behaviour, review 7−38516
- polyethylene, positron annihilation radiation lifetime, Doppler broadening 7−39217
- position annihilation, electron-positron interactions, review 7−46179
- positronium physisorbed on jellium surface, model anal. 7−38347
- semiconductors, covalent, positron self-trapping and adiabatic diffusion 7−45228
- surface positrons and the many positron, many electron system 7−64179
- Al (100), positron surface states, 2D ang. correl. of annihilation radiation, momentum density study 7−39305
- Al alloys, positron traps, classification in age-hardenable alloys 7−38517
- Al, equilibrium vacancy ensemble, study using angular correlation of positron annihilation-radiation 7−39233

positron states continued
- Al-He system, He bubbles, mol. dynamics simulations and positron states 7−58778
- Ar fluid, positronium bubble and positron induced clusters, positron lifetime meas. 7−39246
- CeB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7−39241
- Cr, Fermi surface, 2D angular correlation studies 7−39236
- CuB:He, neutron irradiated, annealing behaviour of defects, positron annihilation study 7−39291
- CuZn (Ni) (Al) (Ge) random alloys, positron state, rel. to 2D ang. correlation 7−45230
- $Cu_{57}Zr_{43}$, glass metals, temp. depend. of positron trapping effect 7−39292
- $Fe_{80}B_{20}$, glass metals, temp. depend. of positron trapping effect 7−39292
- GaAs, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7−2536
- H_2O, positron age-momentum correlation meas. 7−36440
- KCl crysts., positron annihilation and ang. correl. meas., low temp. positronium self-tapping 7−46226
- LaB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7−39241
- LiF ionic crysts., band-gap-energy positron emission, comment 7−45227
- MgF_2 single crysts., positronium effective mass and phonon interactions, annihilation γ-rays ang. correl. meas. 7−45234
- NaCl positron annihilation parameters, irrad. effects determ. 7−46224
- NaCl(F) 7−46226
- NaF ionic crysts., band-gap-energy positron emission, comment 7−45227
- Nb, Fourier transform of 2D angular correlation 7−38439
- Nb_xMb_{1-x} alloys and elemental metals, 2D angular correlation spectra studies, band struct. 7−39235
- NdB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7−39241
- PrB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7−39241
- Si, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7−2536
- 6H-SiC, positron and positronium states, neutron irradiation effects 7−45232
- V, 2D angular correlation studies 7−39237
- V, Fourier transform of 2D angular correlation 7−38439
- V, positronium formation in voids 7−39234
- Zn, two dimensional angular correlation of positron annihilation radiation 7−39239

positronium
- *see also electron pairs*
- 15-25 internal, Doppler-free two-photon spectroscopy studies 7−62546
- n-alcohols, homologous series, positronium formation probabilities, expt. and theoretical determ. 7−36821
- alkali halide crystals, positronium momentum distrib., effective mass determ., annihilation γ-rays ang. correl. meas. 7−45235
- atom, in ethane gas, cavities rel. to orthopositronium annihilation rates 7−36824
- chemical reactions and radiation yield 7−17808
- complex formation, quenching rate const. meas., solvent effects 7−62545
- conference on positron annihilation, New Delhi, India (Jan. 1985) 7−41006
- cyclohexylamine-water mixtures, positronium study 7−36823
- cyclooctane, plastic cryst., positron annihilation study 7−39224
- p-cynophenyl p′-n-heptylbenzoate, liq. cryst., phase transition studies 7−38195
- decay rate of orthopositronium 7−36816
- 3,3,-diethylpentane, positronium yield and viscosity 7−36820
- DL-α-dipalmitoylphosphatidylcholine, biomembrane, study by positronium annihilation 7−40116
- Doppler free two-photon spectra 7−25685
- $e^+ + SiH_4$, optical pot. approach 7−30933
- elastomers, positron lifetime and annihilation radiation ang. correl. meas. 7−46229
- ethane, o-positronium decay rate, mean field behaviour transition 7−36733
- ethane, orthopositronium annihilation rates 7−62543
- exchange collisions with lanthanide ions 7−50405
- fermionium production in electron-atom collisions 7−36811
- formation, basic unsolved problems in positron annihilation 7−39223
- formation, by positron impact on H_2, cross-sections 7−36801
- formation, inhibition and enhancement, model 7−17810
- formation and fast radiolytic processes in polar solvents 7−17807
- formation and hydrated positron reactions in solns. of Cl^-, Br^- and I^- 7−17809
- formation and inhibition in cyclohexane, model calcs. 7−17812
- formation by positron scatt. at metal surfaces 7−46178
- formation in moderately dense mol. gases 7−28327
- formation in molecular liquids, probability, spur model 7−17811
- formation in positron collisions with He and H_2, cross sections 7−15724
- formation probability, Monte Carlo calc. 7−36815
- gamma ray energy spectrum in orthopositronium 3 gamma decay 7−36817
- glycol-water mixtures, positronium formation and inhibition in liq., solid and glassy phases 7−36822
- hot atom chemistry in gases 7−15746
- ice, cryst. and amorphous, positronium formation at low positron energy 7−27815
- insulating crysts., delocalised positronium momentum distrib., phonon interactions and apparent mass anal. 7−45236
- ionic crysts., positronium dynamic props. calcs. 7−45233
- light particle localisation in simple fluids, quantum kinetic theory 7−38489
- liquid crystals, positron annihilation, review 7−39273
- many-electron atoms, quantum-mechanical model 7−25338
- metal surfaces, production of energetic positronium 7−3109
- metallic surfaces, positronium momentum spectra 7−52532
- methane, gas, positron annihilation, density and elec. field effects 7−36825
- methane, o-positronium decay rate, mean field behaviour transition 7−36733
- molecule autoionisation state, complex coordinate rot. 7−994
- monoenergetic beam formation, rel. to 511 keV galactic centre positron annihilation line 7−62547
- monoenergetic positronium, creation in gas 7−36784
- N-body quantum problem in configuration space 7−10141

positronium continued
naphthalene derivatives, activation effects of substituents, positron annihilation studies 7—39230
negative ion, hyperspherical coordinates adiabatic study 7—50420
negative ion, photodetachment 7—36818
negative ion, photodetachment and electron elastic scatt., variational techniques calc. 7—50363
non-metallic solids, positron and positronium behaviour, review 7—38516
optically active molecules, expt. limits on asymmetric positronium formation 7—36813
organic liquids, positronium formation 7—36814
orthapositronium, in ethane gas, annihilation rates, press. and temp. depend 7—36826
orthopositronium, lifetime in positron spur, paramag. particles effects 7—16633
phenanthrene, positronium and phase transition 7—36829
photon dispersion in strong mag. field with positronium formation 7—41690
physisorbed on jellium surface, positron states model anal. 7—38347
polyacetylene, acceptor doped, positronium halide formation 7—36819
positive particle thermalisation, reaction and kinetics 7—51896
positron and positronium atomic physics 7—36783
positron bound states, formation and annihilation decay 7—45231
positron-atom scatt., partial cross sections 7—36788
positron-gas collisions, charge exchange, ortho-positronium form. 7—62513
positronium+He, annihilation spectrum 7—62547
o-positronium diffusion controlled quenching reactions, influence of solvent dielec. constant 7—39852
α-quartz, neutron irradiated and annealed, positron annihilation and mag. susceptibility meas. 7—39274
quartz, positronium-impurity interactions 7—39215
quenching and form. in xylene soln. containing nitrodiphenyls 7—50406
quenching reactions, solvent dielec. const. role 7—54077
radiation chemistry in liquids 7—17806
solid surfaces, positronium refl. and diffr. coeff. meas. method 7—39332
solids, surfaces and atoms, positron studies, Waltham, MA, USA (Dec. 1984) 7—60877
sulpholan, phase transitions and positronium formation and lifetime 7—36828
2,2,4,4-tetramethylpentane, positronium yield and viscosity 7—36820
water-organic mixtures, positron annihilation and compressibility 7—39227
yield and emission spectra, in perfluorobenzene-cyclohexane mixtures, excited states effects 7—15741
$\bar{p}$+Ps collisions, antihydrogen form., cross section meas. 7—50418
Ag, positron annihilation at surface 7—39308
Al (110), sputtered defect profile, variable-energy positron beam meas. 7—38077
Al, positron annihilation at surface 7—39308
Al, positronium work function, temp. depend. 7—58859
Al-He system, He bubble form. by proton irrad., positron studies 7—44526
Ar fluid, positronium bubble and positron induced clusters, positron lifetime meas. 7—39246
Au, positronium work function, temp. depend. 7—58859
Cu, positronium work function, temp. depend. 7—58859
He, ionisation by positron impact, partial cross-section meas. 7—36777
He, ionisation by positron impact 7—36785
He, positronium form. by positron scatt., cross-section calcs. 7—36796
He total positronium formation cross sections 7—42796
KCl crysts., positron annihilation and ang. correl. meas., low temp. positronium self-tapping 7—46226
Li, electron impact ionisation, positronium form. 7—31176
Li, positron impact, positronium form. cross-sections 7—36797
LiF ionic crysts., band-gap-energy positron emission, comment 7—45227
MgF_2 single crysts., positronium effective mass and phonon interactions, annihilation γ-rays ang. correl. meas. 7—45234
Mo (100), ion irradiated, sub-surface defects, study by variable energy positrons 7—39286
NaCl positron annihilation parameters, irrad. effects determ. 7—46224
NaCl(F) 7—46226
NaF ionic crysts., band-gap-energy positron emission, comment 7—45227
Ne total positronium formation cross sections 7—42795
Ni, positronium work function, temp. depend. 7—58859
O monolayer surface on exfoliated graphite, positron annihilation study at low temps. 7—38346
O_2, inelastic scatt., triplet-singlet conversion of positronium 7—62484
Pb, positronium work function, temp. depend. 7—58859
o-Ps, in Ar, localisation 7—6684
6H-SiC, positron and positronium states, neutron irradiation effects 7—45232
SiO_2 aerogel, kinetic energy of positronium emitted from surface 7—39310
V, positronium formation in voids 7—39234

positrons
see also electron pairs; electrons
gases, positron diffusion and annihilation rates 7—37621
heavy ion collisions, positron production 7—36020

potassium
see also nuclei with ......
adatoms on Cu (001), two-dimensional condensation, LEED obs. 7—12478
adatoms on W (112), density fluctuation simulation 7—32806
adsorbed on Cu (001), valence-electronic struct., work function changes and EELS 7—45002
adsorbed on Ni (111), effect on mol. orientation of chemisorbed CO, ESDIAD study 7—32825
adsorption, on Fe(III) surface, precoverage, promotion of surface reactions with N_2 7—13807
adsorption of trace amounts on Cu (111), perturbation of surface electronic struct. 7—52720
N Apennines, deformation phases dating using K-Ar and ^{40}Ar/^{39}Ar techniques 7—40459
atom, 4 ^2P impact excitation by polarised electrons, fluoresc. polarisation study 7—31177
atom, electron scatt., relativistic effects, Kohn-Sham theory 7—42765
atom, photoionisation cross sections, ab initio RRPA calcs. 7—36462
atom, relativistic effective potentials in quantum Monte Carlo calculations 7—49902
atom, Stark levels, WKB calcs. and multichannel quantum-defect theory 7—15546

potassium continued
atom, two- and three-photon ionis. 7—30993
atoms, elastic positron scatt., integral eqn. approach 7—42762
atoms, laser radiation effects in trapping 7—15554
atoms, transition energies, X-ray spectra, $X\alpha$ theory, X-ray transition energies 7—10422
atoms in Ar matrix, site modification by X-ray and light irradiation 7—51819
atoms in He-K discharge afterglow, multiple Raman scattering from XUV generation 7—20349
atoms in strong field, static Stark effect 7—50007
axon, squid, modulation of aminopyridine block of K^+ currents 7—23324
boiling liquid metal, critical heat flux *(German)* 7—49565
CDW phason anisotropy, NMR linewidth 7—27614
charge density waves, satellite patterns 7—38471
coadsorbed with CO on Ni (111), adsorbates electrostatic interaction, IR reflection-absorption spectra, TPD, LEED obs. 7—32824
coadsorbed with CO on Pt (111), inverse photoemission 7—52726
coadsorbed with Ni on W (110), field emission flicker noise 7—32807
coadsorption with CO on Pt (111), structural and vibrational studies 7—52266
compression and polymorphism, up to 400 kbar 7—32632
deposition using UHV effusion cell 7—64949
desorption from Pt, 1600-1900 K 7—58636
dimer, interferences continuum fluoresc. 7—25585
direct EM ultrasound generation, polarisation dependence expt. 7—2110
Earth core K content 7—40437
electron-electron and electron-phonon interactions, plastic deform. effects 7—12710
electronic band struct., interatomic distance, role of p-orbitals, EHT tight-binding calcs. 7—32906
film, clean and contaminated, CDW search using EELS 7—53462
films, adsorption of H_2O, XPS, UPS, work function meas. 7—12485
gas, stimulated emission via unequal frequency two-step hybrid resonance 7—10516
impurity in W, morphology and behaviour of K bubbles at varied temps. 7—2223
intracellular distribution, in ICRP Reference Man 7—65861
ion, effective electron inelastic excitation cross section, resonance effects study 7—42772
ion, scatt. by diatomic gases and spherical mols., energy transfer flight time meas. *(German)* 7—57163
ion adsorption on Bi, in alcohol solvents 7—52238
large clusters, struct., charge distribution and spin densities, semiempirical study *(French)* 7—26696
liquid, boiling, pressure effect on departing bubble 7—44774
liquid alkali metals, temp. depend. of mag. susceptibility 7—33152
low energy X-ray fluorescence anal. using annular ^{55}Fe source, Monte Carlo approach 7—8335
Mercury, K discovery in planetary atmosphere 7—24036
molecule, polarization moments in a state with high angular momentum 7—43025
outer-core emission spectra, many-body effects and spin-orbit partner behaviour obs. 7—53436
overlayers on graphite, electronic struct., initial stages of intercalation 7—53503
overlayers on Ru (1010), struct. and energetics, chemisorption and desorption studies 7—21659
paramagnetic susceptibility calc. homogeneous electron gas model 7—45196
particles, electron spin-lattice relax. freezing-in, spin echo obs. 7—2921
phonon spectra, dynamical pseudopot. shell model calcs. 7—51965
plasma, electron thermal cond., hot-wire meas. 7—20950
plasma, multidipole confinement 7—44229
plasma confinement in spindle cusp mag. field 7—32042
plasma electron collisions, momentum transfer cross sections, expt. data fit 7—20845
poly-p-phenylene:K, heavily doped, elec. cond., chain length depend. 7—32975
polyacetylene:K, elec. cond. temp. depend. meas. 7—17030
polyacetylene:K films, doping, redox potential studies 7—32475
position annihilation studies, SDW and CDW instability 7—46180
positron annihilation, high-momentum components and core enhancement effects 7—46195
positron annihilation in alkali metals 7—39231
positron annihilation rate distrib., momentum-depend. enhancement factors 7—39221
positron studies of simple metals 7—64729
preadsorbed layer on Co foil, CO adsorption, XPS and AES studies 7—8296
Rydberg atoms, avoided crossings in elec. field using blackbody radiation 7—15558
Rydberg states, microwave multiphoton transitions obs. 7—25474
seawater K and Ca concentrations, potentiometric determ. over wide salinity range via admixture technique 7—14311
self-broadened reson. line, heat-pipe oven, superheating effect study 7—36553
skeletal muscle, frog, external [K^+] and the block of the K^+ inward rectifier by external Cs^+ 7—23325
spectroscopy using superheating in heat-pipe oven 7—6070
surface-ionised plasma in hot cavity, power-shifted microwave reson. 7—58020
tensile strength under (110) uniaxial stress *(Chinese)* 7—26825
vapour, density meas. 1500-2100K, 1.4-4.0 MPa 7—51371
vapour, dimer spectral line shape, nonadiabatic effects study 7—36696
vapour, nondegenerate four-wave phase conjugation, three-level resonance medium 7—20360
vapour, stimulated radiation via hybrid resonance processes 7—5641
C:K, NO adsorpt. and reduction 7—63946
C_6K and C_4K layered cpds., superconductivity 7—12904
C_8K first stage intercalation cpd., self-consistent band struct. calc. 7—52395
Cu:K (111) surface, anomalous surface-state penetration near band edge, photoemission studies 7—39361
Cu-K, amorphous multilayer X-ray reflectors, layer imperfections effects 7—25936
Ge:Na(K), impurity addition by electrolysis 7—44578
K + methyl iodide (ethyl iodide) (n-propyl iodide), reactive collision, medical group effect, mol. beam study, cross section meas. 7—39900
K + N_2, electronic and vibr. excitation, cross section meas. 7—36735

potassium continued
- K^-, electron affinity and photodetachment cross sections, ab initio multichannel calcs. 7—36463
- K^+ channels, voltage-activated, twinning with Ca^{2+} channels in Drosophila, rel. to occult Ca^{2+} channels 7—17966
- K^+, electron impact s-ionisation, ultrasoft X-ray spectroscopy study *(Russian)* 7—984
- K^+, hyperthermal scattering from W (110) surface 7—22412
- K^+, in ethylene-glycol (ethylene glycol-water), primary medium effects 7—12313
- K^+ low energy small angle scatt. from Ag and Au surfaces 7—53484
- K^+ permeability of resting membrane, rel. to excitable K channel 7—40112
- K^+ selective electrodes on valinomycin/PVC overlayered substrates 7—65375
- K^{n+}, (n=10, 11, 14), metastable ion beams, forbidden lines, visible spectrum 7—57022
- K-KCl melts metal-nonmetal transition, elec. cond. and optical reflectivity study 7—38457
- K-Na eutectic mixture in fusion-fission pebble bed blanket, magnetohydraulic flow 7—15366
- K^+-CO_2 system, pot. energy surfaces calc. 7—57015
- K+Ar(He), fine-struct. transitions, differential cross section meas. 7—62493
- $K+Be^+$, K-shell X-ray prod. cross section meas. 7—15680
- $K+H^+$ charge transfer collisions, laser radiation influence 7—25646
- $K+H^+(He^{2+})$, ionisation and charge transfer collisions, cross section meas. 7—20031
- K+HBr, elastic scatt., complex Lennard-Jones pot., WKB calcs., Regge Pole anal. 7—36724
- K+He, inelastic collisions at thermal energies 7—983
- K+He, Penning ionisation, pot. well depth calcs., electron energy spectra anal. 7—62510
- K+inert gas, $5^d2P_{1/2}$-$5^2P_{3/2}$ fine struct. mixing 7—50306
- K+iodomethane→KI+Methyl radical, orientation depend., classical trajectory calcs. 7—39866
- K+K(Rb), Doppler free two-photon spectra, freq. shift, line broadenings 7—57155
- K+NaCl, cross section estimation 7—20004
- K+NaCl reaction complex form., blue shifted emission in visible spectra 7—22981
- K+NaCl→Na*+kCl, laser-assisted reaction obs. 7—33925
- $K+O_2$, O_2^- ion form., rate consts. 7—33926
- K+RbCl, crossed mol. beam expts. involving long-lived collision complexes 7—22999
- K+tetrachloroethene (tetrafluoroethene), vapor phase reactions, chemiluminesc. obs. 7—59767
- K_2, Zeeman quantum beats during transient process, after ground electronic state optical depopulation 7—36545
- K_3 cluster, photodissoc., bound-free transitions fluoresc. study 7—23045
- $K_4{}^{3+}$, stability and struct. Xα and ab initio methods 7—10421
- K_N, laser photoionisation of clusters containing up to 101 atoms 7—42822
- KC_{24} intercalation cpd., low temp. structural transition 7—21431
- KI, H^+, Ar^+ and electron impact, line shifts and widths, Stark broadening study *(French)* 7—10500
- ^{39}K NMR, in vivo tissue K meas., rat obs. 7—60131
- ^{40}K in Makhmur Plain soil, N Iraq, α-ray spectroscopical analysis 7—34487
- $^{40}K/K$ ratio in Earth lower mantle, implications of K-Ar isochron dating of Zaire cubic diamonds 7—23612
- Na-K ion-exchanged glass waveguides, swelling characts. 7—31532
- Na-K vapour, stimulated radiation via hybrid resonance processes 7—5641
- NaCl:K, microcryst. powders, spontaneous colloid form. in electrodeless discharge 7—12065
- Na_2O-SnO_2-SiO_2:K^+, glass, diffusion of cations, 500-800°C 7—12371
- Si:Na(K), impurity addition by electrolysis 7—44578

potassium alloys
- $Cs_{1-x}K_x$, low temp. phase diagram, compression effects 7—33641
- Hg-K alloys, viscosity, exptl. meas. at 320°C 7—21503
- K-Cs, liq., triplet conc. fluctuations in long wavelength limit 7—63439
- K-Cs, saturation vapour press. meas. 7—44780
- K-Pb liquid alloys, excess stability, entropy 7—26975
- K-Rb dilute alloy, electron-electron and electron-phonon interactions, plastic deform. effects 7—12710
- K-Rb temperature-conc.-density phase diagram calcs. 7—3282
- $K_4Na_{13}Ga_{49.57}$, synthesis and cryst. struct. 7—6584
- $Rb_{1-x}K_x$, low temp. phase diagram, compression effects 7—33641
- W wire, K-doped, non-sag struct. form., model 7—7957

potassium compounds
- *see also potassium alloys; Rochelle salt*
- 7—33386
- alkali feldspar, hypersolvus, Raman spectroscopic study of order parameter behaviour, displacive transform. and evidence for Na-K site ordering 7—22254
- alumite disc prep. using anodic oxidation *(Japanese)* 7—46672
- Cr^{3+}:K_2NaScF_6 laser material, tunable, crystal growth and spectroscopy 7—13347
- dihydrogen triacetate, cryst. struct. study 7—44503
- graphite, pyrolytic, highly oriented, intercalation reaction with K vapour, neutron diffr. study 7—1999
- graphite surface (0001)-(2 × 2)K intercalated structure, LEED calcs. 7—6952
- halide crystals, phase transitions and relative stability 7—26932
- halides, injection of charge carriers from a point contact 7—6868
- hydrogen malonate, crystn., inelastic neutron scatt. 7—32419
- intercalation compound with graphite, $KHgC_4$ and $KHgC_8$, valence bands, XPS studies 7—16932
- intercalation cpd. with graphite, C_8K, anisotropic binding of K, nuclear resonance photon scatt. of bremsstrahlung 7—51695
- intercalation cpd. with graphite, C_8K, electronic band struct., angle resolved UPS study 7—27232
- intercalation cpd. with graphite, C_8K, positron annihilation spectra, effect of H absorption 7—39270
- intercalation cpd. with graphite, high-stage struct., temp. depend., X-ray diffr. study 7—63592
- intercalation cpd. with graphite, KC_{24}, 2D layer melting dynamics, neutron scatt. meas. 7—21420
- intercalation cpd. with graphite, KC_{24}, kinetically-hindered low-temp. staging transition, P-T phase diagram, resist. anomaly meas. 7—6786
- intercalation cpds. with graphite, positron localisation 7—39271

potassium compounds continued
- kaersutite, cation distrib. and proton location, neutron diffr. studie 7—63569
- $LiKSO_4$:NH_3 single crysts., low temp. phase transitions, EPR stud 7—27599
- mixed halides, electronic dielectric const. and fractional ionic character o chemical bond 7—2966
- oxides, $AM_3O_9(M_2O_4)_n$, derived from the rutile structure by chemica twinning, structural evolution and stability 7—16757
- poly(ethylene oxide)-KAg_4I_5, room temp. ionic cond. comp. depend. meas 7—12363
- poly(styrenesulphonate)s, enthalpy of dilution, large dielectric constant solvent 7—21483
- potassium hydrogen phthalate, cryst. growth, influence of impurities, in situ obs. of {010} face 7—46289
- $AgI_{0.75}$-$KI_{0.25}$ mixture, Soret effect meas. under microgravity 7—21499
- Al:Bi-KCl:Bi, bilayer cpd., Bi ion implantation, thermal annealing 7—32474
- β''/β-Al_2O_3-$(Na_{0.6}K_{0.4})_2O$, mixed-alkali-mixed phase cpds., acoustic study 7—63749
- β''-Al_2O_3-K_2O-NaO, ionic conductivity, mixed alkali effect 7—52131
- Al_2O_3-SiO_2-Fe_2O_3-CaO-MgO-Na_2O-K_2O glass batch melting, interaction between solid, liq. and gas 7—7946
- $Ba_{2-x}Sr_xK_{1-y}Na_yNb_5O_{15}$, ferroelectric tungsten bronzes, crystal growth and optical appl. 7—39085
- C_8K and $C_{24}K$ intercalation cpds., angle-depend. X-ray emission bands 7—46248
- C_8K, intercalation cpd., density of states, interlayer band occurrence 7—2454
- C_8K type graphite intercalation cpds., mol. dynamics study of model system 7—63430
- $Ca_5Na_4K_2Si_{12}O_{30}F_4$, chain-silicate canasite glass-ceramic, thermal shock behaviour, effect of crystn. 7—46613
- Cr-Li-K-C-O system, phase relationships at 650°C, appl. to corrosion processes in molten carbonate fuel cells 7—28020
- Cs_2K_2 (TeO_5), coordination, cryst. structs., lattice energy *(German)* 7—26714
- CsK_2BiCl_6, cryst. struct., X-ray diffr. study 7—32389
- $CuK_2(SO_4)_2.6H_2O$-^3He, thermal resist., surface mag. coupling, effect of ^4He addition 7—52173
- Fe_2O_3-P_2O_5-K_2O glasses, mixed valence, EXAFS studies 7—64786
- $HgKP_3O_9$, cryst. struct. determ. 7—1955
- I_2-KI-S_8 melts, percolative cond. calcs. 7—6845
- K, coadsorption with CO on Ru (007), angle resolved Auger lineshapes 7—2372
- K^+ salts, salt/water/aprotic solvent mixtures, alkali cation influence, IR spectra anal. 7—19856
- K-Ca-NO_3-H_2O glasses, low temp. dielectric study 7—38999
- K-KCl melts metal-nonmetal transition, elec. cond. and optical reflectivity study 7—38457
- $KAlSi_3O_8$, thermally stimulated luminesc. at low temps. 7—13238
- $KA(WO_4)_2$:Ho^{3+}, A=Y, Gd, Lu, luminesc. kinetics, visible and UV spectra anal. 7—46144
- $KAl_2(AlSi_3O_{10})(OH)_2$, cryst., struct. anisotropy, positron annihilation method 7—13255
- $KAl(MoO_4)_2$:Cr^{3+} tunable IR laser crystals, fluorescent spectra 7—43110
- $KAl(SO_4)_2$ multicharged electrolyte soln. in water-tert butyl alcohol, viscosity and density studies 7—52104
- $KAl(SO_4)_2$ solutions, effect of impurities on props. 7—6495
- $KAl(SO_4)_2.12H_2O$, cubic, second order electroelastic tensor studies 7—27668
- $KAl(SO_4)_2.12H_2O$, alum crysts., habit changes by novel additives to nutrient 7—44439
- $KAl(SO_4)_2.12H_2O$:Cr^{3+}, optical absorpt. spectrum study, cryst. field and site symm. determ. 7—59232
- $K(AlSi_2O_6)$, synthetic pollucite, high temp. X-ray diffr. study 7—21176
- $KAlSi_3O_8$:Fe^{3+}, orthoclase, absorpt. and luminesc. spectra 7—53383
- $K_{1.50}Al_{1.50}Ti_{6.50}O_{16}$ hollandite-type struct. refinement, cation substitution effects study 7—58232
- $K_{1.5}Al_{1.5}Ti_{6.5}O_{16}$, solid soln. with $Ba_{1.24}Al_{2.48}Ti_{5.52}O_{16}$, cryst. struct., neutron diffr. study 7—63563
- $K(AuBr_4).2H_2O$, cryst. struct. determ. 7—1963
- $KBSi_2O_6$, glassy and crystalline, IR spectra 7—59199
- $K_2Ba(NO_2)_4$, successive phase transitions, dipolar frustration 7—53247
- $K_3BiCl_6.2KCl.KH_3F_4$, improper ferroelectric phase transition, dielec. meas. 7—45943
- $K_5Bi(MoO_4)_4$, palmierite-type cpd., cryst. struct. determ. 7—21174
- $K_{1.5}Bi_{1-x}Nd_xNb_{5.1}O_{15}$, cryst. growth, spectral props. of Nd^{3+} ions 7—53405
- $KBi_5(PO_4)_6$, structural and spectroscopic data correl., Raman and IR spectra anal. 7—53348
- KBr, aggregate colour centres, excitation and luminesc. 7—39173
- KBr and KCl, (100) cleavage plane, diffusion of Au crystallites 7—21590
- KBr and KCl, luminescing solids, nonradiative decay channels of electronic excitations 7—27760
- KBr crystal, radiation defects destruction by electron beam generated pulsed stresses 7—63663
- KBr, crystal growth in stationary crucible 7—59413
- KBr crystals, resonant secondary luminescence and vibr. F-centre relax. 7—33434
- KBr, F centre spin mixing parameters in optical pumping cycle 7—7181
- KBr films, high temp. phonon anharmonicity, IR spectra study 7—33469
- KBr, luminescence quenching in *F* centers under pressure 7—22334
- KBr, martensitic character of press. induced B1-B2 phase transition 7—6789
- KBr microcrystalline powders, interstitial cluster stability 7—32485
- KBr, muonium centres 7—45901
- KBr $N_2{}^+$ centre, selective two-step photoionisation using 1.06 μm radiation 7—38053
- KBr, radiation defects created by decay of electronic excitations 7—16626
- KBr single crystals, X-ray irrad., F-band absorpt. and thermolum., effect of laser excitation 7—21277
- KBr single crysts., F-band absorpt., X-irrad., thermolum., mag. and elec. field effects 7—59230
- KBr, stable hole defect formation by ionizing radiation 7—63669
- KBr, US vibration, 20-300°C block boundaries effect 7—32457
- KBr:CN^-, persistent IR hole burning in vibr. spectrum 7—37057
- KBr:Cu, visible absorpt. spectra 7—3073
- KBr:Eu^{2+}, impurity precipitates, Raman spectra meas. during annealing 7—64634

potassium compounds continued
- $KBr:MnO_4$, low temp. resonance Raman scatt. and luminescence 7−39101
- $KBr:MnO_4^-$, resonance Raman scatt. spectra 7−22234
- $KBr:O_2^-$, tunable CW laser operation in 1.45 to 2.16 μm range 7−62707
- $KBr:Se^{2-}$, electronic spectroscopy 7−22319
- $KBr:Se^{2-}$, mag. circular dichroism, electric conductivity, mobility of anion vacancies 7−3024
- $KBr:Sn^{2+}$, impurity localised excitons, form. energy calcs., UV spectra anal. 7−64095
- KBr:Tl(In), defect creation by excitons, room temp. *(Russian)* 7−16946
- KBr-AgBr, binary molten mixtures, elec. cond. 7−12340
- $(KBr)_{0.5}(KCN)_{0.5}$ small-signal freq. response relax., exponential and Gaussian activation energy distrib. models calcs. 7−59143
- $(KBr)_{1-x}(KCN)_x$ mixed crysts., elastic shear const. and internal friction, torsion pendulum resonance meas. 7−26829
- $(KBr)_{1-x}(KCN)_x$ mixed crystals, random strains and struct. 7−32405
- $(KBr)_{1-x}(KCN)_x$ mixed single crysts., low temp. thermal props. meas., amorphous solids model 7−52075
- KC_8 intercalation cpd., electron struct., soft X-ray emission spectroscopy 7−45117
- KC_8 intercalation cpd., polarisation depend. XANES study 7−59298
- KC_8/D_2O intercalation cpd., X-ray diffr., NMR, EPR and gas phase mass spectra anal. 7−46843
- KC_x (x=8, 24), intercalation cpds., XANES studies, polarisation effects 7−59294
- $KCLO_4$ single crystals, vibr. anal., optical modes, IR spectra studies 7−22245
- KCN, cryst., Akhieser damping 7−21360
- $K_3CO(CN)_6$, polytypism and phase transition, lattice dynamical calcs. 7−12262
- $K_2C_2O_4H_2O$, deform. electron density study at 100 K 7−63565
- $K_2Cd_2(SO_4)_3$:Sm, doped and undoped, thermoluminescence 7−39191
- $KCeF_4$, gagarinite-type superstruct., X-ray diffr. studies *(French)* 7−58231
- $K_2Ce(SO_4)_3.H_2O$, cryst. struct. calcs. 7−51731
- KCl (100), interaction of NaCl mol. beams with surface, desorption flux meas., SIMS obs. 7−33508
- KCl (100), sand gap photoemission yield spectroscopy 7−22445
- KCl, aggregate colour centres, excitation and luminesc. 7−39173
- KCl cryst., multiply charged ion bombardment, sputtering 7−13297
- KCl, cryst. F_A (Li)-centres exposed to radiation, bleaching rate 7−37060
- KCl crystals, dissolution and dispersion characts. from batch dissolver size distribs. 7−16750
- KCl crystals, luminescent, detection of radiation shake 7−27761
- KCl crystals, rolling friction, elastoplastic deform. 7−16681
- KCl crystals with F_A(Li)-centres, double beam clarification kinetics *(Russian)* 7−53253
- KCl crysts., positron annihilation and ang. correl. meas., low temp. positronium self-tapping 7−46226
- KCl, dielec. permittivity imaginary part divergence of melting point 7−45915
- KCl doped crysts., impurity centres, form. processes and thermoactivation solution 7−44576
- KCl, F-centre destruction at elevated temps. under elec. field 7−32488
- KCl, films, CO adsorpt., IR investig. 7−63945
- KCl, Frenkel defect recomb., thermally stimulated electron emission obs. 7−64869
- KCl, γ-irradiated, influence of plastic deformation on colour centre conc. 7−44538
- KCl, heat treated, alpha particle dechannelling, range meas. by F-coloration depth determ. 7−32512
- KCl, in $NaCl-NiCl_2-UO_2Cl_2$, fusibility, differential thermal anal. study 7−61972
- KCl, luminescence quenching in *F* centers under pressure 7−22334
- KCl microcrystalline powders, additive coloration 7−32434
- KCl microcrystalline powders, correl. between microhardness, dislocation mobility and coloration stability 7−32436
- KCl, minerals, shock induced radiation 7−27694
- KCl, muonium to diamagnetic muon conversion, time-differential muon spin reson. meas. 7−13070
- KCl, organic liquid emulsions, dielectric props. meas. 7−22173
- KCl, positron annihilation at low temps. 7−53441
- KCl, positron lifetime meas. 7−53438
- KCl, radiation defects created by decay of electronic excitations 7−16626
- KCl, single crystal, γ-irradiated, growth of hole defects *(Russian)* 7−16628
- KCl single crysts., laser excited dielec. props. and cond., X-ray irrad. effects study 7−27649
- KCl, soln., viscosity coeff. meas., temp. effects *(German)* 7−63865
- KCl, solute trapped from air-acetylene flame, morphological investig. 7−28362
- KCl, solvated electron melt, polaron theory 7−45173
- KCl, subvalent electron participation in X-ray and X-ray electron spectra 7−10478
- KCl, two-photon absorption meas. using synchrotron radiation 7−9906
- KCl, US vibration, 20-300°C block boundaries effect 7−32457
- KCl, vibronic mechanisms of excitation decay, defect formation 7−39158
- KCl with O_2^- centres, superfluoresc. from ensemble of two-level systems *(German)* 7−5863
- KCl X-ray and γ-irrad., F-centre destruction owing to subsequent laser light excitation, luminesc. spectral characts. 7−27772
- KCl:Ca, γ-irrad., Z_1-centre growth, effect of dislocations, thermolum. study 7−32487
- KCl:Ca, γ-irrad. Z_1 colour centres, mech. bleaching form. 7−6620
- $KCl:Ca^{2+}$, Z_2^+-centres, axial config., pseudopotential perturbation calc. 7−32952
- $KCl:CaCl_2$, internal friction 7−38114
- $KCl:Cr(CN)_6^{3-}$, phosphorescence spectrum, temp. dependence 7−7742
- KCl:Cu visible absorpt. spectra 7−3073
- $KCl:Eu^{2+}$, f to f transitions, two-photon spectra studies 7−3068
- $KCl:Eu^{2+}$, impurity precipitates, Raman spectra meas. during annealing 7−64634
- $KCl:F^-:Eu^+$, optical absorpt., excitation and luminesc. spectra 7−59250
- KCl:H, F-centre accumulation during proton irradiation 7−46076
- KCl:I, electron excitation self-trapping 7−32594
- KCl:Li, F_A-centre crystals, diffraction efficiency of photoinduced gratings 7−62818
- KCl:Li, self-induced light polarisation oscills., stochastic field effects *(Russian)* 7−43208

potassium compounds continued
- KCl:Li,F_A(II) colour centre laser, synchronously pumped, mode locking 7−62710
- KCl:Li crysts., F_A-centres self-induced resonant radiation polarisation changes study *(Russian)* 7−33358
- KCl:Li F_A(II) colour centre lasers appl. to intracavity laser spectroscopy 7−43189
- $KCl:Li^+$, impurity interactions, sp. ht. and thermal expansion, pair density of state calcs. 7−63852
- $KCl:O_2^-$, tunable CW laser operation in 1.45 to 2.16 μm range 7−62707
- $KCl:O^-$, F_H centre ionisation energy calc. 7−44539
- $KCl:Sn^+$, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7−27601
- $KCl:Sn^{2+}$, impurity localised excitons, form. energy calcs., UV spectra anal. 7−64095
- KCl:Sr, quenched and as-grown crysts., ionic cond., impurity dispersion state effects study 7−26786
- KCl:Tl, luminescence, intensive KrF laser irradiation *(Russian)* 7−17340
- KCl:Tl, photoionisation of Tl^+, intense excitation in A-absorption band *(Russian)* 7−16554
- KCl:Tl, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7−27601
- KCl:Tl, X-ray luminescence, grain size effects *(Russian)* 7−27767
- KCl:Tl crystal, luminesc. from metastable level of Tl^+ center 7−39170
- KCl:Tl crystals, optical and lasing characts. of $Tl^0(1)$ colour centres 7−50569
- $KCl:Tl^+$-type phosphors, Jahn-Teller-induced A-absorption and A-emission bands 7−53398
- $KCl:Tl^{2+}$, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7−27601
- KCl:Zn, elec. cond., dielec. loss meas., before and after X-irrad. 7−33324
- KCl-AgCl, binary molten mixtures, elec. cond. 7−12340
- KCl-En solid soln. crysts., thermal and radiation induced decay, impurity aggregation study *(Russian)* 7−2216
- KCl-KBr mixed crysts., cohesion, harmonic and anharmonic props. calcs. 7−51907
- $KCl_{1-x}Bi_x$:Li mixed crysts., F_A centre absorpt. and emission spectra studies 7−12064
- KCl(Br), F-centre near-surface generation by synchrotron radiation 7−26744
- KCl(Br) γ-irrad. single crysts., piezolum. and thermolum. spectral shift meas. 7−27796
- KCl(Br), longitudinal field quenching studies, precursor muonium state 7−53199
- $KCl(Br):Cu^{2+}$, diffusion, nuclear spin-lattice relax. rate meas. *(German)* 7−6885
- $KCl_{1-x}Br_x$ mixed powder crystals, long wavelength optical phonons; 7−12220
- $KCl_{100-x}Br_x$ mixed cryst., positron annihilation, lifetime, and ang. correl. meas. 7−46227
- KCl(Br)(I)(F) solns., Ag electrodes, interfacial water surface-enhanced Raman scatt. 7−17311
- KCl_xMn_{1-x}:Ca(Mn), doped crystals, elastic constants, meas. using US pulse superposition method 7−26827
- $KCl_{1-x}NaCl_x$ solid solns., thermodynamic props. calc. model 7−52086
- $K_3(Co(CN)_5)$, soln., electronic struct., ESR investig. 7−31081
- $KCoF_3$ antiferromagnetic cryst., electronic Raman scatt. by high-energy magnetic excitons 7−46016
- $K_2Co_xFe_{1-x}F_4$, oblique antiferromag. phase, spin waves, inelastic neutron scatt. study 7−64443
- $K_2Cr_2O_7$ crystals grown from soln., enantiomorphism 7−51682
- $K_2Cr_2O_7$, surface micromorphology rel. to growth conditions 7−58175
- $KCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7−15605
- $KCu_4Cl_3(I_3)$ and KCu_4I_5 solid electrolytes, elec. conductivity and mag. susceptibility 7−12360
- K_2CuF_4, 2D ferromagnet, polarised neutron studies of forbidden magnons 7−45693
- $K_2Cu_xMn_{1-x}F_4$, quasi-two-dimensional mixed ferromagnetic-antiferromag. system, mag. phase transitions, intermediate spin glass phase 7−27525
- $K_3Cu_8S_6$, mixed valence 2D metal, CDW 7−45294
- K_2CuX_3, (X=Cl, Br), energy band struct., fundamental optical absorption 7−7093
- KD_2PO_4, impulsive stimulated Brillouin scattering near structural phase transition 7−13126
- KD_2PO_4, wide-aperture freq. multipliers of IR lasers 7−57469
- KD_2PO_4-type ferroelectrics, central peak, deuteration effects 7−64586
- $KD_y(WO_4)_2$, vibr. characts. of O bonds, IR and Raman spectra 7−32587
- $KDy(MoO_4)_2$, elastic characts. near structural phase transition, sound vel. meas. *(Russian)* 7−26872
- $K_3Fe(CN)_6$, polytype phase transforms., ^{14}N NQR study 7−26690
- $K_2(Fe(CN)_5NO).1.25\ H_2O$, DTA-TGA, cryst. and mol. struct. and vibr. props. 7−6597
- $K_4{}^{57}Fe(CN)_6.3H_2O$, resonance scintillators for recoilless 14.4 keV γ-quanta 7−62202
- $KFe_{17}O_{25}$, ceramic, radiation induced products STEM microanalysis 7−16639
- $KFeS_2$, hydrogenated, ESR meas. in 100 to 320K range 7−13016
- $K_x(Ga_8Ga_{8+x}Ti_{16-x}O_{56})$, synthesis of new cpd. by flux method 7−27883
- KH $A^1\Sigma^+$ state, collision induced transitions *(French)* 7−10726
- KH, ground and excited states long range pot. curves calcs. 7−19994
- KH, $X\ ^1\Sigma^+$ state, HF quality Slater basis sets 7−19719
- $KH_2\ PO_4$, cryst. growth from low temp. soln., turntable seed holder 7−53525
- KH_x-graphite intercalation cpd., struct. and electronic props. 7−27234
- KH_2AsO_4, paraelectric, cluster distrib., proton spin-lattice relax. time 7−2946
- KH_2AsO_4, paraelectric, cluster distrib., ^{75}As spin-spin and spin-latt. relax. 7−2947
- $KH_{08}C_x$, polarisation depend. XANES study 7−59298
- $K(H_{1-x}D_x)_2PO_4$ crystals, electrogyration effects investig. 7−3022
- $K(H_{1-x}D_x)_2PO_4$ imperfect crystal, structural phase transition, elastic breakdown 7−2165
- $KH_2(IO_3)_3$, proton cond. and cryst. struct., X-ray and neutron diffr. studies 7−12026
- $K_2H(IO_3)_2Cl$, cryst. struct., neutron diffr. studies *(Chinese)* 7−12005
- $(K^+(H_2O)_n)_xMoO_3^{x-}$, composition and struct. 7−16518
- $K_x(H_2O)_yTaS_2$, intercalation reactions, nucl. quadrupole interactions, TDPAC meas. 7−17245
- $K_2HPCr_2O_{10}$, polycrystn., internal vibr., IR and Raman spectra 7−22263

potassium compounds continued
- KH_2PO_4 (KD_2PO_4), low freq. optical vibr. interaction, Raman spectra 7−46026
- KH_2PO_4 and $KH_{2x}D_{2(1-x)}PO_4$, ferroelectric, optical props., radiation effects 7−33406
- KH_2PO_4 cryst., freq. doubling for UV laser system 7−62724
- KH_2PO_4 crystal, bifurcation response near ferroelectric transition 7−39051
- KH_2PO_4, crystal growth spiral morphology on {100} surfaces, impurity effects, step kinetics 7−16459
- KH_2PO_4 crystals, contact nucleation on (100) face 7−51680
- KH_2PO_4 crystals, conversion of pump energy into subharmonic wave 7−62774
- KH_2PO_4 crystals grown at boiling point, surface microtopography 7−21581
- KH_2PO_4, hydrostatic pressure effect on ferroelectric relaxational mode, light scatt. study 7−2971
- KH_2PO_4, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7−26816
- KH_2PO_4 pellets, protonic conductivity, complex impedance study 7−2261
- KH_2PO_4, precip. growth, nucleation process, light scatt. obs. 7−16465
- KH_2PO_4 solution, elec. cond., temp. and conc. depend., 10 to 70°C 7−2242
- KH_2PO_4 two-cryst. superradiant parametric light source, high-energy subnanosecond pulse pumping 7−31396
- KH_2PO_4 type crystals, tunable laser source down to 218.3 nm, freq. doubling and summing *(Chinese)* 7−57456
- KH_2PO_4 type crysts., improper ferroelec., phase transition, quadratic electrogyration coeff. temp. anomalies study *(Russian)* 7−2996
- KH_2PO_4, ultrasonic attenuation oscills. near phase transition 7−38128
- KH_2PO_4, wide-aperture freq. multipliers of IR lasers 7−57469
- $KH_2PO_4:Tl^{2+}$, impurity centres, ESR line width studies 7−38498
- K_2HPO_4, cryst. growth from boiling solns. in presence of impurities 7−53529
- $KH_2PO_4(D_2PO_4)$, impurities, UV spectroscopic study 7−33417
- $KHSeO_4$ single crystal, polarised IR spectra anal., rel. to cryst. struct. 7−46047
- K_2HfF_6, polymorphism, TDPAC investig. 7−2188
- KHg-graphite intercalation cpd., supercond. props., density of states model 7−27457
- $K_2Hg(CN)_4$, cryst. struct. and phase transition 7−26933
- $KHo(MoO_4)_2$, Ho^{3+} ground state, low temp. sp. ht., Stark components 7−44840
- KI, {100} cleavage faces, surface morphology, influences of UV photoenhanced evap. 7−44962
- KI crystal, dispersion curves near 1s and 2s exciton resonances 7−53260
- KI, exciton self-localisation, radiation defects, lumin. studies 7−64681
- KI, F centre spin mixing parameters in optical pumping cycle 7−7181
- KI, luminescence quenching in *F* centers under pressure 7−22334
- KI, piezoreflectance in vacuum UV region, 5 to 30 eV 7−59178
- KI, two-photon absorption meas. using synchrotron radiation 7−9906
- KI:Cl, electron excitation self-trapping 7−32594
- $KI:Eu^{2+}$, impurity precipitates, Raman spectra meas. during annealing 7−64634
- KI:Li $(F_2{}^+)_A$ centre, selective two-step photoionisation using 1.06 μm radiation 7−38053
- $KI:Tl^+$ crysts., luminescence polarisation of dimer centres 7−22335
- KI/Tl^+, stability of V-type defects 7−26745
- KI-AgI, binary molten mixtures, elec. cond. 7−12340
- KI+benzophenone triplet, laser-induced optoacoustic spectroscopy, lifetime determ. 7−25683
- $K_6LiFe_{23}S_{26}Cl$, djerfisherite, electrochemically synthesised, cryst. struct., neutron diffr. study 7−58224
- $K_{1-x}Li_xTaO_3$ monocrysts., polarisation jump, ferroelec. transition and domains study *(Russian)* 7−22200
- $K_{1-x}Li_xTaO_3$ single cryst., dielec. properties at 10^{-2} to 10^3 Hz 7−2997
- $K_3Li_3TeO_6$, prep., cryst. struct., Madelung lattice energy calc. *(German)* 7−16515
- K_2MAF_4, optical dichroism, spin forbidden *d-d* transitions, intensity prod. mechanisms 7−33360
- $KMBi_2(PO_4)_3$, M=Cd, Pb, Co, Sr, Bo, structural and spectroscopic data correl., Raman and IR spectra anal. 7−53348
- $KMg_3(AlSi_3O)_{10}(OH)_2$, cryst., struct. anisotropy, positron annihilation method 7−13255
- $KMgF_3:Dy^{3+}$, ligand hyperfine interaction of Dy^{3+}, ENDOR 7−22163
- $KMnF_3$, 2D order parameter fluctuations at antiferrodistortion phase transition, dielec. const. meas. 7−16735
- $K_2Mn_2(MoO_4)_3$, synthesis and cryst. struct. determ. 7−44482
- $KMnO_4$, thermal stability changes upon adsorption of water vapour in an electric field 7−8262
- $KMn_4(PO_4)_3$ synthetic orthophosphate, cryst. struct., homeotypy with $KFe_4(PO_4)_3$ 7−21177
- $K_4Mo_2Cl_8$, press. tuning IR spectral shifts 7−22242
- $K_{0.3}MoO_3$, $(\bar{2}01)$ plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7−58846
- $K_{0.3}MoO_3$, blue bronze, microwave conductivity 7−45370
- $K_{0.3}MoO_3$, blue bronze, structs., sliding motion of CDW 7−64129
- $K_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7−64222
- $K_{0.3}MoO_3$, blue bronze, broadband noise 7−64223
- $K_{0.3}MoO_3$, CDW conductor, elastic anomalies 7−44652
- $K_{0.3}MoO_3$, CDW current density-voltage relation near the depinning threshold 7−58798
- $K_{0.3}MoO_3$, CDW state, metastable EPR study 7−53125
- $K_{0.3}MoO_3$, CDW state, metastability and dynamics 7−64130
- $K_{0.3}MoO_3$, CDW system, stretched exponential dielec. relax. 7−45929
- $K_{0.3}MoO_3$, CDW transport, crystal quality, inhomogeneous conductivity, contact geometry 7−52587
- $K_{0.3}MoO_3$, charge density wave depinning and quasi-commensurate transition 7−12628
- $K_{0.3}MoO_3$, electric field hysteresis and relax. 7−52462
- $K_{0.3}MoO_3$, electric field induced deformation of sliding CDW 7−64133
- $K_{0.3}MoO_3$, electronic struct., UPS study 7−53499
- $K_{0.3}MoO_3$, excess low-temp. sp. ht., CDW state 7−12311
- $K_{0.3}MoO_3$, nonlinear conduction below 4.2K 7−52588
- $K_{0.3}MoO_3$, nonlinear effects and inductive response of dissipative incommensurate chain 7−52471
- $K_{0.3}MoO_3$, Peierls semiconductor, nonlinear Hall effect, sliding of CDW 7−45357
- $K_{0.3}MoO_3$, quasi-1D cpd., depinning of CDW, analogy with elastic-plastic transitions in metallurgy 7−64132
- $K_{0.3}MoO_3$, sliding CDW systems, dielectric relax. freq. 7−45293

potassium compounds continued
- $K_{0.3}MoO_3$, switching, intermittent oscillations 7−52699
- $K_{0.3}MoO_3:Fe$, CDW state, Mossbauer studies 7−53112
- $K_{0.9}Mo_6O_{17}$, bronze, structs., sliding motion of CDW 7−64129
- $K_{0.9}Mo_6O_{17}$ electronic struct., room temp. UV photoemission spectra study 7−46272
- $K(NH_3)_xC_{24}$, intercalation cpd., 2D diffusion-limited kinetics 7−58552
- KNO_2, cryst., Raman spectrosc. obs. 7−46001
- KNO_2-I, orientational mobility of $NO_2{}^-$ ions, IR spectral study 7−7690
- KNO_3, dielectric props., effect of X-ray or γ-ray irradiation 7−53215
- KNO_3, molten salt, emissivity, nodal analysis *(French)* 7−63854
- KNO_3 solutions in aqueous and non-aqueous media, acoustic and physico-chemical props. 7−44694
- KNO_3, surface charge layer, spontaneous polarisation rel. to particle size *(Korean)* 7−27673
- $KNO_3:Ba^{2+}$, radiation decomp., impurity particle size effect 7−63682
- KNO_3-glass, ion-exchange diffusion, planar waveguides 7−11108
- KNO_3-$NaNO_3$ molten salts, chemical resistance of valve packing and sealing materials 7−65586
- KNO_3-$NaNO_3$ molten salts for solar central receiver appls. 7−65587
- $K_2NaH_{1.5}{}^+Fe_{0.5}{}^{3+}F_6$, synthetic Fe^{3+} elpasolite, cryst. struct. 7−51712
- $K_2NaSc(Ga)F_6:Cr$, impurity photolum. spectra and lifetimes, thermal quenching and temp. depend. studies 7−3084
- $K_4Na_2TeO_6$, cryst. struct., X-ray diffr., Madelung part of lattice energy *(German)* 7−37941
- K_2NaYF_6, Ce doped, 5d-4f spectra, impact of ion-host interactions 7−39143
- $KNbO_3$, cryst. growth, top seeded pulling method 7−53524
- $KNbO_3$, single domain cryst. prep., orientation and dielec. polarisation 7−45950
- $KNbO_3$, unstable point domains in ferroelectrics 7−17280
- $KNd_xGd_{1-x}P_4O_{12}$, isolated ion pair interaction, fluoresc. quenching study 7−46117
- $K_5Nd(MoO_4)_4$, palmierite-type cpd., cryst. struct. determ. 7−21174
- $K_2Ni_{1-x}Fe_xF_4$, 2D random mixture with competing spin anisotropies, Mossbauer spectroscopy 7−59021
- $KNi_xMg_{1-x}F_3$, nuclear spin-lattice relax., NMR studies 7−64542
- K_2O-Al_2O_3-B_2O_3-Fe_2O_3-Gd_2O_3 glasses, mag. props., composition dependences 7−2823
- K_2O-B_2O_3, elec. cond., molar volume 7−58535
- K_2O-B_2O_3 glasses, thermodynamic props. 7−2211
- K_2O-B_2O_3-SiO_2 glass, ion implantation effects, appl. for radioactive waste disposal 7−32519
- K_2O-CaO-SiO_2 system, cryst. growth kinetics, morphology, melt comp. depend. 7−46303
- K_2O-CdO-SiO_2, glasses, thermal expansion, free volume 7−58152
- K_2O-Fe_2O_3-TiO_2 system, cryst. growth of titanates, morphology, ionic cond. 7−53523
- K_2O-Ga_2O_3-SiO_2 glasses, Raman spectra 7−3035
- K_2O-Ga_2O_3-SiO_2-Al_2O_3-Fe_2O_3-FeO melts, struct. role of Fe^{3+}, Ga^{3+}, Al^{3+}, Fe redox ratio 7−26635
- K_2O-Nb_2O_5-Ga_2O_3 glass structure, Raman spectroscopy 7−1902
- K_2O-P_2O_5-TiO_2 glass, IR spectra 7−46025
- K_2O-P_2O_5-WO_{3-x} mixed valence glasses, local order, EXAFS and X-ray diffusion studies 7−1903
- K_2O-PbO-SiO_2, glass, props. rel. to phase diagram 7−13117
- K_2O-PbO-SiO_2 glasses, chemically nonuniform struct., Rayleigh and Mandelstam-Brillouin scatt. 7−1891
- K_2O-PbO-SiO_2 glasses 7−3036
- K_2O-SiO_2 glass melts, structure 7−1831
- K_2O-SiO_2 glasses, intrinsic and recomb. luminesc. and fundamental absorpt. spectra 7−13195
- K_2O-SiO_2 glasses, molecular dynamics simulation 7−1901
- K_2O-SiO_2 glasses, struct., X-ray diffr., molecular dynamics calc. 7−6551
- K_2O-SiO_2-NaCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7−12288
- K_2O-ZnO-SiO_2, glasses, thermal expansion, free volume 7−58152
- KOH aq. soln., highly conductive, electrolytic conductivity meas. 7−3595
- KOH, conc. effects on Zn-NiOOH cell shape change and cycle life 7−28393
- KOH impurities in $KAl(SO_4)_2$ solns., effect on props. 7−6495
- KOH solutions in Ni-Cd cells, additive effects on anodic behaviour of negative Cd electrode 7−3637
- $K_2O.2B_2O_3$ glasses, pulse irradiated, optical absorpt. spectra, temp. effects on the decay process *(Japanese)* 7−22281
- K_2OsCl_6, mode softening and phase transition, press. depend., NQR study 7−26896
- KP_x thin films, composition and thickness determ. 7−21785
- $K_3PCr_4O_{16}$, polycrystn., internal vibr., IR and Raman spectra 7−22263
- KPF_6, octahedral anion anisotropic reorientation, nuclear spin-lattice relax. meas. 7−2943
- K_3PO_4, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7−26816
- K_2PO_3F, polycryst., chem. shielding and dipolar coupling, NMR investig. 7−57089
- $K_2P_2O_5F_2$, polycryst., chem. shielding and dipolar coupling, NMR investig. 7−57089
- $KPbBr_3.H_2O$, synthesis, cryst. struct., X-ray diffr. study *(German)* 7−37940
- $KPbLaF_6$ solid soln. twinned cryst. struct., lattice parameters and point group, X-ray diffr. studies *(French)* 7−58231
- $K_2Pb_4Nb_{10}O_{30}$, ferroelectric with tetragonal W-bronze struct., first-order transition 7−39048
- $K_2Pb_4Nb_{10}O_{30}$-$K_6Li_4Nb_{10}O_{30}$ solid soln., density and struct. studies 7−1973
- $K_2Pt(CN)_4Br_{0.3}.3.2H_2O$, disordered CDW cpd., Coulomb-induced pseudo-critical behaviour 7−45188
- $K_2Pt(CN_4)Br_{0.3}.3.2H_2O$, quasi 1D conductor, near IR conductivity, pseudogap model 7−45298
- $K_{1-x}Rb_xAlF_4$, shear structural phase transition, temp. behavior 7−63809
- $K_{0.5}Rb_{0.5}I$ mixed crystals, phonon combination bands, far-IR spectra anal. 7−64650
- $K_{1-x}Rb_xI$ mixed crystals, FIR props., optical phonons 7−46011
- $K_2ReBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7−53292
- KSCN, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
- KSCN, vibr. spectrum in a phase with nonrigid-motion elements 7−17312
- $KSFO_3$, vibr., force consts., IR spectra 7−19837
- K_2SO_4, cryst. growth, nucleation kinetics, habit, Cr(III) effect, soln. pH 7−53539

potassium compounds continued
- K_2SO_4, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
- K_2SO_4 solution, crystallisation in a microcomputer batch coating crystalliser 7−53522
- K_2SO_4-$Cr(SO_4)_3.24H_2O$, alum, optical spectra, press. shifts 7−64666
- K_2SO_4-$ZnSO_4$:Pr^{3+}, impurity ion spectroscopic parameter determ. 7−7719
- $K_2S_2O_7$ for chemical storage of solar energy 7−23228
- $KSbF_6$, high press. cryst. struct., Raman spectra studies 7−26860
- $KSbO_3$, phase transforms. and thermal stability, X-ray diffr. and XPS meas. 7−44793
- K_2SbPO_6, solid-state reaction prep. and cryst. struct. determ., X-ray diffr. study 7−1980
- $K_5Sb_5P_2O_{20}$, 3D framework 7−44492
- $KSbTeO_6$, ionic conductivity and powder X-ray diffr. characterisation 7−12362
- $KSc(MoO_4)_2$, first-order ferroelastic transition 7−58460
- K_2SeO_4, β to α' to β transition, modulated struct. 7−16724
- K_2SeO_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7−51956
- K_2SeO_4, soft mode damping in incommensurate phases, anomalous behaviour 7−38149
- $KSnCl_3.H_2O$, near IR spectra, polarised overtone-combination bands 7−7684
- $K_2SnCl_4.H_2O$, near IR spectra, polarised overtone-combination bands 7−7684
- KSn_2F_5, F^- motion, NMR and electrical conduction 7−52132
- $KT_{i2-x}Nb_{5+x}O_{17}$, mixed-valence rutile structures 7−27329
- $K(Ta_{0.91}Nb_{0.09})O_3$, ferroelec. transitions, EXAFS studies 7−64780
- $KTa_{0.991}Nb_{0.009}O_3$, dipolar glass, cluster dynamics 7−22184
- $KTa_{1-x}Nb_xO_3$, lattice dynamics, nonlinear shell model 7−51971
- $KTa_{1-x}Nb_xO_3$:CO_3^{2-}, impurity detection, IR transmission and Raman scatt. studies 7−13164
- $KTaO_3$, Fourier transformed EXAFS spectra, comparison with $NaTaO_3$ 7−64749
- $KTaO_3$, soft mode damping, determ. by submillimeter backward wave spectroscopy 7−45910
- $KTaO_3$ UHF dielectric resonators, mechanical pressure effects on permittivity and dielectric loss 7−7642
- $KTaO_3$:Fe^{3+}, EPR of Fe^{3+} centres, electric field effect 7−38926
- $KTaO_3$:$Gd^{3+}(Fe^{3+})$, ESR, effect of external electric field 7−38933
- $KTaO_3$:Li, quadrupole ferroelastic phase 7−6778
- $KTaO_3$:Li, time depend. phase transform., neutron diffr. meas. 7−44799
- $KTaO_3$:Li polydomain ferroelec. crysts., dipole impurity-induced ESR line broadening calcs. 7−53131
- $KTaWO_6.H_2O$, pyrochlore-type cpd., characterisation 7−1989
- $K_2TcBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7−53292
- K_2TiF_6, ion motions and cond., NMR relax. time meas. 7−38246
- K_2TiF_6, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
- $K_2Ti_4O_9$, layered, synthesis and struct. 7−32406
- $KTiOAsO_4$, struct. and nonlinear optical props. studies *(French)* 7−37948
- $KTiOPO_4$ crystals, 90° twinning struct. determ., cryst. modules technique *(Russian)* 7−16572
- $KTiOPO_4$, crystal and optical props. 7−17403
- $KTiOPO_4$ crystals, high temp. flux growth, morphology 7−58178
- $KTiOPO_4$ crysts., electrochromic effects obs. *(Russian)* 7−33367
- $KTiOPO_4$, electro-optic and dielectric props. 7−13129
- $KTiOPO_4$, IR spectra 7−46025
- $KTiOPO_4$, solubility in KF aq. soln., high temp. and press., hygrothermal growth 7−58482
- $KTiPO_5$ crystal growth for high efficiency SHG devices *(Chinese)* 7−7835
- $KUO_2(NO_3)_3$, charge transfer bands position, ionisation pot. effects, luminesc. spectra anal. 7−46146
- KX (X=Cl,Br), H-interstitials, struct. and crowdion mechanism 7−38939
- KX:Sr,Eu (X=Br,Cl), Sr precipitation, study using Eu^{3+} ions 7−53127
- $K(Y, R)W_2O_8$:Er^{3+} (R=Gd, Er, Lu) single crystals, stimulated emission spectra 7−7716
- K_2ZnCl_4 crysts., incommensurate phase, thermal memory effects, birefringence temp. depend. meas. *(Russian)* 7−17302
- K_2ZnCl_4, incommensurate phase, piezo-optical effects, birefr. meas. 7−45973
- K_2ZnCl_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7−51956
- K_2ZnCl_4, phase transitions, Raman-scattering study 7−52035
- K_2ZnCl_4, X-ray induced luminesc. and thermoluminesc. spectra anal. 7−46132
- $KZnF_3$, fluoroperovskites, IR refl. spectra, temp. depend. 7−22248
- $KZnF_3$, heat capacity, thermodynamic functions 7−52071
- $KZnF_3$, high temp. mean square ionic displacements 7−2259
- $KZnF_3$:Cr^{3+} tunable laser with nonselective pumping 7−43113
- $KZnF_3$:Mn^{2+}, thermal expansion of the $Mn^{2+}-F^-$ bond 7−6836
- K_2ZnF_4:Cu^{2+} crystal, possible ligand spin-orbit coupling in CuF_4F_2 clusters 7−38520
- $KZr_2P_3O_{12}$, thermal expansion, structural model 7−44858
- $K[(OH)_2PO_2]$, irradiated single crystal struct. study, ESR and ENDOR anal. 7−38962
- $K_4[Pt_2(P_2O_5H_2)_4]$, cryst., triplet sublevel annihilation, delayed fluoresc. anal. 7−50215
- kBr:ClO_4^-, X irradiation, paramag. defect prod., EPR, Raman and IR spectra 7−22142
- Kh_2PO_4, temporal-spatial transducer for optical data processed Fourier transform spectrometer 7−24707
- kI, Debye-Waller factors of ^{129}I, Mossbauer study 7−2135
- KnO_3, soln., viscosity coeff. meas., temp. effects *(German)* 7−63865
- (Li, K)Cl, molten, internal cation mobilities 7−2243
- Li/K Cl, molten, struct., thermodynamics, theory 7−37831
- Li-Na-K-CO_3/MgO salt/ceramic phase change material for high temp. thermal storage, thermoanalytic investigation 7−65631
- Li_2CO_3-Na_2CO_3-K_2CO_3 molten salt in direct absorption received, optical props. at high temp. 7−40042
- LiCl-KCl, molten mixture, eutectic, isotope self-exchange vels., simulation 7−57187
- LiCl-KCl mixture used to seal melt for $CdSnAs_2$ growth 7−7839
- LiCl-LiBr-KBr molten electrolyte in Li-Al/FeS_2 secondary cell 7−65439
- LiF-NaF-KF eutectic melt, Cl^- effect on C electrode anode processes 7−23028
- $(Li_{1-x}K_x)_{0.9}Mo_6O_{17}$ anomalous transport props., resist., mag. suscept., sp. ht., struct. and supercond. transition temp. meas. 7−21913
- $(Li_{1-x}K_x)_{0.9}Mo_6O_{17}$, superconductivity and CDW 7−45541

potassium compounds continued
- $LiKSO_4$, Brillouin light scatt. between 20 and 80°C, elastic constants meas. 7−7712
- $LiKSO_4$ crystals, elec. conductivity anisotropy 7−21509
- $LiKSO_4$ crysts., low temp. phase transitions, Raman spectra and dielec. const. meas. 7−26943
- $LiKSO_4$, domain structures and phase transitions, SO_4^- EPR study 7−38937
- $LiKSO_4$, low temp. phase transitions, kinetics and symm. changes 7−2164
- $LiKSO_4$ phase diagram, critical points determ., press. depend., differential thermal anal. 7−6780
- $LiKSO_4$, phase transitions, domain form., optical birefr. meas. 7−3019
- $LiKSO_4$, phase transition, low temp. Brillouin studies 7−44806
- $LiKSO_4$ single crysts., optical activity, ferroelec. and ferroelastic props. 7−27687
- $Li_2NaK(SO_4)_2$, cryst struct. determ. 7−58212
- $(Na_{0.5}K_{0.5})NbO_3$, sintering, densification and elec. props., effect of Ba additions 7−46387
- $20(NaK)_2O$-xGa_2O_3-$(80-x)SiO_2$ glasses, elec. conductivity, mixed alkali effect 7−27001
- $NaNO_3$-KNO_3 molten nitrate salt for high temp. sensible heat storage 7−65632
- $NaNO_3-KNO_3$:Ag^+, diffusion coeffs. meas. by electrochem. methods 7−52097
- Na_2O-K_2O-CaO-SiO_2 glass, mixed alkali effect on chemical durability 7−8145
- Na_2O-K_2O-Ga_2O_3-SiO_2 glasses, glass transform temps., mixed alkali effect 7−6793
- Na_2O-SiO_2-KCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7−12288
- Pb^{2+}:$KMgF_3$ colour centre laser, tunable for 855 to 965 nm 7−15874
- $PbNb_2O_6$, unstable point domains in ferroelectrics 7−17280
- PbO-K_2O-Nb_2O_5, polymorphism, DTA, X-ray phase anal. 7−6782
- PbO-K_2O-Sb_2O_3-As_2O_3 flint type glasses, viscosity near annealing temp., depend. on PbO conc. 7−58151
- PbO-SiO_2-K_2O coloured and colourless glasses, near IR absorpt. temp. depend. study 7−13146
- Rb_2KFeF_6, structural phase transition, Raman scatt. and group-theoretical studies 7−52045
- Rb_2KMF_6, (M=Al, Cr, Fe, Y, Br), structural phase transitions 7−52044
- Rb_2KYFe_6, structural phase transition, Raman scatt. and group-theoretical studies 7−52045
- SiO-K_2O-CaO-MgO-CdO glass melts, evaporation 7−2160
- SiO-K_2O-PbO glass melts, evaporation 7−2160
- W-K_2O-SiO_2, doped wire, effect of dopants on microstruct. *(Korean)* 7−17547
- $Zn(PO_3)_2$-$CdCl_2$-KCl glasses, electrical conductivity and IR spectra 7−2253
- ZrF_4-PbF_2-AlF_3-LiF-KF glasses, mixed alkali effect, DC cond. 7−63873
- ZrF_4-PbF_2-AlF_3-NaF-KF glasses, mixed alkali effect, DC cond. 7−63873

potential energy curves and surfaces of molecules

for Morse curves see Morse potential

see also molecular vibration
- 3d metal compounds, equilibr. geometry, pot. surface, ab initio calcs. 7−15511
- *S*-matrix unitarization within reactive perturbation theory 7−25440
- acetone, CS_2 soln., internal pot. energy surface, CNDO calc. 7−42486
- acetylene, X-ray photoelectron spectrum study, diabatic model anal. 7−36448
- AlH_3^+, charge-transfer reaction, mol. representation, CI calcs. 7−36485
- alkali hydride, ground and excited mol. states, long range pot. curves calcs. 7−19994
- alkali hydrides, ground state reduced pot. curves 7−10466
- alkali metal hydrides, X $^1\Sigma^+$ state, HF quality Slater basis sets 7−19719
- alkali metals vapours, dimer spectral line shape, nonadiabatic effects study 7−36696
- atomic clusters, classical pot. energy surfaces investigated using simulated annealing method 7−62556
- benzene, intramol. energy transfer from local mode, bath mode anharmonicity influence 7−25634
- benzene, intramolecular vibr. energy redistrib., bend-stretch pot. energy coupling 7−10540
- benzene chromium tricarbonyl-$d_0(d_6)$ deuteration effect on multiphoton dissoc. 7−5727
- CH mol., photodissoc., ab initio SCF with CI calcs. 7−42499
- chemical reactivity, potential energy surfaces, LCAO, MO and SCF calcs. 7−17764
- cinnamide compounds, conform., MO calc. 7−56986
- conformational studies, topology manipulation and coordinates algorithm using MOLTW program 7−50398
- conjugated systems, computer reaction simulation, hybrid model 7−49874
- coupled potential energy surfaces, nuclear dynamics Lanczos algorithm 7−49976
- curve crossings, single pass, probability oscills., nonmonotonic depend. on crossing vel. 7−10467
- N-cyanopyrrolidine, pot. surface calcs., geometrics calc. using CNDO/2 method 7−30951
- cyclic ketones, α-bond rupture, photochem. reaction, ab initio SCF CI calcs. 7−56998
- cyclopentane, pot. surface calcs., geometrics calc. using CNDO/2 method 7−30951
- cyclopentene, twist-pucker motion pot. energy determ., inverse perturbation anal. 7−19996
- cyclopropane, electron density, electrostatic pot. and bare nucl. pot. scalar field similarities 7−19736
- diatomic and triatomic systems containing group IB atoms Cu, Ag and Au, ground state pot. energy surfaces 7−25441
- diatomic inert gas dications, dissoc., detect. and charactn. 7−46804
- diatomic molecule, dissoc. state, pot. curve determ. 7−57013
- diatomic molecules, potential energy curves, numerical basis function calcs. 7−25438
- diazirine, electron density, electrostatic pot. and bare nucl. pot. scalar field similarities 7−19736
- diheliumacetylene dication, metastable, C-He bond prediction 7−49888
- 9,9-dimethyl-1,5-dihetero-spiro (5.5) undecanes, conformational dynamics, 3D topological approach 7−10402
- N,N′- dimethyl-4,4′-bipyridinium, oxidation states, electronic struct. and conform. anal. 7−25383
- dimethylphosphinic acid cation, geometry optimisation, approximate Hessian 7−25345

potential energy curves and surfaces of molecules continued
dimethylritrosoamine excited singlet states symmetry and geometry, photodissoc. 7−54152
dye molecules adsorbed on silicate matrix, UV electronic spectra 7−42639
elastic scatt., cross sections calcs., forward and inverse functional variations 7−50295
energy derivatives, analytic computation 7−49973
energy surface as minimisation problem, second-order derivatives 7−5623
ethane, bond rupture surfaces, MC SCF calcs. 7−30922
ethylmethylphosphate, stable conformations, appl. of algorithm 7−25682
fluorophenols, torsional far IR spectra, tilt influence, use of CNDO/2 method 7−56982
formic acid dimer, symm. stretching modes in gas phase 7−25475
formic acid radical cation and its isomers, pot. energy surface, ab initio quantum chemical methods appl. 7−42521
FT photoelectron spectroscopy, correl. fn. and harmonic oscillator approx. 7−10665
L-iduronic acid, sulphated residue in heparins, conformer struct. and population study, ^1H NMR spectra anal., force field calcs. 7−25546
inverse perturbation anal. for pot. energy determ. 7−19996
inverse sensitivity coeffs. calcs. for physical models 7−49974
isoformyl cation, force field, equilibr. geometry, ab initio determ. 7−62293
isoformyl cation, rot.-vibr. energies, ab initio pot. surfaces 7−62264
ketene, triplet state photolysis, CO photofragment rot. state distrib. 7−23039
macromolecules, Langevin modes 7−42805
methane, bond rupture surfaces, MC SCF calcs. 7−30922
methane, proton–proton spin–spin coupling surface 7−42645
methyl(difluorophosphineborane), vibrational assignment, normal coordinate anal., Raman and IR spectra 7−62384
methyl fluoride, pot. surface studied using ab initio MO theory with electron correl. energy 7−42494
methyl halides, nucleophilic substitution reactions, quantum-mechanical model, HMO calcs. 7−36482
methylene, pot. energy surface and singlet-triplet splitting, calcs. 7−10397
methylenefluoronium ylide, pot. surface studied using ab initio MO theory with electron correl. energy 7−42494
methylnitrite, photodissoc. S_1 pot. surface, MC SF calcs. 7−25347
molecular photoionisation, autoionisation struct. described using projector-operator formalism 7−42696
multi-reference CI wave functions, geometrical energy derivative eval. 7−56994
nitromethane dimer, non-bonded and H-bonded interactions, SCF calcs. 7−25357
nitrosomethanol, rotamers, struct., ab initio calcs. 7−56955
nucleic acids, energy minimisation and dynamics, empirical energy functions 7−34097
optical spectra, spin-boson model involving coupled pot. energy surfaces 7−49971
optical spectroscopy time domain formulation 7−15535
oxalic acid, isomerisation and unimol. dissoc. channels, MO calcs. 7−28295
oxirane, electron density, electrostatic pot. and bare nucl. pot. scalar field similarities 7−19736
prop-1-en-2-al, geometry optimisation, approximate Hessian 7−25345
propylamine, fragmentation, electron impact mass spectrometry, ab initio MO calcs. 7−50387
reaction mechanisms, group theory, global anal. 7−59743
sigmatropic rearrangement, potential energy surface homology 7−13725
species-state transition probabilities, calc. for rearranged systems *(German)* 7−36694
stable configurations, search algorithms 7−25682
tetrachloromethane dication, isomers, mass spectrometry and ab initio calc. investig. 7−36513
three particle loosely bound states, adiabatic hyperspherical approx. 7−10702
toluylaldehydes, mobilities, microwave and far IR complex permittivities meas. 7−53218
triatomic floppy mols., excited vibr. levels, distributed Gaussian basis study 7−15581
triatomic molecules, photodissoc., rot. refl. principle, calcs. 7−19982
vibration calculations, multidimensional potential matrix elements 7−42589
vibration-rotation calc. 7−50059
vibration-rotation calculations, multidimensional potential matrix elements 7−42589
${}_3^+$, ground state pot. energy surface, MRD-CI calcs. 7−30959
AlF, pot. energy curves for excited states, ab initio CI calcs. 7−49948
AlO, $X^2\Sigma^+$ and $B^2\Sigma^+$ states, RKRV pot. energy curves 7−60525
Ar-N_2, rot. inelastic scatt., forward and inverse functional var. 7−5753
$(ArH)^{+*}$, short-range pot. curves, Lyman-α line blue wing *(French)* 7−10463
$(ArH)^{+*}$, pot. energy curves, semi-diabatic model *(French)* 7−10464
As_2, electronic states, spectroscopic props., SCF CI calcs. 7−62294
Be_2, bonding, appl. of local spin density approx., comparison with other studies 7−25371
Br_2, photodissoc., Br electronic Raman spectra 7−42530
C_2, intercombination transition probabilities between levels $X^1\Sigma_g^+$ and $a^3\Pi_u$ 7−25607
CCH, $X^2\Sigma^+$ state, rot.-vibr. energies, ab initio calc. using nonrigid bender Hamiltonian 7−25422
CH_3N^{2+}, pot. energy surface, ab initio MO calcs. 7−10390
CH_3NO_2, potential energy surface, rearrangements, ab initio calcs. 7−10465
CO, pot. energy curve construction method 7−36512
CO, potential energy curves, numerical basis function calcs. 7−25438
CO, soft X-ray induced fragmentation, Auger electron-ion coincidence study 7−36700
CO_2, mol. photodissoc. resons. 7−952
CO_2+H^+, charge transfer reaction cross section and pot. energy curve meas. 7−54086
$((CO)_5W\text{-}H\text{-}W(CO)_5)^-$, struct., H atom dynamics, spectrosc. investig. 7−15613
CS_2, dissociative attachment bands, impact electron and fragment ion energy spectra anal. 7−50386
CaBr, pot. energy curves and dissociation energy, curve fitting procedure 7−36511
CaH, $^2\Sigma^+$ states, rot.-vibr. levels, pot. curves 7−62345
Cl_2, dissoc. state, pot. curve determ. 7−57013

potential energy curves and surfaces of molecules continued
Cr_2, bonding, appl. of local spin density approx., comparison with other studies 7−25371
Cu_3, assignment of the 5397 Å system, mol. fluoresc. data anal. 7−50217
CuH, singlet and triplet Σ^+ pot. energy curves investigated by valence-only CI calcs. 7−42495
DCN, metastable states, spectral quantisation appl. 7−25434
F_2, pot. energy surfaces, multireference coupled cluster theory calc. 7−49970
$Fe(H_2O)_n{}^{2+}$ clusters, intermol. pot. fn. and pot. energy surface, ab initio UHF calcs. 7−25354
H+CO, rot. distribs. from reson. and direct scatt., coupled channel scatt. calcs. 7−46826
H^++HF, charge transfer processes, ab initio calcs. 7−5744
H_2 autoionising $^1\Sigma_u{}^+$ and $^1\Pi_g$ states, theory 7−5646
H_2, bond rupture surfaces, MC SCF calcs. 7−30922
H_2, excited state, multiphoton spectroscopy 7−10695
H_2, interat. interactions in van der Waals region, Epstein Nesbet calc. 7−36491
H_2, MRD-CI pot. surfaces calcs. using balanced basis sets 7−42498
H_2, stepwise two-photon ion-pair production, mol. spectroscopy 7−10683
$H_2{}^+$, interat. interactions in van der Waals region, Epstein Nesbet calc. 7−36491
$H_2{}^+$, molecular description of two-electron atoms 7−845
H_2-HF complex, struct., bonding, vibr. freq. shift 7−19817
H_2-methane pairs, rototranslational far IR absorpt. spectra 7−15601
H_3, MRD-CI pot. surfaces calcs. using balanced basis sets 7−42498
H_4 in ground and first two excited singlet states, pot. energy hypersurfaces 7−57002
HBr, pot. energy curve construction method 7−36512
HCN, isotopic species, electronic states, pot. surface, dissoc. vibr. anal., CI calcs. 7−62297
HCO, ground state surface, pot. function 7−17783
HCl, photodissoc. branching ratios pot. energy curves 7−31128
HD^+, pot. curves, vibr. and rot. states, adiabatic STO calcs. 7−25380
HF-H_3N, H-bonded complex, force consts. calc. for vib. modes, correl. effects 7−19823
HF+$H_2(N_2)$, total differential scatt. cross sections 7−13743
$(HF)_2$, degenerate rearrangement, tunneling splitting, reaction-path anal. 7−22979
H_3N-HF-HF, H bond cooperativity, structural and energetic props., ab initio calcs. 7−19697
H_2NC^+, interstellar mol., pot. energy surfaces, ab initio MO theory 7−19687
$HO_2{}^+$, electronic struct., MRD-CI calcs. 7−10450
H_2O, excited state pot., photodissoc. ab initio calcs. 7−19978
H_2O, pot. energy surfaces 7−10468
H_2O, stretching and bending vibr., adiabatic approx. 7−10541
$(H_2O)_n$, n=4 to 8, geometries and relative energies, Monte Carlo energy minimisation study, ab initio SCF calcs. 7−30921
H_3P-HF-HF, H bond cooperativity, structural and energetic props., ab initio calcs. 7−19697
H_2S, pot. energy surfaces 7−10468
H_2S, pot. energy surfaces, spectroscopic props., ab initio CEPA calcs. 7−19686
H_3S^+, pot. energy surfaces, spectroscopic props., ab initio CEPA calcs. 7−19686
H_2Se, pot. energy surfaces 7−10468
He-H_2, rot. inelastic scatt., forward and inverse functional var. 7−5753
He-H_2 van der Waals mol., diagrammatic perturbation theory 7−5607
He-X^+ (X=halide), gas, interaction pot. 7−19739
He_2, interat. interactions in van der Waals region, Epstein Nesbet calc. 7−36491
$He_2{}^{2+}$, ground-state pot. curve, Moller-Plesset perturbation calcs., bond lengths 7−42455
$HeLi_2$ van der Waals system, pot. energy surface 7−62261
$(HeNe)^{+*}$, pot. energy curves, semi-diabatic model *(French)* 7−10464
Hg-Ar complex, electronic states struct., pot. energy curves, visible fluoresc. spectra anal. 7−36631
InCl molecule, $C^1\Pi$-$X^1\Sigma^+$ system, emission spectrum and dissociation energy 7−5694
K^+-CO_2 system, pot. energy surfaces calc. 7−57015
Li-CO_2 complex, pot. energy surface, covalent ionic nature 7−30967
Li-H_2 system, second derivative nonadiabatic coupling matrix elements determ. pot. energy surfaces 7−42501
LiCN, excited vibr. levels, distributed Gaussian basis study 7−15581
$LiCl(H_2O)$, ion pairs, struct. and stability, H^+ transfer reaction path, SCF-CNDO/2 calcs. 7−25400
$^{6,7}LiD$, $X^1\Sigma$ state pot. energy curves, adiabatic corrections 7−36514
$^{6,7}LiD$, $X^1\Sigma^+$ and $A^1\Sigma^+$ states, pot. energy curves 7−5622
LiF-H_3N, Li-bonded complex, force consts. calc. for vib. modes, correl. effects 7−19823
$LiF(H_2O)$, ion pairs, struct. and stability, H^+ transfer reaction path, SCF-CNDO/2 calcs. 7−25400
LiH, constrained pure state one-electron density matrices 7−57014
LiH, vibr. transition freqs. obtained from SCF and correlated wave functions, effects of basis set selection 7−25420
$^{6,7}LiH$, $X^1\Sigma$ state pot. energy curves, adiabatic corrections 7−36514
$^{6,7}LiH$, $X^1\Sigma^+$ and $A^1\Sigma^+$ states, pot. energy curves 7−5622
$(LiH)_x$ linear infinite chains study, pseudo-lattice method, ab initio SCF calcs. 7−36470
LiH(D), pot.-energy curves, PMO-RKR-van der Waals pot., Pade approx. method 7−30965
methyl+H→methane, ab initio pot. energy surfaces, channel model calcs. 7−28276
Mg+N_2O, reaction dynamics, high resolution laser fluoresc. spectra 7−8252
MgH, predissoc., Feshbach reson., semiclassical complex-energy quantisation 7−42705
MgH_2, collisional redistrib. profiles meas. 7−42525
MgHe, collisional redistrib. profiles meas. 7−42525
N at. and mol. chemisorption on graphite finite cluster models, HF calcs. 7−16869
N_2, ground state, pot. curves, MR CI and MC SCF calcs. 7−49936
N_2, pot. energy surfaces, multireference coupled cluster theory calc. 7−49970
N_2, potential energy curves, numerical basis function calcs. 7−25438
N_2 soft X-ray-induced fragmentation, Auger electron-ion coincidence studies 7−42697
N_2, transition moments and pot. energy curves, ab initio calcs. 7−42472
NF, $(b^1\Sigma^+, a^1\Delta)\rightarrow X^3\Sigma^-$ radiative decay processes 7−42522

potential energy curves and surfaces of molecules continued
- NH_3 dimer, ionis., proton transfer, ab initio pot. energy surface calc. 7−42518
- NH_3, matrix isolated, orientation-inversion motions, inertial model 7−42580
- NH_3 unimolecular dissoc., pot. energy surface, classical trajectory study 7−13745
- NH_4^-, stability against dissoc. and $NH_3.H^-$ form., pot. energy surfaces, ab initio CI calcs. 7−30955
- $NH_3.H^-$, stability, pot. energy surfaces, ab initio CI calcs. 7−30955
- NH_2NO_2, electronic ground and first triplet states struct., SCF calcs. *(French)* 7−15498
- NO^{2+}, $^2\Sigma^+$ and $^2\Pi$ states, ab initio MC SCF CI calcs. 7−49937
- NS^+, electronic states study, CI calcs. 7−19714
- Na^+-CO_2 system, pot. energy surfaces calc. 7−57015
- $Na+H_2$, energy transfer expts., CARS 7−10719
- Na_2, B $^1\Pi_u$ state, pot. barrier, semiclassical model calcs. 7−62282
- Na_2, excited states, pot. energy curves, Pluvinage model 7−62304
- NaK, $X^1\Sigma^+$ and $a^3\Sigma$ states, long range pots. anal. 7−42519
- Ne-He van der Waals mol. pot., ab initio HF SCF calcs. 7−36459
- O_2, potential energy curve, photodissociation and adsorp. spectra 7−5624
- $^{18}O_2$, Schumann-Runge bands, oscillator strengths meas. 7−62455
- O_3, mol. vibr., semiclassical calc. from ab initio pots. using 2D spline fn. 7−30936
- OCN^--H_2O interaction, pot. surface, SCF MO calcs. 7−56967
- OH, predissociation, non-adiabatic effects, energy levels calcs. 7−15660
- $^{16}O^{18}O$, Schumann-Runge bands, oscillator strengths meas. 7−62454
- PN, pot. energy curves, dissoc. energy 7−19737
- RbCn, SCF pot. energy and dipole surface calc. 7−42579
- $Ru(NH_3)_5$-bipyridylbutadiene-$Ru(NH_3)_5$ compound photoisomerisation mol. switching, electronic coupling parameter calc. 7−19678
- S_8, crown struct., pot. hypersurface, EHT calcs. 7−36483
- $SiH_3(D_3)$, ions and radicals, pot. energy curves and electron affinities determ., photoelectron spectra anal. 7−25603
- $Sr^+ + Ba$, laser-induced charge exchange, quasi-mol. model, fluores. anal. 7−36748
- TlF, predissoc., tunneling, UV spectra 7−57141
- $XeO+N_2O(OCS)(NO_2)(SO_2)(O_2)(CO)$, quenching reaction kinetics investig. 7−46814
- $XeS+N_2O(OCS)(NO_2)(SO_2)(O_2)(CO)$, quenching reaction kinetics investig. 7−46814
- ZnD, $B^2\Sigma^+$ state, spectrosc., rot. anal. 7−5665

potential energy functions
- *see also Lennard-Jones potential; molecular vibration; Morse potential; muffin-tin potential*
- acetone-d_1(-d_2)(-d_3), microwave and mm-wave rot. spectra, rot. spectrum, internal rot. and struct. 7−25497
- acetone-do(d_3)(d_6), mol. torsion, semirigid rotor model, far-IR spectra anal. 7−50105
- alkali halides, Schottky defect energy, effect of three-body forces 7−21864
- alkali hydride, ground and excited mol. states, long range pot. curves calcs. 7−19994
- alkali metal atom-He system, Rydberg energy levels, Coulomb and Coulomb-Stark-Green fn. 7−42476
- alkali metal atoms in rare gas matrices, Rydberg states, model pot. 7−5737
- alkali metal hydrides, X $^1\Sigma^+$ state, HF quality Slater basis sets 7−19719
- alkali-inert gas pair diffusion cross sections, light-induced drift 7−51366
- alkali-metal atoms, photoionisation cross sections, ab initio RRPA calcs. 7−36462
- alkaline-earth atoms, two-electron interaction study 7−15491
- alkane chains, internal rot. in anisotropic environment 7−956
- alloys, interatomic interaction pots., temp. depend. investig. *(Russian)* 7−12314
- aromatic aldehydes in cyclohexane solvent, internal mobility study, far-IR and microwave Fourier transform spectra anal. 7−64631
- atom, Thomas-Fermi kinetic energy functional, Weizsacker-type gradient corrections 7−36475
- atom-atom potentials via electron gas theory 7−36720
- atom-diatom systems, polarised rot. transfer rates, vel. depend., close-coupled calcs. 7−42741
- atom-ion collisions, electron capture, off-shell Coulomb radial wavefunctions soln. 7−62520
- atomic collision cascade mol. dynamics computer simulations in insulators 7−26793
- atomic kinetic energy density, approx. functionals study, HF calcs. 7−36476
- atomic multipole transitions, positions of minima in multipole matrix elements 7−36550
- atomic negative ions, Yukawa pots., bound-state and scatt. props. calcs. 7−30927
- atomic positive ions, $Z=2$ to 50, quantum defect values 7−24323
- bent XYZ type molecules, mol. consts. 7−5653
- benzene, intramolecular vibr. energy redistrib., bend-stretch pot. energy coupling 7−10540
- benzoic acid, crystn. state compression effect on struct. and proton transfer barrier height 7−12042
- binary liq. mixture, phase transitions, Yukawa tail pots., mean-spherical approx. soln. 7−63422
- bis (trihalomethyl) ether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7−19998
- bis (trihalomethyl) thioether, conformer struct. and stability, rot. barriers, torsional force consts., mol. mechanics calcs. 7−19998
- BS, $X^2\Sigma^+$, $A^2\pi_i$, $B^2\Sigma^+$ states, potential energy curves, dissociation energy calcs. 7−50290
- butane, rot. pot. functions, ab initio and MM2 calcs. 7−10404
- charged rod-like macromolecules, static struct. factor calc. 7−25627
- 1,2-chloropropane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7−19690
- Crambin, pot. energy minimisation calcs. 7−34103
- cyclen mols. in water, Monte Carlo simulation, pot. function, ab initio calcs. 7−21071
- cyclopropane, electron density, electrostatic pot. and bare nucl. pot. scalar field similarities 7−19736
- diatomic mols., comparative study of Rydberg-Kratzer pot. 7−31137
- diatomic mols., heteronuclear, one-electron wavefns., radial couplings, united-atom limit 7−50286
- diatomic mols., quantum mechanical virial theorem, electronic kinetic energy and pot. energy representations 7−49872

potential energy functions continued
- diazirine, electron density, electrostatic pot. and bare nucl. pot. scalar field similarities 7−19736
- 1,2-dichloroethane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7−19690
- trans-1,2-difluoroethane, Ar_{364} matrix isolated, substitutional defects, consistent force field 7−57059
- 2,3-dihydrofuran, ring puckering vibr. and centrifugal distortion, microwave spectra anal. 7−36596
- dipolar fluids computer simulation, perturbation approach 7−10700
- dodecyl hexaoxyethylene ether, phase diagram vanishing miscibility loop obs. 7−28352
- double well potential, ground state energy 7−49969
- elastic scatt., cross sections calcs., forward and inverse functional variations 7−50295
- electron closed shells, bare Coulomb pot., density matrices 7−27226
- electron scatt. in a laser field, modified perturbation theory 7−36572
- electronic polarisability, Schrodinger eqn., numerical soln. method anal. 7−24457
- equipotential surface around electrical dipole, field lines diagram 7−59
- ethylmethylsilane, rot. pot. functions, ab initio and MM2 calcs. 7−10404
- ferroelectric phase transitions, double-well potential model 7−45949
- fluids of optically isotropic mols., collision-induced light scatt. 7−33405
- fluorite struct. crystals, phys. props., effective pot. calcs. 7−26692
- formamide, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
- formamide, point charge models and FSGO-wave fn., mol. electrostatic pot. and fields *(German)* 7−25632
- formate anion, isotopic species, vibr. anal., valence force fields calcs. 7−36577
- formate ion, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
- gas, spherically symmetric pair-pot. energy fn., second acoustic virial coeff. method calc. 7−62481
- germylacetylene-d_0(d_3), vibr. anal., mol. consts. study, F-G matrix technique calcs. 7−36578
- glass, radiation-induced defects and ESR spectra 7−2050
- glasses, tiling model, relax. behaviour, Monte Carlo simulation 7−44816
- high-Z ion, partially ionized, effective potential 7−955
- hydrogenic atoms in potential $V(r)=gr+\lambda r^2$, exact solns., ground-state eigenvalue bounds, moment calcs. 7−49910
- hyperbolical potential functions, energy eigenvalues 7−42725
- inert gas, pair pot., energy density functionals, Thomas-Fermi theory 7−42485
- inert-gas atoms, elastic scatt, of electrons, phaseshifts and differential cross sections, local-density approx. 7−19695
- inert-gas atoms, hyperpolarizabilities, local-density approx. method 7−25630
- interspecies transfer of momentum and energy in disparate-mass gas mixtures 7−42734
- intramolecular dynamics calculations, effective Hamiltonians 7−19995
- inverse perturbation anal. for pot. energy determ. 7−19996
- inverse square force, pot. energy, derivation without calculus 7−35161
- ion-neutral mol. interactions, intermolecular potential functions, additivity 7−10699
- ionic solids, interaction energies, relativistic ab initio calc. 7−52109
- ionic solids, relativistic ab initio calcs., review 7−52110
- isothermal mol. gas, Maxwellian versus Rayleigh distrib. 7−18535
- Kratzer oscillators, perturbed, rovibr. energy levels and expectation values 7−5656
- layer crystals dynamics, long wavelength vibrs., factor group anal. 7−58424
- liquids, thermal expansion and heat capacity at high pressure 7−6818
- lysophosphatidyl ethanolamine, energetics, hydration struct., ab initio pots. 7−65300
- many-electron atoms, quantum-mechanical model 7−25338
- material analysis, computer-based, conf., Boston, MA, USA (Dec. 1985) 7−14709
- medium effect on H bond, model pot. 7−15533
- metal surfaces, field adsorption of rare gases 7−21648
- metal-H systems, interatomic forces near H impurity 7−58293
- metals, (s,p)-bonded, atomic interaction theory 7−11985
- methane, elastic electron scatt., multiple scattering method cross section calcs., anal. of method 7−25370
- methane, electron scatt. cross sections, 0.1 to 500 eV, complex optical pot. calcs. 7−25382
- methane, force field, HF SCF and GAS SCF calcs. 7−62268
- methane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7−50254
- methane-tetrachloromethane(benzene), intermol. pot., sphericalisation 7−10701
- methyl chloride dimer, liq. electrostatic induction, thermodynamic and struct. props. 7−57145
- methyl halides, nucleophilic substitution reactions, quantum-mechanical model, HMO calcs. 7−36482
- s-cis methyl vinyl ether, coupled torsional and bending motions, microwave Fourier transform spectra 7−62355
- methylcyclobutane-do(d_3), conformational stability, low freq. Raman spectra anal. 7−50146
- molecular conformational studies, topology manipulation and coordinates algorithm using MOLTW program 7−50398
- molecular interactions, theoretical aspects, book 7−48213
- molten salt, interaction potential, fluid integral eqn. approach 7−20827
- monatomic gases and their mixtures, dilute gas props. 3 parameter MSK pot. calcs. 7−16285
- nitromethane, solid, methyl group rot., pot. surface calcs. 7−11972
- nitromethane dimer, non-bonded and H-bonded interactions, SCF calcs. 7−25357
- nonempirical atom-atom potential for main components of intermolecular interaction energy 7−31139
- oligosaccharides, blood group A, conformation, NOE and ^1H NMR spectra 7−62423
- one-dimensional polymer, vibronic interactions, HMO calcs. 7−26878
- organic compounds., electronic density, transferability of atomic descriptions, mol. pot. calcs., HF STO calcs. 7−25355
- oxetane, ring puckering pot., local correl. results 7−42456
- oxides, defect behaviour, computer-based atomistic simulation studies 7−16548
- oxides, rutile-type, dipole polarisabilities, cohesive energies and press. derivatives of bulk moduli 7−2967

potential energy functions continued
oxirane, electron density, electrostatic pot. and bare nucl. pot. scalar field similarities 7−19736
particle in various square well pots., algebraic approach 7−35332
perfect crystal tensile strength, anisotropy and interatomic pot. effect 7−12187
phenylalkynes, conform. in soln. and solid, vibr. anal., Raman and IR spectra study, valence force field calcs. 7−36612
poly-1,4-phenylenesulphide, struct., comparative analysis with small mol. model 7−44419
polyatomic molecules, electronic-vibr. states, non-adiabatic effects anal. 7−25485
polyatomic systems, density functional theory 7−25625
polyatomic systems, integral eqn. rational closures 7−25626
polymethylene chains, equilib. flexibility, continuum model *(Russian)* 7−5805
polynucleotide chains, conformational studies, low-energy states distrib. 7−28457
porphyrins, proton motion, electrostatic pot. distrib., SCF-MO-LCAO calcs. 7−57147
potential scatt., partial waves phaseshifts, second Born contribution of long-range forces. 7−24459
propylsilane, rot. pot. functions, ab initio and MM2 calcs. 7−10404
radiation damage and defects, computer simulation studies 7−2048
rainbow scatt. study in mol. and nucl. physics, and surface science 7−62482
retarded, or Casimir, long-range potentials 7−50289
RF traps, Brownian motion in a parametric oscillator model 7−29911
rigid molecules, new rigid motion algorithm for MD simulations 7−50284
screened Coulomb potential, energy levels and oscillator strengths calcs. 7−25628
semiclassical scattering, curve crossing, interpolation procedure for numerical adiabatic pot. 7−24458
semiconductor interatomic potentials, handbook 7−35130
simulated annealing study of pot. energy surfaces 7−31211
solids, sputtering and atomic collisions, computer simulations 7−59323
tetramethylammonium salts, D NMR, reorientations 7−19884
thiourea, paraelectric phase, mol. dynamics simulation 7−37920
three particle loosely bound states, adiabatic hyperspherical approx. 7−10702
transition metals, ab initio interatomic potentials 7−21395
transition metals, liquid, thermodynamic props. 7−12323
triatomic systems, total ang. momentum barriers 7−50294
s-triazine, gas phase, mol. struct., GPED anal., ab initio force field calcs. 7−36457
troxidone, antiepileptic drug, electrostatic pot., ab initio SCF-MO-LCA. study 7−855
twist boundary structure and interatomic pots., computer modelling studies 7−16578
vibr., semiclassical calc. from ab initio pots. using 2D spline fn. 7−30936
vibration potential function in effective nuclear charge model, energetic consideration 7−25364
vibronic coupling of electronic states, adiabatic Born-Oppenheimer pots. *(German)* 7−25631
water, liquid, intermolecular pot. simulation for interaction models 7−1835
water, liquid, OH stretching vibr. spectrum, mol. dynamics study, IR, Raman and neutron diffr. spectra 7−44329
Wentzel-Kramers-Brillouin quantisation rule, matrix formulation 7−24473
Yukawa pot., convergence props., 1/D expansion 7−14830
AgBr, vibr. states, rot. transitions, isotope shifts, Dunham pot., microwave spectra anal. 7−42605
AgI, mol. consts. and millimeter-wave rot. transitions, meas. 7−10555
Ar, elastic electron scatt., multiple scattering method cross section calcs., anal. of method 7−25370
Ar, high press. eqn. of state, interatomic pots. 7−58431
Ar, spectral lines, neutral broadening 7−5733
Ar, thermal cond. coeffs. based on interatomic pot. 7−51370
Ar^-, pseudopotentials, path integral simulations 7−5736
Ar-benzene(tetrazine), van der Waals rovibr. states, intermolecular pot. 7−5735
Ar-HCl, energy levels, ab initio close coupling calcs. 7−50292
Ar-tetrachloromethane(benzene), intermol. pot., sphericalisation 7−10701
$Ar+Sr^+$, collisional broadening of Sr^+ reson. line, visible spectra 7−49988
Ar_2, interaction pot. calc. 7−5733
AsH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
$B_{12}Y_{12}{}^{2-}$, (Y=H, D, F, Cl, Br, I) mol. vib., normal coordinate anal. 7−913
Be, double electron excitation cross section, distorted wave approach 7−50379
Be, ground state, exact density-pot. relation 7−42726
$BeCl_2$, aq. soln., mol. dynamics, X-ray diffr. study 7−21075
C_2 ion, low lying quartet states, radiative transition probabilities, CASSCF and MC-CI electronic wavefunctions 7−49946
CF^+, near-equilib. pot. and electric dipole moment calc. by SCEP-CEPA method 7−25368
$C_2H_xO^+$, x=3 to 5, struct. isomers, gas-phase ion mobility study, ab initio calcs. 7−36456
CO, ground state, vibr.-rot. matrix elements 7−912
CO, isotopic species, $B^1\Sigma^+$-$X^1\Sigma^+$ transition, vacuum UV obs. 7−62401
CO, short range interactions 7−19999
$CO_2{}^+$, v_2 band, diode laser absorpt. 7−10580
$^{12}C^{16}O_2$, vibr. energy levels and parallel band intensities determ. 7−5657
Ca^+, 4p-3d triplet, broadening by He 7−62323
ClO, electric dipole moment fn. calcs. 7−10442
ClO_2, struct., pot. functions, electron diffr. and spectroscopic data 7−15708
Co-O cluster ions, collision-induced dissoc., struct. calcs., mass spectral anal. 7−54107
Cu, shock Hugoniot, ab initio interatomic pot. calcs. 7−21395
Cu surface, low energy O^+ ion bombardment, atom and mol. ejection 7−59325
$Fe(H_2O)_n{}^{2+}$ clusters, intermol. pot. fn. and pot. energy surface, ab initio UHF calcs. 7−25354
H, positron elastic scatt., continued-fraction approach to optical pot. calcs. 7−20048
H+ muonic H, low energy collisions, isotopic derivatives, cross sections, electron screening effect 7−31143
H+CO vibr. excitation, pot. function, classical trajectory study 7−17783
H^++Cs charge transfer collisions, laser radiation influence 7−25646

potential energy functions continued
H^++K charge transfer collisions, laser radiation influence 7−25646
H^++Na charge transfer collisions, laser radiation influence 7−25646
H^++Ru charge transfer collisions, laser radiation influence 7−25646
H_2, short range interactions 7−19999
$H_2{}^+$, charge-overlap damping fns., Born-Oppenheimer curves calcs. 7−62269
H_2-H_2, energy levels, ab initio close coupling calcs. 7−50292
H_2+H^+ total ang. momentum barriers 7−50294
HBr, d shell photoionisation, shape resonances study 7−19964
HCN isotopes, quartic approx. of pot. function, mech. spectroscopic problem 7−50288
HCN, vibr. energy levels calc. using ab initio pot. energy function, CI calcs. 7−25484
HCO, ground state surface, pot. function 7−17783
HD^+, electrostatic pot., nonadiabatic effects 7−42457
HF complexes, H-bonded, vibr. transition freqs., red shifts 7−10546
HF, intermol. pot. model including polarisability 7−25623
HI, d shell photoionisation, shape resonances study 7−19964
H_2O, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
H_2O, intramol. vibr., mol. dynamics simulation 7−57047
H_2O microclusters, mol. orientations at surface, surface pot. num. soln. 7−36838
H_2O mol., IR absorpt. spectra, anharmonicity effects, contact transformational and quantum chemical calcs. 7−25385
H_2O, point charge models and FSGO-wave fn., mol. electrostatic pot. and fields *(German)* 7−25632
$(H_2O)_n$, n=4 to 8, geometries and relative energies, Monte Carlo energy minimisation study, ab initio SCF calcs. 7−30921
H_3SnBr, rovibr. anal., harmonic force field calc., Fourier transform IR spectra study 7−50122
H_3SnCl, rovibr. anal., harmonic force field calc., Fourier transform IR spectra study 7−50122
H_3SnI, rovibr. anal., harmonic force field calc., Fourier transform IR spectra study 7−50122
He, electron impact excitation, orientation parameter anal., exam. of Steph-Golden model 7−20053
He^{2+}, charge exchange collisions, multiply charged closed K shell targets, exponential model study 7−25426
$He+C^{6+}(Ne^{10+})$ electron capture, bound and continuum states, impulse approx. 7−50329
He+Li(Na)(k)(Rb)(Cs), Penning ionisation, pot. well depth calcs., electron energy spectra anal. 7−62510
^4He, three atoms interacting through intermol. pot., Efimov state 7−5738
Hg, diffusion coeff. in Ar gas, interaction pot. determ. 7−6348
K halide crystals, phase transitions and relative stability 7−26932
K, relativistic effective potentials in quantum Monte Carlo calculations 7−49902
$Kr+He^+$, analytic repulsive pot. calc. 7−50308
Li, double electron excitation cross section, distorted wave approach 7−50379
Li monatomic vapour, transport props., depend. on two body atom-atom interaction pot. 7−6343
Li, relativistic effective potentials in quantum Monte Carlo calculations 7−49902
Li^+, in water, Stokes radius, Hubbard-Onsager's dielectric friction theory 7−33347
Li+Cs, ion pair prod. cross sections, beam-gas study 7−39871
Li^++dimethyl ether, assoc., rate consts. pot. energy surface, canonical variational transition states theory 7−54108
$^{6,7}LiD$, $X^1\Sigma^+$ and $A^1\Sigma^+$ states, pot. energy curves 7−5622
$^{6,7}LiH$, $X^1\Sigma^+$ and $A^1\Sigma^+$ states, pot. energy curves 7−5622
Mg, ^1P states, two-electron interaction study 7−15491
Mg-like ions, energy levels, model-pot. relativistic perturbation calcs. 7−24320
N_2, short range interactions 7−19999
NH_3, point charge models and FSGO-wave fn., mol. electrostatic pot. and fields *(German)* 7−25632
NH_3, vibr., inversion doubling, variational calcs., use of intramol. pair pots. 7−31014
$NH_4{}^+$, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
NO, low-energy electron scatt., R-matrix method, close-coupling expansion study 7−36490
$Na+Li^+$, charge exchange collisions, cross sections calcs., atomic-orbital expansions method 7−36460
Na+Xe, Na D lines, collisional broadening, fine-struct. mixing, depolarisation 7−62503
Na+Xe (Ne), Na D lines, far wings obs. using fluoresc. excitation method 7−62317
Na^++Li, charge exchange collisions, cross sections calcs., atomic-orbital expansions method 7−36460
Na_2, $A^1\Sigma_u{}^+$ state, long range pot. modulated gain spectra 7−19993
$NaLi^+$, first- and second-order nonadiabatic coupling consts. Born-Oppenheimer corrections, MCSCF calcs. 7−36464
$NbCl_5(Br_5)$, vibr. anal., GF matrix method calcs. 7−42593
Ne-He van der Waals mol. pot., ab initio HF SCF calcs. 7−36459
Ne-N_2 interaction, intermol. pot. fns., ab initio calc. 7−57146
$Ne+He^+$, analytic repulsive pot. calc. 7−50308
OH + H_2, rot. excitation cross sections, close-coupling calcs. 7−25639
PH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
Pd isoelectronic series, 4^{10} subshell, photoionis. and electron impact ionis. 7−902
$PdD_{0.8}$, β-phase, interatomic pots. and lattice distortions 7−21372
Rb halide crystals, phase transitions and relative stability 7−26932
Rb+Ar(He), oscillator strength, pot. curves *(French)* 7−10728
Rh (100), diffusion of Rh adsorbed clusters, classically exact overlayer dynamics 7−38328
SbH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7−19997
SeO_2, struct., pot. functions, electron diffr. and spectroscopic data 7−15708
Si, crystalline and amorphous, Monte Carlo growth simulation models 7−16470
Si, molecular dynamics, classical two and three-body interatomic potentials 7−16966
Si, self-consistent band struct. and total energy, Shaw pot. calcs. 7−32909
a-Si:H/SiN_x:H (a-SiC:H) double-barrier structs., resonant tunnelling coeffs. 7−45467
SiH_4, electron impact cross sections, spherical-complex-optical pot., ab initio HF calcs. 7−49904

potential energy functions continued
SiO_2, vitreous, surface, adsorption and thermal accommodation of Pt single atoms 7−27133
Sr+Ar, ^1P fluoresc. line broadening, ab initio close-coupled scatt. calcs. 7−36494
Tl, interaction pot. diffusion coeffs. in inert gases 7−31913
Xe, equation of state behind strong shock waves, fluid integral eqn. approach 7−20827
Xe-tetrachloromethane(benzene), intermol. pot., sphericalisation 7−10701
$Xe+He^+$, analytic repulsive pot. calc. 7−50308

potential energy surfaces for collision processes
atom+ion potential curves, modified Tang-Toennies model 7−36722
atom-molecule collinear reactive collisions, transition state calcs. 7−59746
chloromethane+Cl^-, substitution reaction, mol. dynamics, pot. energy surface, frozen solvent theory calcs. 7−54109
coherent pulse sequence induced control of selectivity of reactions, exact quantum mechanical calcs. 7−28274
cyclopropylcarbinyl cation and bicyclobutonium ion, pot. energy surface, polarisation functions and electron correl. effect 7−30966
diatomic molecule-metal surface interaction, multidimensional potential energy surface 7−53490
energy hypersurfaces, N-dimensional, gradient extremals 7−13723
forward and inverse elastic scatt., cross section/potential surface dependence anal. 7−20000
molecular beams, rot. excitation expts. 7−10739
muonium+diatomic molecule, gas-phase reaction dynamics 7−54092
non-adiabatic transitions between two groups of interesting energy levels 7−30934
nonadiabatic transitions in system of three charged particles 7−42727
reaction dynamics on bifurcating potential energysurfaces 7−13724
reaction mechanisms, pot. energy surface, symmetry selection rules, transition state theory 7−3573
slow heavy particle collisions, nonadiabatic coupling, generalised anti-Demkov model 7−20012
triatomic systems, total ang. momentum barriers 7−50294
Ar, electron (positron) elastic scatt., calcs. 7−977
$Ar+Ar^+$, total differential scatt. cross section, 15-400 keV 7−62489
$Ar+H_2^+$, chemical reaction and charge-transfer processes, RIOSA quantum-mechanical study. 7−31159
Ar+NO, rot. inelastic cross section determ. sudden approx. 7−25637
Ar^++H_2, chemical reaction and charge-transfer processes, RIOSA quantum-mechanical study. 7−31159
$Ar^{q+}+D_2(D)$, collision parameters, energy-gain spectra meas., multichannel Landau-Zener model anal. 7−36752
B^++H_2 pot. energy surfaces, diatomics-in-molecules calcs. 7−5748
$BH+H^+$, charge transfer dynamics 7−50331
Cd-Cd(Kr) mixture, reson. line broadening, interaction pot., anal. 7−36520
Cl + methyl iodide, excitation function, microcanonical variational transition state theory 7−22995
Cl+HCl, prod. rot. distribs., centrifugal sudden distorted wave study 7−46808
Cl^-+H_2, reactive collisions, trajectory surface-hopping study 7−3576
$D+H_2$, mol. beam scatt. study, differential cross sections meas. 7−39860
$F+H_2$, bond angle-bond distance coordinate system, energy conserving trajectories 7−28287
$F+H_2(HD)(D_2)$, quantum reaction probabilities, hyperspherical coordinates 7−13754
$F+I_2$, reaction dynamics, quasiclassical trajectory studies 7−22998
$H + H_2$, deactivation rate consts., low and high temp. 7−20020
H, positron elastic scatt., continued-fraction approach to optical pot. calcs. 7−20048
$H+C^{3+}$, pot. energy curves, spin-coupled VB theory 7−957
H+CO, scatt., rot. distribs. and collision lifetimes calcs. 7−25638
H+CO vibr. excitation, pot. function, classical trajectory study 7−17783
$H+F_2(Cl_2)$, kinetic isotope effects, dynamics calcs. 7−54098
$H+H_2$, and isotropic analogs, reactive scatt. 7−17776
$H+H_2$, collision theory thermal rate consts., on SLTH pot. surface 7−54085
$H+H_2$, reactive scatt., infinite order sudden approx., discrete variable representation 7−65297
$H+H_2$ reactive scatt., quantum mech. 3-D calcs. 7−50293
$H^++HF(CO_2)$, rot. energy transfer, pot. energy surface 7−967
H^++O_2, charge transfer collisions, vibr. state resolved meas. 7−5762
H_2 beam diffraction from metal surfaces, multidimensional potential energy surface 7−53490
H_2 on Ni and Cu surfaces, dissoc. chemisorpt. dynamics, morphology and surface temp. effects 7−13808
H_2, positron impact vibr. excitation 7−36802
$H_2+Ar(Kr)(Xe)$, pot. energy surfaces calcs. 7−50301
H_2+H, collision-induced dissociation at interstellar densities 7−55448
H_2+H^+ total ang. momentum barriers 7−50294
$He-N_2$ mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect on physical parameters, calc. using HFD1 surface 7−16287
$He+Ca^+(Mg^+)$, pot. curves reson. line broadening and shift parameters 7−50302
$He+H_2^+\rightarrow HeH^++H$, endothermic reaction on ab initio pot. energy surface, dynamics 7−54103
$He+H_2\rightarrow HeH+H$, quasiclassical trajectory calcs. 7−39876
$He+N_2$, potential energy surface, multiproperty obs. 7−25633
He+NO, rot. inelastic cross section determ. sudden approx. 7−25637
$He_2H^+(He_2D^+)$, rot.-vibr. states calcs. 7−36576
I+HI, 3D trajectory study 7−42729
K+NaCl reaction complex form., blue shifted emission in visible spectra 7−22981
KH+Ar(He), mol. $A^1\Sigma^+$ state, collision induced transitions *(French)* 7−10726
$Kr^++H_2(D_2)(HD)$, spin-orbit state and isotope effects, pot. energy curve, cross sections meas. 7−39859
Li+HCl, laser catalysed reaction, pot. surfaces and transition dipoles 7−39861
Li+HCl quenching reaction, electronic struct., ab initio SCF CI calcs. 7−56995
Li^++dimethyl ether, assoc., rate consts. pot. energy surface, canonical variational transition states theory 7−54108
Li^++N_2, vibr. rot. energy transfer, collisional time-correl. functions 7−50316
$Mg+H_2$, reactive collision complex form., far wing laser light scatt. 7−22982

potential energy surfaces for collision processes continued
$Mg+H_2$, reactive collision dynamics by far using laser scatt. 7−28296
$Mu+F_2(Cl_2)$, kinetic isotope effects, dynamics calcs. 7−54098
NH_3+H_2, ab initio potential-energy surface, HF, SCF calcs. 7−10716
NH_3+HX where X=Cl, Br, I, gas phase charge transfer complexes, pot. curves 7−13733
N_2H, MCSCF equilib., transition struct. and reaction path determ. 7−8251
N_2H_2, MCSCF equilib., transition struct. and reaction path determ. 7−8251
NaH+Ar(He), mol. $A^1\Sigma^+$ state, collision induced transitions *(French)* 7−10726
Na^*+N_2, quenching, classical trajectory calcs. 7−50300
Ne, electron (positron) elastic scatt., calcs. 7−977
$Ne^{q+}+D_2(D)$, collision parameters, energy-gain spectra meas., multichannel Landau-Zener model anal. 7−36752
O+CH·, exothermic reactions, rate consts., classical trajectory study 7−17783
$O+H_2(HD)(D_2)$, trajectory isotope effects. pot. energy surfaces 7−65296
$O+H_2\rightarrow OH+H$, reagent translational energy effect, pot. energy surface calc. 7−42739
O+HD reaction probabilities and rate consts. ab initio pot. energy surface 7−65295
O+HD reaction rates, variational transition state theory 7−59749
OCS+Ar semiclassical press. broadening calcs. 7−965
Pt (111) with adsorbed CO, He-adsorbate scatt., potentials and total scatt. cross-sections 7−59363
Rb+Ar(He), oscillator strength, pot. curves *(French)* 7−10728
SC^++H_2 endothermic reaction ab initio pot. energy surfaces 7−13746
SF_6, thermal attachment rate constants, 200-600K 7−975
Si (111) surface, H_2 dissoc. chemisorption dynamics 7−54169

potential models (elementary particles) *see elementary particle interaction models*

potential scattering
atom, Yukawa pot. model, electron elastic scatt., laser modified 7−25654
atomic clusters, multiple-scatt. theory, appl. of a non-muffin-tin pot. general pot. develop. 7−36839
back-scattered scalar fields, Born and Rytov approxs. equivalence 7−24485
bound-state energies of the generalized exponentialcosine-screened Coulomb potential 7−134
coulomb screened potential, charged particle scatt., multiphoton free-free transitions 7−18641
electron scatt. in a laser field, modified perturbation theory 7−36572
inelastic scatt., log derivative method, piecewise constant diagonal reference pot. addition 7−36726
inverse scattering, illicit reflection coefficient 7−35305
inverse scattering, one-dimensional, one-parameter family of potentials with some scattering matrix 7−61148
inverse scattering for the heat operator and evolutions in 2+1 variables 7−48402
inverse scattering problem, reconstruction of local potentials for Schrodinger eqn. 7−61151
irreversible processes formulated in a superspace, quantum theory, variation principle 7−14869
Jacobi-matrix method based on SO(2,1) algebra, parabolic coords., Coulomb fns. expansion in parabolic Sturmians 7−56076
laser-assisted collisions, random telegraph noise 7−50044
Lippmann-Schwinger equation solution for short-range potentials 7−19034
low-energy scattering for medium-range potentials, Schrodinger eqn. with central pots. 7−35308
metallic cylinders, disordered, phase transition of Aharonov-Bohm periodicity 7−52580
noisy inverse scattering problem, Fourier transform and Born approx. 7−35306
nonlinear Schrodinger equation, phenomenological quantisation scheme 7−18634
nonlinear Schrodinger model in strong coupling regime, nonperturbation scheme for S-matrix 7−4991
nonrelativistic scattering on a line, Jost matrix integral form. 7−61149
off-shell two-particle scatt. function, three-body problem, phase function method generalization *(Russian)* 7−41163
one-dimensional, time-dependent Schrodinger theory *(Korean)* 7−29802
one-dimensional scattering theory, extensions 7−61150
periodically, driven particle, in asymmetric pot. well, chaotic motion 7−29904
potential scatt., partial waves phaseshifts, second Born contribution of long-range forces. 7−24459
R matrix, Wigner infinite product representation 7−131
rainbow scatt. study in mol. and nucl. physics, and surface science 7−62482
regular and irregular potential scattering 7−9693
resonance energies, quasiclassical estimates 7−29809
resonance energies and widths, comparison of theoretical methods for short-range potentials 7−14814
resonant, in low-freq. laser field 7−18642
s-wave scatt. of an electron by a central potential, quantal scatt. calcs. 7−14800
scattering theory for SUSY hamiltonians, nonstationary approach, quantum mech., nuclear interactions 7−30214
Schrodinger operator construction for given scatt. amplitude at fixed energy 7−29814
second-order optical potentials and R-matrix theory 7−18640
semiclassical scattering, curve crossing, interpolation procedure for numerical adiabatic pot. 7−24458
slow electrons, pot. scatt. in laser field 7−18639
Stark effect Hamiltonians, asymptotic completeness 7−14801
SUSY quantum theory, scattering 7−56079
transition matrix, symmetrical representation, development 7−18611
vector operator factorisation, Coulomb problem 7−61162
wave propagation in disordered arrays, resistance growth with density of scatterers 7−35294
NO, low-energy electron scatt., R-matrix method, close-coupling expansion study 7−36490

potentials (bioelectric) *see bioelectric potentials*
potentials (electric) *see electric potential*
potentiometers
  see also voltage measurement
  potentiostat, modular microcomputer controlled for electrochemical meas. 7—59819
  quantum Hall resistance meas., using improved Josephson potentiometer 7—18810
  quantum Hall resistance value determ., using calculable capacitor at ETL 7—14968
Potts model *see lattice theory and statistics*
powder metallurgy
  Al-Li-Mg powders, mech. alloying 7—64968
  amorphous alloy powders, rapid quenching water atomisation process 7—46371
  Astrology, LC, Nirbase superalloy, hot isostatic pressing, powder metallurgy, second phase particle anal. 7—17497
  atomised metal powders, factors affecting particle size 7—53659
  bronze, powder particle shape effect on stability props. 7—7927
  bronze, regularity of struct. of porous material 7—53676
  bronze BrAZh, elec. discharge sintering of powder from swarf, electrophys. and mech. props., microstruct. 7—27974
  bronze powder production from melts by centrifugal atomisation 7—7924
  centrifugal atomisation use for powder prod. from melts 7—7924
  coatings obtained by impact wave method, struct. form. 7—65211
  compressible materials, complex math. model of plastic flow 7—64959
  deformability criterion of porous body 7—64958
  electric contact sintering method 7—13401
  fabrication by EM pulveriser *(French)* 7—3218
  filter, granular, from loosely poured metal powders, operating characts. 7—28383
  flame spray deposition of coatings on sintered materials 7—54002
  gas-thermal coating of powdered materials, substrate porosity effect 7—53999
  graphite particle dispersed Al-Si alloys, powder extruded, wear characts. *(Japanese)* 7—53909
  heredity phenomenon, sinterability characteristics linked with prep. method, pore vol. reduction rate increase in temp. jump 7—53655
  HF discharge, low press. nonequil., powder prod. device 7—53650
  high alloy powders, prod. by water atomisation 7—53658
  isostatic pressing pressure rel. to relative compact density 7—7912
  laser production of ultra-fine metallic and ceramic particles 7—13406
  liquid phase sintering treatments, phase diagrams 7—7911
  mass transfer features in superfine metal powders 7—27963
  metal particles, ultra fine, ferromag., growth rel. to mag. field 7—53515
  metal powders, hot isostatic pressing, empirical model 7—46365
  Mo-Ni, activated sintered, sintering behaviour and mech. props. 7—7929
  modern science and technology 7—7921
  particle mixture, mixing model with particles of different elec. resist. *(Japanese)* 7—44831
  parts production by hot isostatic pressing, applic. of rheological model for porous materials *(French)* 7—13400
  plastic working in presence of free surface, math. modelling 7—53651
  plastically worked articles, annealing effect on behaviour in temp. jump and substruct. 7—27961
  plastisols, mixed powder, rheology 7—53656
  porous materials, strain hardening, compaction eqns. 7—64953
  porous structure homogeneity of permeable materials 7—64960
  rare earth-iron-boron permanent magnet materials, prep. and props., book contrib. 7—27981
  sinterability characteristics linked with manuf. method, mech. processing and heat treatment effects 7—53652
  sintered materials, characts., influence of porosity 7—7910
  size distribution and shape meas. of metal powders 7—53657
  steel, austenitic stainless, liq. phase sintering, effect of Si additions 7—53678
  steel, austenitic stainless, strain hardening in powder metallurgy alloys 7—22721
  steel, carburising process for dense and porous materials, math. model 7—39745
  steel, Cr-Mo, sintered, ageing and steam oxidation, effect of P 7—7930
  steel, forged powder, prod. from water-sprayed Astalloy powders, fracture toughness 7—13572
  steel, heat treatment effect on strength and yield parameters 7—53775
  steel, high speed, powder metallurgy, cutting performance *(Korean)* 7—46367
  steel, high speed, powders, transform., struct. and props., prior annealing effect 7—13452
  steel, high-speed, atomised powder, particle size effect on amount of residual austenite 7—3308
  steel, high-speed, phase comp. of powdered stock 7—53674
  steel, high-speed, powdered, struct. after sintering in presence of liq. phase 7—53677
  steel, high-speed, produced from machining waste, liq. phase forming during sintering 7—3226
  steel, high-speed p/m tungstenless, Mo and V effect on microstruct. and operating props. 7—33788
  steel, Ni, p/m type, fracture struct. features 7—33789
  steel, produced by hot forming, strength characts., influence of porosity, C content and compacting method 7—53823
  steel, Si-Mn, sintered, mech. props. *(German)* 7—22831
  steel, stainless, G-Ni type, force characts. of powder compaction process 7—7912
  steel, stainless, powder compacts, props., influence of sintering conditions *(Korean)* 7—17496
  steel powders, obtained by rotating electrode process, study of props. and cooling rate 7—17498
  steel structural, powder, hardenability and hardness penetration, effect of comp. and porosity 7—22807
  steel-VC composites, cold sintered, mech. props., bonding integrity 7—39471
  superalloys, oxide dispersion strengthened, manufacturing process developments 7—27979
  transition metal powders, synthesis by laser heating, hexamethyldisilazane pyrolysis 7—65311
  Udimet 700, Ni-base alloy, solidified, dendrite arm spacing rel. to cooling rate 7—53713
  US atomisation, drop particle size assessment 7—53654
  US gas atomisation for metal powder prod. 7—17499
  zonal segregation in powder bodies, model analysis 7—27962
powder metallurgy continued
  Al alloy powder from high press. gas atomisation, TEM study 7—17493
  Al alloys, IN9021 and 7090, powder metallurgy, fatigue crack growth, influence of load ratio 7—28124
  Al powder production from melts by centrifugal atomisation 7—7924
  Al powders, cold sintering 7—64972
  Al powders, dynamic consolidation 7—39457
  Al-Cu compact, struct. form. during sintering 7—53675
  Al-Fe-Mn powder, rapidly solidified, microstruct. 7—46445
  Al-Fe-Si-TiO_2, dispersion hardened, strength props., effect of matrix particle size and oxide vol. fraction 7—17544
  Al-Li-Cu-Mg-Zr powder alloy, superplastic, high modulus and hardness 7—53816
  Al-Mg, rapidly solidified powders, effect of extrusion parameters on props. 7—39595
  Al-Ni powder mixtures, shock-induced chemical reactions, optical meas. 7—39463
  Al-Ni-Fe(-Co) powders, cold sintering 7—64972
  Al-stainless steel powder compacts, liq. phase sintering 7—7916
  Al-Ti, powder metallurgy alloys, mech. and thermal stability 7—64973
  Al-Ti, rapid solidification processed/mechanically alloyed, high temp. deform. 7—65100
  Al-Zn-Mg-Cu, high-energy rate powder metallurgy processed, microstruct. evaluation 7—22607
  AlCo powders, dynamic consolidation 7—39457
  Ci, porous sintered, rolling technology optimisation 7—53673
  Co, very fine, electrodeposition from electrolytes of various anion comps. 7—3224
  Co-base amorphous powders, flame-spray quenching process for continuous prod. 7—53679
  CoAl, combustive synthesis, physicochemical props. 7—7918
  $Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromagnet, prep. and struct. 7—22605
  $Co_{75}Si_{10}B_{15}$, amorphous powder, static consolidation, mechanical and mag. props. 7—3217
  Cr-graphite powder mixture, coatings form. in shock wave treatment 7—8183
  Cr_3C_2-Ni-P hard metal, Cr_3C_2 solution in Ni matrix, liq. phase influence 7—53689
  Cu alloy base powder materials with $MoS_2(Se_2)$, self-lubricating, tribotech. characts. 7—28146
  Cu alloys, rapidly solidified powder metallurgy, irrad. to 13.5 dpa with neutrons, microstruct. evolution and swelling 7—51840
  Cu, force characts. of powder compaction process 7—7912
  Cu, porosity influence on mech. and tribotech. characts. in high-speed friction 7—8119
  Cu powders, sintering, densification, grain growth *(Japanese)* 7—53662
  Cu-Al_2O_3, dispersion strengthened powder alloys struct. and mech. props. 7—53667
  Cu-Cr powders, sintering, densification rel. to Cr content 7—13405
  Cu-graphite contacts prep. using atomised Cu powder 7—27976
  Cu-Ni-P alloy, P addition effect on struct. and strength 7—53669
  Cu-P alloy, contact form. during liq. phase sintering 7—7925
  Cu-Sn-Pb system, struct. form. during sintering 7—64967
  Cu-Ti alloy, powdered, dynamic strain ageing, 375-860K 7—28058
  Fe and Fe-Co-Ni fine powders, corrosion resist. and mag. prop. changes, surface-active agent use in prep. 7—54001
  Fe, force characts. of powder compaction process 7—7912
  Fe, porous, segregation of impurity elements, alloying elements selection and activated sintering 7—53742
  Fe powder, development of new type with unusual props. *(German)* 7—3227
  Fe, powder quality assessment method 7—53671
  Fe powders, hot pressing, fracture toughness, intergranular failure rel. to porosity 7—13596
  Fe powders, sintering, densification, grain growth *(Japanese)* 7—53662
  Fe, ultrafine, and hot forged specimens, reduction temp. effect on struct. form. and props. 7—53670
  Fe-Al(Si) cold-rolled nonbrittle powder strip prep., texture and mag. props. 7—46370
  Fe-base amorphous powders, flame-spray quenching process for continuous prod. 7—53679
  Fe-Co alloys, powder metallurgy produced, mag. props. 7—33211
  Fe-Cr-Mo-Mn-C-P, sintered, ageing and steam oxidation, effect of P 7—7930
  Fe-Cu, pore form. during sintering, effect on mech. props. 7—64970
  Fe-Cu alloy, contact form. during liq. phase sintering 7—7925
  Fe-Cu-P, sintered, ageing and steam oxidation, effect of P 7—7930
  Fe-graphite compacts, sintering, alloying, mech. props. 7—39455
  Fe-graphite diffusion chromised materials, high-temp. interaction in hydrogen 7—17671
  Fe-Mn alloy, p/m type, martensitic transform. and struct. form. mechanisms 7—33658
  Fe-Ni-Al, sintered, ageing, precip. strengthening, tensile strength 7—39536
  Fe-P, sintered compacts, struct. and mech. props., effect of P addition 7—7917
  Fe-P system, sintering at atm. press. 7—64971
  Fe-P-Cu(Ni)(Mo), sintered atomised powder premixes, mech. props. 7—7931
  Fe-Si powders, grain size, influence of α-γ transform. 7—7992
  Fe-Sn mixed powder compacts, activated sintering *(Korean)* 7—3221
  Fe-VC composites, cold sintered, mech. props., bonding integrity 7—39471
  Fe-Zr, mechanically alloyed, glass forming ability 7—21110
  $FeAl_3$, Fe_2Al_5, combustive synthesis, physicochemical props. 7—7918
  $Fe_{83}B_{17}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7—13065
  $Fe_{14}Nd(Y)(Ce)_2B$ fine particles prep. by hydriding, mag. props., recording appls. 7—53660
  $Fe_{90}Zr_{10}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7—13065
  Mg, crystal habit of ultrafine particles, gas phase evaporation growth 7—53514
  Mg powder production from melts by centrifugal atomisation 7—7924
  Mo, sintering of porous bodies, rate growth and heredity phenomena 7—53652
  Mo-Cu pseudoalloy obtained by sintering of powdered mixtures, chromising investig. 7—54003
  Mo-W alloy form. by reduction in MoO_3-WO_3-H_2 system 7—3223
  Mo-W system, reduction and alloy form. in MoO_3-WO_3-H_2 system 7—7923

powder metallurgy continued
- $Mo-ZrO_2$, sintered composites, tetragonal to monoclinic transform. of ZrO_2 *(Japanese)* 7—13450
- $Mo-ZrO_2$, sintered composites, mech. props, microstruct. *(Japanese)* 7—13558
- Nb, sintering with transient liquid oxide phases *(German)* 7—27958
- Nd-Fe-B permanent magnets, prod. by hydrogen decrepitation/attritor milling route 7—22606
- Ni, heredity phenomenon in sintering, pore vol. reduction rate increase in temp. jump 7—53655
- Ni, plastically worked articles, annealing effect on behaviour in temp. jump and substruct. 7—27961
- Ni powder, ultradisperse, recrystallisation inhibition at high press. *(Russian)* 7—59481
- Ni, ultrafine, produced by thermolysis of nickel formate complexes, particle struct. 7—64965
- Ni-Al powder system, cpd. formation during shock wave loading 7—39460
- Ni-Al powders, gasless combustion synthesis, particle size 7—46368
- Ni-Al synthesis by shock compression of composite particles 7—39462
- Ni-base alloys, microcryst. powders, shock consolidated, microshear bonding 7—22745
- Ni-base amorphous powders, flame-spray quenching process for continuous prod. 7—53679
- Ni-base superalloy powder, IN-100, shock consolidation 7—39459
- Ni-base superalloy powders, Ar atomised, dendritic struct. 7—46451
- Ni-Co-Cr-Mo-Al-Ti prealloyed powder, parts prod. by hot pressing *(French)* 7—13400
- Ni-Mo-Cr-B powders, amorphous and microcrystalline, shock consolidated, wear props. 7—46655
- Ni-Ti composite powder, prod. and processing props. 7—3230
- Ni-Zr amorphous powder, prep. by mechanical alloying 7—33623
- NiAl, Ni_2Al_3, combustive synthesis, physicochemical props. 7—7918
- NiAl, slow plastic creep props. between 1200 and 1400 K, effect of comp. and grain size 7—65084
- Ni_3Al produced by shock compaction, TEM 7—39480
- $Ni_3Al(B,Ti)$, rapidly solidified powders, struct. of consolidated products 7—3222
- NiTi alloy powder, shock compaction 7—59480
- SiC whisker reinforced Al alloy, powder metallurgy, corrosion susceptibility, influence of metallurgical variables 7—65152
- $Sm_2(Co, Fe, Cu, Zr)_{17}$ sintered compact permanent magnet, mag. props., comp. and heat treatment effects *(Korean)* 7—2894
- $SmCo_5$ powder magnet, texture form. in alternating and steady mag. fields 7—27977
- Sn, fine powder of various degrees of purity, prod. by pneumoacoustic method 7—64966
- $(Ti,W)C-Ni_3Al$, composite prep. by liq. phase sintering, wettability of carbide by molten Ni_3Al, 7—64987
- Ti parts prod. from TiH_x powder by hot pressing 7—27973
- Ti-Al powder mixture subject to explosive shock-wave loading, compound formation 7—39461
- Ti-Al-Fe, mech. props., investig. as implant material *(German)* 7—46647
- Ti-Al-V (6, 4 wt.%), powder metallurgy, fatigue props. rel. to microstruct. 7—8096
- Ti-Fe powder mixture compacts. sintering behaviour in H atm., TiFe synthesis 7—53672
- Ti-Fe-Mn, sintering, dilatometry, thermographic obs. 7—13404
- Ti-Fe-Mn compacts, vol. changes in sintering, Mn Influence 7—7926
- Ti-Ni(Co)(Fe), amorphous phases, mechanical alloying 7—27972
- Ti-Pd, amorphous, formation by mechanical alloying methods 7—59479
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7—3255
- W base heavy metal alloys, mech.-props., porosity, impurity effects 7—17495
- W monocrystals, with P impurities, removal during chem. and metallurgical treatments 7—6645
- W monosized spherical powder, dynamic compaction 7—39458
- W, scrap processing into powders by electroerosion disintegration 7—3225
- W-Cu compacted pseudoalloys, elastic props., deform. diagram and pores effect 7—33722
- W-Cu-Ni contact materials, elec. props., particle size effect 7—2672
- W-Ni, sintering, liq. phase and solid-state, influence of dislocation density 7—64969
- W-Ni-Cu(Fe)(Cr), sintered heavy alloys, contiguity var. in W spheroids 7—53668
- WC-Co compact, stereological analysis of struct. form. during consolidation of carbide powder 7—53688
- WC-Co powder mixtures, electrolytic Co plating effect on densification and strength props. 7—53686
- WC-stainless steel composites, corrosion-resistant optimum prod. conditions 7—65164
- WC-TaC-Co, N contained cemented carbides, sinterability, mech. props. rel. to prep. 7—17507
- WC-TiC-Co TK type hard metal prod. using Ti alloy swarf 7—27996
- Zr_5Pb_3, fusion blanket neutron multiplier, fabrication and props. 7—49656

powder sprayed coatings
- ceramic coatings, thermo-sprayed, microstruct. studies *(Japanese)* 7—22628
- impact wave obtained P/M coatings, struct. form. 7—65211
- steel, P/M coatings obtained by impact wave method, struct. form. 7—65211
- Al, on Cr steel, SCC behaviour 7—17686
- $Al_2O_3-TiO_2$ system detonation coatings, struct. and phase characts., physicomech. props. 7—65212
- Cr, P/M coatings obtained by impact wave method, struct. form. 7—65211
- Cr surface alloyed layer on steel, form. by CO_2 laser *(Korean)* 7—28196
- Ni, P/M coatings obtained by impact wave method, struct. form. 7—65211
- Ni-base self-fluxing alloys, wear resist. of detonation coatings 7—28152
- Ti, P/M coatings obtained by impact wave method, struct. form. 7—65211
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7—3255

powder spraying
- bronze powder production from melts by centrifugal atomisation 7—7924
- control of powder supply in cyclic spraying of coatings 7—27895
- detonation gas spraying, physicochem. and technological problems 7—3164
- impact wave obtained P/M coatings, struct. form. 7—65211
- metal powder production from melts by centrifugal atomisation 7—7924

powder spraying continued
- plasma, jet spraying, powder particulates heat and momentum transfer, jet temp. vel. distrib. *(French)* 7—7843
- plasma spray deposition process parameters control, math. model 7—3477
- US atomisation, drop particle size assessment 7—53654
- Al powder production from melts by centrifugal atomisation 7—7924
- $Al_2O_3-TiO_2$ system detonation coatings, struct. and phase characts., physicomech. props. 7—65212
- Cu-graphite contacts prep. using atomised Cu powder 7—27976
- Mg powder production from melts by centrifugal atomisation 7—7924
- Sn, fine powder of various degrees of purity, prod. by pneumoacoustic method 7—64966
- $SrTiO_3$, spherical fine particles prep. by US spray pyrolysis, microstruct. *(Japanese)* 7—22625
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7—3255
- $TiSi_2$ ultrafine powder prep. and film charactn. 7—64975
- ZnO, fine spherical particles, spray pyrolysis prep., US atomisation method 7—13419
- ZrO_2, Y_2O_3 stabilised powder, spray pyrolysis, sintering, microstruct., fracture toughness 7—27983

powder techniques *see powder technology*

powder technology
- *see also densification; hot pressing; powder metallurgy; powder spraying; sintering*
- $\alpha-Al_2O_3$ powders, high press. compaction, density, pore size, grain size 7—13413
- alkali halides, powdered, electrophysical investigation during molding 7—7232
- carborundum refractory provisions with aluminium-chromium phosphate binder 7—46395
- ceramic composites, liq. phase sintered, hot isostatic pressing 7—64989
- ceramic composites, sintering, role of shear deform. 7—64988
- ceramic powders, tapping behaviour, numerical analysis 7—46360
- ceramic synthesis from molecular precursors, conf., Palo Alto, USA (Apr. 1986) 7—35113
- ceramics, microstruct. charactn. by image anal. 7—3547
- ceramics, multiphase, sintering 7—64963
- ceramics, multiphase and composite, conf., University Park, PA, USA (July 1985) 7—60880
- ceramics, powder prep., sintering and compaction, internal combustion engine appl. 7—3240
- cobaltites, fine-particles, low temp. prep. by solid solution precursor method 7—59486
- compact recovery fixtures, shock-induced temperature distributions 7—39454
- densification by interface-reaction controlled grain boundary diffusion 7—64950
- explosive consolidation of powders into rods, computer simulations 7—64955
- fabrication by EM pulveriser *(French)* 7—3218
- glass powders, calcia-aluminosilicate, sintering and crystn., kinetic processes 7—37877
- HF discharge, low press. nonequil., powder prod. device 7—53650
- laser production of ultra-fine metallic and ceramic particles 7—13406
- metal powders, shock wave induced consolidation, microlevel numerical modelling 7—27965
- metallisation of superhard material powders, X-ray method for determ. of degree of metallisation 7—54043
- micronising mill powder prod., amorphous character and particle size distrib. 7—22602
- mullite, Al_2O_3 and ZrO_2 particle reinforced, prep. by reaction sintering, fractographic study 7—22800
- mullite powders, props. and microstruct. of fired bodies *(Japanese)* 7—22626
- oxide powders, mag., dispersion and particle packing 7—3233
- piezoelectric ceramics, prep. and industrial appls. 7—13096
- plastically worked articles, annealing effect on behaviour in temp. jump and substruct. 7—27961
- porous materials, strain hardening, compaction eqns. 7—64953
- powder, internal structure of solidified aerosol droplets, etching method 7—7920
- powder compaction response diagrams, generation 7—39450
- PVC, implosive compaction of powders 7—33630
- PVC based powder mixtures, shock consolidation, densification, industrial appls. 7—39473
- random packing of identical particles, model development 7—3613
- refractories, compactum under quadrilateral compacting press. 7—13397
- refractory carbide powder, mech. treatment model, energy characts. 7—53653
- shock compression induced modification and synthesis, book contrib. 7—27957
- shock induced consolidation of metal powders, multiphase mixture model 7—26864
- shock tube powder dispersal unit 7—56241
- $O'-\beta'$-sialon ceramic composites, fabrication 7—64990
- sialon ceramics, processing, Al ion redistrib., crystallisation EDX analysis 7—3237
- sinterability characteristics linked with manuf. method, mech. processing and heat treatment effects 7—53652
- sintering, temp. jump behaviour, manufacture method and impurities effect 7—13402
- ultra-fine powder prod. using thermal plasmas, fundamentals and applications 7—33621
- zonal segregation in powder bodies, model analysis 7—27962
- Al-Si, graphitic, hot extruded powders, sintering, antifriction props. 7—13409
- Al_2O_3 ceramics, sintering, effect of TiO_2 *(Japanese)* 7—3248
- $\beta-Al_2O_3-Na_2O$ ceramic electrolyte; electrophoretic deposition 7—13411
- $Al_2O_3-SiO_3$, mullite, prep. by sol-gel method, microstruct. and mech. props. 7—46386
- Al_2O_3-TiN composite, interfacial reaction and mass transport of components during sintering 7—3254
- Al_2O_3-TiN powder composites, densification kinetics and struct. form. during sintering under high press. 7—53687
- $Al_2O_3-TiO_2$ composite powders, prep., transform. temp. 7—27985
- $Al_2O_3-ZrO_2$ ceramics, densification kinetics 7—27992
- $Al_2O_3-ZrO_2$ composites, high temp. behaviour and microstruct. study with HVEM *(Japanese)* 7—22819
- $Al_2O_3-ZrO_2-Y_2O_3$ system, synthesis and props. 7—22614

powder technology continued
- Al_2TiO_5 ceramics, form. by solid state reaction ofAl_2O_3 and TiO_2 powders 7—46385
- B and compounds, O and H content eval. 7—27964
- BN, cubic, polycryst., influence of sintering conditions on phys. props. 7—22618
- c-BN, high press. sintering 7—22615
- BN ultrafine powder synthesis at −75 to 750°C 7—22629
- BN, wurtzite, sintered polycryst., texture form. during hot compacting at high press., sphalerite transition 7—53685
- $BaFe_{12}O_{19}$, microcrystalline powders, prep. by glass synthesis method *(French)* 7—46394
- $Ba(Ti, Zr)O_3$ powders, hydrothermal prep. 7—64957
- $BaTiO_3$ ceramics, sintering, liq. phase enhanced discontinuous grain growth control 7—46384
- $BaTiO_3$ composites, dielec. and elec. props., rel. to prep. and microstruct. 7—64559
- $BaTiO_3$, fine-grained superplastic creep in reducing environment 7—28075
- BeO powder prop., porous struct. changes during heating of powdered hydroxide and basic carbonate 7—22617
- $CaZrO_3$, sintering, porosity, mech. props., corrosion resist. 7—39664
- Cr-graphite powder mixture, coatings form. in shock wave treatment 7—8183
- $CsNO_3$, polycryst., IR absorpt. spectra 7—33396
- Fe-N mag. moments and bulk prep. by reduction-sintering method with heat treatment 7—7936
- γ-Fe_2O_3 preparation by mechanochem. transform. of γ-FeOOH in presence of Li_2CO_3 7—59478
- γ-Fe_2O_3 superfine powder, prep. and gas sensitive props. *(Chinese)* 7—59484
- $Ir_{2.7}Se_8$, synthesis, powder diffr. characterisation 7—64956
- LaB_6 dispersed powders and compact specimens, struct. and morphology 7—64976
- Li_2SiO_3 pellets, sintering, density, struct., porosity 7—53682
- MgO, sinterability, prep. and charactn. of sample powder 7—22623
- $Mn_2Sb_2O_x$, synthesis and cryst. struct., X-ray powder diffr. meas. 7—58240
- $Na_6Al_6Si_6O_{24}.2xNaBr$, bromosodalite powders, compaction kinetics 7—3215
- $NaGe_2P_3O_{12}$ glass-ceramic, synthesis, thermal expansion meas. 7—46406
- $(Na_{0.5}K_{0.5})NbO_3$, sintering, densification and elec. props., effect of Ba additions 7—46387
- Ni-Cr-W-Si-Al-C, heat resistant coatings on Ni alloys 7—3498
- PLZT ceramics, grain growth during hot pressing 7—3232
- PLZT ferroelec. polycomponent oxides, controllable powder synthesis, HP and PHP methods 7—7935
- PZT powders, oxalate method prep., particle size *(Japanese)* 7—7941
- PZT, prep. by oxalate method in ethanol soln. *(Japanese)* 7—3245
- $Pb(Mg_{1/3}Nb_{2/3})O_3$ ceramics, dielec. props. 7—46382
- $Pb(Mg_{1/3}Nb_{2/3})O_3$-$Pb(Zn_{1/3}Nb_{2/3})O_3$, ferroelec. powder, prep., solid solubility, Curie point *(Japanese)* 7—7945
- $Pb\{(Mg,Zn)_{1/3}Nb_{2/3}\}O_3$, prep. and ferroelec. props. *(Japanese)* 7—27993
- $RbNO_3$, polycryst., IR absorpt. spectra 7—33396
- Si powder layers, melt recrystallisation for solar cell fabrication 7—17492
- Si powders, prod. from laser-heated silane, cryst. struct. 7—46362
- SiC, high-press. self-combustion sintering from fine mixed powders of Si and C *(Japanese)* 7—3249
- SiC powder, dynamic compaction 7—39452
- SiC powder compacts, formed by cold isostatic pressing, influence of shape and size on homogeneity *(Japanese)* 7—64981
- SiC powders, prep. by CVD method using RF-plasma *(Japanese)* 7—3250
- SiC, sintered, microstruct. and props., influence of fabrication method *(Japanese)* 7—22622
- SiC, sintering phenomena 7—17504
- β-SiC, ultrafine powder synthesis in thermal arc plasmas 7—27916
- SiC-Si_2N_4 powders, synthesis by laser heating, hexamethyldisilazane pyrolysis 7—65311
- Si_3N_4 based powder materials with SiC component, comp. effect on mech. props. 7—27998
- Si_3N_4 fine particles, aggregate struct. and compacting process *(Japanese)* 7—46393
- Si_3N_4, nitridation of Si powder compacts in N_2-H_2 gas mixture *(Japanese)* 7—3247
- Si_3N_4 powder, physico chem. characts. before sintering *(Japanese)* 7—64980
- Si_3N_4 powders, high press. not pressing, mech. props., thermal cond. temp. depend. 7—3231
- Si_3N_4, with MgO addition, phys. and tribological props., effect of hot-pressing time *(Japanese)* 7—65150
- Si_3N_4-TiC composites, densification, matrix-dispersoid reaction, mech. props. microstruct., impurities effect 7—64994
- Si_3N_4-Y_2O_3-Al_2O_3, pressureless sintering 7—17503
- SiO_2 powder compacts, densification rel. to sintering atmosphere 7—13417
- SiO_2 powder/ceramic fibre composites, packing density model 7—13426
- SiO_2-Al_2O_3 powders, prep. by spray pyrolysis, sinterability, effect of chem. comp. *(Japanese)* 7—3246
- SiO_2-P_2O_5 system, glass-ceramic materials, compaction kinetics using centrifugal forces 7—27999
- Sr ferrite fine particles, prep., mag. props. *(Japanese)* 7—53065
- $SrTiO_3$, spherical fine particles prep. by US spray pyrolysis, microstruct. *(Japanese)* 7—22625
- Ta_{16}-$W_{18}O_{94}$-Super Invar composite, thermal expansion coeff. 7—12331
- $Ta_2O_5nH_2O$, prep. of monodispersed particles with controlled size 7—64979
- TiB_2 ceramics, pure and liq. phase sintered, processing and microstruct. development 7—3251
- TiC, ultrafine powder behaviour during annealing and sintering 7—3244
- TiC-Fe-Cr alloyed with Si, high-Cr, sinterability and mech. props. improvement 7—64986
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7—3255
- $Ti_xMo_yC_z$-TiO_2-C black mixture, complex carbide interactions on heat treatment, homogenisation 7—53684
- TiN powders, fine, prep. by vap. phase reaction *(Korean)* 7—7938
- $Ti_{1-x}Nb_xCo_{0.5}N_{0.5}$ solid solns., prod. factors influence on struct. parameters of variable comp. phases 7—7940
- TiO_2 powders, dispersant use, sintering, microstruct. 7—46378
- U_3O_8 powder, prep. by cation exchange resin calcination 7—762
- WC, powder, sintering of porous bodies, rate growth and heredity phenomena 7—53652

powder technology continued
- YAG powders, hydrothermal growth, controlled nucleation, CRT phosphor prep. 7—13412
- Y_2O_3 powders, agglomerate strength distrib., US meas. 7—46379
- ZnO-Bi_2O_3 system, sintering, role of Bi_2O_3 7—64977
- ZnO-Fe_2O_3 powder mixtures, shock synthesis of $Zn_{1-x}Fe_{2+x}O_4$ 7—37955
- ZnO_2-Fe_2O_3 powder mixtures, shock synthesis of $Zn_{1x}Fe_xFe_2O_4$ 7—39899
- $ZrC_{0.98}$, sintered polycryst., primary recrystn. process 7—28056
- ZrO_2 ceramics, strength, effect of freeze-drying of $Zr(OH)_2$ 7—13415
- ZrO_2, MgO partially stabilised, SrO sintering aid addition, microstruct. and chem. aspects 7—64983
- ZrO_2, Y_2O_3-doped, powders, sinterable, chemically coprecipitated in non-aq. medium 7—64982
- ZrO_2-Y_2O_3, Y-TZP, toughened, microstruct., TEM and electron diffr. study *(Japanese)* 7—22634
- ZrO_2-Y_2O_3 ceramics, with straight, uniform-sized channels 7—22627
- ZrO_2-Y_2O_3 partially stabilized, Al_2O_3 effect on retaining tetragonal particles, matrix toughening 7—59485
- ZrO_2-Y_2O_3-Co_3O_4 materials, Co_3O_4 effect on struct. and phase comp. 7—27990

powders
- *see also densification; granular structure; particle size; powder sprayed coatings; powder spraying; sintering*
- bronze, powder particle shape effect on stability props. 7—7927
- ceramic powders, green state, real-time US NDE during compaction 7—22955
- ceramic powders, tapping behaviour, numerical analysis 7—46360
- ceramic technology appls. of interferometric meas. techniques 7—39813
- cermet powder, surface treatment and surface props. *(Japanese)* 7—46666
- correlation for heat transfer between immersed surfaces and large-particle gas-fluidised beds 7—26127
- diamond, powders, dynamically synthesised, polycrystal microstructure formation during sintering 7—22603
- diamond, surface graphitisation *(Russian)* 7—17667
- electrostatic mixing 7—46363
- ferroelectric, dynamics of polar gas mols., in strong surface fields 7—12786
- filter, granular, from loosely poured metal powders, operating characts. 7—28383
- finely dispersed, optical consts. light scatt. 7—39138
- gas-thermal coating of powdered materials, substrate porosity effect 7—53999
- graphite, elec. resistivity, rel. to degree of comminution 7—45257
- graphite dispersed powder, C atom vibr. dynamics in IR absorpt. spectrum 7—53322
- graphite particulate composites, opt. and scanning electron microscopic obs. of graphite struct. 7—22933
- magnetic resonance lineshapes, computation for EPR and NMR 7—2922
- metal, superfine, mass transfer features 7—27963
- metallic fine particles, surface free energy anisotropy determ. 7—32783
- mineral powder mixtures, X-ray diffr. anal. by heavy ion bombardment 7—32223
- model particle packings having multiple generations of agglomerates, fractal dimensions 7—39451
- oxides, dynamics of polar gas mols., in strong surface fields 7—12786
- plastically worked articles, annealing effect on behaviour in temp. jump and substruct. 7—27961
- polycarbosilane powders and fibres, prep. by fluid soln. rapid expansion 7—13399
- porous powdered material, contact wetting angle determ. method 7—52193
- powder, internal structure of solidified aerosol droplets, etching method 7—7920
- preferred orientation in powder diffractometry, intensities correction, March model appl. 7—1808
- proteins in membranes, powder samples, label positions, determ. by neutron and anomalous X-ray diffr. 7—3755
- random packing of identical particles, model development 7—3613
- sintering, temp. jump behaviour, manufacture method and impurities effect 7—13402
- spectrochemical anal. using glow discharge source, at. transport phenomena 7—30097
- steel, austenitic stainless, rapidly solidified, microstruct. characterisation 7—22672
- TCNQ-TTF powdered mixtures, strong solid-state charge transfer reaction 7—46835
- thermal diffusivity, photoacoustic technique meas. 7—4837
- ultrafine particles, consolidation kinetics, influence of interface irregularity *(Russian)* 7—53649
- zonal segregation in powder bodies, model analysis 7—27962
- AgCu, ultrafine, surface segregation of atoms during oxidation 7—54004
- Al_2O_3 powder, metallised, heater appl. *(Japanese)* 7—23204
- α-Al_2O_3 powder compacts, shock wave profiles 7—38118
- Al_2O_3-TiO_2 composite powders, prep., transform. temp. 7—27985
- AlOOH, stacking fault and size effects on X-ray diffr. line profile calc. 7—2032
- Au fine powder, synthesis from metallic aerogels 7—3216
- B and compounds, O and H content eval. 7—27964
- BN, graphite-like powder particles, shock compression effects 7—39453
- BN ultrafine powder synthesis at −75 to 750°C 7—22629
- $BaFe_{12}O_{19}$ powders, coprecipitated, magnetisation reversal, mag. dilution effects 7—53062
- $BaSO_4$ powder, solubility in water containing strong acidic ion exchange resin 7—21468
- $BaTiO_3$ based ceramics for multilayer ceramic capacitors, chemical processing 7—46399
- BeO powder prop., porous struct. changes during heating of powdered hydroxide and basic carbonate 7—22617
- CaF_2, powder compacts, shock wave effects 7—51936
- $Cd_{1-x}Mn_xSe$, powder, stress effects, amorphisation *(Korean)* 7—27960
- CdS, powder, metal-loaded, photoinduced electron-hole pair separation 7—59770
- Co, powder and thin film samples, nuclear spin-lattice relax. studies 7—38955
- Co, very fine, electrodeposition from electrolytes of various anion comps. 7—3224
- Cu alloy base powder materials with $MoS_2(Se_2)$, self-lubricating, tribotech. characts. 7—28146
- Cu fine powder, synthesis from metallic aerogels 7—3216

- **powders** continued
  - Cu, porosity influence on mech. and tribotech. characts. in high-speed friction 7—8119
  - Cu sintered powder, ultrasonic attenuation meas., phonon-fracton crossover 7—2105
  - Cu-Ti alloy, powdered, dynamic strain ageing, 375-860K 7—28058
  - Fe and Fe-Co-Ni fine powders, corrosion resist. and mag. prop. changes, surface-active agent use in prep. 7—54001
  - Fe, powder quality assessment method 7—53671
  - Fe powders, hot pressing, fracture toughness, intergranular failure rel. to porosity 7—13596
  - Fe-B (15 at.%), amorphous powder and strip, struct., mag. props., thermal stability *(Russian)* 7—63470
  - Fe-C-based alloys, high C, rapidly solidified, mech. props. 7—22673
  - Fe-Co alloys, powder and thin film samples, nuclear spin-lattice relax. studies 7—38955
  - Fe-Co-B powders, amorphous mag. state, Mossbauer spectra study 7—45846
  - $Fe_{83}B_{17}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7—13065
  - $Fe_{70}Ni_{10}P_{13}C_7$, amorphous powder, crystallisation *(Russian)* 7—58162
  - α-Fe_2O_3 powder compacts, shock-modified, Morin transition, Mossbauer and magnetisation studies 7—2852
  - $Fe_{90}Zr_{10}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7—13065
  - p-GaP, powder, metal-loaded, photoinduced electron-hole pair separation 7—59770
  - KNO_3, surface charge layer, spontaneous polarisation rel. to particle size *(Korean)* 7—27673
  - LaB_6 dispersed powders and compact specimens, struct. and morphology 7—64976
  - $LiNbO_3$ powders obtained by the alkoxy method, crystallisation and ferroelectric props. 7—7648
  - Ni powder, ultradisperse, recrystallisation inhibition at high press. *(Russian)* 7—59481
  - Ni ultradisperse powders, recrystallisation induced dilatation effect 7—39537
  - Ni, ultrafine, produced by thermolysis of nickel formate complexes, particle struct. 7—64965
  - Ni-base superalloy power, mach stem characterisation during shock wave loading 7—38117
  - $Pb(Mg_{1/3}Nb_{2/3})O_3$-$Pb(Zn_{1/3}Nb_{2/3})O_3$, ferroelec. powder, prep., solid solubility, Curie point *(Japanese)* 7—7945
  - Pd fine powder, synthesis from metallic aerogels 7—3216
  - SiC powders, surface charactn. and treatment 7—2306
  - Si_3N_4 based powder materials with SiC component, comp. effect on mech. props. 7—27998
  - Si_3N_4 powders, surface charactn. and treatment 7—2306
  - ThC, structural stability, eqn. of state, press. up to 36 GPa 7—16688
  - TiC, ultrafine powder behaviour during annealing and sintering 7—3244
  - W monocrystals, with P impurities, removal during chem. and metallurgical treatments 7—6645
  - YAG powders, hydrothermal growth, controlled nucleation, CRT phosphor prep. 7—13412
  - Y_2O_3 powders, agglomerate strength distrib., US meas. 7—46379
  - ZnO shock compressed powders, catalytic activity for CO oxidation and methanol synthesis 7—39919
  - ZnS:Mn powders, EPR anal. for different cryst. structs. 7—13025
  - ZrO_2, Y_2O_3 stabilised powder, spray pyrolysis, sintering, microstruct., fracture toughness 7—27983
  - ZrO_2-Al_2O_3 composite powder, thermal decomposition prep. for porous ceramics 7—13422
  - ZrO_2-Au, result of oxidation of $Zr_{70}Au_{30}$ in humid air 7—3510
- **power amplifiers**
  - DC motors in wheelchairs and prostheses, switching converters for efficient control 7—34355
  - neutral particle beam discriminator, RF power source technology 7—15427
  - RF power amplifier with dedicated interlock and feedback controller 7—62114
  - AlGaAs laser diode array travelling-wave amplifier, high peak power, gateable picosec. optical pulses 7—20252
- **power cables**
  - *see also power overhead lines; superconducting cables*
  - cryogenic cables, high field dielectric loss behaviour of insulating polyethylene films 7—17264
  - HV co-axial cable in pulsed power system, polyethylene insulated, breakdown properties *(Japanese)* 7—11797
  - JET nuclear fusion plant, gas-insulated HV cable for neutral injector *(German)* 7—62064
- **power capacitors**
  - high voltage capacitor low inductance, high energy density, units of different elements, breakdown and life tests *(Japanese)* 7—11796
  - H_2O insulation, deionized, partial discharge and electric breakdown 7—32186
- **power combiners (microwave)** *see waveguide components*
- **power control**
  - glass melter for nuclear waste, power supply and controls 7—19528
  - photovoltaic pump powered by asynchronous machine, optimal control *(French)* 7—59839
  - secondary storage batteries, computerised management system for space vehicle appls. 7—34021
  - semiconductor lasers, power control *(German)* 7—50578
  - wideband power regulation system for Ar ion laser 7—31347
- **power convertors**
  - DC motors in wheelchairs and prostheses, switching converters for efficient control 7—34355
  - DC-AC orthogonal core type convertor, appl. to photovoltaic power system 7—34037
  - RFX fusion expt., Italy, power supply protection against plasma disruption and fault conditions 7—30668
- **power distribution networks** *see distribution networks*
- **power dividers (waveguides)** *see waveguide components*
- **power engineering computing** *see electrical engineering computing*
- **power factor measurement**
  - zero power-factor reference based on thermal convertors 7—18816
- **power factor meters** *see power factor measurement*
- **power factor Q** *see Q-factor*
- **power generation, electric** *see electric power generation*
- **power generators, electric** *see electric generators*
- **power inductors**
  - slab-heating square inductor vibration and acoustic analysis *(Russian)* 7—62905
- **power lines** *see power cables*
- **power measurement**
  - *see also wattmeters*
  - BWR, power distribution minimum variance estimation 7—5369
  - calorimeter coaxial, and its use as reference standard in automated microwave power calibration system 7—48744
  - fibre optics testing by power meter 7—31510
  - intense single-pulse microwave sources diagnostics 7—9845
  - laser energy absorpt. meas. using differential joulemeter and optoacoustic cell calibration appl. 7—41500
  - laser power meas, high precision absolute, using mag. suspended rotor 7—20298
  - laser power meas. in μW range, sensitive calorimeter with isothermal temp. control 7—15918
  - laser power meas. standards scales intercomparison 7—15917
  - laser power standard, automatic calibration system, expt. *(Japanese)* 7—11019
  - laser radiation parameters measurement in machining lines, meter design 7—56316
  - metric system of meas., Worldwide adoption 7—24619
  - microwave, microcalorimetric technique with X-band load 7—18817
  - microwave power detection by optical fibre arrangement 7—18865
  - microwave power standard, using electron beam 7—14967
  - primary broadbanded coaxial thermal noise standard, watt unit realisation 7—18819
  - pyromagnetic detector, pulsed-periodic radiation behavior *(Russian)* 7—35509
  - quasi-integer-period-sampling, accuracy improvement 7—18734
  - rectangular waveguide calorimeter for single intensemicrowave pulses 7—9847
  - sensor technology and appls., conf., Bad Nauheim, FRG (March 1986) *(German)* 7—24271
  - standards comparison using two-resistor power splitter, reflection determ. 7—18818
  - thermoelectric power meas. on small samples 7—41406
  - transimpedance measurement receivers for modulated optical power in optical fibre systems 7—50785
  - X-ray energy measurement 7—60083
- **power networks** *see distribution networks*
- **power overhead lines**
  - *see also power cables; power transmission*
  - atmospheric ions beneath high voltage transmission lines 7—29232
  - EMP scattering, real ground presence *(French)* 7—10818
  - multiwire transmission lines and insulating equipment, snow deposition effects *(Japanese)* 7—9142
- **power overhead transmission lines** *see power overhead lines*
- **power packs** *see power supplies to apparatus*
- **power plants**
  - *see also magnetohydrodynamic power plants; solar power; space vehicle power plants; wave power plants; wind power plants*
  - acid rain in India, model of monsoon effects near coal-fired power plants 7—65663
  - Brawley geothermal pilot plant programme 7—65406
  - coal-fired power plants, atmospheric pollution caused by metal and halogen elements, SO_x and NO_x *(Dutch)* 7—40070
  - coal-fired power plants, environmental control systems using integrated design strategy 7—28438
  - combustion chamber, combustion stability 7—31890
  - condensers, 2D flow and heat transfer computation 7—51148
  - corrosion control for power plant life extension 7—54005
  - dry additive process for flue gas desulphurisation in power plants, use of $Ca(OH)_2$ and $CaCO_3$ *(German)* 7—46980
  - electric solar power plant for small community 7—65413
  - geothermal, Heber binary cycle plant in Southern California 7—8358
  - Mammoth geothermal power plant, operational characts. 7—65407
  - mini-compressed air energy storage plant analysis and evaluation 7—23225
  - Netherlands nuclear power plant air filter testing and monitoring 7—3741
  - nuclear, gas-cooled reactors for advanced terrestrial appl. 7—61956
  - nuclear power plant, cascaded state feedback control 7—56776
  - nuclear power plant, UNIRAM modelling for availability improvement 7—10274
  - nuclear power plant advanced concepts reviews, Chernobyl accident implications 7—62049
  - nuclear power plant availability impact of limiting conditions for operation 7—10272
  - nuclear power plant availability improvement by reactor trip prediction software 7—10275
  - nuclear power plant dependent event data classification system 7—15290
  - nuclear power plant in-service inspection and reliability programme 7—15292
  - nuclear power plant neutral oxygenated water conditions appl. efficiency for corrosion protection *(Russian)* 7—765
  - nuclear power plant operation simplification by reliability data collection 7—10276
  - nuclear power plant probabilistic risk assessment microcomputer software 7—10271
  - nuclear power plant status monitor design and operation 7—15267
  - nuclear power plants, removal from operation *(Russian)* 7—56816
  - nuclear power plants, safety prediction technique 7—19414
  - nuclear power plants, vital area determination techniques 7—30640
  - nuclear station blackout rule, effects on nuclear plants 7—62032
  - nuclear valve stem packing improvements and gland adjustment for leakage reduction 7—10265
  - parabolic dish concentrator with 24 kW Stirling engine power conversion unit 7—17849
  - photovoltaic system tracking and concentrator collectors, linear and Fresnel optics, cost comparison 7—17853
  - PWR plant-specific availability modelling 7—10198
  - stress corrosion crack model in laboratory tests 7—17732
  - thermal power plants, chemical regeneration of heat for improved efficiency 7—37319
  - THTR-300, operating experiences *(German)* 7—62009

power plants continued
- VVER 440 and VVER 1000 nuclear power plants, coolant compensation processes *(Czech)* 7−766
- water pollution monitoring by turbidity meas. 7−28435
- water-level measuring system for drum separators in nuclear power-plant with RBMK-1000 reactor *(Russian)* 7−764

power station computer control
- adaptive control methods, appl. to PWR power plants 7−36191
- computer aided PWR power plant operation, control and meas. *(German)* 7−19394
- computerised information processing for control room staff in FRG nuclear power plants 7−19407
- Creys-Malville (France) nuclear power station maintenance QA *(French)* 7−25127
- Diablo Canyon PWR plant, integrated control and communications system 7−42130
- digital upgrades for nuclear plant control and instrumentation 7−30597
- multivariable control system design using CAD package 7−10211
- nuclear power plant disturbance analysis using artificial intelligence, SAAP-2 system 7−19338
- nuclear power plant reliability and availability enhancement, generic software package 7−15467
- qualification concepts for instrumentation and control systems of nuclear power plants 7−19419
- testing strategies and testing environment for reactor safety system software 7−19418
- TRR power regulating system, digital controller 7−49575

power station control
- *see also power station computer control*
- Chernobyl accident, causes and effect in Spain/Italy *(Spanish)* 7−5373

power station load
- nuclear power station with single loop, saturated steam characts. over variable part of load curve *(Russian)* 7−25103

power stations
- *see also combined cycle power stations; energy resources; geothermal power stations; hydroelectric power stations; nuclear power stations; power plants; solar power stations; steam power stations; tidal power stations*
- coal-fired power plants, atmospheric pollution caused by metal and halogen elements, SO_x and NO_x *(Dutch)* 7−40070
- coal-fired power stations, radioactivity, review 7−59893
- coal-fired power stations in India, radiation exposures 7−40309
- effluent cleansing and environmental protection at power stations *(German)* 7−65657
- heat and power generation from coal, SO_2, SO_3, NO, NO_2 and CO removal from flue gases *(German)* 7−65653
- Lake Norman, NC (USA) application of ecosystem assessment model 7−65654
- remote sensing of power station thermal discharges 7−40503
- steam raising from H_2 for power generation *(German)* 7−23233
- SO_2 pollution forecasting around thermal power stations 7−55244

power supplies to apparatus
- *see also cells (electric); power plants; power supply circuits; prosthetic power supplies*
- AC network transient anal., RFX fusion expt., Italy 7−30666
- ALEPH hadron calorimeter, high voltage network for streamer tubes 7−5549
- battery usage and selection criteria *(Japanese)* 7−65421
- CP/M VMEBUS control system for MWPC HV power supplies 7−30912
- digital power supply and counting interface for UPS, XPS and Auger spectrometers 7−9825
- drive systems for pulsed synchronous machines 7−19482
- electronic current source of CO_2 laser, power modulation capability *(German)* 7−50601
- glass melter for nuclear waste, power supply and controls 7−19528
- global geometry of polyphase structures fed by complex current systems *(Italian)* 7−31207
- gridded power tubes for plasma heating applications 7−26459
- high gain fusion target development facility 6-10 MJ driver 7−19490
- hybrid and small wind energy conversion, BWEA conf., Reading, England (May 1986) 7−35107
- IFSMTF power and switch system 7−19479
- IFSMTF power supply regulator 7−19467
- inductive energy storage plasma focus device, num. simulation 7−63371
- JET neutral injection/RF heating power supplies, design 7−15322
- JFT-2M poloidal field coils, power supply and control system 7−15323
- JT-60, toroidal field coil power supply, 4 GJ flywheel motor-generator 7−36260
- JT-60, toroidal field power supply, tests 7−36261
- JT-60 toroidal field coil power supply, DC output control 7−15319
- JT-60 toroidal field power supply, rectifier, voltage regulation characteristics 7−36262
- KEK e^+ generator, magnet power supply control system *(Japanese)* 7−19580
- magnetic flux compression generator powered plasma focus device expts. 7−63372
- magnetic flux-compression generators for energy supply of plasma focus loads 7−63369
- magneto-optical elements of particle channels, digital remote control system for power supplies 7−42268
- microwave spectrometer, electromagnet power system improvement using dual control 7−30057
- Mirror Fusion Test Facility, 1000 kW ICRH amplifiers 7−26461
- Mite accelerator, injector losses of magnetically insulated transmission line 7−30757
- Mite accelerator, kinetic loss expts., power flow in magnetically insulated power feed 7−30758
- MOSFET power switches for diagnostic neutral beam decelerating supply 7−19480
- neutral particle beam discriminator, RF power source technology 7−15427
- ohmic heating power supply for HL-1 tokamak 7−19483
- operational experience with SLAC energy upgrade 7−62111
- Particle Beam Fusion Accelerator II (PBFA II), quality assurance of R&D project 7−30763
- photovoltaic water pumps, performance, reliability and maintainability 7−13889
- Proto II accelerator, low inductance diode design for imploding plasma loads, insulator breakdown 7−30760

power supplies to apparatus continued
- PROTO II crossover network, time domain reflectometry meas. 7−30759
- pulse generator supply for CO_2 laser 7−1195
- pulsed high power high tension voltage source with inductive energy storage 7−19481
- pulsed power supply, high power, for proton synchrotron 7−25274
- pump-lamp power supply for Nd:YAG laser 7−43148
- RFX fusion expt., Italy, design criteria for switching units 7−30667
- RFX fusion expt., Italy, power supply protection against plasma disruption and fault conditions 7−30668
- RFX machine-supply system anal. 7−19488
- solar photovoltaic power supplies for instruments and control equipment, review 7−23137
- superconducting toroidal field coil power supply and protection systems 7−15350
- switching problems, inductive storage plasma focus device, num. calc. 7−63368
- TEXT, capacitor banks for diagnostic neutral beam and ECH expts. 7−19485
- TEXT diagnostic beam source, arc snubber system, HV cabling 7−19486
- TEXT ECH expts., modulator/regulator/crowbar design 7−19487
- TEXT tokamak, 60 MJ pulsed homopolar generator power supply, design 7−15320
- TEXTOR neutral injectors, arc power supply 7−19476
- TEXTOR neutral injectors, auxiliary power supplies design 7−19477
- TEXTOR solid-state accelerator power supplies 7−36265
- TEXTOR tokamak, power supply, upgrading to 3 T operation 7−36264
- TFR, 60 GHz gyrotrons, power supply and operating system 7−19489
- TFTR, power system, electrical characteristics, computer simulation 7−19478
- TMX-U 80 kW SCR VLF power source for drift-pump-coil excitation 7−19484
- trim coils power supplies for the Milan Superconducting Cyclotron 7−25272
- water dielectric pulse power driver for inert-gas halide lasers 7−36988
- wind powered water pumping, power transmission between turbine and pump 7−39962
- Ar, plasma characts., study of high current discharges appl. to pulsed-power devices 7−32188

power supply, emergency *see emergency power supply*

power supply circuits
- *see also power supplies to apparatus*
- electronic current source of CO_2 laser, power modulation capability *(German)* 7−50601
- power transfer rel. to efficiency 7−48259
- pulse generation circuit for fast-rising pinching magnetic field, circuit anal. 7−32135
- wideband power regulation system for Ar ion laser 7−31347

power supply industry *see electricity supply industry*

power supply systems *see power systems*

power system analysis computing
- *see also power system computer control*
- electric power industry Inter-RAM conference, Syracuse, NY, USA (June 1986) 7−9592

power system computer aided analysis *see power system analysis computing*

power system computer control
- *see also power station computer control; power system analysis computing*
- CP/M VMEBUS control system for MWPC HV power supplies 7−30912

power system control
- *see also power station control; power system computer control*
- eigenvalue problems, large scale, conference, Oberlech, Austria (July 1985) 7−48189

power system protection
- *see also lightning protection; overcurrent protection; overvoltage protection; switchgear protection*
- airgap breakdown characts. obs., under ambient conditions of reduced air density 7−20978

power systems
- *see also distribution networks; photovoltaic power systems*
- coal gasification-combined-cycle systems for commercial power production 7−17921
- exploding metallic foils for switching elements in pulsed power systems 7−26539
- system theory, conf., Knoxville, TN, USA (Apr. 1986) 7−14714

power transformers
- electrostatic charge generation in the insulating systems of transformers *(Polish)* 7−37431
- MEATGRINDER circuit for enhanced energy transfer of inductive energy to imploding plasma loads 7−32131
- PBFA II vacuum magnetically insulated transmission line redesign to inductive energy store 7−30755
- PROTO II accelerator power flow modification in insulator stack 7−30669

power transistors
- Bi-MOS PWM invertor with 20 kHz switching freq., acoustic noise of driven induction motor 7−62934
- electron-acoustic microscopic study on dislocation lines in the base region of npn Si-Tr 7−20538
- semiconductor device physics, conf., Madras, India (Nov.-Dec. 1985) 7−35102
- ultrasonic power generator using voltage-vector controlled resonant inverter 7−20535

power transmission
- *see also distribution networks*
- electric power industry Inter-RAM conference, Syracuse, NY, USA (June 1986) 7−9592
- laser beam power transmission, direct energy converter and laser produced plasma confinement 7−3720
- laser beam transmission system using low-loss optical fibres *(German)* 7−37200
- wind powered water pumping, power transmission between turbine and pump 7−39962

power transmission lines
- *see also power overhead lines*
- 1150 kV power lines, acoustic noise due to corona *(Russian)* 7−1314
- magnetically insulated transmission line in PROTO II accelerator, anode and cathode joints, gap closure 7−30756

power transmission lines continued
Mite accelerator, injector losses of magnetically insulated transmission line 7−30757
multiconductor transmission line, effect of pulse corona discharge on coupling coeffs. and wave impedances 7−63383
PBFA II vacuum magnetically insulated transmission line redesign to inductive energy store 7−30755
Proto II accelerator, low inductance diode design for imploding plasma loads, insulator breakdown 7−30760
PROTO II crossover network, time domain reflectometry meas. 7−30759
pulse power radial transmission line, matching problems 7−32075

power utilisation
see also domestic appliances; drives; environmental engineering; heating; refrigeration; transportation
Chinese energy consumption growth forecast and implications for atmospheric CO_2 increase 7−28418
plasma appls. in industry *(French, English)* 7−20966

PPP calculations
annulene and annulene ions, aromaticity, HF instabilities 7−15521
benzofurans, UV spectra, substituent influence 7−50170
2,2′-bipyridine radical ions, absorpt. spectra, counter ion effects 7−49934
5,6-dihydrobenzo(c)xanthylium salts, synthesis, struct. and spectral props. 7−57050
1-methyl-2,4,6-triphenylpyridinium iodide, charge transfer complex, UV absorpt. spectra 7−36640
naphthalene radical ions, absorpt. spectra, counter ion effects 7−49934
organic cpds. excited state H^+ transfer, state orbital correls. 7−13760
organic molecules, effective π-electron Hamiltonians, Green's function Monte Carlo calcs. 7−25412
organic molecules, nonlin. optical props. prediction, PPP calcs. and perturbation theory 7−25408
polyene chains, electronic struct., long-range electrostatic effects and terminal group influence 7−56987
polyenes, cyclic, stability props., spin restricted and spin-projected HF methods 7−10435
polyenes, long, low-lying electronic excitations, PPP-MRD-CI calcs. 7−36488
purines in ground and lowest excited singlet states, dipole moments 7−54466
1,2,4,6-tetraphenylpyridinium perchlorate, charge transfer complex, UV absorpt. spectra 7−36640

praseodymium
see also nuclei with ......
atom, reson. ionisation photoelectron spectroscopy 7−19799
atom, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
clusters isolated in solid Ar, size-dependent valence change 7−20089
fluoride glass optical fibre, Pr^{3+} impurities, photoluminesc. anal. 7−37144
ions, Ne-like, precision wavelength meas. in X-ray spectra 7−36525
$L\gamma'_{2,3}$ satellite, X-ray emission spectra anal. 7−36523
longitudinally polarised antiferromagnetic phase, magnetic excitations, neutron scatt. interpretation 7−64445
mixed valent clusters, X-ray absorpt. studies 7−64791
paramagnetic-antiferromagnetic transition, spin ordering model 7−52988
trivalent ion, excited state, NMR meas. by indirect optical detect. 7−15545
$BaY_2F_8:Pr^{3+}$, stimulated emission spectra, laser action excitation 7−27745
$GdBO_3:Pr^{3+}$, $Tb^{3+}(Sm^{3+})(Dy^{3+})$, host lattice sensitisation, energy transfer and photolum. 7−46113
K_2SO_4-$ZnSO_4:Pr^{3+}$, impurity ion spectroscopic parameter determ. 7−7719
$LaF_3:Pr^{3+}$, $^3P_0$ fluorescence quenching processes 7−22314
$LaF_3:Pr^{3+}$, spin Hamiltonian spectroscopy, spin-spin cross relax. by optical pumping 7−22228
$LaF_3:Pr^{3+},Nd^{3+}$, energy up-conversion, UV fluoresc. obs. 7−53401
$LaF_3:Pr^{3+}$ crystal photon echo effect, use in contemporary electronics 7−15820
$LaF_3:Pr^{3+}Gd^{3+}$, two-photon excitation and interconfigurational energy transfer 7−3083
$LiLuF_4:Pr^{3+}$, stimulated emission spectroscopy 7−13179
$PbWO_4:Pr^{3+}$, optical spectra 7−39146
Pr^{3+} complexes, soln., visible and UV electronic absorpt. spectra 7−36634
$Pr:LaCl_3$ photon avalanche laser at 4.9 μm 7−15869
$Pr^{3+}:LaF_3$, spin-spin reservoir cross-relax. via optical pumping 7−15652
$Pr^{3+}:LaF_3$ laser action, relax., photon echo technique 7−20229
$Pr_{15}Fe_{77}B_8$, sintered permanent magnets, depend. of coercivity on anisotropy field 7−45744
β-$ThCl_4:Pr^{3+}$, site selective laser fluorescence spectroscopy 7−64687
$YAlO_3:Pr^{3+}$ single crysts., colour centres, optical absorption spectra studies 7−63610
$Y_2O_2S:Pr^{3+}$, luminescence spectra 7−7730

praseodymium alloys
Al-Fe-Ce-La-Nd-Rr alloys rapidly quenched, positron annihilation studies 7−46184
$Ce_{1-x}Pr_xNi_5$ mixed valence cpd., cryst. field at paramag. Pr^{3+} ions 7−45241
Co-Ni-Pr evaporated recording media, mag. props. and corrosion resistance 7−33825
$Fe_{70}(CeNdPr)_{20}B_{10}$, rapidly quenched ribbons, hard mag. props. 7−27562
$Fe_{75}Pr_{15}B_{10}$ metallic glass permanent magnets, TEM studies 7−26661
Pr-Co rapidly quenched ribbons, mag. props. 7−27551
Pr-Co-B system, phase diagram over complete conc. range 7−3281
Pr-Fe, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7−64496
$Pr_2\ Fe_{14-x}\ Co_x\ B$ system, struct. and magnetism 7−45631
$PrAl_2$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7−32900
$PrAl_3$, Cryst. pot. model for description of cryst. elec. field effects 7−45599
PrB_6, Fermi surface, 2D angular correlation of positron annihilation radiation 7−39241
$PrCo_5$, magnetocrystalline anisotropy, rare earth contribution 7−45659
$PrCo_5$, microstructure and coercivity, effect of annealing, 650-850°C 7−38905
$Pr_7Co_6Al_7$, crystal struct. determ. 7−16494
$Pr_2Co_{14}B$, spin arrangements, 4.2-1100K 7−22094
$PrCo_{4-x}Fe_xB$, crystallographic and mag. props. 7−45671
$Pr_2Fe_{14}B$, anisotropy constants, temp. depend. *(Chinese)* 7−59003

praseodymium alloys continued
$Pr_2Fe_{14}B$ permanent magnet materials, prep. and props., book contrib. 7−27981
$Pr_2(Fe_{1-x}Co_x)_{14}B$, mag. props. 7−64549
$Pr_2Fe_{14-x}Co_xB$, spin reorientations 7−64484
$Pr_2Fe_{14-x}Mn_xB$ system, mag. characts. 7−27523
$Pr_2Fe_{12-x}Mn_xCo_2B$, mag. props. 7−27500
$PrNi_5$ based hydride systems, hydriding characts. and stability 7−40051
$PrNi_5$, nucl. demagnetisation and enhanced nucl. cooling 7−30018
$PrNi_5$, paramag.-ferromag. phase transition, external mag. field, spin ordering model 7−52988
$Pr_{2-x}R_xFe_{12}Co_2B$, $(R=Dy, Tb)$, mag. characts. 7−45670
$PrRuSn_3$, cage-like void structures *(German)* 7−32365

praseodymium compounds
see also praseodymium alloys
concentrated crystals, interionic interaction, stimulated emission 7−27744
$Ba_{0.73}Pr_{0.27}F_{2.27}$ nonstoichiometric phase struct., neutron diffr. study 7−63587
$BaPr_2Ti_4O_{12}$, dielectric props. at low temps. 7−45909
CuO-P_2O_5 glass, containing Pr_6O_{11}, optical props. 7−17292
GeO_2-$PrCl_3$ glasses, elec. props., effect of $PrCl_3$ content 7−21907
GeO_2-$PrCl_3$ glasses, optical props. rel. to comp. 7−13150
$PrCl_3$ cryst. field correlation effects in Pr^{3+}-Cl^-, ab initio calcs. 7−7177
$PrCl_3$ organic complexes, spectral energies and oscillator strengths 7−3067
$Pr_xCo_4P_{12}$, synthesis, cryst. struct., X-ray diffr. study 7−32387
$Pr_{0.1}Gd_{9.9}\ (sIO_4)_6O_2$, sensitisation of Gd^{3+} luminesc. by the Pr^{3+} ion 7−3082
PrH_{2+x}, $(x=0$-$0.5)$, low temp. specific heat meas. 7−32681
PrIG, mag. props. 7−45662
$PrLiGe_2$, crystal structure *(Ukrainian)* 7−12009
$PrMn(Fe)Si_2$, struct. and mag. props. studies *(French)* 7−37950
$Pr(NO_3)_3.6H_2O$ mixed with organic complexes, optical spectra, energy level struct.-band intensities 7−22253
$Pr_6Ni_6P_{17}$, bonding relationships and electronic struct. calcs. 7−16941
PrO_2, intermediate valence state, XANES 7−52545
PrO_2, light, insulating cpds., core hole screening, X-ray absorpt. studies 7−64796
PrO_x, fluorite prototype struct., interfaces and domain form. study 7−58498
PrO_x-$DyO_{1.5}(YO_{1.5})$ solid solutions, phase diagrams and variable valency 7−33642
Pr_2O_3, reflection spectra, 4d ionisation threshold 7−46234
Pr_2O_3-P_2O_5 glasses, struct., mag. and thermal props. 7−26658
Pr_6O_{11}, light, insulating cpds., core hole screening, X-ray absorpt. studies 7−64796
Pr_7O_{12}, related structs., in HREM study 7−16531
PrP_5O_{14} cryst. growth and characterisation, X-ray diffr., Raman scatt., visible and IR absorpt. meas. 7−44423
$PrRuO_3$, perovskite phase, effects of high press. 7−2103
$Pr_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7−27305
$Pr_xY_{3-x}Fe_5O_{12}$, garnets, growth anisotropy, Mossbauer study 7−38973
$TlPrSe_2\ (Se_2)(Te_2)$, elec. cond., Hall effect and thermoelec. studies 7−2606
$Y_2Pr_{0.03}\ Gd_{0.97}Al_5O_{12}$, sensitisation of Gd^{3+} luminesc. by the Pr^{3+} ion 7−3082

pre-main-sequence stars
accretion flows onto massive protostars, temp. struct. 7−29471
accretion-driven jets modelling 7−60643
AB Aur, Herbig Ae star, wind rot. modulation, C IV and Mg II UV obs. 7−47870
B 335, compact bipolar outflow source, EHF obs. 7−47893
Barnard 335, dense mol. cloud, internal sources characts. 7−14625
in Barnard 62, Bok globule, optical and IR obs. 7−9527
Becklin-Neugebauer objects, circumstellar dust shells around very young and massive stars 7−48026
Becklin-Neugebauer objects, evolution and structure 7−48028
bipolar jets, prod by turbulent Alfven waves 7−60523
bipolar molecular flows, CO line form. in accelerated outflows 7−48042
bipolar molecular outflows, nature of collimating mechanism 7−40816
bipolar nebular and jets from young stars Calar Alto obs. 7−48027
bipolar sources formation in dense mol. clouds, isotropic wind collimation models 7−24182
centers of activity in dust clouds 7−48029
collimated outflows in interstellar mol. clouds, model for Herbig-Haro objects (HH 7-11) 7−55775
V645 Cyg-Duck Nebula complex, characts. and obs. 7−60655
in dense interstellar dust clouds, Jena workshop, Georgenthal, DDR (March 1986) 7−40981
AB Dor, fast H_α variations on a rapidly rotating spotted star 7−55627
AB Dor (HD 36705), 8.4 GHz and photometric obs. of active radio star 7−55628
AB Dor (HD 36705), active chromosphere star, evolutionary status from space vel. 7−24133
dust emission spectra from star-forming regions 7−24180
early-type stars assoc. with Sharpless H II regions at $l\sim190°$, eight-colour photometry 7−55604
emission-line stars in Canis Major star formation region, spectroscopic and photometric survey 7−18360
flare stars in Taurus region, UBV photometric study 7−24136
Gum Nebula region T Tau stars, visible and IR characts. 7−55750
H0253+193, hard X-ray source in nearest mol. cloud (Lynds 1457), identification as probable T Tau star 7−66789
Haro 6-5 complex, struct., polarisation obs. 7−48049
Herbig-Haro objects, monochromatic images prediction 7−14626
Herbig-Haro objects and related stars, optical spectrophotometry 7−14630
Herbig-Haro objects and role of FU Ori stars 7−66580
Herbig-Haro objects exciting stars, evolutionary characts. determ. from spectral and lumin. meas. 7−40898
Herbig-Haro objects near Cep A star-formation region 7−35026
HH 1-23 exciting star, nature of IR emission from JHKL photometry 7−60661
HR 5999, Herbig Ae star, chromospheric-transition region structure, IUE obs. 7−55631
in DNGC 6357, H II region, IR obs. rel. to star form. 7−48009
IRA 03134+5958, optical identification as possible Herbig-Haro object 7−66720

pre-main-sequence stars continued

- IRAS 1629−2422, protostellar source, structure resolved in EHF 7−55621
- IRAS low-temp. unidentified print sources, ^{13}CO and ^{12}CO obs. 7−48006
- IRAS sources assoc. with mol. outflows, far-IR luminosities 7−55766
- IRAS sources in mol. clouds, search for H_2O masers 7−35066
- IRc 1 in M17, bipolar outflow source and nebulosity, spectral characts. 7−60748
- jets from young stars, CCD obs. 7−55617
- K-type stars, detection of 6 cm radio emission 7−14569
- L1551 IRS 5, IR polarimetry of nearby refl. nebula 7−24186
- L1551 IRS 5, obs. of extended far-IR emission assoc. with mass outflow from young star 7−66715
- L1551 IRS 5, VLA obs. of assoc. 4.8 GHz H_2CO transition 7−60765
- L 1551 bipolar flow, extended IR radiation 7−40890
- LDN 1551-IRS 5, circumstellar CO abundance characts. 7−47893
- LDN 723, dense mol. cloud, internal sources characts. 7−14625
- LkHα 101, VLA obs. of H II region and small-scale struct. in nearby H I 7−48038
- Lupus T-association, CO obs. of related dark clouds complex 7−29523
- M8 E, IR spectrum obs. rel. to evidence for circumstellar CO 7−48040
- molecular clouds in outer Galaxy, far-IR characts. and star form. 7−66709
- molecular outflow sources, NH_3 obs. anal. 7−66576
- NGC 1333 (HH12), star-forming cloud, obs. of shocked H_2 and interstellar jets 7−55760
- NGC 2071, refl. nebula, nearby bipolar flow source NH_3 obs. 7−24181
- NGC 2071 star-forming cloud, obs. of shocked H_2 and supersonic jets 7−55760
- NS3, NS12, possible bipolar nebulae, optical polarisation study 7−48047
- TZ Ori, flaring Orion variable, photometric characts. 7−40818
- BN Ori, Herbig Fe star, chromospheric-transition region structure, IUE obs. 7−55631
- V351 Ori, Orion population star, quasi-periodic microvariability 7−40798
- YY Ori, photoelectric UBV photometry (1979-84) 7−55618
- Ori IRc 2, SiO maser emission from expanding shell 7−60646
- FU Ori stars, evidence for disk accretion, IR spectral obs. 7−66581
- FU Ori stars, wind characts. modelling, spectral lines anal. 7−66580
- Orion Molecular Cloud 2, obs. of IR refl. nebulae assoc. with star form. 7−55765
- Orion population stars, photometric vars., 1984/5 coordinated spectroscopy 7−40950
- Orion-KL region, maps of high-vel. CO outflow 7−29522
- planets formation around stars, theory for 1 solar mass star 7−55497
- Population III stars, form. and pre-main-sequence evolution of primordial stars 7−47999
- protostar formation regions, submm astronomy with FIRST 7−47890
- S140 IRS 1, CO obs. of assoc, bipolar outflow 7−66710
- S235B, young stellar object, mol. line obs of assoc. interstellar cloud 7−24188
- solar-type protostars in nearby mol. cloud cores, IRAS candidates 7−47853
- submm sources, characts. 7−48059
- RY Tau, photometric var. of T Tau star (1984/5) 7−40950
- T Tau, rot. period and inclination angle from photometric obs. 7−55620
- RY Tau, T Tau star, UV and visible variability 7−55632
- DG Tau B knot system, CCD spectra, jet obs. 7−55767
- T Tau stars, characts. of light vars. 7−47858
- T Tau stars, circular polarisation due to grains 7−40810
- T Tau stars, radio variability and structure 7−40807
- PZ Tel (HD 174429), active chromosphere star, evolutionary status from space vel. 7−24133
- Trapezium cluster in Orion Nebula, photometry and spectroscopy 7−66688
- CO band heads emission 7−66584
- FU Ori, eruptive pre-main sequence star, IUE obs. 7−47875

preamplifiers

- low-noise preamplifier design for NMR 7−61364
- NMR preamplifier protection at UHF 7−9866

precession, Earth *see Earth rotation*

precipitation

microstructural process and features only
see also Guinier-Preston zones; segregation; Widmanstatten structure

- alloy decomposition, atom probe field ion microscopy studies, statistical anal. 7−30124
- alloys, electron irrad. induced transforms. 7−2065
- Alnico 5, Fe-Co-Ni-Al-Cu, microstruct. and mag. props., effects of heat treatment *(Korean)* 7−8138
- amorphous matrix, cubic crystalline precipitate morphology, strain energy effects 7−26963
- austenitic steels, small precips., moire imaging in TEM 7−46490
- binary alloys, TEM study of precipitate growth mechanisms 7−52064
- brass, two-phase, Al-B Masteralloy addition, B redistrib. during solidification, grain refining effect 7−22664
- carbide nucleation, precipitation growth in nonoxidable austenitic steel *(Spanish)* 7−53732
- cellular precipitation and dissolution, model analysis 7−53743
- ceramics, electron irrad. induced transforms. 7−2065
- coarsening, particle motion and diffusion interactions, in situ obs. 7−32652
- continuum theory of Liesegang phenomena 7−39948
- defects, stress- and fatigue-induced, small angle neutron scatt. studies 7−58273
- electrical steels, physical metallurgy, conf., New York, USA (Feb. 1985) 7−4626
- finely dispersed systems, microstruct. parameters, atom-probe anal. 7−33677
- fusion materials, modeling of precipitation under cascade damage 7−52059
- fusion reactor structural materials, irradiation, He effects control 7−51845
- glasses, leached, analytical electron microscopy studies using ultramicrotomic thin sections 7−6544
- grain boundary movement analogous to dislocation movement, anal. 7−6637
- high temp. materials, carburisation, mathematical model, diffusion and precip. *(German)* 7−8193
- HSLA steel, precip. anal., EDX and EELS 7−46495
- IN 100 superalloy, MC carbide props. rel. to transition element doping 7−13456

precipitation continued

- Incoloy 904, precipitate size, magnetoacoustic and Barkhausen emission study 7−45749
- inert gas bubble precipitate solid in Al, defects, high resolution electron microscopy studies 7−32424
- inhomogeneous, elastic fields 7−39531
- irradiation-induced, saturation studies 7−58490
- ledge interphase boundaries, growth kinetics, computer modelling 7−65041
- ledged interphase boundaries, growth kinetics, computer modelling 7−65040
- liquid, metals, immiscible, decomp. sedimentation and precipitation in weightlessness and quasiweightlessness 7−63823
- metallic alloys, positron localisation, affinity to solute clusters and size limitations 7−46200
- metallic binary alloy solid solns. with retrograde solidus, decomposition 7−21457
- metals, ion implantation of inert gases, high press. precip. phases 7−38031
- metals, neutron scattering studies, conf., Julich, Germany (Oct. 1985) 7−48178
- Mg-Al alloys, precipitation and recrystallisation rates under small external stress 7−17532
- misfitting cuboidal inhomogeneities, elastic interaction and stability, determ. 7−63713
- Monel K-500, precip. of intermetallic γ' phase and carbide phases 7−33678
- moving reaction front, precipitation patterns 7−46798
- Nimonic 105, Ni-base superalloys, precip. and tensile deform. behaviour 7−65078
- Nimonic 86, carburised, heat treatment, creep behaviour rel. to carbide precip. *(Korean)* 7−46560
- Nimonic superalloy, PE16, decomposition kinetics, TEM, FIM and SANS studies 7−53748
- nucleation, sympathetic, morphology, crystallography and kinetics 7−65035
- Ostwald ripening, computer modelling 7−65038
- Ostwald ripening, finite vol. fraction effects 7−12282
- Ostwald ripening for finite vol. fraction, time-dependent behavior 7−65039
- particle dissolution kinetics, size determ., DSC obs. 7−3309
- Rene 80, first stage aluminised coating microstruct., STEM obs. 7−17709
- sapphire, implanted ions recrystallisation driven migration and oriented precipitation 7−2266
- semiconducting binary alloy solid solns. with retrograde solidus, decomposition 7−21457
- SOI formation by O ion implantation of Si, ordered precipitate structure and coesite formation 7−52065
- SOI wafers, O implantation prep., background doping effects 7−32478
- solid solutions, precipitate growth under irradiation, theory 7−12296
- steel, alloy, trace element precipitation and segregation, hot brittleness effects *(French)* 7−17608
- steel, austenitic stainless, Al_2O_3 film adhesion, improvement using surface precipitates *(Japanese)* 7−22880
- steel, austenitic stainless, $Cr_{23}C_6$ precipitation kinetics *(German)* 7−46486
- steel, austenitic stainless, creep cavitation rel. to S and P impurity segregation 7−39587
- steel, austenitic stainless, electron beam welded, void swelling under electron irrad. 7−51830
- steel, austenitic stainless, electron irrad., cold working, vacancy swelling, void form., carbide precip., electron microscopy 7−21282
- steel, austenitic stainless, heavy ion bombarded, η-phase precipitate form., electron microscopy studies 7−13459
- steel, austenitic stainless, intercrystalline corrosion causes and countermeasures *(German)* 7−17729
- steel, austenitic stainless, intercrystalline corrosion rel. to chromium carbide precip. 7−53986
- steel, austenitic stainless, precip. stability, during heavy ion irrad. 7−58367
- steel, austenitic stainless, precipitation and B grain boundary segregation studies 7−33673
- steel, austenitic stainless, sensitisation resistance improvement, application of analytical electron microscopy 7−39762
- steel, austenitic stainless, small fatigue cracks, threshold behaviour at notch root 7−3395
- steel, austenitic stainless, Ti modified, void swelling and precipitation, aging effects 7−33685
- steel, C, interaction with H_2 investig. *(Russian)* 7−13552
- steel, C, Vasco X-2M, precipitation during tempering, rel. to impact toughness 7−46494
- steel, C-Mn and Nb treated, high temp. ductility loss, grain boundary segregation 7−46573
- steel, carbonitride phase comp. in zone of inner nitriding 7−39747
- steel, cast duplex stainless, spinodal reaction and G-phase precipitation, FIM atom probe anal. 7−33670
- steel, constructional, struct. and props. after high-temp thermomech. isothermal working 7−46522
- steel, cost, nonmetallic inclusions influence on fracture character 7−3421
- steel, Cr, coarsening behaviour of complex carbide particles, role of Si *(Korean)* 7−8000
- steel, Cr-Mo, normalised, tempered, neutron irrad., 390-550°C, tensile props. 7−17621
- steel, Cr-Mo, thermodynamic props. of carbides, 985K 7−17536
- steel, Cr-Mo ferritic-martensitic, fracture toughness precip. of Laves phases 7−53849
- steel, Cr-Mo type, deformed, struct. and mech. props. after long ageing 7−8106
- steel, CR-Mo-Ni, temper embrittlement, effect of V additions 7−13575
- steel, Cr-Mo-V, porosity assoc. with insoluble carbides, probable effect on rolling contact fatigue 7−17639
- steel, CR-Mo-V, thermal fatigue resist., effect of initial struct. 7−28132
- steel, Cr-Ni, microsegregation phenomena in long-term holding at 400°C 7−13458
- steel, Cr-Ni high-temp. type, N and heat treatment effect on struct. and mech. props. 7−33688
- steel, Cr-Ni-Mo, maraging, mech.-props. rel. to heat treatment *(Japanese)* 7−53792
- steel, Cr-Ni-Mo-Nb, precipitates formation, effect of He 7−13460
- steel, duplex stainless, decomp. of deformed ferrite, TEM obs. 7−28091
- steel, duplex stainless, manual metal arc weld metals, microstruct. and phase transform. 7−59526

precipitation continued
steel, ferritic stainless, He-doped, microstruct. evolution following 14 MeV Ni ion irrad. 7−58363
steel, fine-grained, Zr effect on struct. and phase comp. 7−39525
steel, high C, quenched, structural changes, tempering effects *(Russian)* 7−17556
steel, high speed, peritectic transform., decomp., carbide precip. Nb alloying effect *(German, English)* 7−22677
steel, high speed, wear, role of primary carbides 7−33807
steel, high-speed, atomised powder, particle size effect on amount of residual austenite 7−3308
steel, high-speed p/m tungstenless, Mo and V effect on microstruct. and operating props. 7−33788
steel, HSLA, carbonitride particle response to weld thermal cycle 7−33661
steel, HSLA, microalloyed, precipitate size and comp., influence of reheating temp., investig. by electron microscopy 7−65054
steel, HSLA, Ti and Nb additions effect on coarse grained heat affected zone 7−16765
steel, HSLA C/N ratio in (TiNb)(CN) precip., EELS obs. 7−22698
steel, low C, Al killed sheet, overaging, continuous annealing, carbide precip., hardness *(Korean)* 7−46474
steel, low C, H diffusion and trapping by TiC precipitates *(Chinese)* 7−7998
steel, low C, resulphurised, free-machining, MnS precip. 7−46482
steel, low-alloy, Te-containing, nonmetallic inclusions and austenite grains 7−39522
steel, low-pearlite, subjected to controlled rolling, complex microalloying effect 7−46523
steel, managing, precip. and notch toughness, effect of Cr *(Japanese)* 7−22798
steel, maraging, sintered, ageing process, precip. phases investig. 7−3322
steel, microalloyed, hot ductility rel. to grain size and precip. 7−28088
steel, Mn, fatigue resist., effect of Mo and V alloying, carbide precip. 7−8109
steel, Mn, influence of S on failure mechanism in dual α/γ phase *(French)* 7−33760
steel, Mn-V, low-pearlitic, normalized, struct. and mech. props., sheet thickness depend. 7−8006
steel, Nb-V microalloyed, matrix and grain boundary precipitation, effect of heat treatment 7−46493
steel, Ni-Co-Mo, maraging, fracture toughness rel. to heat treatment, precip., Auger spectra 7−65124
steel, Ni-Co-W, maraging, martensite isothermal aging, hardness, struct. and elec. resist. kinetic behaviour study 7−17553
steel, oxidation studies using EELS and EDX in the TEM 7−17734
steel, pressure vessel, neutron irrad., defect microstruct., SANS and TEM studies 7−58351
steel, secondary hardening, alloy carbide precipitation, FIM atom probe studies 7−33671
steel, stainless, austenitic, equivalent Cr concept for σ-phase form. 7−59528
steel, stainless, austenitic, pre-precipitation phenomena associated with γ' form. 7−22696
steel, stainless, ferritic-martensitic, high-Cr, fast reactor irrad., phosphide phases 7−22700
steel, stainless, microstruct., aging effects, atom probe FIM, optical and analytic electron microscopy studies 7−33700
steel, stainless, passivity rel. to comp. and microstruct. 7−39711
steel, stainless, superalloy, fracture toughness, tensile props., T and ^{3}He effect 7−46616
steel, stainless, surface segregation and grain boundary precipitation during heating, atom probe study 7−33672
steel, stainless, Type 316, microstruct. exam. around weldments 7−22697
steel, stainless and alloy, electron radiation damage in fusion reactor materials, voids 7−2064
steel, Ti-N, ultra low C, precip./austenite equilib. 7−3302
steel, tool, fracture toughness, effect of nonmetallic inclusions 7−59635
steels, microalloyed, high strength, phys. metallurgy and appls. 7−65066
stress effects on precipitate shape and stability 7−44828
TEM, conference, Boston, MA, USA (Dec. 1985) 7−35119
TEM, shape evolution at atomic level, in metallic alloys 7−46491
TEM, use of symmetry props. for morphology anal. 7−46489
Waspaloy, γ-γ' partitioning behaviour, energy dispersive spectrometry 7−17534
Zircaloy, corrosion resistance, precipitation of second phase particles effect 7−30564
Zircaloy-2, phase transition temp., resist. obs. 7−59512
Al alloy US nonlinearity dependence on second phase precipitates, obs. 7−2111
Al alloys, liquid dynamic compaction, microstruct. and precipitation, TEM study 7−59529
Al alloys, positron traps, classification in age-hardenable alloys 7−38517
Al-Ag, anelastic effects due to precip. and dissoln. 7−13487
Al-Ag, γ' precip. growth, TEM studies at atomic level 7−46491
Al-Ag, steady-state creep, effect of isochronal ageing 7−17598
Al-Ag (5 wt.%), anelastic effects, quench sensitivity, precip. and dissolution 7−53784
Al-Ag alloys, γ' precipitates, convergent-beam electron diffr. studies, space-group anal. 7−11854
Al-Co, melt spinning, microstruct., precip., microhardness *(Korean)* 7−46444
Al-Cu (1.87 wt.%), stability of metastable defects at elevated temps. 7−38207
Al-Cu (2 wt.%) single crystals, rolled, shear band form. rel. to ϑ' precipitates 7−3385
Al-Cu (2 wt.%) single crystals, rolled, shear band form., ϑ precip. 7−28099
Al-Cu (2.5 wt.%), creep deform., effect of θ precipitates 7−65088
Al-Cu (2.5 wt.%), electrical resistivity, effect of precipitation 7−12697
Al-Cu (3 at.%) precip. growth kinetics of θ'- and θ-phases 7−39519
Al-Cu-Be (3, 0.1 wt.%), precip. reactions 7−53738
Al-Cu-In alloy, deformed, Θ'-phase precipitation 7−22691
Al-Cu-Li-Mn-Cd alloy, 2020, micromechanisms governing elevated temp. fracture resist. 7−22803
Al-Cu-Mg system, D16 alloy, struct. changes during electron bombardment 7−8005
Al-Fe-Ce, quasicrystalline decagonal phase, TEM 7−46492
Al-Fe-Si, dil., solidification, intermetallic cpd. form. 7−13442
Al-Ge, TEM anal. of Ge precip. morphology 7−46489

precipitation continued
Al-Ge alloys, obs. of Ge pentagonally twinned precipitate needles 7−12297
Al-Li, coarsening of δ' precipitates 7−33663
Al-Li, grain boundary precipitate free zone growth kinetics 7−33662
Al-Li, quenched, ageing, light ion irrad., δ'phase form. and particle growth 7−26807
Al-Li (9.5 at.%), coarsening of δ'-Al_3Li precipitates, var. of average Li content in Al matrix 7−3313
Al-Li alloys, grain boundary fracture 7−39644
Al-Li base alloys, deform. and fracture 7−39594
Al-Li-Cu-Zr, Al-Li-Zr, nucleation of δ' and β' precipitates 7−59527
Al-Li-Cu-Zr, fracture, ageing and comp. depend. 7−22784
Al-Li-Cu-Zr, nucleation of precipitates 7−46476
Al-Li-Cu(-Mg), fracture, effect of subgrain struct. and ageing practice 7−13563
Al-Li-Mn (Cu), precip.-hardened, cyclic stress response and deform. behaviour 7−22791
Al-Li-Zn-Mg-Cu alloys, microstruct. evolution 7−53739
Al-Li-Zr rapidly solidified alloy, plastic deform. characts. 7−22777
Al-Mg (6.5 wt.%), grain boundary segregation, STEM-EDX analysis 7−39518
Al-Mg alloys, steady-state creep, microstruct. development 7−53817
Al-Mg-Si, high-purity, nucleation and growth of precipitates and the bubbles, effect of 600 MeV protons 7−58364
Al-Mn (15 wt.%), melt spun ribbons, icosahedral struct., decomp. rel. to annealing 7−28030
Al-Mn-Fe alloy, aging characteristics, pre-cold working effects 7−53758
Al-Mn-Zr (7,1 wt.%), rapidly solidified, quasicrystalline phase precip. 7−3310
Al-Mo, rapid solidification processed, diffusion-induced dislocation migration 7−65047
Al-R (R=Er,Nd,Gd) rapidly solidified alloys, microstruct. and thermal props. 7−22667
Al-Si (1.14 at.%) alloy, supersaturated, anomalous solute conc. fluctuation under elec. current influence 7−13457
Al-Si-Pb-Bi, duplex alloys, melt quenching, microstruct. supercond. props. 7−45593
Al-Ti-Gd, rapidly solidified ribbons, aged, ternary phase precipitate identification 7−3311
Al-Ti-based homogeneous alloy films, elec. resist., microstruct., electromigration, comp. effects 7−21765
Al-V films, precip. from metastable solid solns. 7−65048
Al-Xe, implanted, form. of solid precipitates and fluid bubbles, TEM obs. 7−38032
Al-Zn, homogeneous nucleation of precipitates 7−53733
Al-Zn (15 at.%), precip. during ageing, interaction of continuous and cellular mechanism 7−13454
Al-Zn alloy, positron lifetime and ang. correlation study 7−45860
Al-Zn-Mg, 7075, grain boundary precip., crystallographic orientation depend. 7−22686
Al-Zn-Mg, serrated flow, second phase precip., dislocation ageing 7−22755
$Al_{12}Mo$ precipitate microstruct. and orientation, implantation and annealing effects, electron microscopy study 7−16782
α-Al_2O_3, ceramic matrices, precip. morphology 7−65049
Al_2O_3/Fe interface, ion beam mixing, conversion electron Mossbauer spectra studies 7−63679
B''-Al_2O_3-Na_2O solid electrolytes, degradation in Na-S batteries 7−3466
Al_2O_3-ZrO_2-Y_2O_3 system, synthesis and props. 7−22614
$Al_{80}Si_{20}$ melt spun ribbons, microstructures and superconducting transition temperatures 7−38222
AlZn alloys, precipitates, small angle X-ray scatt. study 7−46473
Au-Ag-Cu-Pd, cast microstruct, segregation, TEM obs. 7−39495
BaO-Fe_2O_3-B_2O_3-based glasses, crystallisation behaviour, nucleating agent effects 7−51650
$Bi_4Ge_3O_{12}$ crystals, imperfection nature, precipitates and bubbles 7−21463
$Bi_4Ge_3O_{12}$, high quality large cryst. growth, colour and precip. form., pulse height resolution 7−53554
$CaPO_3$ crystal formation in tissues, SEM studies 7−28445
CdS surfaces, electron-beam-stimulated processes, real-time atomic-resolution electron microscopy 7−7798
CdTe, annealing in Cd or Hg vapour, defect concentrations 7−65064
CeO_2-CaO, ceria-calcia ceramics, ionic cond., effect of microstruct. 7−38250
Co-Al, ageing kinetics, precipitation studies *(Russian)* 7−3332
Co-Al, precipitation product dissolution *(Russian)* 7−58479
Co-Al (10.9 at.%), cellular prep. from supersaturated solid soln. *(Russian)* 7−65045
Co-Au-Fe, dil., local structural and mag. environments of Fe 7−26965
Co-Cr-N, surgical implant alloy, mech. props., microstruct. rel. to N addition 7−60125
Co-W, ageing, polymorphism, cellular mechanism *(Russian)* 7−59514
CoCrAl alloys, microstruct., atom probe FIM and TEM studies 7−33636
CoCrAlY electron beam physical vapour deposition coating microstruct., TEM characterisation 7−52334
Cr-Fe-C system, EELS fine struct. 7−39333
Cu-Ag-Zr, serrated flow, disappearance 7−17588
Cu-Al-Ag (5.4, 5.2 wt.%), ageing, hardness, precip. energy 7−65127
Cu-Al-Mg alloys, complex oxide form. and precipitate morphology *(Russian)* 7−33664
Cu-Al-Ni, β-phase alloys, fracture rel. to grain boundary precip. and Ni content 7−59604
Cu-Al-Ni-Fe bronze, laser glazing, microstruct. 7−52197
Cu-Be, serrated flow, disappearance 7−17588
Cu-Be-Co, elec. resist., decomposition and coarsening effects 7−2573
Cu-Co, dynamic fracture characts., void nucleation at incoherent precipitates 7−17628
Cu-Co alloy, coherent precipitate strain contrast under high order refl. excitation 7−3306
Cu-Fe, dil., local structural and mag. environments of Fe 7−26965
Cu-Fe alloy, BCC and FCC Fe particles, field ion microscopy studies 7−33667
Cu-Fe host-impurity system, O ion bombarded, internal oxidation, Mossbauer spectra studies 7−59131
Cu-Fe-Al, cold rolled, γ to α transform. of fine α-Fe precipitates, mag. props. 7−3300
Cu-In (15 wt.%), lamellar precipitates, cellular dissolution kinetics, grain boundary diffusion 7−28047
Cu-Mn-Al alloys, mag. and structural props. study 7−2895

precipitation continued
Cu-Ni-Al, two-step ageing, microstruct., mech. props. 7−39565
Cu-Ni-Al (7.5, 2.5 at.%), thermomech. treatment *(Japanese)* 7−8013
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7−12698
Cu-Ti, early stage precipitation kinetics, SANS studies 7−53746
CuCo, Cu-rich alloy, precipitation, critical nuclei size, neutron scatt. studies 7−12294
$Cu_{48}Ti_{52}$, amorphous, crystallisation, intermediate long period superlattice phase form. 7−21098
Fe, Armco, diffusion bonding, precip. of Fe carbides in ferrite 7−39521
Fe, cast, pearlitic, nodular, fractographic anal. 7−53882
Fe, oxidation, twinning and precipitation reactions 7−17733
Fe-C martensite, struct. in transition state from first to third stage of tempering, electron microscopy and diffr. study 7−46528
Fe-Cr-Al-Ce, microstruct., high temp. corrosion rel. to Ce additions 7−13648
Fe-Cr-B, amorphous, Cr redistribution between phases during crystallisation, Mossbauer spectroscopy 7−21100
Fe-Cr-Mn-C alloy, laser clad, microstruct. and wear props. 7−13652
Fe-Cu, neutron irrad., defect microstruct., SANS and TEM studies 7−58351
Fe-Cu alloys, phase transformations, SANS studies 7−53747
Fe-Mo (14.5 wt.%), ageing, discontinuous dislocational transform., coercivity obs. 7−3305
Fe-N alloys, phase state and precipitation, plastic deformation effects *(Russian)* 7−46551
Fe-N martensite, transform. kinetics, anal. by nonisothermal dilatometry 7−8004
Fe-Nb-C system, austenite-nonstoichiometric precip. equilib. 7−3303
Fe-Ni, austenite form. during continuous heating *(Russian)* 7−17557
Fe-Ni films, γ-phase low temp. precipitation investig. *(Russian)* 7−33666
Fe-Ni-C and Fe-C, bainite reaction kinetics, austenitising temp. effect 7−13453
Fe-Ni-Cr (25,15 wt.%), MC stabilized, fatigue life, effects of implanted He 7−53852
Fe-Ni-Cr austenitic alloys, MC carbide dispersed, void swelling and precip. behaviour following proton irrad., dose depend. 7−58365
Fe-Ni-Cr-Mo-Ti-C, JPCA, He injected and creep ruptured, microstruct. obs. 7−53853
Fe-Ni-Cr-P, ion irrad., swelling suppression, effect of P modification 7−58358
Fe-Ni-Cr-Ti-B, constant elastic alloy, torsion reson. freq. temp. coeff. rel. to B content *(Chinese)* 7−13488
Fe-Si (2 wt.%), microstruct., mag. props., thermomech. history effect 7−7551
Fe-Si (3 wt.%), grain oriented, desulphurisation kinetics, 899-1171°C 7−8002
Fe-Si-Al, carbide precip. kinetics, core loss 7−8001
Fe-Ti-C ion-implanted amorphous alloys, precipitate microstruct. studies, conc. depend. 7−16434
Fe-Ti-C system, austenite-nonstoichiometric precip. equilib. 7−3303
FeAl, B2-structured, annealed and slow cooled, occurrence of displacement fringes 7−6808
FeNiCr:Sb,P, grain boundary segregation, Auger and energy dispersive X-ray mapping 7−16571
$FeTiO_3$, ceramic matrices, precip. morphology 7−65049
GaAs crystals, selective etching and photoetching of CrO_3-HF aq. solns. 7−32442
GaAs, LEC grown, obs. of Ga precipitates 7−32663
GaAs, proton bombarded, H platelets, TEM obs. 7−12164
GaAs:Be^+, ion implanted, residual microstruct., TEM studies 7−32675
GaAs:In(Cr), doped and undoped, microdefects obs. by IR light scatt. tomography 7−32662
$Ga_{2-x}Fe_xO_3$, precipitation in MgO-Ga_2O_3-Fe_2O_3 *(French)* 7−6798
GaSb single crystals, intrinsic point defects and microdefects, TEM studies 7−44529
GaSb:Gd,Ho crystal grown by horizontal zone melting, precipitate identification 7−21462
HgCdTe, bulk melt growth and LPE, defect control 7−64940
$HoFeO_3$ crystals, flux growth, secondary phase and microdiscs form. 7−13344
InP:Ti(Cr)(Ni), LEC growth, precipitate phase identification 7−16754
KCl:Sr, quenched and as-grown crysts., ionic cond., impurity dispersion state effects study 7−26786
KCl-En solid soln. crysts., thermal and radiation induced decay, impurity aggregation study *(Russian)* 7−2216
KX:Sr,Eu (X=Br,Cl), Sr precipitation, study using Eu^{3+} ions 7−53127
Mg-Gd supersaturated solid soln., precipitate cryst. struct. *(Russian)* 7−33665
Mg-Zn metallic glasses, room temp. stability, crystallisation and precipitation 7−11931
MgO:Na, ion implanted single crystals, HREM obs. 7−12292
Mo, thermodynamic stability in a fusion reactor environment, H, O and C implantation and diffusion 7−49658
Mo-Nb, a nitride form., particle coalescence *(Russian)* 7−59530
NaCl:Eu single cryst., $EuCl_2$ phase precipitation, fluoresc. and X-ray diffr. studies 7−46108
NaCl:Eu^{2+} crysts., mechanical strength, dopant distrib. and γ-irrad. effects study 7−26800
Nb, H embrittlement, crack propag., 120-300K, hydride form. 7−33757
Nb, pure, tensile deform., brittle fracture, H effect, SEM obs. *(Chinese)* 7−8078
Nb-Al alloys, struct. and supercond. props. *(Russian)* 7−1945
Nb-H system, thermal wave propag. props. meas. 7−2572
Nb-Ti-O alloy, struct. state obs. by internal friction, oxide precip. *(French)* 7−13494
$Nb_{0.93}V_{0.07}$ alloys, H impurity trapping, precipitation and nucleation, localised vibr. mode meas. 7−2133
Nd-Fe-B-Co-Al based permanent magnets. mag. props. and temp. characts. 7−53045
$Nd_2Fe_{14}B$ crystals in Nd-Fe-B crystallised ribbons, effect on hard mag. props. 7−27561
Ni alloy, heat-resisting, supersaturated solid soln., isothermal decomp. kinetics 7−33682
Ni base superalloys, hot deformed, matrix dislocations, weak beam electron microscopy obs. *(French)* 7−21210
Ni base superalloys, interphase boundaries, FIM atom probe study 7−33683
Ni superalloy, MAR M002, borides analysis using convergent beam electron diffr. 7−22699
Ni-Al alloy, oxidation studies using EELS and EDX in the TEM 7−17734
Ni-Al(Si), aged γ/γ′ alloys, He^{2+} implantation studies 7−22690
Ni-B, precipitation and B grain boundary segregation studies 7−33673
Ni-base alloy 718, cast, weld heat-affected zone liquation morphology 7−53715
Ni-base superalloy, carbide precip., influence of alloy chem. 7−46481
Ni-base superalloy, single cryst., MAR-M200, with bimodal γ′ distrib., low cycle fatigue at 750 and 870°C 7−17627
Ni-Cr, carburisation, kinetics, diffusion and precipitation *(German)* 7−8194
Ni-Cr, high temp. alloys, carburisation, finite difference model of C diffusion 7−39712
Ni-Cr alloy, wrought, Hf effect on struct. and mech. props. 7−33689
Ni-Cu-Si, γ′ precip. coarsening, bifurcation theory appl. *(Japanese)* 7−53734
Ni-GaAs interfacial reactions, contact elec. props. 7−12504
Ni-rich alloys, vacancy swelling suppression mechanism 7−46511
Ni-Si, spatial correl. to γ′ precipitates 7−46484
Ni-Si alloy, Ni_3Si precipitation during electron and ion irradiation 7−51876
Ni-Sn, ageing, discontinuous coarsening of cellular precipitate at grain boundary 7−39528
Ni-Sn (8.5 at.%), cellular precipitate, discontinuous coarsening kinetics 7−65037
Ni-Ta amorphous alloy, struct. changes and crystallization during heating *(Russian)* 7−16419
NiAlTi, decomposition kinetics, TEM, FIM and SANS studies 7−53748
Ni_2V-Cu alloys, discontinuous precipitation and ordering *(Russian)* 7−59523
Pb-Sn, cellular transform., directional invariance of grain boundary migration 7−22695
$Pb_{1-x}Mn_xTe$, indirect exchange interaction between Mn^{2+} ions 7−27509
PbO-Fe_2O_3-B_2O_3 glass ceramics, mag. props. and EPR spectra of precipitated mag. phases 7−45748
PbTe, mag. susceptibility, optical absorpt. spectra, effect of intrinsic defects 7−64670
Pd dilute alloys, internal oxidation of impurities, XAS study 7−63633
Pd-Cu-Ag, ordering and precipitation, field emission microscopy studies *(Russian)* 7−46472
Pd-H alloys, low freq. internal friction meas., precipitation peak obs. 7−51933
PdTe:Cd, free charge carrier conc., donor action and Te precipitates effects *(Russian)* 7−16592
$PrCo_5$, microstructure and coercivity, effect of annealing, 650-850°C 7−38905
Pt-W, Pt diffusion and platelet defect form. *(Russian)* 7−44895
Si, amorphisation and crystallisation 7−11914
Si bicrystals, grain boundary carrier recombination, chemical origin 7−17039
Si buried oxide form. mechanisms by ion implantation 7−44580
Si, CVD thin film backside gettering effectiveness 7−38217
Si, crystal growth, impurity effect on formation of microdefects 7−32340
Si gettering, review of phenomenology 7−38215
Si, heavily doped crystals, behaviour of O and dopants 7−32483
Si, intrinsic gettering by butterfly-type defects 7−38047
Si, ion implantation, interstitial trapping, dopant migration and epitaxial regrowth 7−12103
Si, low-angle silicon sheet (LASS) material, microstructure exam. 7−21231
Si, oxidation of damaged surfaces, precipitation at stacking faults 7−38313
Si, precipitation induced microdefects, DLTS characts. 7−38511
Si SOI structures, O_2^+ implanted, oxide precipitates, ordering 7−21449
Si: transition metals, solubilities, diffusivities and deep levels 7−32465
Si:Al, ion implanted and annealed, Al precipitation, TEM studies 7−21238
Si:As, highly doped, spinodal decomposition and clustering 7−52063
Si:As, implanted, supersaturated soln., defect struct., TEM obs. 7−58483
Si:As, precipitation and cluster form., elec. resist., backscatt. and TEM studies *(Chinese)* 7−12285
Si:B, O, heavily doped, O precipitation, diffuse X-ray scatt. studies 7−32669
Si:B, O epitaxial wafers, effect of pre- and postdeposition annealing on O precipitation 7−45060
Si:B,O epitaxial wafers, internal gettering heat treatments and O precipitation 7−45059
Si:B,O(Sb,O), heavily doped Czochralski wafers, O precipitation, 450°C thermal annealing 7−58477
Si:C, Czochralski grown, incorporation and disposition of C 7−32484
Si:C, polycrystalline, electrical and structural properties 7−12106
Si:C,O, solubility, segregation, diffusion and precipitation 7−16777
Si:C,O,P, C precipitation after P junction diffusion 7−16779
Si:C,O wafers, defect generation, O precipitation effects *(Chinese)* 7−12058
Si:Fe, intrinsic gettering, EPR and TEM study 7−38216
Si:Fe,O, Fe intrinsic gettering, EPR studies 7−16553
Si:O, C, low temp. precipitation, IR and SANS meas. 7−32666
Si:O, C, precipitation, microstructures, TEM studies 7−32668
Si:O, conf., Boston, MA, USA (Dec. 1985) 7−14711
Si:O, Czochralski crystals, O precipitates, small-angle neutron scattering 7−58484
Si:O, Czochralski grown, exigent-accommodation-volume factor associated with O precipitation 7−32670
Si:O, Czochralski grown, O-related defects after annealing, IR TEM and resistivity meas. 7−32466
Si:O, defects created by electron irradiation and subsequent thermal treatments, review 7−16642
Si:O, diffusivity and solubility of O review 7−16809
Si:O, influence of growth microdefects on microdefect formation during heat treatment 7−17559
Si:O, ion implanted, octahedral oxide particle nucleation and growth 7−16776
Si:O, microcrystalline precipitates, electron microdiffraction studies 7−16769
P-Si:O, new donor state, optical, elec. and TEM studies 7−32956
Si:O, O precipitate siting, shaping, and shrinking, precursor oxide phase roles 7−16772
Si:O, O precipitation, exigent-accommodation-volume factor 7−16771
Si:O, O precipitation, numerical models 7−16775

precipitation continued
Si:O, O precipitation ad thermal donors 7−16767
n^+-Si:O, O precipitation and minority carrier generation lifetimes 7−16774
Si:O, oxide precipitate nucleation, thermal donor formation kinetics 7−32667
Si:O, P, Sb wafers, O precipitation during simulated CMOS cycles 7−38218
Si:O, precipitates, X-ray diffuse scatt. study *(Japanese)* 7−63399
Si:O, precipitation kinetics, interstitial diffusion 7−44837
Si:O, precipitation phenomena, growth law for disc precipitates 7−16770
Si:O, review 7−16583
Si:O, self-interstitial migration, dislocation loops and elongated Frank dipoles 7−58300
Si:O,C, intrinsic point defects and impurity interactions 7−16611
Si:O,C, O precipitation, thermal donor generation and annihilation effects 7−16773
Si:O,C, yield stress, impurities and O precipitate morphology effects 7−16674
Si:O,C,N, precipitation phenomena, TEM studies 7−16768
Si:O CZ gram, O precipitation enhanced with vacancies 7−32664
Si:O Czochralski wafers, electron traps resulting from O precipitation 7−21866
Si:O epitaxial wafers, preanneal heat treatment effect on precipitation 7−38219
Si:O substrate materials, heavily doped, control of O and precipitation behaviour 7−32665
$Si:O_2^+$, Si on insulator structs., amorphous and crystalline oxide precipitates 7−13655
Si:O(O,C), impurity aggregation, SIMS 7−16778
Si:P, heavily implanted, influence of precipitation on P diffusivity 7−6879
Si:P, pulsed laser processing via free carrier absorpt. 7−21273
$Si:PF_n^+$ ion implanted, recrystallisation kinetics during fast thermal annealing 7−16618
Si:Tl ion implanted layers, defect form. and precipitation, electron microscopy studies 7−12097
β-SiC monocryst. thin films, ion implantation and annealing, amorphisation and recrystn. processes study 7−16596
SiO_2 thermally grown on Si substrates, breakdown and defects studies 7−33104
$Sm_2(CoCu)_{17}$ magnets, cast, coercivity and microhardness 7−53880
$Sm_{1-x}Sc_xS$, first order valence phase transition, XANES study 7−38524
SnTe, low-temp. iodide method synthesis, micro-nonhomogeneity studies 7−63835
Ta, Ne implanted, annealing behaviour of H traps 7−46506
Ta wire, cold worked, internal friction, hydride precip. *(Chinese)* 7−8034
Ta-H system, thermal wave propag. props. meas. 7−2572
$TaH_{0.07}$, lattice location of H by channeling method 7−1975
Te-As-S chalcogenide system, annealing, crystalline precipitate phase form., X-ray diffr. anal. 7−16751
Ti alloy, heat cycling regimes and effects 7−8028
Ti binary alloys, reduced technological plasticity and struct. *(Russian)* 7−17583
Ti, electron beam welded, neutron irrad. effects 7−56832
Ti-6Al-4V, electron beam welded, neutron irrad. effects 7−56832
Ti-Al-Mo-V-Cr alloy VT22, metallographic study of β-solid soln. decomp. 7−39523
Ti-Al-Sn, silicide precipitates struct. 7−63561
Ti-Al-Zr-Mo-Si, creep resistance, silicides obs., effect on mechanical props. and fracture 7−8051
Ti-Co (3.2 at.%), grain boundary allotriomorphs, nucleation, growth and transform. kinetics 7−28035
Ti-Cr (6.6 at.%), grain boundary allotriomorphs, nucleation, growth and transform. kinetics 7−28035
Ti-Mo (30 wt.%) evidence of FCC δ-hydride form. 7−3312
Ti-N-C system, EELS fine struct. 7−39333
Ti-Nb alloys, struct. and precipitation under high energy electron irrad. *(Russian)* 7−44620
Ti-Ni (51 at.%), aged shape memory alloy, precip. morphology, comp., cryst. struct. 7−28049
Ti-Sn-Y rapidly solidified alloys, dispersoid particle coarsening 7−22704
Ti-V-H alloys, struct., X-ray diffr. and ^1H and ^{51}V NMR studies 7−32364
TiB_2-TiC composite, hot pressed, degradation in liq Al 7−28156
TiNi, adsorption of O, AES study 7−59312
TiNi shape memory alloys, non-equiatomic, precip. processes 7−17535
TiO_2-SnO_2 system outside coherent spinodal, phase transform. kinetics, role of aliovalent dopants 7−46432
$TiSi_2$:B(P)(As) films on Si, impurity diffusion 7−7077
U-V (0.2 wt.%), hydriding reaction kinetics *(French)* 7−23062
V-20Ti pressurized tubes, creep response to neutron irrad. 7−56831
V-N system, metastable ordered phases, cryst. struct. *(Russian)* 7−44447
VC precipitates in steel, radiation damage influence 7−16638
V_3Si/V_5Si_3 interface, crystallography of matrix-precip. interface and elastic strain field *(French)* 7−65036
W reactively sputtered films, elec. resist., microstructure, effects of N or O partial press. 7−52861
W, thermodynamic stability in a fusion reactor environment, H, O and C implantation and diffusion 7−49658
W-Ni-Fe, sintered, ductility and precip. 7−17589
W-Ni-Fe system, matrix and interfacial precip. 7−46478
WC-TiC-Co hard alloy T15K6, heat treatment effect on failure mechanism 7−13550
WSi_x CVD films on Si and Si_3N_4 coated Si, excess Si redistribution upon annealing 7−21723
ZnSe:Ga, impurity segregation model calcs., elec. props., precipitate effects 7−16762
Zr-Nb (20 wt.%), ageing behaviour, effect of H 7−46527
Zr-Ni dil. alloy, Auger electron anal. of oxides 7−22907
ZrO_2, ceramic matrices, precip. morphology 7−65049
ZrO_2, MgO partially stabilised, cryogenically induced martensitic transform. of precipitates 7−28037

precipitation, electrostatic *see electrostatic precipitators; precipitation (physical chemistry)*

precipitation (atmospheric) *see atmospheric precipitation*

precipitation (physical chemistry)
for precipitation within solid systems (microstructural changes) see precipitation
see also coagulation; crystal growth from solution; flocculation
calcium oxalate, crystallization processes using reverse osmosis 7−53538

precipitation (physical chemistry) continued
calcium oxalate crystals, precip. by reverse osmosis system, habit modifiers 7−16460
calcium oxalates, precip. from high ionic strength solns., nucleating phase, additives effect 7−59774
ceramic synthesis from molecular precursors, conf., Palo Alto, USA (Apr. 1986) 7−35113
continuum theory of Liesegang phenomena 7−39948
engineering polymers, hydrophilic modification 7−23012
Liesegang ring form., microcomputer algorithm 7−17827
zinc oxalate, crystallisation, precip. kinetics 7−53537
BaF_2, precip. from aq. soln., orthorhombic to cubic transform. 7−17502
$BaFe_{12}O_{19}$ powders, coprecipitated, magnetisation reversal, mag. dilution effects 7−53062
$BaSO_4$, precip. growth, nucleation process, light scatt. obs. 7−16465
$BaSO_4$, precipitation membranes, current-voltage curves 7−33967
$CaCO_3$, formation in cooling water, critical pH depend. 7−54158
FeOOH, poorly-ordered precursors, local struct., EXAFS studies 7−63577
FeOOH thin films, precipitated, structure anal. 7−32860
KH_2PO_4, precip. growth, nucleation process, light scatt. obs. 7−16465
Li_2SiO_3, Li_4SiO_4, Li_6SiO_5, breeder materials, prep. in alcoholic media 7−49654
SiO_2, tridymite, form. from colloidal silica, kinetics 7−23053
ZrO_2, Y_2O_3-doped, powders, sinterable, chemically coprecipitated in non-aq. medium 7−64982

precipitation ageing *see precipitation hardening*

precipitation annealing *see precipitation hardening*

precipitation hardening
alloys, dislocation glide during ageing, hardening phase particle interaction modelling *(Russian)* 7−38010
creep and reverse mechanical aftereffect processes *(Russian)* 7−3317
Elinvar alloys, dispersion hardening and softening, elastic limit studies *(Russian)* 7−59539
mechanical alloying, development of strong alloys 7−39534
Monel K-500, precip. of intermetallic γ' phase and carbide phases 7−33678
Nimonic 105, Ni-base superalloys, precip. and tensile deform. behaviour 7−65078
Nimonic 86, carburised, heat treatment, creep behaviour rel. to carbide precip. *(Korean)* 7−46560
Nimonic PE 16, Ni-base superalloy, duplex γ' particle hardening 7−28053
steel, abrasion resistance after heat treatment 7−17697
steel, austenitic stainless, high cycle fatigue props., age hardening 7−13598
steel, austenitic stainless, precipitation strengthened, creep fracture, 875-975K 7−8046
steel, Cr, heat-resisting, mech. props., effect of W *(Japanese)* 7−17617
steel, Cr-Mo, high C, bonded carbide, secondary temper hardening, microstruct. 7−17542
steel, Cr-Mo type, ageing effect on heat resist. props. after cold deform. and tempering 7−22813
steel, Cr-Mo type, deformed, struct. and mech. props. after long ageing 7−8106
steel, Cr-Ni high-temp. type, N and heat treatment effect on struct. and mech. props. 7−33688
steel, Hadfield, cold-deformed, fine struct. anal., brittle fracture *(Russian)* 7−59570
steel, heat treatment method effect on struct. and mech. props. 7−39561
steel, heat-resistant, N and V influence on mech. and service props. 7−8105
steel, high speed, powders, transform., struct. and props., prior annealing effect 7−13452
steel, high-speed, thermal stability improvement by laser alloying 7−8170
steel, high-speed W-Mo, nitrogen effect of stabilisation of austenite 7−8021
steel, HSLA, mech. props. rel. to ferrite substruct. and grain size. 7−13531
steel, HSLA, microalloyed, precipitate size and comp., influence of reheating temp., investig. by electron microscopy 7−65054
steel, implanted with N ions, physicochem. characters. of surfaces, wear resist. *(French)* 7−28209
steel, low-pearlite, subjected to controlled rolling, complex microalloying effect 7−46523
steel, maraging, sintered, ageing process, precip. phases investig. 7−3322
steel, martensitic stainless, precipitation hardened, impact toughness rel. to Mo content, AES obs. 7−39666
steel, mild and Cr, surface saturation with B by laser radiation 7−8172
steel, Mn-V, low-pearlitic, normalized, struct. and mech. props., sheet thickness depend. 7−8006
steel, Mn-V-Mo austenitic, struct. and precipitation hardening *(Russian)* 7−17541
steel, Nb-V microalloyed, controlled rolled, yield strength rel. to microstruct. *(Chinese)* 7−13503
steel, Ni-Co-Mo, maraging, ultrahigh strength, H embrittlement rel. to coatings 7−28136
steel, nitrided layers, surface strength and hardness prediction 7−3495
steel, stainless, austenitic, equivalent Cr concept for σ-phase form. 7−59528
steel, stainless, austenitic, low-activation, constitution, struct. and mech. props. 7−42195
steel, stainless, austenitic, pre-precipitation phenomena associated with γ' form. 7−22696
steel, stainless, Ni-Cr precision alloy, spread of local overloads in microstruct. of aged and nonaged specimens 7−8061
steel 45, boronising with heating by laser radiation 7−8173
steel U6, laser alloying with W base facing powder, SiO_2 and B_4C additions effect 7−8171
superalloys, oxide dispersion strengthened, manufacturing process developments 7−27979
superalloys, stress rupture notch sensitivity, grain boundary precip. *(Chinese)* 7−13541
Al alloys, liquid dynamic compaction, microstruct. and precipitation, TEM study 7−59529
Al-Ag (5.9 at.%), precip., positron study 7−46485
Al-Cu (3.76 wt.%), rheocast, partially homogenised, ageing response, microhardness 7−46499
Al-Cu-Li alloys, cyclic fracture, mechanisms 7−46634
Al-Cu-Li-Mn-Cd alloy, 2020, micromechanisms governing elevated temp. fracture resist. 7−22803

precipitation hardening continued
  Al-Cu-Mg-Al$_2$O$_3$-Al$_4$C$_3$, IN 9021, mechanically alloyed precip. hardened, tensile behaviour 7—13525
  Al-Mn-Zr (7,1 wt.%), rapidly solidified, quasicrystalline phase precip. 7—3310
  Al-Ti, powder metallurgy alloys, mech. and thermal stability 7—64973
  Al-Zn (15 at.%), precip. during ageing, interaction of continuous and cellular mechanism 7—13454
  Al-Zn-Mg-Cu alloy, microalloying effect on struct. and mech. props. 7—53755
  Al-Zr-V, rapid solidification, age hardening, solid soln. form. *(Korean)* 7—46475
  Cr-Ta-C, ageing, hardening processes, carbide separation and dissolving *(Russian)* 7—59541
  Cu-Al-Ag (5.4, 5.2 wt.%), ageing, hardness, precip. energy 7—65127
  Cu-Co, age hardened, tensile deform., acoustic emission characts. 7—13536
  Cu-Co (2 at.%), age-hardened, fatigue behaviour 7—33786
  Cu-Ni-Al, two-step ageing, microstruct., mech. props. 7—39565
  Cu-Zr (0.5 wt.%), high strength, high cond., prod. by rapid solidification technology 7—28029
  (CuAu)-Co single crystals, under- and over-aged, additivity of precip. and solid soln. hardening 7—65051
  Fe, cast, high-Cr, wear-resistance, laser and heat treatment effect on struct. and props. 7—8174
  Fe-Cr-Mn-C alloy, laser clad, microstruct. and wear props. 7—13652
  Fe-Ni-Al, sintered, ageing, precip. strengthening, tensile strength 7—39536
  Nb-Mo-ZrO$_2$, dispersion hardening mechanism investig. *(Russian)* 7—13462
  Nb-ZrO$_2$, dispersion hardening mechanism investig. *(Russian)* 7—13462
  Ni alloy, heat-resisting, supersaturated solid soln., isothermal decomp. kinetics 7—33682
  Ni base superalloys, techniques for required props. prod. *(Turkish)* 7—59657
  Ni-Al-Mo, precip. in Ni-base superalloys 7—53745
  Ni-base superalloys, age hardening, ordered strengthening phase characts., electron microscopy *(French)* 7—22710
  Ni-base superalloys, γ' strengthened, creep and microstruct. rel. to refractory elements 7—3364
  Ni-base superalloys, stability of lamellar γ-γ' struct. 7—46566
  Ni-Co based refractory alloys, γ'-phase strengthening rel. to comp 7—46496
  Ni-Cr alloy, wrought, Hf effect on struct. and mech. props. 7—33689
  Ni-Cr superalloy, heat-resistant, heat treatment effect on ductile props. in cold deform. 7—46584
  Ni-Fe-Cr, age hardenable, SCC in PWR coolant water, heat treatment and Zr additions effect 7—39708
  Ti-Al-Mo-Fe, struct. changes during phase transitions *(Russian)* 7—53721
  B-Ti-Mo, single crysts., age and quench hardening, effects of cryst. orientation and surface condition *(Japanese)* 7—22709
  V and alloys, dispersion hardened, strength changes and recrystn. 7—17545
  VC precipitates in steel, radiation damage influence 7—16638
  Zr-Ir, hardening by dispersed ω-phase particles, annealing effect *(Russian)* 7—65053
  Zr-Nb (20 wt.%), ageing behaviour, effect of H 7—46527
  Zr-Os, hardening by dispersed ω-phase particles, annealing effect *(Russian)* 7—65053
  ZrO$_2$ transform. toughened ceramics, fracture toughness rel. to transform. temp. 7—46614
prediction theory *see filtering and prediction theory*
predictor-corrector methods
  see also Runge-Kutta methods
  balance equations in periodic domain, numerical model, balanced turbulence 7—34604
  unsaturated flow of liquids in porous media, free boundary problem 7—37538
predissociation of molecules *see molecular predissociation*
preferred orientation *see texture*
prerotation *see rotation*
presentation, technical *see technical presentation*
presintering *see sintering*
pressing, hot *see hot pressing*
pressure
  see also atmospheric pressure and density; high-pressure phenomena and effects; radiation pressure; vapour pressure
  air crossflow, tube surface press. fluctuations, statistical anal. 7—44048
  air-water-sand flow in horizontal pipe, heat transfer and pressure drop 7—37515
  anisotropic media and composites, linear-elastic, lateral press. coeff. 7—1416
  incompressible viscoelastic coatings, turbulent boundary layer, press. fluctuations 7—26264
  semi-infinite fluid adjacent to damped elastic infinite plate, impulsive force effect study 7—63052
  two-point pressure-velocity correlations, conditional average and linear estimation in a round jet flow 7—26329
  waves in wall layers by unsteady press. gradients, receptivity mechanism 7—26292
pressure, atmospheric *see atmospheric pressure and density*
pressure control
  see also vacuum control
  arterial pressure, mean, computer control with Na nitroprusside: adaptive model-based system 7—40359
  blood pressure regulation during surgery using self tuning controller 7—54805
  reverse osmosis desalination meas. and controls 7—28338
  very high temperature gas cooled reactor, control system design and dynamics 7—768
pressure measurement
  see also vacuum measurement; vapour pressure measurement
  arterial mean pressure, simple device for meas. and for calibration of arterial press. monitors. 7—8731
  atmospheric surface pressure remote meas. using O$_2$ A-band absorption 7—14380
  automatic system for pressure measurement in a blow-down wind tunnel 7—16280
pressure measurement continued
  blood pressure, diastolic, mean and systolic, numerical model of oscillometric determ. 7—65805
  blood pressure measurement in postoperative hypertensive patients, comparison of intra-arterial and automated oscillometric methods 7—34297
  blood pressure sensor for fibrillation detect. method, implantable defibrillator output circuit evaluation *(Japanese)* 7—14160
  bone marrow pressure chamber, permanently inserted Ti implant for intramedullary press. meas. 7—8779
  diamond anvil cell, Mbar pressures generation and measurement *(Japanese)* 7—18800
  diamond anvil cell pressure meas. using SrB$_4$O$_7$:Cm^{2+} fluorescence shift *(French)* 7—4805
  diastolic arterial press. in human fingers, meas. method using vol. oscillometry 7—3915
  eye internal pressure meas., using electric sensors *(Slovak)* 7—60112
  fibre optic sensors, development, configs., and appls., review 7—31485
  fibre optic sensors and their appls., conf., Cannes, France (Nov. 1985) 7—40999
  fibre optic sensors for chem. industry, industrial meas. of press., temp., and level 7—57579
  fibre optic sensors for temp., vibration and pressure meas. *(German)* 7—11158
  fibre-optic differential pressure sensor 7—43386
  fingers, human, noninvasive method for estimating mean capillary press. and pre- and postcapillary resistance ratio 7—28735
  fluid pressure measurement using bubbles insonified by two frequencies 7—20547
  foot pressure measurement: a review of clinical findings 7—8728
  hydrostatic pressure electric resistance cell, for 30 kbars *(Korean)* 7—24656
  impact pressures delivered by oral water irrigation devices, expt. meas. 7—3929
  impulsive pressure meas. of thin metal wire explosion and electric discharge in H$_2$O 7—44275
  intracranial pressure: review of clinical problems, meas. techniques and monitoring methods 7—40323
  intraocular pressure meas., noncontact tonometry through soft contact lenses 7—54780
  methane, press., density and temp. meas. in crit. region 7—52000
  MFTF-B, background gas pressure diagnostic, electrical and mech. design 7—25220
  microbend fibre optic sensors, principle and appls. *(Slovak)* 7—11123
  nuclear power stations, diagnostic subsystems in Czechoslovakia *(Czech)* 7—19386
  online pressure and temperature calibration based on well-known phase transition 7—4853
  optical single-fibre interferometric pressure sensor, aperture stop influence on S/N ratio 7—43388
  PDA-2 pressure transducer for geophysics *(Russian)* 7—34711
  photoelastic fibre optic sensor, force, pressure, acceleration and sound meas. *(German)* 7—11159
  plant stem water potential measurement and simulation *(Japanese)* 7—28799
  plate with jet impingement, holographic visualisation of pressure distrib. 7—37569
  polymer films, multicomponent gas permeation, meas. method 7—51304
  polyvinylidene fluoride piezoelec. film transducer, charge output stress depend., gauge accuracy 7—29997
  portable continuous blood pressure monitor utilizing an M68705 microcomputer 7—28755
  precision digital manometer, Model 2661, based on compound timing-fork pressure sensor *(Japanese)* 7—48719
  probe for plant cells water transport props. determ. 7—23503
  respiratory pressure data analysis for detecting breathing circuit faults in ventilated patients 7—40330
  ruby, luminescent R-line emission, pressure calibration to shock wave eqn. of state of Au and Cu 7—18802
  ships, flow around aft section, static pressure meas. 7—37594
  strain gauges with Si SOS structure 7—4831
  supersonic air ejector, primary flow oscill. 7—37492
  thermopiezic analysis, gas absorption and desorption studies on milligram samples 7—16861
  thin rods in water, US press. distrib. prod. 7—6065
  transonic Ludwieg tubes, stagnation state, starting process study 7—37489
  unsteady and steady pressure measurements, transonic speeds on an aerofoil, shock/boundary-layer interaction 7—6241
  urethra, female, probe for meas. of cross-sectional area and press. 7—3910
  vacuum microbalance, automated, for adsorption isotherm meas. 7—41397
  variable pressure meas., errors due to vibratory acceleration reduction 7—291
  ventricular blood pressure meas. appl. of spline time varying digital filter 7—47268
  ^{3}He melting curve thermometer, automated, pressure meas. appl. 7—14955
  W lamp, temperature and pressure profiles, high-resolution CARS measurements 7—41377
pressure sintering *see sintering*
pressure transducers
  all-passive fibre-optic sensors, operating principles 7—61325
  calibration usage, response character rel. to shock-wave struct. *(Chinese)* 7—48701
  capacitive pressure sensor IC, micropower ccts. design for implantable device, biomedical appl. 7—34316
  cavity-mounted press. transducer, input press. effects on freq. characts. 7—37595
  diaphragm, strain gauge based, grid geom. influence on output 7—56250
  dynamic characts., determ. methods 7—48709
  fibre optic evanescent-wave coupling force transducer, using He-Ne laser 7—41367
  fibre optic pressure sensor, frequency-coded 7—6014
  flowmetering system with direct flanged differential pressure transducer, design *(German)* 7—44070
  IC microtransducer for air flow and differential pressure sensing 7—61329
  microcirculation pressure meas., math. model of transducer *(Chinese)* 7—28784
  optically excited resonant diaphragm pressure sensor 7—56243
  oscillating LPA for measuring flow and pressure 7—37563
  PDA-2 pressure transducer for geophysics *(Russian)* 7—34711
  photoelastic pressure sensor, using low-birefringence fibre 7—43429

pressure transducers continued
physiological pressure transducers, standard press. source for calibration 7−8732
plate with jet impingement, holographic visualisation of pressure distrib. 7−37569
polyvinylidene fluoride piezoelec. film transducer, charge output stress depend., gauge accuracy 7−29997
quartz fluid density sensor pressure transducer, design and characts. 7−56249
quartz tuning fork resonator transducers 7−35512
sensor technology and appls., conf., Bad Nauheim, FRG (March 1986) *(German)* 7−24271
thin diaphragm capacitive pressure sensor simulator 7−61328
variable-pressure sensors, four-mass method of examining vibrational frequency characts. 7−48708
Al_2O_3 ceramic diaphragm differential-pressure transducer 7−61354
H_2 thermal absorption or desorption studies, microcomputer controlled apparatus 7−21668
Si pressure sensor diaphragm, displacement and slope analysis, holospeckle-shearing interferometry 7−29972
Si-Al optically excited diaphragms, reson. freq., temp. depend. 7−18971
Si-based sensors, deposition methods and appls. 7−48715

pressure vessels
ASME Boiler and Pressure Vessel Code, design developments 7−49506
BIBLIS-B reactor pressure vessel, fracture mech. anal. for thermal shock transients 7−10220
British Standard 5500 for pressure vessel design and construction, appl. to AGRs 7−49510
cracked, ductile instability prediction 7−43769
elastic-plastic J-anal. for inner surface flaw 7−63076
high temperature life prediction, computer modelling anal. 7−3391
LWR pressure vessel surveillance using solid state track recorder neutron dosimetry 7−36199
Monju FBR, anal. and design for elevated temp. components 7−56717
PWR pressure vessels, fast neutron fluxes using Monte Carlo methods 7−36097
reactor construction codes and engineering mechanics conf., Paris, France, Aug. 1985 7−48153
reactor pressure vessel, crack propag. under cyclic thermal loading, NDT results 7−10219
reactor pressure vessel, thermoplastic stress calcs. from stress-relief up to thermal shock 7−10216
reactor pressure vessel and piping design, stress indices for nonradial branch connections 7−49520
reactor pressure vessel neutron dosimetry using solid-state track recorder 7−36305
reactor pressure vessels, thermal mixing and wall loads for emergency core cooling expts. 7−10217
reactor relaxed core stress in ratcheting evaluation for elevated temp. design 7−49521
spherical head pressure vessels, large deflection anal. 7−5321
steel, Ni-Cr-Mo, pressure vessel, environmentally assisted fatigue crack growth 7−17638
steel, nuclear reactor pressure vessel, thermal transient, crack arrest in K-gradient 7−46617
steel, pressure vessel weld metal, cleavage fracturing stages at inclusion sites 7−8092
steel, with surface fatigue cracks, leak-before-break failures analysis 7−65141
WWER pressure vessel safety analyses by SKODA Plzen *(Czech)* 7−56806
WWER-440 type pressure vessel, manual and mechanized inspection *(German)* 7−56784
Ni base superalloys, pressure vessel performance, strength, ductility, comp., struct. 7−3365

primary cells
alkaline batteries, selection guidelines 7−3633
alkaline dry battery 6AM6, safety design *(Japanese)* 7−65426
battery technology trends (1981-6) and prospects *(Japanese)* 7−65429
bipolar batteries with common electrolyte paths, leakage currents 7−28392
fusion research, battery energy storage appl. 7−15321
rotating ring-disk electrodes, metal and semicond. types, appl. of redox contacts 7−39982
space appls., proceeding of NASA/Goddard workshop, Greenbelt, MD, USA (Nov. 1985) 7−29578
ultra-thin paper Li battery *(Japanese)* 7−65423
AgO cathode used in AgO/Zn batteries, decomposition kinetics 7−46827
C-Li rechargeable batteries, characts. 7−59835
C-Zn dry battery with outer metallic jacket *(Japanese)* 7−65427
Li batteries with confirmed reliability and safety 7−59830
Li, battery reliability for memory backup *(Japanese)* 7−65425
Li cells, voltage compatible, β-PbO and β-PbO_2 as cathode materials 7−3632
Li, test automation using microcomputer-based test station *(Czech)* 7−23128
Li/CuO-chalcopyrite battery structure and characteristics *(Japanese)* 7−65424
Li/$SOCl_2$ cell, corrosion, calorimetric study 7−46929
Li/$SOCl_2$-SO_2Cl_2 cells, low temp. discharge behaviour 7−65422
Li-$(CF)_n$ batteries, open circuit voltage 7−8369
Li-$(CF)_n$ cells, improved discharge characts. at low temp. using mixed organic electrolytes 7−8368
Li-I_2 solid state batteries, performance of polyacrylonitrile-based cathodes 7−54282
Li-$LiNO_3$ thermal battery cell discharge lifetime with soluble cathode materials 7−3630
Li-SO_2 batteries, effect of water during incineration 7−39983
Li-SO_2 commercial cells, impedance meas. at various states of charge 7−54281
Li-SO_2 primary cells, safety hazards during charging 7−34007
Li-SO_2Cl_2 cell battery pack fabrication, safety 7−34008
Li-$SOCl_2$ cell battery pack fabrication, safety 7−34008
Li-$SOCl_2$ primary cells, heat dissipation study 7−34009
MnO_2, test automation using microcomputer-based test station *(Czech)* 7−23128
Zn-air button type battery for hearing aids *(Japanese)* 7−65890

primary cosmic radiation *see primary cosmic rays*
primary cosmic rays
see also galactic cosmic rays; solar cosmic ray particles
chemical composition and high energy muon groups 7−14423
composition and energy spectra study using Sokol detector 7−14424
composition and spectra above 10^{14} eV *(Chinese)* 7−29371
composition around 10^{14} eV *(Chinese)* 7−55395
composition determ. from EAS meas. 7−14454
Cyg X-3, cosmic glueballinos source, discussion 7−48105
Cyg X-3, H dihyperon from high energy muon obs. 7−47992
EAS, energy spectrum of primary cosmic rays 7−14460
EAS, spatial distribs. functions at sea level, primary composition 7−14456
EAS maximum, position as function of primary particle energy 7−14451
JACEE data on particle primary nucleon spectra 7−9347
muons, depth-intensity relation in sea water 7−4281
muons, energy spectra anal., tachyon hypothesis 7−14442
nuclei energy spectra and charge composition at energies greater than 2 TeV 7−66412
primary cosmic antimatter detection, proposed satellite expt. for energy spectra determ. 7−47647
solar diurnal anisotropy, secular changes in upper cut-off rigidity 7−66407
ultra-high energy EAS, spectrum irregularity 7−14434
^{56}Fe initiated EAS, longitudinal characteristics, fireball production and quark-gluon plasma model anal. 7−9348
printed circuit boards *see printed circuits*
printed circuit manufacture
holographic microscope, projection type, for microcircuits assembly and QC 7−62650
inspection using laser scanner 7−57601
large plotted circuit board production, delay lines for particle calorimeter 7−25330
Pb-Sn-Ag solder alloys, phase equilibria 7−46426
TiN thin film, adhesion on PBI plastic produced by large-current ion implantation machine *(Japanese)* 7−8149
printed circuit testing
materials anal. of failed flex circuit using laser microprobe mass spectrometry 7−17845
printed circuits
see also printed circuit manufacture; printed circuit testing
Ni-P electroless coatings, electronics components, thickness meas. 7−14920
printed wiring boards *see printed circuits*
printers
see also ink jet printers; laser printers
stepper motor acoustic noise reduction method 7−16031
printing
colour printing, digital image layout system 7−15027
drop-on-demand ink-jet printing, one-dimensional fluid jet models 7−31851
electrophotographic color printing using elliptical laser beam scanning 7−56362
prismatic dislocations
dislocation motion modelling through complex dislocation ensembles in HCP cryst. lattice 7−63612
fibre reinforced metal, subjected to uniform temp. change, dislocations punched out around short fibre 7−21491
Inconel 718, Ni-base superalloy, creep deform., back stress determ. 7−46564
stress relaxation, dislocation-diffusion mechanisms, review *(Russian)* 7−32564
CdS plastically deformed cryst., reorientable defects, polarised luminesc. study 7−51749
prisms (optical) *see optical prisms*
probability
see also game theory; Monte Carlo methods; queueing theory; random processes; statistics
alloys, ion projection ranges and their distrib., personal computer programs *(Japanese)* 7−6659
autoradiography, paired compartments comparison, probability models and null hypothesis testing 7−40255
Banach lattices, additive mean ergodic theorem *(French)* 7−55974
binary star collisions in globular clusters, head-on collision probabilities 7−60739
Brownian factorisation in fluctuating time change 7−56013
casino physics approach to probability and random processes teaching 7−35169
Cauvery River and its tributaries, India, flow data, fit of gamma probability distrib. 7−55093
cell death by exposure in vitro to X-rays and 1,3-bis(2-chloroethyl)-1-nitrosourea, probabilistic anal. 7−60046
complex fuzzy events in classical and quantum information systems, algebraic props. 7−61152
digit distribution, probabilistic model 7−45
erosion rate, time dependence, probabilistic approach 7−37399
errors in calibration, upper confidence limit for uniform distrib. parameter 7−56205
fatigue fracture, nonequilib. statistical theory 7−63737
fracture statistics, Weibull parameters estimation using weight function 7−22934
fracture toughness, lower-shelf, probabilistic model, theory and appl. 7−43770
fracture toughness, thickness effect, probabilistic anal. 7−65123
free-space laser communications system design, SNR impact 7−34676
fundamental constants, probability law 7−18544
generic probabilistic risk analysis for a high-level waste repository 7−28725
measurement accuracy improvement using a priori information 7−14908
microtopographic roughness parameters determ. from surface sections 7−4810
moment inequalities via optimal design theory 7−24404
multiphase interface and interaction problems, probabilistic modelling and simulation 7−52219
optical fibres, strength and fatigue, Weibull probability function 7−62842
petroleum resource appraisal program, FORTRAN listing 7−40576
plotting probability density function of resultant error with two or more components 7−48673
pointwise convergence of densities under iteration of Ulam and von Neumann's map 7−35234

- **probability** continued
  - PWR plant-specific availability modelling 7−10198
  - radiation carcinogenesis, cumulative empirical distrib. functions, risk projection models 7−28705
  - random packing of identical particles, model development 7−3613
  - relaxation problem with quadratic noise 7−29899
  - SEM crack distributions on plane sections, correction of window size distortion 7−59711
  - shells, spherical, and circular membranes, flexure theory, stochastic bifurcation 7−26151
  - strong law of large numbers and central limit theorem on a Hilbert space logic 7−41078
  - vector continuous local martingales, stochastic linear regression appl. 7−9656
  - W*-algebras, convergences 7−29659
  - Si, energy deposited by mesons in 1-μm sites, probability distrib. 7−58312
- **probes**
  - *see also electron probes; muon probes; plasma probes*
  - calibration of neutron probe for soil humidity measurement *(French)* 7−47581
  - coaxial, time domain spectroscopy for dielectric props. meas. 7−14961
  - current density monitor for intense relativistic electron beams 7−19595
  - electrical resistivity, four-point probe, ultrahigh vacuum compatibility 7−61357
  - fast measurement techniques for research in dielectrics 7−30034
  - fibre laser Doppler anemometer and boundary-layer meas. appl. 7−37609
  - fibre optic probes for ophthalmology 7−47206
  - flow, unsteady 3D, meas. using 5-hole pressure probe, design procedure 7−37593
  - flow velocity meas. in stirred tanks, hot-film const. temp anemometer probes 7−16273
  - hot-wire anemometer compensated for ambient temperature variations 7−16275
  - hot-wire probes calibration, using self-contained motorised cart 7−31899
  - implantable multielectrode array with on-chip signal processing, microprobe for biopotentials recording 7−28495
  - implantable multielectrode array with on-chip signal processing, neural prostheses/biopotential recording appls. 7−34338
  - Langmuir probe for diffusion studies in atmospheric air 7−34724
  - materials anal. of failed flex circuit using laser microprobe mass spectrometry 7−17845
  - optical probe for on-line meas. of velopharyngeal valve opening 7−60071
  - Peltier probe flowmeter, performance analysis 7−44083
  - pressure probe for plant cells water transport props. determ., automated 7−23503
  - relativistic electron beam current and position monitor 7−19596
  - selective gamma-gamma method inversion probe in geophysics *(Russian)* 7−34708
  - temperature probes, thermoelectric and resistance types, characts., props. and reliability *(German)* 7−18778
  - underwater optical probe for laser Doppler anemometry 7−16279
  - YIG, LPE films, microwave magnetostatic waves, magnetic induction probe studies 7−58996
- **problem oriented languages** *see high level languages*
- **procedure oriented languages** *see high level languages*
- **process computer control**
  - *see also direct digital control*
  - macroscale heat flow calorimeter for studying chemical processes 7−41391
  - polymerisation process computer control, using US sensors 7−8278
  - AlGaAs-GaAs space solar cells, LPE production and characterisation 7−3666
- **process control**
  - *see also process computer control*
  - binary batch distillation in tray or packed columns, optimal control 7−58450
  - continuous periodic reactor, adaptive model following control algorithm 7−8254
  - Contronic P modulator process control data acquisition system *(German)* 7−56247
  - fibre-reinforced Al alloy-matrix composites fabrication process 7−46377
  - IC fabrication, mass spectrometry appl. 7−39940
  - plasma spray deposition process parameters control, math. model 7−3477
  - single-mode optical fibre preforms, dimension control in VAD process 7−6025
- **process heating** *see electric heating*
- **Procopiu effect**
  - No entries
- **product control** *see quality control*
- **production**
  - *this heading is restricted to industrial production*
  - *see also assembling; manufacture; quality control; reliability*
  - optical fibre characteristics and industrial production techniques *(French)* 7−1282
  - steel, wear resistant, for cutout dies of electric machine manufacture 7−13719
  - Si solar cells, spinning method for Si sheet mass production 7−13918
- **production control**
  - *see also process control; quality control*
  - AlGaAs-GaAs space solar cells, LPE production and characterisation 7−3666
- **production schedules** *see production control*
- **production testing**
  - composite material, nondestructive meas. of dielec. permeability by nonsteady frequency-phase method 7−33888
  - OTDR for optical fibre cable meas. 7−14994
- **program compilers**
  - expert systems and compiler techniques for intelligentimplantable cardiac pacemakers 7−14162
- **program correctness proving** *see program verification*
- **program generators** *see automatic programming*
- **program listings** *see complete computer programs*
- **program loading techniques** *see data handling*
- **program saving techniques** *see data handling*
- **program verification**
  - testing strategies and testing environment for reactor safety system software 7−19418
- **programmable array logic** *see cellular arrays*
- **programmable controllers**
  - *for applications, see relevant control application e.g. chemical industry; control of specific variables*
  - *see also control systems; programmed control*
  - ESR expts., high-precision programmable temp. controller 7−30053
- **programmable logic arrays** *see cellular arrays; integrated logic circuits*
- **programmable read-only-memory** *see PROM*
- **programmed control**
  - *see also process control; production control*
  - photography, waste fixing solution electrolysis, programmed current control system *(Russian)* 7−35616
  - pulse train generator for expts. in relaxation analysis 7−9864
  - voltage standard, DC to 100 MHz 7−18839
- **programmer training** *see training*
- **programming**
  - *see also automatic programming; computer software; parallel programming; systems analysis*
  - shock waves, simulation in 3D 7−6247
- **programming, automatic** *see automatic programming*
- **programming, geometric** *see geometric programming*
- **programming, mathematical** *see mathematical programming*
- **programs (computer listings)** *see complete computer programs*
- **project engineering**
  - *see also design engineering; electromagnetic compatibility; quality control; reliability; systems engineering*
  - water level measurement system, management information systems 7−66162
- **projectiles**
  - *see also ballistics; missiles; rockets; weapons*
  - ablative macroparticle accelerator using electron beam diodes for accelerating projectiles 7−36266
  - magnetic linear accelerator (MAGLAC), switching studies 7−36342
  - Magnus effect, early investigations and question of priority, review 7−41048
- **projectors (optical)** *see optical projectors*
- **PROLOG**
  - myocardial scintigrams, symbolic reasoning in PROLOG 7−40253
- **PROM**
  - MIS structure, carriers in insulator and at semiconductor-insulator interface, EEPROM appl. 7−2730
- **promethium**
  - *see also nuclei with ......*
  - YAG:Pr^{3+}, up-conversion, stepwise photon absorpt. process 7−13193
- **promethium alloys**
  - Co-Pr liquid alloys, variable valency investig. 7−7192
  - Fe-Pr liquid alloys, variable valency investig. 7−7192
  - Ni-Pr liquid alloys, variable valency investig. 7−7192
- **promethium compounds**
  - *see also promethium alloys*
  - $PrSc_3(BO_3)_4$, preparation, struct. and props. 7−1968
- **prominences (solar)** *see solar prominences*
- **propagation, wave** *see wave propagation*
- **proportional + integral + differential control** *see three-term control*
- **proportional control**
  - self-adaptive myoelectric processor, automatic calibration to amputee's muscle movements 7−47291
- **proportional counters**
  - *see also position sensitive particle detectors*
  - air proportional counters, detection efficiency 7−62231
  - ALEPH time projection chamber, gating grid 7−30844
  - ALEPH time projection chamber, TPC90 test model 7−30842
  - ALEPH time projection chamber, wire gain and track distortion studies 7−30843
  - ARGUS vertex drift chamber, design and performance 7−30840
  - attenuation length measurements in narrow drift channels 7−42303
  - avalanche growth, concentration depend. in Kr+cyclohexane mixtures 7−826
  - background suppression in a gas scintillation proportional counter for exotic X-rays 7−42308
  - Bragg rotor spectrometer for tokamak diagnostics 7−10352
  - breakdown phenomena associated with very large gains in drift chambers 7−42297
  - calibration of soft X-ray sources and instruments, 1986 status 7−25322
  - calorimeters using thin MWPCs operating in a high gain mode 7−42292
  - charged particle and rel. nuclei registering proportional chambers for SIGMA and ANOMALON expts. 7−36388
  - CLEO II drift chamber, design and construction 7−36396
  - complex ions, neutralisation in proportional counters and MWPCs, cathode effects 7−42299
  - conf., Munich, Germany, March 1986 7−40990
  - conf., Vienna, Austria, February 1986 7−40989
  - CP violation experiment, detector configuration and trigger 7−41786
  - CP/M VMEBUS control system for MWPC HV power supplies 7−30912
  - cylindrical drift chamber for CMD-2 detector at VEPP-2M 7−36392
  - DELPHI time projection chamber, space meas. accuracy tests on half-scale prototype 7−30846
  - dimethyl ether as a drift-chamber gas 7−5550
  - double wire drift chambers for in-beam expt. at LEAR 7−42302
  - drift chamber calibration using lasers, review 7−42284
  - drift chamber constructed of aluminized mylar tubes 7−62225
  - drift chamber for high-energy heavy ions 7−62207
  - drift chamber for the Mark II detector at SLAC Linear Collider 7−36398
  - drift chambers for a large-area, high-precision muon spectrometer 7−62208
  - drift chambers with controlled charge collection geometry for the NA34/HELIOS experiment 7−36387
  - drift charge collection during a single particle upset 7−49792
  - drift properties of electrons in methane and methane noble gas mixtures 7−42304
  - drift tubes in VENUS muon detector, tension meas. system 7−49805
  - drift-pots for small angle elastic scattering at the Fermilab Collider 7−36385
  - EM shower position determination, accuracy of wide-gap drift chamber 7−5539

proportional counters continued
event classification with the BEBC internal picket fence 7—49798
gamma camera, electronically collimated, gas scintillation utilisation 7—65845
gas amplification of proportional counters withcathodes of rectangular cross section 7—5546
gas proportional telescope used to investigate rare reactions induced by 3 MeV neutrons 7—19636
grazing incidence spectrometer with multielement spectral detector, absolute calibration from 20 to 430 Å 7—25301
hadron calorimeter using wire chamber readout 7—62223
high density spiral projection chamber, end-cap detectors for OBELIX expt. at LEAR 7—36395
high gain thin gap multiwire gas detector for the OPAL hadron calorimeter 7—42293
high pressure multielement proportional counter, characteristics 7—19632
high pressure proportional counter development 7—30854
high pressure Xe gas time projection chamber, electron trajectories, Monte Carlo simulation 7—49801
high resolution 2-dimensional readout of drift chambers 7—42310
high resolution vertex chamber, test of full scale sector 7—30839
high resolution vertex drift chamber for Mark II SLC Upgrade detector, prototype results 7—36399
high spatial resolution positron emission tomograph 7—36421
horizontal drift chambers for focal plane polarimeter 7—49808
induction drift chamber 7—36389
ionisation avalanche model, inclusion of O_2^- 7—37778
jet chamber with long drift paths in mag. field, pulse shape anal. 7—42301
L3 high resolution muon drift chambers, systematic errors in track position meas. 7—36393
large acceptance mag. detector for CEBAF 7—36379
large area transition radiation detectors for electron identification at CERN UA6 expt. 7—42291
large solid angle μ detector for TeV region 7—42313
limited streamer drift tubes with conductive plastic walls, cathode readout 7—25309
low matter density cylindrical proportional chambers 7—19629
low-level counting facility for ^{14}C dating 7—19638
MD-1 detector, proportional chambers with delay line readout 7—36386
microprocessor controlled high density multiwire proportional chambers, 2D angular correlation of positron annihilation 7—36422
microstrip vertex detector for E687 expt. at Tevatron 7—30837
microvertex detector for UA1 expt., design and operation 7—30841
miniature drift chamber, construction and behaviour 7—36390
modular multidrift vertex detector 7—30838
multielement proportional chamber, for ^{136}Xe $\beta\beta$ decay 7—42287
multielement proportional chamber for double β-decay expts. 7—19633
multielement proportional chamber for double beta-decay expt. 7—25315
multiple neutron event detector 7—19635
multisectional wire chamber for pulsed X-ray and VUV studies 7—30855
multiwire chambers filament tension meas., using automated electronic tensometer 7—30004
multiwire drift chamber, electric field calcs. *(Chinese)* 7—25319
multiwire position sensitive chambers for compound anal. in thin layer chromatography 7—19643
multiwire position sensitive proportional chamber *(Rumanian)* 7—15457
multiwire proportional chambers for time-resolved studies on muscle 7—47144
multiwire proportional counter space point finding processor 7—42317
muon chambers of ARGUS detector, design, testing and use 7—36413
muon identification system, use of proportional counter 7—15466
MWPC based system for digitizing electrophoretic gels 7—47296
MWPC imaging, derandomising buffer and microcomputer memory 7—42309
MWPC in streamer chamber triggering system 7—49832
MWPCs, 3D algorithm for induced charge distrib. calc. 7—36394
OPAL jet chamber full scale prototype 7—36397
phantom microdosimetric spectrometer, ionising radiation quality meas. 7—8692
position sensitive detectors, high count rate, for synchrotron radiation expts. 7—42283
positron camera for industrial appl. 7—42320
positron imaging, electron gamma shower for Monte Carlo calcs. 7—36424
radiation damage to drift chambers, lab. study of aging effects 7—42298
real time digital display with adjustable persistencetime for 2-D detectors, appl. in X-ray crystallography 7—11849
ROSAT position sensitive proportional counter, radiation entrance window development 7—29405
selection system for particles with lifetimes of 1-0.1 psec, in vertex detector 7—10364
self-quenching streamer discharge under extremely large amounts of quenching gas 7—25310
single photon detectors with optically shielded wires, operation in transverse mag. fields 7—30847
SLD central drift chamber, two-cell prototype 7—36391
spherical tissue-equivalent proportional counter withcoaxial electric field 7—3868
thermal-neutron registration channel 7—36414
three-dimensional He-recoil MWPC for fast polarizedneutrons 7—5542
time expansion chamber as vertex detector for MARK J at DESY 7—30836
time projection chamber, avalanche broadening due to wire E×B effect 7—30845
toluene impurity detection in proportional counter gas by resonant 2-photon ionisation spectroscopy 7—42295
TOPAZ time projection chamber, design, construction and calibration 7—30848
TOPAZ time projection chamber, FASTBUS digitizer system 7—62244
TPC, space resolution 7—25328
track finding with the Mark II/SLC drift chamber 7—42311
transition radiation detector for electron identification in a high energy experiment 7—49797
transition radiation detectors for electron identification up to 100 GeV 7—42289
two-dimensional angular correlation of positron annihilation apparatus 7—36419
UA2 vertex detector, FASTBUS based 100 MHz FADC system for drift chambers 7—42306

proportional counters continued
VENUS central drift chamber, charged particles, pattern recognition algorithm 7—822
VENUS drift chamber, global pattern recognition method 7—42315
wide-gap electrodeless drift chamber, characts. and use at HYPERON spectrometer 7—10353
wire chamber advances for Mossbauer spectroscopy expts. 7—36384
wire chambers, aging problems, models and design parameters, review 7—42300
wire chambers, use in structural biology 7—47294
X-ray position detection, 6 μm position resolution, use of wire proportional chambers 7—42288
Ar, liquid ionisation drift chamber, coordinate resolution 7—49806
Ar-TEA gas mixtures, emission spectra in proportional counter 7—62226
^{3}H, activity meas. in proportional counter 7—19639
He-filled proportional counter for low temps. and appl. to cryogenic resonance-electron Mossbauer spectroscopy 7—62234
Kr-TEA gas mixtures, emission spectra in proportional counter 7—62226
NaI π^0 and η^0 detector, energy resolutions by Monte Carlo simulations 7—49816
Si drift chamber for two-dimensional particle detection 7—25324
Si drift chambers, electron dynamics 7—42329
Si radial drift chambers for low noise radiation detection 7—42318
Xe-TEA gas mixtures, emission spectra in proportional counter 7—62226

proprioception *see mechanoception*

propulsion
see also aerospace propulsion
H_2 vehicle fuel appls. in USSR *(French)* 7—54368

prospecting (geophysical) *see geophysical prospecting*

prosthetic power supplies
pneumatic portable artificial heart drive system, design based on efficiency anal. 7—65893
transcutaneous energy transmission system, series-tuned, for implanted mech. circulatory assist device, modification 7—3940

prosthetics
see also artificial limbs; artificial organs; handicapped aids; orthotics; sensory aids
ankle movement prediction and evaluation with implantable peroneal stimulators 7—28778
antagonist muscles, elec. stimulated, control algorithms testing, cat model, neural prosthesis appl. 7—8770
apatite ceramics, with microstruct. controlled by Y^{3+} substitution, elec. props. 7—21523
bioactive glass ceramics, struct., phase relations 7—7982
biomedical engineering, conf., Shreveport, LA, USA (Oct. 1986) 7—18470
bioprosthetic heart valves, computer simulations of closing sounds 7—34343
bioprosthetic valves, closed, influence of stent height upon stresses on cusps, finite element model 7—23387
bioprosthetic valves, porcine, leaflet stiffening effect on leaflet stresses 7—65889
cardiac valves, mech. bileaflet and tilting disc., comparative test 7—3932
Chorimac cochlear prosthesis, discrimination of elementary phonemes *(French)* 7—47288
conference on biomedical materials, Boston, MA, USA (Dec. 1985) 7—55900
dental bridges, stress distrib. on alveolar bone surface, anal. using photoelastic coating technique *(Chinese)* 7—28767
dental prostheses, metal-ceramic, strength rel. to surface roughness of metal frames 7—40365
Derby intramedullary nail, biomech. comparison 7—40362
elbow, stresses after joint replacement, finite element method calcs. and expt. obs. *(German)* 7—54809
electronic cochlear neuroprosthesis development, Czechoslovak project 7—8766
endoprostheses malsizing rel. to pelvic stresses in vitro 7—23382
endoprosthetics, expt. results on mech. coupling 7—54811
epiphyseal-based designs for tibial plateau components, stress anal. in frontal plane 7—3934
epiphyseal-based designs for tibial plateau components, stress anal. in sagittal plane 7—3935
femoral stem of cemented total hip replacements, role of collar rel. to bone stresses and resorption 7—8760
functional neuromuscular stimulation hands, clinical efficacy assessment 7—34352
heart valve, Ionescu-Shiley aortic, in vitro vel. obs. downstream 7—3936
heart valve test apparatus, microcomputer-based data acquisition system 7—40364
heart valves, flexible support frame 7—3938
heart valves, Ionescu-Shiley, freq. anal. of closing sounds 7—28770
Hexsyn rubber, high-flex ozone resistant, prep. and appl. 7—13767
hip endoprostheses, effects of stem design and material props. on stresses 7—40361
hip joints, static stresses on stems in frontal and sagittal planes *(German)* 7—54808
holographic testing appl. in medical device industry 7—40366
human prosthesis systems, control properties 7—18095
implant orthopaedic surgery, conf., Marbella, Spain (July 1984)d 7—48188
implantable devices for the treatment of cardiac arrhythmias 7—34340
implantable gait simulation using microprocessor-controlled trigger switches 7—34353
implantable multielectrode array with on-chip signal processing, neural prostheses/biopotential recording appls. 7—34338
implanted cardiostimulators, polymeric insulation degradation *(Czech)* 7—23487
implants for nerve stimulation in paraplegic patients, gate array appls. 7—34339
Kevlar 29 fibre reinforced bone and dental cements, mech. props. 7—28080
laryngectomees, speech prosthesis system using mouth-opening detector and electro-palatograph *(Japanese)* 7—47289
material developments 7—28773
medical electronics developments, review *(Italian)* 7—18094
metal-backed acetabular prostheses, efficacy rel. to in vitro pelvic stresses 7—23383
metallic hip implants: CT with multiplanarreconstructions 7—14161
mitral valve, remote-controlled, development and use 7—14159

prosthetics continued
muscles, electrically stimulated, effect of muscle nonlinearities on control 7—8644
myoelectrically controlled prostheses, surface myoelectric power spectral density as function of biceps brachii static load 7—8541
optical noncontact 3D body measurement for prosthetics fitting 7—34350
osteosynthesis miniplate made of Ti, proposal for analytically-founded construction *(German)* 7—54810
PEEK and C fibre reinforced PEEK materials potential as bioimplants 7—60126
plastic materials for joint endoprostheses *(German)* 7—34342
polyurethane biomaterials, hydrolytic stability in model biological media, surface morphology changes 7—17673
porous-glassy-carbon/bone interface, loaded, shear strength, rabbit obs. 7—54643
posture measurement in free space, precision increase, diseased/prosthetic knee clinical assessment 7—34300
precision engineering for medical electronics, design considerations *(Japanese)* 7—60124
rehabilitation of handicapped, technology, conf., Minneapolis, MN, USA (June 1986) 7—29599
Rehabilitation R&D Progress Reports 7—28774
Resiform RTF biocompatible material for implanted prostheses *(German)* 7—60121
RF-coupled phrenic nerve stimulator implant, temp. telemetry addition 7—28771
sensory feedback system, open- and closed loop models 7—54814
shape sensing by CAD/CAM techniques for fitting of prosthetics and orthotics 7—34348
shoulder position evaluation for quadriplegics using neural prosthetic devices 7—28779
sound processing for cochlear implant 7—37276
speech processor with lateral inhibition, 8 channel cochlear implant, subject testing evaluation 7—37275
three channel cochlear neuroprosthesis for the deaf, implantable receiver/portable transmitter config. 7—8765
tibial components, bone stresses beneath, effect of interface, finite element modelling 7—40188
tibial plateau, cement layer stresses, model obs., 3D strain rosettes 7—65798
upper extremity prostheses with sensory feedback 7—34346
vascular prostheses, validity of some methods of estimating circumferential elastance 7—8761
wearable pocket-sized processor for digital hearing aid and hearing prostheses 7—37277
Co-Cr surgical implant alloy, mech. props., effects of N additions 7—59573
Co-Cr-N, surgical implant alloy, mech. props., microstruct. rel. to N addition 7—60125
CrCo-porcelain and CrNi-porcelain dental prostheses, strength rel. to surface roughness of metal frames 7—40365
Ti-Al-Fe, mech. props., investig. as implant material *(German)* 7—46647

protactinium
see also nuclei with ......
solid state and thermodynamic props., f-electron bonding and struct., review 7—12321
vapour press. meas., form. enthalpy and bond dissociation energy calcs. 7—10765

protactinium compounds
PaO_2 and PaO vapour press. meas., form. enthalpy and bond dissociation energy calcs. 7—10765

protection
see also alarm systems; corrosion protection; power system protection; protective coatings; radiation protection; safety
biomedical electronic instruments safety and testing Electrotechnical Testing Institute practices *(Czech)* 7—18090
electronic and computer equipment, seismic support on raised floors 7—4003
escalating arcing ground fault phenomenon, effect of preventative solns. on equipment specifications 7—51530
groundwater pollution protection in developing countries, aquifer-oriented policy 7—3731
maintenance and operations personnel at 750 kV installations, effects of intense electric fields *(Rumanian)* 7—28585
NMR preamplifier protection at UHF 7—9866
photodetection protection from strong exposure, based on photomultiplier voltage control 7—30086
spacecraft HV solar cell array glass encapsulation for protection against plasma 7—65490

protective coatings
see also corrosion protective coatings; wear resistant coatings
acrylate coating developments for opt. fibres 7—25974
aluminide coatings on Ni-base superalloy, influence on creep rupture props. 7—28116
composite-materials-based protective coatings 7—3471
deposition by direct-current cracking of vapours, thickness limits 7—39433
graphite fibre reinforced Mg matrix composites, fabrication, fibre coatings, wetting, adhesion 7—46374
ion plated coatings on cutting tools 7—53931
laser cladding of metallic surfaces *(Chinese)* 7—8155
materials design using a hierarchy of structural models 7—16350
multilayer fusing heat insulating coating, weight minimisation algorithm 7—65154
phosphate glasses for lasers, moisture proofing *(Chinese)* 7—5899
physics and chemistry, conf., Universal City, CA, USA (Apr. 1985) 7—29568
polymer coatings for optical fibers 7—11192
polymer glazings for Ag mirror protection, evaluation and modification 7—37094
polymer protective coatings of optical elements between operations 7—37062
polyvinylpyrrolidone protective layer on small colloidal Pt particles 7—32676
reactive magnetron sputtering, microelectronics appl. 7—33556
refractory compound films, mech. props., struct., test methodology 7—33684
secondary coating of optical fibres 7—11169
silicide coatings on Mo alloy, scale resist., influence of Fe and Be additions 7—22875
silicone coating developments for opt. fibres 7—25974

protective coatings continued
silicone materials for optical fibre protection 7—15992
sol-gel thin films used in solar energy appls. 7—37106
steam turbine blades, characterisation of coatings and coating processes 7—46313
sun protective optical coatings, post magnetron sputter and reactive sputter coating 7—53588
tensile strength distrib., statistical model, electrodeposited coating effect 7—39585
thermal barrier coatings, thermomechanical oxidation fields, anal. 7—3505
UV curable coatings for optical fibres, stabilisation 7—11167
UV curable resin coated fibre with low-temp. and lateral props. 7—11168
UV curable resins for cabling optical fibres 7—11166
Ag-backed polyacrylonitride films, photostabilisation studies 7—37107
Al_2O_3, CVD, morphology rel. to growth conditions 7—17431
Al_2O_3 coatings made by sol-gel process, mechanical props. 7—22867
Al_2O_3 film-stainless steel adhesion, improvement using surface precipitates *(Japanese)* 7—22880
Al_2O_3, ion beam sputtered protective coating for Kapton solar array blanket 7—3705
As ultrathin layers, protection for $Al_xGa_{1-x}As$, AES sputter depth profiles 7—54022
BN protective coating on ZnS and ZnSe IR transmitting windows 7—46731
C coating for heat damage prevention of electron microscopy specimens 7—22864
C diamondlike films, sputtering, appls. 7—39374
C fibre reinforced C composites, oxidation protection by carbide incorporation 7—46671
C film on ZnS and ZnSe IR transmitting windows 7—46731
C films, diamond like, prep. and props. 7—22472
C-graphite heat-shielding coating, destruction and heat transfer in N_2 plasma flow 7—63263
Cr_2O_3 film form. on Fe alloys, XPS study 7—22898
Cu, ion plating on steel, deposition conditions effect on coating struct. 7—39748
Fe-Cr, ion plating on steel, deposition conditions effect on coating struct. 7—39748
Fe_3O_4 film form. on Fe alloys, XPS study 7—22898
GaAs, dielectric protective coatings during heat treatment 7—33852
GaAs ultrathin layers, protection for $Al_xGa_{1-x}As$, AES sputter depth profiles 7—54022
H_2 generation from optical fibre coatings UV curable acrylated resins 7—11171
$In_{2-x}Sn_xO_{3-y}$ protective coatings for Galileo spacecraft, radiation testing 7—59647
$In_{2-x}Sn_xO_{3-y}$ sputter deposited, elec. cond., oxidation resistant coatings for spacecraft applic. 7—22866
Mo_5Si_3-Mo, lowest silicide phase coating, phase changes at high temps. 7—3497
Nb alloys, substrate, heat resistant coatings, review 7—13644
$NbSi_2$-$MoSi_2$ composite silicide coatings, oxidation resistance 7—65155
Ni-B based electrochemical coatings, heat resistance, oxidation 7—3499
Ni-Cr-W-Si-Al-C, heat resistant coatings on Ni alloys 7—3498
Ni-W-Co-Cr superalloys, creep rupture and tensile props. rel. to hot pressing or aluminising 7—3363
NiO film form. on Fe alloys, XPS study 7—22898
P plasma deposited coating, passivation of InP 7—3540
a-Si protection layer on the surface of V/Si during silicide formation 7—58662
SiC-C alloy coated graphite as armour tiles, post-exposure anal. after high heat loadings 7—49632
Si_3N_4, CVD from Si_2Cl_6-NH_3-H_2 gas mixture 7—22560
SiO_2 and SiO_2-polytetrafluoroethylene mixture, ion beam sputtered protective coating for Kapton solar array blanket 7—3705
SiO_2 protection layer on the surface of V/Si during silicide formation 7—58662
TiAlN coatings, sputter ion plating, struct. and protective props. 7—53976
TiC coated Mo, low cycle fatigue behaviour 7—53848
TiN coated high speed steel, ductility, impact testing 7—46569
TiN coatings, sputter ion plated, process, engineering appls. 7—46321
TiN, ionisation assisted PVD processes 7—33599
ZrO_2, Y_2O_3, dip process thermal barrier coatings for gas turbines 7—46314
ZrO_2, Y_2O_3 stabilised thermal barrier coatings, ionisation assisted physical vapour deposition 7—46349

proteins
see also gelatin
acetyl chymotrypsin in cryosolvent, ^{13}C NMR relax. 7—10792
acetylcholinesterase, immobilised, structure-activity relations, IR-ATR modulation spectroscopy obs. 7—54474
actin layer-lines, intensity increases on activation of Limulus muscle 7—40096
actin system and the rheology of peripheral cytoplasm 7—65787
albumen, human, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7—59916
albumin solution, struct. determ. by FTIR 7—54471
alcohol dehydrogenase, liver, Cu substituted, ligand and coenzyme effects, resonance Raman spectra 7—62548
allophycocyanin, energy transfer, bilin transition dipole moment orientation, fluoresc. polarisation and absorpt. 7—40100
antibody/influenza virus neuraminidase complex, 3D struct. obs. 7—65693
aortic valve tissues, relative vols. of struct. components rel. to biochem. components 7—34182
aperiodic, electronic struct., ab initio calcs. 7—23273
ATPase-Ca^{2+} interactions in sarcoplasmic reticulum, fluoresc. energy transfer as an indicator 7—59913
azurin, g-values, EPR spectra, temp. depend. 7—57098
azurin, metal coord. sphere, changes rel. to pH, oxidation/reduction and metal substitution 7—65687
bacteria, pathogenic, ultrarapid differentiation and identification using FTIR techniques 7—54835
bacteriorhodopsin, cryst., radiation-sensitive specimens, high resolution image quality achieved in electron diffr. pattern 7—47302
bacteriorhodopsin, location of chem. modified lysine 41 in struct. by neutron diffr. 7—23295
bacteriorhodopsin appl. in detection of small US vibrations by dynamic holographic method 7—57279
bacteriorhodopsin in polymer matrices, photochemical activity rel. to hydration 7—8518

proteins continued
- bacteriorhodopsin intermediates, ps time-resolved resonance Raman spectroscopy 7−47006
- bacteriorhodopsin M_{412} intermediate, electron diffr. anal. 7−28463
- bacteriorhodopsin model membranes, kinetic anal. of displacement currents 7−28475
- bacteriorhodopsin-biochrome films, reversible media for optical recording 7−57495
- basic pancreatic trypsin inhibitor, amino acid spin systems, MQF 2D correlated NMR spectro anal. 7−25543
- beef liver catalase, refined struct. 7−17938
- biological coal beneficiation micro-organisms 7−65387
- biopolymer conformation determination using NMR, CONFOR graphics program 7−54455
- book, annual review of biophysics and biophysical chemistry 7−30
- bovine carbonic anhydrase B, rotational diffusion, fluoresc. correl. spectrosc. 7−15755
- bovine serum albumin, photoinduced ionisation by holographic relax. method 7−14046
- bovine serum albumin- lithium dodecyl sulphate complexes, struct. and fractal dimension 7−40093
- C-Phycocyanin from Synechococcus 6301, ps energy transfer kinetics and time-resolved fluoresc. spectra 7−54461
- carbonylhemoglobin, pH dependent XANES by fast dispersive spectroscopy 7−65708
- carboxylate-imidazolium diad in Streptomyces Griseus protease A, electrostatic environment 7−59936
- casein gel, effect of gelation time on wetting by water 7−39927
- chlorophyll a/b-protein complex II, light-harvesting, of higher plants, review 7−59951
- chlorophyll-protein complex II, light-harvesting, long-wavelength fluoresc. emission 7−59933
- chloroplast matrix, pea, protein-synthesising apparatus, light quality effect, sedimentary props. 7−59952
- chymotrypsinogen A-Al^{3+}, interactions, Raman spectra investig. of conform. changes 7−57071
- collagen, fibrillar struct., X-ray diffr., zero layer line calc. 7−8483
- collagen, tendon, specimen length rel. to tensile failure props. 7−34180
- collagen alignment in normal ligaments, directional filtering for quantification 7−8786
- Crambin, pot. energy minimisation calcs. 7−34103
- cro protein-pseudo O_R3 complex, studies on crystn. 7−23290
- crystal growth, conf., Stanford, CA, USA (Aug. 1985) 7−18478
- crystal growth, convective diffusion in parent soln. 7−23287
- crystal growth, feasibility of mapping soln. props. 7−23284
- crystal growth, preliminary investigations using the Space Shuttle 7−23286
- crystal growth, the future 7−23274
- crystal growth from soln., solvent role, protein appl. 7−21142
- γ-crystallin IIIb, 3D model, construction from electron density maps using machine graphics 7−23301
- crystallisation, role of purification 7−23277
- crystallography, neutron, data-collection facility equipped with linear detector 7−14168
- crystallography, restrained least-squares procedure using Numerix MARS-432 array processor 7−34105
- crystallography, static and time-resolved, real-time reduction of area detector data by hardware 7−14170
- crystallography with synchrotron X-radiation source, electronic area detector data reduction system 7−14167
- cytochrome c, binding to lipid domains in arrays of mitochondrial outer membrane channels 7−59914
- cytochrome c, nonradiative decay, absorpt. and reson. light scatt. 7−62440
- cytochrome c, surface-enhanced reson. Raman spectrosc., 77-295K 7−28469
- cytochrome c′, crystal structure analysis by multiwavelength X-ray diffr. 7−34104
- cytochrome c and b_2 cores in oxidised and reduced states, EXAFS and XANES obs. 7−65683
- cytochrome oxidase, redox-linked proton translocation: importance of gating electron flow 7−23316
- cytochrome oxidase, resonance Raman spectral isolation of a and a_3 chromophores 7−23305
- dehydrogenase catalysed redox reaction, equilibria, spectroscopic anal. *(German)* 7−54159
- deinococcus radiodurans, surface protein projected struct. determ. by cryomicroscopy 7−47003
- deoxy myoglobin, spectral broadening simulations 7−5799
- deoxyhaemoglobin S, solns. and gels, quasi-elastic laser light scatt. 7−28464
- dipeptides in structured regions of globular proteins, maps of preferential conformational state 7−28451
- direct and remote connectivities in phase-sensitive double quantum spectra 7−10791
- disulphide bond, S-S dihedral angle, ab initio SCF MO calcs. 7−15504
- DNA-Eco RI endonuclease recognition complex, struct. at 3 Å resolution 7−65698
- dynamics and ligand binding, review 7−13950
- dynamics and reaction rates, usefulness of simple models 7−13951
- electronic structure and cond. props., calcs. 7−23296
- electrophoretic separation of macromolecules, two-dimensional multivariate data analysis 7−54440
- enzymatic reaction kinetics, rate const. calc. 7−59741
- enzyme subunit interactions theory, appl. to ATP-hydrolyzing enzymes 7−54438
- enzymes, oligomeric, aqueous solutions, small-angle X-ray scattering 7−17939
- enzymes, structure-activity relations, IR-ATR modulation spectroscopy obs. 7−54474
- enzymes of glutamic acid metabolism in rat liver and brain, influence of continuous and modulated laser radiation *(Russian)* 7−47164
- favin, 3D struct.: saccharide binding-cyclic permutation in leguminous lectins 7−65696
- ferredoxins, g strain, EPR study 7−25567
- ferric proteins, high-spin, relative spin conc. determ. using E/D-distrib. in EPR simulations 7−54462
- ferritin, Fe core: form., struct. and dissolution, X-ray absorpt. spectroscopy obs. 7−65685
- ferritin, first-order phase transition in dynamics 7−59918

proteins continued
- fibrin assembly, lateral aggregation and the role of the 2 pairs of fibrinopeptides 7−40091
- fibrinogen saturated adsorbed layer, variable angle reflectometry *(French)* 7−28459
- fibroin, skin, photoform. of $\dot{N}=CH_2$ and $H\dot{C}O$ radicals after mech. destruction at 77K 7−28460
- flavoprotein, scanning fluorometer for rapid assessment of fluoresc. changes in vivo 7−8778
- fluorescence quenching data analysis program 7−62438
- Fourier transform self-deconvolution for protein struct. determ. 7−54476
- fractons and fractal dimension self-avoiding walk model 7−48590
- FTIR determination of structure 7−54471
- FTIR spectra, water subtraction procedure 7−54834
- FTIR spectra in aqueous solution, automatic water subtraction procedure 7−54836
- gallstone and bezoar, FTIR spectra, protein bands and secondary struct. 7−54473
- gamma-resonance and X-ray investigations of slow motions 7−59927
- genetic coding logic 7−65723
- glass model of proteins 7−13953
- globular protein loops, secondary struct. category 7−65695
- globular proteins, struct. class, prediction from amino acid sequence 7−28450
- globule, charge transfer activation energy and heterogeneous medium reorganisation 7−28440
- glutamine synthetase, novel subunit-subunit interactions in struct., atomic model 7−8480
- glycogen debranching enzyme crysts., improvement of diffr. limit and useful X-ray lifetime 7−23308
- glycoprotein, proline-rich, from human parotid saliva, NMR and computer-simulated struct. anals. 7−59922
- haeme enzymes and model compounds, EXAFS study of active intermediates 7−65684
- haeme proteins, ligand binding and electron transfer rates, spin-boson models 7−13952
- haeme proteins, long-range electron transfer 7−8482
- haemocyanin molecule assembly product, electron microscopic images reconstitution 7−60138
- haemoglobin, haeme pockets, porphyrin dynamics, fluoresc. polarisation meas. 7−62437
- haemoglobin, human, cooperative free energies for nested allosteric models 7−23272
- haemoglobin, inverse Faraday effect, mag. reson. Raman activity 7−65700
- haemoglobin, rabbit, EM wave effects, Mossbauer spectra studies 7−13964
- haemoglobin, structural and functional aspects of Bohr effect *(Rumanian)* 7−17943
- haemoproteins and Fe porphyrins, ps relax. 7−34113
- heat shock proteins rel. to thermoinduced radioresistance in E. coli cells *(Russian)* 7−13969
- α-helical proteins, dynamical struct., vibron solitons description 7−47002
- heme metalloporphyrins, electronic struct. 7−54453
- hemoglobin A, Cu and Ni reconstituted, metal ion coordination 7−54464
- hevein, protein from latex of rubber tree, crystn. studies 7−23289
- horseradish peroxidase, struct. charactn. of high valent intermediates, EXAFS and XANES obs. 7−65682
- immunoglobulin A from normal humans and myeloma patients, orientation and kinetics of surface denaturing 7−28442
- immunoglobulins and lymphocyte subclasses in adults receiving radiation treatment in infancy for thymic enlargement 7−18032
- implanted cardiostimulators, polymeric insulation degradation *(Czech)* 7−23487
- inorganic and protein crystal growth—similarities and differences 7−23283
- interleukin-2, human recombinant, crystn. 7−65679
- interstitial retinol-binding protein, bovine, isolation and sequence anal. of cDNA clones 7−17983
- kanamycin nucleotidyltransferase, cumulative effect of intragenic amino-acid replacementson the thermostability of a protein 7−8487
- labelled, 2D ^1H NMR investig. using half-filters and ^{15}N labelling 7−48808
- laccase, quantitative Cu X-ray absorpt. edge studies 7−65705
- β-lactoglobulin, struct. and similarity to plasma retinal-binding protein 7−34108
- large scale fluctuations, possible model 7−28441
- lecithin, myelin figures, morphology, growth behaviour 7−3750
- lipopolysaccharide-protein complex of Yersinia pseudotuberculosis in aq. solns., light scatt. obs. 7−54437
- lipoproteins, surface charge determ. and its changes on peroxidation of lipids 7−40087
- lipoxygenase systems after ionising irrad. as a mediatory function of mol. factors *(Russian)* 7−14051
- liver alcohol dehydrogenase, horse, EXAFS investigation of struct. site 7−65704
- lysozyme, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7−59916
- lysozyme, growth kinetics of tetragonal crysts. 7−23281
- lysozyme, internal motions, influence of inhibitor binding 7−8477
- lysozyme as a model for protein crystn., cryst. growth studies 7−23280
- lysozyme crystals, mechanisms of nucleation and growth 7−23275
- lysozyme crystals, mol. dynamics, X-ray diffuse scatt. obs. 7−59921
- lysozyme crystals, X-ray diffr. data collection and processing, high press. study 7−3944
- malic dehydrogenase, aspects of thermal inactivation 7−54478
- mammalian ferritin, binding of Fe^{2+} 7−59917
- membrane protein crystals, growth and charactn. 7−23288
- membranes, lipid/protein interaction, Fourier transform IR studies 7−54498
- membranes, powder samples, label positions, determ. by neutron and anomalous X-ray diffr. 7−3755
- mesophyll plastid, maize, greening under extreme low-light intensity 7−59954
- myoglobin, direct and remote connectivities in phase-sensitive double quantum spectra 7−10791
- myoglobin, haeme pockets, porphyrin dynamics, fluoresc. polarisation meas. 7−62437
- myoglobin, sperm whale, equilib. heme orientation, nucl. Overhauser effect 7−13960

proteins continued
- myoglobin, sperm whale, H_2O soln., homonuclear Overhauser effect obs. 7—17944
- myoglobin, thermal spin equilib., high-resolution XANES study 7—65702
- myoglobin-facilitated diffusion of O_2, anoxia reduction 7—28484
- myosin heads crosslinked to actin, ATP induced μs rot. motions 7—28443
- myosin helix-coil transitions, possible role in the microscopic mechanism of muscle contraction 7—59923
- myosin in glycerinated muscle fibres, orientation of spin-labelled nucleotides 7—59925
- nuclear protein content and cell progression kinetics following X-irrad. 7—40225
- nuclear protein following heat shock: protein removalkinetics and cell cycle rearrangements 7—8522
- nucleoids, restoration of hyperthermia-associated protein to DNA ratio 7—65720
- ovotransferrin, chicken, Fe binding-sites, EXAFS and XANES obs. 7—65688
- pancreatic trypsin inhibitor, bovine, low freq. motion, inelastic neutron scatt. 7—17937
- periodic polypeptides, band struct. ab initio HF cryst. orbital calcs. 7—23298
- phosphoglucomutase, crystn. at high salt conc., catalytic effect of polyethylene glycol 7—23278
- photoformation of $\dot{N}=CH_2$ and $H\dot{C}O$ radicals after UV irrad. at 77K 7—28461
- plastocyanin, g-values, EPR spectra, temp. depend. 7—57098
- plastocyanin, quantitative Cu X-ray absorpt. edge studies 7—65705
- poly-L-lysine, deuterated, Fourier transform vibr. circular dichroism in amide I bands 7—54475
- primary structure, universal regularities: preference in bonding and periodicity 7—59928
- proteases, method for enhancing stability 7—47012
- proteins, conformational change mechanisms 7—54457
- rhodopsin, catalysis of light-depend. nucleotide exchange at photoreceptor membrane *(German)* 7—8495
- rhodopsin molecules in disc membrane of frog rod outer segments, 3D electron microscopical investigation 7—65690
- rhodopsin refolding during Meta II decay, Fourier transform IR difference spectroscopy obs. 7—59926
- ribonuclease, FTIR obs. of folding 7—54470
- ribonuclease, guanyl-specific, spatial structure studies 7—46999
- D-ribulose-1,5-bisphosphate carboxylase/oxygenase from Alcaligenes eutrophus H16, struct. obs. 7—65691
- rubredoxin thin microcrystal, electron diffr. data, elastic bend distortion effects 7—13956
- selenoproteins in bovine kidneys, anal. using gel chromatography and neutron activation 7—34363
- serum albumin, human, effect of hydration on mol.-dynamic props. in low temp. region 7—54436
- serum albumin flexibility, spin label study 7—28449
- serum albumin solutions, bovine, US absorption in freq. range 60 to 160 kHz 7—47154
- sickle cell haemoglobin aggregates, polymorphism: struct. basis for limited radial growth 7—65697
- single crystal growth under microgravity 7—23285
- soluble proteins, effects of neutral detergents on crystn. 7—23276
- solutions, phase changes during elongational flow 7—51237
- spin-labelled proteins, meas. of rot. mol. motion by time-resolved saturation transfer EPR 7—40089
- stability and struct., rel. to specific contacts, harmonic system perturbation theory 7—59924
- stellacyanin, metal coord. sphere, changes rel. to pH, oxidation/reduction and metal substitution 7—65687
- structural analysis, NMR meas. 7—54452
- structure, knowledge-based prediction and novel mols. design 7—65692
- structure, restrained least-squares refinement, incorporation of fast Fourier transforms 7—54451
- structure prediction using databases 7—54456
- structure refinements, model-fitting procedure incorporating the double-null technique 7—54450
- structure-spectra correlations, nonaqueous solvent effects using FTIR and ATR flow cell 7—54472
- structurized media, diffusion, theory 7—17965
- superoxide dismutase, EXAFS and XANES obs. 7—65681
- T4 lysozyme, ^1H amide resonance assignment, ^{13}C, ^{15}N DNMR spectra anal. 7—25572
- temperature perturbation differential spectra, deprotonation of tyrosine residues as possible cause of longwave max. 7—54460
- thermo-kinetic considerations for cryst. growth of complex mols. from soln. 7—23282
- three-dimensional protein struct., amino acid residue changes, mol. evolution *(Japanese)* 7—13955
- transferrin, human, N-terminal fragment containing a single Fe binding site, EXAFS obs. 7—65707
- trypsin pancreatic inhibitor, dynamics, hydration effect, Mossbauer elastic scatt. fraction 7—59916
- trypsin-modified elongation factor from E. coli, effect of chem. impurities in polyethylene glycol on macromol. crystn. 7—23279
- tryptophan dynamics in proteins, single-photon laser fluoresc. studies 7—23304
- tyronyl-tRNA synthetase mutant with enhanced catalytic props., struct. obs. 7—65694
- ultrafiltration, membrane-solute interactions effects on pure solvent transfer 7—54177
- variant surface glycoproteins of Trypanosoma brucei, 6 Å resolution X-ray structs. 7—47000
- Cu-albumin complex, local struct., EPR and EXAFS obs. 7—65689
- H_2O, in biological systems, protein dynamics and NMR relax. time 7—25555
- ^1H-^{13}C resonance coupling, selective excitation, hetero COSY and RELAY expts. 7—28467
- VFe protein of V nitrogenase of Azotobacter chroococcum, V K-edge X-ray absorpt. spectrum 7—54467
- Zn enzymes, metal coordination, EXAFS obs. 7—65686

proton absorption
- No entries

proton accelerators
- *see also cosmotrons*
- 40 MeV proton linear operation *(Japanese)* 7—19563

proton accelerators continued
- Applied-B ion diode expts. on Particle Beam Fusion Accelerator-I 7—10310
- beam-beam interactions in high energy pp and $\bar{p}$p colliders, SSC implications 7—815
- compact 2.86 GHz ECR ion source *(Japanese)* 7—19600
- EHF, antiproton physics 7—49752
- EHF, proton synchrotron, conceptual design 7—49751
- European Hadron Facility, conference, Maine, Germany (March 1986) 7—48154
- European Hadron Facility project, design, research program 7—62150
- focusing mechanism in the pulselac CU accelerator 7—62112
- frequency control of KEK-PS new 40 MeV linac *(Japanese)* 7—19574
- Harwell-van de Graaff accelerator, improvements, beam brightness and energy spread 7—36339
- high energy accelerators, estimation of radiation fields 7—813
- high energy EM processes, energy loss and ang. characts., SSC design appl. 7—5504
- high energy proton storage rings, dynamic aperture problems, SSC appl. 7—816
- high intensity accelerator, precision expts. 7—49753
- high intensity proton synchrotrons 7—30786
- history of proton linear accelerators 7—62106
- IHQ linac, development and characts. *(Japanese)* 7—19577
- KEK 40 MeV proton linac, design and RF tuning 7—25270
- laser-controlled collective ion accelerator 7—49745
- linear, filtering of transverse phase space, w.r.t. space charge and oscillation coupling 7—10313
- longitudinal instability threshold of bunched beams inproton synchrotrons 7—5503
- magnetic modulator for proton storage ring, design and anal. 7—30817
- multiprocessor system for parallel proton tracking 7—19591
- postacceleration characts. of the TIT 3.4 MeV/u ^1H booster *(Japanese)* 7—19576
- RF tuning of the KEK 40 MeV proton linac *(Japanese)* 7—19602
- RFQ linac TALL, proton beam test 7—19571
- RFQ proton linac design *(Japanese)* 7—19572
- single gap debuncher cavity for the 40 MeV proton linac *(Japanese)* 7—19615
- single pulse RFQ injector for high pulse current proton accelerators 7—62131
- TRIUMF kaon factory proton beam production proposal, physics program, design status 7—62149
- $\bar{p}$ acceleration through multiple spin resonances using spin transfer matrix 7—5500
- H^-, D^- vol. prod. ion source by sheet plasma, proton accelerator and thermonuclear fusion research applications *(Japanese)* 7—5511

proton affinity
- acid-base equilibr. in soln., thermodynamic props., SCF theory 7—54156
- aliphatic amines, proton affinities anal. using Kitaura-Morokuma scheme and MINDO/3 method 7—62286
- alkali metal monohydroxides, high temp. photoelectron spectroscopy, ab initio MO calcs. 7—50251
- aqueous soln., free energies of hydration, ionisation pots., electron affinities 7—65292
- carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7—31093
- N-ethyl carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7—31093
- flavins, mol. geometry and REDOX props., MINDO/3 calcs. 7—56976
- hexamethylbenzene, proton transfer, high press. mass spectroscopy 7—54083
- hydrates, solid, mol. stretching freq. versus H bond distance correlation anal. 7—21370
- mesitylene, proton transfer, high press. mass spectroscopy 7—54083
- methyl fluoride, proton bound dimer, hydrogen bond energy determ. gas-phase mass spectra anal. 7—28365
- methyl fluoride clusters, photodissoc., photoionisation efficiency curves, appearance pots. 7—50435
- molecules, neutral and anionic, proton affinities, ab initio calcs., role in ion-mol. reactions 7—5590
- pentamethylbenzene, proton transfer, high press. mass spectroscopy 7—54083
- 1,2,3,5-tetramethylbenzene, proton transfer, high press. mass spectroscopy 7—54083
- BO_4^- anion clusters, hard basicity 7—25402
- HO_2^+, electronic struct., MRD-CI calcs. 7—10450
- H_2S, pot. energy surfaces, spectroscopic props., ab initio CEPA calcs. 7—19686
- HXCHY where $X,Y=CH_2$, NH and O, 1,3 shift, SCF and CI study 7—10448
- N_2O, protonation site and energies, N_2OH^+ struct. ab initio MO calcs., SCF calcs., CI calcs. 7—15480
- N_2OH^+ isomers, struct. and energy levels, ab initio MO, SCF and CI calcs. 7—15481
- SiC_2, protonated isomers, struct. and proton affinity, ab initio HF MO calcs. 7—25384

proton angular distribution
- *see also proton spectra*
- $^{27}Al(^{16}O,X)$, coincidence meas. of light particles and evaporation residues 7—61906
- $^{12}C(\pi^+,\pi^-p)$, 250 MeV, proton angular distn. meas. 7—42075
- $^{48}Ca(\pi^+,\pi^-p)$, 250 MeV, proton angular distn. meas. 7—42075
- $^2H(\gamma,pn)$, nucleon angular distn., polarization meas., isolation of EI-MI interference contributions 7—56664
- $^4H_\Lambda \to {}^3H+p\pi^-$, energy spectra, angular correlation calcs. 7—56635
- $^4H_\Lambda \to {}^3He \to n\pi^-$, energy spectra, angular correlation calcs. 7—56635
- $^{58}Ni(n,p)$, 17.3 MeV, giant dipole resonance excitation, p ang. distribs. 7—41962

proton beam effects *see proton effects*

proton belt *see radiation belts*

proton decay
- baryon number nonconservation in GUTs 7—56547
- baryon-number nonconservation in superstring models 7—453
- $E_8 \times E_8$ superstring theory, extra U(1) phenomenology, proton stability constraints 7—41688
- $E_8 \times E'_8$ superstring theory, p lifetime constraints 7—41686
- experimental review of nucleon decay 7—56546
- GUTs and SUSY GUTs, proton decay status, SU(5) model, lifetimes 7—30220

proton decay continued
- nonrelativistic quark model 7−61668
- scalar lattice QCD, hadron static props., form factors, charge radii, lepton widths 7−49080
- searches for proton decay 7−35865
- Soudan 2 nucleon decay experiment, status 7−36428
- supersymmetric inflationary cosmology in supergravity framework 7−48514
- N decay in E_6 model 7−56474
- $\nu_\mu d \to KX$, 1-5 GeV, nucleon decay search implications 7−19116
- $p \to l^+ l^- \nu + meson^+$, superstring models, baryon and lepton number violation 7−35817
- $p \to \pi^0 e^+$, lattice QCD Monte Carlo simulations 7−35763

proton detection and measurement
- antiproton capture in Penning trap from keV source 7−25285
- BGO, energy resolutions for p and α 7−5557
- CR39 proton detector in neutron dosimeter, etching times 7−829
- CR-39, automated image anal. of α and p etched tracks 7−30880
- CR-39, electrochemically etched, proton response 7−42416
- CR-39, study of electrochemically etched α and p tracks as function of energy 7−30869
- fast neutron spectrometry based on proton detection in CR-39 detector 7−42407
- LR 115 track detector, neutron dosimetry and proton detection 7−30721
- NE104 and NE110 aged large vol. scintillators, response to fast n, p and e 7−5538
- neutron dosimetry system based on the chemical etch of CR-39 7−42411
- proton beams angle and energy characts. determ., laser method 7−36368
- relativistic proton dosimetry with SSNTDs *(Czech)* 7−62094
- TFTR, 14.7 MeV proton emission meas. 7−11730
- thermoluminescent detectors, relative light conversion factors for high energy protons 7−25261
- CsI:Tl, energy resolutions for p and α 7−5557
- CsI(Tl) scintillator with photodiode readout, response to light particles and heavy ions 7−25312
- a-Si:H films, depth profiling of constituents and impurities, elastic proton scatt. 7−45044

proton-deuteron interactions
- *see also proton-deuteron scattering*
- $dp \to ppn$, 3.3 GeV/c, enhancements in two-proton invariant mass distrib. 7−49179
- $\bar{p}d \to {}^3He\pi^0$, 733 MeV, charge independence test 7−5113
- $\bar{p}d \to K^\circ X$, low-energy annihilation, cross section meas. 7−15169
- $\bar{p}d \to \Lambda X$, low-energy annihilation, cross section meas. 7−15169
- $\bar{p}d \to \pi^- \pi^0 p$, charged π spectra and evidence for $\bar{p}N$ bound states 7−24903
- $\bar{p}d \to \pi^- \pi^+ n$, charged π spectra and evidence for $\bar{p}N$ bound states 7−24903
- $\bar{p}d \to t\pi^+$, 733 MeV, charge independence test 7−5113

proton-deuteron scattering
- *see also proton-deuteron interactions*
- pd elastic scattering, anal. of three-body interactions using spin observable meas. 7−30280
- $\vec{d}p$ elastic scattering, backward angle T_{20} values and the ΔΔ deuteron wave fn. component 7−56567
- pd elastic scattering, polarized target double and triple spin correlation parameters 7−56569
- pd elastic scattering, relativistic spin effects and three-body forces 7−56568
- $pd \to pd$, elastic scatt., analysing powers, Faddeev calculation comparisons 7−61722
- pd scattering, low energy, Coulomb polarization effect on Coulomb modified scattering length 7−41829

proton effects
- alumina, polycrystalline, X-ray and proton irrad., elec. cond. studies 7−33014
- $(BEDT-TTF)_2I_3$, organic superconductor, critical temp., randomness effects 7−52882
- β-$(BEDT-TTF)_2I_3$, superconductivity, proton irrad. effects 7−45544
- Chinese hamster cells, modification by mesoporphyrin-IX derivatives of damage by He ions and protons *(Russian)* 7−14064
- Chinese hamster cells survival rel. to biological effectiveness of low energy protons 7−40221
- contaminated optical solar reflectors, simulated synchronous altitude environment effects 7−34040
- CR-39 detectors, proton response 7−30883
- CR-39 track detector, neutron, proton response, semi-empirical model 7−30886
- diamond, planar channelled protons, breakthrough angles 7−21308
- energy straggling of fast proton beams, energy and target atomic number dependences 7−2076
- fusion materials, gas diffusion and temperature dependence of bubble nucleation during irradiation 7−51874
- metals, bubble nucleation and growth under neutron and proton irrad., nonequilib. statistics 7−51848
- metals, He production and long-term activation by protons and deuterons, fusion reactor appl. 7−58371
- Nb_3Ir films, supercond. transition temp., effect of radiation induced disordering 7−45540
- neutron dosimeter, proton build-up calc. 7−65860
- polystyrene, nanosecond proton and He ion pulse radiolysis studies 7−21297
- proton beam deflection by bent Si cryst. 7−44632
- radiation effects in glasses 7−32518
- solar cells, microscopic defect structures and equivalent electron fluence concepts 7−23179
- spacecraft components, production of activation products by protons in low earth orbit 7−44631
- steel, austenitic stainless, Ti modified, void swelling and precipitation, aging effects 7−33685
- steel, ferritic stainless, 11 MeV proton irrad. behaviour 7−58369
- $(TMTSF)_2PF_6$, organic superconductor, critical temp., randomness effects 7−52882
- whole-body uniform irrad. with 1000 MeV protons, dose-rate contrib. to effect *(Russian)* 7−14067
- Ag, proton and ion irrad., self-interstitial atom interactions with defect clusters, elec. resist. meas. 7−58384
- Al and Al alloys, 800 MeV proton irrad., gas accumulation at grain boundaries 7−58361

proton effects continued
- Al-He system, He bubble form. by proton irrad., positron studies 7−44526
- Al-Li, quenched, ageing, light ion irrad., δ′phase form. and particle growth 7−26807
- Al-Mg-Si, high-purity, nucleation and growth of precipitates and the bubbles, effect of 600 MeV protons 7−58364
- AlGaAs/GaAs solar cells, proton irradiated, defect production 7−46936
- AlGaAs/GaAs/Ge multijunction solar cell, model for calc. of displacement damage by radiation 7−13878
- AlGaAs/GaAs/InGaAs multijunction solar cell, model for calc. of displacement damage by radiation 7−13878
- $Al_xGa_{1-x}As$ p-n junction solar cell radiation-induced defects obs. using DLTS 7−13875
- Al_2O_3, electrical props., radiation effects 7−52617
- Au thin foil, Rutherford backscatt., low energy background studies 7−3132
- Au-GaAs contacts, proton bombard., I-V characts. 7−7386
- C foils, beam-foil convoy electron double differential distribs. for proton irrad. 7−22408
- C foils, charge equilib. of swift H beams 7−22409
- CdS single crystals, cathodoluminescence, memory effect 7−22352
- Cu, single crystal, proton induced Kossel X-ray diffraction 7−53451
- Cu-Ni-Fe, irrad., stability of periodic decomp. struct. 7−58366
- Fe, alpha phase, high energy proton and alpha-particle irrad., radiation defects *(Russian)* 7−16645
- Fe films on insulators, H^+ bombardment, Mossbauer and adhesion study 7−32517
- Fe-Ni-Cr austenitic alloys, MC carbide dispersed, void swelling and precip. behaviour following proton irrad., dose depend. 7−58365
- GaAs, proton bombard., optoelectronic effects 7−21295
- GaAs, proton bombarded, H platelets, TEM obs. 7−12164
- GaAs solar cells, perform. and temp. dependencies of proton irradiated n-p and p-n cells 7−3702
- GaAs solar cells, sequential irradiation effects of electrons and protons 7−13877
- GaAs-GaAlAs fast MQW absorber for mode locking of semicond. lasers. 7−50655
- GaP, implanted with He ions and protons, microhardness rel. to damage density 7−51883
- Ge p-n junction solar cell radiation-induced defects obs. using DLTS 7−13875
- HeH(D) visible emission spectra obs. and rovibrational energy-level calcs. 7−42633
- InP solar cells, potential for use in space radiation environment 7−23181
- InP solar cells in space radiation environment, comparison with GaAs and Si cells 7−65484
- $In_{2-x}Sn_xO_{3-y}$ protective coatings for Galileo spacecraft, radiation testing 7−59647
- KBr, stable hole defect formation by ionizing radiation 7−63669
- KCl:H, F-centre accumulation during proton irradiation 7−46076
- LiF, electrification mechanism during cleaving 7−44621
- MgO, proton-irradiated, cross-stabilisation of Frenkel defects 7−44627
- Mo-H proton irradiated system, defect annealing, positron lifetime studies 7−38043
- Nb, radioactivation monitoring based on local activation by p,d,α 7−49726
- Ni-H proton irradiated system, defect annealing, positron lifetime studies 7−38043
- Ni-Si, ductility, influence of rad.-induced segregation 7−53798
- Si, defect states on the surface and in the bulk, H passivation 7−13665
- Si detectors, large area, properties and radiation stability 7−42333
- Si, planar channelled protons, breakthrough angles 7−21308
- Si, proton channelling, energy loss and straggling, inner shell electron collision calcs. 7−63699
- Si, proton-induced displacement damage, energy depend. 7−58355
- Si solar cells, perform. and temp. dependencies of proton irradiated n-p cells 7−3702
- Si solar cells, sequential irradiation effects of electrons and protons 7−13877
- Si vertical junction and planar solar cells, proton radiation damage 7−13885
- Si:Al, Mg transmutation doping by proton irrad. 7−38027
- a-Si:H,F solar cells, radiation hardness to 1 MeV protons 7−23180
- Si:H (100) proton bombarded surface, complex refractive index profile, ellipsometry study 7−22216
- a-Si:H solar cells, radiation damage by 12 MeV protons and annealing 7−13895
- Si:Li counterdoped n^+p solar cells, proton-irradiated, DLTS studies 7−8376
- a-SiGe:H,F solar cells, radiation hardness to 1 MeV protons 7−23180
- Ta, L-subshell ionis., proton deuteron and alpha impact induced, low-velocity effects 7−51879
- Ta, radioactivation monitoring based on local activation by p,d,α 7−49726
- W, electron and proton irrad., thermal annealing, positron annihilation studies 7−46214
- W, L-subshell ionis., proton deuteron and alpha impact induced, low-velocity effects 7−51879
- ZnSe:H, proton implanted, localised vibr. mode, IR transmission spectra 7−51981
- Zr, radioactivation monitoring based on local activation by p,d,α 7−49726

proton electric moment
- No entries

proton exchange *see ion exchange*

proton excited X-ray emission *see ion microprobe analysis*

proton induced X-ray emission *see ion microprobe analysis; X-ray chemical analysis*

proton interactions *see proton-deuteron interactions; proton-nucleus reactions; proton-proton interactions*

proton magnetic moment
- ampere reproduction from proton gyromag. ratio and quantum magneto resonance phenomena 7−61309
- gyromagnetic ratio meas. in terms of quantum magnetic flux 7−61687
- $\bar{p}$ magnetic moment determ., antiprotonic atom expts. 7−50404

proton magnetic resonance
- 2D ^1H NMR spectra, editing using X half-filters appl. to labelled proteins 7−48808
- 2D chemical shift correlation spectra, image anal., symm. rules 7−35559

proton magnetic resonance continued
N-acetyl-1-aminocyclohexanecarboxylic acid N′-methylamide, conformations, PMR and NOE studies 7−62424
N-acetylaspartate complexes with lanthanide cations, struct., ^{13}C NMR and PMR *(French)* 7−19883
acetylcarnitine, in D_2O, conform., Karplus equation and mol., mechanics calcs. 7−31076
acridine, dye mol. aggregations, high-resolution NMR, variational data processing methods 7−42647
adamantane, multiple quantum transitions magic angle spinning PMR 7−22150
alkyl nitrides, conformational kinetics calcs., gas and liquid phases, MR spectra 7−19896
alkyl nitrites gas and liquid phases, syn-anti conformer equilib., MR chem. shift study 7−19895
4-n-alkylbicyclo (2,2,2)-octan-1-carboxylic acids, spin-spin relax. 7−59121
aqueous solutions, 2D J-resolved PMR, elimination of H_2O reson. 7−48820
aqueous solutions, PMR, H_2O reson. elimination by spin-spin relax. 7−50176
ATP-transition and nontransition metal complexes, struct., PMR and IR spectra 7−8493
8-azabicyclo[3.2.1]octan-3-ones, derivatives, conform. study, ^1H and ^{13}C NMR spectra anal. 7−36647
aziridine, bond inversion rate determ., PMR line shape anal. 7−19892
β-(BEDT-TTF)$_2I_3$, electronic and struct. props., ^1H NMR meas. 7−53170
benzenes monosubstituted, H-bonded complexes with fluoroalkanol and fluoroalkyl ethers, ^1H NMR study 7−42651
benzyl chloride, ^1H NMR, internal rot. pot., long-range coupling consts. 7−19885
benzyllithium, structures, NMR investig. 7−10621
bicalicene, cyclic, electronic structure, SCF CI calcs., NMR and PMR 7−50185
β-bis(ethylenedithiolo)tetrathiofulvalene iodide, organic superconductor, ^2H spin-lattice relax., temp. depend. study 7−53171
blood and blood clots, paramag. effect of Fe on T_1 7−17949
dl-borneole, mol. reorientation dynamics, proton NMR study under hydrostatic press. 7−50175
bovine fibrinogen solns., proton spin-lattice relax. 7−34111
brain tumours, ^1H NMR spectra, human and rat obs. 7−47137
broadband decoupled zero-quantum coherence for NMR spectroscopy and imaging 7−9858
carnitine, in D_2O, conform., Karplus equation and mol., mechanics calcs. 7−31076
catenand, monoprotonated, mol. struct., X-ray and PMR study 7−63595
cellulose acetates, units distrib., NMR spectrosc. obs. *(Russian)* 7−15757
chalcogenide intercalation compounds with NH_3 guest species, NMR 7−53160
copolyamides, aromatic, multiunit models, PMR spectra *(Russian)* 7−20080
copolyester, liquid crystalline, molecular motion, NMR obs. 7−17228
decylammonium-D_2O, surfactant aggregates, correl. time determ., relax. meas. 7−25540
diazosesquibicyclo[2.2.2]octane, inner shell Marcus terms, MO calcs. 7−62258
dicarboxylic acids undergoing conformational transitions, ionisation equilibria, ^1H NMR 7−13757
dichloroacetic acid complex with substituted pyridines, solvent effects, IR and ^1H NMR spectra anal. 7−62365
diglycine nitrate, ferroelec. transition mechanism, mol. reorientation, ^{14}N and ^{17}O quadrupole coupling meas. 7−53245
dimethyl oxalate, solid, ^{13}C NMR, X-ray and neutron diffr., chemical shielding tensors 7−13041
dimethyl tin diacetate, solid-state and soln. struct., ^2H and ^3C NMR spectra study 7−25431
dimethyl tin diacetate hydrolyzate, solid-state and soln. struct., ^2H and ^3C NMR spectra study 7−25431
2,4-dinitro-6-diazophenol, and analogues, struct. investig. 7−57087
O,O′-dipheniioxydimethylsilane, internal rot., steric struct. influence, T_1 meas. 7−10629
ellipsoidal molecules, pure liq. phase, transport props., PMR obs. 7−38228
enamides, conjugated s-skew-forms, conform. anal., spectra data anal. 7−19894
estrones, long range H^+ coupling, chem. shift, ^1H NMR 7−19903
ethanol-d_3(d_4)(d_5), rot. correl. function, group struct. 7−15627
ethyl acetate-6-o-acetylmorphine adduct, PMR chem. shift charactn. 7−57084
extracellular water vols. in tissue, meas. by Gd modification of ^1H-NMR spin lattice relax. 7−18100
ferrocene, azaferrocene and ruthenocene, struct. phase transitions and mol. dynamics. ^1H NMR 7−13053
fibrin gels, proton spin-lattice relax. 7−34112
globoside, oligosaccharide headgroup, soln. conform. study, ^1H NMR spectral methods anal., pot. energy calcs. 7−25361
glycoprotein, proline-rich, from human parotid saliva, NMR and computer-simulated struct. anals. 7−59922
hemerythrin, binuclear Fe cluster, PMR probe investig. 7−50184
2,2,4,4,7,7-hexamethyl-2-sila-1,3-dioxepane, internal rot., steric struct. influence, T_1 meas. 7−10629
hexamethyldisilylchalcogenides, Raman, IR and H NMR spectral characts. 7−15615
L-iduronic acid, sulphated residue in heparins, conformer struct. and population study, ^1H NMR spectra anal., force field calcs. 7−25546
[IN-(2-l] furylidene)-β(z-furyl)serine methyl ester, diastereomeric forms, tautomeric equilib., solvent effects ^1H and ^{13}C NMR spectra 7−19893
lecithin, aq. soln., bilayer liposomes, radiation damage PMR relax. time determ. 7−34200
lyotropic nematic mesophase with benzenesulphonate solute, induced diamag. anisotropy sign reversal, PMR 7−21089
malonic acid, H dynamics, spin-lattice relax., ^1H NMR 7−59120
2,4-methanoproline, L-proline analogue in small peptides study, ^1H NMR and NOE spectra anal. 7−25545
methyl fluoride -^{13}C,nematic liq. cryst. soln., chem. shieldings and spin-spin coupling 7−5703
2-methylaziridine, bond inversion rate determ., PMR line shape anal. 7−19892
methyldichlorophosphine, struct., and orientation in mixed nematic liq. crystals, NMR spectra anal. 7−53165
monosubstituted ammonium compounds, ^1H NMR chemical shifts of solvent water 7−36648
multilayer ferromag. thin films, NMR freq. anisotropy *(Russian)* 7−45830
myoglobin, direct and remote connectivities in phase-sensitive double quantum spectra 7−10791
octaethylsilsesquioxane, mol. mobility and phase transitions 7−37917
oligomers, $\bar{DP}_n$ determ., PMR method 7−930
oligosaccharides, blood group A, conformation, NOE and ^1H NMR spectra 7−62423
organic systems, ^1H- and ^{13}C-NMR chemical shifts, elucidation of structures 7−50181
para-azoxy-anisole-d_2-4-4′-diacetoxy-2-2′-dimethyl azoxybenzene nematic mixture, phase diagram, component order parameters, D and proton NMR study 7−21086
photosynthetic membranes suspended in cryoprotective glycerol-H_2O mixture, proton relax. time meas. 7−34170
poly bis 2,2,2-trifluoroethoxy phosphazene, mol. motion, cryst.-mesophase transition, PMR spin echo obs. 7−17242
poly-p-phenylene sulphide: SO_3, electron motion, proton NMR T_1 studies 7−33289
poly-p-phenylene sulphide, SO_3-doped, mol. structure, ^1H NMR, ^{13}C CP/MAS NMR and IR studies 7−2939
trans-polyacetylene, neutral soliton diffusion, EPR, PMR meas. 7−64513
polyaniline and aniline oligomers, spectroscopic and elec. props. 7−64653
polydimethylsiloxanes, crosslinked, network struct. irregularity, PMR line shapes *(Russian)* 7−5803
polyethylene, low-density, amorphous phase, ^1H NMR meas. in temp. range 270 to 385K 7−37890
polyethylene oxide, aq. solns., dynamics, nucl. mag. relax. obs. 7−57194
polymers, molecular weight determination by NMR spectroscopy 7−50426
polypeptides, vibr. circular dichroism, 3_{10}-helix form., chain length depend., IR spectra, PMR 7−15633
potassium-laurate water, lyotropic liq. crystalline system, mol. motions, proton spin relax. study 7−64543
proteins, direct and remote connectivities in phase-sensitive double quantum spectra 7−10791
proteins, labelled, 2D ^1H NMR investig. using half-filters and ^{15}N labelling 7−48808
pulse sequence for in vivo ^1H NMR with surface coil 7−14166
pyridazine derivatives, synthesis and liq. crystalline phases, PMR, NMR and DTA studies 7−63456
short-chain molecules, liquid-phase, motion, ^{13}C and ^1H NMR investig. 7−15624
siloxane-silica network-like structs., mag. relax. PMR study 7−38960
single quantum J resolved spectra, zero-quantum coherences 7−9859
skeletal muscle, NMR relax. times, dependence on fibre type and diet, rabbit obs. 7−18003
sodium salicylate, in viscoelastic micelles, PMR, spin-spin splitting and relax. effects 7−53150
solvent suppression pulse sequence for biomolecule ^1H NMR spectroscopy 7−28788
1′-sucrose derivatives, intramol. H bonding, SIMPLE ^1H NMR spectrosc. 7−10620
susceptibility meas., PMR, X-ray and neutron diffr. 7−45244
T4 lysozyme, ^1H amide resonance assignment, ^{13}C, ^{15}N DNMR spectra anal. 7−25572
tetraglycidyl methylene dianiline, ^1H spectrum, FT 2D NMR obs. 7−19899
tetramethyl ammonium tetrachlorozincate, internal motions and phase transitions, PMR studies 7−2993
4,4,7,7-tetramethyldioxepane, internal rot., steric struct. influence, T_1 meas. 7−10629
4-thiacyclohexanones, 2,6-disubstituted, stereochemistry, ^1H and ^{13}C NMR 7−57096
thiophene, in liq. crysts., variable angle spinning ^1H NMR 7−929
tissue T_2 transverse relax. rate, effect of interpulse delay 7−18005
(TMTSF)$_2PF_6$, SDW characts., ^1H NMR anal. 7−45699
(TMTSF)$_2PF_6$(ClO_4), nesting vector, SDW amplitude and anisotropy 7−45125
transition metal-molecular H_2 complexes, characterisation by solid-state ^1H NMR 7−59116
tumour models, expt., ^1H-NMR relax. times and water compartmentalisation 7−17950
Tween 81-hexadecane-H_2O, props. in low-temp. region, struct., ^1H, ^2H and ^{13}C NMR 7−8318
two-dimensional, four-quadrant pure-phase representation, fully automated 7−24670
vanadocene, electronic struct. and ^{13}C and ^1H NMR temp. shifts 7−62412
N-vinylcarbazole, halogeno and nitro derivatives, struct., PMR, MNDO calcs. 7−933
water, molecular motion in small reversed micelles 7−59791
AlH_3, ^1H and ^{27}Al NMR investig. 7−27615
1-aminocyclopropane-1-carboxylic acid, chem. shifts, PMR 7−19902
C_2F, six-spin system, mol. diffusion of acetone, NMR 7−7598
$Cd(BrO_3)_2 . 2H_2O(D_2O)$, H bonding, crystal struct., ^1H and ^2D NMR anal. 7−22156
CeO_2, reduction by thermal treatment in vacuum or H_2 atmosphere, IR, PMR and ESR spectra 7−59756
Co complex, cobalt(3-amino-5-methyl isoxazole)$_2$dichlorine, mol. motion detect., PMR 7−31066
Co^{2+}-carboxypeptidase A, polarised single-crystal absorpt. spectra, NMR 7−17945
Cu complex, copper(3-amino-5-methyl isoxazole)$_2$dibromine, mol. motion detect., PMR 7−31066
Cu II complexes, interligand interaction, spectrosc. props. *(Japanese)* 7−57093
$CuSO_4.5D_2O$, indirect nucl. spin-spin interaction above chain crit. field 7−2948
$CuSO_4.5H_2O$, indirect nucl. spin-spin interaction above chain crit. field 7−2948
H_2O-DMSO, mol. dynamics, PMR relax. study 7−36651
$H_{0.33}TaS_2$, host lattice-intercalant strong interaction, proton mobility hysteresis, PMR study 7−53159
^1H- and ^{13}C-NMR spectra analysis, structure elucidation, computer assisted 7−50182
Mn-DNA binding modes, nuclear mag. relax. dispersion results 7−23271

proton magnetic resonance continued
$(NH_4)_2ZnCl_4$, internal motions and phase transitions, PMR studies 7−2993
$NaH(D)SeO_3$, neutron diffr., DMR investigation 7−21178
Na_2O-Al_2O_3, ^{1}H, ^{27}Al and ^{23}Na NMR studies 7−22148
Ni complex, Ni(nonamethylimidodiphosphoramide)$_3(ClO_4)_2$, stereochemically nonrigid, proton NMR study 7−25551
Ni complex, Ni(octamethylpyrophosphoramide)$_3(ClO_4)_2$, stereochemically nonrigid, proton NMR study 7−25551
Ni II complex, (salicylaldehyde)(acetylacetone)ethylenediimino nickel(II), mixed and non-mixed complexes, PMR 7−31075
β-PdH_x, spin polarisation torsional spectroscopy 7−33280
Pt complexes, binuclear with bis(dimethylphosphino)methane ligands, NMR study 7−13045
Ru complex, mixed-valence ion, class II, two-electron intervalence transfer 7−52544
a-Si:H, ^{29}Si and ^{1}H NMR spectra, peak position and line shape 7−2934
a-Si:H films, annealed, structural changes, PMR studies 7−7596
Sn complex, Sn (IV) meso-tetraphenylporphyrins spectrosc. cis-influences 7−50159
$Sr(BrO_3)_2.H_2O(D_2O)$, EFG parameters, H bonding, PMR, deuteron mag. reson. 7−27612
Ti complexes, mono- and bis-cyclopentadienyltitanium halides, wide line PMR investig. 7−5707
Ti-V-H alloys, struct., X-ray diffr. and ^{1}H and ^{51}V NMR studies 7−32364
$Zn(BrO_3)_2.6H_2O$, H bonding, PMR study 7−33277
$Zr_2PolD_{2\text{-}9}$, metallic glass, deuteron mag. resonance study 7−22159

proton magnetic resonance imaging (biomedical) *see biomedical NMR*

proton-nucleus reactions
for inelastic proton-nucleus scattering, see "proton-nucleus scattering"
see also neutron-proton interactions; proton-proton interactions; proton radiative capture
^{7}Li($\vec{p}$,π^-)^{8}B, E_p=200 MeV, cross section, analyzing power angular distrib. meas. 7−56677
antiproton physics, review 7−35894
conf., Copper Mountain, Colorado, USA (Feb. 1986) 7−4634
energetic photons at intermediate energies 7−49412
(p,n), nuclear level density determ. 7−41905
(p,p′), spin-isospin response in nuclei 7−56682
percolation description of nuclear fragmentation 7−5216
total cross sections below 1 GeV 7−24321
(p,d), anal. using singular integral eqns. 7−42019
(p,f), E_p=190 MeV, target nuclei Nb, Ag, La, Ce, Pr, Nd, Dy, fission mass distribs. 7−5304
(p,γX), rescaling of parton distribs. 7−61883
(p,K^+), subthreshold K^+ meson production, 800 to 1000 MeV 7−691
(p,l^+l^-X), l=lepton, rescaling of parton distribs. 7−61883
($\vec{p}$,$\vec{n}$), analysis of isovector excitations, comparisons with (p,n) 7−49391
(p,n), intermediate energies, microscopic anal. 7−49421
(p,n), spin-isospin excitations 7−49420
(p,n), universal Gamow-Teller quenching 7−49419
(p,n) reactions on A=92-122, thermonuclear reaction rates 7−34859
(p, pπ), 100 GeV, momentum distn. calcs., multiple-quark stripping 7−10150
($\vec{p}$,π^-), analysing power to give correct soln. for pion absorption on diprotons 7−61923
(p,π^+), relativistic stripping model anal. in Δ resonance region 7−49400
(p,t) excitations, anal. power through one- and two-step mechanisms 7−625
(p,X), 1 GeV, onset of multifragmentation dominance, A$\leq$160 target nuclei 7−49401
(p,X), 4.5 GeV/c/N, comparison with ^{12}C-Em 7−49439
($\bar{p}$,X), $E_{\bar{p}}$=0-600 MeV, exptl. review 7−61873
(p,X), energy spectra of fragments in statistical multifragmentation model 7−61878
(p,X), fragmentation reactions, site-percolation approach for mass and isotropic distribs. 7−49407
(p,X), intranuclear cascade model, energy loss and emission patterns 7−61879
(p,X), on light nuclei, two-stage knockout processes, t-matrix DWBA calcs. 7−41954
($\bar{p}$,X), X-mesons, baryons, quark-gluon phase transition and strangeness anal. 7−49390
(p,X), X=hadrons, inclusive process, multiquark configurations in nuclei 7−61882
$\bar{p}$-nucleus annihilation, two-nucleon mechanism, cross section, $\bar{p}$ atoms 7−61880
$\bar{p}NN \rightarrow Nn\pi$, two-nucleon mechanism 7−35898
^{107}Ag($\bar{p}$,X), 1.4 GeV/c, in AgBr, comparisons with ^{12}C-AgBr data 7−49437
^{107}Ag($\bar{p}$,X), 1.4 GeV/c in AgBr, antiproton annihilation, Koba-Neilsen-Olesen scaling 7−49438
Ag(p,X), 300 MeV, correlating fragment emission 7−19259
^{26}Al, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
^{27}Al($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
Al(p,X), light nucleus prod., coalescence model comparison 7−5237
^{40}Ar(p,2px), 1 GeV, cross section meas., obs. of low-lying dibaryon resonances 7−56680
^{197}Au(p,^{3}Heα), 72 MeV, comparison with stopped π^- induced reactions 7−24980
^{197}Au(p,f), ang. anisotropy and critical ang. momentum 7−42094
^{11}B(p, 3α), cross section meas., 140-500 keV *(Korean)* 7−30422
^{11}B(p,n)^{11}C, 14.3 MeV, isospin mixing, DWBA, Hauser-Feshbach anal. 7−19243
^{7}Be($\vec{p}$,$\vec{\Lambda}$X), 13, 18 GeV/c, polarization transfer meas. 7−30294
^{9}Be($\vec{p}$, $\pi^{\pm}$), ang. distrib. of differential cross section and analyzing power 7−5241
^{9}Be(p,X), 400 GeV/c, inclusive hadronic production cross section meas. 7−19256
^{9}Be(p,d), spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
Be(p,X), 300 MeV, correlating fragment emission 7−19259
Be(p,X), light nucleus prod., coalescence model comparison 7−5237
^{209}Bi(p,f), ang. anisotropy and critical ang. momentum 7−42094
^{79}Br($\bar{p}$,X), 1.4 GeV/c, in AgBr, comparisons with ^{12}C-AgBr data 7−49437
^{79}Br($\bar{p}$,X), 1.4 GeV/c in AgBr, antiproton annihilation, Koba-Neilsen-Olesen scaling 7−49438

proton-nucleus reactions continued
^{A}C($\vec{p}$,$\pi^{\pm}$), A=12,13 analysing power behaviour and isospin dependence of cross-sections 7−42006
^{12}C(p,^{3}Heα), 72 MeV, comparison with stopped π^- induced reactions 7−24980
^{12}C(p,$\mu^+\nu$X), cross section calcs. 7−42001
^{12}C($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
^{12}C(p,$\nu^+\nu$), cross section calcs. for energy 1060 to 1080 MeV 7−36001
^{13}C(p,d), spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
^{14}C(p,n), isovector effective interaction strengths, cross section meas. 7−19248
^{A}Ca($\vec{p}$,$\vec{n}$), 134 MeV, A=40,48, Gamow-Teller and spin-dipole strength, spin-flip 7−30407
^{40}Ca($\vec{p}$,2p), 200 MeV, analyzing powers, cross section calcs., DWIA anal. 7−19251
^{40}Ca(p,2p), 76.1, 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
^{42}Ca(p,n) threshold determ., ^{42}Sc beta decay energy anal. 7−49332
^{48}Ca(π^+,π^-p), 250 MeV, proton angular distn. meas. 7−42075
^{A}Cd(p,t), A=106,108,110,112,114,116, test for ground state intruder config. admixture 7−5245
^{59}Co(p,^{3}Heα), 72 MeV, comparison with stopped π^- induced reactions 7−24980
^{59}Co(p,X), 20-48 MeV, total cross sections, nuclear transparency, optical anal. 7−5232
^{65}Cu(p,n)^{65}Zn, competition effects in proton induced reactions 7−61871
^{69}Cu(p, X), 400 GeV/c, inclusive hadronic production cross section meas. 7−19256
^{69}Cu($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
Cu(p,X), light nucleus prod., coalescence model comparison 7−5237
^{A}Fe(p,X), A=54,56,57, E=22 7−5232
^{56}Fe (p,p′γ), ^{57}Co $d_{5/2}$ isobaric analogue resonance fragments, γ-decay schemes, M1 strength 7−35987
^{71}Ga(p,n), Gamow-Teller strength functions 7−56684
^{1}H(p,$e^+\nu$)^{2}H, stellar process, energy generation rates 7−10139
^{2}H($\vec{p}$,2pn), 14.1 MeV, three-body force effects 7−61888
^{2}H(p,2pn), 508 MeV, differential cross section meas. 7−24983
^{2}H(p,2pn), Fadeev calcs. 7−61884
^{2}H($\vec{p}$,$\vec{n}$)2p, K_y^{y} meas. at 0° 7−690
^{2}H($\vec{p}$,np), cross section and transverse polarization transfer at 160 MeV 7−42003
^{2}H(p,np)^{1}H, collinearity peak, comparison with Faddeev calcs. 7−61889
^{2}H(p,π^0)^{3}He, precision test of charge independence 7−36002
^{2}H($\vec{p}$,π^+)^{3}H, 1 GeV region, backward angles anal. power, large variations 7−30405
^{2}H(p,π^+)^{3}H, precision test of charge independence 7−36002
^{3}He(p,X)^{2}H, high resolution search for narrow dibaryons 7−5209
^{3}He(p,2p)^{2}H, knockout reactions, spectral function 7−61894
^{3}He(p,pd)^{1}H, knockout reactions, spectral function 7−61894
^{4}He(p,K^+), hypernucleus production cross section calcs., PWIA anal. 7−10118
^{4}He(p,X), 8.6 GeV/c, fragmentation, momentum characts. of spectators, binding energy 7−36012
^{4}He(p,X), fast deuteron prod. study 7−10140
^{4}He(p,X), quasioptical cascade model for fragmentation channel at intermediate energy 7−35986
^{180}Hf(p,n)^{180}Ta, reaction cross section *(Russian)* 7−19257
^{127}I(p,X), excitation function and yields for Xe radioisotope prod. 7−28694
La(p, X), 800 GeV, deep spallation and fragmentation products, ang. distribs. systematics 7−30427
^{7}Li(p,d), spectroscopic factors and nuclear vertex constants, DWBA calcs. 7−56603
^{7}Li(p,d)^{4}He contributions to ^{7}Li(^{3}He,$\alpha\alpha$)^{2}H, low energies 7−10156
^{7}Li($\vec{p}$,π^+)^{8}Li, E_p=200 MeV, cross section, analyzing power angular distrib. meas. 7−56677
Lu(p, X), 800 GeV, deep spallation and fragmentation products, ang. distribs. systematics 7−30427
^{24}Mg($\vec{p}$,^{3}He), 89.6 MeV, diff. cross section and anal. power ang. distribs. 7−628
^{24}Mg($\vec{p}$,d), 30-40 MeV, l=0 transition, anal. powers and diff. cross sections 7−623
^{26}Mg(p,n), total cross section meas. 7−41998
^{53}Mn, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
^{A}Mo ($\bar{p}$,X), A=95,98, absolute yields of residual nuclei 7−19249
^{15}N($\vec{p}$,^{3}He)^{13}C, analyzing power meas., comparisons with ^{13}C(^{3}He,$\vec{p}$)^{15}N polarization data 7−5251
^{15}N(p,$\alpha\gamma$) resonance reaction for surface depth profiling, energy and width 7−59812
^{22}Na, production rate by cosmic ray protons, Monte Carlo calcs. 7−34842
^{23}Na(p, α)^{20}Ne, below 500 keV, resonance energies, J^{π}, stellar reaction *(Korean)* 7−30423
^{23}Na($\vec{p}$,α_0)^{20}Ne, analysing power meas. 7−61875
^{144}Nd(p,α)^{141}Pr, 25 MeV, level excitation, α-particle distribs., knock-on contributions 7−10154
^{20}Ne($\bar{p}$,ΛK_s^0), strange particle production expt. 7−49392
^{20}Ne(p,X), multiplicity of γ-rays and π^0, intranuclear cascade model comparison 7−42010
^{22}Ne($\vec{p}$, α), 5 MeV, $^{11}\vec{F}$ parity nonconserving asymmetry in decay transitions 7−61794
^{58}Ni($\vec{p}$,p′X), q-scaling of continuum analysing powers 7−680
^{58}Ni($\vec{p}$,$\vec{p}$′X), spin excitations in continuum by polarisation transfer 7−681
^{16}O(p,2p), 101.3 MeV, factorised DWIA test, spectroscopic factors, optical pots. 7−36011
^{16}O($\vec{p}$,2p), 200 MeV, analyzing powers, cross section calcs., DWIA anal. 7−19251
^{16}O($\vec{p}$,2p)^{15}N, cross-sections and analysing powers 7−684
^{16}O(p,π^+)$^{17}O_{g.s.}$, relativistic stripping model anal. in Δ resonance region 7−49400
(p,K^+), subthreshold K^+ meson production, cascade mechanism 7−692
(p,n), on light nuclei, two-stage knockout processes, t-matrix DWBA calcs. 7−41954
(p,X), backward p prod. at low and intermediate energy 7−41999
(p,X), very hot nuclei, decay processes, canonical Metropolis sampling of multifragmentation 7−61876
^{206}Pb(p,f), ang. anisotropy and critical ang. momentum 7−42094
^{208}Pb, gamow-Teller sum rules and ground-state correlations for (n,p) and (p,n) 7−49406

proton-nucleus reactions continued
^{208}Pb($\bar{p}$,$\bar{n}$), 550 MeV/c, inclusive $\bar{n}$ spectra meas. 7−19241
^{208}Pb(p,t), 22 MeV, j-shell depend. signature of anal. power for 3^+ excitations 7−626
^{208}Pb($\vec{p}$,t), anal. powers and cross sections for unnatural parity transitions 7−624
Pb(p,X), spallation, sensitivity studies of n multiplicity spectrum 7−30416
^{105}Pd(p,nγ), 4.2-5.5 MeV, ^{105}Ag excited states, lifetimes meas. 7−30374
^{185}Re(p,f), ang. anisotropy and critical ang. momentum 7−42094
^{45}Sc(p,γX), 2-4 MeV, gamma-ray ang. distribs., low-lying levels anal. 7−19168
^{28}Si($\vec{p}$,^{3}He), 89.6 MeV, diff. cross section and anal. power ang. distribs. 7−628
^{A}Sn(p,n), 24.5 MeV, A=116, 124, optical and isospin-coupling pots., microscopic anal. *(Chinese)* 7−5234
^{119}Sn(p,d), nuclear response probing with pick-up reactions, giant pairing resonance 7−41964
^{120}Sn(p,t), nuclear response probing with pick-up reactions, giant pairing resonance 7−41964
Ta(p,X), light nucleus prod., coalescence model comparison 7−5237
Tb(p, X), 800 GeV, deep spallation and fragmentation products, ang. distribs. systematics 7−30427
^{205}Tl(p,f), ang. anisotropy and critical ang. momentum 7−42094
^{235}U(p,f), 2-4 MeV, sub-Coulomb cross section meas. using SSNTD 7−19308
^{238}U (p,X), fragment mass yield, comparison with ^{238}U* statistical decay 7−30432
^{238}U(p,X), decay of very hot nuclei, Microcanonical Metropolis sampling of multifragmentation 7−61877
^{238}U($\bar{p}$,X), heavy hypernuclei production 7−49284
^{238}U($\bar{p}$,f), delayed fission observation, non-mesonic hypernuclear decay interpretation 7−42082
U(p,f), 19 MeV, A=110-118 fission product obs. 7−49487
^{51}V(p,X), 20-48 MeV, total cross sections, nuclear transparency, optical anal. 7−5232
^{182}W(p,f), ang. anisotropy and critical ang. momentum 7−42094
^{184}W(p, X), 400 GeV/c, inclusive hadronic production cross section meas. 7−19256
W(p,X), 1 GeV, nuclide cross-sections from proton spallation, calc. 7−56675
^{124}Xe(p,X)^{123}I, statistical calcs. for radioiodine prod. optimization 7−54744
Xe(p,X), 1-28 GeV/c, fragment emission 7−19260
Xe(p,X), fragment emission at near threshold energies 7−5247
^{90}Zr(p,n), 200 MeV, Gamow-Teller strength, Δ-isobar quenching effects 7−49422
^{90}Zr(p,n), 200 MeV/nucleon, collective mode excitations, DWIA anal. 7−56687
^{91}Zr(p,d), matrix element determ. allowing for l_n mixing 7−61897

proton-nucleus scattering
see also neutron-proton scattering; proton-proton scattering
^{25}Mg(p,p′) resonances for E_p=0.31-1.84 MeV 7−19246
($\bar{p}$,$\bar{p}$), 300, 600 MeV/c LEAR expts., status 7−49389
(p,p), Dirac and Schrodinger approach, scatt. model 7−41988
($\vec{p}$,$\vec{p}$), elastic scatt., spin rotation parameter meas. 7−664
($\bar{p}$, $\bar{p}$), low energy scatt., model independent versus model dependent optical pots. 7−712
(p,p), proton strength function meas. 7−49416
(p,p), radial sensitivity, direct reaction modelling, medium corrections 7−613
($\vec{p}$,p), recoil corrections to coordinate space Dirac eqn. 7−42005
($\bar{p}$,$\bar{p}$), relativistic impulse approx. anal. at intermediate energies 7−688
(p,p), strong interaction effects in parity violation 7−49426
(p,p), surface effects and the spin-isospin nuclear response function 7−30326
(p,p) reaction and total cross sections below 1 GeV 7−24321
(p,p), 800 MeV, transition densities from inelastic scatt., Glauber model calcs. 7−49395
($\vec{p}$,p^1) on A=152-192, γ-vibr. band, hexadecapole excitation, mass no. depend. 7−49202
(p,p′), 201 MeV, spin-isospin excitation 7−49418
(p,p′), Dirac distorted wave fn. approx. anal. 7−49398
($\vec{p}$,p′), hexadecapole moments of medium weight transitional nuclei 7−674
(p,p′), intermediate energy spectra, comparisons with (N,N′) surface response model anal. 7−19254
(p,p′), nuclear spin-isospin response fns., Fermi-RPA calc. 7−56683
(p,p′), on light nuclei, two-stage knockout processes, t-matrix DWBA calcs. 7−41954
($\vec{p}$,$\vec{p}$′), universal Gamow-Teller quenching 7−49419
$\bar{p}$-nucleus annihilation, two-nucleon mechanism, cross section, $\bar{p}$ atoms 7−61880
^{16}($\vec{p}$,p′)^{16}O, excitation of T=1 and T=0 0^- states 7−670
^{27}Al($\vec{p}$,$\vec{p}$)^{27}Al, depolarisation parameter meas., optical model effects 7−663
^{27}Al(p,p)^{27}Al, spin-spin potential determ. in optical model from depolarisation 7−660
^{138}Ba(p,p′), K-shell ionization probability, nuclear reaction effect 7−42748
^{8}Be($\vec{p}$,$\vec{p}$′), 303 MeV, backward-angle scatt., inclusive analyzing power and scattering mechanisms 7−56676
^{209}Bi(p,p′)^{209}Bi*, transition strength to continuum states *(Korean)* 7−24979
^{11}C(p,p); 0^+ level formation ΔI=0 parity mixing in ^{14}N, expt., status 7−49238
^{12}C($\vec{p}$,$\vec{p}$′), 303 MeV, backward-angle scatt., inclusive analyzing power and scattering mechanisms 7−56676
^{12}C($\bar{p}$,$\bar{p}$′), $\bar{p}$ asymmetry meas., LEAR expt. 7−49170
^{12}C($\vec{p}$,p′)^{12}C, analysing power meas. 7−682
^{12}C($\vec{p}$,p′)^{12}C, mixing of breathing oscillation into β-vibrationalstates 7−671
^{12}C($\vec{p}$,p′)^{12}C, spin transfer in 1^+ states excitations 7−679
^{12}C(p,p), 1.7 MeV, ^{13}N* compound nucleus, lifetime determ. from bremsstrahlung meas. 7−56679
^{12}C($\vec{p}$,$\vec{p}$)^{12}C, analysing powers and cross-sections, optical potential shape 7−662
^{12}C(p,p)^{12}C, cross-section meas., excitation functions *(German)* 7−30430
^{40}Ca(p,p′), 500 MeV, proton polarization observable meas., 3^-, 5^- level transitions 7−49399
^{40}Ca(p,p), optical pot., dispersion relation approach to extrapolation to negative energy 7−41958

proton-nucleus scattering continued
^{40}Ca($\vec{p}$,$\vec{p}$)^{40}Ca, analysing powers and cross-sections, optical potential shape 7−662
^{40}Ca(p,p)^{40}Ca, empirical evidence of an energy dependence of the radial shape of the real part of the optical potential 7−49411
^{A}Cd($\vec{p}$,$\vec{p}$), A=106, 110, 114 isospin dependence on optical potential 7−661
^{A}Cd($\vec{p}$,p)^{A}Cd, A=112, 114, 116 elastic and inelastic scatt., nuclear structure 7−667
^{168}Er($\vec{p}$,p′)^{168}Er, γ-vibration band excitation, hexadecapole degree of freedom 7−676
^{19}F(p,p), T=1 states of ^{20}Ne as compound resonances 7−30397
^{A}Ge($\vec{p}$,p)^{14}Ge, A=70, 72, 74, 76 elastic and inelastic scatt. optical model fitting 7−669
^{1}H($\vec{p}$, $\vec{p}^1$), 800 MeV parity nonconservation meas. 7−10149
^{1}H($\vec{p}$,$\vec{p}$′), 500 MeV, pN analyzing powers, spin-rotation-depolarization parameters 7−19255
^{1}H($\bar{p}$,$\bar{p}$′), $\bar{p}$ asymmetry meas., LEAR expt. 7−49170
^{2}H($\vec{p}$,$\vec{p}$′), 500 MeV, pN analyzing powers, spin-rotation-depolarization parameters 7−19255
^{2}H(p,p), anal. of three-body interactions using spin observable meas. 7−30280
^{4}He($\vec{p}$,p), 46 MeV, parity nonconservation, longitudinal anal. power 7−35944
^{4}He(p,p), Chou-Yang model in 45-393 GeV region 7−41991
^{4}He(p,p), high energy elastic scatt., Chou-Yang conjecture 7−61743
^{4}He(p,p), quasioptical cascade model at intermediate energy 7−35986
^{A}Hf($\vec{p}$,p′)^{A}Hf, A=178, 180 multipole moment relation in optical potential 7−677
^{41}K(p,p′), 6 MeV, low-lying levels, EM props. and spin values, mixing ratios, lifetimes 7−19171
^{7}Li($\vec{p}$,p), 1.9-2.6 MeV, analyzing powers and angular distributions, T-invariance test 7−5239
^{24}Mg(p,p′), 40 MeV, cross sections, IBM approximation anal. 7−19253
^{24}Mg(p,p′), excitation of ^{12}C+^{12}C quasimolecular resonances by symmetric fission 7−42002
^{24}Mg($\vec{p}$,p′)^{24}Mg, mixing of breathing oscillation into β-vibrationalstates 7−671
^{24}Mg($\vec{p}$,$\vec{p}$)^{24}Mg, analysing powers and cross-sections, optical potential shape 7−662
^{25}Mg($\vec{p}$,$\vec{p}$)^{25}Mg, depolarisation parameter meas., optical model effects 7−663
^{A}Mo($\vec{p}$,$\vec{p}$), A=92-98, 100 isospin dependence on optical potential 7−661
^{92}Mo($\vec{p}$,p′), 2^+ state excitation and azimuthal asymmetry meas. 7−42011
^{93}Nb(p,p′)^{93}Nb*, transition strength to continuum states *(Korean)* 7−24979
^{58}Ni($\vec{p}$,p′)^{58}Ni, inelastic scatt. to 1^+ states in M1 resonance region 7−673
^{58}Ni($\vec{p}$,$\vec{p}$)^{58}Ni, analysing powers and cross-sections, optical potential shape 7−662
^{60}Ni($\vec{p}$,p′)^{60}Ni, inelastic scatt. to 1^+ states in M1 resonance region 7−673
^{90}Ni($\vec{p}$,$\vec{p}$)^{90}Ni, analysing powers and cross-sections, optical potential shape 7−662
(p,p), spin observables at intermediate energy 7−41992
^{208}Pb(p,p′), 500 MeV, proton polarization observable meas., 3^- level transitions 7−49399
^{208}Pb(p,p′), multipole matrix elements for low-lying states 7−41990
^{208}Pb(p,p), optical pot., dispersion relation approach to extrapolation to negative energy 7−41958
^{208}Pb($\vec{p}$,$\vec{p}$)^{208}Pb, analysing powers and cross-sections, optical potential shape 7−662
^{208}Pb(p,p)^{208}Pb, empirical evidence of an energy dependence of the radial shape of the real part of the optical potential 7−49411
^{A}Pd(p,p′), E_p=15, 25 MeV, A=104, 104, 108, 110, transition matrix element calcs., coupled-channels, IBA=2 anal. 7−10148
^{32}S(p,p′), 29.4 MeV, cross sections, IBM approximation anal. 7−19253
^{34}S($\vec{p}$,p′)^{34}S, investigation of first three 2^+ states 7−672
^{A}Se($\vec{p}$,p)^{A}Se, A=76, 78, 80 elastic and inelastic scatt. optical model fitting 7−669
^{28}Si($\vec{p}$,p′)^{28}Si, analysing power and differential cross-section 7−666
^{28}Si($\vec{p}$,$\vec{p}$)^{28}Si, analysing powers and cross-sections, optical potential shape 7−662
^{28}Si($\vec{p}$,$\vec{p}$)^{28}Si, energy dependence of β_2 and β_4 7−665
^{17}Sm($\vec{p}$,p)^{A}Sm, A=148, 150, 152, 154, elastic and inelastic scatt., nuclear structure 7−667
^{152}Sm($\vec{p}$,p)^{152}Sm, optical model for polarisation data 7−668
^{A}Sn(p,p), 24.5 MeV, A=116, 124, optical and isospin-coupling pots., microscopic anal. *(Chinese)* 7−5234
^{88}Sr($\vec{p}$,p′)^{88}Sr, effective interactions, analysing power and structure 7−675
^{232}Th($\vec{p}$,p′)^{232}Th, quadrupole and hexadecapole moments 7−678
^{238}U($\vec{p}$,p′)^{238}U, quadrupole and hexadecapole moments 7−678
^{A}W($\vec{p}$,p′)^{A}W, A=182, 184 multipole moment relation in optical potential 7−677
^{A}Zr($\vec{p}$,p′), A=90, 92, 2^+ state excitation and azimuthal asymmetry meas. 7−42011
^{A}Zr($\vec{p}$,$\vec{p}$), A=90, 92, 94, 96 isospin dependence on optical potential 7−661
^{90}Zr($\vec{p}$,$\vec{p}$′), 319 MeV, Gamow-Teller strength, Δ-isobar quenching effects 7−49422
^{90}Zr($\vec{p}$,$\vec{p}$′), 319 MeV, spin-flip spectra, microscopic anal. 7−10147
^{90}Zr(p,p′), second 0^+ state excitation, form factors and transitions, CC anal. 7−30369

proton polarisation
np elastic scattering, n-p analyzing powers, difference meas. 7−30434
$\vec{p}$ acceleration through multiple spin resonances using spin transfer matrix 7−5500
$\bar{p}$ polarization technique for low energy storage rings, anal. for LEAR 7−30911

proton production
P_T dependence of $\pi^\pm$, $K^\pm$, p and $\bar{p}$ prod. in central rapidity region of e^+e^- and pp 7−61757
$\delta d \to pp\pi^-$, pp invariant mass distrib., obs. of narrow resonance structure 7−24893
$\gamma d \to pp\pi^-$, dibaryon resonance search, 2.16-2.32 GeV/c^2 mass region 7−24892
$\gamma\gamma \to \bar{p}p$, recent results on two-photon processes from DESY 7−61786
$\nu A \to pX$, cumulative proton production, cascade-model calcs. 7−41782
$\nu_e d \to e^- pp$, cross section calcs., exchange current effects, relevance to solar neutrino problem 7−508
$pN \to p\pi$, 100 GeV, momentum distn. calcs., multiple-quark stripping 7−10150

proton production continued
$\pi^{\pm}N \to pX$, inclusive distributions, isospin subtraction technique 7–35916
$C(\pi^{-},X)$, pion and proton pair formation at 5 GeV, correlations 7–61920

proton-proton inclusive interactions
axion production in 800 GeV hadronic showers 7–19139
beam-beam interactions in high energy pp and $\bar{p}p$ colliders, SSC implications 7–815
CERN direct photon production results 7–61778
CERN ISR $\bar{p}p$ physics, review 7–42249
conference, strong interactions and gauge theories, Les Arcs, Savoie, France (March 1986) 7–60876
electroweak standard model, 1-loop renormalisation, leptonic processes appl. 7–61512
finite-energy correction to the branching equation for multiplicity distributions 7–35910
HEP computing in US, future plans for $p\bar{p}$ and $e^{+}e^{-}$ colliders 7–19146
inclusive jet cross sections and production in the UA2 detector 7–61775
inclusive minijet cross section and the bare pomeron in QCD 7–41740
jet physics in the UA1 experiment 7–61773
jets with small missing energy at CERN and Fermilab in supersymmetry 7–24918
multijet events at CERN $\bar{p}p$ collider 7–61774
quark-gluon plasma, possible manifestation in multiplicity distributions 7–19189
signatures of new particles at high energy colliders 7–56520
UA2 jets, W and Z associated production meas. 7–61776
$gg \to Z^{*} \to ZH$, cross section calcs., fourth generation quarks 7–10082
$gg \to \eta(\nu\bar{\nu}) \to ZH$, cross section calcs., fourth generation quarks 7–10082
$\bar{p}(p)p \to f(1270)X$, status on f-meson data 7–56576
$\bar{p}p$, 32 GeV/c, inclusive baryonic reson. prod., constitutive model 7–5127
$\bar{p}p$, 32 GeV/c, π^{+} prod., inclusive and semi-inclusive diff. cross sections in rapidity 7–35913
pp, $\sqrt{S_{NN}}=31$ GeV, invariant cross section meas. 7–61899
$\bar{p}p$, $\sqrt{s} = 630$ GeV, jet, $W^{\pm}$ and Z^{0} prod. at UA2 7–10075
$\bar{p}p$, $\sqrt{s} = 630$ GeV, search for monojet and multijet events with large missing p_T 7–10076
$\bar{p}p$, CERN energies, multiparticle distribs. in limited rapidity intervals, asymptotic KNO scaling violation 7–15175
pp, ISR energies, P_T dependence of $\pi^{\pm}$, $K^{\pm}$, p and $\bar{p}$ prod. in central rapidity region 7–61757
$\bar{p}p$, multiparticle distrib. limited rapidity intervals, asymptotic KNO scaling 7–35917
$\bar{p}p$, one-jet events, colour scalar bosons as source of jets 7–5134
$\bar{p}p$, SPS energies, fragmentation props. of quark and gluon jets 7–5129
$\bar{p}p$, single diffractive excitation to elastic scatt. ratio 7–5125
$\bar{p}p \to X$, KNO scaling in fire ball model *(Chinese)* 7–10077
$\bar{p}p \to (q_H,\bar{q}_H)$, experimental method for heavy quark bound state formation, charmonium results 7–49189
$\bar{p}p \to$ gluinos, squarks, search at Tevatron collider energies 7–24921
$pp \to \gamma\gamma X$, 63 GeV, photon production study 7–24919
$pp \to$ low p_t jets, inelastic cross section rise with energy 7–41850
$\bar{p}p \to \to \Lambda X$, one-particle and semi-inclusive hyperon spectra 7–41856
$\bar{p}p$ annihilation, evidence for narrow S resonance at 1937 MeV 7–61756
$\bar{p}p \to \bar{b}b \to \mu\mu X$, secondary leptons in $\bar{b}b$ jets, B two-body decays 7–15176
$\bar{p}p \to \chi$, mass, width, branching ratios in decay to ψ *(French)* 7–56542
$pp \to D(\bar{D})X$, inclusive cross-sections, comparison with fusion model 7–49191
$\bar{p}p \to e^{-}\bar{\nu}X$, CP violation at the TeV scale 7–19145
$\bar{p}p \to e^{+}\nu X$, CP violation at the TeV scale 7–19145
$pp \to \eta X$, inclusive production at low transverse momentum 7–10081
$\bar{p}p \to f_1(1420)X$, spin-parity analysis 7–15170
$\bar{p}p \to$ glueball$+X$, anal. of $I=0$ S-wave $\pi\pi$ and $K\bar{K}$ final states 7–61768
$\bar{p}p \to \gamma X$, at rest, search for narrow signals in γ-spectrum, branching ratio 7–49190
$pp \to \gamma + \mathrm{jet}_{opp} + X$, jet_{opp}=opposite-side jet events, nucleon gluon distribs., QCD anal. 7–61766
$p\bar{p} \to H^{+}H^{-}$, SUSY Higgs production, SUSY standard model calcs. 7–61763
$\bar{p}p \to$ heavy higgs bosons, WW fusion production mechanism, transverse momentum signatures 7–61767
$pp \to$ heavy leptons, 10-40 TeV, cross section calcs. in E_6 7–19138
$p\bar{p} \to$ heavy leptons, missing-p_T-plus-jets signal anal. 7–61761
$\bar{p}p$ in standard model, $m_t<m_W$ 7–49031
$\bar{p}p \to$ jets, ang. distribs. for high mass jet pairs, compositeness limit 7–559
$\bar{p}p \to$ jets, $W^{\pm}$, Z comparison with QCD and standard model 7–10086
$\bar{p}p \to KX$, charged particle multiplicity, dual parton and quark fragmentation models 7–19135
$pp \to K\pi NX$, inclusive spectra, quark-gluon string model anal. 7–61769
$\bar{p}p \to l^{\pm}N \to l^{\pm}$+jets, N=heavy neutrino, event signature anal. 7–19137
$p\bar{p} \to$ light gluinos, production cross section calcs. 7–10079
$\bar{p}p$ light scalars, $E\leq 2$ TeV, exptl. constraints on detection, extended technicolour model anal. 7–484
$pp \to \Lambda^{0}X$, $\sqrt{s}=31$-62 GeV, Λ^{0} polarization meas. 7–61760
$\bar{p}\bar{p} \to \Lambda X$, analyzing power and spin transfer meas. 7–41853
$\bar{p}p$ nondiffractive processes, stochastic nature, multiplicity depend. of rapidity distribs. 7–35912
$pp(\bar{p})$ collisions, $d\bar{u} \to W^{-}\gamma$, radiation amplitude zeros 7–10083
$pp(\bar{p}p) \to X$, multiplicity dependence of transverse momentum spectra at ISR energies 7–56581
$\bar{p}p \to \pi X$, charged particle multiplicity, dual parton and quark fragmentation models 7–19135
$\bar{p}p \to$ quark+gluon jets, fragmentation props., gluon radiation effects, model comparisons 7–61772
$pp \to S(V_L V_L)X$, $V_L=W^{\pm}$, Z^{0}, cross section calcs. 7–49154
$\bar{p}p \to$ trimuons, production rate calcs. 7–19136
$pp \to W$, jets, SPS data overview 7–41848
$\bar{p}p \to \tilde{W}$, $\tilde{Z}$, $\tilde{\gamma}$ pairs, supersymmetry signals 7–61682
$\bar{p}p \to W^{-}X$, μ_W meas. proposals as electroweak model test 7–15156
$\bar{p}p \to W^{-}\gamma X$, μ_W meas. proposals as electroweak model test 7–15156
$pp \to W^{+}WX$, invariant-mass distrib. calcs. 7–561
$\bar{p}p \to W^{\pm}X$, transverse hadronic energy distrib. anal. 7–19144
$pp \to W^{\pm}\nu_L(Z^{0}(W^{\pm}\gamma) \to L^{\pm}\bar{\nu}_L)$, heavy lepton production through vector boson fusion processes 7–10078
$p\bar{p} \to W'$, generalized vector-boson dominance anal. 7–61681
$\bar{p}p \to X$, CP nonconservation search using jet variables 7–41665
$pp \to x$, charm particle prod., cross sections and characts. 7–5131
$pp \to X$, correlations between forward and 90° protons 7–61759
$\bar{p}p \to X$, cross-sections for supersymmetry production 7–560
$\bar{p}p \to X$, diffractive dissociation cross sections and pseudorapidity distribs. 7–41863

proton-proton inclusive interactions continued
$\bar{p}p \to X$, $E_8 \times E_8$ superstring theory, extra U(1) phenomenology 7–41688
$pp \to X$, FF model of quark jets, appl. to soft collisions *(Chinese)* 7–24916
$\bar{p}p \to X$, impact parameter representation of multiplicity distribs. 7–10080
$\bar{p}p \to X$, inclusive cross section for direct photon prod. 7–556
$\bar{p}p \to X$, KNO scaling, multiplicity fluctuations, strange particle production 7–56580
$pp \to X$, many-particle rapidity correlations, cluster model framework 7–19220
$\bar{p}p \to X$, multijet formation and gluon jet struct. 7–5130
$\bar{p}p \to X$, multiplicity dependence of the transverse momentum in a hydrodynamic theory of multiple production 7–41854
$\bar{p}p \to X$, multiplicity distrib., clusters 7–30295
$pp \to X$, multiplicity distribs. in rapidity intervals at 200 GeV 7–41864
$pp \to X$, multiplicity of γ-rays and π^{0}, additive quark model comparison 7–42010
$\bar{p}p \to X$, rapidity and angular distribs. of clusters, Giovannini-Van Hove model 7–49188
$pp \to X$, rapidity depend. of negative and all-charged multiplicities 7–558
$\bar{p}p \to X$, restoration of multiplicity scaling 7–10085
$pp \to X$, scaling and fragmentation distribs. at high transverse energy 7–49192
$\bar{p}p \to X$, scaling of pseudorapidity distribs. 7–35915
$\bar{p}p \to X$, search for quark-gluon plasma at TeV I 7–56577
$pp \to X$, three-jet prod. due to QCD fragmentation process 7–19141
$\bar{p}p \to X$, total and inelastic cross-sections 7–10084
$pp \to X$, valence quark effects in beam remnants 7–557
$\bar{p}p \to Z^{0}X$, transverse hadronic energy distrib. anal. 7–19144
$\bar{q}q \to Z^{*} \to ZH$, cross section calcs., fourth generation quarks 7–10082
W and Z production properties 7–61777
$\bar{p}p$, baryon production, quark-quark and quark-diquark reaction mech. 7–5133
$\bar{p}p \to$ bosons$+X$, excited quark hypothesis, effective lagrangians 7–41858
$\bar{p}p \to \pi^{\circ}(\eta)(\gamma)X$, 24.3 GeV inclusive production cross sections 7–61779
$\bar{p}p \to W+2$ jet events, standard model expectations for large transverse momentum 7–24917

proton-proton interactions
see also proton-proton inclusive interactions; proton-proton scattering
antiproton physics, review 7–35894
azimuthal asymmetries at 52.5 GeV 7–56573
Centauro phenomenon, search in $\bar{p}p$, 900 GeV 7–30297
CP-odd observables in hyperon decay, $\bar{p}p$ interaction asymmetry effects 7–49138
$\bar{p}$-p polarization, Coulomb effects 7–5108
pp, 250 GeV/C, maximum particle densities in rapidity space 7–61752
pp, 250 GeV/c, cross sections and charged multiplicity distribs. 7–24909
pp, 3 GeV/c, pure helicity states, total cross section meas. 7–30278
pp, 800 GeV, charged particle multiplicity meas. 7–10074
pp, $\sqrt{S_{NN}}=31$ GeV, neutral energy spectra, obs. of KNO scaling 7–35897
pp, $\sqrt{s}=22$ GeV, particle production from clusters 7–61750
$\bar{p}p$, $E_{\bar{p}}=0$-600 MeV, exptl. review 7–61873
$\bar{p}\bar{p} \to (\gamma,Z^{0}) \to \mu^{+}\mu^{-}X$, spin-spin asymmetry anal., inclusion of Z^{0} effects, relevance to sea-quark polarization 7–19134
pp $\sqrt{s}=31$, 44, 62 GeV, average transverse momentum and particle source size, multiplicity dependence 7–61742
$\bar{p}p$ charge exchange reactions, low energy cross sections and quark confinement radius 7–35899
$pp \to d\pi$, excitation functions and high resolution search for narrow dibaryons 7–5209
$pp \to d\pi^{+}$, 725 MeV-2.3 GeV, analyzing power meas., excitation of N* isobars 7–5123
$\bar{p}p \to \Delta^{++}n$, partial wave anal. in dibaryon resonance region 7–35895
$\bar{p}p \to$ fourth generation quarks in grand unified model with 10^{19} GeV unification scale 7–4745
$\bar{p}p \to \gamma X$, 300, 460 MeV/c, gamma-spectra meas., baryonium state search 7–49172
$\bar{p}p \to$ hadrons, superclusters and hadronic multiplicity distribution 7–19132
$\bar{p}p$ interaction, ρ parameter/optical model comparisons, sources for discrepancies 7–10069
$\bar{p}p \to K_L K_S(K_S K_S)(K^{-}K^{+})$, baryon exchange model anal., cross sections, resonances 7–30287
$\bar{p}p \to K_S\bar{K}_S$, proposed $\xi(2230)$ search expt. 7–49167
$\bar{p}p \to K^{0}(\bar{K}^{0})K^{\mp}\pi^{\pm}$, meas. possibilities for T-, CP-, CPT-violation parameters in $\bar{K}^{0}(K^{0})$decay 7–10053
$\bar{p}p \to$ kaons, kaon-pion branching ratio anal. 7–49171
$\bar{p}p \to \bar{\Lambda}\Lambda$, antiproton spin physics expt. at LEAR 7–49170
$p\bar{p} \to \Lambda\bar{\Lambda}$, exchange K+K* coupled channels analysis 7–5107
$\bar{p}p \to \bar{\Lambda}\Lambda$, K exchange, cross section and ang. distrib. calcs. 7–19126
$\bar{p}p \to \Lambda\bar{\Lambda}$, LEAR data anal., CP invariance in $\bar{\Lambda}\Lambda$ system 7–49167
$\bar{p}p \to \Lambda\Lambda(\Xi\bar{\Xi})$, low energy, CP violation, asymmetry meas. 7–15082
$\bar{p}p \to$ meson+meson, quark rearrangement and annihilation models 7–49178
$\bar{p}p$ multiplicity distributions, unsuitability of modified negative binomial distrib. 7–61751
$pp \to n\Delta^{++}$, one-pion exchange model anal. of $^{1}H(^{3}He,t\Delta^{++})$ 7–24988
$\bar{p}p \to \bar{n}n$, $\bar{n}$ mass determ. 7–542
$pp \to pn\pi^{+}$, 800 MeV, unitary meson-exchange calc., spline function method 7–30288
$\bar{p}p \to pn\pi^{+}$, partial wave anal. in dibaryon resonance region 7–35895
$pp \to pn\pi^{+}$ at 800 MeV, one-pion exchange model and Faddeev eqn. 7–41846
$\bar{p}p \to \bar{p}p$, $\pi^{+}\pi^{-}$, $K^{+}K^{-}$, antiproton spin physics expt. at LEAR 7–49170
$pp(\bar{p}p)$ collisions, forward-backward multiplicity correlations 7–24910
$\bar{p}p \to pp\gamma$, 280 MeV, anal. power for bremsstrahlung 7–24923
$pp \to pp\pi^{+}\pi^{-}x\pi^{0}$, x=0,1,2, diffractive dissociation, 360 GeV/c quark-diquark fragmentation 7–553
$pp \to pp\pi\pi(K\bar{K})$, coupled channel anal., I=0 scalar 7–61730
$pp \to \pi^{0}X$, $\sqrt{S_{NN}}=31$ GeV, high p_T invariant cross section meas. 7–35907
$\bar{p}p \to SX$, total cross-section 7–35909
$\bar{p}p \to X$, narrow lines and γ-spectra 7–10071
$pp \to X$, total cross section, energy depend. anal. in terms of O_4 expansions 7–30284
$\bar{p}\bar{p} \to X$, total cross-section difference, energy dependence 7–24902
$\bar{p}p \to \gamma B$, narrow state search from monochromatic γ-rays 7–543
$pp \to Z^{0}Z^{0} \to$ leptons, Higgs detection by Z^{0} polarisation determ. 7–24914

proton-proton scattering
see also proton-proton interactions
CERN ISR $\bar{p}p$ physics, review 7–42249

proton-proton scattering continued
  conference on nuclear scatt. data eval. methods, Berlin, Germany (June 1985) 7—21
  cross section increase due to parton-parton scatt., diffraction formalism 7—41843
  elastic scattering, polarisation correlation and asymmetry parameters 7—61729
  elastic scattering, spin-correlation parameters, oscillation 7—61728
  parity violation tests at low and intermediate energies 7—30207
  (p,p′), polarization transfer meas. and spin-dependent isoscalar response fns. 7—24982
  $\vec{p}$p, 800 MeV, parity violation meas. 7—30279
  pp, elastic scatt. energy-depend. phase shift anal. 7—56564
  $\bar{p}$p, high energy elastic scatt., Chou-Yang conjecture 7—61743
  pp, low energy scatt., phase shift anal. 7—547
  $\bar{p}$p, single diffractive excitation to elastic scatt. ratio 7—5125
  $\bar{p}$p (pp) elastic scatt., diff. cross sections, multiple-dip struct., diffractive limit 7—61725
  pp elastic scatt., polarisation effects, energy depend. 7—24913
  $\bar{p}$p elastic scattering, 10-100 GeV, impact-parameter representation anal., comparison with pp 7—35906
  pp elastic scattering, 198.5 MeV, time reversal invariance test in strong interaction, polarization-analyzing power comparisons 7—5110
  $\vec{p}$p elastic scattering, 22 GeV/c, high $P_{\perp}^{2}$ spin effects 7—30290
  pp elastic scattering, 447-560 MeV, double- and triple-spin parameter meas. 7—19127
  $\vec{p}$p elastic scattering, 655, 1017 MeV, analyzing power, narrow structure search 7—56566
  pp→pp, elastic scatt., antisymmetrisation effects 7—61726
  $\vec{p}$p→pp, excitation functions and high resolution search for narrow dibaryons 7—5209
  $\bar{p}$p→$\bar{p}$p, low energy cross sections and quark confinement radius 7—35899
  pp→pp, polarisation transfer parameter meas. 7—41832
  $\bar{p}$p→$\bar{p}$p, polarization observables, asymmetry meas., proposed LEAR expt. 7—49170
  pp→pp′γ, cross sections and analyzing power, pot. model calcs. 7—5115
  pp scatt., 2.75, 2.92, 3.25, 3.48 GeV/c, total cross section differences for parallel/antiparallel longitudinal spin states 7—19128
  $\vec{p}$p scattering, 45 MeV, P-violation meas. 7—5111
  $\vec{p}$p scattering, 50 MeV, longitudinal analyzing power meas. 7—5114
  pp scattering, relativistic three-body unitary anal. 7—56570

proton radiative capture
  ($\vec{p}$,γ), angular distribs. of analysing power 7—683
  ^{27}Al(p,γ)^{28}Si, unbound levels, resonance and decay mode determ. 7—49413
  ^{40}Ar(p,γ), bound level study of ^{41}K product nucleus 7—30345
  ^{11}B($\vec{p}$,γ)^{12}C, analysing powers and differential cross-sections 7—685
  ^{7}Be(p, γ)^{8}B, cross section, implications for solar neutrino problem 7—66452
  ^{7}Be(p,γ), differential and total cross section calcs., direct capture model 7—42004
  ^{12}C($\vec{p}$,γ)^{13}N 7—685
  ^{52}Cr(p,γ)^{53}Mn, spins of resonance levels 7—19247
  ^{63}Cu(p,γ), ^{64}Zn giant dipole resonances built on excited states, Brink hypothesis verification 7—41959
  ^{63}Cu(p,γ), direct-semidirect capture in the giant dipole resonance region 7—49417
  ^{63}Cu(p,γ)^{64}Zn, 6.5-11 MeV, capture cross section meas., excitation fn. anal. using CN/DSD models 7—10153
  ^{65}Cu(p,γ)^{66}Zn, competition effects in proton induced reactions 7—61871
  ^{56}Fe(p,γ), ^{57}Co $d_{5/2}$ isobaric analogue resonance fragments, γ-decay schemes, M1 strength 7—35987
  ^{56}Fe(p,γ)^{57}Co, spins of resonance levels 7—19247
  ^{2}H($\vec{p}$,γ), 100-200 MeV, differential cross section and analyzing power meas. 7—41997
  ^{2}H($\vec{p}$,γ)^{3}He, analyzing powers, anal. of quasi-deuteron effect 7—30415
  ^{2}H(p,γ)^{3}He, two-body decay channels, photon and pion asymmetries 7—61895
  ^{39}K(p, γ), 1307-2042 keV, ^{40}Ca isospins level-widths, 9.5 to 10.5 MeV *(Chinese)* 7—35972
  ^{25}Mg(p,γ)^{26}Al resonances for E_p=0.31-1.84 MeV 7—19246
  ^{A}Na(p,γ)$^{A+1}$Mg, A=21,22 reaction rate under hydrogen burning conditions 7—30429
  ^{23}Na(p,γ)^{24}Mg, gamma-ray angular distrib. *(Korean)* 7—24978
  ^{89}Y(p,γ), ^{90}Zr giant dipole resonances built on excited states, Brink hypothesis verification 7—41959

proton scattering *see proton-deuteron scattering; proton-nucleus scattering; proton-proton scattering*

proton spectra
  pp, $\sqrt{S_{NN}}$=31 GeV, neutral energy spectra, obs. of KNO scaling 7—35897
  $^{4}H_{\Lambda}\rightarrow{}^{3}H+p\pi^{-}$, energy spectra, angular correlation calcs. 7—56635
  $^{4}H_{\Lambda}\rightarrow{}^{3}He\rightarrow n\pi^{-}$, energy spectra, angular correlation calcs. 7—56635
  ^{151}Yb, β-delayed proton spectrum structure, peaks from N=81 precursors 7—15202

proton-surface impact *see ion-surface impact*

protonium *see protons*

protonosphere *see upper atmosphere*

protons
  see also cosmic ray protons; delayed protons; proton decay
  diquark model, proton mass, diquark radius calcs. 7—49101
  radiation belt proton energy spectrum and formation mechanisms 7—40647
  radiation belt protons, spatial distrib. at high and low latits. 7—4274
  scalar lattice QCD, hadron static props., form factors, charge radii, lepton widths 7—49080
  Skyrme model of proton-neutron mass difference 7—49145
  solar wind protons, heating by particle interaction with Alfven solitons 7—66418
  $\bar{p}$ gravitational acceleration, quantum gravity test, initial anal. 7—48500
  $\bar{p}$ gravitational acceleration meas., quantum gravity test, proposed expt. 7—48501
  $\bar{p}$ magnetic moment determ., antiprotonic atom expts. 7—50404

proximity effect
  amorphous alloys with immiscible metallic particles, superconducting props. 7—2791
  anisotropic metallic superstructures, superconductivity *(Russian)* 7—52877
  composite superconductors, density of states of normal section calc. 7—52386

proximity effect continued
  frustrated XY model for Josephson- or proximity-coupled superconducting arrays, screening length calcs. 7—64391
  Josephson current in low-dimensional proximity systems, field effect, appl. to Nb-InAs-Nb system 7—45573
  microcomposite superconductors, in situ, nature of connection *(Russian)* 7—45585
  multifilamentary superconducting wires, hysteresis losses 7—22064
  superconductivity in superlattices *(Japanese)* 7—12905
  transition metal impurities in host metals, magnetic nature, superconductivity studies, review 7—7437
  Cu, thick proximity induced superconductor, mag. field effects, thickness and temp. depend. 7—52903
  Ge-base crystalline alloys with immiscible metallic particles, superconducting props. 7—2791
  Nb-Ti multilayered thin films, superconducting and struct. 7—64384
  Pb-Ag supercond.-normal conducting film structures, Andreev scatt. 7—45572
  Si:B, critical supercond. current induced by proximity effect, mag. field depend. 7—22069
  V-Ag proximity coupled supercond. multilayer, penetration depth of mag. field 7—52910

pseudobinary semiconductors *see II-VI semiconductors; III-V semiconductors; III-VI semiconductors; IV-VI semiconductors; semiconductor materials*

pseudopotential methods
  alkali halides, colour centres, Hartree-Fock cluster computations 7—16985
  alkali halides, refractive index, Szigeti charge, dielec. parameters ab initio calcs. 7—13082
  alkali metal clusters, structures, pseudopotential method, local density approx. 7—36840
  alkali metal hydrides, inter-ionic bonding and thermodynamic functions, microscopic theory *(Russian)* 7—58198
  alkali metals, CDW instabilities and thermoelec. parameters 7—12707
  alkali metals, structural properties, ab initio calc. 7—21156
  alkali oxides with antifluorite structure, F^{+}-centre absorption energy calcs. 7—12658
  alkaline earth oxides, colour centres, Hartree-Fock cluster computations 7—16985
  BAs, structural and electronic props., pseudopotential method, local density approx. 7—32353
  binary crystals, structural stability, chem. trends 7—21153
  Cartesian Gaussian orbitals, matrix elements, recurrence formulae *(Russian)* 7—25377
  Cartesian Gaussian orbitals, pseudopotential matrix elements *(Russian)* 7—15489
  cohesive energies of solids, soft-core Thomas-Fermi pseudopot. 7—21845
  cubic metals, phonon spectra, dynamical pseudopot. shell model calcs. 7—51965
  diamond, optical phonons and elasticity at megabar stresses 7—21375
  elemental semiconds., conduction-band-edge charge density, empirical pseudopot. calcs. 7—64046
  formation energy of a vacancy in metals, rapid convergence of lattice sums to pseudopotential calc. 7—51760
  fourth-row atoms, core electron Coulomb and exchange operators calcs. 7—30944
  II-VI semiconductors, shallow donor problem, pseudopot. approach 7—45216
  III-V cpd. semiconds., conduction-band-edge charge density, empirical pseudopot. calcs. 7—64046
  III-V semiconds., electronic struct. calcs. 7—12608
  III-V semiconductor superlattices, pseudopotential approach to thermodynamic props. 7—7377
  ionic solids, stabilisation of CsCl versus NaCl struct., ab initio pseudopotential calcs. 7—58199
  liquid metals, surface tension, local density functional calcs., pseudopot. nonlocality effects 7—2304
  metal, Fermi surface, pseudopotential calcs., program set review *(Russian)* 7—64050
  metallic surface, pseudopotentials and dynamical props. 7—2341
  metals, (s,p)-bonded, atomic interaction theory 7—11985
  metals, phonon spectra, dynamical pseudopot. shell model calcs. 7—51964
  metals, thermodynamics during high-pressure shock 7—21352
  metals, twin-boundary energies and entropies, const. press. Monte Carlo calc. 7—2028
  noble metals, binding energies and elastic constants, one-parameter model pseudopotential calc. 7—44650
  rare earth metals, liquid state, kinetic characts. *(Russian)* 7—58517
  sd metals, liq., variational thermodynamic calcs. 7—12590
  semiconductor heterojunction discontinuities, self-consistent density functional calcs. 7—7364
  semiconductor heterojunctions, self-consistent density functional calcs. 7—17097
  semiconductors, insulators and metals, structural, electronic and vibr. props., pseudopotential calcs. 7—16484
  single-electron excitation energies, electron-phonon interaction effects, pseudopot. calcs. 7—27264
  singularity of formfactor of pseudopot. assoc. with resonance scatt. of electrons *(Russian)* 7—58727
  solids and superconductors, prediction using pseudopotential method 7—32358
  superconducting critical temperature, pseudo-potential calcs. *(Russian)* 7—58938
  superconducting state parameters, pseudopot. depend. 7—12896
  superconducting tunnel junction 7—12918
  surface reconstruction, theory 7—12433
  transition elements, first row, energy-adjusted ab initio pseudopots. 7—49898
  Al, electron energy spectrum, temp. effects and mag. susceptibility *(Russian)* 7—7102
  Al film, quantum size effects and dimensionality 7—45521
  Al, Frenkel pair formation energy, pseudopot. theory anal. *(Russian)* 7—6617
  Al, lattice sparing of interstitial solid solns. of B and C, deform. interaction, pseudopotential method *(Russian)* 7—58271
  Al-Mg, liq., excess entropy of mixing, resist. calcs. 7—2571
  AlAs, energy bands, cohesive energy, form. energy, self-consistent calcs. 7—21995
  AlAs/GaAs/AlAs quantum wells, eigenvalues calcs. 7—12820
  Ar, spin-orbit splitting, determ. from ab initio pseudopotential 7—2547
  Ar^{-}, pseudopotentials, path integral simulations 7—5736

pseudopotential methods continued
As, Fermi surface characts., hydrostatic press. depends. *(Russian)* 7−32896
Au, valence energy and polarisability, semiempirical pseudopot. calcs. 7−56926
Ba, BCC, first-principles phonon spectrum, three-ion forces and transition-metal behaviour 7−38135
Ba, valence energy and polarisability, semiempirical pseudopot. calcs. 7−56926
Br_3^-, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7−52546
C_2, Coulomb and exchange-correlation energies, local density functional calcs. 7−20087
Ca, FCC and BCC, lattice dynamics 7−38134
Ce alloys, electronic struct., pseudopotential method 7−27245
$CeAl_2$, electronic struct. determ. 7−52417
$CeOs_2$, electronic struct. determ. 7−52417
Cs high press. phase, β-Sn-type struct., pseudopot. perturbation calcs. 7−51938
CsCl, $F_H(OH^-)$-centre absorpt. bands, pseudopotential calc. 7−52512
$CsCl:CN^-$, $F_H(CN^-)$-centre absorption bands, pseudopotential method calcs. 7−22292
CsI, press. induced structural instability, ab initio pseudopotential techniques 7−52042
Fe (110), chemisorptive bonding of CO, pseudofunctional electron muffin-tin approach 7−2348
GaAs, energy bands, cohesive energy, form. energy, self-consistent calcs. 7−21995
GaAs, fundamental energy gap, temp. depend. 7−7115
GaAs, laser material, intervalence band absorpt. coeff. calc. 7−3015
GaAs, valence charge density, X-ray diffr. study, comparison with calculated results *(French)* 7−16940
$GaAs/Al_xGa_{1-x}As$ quantum-well bound states, valence-band offsets 7−7313
GaAs/AlAs double barrier struct., electron transport, scatt. matrix theory 7−12822
GaAs/AlAs superlattices, electronic band structure, pseudopot. method calc. 7−17084
GaAs/AlGaAs superlattices, valence band electronic struct., pseudopot. calcs. 7−64339
$GaAs-Al_xGa_{1-x}As$ (001) superlattices, periodicity, charge density and zone folding effects 7−2685
$GaAs-Al_xGa_{1-x}As$ superlattice, hole subbands *(Chinese)* 7−58873
$GaAs-Al_xGa_{1-x}As$ superlattices, electronic and optical props., alloying and press. effects 7−64327
GaAs-AlAs superlattice, energy bands, cohesive energy, form. energy, self-consistent calcs. 7−21995
GaAs-AlAs-GaAs heterostructure, tunnelling transmission probability, many-band pseudopotential model 7−38701
$Ga_{0.47}In_{0.53}As$, laser material, intervalence band absorpt. coeff. calc. 7−3015
$Ga_{0.28}In_{0.72}As_{0.6}P_{0.4}$, laser material, intervalence band absorpt. coeff. calc. 7−3015
GaN, band struct., pseudopotential method anal. 7−52421
GaSb high press. phase, β-Sn-type struct., pseudopot. perturbation calcs. 7−51938
GaSb, impurity level calcs., effective mass pseudopotential method 7−7163
Ge (111), chemisorption of atomic H, nonempirical cluster-model study 7−38332
Ge, spin-orbit splitting, determ. from ab initio pseudopotential 7−2547
Ge, structural props., ab initio pseudopotential calcs. 7−44797
Ge, superconductivity and electron-phonon interactions 7−12899
H+fully stripped ion collision, electron capture, travelling MO expansion study 7−50341
H_2+fully stripped ion collision, electron capture, travelling MO expansion study 7−50341
H_2O, Coulomb and exchange-correlation energies, local density functional calcs. 7−20087
H_2O, mol. struct., density functional anal. 7−62272
Hg, valence energy and polarisability, semiempirical pseudopot. calcs. 7−56926
Hg−In liquid alloys, volume, thermal expansion coeff. 7−56227
Hg−Sn liquid alloys, volume, thermal expansion coeff. 7−56227
I_3^-, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7−52546
InN, band struct., pseudopotential method anal. 7−52421
In_2O_3:Sn films, theoretical model for optical props. in 0.3 to 50 μm range 7−39200
InSb, impurity level calcs., effective mass pseudopotential method 7−7163
$KCl:Ca^{2+}$, Z_2^+-centres, axial config., pseudopotential perturbation calc. 7−32952
Kr, spin-orbit splitting, determ. from ab initio pseudopotential 7−2547
Li, lattice dynamics at low temps. 7−44716
Li, self-diffusion and isotopic effects, pseudopot. formulation 7−26990
Li, simple local pseudopotential 7−32888
Li-Mg, liq., excess entropy of mixing, resist. calcs. 7−2571
Li-Mg disordered, phonons and martensitic phase transitions 7−58423
Li-Na liquid alloy, ordering potential, concentration-concentration structure factor 7−32261
Li_2O, F^+-centre absorption energy calcs. 7−12658
Mg_2Si antifluorite semicond., electronic struct. calcs. 7−12608
N_2 crystals, molecular-to-nonmolecular transformation at high press., theory 7−21432
Na_2, excited state dissociation 7−49952
Na_2Cl, microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7−25379
Ni (001), chemisorptive bonding of CO, pseudofunctional electron muffin-tin approach 7−2348
$Ni_3Al(Ga)(Ge)$, alloying addition lattice location, phenomenological description 7−32463
$Ni_3(FEM)$ alloys, (M=Nb, V, Ta), atomic short range order, pseudopot. calcs. *(Russian)* 7−44448
$Ni_3(Fe,M)$ (M=Cr, Mn, W, Mo), atom pair interaction energy and Kurnakov temp. *(Russian)* 7−1938
Na_2Cl_2 microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7−25379
Pb, valence energy and polarisability, semiempirical pseudopot. calcs. 7−56926
Pd (001), H adsorption, coverage depend. props., ab initio calcs. 7−38340
Pt_2, MO calcs. with optimised Pt relativistic pseudopot. 7−10451

pseudopotential methods continued
PtCO, MO calcs. with optimised Pt relativistic pseudopot. 7−10451
PtH, MO calcs. with optimised Pt relativistic pseudopot. 7−10451
Rb high press. phase, β-Sn-type struct., pseudopot. perturbation calcs. 7−51938
Ru, electronic, structural and cohesive props., theoretical study 7−37922
Sc-CO, mol. bonding, pseudopot., and singles-and-doubles CI calcs. 7−10440
Si 7−51938
Si (111), Br chemisorption, SCF HF cluster calculation 7−52251
Si (111), chemisorption of atomic H, nonempirical cluster-model study 7−38332
a-Si, density of states, spectral function, calcs. using eqn. of motion method in k-space 7−27236
Si, lattice images, screening effect 7−51592
Si, self-consistent Hartree-Fock and screened exchange calcs. 7−12585
Si, superconductivity and electron-phonon interactions 7−12899
Si, total energy and superconductivity, pseudopotential method 7−32358
a-Si:H, defect structure, ab initio theory 7−32298
Si/Si_xGe_{1-x} superlattices, strain induced confined electron states 7−7311
Si-Ge heterojunction, structural and electronic props. 7−21997
SiC, cubic, ab initio calc. of ground state props. 7−6751
SiC, polytypism, confirmation of ANNNI-like model 7−63540
Si_xGe_{1-x} coherently strained bulk alloys on Ge (001) substrate, indirect band gap and band alignment calcs. 7−2481
$Si_xGe_{1-x}(C_x)$ semiconductor alloys, ordering and decomposition 7−6574
$(SiH_3)_2O$, mol. struct., hydrolysis of Si−O bonds, density functional anal. 7−62272
SiH_3OH, mol. struct., density functional anal. 7−62272
Sn superconductivity and electron-phonon interactions 7−12899
Tl, valence energy and polarisability, semiempirical pseudopot. calcs. 7−56926
Xe, spin-orbit splitting, determ. from ab initio pseudopotential 7−2547
ZnSe (110) surface atomic geometry and energy states, self-consistent pseudopot. calcs. 7−21582
Zr-based alloys, disordered, Coulomb pseudopotential 7−2764

pseudoternary semiconductors *see ternary semiconductors*

psi mesons
scalar lattice QCD, hadron static props., form factors, charge radii, lepton widths 7−49080
$\bar{c}c$, QCD sum rules for S-wave charmonium 7−41732
$\gamma N \rightarrow \psi X$, A dependence of ψ photoproduction for E_γ=120 GeV 7−35884
J/ψ decays, rare phenomena, comparison of hadronic and radiative processes 7−61666
J/ψ hadronic decays, SU(3) violation 7−61664
J/ψ hadronic decays, SU(3) violation 7−61665
$\phi\pi^0$ resonance, evidence for four-quark states 7−15127
$\pi^- p \rightarrow \psi n$, 13.5 GeV/c, exclusive ψ search, cross section meas. 7−552
$\Psi \rightarrow e^+e^-$, $R_2=\Gamma(\Upsilon \rightarrow e^+e^-)/\Gamma(\Psi \rightarrow e^+e^-)$ calcs. bound state quark model anal. 7−61582
$\psi \rightarrow \eta\gamma(\eta'\gamma)$, gluonium content in phenomenological model with SU(3) breaking 7−19108
$\psi \rightarrow$glueball+X, final state interaction anal. for glueball production 7−61768
$\psi \rightarrow \gamma H$, Higgs production, comparison with phenomenological limits for $K \rightarrow e\nu H$ and $\psi' \rightarrow \psi H$ 7−513
$\psi \rightarrow \gamma X$, MARK III results 7−41791
$\psi \rightarrow \gamma\eta_c$, $\eta_c \rightarrow \phi\phi$, η_c search, branching ratio meas. 7−24878
$\psi \rightarrow \gamma\phi\phi \rightarrow \gamma K^+K^-K^+K^-$, glueball search 7−24879
$\psi \rightarrow \gamma\theta$, helicity amplitudes, glueball picture of θ(1700) 7−41818
$\psi \rightarrow K^*K\pi$, MARK III results 7−41791
$\psi \rightarrow$mesons, tests for sequential-pair-creation mechanism 7−518
$\psi \rightarrow \rho\eta\pi$, MARK III results 7−41791
$\psi' \rightarrow$mesons, tests for sequential-pair-creation mechanism 7−518
$\psi' \rightarrow \psi H$, Higgs production phenomenological limits 7−513
J/ψ suppression by quark-gluon plasma formation 7−10030

PSK *see phase shift keying*

psychological optics *see vision*

psychology
aliasing components, psychoacoustic tests on audibility *(German)* 7−1332
behavioural effects of exposure to NMR imaging, rat open-field behaviour and learning obs. 7−18016
behavioural effects of exposure to NMR imaging, spatial memory tests on rats 7−18017
binaural cross-correlation model, lateralization of pure tones 7−47096
binaural cross-correlation model, law of the first wave front 7−47097
choice reaction time and paired associates learning tasks, effects of noise and vibration 7−54677
cinematic space, shape and psychophysics 7−60004
cognitive dysfunction diagnosis, multimicroprocessor-based real-time EEG analyser 7−23475
cognitive processes of spatial coordinate assignment, perceptual cues weighting, Spacelab expt. 7−8724
colour, direction and speed of motion, perceived relations 7−47078
colour perception, display technology implications 7−14005
computer graphics and surface perception 7−60001
computerized perception laboratory, problems encountered 7−60008
HDTV and 525-line viewing, sight-line displacements, eye movements eval. 7−59992
human processing of machine speech, role of psychology 7−23371
man-operator psychophysiological state estimation *(Russian)* 7−8547
microwave and low-level RF radiation effects on brain tissue and animal behaviour 7−23403
neurological disorders, meas. of sensory-motor integrated function, 3 computerised tracking tasks 7−3912
operant behaviour of rats, alteration by low-intensity mag. fields 7−28578
psychic illness, information basis *(French)* 7−34121

psychology computing *see psychology*

PTC thermistors *see thermistors*

pulp industry *see paper industry*

pulsars
see also neutron stars
acceleration of protons and electrons in EM field of rot. orthogonal mag. dipole, theory 7−9339
activation by interstellar matter accretion 7−66645
biconical stellar winds, relation to biannular radio struct. of supernova remnants 7−55752
dispersion measures determ. 7−66646
evolution 7−55695

pulsars continued
  evolution model 7−66643
  evolution of two pulsar types 7−60697
  Faraday rotation meas. on 163 objects 7−66648
  fast pulsars, Green Bank/Arecibo survey 7−60702
  fast pulsars, pulsed $\bar{\nu}_e$ flux anal. 7−36019
  frequency dependence of dispersion measure and extra dispersion time delay of pulses *(Russian)* 7−24158
  frequency dependence of pulsar profiles 7−60701
  gamma-ray pulsars, appl. of kernel density estimators to light curves anal. 7−47718
  luminosity function 7−29497
  luminosity laws discrimination 7−40855
  magnetic field and lumin. modelling 7−4496
  magnetic fields, general aspects (book) 7−48216
  micropulses, dual-freq. correlation study in VHF 7−29498
  model pulsar radio spectra and pulse profiles 7−29496
  multiple imaging by refr. in interstellar medium 7−40856
  origin and characts. (book) 7−60914
  pair creation in radio pulsars, return-current mode changes and normal-null transitions 7−14598
  pairs, implications for pulsar origins 7−47963
  plasma, conf., Sukhumi, USSR (May 1986) 7−48174
  polar cap plasma flow 7−37654
  PSR 0531+21, γ-ray obs. 7−55857
  PSR 0531+21 (Crab pulsar), obs. of very-high-energy gamma rays 7−60916
  PSR 0809+74, 1237+25, 1919+21, subpulse drift cross correl. anal. 7−66644
  PSR 0809+74, average pulse profile and dispersion measure from decametric wavelength obs. *(Russian)* 7−55697
  PSR 0809+74, micropulses, dual-freq. correlation study in VHF 7−29498
  PSR 0833-45, Vela pulsar, relation to radio emission from Vela supernova remnant 7−24174
  PSR 1133+16, micropulses, dual-freq. correlation study in VHF 7−29498
  PSR 1802-23 (=2CG 006−00), COS B source, pulsed very high energy gamma ray emission obs. 7−66788
  PSR 1855+09, white dwarf companion star of binary millisecond pulsar 7−29500
  PSR 1913+16, binary pulsar, proper motion determ. from periastron times 7−55696
  PSR 1937+214, 1.5 ms pulsar origin 7−29499
  pulse arrival times, spacetime curvature and rotation effects 7−60700
  radio aspects (book) 7−55914
  radio emission mechanism, due to instability of relativistic plasma 7−55698
  radio luminosities, relation to B/P^2 parameter 7−55694
  radio wave propagation in interstellar medium, refractive and diffractive scatt. effects 7−55759
  space velocities and rot. characts., interstellar scintillation meas. 7−60698
  supernova remnant-pulsar correlation 7−66647
  theory, discovery, and astronomical impact, review 7−47964
  timing noise, implications of vortex creep and internal temperature 7−60699
  UHF obs. 7−14597
  wide binary radio pulsar systems, white dwarf masses determ. 7−60733
  X-ray emission intensity bremsstrahlung 7−51410

pulsatile flow
  see also peristaltic flow
  3D acoustic radiation with flow, BEM 7−16202
  aorta, human foetus, interdependence of pulse wave variables, US obs. 7−40198
  arterial bifurcation, numerical simulation of pulsatile blood flow 7−65794
  arterial occlusive disease, US, diagnosis, some failings of pulsatility index and damping factor 7−47187
  arterial vessels, bio-medico-mech. behaviour under constant and variable internal pulsatile press. flow test in vitro 7−65799
  blood, pulsatile flow through a transverse clip stenosis, rat obs. 7−14038
  blood flow of limbs, quantitative eval. using rheography 7−40352
  blood velocity waveforms of superior mesenteric artery, pulsatility index, Doppler US obs. 7−28565
  carotid siphon model, pulsatile blood flow anal. 7−40197
  Casson's fluid, pulsatile flow through stenosed arteries with appls. to blood flow 7−40186
  cavity flows, 2D laminar and chaotic mixing 7−16263
  femoral artery branch model, phasic and spatial press. meas. for pulsatile flow 7−8634
  flexible pipe conveying fluid with pulsating flow, lateral vibr. 7−26349
  flowmeters, pulsation effects in vortex and orifice types 7−37596
  flush-mounted hot film anemometer accuracy in pulsatileflow 7−8735
  gas pulsation calculations for pipeline systems 7−44043
  laminar pulsating flow in curved pipes, axial vel. profiles 7−37543
  pipe flow, laminar to turbulent flow transition, sinusoidal flow modulation 7−16262
  plasmapheresis, increase of filtration by pulsatile blood flow *(French)* 7−3930
  slurries, laminar pulsatile flow, numerical study 7−51035
  thrombi, haemodynamic and embolising forces, effect of pulsatile blood flow 7−28555
  turbulent pulsating pipe flow, wall shear stress meas. 7−16264
  turbulent slugs in pulsatile pipe flow, behaviour 7−37551

pulse amplitude analysers *see pulse height analysers*

pulse amplitude modulation
  induction motor acoustic noise reduction using optimum PWM waveforms of invertor 7−20499

pulse analysers
  see also pulse height analysers
  repetition frequency or duration analyser 7−10366

pulse circuits
  see also coincidence circuits; demodulators; modulators; pulse generators; pulse shaping circuits
  HV modulator for electrostatic kicker for proton beam switching and control 7−30776

pulse-code modulation links
  optical fibre links *(German)* 7−43442

pulse generators
  see also time bases
  BLACKJACK 3 generator for staged plasma-erosion opening-switch current rise time sharpening 7−32130
  CERN Antiproton Collector, 400 kA pulse generator with pseudo-spark switches for plasma lens 7−32078
  explosive driven magnetic flux compression generator with plasma compression opening switches in planar geometry 7−32119
  explosive MHD generators, assessment 7−65497
  grid pulse generator for KEK PF linac *(Japanese)* 7−56903
  grid pulser for short pulse e$^-$ gun, design and simulation *(Japanese)* 7−19610
  high performance avalanche pulse generator for e$^-$ gun appl. *(Japanese)* 7−19612
  high power pulsed power supply for proton synchrotron 7−25274
  high voltage pulser for beam pulsing of e$^+$ linac *(Japanese)* 7−19611
  HV modulator for electrostatic kicker for proton beam switching and control 7−30776
  HV pulse generation circuit for fast-rising pinching magnetic field, circuit anal. 7−32135
  impulse-field focussing pulse generators for high-resolution mass spectrometry 7−359
  inductive energy storage plasma focus device, num. simulation 7−63371
  light pulses of millisecond duration for solar cell volt-ampere characts. meas. 7−34042
  magnetic energy storage in vacuum, plasma opening switches at Pollux pulse power generator 7−32127
  magnetic flux compression generator powered plasma focus device expts. 7−63372
  magnetic flux-compression generators for energy supply of plasma focus loads 7−63369
  metal-NH_3 generator as pulsed and continuous power source 7−63362
  microcomputer-controlled two-pulse generator, for use in NQR spectroscopy 7−9863
  Particle Beam Fusion Accelerator II (PBFA II) Marx generator engineering and assembly line technology 7−30768
  Particle Beam Fusion Accelerator Marx generators 7−30767
  power supply to CO_2 laser 7−1195
  programmable pulse train generator for expts. in relaxation analysis 7−9864
  pulsed power accelerator for fusion research, SF_6 reprocessing system 7−30769
  pulsed power accelerators, low-jitter Marx generators for reliability 7−30766
  pulsed power supplies, IEEE conf., Arlington, VA, USA (1985) 7−35110
  radial transmission line, matching problems 7−32075
  random pulse generator, uniform amplitude for testing MCA pulse rates 7−15460
  short pulse grid pulser for positron generator gun *(Japanese)* 7−19607
  switching problems, inductive storage plasma focus device, num. calc. 7−63368
  triangular voltage generator controlled by NTA-1024 multichannel analyser, for NMR spectrometer 7−10368
  Van de Graaff 3 MV accelerator, using laser photoelectron emission from cold Y_2O_3 cathode 7−10314
  water dielectric pulse power driver for inert-gas halide lasers 7−36988
  width selecting system for e$^+$ beam transport line *(Japanese)* 7−19609

pulse height analysers
  ADCs, histogram effects, improved fitting formula 7−62237
  microprocessor-based multichannel spectrum analyzer for use in industrial radioisotope measurements 7−65372
  Mossbauer spectra area meas., use of internal standard 7−36426
  multichannel detector for plasma VUV diagnostics 7−5567
  optical multichannel analyzer and vacuum spectrometer for plasma VUV appl. 7−6461
  plasma diagnostics with spectroscopic apparatus, multipoint optical multichannel analyser-based 7−58061
  SETI, ultranarrowband searches with dedicated signal processing hardware 7−24013
  SILENA BS27, dead time determ. 7−15459
  triangular voltage generator controlled by NTA-1024 multichannel analyser, for NMR spectrometer 7−10368
  two-line spectrum, meas. by photon correl. and multichannel anal. techniques 7−24705
  X-ray PHA data, probabilistic modelling 7−5566

pulse modulation
  see also demodulators; modulators; pulse amplitude modulation
  fibres, single mode, picosec. stimulated Raman generation, pump pulse fragmentation and fragment compression 7−50635
  optical communication, ultimate speed anal. 7−31268
  pyrodetector responsivity for harmonic and pulse modulation of IR radiation *(Slovak)* 7−9897
  KCl, cryst. F_A (Li)-centres exposed to radiation, bleaching rate 7−37060

pulse motors *see stepping motors*

pulse oscillators *see pulse generators*

pulse shaping circuits
  composite RF pulses, num. design for NMR spectroscopy appl. 7−24676
  threshold signal shaper for detector operating under increased loads 7−10363

pulse width modulation
  induction motor acoustic noise reduction using optimum PWM waveforms of invertor 7−20499
  induction motor driven by PWM invertor with 20 kHz switching freq. using Bi-MOS power transistors, acoustic noise 7−62934

pulsed power supplies *see power supplies to apparatus*

pumped-storage power stations
  water diversion with multilevel pumpback hydropower 7−54262

pumping *see pumps*

pumping (optical) *see optical pumping*

pumps
  see also vacuum pumps
  cavitation monitoring by single fluid-borne noise meas. 7−37502
  conduction centrifugal pump based on axisymm. math. model, MHD flow 7−51332
  cylindrical induction pump with inductors producing travelling mag. field, anal. of liquid metal flow *(German)* 7−63107
  cylindrical MHD pumps, two-dimens. flows 7−51330
  dye jet laser, continuous, liquid-circulation systems 7−31312

pumps continued
- hybrid and small wind energy conversion, BWEA conf., Reading, England (May 1986) 7−35107
- hydraulic pump driven by low-level temp. difference 7−54335
- photovoltaic pump powered by asynchronous machine, optimal control *(French)* 7−59839
- photovoltaic water pumps, performance, reliability and maintainability 7−13889
- pipetting device, microvolume, for atomic absorpt. spectrometry 7−4900
- plunger pump piston, numerical and expt. stress systems, math. representation *(German)* 7−18596
- PWR coolant pump flywheel radial crack testing, caustic curve method 7−15266
- solar pumps, water cooled, expt. laboratory study of dimensioning principles *(Rumanian)* 7−13930
- stirrers and induction pumps, liquid metal velocity distrib. effects on electrodynamic forces *(Polish)* 7−63231
- Superphenix reactor heat exchanger and pump development *(French)* 7−769
- wind powered water pumping, power transmission between turbine and pump 7−39962
- wind powered water pumping, wind turbine comparison 7−39959
- wind powered water pumps, systems assessment 7−39960
- wind pumps in Kenya, performance monitoring, results addendum 7−39958
- wind pumps in Kenya, performance monitoring of wind pumps in Kenya 7−39957
- windmills driving piston pumps, computer aided wind speed meas. field tests 7−39961

purification, crystal *see crystal purification*

Purkinje effect *see vision*

push pull amplifiers *see differential amplifiers*

push pull microphones *see microphones*

PWB *see printed circuits*

PWM *see pulse width modulation*

pylons *see poles and towers*

pyroelectric devices
- analogue technique for pyroelectric detector signals analysis 7−348
- array imager, theoretical and expt. performance 7−18877
- detector and imaging developments 7−24702
- detector for bolometric measurements on high temp. plasma 7−1734
- Langmuir-Blodgett film pyroelectric devices, optimisation of thermal performance 7−59155
- laser energy absorpt. meas. using differential joulemeter and optoacoustic cell calibration appl. 7−41500
- laser radiation pyroelectric detect. 7−56341
- linear pyroelectric array IR sensor 7−30089
- materials, device designs, review 7−64578
- photothermal spectroscopy using a pyroelectric calorimeter 7−15011
- polyvinylidene fluoride-trifluoroethylene copolymers, pyroelectric conversion materials 7−65498
- radiation-induced thermal wave phenomena, pyroelec. detection 7−43615
- temperature meas. using infrared detectors *(Russian)* 7−4889
- $LiTaO_3$, pyroelectric X-ray detectors and X-ray pyrometers 7−10360
- $Pb_{1-x}La_xTi_{1-x/4}O_3$ thin film pyroelectric infrared sensors 7−56338

pyroelectricity
- acentric Langmuir-Blodgett film assemblies, fabrication, structural and electrical characts. 7−58648
- ammonium hydrogen-DL-malate monohydrate, dielec. and pyroelec. props. 7−59138
- crystalline dielectrics, piezoelec. and flexoelec. responses, surface contribs., unified approach 7−22193
- diglycine nitrate, alanine-doped, dielectric props. 7−45908
- diglycine nitrate, spontaneous polarisation and electrocaloric effect near the ferroelectric transition 7−17273
- glass ceramics, development in China, review 7−6527
- iron phthalocyanines, spontaneous pyroelec. current obs. 7−27669
- N-isopropylcarbazole, phase transition, elastic props. 7−38087
- lithium hydrogen dimalate, dielectric const., pyroelectric coefficient 7−38989
- nematic liq. cryst., nonequilibrium polar pyroelec. state obs. 7−1837
- noncentrosymmetric laser crystals, struct. and props. study review 7−62709
- nylon films, thermally stimulated and pyroelectric currents, H bond struct. effects 7−27664
- polymer films, pyroelectric behaviour for IR detection 7−7644
- polyvinylidene fluoride-trifluoroethylene copolymers, pyroelectric conversion materials 7−65498
- PVDF pyroelectric film, improved poling conditions 7−64577
- pyroelectric devices and materials, review 7−64578
- temperature modulation, effect on props. of ferroelectric materials 7−39044
- TGS crystals, polarisation relax., defect effects 7−17265
- thermal diffusivity measurement using photopyroelectric effect 7−14939
- tris(trimethylammonium)Sb_2Cl_9 single crysts., dielec. and pyroelec. props. study 7−53210
- BN, pyrolytic, macrodefects study 7−44523
- $BaSrNb_2O_6$, ferroelectric thin films, pyroelec. props 7−59154
- $Ba_xSr_{1-x}Nb_2O_6$ paraelec. phase, polarisation distrib. studies 7−38993
- BeO, TSEE, pyroelectric properties influence 7−13340
- $Li_2Ge_7O_{15}$ ferroelectric single crystals, pyroelectric props. 7−64576
- $LiNaSO_4$, trigonal, phys. props. 7−13099
- $LiNbO_3$, effect of pyroelectric and applied electric field 7−39043
- $LiNbO_3$, z-cut interferometers, thermal instability, electrostatic mechanism 7−37207
- $LiNb_{0.1}Ta_{0.9}O_3$ single cryst., piezoelec., pyroelec., dielec. and elastic consts. 7−53565
- NH_4HSeO_4 crystals, deuterated, pyroelectric props. 7−13098
- PLZT, ferroelectric films, properties and applications 7−59156
- PLZT rhombohedral ceramics, electrocaloric effect study, diffuse phase transition intermediate state 7−7645
- $Pb_{1-x}LA_xTi_{1-(x/4)}O_3$ sputtered film struct., dielec., and pyroelec. props. studies 7−21724
- $PbMg_{1/3}Nb_{2/3}O_3$, cryst. struct., electrocaloric effect, diffuse phase transition 7−22194
- $PbTiO_3$ based glass ceramics piezoelectricity, pyroelectricity and ferroelectricity 7−7654

pyroelectricity continued
- $PbTiO_3$, ferroelectric films, properties and applications 7−59156
- $Pb(Zr_{0.58}Fe_{0.20}Nb_{0.20}Ti_{0.02})_{0.995}U_{0.005}O_3$ ferroelec. ceramic, TEM study 7−17272

pyrolysis
- acetic acid, unimol. pyrolysis mechanisms, ab initio quantum-chem. study 7−46805
- aluminium isopropylate, pyrolysis, prep. of Al_2O_3 film 7−17448
- AUC thermal decomposition by nonisothermal method, kinetics 7−25076
- 1,3-butadiene, laser powered homogeneous pyrolysis, kinetics investig. 7−65309
- chlorodimethyl(triethylarsine) gallium, MOCVD adduct, chemisorption and thermal heterogeneous decomp. 7−22558
- coal, thermal props., scanning photoacoustic microscopy 7−23089
- cobaltites, fine-particles, low temp. prep. by solid solution precursor method 7−59486
- dimethylnitramine, pulsed laser pyrolysis GC/MS anal. 7−65308
- dimethylnitrosamine, pulsed laser pyrolysis GC/MS anal. 7−65308
- 14,4′- diphenylmethane diisocyanate 1,4- butanediol, thermal degradation 7−8272
- ethane, ground state, thermal decomp. pathways, ab initio electronic struct. calcs. 7−15476
- fibreglass-filled rubber-modified phenolic resin, sp. ht. and thermomech. expansion meas., thermal decomp. 7−6822
- hexamethyldisilazane, pyrolysis in material synthesis by laser heating 7−65311
- hydrocarbon, pyrolysis, wall to gas heat transfer coeffs. 7−8258
- p-hydroxybenzoic acid-based polymers, pyrolysis, thermal stability, thermogravimetric and gas chromatographic mass spectral anal. 7−54208
- III-V semiconductor-Au system, heat treatment, gaseous species evolution, mass spectra studies 7−39881
- laser heating for chemical conversions: unique features and limitations 7−65307
- material destruction rate, heating type effects 7−46848
- metal oxides, synthesis methods and solid state chemistry 7−33620
- methane, pyrolysis in plasma jet and behind shock wave, chem. species distrib., calc. and meas. 7−37751
- methane and related cpds., combustion and pyrolysis 7−18516
- methyl ethyl ketone, pyrolysis, reaction mechanisms *(French)* 7−54112
- MOCVD growth, thermal decomp. rates 7−22540
- muscovite mica, effect of high γ-ray doses on thermal props. 7−8270
- natural gas pyrolysis in Ar arc plasmatron 7−39886
- organometallic adduct formation during MOCVD growth of InGaAs films 7−33588
- phenol formaldehyde resin, carbonisation chemistry and product mech. props. 7−46802
- PMMA, UV laser ablation, laser-induced fluoresc. studies 7−23021
- polymers, pyrolysis mass spectrometry characterization 7−46900
- polymers, thermodegradation kinetics, softening effect *(Russian)* 7−46844
- polyphenylene oxide article surface, nonstationary thermal field created by IR laser radiation, chem. processes control 7−16622
- PVC, thermal degradation, fluoresc. study 7−33422
- styrene-butadiene-styrene block copolymer, thermoxidative degradation kinetics, fission track study 7−39877
- triethylgallium, pyrolysis temp. in presence of AsH_3 or trimethylaluminium 7−22541
- trimethylaluminium, pyrolysis and photolysis, Al MOCVD appl. 7−7881
- trimethylgallium decomposition during CVD, effect of added hydrazine, multiphoton and electron ionisation mass analysis 7−23010
- vinylacetylene, thermal decomp. in shock waves, rate const. 7−17772
- - *(Japanese)* 7−13384
- Au CVD by laser induction 7−22564
- $Ba(NO_2)_2$, cryst. struct., X-ray diffr. study 7−32411
- $CaSO_4$, gypsum, thermal breakdown and crack form. 7−2178
- $Ca_2Ti_2O_6$, pyrolysis product of CaO-TiO_2 system, cryst. struct., X-ray powder diffr. data 7−32394
- CdS films, formation by spray pyrolysis, characterisation of intermediate complexes 7−39372
- CdS photoconductive thin films, optimum spray pyrolysis preparation conditions 7−17418
- CdS:In-SnO_2 (glass), spray pyrolysed, photoelectrochemical studies 7−52830
- CdTe films, organometallic VPE growth mechanism 7−64914
- CdZnS/$CuInSe_2$ solar cells, spray pyrolysis prep. and characts. 7−8374
- Cs formate, decomposition to CVs_2CO_3, simulated nuclear waste glass vaporization study 7−6774
- $CuBiS_2$ thin films, spray pyrolytic deposition, elec. and optical props. 7−7894
- Fe_2O_3 reactivity, decomposition mechanism depend., reaction vol. and densification meas. 7−28308
- GaAs, decomposition during rapid thermal annealing 7−13657
- In_2O_3Sn thin films, prep. by pyrolysis, props. 7−2749
- InP-Au, metallic contact layers, thermal dissociation, P loss 7−23005
- $LaCO_3OH$ polymorphs, prep., cryst. data, X-ray powder diffr., IR spectra, TGA curves 7−32392
- MO, micrometer-scale line deposition using near UV laser light 7−59438
- $MnCO_3$, decomp. to Mn_3O_4, kinetic evol. for laser/thermal prep. 7−39870
- Ni (110), adsorption and thermal decomposition of NH_3, isolation and identification of NH_2 and NH 7−6986
- $Ni(CO)_4$, shock pyrolysis, homogeneous nucleation, spectroscopic investig. 7−46823
- Pt, micrometer-scale line deposition using near UV laser light 7−59438
- Si:B, MBE grown, coevaporation doping 7−12562
- Si-B_2O_3 interaction during Si MBE, Auger spectra study 7−13277
- SiC-Si3N_4 fibres, prep. by polycarbosilazane precursors pyrolysis 7−27988
- SiH_4, dissoc. under laser irrad., Si film deposition 7−13388
- SiH_4, pyrolysis on hydrogenated a-Si surface, reaction mechanism and kinetics 7−13739
- SiH_4 pyrolysis rates, modelling of CVD 7−64911
- SiH_4-N_2O, deposition of polycrystalline Si:O and SiO_2 7−17447
- SiO_2, thermal films, defect formation by high temp. annealing 7−45035
- W, micrometer-scale line deposition using near UV laser light 7−59438
- ZnO thin film preparation by spray pyrolysis for photoelectrochemical solar cells 7−23166
- ZrO_2-Al_2O_3 composite powder, thermal decomposition prep. for porous ceramics 7−13422

- **pyromagnetic effects** *see magnetocaloric effects*
- **pyrometers**
  - *see also temperature measurement*
  - broadband pyrometer calibration, bandwidth effective emissivities of nonisothermal blackbody furnace 7—56271
  - calibration apparatus with high-aperture black bodies, for −20 to 1000°C range 7—312
  - computer controlled blackbody calibration facility for steel industry in Australia 7—14950
  - electrodynamic thermogravimetric analyzer for aerosol particle kinetics obs. 7—3620
  - fibre optic pyrometric sensor for high-temp. meas. 7—41393
  - IR, thermodynamic temp. meas. between 683K and 933K 7—18788
  - Multichannel Infrared-Red Temperature Micro-Analyzer for multiwavelength pyrometry 7—41392
  - optical pyrometer, automatic, spectral responsivity, effective wavelength *(Korean)* 7—30015
  - phase transition temp. determ. in optical ovens for refractory materials 7—30014
  - photon counting, high-temp. obs. of annealed and sintered W-Re alloys 7—28077
  - precision temperature measurement 7—311
  - refractory materials specific heat, resistivity and integral emissivity meas., automatic system 7—4842
  - responsivity for harmonic and pulse modulation of IR radiation *(Slovak)* 7—9897
  - standard radiation thermometer, design, construction and performance 7—30016
  - temperature measurement, effect of thin dielectric films on accuracy 7—18789
  - TFTR, neutral beam interlock system using infrared pyrometry 7—6469
  - thermogrammetry and thermal engineering conf., Budapest, Hungary (April 1987) *(Hungarian)* 7—56258
  - transfer-standard monochromatic comparator pyrometer, using Si photodiode 7—14947
  - CaO, solidification point, reinvestig. by digital pyrometry 7—38168
  - Ge photodiode based; for 60 to 1400°C range *(Rumanian)* 7—4856
  - $LiTaO_3$, pyroelectric X-ray detectors and X-ray pyrometers 7—10360
  - W, electrothermal atomiser, temp. distrib. 7—8349
- **Q** *see Q-factor*
- **Q-factor**
  - Bragg reflectors, overmoded cylindrical metal waveguides, coupled mode theory 7—57541
  - neutrons, effective Q-factor, radiation protection appl. 7—3886
  - quartz crystal resonators, growth and sweeping of high quality quartz 7—39369
- **Q-factor measurement**
  - piezoelectric material, low-Q, k_t and Q_m determ. methods 7—2985
- **Q power factor** *see Q-factor*
- **Q-switching**
  - *see also lasers*
  - acousto-optic modulators, deflectors and Q-switches, basics 7—50605
  - dye laser, tunable with electro-optic Q-switching of coupled laser, characts. 7—1197
  - dye laser synchronously pumped, picosecond pulse formation 7—25811
  - dye lasers, Q-switching, output characts. *(Japanese)* 7—5926
  - Fabry-Perot resonator, confocal 4.5 m long for storage of megawatt laser pulses 7—1200
  - frequency pushing in lasers with injected signal 7—36931
  - laser Q-switching by self-focusing, threshold condition 7—50603
  - laser resonator Q-factor modulation using methods of adaptive nonlinear optics *(Russian)* 7—50604
  - phase conjugation of laser beams, single mode Q-switched ruby laser development 7—25903
  - ruby laser, cryptocyanine dye, output characts. *(Korean)* 7—31332
  - ruby laser, Q-switched, pulse stretching for bubble chamber holography 7—43169
  - ruby laser, single mode Q-switched, phase conjugation of laser beam 7—25904
  - ruby laser oscillator, novel design 7—15895
  - ruby laser pulses, 1.6 ns, generation by passive Q-switching 7—25854
  - solid lasers made from activated ionic crystals, review 7—36971
  - solid-state ring and linear lasers with electro-optic Q-switching, numerical modelling 7—36999
  - CO_2 laser, piezoelectric Q switching 7—50608
  - CO_2 laser, synchronisable, injection locked, Q-switched, mode-locked, cavity dumped 10 atmosphere 7—62736
  - CO_2 laser, ultrashort pulse generation by square-wave mode locking and cavity dumping 7—43177
  - CO_2 laser radar, imaging, Q-switched 7—5937
  - CO_2 TEA laser, Q-switching effect 7—15841
  - $Co:MgF_2$ laser, mode locking and Q-switching by loss-modulation freq detuning 7—62711
  - $Cr,Nd:GdScGa_5O_{12}$ laser Q switching for optimising use of stored energy 7—25851
  - $Cr^{3+},Er^{3+}:(Y,Sc)_3Ga_5O_{12}$, spectral, luminesc. and lasing props., Stark sublevel lifetimes 7—25827
  - $Cr^{3+}:BeAl_2O_4$ crystals, growth and laser performance 7—15870
  - $Cr^{3+}:BeAl_2O_4$ tunable laser output pulse kinetics, spectral condensation characts. 7—50570
  - $Er^{3+}:CaF_2$ IR laser, Q-switched, CW operation 7—43107
  - He-Ne Q-switched laser, radiation laser, radiation growth 7—15842
  - $LiIO_3$ Raman laser for optical range, quasi-CW high power 7—25829
  - Nd:glass laser, passively Q-switched, output-parameter control 7—1104
  - Nd:YAG laser, actively mode locked Q-switched as stimulated Raman source at 1.54 μm 7—20350
  - Nd:YAG laser, CW mode-locked, modulator freq. detuning effects 7—62712
  - Nd:YAG laser, Q-switching by PTM method *(Korean)* 7—25853
  - Nd:YAG lasers, injection-seeded, fast resonance-detection technique for single-frequency operation 7—36969
  - Nd-glass laser, slow mechanical Q-switching, σ parameter effects *(Rumanian)* 7—15915
  - $Ti^{3+}:Al_2O_3$ coherently pumped laser, output characts. 7—31331
- **QAM** *see amplitude modulation*
- **QC** *see quality control*
- **QCD** *see colour model*
- **QCD plasma** *see nuclear matter*
- **QED** *see quantum electrodynamics*
- **quadratic programming**
  - aquifer dewatering, boundary element and optimisation techniques 7—60303
  - mechanical elasto-plastic contact under large deformation, finite element based quadratic programming 7—43805
  - sea-bed-structure interaction in the presence of frictional effects for submarine pipelines 7—20664
- **quadrature (numerical)** *see integration*
- **quadrature amplitude modulation** *see amplitude modulation*
- **quadrupole crystal field interactions** *see crystal hyperfine field interactions*
- **quadrupole lenses** *see electron lenses; electrostatic lenses; magnetic lenses*
- **quadrupole mass analysers and filters** *see mass spectrometer components and accessories*
- **quadrupole moments**
  - *see also atomic electric moment; molecular moments; nuclear electric moment; nuclear quadrupole resonance*
  - adatom, neighbour effects on permanent electric dipole, Feynman propag. anal. 7—27110
  - amino acids, ^{14}N pure quadrupole resonance calcs. 7—57092
  - n-butyl lithium, ^7Li multiexponential relaxation, multiple-quantum coherence transfer study 7—38956
  - cobaltocenium hexafluorophosphate-d_{10}, ^2H MAS NMR spinning sideband spectra study 7—33282
  - diatomic systems orbital energies, multipole moments and electric field gradients, HF calcs. 7—62270
  - interaction parameters, 2D solid state nutation NMR, density-matrix calcs. 7—53153
  - 2-methoxyethylamine, H bonded config. mol. rot., rot. isomerism barrier, quadrupole coupling consts., microwave spectra 7—50093
  - sd-shell nuclei, electric quadrupole moments 7—49242
  - C_2N_2-Ar gaseous mixture, collision-induced absorpt., quadrupole moments, IR and microwave spectra 7—50098
  - CO_2-Ar gaseous mixture, collision-induced absorpt., quadrupole moments, IR and microwave spectra 7—50098
  - H, quadrupole moment, relativistic two-body eqn. 7—49959
  - H_2^+, damping coeffs. and multipole anal., exact second-order induction energy calcs. 7—62271
  - H_2-He collision complexes, rotovibr. spectra. SCF CEPA calcs. 7—42478
  - H_2O microclusters, mol. orientations at surface, surface pot. num. soln. 7—36838
  - ^AHg, A=181-206 isotope shift, nuclear moments and charge radii 7—30333
  - ^APt, A=194,196,198 electric quadrupole moments of first excited states 7—10103
  - $^{232}Th(\vec{p},p')^{232}Th$, quadrupole and hexadecapole moments 7—678
  - $^{238}U(\vec{p},p')^{238}U$, quadrupole and hexadecapole moments 7—678
- **quality control**
  - *see also reliability*
  - 3D holographic miniprojector, integrated circuits assembly and quality control appl. 7—25763
  - acoustic emission applications in struct. testing 7—33883
  - biomedical electronic instruments safety and testing Electrotechnical Testing Institute practices *(Czech)* 7—18090
  - Creys-Malville (France) nuclear power station maintenance QA *(French)* 7—25127
  - cutting tools, performance improvement through the use of ion plated coatings 7—53931
  - digital subtraction angiographic units, quality assurance protocol 7—65824
  - flowmeter calibration, computer-aided test system 7—37591
  - fusion research, quality requirements, formulation and implementation 7—19471
  - gas laser with high reliability, anal. methods *(German)* 7—20188
  - high-quality quartz crystals, production developmental results 7—59823
  - holographic microscope, projection type, for microcircuits assembly and QC 7—62650
  - Integrated Lake-Watershed Acidification Study database documentation 7—46976
  - laboratory accreditation in the UK 7—14911
  - material surface deformation slope meas., reflection grating method, digital image processing 7—29974
  - metals and semiconductor objects, contactless quasioptical resonator inspection 7—54052
  - nondestructive inspection of case hardened parts using resistivity 7—39842
  - optical fibre, tolerance checking on diameters during drawing 7—62852
  - Particle Beam Fusion Accelerator II (PBFA II), quality assurance of R&D project 7—30763
  - particle counters, quantitative count calibration 7—56397
  - photographic process material management/quality control 7—54148
  - radiotherapy, quality control parameters 7—34238
  - radiowave diffraction method of complex quality control of cond. surfaces and dielec. coatings 7—39820
  - reliability estimate for multiparameter NDT 7—3562
  - steel, stainless, type 304, tubes, surface stress meas. using blind-hole strain gauge method, calibration 7—65249
  - steel weldment defects, quantification techniques by US normal beam testing 7—16044
  - steel-rubber, adhesive bond strength quality assurance using acousto-US technique 7—33881
  - test techniques for mech. props. 7—13698
  - TFTR bumper limiter and protective plate graphite tile, computer aided design/manufacture 7—25196
  - thermistors characts. var. implications for air temp. meas. 7—9233
  - thin films, quality testing using hardness meas. in SEM 7—8210
  - Fe powder, quality assessment method 7—53671
  - $LiNbO_3$ integrated optical substrates, Maker fringe anal. 7—26026
  - Ni plating basics, electroforming, surface prep. and quality control procedures 7—13638
- **quality factor** *see Q-factor*
- **quanticule theory of chemical binding** *see bonds (chemical)*
- **quantisation**
  - anharmonic oscillator, limitations of Birkhoff-Gustavson normal form anal. 7—56081
  - anomalous gauge theories, path integral quantization 7—56427
  - axial anomaly, stochastic perturbative derivation 7—24797
  - axial gauge non-Abelian gauge theory, stochastic quantisation, Langevin eqn. 7—41627
  - black hole mass quantisation in string theory 7—61628

- **quantisation** continued
  - bosonic strings, dilaton coupling-to σ-model and BRST 7—10040
  - BRST ghosts as worldsheet parameters in gauge-invariant string field theory 7—30257
  - BRST hamiltonian quantization of the supersymmetric particle in relativistic gauges 7—30213
  - closed string, spacetime gauge invariance origin, quantisation 7—35827
  - closed-form solutions for the modified potential 7—41148
  - composite string, Lorentz invariance and SUSY transformations, quantisation 7—5078
  - constrained fermionic oscillators, path integral formula 7—4945
  - constrained Hamiltonian dynamical system, path integral quantisation 7—18532
  - coupled anharmonic oscillators, algebraic reson. quantisation 7—24450
  - covariant factor ordering of gauge systems 7—35696
  - covariant heterotic strings, classical gauge and BRST struct. 7—49105
  - cubic lattice, quantum mech. particle behaviour, stochastic quantisation 7—61235
  - Dirac constraint quantisation, consistent factor ordering 7—41612
  - dispersive optical bistability model, limit cycle quantisation for dissipative driven anharmonic osc. 7—11045
  - dissipative quantum maps 7—41266
  - dynamical systems with second class constraints, operator quantization 7—29803
  - Eguchi-Kawai models, stochastic quantisation 7—56450
  - free bosonic string, covariant quantisation 7—24861
  - free null string, quantisation, absence of critical space-time dimensions 7—30260
  - gauge fields and constrained systems, stochastic quantization 7—15051
  - gauge theories, quantisation on a torus 7—18994
  - gauge theory, chiral, anomalous, quantization and inclusion of anomaly cancelling fermions during regularization 7—56428
  - generalized Langer corrections 7—9692
  - geometric quantisation, modular reduction theory and coherent states 7—41132
  - gravitational interactions, path integral quantisation, local symmetry props. 7—24528
  - Gupta-Bleuler quantisation of the free massless spin 2 field 7—48929
  - Hamiltonian dynamics of gauge systems 7—35695
  - Hamiltonian quantization of SL(2,*C*) gauge theory, unified Yang-Mills and gravitational theory 7—5029
  - harmonic oscillator, damped, quantisation 7—41035
  - interacting scalar field theories, entropy and symmetry breaking induced by charge density 7—41663
  - interacting string field theory and Chern-Simons form 7—41766
  - Jucys-Bandzaitis diagrammatic technique in angular momentum theory and second quantization 7—24463
  - L-kernel approach to quantisation of phase space polynomials 7—61147
  - Lagrangian field theory, canonical quantisation without conjugate momenta 7—30167
  - Lamb shift and spontaneous emission without field quantisation 7—19057
  - Langevin equation, renormalization and stochastic quantization 7—395
  - lattice gauge theory, stochastic quantization using Langevin and Fokker-Planck eqns. 7—24792
  - local scalar fields, canonical quantisation over quantum space-time 7—48942
  - Markov chains, translation-invariant distrib. 7—61265
  - nonAbelian Yang-Mills theory, $A_0=0$ gauge, canonical quantization 7—4984
  - nonlinear integrable classical Hamiltonian, quantisation and quantum integrability 7—24470
  - nonlinear Schrodinger equation, phenomenological quantisation scheme 7—18634
  - nonperturbative inconsistency of stochastic quantization in odd dimensions 7—61442
  - null string quantisation, absence of critical dimens. 7—49111
  - O_N invariant self-interacting theory, Gaussian quantisation and symmetry breaking, Goldstone theorem 7—24775
  - O(3) nonlinear σ model, numerical simulation by Parisi-Wu stochastic quantization 7—19008
  - operator quantization and abelization of dynamical systems subject to first-class constraints 7—56090
  - operator quantization of dynamical systems with irreducible first- and second-class constraints 7—24471
  - particle quantisation, force quadratic in the velocity, Lagrangian Feynman path-integral procedure, 7—24472
  - path integral quantisation and coherent states 7—114
  - path integral quantisation of constrained systems, Senjanovic measure 7—61140
  - periodic TDHF solutions, physical interpretation and quantisation 7—30358
  - Poisson Lie algebra C^∞, deformations of subalgebras 7—48435
  - QED, topological mass quantization and parity violation 7—41693
  - quantum dissipation, scattering and tunnelling 7—41136
  - quantum fluctuations and the Lorenz equations 7—9696
  - quantum gravity and cosmology, Kyoto, Japan (May 1985), conference 7—24295
  - quantum scattering on the hyperboloid, geometric quantization anal. 7—48431
  - real-space normalisation, Kakutani metric appls. to small Ising systems and gauge-field quantisation 7—41294
  - resonant classical motion, EBK quantisation, Fourier transform approach, semiclassical eigenvalues 7—42587
  - second quantization and pseudodifferential operators 7—29815
  - semiclassical mechanics, time independ. methods 7—9691
  - space-time Dirac-Kahler spinors 7—41625
  - spin-2 field theory in de Sitter spacetime, forbidden mass range 7—56417
  - spinless relativistic particle, BRS Hamiltonian quantisation in rel. gauges 7—14825
  - stochastic geometry, operator formalism in quantum mechanics and fictitious time in stochastic quantisation 7—14804
  - stochastic quantisation in field theory with fundamental mass 7—30199
  - stochastic quantization, supersymmetry and the anisotropy of microlocal space-time 7—14806
  - stochastic quantization method, renormalization scheme for fictitious-time correlations 7—4979
  - stochastically quantized field theories, hadron mass, energy gap derivation 7—35706
  - string field theories, gauge invariant, covariant quantisation 7—56531
  - string theory, unidexterous D=2 supersymmetry in superspace 7—61195
- **quantisation** continued
  - SU(N) gauge theory with independent metric and connection fields, quantisation 7—35693
  - SU(N) lattice gauge theory, Langevin eqns. and stochastic quantization 7—35691
  - superstrings with closed twisted boundary conditions, Green-Schwarz formalism, quantization 7—30231
  - supersymmetric string theory, covariant quantization and Ramond-Neveu-Schwarz model 7—35815
  - symmetry in stochastic quantization with regularizing noise 7—14826
  - thin films, electron dynamics in external longitudinal mag. field, electron energy spectrum calcs. 7—58906
  - ultralocal limit of the gravitational field coupled to a scalar field 7—41214
  - Ward identities and chiral anomalies in stochastic quantization 7—24774
  - Wentzel-Kramers-Brillouin quantisation rule, matrix formulation 7—24473
  - Yang-Mills theory, vacuum polarisation tensor, background field quantisation in light cone planar gauge 7—41617
  - Yang-Mills theory with Weyl fermions, gauge transformation quantization 7—4965
  - DCN, metastable states, spectral quantisation appl. 7—25434
  - $Ti_2X_9^{3-}$, exchange interaction, effective hamiltonian calcs., quantisation 7—10412
- **quantisation (communications)** *see analogue-digital conversion*
- **quantised Hall effect** *see quantum Hall effect*
- **quantitative analysis** *see chemical analysis*
- **quantum beat spectra**
  - cascade Zeeman quantum beats, stepwise pulsed-laser excitation, four-level model 7—50014
  - diatomic molecules, Zeeman quantum beats during transient process, after ground electronic state optical depopulation 7—36545
  - excited states, two-step excitation alignment factors 7—62305
  - malachite green, coherent mol. vibr. motion, fs time resolved obs. 7—57189
  - nile blue, coherent mol. vibr. motion, fs time resolved obs. 7—57189
  - propynol, hyperfine polarisation quantum beats, fluoresc. spectral anal. 7—36668
  - three-level atoms, optical free induction decay quantum beat 7—57482
  - YIG, ^{57}Fe enriched, quantum beats from synchrotron radiation pulses 7—2960
  - Fe I, cascade Zeeman quantum beats, stepwise pulsed-laser excitation, fluoresc. anal. 7—49997
  - He beam hyperfine struct. evolution and tensor polarisability determ. in elec. field. 7—57028
  - He, n $^1D_2$ levels, alignment and orientation in elec. field 7—865
  - Tl, hyperfine struct., quantum beat spectra anal. 7—31000
- **quantum beat spectroscopy**
  - phase factor function in semiclassical explanation *(Chinese)* 7—56345
- **quantum chemistry**
  - *see also chemical reactions; orbital calculation methods; perturbation theory; potential energy surfaces for collision processes; pseudopotential methods; quantum statistical mechanics; quantum theory; reaction kinetics; wave functions*
  - basis extension in the Roothaan method 7—30943
  - Beebe–Linderberg two-electron integral approx. 7—42449
  - multicentre quantum chemical integrals, hydrogenic AO basis calcs. 7—5598
  - photographic process, quantum chem. CNDO calcs., latent image growth and structure model 7—28321
- **quantum chromodynamics** *see colour model*
- **quantum counters** *see photon counting*
- **quantum crystals** *see quantum solids*
- **quantum electrodynamics**
  - *see also electromagnetism*
  - Abelian quark-gluon plasma, gauge invariant eqns. of motion, QED derivation 7—61823
  - Abelian U(1) lattice gauge theory, mag. monopoles and charged states 7—24760
  - action principle and quantization of gauge fields 7—48985
  - adatom, neighbour effects on permanent electric dipole, Feynman propag. anal. 7—27110
  - atomic single-quantum transition, spectral line contour, QED theory 7—50020
  - atoms and molecules, relativistic quantum mechanics 7—36503
  - bosonisation of the many-electron problem 7—41241
  - bound electron in Coulomb field, self-energy, momentum space method 7—42511
  - Casimir effect with uniformly moving mirrors 7—41699
  - colour confinement based on QED and BRS algebra 7—10026
  - conformally invariant Yang-Mills theory, QED analogy 7—35720
  - Coulomb-gauge QED, one-loop vertex function in parametric integral form 7—19059
  - curvilinear space phenomenological electrodynamics 7—5037
  - damped harmonic oscillator, nonisolated system, QED formulation *(Russian)* 7—19062
  - Debye scalar potentials for the electromagnetic fields, mag. monopoles 7—36850
  - deep inelastic QED Compton scatt., topological isolation, inclusive cross sections 7—49157
  - Dirac Hamiltonian, canonical transformation, comparison with Foldy-Wouthuysen analysis 7—48947
  - Dirac particle in four species 7—10016
  - discretized light-cone quantization for massless and massive Schwinger model 7—56497
  - dynamic character of quantum electrodynamics in quantum optics 7—1066
  - dynamical mass generation in large-N QED_3 7—19061
  - Einstein-Born-Infeld theory, duality rotations and type-D solns. 7—47683
  - electrodynamics of gravitation, intrinsic impedance of space-time 7—56133
  - electrodynamics with c-number Dirac spinors, Abrikosov vortices 7—61542
  - electron, coherency matrix description 7—15811
  - electron, radiative mass and g-2, QED between conducting plates 7—457
  - electron anomaly, light-by-light scatt. contrib., possible QED breakdown 7—49047
  - electron mag. moment, fine struct. const., QED determ. 7—15109
  - electron-atom scatt., two-photon exchange, Coulomb-gauge electrodynamics anal. 7—24829
  - electroweak signals in circuits, chiral anomaly induced spin waves as QED probes 7—460

quantum electrodynamics continued
- elementary particle interaction with intense EM field, quantum effects 7−49045
- elementary scalar particle existence, U(1) Higgs model and scalar electrodynamics 7−10017
- fermion and boson mass shifts in elec. field, QED theory 7−41700
- Feynman graphs and amplitudes, automatic generation using GRAND program 7−49043
- fine structure constant, electron self-field interaction and internal resonance 7−41701
- fine-structure constant in plasma model of fluctuating vacuum substratum 7−30230
- finite temperature QED at one loop level, renormalisation and radiative corrections 7−19056
- functional determinant of massless fermions in nonAbelian gauge pot., perturbative derivation 7−30169
- generalized covariant field theory of electrodynamics, flat space-time limit 7−41694
- Hall effect, multicomponent QED_3 theory 7−38598
- Handel's quantum 1/f noise model, proof of invalidity based on quantum electrodynamics 7−7299
- impurity combinational absorption of a multiphoton field in a dispersive medium 7−42575
- infrared problem for confinement of massless charged particles in QED_4 7−24828
- intense external field intensity problems 7−49046
- Jaynes-Cummings type model with multiphoton transitions, population dynamics 7−35778
- Lamb shift and spontaneous emission without field quantisation 7−19057
- large-Z nucleus, approximation procedures for QED 7−19060
- lattice QED, parity-violating fermionic vacuum currents, numerical study 7−19058
- lattice QED, renormalisation flow 7−15107
- lattice theory, weak coupling perturbation theory for QED 7−19001
- Liouville equation, mass generation and bosonization in curved space 7−35374
- localised oscillator in mag. field, path integral evaluation of Bloch density matrix 7−19055
- magnetic moments, electrodynamics, field theory on $R \times S^3$ topology 7−30271
- many-fermion systems, vacuum-induced Friedel-type oscillations 7−29887
- massive confined quark, QCD and QED energy shifts, cavity perturbation theory 7−15116
- massive Dirac neutrino scatt. in magnetic dipole field 7−10052
- massive Schwinger model with Wilson fermions, chiral condensate calcs. 7−61541
- massless SQED, Witten index 7−61538
- mode conversion, Bloch oscillations and Zener tunneling with light by means of the Sagnac effect 7−36877
- molecular fluid, elec. field induced second harmonic generation, orientational effects 7−50638
- molecular fluid, molecular, electromag. radiation absorpt., electrochromic effect 7−13130
- non-relativistic electrodynamical system, 1st quantum corrections to classical partition function 7−61540
- nonAbelian adiabatic phases and fractional quantum Hall effect 7−5040
- nonAbelian Yang-Mills theory, conformally covariant quantization 7−4950
- nonisolated bounded dispersion medium, QED, Hamilton formation calcs. *(Russian)* 7−30235
- p-form electrodynamics gauge theory generalization 7−30166
- particle acceleration by QED zero-point field, quantum Einstein-Hopf model anal. 7−41695
- particle in magnetic field, quantum measurement noise 7−30233
- phase shifts and the Kondo effect 7−41698
- photon dispersion in strong mag. field with positronium formation 7−41690
- photon hypothesis in electrodynamics, implications for gravitons in general relativity 7−41164
- photon splitting in a strong electromagnetic field 7−35779
- polarization operator in quantum electrodynamics with a pair-creating external field 7−19063
- QED_3, one-loop induced topological term, anal. using higher-derivative regularization 7−458
- quantum field theory, progress, book 7−9602
- quantum potentials, introduction into QED 7−41135
- quantum wave propagation near a black hole event horizon, QED scatt. 7−9505
- quark-gluon plasma, perturbative and nonperturbative theory, review 7−56510
- radiative transfer eqn. soln. 7−55910
- relativistic QED plasma, screening effect 7−10018
- relativistic quantum field theory, multiparticle prod. by external sources 7−35667
- relativistic self-interacting quantum electron, chaotic plane-wave solutions 7−41697
- relativistic two fermion problem in QED 7−49044
- renormalisation theory, nonstandard interpretation 7−41691
- renormalons in QED and Borel summability 7−10015
- resonant e^+e^- prod. in heavy ion collisions, QED external field problem 7−5038
- Rydberg atom, QED model testing 7−10458
- Rydberg atom maser for QED effect testing 7−10905
- Rydberg atoms, QED approach to energy level calcs. 7−62302
- scalar and spinor electrodynamics, gauge-invariant regularizations 7−61471
- scalar charged particle annihilation in laser field *(Russian)* 7−15108
- Schwinger model, exact solution at finite temp. 7−24787
- solids, thermo field dynamics calcs. 7−9986
- spin flip effects in dipole approx. 7−41692
- status and bearing on intersection of particle and nucl. physics 7−35780
- stochastic regularization, gauge and chiral covariant Langevin equations 7−35775
- strongly coupled QED, variational calc. of bound-state wavefunction 7−459
- superfield formalism using loop functionals 7−61539
- technidilation from technicolour model, $\xi(2.23)$ resonance 7−15098
- threshold effects in spontaneously broken theories, gauge and scheme depend. 7−5041
- topological mass quantization and parity violation 7−41693
- two bound spinor particles, relativistic energy spectrum 7−30234

quantum electrodyhamics continued
- variational approach to (2+1)-dimensional QED with topological mass term 7−41696
- e anomalous magnetic moment at finite temperature, mass shift, QED anal. 7−5096
- $e^+e^- \to e^+e^-$, differential cross-sections, QED predictions 7−35846
- $e^+e^- \to e^+e^-$, $\mu^+\mu^-$, two photon muon pair process, QED comparison *(Chinese)* 7−10050
- $e^+e^- \to \gamma\gamma$, differential cross-sections, QED predictions 7−35846
- $e^+e^- \to \gamma\gamma$, $\gamma\gamma\gamma$, $\gamma\gamma\gamma\gamma$, $\sqrt{s}=29$ GeV, QED tests 7−61642
- $e^+e^- \to \gamma\gamma\gamma$, ang. distrib. meas., QED comparison 7−5080
- $e^+e^- \to$jets, geometric struct. anal. review, QED tests, review 7−541
- e^+e^- peaks, constraints on nuclear transitions, axions and particle interpretation 7−35776
- $e^+e^- \to Z\gamma$, QED radiative corrections 7−535
- γq Compton scatt., NA14 expt. results 7−61785
- $l^+l^- \to \gamma\gamma$, partial wave anal. QED 7−49126
- $lN \to X$, deep inelastic scatt., two-photon collisions 7−19115
- $NN \to X$ EM production of spinless neutral particles 7−544
- ϕ production in heavy ion collisions (light pseudoscalar boson), QED calcs. 7−36022
- Au ions, laser produced spectra and QED effects 7−37747
- Bi ions, laser produced spectra and QED effects 7−37747
- $^{12}C(^{12}C,^{12}C)^{12}C$, effects of vacuum polarisation on sub-Coulomb scatt. 7−49469
- $\gamma\gamma \to e^+e^-$, cross section oscills., external field effects 7−30302
- H atom, Dirac equation, separation and eigenvalue anal., hyperfine splitting in IS state, 2S state shift 7−36807
- H EM energy density distrib., van der Waals forces 7−50048
- H, microwave ionisation of highly excited states, stochastic effects 7−15562
- He-like ions, multiconfiguration DF study 7−62298
- Pb ions, laser produced spectra and QED effects 7−37747
- Th ions, laser produced spectra and QED effects 7−37747
- U ions, laser produced spectra and QED effects 7−37747

quantum electronics *see quantum optics*

quantum field theory
- *see also axiomatic field theory; Bethe-Salpeter equation; dispersion relations; gauge field theory; meson field theory; nonlinear field theory; quantisation; quantum field theory of elastic scattering; quantum field theory of interactions; Reggeon field theory; relativistic quantum field theory; renormalisation; scaling phenomena; Schwinger source theory; unified field theories*
- 2D conformal field theory, analytic geometry 7−48968
- *N* quantum approach to symmetry breaking 7−35708
- Abelian Avan-de Vega 2D model, path integral bosonisation 7−41608
- Abelian Higgs model, APS index for fermion-vortex system 7−19011
- Abelian Higgs model, homotopy theory applications, review 7−24793
- additional symmetries for integrable equations and conformal algebra representation 7−30172
- anisotropically correlated random field systems, crit. behaviour 7−56154
- anomalies, algebraic approach, Cartan homotopy formulae 7−9935
- anomaly-free superstring theory, compactification 7−56480
- anti-self-dual equation and Riemann-Hilbert transformation in 4D *(Chinese)* 7−9951
- antiparticle representations in local observables theory 7−56472
- Ashkin-Teller model, 2D conformal symmetry and critical 4-spin correl. fns. 7−48999
- axial anomaly, stochastic perturbative derivation 7−24797
- Backlund transformation and consistence of regular Rieman-Hilbert transform 7−30163
- Backlund transformations for superextensions of theLiouville equation 7−5003
- BCS systems, nonAbelian bosonization and topological aspects 7−48931
- book, gauge field theory introduction 7−35134
- book field theory in particle physics. Vol.1 7−4641
- Borchers' tensor algebra, invariant states 7−15047
- bound state problem for quarks and leptons, spontaneous symm. breaking 7−35709
- BRST approach to N=2 superconformal algebra 7−24866
- BRST ghosts as worldsheet parameters in gauge-invariant string field theory 7−30257
- B.W. Lee's equation, generalisation *(Chinese)* 7−9952
- Casimir effect in renormalizable field theory 7−30178
- causal independence and the energy-level density ofstates in local quantum field theory 7−385
- central limit theorem in QFT, generalized partons, appl. to deep-inelastic scattering 7−425
- character-valued index theorems, proof 7−35661
- charge operators without local commutativity 7−18979
- charge-monopole interaction, O(3,1) symm. problem 7−48943
- Chiral models, geometrical aspects, superstring theory 7−61496
- complex anomaly in 10D 7−61460
- composite 2D conformal models, quasiprimary composite fields and operator product expansions 7−9946
- composite particles, field theoretic model, variational approach 7−19080
- conference, critical phenomena and phase transitions, Brasov, Rumania, (1983) 7−48187
- conference, Groningen, Netherlands, Aug. 1985 7−55899
- conference, strong interactions and gauge theories, Les Arcs, Savoie, France (March 1986) 7−60876
- conformal anomaly, Virasoro algebra and Chern-Simons cohomology 7−30173
- conformal field theory, analytic fields on Riemannian surfaces 7−24788
- conformal field theory, energy-momentum tensor on a Riemann surface, bosonic strings 7−48969
- conformal invariant field theory, current algebra, group theoretic anal. 7−35710
- conformal invariant field theory, Green's functions and Feynman rules on $S^3 \times S^1$ hypertorus 7−41597
- conformal invariant theories on a torus in 2D 7−35680
- constrained fermionic oscillators, path integral formula 7−4945
- coordinate-invariant regularization, Schwinger-Dyson formulation 7−61464
- covariant quantum field theory and scaling limits 7−48936
- critical behavior and renormalization of quantum fields 7−49004
- critical phenomena in 3 dimensions 7−48526
- degenerate (super) conformal models, equivalence 7−56446
- derivative expansion for the one-loop effective actionswith internal symmetry 7−4976

quantum field theory continued
- dimensional regularization and non-associative Dirac-Clifford algebra 7−35714
- Dirac fermion, chiral anomalies, dimensional regularisation 7−9990
- discrete vacuum superselection rule in Wightman theorywith essentially self-adjoint field operators 7−4980
- disorder fields in two-dimensional conformal quantum-field theory and $N=2$ extended supersymmetry 7−41161
- disordered interacting quantum systems, dynamics 7−56147
- dynamically triangulated random surfaces, numerical and analytic study 7−35682
- Edwards Hamiltonian of polymer physics, stochastic quantisation study 7−48945
- effective action for the Yukawa$_2$ quantum field theory 7−61424
- effective action in quantum field theory and ζ-function regularization 7−41643
- electromagnetic field, vacuum energy in rotating system 7−24779
- embeddings of generating functionals, generalized perturbation theory 7−30181
- fermion mass upper limits in model analysis 7−19006
- fermion pair production associated with metastable vacuum decay 7−4981
- fermionic/scalar field theories on Riemann surfaces of arbitrary topology, equivalence 7−9954
- finite $N=1$ SUSY field theories and dimensional regularization 7−24802
- finite field theories, 3D, with and without supersymmetry, S-matrix and vacuum stress finiteness 7−61472
- finite quantum field theories, general features 7−48974
- finite temperature field theory, renormalisability 7−30161
- free-scalar field models, proof of duality for local von Neumann algebras 7−18980
- functional integration, measure and support 7−9655
- generalized birth and death equations, probabilistic solns., field theory appl. 7−48948
- generalized covariant field theory of electrodynamics, flat space-time limit 7−41694
- geometry of differential equations, secondary differential calculus and quantum field theory 7−56408
- hadron fields from anisotropic space, interactions 7−35670
- Hall effect, multicomponent QED$_3$ theory 7−38598
- Hamiltonian field theory, spectral props. *(French)* 7−61506
- heat conduction, space-time behaviour, thermo field dynamics methods 7−11251
- heterotic superstring, compactifications 7−10046
- identical boson systems, Monte Carlo simulations 7−24537
- interacting bosonic strings, gauge-invariant field theories, 3-point vertex operator 7−56526
- interacting massive vector field, effective Hamiltonian and one-loop quantum effect 7−4944
- interacting scalar field theories, entropy and symmetry breaking induced by charge density 7−41663
- interacting string field theory and Chern-Simons form 7−41766
- irreversibility of flux of renormalisation group in 2D 7−41636
- Lagrangian field theory, canonical quantisation without conjugate momenta 7−30167
- Lagrangian formulation of general Hamiltonian theory with constraints 7−41590
- lattice dynamics and melting in sphalerite and diamond struct. crystals, quantum field theory 7−26876
- linear superfields, projection operators *(Korean)* 7−30208
- Liouville quantum field theory, calc. of functional measure 7−18984
- Liouville theory, geometry and symm. breaking 7−9981
- magnetic moments, electrodynamics, field theory on $R\times S^3$ topology 7−30271
- massive spin-1 and -2 fields, gauge-invariant actions from constraint Hamiltonian dynamics 7−41611
- massive vector field, EM interaction with mag. moment, Feynman rules 7−4946
- matrix model, diagram technique of 1/N expansion 7−30200
- monoatomic Bose gas, heat conduction, thermo field dynamics methods 7−11251
- N-vector model, quantum crossover behaviour in large-N limit 7−422
- Niels Bohr centenary symposium, Copenhagen, Denmark, (Oct. 1985) 7−48177
- nonequilibrium dissipative system, spontaneous symm. breaking and Nambu-Goldstone mode 7−35739
- nonminimal description of spin 2 7−35656
- nonperturbative canonical formulation and Ward-Takahashi relations at finite temp. 7−48932
- null vectors, spinors, and strings 7−35253
- one-loop effective action, covariant derivative expansion, Schwinger-Fock gauge condition 7−4970
- one-loop effective action, expansion in powers of curvatures 7−48973
- one-loop effective lagrangian, higher derivative terms from Wigner-Kirkwood expansion 7−48963
- orbifolds, conformal field theory, appl. to twisted string scattering 7−49106
- orthogonal harmonic polynomials on $U(2)$ 7−61432
- particles, fields and now strings 7−49001
- path integration, use of spacetime transformations 7−18986
- physical symmetry groups and associated bundles in field theory 7−41666
- potential energy and the field concept in A-level physics 7−14744
- progress in quantum field theory, book 7−9602
- propagator calculation on a Riemann surface 7−9961
- quantised fibre-bundled space, charged particle motion and charge density 7−41584
- Ramond-Ramond closed string field theory 7−49110
- random surfaces, Fadeev-Popov determinant, geometrical interpretation 7−18984
- randomly triangulated planar random surfaces, scaling props. 7−35681
- regular tetrahedron, quantum theory and field theories on surface 7−48417
- regularisation and path integral meas. 7−35725
- regularisation procedure, existence of physical interpretation 7−41575
- regularization schemes for stochastic quantization 7−48988
- relaxation and finite volume effects, stochastic numerical simulations 7−61481
- renormalisation group methods and necessity-sufficiency condition 7−56456
- scalar field theories, fermions and Gaussian effective pot. 7−35699
- scalar field theory, path integral approach to dissipative processes 7−19012

quantum field theory continued
- scalar field theory and gauge theory, renormalized coupling constants by Monte Carlo methods 7−41618
- Schrodinger non-relativistic conformal symmetries and invariant tensor fields 7−35674
- Schwinger-Dyson equations, from block-spin expectation values to renormalized couplings 7−56429
- self-interacting scalar field, scale invariance, renormalisation group eqn., Callan-Symanzik eqn. 7−56420
- SO(2,1) coherent states large-N phase integral approximation for Coulomb-type systems 7−35677
- solid-state physics, field theoretical approach 7−12934
- solids, thermo field dynamics calcs. 7−9986
- spinor fields, renormalisation by asymptotics 7−56449
- stochastic quantisation in field theory with fundamental mass 7−30199
- stochastic quantization and Langevin eqn. 7−41588
- stochastic quantization method, renormalization scheme for fictitious-time correlations 7−4979
- stochastically quantized field theories, hadron mass, energy gap derivation 7−35706
- strange quantum numbers in condensed matter and field theory 7−48453
- string field theory action, group theoretic approach 7−5073
- string field theory quantisation, BRST symmetry, gauge fixing, ghost lagrangian 7−19084
- string propagation and affine Lie algebras on group manifolds 7−35814
- string theory, Mumford form and Polyakov measure 7−35812
- structure concepts in quantum field theory 7−9979
- SU(2)×SU(2) asymmetric linear σ model, symm. restoration at finite temp. 7−41650
- superconformal algebras in two dimensions 7−4982
- supersymmetric QCD, effective Lagrangian in 1/N approx. 7−30244
- supersymmetric string dynamics, conformal field theory on a super-Riemann surface 7−41761
- SUSY field theory, effects of conserved charge density, goldstinos and Goldstone modes 7−41657
- thermo field dynamics, development and generalization 7−9984
- thermo field dynamics, general struct. of two-point functions 7−41646
- thermo field dynamics, spontaneous creation of dissipation 7−56407
- thermo field Monte Carlo methods 7−9985
- thermofield dynamics, perturbative, vacuum diagrams 7−9970
- time-dependent renormalization in non-equilibrium thermo field dynamics 7−35712
- topological invariants and anomalies associated with Dirac operators 7−41613
- tree formula for cluster expansions with general multibody interactions 7−428
- two-dimensional gravit. coupled to chiral fermions, Lorentz anomaly cancellation 7−18674
- Veneziano amplitude from interacting string field theory 7−19082
- vertex operator construction of the SO($2n+1$) KAC-Moody algebra and its spinor representation 7−15056
- Virasoro algebra in $2+1$ dimensions and angular momentum fractionalization 7−61467
- Virasoro conditions, vertex operators, and string dynamics in curved space 7−41768
- Ward identities and chiral anomalies in stochastic quantization 7−24774
- Wess-Zumino effective action, homotopy theory applications, review 7−24793
- Wess-Zumino supermultiplet, Lagrangian constraint free theory 7−388
- Weyl field strength symmetries for arbitrary helicity and gauge invariant Fierz-Pauli and Rarita-Schwinger wave equations 7−35676
- Yangians, Bethe ansatz and combinatorics 7−30175
- zero-energy boundary state of superheavy fermion and SO(10) monopole *(Chinese)* 7−24777
- K decays, CP nonconservation, time depend. perturbation theory for quaternionic quantum mech. 7−5087

quantum field theory of elastic scattering
- *see also elementary particle scattering; relativistic scattering theory*
- Dirac Hamiltonian for fermion-solenoid interactions, vacuum charge, scatt. theory 7−35700
- global gauge anomalies and scattering theory 7−35701
- monopole asymptotic scatt., bound-state spectrum and dynamical symm. 7−56424
- nonlinear Schrodinger model in strong coupling regime, nonperturbation scheme for S-matrix 7−4991

quantum field theory of gravitation
- *see also elementary particle gravitational interactions; gravitons; supergravity*
- accelerated electron, photon emission and interactions with vacuum fluctuations in noninertial reference frame 7−14847
- attractor in a higher-dimensional cosmology 7−14696
- attractor in superstring model, Einstein theory, Friedmann universe, inflation 7−41201
- axially symmetric higher-dimensional gravity, Belinsky-Zakharov N-soliton transforms. 7−41207
- axially symmetric higher-dimensional gravity, Neugebauer-Kramer transforms. 7−41206
- Big Crunch, strong black hole thermodynamics, unified geometrical approach 7−4749
- black hole evaporation, closed superstring theories role, quantum coherence 7−66651
- black hole mass quantisation in string theory 7−61628
- black holes, Hawking radiation and quantum mechanical description, gravit. interaction 7−56106
- blackhole (quantised), spectrum and entropy 7−55703
- book, supersymmetry, superfields, supergravity 7−14724
- box to hold grav. radiation in thermal equilib., impossibility 7−61180
- canonical quantization and quantum geometrodynamics, Faddeev-Popov path integral formalism 7−41211
- canonical quantization of gravit., Universe wave function boundary conditions 7−18672
- chaotic inflation, effects of nonrenormalisable terms 7−29558
- characteristic actions $\hbar^{(s)}$ in struct. of Universe, implications for time depend. of gravit. const. 7−4602
- chiral anomalies in gauge and gravitational interactions, ID SUSY path integral approach 7−41661
- classical and quantum gravity, spinorial variables, Hamiltonian formulation 7−24527
- classical horizons and quantum corrections, Hawking radiation 7−48506
- classical particle dynamics in quantum space-time 7−24525

quantum field theory of gravitation continued
- closed-time-path functional formalism in curved spacetime, cosmological back-reaction problems 7−41215
- computability and physical theories 7−18589
- conference, quantum gravity and cosmology, Kyoto, Japan (May 1985) 7−24295
- conformally invariant scalar field, anisotropy damping and particle prod. at finite temp. 7−56132
- cosmic strings, radiation of Goldstone bosons 7−56129
- cosmological consequences of strong and gravitational unification 7−14844
- cosmological constant, uncertainty principle limits 7−14685
- cosmological particle creation, intrinsic measures of field entropy 7−35077
- cosmology, local laws and boundary conditions 7−29563
- cosmology with Ricci-flat compactification from 10D superstring theories 7−40977
- cosmos, relaxation time for transition from isotropic turbulence to microscopic chaos *(German)* 7−29848
- covariant heterotic strings, classical gauge and BRST struct. 7−49105
- covariant quantum field theory of gravitation, scaling limit and space-time metric 7−56134
- covariant superstring, space-time supersymmetry 7−24511
- curvature and torsion from matter, Lorentz gauge symm. 7−41208
- de Sitter space, integral transform in (4+1) dimens. 7−35666
- de Sitter symm., spontaneous breaking by radiative effects 7−35373
- dimensional phase transitions, interacting spinors, gauge fields, background gravity, cell complex 7−35697
- dimensional reduction of 10-D supergravity and superstring 7−35378
- double galaxies in cosmic quantum mechanics, possible mass limits 7−18455
- $E_6 \times E_7 \times U(1)$ theory with Lorentz-Chern Simons term, supersymmetrisation 7−168
- E_6 superstrings, phenomenology of exotic particles 7−169
- E_8 superstrings, calabi-Yau manifolds motivations and constructions 7−56109
- effective action for string corrected Einstein gravity 7−61203
- Einstein equations, self-consistent solutions with one-loop quantum gravity corrections 7−161
- Einstein gravit. from soln. of renormalisation group eqn. of Weyl gravit. 7−41212
- electrodynamics of gravitation, intrinsic impedance of space-time 7−56133
- eleven dimensional quantum gravity, spontaneous compactification of extra dimens. 7−18666
- energy-density fluctuations in de Sitter space 7−18668
- energy-momentum tensor, vacuum expectation value and props. 7−48509
- Euclidean lattice, unified treatment of Poincare, de Sitter and conformal gravity 7−56131
- Euclidean lattice quantum gravity, functional integration and diffeomorphism group 7−176
- evaporating black holes, back reaction of quantum fields in presence of inflation 7−9506
- EXCALC code applied to general relativity and Poincaré gauge theory 7−61174
- extra gauge field structure uncovered in the Kaluza-Kleinframework 7−164
- fermionic perturbations and wavefunction of the Universe 7−56128
- finite temperature quantum field theory in curved spacetime, quasilocal effective Lagrangians 7−41216
- Freidmann cosmology with a cosmological constant in scale covariant theory 7−4608
- functional measure for lattice gravity 7−14846
- gauge invariant spin-3/2 anomaly in arbitrary dimension 7−178
- gauge theories and quantum cosmology, book 7−48512
- gauge theories of gravity and supergravity 7−9744
- gauge theory of gravit. in higher dimensional space-time and dimens. reduction 7−56127
- global stability of gravitational lumps 7−41213
- gravitomagnetic pole and mass quantisation, comment 7−182
- gravitometric pole and mass quantisation, comment 7−181
- graviton propagator and infrared divergences in de Sitter space 7−48508
- gravitons in general relativity, implications of photon hypothesis in electrodynamics 7−41164
- Gupta-Bleuler quantisation of the free massless spin 2 field 7−48929
- Hadamard and minimal renormalisations of scalar field in curved space-time 7−48511
- Hamiltonian dynamics of higher-order gravit. theories 7−48502
- Hartle-Hawking Universe wave function, pure-state density matrix 7−18671
- heterotic string, anomaly cancellation and self-dual lattices 7−35367
- heterotic string amplitudes, modular invariance and one-loop finiteness 7−41203
- heterotic string models, removing tachyons by compactification 7−61192
- heterotic string theory 7−9735
- higher derivative quantum gravity, asymptotic behaviour 7−61202
- higher dimensional cosmology, initial conditions and attractors 7−29561
- higher dimensional matter-gravity coupled theory, 2 pots., 1 gauge group 7−61200
- homogeneous Kaluza Klein cosmologies, group theoretical classification 7−48491
- inflation, oscillation and quantum creation in gauge extended supergravity 7−35380
- inflation with generalized initial conditions of scalar field configs. 7−48124
- inflationary cosmological model, homogenization and isotropization 7−35375
- inflationary cosmology, dynamical anal. 7−14691
- initial conditions in quantum cosmology 7−14690
- interacting quantum field theory in curved space-time, S-matrix approach 7−47675
- Kaluza-Klein cosmologies, surfaces of discontinuity in 5-D 7−41197
- Kaluza-Klein model, conversation laws and integrability conditions for gravitational and Yang-Mills field equations 7−56108
- Kaluza-Klein model in 5D, quantum fluctuations and residual length 7−48507
- Kaluza-Klein quantum R^2-gravity, effective action and spontaneous compactification 7−61194
- Kaluza-Klein theories, cosmological evolution of degenerate vacua 7−41198
- Kaluza-Klein theories, scalar fields and dynamical torsion 7−4746
- Kaluza-Klein theory, formulation of the positive-energy theorem 7−4739

quantum field theory of gravitation continued
- Kaluza-Klein theory, harmonics and spectra on general coset manifolds 7−24520
- Kaluza-Klein theory, $M^4 \times S^1$ model, gauge-dependence of self-consistent dimensional reduction 7−29844
- Kaluza-Klein theory, recent results in extra dimensions 7−24521
- Kaluza-Klein theory, reparametrization dependence of the effective potential 7−48493
- Kaluza-Klein theory, scale invariance, Killing vector and size of fifth dimens. 7−24524
- Kaluza-Klein theory, self-consistent dimensional reduction and effective action 7−41218
- Kaluza-Klein theory, weak angle with deformed internal space 7−9732
- Kaluza-Klein theory in 11D, compactifications with $SU(3) \times SU(2) \times U(1)$ symmetry 7−29840
- Kerr-Newman metric, charged boson bound states *(Chinese)* 7−9729
- Klein-Gordon and Weyl equations in the Godeluniverse 7−167
- Lagrangian density of gravit. field, gauge principle and Riemannian geometry 7−61201
- large number hypothesis, Bekenstein-Hawking entropy and Weizsackers ur theory 7−14686
- linear conformal gravit. in de Sitter space 7−48504
- Liouville equation, mass generation and bosonization in curved space 7−35374
- local Euclidean gravity coupled to σ-model, harmonic maps and submersion 7−14843
- Lorentz, conformal and gauge anomalies in external fields 7−41219
- Lorentzian cobordism, non-time orientable, pair creation 7−9724
- massive scalar field in the static space-time of a cosmic string 7−41217
- massless higher-spin fields, coupling and gauge algebra, rel. to string theories 7−177
- massless scalar field with gravity, Einstein's field eqns. in 3D space-time 7−41209
- matter models which violate the strong energy condition, initial singularity, construction 7−179
- matter-induced topological mass term 7−18669
- metric space-time as renormalisation group eqn. fixed point on fractal structs. 7−48505
- Mixmaster universe, quantum chaos 7−9742
- monopole dilution by inflation and entropy enhancement 7−9734
- negative energy radiation from a charged black hole 7−4497
- Neveu-Schwarz and Ramond algebras, highest weight representations 7−24506
- nonlinear σ-model coupled to metric tensor field, spontaneous compactification 7−165
- nonsymmetric Kaluza-Klein theory, numerical predictions 7−35371
- O(N) symmetric model, effective pot. in static homogeneous spacetimes 7−18673
- one loop effective potential with spontaneous compactification, stability 7−61187
- one-loop operator matrix elements in the Unruh vacuum 7−14845
- particle and energy flux from moving mirrors, detection in 2D 7−173
- particles in the early universe, conference, Thessaloniki, Greece (June 1985) 7−9596
- path integral quantisation, local symmetry props. 7−24528
- Planck length as cosmological constraint, derivation 7−34852
- Poincare gauge theory of gravit. 7−9741
- Proca field in a spacetime with curvature and torsion 7−29850
- propagating modes in gauge field gravit. theory 7−24523
- quantum cosmological perturbations in pure gravity 7−180
- quantum gravity, experimental test 7−48500
- quantum gravity, $\bar{p}$ gravitational acceleration meas., proposed expt. 7−48501
- quantum physics in multidimensional spaces, gravity effects on quantum evol. eqn. 7−61155
- quantum Regge calculus in the Lorentzian domain and itsHamiltonian formulation 7−175
- quantum space-time and gravitational consequences 7−35372
- quantum wave propagation near a black hole event horizon, QED scatt. 7−9505
- quasi-Riemannian gravit. with local SO(3) invariance and broken Lorentz symm. 7−18670
- radiation detection by linearly accelerated particle detectors, inertial observer's interpretation 7−174
- reheating after inflation for classical scalar field with exponentially flat pot. 7−4605
- renormalisation in curved space-time and nonminimal gravit. coupling 7−35665
- Rindler space curvilinear electrodynamics 7−29849
- Robertson-Walker metrics, quantum vacuum definition for spin 1/2 fields 7−48510
- SO(10) superstring theory without intermediate scales 7−35365
- SO(12) model, quark and lepton masses in six dimensions 7−9740
- SO(2) space, general relativistic stability of Q matter 7−4741
- spinning cosmic strings and quantization of energy 7−170
- statistical physics and field theory conf., Groningen, Netherlands, Aug. 1985 7−55899
- string theory, unidexterous $D=2$ supersymmetry in superspace 7−61195
- string theory and space-time topology 7−35838
- superconducting strings and membranes, heterotic string behaviour 7−9739
- supermanifold cohomology and the Wess-Zumino term of the covariant superstring action 7−61186
- superstring compactifications, orbifolds with nonabelian space groups 7−35366
- superstring low energy theory, spontaneous breakdown of E_6 7−9736
- superstring models, baryon and lepton number violation 7−48498
- superstring models, neutral E_6 gauge boson 7−61196
- superstring models, neutrino mass and baryon number violation 7−48499
- superstring models, renormalisation group anal. 7−9737
- superstring orbifold compactification hierarchy of quark-lepton masses 7−35364
- superstring phenomenology, general review 7−61199
- superstring phenomenology, Kaluza-Klein compactifications 7−24522
- superstring theory, time variation of Newton's gravit. constant 7−18661
- superstring theory, topological sectors 7−61193
- superstrings, bosonic gauge interactions, implications at lower energies 7−56126
- superstrings, supergravity models from truncation mechanism 7−61211
- superstrings and preons, uniqueness, parameterlessness and good quantum gravity 7−9738

- **quantum field theory of gravitation** continued
  - tachyons in heterotic string models in 10D, removal by compactifications 7—171
  - thin spherical matter shell, gravitational entropy, beyond black holes 7—4750
  - torsion potentials, dual field and first-order actions 7—9714
  - tunnelling without barriers in curved space-time 7—41196
  - two-dimensional gravit. coupled to chiral fermions, Lorentz anomaly cancellation 7—18674
  - ultralocal limit of the gravitational field coupled to a scalar field 7—41214
  - unification of quantum gravity and nonAbelian gauge field 7—35376
  - universal master equation for the gravitational violation ofquantum mechanics 7—4723
  - Universe, quantum creation theory 7—14487
  - vacuum expectation values of the energy-momentum tensor in two dimensions 7—41210
  - vacuum field characts. 7—172
  - vacuum inhomogeneous mixmaster universe, symm. behaviour and cold-started inflation 7—18675
  - vacuum polarisation an scalar field effects in early Universe, implications for inflationary cosmology 7—48110
  - vacuum polarization in curved backgrounds deduced from Hadamard kernels 7—48503
  - Vaidya spacetimes, shell-focusing singularity strengths 7—56097
  - wave fns. of universe, quantum-classical correspondence 7—9568
  - world line in curved background metric, canonical formalism 7—18667
  - Yang-Mills gravitational theory, geometrical content 7—56130
  - zero mass limit of spin $^{3}/_{2}$ wave equations 7—9743
  - zero-point field in a circular-motion frame 7—41610
- **quantum field theory of interactions**
  - *see also elementary particle coupling constants; elementary particle interactions; Feynman diagrams; quantum electrodynamics; quantum field theory of gravitation; quantum field theory of strong interactions; quantum field theory of weak interactions; vertex functions*
  - axial model in curved space-time 7—61453
  - monopole asymptotic scatt., bound-state spectrum and dynamical symm. 7—56424
  - nonlocal quantum numbers in field theory 7—15064
  - nonrelativistic interaction models with infinities, renormalisation, Green's function 7—30171
  - quasiclassical model of atomic systems, geometrical connection between v and u eqns. 7—61435
  - Schwarzschild metric, classical and quantum scattering theory for linear scalar fields 7—18684
  - semiclassical theory of interacting subsystems, quantum and statistical props. 7—41587
  - $ed \to e'pn$, quantum field theory, projecting properties on the light front and suppression of loop diagrams 7—41669
- **quantum field theory of strong interactions**
  - *see also elementary particle strong interactions; Lee model*
  - hadron field theory, confinement anal. 7—49058
  - hadron field theory, qq interactions, hadron scatt. and bound states 7—49059
  - long-range NN force, search at highly relativistic velocities 7—498
- **quantum field theory of weak interactions**
  - *see also elementary particle weak interactions*
  - No entries
- **quantum fluids**
  - *see also boson systems; fermion systems; liquid helium; spin polarised atomic hydrogen*
  - dense fluid with square-well pot., quantum correction to radial distrib. function 7—209
  - hard core square well quantum matter 7—24539
  - quantum liq.-quantum cryst. phase interface, hydrodynamic eqns., sound transmission calcs. 7—32746
  - scaling and deep inelastic neutron scattering from quantum liquids and solids 7—58558
  - variational density matrix theory. I 7—24540
  - variational density matrix theory. II 7—24541
- **quantum generators (optical)** *see lasers*
- **quantum Hall effect**
  - 2D systems, proceedings of Winter School, Mauterndorf, Austria (Feb. 1986) 7—48131
  - absolute determ. of farad, ohm and quantised Hall resistance at LCIE 7—14909
  - C* algebras, K-theory for quantum Hall effect, Connes' cohomology 7—58725
  - conductivity oscillations and quantum Hall effect in weak mag. fields 7—64275
  - density-density response function in the fractional quantum Hall effect 7—52740
  - dynamic current oscillations in the quantum Halleffect 7—7270
  - electrical conductivity, interacting 2D electrons in a mag. field 7—52573
  - electron gas in 2D, quantised Hall effect 7—7271
  - electron mag. moment, fine struct. const., QED determ. 7—15109
  - fermion system, two component, fractional quantum Hall effect, excitation spectrum 7—52656
  - fine structure constant determ. at PTB 7—14966
  - fractional, large-scale config.-interaction calcs., Haldane's spherical model 7—2628
  - fractional, spin-reversed quasi-particles, many-body approach 7—2629
  - fractional and integral forms, review 7—38590
  - fractional Hall effect, correlations 7—27354
  - fractional quantised Hall states, microscopic wave functions at $v={}^{2}/_{5}$ and ${}^{2}/_{7}$ 7—2630
  - fractional quantum Hall effect, energy gaps 7—27272
  - fractional quantum Hall effect, quasiparticle states 7—21979
  - fractional quantum Hall effect, review 7—7269
  - fractional quantum Hall effect, theory 7—52658
  - fractional quantum Hall effect of a multicomponent fermion system, collective excitations 7—21835
  - fractional quantum Hall states, hierarchy termination and impurity effect scaling 7—21978
  - fractional quantum Hall states, size depend. in small system calcs. 7—2517
  - impurity bound state ionisation 7—12742
  - integer quantum Hall effect, theory 7—52824
  - integral quantum Hall effect and localisation 7—64274
  - localisation theory 7—64170
- **quantum Hall effect** continued
  - low-dimensional conductors, field-induced density-wave phases, quantised Hall effect calcs. 7—45296
  - measurement, computer-controlled AC bridge for precision resistance meas. 7—18832
  - measurement, using SQUID flux-transformer-coupled instrument, optimum DC current resolution 7—18830
  - measurement from 4K to 20mK 7—14969
  - metal-insulator-semicond. struct., 2D electron gas, skin effect and nonuniform states obs. 7—64353
  - MOS, freq. depend. 7—12871
  - multicomponent QED$_3$ theory 7—38598
  - nonAbelian adiabatic phases and fractional quantum Hall effect 7—5040
  - one-particle wave functions, local density of states and spatial structuring 7—2631
  - publications and citations, anal. 7—48220
  - quasi-1D conductors, quantum Hall effect 7—64273
  - quasi-3D systems, quantised Hall effect, scatt. theory calcs. 7—64333
  - quasiparticles and impurities 7—33036
  - resistance meas., using improved Josephson potentiometer 7—18810
  - resistance meas. appl., US legal unit monitoring 7—18808
  - resistance standard appl., precise comparisons of quantized Hall resistances 7—18809
  - resistance standard realisation at BIPM 7—18811
  - resistance value determ., using calculable capacitor at ETL 7—14968
  - semiconductor structures, electrons and phonons in 1D and 2D 7—2734
  - semiconductor superlattice, 3D anisotropic system, surface states and quantum Hall effect 7—38700
  - spin-1 quasiparticle, spin polarisation of ground state, fractional quantum Hall effect 7—33034
  - superlattice magnetoroton bands 7—64335
  - superlattices, integral quantum Hall effect 7—2691
  - transport phenomena, localisation and interactions, conf. Braunschweig, Germany (Aug. 1984) 7—60882
  - two-dimensional electron layer, Wigner liq. magnetisation, collective motion model calcs. 7—58757
  - two-dimensional electron system, Faraday rotation, quantisation 7—3027
  - two-dimensional systems, quantum Hall effect, scaling functions 7—21941
  - universality, topological invariant and observable 7—45358
  - voltage and resistance, US legal units 7—41329
  - AlGaAs-GaAs heterostructures, dissipationless quantum Hall effect, size-depend. quantised breakdown 7—45469
  - CdGeAs$_2$, n-channel inversion layers, oscillatory diffusivity-mobility ratio, quantising mag. field 7—45419
  - GaAs MESFET and JFET devices, elec. resist., Hall effect, influence of electronic subband mag. depopulation 7—38740
  - GaAs/Al$_x$Ga$_{1-x}$As heterostruct. localisation and interaction in a strong mag. field 7—64343
  - GaAs/AlGaAs modulation doped heterostructs., transport props. studies 7—52752
  - GaAs/Ga$_x$Al$_{1-x}$As heterojunctions, anomalous quantum Hall effects 7—17085
  - GaAs/GaAlAs heterostructure, quantized Hall resistance measurement at the National Measurement Laboratory, Australia 7—14965
  - GaAs/n-AlGaAs MBE-grown selectively doped heterostructs., 2D electron gas, transport props. 7—21988
  - GaAs-Al$_x$Ga$_{1-x}$As heterostructures, voltage-controlled dissipation in the quantum Hall effect 7—27393
  - GaAs-Al$_x$Ga$_{1-x}$As heterojunction, chemical pot. of electrons, effect of mag. field 7—38682
  - GaAs-Al$_x$Ga$_{1-x}$As modulation-doped structure, parallel cond. in quantum limit 7—12808
  - GaAs-Al$_x$Ga$_{1-x}$As superlattices, integer quantum Hall effect at microwave frequencies 7—52820
  - GaAs-AlGaAs, noise, localised states, quantum Hall effect 7—45413
  - GaAs-AlGaAs heterojunctions, fractional quantum Hall effect of 2D electrons *(Japanese)* 7—12827
  - GaAs-AlGaAs heterostructures, equipotential distrib. in quantum Hall effect 7—21994
  - GaAs-GaAlAs heterojunction, 2D system, high order fractional quantisation obs. 7—27397
  - GaAs-GaAlAs heterojunctions, fractional quantum Hall effect obs. 7—52821
  - GaAs-GaAlAs heterostructures, dissipationless quantum Hall effect, crit. current density meas. 7—2696
  - GaInAs-AlInAs heterojunctions, parallel conduction, quantum Hall effect, hydrostatic press. 7—52764
  - Ga$_{0.47}$In$_{0.53}$As/InP heterojunction, chem. beam epitaxy grown, 2D electron gas 7—12803
  - Ga$_{0.47}$In$_{0.53}$As-InP heterojunction, with three electron subbands, hydrostatic press. effect 7—2695
  - Ga$_{0.47}$In$_{0.53}$As-InP heterojunction, MOCVD grown, 2D hole gas 7—21992
  - Hg$_{1-x}$Cd$_x$Te/CdTe superlattices, MBE growth and props. 7—53602
  - HgTe-Hg$_{1-x}$Cd$_x$Te heterojunctions, hole Hall mobility enhancement 7—33077
  - PbTe-Pb$_{1-x}$Sn$_x$Te superlattice, quantum Hall effect 7—2682
  - Si inversion layer, localisation and interaction in a strong mag. field 7—64343
  - Si MIS structs., quantum Hall resistance, localised and mobile electron states 7—38744
  - Si MOS inversion layers, high field low temp. transport props. *(Chinese)* 7—12862
- **quantum mechanics** *see quantum theory*
- **quantum numbers** *see quantum theory*
- **quantum optics**
  - *see also nonlinear optics*
  - σ^+-σ^- mode interactions, lower-level Zeeman coherence effects 7—10901
  - absorber theory 7—1046
  - active media, quantum chaos 7—1062
  - adsorbed atoms, thermal relax. in an intense laser field 7—38330
  - anharmonic oscillator, squeezed light interaction, SU (1,1) coherent states appl. 7—62655
  - atom, multi-level, randomly modulated, second order optical process 7—50522
  - atom + atom collision, binary model for collisional redistrib. of light 7—10705
  - atomic beam deflection by multiple laser beam, photon statistics test 7—10902
  - atomic resonant medium, parametric absorpt., sub-Poisson light statistics 7—57285

quantum optics continued
atomic-level shifts in a squeezed vacuum 7—43032
atoms, classical stimulated emission freq. depend. susceptibility 7—57402
atoms, laser excitation, pulse-shape effects 7—43026
atoms, oriented, light transmission, quantum polarisation changes *(Russian)* 7—20175
atoms, quantum fluctuations and squeezing in quantised field mode interaction 7—1049
atoms, spontaneous emission and absorpt., quantum state interference 7—25449
binomial states of quantised radiation field 7—57284
bistability in quantum optical system, noise effects 7—1058
bistability of small systems, quantum theory 7—1057
bistable and tristable systems, self pulsing and chaos 7—11049
black-body radiation, photon radiant and radiant exitance, analytic expression *(Chinese)* 7—50922
bound atom interaction with coherent pulse of quantised radiation 7—42557
chaos, ergodic theory 7—62657
classical and quantum optics, unification using statistical ensemble theory 7—10900
classical field theory 7—1045
coherent, squeezed and photon number states, preparation, meas. and information capacity 7—57287
collinear intracavity nearly degenerate four-wave mixing, bistable behaviour 7—1217
conference, Copenhagen, Denmark (Nov. 1985) 7—7
conference, Malvern Worcs., England (Dec. 1985) 7—27
cooperative atomic interactions in a single-mode laser 7—43049
coupled mode theory, generalized geometrical representation 7—20169
Dicke model and the theory of driven and spontaneousemission, review 7—5864
dissipativity of quantum optical systems 7—57283
double resonance of system with common upper level, formation of signal pulse in pump field 7—1043
dye molecules, Raman and IR meas., quantum beat data interpretation 7—42591
dynamic character of quantum electrodynamics in quantum optics 7—1066
electric field, Brownian motion, obs. in laser 7—57293
electromagnetic wave interaction with quantum system, soln. of general separable pot. model. 7—62654
EM field squeezed states generation by parametric down conversion, noise level reductions 7—25790
equivalence principle to gravitational wave detection *(German)* 7—18680
excited atom, radiative process fluctuations 7—889
forward transition radiation in a medium with excited atoms 7—43023
four-level system interacting with two fields, optical multistability 7—62765
four-mode squeezing and parametric mixing 7—43036
free electron laser, quantum description with uniform mag. field and corrugated slow-wave struct. 7—10972
free electron laser, quantum theory, intrinsic linewidth and photon statistics 7—43130
free electron laser line broadening due to classical and quantum noise 7—50573
Gaussian wave packet propag. in absorbing medium 7—43029
general relativity interferometric tests, use of squeezed states 7—4329
ID random medium, minimum wave-localisation length 7—15805
inelastic scattering of electrons from laser pulse ponderomotive pot. 7—43035
instabilities in optical bistability, review 7—1220
Jaynes-Cummings model and beyond in quantum optics, review 7—1065
Kerr nonlinear interferometer, number-phase minimum-uncertainty state with reduced number uncertainty. 7—35586
kth-harmonic generation, higher-order squeezing 7—20351
laser cooling, semiclassical theory 7—5640
laser field ionisation, quantum model calcs. 7—50032
laser model, Lorenz equation with symmetry breaking, quantum chaos 7—50525
laser noise, coherence and photon statistics, review 7—1072
laser spectroscopy, conf., Maui, HI, USA, June 1985 7—9586
light amplification coefficient and intensity, spasmodic increase during metastable atom and mol. condensation *(Russian)* 7—50523
light nonclassical states, photon antibunching and statistics 7—1047
light wave attenuation by destructive attenuation, quantum mechanical props *(German)* 7—31290
light wave interference, quantum fluctuation effects, laser gravitational obs. sensitivity implications 7—43039
linearly polarised light, topological phase using optical fibre 7—1281
localisation effect on interference, intensity calcs. 7—20166
localised photon states and interference 7—1059
locality violation, interpretation of quantum mechanics 7—20167
Lorenz instability 7—62652
measurement, quantum theory rel. to amplifiers and attenuators 7—64
micromaser, quantum theory, symm. breaking via off-diagonal at. injection 7—1068
mode conversion, Bloch oscillations and Zener tunneling with light by means of the Sagnac effect 7—36877
modulation and squeezed states, quantum noise 7—43028
multiboson Holstein-Primakoff squeezed states for SU(2) and SU(1,1) 7—18632
multimode self-pulsing in optical systems, absorptive optical bistability, photon statistics 7—10899
multimode self-pulsing in optical systems, quantum statistical treatment 7—10898
multiphoton excitation of relativistic cyclotron resonance and phase bistability 7—62761
multiphoton processes, squeezing props. and photon statistics using SQSIMUL code 7—50520
multiphoton transition, Tavis-Cummings model 7—43031
multiwave mixing, quantum coupled mode eqns. soln., sideband fields 7—31292
neoclassical distance 7—57286
nonclassical light source and basic props. 7—15831
nondegenerate frequency converter, antibunched photon beam generation 7—11058
nondemolition detection of optical quadrature amplitudes in optical fibre, nonlinear optical interaction effects 7—25789
nonlinear atomic, multi-quantum, interactions at high electric field strengths 7—20165

quantum optics continued
nonlinear Fabry-Perot system, output-input characts. 7—15923
nonlinear mixing in multimode fields, quantum theory 7—36929
nonlinear optics, dynamic versus static stability 7—1063
one-atom maser, quantum collapse and revival, observation 7—43041
optical bistability, absorptive, quantum fluctuations, nonlinear anal. 7—11046
optical bistability, quantum fluctuations, review 7—1056
optical bistability by squeezed vac., tunnelling inhibition 7—20321
optical transitions in vibronic systems, generalized Rabi eqns., exact solns. in rotating wave approx. 7—20171
oscillatory exchange of atoms between traps containing Bose condensates 7—50028
parametric down conversion, two photon interference 7—37037
parametrically generated light second-order coherence obs. 7—25892
phase operator for EM field 7—36924
phase-sensitive quantum spectroscopy 7—10904
photon anticorrelation effect on beam splitter, classical wave model compatibility 7—56068
photon statistics of damped harmonic oscillator with initial squeezed state 7—43027
picosecond four-wave mixing for orientational relaxation times meas. 7—11072
Planck's constant frequency independence, microwave test using laser frequency standards 7—43024
planetary surfaces, optical refl. as operator-eigenvalue problem 7—24032
Poisson/sub-Poisson photon generation using electron feedback 7—10896
polarization moments in a state with high angular momentum 7—43025
population trapping in nonstationary conditions 7—31291
pre-gaussian light, stimulated Raman scatt. 7—57473
pump-noise suppressed laser oscillator, amplitude squeezing 7—36928
quadratic parametric processes, Lie algebraic approach, quantum optics, quantum acoustics 7—36923
quantum amplifiers, master eqn., linear theory 7—1050
quantum electronics, conf., Bucharest, Rumania (Sept. 1985) 7—55888
quantum electronics, conf., San Francisco, CA, USA (June 1986) 7—48147
quantum field theory, progress, book 7—9602
quenched decay into multiple continua 7—43037
resonance Raman scattering determ. by coherence function 7—36925
Rydberg atom two-photon micromaser theory 7—50526
Rydberg atoms, props. and quantum optics 7—1064
Rydberg masers, at. and field fluctuations, squeezed radiation source 7—10905
Rydberg state prod. classical limit 7—876
single mode cavity radiation, approach to equilibrium 7—5862
single-photon interference experiment using a mechanical frequency shifter 7—57232
small bistable system quantum statistics 7—62757
soliton laser, numerical model 7—43051
spectra filtering, quantum noise 7—20170
spontaneous emission induced by resonance fields, two-photon correlation 7—43022
spontaneous generation of coherent optical beats 7—43030
spontaneous parametric down-conversion, quantum effects 7—1060
squeeze of light *(Japanese)* 7—20174
squeeze operator, eigenvalues and eigenfunctions 7—20172
squeezed coherent states, superposition with thermal light 7—20173
squeezed light, effects of optical processing on nonclassical props., review 7—1054
squeezed light state generation, review 7—1055
squeezed quantum fluctuations, dissipation effect 7—24476
squeezed state generation, exptl. difficulties 7—10903
squeezed state generation in optical bistability 7—62766
squeezed state generation in optical cavity 7—1053
squeezed states, multiwave mixing quantum theory 7—62656
squeezing in anisotropic forward four-wave mixing 7—15952
squeezing in collective resonance fluorescence 7—25788
squeezing light noise in a cavity near the vacuum fluctuation level 7—15834
squeezing of light by coherent attenuation 7—36926
squeezing parameters in two-photon absorpt., comparison of exact numerical results and approx. 7—10895
stimulated Raman scatt., solitons, spontaneous generation from quantum noise 7—43237
switching between bistable soliton states of highly nonlinear Schrodinger equation 7—43202
three-level atoms, macroscopic quantum jumps 7—15833
three-level systems, susceptibilities, density matrix solutions 7—20168
three-wave nonlinear-optical processes, nonequilibrium transitions 7—15934
two-atom spontaneous emission in a detuned damped cavity 7—57288
two-level atom, Brownian motion in light wave 7—897
two-level atom, coherent excitation by zero-π pulses 7—50025
two-level atom, internal relax. effect on quantum fields 7—1048
two-level atom, mixed-state SU(2) squeezing, quantum optical models 7—50521
two-level atom, time-depend. pulses, use of Light's perturbation theory 7—62651
two-level atom system, nondegenerate four-wave mixing, quantum theory 7—43033
two-level atoms, coherently driven, first-order phase transition 7—62749
two-level atoms, coherently driven superradiant system, symmetry breaking, metastable chaos 7—50524
two-level atoms, excited, microscopic maser theory 7—15837
two-level atoms, laser driven, time depend. spectra, additional sidebands 7—19757
two-level atoms, quantum evol., state selective reservoir effect 7—15835
two-level atoms, waveguide effects in superfluorescence and stimulated Raman scatt. 7—15832
two-level one and two atoms, reson. fluoresc., nonlinear and stimulated effects 7—25448
two-photon absorption from a phase-diffusing field, effect of random frequency fluctuations 7—10535
ultrafast chirped pulse in resonant two-level medium 7—36922
Ba^+ single ion, laser excited reson. fluoresc., quantum jumps obs. 7—30984
^{138}Ba I, three-level system, fluoresc., evidence for quantum jumps 7—19756
Ca, reson. photon emission quantum interference effect, fluoresc. 7—10486

quantum optics continued
- Ge light hole Landau level inversion, light amplification in crossed elec. and mag. fields 7−31293
- H, microwave ionisation of highly excited states, stochastic effects 7−15562
- ^{24}Mg$^+$ single stored ion, nonclassical resonance fluorescence radiation obs. 7−42545
- Na Rydberg atoms, quantum optical bistability 7−62760
- Na vapour, time-delayed four wave mixing 7−10778

quantum solids
- *see also solid helium; solid hydrogen*
- crystals, linear defects, zero-phonon friction mechanism 7−52186
- dynamics theory of quantum crystals with delocalised defects 7−44947
- energy spectrum, quasi-averaged value calcs. *(Russian)* 7−21570
- quantum liq.-quantum cryst. phase interface, hydrodynamic eqns., sound transmission calcs. 7−32746
- scaling and deep inelastic neutron scattering from quantum liquids and solids 7−58558
- thermodynamics and eqns. of motion 7−32744
- H$_2$, solid, ortho-para mixture, local order parameters distrib., NMR line shapes, relax. times 7−27052

quantum statistical mechanics
- *see also jellium; many-body problems; quantum fluids; quantum solids; quantum theories of fluid structure*
- anyon statistics with single-valued wave functions 7−29879
- Base-Einstein condensation, free boson gas in thermodynamic limit 7−29873
- Bloch equation, anal. using coupled-cluster method 7−61219
- Boltzmann gases, spin waves and quantum collective phenomena 7−48546
- Bose condensate, solitary wave solutions of nonlinear Schrodinger equation 7−18689
- Bose gas coupled to quantum ground state, statistical mechanics models 7−56150
- Bose gases, nonideal binary mixture, collective variables study 7−6906
- Bose-Einstein condensation, critical density and thermodynamic functions 7−29872
- Bose-Einstein condensation in second-quantised boson field 7−29874
- bosons and fermions, fundamental problems 7−14858
- C* algebra approach to analyticity in quantum statistical mechanical models 7−56148
- canonical commutation relations on bounded interval in Hilbert space 7−48538
- canonical density matrix, derived using principle of least information 7−55929
- classical and quantum optics, unification using statistical ensemble theory 7−10900
- classical limits and critical properties 7−48457
- conference, Groningen, Netherlands, Aug. 1985 7−55899
- correlations and fluctuations in charged fluids 7−56149
- Coulomb system, particle distrib. function calcs., effective classical pots. method 7−24538
- Coulomb systems, 2D self-consistent struct. formation, 2D Poisson-Boltzmann system 7−9751
- coupled oscillators, energy level statistics 7−41267
- critical exponents for integrable models, zero temp. correlation functions 7−35392
- Cutkosky rules for condensed-matter systems 7−14861
- density of states for quantum percolation problem 7−35391
- disordered interacting quantum systems, dynamics 7−56147
- distant Jauch-type hybrid macrostates, separability 7−61218
- distinguishability or indistinguishability in classical and quantum statistics 7−41244
- double-sine-Gordon chain, internal dynamics calcs., nonlinear effects 7−35456
- dynamical semigroups with Brownian motion, dilations 7−61216
- dynamical systems and statistical physics conf., Koszeg, Hungary, Aug.-Sept. 1984 7−48194
- Edwards Hamiltonian of polymer physics, stochastic quantisation study 7−48945
- eigenvalue problems, large scale, conference, Oberlech, Austria (July 1985) 7−48189
- Einstein-Podolsky-Rosen problem, consistent history anal. 7−48227
- electron gas, kinetic energy density functional 7−48535
- electron gas in 2D, quantised Hall effect 7−7271
- Fermi gas, collisional evolution in ID 7−203
- Fermi systems, boson representation, composite particle theory 7−48541
- Fermi-Dirac functions, high-precision analytic approx. by elementary fns. 7−29880
- fermion emission, coherent effects, quantum mechanical description 7−14834
- fermion system, kinetic energy density functionals compatible with differential virial theorem 7−48540
- Ferni-Bose mixtures, nonuniversality of tricritical behaviour 7−48545
- formulae analysis, through group charact. theory 7−9754
- fractional statistics in 2+1 dimensions through the Gaussian model 7−14863
- Gibbs states in Czech models, uniqueness and half-space nonuniqueness 7−29886
- high energy particle reactions, approach to chaos 7−49187
- infinite systems, canonical anticommutation relations in Fermi-Dirac statistics 7−56152
- infinite systems, canonical commutation relations in Bose-Einstein statistics 7−56152
- inhomogeneous electron gas pressure calc. *(German)* 7−64145
- integrable many-body systems in one dimens., Lax representation 7−14868
- interacting Bose system, microscopic study of ground state props. and excitation spectrum 7−32736
- interacting electron gas system, U-matrix theory 7−29878
- irreversible processes formulated in a superspace, quantum theory, variation principle 7−14869
- kicked top, classical and quantum chaos 7−41277
- Kosterlitz-Thouless transition and Mayer expansion 7−48670
- Landau theory of Fermi liquids reformulated 7−29882
- Langevin simulations 7−48544
- macroscopic state variables in quantum mechanics, objective description 7−29884
- many-electron systems, stopping power calculation due to Green's functionmethod 7−4758

quantum statistical mechanics continued
- N-level systems, quantum Markovian master eqn., evolution matrix in coherence vector formulation 7−48539
- noncanonical quantum statistical mechanics 7−14859
- nonideal gas, quantum kinetic equation in three-particle approximation 7−24536
- nonlinear response theory, time-depend. dynamical invariants, nonequilib. thermodynamics appl. 7−29959
- one-dimens. gas, strong interaction, one-particle density matrix 7−48547
- particle in a box, thermodynamics 7−41238
- path integral for second-derivative Euclidean Lagrangian 7−48536
- photon gas, Bose-Einstein condensation in thermal equilibrium 7−29885
- poor decay of correlations and relevance for phase boundaries 7−48542
- probability density for Bose-Einstein and Fermi-Dirac particles, Slater-Kahn functions 7−48537
- quantum chaos with nonergodic Hamiltonians 7−200
- quantum second virial coefficient paradox 7−24614
- quantum spectral transform 7−48630
- quantum spin chain with three-spin interaction, conformal invariance and phase transition 7−202
- quantum statistics, Rauch's expt. and the causal stochastic interpretation 7−14803
- reactive fluids, dimer form. and decay, quantum statistical mechanics, two-space Hilbert formulations 7−24534
- real- and imaginary-time field theory at finite temperature and density 7−48983
- sine-Gordon model, exact Bethe-ansatz thermodynamics, long string effects 7−35393
- sine-Gordon model with dissipation, quantum statistical mechanics 7−48575
- sine-Gordon system, kink-antikink pair production rate, equilib. statistical mechanical anal. 7−35394
- sinh-Gordon equation, quantum and classical statistical mechanics 7−24535
- soliton systems, statistical mechanics, collective coordinate approach, non-canonical method 7−18690
- spin systems, coherent state representation 7−9755
- stochastic differential equations, observables and multiple Wiener integrals 7−48543
- stochastic processes, perturbations and local algebras 7−48588
- systems in a periodic potential, effect of dissipation on quantum props. 7−29888
- time evolution of linear and related models 7−48548
- Toda lattice, thermodynamics as classical limit of two-component Bethe ansatz scheme 7−41304
- transition metals and their alloys, mag. atoms, quantum statistical ab initio theory 7−58969
- two-level system coupled to heat bath, noninteracting-blip approx. 7−56144
- wigner quantized operator and Bogolyubov's generating functional method in nonequilibrium statistical physics 7−41239
- XY model, C* algebra approach to ground states 7−48631
- zeroth law of thermodynamics, quantum system thermodynamical equilib. 7−14905
- H$^+$ motion in asymm. double-well pot. interacting with heat bath 7−24533

quantum statistics *see quantum statistical mechanics*

quantum statistics of many-particle systems *see quantum statistical mechanics*

quantum theories of fluid structure
- *see also liquid theory; quantum fluids*
- ^{4}He, superfluid, nonrotating, Clebsch representations of symplectic two-cocycles 7−6904

quantum theory
- *see also Clebsch-Gordan coefficients; complementarity; correspondence principle; indeterminancy; perturbation theory; quantisation; quantum field theory; Schrodinger equation; spin hamiltonians; wave mechanics*
- 8-quinolinaldehyde thiosemicarbazone, struct. X-ray diffr. and quantum mechanical investig. 7−12050
- θ-sectors in OS construction, quantum mech. and gauge theory examples 7−56088
- adiabatic theorem and anomalous commutators 7−61161
- adjoint of additive map on complex Banach space 7−14819
- Aharonov-Bohm effect, analogue in spin gauge theory 7−30196
- Aharonov-Bohm effect, expectation values 7−61156
- Aharonov-Bohm effect, influence of electron-phonon interaction 7−21895
- Aharonov-Bohm effect and Kaluza-Klein theory 7−41199
- Aharonov-Bohm effect with integer and half-integer flux quanta, cond. oscills. 7−52552
- Aharonov-Bohm scatt., ang. momentum nonconservation 7−29808
- Aharonov-Bohm scattering from the hydrodynamical viewpoint 7−41141
- anharmonic asymmetric oscillator, classical and quantum treatment 7−18619
- anisotropically correlated random field systems, crit. behaviour 7−56154
- Ashkin-Teller quantum chain with free boundary conditions, superconformal invariance 7−24454
- atomic fluorescence of single atom, random telegraph signal with dark periods from laser excitation 7−15540
- atoms and molecules, relativistic quantum mechanics 7−36503
- averaged evolution operator of quantum system, nonMarkov theory of sudden modulation 7−29910
- axiomatic approach to foundations of quantum mechanics 7−56069
- Bell's inequalities, testing with periodic switching 7−9700
- Bell's inequalities and their relevance to the problemof nonlocality in quantum mechanics 7−9701
- Bell's inequality, existence of free will 7−18617
- Bell's theorem and retroactivity 7−61158
- Bell inequalities, relevance to problem of locality 7−4709
- Bell-type inequalities, coincidence counting and local hidden variable theories 7−9703
- bifurcations and positive *P*-representation 7−24480
- Birkhoff-Gustavson normal form in classical and quantum mechanics 7−18623
- black holes, Hawking radiation and quantum mechanical description, gravit. interaction 7−56106
- Bogolyubov generating functions, quantum method, current Lie algebra, representations, functional eqns. 7−41240
- Bogolyubov kinetic eqn., appl. to quantum dynamical systems 7−24442
- book, fundamentals, wave mechanics, measurement theory 7−34
- bound states, one-dimensional weak attractive potential 7−48235

quantum theory continued
bound states of Hamiltonian systems, catastrophes and stable caustics 7−41130
Caldirola-Kanai equation, asymptotic behaviour of solns. 7−48434
carbocations, atom and bond props., quantum theory 7−5576
chaotic systems, quantum description, complete integrability 7−9705
classical diffusion, intermittency and quantum particle motion in modulated or random media 7−137
classical limits and critical properties 7−48457
classical properties of quantum coherent states, noncommutative Cramer theorem 7−35309
classical quantal dualism 7−35157
cluster expansion for unbounded nonfinite pot. 7−48459
coherent trapping in continuum-continuum transitions 7−136
coherent tunnelling propagator and chaotic bistability 7−35315
complementarity between energy and temp. 7−48455
complex eigenvalues of differential eqns., critical layer singularities, review 7−4714
complex fuzzy events in classical and quantum information systems, algebraic props. 7−61152
complex nonrelativistic systems, measurement problems 7−48451
composite system in motion, structure in rel. quantum mech. 7−41150
computers, physical limitations due to quantum mechanics 7−18615
conditional probability on a quantum logic 7−41128
conference, Marineland, Florida, USA (March 1986) 7−40985
conformally flat Riemannian metrics, Schrodinger operators and semiclassical approx. 7−56074
conformally invariant quantum mech., S-matrix determ. 7−29812
consciousness, quantum mechanics, appls. to anomalous phenomena 7−29785
constraints in quantum mechanics 7−29629
convergence props., 1/D expansion 7−14830
Copenhagen interpretation, realistic-ontological manner *(German)* 7−4722
Coulomb fields, quantum solns. and classical limits 7−30192
Coulomb Green's functions, in an *n*-dimensional Euclidean space 7−41133
Coulomb problem, constants of motion and shift operators 7−24466
Coulomb system, particle distrib. function calcs., effective classical pots. method 7−24538
Coulomb-like pot., bound and resonant state calcs. 7−48428
COW experiment, nonrelativistic, in uniformly accelerated reference frame 7−41143
cybernetic model, relativistically invariant wave eqn., late choice expts. predictions 7−24469
damped harmonic oscillator, propagator evaluation, path integral method *(Korean)* 7−24464
damped harmonic oscillator, wave function, energy expectation value *(Korean)* 7−24465
damped nonlinear oscillator, Markovian master eqn. 7−35329
damped oscillation between unbound states, exact and phase-integral quantal matrix elements 7−14813
damped quantum mechanical oscillators with thermal fluctuations 7−48410
density matrices, first-order, wave function representability 7−35301
diatomic mols., quantum mechanical virial theorem, electronic kinetic energy and pot. energy representations 7−49872
dielectric closed shell quantum systems, SCF energy surface, catastrophe theory anal. *(Rumanian)* 7−14832
diffusional quantum theory, finite velocity of propag. 7−35323
dilation analytic operators, characterisation 7−29777
dimensional regularization and non-associative Dirac-Clifford algebra 7−35714
dipolar crystals with two mag. ions per unit cell, quantum-mechanical states 7−45607
Dirac's formalism generalised eigenfunctions in trajectory spaces 7−18637
Dirac bases in trajectory spaces 7−18636
Dirac operator in 0=3, 4, 7, 8 characterisation of round sphere by first eigenvalue 7−9687
Dirac-Coulomb Hamiltonian, relativistic many-bodies, Foldy-Wouthuysen type diagonalisation procedure 7−9698
discrete time quantum mechanics, energy spectrum determ. 7−41149
disordered interacting quantum systems, dynamics 7−56147
dissipative linear quantum systems, repeated meas. 7−48394
dissipative particle in periodic potential, quantum dynamics 7−56065
dissipative quantum maps 7−41266
dissipative system, dynamics 7−9709
distortion analyticity and molecular resonance curves 7−57040
double galaxies in cosmic quantum mechanics, possible mass limits 7−18455
double wave description of a single relativistic free electron 7−9695
driven quantum systems, level statistics and stochasticity 7−24561
dynamical systems and statistical physics conf., Koszeg, Hungary, Aug.-Sept. 1984 7−48194
dynamical transformations and information systems 7−9690
effective classical partition functions for anharmonic oscillators and double-well pot. 7−35334
effective dynamics of quantum subsystems 7−145
effective-range theory in two dimensions 7−24447
Einstein locality, incompatibility with quantum mechanics 7−41137
Einstein-Podolsky-Rosen problem, consistent history anal. 7−48227
electron-electron interaction effects on Aharonov-Bohm effect 7−12689
electronics in confined magnetic flux, quantum effects 7−14822
electrostatic exchange interaction and characteristics of X-ray spectra 7−25337
elliptical box, two-, three-dimensional, free particle motion, semiclassical anal. 7−48429
energy levels, interdimensional and near degeneracies 7−14808
ensemble interpretations of quantum meas. probabilities 7−35147
EPR gedanken expt., Bell's theorem and stochastic local hidden-variable model 7−29790
EPR paradox, Bell's theorem, predictions *(French)* 7−35340
EPR paradox, relation to problem of nonlocality 7−29788
EPR paradox, relativistic formulation 7−61146
EPR paradox, special relativity and quantum measurement 7−14798
equivalent Hamiltonians, criterium for equivalence 7−18621
ergodic assumption tests in low-intensity interference expts. 7−29804
Euclidean supersymmetric quantum theory, stochastic representation of arbitrary fermion sectors 7−18630
exciton-phonon system, quantum chaos model 7−61231
expansion parameter, spatial dimension 7−14829
extreme Reissner-Nordstrom black holes, motion in low-vel. limit 7−14600

quantum theory continued
fat fractals in quantum chaos 7−4713
fermion emission, coherent effects, quantum mechanical description 7−14834
fermions system, ground-state kinetic energies, explicit procedures 7−14827
Feynman histories, functional contour integration summing technique 7−24456
Feynman path integral, new formulation 7−35302
Feynman-Hellman theorem, central force problems, radial expectation values 7−35156
finite quantum systems, quasi-entropies, convexity props. 7−41157
foundation, philosophy *(German)* 7−4721
foundations, interpretation, at macroscopic level 7−48452
Fourier coeff. path integration, partial averaging approach 7−14809
free relativistic particle, canonical and path integral formulations 7−18631
functional integration, measure and support 7−9655
fundamental commutator and quantum relax. 7−41139
generalised coherent states and Bogoliubovtransformations, anal. for SU(1,1) 7−115
generalized wave-particle fluctuations, Einstein's separation 7−4712
ground-state energy, lower bound by Steiner pot. symmetrisation 7−48426
group-related coherent states 7−4706
Hamiltonians and quantum integrability 7−9694
harmonic oscillator, strangulation on damping, Kanai-Caldirola Hamiltonian energy dissipation anal. 7−24474
harmonic oscillator algebraic time-ordering techniques, time depend. freq. 7−14828
Henon's dissipative map, quantized, period doubling, renormalization group anal. 7−56067
Hilbert spaces, characterisation of projection lattices 7−29793
Hill equations, singularity-free, general construction procedure 7−29810
Hulthen pot., s states, path-integral treatment, use of time transform. trick. 7−35333
hyper-relativistic quantum systems 7−48418
hypervirial relations between ground-state particledensity, kinetic energy density, and potential inthree dimensions 7−125
ideal experiment based on two recent tests, comparison between realistic and orthodox interpretations 7−35324
indirect tunnelling current density, quantum mech. treatment 7−18618
induced gauge fields in a nongauged quantum system 7−41153
interacting boson-fermion systems, quantum adiabatic approx. 7−41243
interacting electron gas system, U-matrix theory 7−29878
Jacobi-matrix method based on SO(2,1) algebra, parabolic coords., Coulomb fns. expansion in parabolic Sturmians 7−56076
Jahn-Teller Hamiltonian, radial oscillator states in polar coordinates 7−36501
Jauch's approach to measurement 7−9689
kink solitons, activated generation, quantum theory 7−41123
Klein-Gordon eqn., large-N solution 7−4708
Kolmogorov-Arnol'd-Moser barriers in the quantum dynamics of chaotic systems 7−35336
L-pseudosolutions, generalised discrepancy principle *(Russian)* 7−61166
Landau levels on the hyperbolic plane, group theory and semiclassical methods 7−48396
latency versus complementarity in quantum mechanics 7−14797
leaky cavities, thermal spectrum, string model 7−41142
Lewis structures and Feynman diagrams, treatment of germinal correl. in Fock space 7−41127
light particles in fluids, self-trapped states, stability limit 7−35344
light quantum particle motion in metallic environment, path-integral formalism calcs. 7−52459
light wave attenuation by destructive attenuation, quantum mechanical props *(German)* 7−31290
Liouville equation, quantum form, Dyson-like expansion for solutions 7−18622
local pressure in quantum system, virial expansion 7−41129
locality hypothesis and extension of relativity to general coord. systems 7−29782
localized states, symm. breaking and semiclassical behaviour 7−35339
logic and the invariance of argument 7−56082
logical cover spaces 7−29779
Lorentz boost generators proportional operators, role as position operators 7−61136
macroscopic quantum systems, weakly coupled, limiting Gibbs state calcs., appl. to Josephson oscillator 7−45582
macroscopic system, quantum energy eigenvalues near separatrix energy 7−41152
macroscopic system, variables, theory of meas. 7−48442
macroscopic variables, quantum mechanics, book contrib. 7−48449
macrosopic coherence, effects of temp. and bias. 7−24443
Maeda's theorem, generalization 7−35303
many-body theory, connected-moments expansion 7−41151
many-electron atoms, quantum-mechanical model 7−25338
matter waves, phase velocity 7−9684
Maxwell-Dirac isomorphism 7−61
measurement, quantum theory rel. to amplifiers and attenuators 7−64
measurement of positions and interferometric noises 7−14921
measurement problem, insolubility proof 7−18613
measurement process in relativistic quantum theory 7−4716
measurement theory, stochastic differential eqns. 7−126
metal ring, conductance oscillation and Aharonov-Bohm effect 7−2566
metallic cylinders, disordered, phase transition of Aharonov-Bohm periodicity 7−52580
metastable state decay, quantum tunnelling rate suppression, variational approx. calcs. 7−139
microscopic stress tensors in quantum systems 7−41147
minimax theory, radical simplification 7−56060
minimum uncertainty states, classical props. 7−14823
momentum operators for large systems, W* algebra description 7−29791
multidimensional systems, electronically nonadiabatic transitions 7−28302
multidimensional wavepacket propag. theory 7−9685
multiple scatt., ID 7−35152
neutron and light wave-field calcs. in accelerated interferometers 7−48439
neutron diffraction, causal theory 7−41138
neutron interferometric double-resonance experiment 7−15046
Niels Bohr centenary symposium, Copenhagen, Denmark, (Oct. 1985) 7−48177
nitromethane, photodissoc., quantum study *(French)* 7−13794

quantum theory continued
nitromethane, shocked, condensed, ignition, rate determining step 7−54124
nondemolition detection of optical quadrature amplitudes in optical fibre, nonlinear optical interaction effects 7−25789
nonexistence of hidden variables in the algebraic approach 7−29787
nonlinear quantum oscillator, linear damping of arbitrary magnitude, exact Hamiltonian 7−48403
nonnull probability of quark tunneling, quantum mech. probe 7−35796
nonrelativistic bound-state problems in momentum space 7−116
nonrelativistic Coulomb problem, vector operators 7−127
nonrelativistic N-particle system, semiclassical approx. 7−129
nonrelativistic quantum mechanics, deterministic with hidden variable 7−14802
nonrelativistic Schrodinger eqn. in quasiclassical theory 7−61145
normal metal, Aharonov-Bohm effect, quantum coherence and transport, review 7−52559
nucleus as theme in contemporary physics 7−48454
observables on hypergraphs 7−29786
one dimensional systems, relation between Gelfand-Levitan procedure and supersymmetric partner method 7−113
one-dimensional quantum system, quantum probabilities, path integral anal. 7−124
one-freedom Hamiltonian, accuracy loss of action invariance in adiabatic change 7−35311
ontological basis for quantum theory 7−48441
open quantum systems, Lindblad theory for collective mode damping 7−61138
open quantum systems and Feynman integrals, problems 7−29781
operator identities related to the SO_3 group 7−61142
optical reflection from planetary surfaces, operator-eigenvalue theory 7−24032
oscillator in radiation field, interaction energy 7−29806
oscillators, nonseparable systems, higher order resons., eigenvalues, semiclassical calc. 7−4705
parallel quantum well structs., Aharonov-Bohm oscills., quantum interference effects calcs. 7−12844
paramagnetic-ferromagnetic transitions, fluid system, internal quantum states, computer simulation 7−45678
parametrizing relativistic quantum mechanics 7−128
partial Hilbert spaces and amplitude functions 7−29778
particle distribution from effective classical potential 7−24467
particle in a box, eigenvalues and eigenfunctions, Gaussian wavepacket dynamics anal. 7−118
particle in a box model, teaching approach 7−29639
particle in various square well pots., algebraic approach 7−35332
particle trapping for time-periodic pots., semiclassical approach 7−48397
particle-particle interactions, wavefunction collapse and the optical theorem 7−24468
particle-wave interaction, nonreson. nature, semiclassical quasilinear theory 7−63250
path integral convergence 7−112
period time depend. systems, folding transform. appl. 7−18620
periodic eigenvalue equations, critical parameters, shifted ratio method 7−14890
periodic potentials, canonical transformations to action and angle variables 7−18610
periodic trajectories for nonintegrable 2D Hamiltonians 7−48448
phase operator for EM field 7−36924
phase shifts in partially screened Coulomb pots. with long-range Coulomb tails 7−48427
phase space exploration, quantum localisation 7−61245
photon anticorrelation effect on beam splitter, classical wave model compatibility 7−56068
photon rescattering in the atomic-cascade experimental tests of Bell inequalities 7−61143
physical constraints on quantum measurement stats., class. models 7−56089
physical limitations on computational processes 7−18616
physical Universe, reality? 7−60921
point-contact spectroscopy, motion on manifold 7−29951
position and momentum distributions, quantum mechanical state determ. 7−9702
probabilistic schemes for repeated meas. in stochastic mechanics 7−48443
probability distributions with given margins 7−29789
probability theory and its interpretation 7−35146
propagators for quantum systems with electromagnetic fields, constructive representations 7−48420
pseudosphere, chaos, quantal description, review 7−24556
quantum causal structures, events in space-time on quantum lattice 7−29798
quantum chaos with nonergodic Hamiltonians 7−200
quantum cusp, catastrophe pot. 7−132
quantum decay into a continuum at weak bias 7−35330
quantum dissipation, scattering and tunnelling 7−41136
quantum distribution functions, time depend. 7−41144
quantum fluctuations and the Lorenz equations 7−9696
quantum limit for successive position measurements, grav. waves detection 7−35338
quantum logics, Gudder conjecture and joint distribs. 7−18625
quantum measurement problem, analysis using relative entropy 7−48659
quantum mechanics from general relativity, theory of inertia, book 7−48215
quantum mechanics in curved space, wave eqn. derivation 7−49
quantum motion on a half-line connected to a plane 7−56075
quantum noise reduction *(French)* 7−56087
quantum physics in multidimensional spaces, gravity effects on quantum evol. eqn. 7−61155
quantum scattering on the hyperboloid, geometric quantization anal. 7−48431
quantum state, nature 7−48267
quantum states and potentialities of quantum systems 7−48408
quantum statistics, Rauch's expt. and the causal stochastic interpretation 7−14803
quantum supports and modal logic 7−48407
quantum-mechanical Green's function and nonlinear superposition law 7−14817
quasiclassical ground-state energies and energy levels for coulomb and scalar power potentials 7−14824
quenched decay into multiple continua 7−43037
radiation by uniformly moving sources 7−48456

quantum theory continued
regular tetrahedron, quantum theory and field theories on surface 7−48417
relativistic algebraic spinors and quantum motions in phase space 7−29784
relativistic hadronic mechanics of extended deformable particles 7−35300
relativistic linear oscillator, generalized coherent states and semiclassical quantization 7−35341
resolvent operator, two-pole eqn. 7−35328
resonance state determ. using complex scaling method 7−36443
rotationally invariant quantum systems, ground state and spontaneous symm. breaking 7−61139
scattering calcs., energy-adapted basis sets 7−48411
scattering T-matrix, symmetrical representation, development 7−18611
scattering theory for SUSY hamiltonians, nonstationary approach, quantum mech., nuclear interactions 7−30214
Schrodinger's cat paradox, orthodox soln. 7−29614
Schrodinger's cat paradox 7−35298
Schrodinger equation, classical physics teaching approach 7−35171
Schrodinger equation, eigenstate determination using large N method 7−61167
second virial coefficient paradox 7−24614
second-quantized molecular time scale generalized Langevin equation theory: coupled oscillator model 7−24452
secrete quantum number detection, comment 7−142
semiclassical resonances generated by a closed trajectory of hyperbolic type 7−61141
semiconductor microstructures, Aharonov-Bohm effect 7−58824
seniority scheme of identical particles, sum rule for spectroscopic factors 7−48422
slow particle scattering, phase shift calcs. 7−29816
space-time structure, relation to quantum mechanics 7−47679
spatial transform method for multidimensional (2+1) problems 7−24444
spatially extended EM system in zero-point radiation, thermal effects of radiation, class. oscillators 7−41185
spin $^{1}/_{2}$ particles, spin props. from quantum theory, hidden-variables represent refutation 7−41120
spin meas. in Stern-Gerlach expt., causal interpretation of Pauli eqn. 7−48438
spin precession, classical adiabatic angle and geometrical phase 7−49882
SQUIDs, macroscopic quantum objects, theory 7−48436
Stark effect Hamiltonians, asymptotic completeness 7−14801
statistical definition of observable and the structure of statistical models 7−41158
statistical interpretation, density matrix evolution *(French)* 7−14799
statistical interpretation of quantum mechanics *(French)* 7−29780
statistical operators in quantum mechanics 7−121
statistical physics and field theory conf., Groningen, Netherlands, Aug. 1985 7−55899
stochastic and variational processes, in classical and quantum mechanics 7−4761
stochastic geometry, operator formalism in quantum mechanics and fictitious time in stochastic quantisation 7−14804
stochastic quantization, supersymmetry and the anisotropy of microlocal space-time 7−14806
stochastic quantum mechanics, nonrelativistic, path integral formulation 7−14807
stochastic quantum mechanics, relevance to quantum geometries 7−14805
stochasticity and space-time 7−18635
strange quantum numbers in condensed matter and field theory 7−48453
sudden approximation, classical limits 7−4704
sum rules for billiards, analytic structure 7−35322
superposition and quantum mechanics 7−9688
supersymmetric path integral for quantum mechanical models on flat space 7−56062
supersymmetric quantum mechanics and inverse scatt., KdV eqn. solns. 7−35742
supersymmetric quantum mechanics in 3D curved space 7−4715
supersymmetry 7−35158
surface energy term, particle in cube or square with infinite pot. walls 7−58604
surfaces, force sum rules, Hellmann-Feynman theory 7−44989
SUSY quantum theory, scattering 7−56079
symmetry breaking role 7−18627
symmetry reduction systems of three-wave resonant interaction 7−41155
system, discrete energy spectra, time evolution 7−48398
system coupled to harmonic bath, quantum mech., basis set methods 7−56072
tetrafluoromethane, ionisation cross section determ., correction factor 7−19701
thermofield transfer-matrix method, 1D quantum spin systems appl. 7−138
thermofields, Liouville space anal. 7−48430
time averaged property, fine-grained ergodic theorem 7−35316
time in quantum measurements 7−35337
time-dependent transition probabilities, quantum dynamics 7−48458
time-dependent variational approx. for quantum dynamics 7−48444
time-distributed meas., path-integral formulation 7−18633
Toeplitz operators and quantum mechanics 7−14812
topological phase factor for photon 7−140
transition-strength fluctuations and the onset of chaotic motion 7−35335
transverse fluctuations in multidimens. tunnelling, asymptotic behaviour 7−123
tunnelling, adiabatic approx. in many-dimensional systems 7−48395
tunnelling at low temperatures, results for weak damping 7−148
tunnelling between tori in phase space 7−4718
two-level atom, Jaynes-Cummings model 7−35318
two-level system, optical and vibr. dephasing, mechanical and stochastic formulations 7−31013
two-level system coupled to a boson mode, large-*n* limit, chaos 7−35403
two-level system coupled to bosonic degree of freedom, Wigner phase space distribs. 7−35320
two-level system in semiclassical radiation field, quantum chaos 7−9770
two-wave hypothesis of massive particles 7−4710
U-matrix theory anal. of quantum mechanical systems, eigenstates 7−61157
uniform semiclassical approx. 7−24475
unitary equivalence of relativistic and nonrelativistic potential problems *(Russian)* 7−14833
unitary quantum time evolution by iterative Lanczos reduction 7−24451

- **quantum theory** continued
  - unitary transformation, $\hbar$-expansion, quantum corrections to canonical transformation 7−9706
  - universal master equation for the gravitational violation ofquantum mechanics 7−4723
  - variational principles in quantum mechanics 7−14818
  - von Neumann algebras associated to quantum-mechanical constants of motion 7−48399
  - von Neumann measurement postulate, generalised gauge independence and physical limitations 7−48406
  - Weber-type gravit. wave antenna coupled to reson. transducer, quantum nondemolition observables 7−61182
  - Wiener measures for path integrals with affine kinematic variables 7−48419
  - Wigner's theorem and asymptotic condition in scatt. theory 7−29792
  - Wigner functions, semiclassical props. 7−48445
  - $\Upsilon \rightarrow B^0\bar{B}^0$, local realism versus quantum non-separability, test 7−35325
  - $Al^{3+}+H$, charge-transfer reaction, mol. representation, CI calcs. 7−36485
  - H, Griffin-Hill-Wheeler eqn., discretisation, Gaussian type orbitals calcs. 7−30945
  - H, Hamiltonian system, regularity and irregularity transition 7−56083
  - H, microwave ionisation below classical chaos border 7−57142
  - H_2O, local mode stretching vibr. decoupling through rot. excitation, quantum mechanics 7−19816
  - $He+H_2^+$, reaction, quantum infinite order sudden approx. 7−54097
  - $He+H_2^+$ reaction, expt. and quantum mech. results 7−3584
  - ^3He, solid, quantum tunnelling in dil. instanton limit, Monte Carlo calcs. 7−21567
  - K, relativistic effective potentials in quantum Monte Carlo calculations 7−49902
  - Li isoelectronic sequence, quantum defect determ. from negative-energy reaction matrix 7−42480
  - Li, relativistic effective potentials in quantum Monte Carlo calculations 7−49902
  - Ne, ionisation cross section determ., correction factor 7−19701
- **quantum theory of light** *see quantum electrodynamics*
- **quantum theory of many-body problems** *see many-body problems*
- **quantum well lasers** *see semiconductor junction lasers*
- **quantum wells** *see semiconductor junctions; semiconductor superlattices*
- **quark confinement**
  - $\lambda\phi^4$ Gaussian effective action, comparison with free vacuum energy, confinement 7−15065
  - asymptotic freedom 7−61562
  - axial vector coupling constant and quark confinement 7−24835
  - axial-vector weak coupling constant g_A and quark confinement in nucleons 7−56517
  - bagged superfields and light pseudo-Goldstone fermions 7−61502
  - baryon observables in chiral bag model 7−61606
  - baryon rich quark-gluon plasmas, reply to comment 7−41715
  - baryon spectroscopy effective intermediate range quark-quark interaction *(Chinese)* 7−49070
  - baryonless strongly interacting matter, shock phenomena, bag-model anal. 7−49092
  - baryons, strangeness-induced size effects 7−19067
  - BRS transformations and colour confinement number of generations 7−35800
  - charmonium and bottomonium spectra, introductory physics course 7−18534
  - chiral bag model, collision processes 7−30253
  - chiral bag model, cranking procedure, moment of inertia calcs. 7−24847
  - chiral bag plus Skyrmion model, axial coupling g_A at large bag radius 7−10035
  - chiral field theory, low momentum penguin loop contribs. and $\Delta I=1/2$ rule 7−41647
  - chiral soliton model, baryons as rotating excitations 7−5066
  - cloudy bag model, renormalised πNN coupling constant and P-wave phase shifts 7−5067
  - cold nuclear matter at high densities 7−56502
  - colour confinement based on QED and BRS algebra 7−10026
  - colour dielectric model for nuclear binding and quark confinement 7−35936
  - colour-dielectric model, numerical solns. 7−469
  - confinement radius calcs. from QCD sum rules 7−478
  - consistent quark model with chromodynamics, baryon spectrum calcs. 7−30249
  - constituent gluons in the presence of heavy quarks 7−10036
  - constituent quark mass and nucleon properties in nuclei 7−49088
  - Coulomb-like gauge for massive gauge fields, SU(2) model appl. 7−4957
  - CP^{N-1} model, deconfinement by minimally coupled massless fermions 7−56516
  - Cyg X-3, cosmic glueballinos source, discussion 7−48105
  - dibaryons, $B=2$ states, colour singlet dynamics 7−35810
  - direct photon production, nuclear depend. for large P_T, parton distribs., gluon distribs. 7−5063
  - dual description of a confined colour field 7−61565
  - electromagnetic mass differences of N and Δ in the Skyrme model 7−5092
  - electromagnetic transitions and deformations in nucleons and deltas 7−41812
  - electronuclear structure functions and quark deconfinement in nuclear matter 7−5177
  - electroweak interaction with two quark generations, chiral bosonisation *(Russian)* 7−24825
  - EMC effect, heretic model of confinement, EMC effect 7−49147
  - EMC effect, nuclear dependence of structure functions 7−56602
  - EMC effect, reanalysis of nucleon quark structure changes 7−61688
  - European Hadron Facility project, design, research program 7−62150
  - exotic hadronic states in nuclei, confinement mechanism 7−49281
  - Fermilab Antiproton Source, physics workshop report 7−49174
  - finite size nuclei, quark percolation calcs. 7−591
  - finite temperature deconfinement transition, Monte Carlo renormalisation group calcs. of critical exponent 7−49054
  - finite temperature lattice QCD, deconfinement and chiral symmetry restoration 7−41724
  - finite temperature SU(2) gauge theory, correlation length temp. depend., screening, deconfinement 7−41606
  - four-quark states, evidence from $\phi\pi^0$ and $\omega\eta$ resonances 7−15127
  - four-quark states in heavy quark systems, pot. model study 7−41706
  - Friedberg-Lee soliton bag model, chromomagnetic field anal. 7−494
- **quark confinement** continued
  - Friedberg-Lee soliton bag model with iterative one-gluon exchange, hadron static props. 7−49090
  - glueball (0^{++}), mass scaling, SU(N) Hamiltonian lattice calcs., Monte Carlo anal. 7−35807
  - glueball mass spectrum calculation by light-cone quantization *(Russian)* 7−61594
  - glueball search, QCD spectroscopy beyond the quark model 7−56521
  - glueball wave functional calcs. using lattice technique 7−61580
  - gluinos, quasi stable, evidence against existence 7−5004
  - gluon condensate, effective QCD Lagrangian 7−485
  - gluon condensate and the effective gluon mass, QCD anal. 7−61598
  - gluon condensation, detection from heavy quarkonia spectra 7−488
  - gluon distribution from $pp \rightarrow \gamma+jet+X$ events, QCD anal. 7−61766
  - gluon mass, gluon propagator calcs. in Landau gauge, SU(3) lattice anal. 7−61588
  - gluon mass in quenched Eguchi-Kawai model, momentum-space Monte Carlo method 7−19065
  - gluon string tensions in SU(2) lattice gauge theory 7−417
  - gluon thermodynamics with an extended plaquette action, deconfinement in lattice QCD 7−41723
  - gluon-quark confinement, gluodynamics IR behaviour 7−5056
  - gluons, properties in hadrons, gluonic structure functions, review *(Polish)* 7−30243
  - gluons in nuclei and pions 7−30250
  - hadron field theory, confinement anal. 7−49058
  - hadron spectroscopy, QCD aspects 7−30245
  - hadronic photoabsorption, energy depend. of total cross section, gluonic character 7−19113
  - hadronisation process, deflagration and detonation solutions 7−41714
  - hadronization of quarks and gluons into hadron jets at high energies 7−41749
  - hadrons, static properties, quark bag model 7−41716
  - hadrons as collective excitations of a superfluidcoloured-quark liquid 7−5044
  - heat-kernel regularization of gauge theory, vanishing gluon mass 7−41624
  - heavy flavour lifetimes, review 7−61548
  - heavy narrow $Q\bar{Q}$ resonances, gluonic prod., parton cross sections 7−61585
  - heavy quark forces and potentials in SU(2) lattice gauge theory *(Chinese)* 7−35657
  - heavy quarkonia, relativistic corrections to mass spectra 7−19092
  - heavy quarkonium pot. models, Green's function Schrodinger eqn. calcs. 7−15121
  - heavy quarkonium systems, spin-dependent forces 7−61553
  - hedgehog baryon state, soliton bag model with scalar mesons 7−18990
  - hedgehog chiral soliton bags, spin-isospin projection using collective coordinates, nucleons 7−19074
  - hidden colour dynamics in the flip-flop model of confinement for 2N systems 7−24836
  - hot QCD, nonAbelian Debye screening, singlet pot. and gauge symm. breaking 7−49075
  - hybrid soliton model of dense nuclear matter 7−5181
  - kink-bag system in $(1+1)$ dimens., breathing motion, inertia of confined vacuum 7−19070
  - large-N QCD, Eguchi-Kawai approach, deconfinement and glueball props. 7−61574
  - lattice action sum rules, appl. to glueballs and static quark pots. 7−48959
  - lattice gauge theories with matter fields, order parameter 7−61486
  - lattice gauge theory, H dibaryon mass using bag model parameters 7−61485
  - lattice gauge theory, static screening lengths in finite-temperature pure gluon plasma 7−19003
  - lattice gauge theory, surface representations of Wilson loop expectations, confinement 7−24771
  - lattice gauge theory simulations, conf., Wuppertal, Germany, Nov. 1985 7−60883
  - lattice QCD, $\beta=5.7$, evidence for scaling, SU(3) deconfinement temp. anal. 7−19072
  - lattice QCD, deconfining phase transition and continuum limit 7−61568
  - lattice QCD, deconfining transition 7−56508
  - lattice QCD, numerical simulation of interacting fields and static interquark pot. 7−61575
  - lattice SU(3) gauge theory, deconfined phase, gluon plasma thermodynamic props. 7−41741
  - lattice U(1) gauge Higgs model, free charge in confining phase 7−48966
  - lattice U(1) gauge Higgs model, Monte Carlo study of confinement 7−468
  - light quark pair prod. in heavy quarkonia, pot. model study 7−41720
  - lightest glueball mass in SU(2) and SU(3) gauge theories, lattice size depend. 7−41722
  - Lorentz nature of quark confinement 7−61560
  - low energy meson action from QCD, extended Skyrme model, anomaly terms 7−5052
  - low mass dilepton production in heavy ion collisions, background from quark-gluon plasma 7−35795
  - low-energy theorems for scalar gluonic currents between quarkonium states 7−10024
  - massive confined quark, QCD and QED energy shifts, cavity perturbation theory 7−15116
  - massive Schwinger model with Wilson fermions, chiral condensate calcs. 7−61541
  - meson dynamics beyond the quark model, final state interactions, glueballs, CC anal. 7−24844
  - MIT bag model, Δ contribution to Adler-Weisberger sum rule 7−49093
  - moment sum rule and meson spectroscopy in statistical model 7−15132
  - multibaryon reson., mass formula 7−504
  - multiquark states, constituent quark models 7−41703
  - multiquark states in QCD-like pot. model 7−41718
  - multiquark systems, flux tubes and many-body props. 7−41704
  - neutron electric dipole moment from cloudy bag model, CP-violating effects 7−24889
  - non-interacting quarks and gluons in a slab, thermodynamics, plasma in HI collisions 7−49444
  - nonnull probability of quark tunneling, quantum mech. probe 7−35796
  - nuclear magnetic moments, hybrid quark-hadron model 7−61815
  - nuclear magnetic moments, quark shell model calcs. 7−56606
  - nuclear-like states of quark matter in QCD 7−41924
  - nucleon, chiral invariant colour dielectric model 7−463
  - observability of quarks 7−49077
  - P matrix parameters, model calcs. 7−61720

quark confinement continued
  particle families as radial excitations, eigenstates of relativistic wave eqns. 7−30179
  perturbative QCD, anomalous dimens. of multiquark bound states 7−41719
  phase transition between hadron matter and quark-gluon plasma, bag model study 7−41752
  phase transition in the soliton bag model 7−49089
  phase transitions in quark-gluon matter, mean field approx. 7−5049
  pseudoscalar lattice mesons, relative charge distribs. for $\bar{q}q$ pair 7−49072
  QCD$_2$, chiral symmetry breakup and gluon condensate 7−41731
  QCD, dynamics of confinement, asymptotic freedom 7−49057
  QCD, gauge-invariant variables and infrared confinement in finite space-time 7−61564
  QCD, implications of nucleon struct. determ. by deep inelastic lepton scatt. 7−10028
  QCD, quark condensates in spontaneous chiral SU(2)×SU(2) symm. breaking 7−471
  QCD, static quark pot. in dual superconductor calcs. 7−49074
  QCD and CP^N model, collective phenomena, deconfining and chiral transitions 7−15120
  QCD based models of hadron structure, book 7−48217
  QCD flux tubes and glueballs, soliton interactions in gauge theories 7−5051
  QCD in 2D, chiral symm. breaking and condensate calcs. 7−49073
  QCD scale fixing, lattice Monte Carlo calcs. 7−30239
  QCD sum rules, quark operator classification, gluon condensate contrib. to quark vacuum polarization 7−61599
  quantum field theory, progress, book 7−9602
  quark compound bag model anal. of NN interaction and few-nucleon systems 7−61723
  quark mass matrix under S$_N$ symmetry 7−61510
  quark matter, conference, Pacific Grove, CA, USA (April 1986) 7−55881
  quark matter as ground state in Universe 7−56503
  quark-gluon plasma, correlation between energy density and mean transverse momentum 7−56505
  quark-gluon plasma, dynamical evolution and phenomenology 7−56500
  quark-gluon plasma, perturbative and nonperturbative theory, review 7−56510
  quark-gluon plasma, prospects for production and detection 7−56499
  quark-gluon plasma, strange particles as signature 7−56504
  quark-gluon plasma droplets, finite size effects, partition function 7−24839
  quark-gluon plasma formation, pre-equilibrium plasma dynamics 7−56578
  quark-gluon plasma undergoing a phase transition, rel. hydrodynamic eqns. 7−19184
  quarkonium, Jost function and T-matrix derivation 7−61558
  quarkonium physics in the pot. approach 7−30238
  quenched QCD hadron mass calcs. on 16^4 spacetime lattice 7−61604
  Savvidy model, absence of deconfining phase transition at one-loop order 7−41735
  Schrodinger equation, local equivalent, with relativistic kinematics, WKB approximation 7−56406
  sextet quarks and light pseudoscalars 7−5047
  signatures of new particles at high energy colliders 7−56520
  six-gluon subprocess, direct calculation 7−15113
  six-quark subprocesses in QCD 7−470
  skyrmion-skyrmion interaction struct., zero-range boson-exchange interpretation 7−581
  soliton bag model, characteristics using BAG program 7−49087
  soliton bag model, one-gluon exchange, self-consistent anal. 7−49095
  soliton solutions in confining colour dielectric model 7−41713
  spinor propagators in anti-de Sitter space-time 7−35797
  squark mixing angles in supergravity theories, gluino flavour changing in SU(5) 7−56136
  state dependent bag constant at large-N limit of QCD 7−10022
  static potentials from an extended gauge symmetry, confinement mech. 7−24838
  static potentials from bosonic string models, lattice Monte Carlo calcs. 7−61612
  static quark potential at finite temperature 7−24832
  statistical QCD, deconfinement and chiral symm. restoration, Monte Carlo anal. 7−61569
  strange dibaryons, mass spectrum and level density 7−61635
  string model with extrinsic curvature effects, static quark pot. 7−61610
  SU(2) deconfining phase transition, correlation length and susceptibility, Monte Carlo methods 7−56515
  SU(2) flux-tube model of quark deconfinement at hightemperature, effective string tension calcs. 7−473
  SU(2) gauge theory, Monte Carlo renormalisation study of deconfining transition 7−15073
  SU(2) lattice gauge theory, phase structure, Schwinger-Dyson eqn. of a Wilson loop, deconfinement 7−24780
  SU(2) lattice gauge theory, renormalisation and continuum limit of composite operators 7−19017
  SU(2) lattice gauge theory with dynamical fermions, static quark pot. 7−61478
  SU(3) cloudy bag model, dynamical source of mass splitting 7−493
  Superconducting Supercollider, elementary particles and cosmology 7−48260
  swelling nucleons in QCD, superconducting state, string tension 7−15124
  technicolour theory with pseudo-Goldstone bosons, one-loop corrections 7−56525
  tensor gluonium spectrum, QCD sum rules framework 7−19073
  three gluon vertex in light cone gauge, nonlocal BRS counterterms 7−5060
  three gluon vertex in light cone gauge, renormalisation anal., nonlocal terms 7−5059
  three phase model, phenomenology of deconfinement and chiral symmetry restoration 7−35794
  topological bags, projections and chiral vac. effects 7−491
  transition to quark matter by light ion expts. 7−56501
  two-dimensional model for strongly interacting matterat high particle density 7−5045
  U(1) varied-modular Higgs model, phase struct. simulation 7−18973
  ultra-relativistic heavy ion collisions, strangeness in the central region 7−56691
  weakly decaying charmed baryon lifetime differences due to preasymptotic bound state effects 7−41801
  Wess-Zumino term in the chiral bag model 7−49091

quark confinement continued
  Yang-Mills theory, nonperturbative approach to strong-coupling confinement 7−56433
  $\bar{b}b$, mass spectra, leptonic-decay and E1 transition rates, instantaneous BS eqn./confining force anal. 7−5053
  $\bar{c}c$, mass spectra, leptonic-decay and E1 transition rates, instantaneous BS eqn./confining force anal. 7−5053
  $\bar{c}c$, QCD sum rules for S-wave charmonium 7−41732
  $\bar{c}c$ mass shift near deconfining temp., c-$\bar{c}$ potential model anal. 7−19077
  d, dynamical model for six-quark admixture 7−467
  d, magnetic moment, quark corrections using compound quark bag anal. 7−56523
  d, magnetic moments of multiquark systems, chiral bag model 7−41816
  ed interactions, nonperturbative QCD corrections to R=σ_L/σ_T, use of MIT bag model 7−481
  $e^+e^-\to\gamma\gamma\gamma$, heavy flavor production with gluon bremsstrahlung 7−15125
  e^+e^- high energy annihilation, quark and gluon fragmentation, Feynman diagrams 7−24901
  ep interactions, nonperturbative QCD corrections to R=σ_L/σ_T, use of MIT bag model 7−481
  η, production and decay processes involving pseudoscalar gluonium particles 7−41717
  $gg\to Q\bar{Q}g(\tilde{g}\tilde{g}g)$, heavy flavor production with gluon bremsstrahlung 7−15125
  $\gamma N\to\gamma^- N$, cloudy bag model anal. 7−61698
  $\gamma N\to\pi X$, cloudy bag model anal. 7−61698
  i(1440), production and decay processes involving pseudoscalar gluonium particles 7−41717
  $\iota\to\gamma\gamma$, constraints due to topological susceptibility and chiral Ward identities 7−5097
  $K(\bar{K})N$ scattering, cloudy bag model Λ(1405) anal. 7−35905
  $\vec{L}\vec{N}$, polarised deep inelastic scatt. from cloudy bag model 7−49159
  Λ(1405), $\bar{K}N$ bound state and 3-quark state model interpretations 7−492
  $\Lambda N\to\Sigma N$, low-energy interaction, P-matrix anal. 7−41834
  $\mu N\to X$, quark-gluon structure study 7−49156
  NN interaction, spatial structure, phenomenological model anal. 7−5069
  NN interaction in nuclei, quark cluster model approach 7−30346
  $NN\to X$, quark cluster model, confinement mechanism and exchange effect 7−49056
  $NN\to X$, quark-gluon plasma formation 7−56579
  νN, deep inelastic, quark-confining pot. models 7−507
  $\bar{p}n\to\pi^-\pi^-\pi^-\pi^+\pi^+$, evidence for quasinuclear bound states in broad struct. 7−5117
  $\bar{p}p$, SPS energies, fragmentation props. of quark and gluon jets 7−5129
  $\bar{p}p$ charge exchange reactions, low energy cross sections and quark confinement radius 7−35899
  $\bar{p}p\to$glueball+X, anal. of I=0 S-wave $\pi\pi$ and $K\bar{K}$ final states 7−61768
  $\bar{p}p\to\bar{p}p$, low energy cross sections and quark confinement radius 7−35899
  $pp\to pp\pi^+\pi^- x\pi^0$, x=0,1,2, diffractive dissociation, 360 GeV/c quark-diquark fragmentation 7−553
  $\bar{p}p\to X$, KNO scaling, multiplicity fluctuations, strange particle production 7−56580
  $\bar{p}p\to X$, search for quark-gluon plasma at TeV I 7−56577
  π, quark confinement theory, Nambu-Goldstone scalars and symm. restoration 7−35808
  π^0/γ ratio meas. using dileptons, quark-gluon plasma diagnostics 7−41746
  $\pi d\to\pi pn$, dibaryon state search in kinematically complete meas. 7−5120
  $\pi^+N\to\mu^+\mu^-X$, 80, 225 GeV, pion struct expt. 7−61693
  $\psi\to\eta\gamma(\eta'\gamma)$, gluonium content in phenomenological model with SU(3) breaking 7−19108
  $q\bar{q}$ confinement pots., Hill determinant method 7−5043
  $\bar{q}q$ realistic pot. with running coupling constant, fine and hyperfine splitting 7−19068
  $qq\bar{q}\bar{q}$, MIT bag model 7−41753
  $\rho^-\to\pi^-\gamma$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
  $\rho^-\to\pi^-\pi^0$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
  ζ(1480), glueball candidate study 7−5061
  ζ(1480), quasinuclear $\bar{N}N$ bound state study 7−5061
  $^{14}C(\pi^+, \pi^-)$, energy dependence of the six-quark bag mechanism 7−42077
  $^2H(\pi^-,\mu^+\mu^-)$, high mass dimuon prod., scaling violation, differential nuclear effects 7−61924
  $^3He(\pi^-,nn)$ cross section, partial wave anal. and quark cluster calcs. 7−36054
  $pN\to X$, inclusive spectra of secondary particles in quark-gluon string model 7−41859
  π field around static source, chiral invariant model 7−10034
  $W(\pi^-,\mu^+\mu^-)$, high mass dimuon prod., scaling violation, differential nuclear effects 7−61924

quark matter *see nuclear matter*

quark models
  see also colour model
  $1/2^+$ baryons, EM mass differences in quark and Skyrme models 7−41811
  π*NN* form factor in the Skyrme model 7−15159
  anomalous dimensions of spin-zero four-quark operators without derivatives 7−15111
  bagged superfields and light pseudo-Goldstone fermions 7−61502
  baryon magnetic moment, constituent quark model calcs. 7−56552
  baryon observables in chiral bag model 7−61606
  baryon rich quark-gluon plasmas, reply to comment 7−41715
  baryon spectroscopy effective intermediate range quark-quark interaction *(Chinese)* 7−49070
  baryons in relativistic quark model with chromodynamics 7−19075
  beta-decay, mixing matrix and CP-violating phenomena 7−476
  bound quark-meson system, RPA calcs., solitons, chiral model of nucleon 7−18989
  Cabibbo angles and KM phases, standard choice for any number of generations 7−30251
  charmed particle formation, quark-gluon-string model 7−41750
  chiral bag model, collision processes 7−30253
  chiral field theory, low momentum penguin loop contribs. and $\Delta I=1/2$ rule 7−41647
  chiral soliton model, baryons as rotating excitations 7−5066
  cloudy bag model, renormalised πNN coupling constant and P-wave phase shifts 7−5067

quark models continued
clusterized 3n-quark systems, Pauli blocking effect, quark-cluster model anal. 7—24833
colour confinement based on QED and BRS algebra 7—10026
constituent gluons in the presence of heavy quarks 7—10036
constituent quark mass and nucleon properties in nuclei 7—49088
constituent quark model picture for non-leptonic hyperon decays 7—49139
covariant harmonic-oscillator quark model, quarkonium fine structure 7—495
CP^{N-1} model, deconfinement by minimally coupled massless fermions 7—56516
demibootstrap approach to hadron-spectrum dynamics 7—19064
deuteron, EM form factors in quark based model 7—41888
dibaryon resonance decay mechanism, diquark-cluster model anal. 7—61671
Drell-Yan process, quark cluster model predictions 7—35786
dynamical quark mass, mass-shell props. 7—24834
EAS characts. calcs. using above-critical pomeron theory with additive quark model 7—14449
electromagnetic mass differences of N and Δ in the Skyrme model 7—5092
electromagnetic transitions and deformations in nucleons and deltas 7—41812
electroweak interaction with two quark generations, chiral bosonisation *(Russian)* 7—24825
EMC effect, heretic model of confinement, EMC effect 7—49147
finite size nuclei, quark percolation calcs. 7—591
finite temperature deconfinement transition, Monte Carlo renormalisation group calcs. of critical exponent 7—49054
four-quark states in heavy quark systems, pot. model study 7—41706
Friedberg-Lee soliton bag model, chromomagnetic field anal. 7—494
Fritzsch-Stech quark model in SO(10) 7—61547
gluon-exchange quark model and baryon-nucleon spin-orbit forces 7—61544
hadron field theory, confinement anal. 7—49058
hadron field theory, qq interactions, hadron scatt. and bound states 7—49059
hadron spectrum, stochastic approach, link with quarkonium model 7—49121
hadron spectrum fitting in 5D conformal relativity, quark composition effects 7—24867
hadron-hadron inclusive reactions, numerical results from quasi-nuclear quark model 7—24922
hadronisation process, deflagration and detonation solutions 7—41714
hadrons, static properties, quark bag model 7—41716
heavy hadrons, explicit mass formulas 7—35789
heavy quarkonium pot. models, Green's function Schrodinger eqn. calcs. 7—15121
hedgehog models of quarks, semiclassical projection 7—35787
hybrid soliton model of dense nuclear matter 7—5181
Kobayashi-Maskawa matrix, renormalisation group eqns., quark mixing, CP nonconservation 7—5034
lattice action sum rules, appl. to glueballs and static quark pots. 7—48959
lattice gauge theory, H dibaryon mass using bag model parameters 7—61485
lattice gauge theory, propagator of Susskind fermions 7—35683
leptoquark bosons, decay in lepton+quark 7—10019
light and heavy quarkonia, spin-depend. interactions, nonperturbative treatment 7—24876
light meson multiplet structure, semirelativistic model anal. 7—19076
light neutral Higgs bosons, prod. rates in $N=1$ supergravity theories 7—29858
light quark meson mass spectrum, covariant oscillator quark model anal., inclusion of one-gluon-exchange effects 7—61546
light quark pair prod. in heavy quarkonia, pot. model study 7—41720
low energy meson physics in the superconducting quark model 7—35811
matter *(Rumanian)* 7—15197
multi-quark correlations in nuclei, quark cluster model anal. 7—56633
multibaryon reson., mass formula 7—504
multiquark states, constituent quark models 7—41703
multiquark systems, flux tubes and many-body props. 7—41704
Nambu-Jona-Lasinio model, dynamical chiral symmetry breaking 7—437
non-relativistic potential model for $q\bar{q}$ and $Q\bar{Q}$ systems, meson masses 7—61605
nonnull probability of quark tunneling, quantum mech. probe 7—35796
nonrelativistic quark model, baryons, N-body quantum problem in configuration space 7—10141
nonstrange baryon resonances, pion decay amplitudes, semirelativistic quark model 7—35868
nuclear magnetic moments, hybrid quark-hadron model 7—61815
nuclear magnetic moments, quark shell model calcs. 7—56606
nuclear matter, quark cluster model through variational approach 7—49065
nuclei, weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7—48172
nucleon-nucleon interaction in the Skyrme model 7—49066
nucleons, axial properties, extended Skyrme model 7—24785
nucleons, core motion effects on static props. 7—15158
phase transition between hadron matter and quark-gluon plasma, bag model study 7—41752
phase transition in the soliton bag model 7—49089
phase transitions in quark-gluon matter, mean field approx. 7—5049
proton decay, nonrelativistic quark model 7—61668
quark matter, conference, Pacific Grove, CA, USA (April 1986) 7—55881
quark-gluon plasma, correlation between energy density and mean transverse momentum 7—56505
quark-gluon plasma, prospects for production and detection 7—56499
quark-lepton generations, possible number 7—35792
quarkonia, relativistic generalisation of Bohr quantification 7—49049
quarkonia decay, new quarks and neutrino counting below the Z threshold 7—35784
quarkonia spectra, solving momentum-space integral equations with confining potentials 7—35703
quarkonium, Jost function and T-matrix derivation 7—61558
quarkonium physics in the pot. approach 7—30238
reduction and reparametrization of quantum field theories 7—35711
Regge trajectories in quark-antiquark linear pot. 7—19091
relativistic fermion-antifermion equation and a mass spectrum of mesons 7—41774
relativistic kinematics and hyperfine separation in light and heavy mesons, $\bar{q}q$ pot. 7—30252

quark models continued
Roper resonance and πN phase shift in the Skyrme model with defect 7—18988
rotating skyrmions and pion radiation 7—35687
scalar-isoscalar two-pion exchange force in the quark model 7—49053
six-gluon subprocess, direct calculation 7—15113
Skyrme masses, counting strange quarks 7—24831
Skyrme model, spin-orbit interaction 7—49060
Skyrme model for baryons, quark degrees of freedom 7—30197
Skyrme model of proton-neutron mass difference 7—49145
Skyrmion model, vector and scalar mesons 7—35788
soliton bag model, characteristics using BAG program 7—49087
standard six-quark model with hierarchical symmetry breaking, quark mixing, mass generation 7—5065
stars of strange matter, energy and chemical potential 7—61829
static quark potential at finite temperature 7—24832
strange matter, physics and astrophysics 7—49050
strange quark decay rates in quark matter at high temp. 7—49067
SU(3) cloudy bag model, dynamical source of mass splitting 7—493
Su(3) Yang-Mills theory, quark field description 7—41583
superstring alternative of b-quark interactions 7—61517
supersymmetric standard model, light gluinos and CP violation 7—443
thermodynamical considerations for the rehadronization of a quark-gluon plasma 7—49061
three phase model, phenomenology of deconfinement and chiral symmetry restoration 7—35794
three-body forces in the quark model 7—56511
two-dimensional model for strongly interacting matterat high particle density 7—5045
U(1) varied-modular Higgs model, phase struct. simulation 7—18973
variant axion models, constraints 7—30237
weakly decaying charmed baryon lifetime differences due to preasymptotic bound state effects 7—41801
$B \to D^*(D)$, decay ratio calcs., quark model anal. 7—19097
B meson decay, mixing matrix and CP-violating phenomena 7—476
d, dynamical model for six-quark admixture 7—467
d, magnetic moments of multiquark systems, chiral bag model 7—41816
$\delta(980)$, quark model existence, decay modes 7—10027
e^+e^- peaks, constraints on nuclear transitions, axions and particle interpretation 7—35776
$e^+e^- \to X$, quark fragmentation, charged particle multiplicity 7—35886
η, production and decay processes involving pseudoscalar gluonium particles 7—41717
$\eta \to \gamma\gamma$, meson-quark coupling constants, one-loop quark model 7—61695
i(1440), production and decay processes involving pseudoscalar gluonium particles 7—41717
$K \to 2\pi$, CP violation in six-quark standard model 7—35740
$K^0 \to \pi\pi$, effective dynamical model for $\Delta I=1/2$ rule, quark wave functions 7—15146
$K_L - K_S$ mass difference in the chiral quark-loop model 7—61684
$K^+d \to \eta X$, $\eta \to 2\gamma$, 10 GeV, differential cross section meas., quark-fusion model anal. 7—5124
$\Lambda(1405)$, $\bar{K}N$ bound state and 3-quark state model interpretations 7—492
Λ nonmesonic decay in hypernuclei, hybrid quark hadron model anal. 7—41798
$\Lambda N \to \Lambda N$, quark cluster model 7—49180
$\Lambda N \to \Sigma N$, low-energy interaction, P-matrix anal. 7—41834
$\mu N \to X$, quark-gluon structure study 7—49156
N form factor zeros, quark model anal. 7—61690
N octet magnetic moments, relativistic chiral quark model calcs. 7—19110
N structure effects on meson exchange currents, constituent quark model, MIT bag model anal. 7—24845
$\bar{N}N \to 3$ mesons, quark rearrangement tests 7—49176
$N\bar{N}$ annihilation, dynamical selection rules, quark-gluon model 7—5126
$N\bar{N}$ annihilation and the quark rearrangement model 7—49048
NN interaction, spatial structure, phenomenological model anal. 7—5069
NN interaction in extended quark model, RGM study 7—61799
NN interaction in nuclei, quark cluster model approach 7—30346
NN interaction model with π-exchange, overlapping nucleon form factors 7—35952
NN scattering, quark cluster model, on-shell equivalent transforms. for CC eqn. energy depend. elimination 7—35900
NN scattering, radial excitations, RGM and constituent quark model calcs. 7—19125
$N\bar{N} \to X$, effect of short range repulsions 7—49177
$NN \to X$, isobar-width effects in the coupling of nucleon to isobarchannels 7—546
$NN \to X$, quark cluster model, confinement mechanism and exchange effect 7—49056
$\bar{N}N \to X$, quark-gluon dynamics and selection rules 7—30277
NNN forces, classification and quark models 7—56618
$np \to X$, multiplicity of γ-rays and π^0, additive quark model comparison 7—42010
$\bar{p}n \to \pi^-\pi^-\pi^-\pi^+\pi^+$, evidence for quasinuclear bound states in broad struct. 7—5117
$\bar{p}p$, 32 GeV/c, inclusive baryonic reson. prod., constitutive model 7—5127
$\bar{p}p \to \bar{b}b \to \mu\mu X$, secondary leptons in $\bar{b}b$ jets, B two-body decays 7—15176
$\bar{p}p$ charge exchange reactions, low energy cross sections and quark confinement radius 7—35899
$\bar{p}p \to KX$, charged particle multiplicity, dual parton and quark fragmentation models 7—19135
$pp \to K\pi NX$, inclusive spectra, quark-gluon string model anal. 7—61769
$\bar{p}p \to$ meson+meson, quark rearrangement and annihilation models 7—49178
$\bar{p}p \to \bar{p}p$, low energy cross sections and quark confinement radius 7—35899
$\bar{p}p \to \pi X$, charged particle multiplicity, dual parton and quark fragmentation models 7—19135
$pp \to X$, FF model of quark jets, appl. to soft collisions *(Chinese)* 7—24916
$pp \to X$, many-particle rapidity correlations, cluster model framework 7—19220
$pp \to X$, multiplicity of γ-rays and π^0, additive quark model comparison 7—42010
π, quark confinement theory, Nambu-Goldstone scalars and symm. restoration 7—35808
π^0 EM properties in dominance model of quark-loop anomalies 7—19147
$\pi^0 \to \gamma\gamma$, meson-quark coupling constants, one-loop quark model 7—61695
$\pi^+d \to \eta X$, $\eta \to 2\gamma$, 10 GeV, differential cross section meas., quark-fusion model anal. 7—5124
$\pi N \to \rho N$, vector-meson prod., helicity-amplitude relations from skyrmion model 7—41838
$\pi p \to K\pi NX$, inclusive spectra, quark-gluon string model anal. 7—61769

quark models continued
π^-p reaction, meson polarisation investig. 7−49181
$\bar{q}q$, sum rule prediction for masses of $L\geq1$ 7−35744
$Q\bar{q}$ bound state, semi-relativistic theory 7−61545
$\bar{q}q$ condensate, truncation of operator product expansion 7−35791
$q\bar{q}$ confinement pots., Hill determinant method 7−5043
$\bar{q}q$ pair exchange transition pot. in constituent quark model *(Chinese)* 7−5057
$qq\rightarrow qq$, ($q=u,d,s$), low-energy amplitudes, meson masses, N/D dispersion method anal. 7−61549
$qq\bar{q}\bar{q}$, MIT bag model 7−41753
$\rho^-\rightarrow\pi^-\gamma$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
$\rho^-\rightarrow\pi^-\pi^0$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
$\Sigma^+\rightarrow p\gamma$ asymmetry, W-exchange dominance in SU(6) broken quark-diquark model 7−49153
Υ quarkonium physics, potential models, resonances, hadronic decays and B mesons 7−19101
$V\rightarrow H^0\gamma$ radiative decay, relativistic effects calcs. 7−49094
$\xi(2232)$, a $\Lambda\bar{\Lambda}$ bond state in quark pair creation model 7−41709
$\zeta(1480)$, glueball candidate study 7−5061
$\zeta(1480)$, quasinuclear $\bar{N}N$ bound state study 7−5061
$^{14}C(\pi^+, \pi^-)$, energy dependence of the six-quark bag mechanism 7−42077
(γ,π), pion photoproduction in Coulomb field, virton-quark model 7−41978
^2H, electromagnetic structure of the deuteron in the Skyrme model 7−49235
^3H, charge form factors, hybrid quark hadron model anal. 7−24933
$^2He(e,e'n)$ cross section calcs., six-quark cluster effects 7−655
^3He, charge form factors, hybrid quark hadron model anal. 7−24933
$^3He(\pi^-,nn)$ cross section, partial wave anal. and quark cluster calcs. 7−36054
$hh\rightarrow X$, secondary hadron transverse momentum distribs. 7−41828
K^+N channel coupling, quark pot. model with resonating group method 7−41705
$pN\rightarrow X$, inclusive spectra of secondary particles in quark-gluon string model 7−41859
$\bar{p}p$, baryon production, quark-quark and quark-diquark reaction mech. 7−5133
π field around static source, chiral invariant model 7−10034

quark-parton model *see parton model; quark models*

quarks
see also quark confinement; quark models
N quantum approach to symmetry breaking 7−35708
bound state problem for quarks and leptons, spontaneous symm. breaking 7−35709
bulk matter quark search expts., using rotor electrometer 7−30913
charge testing using $e^+e^-\rightarrow\gamma+2$ jets 7−61706
composite models, leptogluons and exotic coloured vector bosons 7−41756
deep inelastic QED Compton scatt., topological isolation, inclusive cross sections 7−49157
diquark, quark fragmentation in π^-p, $^{12}C(\pi^-,X)$, 40 GeV/c 7−61753
distribution amplitudes for nucleon from perturbative QCD and sum rules 7−41745
down quark, fourth generation, consistency with standard theory 7−35757
dynamical quark mass, mass-shell props. 7−24834
$E_8\times E'_8$ superstring theory, quark mass generation constraints 7−41686
early Universe, bubble growth and droplet decay in quark-hadron phase transition 7−9562
early Universe, evaporation of strange quark matter, dark matter candidate 7−40974
electroweak bosons, leptons and Han-Nambu quarks in a unified spinor-isospinor preon field model 7−49102
exotic D quark production at hadron colliders 7−35760
fermion mass determination, Weinberg model 7−49021
fermion masses in GUTs with intermediate scales 7−10011
finite-energy correction to the branching equation for multiplicity distributions 7−35910
four generation mass fixing 7−61511
fourth generation quark decays from $\bar{p}p\rightarrow Q$ in grand unified model with 10^{19} GeV unification scale 7−4745
fourth generation quark-lepton effects on third generation, quark-lepton mass matrices and renormalisation group eqns. 7−56482
fractional electric charge search on niobium samples in liquid He 7−35785
geometrical rishon model, quark and lepton generations 7−497
gluon, magnetic mass in QCD_4, two loop approx. 7−61563
gluon-quark plasma and EMC effect studies at CERN 7−49273
heavy flavour lifetimes, review 7−61548
heavy quark dynamical mass, electroweak symmetric breaking, extended technicolour sector simplification 7−24837
hierarchical quark-lepton masses and intermediate massscale in GUT 7−5016
Kobayashi-Maskawa matrix elements, expt. determination 7−56487
Kobayashi-Maskawa matrix with four-generation quarks and CP violation 7−61497
lattice Monte Carlo simulation with Wilson fermions, current algebra, quark masses 7−15069
lattice QCD, light hadron and quark masses, large lattice results 7−15139
lattice QCD, quenched SU(2) simulation, quark mass behaviour 7−61602
left-right squark flavour mixing, effect on CP violation, minimal low energy supergravity anal. 7−35737
light quark mass effect on colour ferromagnet model of QCD vacuum 7−24842
light quarks at low temperatures, QCD partition functions from chiral symmetry 7−61584
mass and spin effects in meson wave functions 7−41744
mass matrices and symmetry props. of electroweak model 7−61529
mass matrices in standard electroweak model, maximal CP violation, anal. for many quark generations 7−30215
masses from preon model with three SU_3 hypercolours and three SU_5 hyperflavours 7−49026
masses in Fritzsch-Stech quark model in SO(10) 7−61547
$N=1$ supergravity, $SU(3)\times Su(2)\times U(1)$ models, superparticle and t-quark masses 7−41228
observability of quarks 7−49077

quarks continued
particle families as radial excitations, eigenstates of relativistic wave eqns. 7−30179
plasma of quark matter, theory 7−24947
QCD, explicit formulae for heavy flavour production 7−41739
QCD SU(N) quark Wigner operator, transport equations 7−475
quark-gluon fluid, relativistic, hydrodynamical evolution, effective temp. anal. 7−10117
quark-gluon plasma in SU(2) $T=200$-300 MeV, reduction of degrees of freedom from T, Q, Y effects 7−5062
quark-lepton generations, possible number 7−35792
sea-quark polarization relevance of spin-spin asymmetry in $pp\rightarrow(\gamma,Z^0)\rightarrow\mu^+\mu^-X$ 7−19134
sextet quarks and light pseudoscalars 7−5047
Skyrme masses, counting strange quarks 7−24831
$SO(10)\times SO(10)$ theory, composite and elementary quarks and leptons 7−9997
squark and gluino mass limits from CERN $p\bar{p}$ collider 7−56464
squark mixing angles in supergravity theories, gluino flavour changing in SU(5) 7−56136
Stech mass matrix with fourth-generation quarks 7−462
string tension, relation to gluon string tension SU(2) lattice gauge theory calcs. 7−417
structure function meas. using Drell-Yan process, proposed expts. 7−36351
structure functions measured with Drell-Yan process 7−49079
$SU(3)\times SU(2)\times U(1)$ model, addition of vector-like quarks 7−35753
SU(3) lattice gauge theory, scaling behaviour of heavy-quark potential 7−486
SU(5) unification, low energy effects of scalar leptoquarks 7−5027
superstring models, compactified, down-quark mixing 7−5022
ultra-heavy quarks, prod. and decay props., quarkonia prod. in hh and e^+e^- 7−30242
vacuum polarization, contrib. from gluon condensates, QCD sum rule anal. 7−61599
valence quark contributions to moment of inertia in chiral bag model 7−24847
weak-interaction flavour mixing 7−61530
b(c)-quark$\rightarrow\mu\nu_\mu X$, semi-muonic branching ratio determ. and heavy quark fragmentation function calcs, e^+e^-, $\sqrt{s}=34.6$ GeV 7−61710
$b\rightarrow s\gamma$, hard γ emission, Higgs boson doublet model 7−15179
$b'\rightarrow\psi X$, detection possibilities of fourth generation b′ quarks 7−510
$D\rightarrow dg$, exotic quark decay in E_6 theories 7−19047
d quark-D fermion mixing, $D=E_6$ fermion, KM mixing angle, SU (5) mass relation study 7−61528
e^+e^-, 46.8 GeV, excited quarks search at CELLO, final state topologies 7−30276
$e^+e^-\rightarrow q\bar{q}g(q\bar{q}\gamma)$, particle flow in annihilation events 7−539
$e^+e^-\rightarrow q\bar{q}\tilde{\gamma}\tilde{\gamma}$, scalar quark production, Monte Carlo QCD simulation 7−35888
$e^+e^-\rightarrow t\bar{t}$, t-quark detection at high energy colliders 7−24899
$\bar{p}p\rightarrow$ gluinos, squarks, search at Tevatron collider energies 7−24921
$\bar{p}p$ in standard model, $m_t<m_W$ 7−49031
$pp\rightarrow X$, valence quark effects in beam remnants 7−557
q-decay ($q=c,b$) and CP violation, electroweak theory status 7−56486
υ quarks, possible signatures at e^+e^- colliders 7−5032
$Z^0\rightarrow q\bar{q}\gamma$, Stokes parameter calcs. and anomalous mag. moment 7−41807

quartz
α phase, E'_1 centre, nonradiative charge transfer rate 7−12659
α-phase, cryst. growth from silica gel using alkali halide flux *(Japanese)* 7−64884
α-phase hyper-Raman tensor nonsymmetry studied by two-frequency excitation 7−15942
absorbed dose in plane two-layer samples irradiated with fast neutrons 7−38066
alpha phase, electroelastic constants meas. 7−59151
alpha phase, muonium atoms, diffusion and quadrupole interactions, temp. depend. 7−52138
alpha phase, neutron damaged, static paramag. susceptibility studies 7−33140
bars, nonlinear electroelastic eqns. of wave propag. and vibr. 7−57625
birefringent, millimeter wave dielectric meas. 7−14978
bolometer for hot plasma diagnostics 7−11708
Brazil twin and stacking fault boundaries, X-ray dynamical diffr. contrast images 7−26768
cathodoluminescence of intrinsic defects in α-quartz 7−7766
ceramic reflectors, γ-irrad. effects on Nd:YAG laser energy characts. 7−50575
chemical polishing of crystals, use of surfactants, results 7−59655
complex dielec. const. meas. at 245 GHz using double-beam interferometer 7−7632
cooldown mass flow requirements for He or N cooling systems 7−56281
crystal, low temp. sound velocity, fast neutron irradiation effects study 7−12160
crystal, Sn or Au coated, surface polariton propag. 7−27259
crystal defect imaging, sound-beam topography method 7−11237
crystal etched figures, expt. study and numerical simulation 7−59654
crystal growth, pragmatic model for simulation of self-induced striations 7−11973
crystal resonators radiation sensitivity with different Al impurity content 7−58335
crystalline, neutron and electron irrad., glassy props. 7−63664
cultured, Al defects, IR and laser spectroscopic charactn. 7−59234
cultured, grown from +X seeds, Al and OH^- distrib. 7−58307
curved cryst X-ray optics, inelastic scatt. expts., X-ray spectrometer design parameters 7−16354
double-ended tuning fork quartz accelerometer, design and characts. 7−56230
douphine twinning, acoustic microscopy obs. 7−21233
E'_4-centres, conversion rate into E'_2-centres 7−52517
electroelastic consts. meas. *(Chinese)* 7−39040
electronic structure, direct and inverse photoemission and soft X-ray emission spectra *(French)* 7−59374
emittance, blackbody comparison method meas. 7−58513
exoemission centre with O vacancies, cluster model 7−12651
fibres, geometrically perturbed, light scattering 7−57563
filled epoxy resin, charged, photoemission meas. in insulating gases 7−27871
fluid density sensor pressure transducer, design and characts. 7−56249
FTIR spectrum of crystals, press. effects, phonon band splitting 7−46039

quartz continued
fused, ESR centres induced by glow discharges 7−17221
fused, muonium formation, RAHD relax. theory 7−53201
fused, optical constants, ATR determ. 7−27681
fused, surface structure minimal disturbance under ion bombardment 7−12419
fused quartz optical surface, adsorbed dye laser molecules, SHG and THG *(Chinese)* 7−57457
fused quartz particulate composite, fracture behaviour *(Chinese)* 7−8079
glass, microdefect accumulation kinetics during optical irradiation 7−38050
glass, radiation-induced centres, ESR studies 7−12149
glass, thermal expansion coeff., two-level system contrib. *(Russian)* 7−21495
high-quality quartz crystals, production developmental results 7−59823
hydrothermal growth and elec. sweeping for resonators 7−39369
hydrothermal growth at low fillings in NaCl KCl solns. 7−46291
imperfect crystal, structural phase transition, elastic breakdown 7−2165
incommensurate 3q-1q transition 7−63794
incommensurate phase, temperature dependent low-frequency modes 7−6737
intermediate phase between α ad β phase 7−1936
intermediate phase between α and β phases 7−1937
ion implanted optical waveguides, refractive index profiles 7−25964
irradiation effects study using low-temp. dielec. relax. 7−58334
leaky surface wave propag. characts. and new cut with small temp. coeff. 7−12453
luminescence of pure and Ge-activated samples 7−46152
miniature resonator thermal detector 7−349
modulated phase, electron microscopy study 7−26937
multifrequency SAW waveguide resonators, amplitude-freq. characts. anal. 7−16050
natural polycrystalline quartz aggregates, grain size sensitive plastic flow 7−53824
natural quartz minerals, thermoluminescent emissions 7−27798
natural quartz sands, red and blue colouration of thermoluminescence 7−46153
natural single phase unidirectional low-loss SAW transducer 7−1359
neutron irrad., electron spin-lattice relax., effect of exchange interaction 7−45794
neutron irradiated, US attenuation, glassy behaviour 7−32580
neutron irradiated and annealed, positron annihilation and mag. susceptibility meas. 7−39274
optical convertor for marine quartz gravimeter 7−29262
optical rotatory power, light depolarisation in α-, β- and incommensurate phases 7−7667
particle size effect on Fourier transform IR photoacoustic spectra 7−9909
particles, α-β inversion, structural damage effects, micro DTA study 7−2185
phonon dispersion and mode coupling near incommensurate phase transition 7−58421
piezoelectric resonators, electron and gamma radiation dosimetry appls. 7−15416
plate simple thickness modes, acoustic viscosities and time constants 7−1372
plates, doubly rotated, thickness vibr., frequency-temperature behaviour 7−20624
point defects computer modelling 7−58265
positronium-impurity interactions 7−39215
α-quartz: AlO_4, hyperfine and quadrupole interactions, ENDOR study 7−2951
quartz: Cu^+ $(Fe^+)(Nb^+)$, ion implanted, coloration and transparency *(Japanese)* 7−7656
quartz:Li, $(SiO_4/Li)^0$ centre, correlated ESR and thermoluminescence studies 7−22140
radiation damage, rel. to trace water 7−32489
radiation-induced conductivity of as-grown and electrodiffused quartz 7−6691
resonator temperature transducer with no activity dips 7−56268
rose-quartz, cryst. synthesis 7−46292
rotated Y-cut, bulk acoustic wave reflection theory and expt. 7−2107
rotated Y-cut, reflected bulk acoustic wave characts. 7−44702
rough surfaces, optical correl. study 7−42916
SC cut, compression and flexure stress effects *(French)* 7−65098
sensor for automatic dew-point hygrometry 7−61344
single-mode three-layer ring optical fibre, intrinsic birefringence and polarisation dispersion props. 7−50777
solubility of water, thermodynamic model 7−16758
spectrometer, high-resolution, using spherically curved quartz crystals, design 7−4895
spin-lattice relax. of $Al-O^-$ centres, EPR studies 7−38936
static magnetisation of $Al-O^-$ centres, electric field effects 7−38900
structural EXAFS study 7−64762
subsurface defect acoustic imaging in composites and roughened samples 7−3568
surface periodic struct. formation during vaporisation by CO_2 laser radiation of fused quartz 7−6936
surface wave propag. characts. and influence on device performance 7−12451
synthetic, defects 7−63603
synthetic, edge dislocations, optical contrast, birefringence topography studies *(Chinese)* 7−59176
synthetic quartz growth, Brazilian lascas charact. for synthetic quartz growth, props. correlation 7−59394
temperature sensing device, output nonlinearity correction 7−41380
temperature sensor using quartz tuning fork resonator, design, fabrication and characts. 7−56269
thermal expansion, internal strain below room temp., lattice dynamical model 7−52092
thermometer calibration method 7−41379
topography of etched rhombohedral faces, evidence for orientation effects 7−16840
tuning fork resonator transducers 7−35512
two-freq. excitation hyper-Raman light scatt., asymm. effects study 7−33399
ultrasound, anharmonic props. under intense excitation 7−20488
X-ray induced blue luminescence, polarisation studies 7−3086
X-ray irradiated, ESR-modulation spectroscopy 7−51826
x-ray machine for generally rotated blanks 7−37806
- *(Japanese)* 7−13384

quartz continued
CuAl-quartz, SAW resonators, annealing behaviour and phase noise performance 7−11242
F-doped, struct. study using ^{19}F-NMR *(Japanese)* 7−21122
H_2 diffusional uptake and hydrolytic weakening 7−40469
OH loss increase due to jacketing glass material in optical fibres 7−6017
SiO_2 quartz glass, γ-irradiated, phase relax. of E′ centres, spin echo study 7−38938
SiO_2:Ge, impurity charge trapping props., EPR spectra 7−27290
SiO_2-rich ceramics, intergrowth relationships between SiO_2 polymorphs, quartz, cristobalite and tridymite 7−13445
SiO_4-Li, crystalline quartz with Li-associated electron trap, electronic struct. 7−21860
$Ta+SiO_2 \rightarrow Ta_2O_5+Si$, redox reaction induced by shock loading 7−59763

quartz resonators *see crystal resonators*

quasars
0133+476, 0235+164, 1749+096, 2131-021, variable quasars, multifreq. radio obs. 7−40955
0557−672, quasar in direction of LMC,V-magnitude and redshift 7−4592
0850+581, superluminal motion, 5 GHz VLBI maps 7−24235
1146+111 B,C, evidence against gravit. lens nature, spectral obs. 7−29553
1701+610, QSO with tidal tail, CCD imaging and spectroscopic obs. 7−4589
1741−038, refractive interstellar scintillation obs. 7−55845
absorption line systems characts. 7−35058
absorption lines in quasar pairs, implications for galaxy correls. and quasars environment 7−24216
absorption spectra, phenomena arising from nonstationary central black hole 7−60795
accretion disk models, high-temp. non-LTE models rel. to UV and optical spectra 7−60813
alignments in hierarchically clustered populations, implications for QSOs triple alignments 7−60830
B2 1225+317, high-resolution spectroscopy of $z=1.79$ absorpt. line system 7−66782
B2 1225+317, Lyman-alpha forest from 3140 Å to 3940 Å 7−48097
B2 1320+299, VLA obs. of asymmetric radio struct. 7−35065
B2 quasars, SHF VLA obs. 7−60825
B2 radio quasars, optically-induced orientation bias 7−60832
B2/B3 variable sources at 408 MHz 7−40948
blazars, beaming model 7−60799
blazars, spectral properties of blazars in for UV, IUE obs. 7−48074
brightness scale length of outer regions relation to active nuclei characts. *(Russian)* 7−55826
broad absorption line quasars, implications of outflowing component in Mg II line profile of Seyfert galaxy 7−55834
broad line region energetics, contrib. of nonradiative or in situ X-ray heating 7−9553
4C 18.68, radio core and halo struct. 7−4588
3C 263, double-lobed quasar, superluminal motion, SHF obs. 7−48095
3C 273, consequences of gravit. lensing for gamma radiation 7−9552
3C 273, new IR spectral component 7−4590
3C 273, particle accel. in jet hotspot rel. to radio to IR spectrum 7−14676
3C 273, right ascensions and flux densities of nearby radio sources 7−66774
3C 273, submm continuum characts. 7−48099
3C 273, UBVRI light var. 7−35062
3C 273 jet, swinging relativistic plasma beam model 7−66783
3C 275.1, CCD imaging of host galaxy and gas cloud 7−55848
3C 2, compact steep-spectrum quasar, radio characts. 7−60833
3C 345, optical outbursts rel. to jet ejection from nucleus 7−4585
3C 446, visible and IR photometric obs. 7−35059
candidates in SA 94 field, objective-prism classification of US objects 7−66779
clustering of quasar distribution, results from objective-prism survey *(Chinese)* 7−4581
cosmic evolution at high red shift 7−40954
counts and colours, intervening galaxy effects 7−55847
damped Ly α absorption, implications for disk galaxies form. 7−55794
distribution on large and super large scales 7−60826
double images caused by double clusters of galaxies 7−9549
double quasars, relation to burnt-out galaxies and galaxy clusters 7−35051
emission line profiles, calcs. for Keplerian cloud ensembles 7−4586
emission spectrum of active galactic nuclei, photoionisation models of low-ionisation lines 7−9535
emission-line spectrum of active galactic nuclei, computational methods 7−9534
evolution of quasars selected by slitless technique 7−18460
FIRST observational potential 7−48093
flat-spectrum radio sources, evolution function at 5 GHz 7−14673
flat-spectrum radio sources, optical spectra and redshifts for quasar candidates *(Chinese)* 7−4582
GC 1556+335, ejected or intervening material model for absorpt.-line spectrum 7−29552
general textbook contribution 7−60912
gravitational images classification, role of Fermat's principle and caustics 7−55439
gravitational lens amplification, flux conservation rel. to random gravit. lensing 7−23994
gravitational lenses, dark galactic haloes as intervening objects 7−60530
gravitational micro-lensing by stars in galaxies, astrophysical appls. 7−9364
gravitational micro-lensing causing parallax effect 7−29392
high-redshift QSOs from UK Schmidt Telescope objective prism plates, spectroscopic obs. 7−24236
intergalactic medium photoionisation, dynamics of cosmological H II region 7−40938
intermediate-redshift quasars, field surveys catalogue and background galaxy counts 7−55495
IR characteristics and IRAS meas. 7−60834
IRAS 00275−2859, identification as quasar, spectral characts. 7−18462
Lα absorption systems, constraints on intergalactic voids at high redshifts 7−55823
BL Lac candidates, X-ray selected, spectroscopic identification as low-redshift quasars 7−48085
large redshift quasars, CCD survey and spectral obs. 7−55846

quasars continued
lensed quasars, images multiplicity and positions for quadrupole gravitational lens 7−66453
light polarisation 7−4584
low frequency variable radio sources, two-epoch VLBI obs. 7−4579
low-redshift quasars, archival study of IUE obs. 7−60835
low-z broad absorption line QSOs in PG survey 7−24234
luminosity evolution, flux-redshift relations in chronometric cosmology 7−24237
luminosity function, comparison with Seyfert galaxies 7−24202
Lyman-alpha absorption lines, nonspherical clouds model 7−60805
Markarian 231, Seyfert galaxy/QSO, CO (J=1-0) emission detect. and optical imaging 7−66757
MC 1331+170, limit on surface brightness of Lyman alpha disk absorber 7−4587
MR 2251−178, extended O III 495.9+500.7 nm forbidden lines emission 7−35060
MR 2251−178, imaging in O II and O III forbidden lines 7−60831
multiple quasars for multiple images 7−9556
non-cosmological redshifts of spectral lines 7−66459
NRAO 140, visible and IR photometric obs. 7−35059
nuclei characts. *(French)* 7−66759
opposite pairs effect in 'small universe', relation to topological struct. of Universe 7−60844
OX 169, visible and IR photometric obs. 7−35059
PG 0946+301, broad absorption line QSO, spectrum from 550 to 4250 Å 7−55852
PG 1115+080, triple quasar, detect. of lensing galaxy 7−66781
PG 1351+64, low-luminosity quasar, UV and optical variability obs. 7−55851
PHL 1070, Q50, spiral galaxy nature, four-colour obs. 7−14675
PHL 5200 quasar, X-ray observations of broad absorpt.-line quasar 7−60824
PHL 61, identifications of radio absorption lines 7−29551
PHL 61, search for CO *(Russian)* 7−40957
PHL 61, spectral obs. *(Russian)* 7−40958
PHL 938, radio-quiet quasar, light curve *(Chinese)* 7−4583
PHL 957, limit on surface brightness of Lyman alpha disk absorber 7−4587
PHL 957, Sunyaev-Zeldovich effect 7−35061
PKS 1912−54 and 2135−14, QSO absorption line systems 7−40953
PKS 2314+03, occultation by Periodic Comet Halley (1982i), scintillation obs. 7−18381
polarization and beaming of accretion disk radiation 7−47688
primaeval QSOs 7−60827
Q0118−031B, optimal extraction of spectra from obs. with two-dimensional detectors 7−47729
Q0800+608, VLA obs. of remarkable one-sided jet 7−9555
Q0957+561A,B, edge-on galaxy model for gravit. lens 7−60829
Q1100+772, Q2201+315, intermediate-redshift quasars, line profiles from high signal-to-noise UV spectra 7−55850
Q1146+111B,C, double QSO, colours of field objects rel. to gravit. lens/string model 7−29554
Q 1146+111 B, C, isotropy of nearby microwave background radiation 7−40961
Q 1548+114A, B, implications of possible gravit. lens effects by foreground quasar 7−9554
QSO 0046−293, obs. of first $z>4$ object 7−48096
QSO absorption lines origin 7−60828
QSO clustering and evolution, optically selected sample study, dissertation 7−66785
QSO fields at $z=1$-1.5, assoc. galaxy clustering 7−14667
QSOs in fields of nearby galaxies (NGC 55, 253, 300 and 5364) 7−18461
radio aspects (book) 7−55914
radio jets, general relativistic decollimation theory 7−60522
rapid flux variations, relativistically expanding plasmon model *(Chinese)* 7−4577
review of characts. 7−48098
S5 flat spectrum radio sources, analysis of complete sample 7−40947
secular redshift variations, effects of cosmological deceleration and peculiar motion 7−60796
Selected Area 57 quasar candidates catalogue of multicolour photometry, variability and astrometry 7−4591
SHF and EHF obs. 7−48100
South Galactic Pole, galaxy and quasar candidates, correl. studies *(Chinese)* 7−66731
space distribution, luminosity-volume test rel. to local hypothesis 7−35064
spectra, C IV absorpt. systems characts. 7−66780
spectra, Lyman α and 21 cm lines form., role of dwarf galaxies and globular star clusters 7−40952
spectral properties of X-ray selected blazars 7−48075
supermassive central black holes ejection 7−60797
Texas radio source survey, search for optically variable objects 7−4580
thin disk model for UV excess of quasars and Seyfert 1 galaxies 7−40956
tidal triggering of activity in multiple systems 7−55788
tidal triggering of Seyfert galaxies and quasars, perturbed galaxy disk models versus obs. 7−9537
UV continua, results from IUE obs. 7−55849
UV spectra, evidence for redshift evolution of intergalactic absorpt. clouds number density 7−55829
in Virgo cluster central region, quasars space distrib. and redshifts 7−35063
viscous jets dynamics, numerical calcs. 7−4565
visible photometric obs. 7−66784
VLBI observations with orbiting radiotelescope 7−47730
X-ray luminosity-redshift relationship for extragalactic objects, observational data 7−14679
X-ray spectra of PG quasars, X-ray to IR continuum 7−48094
H I emission from quasars and active galaxies, 21-cm obs. 7−48066

quasi-one-dimensional conductors *see one-dimensional conductivity*

quasi-particles
see also excitons; helicons; magnons; phonons; plasmons; polaritons; polarons; ripplons; rotons; solitons
1D system, bound states of two soliton-type quasi-particles *(Russian)* 7−2502
d-wave superconductivity in the large-degeneracy limit of the Anderson lattice 7−45551
antiferromagnets, parametric magnons, effect on spectra of other quasi-particles 7−52967

quasi-particles continued
cubic systems, superconducting p-ware pair states, collective excitations, spin-orbit interaction and cryst. field effect 7−7440
DC SQUID using quasiparticle-injected superconducting weak link 7−58956
dense Kondo heavy fermion systems, Cooper pairs attractive interactions freq. depend. 7−58951
dense Kondo systems, coherent state and Z^{-1} expansion 7−2603
disordered systems, localised electron Coulomb gap, quantum hopping effects 7−2540
electron gas, dynamic struct. factor, particle self-energy contributions 7−45182
electron gas, localisation effects, Keldysh representation 7−52529
electron gas, two-dimensional, correlation functions and Laughlin quasi-particle operators 7−16965
Fermi liquid systems, mag. props. 7−12387
fermion system, normal, thermodynamics, quasi-particle occupation number function calcs. 7−32741
fermion system, two component, fractional quantum Hall effect, excitation spectrum 7−52656
field theoretical approach to solid state physics 7−12934
fractional quantum Hall effect, large-scale config.-interaction calcs., Haldane's spherical model 7−2628
Gamow-Teller resonance relaxation, interacting and independently damping quasiparticle model anal. 7−19221
heavy fermion superconductivity, tight binding picture and Cooper pairs 7−2776
heavy-fermion superconducting state, temp. depend. of nucl. spin-lattice relax. 7−17136
heterostructures with mass modulation in a magneticfield 7−7342
incommensurate one-dimensional CDW systems, localised electronic state form. due to phase and single particle excitations 7−21834
incompressible Fermi liq. of 2D electrons, Coulomb gap size determ., spectroscopic method 7−61223
Landau theory, quasiparticle interactions 7−64038
linear macromolecules, quantum theory of quasi-particle motion, thermal vibrs. 7−52461
metals, electroconductivity in const. mag. field, electron relax. time and interactions *(Russian)* 7−32994
metals, strongly correlated, containing heavy fermions, thermodynamic and transport parameters 7−38458
nonequilibrium supercond. thin films, multigap state density instability, kinetic eqns. 7−52891
odd-deformed nuclei, effect of recoil term on average potential, excited state calcs. using quasi-particle phonon interaction 7−61796
odd-mass nuclei, high-lying state decays, role of quasiparticle ⊗ phonon wave fn. components 7−56638
phase slip centre as a dynamic amplitude soliton 7−52465
polarisation operator, in condensed media *(Russian)* 7−16923
polymers, conjugated, ferromagnetic, polaron spins by doping, PPP model struct. anal. 7−52944
quantum Hall effect, fractional, spin-reversed quasi-particles, many-body approach 7−2629
quantum Hall effect, quasiparticles and impurities 7−33036
quasi-one-dimensional conductors, quantised density wave ordering induced by mag. field 7−45702
quasielastic neutron scatt., nonlinear effects and lineshape calcs. 7−63403
rare earth systems, weak correl. regime, localised 4f states, quasi-particle energy calcs. 7−52492
semiconductor, surface space charge layer, electronic self-energy calc. *(Korean)* 7−27373
SNS junctions, resonant microwave absorption 7−45579
superconducting film, resistive state, high freq. nonJosephson vibrations and quasi-particle interaction calcs. *(Russian)* 7−27263
superconducting films, nonequilibrium dynamic quasi-particle distribs., high freq. EM field effects calcs. *(Russian)* 7−27467
superconducting loop containing single Josephson junction, multiple-quantum-flux penetration 7−64407
superconducting tunnel junction, quasi-particle current jump at gap voltage 7−12918
superconducting tunnel junctions, quasiparticle trapping and the quasiparticle multiplier 7−58954
superconductors, topological transitions, quasi-particle states density and sp. ht. temp. depend. calcs. *(Russian)* 7−7439
tunnel-junction, small size, cond. and quasi-particle current fluctuations 7−52744
tunneling, heavy particle in a metal, electronic polaron effects 7−52118
Al, superconducting, penetration-depth anisotropy, quasiparticle magnetospectroscopy 7−12910
$CdCr_2Se_4$ thin films, ferromagnetic semicond., multielectron energy struct., absorpt. spectrum, temp. and doping depend. 7−38488
Ce, odd-mass isotopes, backbending, IBA anal. 7−19149
$CeAl_3$, quasiparticle band struct., local-density approx. anal. 7−27250
$CeCu_2Si_2$ Kondo lattice heavy fermion system, quasi-particle-phonon interactions 7−2521
$CeCu_2Si_2$, quasiparticle band struct., local-density approx. anal. 7−27250
D, spin-polarized, ground state props. 7−27055
^{168}Er, 0^+ bands, microscopic anal. using the projection before variation method 7−56607
$FeBO_3$, antiferromagnet, parametric excitation of magnons with a decay spectrum 7−52966
He, liquid, momentum dependent induced interaction model 7−27048
^3He liq., interactions via hard-core repulsive pot. and attractive tail, microscopic model calcs. 7−58561
^3He, liquid, collision bracket of linearized quasiparticle Boltzmann equation 7−32740
^3He, superfluid, dissipative flow through thin channels 7−38288
^3He, superfluid, dynamics in flow channels with restricted geometries 7−38287
^3He-^4He dilute superfluid solns., ^3He quasiparticle specular reflection 7−6911
^3He-B, thermomechanical emission and detection of ballistic quasi-particles 7−12390
^4He, finite temperature Hartree Fock calcs. with quasiparticle (nucleon, $\Delta(1232)$ isobar) basis 7−35966
In superconducting film, nonequilibrium phenomena under quasiparticle injection *(Chinese)* 7−27465
In type I supercond. granule metastable state destruction by external 7−27475
In-Pb whiskers, quasi 1D supercond., weak to strong coupling transition, I-V characts. study 7−38835

quasi-particles continued
- Ni, quasi-particle and band-calc. spectra, w.r.t. valence band photoemission meas. 7—2474
- Pb alloy tunnel junction, quasiparticle RF-induced steps *(Chinese)* 7—27472
- Pb-Ag supercond.-normal conducting film structures, Andreev scatt. 7—45572
- Pb-PbO_x-Pb tunnel junction I-V characts., Pb film quasi-particle effective chem. pot. calcs. 7—22065
- UPt_3 single crysts., electronic structure., low energy reflectivity study 7—45137

quasi-stellar objects *see quasars*

quasi-stellar sources *see quasars*

quasicrystals
- 1D, acoustic and electronic props. 7—6730
- 1D, electron transmission 7—45254
- 1D tight-binding model, critical wave functions and Cantor-set spectrum 7—64189
- Al-Mn quasicrystal, struct. model with m35 symm. 7—6570
- alloys, icosahedral and amorphous structures, fractal coefficients 7—26646
- alloys, rapidly solidified, conf., Boston, MA, USA (Dec. 1985) 7—18496
- anomalous X-ray transmission calcs. 7—51564
- atomic structure models, electron microscope images, computer simulation 7—16380
- diffraction, geometric struct. factor 7—16473
- diffraction pattern simulations of quasiperiodic structures 7—6585
- diffraction patterns, distortion and peak broadening 7—11981
- eight-vertex model of the quasicrystal 7—26689
- electron localisation 7—21901
- equilibrium state of two-component 2D Lennard-Jones system, Monte Carlo simulations 7—58148
- Fibonacci chain eigenstates study 7—35459
- Fibonacci chains, spectrum, global scaling props. 7—58724
- icosahedral, elastic moduli and elastic instability, density-functional theory calcs. 7—44649
- icosahedral and decagonal quasicrystals, twins of 820-atom cubic cryst. 7—58189
- icosahedral phases, discommensurations 7—44437
- icosahedral quasicrystals and quantum structural diagrams 7—44438
- icosahedral solids, third-order elastic constants 7—32543
- icosahedral systems, glassy dynamics 7—32294
- magnetic phase structure on the Penrose lattice 7—53013
- metallic glasses, magnetic relaxation and struct. transformations 7—27557
- mistakes, effect on X-ray diffr. intensity 7—32205
- one-dimensional, electronic states, Fibonacci sequence 7—52394
- one-dimensional quasicrystals, electronic struct., tight-binding model 7—32892
- Penrose lattice, 2D, DC cond., recursion method calcs. for tight-binding Hamiltonian 7—64192
- Penrose lattice, electronic structure, local-environment depend. 7—52392
- phonons, phasons and dislocations 7—6732
- quasiperiodic and periodic lattices in 2 and 3D, electronic props. 7—32891
- quasiperiodic tiling in two and three dimensions 7—35432
- rapidly solidified, stability 7—26678
- symmetries in new matter phase 7—63462
- two-dimensional, acoustic phonon spectrum of Penrose tilings 7—26892
- two-dimensional, tight binding electron props. 7—27233
- two-dimensional Penrose lattice, distrib. of vertices and near neighborhoods, decorations 7—37915
- two-dimensional quasicrystal, thermodynamic props., molecular dynamics anal. 7—21482
- unstable chemical structure of quasicrystalline alloys 7—44453
- vibrational and electronic spectral props., perturbative approach 7—45116
- Al alloys, icosahedral quasicrystals, high resolution electron microscopy 7—16497
- Al alloys, quasicrystals, electron diffraction structure anal. *(German)* 7—37930
- Al-base icosahedral alloys, elec. resist. and Hall coeff. studies 7—27316
- Al-Fe, rapidly cooled, $Al_{13}Fe_4$ tenfold twins, TEM obs. 7—63631
- Al-Fe-Ce, quasicrystalline decagonal phase, TEM 7—46492
- Al-Fe-Si, quasicrystalline phases and amorphous structure 7—51637
- Al-Li-Zn (Cu) icosahedral quasicrysts., solid state reaction and rapid solidification prep. comparison 7—37864
- Al-Mg-Zn(Cu) icosahedral quasicrysts., solid state reaction and rapid solidification prep. comparison 7—37864
- Al-Mn, Al-rich alloy, rapidly solidified, crystn. of quasicryst. icosahedral phase 7—63472
- Al-Mn, icosahedral-glass and icosahedral quasicrystal models distinguished via high-resolution lattice imaging 7—32295
- Al-Mn, lattice model of quasicrystalline phase, high resolution electron microscope images 7—37866
- Al-Mn, pressure induced quasi-crystal to crystal transition for melt span alloys 7—16726
- Al-Mn, rapidly quenched, icosahedral phase, comp. analysis 7—26699
- Al-Mn (14 at.%), solidification, icosahedral and T-phase form. temp. rel. to cooling rates 7—53718
- Al-Mn (15 wt.%), melt spun ribbons, icosahedral struct., decomp. rel. to annealing 7—28030
- Al-Mn alloys, icosahedral symmetry versus local icosahedral environments, NMR spectra meas. 7—63536
- Al-Mn alloys, local struct., EXAFS study 7—63466
- Al-Mn icosahedral alloy form. by pulsed electron beam and laser beam surface melting 7—26924
- Al-Mn periodic and aperiodic alloys, local atomic environments 7—44454
- Al-Mn quasicrystal, two-dimensional Patterson synthesis, optical method 7—11993
- Al-Mn quasicrystalline and metastable phases, phase form. and thermal stability 7—26644
- Al-Mn quasicrystals, 1D translational periodicity and ten-fold rotation axis 7—26643
- Al-Mn quasicrystals, field ion images, computer simulation studies 7—32368
- Al-Mn quasicrystals, nonuniform local magnetism, NMR spin echo studies 7—22090
- Al-Mn surface icosahedral phase form., ion beam mixing and interdiffusion 7—16653
- Al-Mn-Cr-Si quasicryst. atomic struct., pulsed neutron scatt. meas. 7—51639
- Al-Mn-Ru-Si icosahedral alloys, EXAFS study 7—39317
- Al-Mn-Si, quasicryst., X-ray diffr., TEM and SEM study 7—12299

quasicrystals continued
- Al-Mn-Si, quasicrystalline phases and amorphous structure 7—51637
- Al-Mn(-Si) rapidly solidified alloys, quasicrystal form. by electron beam melting 7—26915
- Al-transition metal alloys, vacancy-ordered phase and 1D quasiperiodicity 7—63551
- Al-transition metal quasicrystalline alloys, isomorphism, neutron diffr. meas. 7—51638
- Al-V, rapidly quenched, icosahedral phase, comp. analysis 7—26699
- Al-V alloy, amorphous and quasicrystalline state, electron diffr. study 7—63562
- Al-V alloys, phase transitions between amorphous, quasicrystalline and crystalline phases 7—63807
- AlCuLi alloys, large quasicrystalline dendrites, triacontahedral solidification morphology 7—32345
- AlCuLi quasicrystalline struct., construction 7—37929
- $Al_{86}M_{14}$ (M=Mn,Cr), quasicrystals, EXAFS studies 7—64804
- AlMn films, ion irradiation-induced amorphous to quasicryst. transform., comp. depend. study 7—16654
- AlMn icosahedral phase, atomic struct., electron diffr., studies 7—32366
- AlMn, icosahedral struct., EXAFS 7—26701
- AlMn quasiperiodic material, disorder systematics, X-ray scatt. studies 7—11995
- Al_4Mn, diffraction approach to the structure of decagonalquasi-crystals 7—6586
- Al_6Mn, icosahedral, fine line struct. in convergent beam electron diffr. 7—63560
- $Al_{86}Mn_{14}$, atomic level interpretation of quasicrystal microstructure 7—16498
- $Al_{85}Mn_7Cr_8$, quasicrystals, EXAFS studies 7—64804
- $Al_{86}Mn_7Fe_7$, $Al_{86}Mn_{14}$, icosahedral alloys, obs. of mirror-related grains 7—37867
- AlMnSi, icosahedral and α-phase structs., EXAFS anal. 7—63554
- AlMnSi, icosahedral struct., EXAFS 7—26701
- $Co_{3.9}Er$ noncrystalline alloy, local atomic order, magnetism 7—32286
- Fe-B-based amorphous alloys, struct. evolution during heating *(Russian)* 7—16418
- $LaNi_5$, amorphous, short range order 7—37858
- Mn-Al icosahedral quasicrystals, local structure 7—11997
- MnAlSi and MnAl icosahedral crystals, structure, EXAFS studies 7—11996
- Mn_3Ni_2Si, rapidly solidified, Friauf-Laves phase related quasicrystal, TEM obs. 7—51706
- Nb/Cu Fibonacci 1D quasiperiodic superlattice struct., X-ray diffr. meas. 7—52307
- Pd-U-Si, growth of quasicrystalline phase from glassy state 7—58144
- Pd-U-Si glassy state, quasicrystalline phase form., X-ray and electron diffr. studies 7—26645
- $Pd_{58.8}U_{20.6}Si_{20.6}$ alloys, glassy to icosahedral quasicrystalline phase transition, elec. and mag. props. 7—37863
- Ti-Ni-Al rapidly quenched amorphous alloys, thermal stability studies 7—21123
- $V_{41}Ni_{36}Si_{23}$, rapidly solidified, quasicrystalline and Frank-Kasper phases, tenfold electron diffr. pattern obs. 7—65022

quasimolecules
- aniline-H_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
- aniline-methane van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
- aniline-N_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
- ethane-Ar, vibr. predissoc. IR spectra 7—19971
- ethylene-HCl van der Waals mol., dissociation energies and heats of formation, photoionisation study 7—19966
- fluorobenzene carbon tetrachloride van der Waals complex, supersonic jet spectroscopy study 7—57129
- Ni+Ni collisions, quasimol. form., X-ray spectra study 7—31157
- two-electron quasimolecular dimer, vibr.-rot. struct. 7—15670
- van der Waals complex, rot. predissoc., multichannel reson. quantisation 7—50005
- van der Waals complexes, lin., diamag. suscept., promolecule model 7—10539
- van der Waals species, multiphoton ionis. 7—10694
- Ar-benzene(tetrazine), van der Waals rovibr. states, intermolecular pot. 7—5735
- Ar-HCl van der Waals complexes, IR spectra, secular eqn. calc. 7—31031
- Ar-N_2O van der Waals complex, mol. beam IR spectra 7—31030
- Ar_2-HF(DF) trimers, mol. rot., hyperfine struct., spectra anal. and calcs. 7—50060
- ArHF van der Waals complexes in supersonic jets, IR laser spectra 7—19842
- $BeHe^{4+}$, charge exchange collision cross sections, Feshbach method calcs. 7—36754
- H_2-He collision complexes, rotovibr. spectra. SCF CEPA calcs. 7—42478
- He-H_2 van der Waals mol., diagrammatic perturbation theory 7—5607
- He+Ne excitation transfer processes, quasimolecule form. 7—5758
- $HeLi_2$ van der Waals system, pot. energy surface 7—62261
- Hg-Ar complex, electronic states struct., pot. energy curves, visible fluoresc. spectra anal. 7—36631
- $(NH_3)_2$, quasimolecular dimer, vibr.-rot. struct. 7—15670
- NH_3 dimer struct., He^+ photo-electron spectra anal., HF calcs. 7—36686
- NO dimer, vibr. predissoc. lifetimes, time-resolved meas. 7—31126
- NO-Kr, van der Waals species, multiphoton ionis. 7—10694
- NO-Ne, van der Waals species, multiphoton ionis. 7—10694
- Ne-He van der Waals mol. pot., ab initio HF SCF calcs. 7—36459
- Sm^{q+}+Xe collisions, q=34 to 52, resonant electron transfer and L-shell excitation, X-ray spectra study 7—30979
- Xe-CO_2, van der Waals, two-photon excitation intermediate states, obs. 7—15638

quench hardening
- steel, CR-Mo-V, thermal fatigue resist., effect of initial struct. 7—28132
- steel, dual-phase, micro alloyed, mech. props. and struct., effect of process variables 7—65108
- steel, hardening process modelling, stresses effect on struct. transform 7—39555
- steel, heat treatment method effect on struct. and mech. props. 7—39561
- steel, Mn, lath martensite, embrittlement in specimens containing 6 to 10% Mn *(Japanese)* 7—33774
- steel, p/m, heat treatment effect on strength and yield parameters 7—53775

quench hardening continued
  steel, quenched, high hardenability, thermal stress and strain generation 7−8071
  steel, quenching, elec. field enhancement 7−46517
  steel, tool, H-13 hot-work, partial substitution of Nb for V 7−13463
  steel, tool, laser surface quenching, comparative anal. of two- and three-stage thermal cycles 7−28178
  B-Ti-Mo, single crysts., age and quench hardening, effects of cryst. orientation and surface condition *(Japanese)* 7−22709

quenching (optical) *see radiation quenching*

quenching (thermal)
  see also melt spinning; quench hardening; splat cooling
  alloys, Laves phase, liquid quenching, transformations and phase diagrams 7−65059
  amorphous alloys with immiscible metallic particles, superconducting props. 7−2791
  amorphous polymers, secondary relax. processes, thermal history effect 7−63819
  amorphous polymers, yield stress rel. to ageing, nonequilib. glassy state 7−46562
  binary polymer mixtures, homogeneous, near-critical quenching kinetics 7−13482
  boiling curves, calcs. from unsteady-state quenching tests 7−54257
  condensed phases, quenched states, local order of simple atomic substances 7−21104
  EBBA melting and crystn. processes, Raman spectroscopy, X-ray and thermal anal. 7−63777
  Furko glasses, quenched, isothermal relaxation of density and stresses 7−1893
  glass transition, memory effects 7−2204
  glass transitions, crystal melting and liquid quenching in two-dimensions 7−16748
  metallic glasses, one-component, amorphisation and crystallisation *(Russian)* 7−32301
  MgO-monticellite ceramic, high resoln. TEM and STEM study 7−22738
  PET film, solvent induced crystallisation, morphology, SEM obs. 7−44406
  PET films, quenched, crystallisation kinetics rel. to methylene chloride vapour sorption 7−44405
  polybutylene, crystallisation, electron microsc. obs. 7−32309
  polybutylene, crystallisation, X-ray scatt., differential scanning calorimetry and torsion pendulum investig. 7−32308
  polyethylene, low density, environmental stress cracking in methanol, heat treatment effect 7−8146
  polymer melts, rate-controlled solidification, zone model 7−1917
  polypropylene, isotactic, position annihilation lifetime investig. 7−32501
  polypropylene, quenched, isotactic, glass transition, effect of drawing 7−12278
  polypropylene films, glass isotactic, crystallisation, struct., dynamic mech. props. 7−16445
  polypropylene films, isotactic, struct., quenching temp. effect 7−11950
  polypropylene-polyethylene blends, γ-irrad., mech. and thermal props. 7−21137
  polystyrene, ageing after quenching, positron lifetime distributions 7−39566
  PVC, rigid, stabilised, crystallinity detection by hardness testing 7−8223
  rapidly solidified alloys, developments and engng. design implications 7−27967
  rare earth-iron-boron permanent magnet materials, prep. and props., book contrib. 7−27981
  spinodal decomposition, initial stages, continuous quenching procedure effects 7−26968
  steel, 4340, positron annihilation parameter and H behaviour, effects of tempering temps. 7−46205
  steel, alloyed structural, struct. rel. to cold deformability, softening heat treatment methods development 7−39556
  steel, austenitic, Mn-Al, Al atom short range ordering, Mossbauer studies *(Russian)* 7−16480
  steel, austenitic stainless, quenching from liq. state, cooling rate calc. 7−22726
  steel, bearing type, quenching temp. rel. to microstruct. and fracture surface morphology 7−8015
  steel, C-Mn, creep crack growth at 360°C, effect of microstruct. 7−28113
  steel, Cr-Ni high-temp. type, N and heat treatment effect on struct. and mech. props. 7−33688
  steel, Cr-Ni-Co VKS6, struct. and mech. characts., effects of Ni, Co and heat treatment 7−8108
  steel, Cr-Ni-Mo, fracture toughness rel. to austenitising temp. *(Japanese)* 7−33778
  steel, Cr-Ni-Mo type, austenitisation conditions effect on austenite decomp. kinetics and mech. characts. 7−39557
  steel, effect of martempering on thermal stress and strain 7−46532
  steel, hardening process modelling, stresses effect on struct. transform 7−39555
  steel, heat treatment method effect on struct. and mech. props. 7−39561
  steel, high speed, peritectic transform., decomp., carbide precip. Nb alloying effect *(German, English)* 7−22677
  steel, HSLA, microalloyed, precipitate size and comp., influence of reheating temp., investig. by electron microscopy 7−65054
  steel, low C, Al killed sheet, overaging, continuous annealing, carbide precip., hardness *(Korean)* 7−46474
  steel, low C, Zn-Al coated sheet, Zn quenching technique 7−33847
  steel, low-C, cost, failure micromechanism in fatigue crack propag. after different heat treatments 7−46641
  steel, low-C, Ni influence on struct., fracture resist. and fractographic features 7−3420
  steel, medium C, impact toughness and fracture, prolonged high tempering effects *(Russian)* 7−8083
  steel, Ni, plate manufacture, direct quenching and tempering process 7−59556
  steel, Ni, plates, direct quenching and tempering manufacturing process *(Japanese)* 7−3342
  steel, Ni-Cr-based, high temp. strength, modified ausforming effects *(Japanese)* 7−8089
  steel, Ni-Cr-Mo, crack branching in H embrittlement *(Japanese)* 7−53847
  steel, quenching, elec. field enhancement 7−46517
  steel, quenching stresses interaction with structural transforms. 7−22727
  steel, stainless, austenitic, valve type, heat treatment schedule effect on failure nature 7−3423

quenching (thermal) continued
  steel, stainless, Cr type, chem. microinhomogeneity of solid solns. effect on brittleness 7−3422
  steel, strengthening of parts and semifinished products in thelast stage of heat treatment 7−8024
  steel, structural heredity in heat cycling 7−33703
  steel, took, Cr-Mo-V, hot working, ductility, C content, toughness, eutectic carbide segregation 7−59592
  steel, tool, 65Nb, tough strengthening heat treatment *(Chinese)* 7−3318
  steel, tool and struct., nitrided, prior heat treatment effect on mech. props. 7−46707
  steel XC 80, pearlitic transformation in continuous cooling calc., thermal stresses contrib. *(French)* 7−46410
  thermal stress generation during quenching, effect of stress relax. rate 7−17590
  Ag-Mg, commensuration and discommensuration characteristics, modulation periods 7−46463
  Al alloy, ageing, positron annihilation study 7−39295
  Al alloys, wear, comparative investigs. and prep. method role 7−13605
  Al, ductile fracture rel. to heat treatment, vacancy conc. effect 7−8095
  Al quenched, tensile flow stress, effect of grain size and strain 7−22756
  Al-Ag, steady-state creep, effect of isochronal ageing 7−17598
  Al-Ag (5 wt.%), anelastic effects, quench sensitivity, precip. and dissolution 7−53784
  Al-Co, melt spinning, microstruct., precip., microhardness *(Korean)* 7−46444
  Al-Fe-Ce-La-Nd-Rr alloys rapidly quenched, positron annihilation studies 7−46184
  Al-Ge, dilute alloys, quenched, formation and growth of vacancy type clusters, positron annihilation study 7−39294
  Al-Li, quenched, ageing, light ion irrad., δ′phase form. and particle growth 7−26807
  Al-Mg (6.5 wt.%), grain boundary segregation, STEM-EDX analysis 7−39518
  Al-Mn, rapidly quenched, icosahedral phase, comp. analysis 7−26699
  Al-Mn icosahedral alloy form. by pulsed electron beam and laser beam surface melting 7−26924
  Al-Si, dilute alloys, quenched, formation and growth of vacancy type clusters, positron annihilation study 7−39294
  Al-V, rapidly quenched, icosahedral phase, comp. analysis 7−26699
  Al-Zn, ageing, effect of specimen thickness, SAXS study *(Japanese)* 7−22731
  Al-Zn alloy, positron lifetime and ang. correlation study 7−45860
  Al-Zn alloys, quenching effect on growth of Guinier-Preston zones, resistivity 7−22733
  AlZn alloys, precipitates, small angle X-ray scatt. study 7−46473
  As_2S_3 films, prep. by spin coating or melt quenching, optical props. 7−39208
  Au, quenched, vacancy clustering, positron annihilation 7−44534
  $CaMoO_4$, microhardness anisotropy meas., quenching and annealing temp. effect 7−63738
  p-CdTe, complex-formation processes at high concentrations of intrinsic defects 7−37963
  $Ce(Co,Cu,Fe)_6$, magnetically hard, heat treatment effects on struct. and mag. characts. 7−27564
  Co alloys, 1D disordered structural states, form., quenching, X-ray diffr. study 7−44784
  Co-Al, precipitation product dissolution *(Russian)* 7−58479
  Co-Ga binary system, β-phase solid soln., positron annihilation studies 7−46185
  $Co_{82}B_{18}$ amorphous alloy, reminiscent devitrification, X-ray diffr. studies 7−6547
  Cu-Al-Ag (5.4, 5.2 wt.%), ageing, hardness, precip. energy 7−65127
  Cu-Al-Ni-Fe bronze, laser glazing, microstruct. 7−52197
  Cu-Al-Zn, β-phase stability, mech. props. rel. to quenching rate 7−33659
  Cu-Au quenched alloys, diffuse X-ray scatt., microdomain model anal. 7−6814
  Cu-Sn, dual phase, struct.-prop. correl., hardness obs. 7−8094
  Cu-Su, amorphous system, high press. melt quenching, microhardness, X-ray obs. *(Russian)* 7−44396
  Cu-Ti alloys, amorphous and crystalline, H absorption 7−2369
  Cu-Za-Al ribbons, rapidly, quenched, martensitic transform., stabilisation 7−22678
  Cu-Zn-Al, quenched sheets, shape change rel. to thermal cycle *(Japanese)* 7−53790
  $Cu_{100-x}Fe_x$ alloys rapidly quenched, spin glass state 7−12979
  $Cu_{0.85}Sn_{0.15}$, amorphous melt-quenched alloys, crystn. *(Russian)* 7−37881
  CuZnAl, isothermal growth of thermoelastic martensite, quenching and ageing effects 7−53730
  $Cu_{60}Zr_{40}$, amorphous, isothermal crystallisation, nucleation activation energy, DSC obs. 7−11926
  Er-Cu (Ni) metallic glass form. by near-isothermal cold rolling 7−22610
  Fe/H_2O interface, pulsed-laser-induced reactive quenching, FeO metastable phase form. studies 7−45005
  Fe-Co-Cr-Mo alloys, electronic struct. and mag. props., X-ray spectra studies *(Russian)* 7−32902
  Fe-Co-Si-B and Fe-Ni-Si-B glass, liq.-quenched, cooling condition depend. of saturated mag. flux density 7−58991
  Fe-Cu-Ag amorphous alloys produced by vapor quenching 7−7849
  Fe-N mag. moments and bulk prep. by reduction-sintering method with heat treatment 7−7936
  Fe-Ni-Al-C (22, 8, 2.4 wt.%), rapidly quenched, metastable modulated struct., analytical STEM study 7−46450
  Fe-Ni-Si-B glass alloy, liq. quenched, saturated mag. flux density, effect of peening 7−13611
  Fe-Pt (36 at.%), cryst. struct., permanent mag. props. *(Japanese)* 7−53036
  Fe-Si, melt quenched, struct. formation 7−13480
  Fe-Si, rapidly quenched ribbons, grain growth, mag. props. 7−8017
  Fe-Si-B (10, 15 at.%) alloy glass, ion milling rate, cooling condition depend. 7−46690
  Fe-Te amorphous thin films, RF sputtered, struct. and elec. meas. 7−12534
  FeCo alloy, electronic struct., effect of ordering, positron annihilation and Mossbauer effect study 7−45142
  $(Fe_{1-x}Mn_x)_{78}B_{22}$, amorphous alloys, lattice parameters, annealing, X-ray diffr., elec. resist. 7−37878
  α-Fe_2O_3, reduction-sintering prep., mag. props. 7−59054
  $Fe_{80}P_{20}$, amorphous ribbons, structural relax., crystallisation, Mossbauer spectra *(Chinese)* 7−11918

quenching (thermal) continued
$Fe_{80}P_{13}C_7$ alloy, metallic glass surface layers by rapid quenching, microhardness 7−3512
Gd-Co, amorphous and crystalline, hydrogenation, pressure-composition isotherm 7−3606
Ge, quenched, SA_2 acceptor, uniaxial stress effects, far IR optical study 7−64673
Ge-base crystalline alloys with immiscible metallic particles, superconducting props. 7−2791
LiF, quenched, dielectric props., effect of high AC field and X-ray irradiation 7−38985
Li_2O-B_2O_3 glasses, rapidly quenched, struct. investig. by Raman spectra 7−1913
$Li_2SO_4.H_2O$, supercooled melts, cryst. and mol. struct., thermal stability 7−21170
Mg-Zn rapidly solidified alloys, mech. props. 7−22711
MgO, electron irrad., stored energy, differential thermal anal. studies 7−32503
Mn-Ni alloys, γ-phase decomposition, annealing and quenching, X-ray phase anal. 7−17510
Nb-Al, fig. quenched, supercond. transition temp., cooling rate depend. 7−45537
Nb-Al alloys, struct. and supercond. props. *(Russian)* 7−1945
Nb-N, internal friction rel. to quenching temp. *(Russian)* 7−46543
Nd-Fe-B liquid-quenched alloys, mag. props. 7−27550
Nd-Fe-B rapidly solidified ribbons, magnetisation, quench rate depend. 7−53034
Ni ion implantation and pulsed laser melt quenching, metastable phase and defect struct. form. studies 7−16625
Ni, quenched and deformed, vacancy clustering, positron annihilation 7−44534
Ni-Si-B, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7−3354
$Ni_{30}B_{54}C_{16}$, B-rich amorphous alloy prep. by rapid quenching, crystn., hardness and elec. resist. 7−13441
Ni_2Cr, order-disorder transform. kinetics, P content effect 7−13446
Ni_3Fe, ordered and disordered, mag. permeability studies 7−59053
$Ni_{78}Mn_{22}$ reentrant alloy, struct. sensitive mag. props. 7−7496
NiTa, quenched amorphous alloy, thermal stability and crystn. *(Russian)* 7−11911
$PbTe_{1-x}S_x$, free carrier scatt. near a phase transition 7−38557
$PbTiO_3$, distorted cubic, crystn. and phase transform. 7−39548
Pd-Ag-Fe (1 and 2 at.%), plastically deformed, elec. resist., short range order effects 7−27318
Pd-Si, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7−3354
$Pd_{100-x}Ag_x$, plastically deformed, elec. resist., short range order effects 7−27318
PdFe ordered alloy, discontinuous domain coalescence *(Russian)* 7−2025
Pr-Co rapidly quenched ribbons, mag. props. 7−27551
Pt alloys, fast-quenched, struct. and props. *(Russian)* 7−59555
Rb liquid, Voronoi polyhedra statistics, changes during rapid quenching, computer simulation 7−32263
Si, dislocation photoluminescence, thermal quenching effects 7−39155
a-Si:H films, thermal-equilibrium defect processes 7−26640
Si:P, quenching thermodefect prod. Hall effect, EPR meas. 7−27293
SiS_2-Li_2S-LiI glass, ionic cond. meas. 7−38251
$Sm_2(Co_{1-x}M_x)_{17}$ (M=Fe,Mn), rapidly quenched ribbons, mag. props. 7−27552
β-$TbH(D)_{1.9+x}$, defect study 7−37971
Ti alloy metastable phases, plasticity *(Russian)* 7−33729
Ti binary alloys, rapidly quenched, metastable phase form. 7−21414
Ti-Ni-Al rapidly quenched amorphous alloys, thermal stability studies 7−21123
Ti-Ta metastable alloys, phase transforms. during heating *(Russian)* 7−13449
Tl-Ge-Se, bulk glass formation region, elec. and struct. characts. 7−58159
U-Ti (4 at.%), quenching, decomp., TEM obs. 7−39527
$Zr_{1-x}Cu_x$ amorphous sputtered alloys, low energy excitations, sp. ht. meas., structural relax. effects 7−11913
ZrF_4-BaF_2-LaF_3-AlF_3-NaF glass, crystal growth and microstruct. 7−1896
ZrO_2, Y_2O_3 partially stabilised, thermal shock behaviour *(Japanese)* 7−8115
ZrO_2-Y_2O_3, rapidly quenched, microstruct. evolution by annealing 7−22737

queueing theory
asymptotic analysis of a state-dependent $M/G/1$ queueingsystem 7−4665

queuing theory *see queueing theory*

R and D management *see research and development management*

R-centres
diamond, radiation damage prod. of 5RL centres, phonons, absorpt. spectra, cathodoluminescence studies 7−33461
KBr, aggregate colour centres, excitation and luminesc. 7−39173
KCl, aggregate colour centres, excitation and luminesc. 7−39173
LiF, F_3^+ and F_2 colour centres optical study *(Chinese)* 7−37984
LiF, F_3^+-F_2 mixed centres, laser oscillations at room temp. 7−7714

R waves *see Rayleigh waves*

Racah coefficients *see angular momentum theory*

radar
see also Doppler effect; optical radar
anomalous propagation effects on the performance of a modern 3-D radar 7−1013
exposure survey of microwave radiation on civilian airport radar workers, Australia 7−47161
underground object imaging system with computerized reconstruction 7−47580

radar altimeters *see radioaltimeters*

radar antennas
405 MHz phased array antenna for atmospheric wind measurement 7−34752
EM subsurface radar using transient field radiated by wire antenna 7−23866
SAR for Magellan mission to Venus, antenna characts. 7−55468

radar applications
airborne microwave observations use for differential bare field drainage props. determ. 7−23915
airborne microwave rain scatterometer/radiometer, DP software system *(Japanese)* 7−23908

radar applications continued
airborne microwave rain scatterometer/radiometer system, microwave backscatter expt. of ocean surface *(Japanese)* 7−23910
airborne microwave rain scatterometer/radiometer system, rain meas. and data anal. *(Japanese)* 7−23909
areal precipitation estimation, over Oklahoma 7−9234
North Atlantic anomalous microwave propagation, long-range expt. 7−47481
atmosphere cloud water and water vapour contents determ. 7−4212
atmospheric turbulence, high-resolution obs. in middle and lower atmosphere by MV radar 7−47598
cloud extinction profile measurements by lidar usingKlett's inversion method 7−9184
cloud-to-ground Lightning Position and Tracking System for electric utility weather problems 7−14371
clouds radar echo characteristics over Black, Kara and E Siberian seas 7−34615
communications techniques in radio physics and astronomy 7−29411
D-region, winter-time, electron densities and wind vels. from partial refl. radar obs. 7−47612
differential reflectivity technique for rainfall meas. 7−23869
Doppler weather radar, spectral moments recovery from overlaid echoes 7−9210
Doppler wind velocity measurements with use of discrete spectral peak freq. estimator 7−9212
EM subsurface radar using transient field radiated by wire antenna 7−23866
ERASME airborne side-looking C-band radar, data processing and calibration 7−9205
ERS-1 active microwave instrumentation, operational control 7−47550
geoid determ. methods 7−55331
Giacobinid meteor shower 1985, radar obs. 7−4384
hail remote sensing with S-band dual linear polarization radar 7−66344
incoherent scatter radar probing of GP-100 km atm. and ionosphere 7−9211
injection locked magnetron, phase noise meas., Doppler weather radar system appl. 7−30042
ionosphere, auroral radar spectra obtained with SABRE, statistical study 7−47627
Jupiter icy satellites, radar glory from buried craters 7−34913
lightning storms intensity determ. using centimetre and metre-wave radar *(Russian)* 7−47549
Magellan mission to Venus, radar-carrying spacecraft design 7−55429
Magellan SAR, system test and calibration 7−48681
Magellan SAR system, data rate, image quality and sensor subsystem characts. 7−55469
meteorological appls. 7−47548
microwave radar sensing, modelling interactions between ocean and environment 7−60423
microwave sensors, satellite borne, Earth Observation appls. *(German)* 7−40616
middle atmosphere dynamics measurements, first results from middle and upper atmosphere radar 7−47561
middle atmosphere oblique vel. radar obs. 7−60338
middle atmosphere turbulence, obs. and meas. by VHF radar 7−4246
Moon, radar bright rings obs. in craters and implications for Venus radar bright rings 7−24028
MU radar obs. of troposphere and lower stratosphere, backscattered VHF echo power, aspect sensitivity 7−40550
New England, USA, snowstorm, frontogenesis and symm. stability, radar characts. 7−47502
ocean, wind-wave relationships, Seasat radar altimeter meas. 7−34581
ocean backscatter depression in C and Ku bands due to surface oil 7−8460
ocean imaging, model for small to moderate incidence angles 7−55059
ocean remote sensing, appl. of side-looking radar of Cosmos-1500 satellite 7−66424
ocean surface waves, SAR imaging, importance of motion related contributions 7−23663
ocean waves, SAR image spectra, numerical simulation 7−23662
ocean waves, SAR images 3D formulation 7−9208
Quadrantid meteors (1968), shower activity profile synthesis from multisite radar obs. 7−29436
radarclinometry, mathematical theory and algorithm 7−34372
rain cell size statistics derived from radar obs. 7−23805
remote sensing by radar SAR method, stereo viewing of opposite-side image pairs 7−29300
SAR for Magellan mission to Venus 7−55468
Seasat SAR imagery, methods for extracting sea ice data 7−23867
shipboard Doppler current profiler data merging with LORAN-C data, absolute current estimation 7−9267
side-looking radar imagery from Cosmos-1500 satellite, digital processing 7−66340
simulation studies of tidal analysis using meteor echo returns 7−40623
SOUSY VHF radar measurements in the lower and middle atmosphere 7−23870
spaceborne imaging radars, Earth and planetary obs. 7−55334
spaceborne remote sensing systems (book) 7−41027
thermosphere, meteor radar wind meas. rel. to tides in 80 to 100 km height region 7−47594
three-body scattering produces precipitation signature of special diagnostic value 7−60369
thunderstorm turbulence and radar Doppler spectral width 7−60415
underground object imaging system with computerized reconstruction 7−47580
Venus, identification of radar bright rings as impact craters 7−24028
Venus, struct. of Maxwell Montes and Thessera Fortuna from Venera 15 and 16 radar images 7−9394
Venus, Vega landing sites, Venera 15-16 unit analogues from Pioneer Venus radar data 7−60589
Venus Radar Mapper, implications of Gestalt formation in stereoradargrammetry 7−9379
vertical SODAR for planetary boundary layer acoustic sounding *(German)* 7−9246
VHF radar use for equatorial electrojet elec. fields determ. 7−60414

radar clutter
HF radar sea echoes, Bragg coherence 7−40588
injection locked magnetron, phase noise meas., Doppler weather radar system appl. 7−30042

- **radar cross-sections**
  - airborne microwave rain scatterometer/radiometer system, microwave backscatter expt. of ocean surface *(Japanese)* 7—23910
  - airborne microwave rain scatterometer/radiometer system, rain meas. and data anal. *(Japanese)* 7—23909
  - areal precipitation estimation, appl. of radar over Oklahoma 7—9234
  - atmospheric precipitation preferred orientation relationship with dual polarisation radar echo characts. 7—60367
  - backscattered fields, higher order diffractions from a circular disk 7—42866
  - equivalent currents, flat plates with surface impedance coatings, anal. 7—42867
  - microwave radar sensing, modelling interactions between ocean and environment 7—60423
  - MU radar obs. of troposphere and lower stratosphere, backscattered VHF echo power, aspect sensitivity 7—40550
  - physical theory of diffraction, double reflections anal. 7—42863
  - polygonal cylinders and flat plates, GTD calc. 7—42864
  - simulation studies of tidal analysis using meteor echo returns 7—40623
  - three-body scattering produces precipitation signature of special diagnostic value 7—60369
- **radar echo areas** *see radar cross-sections*
- **radar equipment**
  - oceanographic surface current meas., CODAR intercomparison, Delaware Bay (1984) 7—9254
  - spaceborne synthetic aperture radar sensor technology 7—4234
- **radar measurement**
  - atmosphere temperature profile meas. in troposphere and stratosphere, radio acoustic technique 7—14360
  - atmospheric wind meas., 405 MHz phased array antenna design 7—34752
  - cloud extinction profile measurements by lidar usingKlett's inversion method 7—9184
  - Doppler imaging radars, response characts. determ. using speckle 7—55322
  - Earth surface imaging, effect of meteorological conditions on satellite imagery 7—66217
  - gauge adjustment of radar rain rates by normalized norm analysis 7—40551
  - gravity waves measurement, effects of Doppler shifts on wave spectra observed by MST radar 7—47490
  - land-cover mapping from synthetic aperture radar obs., importance of radiometric correction 7—4200
  - microwave radar sensing, modelling interactions between ocean and environment 7—60423
  - ocean remote sensing, appl. of side-looking radar of Cosmos-1500 satellite 7—66424
  - oceanographic surface current meas., CODAR intercomparison, Delaware Bay (1984) 7—9254
  - precipitation pattern motion meas. using radar communication systems attenuation 7—4082
  - remote sensing, digital processing of side-looking radar imagery from Cosmos-1500 satellite 7—66340
  - SAR imaging of ocean waves, transformation of wave spectra into SAR image spectra 7—66341
  - satellite remote sensing, Doppler props. of radars in circular orbits 7—4288
  - SOUSY VHF radar measurements in the lower and middle atmosphere 7—23870
  - stereo-radargrammetry, implications of Gestalt formations for Venus Radar Mapper 7—9379
  - wind speed extraction with pulse-limited radar altimeter, effect of whitecaps and foam 7—29306
- **radar systems**
  - airborne microwave rain scatterometer/radiometer, satelliteborne weather radar system *(Japanese)* 7—23911
  - North Atlantic anomalous microwave propagation, long-range expt. 7—47481
  - Cosmos-1500 satellite, radar system design and appls. 7—66424
  - ERS-1 active microwave instrumentation, operational control 7—47550
  - HF radar sea echoes, Bragg coherence 7—40588
  - injection locked magnetron, phase noise meas., Doppler weather radar system appl. 7—30042
  - lightning storms intensity determ. using centimetre and metre-wave radar *(Russian)* 7—47549
  - Magellan SAR, system test and calibration 7—48681
  - Magellan SAR system, data rate, image quality and sensor subsystem characts. 7—55469
  - middle and upper atmosphere radar at Shigaraki, Japan, first results 7—47561
  - MU radar obs. of troposphere and lower stratosphere, backscattered VHF echo power, aspect sensitivity 7—40550
  - ocean imagery, dual-freq. SAR, calibration 7—4244
  - polarization diversity radar interpretation 7—66232
  - PROUST radar for UHF stratosphere-troposphere meas. 7—60421
  - Radarsat synthetic aperture radar system for remote sensing satellite 7—47578
  - SAR data, spaceborne, registration to topographic maps 7—4237
  - SAR data from dynamic ocean surfaces, multi-look processing 7—40606
  - SAR data processing, high speed, on NEDIPS data flow computer 7—47579
  - SAR for Magellan mission to Venus 7—55468
  - SAR image holography using acoustic lens for 3D underwater imaging 7—43513
  - SAR imagery, geometric filter for reducing speckle 7—50719
  - SAR sea ice imagery, geophys. anal., computer-assisted techniques 7—4243
  - spaceborne imaging radars, Earth and planetary obs. 7—55334
  - spaceborne synthetic aperture radar sensor technology 7—4234
  - spatial light modulator, electron beam addressed, radar and sonar processing 7—25955
  - Venus radar mapper mission, use of high temp. high intensity solar cell array 7—3706
  - vertical SODAR for planetary boundary layer acoustic sounding *(German)* 7—9246
  - VHF radar for ocean surface current and sea state remote sensing 7—60422
- **radar telescopes** *see radiotelescopes*
- **radar theory**
  - airborne scatterers, multi-(bi)-static HF (PO/GO) radar target imaging 7—25706
- **radar theory** continued
  - coherent images, interpretation and simulation of clutter textures 7—37242
  - images cross correlation, relief and reflective surface influence on terrain 7—66122
  - model studies for observed increase in delay spread andstrength during thunderstorms in Tropo links 7—1014
  - polarization diversity radar interpretation 7—66232
  - radarclinometry, mathematical theory and algorithm 7—34372
  - SAR data from dynamic ocean surfaces, multi-look processing 7—40606
  - SAR imagery, geometric filter for reducing speckle 7—50719
  - SAR imaging of ocean waves, transformation of wave spectra into SAR image spectra 7—66341
  - SAR imaging of waves, numerical simulation 7—23662
  - SAR principles and appl. for Magellan mission to Venus 7—55468
  - stereo-radargrammetry, implications of Gestalt formations for Venus Radar Mapper 7—9379
  - tomographic reconstruction, inversion of an integral transform 7—35216
- **radar transmitters**
  - EM subsurface radar using transient field radiated by wire antenna 7—23866
- **radiance** *see brightness*
- **radiation**
  - *see also atmospheric radiation; beta-rays; cathode rays; cosmic background radiation; electromagnetic waves; heat radiation; radiation effects; radiative transfer; stellar radiation*
  - No entries
- **radiation belts**
  - charged particle effects in space-borne detector materials 7—66425
  - charged particle fluxes in S Atlantic mag. anomaly effect of plasma pitch-angle and radial diffusion 7—4275
  - charged particles motion in superposed dipole and uniform mag. fields, allowed region 7—14482
  - electron distribution function and radial diffusion coeff., meas. at L=1.2 to 1.4 from Interkosmos-19 data 7—34805
  - electron flux observations, made by satellite semiconductor telescopes *(Chinese)* 7—4269
  - energetic protons precipitation, effects of storm-time reconfiguration of magnetosphere mag. field 7—9316
  - gyroresonant pitch angle scattering by coherent and incoherent whistler mode waves in the magnetosphere 7—60490
  - proton energy spectrum and formation mechanisms 7—40647
  - protons, spatial distrib. at high and low latits. 7—4274
  - relativistic electron injection into outer radiation belt during storms 7—9317
  - slot region electron precipitation 7—9325
  - stochastic instability of charged particles in geomag. trap, theory 7—34804
  - Trapped Ions in Space expt., linear energy transfer spectra in low Earth orbit 7—60479
  - Van Allen radiation belts, high-energy electrons and positrons, charge composition meas. 7—4276
  - wave-particle interactions in outer trapping and morningside auroral regions, model 7—55373
- **radiation biology** *see biological effects of radiation*
- **radiation chemistry**
  - *see also chemical effects of nuclear reactions and scattering; photolysis; radiochemistry; radiolysis*
  - acetonitrile, chemisorption on Ni (111), XPS 7—21641
  - acrylamide, UV irrad., free radical reactions with gases, ESR obs. 7—10633
  - benzonitrile, chemisorption Ni (111), XPS 7—21641
  - 1,4-bis(β-pyrazinyl-2-vinyl)-benzene, solns. and solid state, irrad. and solvent effects, visible fluoresc. anal. 7—36674
  - butadiene, post-γ-irrad. grafting in polypropylene films, ESR obs. 7—33948
  - conference, nuclear and radiochemistry, Beijing, China (Sept. 1986) 7—18494
  - conference on iodine chemistry in reactor safety, Harwell, England (Sept. 1985) 7—48176
  - DNA, ϕX174, radiation damage and biological effects 7—28617
  - insulators, chemical modification by ion implantation, hot atom chemistry processes, review 7—26813
  - JAERI Osaka Lab., April 1984-March 1985 research activities 7—13793
  - methacrylamide, UV irrad., free radical reactions with gases, ESR obs. 7—10633
  - methyl thiocyanate, adsorption and reactions on Ni (111) 7—21640
  - polyphenylene oxide article surface, nonstationary thermal field created by IR laser radiation, chem. processes control 7—16622
  - positronium, in liquids, radiation chem. 7—17806
  - propionamide, UV irrad., free radical reactions with gases, ESR obs. 7—10633
  - reactive species accumulation under irradiation, kinetic theory 7—28318
  - I_2 gas phase radiation chemistry in reactor post-accident environments 7—49601
  - La_2O_3, radioactivity removal 7—28325
  - $Li-Al_2O_3-P_2O_5$:Ag glasses, Ag^0 centre thermal and photochemical conversion, spectroscopic consequences 7—39906
  - LiH, ^{11}C and ^{13}N implantation, chemical effects, radiochromatography study 7—28324
- **radiation counters** *see counters*
- **radiation damage** *see radiation effects*
- **radiation decontamination**
  - BWR steel, CITROX decontamination solvent, corrosive effects 7—10232
  - CADD/CAE use for remote vehicle system mission planning at nuclear facilities 7—49608
  - glove box sectioning using weld-splitting techniques 7—49740
  - LWR decontamination, chemical and electrochemical processes 7—5372
  - nuclear power plant decontamination *(Slovenian)* 7—15415
  - reactor decontamination and decommissioning, chemical decontamination process 7—36238
  - remote equipment operators in nuclear facilities, training programme requirements 7—49607
  - remote reconnaissance vehicle for core-bore sampling, operational experience at TMI-2 7—49612
  - remote work vehicle, design rationale, radiological decontamination work 7—49741
  - Savannah River DWPF, stainless steel decontamination manipulators for radwaste canisters 7—42203

radiation decontamination continued
- steel, stainless, radionuclide deposition from Na coolant 7—62060
- steel, X8CrNiTi18.10, corrosion product layers in PWRs at pH 7 *(German)* 7—19356
- TFTR decontamination and decommissioning plan 7—19445
- TMI-2, accident and recovery, defuelling and reactor inspection 7—42191
- TMI-2 auxiliary building elevator shaft and pit decontamination 7—49606
- TMI-2 operations, robotics development, remote reconnaissance vehicle 7—49611
- tools for decontamination and decommissioning of nuclear facilities 7—49609
- Triga facility, decontamination and decommissioning plan 7—30643
- Al(NO$_3$)$_3$-fission product solns., treatment prior to disposal 7—15407
- Cr-rich oxides, dissolution using H$_2$SO$_4$-Ce(IV) soln., radiation decontamination appl. 7—6803
- Ni, radionuclide deposition from Na coolant 7—62060
- ^{133}Xe adsorption on activated charcoal, effects of water vapour 7—40076

radiation detection and measurement
- *see also alpha-particle detection and measurement; beta-ray detection and measurement; coincidence techniques; electron detection and measurement; gamma-ray detection and measurement; hyperon detection and measurement; meson detection and measurement; muon detection and measurement; neutrino detection and measurement; neutron detection and measurement; particle detectors; proton detection and measurement; radioactivity measurement*
- A-150 plastic radiometric calorimeter for charged particles and other radiations 7—25264
- acoustic detection of low-energy radiation 7—36427
- aerosol radiation meters checking, Rn daughters products meas. 7—9220
- Aleph test hadron calorimeter, pion/muon identification using discriminant analysis 7—15464
- calorimeters, gaseous readout techniques, comparisons with alternatives 7—42440
- charged particle identification using plastic phoswich detectors 7—49803
- CHARM fine-grained calorimeter, calibration 7—49796
- Cherenkov counter, UV radiation detection efficiency increase using transparent wavelength shifters 7—15453
- Chernobyl fallout, detecting and meas. in Nordic countries 7—30715
- composited exponential decay curve fitting by searching space dimension reduction 7—49862
- conference, Japanese Physical Soc., Kobe, Japan (Oct. 1986) *(Japanese)* 7—55897
- conference, Japanese Physical Soc. Nishinomiya-shi, Nyogo-ken, Japan (Sept. 1986) *(Japanese)* 7—48186
- cosmic ray induced ionisation intensity meas. 7—40308
- cosmic ray LET spectra, anal. by automatic scanning, meas. of CR-39 detector foils 7—34809
- CR-39 plastic track detector, underground search for massive magnetic monopoles 7—49848
- detecting system response function determ. 7—62240
- fibre optic radiation sensors, high bandwidth, review 7—20449
- ground level air radionuclide conc. 1984-1986, N. Germany and N. Norway 7—59896
- hypernuclei identification in nuclear emulsions, review *(Polish)* 7—30887
- impulse distribution anal, for radiometric transducer response linearisation *(Rumanian)* 7—15462
- infinite radiation field reconstruction by parameter estimation method appl. 7—49849
- ionising radiation detection methods, advantages and disadvantages *(Swedish)* 7—36430
- ionising radiation interaction with matter, stochastic processes meas. optimisation 7—5535
- laser induced two-photon ionisation absorption, seeding agents for particle track simulation 7—5540
- linear correlation coeffs., significance levels 7—49851
- liquid scintillation nuclear activity metrology instrument, design *(Chinese)* 7—5559
- liquid TMS calorimeter, performance test, charge yield and stability 7—25307
- logging curves, recording scale automatic displacement *(Russian)* 7—34710
- low background radiometric system without additional anticoincidence counters, counting efficiency decrease *(Russian)* 7—49837
- low level counting systems for solid samples 7—19640
- magnetic monopole search in magnetite 7—30901
- microvertex detector in FNAL E687 expt., Monte Carlo program and pattern recognition 7—5537
- models of particle counters with prolonged dead time 7—56905
- monopole searches, status 7—36429
- MWPC in streamer chamber triggering system 7—49832
- photosensitive gas detectors for Ring-Imaging Cherenkov technique, DELPHI barrel RICH prototype 7—42285
- radiation detection for radiation protection meas., electrical effects use *(German)* 7—15420
- radiation detection in radiation protection meas., thermal. mag. and other effects *(German)* 7—19551
- scintillator-photodiode hodoscope, electromagnetic shower position detection 7—42442
- semiconductor detectors for nuclear radiation, review 7—49835
- semiconductor drift chamber based detector concepts 7—15458
- single detector systems, dead-time corrections 7—62236
- superconducting monopole detector, design, initial results 7—19660
- supermassive relic particle search, flux upper limits 7—61516
- time resolution of a radioisotope testing device based on local minimum search *(Russian)* 7—49860
- BaF$_2$ scintillators, pulse height response in charged particle detection 7—42321
- CsI(Tl) scintillator response to light particles and heavy ions *(Italian)* 7—25327
- CsI(Tl) scintillator with photodiode readout, response to light particles and heavy ions 7—25312
- Ge solid state detectors, peak intensity losses for deuterons 7—49802
- Ge(Li) detector, disc source, correction for full energy peak efficiency *(Japanese)* 7—830
- ^{3}H, activity meas. in proportional counter 7—19639
- ^{3}H, low-level counting facilities 7—19637
- Rn concentration in precipitation, automatic measuring apparatus 7—49847
- Si barrier detectors for charged particle detection *(Czech)* 7—62204

radiation detection and measurement continued
- Si surface barrier detectors, systematic meas. of pulse height defects for heavy ions 7—5553
- ^{238}U hadron calorimeters, nuclear fission contrib. to signal, expt. study 7—25306

radiation detectors *see particle detectors*

radiation dosimetry *see dosimetry*

radiation effects
- *see also acoustic wave effects; alpha-particle effects; beta-ray effects; biological effects of radiation; deuteron effects; electron beam effects; gamma-ray effects; hyperon effects; ion beam effects; irradiation induced creep; laser beam effects; meson effects; neutron effects; proton effects; radiation chemistry; radiation hardening; voids (solid); X-ray effects*
- A15 ordering compounds, long range order, irrad. effects *(Russian)* 7—32490
- acetone, positive muon irrad., radiolysis, radical form. 7—17813
- alkali halides, electron and photon stimulated positive ion desorption dynamics calcs. 7—27141
- alkali halides, F-centre production, impurity aggregate effects 7—21202
- alkali halides, photon-surface interaction dynamics 7—27826
- atomic collision cascade mol. dynamics computer simulations in insulators 7—26793
- biologically significant solids, irradiated, ESR and ENDOR studies, review 7—23309
- capron films, photodestruction kinetics with UV radiation, effects of tension 7—39905
- chalcogenide glasses, photodarkening process and defects 7—13112
- conf., Munich, Germany, March 1986 7—40990
- defects and radiation damage, computer simulation studies 7—2048
- desorption, electron and photon-stimulated, probes of surface struct. and bonding 7—32817
- disordering transitions, nucleation mechanism, review 7—44743
- electronic devices, nuclear and space radiation effects, conf., Providence, RI, USA (July 1986) 7—55875
- epidote, radiation damage study using fission track and thermoluminescence methods 7—51818
- free electron laser, mirror degradation and performance requirements 7—43152
- fusion damage simulation, alloy irradiation 7—49660
- fusion material, irradiation, model for interstitial dislocation loop nucleation and growth kinetics 7—51817
- fusion materials, modeling of precipitation under cascade damage 7—52059
- fusion reactor materials, conf., Chicago, IL, USA (Apr. 1986) 7—48145
- fusion reactor structural alloys, irrad., creep fracture by grain boundary cavitation, modelling 7—53859
- glass, radiation-induced defects and ESR spectra 7—2050
- glasses, photostructural conversions, local phonon modes 7—58427
- heavy metal fluoride glass systems for optical device technology, radiation effects 7—37073
- hole quasienergy spectrum, anisotropic photocond. and nonlinear optical props. calcs. 7—38619
- insulators, radiation effects, conf., Guildford, England (July 1985) 7—29590
- insulators, Schottky defect form. enthalpy-Debye temp. correl. study 7—26742
- ion implanted semiconductor detectors, radiation resistance *(Russian)* 7—49836
- ionic solids, radiation effects, review 7—26792
- liquid metal fast breeder reactor fuels, swelling 7—19351
- medium voltage analytical electron microscopy, radiation damage effects 7—15039
- metal and alloys, irradiation damage, instantaneous processes 7—58314
- metals, EM wave interaction with dislocations, conduction electron density *(Russian)* 7—63615
- metals, irradiated, creep mechanisms, dislocation climb and slip 7—12194
- metals, irradiated, deformation rate, impurity atmosphere effects *(Russian)* 7—33727
- metals, irradiated, deformation rate, radiation swelling and creep *(Russian)* 7—44597
- metals, irradiated, internal stress, diffusion relaxation 7—58313
- metals, neutron scattering studies, conf., Julich, Germany (Oct. 1985) 7—48178
- metals, radiation point defects, diffusion processes, defect drains 7—6894
- metals, radiation swelling, vacancy-interstitial and interstitial-impurity complex form. *(Russian)* 7—58309
- metals, vacancy pore spatial distrib. during continuous irrad. *(Russian)* 7—58268
- microvertex detectors, designs, radiation damage effects 7—42286
- MOS capacitor, radiation effects *(Rumanian)* 7—16614
- near term fusion reactors, key materials issues 7—49620
- nonlinear waves of different physicomechanical nature in finite continua 7—18604
- nonmetallic crysts., radiation-induced struct. changes, mechanisms and criteria 7—63651
- nuclear changes in solid substances 7—21262
- nuclear fuels, diffusion processes, review 7—19350
- optical fibre, radiation effects, design tradeoffs for radiation environments 7—1280
- optical fibre transient radiation damage meas. using streak camera 7—50757
- optical fibres, anal. 7—31512
- optical fibres, radiation effects *(Japanese)* 7—20430
- optical glass fibres, UV-radiation induced colour centres 7—11082
- oxidation, conference, Paris, France (May 1986) 7—60866
- particle bombard. induced erosional and depositional phenomena 7—63652
- photodiode array, position sensitive detector for synchrotron X-ray radiation, radiation damage 7—42337
- plasma limiter materials, operating performance, plasma-induced degradation 7—26818
- plasma processing, conf., Palo Alto, CA, USA (April 1986) 7—35109
- plasma-first wall interactions in tokamaks, effects of vapour shield formation 7—19514
- plastic scintillator, degradation due to Tevatron tunnel background radiation 7—49818
- PMMA, photoetching, by UV radiation 7—65165
- polyacetylene films, glow discharge polymerisation and photoablation study 7—63650
- polyethylene, low density, with antioxidants, irrad., DSC melting behaviour 7—21421

radiation effects continued
polyethylene, oriented, struct. transform. resulting from ionising radiation *(Russian)* 7—26947
polyethylene, radiation effects at high press. 7—21260
polyethylene-polyacrylic acid copolymer, radiation grafted, struct.-morphology, obs. *(Russian)* 7—16452
polymer resists, bonds, radiation effects and crosslinking 7—37907
polymeric insulators, radiation effects, Japanese research 7—44606
polymers, radiation sensitivity, temp. depend. 7—15668
polystyrene, photodegradation, spectral differences, solvent effects 7—6675
polyvinyl alcohol films, elec. cond., 293 to 353K 7—45530
polyvinyl alcohol films, heat treatment, light irrad., polyene mixtures, absorpt. spectra 7—53432
precipitation, irradiation-induced, saturation studies 7—58490
quartz:Li, $(SiO_4/Li)^0$ centre, correlated ESR and thermoluminescence studies 7—22140
quartz, cultured, grown from +X seeds, Al and OH^- distrib. 7—58307
quartz, radiation damage, rel. to trace water 7—32489
radiation damage to drift chambers, lab. study of aging effects 7—42298
radiation induced electrostatic instability on surface of ionic crystals 7—46816
radiation-enhanced diffusion of implanted impurities in semiconductors, calc. 7—6883
reactive species accumulation under irradiation, kinetic theory 7—28318
semiconductor and metal surfaces, field-assisted photodesorption 7—32809
semiconductor detectors and electronics, radiation damage 7—42331
semiconductors, implanted ions diffusion redistribution, effect of radiation defects 7—51810
semiconductors, photoenhanced oxidation using UV radiation 7—39775
solid solutions, precipitate growth under irradiation, theory 7—12296
solids, ion-implanted impurities, steady-state concs., ultimate retained doses, determ. 7—6658
sputtering, conference, Spitz an der Donau, Austria (June 1986) 7—55880
steel, austenitic, Cr-Mn, thermal and mech. props., fusion reactor appl. 7—53795
steel, austenitic stainless, He-induced creep ductility loss, prediction and anal. 7—53854
steel, austenitic stainless, Ti-stabilised, high temp. embrittlement modification of rad. induced He distrib. by thermo mech. pretreatment *(German)* 7—17643
synchrotron radiation mirror, lacquer-coated, irrad. with undulator light, surface heating 7—43307
synchrotron radiation mirror, thermal distortion prediction with finite element analysis 7—43306
thermal shock testing of ceramics with pulsed laser irradiation 7—32491
topaz, radiation damage, rel. to trace water 7—32489
wiggler beam monochromator, distortion from synchrotron radiation thermal loading, finite element analysis 7—42269
Zircaloy-2, cold worked, irrad. growth, point defect trapping, computer simulation 7—16613
zircon, radiation damage, rel. to trace water 7—32489
Ag/amorphous chalcogenide, Ag photodiffusion, semiconductor heterojunction formation 7—45026
As-S:Ag photodoping, energy expenditure determ. *(Russian)* 7—21261
AsS_3, glassy, viscosity, rel. to intensity and spectral comp. of light 7—12342
As_2S_3, glassy photodeformation 7—44654
a-As_2S_3 vapour deposited films, thermostructural and photostructural changes, EXAFS study 7—64003
Be, energy multiplier in fusion reactor blanket, costs and benefits 7—49625
CaF_2-Si (111), UV irradiation-induced ordered struct., photoelectron spectroscopy study 7—7396
GaAs molecular layer epitaxy, UV light effects, photo-assisted reactions and adsorpt. phenomena *(Japanese)* 7—7048
GaAs monolithic integrated optics, performance in space environment 7—26028
GaAs, radiation-induced defects, review 7—48201
Ge polycrystalline films, photoassisted CVD prep. 7—3200
Ge:H, H composition at surfaces and interfaces 7—27083
Ge-based chalcogenide thin films, amorphous, anomalous photoinduced transformations study 7—45070
$Ge_{35}S_{65}$ films, evaporated, structural changes on illumination and heat treatment *(Japanese)* 7—22489
Ge_xX_{1-x} (X=S,Se), chalcogenide glasses, stochastic random network model 7—63493
In type I supercond. granule metastable state destruction by external 7—27475
K atoms in Ar matrix, site modification by X-ray and light irradiation 7—51819
KBr:Tl(In), defect creation by excitons, room temp. *(Russian)* 7—16946
KCl-En solid soln. crysts., thermal and radiation induced decay, impurity aggregation study *(Russian)* 7—2216
KI, {100} cleavage faces, surface morphology, influences of UV photo-enhanced evap. 7—44962
Li-W-O films, electrochromic props., UV radiation effects study 7—22222
LiF, electron- and photon-stimulated desorption, threshold effects 7—58623
$LiNbO_3$, photoinduced light scatt. 7—3011
Na_2O-SiO_2:Tb^{3+} glasses, colour centre formation during UV irradiation 7—2049
$Na_2O.3SiO_2$:Eu^{3+}, UV-irradiated glass, formation of colour centres 7—12063
Ni, ^{57}Ni labelled, ^{57}Fe Mossbauer emission spectroscopy of internal radiation damage 7—13061
O_2^-, ads. on silica gel, photoform., rot. dynamics, ESR obs. 7—25566
Si crystals, radiation defect stabilisation and annealing kinetics study *(Russian)* 7—44608
Si detectors, development of test structures, irradiation effects 7—42323
Si, energy deposited by mesons in 1-μm sites, probability distrib. 7—58312
Si field ion imaging, Au shank overlayer effects, photoillumination and field-induced image-size effects 7—33534
Si light-enhanced oxidation, hot electron injection, electron population depend. study 7—46720
Si strip detectors, radiation damage 7—42332
Si surface relief, 3D cellular struct. formed by picosec. light pulse irrad. 7—32772
Si, vibronic band, 1018 meV, W or I, band 7—51977
Si wafers, pre-oxidation treatment, appl. of UV radiation 7—33862
Si:C,O, solubility, segregation, diffusion and precipitation 7—16777
Si:Ge, irradiated, photoluminescence spectra 7—13207

radiation effects continued
Si:H, H composition at surfaces and interfaces 7—27083
a-Si:H, light-induced dangling bonds, annealing behaviour 7—12119
a-Si:H, light-induced degradation 7—2047
a-Si:H, light-induced electron spin resonance 7—33274
a-Si:H, light-induced metastable dangling bonds, annealing 7—12118
a-Si:H, photolum. and photoconductivity studies 7—33456
a-Si:H, Staebler-Wronski effect and metastable light-induced defect creation kinetics model 7—64284
a-Si:H films, light-induced bond breaking 7—12517
a-Si:H films, metastable optically induced ESR, time depend. 7—45800
a-Si:H p-i-n solar cells, light induced degradation, effects of impurities and temp. 7—17886
Si:Ni, diffusion of Ni under action of concentrated luminous flux 7—44913
Si-SiO_2 system, interface state generation by nonionizing UV radiation 7—38760
SiO_2 amorphous, photoinduced paramagnetic defects 7—13031
SiO_2 based fibre, radiation effects, design tradeoffs for radiation environments 7—1280
SiO_2, cryst. and amorphous, point defects and electronic props. 7—64082
SiO_2 RF sputtered thin films, atomic defects and stresses, optical and elec props. 7—16898
SiO_2 silica glasses, doped, radiation-induced defect centres, EPR and optical studies 7—13033
SiO_2, stoichiometric and sub-stoichiometric, defect creation, photoablation, pulsed UV irrad. 7—58315
SiO_2, vitreous, Raman structural correlations 7—63501
Si_xX_{1-x}(X=S,Se), chalcogenide glasses, stochastic random network model 7—63493
$(Th,U)O_2$, irradiation induced dimensional changes 7—5331
TiO_2 surface defect-struct., photon- and electron-stimulated desorption ion yield studies 7—44974
UC, fission gas bubble destruction by radiation re-solution 7—42114
UO_2, fission gas bubble destruction by radiation re-solution 7—42114
$YAlO_3$:Pr^{3+} single crysts., colour centres, optical absorption spectra studies 7—63610
YIG:Si epitaxial films, mag. anisotropy and spin reorientation under unpolarised white light irrad. *(Russian)* 7—33246
ZnO:H, quantised accumulation layers on ZnO surfaces, photoenhancement 7—7304

radiation embrittlement *see embrittlement; radiation hardening*

radiation hardening
French Metallurgy Society meeting, Paris, France (Oct. 1986) *(French)* 7—29579
laser processing of high-tech materials at high irradiance, review 7—13342
laser welding, machining and materials processing, conf., San Francisco, USA (Nov. 1985) 7—9597
laser-hardened layer thickness, influence of laser pulse time profile 7—44612
optical fibre, radiation effects, design tradeoffs for radiation environments 7—1280
steel, Cr-Mo, normalised, tempered, neutron irrad., 390-550°C, tensile props. 7—17621
steel, high-speed, thermal stability improvement by laser alloying 7—8170
steel, implanted with N ions, physicochem. characters. of surfaces, wear resist. *(French)* 7—28209
steel, line hardening by low-power CO_2 lasers 7—13653
steel, mild and Cr, surface saturation with B by laser radiation 7—8172
steel, pressure vessel, small angle neutron scatt. technique studies 7—59735
steel, radiation embrittlement effects of P and Cu impurities 7—49535
steel, reactor pressure vessel, neutron irrad. effect on mechanical and physical props. *(German)* 7—19358
steel, stainless, neutron irradiation effects on mech. props., damage and yield stress 7—51865
steel, surface oxidation through laser beam treatment, oxide film struct. and wettability 7—8158
steel 45, boronising the heating by laser radiation 7—8173
steel surfaces, heat hardening with scanning laser beam 7—13634
steel U6, laser alloying with W base facing powder, SiO_2 and B_4C additions effect 7—8171
Zircalloy, mech. eqns. of state of material irrad. at 573K in deform. in working direction 7—8064
CrMoV ferritic steels, He containing, fatigue behaviour in fusion reactor 7—56828
Cu alloys, neutron damage microstructs. 7—58347
Cu alloys, neutron irrad., 13 dpa, mech. prop. and elec. cond. changes 7—51839
Cu, ion irradiated, mech. prop. meas. 7—51873
Cu, polycrystalline, US and neutron irrad., struct. and mech. props. *(Russian)* 7—3402
Cu-Al-Ni-Fe-Mn bronze, cast, laser surfacing, improved corrosion resist., microstruct. characteris. 7—13651
Cu-Zr, ion irradiated, mech. prop. meas. 7—51873
Fe, cast, high-Cr, wear-resistance, laser and heat treatment effect on struct. and props. 7—8174
Fe, neutron irradiation effects on mech. props., damage and yield stress 7—51865
Fe, zone refined, radiation hardening by 14 MeV neutrons, temp. depend. 7—51857
Fe-Cr-Mn-C alloy, laser clad, microstruct. and wear props. 7—13652
Mo, radiation annealing hardening low temp. peak 7—22739
SiO_2 based fibre, radiation effects, design tradeoffs for radiation environments 7—1280
Ti, electron beam welded, neutron irrad. effects 7—56832
Ti-6Al-4V, electron beam welded, neutron irrad. effects 7—56832
V alloys, neutron irradiation effects 7—53750
V, radiation hardening by 14 MeV neutrons, athermal effects 7—51858

radiation hardening (electronics)
double layer dielec. films, X-ray irrad. effects 7—58332
MOS structure, X-ray irrad., trapped hole spatial depend., tunnelling anal. and annealing meas. 7—58902
nuclear and space radiation effects in electronics, conf., Providence, RI, USA (July 1986) 7—55875
a-Si:H,F solar cells, radiation hardness to 1 MeV protons 7—23180
a-SiGe:H,F solar cells, radiation hardness to 1 MeV protons 7—23180

radiation injuries *see biological effects of radiation*

radiation monitoring
- *see also dosimetry*
- apparatus for ^{85}Kr and ^{133}Xe meas. in fission reactor emergency situations 7—28439
- automatic monitoring of nuclear wastes *(French)* 7—36299
- bioassay procedures for radionuclides for atomic radiation workers 7—8696
- Bohunice V1, dose measurements in operation and overhead situations *(Czech)* 7—62093
- BWR, neutral water-chemistry treatment with H_2O_2 dosing 7—10223
- Chernobyl accident, causes and effect in Spain/Italy *(Spanish)* 7—5373
- Chernobyl accident, radiation measurements in Hungary 7—5492
- Chernobyl fallout, detecting and meas. in Nordic countries 7—30715
- Chernobyl fallout, monitoring and impact on UK 7—42229
- Chernobyl reactor accident, UK aquatic environment, fisheries viewpoint 7—42230
- code system to compute radiation dose in human phantoms 7—34285
- contaminant control in nuclear facility environment by γ-spectrometry *(Rumanian)* 7—10300
- deep geologic storage of spent nucl. fuel, radiation safety and personnel monitoring 7—36303
- dose calibrator ionisation chamber standards for radionuclide assay 7—40310
- effluent monitor sample lines, radioactive and electron microscope analysis 7—42116
- environmental monitoring of marine bivalves and sediments using X-ray fluorescence and neutron/prompt gamma activation anal. 7—34077
- foil-type electret dosimeter for surface α-contamination monitor 7—36304
- gamma radiation transport, numerical integration technique 7—10301
- GEMS environmental monitoring system for γ-ray emissions 7—10298
- ground level air radionuclide conc. 1984-1986, N. Germany and N. Norway 7—59896
- Gundremmingen power plant, operating experience with automatic dosage metering *(German)* 7—49725
- health physics aspects of nuclear issues in NewZealand over the last decade 7—8697
- infinite radiation field with complex energy spectrum 7—5490
- Karlsruhe radon diffusion chamber appl. in sub-surface U exploration 7—49820
- LLW, remote scanning technique to satisfy NRC criteria 7—36268
- LLW in cement, ocean transport off Taiwan 7—49685
- long term Rn monitor using polycarbonate foil 7—25265
- LWR surveillance dosimetry anal., changing source distrib. effects 7—62098
- maximum dose equivalent due to passing of spent fuel transport vehicle 7—10299
- microcomputer-based solar and meteorological data acquisition and control system 7—4186
- Netherlands nuclear power plant air filter testing and monitoring 7—3741
- neutron flux mapping data collection system for reactor core monitoring, personal computer based 7—42128
- neutron monitor for reactor startup range, design parameters 7—42126
- personal monitors, film and TLDs 7—65862
- personnel protection, radiation monitoring at TFTR 7—19556
- radiation detection for radiation protection meas., electrical effects use *(German)* 7—15420
- radiation detection in radiation protection meas., thermal. mag. and other effects *(German)* 7—19551
- radionuclide dose calibrator meas., evaluation 7—30891
- reactor pressure vessel neutron dosimetry using solid-state track recorder 7—36305
- regional radiation environment monitoring systems near nuclear plants 7—8462
- Rossendorf Research Reactor, computer-based γ-ray area monitoring system *(German)* 7—19552
- SEFOR test reactor, gamma anal. of soil following decommissioning 7—30726
- solid state α- sensitive floor monitor 7—36306
- solid state nuclear track detectors, conference, Rome, Italy (Sept. 1985) 7—40991
- spent nuclear fuel, reprocessing and direct disposal, radiological comparison *(German)* 7—49683
- spent nuclear fuel shipping vessel, neutron dose rates, Monte-Carlo anal. 7—25267
- SSNTD technique for Rn and thoron meas. in the environment 7—42430
- steel plants, radioactive contamination of manufactured products 7—28721
- survey meter calibration tardiness alarm 7—8695
- TFTR test cell basement, neutron and photon spectral data 7—19469
- thermal neutron monitoring using cellulose nitrate track detectors and spark counter 7—30902
- TMI-2 reactor vessel, gamma scanning of primary shield cavity, results 7—42238
- track etch detectors for Rn meas. 7—49735
- transistorised radiation source for function testing RF monitoring instruments 7—42232
- Am separation and activity meas. in sea algae 7—54370
- ^{241}Am electrodeposition geometry in the assay of environmental samples 7—28718
- ^{252}Cf(n, X), spectral investigations for biological shield labyrinth calc. 7—36298
- ^{3}H, survey methods in Paks nuclear power plant, development and appl. 7—56881
- ^{85}Kr, atmospheric activity monitoring 7—23259
- ^{85}Kr, ground air mesoscale transport from European reprocessing plants 7—23260
- Nb, radioactivation monitoring based on local activation by p,d,α 7—49726
- ^{235}Np, tracer props. for environmental ^{237}Np anal. 7—49771
- Pu content of Mururoa Atoll coral samples, nucl. techniques 7—54415
- Pu incorporation at a waste management facility, comparison of various methods of routine monitoring 7—40312
- Rn concentration in precipitation, automatic measuring apparatus 7—49847
- Rn, emanation into pores of solid material, recoil effect 7—49730
- Ta, radioactivation monitoring based on local activation by p,d,α 7—49726
- Xe-filled compensated ionisation chamber, transient anal. to quantify sensor degradation 7—42134
- Zr, radioactivation monitoring based on local activation by p,d,α 7—49726

radiation monitors *see radiation monitoring*

radiation patterns, antenna *see antenna radiation patterns*

radiation pressure
- *see also acoustic streaming*
- atomic beam, deflection and focusing by reson. light field 7—42786
- atomic beam deflection by multiple laser beam, photon statistics test 7—10902
- atomic beam laser cooling, reson. radiation press., simulation approach 7—15555
- atomic beams, collimation and decollimation by laser radiation 7—42782
- atomic beams, collimation and decollimation by laser radiation pressure 7—42785
- atomic beams, stopping with laser light, entropy prod. 7—42556
- atomic cooling, stopping and trapping 7—10504
- atoms, 3D confinement and cooling by reson. radiation press. 7—10505
- atoms, resonant, nonlinear susceptibility, radiation pressure effects 7—1219
- coherent diffraction of an atom in the resonance field of standing waves 7—25460
- cosmology, redshift-magnitude formula for Universe with cosmological const. and radiation press. 7—40924
- fluid-filled cylindrical shell, plane acoustic pressure wave 7—43516
- gas interaction with light, transport phenomena 7—16288
- interferometric gravitational-wave detectors, radiation-press induced fluctuations reduction 7—35386
- laser cooling, semiclassical theory 7—5640
- laser power meas, high precision absolute, using mag. suspended rotor 7—20298
- Mercury, effects of solar radiation press. on Na atmosphere 7—24038
- quantum measurements of positions and interferometric noises 7—14921
- red giant stars, wind momentum generation, radiation press. mechanism 7—60651
- solar nebula, pre-planetary disk, radiation press. effects 7—14506
- two-level atoms, beam compression by laser radiation press. 7—42555
- two-level atoms variable transition freq., optical radiation modulation 7—42554
- US levitation simulation, boundary- and finite-element approaches 7—1360
- Cs atomic beam, cooling using laser 7—10897
- Cs, stopping with diode laser beam 7—10507
- Na atomic neutral beam, laser technique for collimating and focusing 7—62610
- Na, laser cooling to temp. of 10^{-6}K 7—10506
- Na, optical piston dynamics using light-induced drift 7—10508
- Na vapour in He, light-induced drift without physical adsorption on inner surface of cell 7—44089
- Na_2 vapour cloud movement by light induced drift 7—15553
- Si-Al optically excited diaphragms, reson. freq., temp. depend. 7—18971

radiation protection
- *see also radiation monitoring*
- ^{252}Cf therapy at the Cancer Inst. Hosp., Tokyo: facility design, environmental protection and planning method 7—28668
- actinides, biological behaviour, consequence for radiation protection *(French)* 7—40223
- air kerma-rate const. for 0-30 keV particles *(Czech)* 7—62092
- biological basis of radiological protection and its appl. to risk assessment, conf., Bristol, England (April 1986) 7—48134
- Bonner sphere dose equivalent determ. neutron spectra, fluence response data effect 7—30728
- bubble damage polymer detector, low energy threshold 7—42233
- building materials used in the Netherlands, proposed standard for radioactivity 7—34287
- buildup factors for point kernel calculations, revised data 7—42236
- BWR feedwater systems, hydrogen water chemistry effects on radiation fields 7—771
- BWRs, methods for dose rate reduction, ^{58,60}Co concs. in coolant 7—42187
- Castor V/21 PWR spent fuel storage cask, testing and analyses 7—56864
- close-fitting shield doors with sculptured edges for nuclear fuel reprocessing plant 7—49739
- conference, ANS winter meeting, Washington, DC, USA, (Nov. 1986) 7—29591
- conference on iodine chemistry in reactor safety, Harwell, England (Sept. 1985) 7—48176
- conference on radiation protection physics, Bad Schandau, Germany (Feb. 1986) 7—24267
- covariance matrix of neutron spectra used in the REAL 84 exercise 7—36307
- deep penetration problem, angular biasing scheme using 3D Monte Carlo method 7—10303
- Defence Waste Processing facility, remotely replaceable lighting systems for hot cells 7—49695
- desert sand, radiation protection capability against fusion neutrons 7—49729
- DIORIT research reactor, activation product distrib. in shielding materials *(German)* 7—49536
- ferritic spent fuel casks, predrop test anal., stresses and fracture toughness 7—46651
- fluorescent dye penetrant inspection, UV radiation safety and visual enhancement 7—40311
- gamma radiation transport, numerical integration technique 7—10301
- glove box sectioning using weld-splitting techniques 7—49740
- graphite shielding slabs, penetration of 2.75 MeV γ-rays 7—30712
- Gundremmingen power plant, operating experience with automatic dosage metering *(German)* 7—49725
- HLW, commercial management systems, radiation doses 7—30697
- HLW land disposal, radionuclide pathways to man, radiological impact, doses 7—5467
- HLW or spent fuel, role of canister in final disposal system 7—5457
- HLW vitrification in a liquid-fed ceramic melter, remote equipment performance 7—42201
- ICRP Reference Man, distrib. of intracellular alkali metals 7—65861
- JOYO radiation streaming, energy-space dependent error propagation in Monte Carlo coupling calculations 7—19335
- La Crosse BWR, operational radiation protection for reducing cumulative exposure 7—42240
- land disposal of radwaste, optimum groundwater transport model for health effects 7—808
- laser hazard analysis, nominal hazard zone 7—60094

radiation protection continued
- licenced radioactivity release levels from French nuclear facilities *(German)* 7—56873
- Light Ion Beam Fusion Target Development Facilities, activation studies 7—49732
- LLW reduction methods employed at du Pont/NEN research products 7—30681
- LWR, corrosion product release, radiation build-up effects 7—10225
- microprocessor use in *(German)* 7—25257
- multicomponent aerosol modelling, numerical implementation for reactor accident mitigation 7—56800
- neutron effects in humans: protective considerations 7—28720
- neutron leakage through an Fe shield at an accelerator, rel. to concrete augmentation of shielding 7—54764
- neutrons, effective Q-factor 7—3886
- new quantities in radiation protection and conversioncoefficients 7—3887
- nuclear fuel reprocessing plants, remote maintenance using servomanipulator based system 7—5338
- nuclear power plant siting criterion, social radiation risk in presence of large pop. centre 7—49584
- nuclear research, summary of recent papers *(Dutch)* 7—54670
- nuclear waste glass canisters, remote handling at the Savannah River Plant 7—42200
- occupational exposure reduction during nuclear facility decommissioning, IAEA review 7—25259
- organic iodides formation under reactor accident conditions 7—49604
- Oyster Creek emergency off-site dose assessment, ocean breeze inclusion 7—30725
- PBFA-II photoactivation, fusion breakeven experiments, radiation protection problems 7—30775
- personal computer experience in radiation protection and shielding analysis 7—42235
- personnel exposure in interventional radiology, shielding method 7—47261
- personnel protection, radiation monitoring at TFTR 7—19556
- public acceptability problems following Chernobyl *(German)* 7—49731
- PUFF-PLUME emergency response atmospheric dispersion model, field eval. at SRL 7—34292
- PWR, n-γ shielding designs in France 7—25133
- PWRs, activity build-up in primary circuit, review *(German)* 7—19408
- PWRs with once-through steam generators, radiation field build-up, coolant pH 7—36234
- radiation detection for radiation protection meas., electrical effects use *(German)* 7—15420
- radiation detection in radiation protection meas., thermal. mag. and other effects *(German)* 7—19551
- radiation impact of Chernobyl in Western Europe 7—30714
- radiation risks and radiation protection at Chalk River Nuclear Lab. 7—25268
- radioactive areas ventilation, filter testing, aerosol mixing 7—30727
- radioactive Kr and Xe gases, double filter method for meas. 7—40317
- radioactivity, contamination, damage and risks *(Italian)* 7—47262
- radiobiological effect of α-emitting nuclides incorporated in the lungs microdistrib. of radioactive substance and radiation protection *(Russian)* 7—47172
- radiological criteria for the disposal of solidradioactive wastes 7—5455
- radiological dispersion patterns following explosive sabotage incidents 7—36300
- radiological emergencies, mobilisation of robotic and teleoperated mobile vehicles at accidents 7—30633
- radionuclide generators, short-lived, radiation-hygienic eval. 7—28719
- radiotherapy, improved system of customised photon shielding 7—3885
- radwaste packages with several shields, buildup factors for point-kernel calcs. *(German)* 7—36267
- reactor accident consequences, effects of rain and snow on contamination 7—42143
- remote radwaste canister level and turntable positioning system 7—42202
- safety analysis codes for shipping casks in Japan 7—15414
- safety system eval. for Zarnowiec nuclear power station *(Polish)* 7—19413
- SCALE, criticality safety analysis appl. on mainframe and microcomputer 7—15413
- SCALE, nuclear waste cask analysis, critically safety analysis 7—15411
- SCALE, nuclear waste cask analysis software, heat transfer analysis capabilities 7—15412
- SCALE, nuclear waste cask analysis software, implementation, validation and application 7—15424
- SCALE, spent fuel cask analysis, cross-section processing techniques 7—15421
- SCALE, spent fuel cask analysis software, conf., Saclay, France, (June 1986) 7—14700
- SCALE, spent fuel cask analysis software 7—15410
- SCALE, spent fuel casks analysis software, isotopics, radiation spectra and decay heat 7—15423
- shielded storage vault for radioactive reference sources 7—56882
- shielding analysis methods available in the SCALE computational system 7—15422
- shielding physics, state and development 7—49728
- skyshine radiation, Monte Carlo solution 7—10302
- source term research implications for ex-plant reactor accident consequences modelling 7—780
- spent fuel transportation, safety criteria and accident anal. 7—42241
- spinal cord protection during radiation therapy 7—34288
- steel, shielding slabs, penetration of 2.75 MeV γ-rays 7—30712
- TFTR test cell basement, neutron and photon spectral data 7—19469
- variance reduction under exponential and scatt. angle biasing 7—62099
- ventilation duct in reprocessing plant shield, neutron streaming, numerical comparisons 7—19555
- volatile fission products, thermochemical approximation *(Dutch)* 7—36208
- waste containers store, radiation minimisation 7—10290
- Zircaloy clad UO_2 fuel elements, fission product release, deposition behaviour 7—25149
- β-particle transmission in LiF, acrylic, mylar, Teflon and PVC 7—25266
- Al shielding slabs, penetration of 2.75 MeV γ-rays 7—30712
- ^{252}Cf-exposed human cells, pot. lethal damage and radioprotection 7—28612
- ^{60}Co ion adsorption on hematite particles, BWR radiation field build-up 7—49588
- CsI solution radiolysis in conditions related to a PWR severe accident 7—49600
- ^{3}H in the Commission of the European Communities Radiation Protection Programme 7—54765

radiation protection continued
- I_2 gas phase radiation chemistry in reactor post-accident environments 7—49601
- I_2 volatility from evaporating PWR primary coolant films in accidents 7—49603
- I_2-H_2O vapour partitioning under severe reactor accident conditions 7—49602
- Pb apron for radiation protection, design improvement 7—60093
- Pb shielding slabs, penetration of 2.75 MeV γ-rays 7—30712
- Rn daughters in indoor air, Swedish limitation schemes 7—34286
- T handling at CRNL, glove boxes, pumping systems 7—5339

radiation quenching
- 2-acetonaphthane, triplet, quenching by O_2 7—15641
- acetophenone, triplet, quenching by O_2 7—15641
- acridine cation, in micellar soln, fluoresc. quenching 7—62447
- acridine dyes, PVA matrices, luminesc. spectra anal., external heavy-atom effect 7—42680
- -amino-5,6,7,8,-tetrahydronaphthalene, depletion of singlet and triplet states due to external heavy-atom perturbation 7—57121
- anthracene, vapour, two-photon excited fluoresc. polarisation 7—31109
- anthracenes, aq.-micellar soln., dimethylaniline fluoresc. quenching and exciplex form. 7—36683
- aromatic ketone triplets, competing singlet and biradical form. 7—15641
- aromatic thiones, thermally activated delayed fluoresc., solvent effects, visible spectra anal. 7—31106
- benzil, fluoresc. and phosphoresc., spectra, O effects 7—50233
- benzophenone, triplet, quenching by O_2 7—15641
- benzophenone triplet+KI, laser-induced optoacoustic spectroscopy, lifetime determ. 7—25683
- 9,9-bis(acridizinium-yl), fluoresc. quenching, solvent depend. *(German)* 7—940
- 9,10-bis-(phenylethynyl) anthracene, in PMMA films, fluoresc. quenching *(Russian)* 7—10661
- camphorquinone radical anion, photogenerated, time-resolved CIDEP spectra 7—57102
- chlorophyll *a*, pigment in dioleylphosphatidylcholine monolayer, fluoresc. conc. quenching master eqn. 7—50219
- dye multicomponent solution tunable lasers, electronic excitation energy migration, fluoresc. quenching 7—31308
- electronic struct. and dynamics, conf., Snowbird, UT, USA (April 1986) 7—55877
- forward Stokes quenching by phase matching 7—5950
- glass:Nd, transition metal doped, fluorescence and absorption spectra 7—13229
- hydroxymethyl radical, oxidation kinetics, phosphoresc., time depend. rate const. 7—10648
- indole, fluoresc. quenching by acrylamide, harmonic-content freq.-domain fluorometry, transient effects 7—25586
- indoles, room temp. fluorescence quenching by trivalent lanthanide ions in dimethyl sulfoxide 7—42670
- InP:Cu, band-edge photolum. quenching, impurity recomb. centre effects study 7—39177
- intracentre transition probabilities and luminesc. self-quenching 7—22332
- lanthanide ions, exchange collisions with positronium 7—50405
- luminescent centres in crystals, impact excitation and Auger quenching, appl. to ZnS:Mn 7—27827
- 3′-methoxyacetophenone, triplet, quenching by O_2 7—15641
- micelles, cylindrical, intramicellar fluoresc. quenching rate const. 7—54189
- micelles, monodisperse confinements, fluorescence decay kinetics anal. 7—19937
- molecular structures, impure, noncoherent excitation migration and fluorescence quenching 7—59247
- 2-naphtholate, H^+recomb. and H^+ induced quenching, temp. depend. 7—57135
- nightglow, O and O_2 quenching parameters for precursors 7—47604
- ordered perovskites, Cr impurity photolum. thermal quenching, linear and quadratic coupling model calcs. 7—3085
- organic neutral molecules, solubilisation in AOT inverse micelles in n-heptane, distrib. eval., fluoresc. quenching data 7—54191
- perylene, vapour, two-photon excited fluoresc. polarisation 7—31109
- (perylene-Ag^+)* exciplex fluoresc., solvent influence 7—57113
- phenanthrene in methanol glasses, phosphoresc. quenching, time-depend rate const. 7—10648
- phenothiazine derivative-methylviologen systems, charge separation yield 7—28323
- α-phenyl-N-tert-butyl nitrone+O_2, solvent effect and temp. depend., luminesc. kinetics meas. 7—54130
- polyacrylic acid, pyrene substituted, solns., fluoresc. quenching, polyelectrolyte effects 7—62446
- polymethine dyes, fluoresc. quenching 7—36680
- polyvinyldiphenylanthracene, excited singlet state annihilation, fluoresc. 7—62432
- POPOP vapour, two-photon excited fluoresc. polarisation 7—31109
- porphyrin-quinone, excited state, interactions in reversed micelles, time-resolved fluoresc. spectroscopy. 7—19929
- positronium, formation in molecular liquids, probability, spur model 7—17811
- o-positronium, quenching and form. in xylene soln. containing nitrodiphenyls 7—50406
- positronium complex formation, quenching rate const. meas., solvent effects 7—62545
- o-positronium diffusion controlled quenching reactions, influence of solvent dielec. constant 7—39852
- scintillator dye solutions, excited state absorpt. measurements 7—42516
- tetramethylammonium manganese tribromide:Cu^{2+}, emission dynamics, exciton trapping 7—39164
- 2,6,N,N-tetramethylcyanoaniline, charge transfer states, solvent effects, fluoresc. 7—31111
- tetraphenylporphine on Ag surface, fluoresc. quenching and interference effects 7—36675
- vesicle bilayer membranes, oxidation-reduction mechanisms 7—13810
- vinylidene + He(Ar)(N_2)(H_2)(CO)(methane), collisional quenching, rate consts., time resolved spectra 7—31104
- xanthene dyes, triplet-state conc. quenching, fluoresc. study 7—42679
- $Al_{0.28}Ga_{0.72}As$, photoluminescence half-width and intensity, temp. depend. 7—39179
- $Al_xGa_{1-x}As$, Ga interstitial identification by ODMR 7—33302
- Ar+trifluoromethane, crossed beam reaction giving trifluoromethyl group 7—33935

radiation quenching continued
Br_2, $B^3\Pi(0_u{}^+)$, electronic self-quenching energy transfer rate consts. 7−20015
Ca, 422.7 nm resonance line, lineshape anal., rare gas perturbation, fluoresc, spectra study 7−19753
Ca, metastable states energy pooling time-resolved emission spectra anal. 7−36519
$Ca+H_2(D_2)$, collisional quenching, time-resolved emission spectra anal. 7−36528
CaF_2:Nd^{3+}, Sm^{2+} Lasers, Sm^{2+} luminesc. 7−10962
CdS particles deposited on porous vycor glass electron transfer and photoluminesc. dynamics 7−64678
$CdSe_xTe_{1-x}$, bound excitons, thermal dissoc., photoluminescence, reflectivity meas. 7−46122
Cr_2O_3, in mullite transparent glass-ceramics, X-ray absorpt., emission and EPR spectra 7−7728
CsCl(Br)(I), luminescence quenching in *F* centers under pressure 7−22334
Cs_2NaYCl_6:Cr, impurity photolum. spectra and lifetimes, thermal quenching and temp. depend. studies 7−3084
$Cu+N_2O$, collisional quenching, time-resolved emission and chemiluminescence 7−28285
GaAs LEC wafers, cathodolum. mapping, IR absorpt., X-ray topography obs. 7−33462
GaAs, midgap levels, quenching and recovery spectra measured by double-beam photoconductivity 7−58769
He collisional depopulation rate by Rb thermal collisions *(German)* 7−15694
He+Ar, 2^1P_1 state quenching 7−62319
He+Cs(Rb), $He2^1P_1$ and 2^1S_0 state quenching 7−57153
He+Rb, afterglow, inelastic collisions quenching cross sections 7−42746
$He^++H_2(N_2)(O_2)(CO)(NO)$, metastable state, collisional quenching cross section 7−62315
$He^+(25)$, muonic, binding in He gas, quenching mechanism study 7−36812
$Hg+Hg(Ar)(N_2)$, 6s6d and 6s7d states, collisional quenching 7−36730
Hg+Xe collisions, Hg radiative lifetimes and deactivation rate consts., mol. fluoresc. study 7−19752
IF hybrid chemical-laser, quenching of NF singlet states 7−43081
KCl(Br)(I), luminescence quenching in *F* centers under pressure 7−22334
$K_2NaSc(Ga)F_6$:Cr, impurity photolum. spectra and lifetimes, thermal quenching and temp. depend. studies 7−3084
$KNd_xGd_{1-x}P_4O_{12}$, isolated ion pair interaction, fluoresc. quenching study 7−46117
KrCl-XeCl, double laser oscill., quenching effect 7−57304
LaF_3:Pr^{3+}, $^3P_0$ fluorescence quenching processes 7−22314
Li+HCl quenching reaction, electronic struct., ab initio SCF CI calcs. 7−56995
$MnCl_2(MnBr_2)$, liq. solns. and cryst. hydrates, luminesc. quenching mechanism 7−53399
N_2, quenching rate coeff. by NO 7−5713
N_2+Na, rot. excitation in exothermic process 7−50311
NH, collision-induced intersystem crossing investigated using ArF laser photolysis 7−42692
NH, metastable $a^1\Delta$ state, quenching rate coeffs. 7−62441
Na, excited atom, quenching and time resolved fluoresc. 7−30983
Na^*+N_2, quenching, classical trajectory calcs. 7−50300
$Nd_xY_{1-x}PO_4$, excitation energy transfer and ion-ion interaction 7−33421
O_2 $(A^3\Sigma_u{}^+)$ vibrational populations, altitude dependence for nightglow, quenching anal. 7−47606
OH in flames, excited state rot. population study using laser induced fluoresc. 7−3592
$OH+H_2(N_2O)$(hydrocarbons), collisional quenching of OH, rate const. meas. 7−10654
Ru complex, $Ru(bipyridine)_3{}^{2+}$-methylviologen copolymer, quenching 7−31107
SF_6 plasma, electrostatic interaction effect on composition 7−37632
SR + inert gases, collisional energy transfer, time resolved fluoresc. meas., quenching cross sections 7−62497
Si avalanche photodiode for photon correlation meas., passive quenching 7−41463
a-Si:H, photoluminescence, thermal quenching 7−53389
SrF_2-$2YF_3$-$Er^{3+}(Ho^{3+})$, interionic interaction, occupation kinetics, stimulated emission 7−46072
SrF_2-$2(Y_{1-x}Er_x)F_3$ intracentre transition probabilities and luminesc. self-quenching 7−22332
Ti + Ar(He)(Ne), Ti excited state total ang. momentum charge, radiation quenching 7−42735
Ti I, N_2 laser induced fluoresc. in vapour cloud, quenching 7−19763
$Ti+Ar(Ne)(He)(N_2)(H_2)$, triplet state quenching and excitation transfer processes 7−19761
$Ti+Ar(Ne)(N_2)$ quenching and excitation transfer processes, fluoresc. 7−10725
Xe, two-photon excitation, IR decay, press. effect 7−50041
Y_2O_2S:Pr^{3+}, luminescence spectra 7−7730
ZnSe:Fe, impurity ion photoionisation, EPR, photoconductivity spectra 7−52495
ZnTe-ZnSe superlattices, photoluminesc. 7−17339

radiation therapy
see also laser applications in medicine
^{252}Cf neutron brachytherapy, complications: review of reported experiences 7−28667
^{252}Cf therapy at the Cancer Inst. Hosp., Tokyo: facility design, environmental protection and planning method 7−28668
accelerators for photon beam treatment, choice of optimum MV 7−34237
agar phantom electrically adaptable for tissue simulation in 5-40 MHz range, hyperthermia cancer treatment 7−65713
Amersham ^{137}Cs afterloading sources, associated X-ray spectra 7−60075
beta source radiation charact. meas. 7−54748
boronated monoclonal antibody conjugates for neutron capture therapy 7−34252
brachytherapy, 'natural' vol-dose histogram 7−54749
brain, light penetration depth in normal and malignant human tissue, photodynamic therapy appl. 7−23396
brain tumors, interstitial microwave hyperthermia, swept freq. meas of antennas 7−14106
brain tumours, invasive and noninvasive microwave hyperthermia 7−14105
breast cancer, late radiation injuries of the lungs after combined treatment *(Russian)* 7−28609

radiation therapy continued
capacitive RF hyperthermia, skin toxicity minimisation using saline bolus 7−28640
cell death by exposure in vitro to X-rays and 1,3-bis(2-chloroethyl)-1-nitrosourea, predictive models 7−60046
chemical modifiers of cancer treatment, conf., Clearwater, FL, USA (Oct. 1985) 7−18475
CNS tumours, technique for delivering uniform dose at the junction of 2 spinal fields 7−3878
coaxial TEM deep-body hyperthermia applicator, 3D model 7−14082
computerised treatment planning systems, comparison when calculating dose under shielding blocks 7−28706
conference, Los Angeles, CA, USA (Nov. 1986) 7−35084
CR-39 track registration papers for ^{12}C, ^{16}O ions at neutron radiotherapy energies 7−42403
cytogenetic effectiveness of the therapeutic fast neutronbeam emitted by cyclotron U-120 *(Russian)* 7−13976
dentistry applications of lasers 7−40242
DNA repair mechanisms and their pot. modification radiotherapy 7−23314
dose distribution of high-energy electron beam, chromosome aberration freqs. 7−14131
doses in external radiotherapy, use of microcomputer for nonlinear optimisation 7−34283
dosimetry, extension of Fourier methods to calc. of effective depths in heterogeneous media of arbitrary contour 7−54426
dosimetry, photon beam peak-depth profile, description rel. to field size 7−54750
dosimetry, source-surface distance and source-axis distance beam data acquisition 7−54755
dosimetry of asymmetric X-ray collimators 7−54754
EM hyperthermia, hot spot form. by locally induced currents 7−8753
EM techniques in hyperthermia, review 7−40240
external beam, on-line electronic portal imaging system 7−14110
external beam treatment planning, analytic evaluation of heterogeneity locations 7−40275
eye plaque therapy, Monte Carlo dosimetry for ^{125}I and ^{60}Co 7−40300
fibre optic position verification device 7−47213
fractionated radiotherapy, appl. of linear-quadratic model on incomplete, normal tissue recovery between fractions 7−3863
fractionated radiotherapy, graphical method to simplify the appl. of the linear-quadratic dose-effect eqn. 7−28660
Hodgkin's disease patients in prolonged clinical remission, radiation injuries *(Russian)* 7−8684
homogeneous phantoms, effect of Pb attenuators on dose 7−54753
hyperthermia, localised: scanned, focused, multiple transducer US system 7−65819
hyperthermia, Phase I regional device evaluation, microwave annular array vs. RF induction coil 7−47286
hyperthermia, unbounded electromagnetic problems, hybrid element method 7−18037
hyperthermia applicator, completely implantable, with externalised temp. monitoring: tests in cond. gel 7−54703
hyperthermia treatment using 27 MHz waveguide applicator, relative heating patterns calc. 7−8676
hyperthermia using 13.56 MHz EM waves, specific absorpt. rate and tissue temp. 7−65826
interstitial microwave antenna array hyperthermia system, SAR patterns 7−8678
interstitial microwave antenna hyperthermia system, power deposition pattern control 7−8677
interstitial microwave antennas for thermal therapy 7−65825
interstitial microwave hyperthermia in a canine brain model 7−28645
interstitial radiation therapy, optimum schemes of placing radiation sources *(Russian)* 7−28662
intraoperative radiotherapy, quality control parameters 7−34238
laser-tissue interaction, thermal and biological aspects of medical laser appl. 7−60037
lexan track registration papers for ^{12}C, ^{16}O ions at neutron radiotherapy energies 7−42403
limb models heated with miniature annular phased applicator, energy deposition patterns 7−13970
linear accelerator, high-energy, determ. of source posn. for electron beams 7−54727
lung correction algorithms validity in treatment planning 7−40269
lymphocyte subclasses and immunoglobulins, in adults receiving radiation treatment in infancy for thymic enlargement 7−18032
malignant melanoma cure by selective thermal neutron capture therapy 7−34255
malignant tumour development following irrad. for preexisting tumors, double cancer autopsy cases study 7−18020
Maxwell and integral eqn. equivalency for 3D and 7D scatt. problems 7−57220
medical heavy particle accelerator, design *(Japanese)* 7−54741
medical use of radioactive isotopes 7−47220
microcomputer-based computing course for radiotherapy students 7−65888
microwave hyperthermia, complications arising from spurious fields 7−28644
microwave hyperthermia, thermal dosimetry method using microwave radiometry for temp. control 7−65859
microwave hyperthermia system, robot-operated, for testing large surface tumors 7−8675
microwave interstitial applicators for hyperthermia, design with improved treatment vol. 7−65827
mononuclear phagocyte system, effects of therapeutic US on activity in vivo 7−14043
multiplicative correction factor for tissue heterogeneities, radiotherapy dosimetry appl., Monte Carlo calcs. 7−14124
neutron captive therapy, boronated antibodies and promazine derivatives 7−34251
neutron capture therapy, boron containing nucleosides prep. 7−34249
neutron capture therapy, novel boronated porphyrins 7−34250
neutron dose and energy spectrum outside a 20-MV accelerator treatment room 7−40303
neutron field for boron neutron capture therapy 7−34248
neutron radiotherapy of resist tumours: interactions with low LET 7−28665
nominal accelerating pot. determ. 7−54729
ophthalmic applicators, B-particle, calibration of US National Bureau of Standards 7−47259

radiation therapy continued
ophthalmic therapy, argon laser coagulator use 7−8674
ophthalmic therapy, LAK argon laser coagulator design and use 7−8673
ophthalmology, ultrasonic therapy and imaging 7−28632
otorhinolaryngology, low-power laser therapy using fibreoptic instruments 7−28648
pancreatic cancer therapy, reactions and complications *(Russian)* 7−8683
pelvic tumours, extensive, regional hyperthermia using an annular phased array applicator 7−40239
photon beam dose calculation, density correction algorithms *(Korean)* 7−28707
photon shielding, customised, improved system 7−3885
photoradiation therapy of brain tumours, effects evaluation with in vivo ^{31}P NMR spectroscopy 7−14101
pion radiotherapy, use of positron emission tomography 7−28661
port film enhancement of digital processing 7−47234
portal film contrast rel. to beam energy 7−40273
prognosis of radiation complications, use of DMF model with account of vol. and area of irrad. tissues *(Russian)* 7−60084
proton beam penumbra: effects of separation between patient and beam modifying devices 7−40276
radiobiology of neutron effects on normal tissues, therapy appl. 7−28586
radiolabelled antibodies for tumour therapy, dosimetric aspects 7−40297
retinal therapy, preselectable intensity distrib. in large-area laser coagulation by electronically controlled beam deflection 7−47207
review of nuclear medicine 7−65847
rubber-based compound, assessment as a bolus material for fast neutrons 7−14125
Selectron treatment calc., min. data input computer program 7−60077
sensitisers and radiation dose fractionation: results and interpretations 7−23461
shielding block fabrication, pot. exposure to metal fumes, particulates, and organic vapours 7−40277
spinal cord protection during radiation therapy 7−34288
stereotactic radiosurgery of central nervous system disorders, He ion beam 7−40270
superficial malignancy, treatment by hyperthermia and radiation 7−65886
thermal effect of a CO$_2$ scanning therapeutic laser on tissues 7−47162
thermal enhancement ratios for single and fractionated doseexternal beam radiation therapy combined withhyperthermia 7−14155
tissue equivalent phantom materials for negative pions 7−65850
tomographic system for radiotherapy planning 7−34244
total body irrad., practical approach to dose uniformity 7−65840
treatment planning, graphical displays 7−40283
treatment planning using lymphoscintigraphy 7−34239
tumour cell heterogeneous population model, optimisation 7−60074
tumour photodynamic treatment, optical monitoring of singlet O$_2$ generation 7−65897
tumour response in patients treated with a combination of radiotherapy and hyperthermia 7−47287
US physiotherapy transducers, performance of the NPL US beam calibrator 7−60062
^{211}At, possible applications to human cancer therapy, review 7−28657
^{10}B cancer therapy, epithermal neutron beams appl. 7−34247
^{10}B cancer therapy, intermediate energy neutron beam techniques 7−34246
^{10}B conc. determ. threshold reduction using CR-39 7−34253
^{10}B(n,α)^{7}Li, radiobiological efficacy in neutron capture therapy 7−34254
^{10}B(n,α)^{7}Li irradiation, mouse brain central nervous system syndrome 7−34256
^{252}Cf brachytherapy, facilities and remote afterloading 7−28669
^{252}Cf brachytherapy, fast neutron beam therapy and radiobiology, conf., Lexington, KY, USA (April 1985) 7−24273
^{252}Cf brachytherapy of the brain, high LET, B enhancement 7−28670
^{252}Cf brachytherapy treatment of localised tumours, B neutron capture enhancement, Chinese hamster cell obs. 7−28589
^{252}Cf, historical review of discovery and development, radiotherapy appl. 7−24348
^{252}Cf neutron therapy, time and dose considerations for clinical trials 7−28712
^{252}Cf neutrons, review of RBE and OER values, brachytherapy appl. 7−28666
^{252}Cf, tumour and normal tissue effects and therapeutic gain ratio 7−28587
^{131}I treatment of thyroid cancer: absorbed dose calc. from post-therapy scans 7−65842
^{75}Se, pot. source for use in high-activity brachytherapy irradiators 7−40291

radiationless transitions *see nonradiative transitions*

radiative corrections
"radiative corrections" is distinguished in use from "electromagnetic corrections" by application to atomic and molecular spectra
see also electromagnetic corrections; radiative shifts
bound electron in Coulomb field, self-energy, momentum space method 7−42511
energy levels, radiation effects and corrections 7−49960
muonium, hyperfine splitting, electron-line radiative recoil correction calcs. 7−5792
H, Lamb shift, proton mass corrections 7−42510
HT, rot. vibr., line position meas. in optoacoustic spectra 7−62456
He-like ions, radiative corrections, multiconfigurational DF study 7−62299

radiative decays *see electromagnetic decays; nuclear energy level transitions*

radiative lifetimes
acridine dyes, PVA matrices, luminesc. spectra anal., external heavy-atom effect 7−42680
aligned atom, n-photon absorption, excitation transition probability calc. 7−42714
aligned molecule, n-photon absorption, excitation transition probability calc. 7−42714
alkali metal hydrides, X $^1\Sigma^+$ state, HF quality Slater basis sets 7−19719
alkali-metal atoms, photoionisation cross sections, ab initio RRPA calcs. 7−36462
AlO, B-X system vibr. bands in sunspot spectra, vibr. transition probabilities and $\bar{r}$-centroids 7−60525
anthracenes, aq.-micellar soln., dimethylaniline fluoresc. quenching and exciplex form. 7−36683
anthraquinone dyes and derivatives as sensitisers of singlet O$_2$ form. 7−49968

radiative lifetimes continued
aromatic thiones, thermally activated delayed fluoresc., solvent effects, visible spectra anal. 7−31106
atom, Rayleigh scatt., redistrib. function 7−19758
atomic clusters, photoabsorption, multiple-scatt. theory, appl. of a non-muffin-tin pot. general pot. develop. 7−36839
atomic excitation probability in optical collisions 7−31146
atomic fluorescence, intermittent 7−10484
atomic lineshape, convergent anal. of radiative matrix elements 7−19774
atomic multipole transitions, positions of minima in multipole matrix elements 7−36550
atomic vapour, lifetime determ., fluoresc. study 7−36546
atoms, radiative transition probabilities, outer region contribs. 7−5632
atoms coherent population trapping, non-Markovian character relaxation processes study, Raman spectra 7−19755
azacoumarin dyes, fluorinated, laser dye stability, lifetimes, fluoresc. 7−59237
azulene, quantum yield ratio, fluoresc. spectra studies 7−19923
benzonitrile-Ar(Kr)(N$_2$O)(H$_2$O)(trifluoromethane), excited state van der Waals complexes, fluoresc. investig. 7−50223
benzophenone triplet+KI, laser-induced optoacoustic spectroscopy, lifetime determ. 7−25683
biacetyl, triplet-state form. mechanism, electron impact induced phosphoresc. 7−42666
bis(π-allyl) nickel, photoelectron spectrum, semi-empirical and ab initio Green's Function methods 7−30950
borate glass: Cr^{3+}, Nd^{3+}, energy transfer, emission spectra 7−33440
cascade Zeeman quantum beats, stepwise pulsed-laser excitation, four-level model 7−50014
cellulose acetate hollow-fibre membranes, ZnTPP modified, photosensitivity and photosynthesis 7−13811
chlorophyll *a*, pigment in dioleylphosphatidylcholine monolayer, fluoresc. conc. quenching master eqn. 7−50219
coronene in jet, fluoresc. excitation and SVL fluoresc. spectra 7−31103
curve crossings, single pass, probability oscills., nonmonotonic depend. on crossing vel. 7−10467
cyanoacetylene, interstellar, nonequilib. excitation of rot. levels 7−60743
9-cyanoanthracene, fluoresc. lifetimes in bulb and supersonic free jet 7−36670
cyclobutenediylic dyes, electron transfer rate consts. and fluoresc. lifetime determ. 7−25587
dense plasma, atomic species description model 7−63255
deuterobenzenes, first excited singlet state vibr. level, fluoresc. lifetime meas. 7−50214
diamond, electron beam irrad., vacancies, photoluminescence, radiative decay time meas. 7−46107
3,5-diarylaminobenzene derivatives, absorpt. and fluoresc. spectra, steric effects 7−36590
dichloromethylene radical, fluoresc. decay meas., lifetime determ. 7−25594
dimethyl sulfide, photodissoc., long-lived emission obs. 7−25617
1-(N,N-dimethylaniline)-3-(anthryl)propane bichromophore, intramolecular exciplex, luminesc. 7−5716
dipole allowed and forbidden molecular transitions 7−10677
dipole transitions induced from pulsed electric field on molecular beams *(French)* 7−62452
double heterostructs., photon recycling, non-perfect optical confinement 7−33449
dressed-atoms, stimulated pair transition in strong light fields 7−62327
(ethene)$_n$ (n=2,3,4), van der Waals complexes, IR photodissoc. 7−42701
fluorometer, fibre-optic, freq.-scanned, for subnanosec. lifetime determ. 7−48851
formaldehyde+NH$_3$, molecular collisions, rotational cross sections, $\Delta J=0$ transitions, elec. field effects *(French)* 7−5754
four-level velocity-selective atomic model, nonstationary effects, time-dependent anal. 7−36555
free electron laser, quantum-mechanical equations transition probabilities 7−1105
gas discharges, dynamical behaviour, relation to elementary processes 7−20999
trans-glyoxal, photodissoc., photofragment excited state distrib., fluoresc. spectra anal. 7−50226
guaiazulene, excited state dynamics kinetic model, laser-saturated fluoresc. study 7−50220
high-Z elements, Ll, Lα, Lβ and Lγ X-ray prod. cross sections, meas. 7−19801
highly charged ions, excited-state stability and X-ray lasers 7−31305
homoadamantane, ionised, methyl elimination, field ionisation kinetics and ^{2}H and ^{13}C labelling 7−42775
indoles, room temp. fluorescence quenching by trivalent lanthanide ions in dimethyl sulfoxide 7−42670
indoloquinoxaline, excited state, radiative rates, fluoresc. spectra 7−62433
inert gas halide cryogenic solns., UV excitation and stimulated emission 7−10645
intracentre transition probabilities and luminesc. self-quenching 7−22332
lanthanide ions, exchange collisions with positronium 7−50405
leaves, clover, fluorescence lifetime meas., single-photon counting technique 7−22311
long-range energy transfer for inhomogeneous spatial distribs. and indirect donor-donor interaction 7−33419
medium and heavy elements, L-subshell ionisation cross sections, X-ray spectra anal. 7−30977
metastable atoms, electronic excitation cross sections, freq. depend. 7−25436
methane, electronic transitions, 2-photon transition probability calcs. 7−25619
methanethiol radical, radiative lifetimes, fluoresc. study 7−19954
methylene, triplet, ν_2 fundamental band, IR spectra 7−10568
methylnitrite, photodissoc. NO photofragment excited state distrib., fluoresc. spectra anal. 7−50225
micelles, cylindrical, intramicellar fluoresc. quenching rate const. 7−54189
micelles, monodisperse confinements, fluorescence decay kinetics anal. 7−19937
model atom, radiative properties, external magnetic field and monochromatic radiation field 7−19694
molecular excited states, decay via radiative and dissoc. mechanisms, ab initio MRD-CI calcs. 7−57001
molecular ions, electron capture, rot.-vibr. transitions in autoionisation, CF method anal. 7−20036
molecular states with different geometric configs., probabilities calc. of optical vibronic transitions 7−31115

radiative lifetimes continued
multi-photon transitions in solids, dressed bands approach 7−22327
naphthazarin, vibronic states relax., fluoresc. spectra study. 7−50221
2-naphtholate, H^+recomb. and H^+ induced quenching, temp. depend. 7−57135
NH vibr. transition probabilities and r-centroids 7−50262
Ni+Ni collisions, quasimol. form., X-ray spectra study 7−31157
non-adiabatic transitions between two groups of interesting energy levels 7−30934
nonadiabatic effects and fast radiationless transitions, transition probability calcs. 7−19953
nonreactive systems, laser excitation and collisional energy transfer 7−42688
cis, cis- octatetraene, excited 2^1A_g state pot., isomerisation study 7−13747
optical susceptibility saturation in strong amplitude-modulated fields, matrix continued fractions anal. 7−20371
oscillator strengths, transition energies and probabilities, CI STO calcs. 7−25423
1-phenylcyclohexene, triplet energy state meas., photoisomerisation, time-resolved photoacoustic calorimetry study 7−28319
polyvinyl alcohol films, fluorescence lifetime meas., single-photon counting technique 7−22311
o-positronium, quenching and form. in xylene soln. containing nitrodiphenyls 7−50406
positronium complex formation, quenching rate const. meas., solvent effects 7−62545
pseudoisocyanine, quantum yield, fluoresc. lifetimes and intensities, temp. depend. 7−19920
quasistationary states, transition probability, adiabatic and sudden perturbation limits 7−19957
quinoxaline, triplet state, Shpol'skii ODMR spectra, spin-lattice relax. 7−62428
radiation absorpt., high-power, generalised nonlinear master eqns. with finite correlation time. 7−25863
Raman spin-lattice relax. rates, long wave approx. 7−33378
rare earth ions in crystals, electron correl. contribs. to elec. dipole transition amplitudes 7−36549
rhodamine 6 G, polar soln., electron-excitation energy migration, fluoresc. 7−42674
rhodamine B, mol. forms, internal conversion mechanism, solvent effects 7−10650
ruby, fluorescence, radiative trapping effects, 77 to 300K 7−53395
ruby, R, fluoresc. line lifetime meas., high press. conditions, modulation fluorometry technique 7−22307
Rydberg atoms, props. and quantum optics 7−1064
semiconductor double heterostructures, luminescence radiation photon recycling 7−13208
semiconductor radiative lifetime for IR detect. 7−35591
spatially nonuniform excitation, effective lifetimes, approx. calcs. 7−30964
species-state transition probabilities, calc. for rearranged systems *(German)* 7−36694
trans- stilbenes, poly(vinyl alcohol) films, photophysics study, visible spectra anal. 7−36632
symmetric heavy ion collisions, K X-ray prod., target thickness fn., X-ray spectra anal. 7−30978
tetrafluoromethane ion, lifetime, mass spectra 7−19969
2,6,N,N-tetramethylcyanoaniline, charge transfer states, solvent effects, fluoresc. 7−31111
tetraphenylporphine on Ag surface, fluoresc. quenching and interference effects 7−36675
time-resolved fluoresc. polarisation and four-wave mixing processes, study 7−36667
triatomic molecules, bending vibrs., Schrodinger eqn. calcs. 7−36581
trifluoroacetic acid, H-bonded complex with esters, lifetimes, IR absorpt. spectra 7−50133
tris-1,10-phenanthroline rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
tris-2,2′-bipyridine rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
vesicle bilayer membranes, oxidation-reduction mechanisms 7−13810
vibrational predissociation lifetimes tunnelling, internal collision model 7−31127
xanthene dyes, triplet-state conc. quenching, fluoresc. study 7−42679
Ag island films, surface plasma emission, electron-photon spectra anal. 7−52491
$AgBr{:}Rh^{3+}$, IR radiative recomb. 7−7748
Al, hot dense plasma, at. props. and transition probabilities 7−57032
Al, Na-like ions, steady-state population inversion 7−19780
Ar, doped with Cl_2, ArCl* and Cl^*_2 formation and excited states anal., mol. fluoresc. study 7−19946
Ar, spectral lines, determ. of transition probabilities using 27.12 MHz inductively-coupled plasma 7−50023
Ar^+, transition probabilities and radiative lifetimes, saturated fluoresc. spectra anal. 7−42543
Ar^{2+} energy level radiation lifetime calcs. 7−25455
Ar^{q+}, heavy ion impact on gas target, long-lived states form., K X-ray spectra anal. 7−30980
Ar_2, radiative lifetime of $A1_u$ states, time-resolved fluoresc. 7−19952
ArCl, formation in Cl_2 doped Ar, excited states anal., mol. fluoresc. study 7−19946
ArI, 4p-3◆transition array, IR lines transition probabilities 7−36547
As_2Se_3 single crystals, geminate pair recomb., photocond., photoluminescence meas. 7−38581
Ba, 6s5d states, optical pumping, rel. to radiative lifetimes 7−42560
Ba^+, metastable autoionising state, lifetime meas. 7−19788
Be I isoelectronic series, atomic and spectral data for typical tokamak plasma conditions 7−24322
Be-like ions, transition probabilities, line strength 7−15548
$BeAl_2O_4{:}Ni^{2+}$, chrysoberyl, laser induced fluoresc. and decay lifetime 7−46135
Br_2, $B^3\Pi(0_u{}^+)$, electronic self-quenching energy transfer rate consts. 7−20015
C isoelectronic series, intercombination transition probabilities, CI calcs. 7−36489
C-containing mols., X-ray emission spectra, ab initio MO HF calcs. 7−36642
C_2 cluster, Swan band emission obs. 7−62558
C_2, intercombination transition probabilities between levels $X^1\Sigma_g{}^+$ and $a^3\Pi_\mu$ 7−25607
C_2 ion, low lying quartet states, radiative transition probabilities, CASSCF and MC-CI electronic wavefunctions 7−49946

radiative lifetimes continued
C_2+H_2, vibr.-translation energy transfer determ. 7−57160
CO, B and C $^1\Sigma^+$ states 7−62451
CO, perturbed triplet states, lifetime meas. of rot.-vibr. levels 7−19951
CO, selected rovibronic triplet levels, radiative lifetimes, fluoresc. 7−42686
CO_2 laser, active medium vibr. relax., decay rate, phase absorpt. method 7−43058
Ca, metastable states energy pooling time-resolved emission spectra anal. 7−36519
CaCl, $E^2\Sigma$ state, time-resolved optical double-reson. study 7−25590
CaO, self-trapped hole centres, ODMR and spin coherence studies 7−7612
$Cd_{1-x}Mn_xTe$, photoluminescence position and lifetime 7−13205
CdS on synthetic clay, luminesc. lifetimes, UV spectra 7−22297
$CeF_2{:}Ho^{3+}$, fluorescence decay characts. of Green emission 7−7747
Cl_2, dopant in Ar, ArCl and Cl_2 formation and excited states anal., mol. fluoresc. study 7−19946
$Cl_2{}^+$, $A^2\Pi_u$, vibr. levels, radiative lifetime meas. 7−36677
ClO, electric dipole moment fn. calcs. 7−10442
Cr^{23+}, dielectronic satellite spectra CI HFS calcs. 7−42506
Cr(III) complexes coordinated with macrocyclic tetraamine ligands, low-temp. luminesc. 7−22330
Cs, atom, spontaneous decay suppression at optical frequencies, test of vac.-field anisotropy in confined space 7−57026
$Cs+HeH^+$, HeH bound excited state form., predissoc. and radiative dissoc. 7−20033
Cu (I) iodide complexes, tetrameric, photoluminesc. 7−33437
Cu I plasma, at. quantities, diagnostic determ., capillary discharge technique 7−11787
CuCl, low-lying electronic states, radiative lifetimes 7−50258
CuCl microcrystals, excitons, size quantisation effects, luminesc. spectra anal. 7−53409
CuF, low-lying electronic states, radiative lifetimes 7−50258
DyP_5O_{14}, absorpt. spectra intensity parameters, fluoresc. radiative transition probabilities *(Chinese)* 7−39141
Eu chelate complexes, luminesc., photophys. 7−36669
$Eu(NO_3)_3.6H_2O$, soln., anomalous temp. depend. of luminesc. decay 7−46116
Fe I, cascade Zeeman quantum beats, stepwise pulsed-laser excitation, fluoresc. anal. 7−49997
Fe II oscillator strengths and lifetimes 7−57019
Fe XV, oscillator strengths, transition energies and probabilities, CI STO calcs. 7−25423
Ga, $4s^2nd$ ^2D series, lifetimes and oscillator strengths, MCHF wave fn. calcs. 7−62324
Ga, radiative lifetimes, fluoresc., MCHF calcs. 7−30946
$Ga_{0.65}Al_{0.35}As$-GaAs quantum wells, elect. field-induced decrease of exciton lifetimes 7−45481
$H+H_2$, hemiquantal reaction dynamics with ingoing half-trajectory matching 7−28271
$H+H_2$ reactive scattering in hyperspherical coordinates 7−57151
H_2, a $^3\Sigma_g{}^+$-$b^3\Sigma_u{}^+$ system, dipole moments and transition probabilities 7−917
H_2, ortho to para transition, decay rate, quantum electrodynamic method 7−10674
H_2, physisorbed on Cu (100), quadrupolar mol. rot. damping due to electron-hole pair excitation 7−23064
$H_2+He(HBr)$, vibr. transition probabilities, semiclassical algebraic description 7−25636
$HBr+H_2$, vibr. transition probabilities, semiclassical algebraic description 7−25636
HCN-HF, excited vibr. states, gas-phase IR spectrum 7−50108
HF dimer, vibr. predissoc. lifetime 7−5729
HF, two photon bound-bound electronic transition calcs. 7−31136
HF-Ar_2 trimers, mol. rot., hyperfine struct., spectra anal. and calcs. 7−50060
H_2O, vap., mol. Auger transition rates, appl. to Auger spectrum, Stieltjes imaging method 7−62458
$(H_2O)_n$ cluster, assoc. and vibr. relax. in water vapour 7−15764
He, 3 ^3P state lifetime, electron-photon delayed coincidence technique meas. 7−62533
He, electron impact excitation, Stokes' parameters, electron-photon coincidence spectra anal. 7−50377
He isoelectronic series, binding energies and radiative lifetimes, Dirac Hamiltonian, relativistic variational soln. 7−25456
He, photoionisation, partial cross-sections and Rydberg series resons. 7−903
He, plasma, excited state lifetimes determ. 7−20947
He, transition probabilities and oscillator strengths, for singly excited states 7−48207
$He+H_2$, collisional excitation, translational-vibr. transition probability computation 7−42732
$He+H_2(O_2)$, vibr.-translation energy transfer determ. 7−57160
$He+He^{2+}$, time-depend. HF wave functions, variationally improved transition amplitude 7−36739
$He+Ne^{2+}$, collisional transition probabilities, avoided crossing, nonadiabatic effects *(French)* 7−10727
Hg discharge, low-press., laser diagnostics 7−58085
Hg II trapped, two-photon optical spectra 7−10531
Hg, in N_2-Kr matrix, electronic-to-vibr. energy transfer and relax., fluoresc. spectrum 7−49985
Hg_2^+, Beutler spectral lines, electron impact excitation fn. 7−20056
Hg^{2+}, Beutler spectral lines, electron impact excitation fn. 7−20056
Hg+Xe collisions, Hg radiative lifetimes and deactivation rate consts., mol. fluoresc. study 7−19752
Ho, ionic bombardment, continuous spectrum form. 7−42528
$HoCl_6{}^{3-}$, $^5I_5$ cryst. field levels, assignment 7−27766
I_2, excited state lifetime, modulated fluoresc. emission 7−19911
ICl, $B^3\Pi_0$ state, predissoc., fluoresc. decay meas. 7−10687
In II and III, cascade corrected lifetime meas. 7−50016
In, L X-ray spectra study 7−42536
InF_2-PbF_2-BaF_2-SrF_2-YF_3-AlF_3-UO_2F_2, luminesc., lifetime meas. 7−27750
InP:Yb LPE layers, luminesc. and elec. props. 7−59464
K, laser radiation effects in trapping 7−15554
$KA(WO_4)_2{:}Ho^{3+}$, A=Y, Gd, Lu, luminesc. kinetics, visible and UV spectra anal. 7−46144
$KCl{:}Cr(CN)_6{}^{3-}$, phosphorescence spectrum, temp. dependence 7−7742
$KNd_xGd_{1-x}P_4O_{12}$, isolated ion pair interaction, fluoresc. quenching study 7−46117

radiative lifetimes continued
- K_2SO_4-$ZnSO_4$:Pr^{3+}, impurity ion spectroscopic parameter determ. 7−7719
- Kr^{2+} energy level radiation lifetime calcs. 7−25455
- Kr^{3+}, spontaneous two-photon decay rates 7−15530
- Kr_2, radiative lifetime of $A1_u$ states, time-resolved fluoresc. 7−19952
- Li, ^4P_J levels, relativistic autoionisation, threshold phenomena, CI mechs. 7−49950
- Li, ^4P_j level, relativistic autoionisation, CI mechs. 7−49949
- Li + He(Ne), electric field effect, fluoresc. and radiative decay rate determ. 7−20009
- Li*Li_2*, excitation and rot. transfer, rate const. determ. *(French)* 7−5750
- Mg II, core-excited states, energy levels and lifetimes, HF calcs. 7−867
- Mn, forbidden transitions probabilities, intracavity laser, visible spectra anal. 7−42535
- Mo I, lifetimes, branching ratios and transition probabilities 7−36692
- N IV, spontaneous radiative transition probabilities, ab initio CI calcs. 7−50261
- N_2, quenching rate coeff. by NO 7−5713
- N_2-HF, IR spectrum and vibr. predissoc. 7−50106
- $N_2+N_2(O_2)(CO)$, vibr. transition probabilities, semiclassical algebraic description 7−25636
- NCl, $b^1\Sigma^+$ and $a^1\Delta$ state, radiative lifetimes 7−50259
- NF, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7−42492
- NH, metastable $a^1\Delta$ state, quenching rate coeffs. 7−62441
- NH radical, form. by electron impact 7−36800
- NH_2, excited radical, fluoresc., Einstein coeff. and oscillator strength calc. 7−42668
- NH_3, $\bar{A}$ state, rot. depend. lifetimes and excitation profiles, Raman spectra 7−62378
- NH_3, two photon bound-bound electronic transition calcs. 7−31136
- NH(ND), isolated in solid Ne(Ar)(Kr)(Xe), radiative decay and radiationless relax., lifetime meas. 7−10653
- NO, $^2\Delta$ states, radiative lifetime meas., fluoresc. spectra 7−62439
- NO, autoionisation of $\nu=3$ Rydberg states, branching ratios, multiphoton spectra anal. 7−36718
- NO dimer, vibr. predissoc. lifetimes, time-resolved meas. 7−31126
- NO, photoexcitation and ionisation cross sections, Stieltjes-orbital representations, HF calcs. 7−19677
- NO vibr. levels, lifetimes, semi-theoretical evaluation 7−15649
- NO^++iodomethane (NO_2), charge exchange, ground state radiative lifetimes, ion cyclotron reson. spectra anal. 7−31114
- NO_3^-, aq. soln., band shape anal., Raman and IR spectra 7−57067
- Na vapour, laser-excited, anomalous blue shifted emission near D_1 transition 7−49996
- Na_2, $b^3\Pi_u$ state, lifetimes, laser induced fluoresc. 7−19913
- Na_2+He, collisional depolarisation, fluoresc. spectra anal. 7−19924
- NaI core-excited states, energy levels and lifetimes, HF calcs. 7−867
- Ne VII, spontaneous radiative transition probabilities, ab initio CI calcs. 7−50261
- Ne-OCS, mol. beams, IR absorpt. and microwave-IR double reson. spectra 7−62427
- O II, $3p^4D_{1/2,3/2,5/2,7/2}{}^0$ energy levels, beam-foil lifetimes 7−15551
- O II forbidden lines, improved radiative transition probabilities 7−66442
- O III, $3p^3P$ and $3p^3D$ energy levels, beam-foil meas. 7−30976
- O III, $3p^3S_1$ energy level, radiative lifetime meas. 7−10676
- O V, spontaneous radiative transition probabilities, ab initio CI calcs. 7−50261
- O^+, electron impact excitation cross sections, R-matrix method calcs. 7−50375
- O_2, singlet form. kinetics in gas discharge plasma, expt. investig. 7−21037
- O_2, soln., time-resolved chemiluminesc. 7−8289
- O_2, UV molecular absorption continua and radiative lifetimes UV molecular absorption continua and radiative lifetimes 7−15620
- $O_2{}^+$, $^4\Pi_u$ state, spin-forbidden radiative decay, photodissoc. study 7−50274
- O_2+H^+, charge transfer collisions, vibr. state resolved meas. 7−5762
- O_3, electronically excited state, radiative lifetime and quenching mechanism 7−31110
- OH(OD), stretching vibr. in alcohols and silanols, pop. lifetimes, IR spectra 7−19844
- OI, dipole transition probabilities, HF wave functions calcs. 7−5634
- Os complexes, OS(VI) nitrido systems, luminesc., excited-state distortion 7−50218
- P, II levels, hollow cathode discharge, self-alignment and radiative lifetime meas. 7−10678
- PO_2, radiative lifetime and laser induced UV fluoresc. spectrum 7−42638
- Pr^{3+} complexes, soln., visible and UV electronic absorpt. spectra 7−36634
- $PrCl_3$ organic complexes, spectral energies and oscillator strengths 7−3067
- $Pr(NO_3)_3.6H_2O$ mixed with organic complexes, optical spectra, energy level struct.-band intensities 7−22253
- Rb excited states, radiative lifetimes, depopulation cross sections, fluoresc. 7−10502
- Rh complex, Rh_2(1,3-diisocyanopropane)$_4{}^{2+}$, lowest excited states, absorption spectra anal., 7−25532
- Rh complex, Rh_2(2,5-dimethyl-2,5-diisocyanohexane)$_4{}^{2+}$, lowest excited states, absorption spectra anal., 7−25532
- Ru (II) complexes in solns., luminesc. behaviour, temp. depend. 7−22331
- S isoelectronic series, transition probabilities and wavelengths 7−15550
- SCN^-, aq. soln., band shape anal., Raman and IR spectra 7−57067
- SO_2, radiative lifetimes, collision-free supersonic beam, fluoresc. spectra 7−19922
- Se I, spectral lines, transition probability meas. by emission method 7−50022
- $SiCl_2$ radical, laser-induced fluoresc. investig. 7−31090
- SrF_2-$2YF_3$-$Er^{3+}(Ho^{3+})$, interionic interaction, occupation kinetics, stimulated emission 7−46072
- SrF_2-$2(Y_{1-x}Er_x)F_3$ intracentre transition probabilities and luminesc. self-quenching 7−22332
- Ta I, absolute transition probabilities 7−57031
- Ti + Ar(He)(Ne), Ti excited state total ang. momentum charge, radiation quenching 7−42735
- U^{90+}, He-like, Lamb shift from beam-foil time of flight meas. 7−36551
- V II, in arcs, transition probabilities, IR emission spectroscopy 7−5633
- Va, singly ionised, lifetimes and oscillator strengths meas., fluoresc. and Fourier-transform spectra anal. 7−30986
- W I, absolute transition probabilities 7−57031
- Xe I atoms, $5p^5nf$ configurations, lifetimes meas. 7−5636

radiative lifetimes continued
- Xe, multiple photoionisation, charge state of ions, TOF mass spectra anal. 7−50036
- Xe, two-photon excitation, IR decay, press. effect 7−50041
- Xe, two-photon one-electron ionisation cross sections, RPA, LDA HF calcs. 7−49912
- Xe:Cl_n (n=1 or 2) 7−28297
- Xe:HCl, cooperative photoabsorpt. induced charge transfer reaction dynamics 7−28297
- $(Y,Sc)_3Ga_5O_{12}$:Cr^{3+},Er^{3+}, spectral, luminesc. and lasing props., Stark sublevel lifetimes 7−25827
- Y I, II excited levels, lifetimes meas. 7−50021
- YAG:Tb, electron-phonon relax. in $^5D_4$ of Tb^{3+} 7−2130
- Yb, $^3P_1$-$^1S_0$ transition, oscillator strength, lifetime, coherent optical techniques and fluoresc. spectra 7−42542
- $Zn_{1-x}Mn_xTe$, photoluminescence position and lifetime 7−13205
- ZnS:Ho^{3+}, radiative transitions and nonradiative processes *(Chinese)* 7−59235

radiative shifts
- Na vapour, laser-excited, anomalous blue shifted emission near D_1 transition 7−49996

radiative transfer
- accretion disks of cataclysmic variables, effect of scatt. cloud on hot spots flickering 7−55667
- accretion flows onto massive protostars, radiative transfer rel. to temp. struct. 7−29471
- active galactic nuclei, computational methods for emission-line spectrum 7−9534
- active galactic nuclei, emission spectrum of high-density photoionisation models and low-ionisation lines 7−9535
- active galactic nuclei, new accretion disk models rel. to optical and UV spectra 7−60813
- anomalous Zeeman effect, moments and expansion coeffs. 7−66443
- anomalous Zeeman effect and its influence on the line absorption and dispersion coefficients 7−60513
- Antarctic, radiative heating due to stratospheric aerosols, implications for O_3 depletion 7−55175
- Antarctic spring, stratospheric heating rates and diabatic circulation, implications for O_3 depletion 7−55176
- astrophysical plasmas, role of Planck-Larkin partition function in occupation numbers for reacting plasmas 7−55440
- astrophysical supercritical winds, Comptonisation, dynamics and obs. diagnostics 7−55438
- astrophysical supercritical winds, spectral evol. 7−55437
- asymptotic laminar boundary layer, effects of radiation absorpt. on transient behaviour 7−4323
- atmosphere, absorption in longwave radiation parameterisations, press. and temp. depend. 7−60379
- atmosphere, beam propagation through slab scattering media, small angle approx. 7−57237
- atmosphere, column weighting model for outgoing longwave irradiance estimation 7−29242
- atmosphere, correction to sea surface temp. determ. by remote sensing 7−40485
- atmosphere, H_2O IR spectrum rel. to satellite remote sensing of atmospheric water vapour 7−4112
- atmosphere, hazy, radiative characts. 7−4182
- atmosphere, solar and atmospheric radiation propag. rel. to vertical temp. distrib. *(French)* 7−14338
- atmospheric radiative transfer eqn. solution with improved algorithm *(Chinese)* 7−29244
- bivariational calculations for radiation transfer in an inhomogeneous participating medium 7−60518
- η Car dust shell, grain size and geometrical effects rel. to 8-13 μm feature 7−9494
- catalysmic variable stars winds, inclination and orbital phase dependent resonance line profile calcs. 7−60692
- clouds, stratiform cirrus, radiative props. and ice crystal growth 7−66222
- P/Comet Halley (1982i), IR heating of cometary atmosphere 7−34933
- comoving-frame radiative transfer equation, general Eulerian formulation 7−55441
- cyclotron line formation in a hot plasma including Compton cooling, appl. to X-ray binary stars 7−60514
- cylindrically symmetric infinite homogeneous medium, anisotropic scatt., orthogonal eigenfunctions determ. 7−41306
- Doppler widths, temp. and rel. gradient effects 7−18351
- double P_N transport calcs. for highly anisotropic scatt. 7−61289
- entropy prod., radiative tensor from specular moments 7−31628
- equilibrium diffusion equation, mixed boundary condition, variational treatment 7−20684
- equilibrium diffusion theory initial and boundary conditions 7−4793
- fiber orientation allowance to radiative transfer through fibrous medium 7−11259
- fluid frame, radiation transfer 7−20587
- fluorescence redistribution functions, in plasma, model *(French)* 7−11604
- galactic nuclei Kerr black holes, optically-thick gas steady spherically-symm. accretion, outgoing radiative flux 7−35044
- generalized solutions of the radiative transferequations in a singular case 7−267
- half-range moment methods for radiative transfer in spherical geometry 7−60520
- internal polarised radiation in multilayered atmospheres, computation 7−14377
- interstellar grains emission, radiative transfer rel. to grain models 7−48013
- interstellar medium, opacity effects on mol. clouds form. in galaxies with different Z 7−40908
- interstellar medium, refractive and diffractive scatt. of radio waves 7−55759
- inverse problem methods for radiation transport 7−61286
- IRAS 00193−4033, 22231−4529, O-rich unidentified IRAS sources, radiative transfer model in circumstellar shell 7−55853
- IRc 1 in M17, bipolar outflow source and nebulosity, spectral characts. 7−60748
- isotropically scattering inhomogeneous solid cylinder, integral transfer eqn. 7−37315
- Levermore flux limited diffusion theory 7−35472
- light scattering in multilayer atm., diffuse refl. 7−4308
- line radiation transfer (book) 7−55910
- living human body, spectral radiative props. study 7−18013

radiative transfer continued
- locally variable radiative heat transfer between long cylinders 7−57673
- Mars, sunlight absorption in IR CO and CO_2 bands 7−4358
- Martian atmosphere, effects of dust, MECA workshop, Tempe, Arizona (February 1986) 7−29603
- mean absorption coefficients, Rosseland and Planck, gray approx. 7−62960
- mean wave solution: bounded medium−discrete scatterers 7−48371
- meteoroids ablation, radiative heat exchange determ. using radiant heat conduction approximation 7−34948
- modified spherical-harmonic method, appl. to radiative-transfer problems with reflective boundary conditions 7−34853
- moment method for a highly forward-scattering plane medium 7−40680
- multiatomic gases, relaxation processes 7−31916
- multilevel transfer calcs., statistical equilib. eqns. 7−47689
- multiple scattering approx. 7−4181
- Neptune stratosphere, extinction meas. from occultation obs. rel. to methane mixing ratio 7−34927
- nonhomogeneous media, selective IR radiation transfer, multigroup calcs. 7−37317
- nonlinear problem of incoherent anisotropic scatt., soln. 7−4309
- nonlinear problem of incoherent scattering in aone-dimensional medium 7−4313
- O-type main-sequence stars, non-LTE model atmospheres rel. to N III line strengths 7−47846
- OB-type stars, C IV line profiles and IR excesses rel. to C IV ionisation fraction 7−47884
- optically thick sphere, radiation transfer 7−57675
- α Ori, polarised continuum radiation transfer rel. to optical polarisation 7−47852
- Ori IRc 2, SiO maser emission, transfer eqn. soln. 7−60646
- passive microwave remote sensing, scatt. from layered medium connected with rough interfaces 7−20109
- plane two-layer medium of different optical props., radiative and complex heat transfer *(Russian)* 7−1383
- plane-parallel media, radiation transfer, natural eigenfunctions anal. 7−6081
- plane-parallel medium with space-depend. albedo, Fourier transform soln. 7−34850
- planetary atmospheres, relation between spherical albedo and observable characts. 7−24031
- planetary surfaces, extinction coeff. and opposition effect in particulate medium 7−24033
- polarised light, radiative transfer, obs. 7−1382
- porous and fibrous materials, radiative transfer, IR spectra study of oxide crystals 7−53305
- porous material layer, radiation absorption and radiative transfer 7−57674
- QSOs, emission line profiles from Keplerian cloud ensembles 7−4586
- quasars, new accretion disk models rel. to optical and UV spectra 7−60813
- quasars, polarisation characts. 7−4584
- radiation fields at line freq., calc. method 7−4345
- radiative shocks, dynamical models and line spectra of steady shocks 7−55454
- radiometry and radiative transfer theory, general mapping of cross-spectral densities in second-order coherence theories 7−4879
- relativistic Compton scatt. kernel 7−35471
- remote sensing (book) 7−35139
- resonance radiation in infinite and semi-infinite media 7−4312
- resonance radiation in linearly expanding media, asymptotic scaling 7−4307
- sapphire, growing crystals, hot zone heat transfer simulation 7−32321
- sapphire, Stepanov growth, radiative-conductive heat transfer simulation 7−31630
- Scattering medium, radiative transfer eqns., boundary conditions study 7−62630
- semi-infinite inhomogeneous atm., radiation refl. for case of general laws of incoherent scatt. 7−4310
- semitransparent material temp. profile, thermal radiation contrib. calc. technique 7−6080
- small-angle and multiple-scatt. solns. to radiative transfer eqns. 7−41308
- small-angle approx. and numerical soln. for radiative transfer theory 7−36878
- Sobolev resonant function approx. use for the Ambartsumian-Chadrasekhar and Hopf functions determ. 7−40717
- solar atmosphere, non-LTE study of IR emission lines near 12 microns 7−66534
- solar chromosphere, transfer theory rel. to submillimetre limb brightness profile anal. 7−55590
- solar collector, volume heat-trap type, graphite-diethylphthalate suspension, parameters study 7−34069
- solar Fe I lines formation, diagnostics for propagating waves in solar photosphere 7−55591
- solar white-light corona, polarisation theory for hydrostatic density distrib. 7−47797
- spectral line formation, improved non-LTE Balmer line profiles for hot stars 7−55603
- spherical dust cloud, isotropic scattering 7−66440
- spherical harmonics solution for radiative transfer models, polarisation effects 7−20131
- stars, photospheric plasmas, time-dependent radiative transfer, analytical methods 7−55451
- stationary radiative transfer eqn. with cylindrical symm., inverse problems 7−24602
- statistical description of radiation fields on basis of invariance principle, average photon lifetime in scatt. medium 7−23986
- stellar atmospheres, monochromatic refl. effect and temp. distribs. on distorted surfaces of close binary systems 7−18439
- stellar atmospheres, non-LTE Hα transfer problem rel. to supergiants expanding chromospheres 7−9470
- stellar atmospheres, radiative convection in stratified atmosphere 7−29389
- stellar chromosphere, non-LTE transfer problem rel. to He I 1083 nm line profile 7−55612
- stellar expanding atmospheres, line form. theory for transitions from excited levels 7−24123
- stellar line formation, influence of vel. fields 7−4436
- stellar winds from planetary nebulae central stars, line profiles anal. rel. to mass loss rates 7−47879
- stratosphere, radiative transfer rel. to radiative balance determ. 7−9098
- stratospheric far-IR emission analysis, synthetic spectra and FTIR meas. comparison 7−55315
- submm excitation and radiation transport in astron. situations 7−47698
- Sun, flare non-LTE calculations for the Hα and Ca II K lines *(Chinese)* 7−29442
- Sun, Hβ line form. in chromosphere magnetic field *(Chinese)* 7−29441
- Sun, lines form. in mag. flux tubes 7−34960
- suspensions, reactive, flames, radiative transfer as propag. mechanism 7−17796
- terrestrial atm., radiative transfer problem 7−9171
- thermal radiation transfer, diffr. theory appl., mathematical aspects 7−43639
- thin films, radiative heat transfer models validity 7−26132
- time-dependent, theory 7−48646
- time-dependent line transport calcs., Monte Carlo scheme 7−20897
- time-dependent transfer eqn., soln. by F_n-method 7−14480
- truncated-cone chamber, radiative heat transfer, zonal method soln. 7−50915
- two-phase medium, statistically heterogeneous, radiative transfer, Markov calcs. 7−37316
- 4 U 162−67 X-ray pulse profile rel. to anisotropic X-ray transfer in strongly magnetised plasma 7−55727
- Venus, mesosphere, solar fluxes and heating rates 7−24040
- Venus, sunlight absorption in IR CO and CO_2 bands 7−4358
- Venus atmosphere, radiative transfer theory rel. to He I 58.4 nm emission meas. 7−9396
- white dwarfs, magnetic line blanketing 7−34975
- wide-band absorption coefficient integration kernel 7−51338
- Wolf-Rayet stars, no-LTE model atmospheres rel. to mass loss rates 7−9475
- C stars, coupled hydrodynamic-radiative transfer models for dust-driven stellar winds 7−55641
- C stars, line blanketing in model atm. 7−24141
- Si:P slotted surface, IR emission showing organ pipe resonant modes 7−44873
- SiO maser emission from giant and supergiant stars, transfer theory rel. to physical conditions in envelope 7−55619

radicals, free *see free radicals*

radio broadcasting
- VHF-FM broadcast Es propagated signal polarisation obs. 7−60468

radio direction finders *see radio direction-finding*

radio direction-finding
- acousto-optical interferometer using Kosters prisms for RF direction of arrival meas. 7−41445
- Doppler positioning using new data processing method 7−29249
- GPS carrier phase for centimeter-level surveys, initial results 7−60419

radio links
- *see also microwave links; radiocommunication*
- meteor burst data, database anal. approach 7−60607
- meteor burst propagation and system design 7−40644
- multibeam signal propagation, generalised stability function 7−23824
- terrestrial radio relay lines, wave propagation above 10 GHz, investig. 7−29214
- tropospheric radio links, fast signal fades rate distrib. 7−34658

radio receivers
- 21-cm spectrometer of RATAN-600 radio telescope, receiving unit 7−60559
- 230-GHz receiver for CO J=2-1 line studies 7−29397
- GPS navigation radio receiver sets for surveying MINI-MAC system by Litton 7−34370
- K-band receiver, cryogenically cooled HEMT for radio astronomical obs. 7−60548
- MM-wave radiometer, 145 GHz, receiver design using superconducting mixer, radiotelescope appl. *(German)* 7−24007

radio relay systems *see radio links*

radio studios
- modular construction, and acoustic performance 7−20507
- outside broadcast vehicles, acoustical considerations 7−26079

radio systems
- eLF/VLF/LF propagation and system design 7−40642
- HF propagation modelling, and RF prediction 7−23942
- HF propagation problems in ionosphere 7−23943
- meteor burst propagation and system design 7−40644
- microwave fading, geographical distrib. prediction from ground based climatological meas. 7−55241
- rock mass stress data, acquisition and radio telemetry *(Russian)* 7−34681

radioactive age determination *see radioactive dating*

radioactive chemical analysis
- *For applications of radioactivity to chemical analysis, see chemical analysis by nuclear reactions and scattering*
- *see also neutron activation analysis; radiochemistry*
- binary system, conc. meas. by ionising-radiation methods in presence of impurity, error estimation method 7−59807
- borosilicate glass ATM-2, Am-doped, Am concentration in solutions 7−32659
- radioimmunoassay data processing software 7−40284
- ^{14}C, activity meas. in atmosphere, anal. methods 7−54214
- Pu, isotopes, radiochem. determ. in atmospheric samples 7−3616
- Th isotopes, radiochem. determ. in atmospheric samples 7−3616
- U isotopes, radiochem. determ. in atmospheric samples 7−3616

radioactive dating
- 6th international conference on geochronology, cosmochronology and isotope geology, Cambridge, England (June-July 1986) 7−8
- Altai-Sayan folded region, USSR, arch-block stage magmatism and tectonic magmatic activation, stratigraphy 7−23602
- N Amazon Basin, Holocene fires as climatic indicators, dating 7−47531
- Amazon River, continental shelf sediment accumulation and transport ^{210}Pb anal. 7−34462
- N Apennines, deformation phases dating using K-Ar and ^{40}Ar/^{39}Ar techniques 7−40459
- N Brittany, France, Lower Carboniferous dolerite dykes, palaeomag. anal. and K-Ar dating 7−18110
- England, Carboniferous sandstones origin, determ. from zircons dating 7−47409
- fission track age determination, neutron dosimetry, neutron energy effects 7−47570
- glassy submarine basalts dating and He isotope disequilibrium 7−66352

radioactive dating continued
Indian Ocean, Quaternary temps. determ. and sediment planktic foraminifera chem. anal. 7−29074
Laurel Mountains peat bog, USA, atm. chemicals deposition chronology 7−9075
low-level counting facility for ^{14}C dating 7−19638
low-level counting techniques 7−29296
LR-115 Kodak SSNTD, α-counting efficiency and thermoluminescence dating appl. 7−36401
Marydale Group, southern Africa, metamorphosed banded Fe formation, Pb-Pb dating and assoc. geochem. 7−60189
mica Ar isotope dating method, the two ^{40}Ar/^{39}Ar age spectra shapes 7−23860
minerals, ^{40}Ar/^{39}Ar dating, errors due to ^{39}Ar loss during neutron activation 7−60390
minicomputer appl. for radiocarbon anal. control and meas. 7−34682
mixed groundwaters dating, appl. of T corrected ^{14}C and atm. noble gas corrected ^{4}He 7−9044
Msissi norite (S Morocco), 140 Ma K/Ar age 7−60195
peat dating by U-Th disequilibrium, geochem. aspects 7−60392
Perth region, Australia, Holocene sealevel var., crystal effects 7−47462
radiocarbon accelerator mass spectrometry for hydrological investigations 7−29295
sand dunes, thermoluminescence dating method used for Sri Lanka red-sand beds 7−23847
NW Sayan region, USSR, Precambrian granitoids isotopic age 7−23601
sediment radiocarbon dating method, using accelerator mass spectroscopy 7−9240
Seychelles microcontinent, younger igneous rocks isotopic and geochronological anal. 7−40452
Sharyzhalgai complex, Baikal region, USSR, ultrabasics Rb-Sr isochrone anal. 7−23603
Stanovoi area, USSR, granulites isotopic age and geological implications 7−23600
TAG geothermal field, Mid-Atlantic Ridge hydrothermal Mn oxide deposits dating 7−8915
volcanic rocks, Tengchong region, China, dating using ^{230}Th-^{238}U systematics 7−18321
^{14}C, radiocarbon dating using low energy cyclotron 7−55310
^{36}Cl concentration in groundwater using liquid scintillation counting 7−23892
K-Ar dating, appl. of Cassignol technique. to Late Pleistocene-Recent volcanics form S Italy 7−47393
^{138}La, beta-decay half-life and dating of gneiss rocks from Scotland 7−49312
Pb-Pb isochron dating method for deeply weathered terrains geochronology 7−60391
^{210}Po-coated geological and synthetic samples, ESR dating 7−47569
^{238,234}U-^{230,232}Th dating of corals over past 500 kyears 7−60394
U-Pb zircon and titanite ages, N Western Gneiss Region, Norway 7−60194

radioactive decay periods
see also beta-decay
accuracy of half-lives determined by γ-ray spectrometry 7−24958
even-even nuclei with Z=104-110, theoretical spontaneous fission and α-decay half-lives 7−49485
half lives of decay, ^{14}C emission 7−49348
heavy cluster spontaneous emission rates, odd-even staggering 7−49269
light neutron-rich isotopes, β-decay half life determ. 7−49325
multichannel scaling with a VIC-20 or Commodore 64 7−49841
proton-rich and neutron-rich nuclei, β-decay study 7−49324
SISAK−a technique for studies of exotic nuclides 7−19670
spontaneous heavy ion emission from nuclei, half lives, SSNTD use 7−19213
superheavy elements, nuclear properties and laboratory synthesis, review 7−61904
β-decay far from stability, half-lives, RPA and perturbation theory calcs. 7−49326
^{147} Sm α-decay, lifetime increase due to monopole field 7−5203
^{123}Ag, half life meas. for neutron-rich nuclei 7−5200
^{242m}Am, spontaneous-fission half-life meas., α-spectra, fission fragment spectra 7−61927
^{41}Ar, beta-decay, half-life determ. 7−49308
^{197}Au^{m}, isomer state half-life meas. 7−56636
^{11}B$_{\Lambda}$, hypernuclear lifetimes, neutron stimulated fraction meas., weak decay 7−41932
^{12}C$_{\Lambda}$, hypernuclear lifetimes, neutron stimulated fraction meas., weak decay 7−41932
^{A}Cd, A=123-130, strongly neutron rich fusion products, decay props 7−19210
^{A}Cd, A=123-5,127,128, half life meas. for neutron-rich nuclei 7−5200
^{130}Cd, β-decay half-life and importance for r-process 7−49319
^{141}Ce, decay rate meas., in standard solution *(Chinese)* 7−5196
^{242}Cm, spontaneous-fission half-life meas., α-spectra, fission fragment spectra 7−61927
^{243}Cm, half-life determ. 7−30385
^{113}Cs, groundstate proton radioactivity, half-life meas., spectroscopic factor calcs. 7−49350
^{A}Cu, A=74-78, strongly neutron rich fusion products, decay props 7−19210
^{167}Er^{m}, isomer state half-life meas. 7−56636
^{A}Es, A$\leq$247, decay props. 7−35982
^{139}Eu decay props., γ-ray and internal conversion meas. 7−49306
^{258}Fm, spontaneous fission, Z, A and half-life meas. 7−19159
^{A}Ga, A=77-81, strongly neutron rich fusion products, decay props 7−19210
^{76}Ge, neutrinoless double beta decay calcs. comparison with decay half-life meas. 7−49336
^{76}Ge neutrinoless double β-decay, lepton number nonconservation, Milano expt. 7−56644
^{76}Ge O$\nu\beta\beta$-decay, data anal., half-life determ. 7−61841
^{A}He$_{\Lambda}$, A=4,5, hypernuclear lifetimes, neutron stimulated fraction meas., weak decay 7−41932
^{196}Hg neutrinoless double electron capture branching ratio, experimental limits determ. 7−35980
^{109}I, groundstate proton radioactivity, half-life meas., spectroscopic factor calcs. 7−49350
^{A}In, A=123,131, strongly neutron rich fusion products, decay props 7−19210
^{111}In, beta-decay, half-life determ. 7−49308

radioactive decay periods continued
^{138}La, beta-decay half-life and dating of gneiss rocks from Scotland 7−49312
^{103}Pd decay studies, half-life and γ-spectrum, ^{103}Rh states and transitions *(Russian)* 7−41948
^{218}Po, half-life determ., α-spectrometric method 7−30386
^{A}Pu, A=23, 241, reactor parameters, uncertainties in scientific measurements 7−42085
^{241}Pu, half-life determ. 7−30380
^{85}Rb^{m}, isomer shift, mag. moment, laser induced nuc. orientation 7−10106
^{187}Re, half-life determ., relevance to fine-structure const. 7−49345
^{A}Rn, A=219, 220, 222 half lives of decay, ^{14}C emission 7−49348
^{A}Rn, A=223, 226, 227, halflife meas. 7−49291
^{47}Sc decay: half-life, γ-emission probability, transition probability, end-point energy and internal conversion coeff. 7−24959
^{77}Se^{m}, isomer state half-life meas. 7−56636
^{79}Se^{m}, stellar β-decay rate 7−49344
^{82}Se, double beta decay meas., half-life lower limit 7−41941
^{82}Se double beta-decay, 2$\bar{\nu}$, Oν, half-life limits 7−49341
^{82}Se, double β-decay, half-life determ. from mineral isotopic composition 7−598
^{139m}Sm decay props., γ-ray and internal conversion meas. 7−49306
^{130}Te, double β-decay, half-life determ. from mineral isotopic composition 7−598
^{A}U, A=233, 235, reactor parameters, uncertainties in scientific measurements 7−42085
^{A}Zn, A=75-80, strongly neutron rich fusion products, decay props 7−19210

radioactive decay schemes
see also beta-decay; nuclear energy levels
anal. of exotic radioactive decays 7−30388
conf., Leningrad, USSR, April 1985 7−29574
decay mode predictions for spontaneous α-particle and heavy ion emission *(Rumanian)* 7−15207
exotic nuclei far from stability, decay schemes *(French)* 7−19192
exotic radioactive decay into excited states via heavy ion emission 7−15205
hypernuclei, lepton and radiation decompositions, final-state interaction and polarisation effects *(Russian)* 7−19191
hypernuclei, pionic decay rate calcs. using DDHF single-particle wave functions 7−5183
spontaneous heavy ion emission from nuclei, half lives, SSNTD use 7−19213
strange quark matter, radioactive decay modes, Fermi gas model 7−41928
^{241}Am spontaneous fission, search for ^{34}Si from decay events 7−30459
^{11}B$_{\Lambda}$ ground state, nonmesonic lifetimes and branches 7−30361
^{12}C$_{\Lambda}$ ground state, nonmesonic lifetimes and branches 7−30361
^{252}Cf, spontaneous pion emission from ground state 7−15206
^{8}He, β-delayed triton emission 7−41950
^{259}Md, spontaneous, pion emission from ground state 7−15206
^{231}Pa$\rightarrow^{24}$Ne+X, spontaneous decay obs. 7−30387
^{201}Po, m and g isomers, decay scheme construction from time-sequenced spectra 7−30365
^{226}Ra$\rightarrow^{212}$Pb+^{14}C, anal. of exotic radioactive decays 7−30388
^{233}U$\rightarrow^{208}$Pb+^{24}Ne, anal. of exotic radioactive decays 7−30388
^{233}U$\rightarrow^{208}$Pb+^{25}Ne, anal. of exotic radioactive decays 7−30388
^{235}U(n,X), neutron induced pion emission from ground state 7−15206

radioactive lifetimes *see radioactive decay periods*

radioactive pollution
^{14}C seasonal variations in atmosphere caused by bomb tests 7−23256
actinides and isotopic ratios in the Greenland and Barents Seas 7−28429
aerosol source terms in nuclear reactor accidents, ex-vessel fission product releases 7−36219
Algeria, fallout during 1985 at two sites *(French)* 7−65665
apparatus for ^{85}Kr and ^{133}Xe meas. in fission reactor emergency situations 7−28439
Atmospheric Release Advisory Capability for radioactive materials, contour-to-grid methods 7−40078
chemical behavior of actinides in environmental waters 7−23251
Chernobyl accident, causes and consequences *(French)* 7−62035
Chernobyl fallout, effect on reindeer in Lappland 7−54770
Chernobyl fallout, monitoring and impact on UK 7−42229
Chernobyl fallout over Sweden, radioactivity influence on atmos. elec. field 7−40536
Chernobyl reactor accident, UK aquatic environment, fisheries viewpoint 7−42230
China Sea sediments, U, Th, Ra, ^{40}K conc. and distrib. 7−28431
circulation patterns west of Scotland, radiocaesium distribs. 7−60270
coal-fired power stations, radioactivity, review 7−59893
cryogenic sampler for collecting radioactive gases and aerosols 7−59902
crystalline rock, radionuclide transport in fast channels 7−28425
crystalline rocks, charácts. from field expts., suitability for HLW disposal repository 7−5464
dose reduction factors from a radioactive cloud for large buildings, computer codes 7−54759
environmental monitoring around nuclear plant 7−28432
environmental movement, dynamic model for prediction 7−54372
fallout on west Algerian coast, early 1985 *(French)* 7−59895
generic probabilistic risk analysis for a high-level waste repository 7−28725
ground level air radionuclide conc. 1984-1986, N. Germany and N. Norway 7−59896
groundwater flow in permeable geologic media for nuclear waste evaluation using 3D-SEEP code 7−60103
groundwater radionuclide migration in fissured crystalline rock, from nucl. waste repository 7−23246
groundwater transport of radionuclides, from injection well to fracture in porous formation 7−23244
Helsinki, Finland, atm. radioactive aerosols size distrib. following Chernobyl accident 7−46978
HLW land disposal, radionuclide pathways to man, radiological impact, doses 7−5467
INTRACOIN study for radwaste repository radionuclide migration, model validation, uncertainty anal. 7−25249
Japanese Tritium Programme: the University Programme on biological effects and environmental tritium 7−54773
Japanese Tritium Programme, biomedical research at NIRS, Chiba 7−54772

radioactive pollution continued
lakes, seasonal anoxia, actinide release 7—60286
leached radwaste radionuclides, migration by groundwater, math. modelling 7—5461
licenced radioactivity release levels from French nuclear facilities *(German)* 7—56873
long lived radionuclides, transfer through marine food chains, data review 7—28728
low-level gamma-ray study 7—23236
nuclear issues in New Zealand, health physics aspects 7—8697
nuclear waste glasses, water chemistry and dissolution kinetics in geological disposal site 7—59906
Oyster Creek emergency off-site dose assessment, ocean breeze inclusion 7—30725
PUFF-PLUME emergency response atmospheric dispersion model, field eval. at SRL 7—34292
PWR accident, source term determ. and expt. verification methods *(German)* 7—56801
radioactivity, contamination, damage and risks *(Italian)* 7—47262
radioiodine adsorption on silica gel 7—28434
radioisotope distribution in precipitation, surface and groundwaters in NW Yugoslavia 7—23254
radionuclide concentration meas. in atm. around nuclear power reactors 7—23257
radwaste packing material, use of basalt-bentonite mixtures 7—40057
reactor accident consequences, effects of rain and snow on contamination 7—42143
rough surface autoradiography method, radwaste repository rock radionuclide distrib. appl. 7—54410
SSNTD technique for Rn and thoron meas. in the environment 7—42430
survey data of radionuclei in environmental materials 7—17931
transuranium nuclides in the environment 7—23466
water migration studies in connection with radioactive waste 7—25254
Yala Glacier, Nepal, tritium vertical profile in glacier ice 7—40082
zircon sand, α-activity in airborne particulate, cellulose nitrate track detector study 7—49856
Am separation and activity meas. in sea algae 7—54370
^{241}Am electrodeposition geometry in the assay of environmental samples 7—28718
^{14}C activity of atmosphere, response of hydrological systems 7—23253
^{137}Cs, 1977 survey of conc. in British soil 7—34076
^{137}Cs in soil of W Germany field, fallout spatial variability 7—65655
HTO and H_2O, differences in behaviour in soil after condensation from atm. 7—54378
HTO and T, accidental release: models and in situ expts. on various plant species 7—60095
^{3}H, accidental releases from fusion reactors 7—54777
^{3}H content in tissue free water of Japanese bodies 7—60102
^{3}H, elementary, uptake by the soil 7—54377
^{3}H, environmental and human risks, conf., Karlsruhe, Germany (Feb. 1986) 7—48163
^{3}H, environmental aspects, toxicity, metabolism and dosimetry: research at CRNL 7—54774
^{3}H fallout detection in tree ring records, short term precipitation 7—23255
^{3}H gas, fixation by rats 7—60099
^{3}H in drinking water, background information for development of a standard 7—60101
^{3}H in the aquatic environment, current literature review 7—54381
^{3}H metabolism in animals, review 7—60097
^{3}H metabolism in newborn mice and estimation of accumulated dose 7—60100
^{3}H, modelling 7—54371
^{3}H, mol. conversion in vegetation, litter and soil 7—54778
^{3}H, normal releases from fusion processes and environmental radiation doses 7—54775
^{3}H, organically bound, distrib. in vegetation exposed to fallout 7—60096
^{3}H, organically bound, given during pregnancy and lactation, retention in young pigs 7—60098
^{3}H, organically bound, purification resins in reactor circuits as a source, expts. on algae 7—49545
^{3}H releases from nuclear power plants and nuclear fuel reprocessing plants 7—54776
^{3}H, survey methods in Paks nuclear power plant, development and appl. 7—56881
^{85}Kr, atmospheric activity monitoring 7—23259
^{85}Kr, ground air mesoscale transport from European reprocessing plants 7—23260
^{85}Kr, sampling unit for air sample 7—23258
^{235}Np, tracer props. for environmental ^{237}Np anal. 7—49771
^{237}Np and ^{99}Tc, plant uptake under field conditions 7—28729
^{237}Np determination in sediments from Sellafield, UK, by neutron activation anal. 7—28731
Pu content of Mururoa Atoll coral samples, nucl. techniques 7—54415
Pu fallout, food ingestion in Japan 7—28723
Pu fallout and natural radioactivity in coral around Virgin Islands 7—60274
^{A}Pu, A=239,240, conc. in Japanese human tissues 7—18081
^{239}Pu, migration in soil and resuspension 7—28421
Rn concentration in precipitation, automatic measuring apparatus 7—49847
Rn, indoor, seasonal variation in houses, southwestern USA 7—28722
Rn, indoor and soil meas. in Albuquerque, NM, USA 7—28726
^{222}Rn concentration meas. in Greek radon spas 7—23465
^{222}Rn transport through a cool season grass growing on uranium mill wastes 7—28730
T concentration in lake water, variations 7—55099
T from nuclear bombs, distrib. in oceans 7—66169
U mill tailings pile causing groundwater pollution, model of plume 7—59885
U refinery in Canada, U dust distrib. and radiation dose to public 7—59887
UO_2 emissions from Windscale 1954-7, environmental impact 7—34293
UO_2, parametric studies in groundwater 7—25253

radioactive sources
see also radioisotopes
Amersham ^{137}Cs afterloading sources, associated X-ray spectra 7—60075
calibration of radionuclide calibrators in Canadian Hospitals 7—34273
neutron source, switchable design 7—30116
nuclear reactors, optimisation of radionuclide production 7—25276

radioactive sources continued
production, certification and application of standard radiation 7—25279
sealed radioactive check sources for liq. scintillation counters, American standards 7—36370
secondary standard radionuclide calibrator, type 271+671 7—34272
thin 4π β-sources for absolute meas., preparation method 7—5519
γ-ray source radiation field near interface of different density material 7—36361
^{211}At, production and complexation with crown ethers 7—25287
^{242}Cm, Curie quantity source preparation 7—19599
^{60}Co irradiator at Hiroshima Univ., dose rate distrib. *(Japanese)* 7—40295
Ra and actinide samples for α-spectroscopy by electrodeposition *(Spanish)* 7—49782
^{201}Tl, production for medical use 7—25278

radioactive tracers
conference, nuclear and radiochemistry, Beijing, China (Sept. 1986) 7—18494
flow measurement by transit time method using radioactive tracers *(Finnish)* 7—57970
flowmeter, NMR, front sampling parameters effect on systematic error 7—57952
flowmeter, tagging type, error structure 7—57950
microprocessor-based multichannel spectrum analyzer for use in industrial radioisotope measurements 7—65372
proteins, labelled, 2D ^{1}H NMR investig. using half-filters and ^{15}N labelling 7—48808
radiomicroscopy using Si microdetector, appl. to beta tracers 7—47223
time constant determination in kinetic studies involving radiolabelled tracer molecules 7—34236
^{11}C-triphenylmethylphosphonium, use in evaluation of heart membrane pot. by positron-emission tomography 7—14113
$CoSi_2$, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7—2263
^{3}H, environmental, appl. to meas. of water movement in unsaturated zone under irrigated area 7—23757
^{40}Kr, sedimentary processes and metal depth profiles 7—55010
NiSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7—2263
^{235}Np, tracer props. for environmental ^{237}Np anal. 7—49771
^{210}Pb, sedimentary processes and metal depth profiles 7—55010
Pd_2Si, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7—2263
PtSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7—2263
[^{35}S]methionine-labelled material for studying axonal transport, prod. technique 7—3951
Tc pyrophosphate, adsorpt. on hydroxyl apatite, study by back scatt. of 2 MeV α-particles, pH effects *(French)* 7—3877
^{99}Tc, organ imaging agents, X-ray photoelectron spectrosc. 7—54715

radioactive waste
see also fission reactor materials; fusion reactor materials; materials handling; radioactivity; waste disposal
actinide containing waste, geological disposal 7—19547
actinide equilibrium consts. in soln. using analytical ultracentrifuge 7—25255
actinide migration and sorption in conc. salt soln. in geological material 7—19546
actinide solubility in the near-field 7—5473
actinide transmutation, waste management option 7—25243
actinides enrichment in marine aerosols 7—3742
actinides in glasses, leaching *(French)* 7—19353
advanced containment research for the Canadian nuclear fuel waste management program 7—30711
AECL's methodology for nuclear waste disposal in plutonic rock masses 7—10296
AGR spent fuel handling in long term dry store 7—56869
air cooled dry store performance for irradiated fuel 7—56867
Argentina, site preselection for radwaste repository *(Spanish)* 7—42225
Argentine radwaste repository, basic criteria, siting and design concepts 7—42207
argillaceous media, geochemical barrier capacity for radwaste disposal 7—5466
automated nucl. storage facility 7—30709
automatic monitoring of nuclear wastes *(French)* 7—36299
back-end of fuel cycle, reprocessing and intermediate radwaste storage *(German)* 7—25240
barrier efficiency and stability of host rock, geological anal. 7—49709
basalt waste repository, probabilistic modelling of radionuclide release from waste package 7—30678
below-regulatory-concern radwastes containing short-lived radionuclides, disposal 7—30687
borosilicate glass, durability, influence of $Cs_2O(SrO)$ (U_3O_8) (ZnO) 7—8144
borosilicate glass, simulated, leach behavior, devitrification 7—19532
borosilicate glasses, leached, containing U nuclear waste, EXAFS with grazing incidence 7—3116
borosilicate glasses, solubility tests for HLW immobilisation 7—30705
breached spent-fuel rods, behaviour in flowing air atmosphere between 250 and 360°C 7—30534
BWR spent fuel, heat generation rate, meas. and ORIGEN2 code anal. 7—812
calciner dynamics, residence time distrib. 7—56858
Canada, radwaste management programmes 7—42206
Canadian approach to site characterization for a nuclear fuel waste disposal vault 7—42224
Canadian Nuclear Fuel Waste Management Programme, summary and progress to Dec. 1984 7—25248
canister grapple for the Defense Waste Processing Facility 7—49696
CASMO-2 spent-fuel-rack criticality analysis 7—36176
Castor V/21 PWR spent fuel storage cask, testing and analyses 7—56864
cement-based nuclear waste forms, leach-test characterisation 7—49691
chemical behavior of actinides in environmental waters 7—23251
chemical cleaning waste disposal 7—62090
chemical effects of α decay in uranium minerals 7—19544
CHEMSIMUL code appl. to groundwater radiolysis in HLW repository 7—49693
China, R&D in fuel cycle 7—19374
civil nuclear power generation, characteristics and quantities of radioactive wastes 7—5454
classification system for HLW, LLW, and TRU wastes 7—30688

radioactive waste continued
clay, radionuclide migration barrier, use for radwaste disposal 7—56861
clay formation, faults, fractures, effect on pot. radwaste disposal site 7—49701
clays, fracture permeability study for radioactive waste repositories 7—10293
coastal water, routine discharges from CEGB nuclear power stations, crit. group radiation exposure 7—40306
colloid migration 7—5477
concrete, hydrostatic pressure effects on integrity, monolithic slag/cement under radwaste sea disposal conditions 7—36297
concrete, sorption of fission products 7—5471
conference, ANS winter meeting, Washington, DC, USA, (Nov. 1986) 7—29591
conference on radiation protection physics, Bad Schandau, Germany (Feb. 1986) 7—24267
conference on radwaste underground repositories, Hannover, Germany (Mar. 1986) 7—41010
criticality safety in fissile material storage, conf., Jackson, WY, USA, (Sept. 1985) 7—13
crud, preliminary characterisation handling facility design 7—30696
crystalline rocks, characts. from field expts., suitability for HLW disposal repository 7—5464
cumulative releases of radionuclides from uncontained waste packages, mass transfer theory 7—30707
cyclotron, residual radioactivity in components and surroundings 7—8701
Czechoslovakia, safety aspects of radioactive waste disposal 7—42215
decommissioning with off-site waste disposal, costs and radiological impacts 7—62057
deep clay disposal of HLW, ILW, α-bearing wastes 7—49712
deep geologic storage of spent nucl. fuel, radiation safety and personnel monitoring 7—36303
deep geological radwaste disposal, basic geological studies for storage environment *(French)* 7—42226
deep groundwater flow, governing principles, effects on geological radwaste disposal 7—5462
deep sea radwaste disposal, radionuclide dispersion by physical, geochemical and biological processes 7—5468
Defence Waste Processing facility, remotely replaceable lighting systems for hot cells 7—49695
deregulated solid biomedical radwaste incineration, dose assessment 7—30682
devitrified simulated HLW glass, leaching, crystalline phases effects 7—49690
direct spent fuel disposal, safety and technical aspects *(German)* 7—15408
disposal, chemical modelling 7—10297
disposal, implications of radionuclide migration in granite pluton 7—28917
disposal, public concern 7—36274
disposal and storage, available options 7—5456
disposal in rocksalt, safety aspects, analytical approximation *(Dutch)* 7—56856
Dounreay cementation plant 7—62085
dry storage to provide flexibility in spent fuel and vitrified waste management 7—10291
effluent monitor sample lines, radioactive and electron microscope analysis 7—42116
electric melters for nuclear waste/glass conversion, prelim. limits for HLW vitrification 7—5451
electric melters for nuclear waste/glass conversion, relax control, analytical methods and models 7—5450
engineered barrier research in Canada, review 7—49708
ferritic spent fuel casks, predrop test anal., stresses and fracture toughness 7—46651
fissile material storage, criticality safety, efficiency improvements 7—747
fissured rocks, U, Th and lanthanides transport 7—5479
fluidised bed calciner for fission product and metal nitrate radwastes 7—809
gamma radiation effects on Climax Stock and Westerly granite 7—19538
generic probabilistic risk analysis for a high-level waste repository 7—28725
geochemistry of uranium and daughters in tailings from the milling of uranium ores 7—25256
geological disposal of dissolves sludge, cladding, spent fuel 7—49715
geological disposal of radioactive waste, radionuclide transport from borehole 7—23244
geological disposal of radwaste in FRG, strategy implementation 7—42210
geological radwaste isolation in clay formations, fractures and faults 7—36295
German radioactive waste disposal, overview 7—49694
glass melter for nuclear waste, power supply and controls 7—19528
Gorleben salt dome, radwaste disposal rate, geoscientific anal. 7—49704
Gorleben salt dome, suitability for radwaste repository 7—49703
granite disposal suitability testing 7—49710
greater-than-class-C LLW, definition and characterisation 7—30683
groundwater flow in permeable geologic media for nuclear waste evaluation using 3D-SEEP code 7—60103
groundwater radionuclide migration in fissured crystalline rock, from nucl. waste repository 7—23246
hauyne synthesis for radwaste immobilisation 7—25244
health physics aspects of nuclear issues in NewZealand over the last decade 7—8697
heat induced fracturing of rock in an existing uniaxialstress field 7—5484
high burnup experience, appl. to consolidation equipment design 7—30552
high density aseismic spent fuel storage racks 7—56870
high density spent-fuel storage racks, neutron absorbing materials performance 7—19543
high-level radioactive waste disposal in unsaturated alluvium, assoc. fluid flow and energy transport 7—23767
HLLW solidification, review of alternative wasteforms and processes 7—36296
HLLW vitrification using microwave power, pilot plant demonstration 7—49686
HLW, commercial management systems, radiation doses 7—30697
HLW, deep granitic formation, mechanical behaviour of host rock 7—5483
HLW, geological repository studies, Japan 7—49711
HLW, high SO_4^{2-} content, glass formulation for vitrification 7—25091
HLW, influence of redox environments on the geochemicalbehaviour of radionuclides 7—5474
HLW, radionuclide transport through penetrations in nuclear waste containers 7—30706

radioactive waste continued
HLW, thermal-diffusion aging in solidified radioactive wastes 7—25239
HLW, underground storage facilities, temp. prediction 7—30704
HLW, waste repository projects, systems engineering applications 7—30703
HLW and ILW, geological disposal in the UK 7—15409
HLW conditioning and glass specification at Sellafield 7—56860
HLW disposal, environmental standards as a basis for repository siting and design 7—42212
HLW disposal, GRESS automated procedure for adding sensitivity calc. capability to ORIGEN2 point depletion code 7—36290
HLW disposal in rock salt formations, impact of heat prod. and γ-radiation 7—25246
HLW disposal in salt formations, field expts., groundwater, corrosion 7—5465
HLW fixation in borosilicate glass, characts. in repository conditions 7—5458
HLW geological repository, US NRC programme for licensing 7—42213
HLW immobilisation in ceramic waste forms. SYNROC props., leaching 7—5459
HLW land disposal, radionuclide pathways to man, radiological impact, doses 7—5467
HLW or spent fuel, role of canister in final disposal system 7—5457
HLW repository, geological formation evaluation 7—49702
HLW repository, time and space dependent temp. distrib. 7—5485
HLW vitrification in a liquid-fed ceramic melter, remote equipment performance 7—42201
hydrostatic testing of nuclear fuel waste disposal containers 7—15406
ILW, cement encapsulation techniques 7—62084
ILW conditioned in cement and bitumen, actinide mobilisation 7—5472
ILW deep disposal in UK, geological environments 7—42227
immobilised nuclear wastes, diffusing species release by leaching in closed solid/liquid system 7—810
incorporation of radioactive wastes into styrenated polyester 7—30680
industry participation in the development of DOE's transportation system 7—36287
institutional interactions in developing a transportation system under the Nuclear Waste Policy Act 7—36285
intermediate and de minimis waste classification 7—30689
INTRACOIN study for radwaste repository radionuclide migration, model validation, uncertainty anal. 7—25249
ion exchange resins, decomposition by pyrolysis, radwaste vol. reduction 7—36292
ion exchange resins, effects of metallic impurities on oxidation, catalytic activity 7—30677
irradiated fast breeder fuel, transportation preparation 7—56872
irradiated fuel, dry storage at reactor site 7—56866
irradiated fuel disposal facilities, fuel cooling, concept to commissioning 7—56868
irradiated fuel stores, control by programmable controllers 7—56871
Konrad facility for final storage of radwaste, safety anal. *(German)* 7—5444
Konrad iron ore mine, radwaste repository suitability 7—49705
Konrad repository, design, construction, safety anal. 7—49722
Konrad repository, technical design 7—49714
land disposal of radwaste, optimum groundwater transport model for health effects 7—808
leached radwaste radionuclides, migration by groundwater, math. modelling 7—5461
leaching behavior of crystalline phosphate waste forms 7—19534
leaching model of nuclear waste glass 7—62086
leaching of actinides and technetium from SYNROC 7—25252
liquid LLW and MLW from nuclear power plants, chemical treatment 7—56859
liquid radwaste, particle size reduction using indirect fired rotary kiln 7—10294
liquid radwaste immobilisation in cement and loess deposits, barrier system *(Russian)* 7—49699
LLW, below-threshold waste disposal, cost effectiveness 7—30694
LLW, critical grout parameters and critical flow rate 7—30701
LLW, economics of disposal at future disposal facilities 7—30690
LLW, economics of production, processing, packaging and disposal 7—30553
LLW, effect of technology on economics of disposal 7—30691
LLW, interpretation and implementation of 1985 act 7—30702
LLW, processing techniques, cost reductions 7—30699
LLW, remote scanning technique to satisfy NRC criteria 7—36268
LLW, volume reduction, modeling of economics 7—30692
LLW, waste disposal, cost effectiveness for improved methods 7—30693
LLW and ILW disposal in shallow tunnels in glacial till or clayey soil, geotechnical considerations 7—42217
LLW and ILW from nuclear power plants in Finland, final disposal 7—42221
LLW and ILW repository in Switzerland, constructional concepts and site selection 7—42222
LLW contaminated scrap, reprocessing and recycling 7—36275
LLW disposal on the Oak Ridge Reservation, performance objectives 7—36294
LLW in cement, ocean transport off Taiwan 7—49685
LLW reduction methods employed at du Pont/NEN research products 7—30681
LLW volume reduction, economic incentives model 7—49689
low level radioactive waste disposal, technology and public policy 7—56857
LWR spent control and absorber rods, T content for waste disposal 7—25245
materials management conf. New Orleans, LA, USA, (June 1986) 7—35087
maximum dose equivalent due to passing of spent fuel transport vehicle 7—10299
Mitsui-Juelich radioactive waste incineration system *(Japanese)* 7—5453
MLLW precipitates vitrification in VG 98/12 borosilicate glass 7—19539
mobile nondestructive assay and examination instruments 7—36283
mobile supercompaction service 7—36279
natural convection from cylindrical heat source in water saturated porous medium, radwaste appl. 7—806
natural radioactivity meas. in water in granite regions 7—8461
near-field solubility constraints on radionuclide mobilisation, influence on radwaste package design 7—5460
noble gas retention in German reprocessing plant *(German)* 7—56768

radioactive waste continued
nuclear waste glass canisters, remote handling at the Savannah River Plant 7–42200
nuclear waste glass suitability study, systems approach 7–5447
nuclear waste glass vapourisation study 7–6774
nuclear waste glasses, electric melting, melter designs 7–5448
nuclear waste glasses, water chemistry and dissolution kinetics in geological disposal site 7–59906
nuclear waste isolation systems, automated sensitivity anal. procedure for performance assessment 7–49692
nuclear waste/natural glasses, aqueous corrosion, comparative hydration rates in liquid/vapour environments 7–8141
ocean floor sediment as repository barrier, radionuclide diffusion 7–5481
oceanic sediment barrier, geological and geochemical props. for HLW disposal 7–5463
Ontario Hydro CANDU fuel handling and storage facilities 7–56747
packaged LLW burial in Belgium, preliminary investigation *(French)* 7–42209
Petten HFR, reactor vessel replacement, dismantling, segmentation, waste disposal, doses 7–5488
Port Hope Harbour, Lake Ontario, sediment quality assessment and benthic community 7–28423
quality assurance for packaging of radioactive and hazardous materials 7–36277
quality of data used in site selection 7–36278
radiological criteria for the disposal of solidradioactive wastes 7–5455
radionuclide migration through sandy soil layer 7–8458
radionuclide sorption on natural materials 7–62087
radionuclide spills and discharge plumes, Lake Ontario, microcomputer-based model 7–13942
radionuclide transport through engineered barriers, parameter-sensitivity analysis 7–49724
radwaste melter at the DWPF, remote viewing of interior 7–49697
reactor refuelling, conf., Newcastle-upon-Tyne, England (May 1985) 7–55891
regulatory authorities role in Swedish radwaste management 7–42214
reinforced concrete pads for spent nuclear fuel casks, hardness effects on design 7–49700
remote radwaste canister level and turntable positioning system 7–42202
remotely operated TRU waste size reduction and material handling process at SRP 7–49698
repositories, Gorleben, Konrad, long-term safety 7–49706
repositories, long term risk assessment using MELODIE code 7–5486
repositories in the Federal Republic of Germany *(German)* 7–25241
reprocessed LWR fuel, α-waste assay 7–36164
retention of radionuclides in halite and anhydrite 7–36270
rock matrix, sorption and diffusion of radionuclides 7–5478
rough surface autoradiography method, radwaste repository rock radionuclide distrib. appl. 7–54410
safe disposal of radioactive waste in Italian argillaceous formations 7–49713
safety analysis codes for shipping casks in Japan 7–15414
safety analysis for waste disposal site investigation programme 7–49720
salt mine radwaste disposal, blooding tests, safety anal. 7–49721
Savannah River defence radwaste glass, waste package component interactions in low Mg salt brine 7–36291
Savannah River DWPF, stainless steel decontamination manipulators for radwaste canisters 7–42203
Savannah River Plant waste glass, interaction with canister and overpack metals 7–8142
SCALE, criticality safety analysis appl. on mainframe and microcomputer 7–15413
SCALE, nuclear waste cask analysis, critically safety analysis 7–15411
SCALE, nuclear waste cask analysis software, heat transfer analysis capabilities 7–15412
SCALE, nuclear waste cask analysis software, implementation, validation and application 7–15424
SCALE, spent fuel cask analysis, cross-section processing techniques 7–15421
SCALE, spent fuel cask analysis software, conf., Saclay, France, (June 1986) 7–14700
SCALE, spent fuel cask analysis software 7–15410
SCALE, spent fuel casks analysis software, isotopics, radiation spectra and decay heat 7–15423
seismic behavior of spent-fuel racks supported by aseismic bearing devices 7–30698
sensitivity anal. using computer calculus, nucl. waste isolation appl. 7–30477
SFR, the Swedish Final Repository for Reactor Waste 7–42220
shallow ground disposal facility for nuclear waste, site eval. and conditioning 7–42223
shallow land LLW and ILW repository on a clay site in the UK 7–42219
shielding analysis methods available in the SCALE computational system 7–15422
short lived LLW and ILW, shallow ground disposal in Yugoslavia 7–42216
silicate glass, dissolution in closed glass/water system, appl. for nuclear fuel wastes 7–63828
simulated basalt geological radwaste repository, SSNTD neutron dosimetry 7–42199
simulated borosilicate radwaste glass, granite and water, geochemical interactions, repository appl. 7–807
simulated spent fuel, dissolution behaviour in 3M HNO_3 7–25065
site investigations for final disposal of spent nuclear fuel in Finland 7–42228
slag cement-low level radioactive waste forms at Savannah River Plant 7–42197
sludge removal and packaging 7–19542
solid radwaste sea dumping, radiological assessment 7–10292
solidification by bituminisation *(Czech)* 7–62088
spent AVR fuel elements, storage, expts. and data 7–5469
spent CANDU fuel, geological disposal safety assessment 7–49717
spent fuel, international safeguards, containment and surveillance 7–36112
spent fuel casks, effects of high burnup 7–30551
spent fuel criticality safety in large tanks 7–737
spent fuel disposal, safety assessment, Finland 7–49719
spent fuel repository, Sweden, site characterization techniques 7–49707
spent fuel rods, accelerated high-temperature tests under dry storage conditions 7–36153

radioactive waste continued
spent fuel shipping casks, surface dose to determine fuel loading pattern *(Japanese)* 7–25242
spent fuel storage equipment, optimisation 7–30549
spent fuel transportation, safety criteria and accident anal. 7–42241
spent fuel transportation program 7–30695
spent nuclear fuel, geological disposal, precipitation effects on long-term radionuclide release 7–42198
spent nuclear fuel, reprocessing and direct disposal, radiological comparison *(German)* 7–49683
spent nuclear fuel shipping vessel, neutron dose rates, Monte-Carlo anal. 7–25267
sphene ceramics containing substituted radionuclides, leaching, CANDU waste disposal 7–811
sphene glass ceramics, radioactive waste immobilisation, sintering, porosity 7–27984
steel, mild, radiation enhanced corrosion of radwaste containers 7–30710
steel radioactive waste canisters, localised corrosion, mathematical model 7–46709
stochastic cost estimating in repository life-cycle cost analysis 7–36276
storage in deep geological formation *(French)* 7–49716
storage systems, impact of high-burnup fuel cycles 7–30550
styrenated polyester for immobilisation of spent-ion exchange resin 7–19531
surface storage of ILW and LLW, French approach *(French)* 7–42208
surface storage of radwastes, safety criteria for site selection in France *(French)* 7–42218
Swedish waste management program, role, status, development 7–49723
SYNROC: second generation immobilisation of radwaste 7–62089
SYNROC slurry, calciner for drying and calcination 7–19541
SYNROC slurry, X-ray diffraction and leach tests 7–19541
SYNROC-C waste glass, leaching experiments 7–39689
Tc(IV) and Tc(VII) interactions with iron oxyhydroxides 7–19533
temperature effects on the solubility and speciation of selected actinides 7–19549
TMI-2 reactor cavity, fuel estimation from neutron dosimetry meas. 7–30717
TMI-2 sludge separation and packaging, anals. and conceptual designs 7–56863
TMI-2 waste disposal planning, microcomputer spreadsheet 7–25250
transient diffusional release in basalt repository 7–5482
transport, shock and vibration environments 7–36281
transport system trials for crated waste 7–56862
transportable volume reduction and solidification system TVR-III, operation 7–30700
transportation, standardisation for spent fuel and HLW 7–36286
transportation by rail 7–36288
transportation of civilian HLW, USA DOE program 7–36284
transuranic waste disposal in the United States 7–30684
tritiated water, enrichment and vol. reduction using an electrolysis cell with a permeable cathode 7–49668
TRU waste, assay for (α,n) sources 7–36282
TRUEX process for liquid TRU waste management and disposal 7–19379
TRUPACT transport defense wastes, puncture panel optimisation 7–36280
underground disposal, behaviour of layered soil or rock containing decaying heat source 7–14264
underground disposal, safety evaluation methodologies 7–49718
underground repository for LLW and ILW, development and licensing experience 7–42211
uranyl ion in perchloric acid, luminescence decay 7–19548
USA geological radwaste repository programme, overview 7–42205
vault sealing R and D for Canadian nuclear fuel waste disposal programme 7–25247
very low level radwaste from nuclear plants, potential for deregulated disposal 7–30685
vitrification, melt foaming, foam stability and redox studies 7–5452
vitrification chemistry and nuclear waste 7–5446
vitrification facilities, closed circuit TV and remote crane control 7–42204
vitrified radioactive waste disposal in geological formations, water contamination, worst case situation 7–62083
waste glass, comparison of leaching in natural and synthesized groundwaters 7–19530
waste glass, devitrification, role of melt insolubles 7–6525
waste glass performance in geologic environment 7–5449
waste packages with several shields, buildup factors for point-kernel calcs. *(German)* 7–36267
waste-related risks below regulatory concern, criteria for USA 7–30686
water leachability of cement forms for medium-level waste immobilization 7–49687
water migration studies in connection with radioactive waste 7–25254
wet-rock repository, mass transfer of soluble species 7–30708
Yucca Mountain Nuclear Waste Repository program, local government view 7–36289
zeolites, synthetic, absorption of Na, K, Cs in waste solns. 7–19535
ZPPR fuel storage, borated concrete medium, criticality safety 7–746
$Al(NO_3)_3$-fission product solns., treatment prior to disposal 7–15407
Am behaviour in aqueous solns. containing Fe, radwaste treatment appl., colloids 7–19529
Am, in Arctic waters, North Sea, Scottish and Irish coastal zones 7–13937
Am, nuclear waste, leaching by salt solns. 7–36272
Am pseudocolloids, formation and transport in aqueous systems 7–5476
Am removal from HLW by TRPO extraction 7–25048
Am, solubility, influence for nuclear waste repositories 7–36271
B_2O_3 -SiO_2 : U(Np), doped glasses, optical spectroscopy study, appl. for nuclear waste storage 7–39145
B_2O_3-SiO_2-M_2O (M = Na, K) glasses, ion implantation effects appl. for radioactive waste disposal 7–32519
$CaCO_3$ deep ocean sediment samples, distrib. and diffusion meas. of Np and Am radioisotopes 7–36273
$Ca_2Nd_5(SiO_4)_6O_2$:Cm, radiation effects, appl. for nuclear waste disposal 7–32522
$Ca_2Nd_8(SiO_4)_6O_2$:Cm ceramic simulated nuclear waste forms, radiation effects on microstruct. and fracture props. 7–58373
$CaPuTi_2O_7$, substituted zirconolite, high level waste, self-irrad. effects, mech. props. 7–805
$CaZrTi_2O_7$:Cm, radiation effects, appl. for nuclear waste disposal 7–32522

radioactive waste continued
- ^{60}Co, migration in pH 12 solution through sandy soil layer 7−19540
- ^{A}Cs, A=134,137, comparative pathway analysis in Hudson River estuary, dose assessment 7−8699
- ^{134}Cs removal from radioactive process waste water by coprecipitate flotation 7−36293
- ^{137}Cs, immobilization using hydrous TiO_2 and zeolite 7−10295
- ^{137}Cs leaching from epoxide resin 7−19536
- ^{137}Cs, removal from reactor coolant by $TiFe(CN)_6$ 7−30679
- $Gd_2Ti_2O_7$:Cm, radiation effects, appl. for nuclear waste disposal 7−32522
- ^{3}H, chemistry in fission and fusion reactors 7−25234
- ^{129}I immobilisation in clay, buffer candidates 7−56865
- ^{129}I, level decrease in rad. waste by Hg minerals 7−19537
- ^{63}Ni in Columbia River sediment below the Hanford Reservation 7−13936
- Np migration in salt brine aquifers 7−40056
- Np, solubility, influence for nuclear waste repositories 7−36271
- Np-Am removal from HlW, ALAS process 7−19377
- ^{237}Np determination in sediments from Sellafield, UK, by neutron activation anal. 7−28731
- ^{237}Np, diffusion in simulated high level waste glass 7−49684
- Pb cladding on radwaste containers, corrosion study *(Spanish)* 7−54013
- Pu, in Arctic waters, North Sea, Scottish and Irish coastal zones 7−13937
- Pu incorporation at a waste management facility, comparison of various methods of routine monitoring 7−40312
- Pu, nuclear waste, leaching by salt solns. 7−36272
- Pu, solubility, influence for nuclear waste repositories 7−36271
- Pu storage, criticality safety benchmarks 7−755
- ^{241}Pu in low-level radioactive wastes from reactors, determ. 7−30516
- Ra adsorptive uptake by waste inactive microbial biomass 7−40313
- Rn exhalation and diffusion parameters in solids, plastic track meas. 7−54411
- ^{222}Rn transport through a cool season grass growing on uranium mill wastes 7−28730
- Ru, behaviour, restraint in pot vitrification process 7−25251
- SiO_2-B_2O_3-ThO_2 based glasses, local struct. around actinide, EXAFS and optical spectral studies, appl. for nuclear waste glasses 7−59290
- SiO_2-B_2O_3-$UO_{2.66}$ based glasses, local struct. around actinide, EXAFS and optical spectral studies, appl. for nuclear waste glasses 7−59290
- ^{90}Sr, immobilization using hydrous TiO_2 and zeolite 7−10295
- ^{90}Sr, removal from acidic nuclear waste solns. 7−25051
- ^{90}Sr retention mechanisms in synthetic ion-exchange resins 7−36269
- T handling at CRNL, glove boxes, pumping systems 7−5339
- T_2O water decomposition using ZrO_2-Pt cell for H_2 production 7−3581
- U, enriched, storage in steel tubes in concrete, criticality safety 7−748
- U mine tailings disposal, radiation exposure estimation 7−5445
- U, solubility, influence for nuclear waste repositories 7−36271
- U^{6+}, migration behaviour in tuff 7−5480
- UO_2 oxidative dissolution, thermodynamic approach, CANDU spent-fuel disposal appl. 7−49688
- UO_2, parametric studies in groundwater 7−25253
- UO_2 pins in boron-steel CAGR skip, criticality safety for long term storage 7−744
- UO_2-$La(OH)_3$, radionuclide coprecipitation solid solution formation 7−5475
- UO_2^{2+}-humate interactions in soft, acid,humate-rich waters 7−13939
- $UO_2(NO_3)_2$ solidification facility operation 7−30579
- ^{234}U, redox forms in britolite 7−19545
- ^{234}U/^{230}Th ratio as redox indicator in briney aquifers 7−5470

radioactivity
- *see also alpha decay; atmospheric radioactivity; beta-decay; radioactive decay periods; radioactive decay schemes; radioactive sources; radioactive tracers; radioactivity measurement; radiochemistry; spontaneous fission*
- building materials used in the Netherlands, proposed standard for radioactivity 7−34287
- fallout ^{137}Cs in soil of W Germany field, fallout spatial variability 7−65655
- geological disposal of radioactive waste, radionuclide transport from borehole 7−23244
- groundwater radionuclide migration in fissured crystalline rock 7−23246
- half lives of decay, ^{14}C emission 7−49348
- Mississippi River delta area, ^{226}Ra, in sediments and water column 7−66168
- Obaku fault, Uji, Japan, gamma-ray survey of active fault 7−18157
- ocean chemical composition, ^{210}Po and ^{210}Pb in Gulf of Mexico seawater 7−34552
- pionic radioactivity from nuclear ground state 7−10129
- steel plants, radioactive contamination of manufactured products 7−28721
- Virgin Islands, Pu fallout and natural radioactivity of coral 7−60274
- Yala Glacier, Nepal, tritium vertical profile in glacier ice 7−40082
- ^{39}Ar activity, galactic cosmic ray intensity 7−23957
- ^{A}Rn, A=219, 220, 222 half lives of decay, ^{14}C emission 7−49348
- ^{90}Sr radioactive pollution at U-plant in Rhode Island, USA 7−23245
- T concentration in lake water, variations 7−55099

radioactivity measurement
- *see also radioactivity measuring apparatus*
- algorithms for qualitatively and quantitatively determining the radiocontamination of environmental samples including various measurement arrangements *(Polish)* 7−56918
- apparatus for ^{85}Kr and ^{133}Xe meas. in fission reactor emergency situations 7−28439
- basal membranes, diffusion of organic cpds., continuous radioactivity method meas. *(French)* 7−65345
- bioassay procedures for radionuclides for atomic radiation workers 7−8696
- book, nuclear techniques in diagnostic medicine 7−24312
- continual scanning record of radioactivity distribs., corrections, smoothing 7−5571
- continual scanning record of radioactivity distribs., corrections, deconvolution 7−5572
- detectors construction *(German)* 7−30834
- electrons in dry air, W value re-eval. 7−62242
- GEMS environmental monitoring system for γ-ray emissions 7−10298
- high resolution β^- digital autoradiography using a single step parallel plate chamber 7−5573
- Krakow region, Poland, estimation of radiation effects from local industrial activity 7−25260

radioactivity measurement continued
- low-level counting, conference, Bratislava, Czechoslovakia (Oct. 1985) 7−24272
- low-level measurement laboratory construction and shielding 7−24335
- microprocessor use in *(German)* 7−25257
- plastic-bag sampler for passive radon monitoring 7−42423
- marine sediment Th, U, ^{226}Ra, ^{230}Th, ^{231}Pa conc. determination, alpha scintillation method 7−4199
- SISAK−a technique for studies of exotic nuclides 7−19670
- survey data of radionuclei in environmental materials 7−17931
- track element dosimeter for Rn meas. in air 7−42424
- underground laboratory in Freiberg, GDR 7−24334
- ^{228}Ac in natural background γ-radiation spectrum 7−19550
- ^{241}Am electrodeposition geometry in the assay of environmental samples 7−28718
- ^{32}P, induced beta activity determ. *(Czech)* 7−61837
- ^{A}Ra, A=223,224,226,228 environmental levels on electrodeposited source 7−19553
- Rn dosimetry, rectangular geometry effects 7−42426
- Rn permeability through plastics by track techniques 7−42427
- ^{222}Rn conc. dynamics close to ground surface *(Japanese)* 7−59884

radioactivity measuring apparatus
- detectors construction *(German)* 7−30834
- radiation meter with counter tube or p-i-n-diode detector, design *(German)* 7−30900

radioactivity protection *see radiation protection*

radioaltimeters
- *see also aircraft instrumentation; radionavigation*
- regular ionospheric errors compensation possibility 7−34784

radioastronomical observations
- *see also radiosources (astronomical)*
- 4U 0115+634, possible radiocounterpart to Cas γ-1 transient γ-ray source 7−18459
- 0022+6352, H I obs. of compact source rel. to Tycho's SNR 7−66778
- 0133+476, 0235+164, 1749+096, 2131-021, variable quasars, multifreq. radio obs. 7−40955
- 0634-20, radiogalaxy, linear polarisation and total radio power maps anal. 7−35038
- 0850+581, superluminal motion, 5 GHz VLBI maps of quasar 7−24235
- 1452−517, radiogalaxy, UHF obs. 7−60811
- 1518+047 and 2050+364, compact double sources struct. 7−66776
- 1741−038, quasar, refractive interstellar scintillation obs. 7−55845
- 1759+211, nearby radio galaxy, VLA obs. of oscillating jets 7−55820
- 1827-360, scintillation obs. through tail of P/Comet Halley (1982i) 7−66516
- 1919+479 radiogalaxy, observational constraints on bending of radio jets 7−40929
- Abell 2218, 5C20 deep survey at 408 and 1407 MHz 7−18456
- Abell 2218, limits to Sunyaev-Zel'dovich effect 7−60821
- Abell clusters local radio luminosity function at 102.5 MHz 7−29543
- Abell galaxy clusters, 11.1-cm radio maps and obs. at 6.3 and 2.8 cm 7−18454
- active galaxies, radio cores polarisation props. 7−60803
- active stars, search for 843 MHz emission 7−55671
- λ And, RS CVn star, simultaneous IUE and VLA obs. 7−47931
- V1343 Aql (=SS 433), extended radio struct. obs. with European VLBI Network 7−29478
- V1343 Aql (SS 433), evidence for relativistic beaming from VLBI obs. 7−9476
- V1343 Aql (SS 433), quiescent and and active flaring periods obs. at 408 MHz 7−9478
- R Aqr jet, obs. at UV and radio wavelengths 7−55686
- UX Ari, RS CVn star, UHF and SHF obs. 7−66662
- Arp 220, molecular gas, mm interferometry of galaxy nucleus 7−55815
- B2 1320+299, quasar with asymmetric radio struct., VLA obs. 7−35065
- B2 quasars, SHF VLA obs. 7−60825
- B2/B3 variable sources at 408 MHz 7−40948
- B335, Bok globule, cyanoacetylene obs. 7−18448
- B 335, compact bipolar outflow source, EHF obs. 7−47893
- barred spiral galaxies, radio emission from galactic nuclei 7−24203
- bipolar outflows, unbiased survey discoveries 7−55771
- 3C 119, compact steep spectrum source, peculiar morphology 7−40949
- 4C 17.43 and 24.11, lunar occultation studies in HF 7−29549
- 4C 18.68, quasar, radio core and halo struct. 7−4588
- 3C 219, radiogalaxy, jets collimation and polarisation 7−14647
- 3C 263, double-lobed quasar, superluminal motion, SHF obs. 7−48095
- 4C 29.30, extended optical line and radio emission, galaxy merger 7−55805
- 3C 2, compact steep-spectrum quasar, radio characts. 7−60833
- 3C 345, optical outbursts rel. to msec radio structure in quasar 7−4585
- 3C 428, neglected 3C radio sources VLA obs. 7−14672
- 3C 445, radiogalaxy, linear polarisation and total radio power maps anal. 7−35038
- 3C sources in galactic plane, mapping and identifications 7−60823
- Cas A, supernova remnant, surface brightness map at 1.2 mm wavelength 7−24176
- Cir X-1, 843-MHz obs. of assoc. extended radio nebula 7−35012
- circumstellar shells, SO_2 and SO emission obs. 7−4429
- Clump 1, unusual mol. cloud complex near galactic centre, ^{12}CO and ^{13}CO obs. 7−48044
- YZ CMi, dwarf M flare star, simultaneous IUE and VLA obs. 7−47931
- Coma/A 1367 Supercluster, radio continuum props. of galaxies in different density environments 7−29547
- P/Comet Giacobini-Zinner (1984e), ICE radio receiver meas. 7−40765
- P/ Comet Halley, (1982i) results of Giotto radio science expt. 7−14528
- P/Comet Halley (1982i), Giotto Radio Science Experiment at Parkes 7−55571
- P/Comet Halley (1982i), HCN detect. 7−60598
- P/Comet Halley (1982i), HCN production 7−24072
- P/Comet Halley (1982i), kilometric radio waves and plasma waves, Sakigake obs. 7−40769
- P/Comet Halley (1982i), occultation of PKS 2314+03, scintillation meas. 7−18381
- P/Comet Halley (1982i), OH emission and absorption meas. at 18 cm 7−55572
- P/Comet Halley (1982i), search for CO^+ MM-wave transitions 7−24081
- P/Comet Halley (1982i), Vega 1 and 2 dual freq. radio sounding *(Russian)* 7−14537
- P/Comet Halley (1982i) search for H_3O^+ emission 7−9524
- Comet Wilson (1986l), OH line emission obs. 7−66511

radioastronomical observations continued
Comet Wilson (1986l), OH production rate from 1667 MHz obs. and visual magnitudes 7−29433
compact extragalactic radiosources, VLBI astrometry 7−35055
compact galactic H II regions, radio continuum maps 7−60747
cosmic microwave background radiation, isotropy near quasar pair Q 1146+111 B, C 7−40961
cosmic microwave background radiation, temp. meas. at 3.3 mm wavelength 7−29556
Crab Nebula, 1.4 GHz continuum emission in jet and absorpt. in filaments 7−60750
Crab Nebula, surface brightness map at 1.2 mm wavelength 7−24176
cyclopropenylidene, ^{13}C-substituted, 2_{12}-1_{01} transition obs. 7−55768
Cyg A, exptl. 'zoned relay' obs. at RATAN-600 radio telescope 7−60822
Cyg X-3, Oct. 1985 RF burst and gamma-ray event, cosmic ray shower observations 7−66790
Cyg X-3, outbursts observed at 1.3 and 3.3 mm wavelengths 7−35011
dark globules in Cep OB2 association, CO obs. of radial globule systems 7−24172
diffuse microwave background radiation, temp. at 12 cm wavelength 7−55859
AB Dor (HD 36705), 8.4 GHz and photometric obs. of active radio star 7−55628
DR-21 molecular cloud, density struct. from HC$_3$N J=4-3 line obs. *(Russian)* 7−55777
dust clouds, activity centres, spectral study (0.3-1300 μm) 7−48029
dwarf galaxies, 21-cm line widths rel. to luminosity classification extension 7−60794
dwarf galaxies, low surface brightness, in Virgo cluster, H I synthesis obs. and surface photometry 7−4560
dwarf galaxies of low surface brightness, SHF continuum obs. 7−40916
dwarf galaxy in Phoenix, H I survey 7−24229
dwarf irregular galaxies, search for ^{12}CO emission from twelve objects 7−35033
Earth rotation parameters, estimation of accuracy in different freq. bands 7−54843
Egg Nebula (CRL 2688), NH$_3$ and cyanotriacetylene mapping 7−4540
evolved stars, SiO maser and thermal emission 7−47951
extragalactic radio sources, 5-GHz survey 7−4353
extragalactic radio sources, rot. measure vars. rel. to small-scale variations in galactic mag. field 7−29524
extragalactic radio sources, spectral index-flux density relation at 408 MHz rel. to cosmological evolution 7−4578
extragalactic radiosources, milliarcsecond VLBI nuclei positions 7−14671
extragalactic sources near 3C 84 and 3C 273, right ascensions and 7.6 cm flux densities 7−66774
flat-spectrum radio sources, evolution function at 5 GHz 7−14673
G24.6+0.0 (Scutum ring), obs. of ring of H II regions assoc. with CO and H I shells 7−18447
G333.3−0.4, low density ionized gas, H166α radio recombination line obs. 7−24190
G34.3+0.2, compact H II region, NH$_3$ obs. of warm molecular core 7−24173
G7.7−3.7, highly-polarised radio supernova remnant, total power and polarisation meas. 7−48045
galactic background radioemission obs. through artificial ionosphere window (due to Spacelab-2) 7−60469
galactic centre, 43-GHz continuum obs. 7−24219
galactic centre arc, nonthermal radio emission obs. 7−55844
galactic centre neutral disk, CO and CS obs. 7−35040
galactic centre region, prominent polarised plumes and their mag. field, linear polarisation obs. 7−14656
galactic diffuse submm emission obs. 7−48091
galactic H I small-scale structure and soft X-ray background 7−55769
galactic plane, 57.5 MHz obs. of extended nonthermal sources 7−40897
galactic plane radio sources near l=54°, WSRT radio continuum obs. 7−35057
galaxies, CO survey at 2.6 7−55812
galaxies from Einstein Observatory sample, radio and X-ray props. of elliptical and S0 galaxies 7−66753
outer Galaxy H I layer, volume densities atlas in cuts through composite data cube 7−18358
galaxy pairs and small groups, H I spectral characts. 7−14669
Giacobinid meteor shower 1985, radar obs. 7−4384
GT 0116+622, possible radiocounterpart to Cas γ-1 transient γ-ray source 7−18459
Gum Nebula region, cometary globules and dark clouds obs. 7−55750
HD 88500, H I bubble related to WC star 7−40808
HEAO-1 unidentified X-ray sources, UHF obs. 7−14678
HH 6, H$_2$O maser emission detect. 7−4539
HR 5110, RS CVn star, UHF and SHF obs. 7−66662
Hyades stars, positions and 60 mm obs. 7−4535
IC 4553, megamaser galaxy, 5 cm OH absorption 7−40911
IC 5063 (PKS 2048−57), IR and optical polarimetry of radio elliptical galaxy 7−66762
interplanetary radio emissions at low-freq., long-period dynamic spectrograms 7−66417
interstellar cyclopropenylidene (C$_3$H$_2$), 2_{20}-2_{11} absorpt. line obs. in cold dark clouds 7−66716
interstellar cyclopropenylidene-d$_1$ detect. and implications 7−66693
interstellar H I and H$_2$O, spectral lines obs. using acousto-optical spectrometer on RATAN-600 radio telescopes 7−66463
interstellar H I in halo and LMC 7−60768
interstellar magnetic fields, small-scale vars. from rot. measure vars. across extragalactic radio sources 7−29524
interstellar methanol, torsionally excited, in hot mol. cloud cores, centimetre-wave lines obs. 7−48005
interstellar molecular clouds, CO obs. rel. to high-mass stars formation due to cloud-cloud collisions 7−55610
interstellar molecular clouds, submillimeter spectral lines obs. in very dense regions 7−66711
interstellar molecules, radio observations, review 7−14636
interstellar OH 1667 MHz absorpt. towards Cas A, VLA obs. 7−55761
interstellar PO, upper limits to abundances in dense clouds from microwave obs. 7−66713
Io plasma torus and the source of Jovian kilometric radiation (bKOM) 7−34912
IR 1017+08, galaxy, OH maser emission obs. 7−29539
IRAS 16293−2422, NRAO 245 GHz obs. of protostellar cloud 7−14561
IRAS 1629−2422, protostellar source, structure resolved in EHF 7−55621

radioastronomical observations continued
IRAS deep field sources, radio counterparts 7−48102
IRAS low-temp. unidentified print sources, ^{13}CO and ^{12}CO obs. 7−48006
IRAS sources in mol. clouds, search for H$_2$O masers 7−35066
IRC+10216, ^{29}SiC$_2$ and ^{30}SiC$_2$ detect. in millimetre-wave spectrum 7−29474
IRC+10420, detection of HCN in circumstellar shell of peculiar O-rich evolved supergiant 7−9464
Jupiter, localisation of S-component sources of decametric emission 7−24049
Jupiter, radio wavelength zone-belt struct. of atmos. 7−40749
Jupiter, satellite positions and flux density meas. by VLA in SHF 7−40746
K-type pre-main-sequence stars, detection of 6 cm radio emission 7−14569
L134 dark cloud, search for interstellar CH abundance vars. 7−66701
L1551 molecular cloud, VLA obs. of 4.8 GHz H$_2$CO transition 7−60765
L726-8A, flare star, narrow-band radio flares, mechanisms anal. and UHF obs. 7−60679
BL LaC objects, SHF and EHF obs. 7−48100
LDN 1551-IRS 5, circumstellar CO abundance characts. 7−47893
LDN 1641, second mol. cloud core discovery, EHF obs. 7−14622
lenticular and early-type galaxies, H I content of field and Virgo cluster samples 7−4559
AD Leo, dwarf M flare star, simultaneous IUE and VLA obs. 7−47931
AD Leo, flares star, narrow-band radio flares, mechanisms anal. and UHF obs. 7−60679
LkHα 101, VLA obs. of H II region and small-scale struct. in nearby H I 7−48038
Local Group Sb and Sbc galaxies, physical and star form. props., H I obs. 7−60809
low frequency variable radio sources, two-epoch VLBI obs. 7−4579
luminous red giant stars, circumstellar dust and gas props. from IRAS and mol. obs. 7−55609
RU Lup, RW Aur star, multifrequency obs. 7−47866
Lupus dark clouds complex, CO obs. rel. to low-mass stars form. 7−29523
M16, star-forming complex, obs. of giant stellar wind shell assoc. with H II region 7−18446
M17, low density ionized gas, H166α radio recombination line obs. 7−24190
M17 molecular cloud, density struct. from HC$_3$N J=4-3 line obs. *(Russian)* 7−55777
M17 molecular cloud, vel. struct. anal., CO mapping 7−60745
M17 SW molecular cloud, submillimetre molecular spectroscopy with Texas MWO radio telescope 7−55763
M31, NE spiral arm mol. complex, CO mapping 7−66734
M33, 102 MHz obs. *(Russian)* 7−24217
M33, H I survey Ing Westerbork Synthesis Radio Telescope 7−66739
M81, global spiral struct., radio continuum maps anal. 7−55798
M82, CO absorpt. line obs. rel. to large mol. halo or intergalactic mol. gas 7−24223
M87, obs. of radio and X-ray emission from galactic halo 7−66752
M-type giants and supergiants, shell and mass loss characts., CO obs. 7−60649
Markarian 231, Seyfert galaxy/QSO, CO (J=1-0) emission detect. and optical imaging 7−66757
MERLIN systems, observational performance and potential for radioastronomical research 7−24010
meteor radar echo rates, freq. depend. in HF band 7−55578
methylidene (CH), rotationally excited interstellar molecule in direction of W51 H II region 7−24193
AT Mic, UV Cet star, quiescent emission at 843 MHz 7−34998
N Milky Way, source catalogue from radio patrol survey 7−4356
Mira variables of short period, search for OH and SiO maser lines 7−14580
molecular observations with Cologne University 3-m radio telescope, obs. 7−24004
molecular outflow sources, NH$_3$ obs. 7−66576
Moon, radar bright rings obs. in craters and implications for Venus radar bright rings 7−24028
Moon, radar map of lunar surface, at 70 cm 7−66481
MSH 05−22, D-galaxy, characts. and dimensions 7−40919
MSH 05−22(0503−286), giant radiogalaxy characts. 7−40918
Neptune, submillimetre and millimetre observations 7−24063
NGC 1068, Seyfert 2 galaxy, radio struct. in inner 1 arcsecond 7−48068
NGC 1097, barred spiral galaxy with ring of star formation at centre 7−60777
NGC 2024, H II region, VLA maps of formaldehyde absorpt. 7−48041
NGC 2071, refl. nebula, nearby bipolar flow source NH$_3$ obs. 7−24181
NGC 3359, barred spiral galaxy, H I distrib. and kinematics 7−66745
NGC 3448, amorphous galaxy, photometry and H I dynamics 7−35041
NGC 4005 galaxy group, H I 21 cm line obs. rel. to system rotation 7−55841
NGC 5023, edge-on dwarf galaxy, H I layer thickness 7−24208
NGC 5383, barred spiral galaxy, CO obs. 7−55827
NGC 55, magellanic-type galaxy, H I and radio continuum obs. 7−9539
NGC 613, barred spiral galaxy with collimated outflow from nucleus 7−60779
NGC 7023, outflow source, CO mapping 7−60772
OH-IR stars at Galactic Centre, showing SiO maser emission 7−60666
OMC-1, NH$_3$ line emission, search for linear polarisation 7−48011
OMC-1, obs. of P(2,1) line of H$_3$O$^+$ 7−9524
OMC-1, submillimetre molecular spectroscopy with Texas MWO radio telescope 7−55763
RS Oph, recurrent nova, radio obs. rel. to conditions in nova remnant 7−60695
ρ Oph dark cloud, multi-freq. obs. 7−48024
optical H II regions, possible connection with mol. clouds, CO obs. 7−40887
Ori A, monitoring obs. of SiO maser emission at 7 mm wavelength (1977 to 1979) 7−4449
Orion 8 km s^{-1} H$_2$O maser source, time behaviour 7−24233
Orion A, He abundance, spectral obs. *(Russian)* 7−40951
Orion bright bar and the associated shocks *(Japanese)* 7−4543
Orion hot core, methyl cyanide excitation, 1.3 mm obs. 7−60758
Orion IRc 2, vibr. excited cyanoacetylene obs. 7−48063
Orion KL, NH$_2$D detect. and abundance 7−60754
Orion molecular cloud, HCN/HNC abundance ration vars. 7−48033
Orion Nebula, continuum mapping 7−48011
Orion southern giant molecular cloud, CO bipolar outflow 7−55771

radioastronomical observations continued
Orion-KL region, maps of high-vel. CO outflow 7−29522
Palomar-Westerbork survey of northern spiral galaxies 7−40724
II Peg, RS CVn star, UHF and SHF obs. 7−66662
pentynylidyne radical (C_5H), detect. of $^2\Pi_{3/2}$ state (in IRC+102.16) 7−23988
pentynylidyne radical (C_5H), in interstellar space, hyperfine struct. obs. 7−60749
Per A, cool gas content, CO and H I obs. 7−60774
Perseus dark clouds, visual extinction and CO emission 7−14623
Perseus globules, physical and chem. conditions, NH_3 and cyanoacetylene obs. 7−35021
PHL 61, identifications of quasar radio absorption lines 7−29551
PHL 61, quasar, search for CO *(Russian)* 7−40957
PHL 957, quasar, Sunyaev-Zeldovich effect 7−35061
Pisces-Perseus supercluster galaxies, 21-cm survey in declination zone +21.5° to +27.5° 7−4576
compact planetary nebulae, wind-shell model for radio continuum spectra 7−55751
PSR 0809+74, 1237+25, 1919+21, subpulse drift cross correl. anal. 7−66644
PSR 0809+74, average pulse profile and dispersion measure from decametric wavelength obs. *(Russian)* 7−55697
PSR 1913+16, binary pulsar, proper motion determ. from periastron times 7−55696
pulsar micropulses, dual-freq. correlation study in VHF 7−29498
pulsar profiles, freq. depend. 7−60701
pulsars, dispersion measures determ. 7−66646
pulsars, Faraday rotation meas. on 163 objects 7−66648
pulsars, Green Bank/Arecibo survey for fast objects 7−60702
pulsars, multiple imaging by refr. in interstellar medium 7−40856
pulsars, space velocities and rot. characts., interstellar scintillation meas. 7−60698
pulsars, UHF obs. 7−14597
Q0800+608, quasar, VLA obs. of remarkable one-sided jet 7−9555
Quadrantid meteors (1968), shower activity profile synthesis from multi-site radar obs. 7−29436
quasars, SHF and EHF obs. 7−48100
quasars, VLBI observations with orbiting radiotelescope 7−47730
radio galaxies, 0.6 GHz intensity and linear polarisation mapping of edge-brightened double sources 7−66737
radio recombination line emission towards galactic centre, constraints on ionised gas props. 7−66719
radiogalaxies collision/merger origin of powerful sources, VLA 6 cm mapping 7−60788
radiogalaxies of low lumin., obs. at 102 MHz 7−4551
radiosources, polarization of classical double sources 7−18458
radiosources, VLA survey in outer Galaxy 7−14655
RCW 74, low density ionized gas, H166α radio recombination line obs. 7−24190
S140 IRS 1, CO obs. of assoc. bipolar outflow 7−66710
S235B region, mol. line obs. of young stellar object 7−24188
S5 flat spectrum radio sources, analysis of complete sample 7−40947
Saturn ring system, bending waves anal. using Voyager radio occultation data 7−55527
Sco X-1, lobe characts. determ., VLA obs. 7−60721
Sculptor Group galaxies, radio continuum emission 7−60810
semi-regular variables of short period, search for OH and SiO maser lines 7−14580
Seyfert galaxies, CO emission, spatial distrib. and central source 7−55808
Seyfert galaxies of type 1.8 and 1.9, radio props. 7−29537
VX Sgr, VLBI obs. of SiO masers rel. to physical conditions in circumstellar envelope 7−55619
Sgr B2, obs. of P(2,1) line of H_3O^+ 7−9524
Sgr B2, vibr. excited cyanoacetylene obs. 7−48063
Sgr B2(OH), cyclopropenylidene, detection of ^{13}C isotopes 7−40891
Sh2-235, mol. cloud-ionised emission nebula interface modelling, C recomb. lines obs. anal. 7−48012
Sharpless 252, assoc. dust and gas, UBVRI polarimetry and molecular line obs. 7−48023
shell elliptical galaxies, radio emission search 7−60807
SHF background radiation meas. 7−55463
Simeiz-Pushchino interferometer astrometric obs. 7−4334
SN 1006 remnant, total intensity obs. at radio frequencies 7−35025
SN 1986J, prediscovery radioobservations of supernova in NGC 891 galaxy 7−47955
SN 1986J in NGC 891, spectrum and radio detections 7−9503
SN 1986J in NGC 891, VLBI determ. of supernova radial expansion 7−47957
SN 1987A in LMC, optical spectra, radiobrightness and double nature of progenitor 7−66634
SNRs, galactic plane, 57.5 MHz obs. of extended nonthermal sources 7−40897
solar filaments, high-resolution microwave obs. 7−24091
solar flares, spatial and temporal characts. of energy release from X-ray and radio imaging obs. 7−24090
solar flares, SWF flares rel. to sunspot groups with abnormal mag. structures and rapid vars. *(Chinese)* 7−4390
solar flares and sunspots, statistical relationship 7−66536
solar metre-wave microbursts, Clark Lake obs. and lower limit to type III burst brightness temps. 7−66561
solar radio pulsation event, characterisation by low-dimensional chaotic attractor 7−66552
solar type I burst, 1983 July 31, obs. of strange recurring intensity-time pattern 7−66560
solar type III burst sources, 169 MHz obs. rel. to width of electron beam injection region 7−66562
solar Type III radio bursts, Helios obs. rel. to generation and propag. 7−47801
solar type III radio bursts, ISEE-3 obs. rel. to exciting electrons speeds determ. 7−66533
solar wind, large-scale disturbances 7−23968
spectral flux densities at 22 MHz, determ. for 395 radio sources 7−18457
spiral galaxies in Virgo Cluster, 2.8 cm radio continuum emission distrib. 7−9540
star formation regions in southern hemisphere, CO J=2-1 obs. 7−18441
submillimetre molecular spectroscopy with Texas MWO radio telescope, results from OMC-1 and M17 SW mol. clouds 7−55763
Sun, 810 MHz emission obs. (1971 to 1976) 7−4388
Sun, azimuthal aperture synthesis obs. by RATAN-600 telescope in 'south plus periscope' mode 7−60612

radioastronomical observations continued
sun, broad-band solar radio bursts of spike type, origin and VHF obs. 7−4404
Sun, exptl. 'zoned relay' obs. at RATAN-600 radio telescope 7−60822
Sun, flare thermal phase, microwave/X-ray diagnostic 7−4420
Sun, flare VHF and UHF emission 7−4400
Sun, flares, delayed acceleration process, radio and X-ray obs. anal. 7−24107
Sun, interferometric obs. rel. to effects of atmospheric gravity waves 7−4253
Sun, MF burst from flare of 1981 May 13, Prognoz-8 obs. 7−66545
Sun, Prognoz-10 obs. 7−55378
Sun, prominence structure and activation based on radio and optical obs. 7−29447
Sun, quiescent prominence, density and temp., EHF brightness temp. obs. 7−4407
Sun, S-component sources, RATAN-600 obs. 7−4422
Sun, SVC sources, spectra obs. 7−14554
Sun, type I emission, proper motion and flare activity *(Chinese)* 7−4397
Sun, type IV bursts due to active region ejected plasma clouds 7−4421
Sunyaev-Zeldovich effect, EHF search 7−48109
superluminal sources, EVN and MERLIN obs. 7−66775
supernova remnants, evidence for biannular radio struct. 7−55752
supernova SN 1986J in NGC 891, prediscovery flux densities 7−18426
V711 Tan (HR 1099), radio emission from starspots on RS CVn binary 7−55725
V711 Tau, RS CVn star, UHF and SHF obs. 7−66662
T Tau stars, radio variability and structure 7−40807
Taurus Molecular Cloud-1, observations of pentynylidyne radical hyperfine struct. 7−60749
Texas radio source survey, search for optically variable objects 7−4580
Titan (Saturn VI), HCN detect. at 88 GHz 7−9410
TMC-1, density struct. from HC_3N J=4-3 line obs. *(Russian)* 7−55777
TMC-1, deuterated cyclopropenylidene detection at 19.4 GHz 7−55772
Uranus, lightning due to electrostatic discharges and radiowave emission 7−18372
Uranus, submillimetre and millimetre observations 7−24063
Ursa Major I(S) group galaxies, ^{12}CO and far-IR obs. 7−29548
Vela supernova remnant, spectral index distrib. rel. to radio emission from Vela X 7−24174
Venus, Cleopatra Patera, Venera 15/16 radar images rel. to volcanic origin 7−66488
Venus, geological and morphological description of Ishtar Terra 7−66486
Venus, geological and morphological description of Lakshmi Planum 7−66485
Venus, identification of radar bright rings as impact craters 7−24028
Venus, polar ionosphere near terminator, Venera 15 and 16 radio occultation data 7−66490
Venus, struct. of Maxwell Montes and Thessera Fortuna from Venera 15 and 16 radar images 7−9394
Vir A, cool gas content, CO and H I obs. 7−60774
Virgo Cluster spiral galaxies, CO obs. 7−55800
Virgo galaxy cluster, orbits of H I deficient spiral galaxies 7−24230
VLBI station location determination in terrestrial reference frame *(French)* 7−66314
W3(OH), hot NH_3 obs. towards H_2O masers near W3(OH) 7−9525
W3 core region, millimetre-wave continuum obs. at 6.5 and 4 mm 7−55781
W49, exptl. 'zoned relay' obs. at RATAN-600 radio telescope 7−60822
W51, methylidene detection in direction of W51 H II region 7−24193
W51 IRS 2, star-forming region, NH_3 maser and thermal emission obs. 7−66702
W51A, vibr. excited cyanoacetylene obs. 7−48063
X-ray sources in galactic bulge and globular clusters, radio obs. 7−29511
Zw 475.056, galaxy, OH maser emission obs. 7−29539
Ba stars, VLA radio continuum survey 7−47894
H I bubble around O7 star (HD 91824) in Carina region, prod. by stellar wind of O-type star 7−60760
H I emission from quasars and active galaxies, 21-cm obs. 7−48066
H I regions, vertical struct. of galactic spiral arms rel. to energetics of vel. active regions 7−24220
H I survey of Southern Milky Way, 21-cm obs. 7−40894
H II regions, H radio recombination line emission 7−60746
H_2O masers in nearby galaxies, luminosities and line profiles 7−14661
H_3O^+, P(2,1) line obs. in interstellar medium and Periodic Comet Halley (1982i) 7−9524
H272α lines survey in galactic plane, implications for origin of galactic ridge radio recombination lines 7−66718
OH absorption in extragalactic sources, Arecibo survey 7−40895
OH, interstellar, obs. of highly excited states towards galactic H II regions 7−24177
OH-IR stars, H_2O maser emission obs. 7−24140
OH-IR stars identified with IRAS sources, OH circumstellar masers obs. 7−34978
SiO maser sources, monitoring obs. at 7 mm wavelength (1977 to 1979) 7−4449

radioastronomical techniques
antenna directional patterns measurement using extended radio sources 7−56234
azimuthal aperture synthesis, RATAN-600 obs. of Sun in 'south plus periscope' mode 7−60612
Earth rotation parameters determ. estimation of accuracy in different freq. bands 7−54843
FFT spectrum analyzer possessing high speed operation characts. 7−47710
geodetic baseline determination by VLBI, influence of air pressure 7−4213
indirect imaging methods, conf., Sydney, Australia (Aug.-Sept. 1983) 7−41016
interferometry, representation of time delay and interference freq. in coordinate-independent form 7−60571
Io-dependent HF emission from Jupiter's southern hemisphere, identification method 7−60595
Jodrell Bank telescopes surface profiles meas., appl. of wide-band interferometers 7−60543
mapping of radio sources, concepts and inventions from GLK radar to MERLIN 7−47708
maximum entropy method deconvolution 7−14500
microwave imaging techniques for Titan 7−40756

radioastronomical techniques continued
  minimum relative entropy method as soln. to missing short-baseline problem 7—55478
  MM-wave radiometer, 145 GHz, receiver design using superconducting mixer, radiotelescope appl. *(German)* 7—24007
  observational methods (book) 7—35140
  occultation measurements for Saturn rings profiling, radiowave diffraction problem soln. 7—34886
  optimum nonlinear filtering of radioastronomical data, appl. to flux distrib. function determ. 7—47721
  patrol instrument using FFT processor as a 'digital lens' 7—47709
  phase distortions compensation in strained radiotelescope reflectors, automatic control 7—60541
  polarimetry, polarisation characts. of correlation (balanced) polarimeter 7—66465
  polarisation measurement, props. of Muller matrices of polarisation systems 7—66464
  prolonged source tracking with RATAN-600 radio telescope, new technique 7—60538
  Quasat-Earth based VLBI system, appl. for interstellar refr. meas. 7—60576
  'relay with zoning' method, new observing mode for RATAN-600 radio telescope 7—60568
  satellite VLBI, appl. of orbits with periodic flights around Moon 7—34833
  SETI, ultranarrowband searches with dedicated signal processing hardware 7—24013
  signal processing, use of communications techniques 7—29411
  signal processing at Nobeyama Radio Observatory, Japan 7—55470
  solar radio pulsation event characterisation, appl. of low-dimensional chaotic attractor 7—66552
  solar spectropolarimetry, appl. of IKAR-16 automated solar spectral-polarisation complex of RATAN-600 radio telescope 7—66460
  spectroscopy, 1.35-cm spectral receiver for RATAN-600 radio telescope 7—66466
  spectroscopy, appl. of acousto-optical spectrometer for RATAN-600 radio telescope 7—66463
  stereo-radargrammetry, implications of Gestalt formations for Venus Radar Mapper 7—9379
  submillimetre and millimetre interferometer of polarizing type 7—40697
  Sunyaev-Zeldovich effect, detect. methods 7—48109
  very-large-array phase data, modelling of atmospheric effects 7—14504
  VHF aperture synthesis observations, effects of Es-layer *(Chinese)* 7—66471
  VLBI, interferometric phase synchronisation of remote heterodynes 7—60570
  VLBI, possible appls. of acousto-optical correlators 7—60569
  VLBI correlators, signal loss due to imperfect fringe rot. 7—47722
  VLBI fringe-fitting with antenna-based residuals, algorithm 7—34885
  VLBI observations with orbiting radiotelescope 7—47730
  VLBI station location determination in terrestrial reference frame *(French)* 7—66314
  VLBI use for Earth rot. parameters determ. *(Chinese)* 7—29248
  'zoned relay' method, exptl. obs. with RATAN-600 radio telescope 7—60822
  H I survey of M33, WSRT 21-cm data reduction technique 7—66739

radioastronomy
  see also radiofrequency cosmic radiation; radiosources (astronomical); radiotelescopes; solar radiofrequency radiation
  absolute flux scale, review 7—29550
  Arecibo Observatory upgrading program 7—55471
  Australia telescope project, space-related services spinoffs 7—4338
  Comet Wilson (1986l), OH line emission obs. 7—66511
  cosmic microwave background radiation, temp. meas. at 3.3 mm wavelength 7—29556
  crater imaging method using radar, discrimination between volcanic and impact craters 7—66487
  EM wave amplification by ring-beams distrib. of moderately relativistic electrons 7—51503
  FIRST mission, general outline 7—60508
  galactic ridge radio recombination lines, origin from H272α lines survey 7—66718
  general overview (book) 7—55914
  Giotto Radio Science Experiment at Parkes 7—55571
  interferometry, representation of time delay and interference freq. in coordinate-independent form 7—60571
  interplanetary radio emissions at low-freq., long-period dynamic spectrograms 7—66417
  interstellar chemistry and submm astron. 7—48060
  interstellar mm and sub-mm spectroscopy 7—14644
  interstellar molecule spectra, for CO^+, CH, ^{13}CN, H_2D^+, HCO_2^+ 7—24196
  interstellar molecules, radio observations, review 7—14636
  interstellar submm mol. transitions 7—47698
  interstellar velocities, determ. of inner galactic rot. curve shape 7—35050
  Io plasma torus boundaries, radio emission 7—40751
  Jupiter, continuum radiation, periodic amplitude var. 7—47756
  Jupiter, HF and MF emission rel. to solar wind plasma and mag. field characts. 7—4362
  Jupiter, HF emissions, control by Io 7—40752
  Jupiter, HF radiation from northern and southern hemispheres, ray-tracing 7—60595
  Jupiter, localisation of S-component sources of decametric emission 7—24049
  Jupiter, origin of Io-phase-dependent S-bursts in decametric radio spectra 7—47753
  Jupiter, radio wavelength zone-belt struct. of atmos. 7—40749
  Jupiter, radiowave emission at 1.2 kHz, magnetosphere source region 7—9404
  Jupiter icy satellites, radar glory from buried craters 7—34913
  Magellan, Venus mission, SAR instrumentation 7—55468
  Magellan SAR, system test and calibration 7—48681
  Magellan SAR system 7—55469
  mapping of radio sources, concepts and inventions from GLK radar to MERLIN 7—47708
  MERLIN systems, observational performance and potential for radioastronomical research 7—24010
  meteor astronomy, radio waves scattering from underdense meteor trains 7—4383
  millimetre-wave astronomy, automatic calibration system for heterodyne receiver *(French)* 7—60542

radioastronomy continued
  mm wave research in Finland, radioastronomy receivers develop. *(Finnish)* 7—60549
  mm-wave, 230 GHz, low-noise cryogenic receiver, spectroscopic appls. 7—29396
  molecular astrophysics, NATO conf., Bad Windsheim, Germany (1984 July) 7—9589
  Moon, radar map of lunar surface, at 70 cm 7—66481
  optimum nonlinear filtering of radioastronomical data, appl. to flux distrib. function determ. 7—47721
  Orion bright bar and the associated shocks *(Japanese)* 7—4543
  polarimeter spectrometer for radio astronomy 7—14495
  pulsars, theory, discovery, and astronomical impact 7—47964
  radio recombination line emission towards galactic centre, constraints on ionised gas props. 7—66719
  'relay with zoning' method, new observing mode for RATAN-600 radio telescope 7—60568
  satellite VLBI, appl. of orbits with periodic flights around Moon 7—34833
  Saturn, kilometric radiowave emission and centrifugal flute instability 7—24061
  α Sco, optical and radio positions comparison *(French)* 7—24131
  SETI at JPL, Caltech and Ames Research Centre *(French)* 7—60580
  solar radioastronomy, effects of ionospheric gravity waves on interferometric obs. 7—4253
  sub-mm astronomy and astrophysics 7—14637
  submillimeter astronomy, low noise heterodyne receiver 7—34868
  submm astronomy (in 1990s) 7—47736
  subMM transparency of atm. at Antarctic station Vostok *(Russian)* 7—23822
  supernova remnants, selection effect in statistical investigations 7—24170
  Uranus, lightning due to electrostatic discharges and radiowave emission 7—18372
  Uranus, sporadic narrow-band radio emissions 7—34926
  Venus, microwave spectrum, laboratory meas. of constituent gas opacities 7—47744
  Venus ionosphere, radio occultation props. rel. to ionisation sources 7—34902
  VLBI, interferometric phase synchronisation of remote heterodynes 7—60570
  VLBI, possible appls. of acousto-optical correlators 7—60569
  VLBI fringe-fitting with antenna-based residuals, algorithm 7—34885
  wave propagation in interstellar medium, refractive and diffractive scatt. effects 7—55759
  C_2 in interstellar space, rotational excitation processes 7—24198
  H_2NC^+, interstellar mol., pot. energy surfaces, ab initio MO theory 7—19687
  HN_2O^+, millimetre-wave spectrum and mol. consts. 7—29387
radiobiology *see biological effects of ionising radiation*
radiocarbon dating *see radioactive dating*
radiochemistry
  see also radioactive chemical analysis; radioactive tracers
  hot atoms produced by nucl. transformations 7—48250
  insulators, chemical modification by ion implantation, hot atom chemistry processes, review 7—26813
  muonium, formation in nonpolar liquids, model 7—15742
  positronium, chemical reactions and radiation yield 7—17808
  positronium, formation, inhibition and enhancement, model 7—17810
  positronium, formation and inhibition in cyclohexane, model calcs. 7—17812
  positronium, in liquids, radiation chem. 7—17806
  positronium formation and hydrated positron reactions in solns. of Cl^-, Br^- and I^- 7—17809
  $H+N_2O$, hot atom reaction, chem. laser, nonequilib. processes 7—1092
radiocommunication
  see also radio links
  meteor burst data, database anal. approach 7—60607
  meteor burst propagation and system design 7—40644
  rock mass stress data, acquisition and radio telemetry *(Russian)* 7—34681
radiocrystallography *see X-ray crystallography*
radiofrequency amplifiers
  see also preamplifiers
  hybrid integrated circuit transistor amplifier, appl. in 21-cm spectrometer receiving unit 7—60559
  Mirror Fusion Test Facility, 1000 kW ICRH amplifiers 7—26461
radiofrequency and microwave spectra of diatomic inorganic molecules
  see also nuclear magnetic resonance; paramagnetic resonance
  asymmetric top mols., microwave spectra, electric dipole moment determ. 7—25495
  interstellar mm and sub-mm spectroscopy 7—14644
  interstellar molecule mm wave spectra 7—24196
  AgBr, vibr. states, rot. transitions, isotope shifts, Dunham pot., microwave spectra anal. 7—42605
  AgI, mol. consts. and millimeter-wave rot. transitions, meas. 7—10555
  CO, submm transitions for astronomy 7—47698
  CS, vibr. excited, mm-wave rot. spectrosc. obs. 7—36595
  GaCl, isotopic derivatives, Dunham pot. for electronic ground state, microwave spectra anal. 7—31029
  H_2, high resolution microwave spectroscopy of Rydberg transition 7—15595
  HD, submm transitions for astronomy 7—47698
  $^{115}In^{79}Br$, $A^3\pi_0$-$X^1\Sigma^+$ and $B^3\pi_1$-$X^1\Sigma^+$ subsystems, rot. anal. 7—42592
  $^{115}In^{81}Br$, $A^3\pi_0$-$X^1\Sigma^+$ and $B^3\pi_1$-$X^1\Sigma^+$ subsystems, rot. anal. 7—42592
  NF, metastable radical, microwave spectrum 7—42603
  NH^+, rot. transition obs. with resolved hyperfine struct. 7—42508
  NbO, hyperfine struct., intensity cancellation effects, microwave and fluoresc. spectra 7—50088
  OH emission and absorption at 18 cm, P/Comet Halley (1982i) obs. 7—55572
  S_2, $b^1\Sigma g^+$-$X^3\Sigma_g^-$ system consts., IR and microwave spectra anal. 7—19848
  SO, vibr. excited, mm-wave rot. spectrosc. obs. 7—36595
radiofrequency and microwave spectra of organic molecules and substances
  see also nuclear magnetic resonance; paramagnetic resonance
  acetaldehyde, mm and sub-mm wave spectra, centrifugal distortion and internal rot. anal. 7—57056
  acetaldehyde in its lowest torsional states, mm-wave spectrum 7—50091
  acetone-d_1(-d_2)(-d_3), microwave and mm-wave rot. spectra, rot. spectrum, internal rot. and struct. 7—25497
  allene-d, (-1,1-d_2), pure rot. spectra, microwave FT spectrosc. 7—5669

radiofrequency and microwave spectra of organic molecules and substances continued
aromatic aldehydes in cyclohexane solvent, internal mobility study, far-IR and microwave Fourier transform spectra anal. 7−64631
astrophysical molecules, theoretical predictions of the infrared and microwave spectra of small molecules 7−10561
asymmetric top mols., microwave spectra, electric dipole moment determ. 7−25495
benzene-d_1 1_{01}-0_{00} rot. transition, Stark shift, microwave FT spectrosc. 7−57110
bicyclo[1.1.1]pentanone, struct. and microwave spectrum 7−50094
butatrienone-do(d_3), struct., vibr. anal. ab initio MO calcs., microwave spectroanal. 7−25491
t-butyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7−36601
N-chloro-N-methylmethamine, microwave spectrum, struct., quadrupole coupling consts. 7−50085
chloromethane-d_3, subMM laser Stark spectrum at $\lambda=337$ μm 7−57107
(chloromethyl) phosphonothioic difluoride, microwave, IR and Raman spectra, conformational stability 7−36599
2-chloropyridine, microwave spectrum and nuclear quadrupole coupling 7−62359
crown ether-NaSCN complex, tetrahydrofuran solvent, IR and microwave dielectric spectro anal. 7−31027
cyanoacetylene, interstellar, nonequilib. excitation of rot. levels 7−60743
cyanomethane, submm transitions for astronomy 7−47698
P-cyanophosphaethene, bond angles and length, rot. const., microwave obs. 7−62358
cyanopolyacetylene, rot. consts., MINDO/3 calcs. 7−60770
4-cyanopyridine, rot. spectrum, nucl. quadrupole coupling effects 7−57055
cyclobutylcarboxylic acid fluoride, microwave, IR and Raman spectra, Stark effect, conform. 7−25492
cyclohexylphosphine, chair conform. identification in the gas phase, microwave spectra anal. 7−36597
cyclopropenylidene, ^{13}C-substituted, 2_{12}-1_{01} transition obs. 7−55768
cyclopropenylidene, deuterated, TMC-1 detection at 19.4 GHz 7−55772
cyclopropyl silane, excited torsional state, microwave spectrum, stark spectroscopy, ODR 7−50092
cyclopropylamine, substituent effect, struct., ab initio calcs., microwave spectra 7−62354
1,2- dichlorobenzene-d_3(d_4), isotopic species, r_0 structure calcs., microwave spectra 7−19834
trans-difluoroethylene ozonide, struct. dipole moment, ab initio HF calcs., microwave spectra 7−10557
difluoromethane, ground state rot. spectrum 7−5670
2,3-dihydrofuran, ring puckering vibr. and centrifugal distortion, microwave spectra anal. 7−36596
fluoromethanol, rot.-vibr. anal., conformational stability, dipole moment anal. microwave spectra 7−19831
formic acid (-d_1), microwave spectra, quadratic vibr.-rot. coupling terms 7−50089
interstellar mm and sub-mm spectroscopy 7−14644
interstellar molecule mm wave spectra 7−24196
methanol, FIR lasers, intracavity triple reson. spectroscopy 7−10560
methanol, interstellar, obs. of torsionally-excited states in hot mol. cloud cores 7−48005
methanol-^{13}C, laboratory microwave spectrum, Ori A identification 7−57053
2-methoxyethylamine, H bonded config. mol. rot., rot. isomerism barrier, quadrupole coupling consts., microwave spectra 7−50093
methyl chloride, Fourier transform IR spectra, rot.-vibr. anal. 7−10571
methyl chloride, rot. transitions, isotope shifts, microwave spectra anal. 7−42606
methyl cyanide in Orion hot core, excitation, 1.3 mm obs. 7−60758
methyl cyanide-acetylene dimer, pulsed nozzle FT microwave spectrosc. 7−36593
methyl silane, torsional dipole consts., rot.-vibr. anal., microwave and IR spectra 7−19829
s-cis methyl vinyl ether, coupled torsional and bending motions, microwave Fourier transform spectra 7−62355
methylchloroform, microwave and mm-wave spectra, hyperfine struct., rot. and centrifugal distortion consts. 7−25500
methylhypochlorite-d_0(d_3), rot., centrifugal distortion consts., microwave spectra 7−10558
methyliodosilane, and deuterated species, dipole moments, quadrupole coupling consts., microwave spectra 7−19830
methylsilanethiol, gauche and trans isomers, struct., dipole moments, internal rot. obs. 7−5668
pentamethylene oxide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7−19833
pentamethylene sulphide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7−19833
pentynylidyne radical (C_5H), in interstellar space, hyperfine struct. obs. 7−60749
phenyl isocyanate, microwave spectra, ^{14}N quadrupole coupling 7−57054
phenyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7−36601
phenyl isothiocyanate, microwave spectra, ^{14}N quadrupole coupling 7−57054
pivalonitrile, microwave spectra, ^{14}N nuclear quadrupole coupling and centrifugal distortion parameters 7−36602
propyl fluoride, microwave spectra, r_s struct., rotational isomerism, moments of inertia meas. 7−10556
propyne, microwave spectrum in 17 to 52 GHz region for $\nu_{10}=4$ vibr. state 7−25499
propyne, $v_s=2$ vibr. state, microwave spectrum in 17-72 GHz region 7−36594
pyrazine - BF_3, adduct, low-resolution microwave spectra anal. 7−36598
pyridazine - BF_3, adduct, low-resolution microwave spectra anal. 7−36598
pyridine - BF_3, adduct, low-resolution microwave spectra anal. 7−36598
pyridine - BH_4, adduct, low-resolution microwave spectra anal. 7−36598
pyridine-d_0(d_1), HFS, quadrupole coupling, Fourier transform microwave spectra 7−19827
pyrimidine - BF_3, adduct, low-resolution microwave spectra anal. 7−36598
selenoformaldehyde, microwave spectra, struct., vibr. freqs. and centrifugal distortion consts. 7−50090
sodium nitrophenolates-crown ethers, proton transfer complexes, spectral characts. 7−15596
trifluoroacetaaldehyde, combined microwave-optical barrier determ. 7−42602

radiofrequency and microwave spectra of organic molecules and substances continued
trifluoronitrosomethane, combined microwave-optical barrier determ. 7−42602
urea, rot. transition, N quadrupole coupling, HFS, microwave spectra 7−10559
vinyl formate, gas phase structure anal., ab initio calcs., molecular mechanics calcs., IR spectra 7−19691
NH_2D, IR and microwave spectra, rot. anal. 7−25518

radiofrequency and microwave spectra of polyatomic inorganic molecules
see also nuclear magnetic resonance; paramagnetic resonance
astrophysical molecules, theoretical predictions of the infrared and microwave spectra of small molecules 7−10561
asymmetric top mols., microwave spectra, electric dipole moment determ. 7−25495
HBF^+, Γ_s struct., bond lengths, microwave spectra 7−62357
interstellar mm and sub-mm spectroscopy 7−14644
interstellar molecule mm wave spectra 7−24196
Ar-NH_3, microwave spectrum of K=0 states 7−25493
Ar-NO van der Waals mols., microwave and RF spectra, hyperfine parameters 7−31026
Ar-PF_3 complex, rot. and distortion consts., microwave spectrum 7−62353
$^{11}BF_3$, ground vibr. state, rot. transitions, microwave spectra anal. 7−50086
$BaTiO_3$, ferroelectric solid, microwave absorpt., Curie temp. and ultrasonic attenuation 7−39049
C_2N_2-Ar gaseous mixture, collision-induced absorpt., quadrupole moments, IR and microwave spectra 7−50098
CO_2, microwave spectrum laboratory meas. of constituent gas opacities, Venus atmosphere 7−47744
CO_2-Ar gaseous mixture, collision-induced absorpt., quadrupole moments, IR and microwave spectra 7−50098
HBF^+, rot. anal., microwave spectra 7−19832
HCN J=1-0 rotational transition in P/Comet Halley (1982i) 7−24072
HDNNC, rot.-inversion spectrum in region from 100 to 400 GHz 7−25494
HI-HF complexes, struct. and microwave spectra 7−50087
H_3N-HCl, H-bonded dimer charactn., rot. FT microwave spectrum 7−25490
HN_2O^+, millimetre-wave spectrum and mol. consts. 7−29387
H_2O biological charge transfer processes, IR and microwave spectra 7−3749
H_2O, dielectric microwave and near-millimetre wavelength spectra 7−27646
H_2O, spectral line halfwidth calc. in microwave region 7−50263
H_2O, submm rotational lines, use for cometary spectroscopy 7−47795
H_2O, submm transitions for astronomy 7−47698
H_2O vapour, absorpt. in 183 GHz line wing, temp. and press. depend. 7−36600
INCO, microwave spectrum, rot. and centrifugal distortion consts., quadrupole hyperfine struct. 7−5667
IOF_5, excited vibrs. state, microwave spectrum, vibr. and rot. parameters 7−25498
N_2-methane gaseous mixture, collision-induced absorpt., IR and microwave Fourier transform spectra anal. 7−50097
NH_3 interstellar inversion line obs., molecular cloud kinetic temps. 7−66700
OCS, reson. IR radiation interaction, l doubling, microwave spectrum 7−42604
OCS, rot.-vibr. anal., electronic ground state, MW, IR and Raman spectra 7−19820
SO_2, microwave spectrum, laboratory meas. of constituent gas opacities, Venus atmosphere 7−47744
SO_2-H_2S complex, microwave spectrum, rot. transitions 7−42601
SO_2-HF(DF), mol. geometry, ^{19}F spin-spin and D-nucl. quadrupole coupling consts., rot. spectrum 7−5666
SO_2.HCN (SO_2.DCN) dimers., anti-H-bonded, rot. spectrum, mol. geometry 7−36592
SeO_2 ground vibr. state, rot. const. sub mm spectra 7−31028
$Si^{35}Cl_2H$, mm wave rot. spectra, centrifugal distortion const. and harmonic force field anal. 7−25496
$SiCl_3H$, quadrupole coupling, rot. microwave obs. 7−62356
$^{A}SiC_2$ (A=29, 30), detect. in millimetre-wave spectrum of IRC+10216 (CW Leo) 7−29474

radiofrequency cosmic radiation
see also radioastronomy
absorption in high-latitude Earth ionosphere, spectrum 7−14405
anisotropy of microwave background, review 7−48106
diffuse microwave background radiation, temp. at 12 cm wavelength 7−55859
galactic background radioemission obs. through artificial ionosphere window (due to Spacelab-2) 7−60469
galactic diffuse submm emission obs. 7−48091
microwave background, distortion due to dust 7−47699
microwave background, entropy of perturbed background radiation 7−66791
microwave background, temp. fluctuations induced by gravit. radiation 7−14838
microwave background, temp. fluctuations induced by gravitational lensing 7−4595
microwave background and early Universe structures 7−48108
microwave background radiation, isotropy near quasar pair Q 1146+111 B, C 7−40961
microwave background radiation, temp. meas. at 3.3 mm wavelength 7−29556
Population III, heating of dust and radiative spectrum *(Chinese)* 7−66680
SHF background meas. 7−55463
Sunyaev-Zel'dovich effect limits for Abell 2218 cluster 7−60821
Sunyaev-Zeldovich effect, EHF search 7−48109
Sunyaev-Zeldovich effect assoc. with PNL 957 quasar 7−35061

radiofrequency heaters *see radiofrequency heating*

radiofrequency heating
cancer treatment using RF techniques 7−47285
capacitive RF hyperthermia, skin toxicity minimisation using saline bolus 7−28640
gyrotron appls. in fusion research 7−49617
gyrotron development in the framework of the European Fusion Programme 7−49618
hyperthermia treatment using 27 MHz waveguide applicator, relative heating patterns calc. 7−8676

radiofrequency heating continued
- hyperthermia using 13.56 MHz EM waves, specific absorpt. rate and tissue temp. 7−65826
- interstitial microwave hyperthermia in a canine brain model 7−28645
- JET ICRF system automatic matching procedure 7−58071
- medical hyperthermia, Phase I regional device evaluation, microwave annular array vs. RF induction coil 7−47286
- microwave hyperthermia, complications arising from spurious fields 7−28644
- optical fibre preform manufacturing, homogeneous heating technique in MCVD 7−31534
- perfused phantom models of microwave irradiated tissue 7−8784
- PET, high-modulus, rod prod. by microwave heat drawing 7−22735
- plasma heating, mm-wave irrad., high power mode conversion for linearly polarized HE$_{11}$ hybrid mode output 7−44196
- polyoxymethylene, tubes, microwave heat drawing, tensile load and precursor size effects 7−22734
- SiC whisker reinforced Al$_2$O$_3$, ZrO$_2$ or glass, microwave sintering, microstruct. 7−27995
- Si$_3$N$_4$ whisker reinforced Al$_2$O$_3$ or ZrO$_2$, microwave sintering, microstruct. 7−27995

radiofrequency interference
- *see also atmospherics; electromagnetic pulse; whistlers*
- atmospheric interference pulses in VLF band, statistical props. of time intervals 7−34659
- atmospheric radio noise, MF and HF, bandwidth expansion effects on voltage deviation parameters 7−60366
- disturbances prediction service, outline *(Japanese)* 7−23844
- earthquake prediction, radio technique appl. 7−60168
- ground testing of fighter aircraft, p-static discharge effects 7−50452
- laminated dielectric, parameters determ. near min. of absolute refl. coeffs., variable freq. radio-interference method 7−65264
- radioastronomy, noise meas. *(Spanish)* 7−4336

radiofrequency-microwave double resonance *see magnetic double resonance*

radiofrequency oscillators
- delay line oscillator using interdigital transducer 7−11241
- solid-state oscillator for optogalvanic spectroscopy, NO detection using overtone transition 7−9904

radiofrequency spectra of diatomic inorganic molecules *see radiofrequency and microwave spectra of diatomic inorganic molecules*

radiofrequency spectra of inorganic solids
- *see also nuclear magnetic resonance; paramagnetic resonance*
- ^{57}Fe, Mossbauer effect, inhomogeneous magnetic hyperfine line broadening, nonlinear RF spectra 7−45858

radiofrequency spectra of organic molecules and substances *see radiofrequency and microwave spectra of organic molecules and substances*

radiofrequency spectra of polyatomic inorganic molecules *see radiofrequency and microwave spectra of polyatomic inorganic molecules*

radiofrequency spectrometers
- *see also magnetic resonance spectrometers*
- 21-cm spectrometer of RATAN-600 radio telescope, receiving unit 7−60559
- acousto-optical spectrographs for ground and space submm astronomy 7−34877
- acousto-optical spectrometer for RATAN-600 radio telescope, design and performance 7−66463
- Cologne 3m radiotelescope acousto-optical spectrometers 7−34878
- IKAR-16 automated solar spectral-polarisation complex of RATAN-600 radio telescope, configuration and software 7−66460
- NMR spectrometer, 300-1200 MHz, with AFC and continuous tuning 7−30055
- polarimeter spectrometer for radio astronomy 7−14495
- spectral receiver (1.35 cm wavelength) for RATAN-600 radio telescope, design 7−66466
- wideband spectrometer backends, review 7−34876

radiofrequency spectroscopy
- *see also magnetic resonance spectroscopy; nuclear magnetic resonance; radiofrequency spectrometers*
- unified standard for RF signal shape and spectrum parameter meas., design 7−48773

radiofrequency sputter deposition *see sputter deposition*

radiofrequency sputtered coatings *see sputtered coatings*

radiofrequency sputtering *see sputtering*

radiogalaxies
- *see also BL Lac-type objects*
- 0634−20, linear polarisation and total radio power maps anal. 7−35038
- 0754+101, BL Lac object, V-magnitude obs. during new visual outburst (1986 September 30) 7−29540
- 1452−517, UHF obs. 7−60811
- 1759+211, nearby radio galaxy, VLA obs. of oscillating jets 7−55820
- 1919+479 radiogalaxy, observational constraints on bending of radio jets 7−40929
- 1934−638, red CCD image characts. 7−35056
- Abell cluster galaxies, 11.1-cm radio maps and obs. at 6.3 and 2.8 cm 7−18454
- Abell clusters local radio luminosity function at 102.5 MHz 7−29543
- B2/B3 variable sources at 408 MHz 7−40948
- barred spiral galaxies, radio emission from galactic nuclei 7−24203
- bipolar jets, prod by turbulent Alfven waves 7−60523
- 3C 120, Seyfert galaxy, UV and optical obs. in two different states 7−55832
- 3C 219, jets collimation and polarisation 7−14647
- 4C 29.30, extended optical line and radio emission, galaxy merger 7−55805
- 3C 371, N-galaxy/BL Lac object, EXOSAT obs. 7−55802
- 3C 428, neglected 3C radio sources VLA obs. 7−14672
- 3C 445, linear polarisation and total radio power maps anal. 7−35038
- 3C 84, right ascensions and flux densities of nearby radio sources 7−66774
- Cen A (NGC 5128), X-ray intensity and spectrum obs. from Tenma 7−55828
- Cen A (NGC 5128) obs. at MeV gamma-ray energies 7−66754
- classical double radio sources, numerical calcs. on viscous jets 7−4565
- collision/merger origin of powerful sources 7−60788
- cores polarisation props. 7−60803
- Cyg A, exptl. 'zoned relay' obs. at RATAN-600 radio telescope 7−60822
- E/S0 galaxies with compact radio cores, far IR excesses 7−24210
- edge-brightened double radio sources, 0.6 GHz mapping obs. 7−66737

radiogalaxies continued
- IC 5063 (PKS 2048−57), IR and optical polarimetry of radio elliptical 7−66762
- IR 1017+08, OH maser emission obs. 7−29539
- jet interaction with ambient gas 7−29532
- jets, appl. as probes of surrounding medium 7−55822
- jets decollimation theory, general relativistic effect due to defocusing by spacetime curvature 7−60522
- jets formation, dynamics of rotating magnetised mass accretion 7−55460
- jets forming radiolobes, mass entrainment study 7−40686
- low frequency variable radio sources, two-epoch VLBI obs. 7−4579
- low luminosity radiogalaxies, obs. at 102 MHz 7−4551
- M51, spiral mag. field config., visible polarimetric obs. 7−60800
- M81, global spiral struct., radio continuum maps anal. 7−55798
- M82, CO absorpt. line obs. rel. to large mol. halo or intergalactic mol. gas 7−24223
- M83, near-IR photometry characts. 7−60802
- M87, obs. of X-ray emission from galactic halo 7−66752
- M87, relation of jet to nearby Virgo cluster galaxies 7−35047
- M87, spectroscopy of globular clusters 7−48001
- magnetic energy dissipation in force-free jets, implications for radio galaxies 7−29391
- Markarian 231, Seyfert 1 galaxy, radio and optical morphology 7−48067
- Markarian 231, Seyfert galaxy/QSO, CO (J=1-0) emission detect. and optical imaging 7−66757
- Markarian galaxies, catalogue 7−55496
- MSH 05−22, D-galaxy, characts. and dimensions 7−40919
- MSH 05−22(0503−286), giant radiogalaxy characts. 7−40918
- NGC 1068, Seyfert 2 galaxy, radio struct. in inner 1 arcsecond 7−48068
- NGC 1275, Seyfert galaxy, submm continuum characts. 7−48099
- NGC 3079, 3998, and 4258, kpc structure from Hα CCD images 7−55810
- NGC 5128 (Cen A), visual magnitude estimates for SN 1986G (1986 April 15 to July 14) 7−9501
- NGC 7469, type 1 Seyfert galaxy, emission lines mapping rel. to circumnuclear starburst 7−29536
- overluminosity of distant radiogalaxies, cause due to evol. or gravit. amplification 7−35035
- Per A, cool gas content, CO and H I obs. 7−60774
- PKS 0521−36, optical jet and nucleus photometric characts. 7−55789
- PKS 2152−69, detached nuclear-like activity, CCD obs. 7−55824
- PKS 2155−304, BL Lac object, IUE obs. (1979 to 1985) 7−55833
- probes of distant Universe 7−4610
- radio aspects (book) 7−55914
- radio trails bending, effects of galactic winds and rot. 7−35045
- rapid flux variations, relativistically expanding plasmon model *(Chinese)* 7−4577
- S5 flat spectrum radio sources, analysis of complete sample 7−40947
- Seyfert galaxies of type 1.8 and 1.9, radio props. 7−29537
- shell elliptical galaxies, radio emission search 7−60807
- Texas radio source survey, search for optically variable objects 7−4580
- Vir A, cool gas content, CO and H I obs. 7−60774
- Virgo cluster galaxies, relation to M87 jet 7−35047
- Zw 475.056, OH maser emission obs. 7−29539
- OH absorption in extragalactic sources, Arecibo survey 7−40895
- OH maser emission from galaxies IR 1017+08 and Zw 475.056, 1667 MHz obs. 7−29539

radiogoniometers *see goniometers*

radiography
- *see also diagnostic radiography; electrophotography; neutron radiography; radioisotope scanning and imaging*
- adaptive multichannel systems in X-ray flaw detection 7−39817
- arterial blood-flow waveform meas. in intact animals: digital radiographic technique 7−54837
- automatic exposure control for spot filming 'Memory-Shot' *(Japanese)* 7−15045
- contrast enhancement and indirect evaluation of lithographs, radiographic techniques 7−35611
- CT methods use for nondestructive inspection under conditions of insufficient data 7−39818
- edge determination, noise effects 7−33893
- electroradiography inspection method for castings 7−65262
- film and paper, sensitometry, image quality, test method 7−61394
- flash X-ray radiography of laser-accelerated foils 7−58040
- fluoroscope, portable, with image intensifier, optimal screen characts. 7−61407
- gamma-ray sensor thickness for best contrast, mathematical optimisation 7−56389
- high-brightness source for X-ray lithography and radiography 7−24744
- image convertor, gas discharge, operating in avalanche mode, intrinsic blurring and freq. contrast characts. 7−4937
- image quality improvement using narrow area radiation method 7−54070
- Inconel welds joining dissimilar metals, radiographic evaluation 7−39828
- inverse digital filtering of radiographic pictures, tomographic props. 7−9930
- metallic samples, shock loaded, mass ejection meas. techniques 7−30032
- microfocal radiography, focal spot meas. 7−3554
- microfocus X-radiography, detection of internal voids in structural ceramics 7−59736
- microfocus X-ray-units, focal spot size, stability, defect visibility *(German)* 7−13712
- microprocessor-based multichannel spectrum analyzer for use in industrial radioisotope measurements 7−65372
- NDT appls. of computed tomography, basic principles 7−28253
- photogrammetric techniques using high-speed cineradiography, biomechanics research appl. 7−23500
- plastic SSNTD for insect charged particle radiography 7−42402
- pulse X-ray apparatus for dynamic radiography 7−30134
- radiotherapy, port film enhancement of digital processing 7−47234
- radiotherapy, portal film contrast rel. to beam energy 7−40273
- SSNTD, radiographic imaging performance, image quality factors 7−36405
- synthetical, numerical image computation, high velocity flow anal. appl. 7−44082
- technique for L shaped object generation by computer program 7−3555
- tomograms of moving object, dynamic synthesis method and equipment 7−8235
- video images, digital enhancement techniques 7−65272
- X-ray contrast inspection of contact area of contact joints using moire method, accuracy 7−8234

radiography continued

- X-ray examination of materials, elastic to Compton scattering ratio determ. 7—46892
- X-ray image sensors based on optical time-delay-and-integration CCD imager 7—24753
- X-ray photograph darkening, eval. technique *(Czech)* 7—4936
- X-ray real-time imaging for weld inspection, methods and equipment 7—54045
- GaAs, LEC growth, solid-liq. interface, meniscus shape, X-ray image processing appl. 7—17406

radioisotope scanning and imaging

see also computerised tomography

- adrenals, background subtraction method in radionuclide imaging 7—40279
- autoradiographic images, digital cluster anal. system to locate labelled cell regions 7—3958
- autoradiographs, grain counting using pattern recognition 7—23490
- book, nuclear techniques in diagnostic medicine 7—24312
- brain, regional cerebral blood flow, meas. method for freely moving, unstressed rats 7—28790
- brain, regional cerebral blood flow meas. by ^{133}Xe, Alzheimer's disease diagnosis appl. 7—28676
- brain dopaminergic system, in vivo meas. using PET 7—18080
- cancer detection, coding theoretic approach 7—47252
- cardiac activation movies generation using Walsh-Hadamard phase spectrum 7—54743
- cardiac nuclear medicine images, length-based Fourier anal. in pre-excitation syndrome 7—65879
- cardiac output determination, first-pass radionuclide, effect of region of interest selection 7—40256
- central venous abnormalities, scintigraphic and CT features 7—18063
- cerebral blood-flow meas. in ventilated premature babies, ^{133}Xe, inhalation system 7—23434
- cerebrospinal fluid shunt flow meas., reproducible radionuclide procedure 7—65836
- computerized autoradiographic technique for the simultaneous high-resolution mapping of myocardial blood flow and metabolism 7—60113
- conference on French nuclear medicine, Deauville-Caen, France (Sept. 1986) *(French)* 7—4624
- development of a new image processing system for nuclear medicine 'SCINTIPAC-700' *(Japanese)* 7—18074
- diagnostics, clinical effectiveness 7—28658
- digital restoration of nuclear medicine images by two-step procedure 7—14121
- dynamic arrhythmia filtration for gated blood-pool imaging: validation against list mode technique 7—40260
- dynamic function studies, factor anal. using a priori physiological information 7—14123
- electron microscope autoradiography, quantitative, multiple linear regression analysis application 7—60141
- electron microscopic autoradiography intensification by enhancer ENLIGHTNING 7—368
- emission CT, quantitative, comparison of recovery coeff. and linearity of detector response 7—47214
- emission CT, statistical noise and spatial resolution in image reconstruction, simulation study *(Japanese)* 7—60085
- exercise ECG-testing, computerised, and ^{201}Tl scintigraphy: relative diagnostic accuracy 7—28757
- factor analysis of dynamic structures in nuclear medicine *(Japanese)* 7—18072
- gamma camera, electronically collimated, gas scintillation utilisation 7—65845
- gamma camera for positron emission tomography, development study 7—47221
- gamma camera images, effects of alloy filter 7—65839
- gastroesophageal scintiscanning in a paediatric population: dosimetry 7—65843
- gated radionuclide ventriculography with a slant-hole collimator, fully-automated contour detect. 7—40252
- genetically significant dose from diagnostic nuclear medicine exams., USA, 1980 7—8689
- heart, background correction in first-pass radionuclide angiography: comparison of several approaches 7—40264
- human bone, microdistribution of α-active nuclides, CR-39 autoradiography study 7—54733
- infection diagnosis, computer subtraction of simultaneously acquired dual radionuclide images 7—40274
- ischaemia, remote, after acute myocardial infarction, detect. by ^{201}Tl emission CT 7—34264
- left ventricle, ^{201}Tl perfusion imaging simulated by a dynamic model 7—34267
- left ventricular diastolic function, scintigraphic meas., effects of ECG gating 7—34265
- left ventricular ejection fraction, geometrical depend. 7—65852
- left ventricular ejection fraction calc. through anal. of model, effect of scintigram background correction 7—54728
- left ventricular ejection fraction determ., influence of background correction that considers heart vol. 7—14109
- left ventricular regional function, objective detect. algorithm, radionuclide blood pool studies 7—40287
- left ventricular regional wall motion, quantification using multiple-view radionuclide angiography and the centerline method 7—34268
- left ventricular vol. determ. using radionuclide ventriculography *(Russian)* 7—8682
- left-ventricular regional wall motion assessment, comparison of 2 nuclear cardiology techniques 7—3862
- longitudinal ECT imaging using γ-ray camera 7—40281
- lung, distribs. of an ultra-fine ^{99m}Tc aerosol and ^{81m}Kr gas, γ-camera obs. 7—40250
- lung permeability measurement in nonsteady state using tracers 7—54802
- lung tissue, microdistribution of α-active nuclides, CR-39 autoradiography study 7—54732
- lymphoscintigraphy, radiotherapy treatment planning appl. 7—34239
- medical use of radioactive isotopes 7—47220
- microcomputer-based nuclear medicine acquisition station, low cost 7—28681
- myocardial metabolism, fatty acid kinetics study technique using sequential sampling 7—65837
- myocardial scintigrams, symbolic reasoning in PROLOG 7—40253

radioisotope scanning and imaging continued

- myocardium, ^{201}Tl tomography, developments toward quantitative anal. 7—34266
- nasal mucociliary transport in laryngectomees, ^{99m}Tc S colloid obs. 7—13979
- neuroradiology, conf., Amsterdam, Netherlands, (Sept. 1985) 7—14706
- nuclear medicine software in Europe: current situation, aspects and projects 7—23433
- nuclear medicine workshop. Chalk River, Ont., Canada (Aug. 1985) 7—24308
- organ volume determ. using single photon emission CT, thresholding method 7—65838
- paired compartments comparison by autoradiography, probability models and null hypothesis testing 7—40255
- parathyroid subtraction scintigraphy using ^{201}Tl and ^{99m}Tc, dual channel acquisition vs. sequential imaging 7—23432
- position sensitive γ-ray detector for nuclear medicine, efficient design 7—14122
- Positome IIIp, a dynamic positron emission tomograph, imaging performance obs. 7—47215
- positron camera, multiwire proportional chamber, development of high-efficiency cathode converters 7—40271
- positron CT *(Japanese)* 7—65844
- positron detection system for biochem. studies on living human brain 7—34240
- positron emission CT, quantitation, technique to reduce noise in accidental coincidence meas. and coincidence efficiency calibration 7—14118
- positron emission tomography, human visual cortex mapping appl. 7—28516
- positron emission tomography, physico-technical aspects *(Russian)* 7—34241
- positron emission tomography, stationary high resolution, BGO detector unit 7—14119
- positron emission tomography, using in pion radiotherapy 7—28661
- positron emission tomography in neuroradiology—integration of a research tool in clinical routine 7—18079
- positron emission tomography meas. of regional lung density 7—14116
- positron emission tomography measurements of cerebral glucose metabolism, methodological factors affecting 7—40261
- positron-emission tomography evaluation of heart membrane pot., use of ^{11}C-triphenylmethylphosphonium 7—14113
- radiation-hygienic evaluation of short-life radionuclide generators 7—28719
- radionuclide-anaesthetic flow: regional anaesthesia study technique 7—40265
- radiopharmaceutical production, anal. and appl., conf., Banff, Canada, Sept. 1985 7—24254
- rectilinear scanner, interfacing with a microcomputer 7—65858
- renal retention function calc., deconvolution technique based on total linear squares 7—65846
- renal volume calculation using [^{123}I]hippuran gamma camera renography and computerised image processing 7—8680
- review of nuclear medicine 7—65847
- review of radionuclide imaging 7—60082
- right ventricular ejection fraction, automated determ. by digital processing of ^{81m} Kr scintigrams 7—65835
- rotating phantom: evaluation of hard and software for gated gamma camera systems in nuclear medicine 7—23453
- rough surface autoradiography method, radwaste repository rock radionuclide distrib. appl. 7—54410
- scintigram-standard radiograph superimposition, image processing system, ventilation index determ. 7—40259
- scintigraphic images, automated comparison 7—40258
- single photon emission CT, allowing for variable resolution and constant attenuation 7—60081
- single photon emission CT, automated body contour detect. 7—65841
- single photon emission CT, recommendation on image display standardisation *(Japanese)* 7—54735
- single photon emission CT imaging with ^{123}I-labelled antibodies, comparison of low- and medium-energy collimators 7—40263
- single photon emission CT using ^{111}In and ^{123}I, digital image restoration using optimised Metz filters 7—40257
- single-photon-emission CT, high resolution, using 511 keV collimation 7—3871
- SPECT images by using a multislice fan beam collimator 7—23458
- spleen haemodynamics, quantitative evaluation from radiocolloidal dynamic scintigraphy 7—3865
- stationary positron emission tomography and its image reconstruction 7—47216
- systolic and diastolic cardiac function, rapid radionuclide-derivation using cycle-dependent background correction and Fourier anal. 7—40286
- thyroid, vol. estimation using single photon emission CT and fan-beam geometry 7—3864
- thyroid gland mass, determ. using scintillation camera and computer 7—3870
- transmitter binding sites, quantitative autoradiography with an image analyser 7—34359
- tumour metabolism determ., pot. of NMR and PET 7—23424
- ventriculography, computer program for data acquisition 7—40289
- ventriculography, ejection fraction determ. by combined inverse Fourier anal. and second-derivative technique 7—40254
- BaF$_2$ crystals for time resolution improvement in TOF positron emission tomography system 7—47222
- ^{153}Gd production for medical scanning appl., nuclear data 7—34274
- ^{122}I cyclotron prod. for positron emission tomography appl. 7—28695
- [^{123}I]iodoamphetamine, SPECT imaging and radiopharmaceutical prod., review 7—28656
- ^{192}Ir, accidental internal deposition, absorbed organ dose, γ-camera meas. 7—8688
- Rn, diffusion effects on tissue microdistribution, CR-39 autoradiography study 7—54731
- ^{153}Sm, accidental internal deposition, absorbed organ dose, γ-camera meas. 7—8688
- ^{99}Tc^{m} generators, radiation-hygienic eval. 7—28719

radioisotope separation *see isotope separation*

radioisotopes

see also radioisotope scanning and imaging

- ^{14}C seasonal variations in atmosphere caused by bomb tests 7—23256
- ^{252}Cf neutron brachytherapy, complications: review of reported experiences 7—28667

radioisotopes continued
^{252}Cf RBE and PLD-like effect of mag. fields in haemopoietic tissue, CFU-S assay 7−28590
^{252}Cf therapy at the Cancer Inst. Hosp., Tokyo: facility design, environmental protection and planning method 7−28668
actinide isotopes in the marine environment 7−40314
actinide migration and sorption in conc. salt soln. in geological material 7−19546
actinides, biological behaviour, consequence for radiation protection *(French)* 7−40223
argillaceous media, geochemical barrier capacity for radwaste disposal 7−5466
beta radiation unit of absorbed dose rate to tissue, PTB National Primary Standard 7−28717
bioassay procedures for radionuclides for atomic radiation workers 7−8696
book, nuclear techniques in diagnostic medicine 7−24312
BR-10 reactor first circuit pipelines, radioisotope distrib. 7−30590
BWRs, methods for dose rate reduction, ^{58,60}Co concs. in coolant 7−42187
calibration of radionuclide calibrators in Canadian Hospitals 7−34273
circulation patterns west of Scotland, radiocaesium distribs. 7−60270
coal fly ash radionuclides chemical anal. using alpha, gamma and X-ray fluorescence spectroscopy 7−23266
concentration meas. in atm. around nuclear power reactors 7−23257
concrete, sorption of fission products 7−5471
conference, ANS winter meeting, Washington, DC, USA, (Nov. 1986) 7−29591
conference, nuclear and radiochemistry, Beijing, China (Sept. 1986) 7−18494
cosmogenic nuclides in meteorites and terrestrial matter, workshop, Los Alamos, New Mexico (July 1984) 7−29601
cosmogenic radionuclides, abundances in Wethersfield (1982) chondrite 7−34952
crystalline rock, radionuclide transport in fast channels 7−28425
cyclotron, residual radioactivity in components and surroundings 7−8701
deep sea radwaste disposal, radionuclide dispersion by physical, geochemical and biological processes 7−5468
deposition on Ni and stainless steel from Na fusion reactor coolant 7−62060
Dhajala chondrite, radionuclide depth profiles determ. 7−29439
diffusion and distrib. in CaCO$_3$ deep ocean sediment samples 7−36273
dosimetry model for risk assessment of inhaled particles, factors to be considered 7−54756
environmental movement, dynamic model for prediction 7−54372
ethanol from Bulgarian wines, liquid scintillation meas. 7−20071
fissured rocks, U, Th and lanthanides transport 7−5479
fixation of ^{3}H gas by rats 7−60099
formation of disintegration products in space-borne detector materials 7−66425
GANIL beam production 7−36375
groundwater radiocolloids in the vicinity of some Australian uranium ore bodies 7−28430
HLW, influence of redox environments on the geochemicalbehaviour of radionuclides 7−5474
HLW land disposal, radionuclide pathways to man, radiological impact, doses 7−5467
ILW conditioned in cement and bitumen, actinide mobilisation 7−5472
INTRACOIN study for radwaste repository radionuclide migration, model validation, uncertainty anal. 7−25249
ionic solute separation, conf., Smolenice, Czechoslovakia (Sept. 1985) 7−60863
JMTR OWL-1 loop water, crud behaviour, ^{60}Co chemical form 7−19390
KEK Na coolant, radiochemical surveillance 7−25039
Laurentian Trough sediments, Gulf of St. Lawrence, radionuclide profiles, sedimentation rates, and bioturbation 7−28995
leached radwaste radionuclides, migration by groundwater, math. modelling 7−5461
long lived radionuclides, transfer through marine food chains, data review 7−28728
low-level counting, conference, Bratislava, Czechoslovakia (Oct. 1985) 7−24272
medical use of radioactive isotopes 7−47220
meteorites, cosmogenic isotope and track records rel. to cosmic ray fluxes 7−29440
myeloid leukaemia induction in animals, expt. designed to meas. RBE of ^{3}H rel. to X-rays 7−60052
natural radioactivity meas. in water in granite regions 7−8461
near-field solubility constraints on radionuclide mobilisation, influence on radwaste package design 7−5460
nuclear reactors, optimisation of radionuclide production 7−25276
nursing mothers, radionuclide administration, math. derived guidelines 7−14127
ocean floor sediment as repository barrier, radionuclide diffusion 7−5481
PNP-500 HTGR, Cs release during a heat-up accident, fission product transport 7−15286
production, anal. and appl., conf., Banff, Canada, Sept. 1985 7−24254
production, certification and application of standard radiation 7−25279
PUFF-PLUME emergency response atmospheric dispersion model, field eval. at SRL 7−34292
PWRs, activity build-up in primary circuit, review *(German)* 7−19408
radioactive waste, transient diffusional release in basalt repository 7−5482
radioactive waste disposal, actinide solubility in the near-field 7−5473
radioiodine adsorption on silica gel 7−28434
radiolabelled antibodies for tumour therapy, dosimetric aspects 7−40297
retention of radionuclides in halite and anhydrite 7−36270
rock matrix, sorption and diffusion of radionuclides 7−5478
secondary standard radionuclide calibrator, type 271+671 7−34272
SISAK−a technique for studies of exotic nuclides 7−19670
spent nuclear fuel, geological disposal, precipitation effects on long-term radionuclide release 7−42198
SPIN, oriented radioactive nuclei facility *(Czech)* 7−5138
survey data of radionuclei in environmental materials 7−17931
Tc(IV) and Tc(VII) interactions with iron oxyhydroxides 7−19533
terrestrial gamma-ray surveys, altitude depend. model 7−47440
time resolution of a radioisotope testing device based on local minimum search *(Russian)* 7−49860
^{79} Kr: a new radionuclide for nuclear medicine 7−40290
^{228}Ac in natural background γ-radiation spectrum 7−19550
Am III extraction in presence of lanthanides 7−19385
Am pseudocolloids, formation and transport in aqueous systems 7−5476

radioisotopes continued
^{241}Am electrodeposition geometry in the assay of environmental samples 7−28718
^{241}Am, processing chemistry 7−19375
^{39}Ar activity, galactic cosmic ray intensity 7−23957
^{211}At, possible applications to human cancer therapy, review 7−28657
^{211}At, production and complexation with crown ethers 7−25287
^{198}Au, activity meas., thermal neutron flux density meas. using liquid scintillation technique 7−17844
^{A}Br, A=75-7, radioisotope prod. for medical appl., review 7−28693
^{14}C, activity meas. in atmosphere, anal. methods 7−54214
^{14}C, radiocarbon dating using low energy cyclotron 7−55310
^{109}Cd, γ-ray emission rate meas. with well-type NaI(Tl) detector 7−25332
^{252}Cf brachytherapy, facilities and remote afterloading 7−28669
^{252}Cf brachytherapy, fast neutron beam therapy and radiobiology, conf., Lexington, KY, USA (April 1985) 7−24273
^{252}Cf brachytherapy of the brain, high LET, B enhancement 7−28670
^{252}Cf γ-neutron radiation biological effects, USSR studies 7−28611
^{252}Cf, historical review of discovery and development, radiotherapy appl. 7−24348
^{252}Cf implant neutron effects on dog brain 7−28593
^{252}Cf, microdosimetric studies 7−28709
^{252}Cf neutron therapy, time and dose considerations for clinical trials 7−28712
^{252}Cf neutrons, review of RBE and OER values, brachytherapy appl. 7−28666
^{252}Cf physics and dosimetry 7−28708
^{252}Cf radiation, phys. and biological dosimetries 7−28711
^{252}Cf radiation dosimetry, studies in the USSR 7−28710
^{252}Cf, tumour and normal tissue effects and therapeutic gain ratio 7−28587
^{252}Cf: props. and prod. 7−28700
^{252}Cf-exposed human cells, pot. lethal damage and radioprotection 7−28612
^{352}Cf RBE expt. on human T-1 cells, inverse γ-ray dose rate effect 7−28616
^{36}Cl concentration in groundwater using liquid scintillation counting 7−23892
^{242}Cm, Curie quantity source preparation 7−19599
^{244}Cm and ^{239}Pu, lung clearance and translocation following inhalation, rat obs. 7−34290
^{60}Co, ^{85}Sr, ^{137}Cs in alkaline soln., migration through sandy soil layer 7−8458
^{60}Co, activity meas., thermal neutron flux density meas. using liquid scintillation technique 7−17844
^{60}Co and ^{125}I in eye plaque therapy, Monte Carlo dosimetry 7−40300
^{60}Co ion adsorption on hematite particles, BWR radiation field build-up 7−49588
^{60}Co, migration in pH 12 solution through sandy soil layer 7−19540
^{60}Co, processing, flask positioner location sensing system 7−61978
^{137}Co irradiation rel. to testis wt. loss in mice 7−28592
^{A}Cs, A=134,137, comparative pathway analysis in Hudson River estuary, dose assessment 7−8699
^{134}Cs removal from radioactive process waste water by coprecipitate flotation 7−36293
^{137}Cs, 1977 survey of conc. in British soil 7−34076
^{137}Cs, immobilization using hydrous TiO$_2$ and zeolite 7−10295
^{137}Cs irradiation of lymphoid organs 7−28591
^{137}Cs leaching from epoxide resin 7−19536
^{137}Cs, removal from reactor coolant by TiFe(CN)$_6$ 7−30679
^{64}Cu, radioisotope enrichment, nuclear recoil appl. 7−62539
F^{18}F, radioisotope production for biomedical applications 7−60087
^{18}F, radioisotope prod. for medical appl., review 7−28693
^{18}F, single-passage extraction in rabbit bone 7−40249
^{18}F^{-}, aqueous, radioisotope production for biomedical applications 7−60087
Fe, cementation layer struct., Mossbauer spectra, radioisotope method, microhardness obs. *(Russian)* 7−39741
^{153}Gd production for medical scanning appl., nuclear data 7−34274
H^{18}F, radioisotope production for biomedical applications 7−60087
^{3}H, accidental releases from fusion reactors 7−54777
^{3}H atmospheric release rel. to precipitation contamination 7−54382
^{3}H β-rays, radiation quality, microdosimetric distribs. for nm-size targets 7−8691
^{3}H content in tissue free water of Japanese bodies 7−60102
^{3}H control in NET, preliminary design considerations 7−49670
^{3}H, elementary, uptake by the soil 7−54377
^{3}H, environmental and human risks, conf., Karlsruhe, Germany (Feb. 1986) 7−48163
^{3}H, environmental aspects, toxicity, metabolism and dosimetry: research at CRNL 7−54774
^{3}H in plants, review 7−54779
^{3}H in the aquatic environment, current literature review 7−54381
^{3}H in the Commission of the European Communities Radiation Protection Programme 7−54765
^{3}H, low-level counting facilities 7−19637
^{3}H metabolism in animals, review 7−60097
^{3}H metabolism in newborn mice and estimation of accumulated dose 7−60100
^{3}H, normal releases from fusion processes and environmental radiation doses 7−54775
^{3}H, organically bound, distrib. in vegetation exposed to fallout 7−60096
^{3}H, organically bound, given during pregnancy and lactation, retention in young pigs 7−60098
^{3}H, organically bound, purification resins in reactor circuits as a source, expts. on algae 7−49545
^{3}H releases from nuclear power plants and nuclear fuel reprocessing plants 7−54776
^{3}H, survey methods in Paks nuclear power plant, development and appl. 7−56881
^{3}H transport in the environment, modelling 7−54371
^{122}I cyclotron prod. for positron emission tomography appl. 7−28695
^{123}I, cyclotron prod., excitation function and yields in ^{127}I(p,X) reactions 7−28694
^{123}I, high-purity, prod. and specific activity meas. 7−28696
^{123}I, production optimization from statistical calcs. for ^{124}Xe(p,X) reaction 7−54744
^{123}I, radioisotope prod. for medical appl., review 7−28693
^{125}I and ^{60}Co in eye plaque therapy, Monte Carlo dosimetry 7−40300

radioisotopes continued
^{125}I decay rel. to amplification of oncogenes and integrated SV40 sequences in mammalian cells 7−40224
^{125}I decays rel. to range of high LET effects in DNA 7−8660
^{125}I, high-sensitivity meas. in cyclotron prod. ^{123}I 7−28697
^{129}I, level decrease in rad. waste by Hg minerals 7−19537
^{131}I injected into rats, postirrad. changes in skeletal muscle and thyroid gland *(Russian)* 7−14059
^{131}I, specific activity meas. in commercial samples 7−28698
^{131}I treatment of thyroid cancer: absorbed dose calc. from post-therapy scans 7−65842
^{113m}In-indifor use, patient irrad. doses *(Russian)* 7−3881
^{192}Ir, accidental internal deposition, absorbed organ dose, γ-camera meas. 7−8688
^{192}Ir dosimetry, use of simulator-based CT 7−14132
^{81}Kr, analysis in groundwater using laser resonance ionisation spectroscopy 7−29095
^{85}Kr, atmospheric activity monitoring 7−23259
^{85}Kr, ground air mesoscale transport from European reprocessing plants 7−23260
^{85}Kr, sampling unit for air sample 7−23258
Na cooled reactors, radionuclide behaviour 7−25038
Nb, radioactivation monitoring based on local activation by p,d,α 7−49726
^{63}Ni in Columbia River sediment below the Hanford Reservation 7−13936
^{235}Np, tracer props. for environmental ^{237}Np anal. 7−49771
^{237}Np, amount in environment *(French)* 7−40315
^{237}Np and ^{99}Tc, plant uptake under field conditions 7−28729
^{237}Np determination in sediments from Sellafield, UK, by neutron activation anal. 7−28731
^{237}Np from global fallout after atm. testing, human tissue sample obs. 7−34291
^{237}Np inhalation in rats 7−54768
^{237}Np, nuclear fuel cycle chemistry 7−19384
^{210}Pb concs. and states of equilib. with ^{238}U, ^{234}U and ^{230}Th in U miners' lungs 7−28724
^{210}Po, spontaneous deposit counting method *(Chinese)* 7−9237
Pu fallout, food ingestion in Japan 7−28723
Pu incorporation at a waste management facility, comparison of various methods of routine monitoring 7−40312
Pu, isotopes, radiochem. determ. in atmospheric samples 7−3616
Pu source, self-sustained volume discharge initiation in lasers by radioisotopes 7−50534
^{A}Pu, A=239,240, conc. in Japanese human tissues 7−18081
^{238}Pu, radioisotope thermoelectric generators for implanted pacemakers 7−28699
^{239}Pu and ^{244}Cm, lung clearance and translocation following inhalation, rat obs. 7−34290
^{239}Pu and extended γ-radiation, biochem. changes in rat tissues induced by combined effect *(Russian)* 7−47175
^{239}Pu cancer risk, reduction by chelation therapy, mouse expts. 7−18029
^{239}Pu, migration in soil and resuspension 7−28421
^{241}Pu in low-level radioactive wastes from reactors, determ. 7−30516
Ra and actinide samples for α-spectroscopy by electrodeposition *(Spanish)* 7−49782
Ra isotopes in groundwater, porous flow model for steady state transport 7−23725
^{A}Ra, A=223,224,226,228 environmental levels on electrodeposited source 7−19553
^{A}Ra, A=226,228, intake by early Ra dial workers in Illinois, health risks 7−8700
^{224}Ra in mouse bone, dosimetry calcs. 7−8690
^{228}Ra, prediction of occurrence in groundwater, rel. to public drinking water supplies 7−54380
Rn daughter exposure and cigarette smoking, lung cancer in Navajo men, U mining relationship 7−8703
Rn daughters in indoor air, Swedish limitation schemes 7−34286
Rn, indoor, seasonal variation in houses, southwestern USA 7−28722
Rn, indoor and soil meas. in Albuquerque, NM, USA 7−28726
^{A}Rn, A-220, 222, progeny inhalation, lung cancer risk at low doses of α particles 7−28608
^{220}Rn determ. using activated C and high purity Ge detector 7−28727
^{220}Rn in exhaled breath of Th plant workers, obs. 7−54767
^{222}Rn concentration meas. in Greek radon spas 7−23465
^{222}Rn daughters in mines and homes and lung cancer induction *(German)* 7−65816
^{222}Rn in Subantarctic and Antarctic, long-range transport from remote continents 7−55222
^{222}Rn, surface deposition of short lived decay products, fan induced air motion effect 7−8698
^{222}Rn transport through a cool season grass growing on uranium mill wastes 7−28730
Ru, behaviour, restraint in pot vitrification process 7−25251
^{75}Se, pot. source for use in high-activity brachytherapy irradiators 7−40291
^{153}Sm, accidental internal deposition, absorbed organ dose, γ-camera meas. 7−8688
^{90}Sr, immobilization using hydrous TiO_2 and zeolite 7−10295
^{90}Sr, removal from acidic nuclear waste solns. 7−25051
^{90}Sr retention mechanisms in synthetic ion-exchange resins 7−36269
T, reactor produced, migration in Lake Huron 7−13938
Ta, radioactivation monitoring based on local activation by p,d,α 7−49726
^{99}Tc, nuclear fuel cycle chemistry 7−19384
^{99}Tc radiopharmaceuticals, in-house production and control 7−60088
^{99}Tc^{m} generators, radiation-hygienic eval. 7−28719
^{99m}Tc-pyrphotech use, patient irrad. doses *(Russian)* 7−3881
^{125}Te, valence electron contact density 7−25457
Th isotopes, radiochem. determ. in atmospheric samples 7−3616
^{201}Tl, production for medical use 7−25278
U acute accidental inhalation by 3 men: 38 yr. follow-up 7−34289
U isotopes, radiochem. determ. in atmospheric samples 7−3616
U mills, final product dust median aerodynamic diameters 7−8702
U mine tailings disposal, radiation exposure estimation 7−5445
U^{6+}, migration behaviour in tuff 7−5480
UO_2-La$(OH)_3$, radionuclide coprecipitation solid solution formation 7−5475
^{234}U/^{230}Th ratio as redox indicator in briney aquifers 7−5470
^{234}U/^{238}U activity ratios in geological materials, determ. by α spectrometry 7−60255

radioisotopes continued
^{238}U decay series nuclides, evidence for recent migration in granite pluton 7−28917
^{A}Xe, A=121, 122, 125, 127, radioisotope cyclotron prod. 7−28694
^{133}Xe adsorption on activated charcoal, effects of water vapour 7−40076
^{133}Xe packaging contamination 7−3888
Zr, radioactivation monitoring based on local activation by p,d,α 7−49726

radiology
see also patient diagnosis; patient treatment; radiation therapy; radiography; radioisotope scanning and imaging
detriment for medical irrad. calc., effect of utilising age and sex dependent factors 7−54734
MTF measurements, aliasing reduction, radiological imaging appl. 7−40232
radioisotope gauge apple. and development 7−61311

radiolysis
acetone, positive muon irrad., radiolysis, radical form. 7−17813
actinides, aq. soln., reaction rate consts. of radiation-produced transients 7−60903
actinides in glasses, leaching *(French)* 7−19353
CHEMSIMUL code appl. to groundwater radiolysis in HLW repository 7−49693
cordierite, electron beam induced phase decomposition 7−13796
1,4-dichlorobutane radiolysis, gamma irradiation yield meas. and stable products identification 7−65333
1,4-dichlorobutane-2 radiolysis, gamma irradiation yield meas. and stable products identification 7−65333
enstatite, electron beam induced phase decomposition 7−13796
graphite, nucl. grade, pitchcoke, irrad., mech. props., radiolytic oxidation effect 7−25032
graphite, nucl. grade, thermally and radiolytically corroded, microstruct. rel. to elastic modulus 7−25033
iso-propyl radicals, radiolysis rate const. determ., UV absorpt. spectra 7−46860
iso-propylperoxy radicals, radiolysis rate const. determ., UV absorpt. spectra 7−46860
3-methylpentane-tetrachloromethane glass, radiolysis, optical absorpt. band assignment 7−46861
muonic T, hot atom thermalisation, Monte Carlo simulation 7−17805
muonium, formation in liquid water, mechanism 7−15743
olefin radical cations from hydrocarbon radiolysis, time-resolved fluoresc.-detected mag. reson. 7−57099
organic liquids, detection of short-lived muonium via spin trapping 7−42791
palladium acetate films, decomposition with microfocused ion beam 7−52314
polymer film deposition, electron beam induced polymerisation 7−27898
positronium, formation and fast radiolytic processes in polar solvents 7−17807
positronium formation in moderately dense mol. gases 7−28327
propanol-2 radical+CdS, photochemistry and radiation chemistry, nonlinear optical effects 7−46858
pulse radiolysis equipment, setup for simultaneous multiwavelength kinetic spectroscopy 7−56349
silanopentyl radical formation in γ-irradiated silanopentanes at 77K *(Japanese)* 7−38943
TBP hydrolytic and radiolytic degradation in dodecane/H_2O-HNO_3-$UO_2(NO_3)_2$ systems 7−19382
tri-n-butylphosphate, radiolytic decomposition kinetics 7−39856
twin linac pulse radiolysis system 7−49746
VK-50 BWR, coolant radiolysis study 7−30515
water vapour, Ar sensitised, pulse radiolysis, OH radical dynamics 7−8292
CsI solution radiolysis in conditions related to a PWR severe accident 7−49600
KNO_3:Ba^{2+}, radiation decomp., impurity particle size effect 7−63682
$K_2O.2B_2O_3$ glasses, pulse irradiated, optical absorpt. spectra, temp. effects on the decay process *(Japanese)* 7−22281
N_2O formation in irreversible dissociation of nitrine coolant *(Russian)* 7−49549
$Na_2O.2B_2O_3$ glasses, pulse irradiated, optical absorpt. spectra, temp. effects on the decay process *(Japanese)* 7−22281
Ti-Mo, electrochemical behaviour in brine, gamma radiolysis effect 7−65185

radiometers
see also infrared detectors; microwave detectors
absolute cavity radiometers (PMO6) and expt. charactn. 7−35562
acoustooptic signal processors, incoherent-light space-integrating 7−50499
active cavity radiometers in unshuttered appls. performance characts. 7−14381
airborne microwave rain scatterometer/radiometer, DP software system *(Japanese)* 7−23908
airborne microwave rain scatterometer/radiometer, hardware system development *(Japanese)* 7−23907
airborne microwave rain scatterometer/radiometer system, rain meas. and data anal. *(Japanese)* 7−23909
cavity-type absolute radiometer on Spacelab 1, appl. to solar const. determ. 7−66549
dual waveband imaging radiometer 7−6020
IR K-100 comparator for calibration of IR emitters 7−35564
laser radiation detectors classification and characts. *(Czech)* 7−61367
Microwave Limb Sounder 183 GHz radiometer 7−60433
microwave radiometers, effects of rain on surface 7−9213
microwave sensors, satellite borne, Earth Observation appls. *(German)* 7−40616
MM-wave radiometer, 145 GHz, receiver design using superconducting mixer, radiotelescope appl. *(German)* 7−24007
MM-wave radiometer system for remote sensing appls. 3 mm operation, aircraft/helicopter installation 7−23880
photothermal radiometer for concentrated sunlight intensity measurements 7−23919
primary radiometric standards comparison, cryogenic radiometer vs. electron storage ring BESSY 7−18861
pyroelectric detector and imaging developments 7−24702
RATAN-600 radio telescope-radiometer system, development of 'relay with zoning' method 7−60568
ROCOZ-A use for stratosphere O_3 profiles meas. 7−55308
Shuttle Orbiter leeside surface IR imagery, during atmospheric entry, comprehensive analysis 7−29378
solar radiance meter for circumsolar radiation meas. 7−35566

- **radiometers** continued
  - solid state submm radiometer, characts., astron. appl. 7−60552
  - spaceborne radiometer antenna reflector, MM wave, development 7−23920
  - spaceborne remote sensing systems (book) 7−41027
  - spectroradiometer for testing radiation sources at 2 to 15 μm 7−18891
  - submillimetre absolute rocket-borne to meas. diffuse astronomical sources 7−47700
  - submillimetre spectroscopy and appls. conf., Cannes, France (Dec. 1985) 7−29585
  - TFTR, electron cyclotron meas. with fast scanning heterodyne radiometer, temp. meas. 7−11747
  - thermal detectors of radiation, anal. algorithm 7−48726
  - thermocouple-type radiometer, design and characts. 7−48730
  - NO, Zeeman modulated radiometer for remote detection 7−55313
- **radiometry**
  - *see also radiometers*
  - 7−4846
  - absolute intensity measurements in the vacuum ultraviolet 7−24684
  - air gap thickness underneath an opaque film, meas. by pulsed photothermal radiometry 7−41334
  - atmosphere, total O$_3$ content determ. from remotely-sensed data 7−66216
  - biological temperature retrieval by scanning radiometry 7−14104
  - biological tissues temp. profiles reconstruction, statistical-regularisation method 7−59939
  - black-body cavity for total radiation thermometry 7−48739
  - black-body radiation densities estimation 7−4890
  - black-body reflectometer for room temp. emissivity meas. 7−14990
  - candela SI base unit realisation 7−41425
  - computerised IR spectroradiometry, using IBM PC 7−18859
  - conserved vector flux, construction from plane waves 7−25926
  - cryogenic radiometric and interferometer system, linearity calibration 7−18858
  - cylindro-inner cones, freezing point, radiant emission characts. 7−56254
  - diffused wide-angle calibration source for remote sensors 7−18862
  - earth surface, emissive props. model for radiometric meas. 7−66125
  - emissivity distrib. of nonuniform materials meas., NPL thermal imaging facility 7−4849
  - errors due to matching problems *(Japanese)* 7−336
  - gas-liner pinch as source of blackbody-limited VUV radiation 7−9868
  - greybody, meas. of ambient radiation, emissivity, truth temp. 7−9869
  - far-IR blackbody source of variable temperature, for use in IR astronomical radiometry 7−40713
  - IR lens elements and assemblies, spectral transmission meas. 7−31429
  - land-cover mapping from synthetic aperture radar obs., importance of radiometric correction 7−4200
  - laser-heated materials, temp. distrib. meas. method 7−9837
  - layered materials, semitransparent, modulated photothermal radiometric anal. 7−54033
  - meteorological satellite, radiometers, IR detectors and their calibration 7−23898
  - microwave, interpretation of radiometric measurements *(Czech)* 7−35565
  - military applications for radiometry 7−48826
  - NDT of materials, subsurface control by photothermal radiometry 7−33898
  - oil-polluted sea meas. using 90-GHz radiometer *(German)* 7−40080
  - parabolic cylinder solar unit energy module, luminous flux density meas., calorimetric tests 7−54263
  - Penning discharge source for extreme ultraviolet calibration 7−25919
  - photothermal radiometry, expt. aspects 7−41371
  - plasma radiation features, reconstruction from projections measured with two bolometer arrays 7−51514
  - propagation emission tomography 7−61368
  - radiation thermometry, exponent factor in extended relation of radiance *(Japanese)* 7−41473
  - radiative transfer theory and radiometry general mapping of cross-spectral densities in second-order coherence theories 7−4879
  - RATAN-600 radio telescope-radiometer system, development of 'relay with zoning' method 7−60568
  - sea surface temperature determ. from IR radiometry, two-angle viewing method 7−66338
  - sea surface temperature imaging, appl. of Advanced Very High Resolution Radiometer (AVHRR) data 7−14297
  - sea surface temperature measurement, remote sensing by two-channel radiometric method 7−66145
  - Shuttle Orbiter leeside surface IR imagery, during atmospheric entry, comprehensive analysis 7−29378
  - solar radiance meter for circumsolar radiation meas. 7−35566
  - solar radiation measurement, comparison of NBS SURF and W UV irradiance standards 7−11086
  - solar radiometry instrumentation, calibration techniques, and standards 7−55326
  - spectroradiometer for testing radiation sources at 2 to 15 μm 7−18891
  - thermally insulating films on thermally conducting substrates, optothermal transient emission radiometry 7−9829
  - three-band microwave radiometer system for noninvasive measurement of the temperature at various depths 7−18102
  - welding seams, photothermal nondestructive radiometric eval. 7−46752
  - XUV radiometric standards at NBS 7−18860
  - Fe, passivation and spontaneous dissolution in presence of O$_2$ 7−22872
  - Ir single crystals, bulk self-diffusion, radiometric anal. *(Russian)* 7−58530
  - Si photodiode quantum efficiency as absolute radiometric standard 7−14991
  - Si wafers, etching in SF$_6$ RF discharges, diagnostic meas. 7−28214
- **radiometry, ultraviolet** *see photometry*
- **radionavigation**
  - *see also radio direction-finding*
  - Doppler positioning using new data processing method 7−29249
  - geodetic 3D network establishment using GPS and MACROMETER II 7−34371
  - geodetic 3D network layout using GPS-TI4100 receivers *(German)* 7−40614
  - geostationary satellite, position meas. using ground radiobeacons 7−60503
  - GPS carrier phase for centimeter-level surveys, initial results 7−60419
  - GPS navigation radio receiver sets for surveying MINI-MAC system by Litton 7−34370
  - GPS radionavigation, 1 to 2 parts per 10^7 geodetic accuracy 7−34686
  - GPS radionavigation, data processing algorithms 7−34685
  - GPS radionavigation satellite, orbit determ. by regional network double difference carrier phase obs. 7−34684
- **radionavigation** continued
  - GPS satellite radionavigation for surveying for road engineering 7−34687
  - GPS use for NBS calibration service, time and frequency transfer, appl. 7−14926
  - nautical chart and geodetic datum differences *(Japanese)* 7−66353
- **radionuclides** *see radioisotopes*
- **radios** *see radio receivers*
- **radiosondes**
  - *see also meteorological instruments*
  - thermistors characts. var. implications for air temp. meas. 7−9233
  - time and frequency standards comparison along radiometeoric channel, instruments design 7−56209
- **radiosources (astronomical)**
  - *see also BL Lac-type objects; OH-IR stars; pulsars; quasars; radiogalaxies*
  - 4U 0115+634, possible radiocounterpart to Cas γ-1 transient γ-ray source 7−18459
  - 0022+6352, H I obs. of compact source rel. to Tycho's SNR 7−66778
  - 1518+047 and 2050+364, compact double sources struct. 7−66776
  - 1741−038, quasar, refractive interstellar scintillation obs. 7−55845
  - 1827-360, scintillation obs. through tail of P/Comet Halley (1982i) 7−66516
  - Abell galaxy clusters, 11.1-cm radio maps and obs. at 6.3 and 2.8 cm 7−18454
  - absolute flux scale, review 7−29550
  - active galaxies, H I 21-cm emission obs. 7−48066
  - λ And, RS CVn star, simultaneous IUE and VLA obs. 7−47931
  - V1343 Aql(=SS 433), stationary lines variable struct. 7−60689
  - V1343 Aql (=SS 433), extended radio struct. obs. with European VLBI Network 7−29478
  - V1343 Aql (ss 433), emission lines, absolute intensity variability 7−29488
  - V1343 Aql (SS 433), evidence for relativistic beaming from VLBI obs. 7−9476
  - V1343 Aql (SS 433), Fe K X-ray line obs. 7−14594
  - V1343 Aql (SS 433), model of expanding sources in jets 7−60519
  - V1343 Aql (SS 433), models 7−14590
  - V1343 Aql (SS 433), no optical variability on time scale of 10^{-6} to 10 s 7−66596
  - V1343 Aql (SS 433), quiescent and and active flaring periods obs. at 408 MHz 7−9478
  - R Aqr, UV variability and mass expulsion from IUE obs. 7−55651
  - R Aqr jet, obs. at UV and radio wavelengths 7−55686
  - V1343 Aquilae (SS 433), Doppler-shifted X-ray line emission obs. 7−9493
  - UX Ari, RS CVn star, UHF and SHF obs. 7−66662
  - B2 1320+299, quasar with asymmetric radio struct., VLA obs. 7−35065
  - B2 radio quasars, optically-induced orientation bias 7−60832
  - B2/B3 variable sources at 408 MHz 7−40948
  - B335, Bok globule, cyanoacetylene obs. 7−18448
  - B 335, compact bipolar outflow source, EHF obs. 7−47893
  - Becklin-Neugebauer objects, circumstellar dust shells around very young and massive stars 7−48026
  - Becklin-Neugebauer objects, evolution and structure 7−48028
  - bipolar molecular flows, CO line form. in accelerated outflows 7−48042
  - 5C20 deep survey of Abell 2218 at 408 and 1407 MHz 7−18456
  - 3C 119, compact steep spectrum source, peculiar morphology 7−40949
  - 4C 17.43 and 24.11, lunar occultation studies in HF 7−29549
  - 4C 18.68, quasar, radio core and halo struct. 7−4588
  - 3C 273, quasar, particle accel. in jet hotspot rel. to radio to IR spectrum 7−14676
  - 3C 273 jet, swinging relativistic plasma beam model 7−66783
  - 3C 428, neglected 3C radio sources VLA obs. 7−14672
  - 4C 58.17 assoc. with quasar 0850+581, superluminal motion, 5 GHz VLBI maps 7−24235
  - 3C sources in galactic plane, mapping and identifications 7−60823
  - Cas A, fast moving knot, IR spectral and photometric meas. 7−66708
  - Cas A, supernova remnant, surface brightness map at 1.2 mm wavelength 7−24176
  - Cas A, tenuous gas expansion vel. determ. via H I lines broad wings obs. 7−66691
  - Cas A, VLA obs. of 1667 MHz OH absorpt. 7−55761
  - V822 Cen (Cen X-4), 1987 Jan. fade to pre-outburst brightness 7−66668
  - Cep A star-formation region, nearby Herbig-Haro objects 7−35026
  - Cir X-1, 843-MHz obs. of assoc. extended radio nebula 7−35012
  - circumstellar shells, SO$_2$ and SO emission obs. 7−4429
  - Clump 1, unusual mol. cloud complex near galactic centre, ^{12}CO and ^{13}CO obs. 7−48044
  - YZ CMi, dwarf M flare star, simultaneous IUE and VLA obs. 7−47931
  - Coma/A 1367 Supercluster, radio continuum props. of galaxies in different density environments 7−29547
  - compact coherent sources, oscillating scalar field *(Russian)* 7−14674
  - compact extragalactic radiosources, VLBI astrometry 7−35055
  - Crab Nebula, 1.4 GHz continuum emission in jet and absorpt. in filaments 7−60750
  - Crab Nebula, surface brightness map at 1.2 mm wavelength 7−24176
  - Crab Nebula and related SNRs, conf., Fairfax, USA (October 1984) 7−60887
  - V1057 Cyg, circumstellar dust nature and existence, photometric anal. 7−4463
  - CH Cyg, eclipsing symbiotic star, photometry, spectra and radio flux characts. *(Russian)* 7−40846
  - C Cyg, eclipsing symbiotic star, radio outburst characts. *(Russian)* 7−40847
  - Cyg X-3, evidence for free precession of neutron star from obs. of 12.59 ms γ-ray pulse period 7−66649
  - Cyg X-3, Oct. 1985 RF burst and gamma-ray event, cosmic ray shower observations 7−66790
  - Cygnus X-3, underground muons, new evidence from Soudan 1 7−40863
  - dark globules in Cep OB2 association, CO obs. of radial globule systems 7−24172
  - dense molecular cloud cores, formyl radical and formyl ion obs. 7−48064
  - AB Dor, fast H$_\alpha$ variations on a rapidly rotating spotted star 7−55627
  - AB Dor (HD 36705), 8.4 GHz and photometric obs. of active radio star 7−55628
  - DR-21 molecular cloud, density struct. from HC$_3$N J=4-3 line obs. *(Russian)* 7−55777
  - dwarf galaxies, 21-cm line widths rel. to luminosity classification extension 7−60794
  - dwarf galaxies, low surface brightness, in Virgo cluster, H I synthesis obs. and surface photometry 7−4560

radiosources (astronomical) continued
dwarf irregular galaxies, search for ^{12}CO emission from twelve objects 7—35033
EM wave amplification by ring-beams distrib. of moderately relativistic electrons 7—51503
evolved stars, circumstellar shells, FIRST obs. possibilities 7—47891
evolved stars, circumstellar shells, molecular abundances and processes, submm astronomy 7—47892
evolved stars, SiO maser and thermal emission 7—47951
extended tracking with RATAN-600 radio telescope, new technique 7—60538
extragalactic, var. due to interstellar refr., meas. possibilities 7—60576
extragalactic jets, appl. as probes of surrounding medium 7—55822
extragalactic radio sources, 5-GHz survey 7—4353
extragalactic radio sources, model for rapid flux variations *(Chinese)* 7—4577
extragalactic radio sources, rot. measure vars. rel. to small-scale variations in galactic mag. field 7—29524
extragalactic radio sources, spectral index-flux density relation at 408 MHz rel. to cosmological evolution 7—4578
extragalactic sources, milliarcsecond VLBI nuclei positions 7—14671
extragalactic sources near 3C 84 and 3C 273, right ascensions and 7.6 cm flux densities 7—66774
FIRST observational potential 7—48093
flat-spectrum radio sources, evolution function at 5 GHz 7—14673
flat-spectrum radio sources, optical spectra and redshifts for quasar candidates *(Chinese)* 7—4582
G24.6+0.0 (Scutum ring), obs. of ring of H II regions assoc. with CO and H I shells 7—18447
G34.3+0.2, compact H II region, NH_3 obs. of warm molecular core 7—24173
G7.7—3.7, highly-polarised radio supernova remnant, total power and polarisation meas. 7—48045
galactic centre, 43-GHz continuum obs. 7—24219
galactic centre arc, nonthermal radio emission obs. 7—55844
galactic centre lobe, twin-jet model rel. to former Seyfert galaxy stage 7—66740
galactic disk, obs. from l=—150° to l=82° in sub-millimetre range 7—4558
galactic plane sources near l=54°, WSRT radio continuum obs. 7—35057
galactic ridge radio recombination lines, origin from H272α lines survey 7—66718
galaxies from Einstein Observatory sample, radio and X-ray props. of elliptical and S0 galaxies 7—66753
outer Galaxy H I layer, volume densities atlas in cuts through composite data cube 7—18358
general overview (book) 7—55914
general textbook contribution 7—60912
GT 0116+622, possible radiocounterpart to Cas γ-1 transient γ-ray source 7—18459
Gum Nebula region, cometary globules and dark clouds obs. 7—55750
HEAO-1 unidentified X-ray sources, UHF obs. 7—14678
HH 1-23 exciting star, nature of IR emission from JHKL photometry 7—60661
HH 6, H_2O maser emission detect. 7—4539
high-mass loss rate stars, projected FIRST obs. 7—47842
hot molecular cloud cores, torsionally-excited methanol obs. 7—48005
HR 5110, RS CVn star, UHF and SHF obs. 7—66662
IC 443, supernova remnant, multiwavelength investigation 7—40896
interstellar bipolar outflows, nature of collimating mechanism 7—40816
interstellar cold clouds, CO radio-line profiles interpretation 7—4544
interstellar cold dark clouds, C_3H_2 2_{20}-2_{11} absorpt. line obs. 7—66716
interstellar cyclopropenylidene-d_1 detect. and implications 7—66693
interstellar molecular clouds, C I fine-structure line obs. at 809 GHz 7—66717
interstellar molecular clouds, CO obs. rel. to high-mass stars formation due to cloud-cloud collisions 7—55610
interstellar molecular clouds, submillimeter spectral lines obs. in very dense regions 7—66711
interstellar molecular clouds, upper limits to the PO abundances 7—66713
interstellar sources, submm obs. 7—48058
IR 1017+08, galaxy, OH maser emission obs. 7—29539
IRAS deep field sources, radio counterparts 7—48102
IRAS low-temp. unidentified print sources, ^{13}CO and ^{12}CO obs. 7—48006
IRAS sources in mol. clouds, search for H_2O masers 7—35066
IRC+10216, $^{29}SiC_2$ and $^{30}SiC_2$ detect. in millimetre-wave spectrum 7—29474
IRC +10420, post AGB star, mass-loss region, circumstellar environment and atm. characts. 7—66583
L134 dark cloud, search for interstellar CH abundance vars. 7—66701
L1551 molecular cloud, VLA obs. of 4.8 GHz H_2CO transition 7—60765
L726-8A, flare star, narrow-band radio flares, mechanisms anal. and UHF obs. 7—60679
LDN 1551-IRS 5, bipolar outflow source, EHF obs. 7—47893
lenticular and early-type galaxies, H I content of field and Virgo cluster samples 7—4559
AD Leo, dwarf M flare star, simultaneous IUE and VLA obs. 7—47931
AD Leo, flare star, periodic var. 7—14582
AD Leo, flares star, narrow-band radio flares, mechanisms anal. and UHF obs. 7—60679
LkHα 101, VLA obs. of H II region and small-scale struct. in nearby H I 7—48038
low frequency variable radio sources, two-epoch VLBI obs. 7—4579
Lupus dark clouds complex, CO obs. rel. to low-mass stars form. 7—29523
Lynds 1457, nearest mol. cloud, discovery of assoc. hard X-ray source (H0253+193) 7—66789
M16, star-forming complex, obs. of giant stellar wind shell assoc. with H II region 7—18446
M17 molecular cloud, density struct. from HC_3N J=4-3 line obs. *(Russian)* 7—55777
M17 SW molecular cloud, submillimetre molecular spectroscopy with Texas MWO radio telescope 7—55763
M33, H I survey Ing Westerbork Synthesis Radio Telescope 7—66739
maser source involving H_2O and cold dust, theoretical study 7—24197
AT Mic, UV Cet star, quiescent emission at 843 MHz 7—34998
N Milky Way, source catalogue from radio patrol survey 7—4356
molecular clouds, plasma characts. and Cherenkov microwave emission-line mechanism *(Chinese)* 7—66690
molecular observations with Cologne University 3-m radio telescope, obs. 7—24004

radiosources (astronomical) continued
NGC 2024, H II region, VLA maps of formaldehyde absorpt. 7—48041
NGC 5023, edge-on dwarf galaxy, H I layer thickness 7—24208
NGC 5383, barred spiral galaxy, CO obs. 7—55827
NGC 55, magellanic-type galaxy, H I and radio continuum obs. 7—9539
NGC 6357, H II region, IR obs. rel. to star form. 7—48009
observations with Fleurs six-dish array 7—60544
OH-IR stars at Galactic Centre, showing SiO maser emission 7—60666
OJ 287, BL Lac object, optical variation and outburst obs. (1980 to 1984) *(Chinese)* 7—4548
OMC-1, obs. of P(2,1) line of H_3O^+ 7—9524
OMC-1, submillimetre molecular spectroscopy with Texas MWO radio telescope 7—55763
RS Oph, recurrent nova, radio obs. rel. to conditions in nova remnant 7—60695
α Ori, outer atm. and circumstellar material characts., far-IR spectral obs. 7—60690
Ori A, monitoring obs. of SiO maser emission at 7 mm wavelength (1977 to 1979) 7—4449
Orion A, He abundance, spectral obs. *(Russian)* 7—40951
Orion IRc 2, vibr. excited cyanoacetylene obs. 7—48063
Orion Molecular Cloud 1, IR polarisation obs. and discovery of H_2 refl. nebula 7—14633
Orion-KL region, maps of high-vel. CO outflow 7—29522
II Peg, RS CVn star, UHF and SHF obs. 7—66662
Pisces-Perseus supercluster galaxies, 21-cm survey in declination zone +21.5° to +27.5° 7—4576
compact planetary nebulae, wind-shell model for radio continuum spectra 7—55751
polarization of classical double radio sources 7—18458
protostar formation regions, submm astronomy with FIRST 7—47890
Q0800+608, quasar, VLA obs. of remarkable one-sided jet 7—9555
quasars, H I 21-cm emission obs. 7—48066
radio recombination line emission towards galactic centre, constraints on ionised gas props. 7—66719
radio stars, finding charts for Hipparcos mission 7—9385
RCW 103, young supernova remnant, obs. of expanding shells in filamentary edge of remnant 7—14632
refractive interstellar scintillation 7—66777
S140 IRS 1, CO obs. of assoc. bipolar outflow 7—66710
S235B region, mol. line obs. of young stellar object 7—24188
S5 flat spectrum sources, analysis of complete sample 7—40947
Sco X-1, lobe characts. determ., VLA obs. 7—60721
VX Sgr, VLBI obs. of SiO masers rel. to physical conditions in circumstellar envelope 7—55619
Sgr A* direction, interpretation of IRS 16 NW+object A 7—40959
Sgr A West region, ionised gas dynamics and comp. 7—40935
Sgr B2, obs. of P(2,1) line of H_3O^+ 7—9524
Sgr B2, vibr. excited cyanoacetylene obs. 7—48063
Sgr B2(OH), cyclopropenylidene, detection of ^{13}C isotopes 7—40891
Simeiz-Pushchino interferometer astrometric obs. 7—4334
SN 1006 remnant, total intensity obs. at radio frequencies 7—35025
SN 1986J, in NGC 891, radio supernova, upper limits on B-magnitude from Schmidt plate obs. 7—18429
SN 1986J, prediscovery radioobservations of supernova in NGC 891 galaxy 7—47955
SN 1986J in NGC 891, VLBI determ. of supernova radial expansion 7—47957
SN 1987A in LMC, optical spectra, radiobrightness and double nature of progenitor 7—66634
SNRs, surface brightnesses and radio spectral indices 7—14621
spectral flux densities at 22 MHz, determ. for 395 radio sources 7—18457
spiral galaxies in Virgo Cluster, 2.8 cm radio continuum emission distrib. 7—9540
star formation regions in southern hemisphere, CO J=2-1 obs. 7—18441
stars, burst mechanism, fully relativistic electron maser 7—4317
submillimetre astronomy, conf., Segovia, Spain (June 1986) 7—41013
submm sources, characts. 7—48059
superluminal sources, EVN and MERLIN obs. 7—66775
supernova remnants, colliding, oblique shock refls. rel. to anomalous H I vel. features 7—24175
supernova remnants, evidence for biannular radio struct. 7—55752
supernova remnants, radio emission during radiative expansion stage 7—60744
supernova remnants, selection effect in statistical investigations 7—24170
supernova SN 1986J in NGC 891, prediscovery flux densities 7—18426
V711 Tan (HR 1099), radio emission from starspots on RS CVn binary 7—55725
V711 Tau, RS CVn star, UHF and SHF obs. 7—66662
V711 Tau, RS CVn system, long-term vars. of chromospheric, transition-region and starspot activity 7—47995
T Tau stars, radio variability and structure 7—40807
Texas radio source survey, search for optically variable objects 7—4580
thermal and nonthermal sources and emission (book) 7—35140
TMC-1, density struct. from HC_3N J=4-3 line obs. *(Russian)* 7—55777
Ursa Major I(S) group galaxies, ^{12}CO and far-IR obs. 7—29548
Vela supernova remnant, nature of radio emission from Vela X 7—24174
VLA survey in outer Galaxy 7—14655
VLBI fringe-fitting with antenna-based residuals, algorithm 7—34885
W3(OH), hot NH_3 obs. towards H_2O masers near W3(OH) 7—9525
W3 core region, millimetre-wave continuum obs. at 6.5 and 4 mm 7—55781
W49, exptl. 'zoned relay' obs. at RATAN-600 radio telescope 7—60822
W51 IRS 2, star-forming region, NH_3 maser and thermal emission obs. 7—66702
W51A, vibr. excited cyanoacetylene obs. 7—48063
WC stars, influence of C and O abundances on mass-loss determ. from radio meas. 7—29480
Wolf-Rayet stars, new evidence at X-ray and gamma-ray freqs,. for nonthermal phenomena 7—55640
Wolf-Rayet stars, radio emission rel. to mass loss rates 7—9475
X-ray sources in galactic bulge and globular clusters, radio obs. 7—29511
young supernova remnants, constraints on struct. and dynamics from shock-heated dust obs 7—55754
Zw 475.056, galaxy, OH maser emission obs. 7—29539
H I bubble around O7 star (HD 91824) in Carina region, prod. by stellar wind of O-type star 7—60760
H I regions, vertical struct. of galactic spiral arms rel. to energetics of vel. active regions 7—24220
H I regions of Southern Milky Way, fully sampled 21-cm survey 7—40894

radiosources (astronomical) continued
  H II regions, H radio recombination line emission 7−60746
  H II regions, highly-excited Oh transitions obs. 7−24177
  H_2O masers in nearby galaxies, luminosities and line profiles 7−14661
  OH IIa sources, nonthermal emission lines *(Chinese)* 7−66690
  OH interstellar clouds vel., use for Sun-galactic centre distance determ. 7−4554
  SiO maser sources, monitoring obs. at 7 mm wavelength (1977 to 1979) 7−4449
radiotelescopes
  see also radioastronomy
  1.5K cryogenerator for radioastronomical use 7−30023
  145-GHz-frontend with superconductor-isolator-superconductor (SIS)-mixer 7−34867
  230-GHz receiver for CO J=2-1 line studies 7−29397
  acousto-optical spectrographs for ground and space submm astronomy 7−34877
  Arecibo Observatory upgrading program 7−55471
  Australia telescope project, space-related services spinoffs 7−4338
  Cassegrain, mm-wave, 230 GHz, low-noise cryogenic receiver, spectroscopic appls. 7−29396
  Cassegrain antennas, phase and frequency stability, appls. 7−60547
  Cassegrain large antennas, quasioptical coupling of Gaussian beam systems, radiotelescope performance 7−40698
  Cologne 3m radiotelescope acousto-optical spectrometers 7−34878
  Cologne 3m radiotelescope mm and submm spectrometer 7−34871
  Cologne University 3-m radio telescope, construction and performance 7−24004
  Effelsberg 100 m radiotelescope, surface meas. by microwave holography 7−24005
  Fleurs six-dish array operation and appl. programmes 7−60544
  GLK radar to MERLIN, concepts and inventions in radio source mapping 7−47708
  indirect imaging methods, conf., Sydney, Australia (Aug.-Sept. 1983) 7−41016
  Jodrell Bank wide-band interferometers, appl. to surface profile meas. of telescopes 7−60543
  large inflatable parabolic reflectors in space 7−34870
  large space antenna assembly feasibility at space station 7−60540
  MERLIN systems, observational performance and potential for radioastronomical research 7−24010
  mm wave research in Finland, radioastronomy receivers develop. *(Finnish)* 7−60549
  MM-wave radiometer, 145 GHz, receiver design using superconducting mixer, radiotelescope appl. *(German)* 7−24007
  MPIfR/UA 10-m sub-mm telescope plans 7−14637
  Nobeyama Radio Observatory, Japan, signal processing techniques 7−55470
  noise meas. *(Spanish)* 7−4336
  patrol instrument using FFT processor as a 'digital lens' 7−47709
  polarisation systems, props. of Muller matrices 7−66464
  POM 2 millimetre-wave telescope calibration, automated system *(French)* 7−60542
  principles and characteristics (book) 7−35140
  QUASAT, scientific and industrial appls. for Australia 7−4340
  Quasat-Earth based VLBI system 7−60576
  radio receiver for K-band, using cryogenically cooled amplifier 7−60548
  RATAN-600 radio telescope, 1.35-cm spectral receiver 7−66466
  RATAN-600 radio telescope, acousto-optical spectrometer design and appl. 7−66463
  RATAN-600 radio telescope, azimuthal aperture synthesis of Sun in 'south plus periscope' mode 7−60612
  RATAN-600 radio telescope, development of 'relay with zoning' method 7−60568
  RATAN-600 radio telescope, exptl. 'zoned relay' obs. 7−60822
  RATAN-600 radio telescope, IKAR-16 automated solar spectral-polarisation complex 7−66460
  RATAN-600 radio telescope, improvement of surface precision of primary mirror reflecting elements 7−60537
  RATAN-600 radio telescope, new technique for extended tracking of radio sources 7−60538
  RATAN-600 radio telescope, receiving unit of 21-cm spectrometer 7−60559
  RATAN-600 telescope, adjustment using laser levelling device 7−66468
  SHF background radiation meas. instrumentation 7−55463
  Simeiz-Pushchino interferometer obs. baseline determ. 7−4334
  strained radiotelescope reflectors, phase distortions compensation, automatic control 7−60541
  submillimeter astronomy, low noise heterodyne receiver 7−34868
  submillimetre and millimetre interferometer of polarizing type, for astronomical use 7−40697
  submillimetre spectroscopy and appls. conf., Cannes, France (Dec. 1985) 7−29585
  submm horn antenna for diffuse sources, sidelobe response 7−47701
  submm radiometer and horn antenna for rocket experiments 7−47700
  superconductor-insulator-superconductor mixers integrated with slot antennas, imaging array 7−60556
  Tidbinbilla interferometer, upgrading to X-band 7−60545
  UK/NL EHF telescope spectrometer system 7−34876
  University of Cologne 3 m telescope at Gornergrat Observatory, performance 7−60557
  VLA, radiotelescope and its DEC computers 7−24006
  VLBI station location determination in terrestrial reference frame *(French)* 7−66314
radiotherapy *see radiation therapy*
radiowave interferometers
  astronomical radiotelescope patrol instrument using FFT processor as a 'digital lens' 7−47709
  Jodrell Bank wide-band interferometers, appl. to surface profile meas. of telescopes 7−60543
  principles and characteristics (book) 7−35140
  Quasat-Earth based VLBI system, appl. for interstellar refr. meas. 7−60576
  submillimetre and millimetre interferometer of polarizing type, for astronomical use 7−40697
  Tidbinbilla interferometer, upgrading to X-band 7−60545
radiowave interferometry
  minimum relative entropy method as soln. to missing short-baseline problem 7−55478
  principles and characteristics (book) 7−35140
radiowave interferometry continued
  Quasat-Earth based VLBI system, appl. for interstellar refr. meas. 7−60576
  VHF aperture synthesis observations in astronomy, effects of Es-layer *(Chinese)* 7−66471
  VLA, radiotelescope and its DEC computers 7−24006
  VLBI correlators, signal loss due to imperfect fringe rot. 7−47722
  VLBI for pulsars 7−40856
  VLBI observations with orbiting radiotelescope 7−47730
  VLBI station location determination in terrestrial reference frame *(French)* 7−66314
  VLBI use for Earth rot. parameters determ. *(Chinese)* 7−29248
  VLBI use of Earth parameters determ. 7−55325

radiowave propagation
  see also electromagnetic wave propagation
  1.91 MHz echoes from mag. conjugate point after propag. through magneto-ionic duct 7−60496
  1-350 GHz sea level attenuation, dry air and water vapour effects determ. algorithms 7−40548
  10 GHz multirelay link rain attenuation outage time calcs. 7−55123
  50 MHz amateur radio propag. 7−4264
  250 MHz/GHz scintillation parameters, equatorial, polar and auroral environments 7−66384
  absorption fading at 18 GHz rel. to radio path direction *(German)* 7−66273
  Antarctic ice cap influence on VLF propagation, diffraction round ice cap 7−47491
  Antarctica multiple VLF propag. paths, burst precipitation induced perturbations 7−66379
  arid land millimetre wave radio links, design considerations 7−40518
  North Atlantic anomalous microwave propagation, long-range expt. 7−47481
  atmospheric radio noise, MF and HF, bandwidth expansion effects on voltage deviation parameters 7−60366
  atmospheric transmission losses use for interference resistant communications 7−34585
  attenuation by rain, precipitation pattern motion meas. using radar 7−4082
  auroral E-region, radar irregularities due to plasma instability types 7−60447
  auroral ionosphere, electric field and electron flux effects on SW radio signals 7−40630
  boundary layer meteorological conditions influence 7−34607
  cm and mm wave propagation, tropical raindrop size characts. and effects 7−66280
  D-region, artificial periodic inhomogeneities formation, attachment and recombination processes 7−60443
  delay measurement for signal traversing dispersely inhomogeneous ionosphere layer, accuracy 7−23934
  diffraction method of complex quality control of cond. surfaces and dielec. coatings 7−39820
  Earth's atmosphere radio transillumination, signal parameters, ionosphere effect 7−55367
  Earth-ionosphere waveguide, ELF mode constants calc., noniterative procedure 7−40636
  Earth-space paths, low elevation, amplitude scintillations meas. and modelling, telecom. systems impact 7−4110
  ELF propagation variations at mid and high latitudes 7−60471
  ELF radio wave scattering on global inhomogeneities of earth-ionosphere cavity 7−29332
  eLF/VLF/LF propagation and system design 7−40642
  EM wave guidance by highly conducting surface in uniform motion 7−10825
  equatorial electrojets, small scale plasma motions, HF Doppler obs. 7−55361
  Es-layer, effect on astron. VHF aperture synthesis observations *(Chinese)* 7−66471
  extinction properties of visible-, IR- andmm radiation (94 GHz) 7−9176
  F_2-layer, hourly variability estimation at low latitude station 7−60472
  F_2-layer visualisation, eleven years of ionospheric chronograms 7−23848
  F-region, HF-enhanced plasma line temporal evol. 7−34776
  F-region parameters determ., resonance scattering method 7−55356
  hail causing microwave attenuation, theoretical calcs. 7−18284
  HF groundwave and skywave propagation 7−40643
  HF propag. through the ionosphere 7−55366
  HF propagation modelling, and RF prediction 7−23942
  HF propagation problems in ionosphere 7−23943
  HF refraction insertion into ionospheric waveguide 7−14406
  HF sky wave paths, maximum usable frequencies, sounder updates for statistical model predictions 7−40638
  HF skywave remote sensing, frequency management 7−40646
  high-altitude auroral zone, ray tracing of Z-mode emissions from source regions 7−47642
  interstellar refraction, meas. with Quasat-Earth based VLBI system 7−60576
  interstellar scintillation use for meas. of pulsar space vel. 7−60698
  ionosphere, absorption of cosmic radio noise at high latitudes, spectrum 7−14405
  ionosphere, C-band scintillations due to disturbances 7−60442
  ionosphere, collision frequency, vertical distrib., multifrequency radioabsorpt. meas. 7−55278
  ionosphere, decametric propagation, large-scale inhomogeneities effect 7−40629
  ionosphere, electron beam effects 7−55354
  ionosphere, HF modification, small scale plasma density depletions form. 7−4263
  ionosphere, HF-produced medium-scale inhomogeneities, propagation effects 7−14404
  ionosphere, perturbed reflection layer, electric field calc. 7−40637
  ionosphere, short wave range operating frequency selection w.r.t. atmospheric disturbances *(Czech)* 7−60474
  ionosphere, topside and bottom-side data above Haikou region, China *(Chinese)* 7−18332
  ionosphere MF radioabsorption rel. to solar activity cycle 7−34767
  ionosphere plasma, upper hybrid resonance and turbulence excitation by intense radio wave 7−55362
  ionosphere plasma depletion experiment (due to Spacelab-2), prod. of window for galactic background radioemission obs. 7−60469
  ionosphere post-storm event radiowave absorpt., separation into three phases 7−29329

radiowave propagation continued
ionospheric forecasting, short-term, problems 7—40645
ionospheric plasmas, high power radiowave interactions 7—29362
ionospheric propagation, far zone radio signal struct. and dispersion distortion peculiarities 7—34765
ionospheric radio propagation models and prediction, review 7—18334
ionospheric scintillation for 140 MHz transionospheric signals, due to equatorial F-region irregularities 7—29357
ionospheric signal distortion near 3D caustic 7—40631
trans-ionospheric UHF signals, multipath effects in angle-of-arrival measurements 7—47621
trans-ionospheric VHF signal scintillation at middle latitudes 7—4260
links with multibeam signal propagation, generalised stability function 7—23824
Loran-C 100 kHz sky wave vars. *(Chinese)* 7—18333
magnetospheric VLF radio waves spectral estimation, one-bit correlation method 7—9337
marine paths, correlation props. of signals in 10 cm band with angular diversity reception 7—23823
meteor burst propagation and system design 7—40644
meteor bursts for communication links, database anal. approach 7—60607
MF sky waves, measured and predicted field strengths comparison in Japan 7—23932
microwave absorption measurements of melting spherical andnonspherical hydrometeors 7—9106
microwave communication, equatorial and tropical regions, rain effects 7—66281
microwave fading, geographical distrib. prediction from ground based climatological meas. 7—55241
microwave line-of-sight links, elevated atmospheric duct, multipart fading anal. 7—47482
microwave link during dust storms, attenuation at 2 and 7.5 GHz, obs. 7—55137
microwave links, seasonal variation of multipath parameters in Egypt 7—66282
mm-wave propag. characts. of atmosphere *(German)* 7—66207
MM-wave propagation in sand/duststorms, particle-size distribution role 7—47480
multidimensional spectral anal., ionospheric mode structs. decomposition 7—40641
nonstandard normalization of ionospheric radio signals 7—34764
polarization diversity radar interpretation 7—66232
pulsars, dispersion measures determ. 7—66646
pulsars, multiple imaging by refr. in interstellar medium 7—40856
radioaltimeters, regular ionospheric errors compensation possibility 7—34784
rain map of Saudi Arabia, for radiowave propagation studies 7—47485
randomly oriented particle layer, vector solution for mean EM fields 7—14365
refraction at altitudes above 1 km, effective Earth radius method 7—18274
refractive interstellar scintillation of radio sources 7—66777
sandstorm effect on radiowave propag., system design for Riyadh, Saudi Arabia 7—4111
satellite phase links, ionospheric dispersion effects on operation 7—60473
Saturn, rings profiling by radio occultation 7—34886
Saudi Arabia, rain map for radiowave propagation 7—47485
short wave multiple scattering in ionosphere, effect on fluctuations 7—60444
spatial correlation coefficients of rainfall intensity inferred from statistics of rainfall intensity and rain attenuation 7—47474
terrestrial radio relay lines, wave propagation above 10 GHz, investig. 7—29214
theory (book) 7—35140
thermal radio emission at sea surface 7—60268
three-body scattering produces precipitation signature of special diagnostic value 7—60369
troposphere, water vapour correction in GPS baseline determ. 7—9228
troposphere, water vapour effect on vertical crust motion determ. via mobile VLBI and GPS 7—9226
troposphere, water vapour effect on VLBI meas. of vertical crust motion 7—9227
tropospheric propagation at low latitude areas 7—66283
tropospheric radio links, fast signal fades rate distrib. 7—34658
tropospheric waveguide, modal equation, roots instability 7—60368
turbulence characteristics from microwave amplitudescintillations 7—9108
TV broadcasting, 4 GHz PAL and 12 GHz B-MAC comparison in Australia 7—29229
TV signal propagation at VHF, far beyond primary service zone 7—34768
UHF/SHF SATCOM propagation and system design 7—40555
VHF transionospheric signal time delay at subauroral latitudes, electron density characts. determ. 7—23933
VHF-FM broadcast Es propagated signal polarisation obs. 7—60468
VHF/UHF vertically and horizontally polarised waves, propag. in 3-100 m range *(Japanese)* 7—14367
VLF propagation at high southern latitudes, from sferics observations 7—47617
VLF quiet band phenomena observed during conjugate VLF signal propagation study 7—34797
VLF signals reflection height, assoc. electron density var. 7—60448
VLF waves in Earth-ionosphere waveguide, perturbations due to electron precipitation-induced ionisation enhancement 7—47626
VLF waves use for D-region electron density determ. *(Japanese)* 7—66394
Vostok station, Antarctica, humidity and subMM transparency *(Russian)* 7—23822
whistlers, newly-born ion effect and thermal effect 7—40572

radium
see also nuclei with ......
adsorptive uptake by waste inactive microbial biomass 7—40313
atom, photoionisation, 20-channel relativistic random phase calcs., interchannel coupling 7—36566
in groundwater, porous flow model for steady state transport 7—23725
Mississippi River delta area, ^{226}Ra, in sediments and water column 7—66168
seawater isotope chemistry for N Pacific bottom water 7—23703
Ra I and II, HFS, isotope shift fast-beam laser spectroscopy 7—42534
^{A}Ra, A=223,224,226,228 environmental levels on electrodeposited source 7—19553
^{A}Ra, A=226,228, intake by early Ra dial workers in Illinois, health risks 7—8700

radium continued
^{224}Ra in mouse bone, dosimetry calcs. 7—8690
^{226}Ra mass-unit standard 7—48698
^{226}Ra, meas. method and results in fresh water 7—23262
U mine tailings disposal, radiation exposure estimation 7—5445

radium compounds
No entries

radium emanation *see radon*

radius measurement *see diameter measurement*

radius of curvature measurement *see curvature measurement*

radomes *see antenna accessories*

radon
see also nuclei with ......
atom, relativistic splittings of Cooper minima, RRPA study 7—862
California, groundwater Rm as earthquake fluid phase precursor 7—40424
concentration in precipitation, automatic measuring apparatus 7—49847
concentration variations in active volcanoes and seismic regions 7—54963
crystalline minerals, fracture characteristics using ^{222}Rn and ^{220}Rn as probes 7—23893
daughter exposure and cigarette smoking, lung cancer in Navajo men, U mining relationship 7—8703
daughter products meas. in atmosphere, aerosol radiation meters checking 7—9220
daughters in indoor air, Swedish limitation schemes 7—34286
diffusion effects on tissue microdistribution, CR-39 autoradiography study 7—54731
dosimetry meas. by electrochemical etching of polycarbonate detectors *(German)* 7—15418
emanation into pores of solid material, recoil effect 7—49730
indoor, seasonal variation in houses, southwestern USA 7—28722
indoor and soil meas. in Albuquerque, NM, USA 7—28726
Kilauea volcano, Hawaii, Rn soil gas emissions rel. to geology activity 7—34424
long term Rn monitor using polycarbonate foil 7—25265
outgassing related to geothermal faults 7—54964
permeability studies, automated multisensor apparatus 7—6349
seawater isotope chemistry for N Pacific bottom water 7—23703
soil gas Rn conc., anomalous increases as earthquake precursor 7—8866
soil survey for U prospecting using α-detection 7—55311
^{A}Rn, A-220, 222, progeny inhalation, lung cancer risk at low doses of α particles 7—28608
^{220}Rn, concs. determ. by scintillation counting method, appl. to Japanese Fumaroles and hot springs 7—9199
^{220}Rn determ. using activated C and high purity Ge detector 7—28727
^{220}Rn in exhaled breath of Th plant workers, obs. 7—54767
^{222}Rn, airborne concentrations in USA homes 7—65666
^{222}Rn conc. dynamics close to ground surface *(Japanese)* 7—59884
^{222}Rn concentration meas. in Greek radon spas 7—23465
^{222}Rn daughters in mines and homes and lung cancer induction *(German)* 7—65816
^{222}Rn in Gulf Coast geopressured-geothermal reservoirs, United States 7—8881
^{222}Rn in Subantarctic and Antarctic, long-range transport from remote continents 7—55222
^{222}Rn, meas. method and results in fresh water 7—23262
^{222}Rn, surface deposition of short lived decay products, fan induced air motion effect 7—8698
^{222}Rn transport from soil, role of channels 7—40442
^{222}Rn transport through a cool season grass growing on uranium mill wastes 7—28730
U mine tailings disposal, radiation exposure estimation 7—5445

radon compounds
No entries

railguns *see electromagnetic launchers*

railroads *see railways*

railways
see also locomotives
buried metallic structures, cathodic protection methods *(Italian)* 7—28175
ground vibration from railway trains, prediction method 7—43519
steel weldment defects, quantification techniques by US normal beam testing 7—16044
underground, noise and vibration sources 7—43524

rain
10 GHz multirelay link rain attenuation outage time calcs. 7—55123
acid deposition and lake, acidification, role of groundwater 7—23247
acid deposition data from New Jersey Pine Barrens, air parcel trajectory anal. 7—40061
acid rain and forest health, report 7—28419
acid rain from Masaya volcanic, Nicaragua, comp., distrib. and neutralisation 7—9145
acid rain in India, model of monsoon effects near coal-fired power plants 7—65663
acid rain in urban and rural areas, environmental effects 7—3743
acid rain modelling, turbulent spiral boundary layer and thermal wind simulator 7—14370
acidic precipitation, conf., Muskoka, Ontario, Canada (Sept. 1985) 7—48167
South Africa, rainfall quantity during one rainfall season *(German)* 7—40545
S Africa, summer rainfall distrib., effects of circulation and humidity 7—47492
Africa (southern and equatorial), rainfall spatial variability since 1901 AD 7—23837
W Africa-E Atlantic region, simulated rainfall, effects of enhanced initial moisture fields 7—47499
African rainfall anomalies (1901-73), spatial patterns 7—66292
airborne microwave rain scatterometer/radiometer, DP software system *(Japanese)* 7—23908
airborne microwave rain scatterometer/radiometer, hardware system development *(Japanese)* 7—23907
airborne microwave rain scatterometer/radiometer, satelliteborne weather radar system *(Japanese)* 7—23911
airborne microwave rain scatterometer/radiometer system, rain meas. and data anal. *(Japanese)* 7—23909
Amazon Basin rainfall, FGGE forecast expts. 7—34629
areal rainfall estimation 7—9048
arid land millimetre wave radio links, design considerations 7—40518
S Asia, local rainfall rel. to southern Oscillation Warm Events 7—34628
Australia, major droughts prediction from temp. anal. 7—4170

rain continued
- Australia, sea-level var., atm. effects 7−18192
- Austria, precipitation climate regionalization 7−66295
- Bangalore, India, rainfall spells comparative anal. 7−9127
- Bangladesh, rainfall probabilities during monsoon period 7−14337
- Berlin, Germany, precipitation forecasting, single-station stochastic model 7−4106
- binary time series obtained from continuous time point processes describing rainfall 7−23776
- NE Brazil, March rainfall correlated with N Hemisphere circulation 7−29211
- California Valley, hydrometeor evol. in rainbands 7−4126
- China, forecasting of plum rains using fuzzy preference ratio *(Chinese)* 7−29226
- cm and mm wave propagation, tropical raindrop size characts. and effects 7−66280
- continuous rainfall occurrence models compatibility with discrete rainfall obs. 7−29103
- corrosion-related aspects of the chemistry and freq. of occurrence of atmospheric precipitation 7−46664
- differential reflectivity technique for rainfall meas. 7−23869
- drop size spectra from frontal convective clouds over Israel 7−66238
- droplet size distributions and importance for rain measurement by radar 7−14351
- drops, capture of sulphate aerosol 7−40059
- drops in cloud, kinetic Smoluchowski eqn. for coagulation of spatially nonuniform systems 7−46873
- drought occurrence in desert border areas, rain-albedo-vegetation feedback process 7−9159
- electrical measurements of rain at Visakhapatnam, India 7−29212
- Eurasia, snow-ice cover, correlation with rainfall and temp. in E China 7−29238
- NW Europe, acidic nitrogen species as pollutants, long-range transport and deposition in rain 7−34085
- extinction properties of visible-, IR- andmm radiation (94 GHz) 7−9176
- flood and flash-flood forecasting, generalised stochastic hydrometeorological model, case study 7−66202
- flood and flash-floods forecasting, generalised stochastic hydrometeorological model formulation 7−66201
- flash flood warning systems for real-time operation 7−60388
- forecasting of rainfall, dynamical approach to quantitative forecasting 7−29182
- frontal rainfall intensity spectra *(Russian)* 7−4117
- gauge adjustment of radar rain rates by normalized norm analysis 7−40551
- global weather for June to August 1985 period 7−60360
- Great Britain, fine-mesh forecast of 25 Aug. 1986 storm 7−55205
- high-intensity rain shafts in summer showers, area and duration 7−60321
- hydrologic model choice for watersheds and floods 7−55117
- hydrological rainfall models, role of scale of fluctuations 7−18230
- Ilorin, Nigeria, light, moderate and heavy rainfall diurnal var. 7−4165
- India, acidity of rainfall affected by basic soil dust in atmosphere 7−29184
- India, AD 1985 monsoon rainfall and weather conditions 7−29185
- India, daily monsoon rainfall persistence anal. 7−47495
- India, droughts and floods in summer monsoon season, AD 1871 to 1984 period 7−66294
- India, droughts in Maharashtra State 7−29093
- India, monsoon rainfall medium range forecasting and the forty-day mode 7−29179
- India, monsoonal fields sequential evol. 7−29203
- India, rainfall probabilities and amounts assoc. with monsoon depressions 7−9119
- India, SW monsoon, rainfall distrib. and assoc. thermodynamic parameters anal. 7−9121
- Indian region monsoon depression, prediction with regional primitive eqn. model 7−9114
- Indian sea areas, rainwater comp. during monsoon season 7−9123
- IR materials erosion due to rain, optical damage characterisation 7−31411
- Israel, weather modification by artificial land surface albedo changes 7−9072
- Johnstown flood, Pennsylvania, USA, model of July 1977 rainstorm 7−40524
- Kyushu, Japan, heavy rainfall depth-area-duration characts., for July 1982 period *(Japanese)* 7−4160
- lakes, underwater noise due to rain, hail, and snow 7−50830
- large water droplets dispersion model 7−34583
- Lucknow, India, 1982 rainfall comp. 7−9129
- E Mediterranean, penetration of early winter polar air mass 7−34627
- microphysical model of rain rate 7−29210
- microwave radiometers, effects of rain on surface 7−9213
- microwave rain attenuation and water vapour radiometric meas. at NPL 7−34606
- monsoon rainfall over India, forecasting 7−4130
- monsoon rainfall over India rel. to conditions in middle atmosphere 7−4248
- monthly long-range forecasts for United Kingdom, exptl. forecasting system 7−14358
- narrow cold-frontal rainbands, N and S scavenging, model 7−55191
- New Caledonia, Pacific Ocean, rainfall correl. with El Nino-Southern oscillation occurrence 7−4154
- New South Wales, Australia, rainfall characts. 7−29083
- nitrate scavenging by rain and snow, for Long Island, New York, USA 7−40531
- Northern Hemisphere, 1986 spring meteorological conditions 7−4166
- numerical weather prediction models, implicit versus explicit convective heating 7−47500
- occurrence series models, of continuous-time and discrete-time point process types 7−23749
- oceanic precipitation, Nimbus 7 SMMR meas. rel. to El Nino 7−66245
- Oklahoma, areal precipitation estimation, appl. of radar 7−9234
- one-dimensional infiltration in homogeneous soils, combined analytical-numerical approach 7−29082
- W Oregon, USA, rain-on-snow runoff, effects of clearcutting 7−23788
- organic acids in precipitation of Wisconsin, USA 7−14326
- N Peru, convection, in clouds and rain in coastal areas, AD 1983 obs. 7−60350
- Peru, rainfall and El Nino-Southern Oscillation events in AD 1531 to 1841 period 7−60315

rain continued
- precipitation occurrence, continuous-time renewal and Markov chain models 7−18249
- precipitation pattern motion meas. using radar, communication systems attenuation 7−4082
- N Queensland, Australia, daily rainfall rel. to topography and circulation 7−23810
- radiowave absorption fading at 18 GHz rel. to radio path direction *(German)* 7−66273
- Rajasthan, India, localized flooding due to heavy rains, meteorological study 7−29183
- remote sensing, satellite passive microwave imagery methods 7−47563
- remote sensing by microwave radiometry method using classification algorithm 7−23874
- remote sensing by satellite, cloud and rainfall monitoring methods used by Bristol University 7−47562
- remote sensing of rain from space, by passive microwave methods 7−60387
- runoff-percolation model using programmable spreadsheet 7−55116
- Saudi Arabia, rain map for radiowave propagation 7−47485
- scavenging of N and S, assoc. chem. processes 7−55192
- seasonality of mesoscale storms and dry period parameters in northeastern USA 7−14324
- severe rainband, flow dynamics and stability 7−9096
- short-term forecasting, initialized numerical models 7−60352
- E Shropshire, England, rainfall, runoff and erosion on bare arable soils 7−9039
- Sichuan flood catastrophe, China, mesoscale analysis of July 1981 event 7−60344
- soil erosion below tropical forest, rain droplet fall through canopy 7−34561
- soil infiltration during rainstorm, surface sealing phenomena due to rain 7−9031
- soluble aerosols and gases, rainout lifetimes 7−55189
- South Australia, rainfall quantities and freq. 7−34660
- spatial correlation coefficients of rainfall intensity inferred from statistics of rainfall intensity and rain attenuation 7−47474
- splash droplets dispersion from water drop impact, physically-based model 7−9036
- split cold front and associated rainfall pattern seen over UK on FRONTIERS radar 7−55207
- statistical characteristics and optical beams propag. *(Russian)* 7−29131
- subtropical rain belt, contrib. of vapour condensation heating to seasonal movements of subtropical high ridge line 7−40508
- Sudan, Savanna Zone, NOAA AVHRR monitoring of rainfall and vegetation 7−40506
- surplus or deficit precipitation analysis using index method 7−23715
- Tawhai State Forest, New Zealand, catchments, runoff characts. 7−29100
- Tawhai State Forest, New Zealand, storm runoff, hillslope and low order stream response 7−29101
- Tibet Plateau, floods, droughts and snowstorms in historical times *(Chinese)* 7−18255
- time series rainfall, point rainfall generator probabilistic model for flood studies 7−23747
- E Transvaal, rainfall amounts and possible influence of hail suppression programme 7−18279
- tropical cyclone, mature struct. and motion 7−4146
- tropical squall line, diagnostic modelling study of stratiform cloud region 7−29136
- TV broadcasting, 4 GHz PAL and 12 GHz B-MAC comparison in Australia 7−29229
- United Kingdom, skill of exptl. monthly long-range forecasts 7−40539
- United States, 1986 drought characts. in SE region 7−55109
- Urea used for cloud seeding in China *(Chinese)* 7−18264
- USA, August 1986 hydrological conditions 7−23718
- USA, October 1986 hydrological conditions 7−55101
- SE USA, Palmer drought severity index for AD 1931 to 1982 period 7−66293
- USA and Canada Interior Plains, anomalous moisture conditions persistence 7−23835
- USA and Canada Interior Plains, drought spatial patterns 7−23836
- Vancouver Airport, Canada, post-frontal precipitation of longer-duration 7−66275
- Wallops Island, Virginia, USA, rain cell size statistics derived from radar obs. 7−23805
- warm shallow convective clouds, large raindrops obs. 7−47479
- West Bengal, India, rainfall correl. with sunspot activity 7−9130
- Western Ghats, India, water supply and hydroclimatology 7−29091
- Yangtze valley, China, rainfall during Mei-yu rel. to S China Sea temperature *(Chinese)* 7−18268
- H_2O_2+S(IV), reaction kinetics in rainwater samples 7−29170
- U, fallout from nuclear powered satellites and volcanic eruptions, detect. in rain 7−3740

rainfall *see rain*

RAM *see random-access storage*

Raman effect *see Raman spectra*

Raman-induced Kerr effect *see optical Kerr effect*

Raman lasers
- cold electron beam sources for Raman FEL 7−1118
- collective (Raman) free electron laser gainmeasurements 7−1156
- dye laser, Nd:YAG pumped, pulsed tunable for spectroscopy *(French)* 7−25814
- fibre, synchronously pumped, anal. 7−15873
- fibre soliton laser, theory *(Japanese)* 7−20180
- fluoromethane, FIR laser, simultaneous tunable Raman and fixed frequency oscillations 7−57302
- fluoromethanes, $^{12}CH_3F$ and $^{13}CH_3F$, tunable far-infrared lasers 7−36951
- free electron laser, Compton and Raman regimes, Hamiltonian model 7−57348
- free electron laser, Raman and Compton regimes *(Japanese)* 7−1177
- free electron lasers, Raman regime, frequency resolved radiations, temporal evolutions 7−57344
- gases, low-pressure, in light guides, as high-power forward Raman amplifiers 7−20337
- methane, XeF laser pumped, high-efficiency first-Stokes generation 7−20347
- methane, XeF laser pumped, Stokes generation, beam parameters 7−20346

Raman lasers continued
methane high-power forward Raman amplifiers employing low-press. gases in light guides 7−20344
mode competition in Raman free electron lasers 7−1160
phase correlation in a Raman amplifier, pump beam temporal struct. effects 7−20343
ring Raman laser, all-fibre low-threshold synchronously pumped 7−57375
single-mode pulse compression with amplification 7−31518
UV- and VUV-radiation generation, antiStokes Raman process 7−11062
VUV radiation generation by antiStokes Raman laser process 7−11050
$Ba(NO_3)_2$, radiation generation in resonator under stimulated Raman scatt. conditions 7−43222
$CaCO_3$, radiation generation in resonator under stimulated Raman scatt. conditions 7−43222
H_2, amplifiers, efficient high-gain, beam cleanup and low-distortion amplification 7−20341
H_2, compressed stimulated Raman scatt., excitation by XeCl low divergence laser 7−57468
H_2 high-power forward Raman amplifiers employing low-press. gases in light guides 7−20344
H_2 Raman amplifier, Stokes phase preservation 7−20342
H_2, Raman beam combination of two-line XeF laser sources 7−20336
p-H_2, Raman conversion from far-wave mixing of CO_2 laser 7−25877
H_2 Raman generators, spatial mode struct. of stimulated Stokes emission 7−20345
H_2 VUV anti-Stokes Raman line generation using excimer lasers 7−57450
$LiIO_3$ Raman laser for optical range, quasi-CW high power 7−25829
NH_3 laser, single-mode homogeneously broadened, self-pulsing instabilities 7−10922
NH_3 superradiant Raman FIR laser with nonlinear reson. four-wave mixing generation of medium IR emission 7−50657
$NaNO_3$, radiation generation in resonator under stimulated Raman scatt. conditions 7−43222
P_2O_5 doped fibre Raman laser, OTDR for single-mode fibre appl. 7−31517
S atomic laser, VUV, antiStokes Raman 7−15850
Se anti-Stokes Raman laser, high-power, radiating at 169 and 146 nm 7−43076
Se atomic laser, VUV, antiStokes Raman 7−15850

Raman scattering *see Raman spectra*

Raman spectra
see also molecular rotation; molecular vibration; Raman spectra of diatomic inorganic molecules; Raman spectra of inorganic liquids and solutions; Raman spectra of inorganic solids; Raman spectra of organic molecules and substances; Raman spectra of polyatomic inorganic molecules; Raman spectroscopy; stimulated Raman scattering; surface enhanced Raman scattering
admolecules on metal particles, giant Raman scatt. effect 7−52255
atom, multi-level, randomly modulated, second order optical process 7−50522
atoms coherent population trapping, non-Markovian character relaxation processes study, Raman spectra 7−19755
central peak near structural phase transitions 7−46008
composites, fibre-reinforced, stress distribution, Raman spectrosc.-mech. anal. 7−21333
crystal order parameter, relax. time near phase transition points, Raman scatt. studies 7−44738
dielectric coatings, mol. struct. and phys. props. Raman studies 7−45063
electronic materials characterisation, recent trends *(Japanese)* 7−13163
energy chemistry, role in, literature review, book 7−55913
fibre Raman amplifiers, amplified spontaneous Raman scattering 7−15978
fluids of optically isotropic mols., collision-induced light scatt. 7−33405
force field calculations from Raman and infraredintensities 7−5785
frequency distrib. function anal., dielec. and scatt. props., orthogonalised moments method 7−64633
glasses, absolute Raman intensities, determ. 7−59200
heavy metal oxide germanate glasses, absolute Raman intensities, global criteria. 7−59201
high voltage spark discharges, light scatt. diagnostics 7−20971
hyper-Raman scattering in short light pulse fields 7−57470
incommensurately modulated phases, scatt. theory 7−26938
inorganic cpds., vapor state and matrix isolation spectroscopy 7−15593
isofrequency Raman light scatt. method, determ. of order parameter relax. time in phase transitions 7−39103
Kramers-Heisenberg eqn., light-induced spectral redistrib., dephasing processes 7−25524
laser radiation conversion to far UV by excited states of He and Ne 7−25886
layered structures, Raman and IR spectroscopy 7−3059
microelectronics, analytical problems, Raman microprobe appl. 7−46051
microprobe appl. to mapping solid surfaces 7−56333
molecular potential energy surfaces, optical spectroscopy, time domain formulation 7−15535
molecules, mode mixing effects in absorpt., fluoresc. and Raman excitation spectra 7−5684
molecules, vibr. and orientational relax., correl. functions 7−36738
molecules Raman band second moment meas. 7−31054
optical spectra, spin-boson model involving coupled pot. energy surfaces 7−49971
pre-formed plasmas, emission and stimulated Raman scatt. from thin foil, spectra anal. 7−20937
Raman theory, absorpt. and reson., dephasing interpretation 7−10595
rapid reactions, microdroplet mixing technique investig. using Raman spectrosc. 7−54082
resonance Raman scatt., simultaneous mode mixing and nonCondon effects 7−27711
resonance Raman scattering determ. by coherence-function 7−36925
secondary radiation in optically anisotropic infinite crystals, general theory 7−7709
semiconductor superlattices, layered electron gas plasmons, Raman scatt., Green's functions calcs. 7−17313
semiconductor superlattices, synthesis by MBE *(Japanese)* 7−12544
semiconductors, interband-intraband electronic Raman scatt. 7−33377
semiconductors, luminescence-Raman scattering transformation *(Japanese)* 7−59219
silica gel, fractal vibr. modes, low freq. Raman scatt. 7−26890
solid surfaces after laser irrad., Raman microscopy 7−21264
spin-lattice relax. rates, long wave approx. 7−33378

Raman spectra continued
three-level molecule, vibr. dephasing time meas., coherent Stokes Raman scatt. 7−57075
three-level systems, susceptibilities, density matrix solutions 7−20168
three-level vibrational system for bath represented by two-state stochastic processes, Raman band shapes 7−31052
time resolved meas. in gaseous samples, computer-controlled 7−18886
two-phonon resonance light scatt., acoustic and optical phonons 7−64660
vibrational spectra, fully automated microcomputer calc. 7−56238
Wannier-Mott excitons, distrib. fn., secondary radiation of light 7−64090
X-ray spectrometer design, performance, inelastic scatt. expts. appl. 7−15040
Ag_3 clusters isolated in solid Xe matrices, reson. Raman scatt. and photoisomerisation process 7−25696
Ba^+ single ion, laser excited reson. fluoresc., quantum jumps obs. 7−30984
BaF_2-ZrF_4-FeF_2 glasses, Raman scatt. study 7−27713
H_2, turbulent jet diffusion flame, conserved scale probability density functions 7−26260
I_2.acridine charge-transfer complex, reson. Raman and far-IR spectra anal. 7−42620
I_2.hexamethylenetetramine charge-transfer complex, reson. Raman and far-IR spectra anal. 7−42620
I_2.phenozine charge-transfer complex, reson. Raman and far-IR spectra anal. 7−42620
Sm, RF resonances, Raman heterodyne detection 7−10499
Sm vapour, collision-induced Ramsey resons. obs. oscillating zeeman sublevel coherence detection 7−874
Sm vapour, vel. diffusion effects, RF-laser double reson., Raman heterodyne investig. 7−882
ZrF_4-based optical fibres, scattering loss meas. 7−11114

Raman spectra of diatomic inorganic molecules
diatomic molecules, rot. Raman line intensities, temp. determ. 7−35516
three-level molecules, collective effects in resonant Raman scattering of intense optical waves 7−62382
Ag dimers and clusters, matrix isolated, guest-host interaction and photochem. transform. 7−15786
CO, coherent anti-Stokes Raman spectra calcs. 7−50145
CO, ground state, vibr.-rot. matrix elements 7−912
^{A}CO, A=12, 13, adsorbed on Ni (100), surface charactn. by Raman spectroscopy 7−42625
GaCl Raman-Stokes spectrum, intensity and band shape calcs. *(French)* 7−15606
H_2 and isotopes, nonadiabatic eigenvalues and adiabatic matrix elements 7−62381
H_2 and isotopomers, rot. transition, Raman line position 7−62380
H_2, coherent anti-Stokes Raman spectra calcs. 7−50145
H_2, rotational Raman linewidths and line shifts, temp. and density depend. 7−924
H_2O, coherent anti-Stokes Raman spectra calcs. 7−50145
I_2, n-hexane soln., Raman excitation profile 7−10596
I_2, time behaviour of secondary emission excited by nearly-resonant light pulses 7−62445
I_2 vapour, luminescence-Raman scattering transformation *(Japanese)* 7−59219
N_2, coherent anti-Stokes Raman spectra calcs. 7−50145
N_2, in gas discharge, vibr. levels excitation , CARS obs. 7−20021
N_2 multiplex CARS temperature meas. precision using single-mode and multimode pump lasers 7−41376
N_2, rotational Raman linewidths and line shifts, temp. and density depend. 7−924
N_2 self-broadening at high temp. with inverse Raman spectroscopy 7−5723
N_2 vibr. transition, inhomogeneously broadened, nonstationary active spectroscopy 7−48857
Nb_2, metal cluster in solid Kr and Xe matrices, absorption and reson. Raman spectroscopy 7−31055
$^{17}O^{18}O$, pure rotation Raman spectrum 7−15612
VCl_3, Fourier for IR and laser Raman spectra meas., normal coordinate anal., molecular constant calcs. 7−50137

Raman spectra of inorganic liquids and solutions
liquids, IR and anisotropic Raman band profiles theory, mol. interactions 7−31040
water, liq., Raman isosbestic points meas. 7−39107
water, liq., Raman scatt., high and low freq., temp. depend. 7−39108
water, liquid, H-bonds, spatial correls., Raman spectra 7−13156
HNO_3, ag. soln., Raman spectra 7−39125
H_2O, Raman spectroscopy during the passage of strong shock waves 7−22271
H_2O-H_2O_2 mixtures, defects, network construction, Raman spectrum 7−64630
K_2O-SiO_2 glass melts, structure 7−1831
Na_2O-SiO_2 glass melts, structure 7−1831
Na_2O-SiO_2-TiO_2 system, struct. of glasses and melts *(Japanese)* 7−21121
Pt complexes, triphenylphosphine complexes, vibr., IR and Raman spectra 7−33397

Raman spectra of inorganic solids
7−33386
absorbing zinc-blende type material, backward Raman scatt., ang. dispersion calcs. 7−22238
alkali feldspar, hypersolvus, Raman spectroscopic study of order parameter behaviour, displacive transform. and evidence for Na-K site ordering 7−22254
alkali halide mixed crystals, phys. props., review 7−37943
amorphous films, laser generated, struct. and bonding, Raman and electron energy loss spectra study 7−27800
amorphous semiconductor films, laser-induced explosive crystallisation, Raman microprobe analysis 7−12430
β-BoB_2O_4, crystal vibr. assignment, Raman and IR spectra anal. 7−53346
bronzes, structs., sliding motion of CDW 7−64129
diamond CVD, Raman and IR spectroscopy study 7−17428
diatomic crystals, second-order scattering, nonlinear polarisabilities 7−59210
effect of vinyl groups on meson. Raman spectra 7−15610
exciton motion, influence on shape of optical absorption lines, appl. to surface vibrations 7−7317
ferromagnetic semiconductors, spin-depend. phonon Raman scatt., theory 7−46013
films, laser-assisted CVD, surface undulations, Raman microprobe analysis 7−12430

Raman spectra of inorganic solids continued

- glass, microdefect accumulation kinetics during optical irradiation 7—38050
- glass, vibrational spectra of structural units 7—3034
- glass structure, vibrational spectra studies, localised interactions 7—63502
- graphite, mol. dynamics simulation and Raman spectrum, atom configs. and interactions, honeycomb struct. 7—58200
- graphite, pulsed laser melting, impurity redistrib., RBS channelling, Raman scatt. and TEM meas. 7—12135
- graphite fibre, benzene-derived, exfoliation and characters. 7—46663
- graphite-AsF_5 intercalation cpd., stage 1, nonresonant intercalant modes, Raman scatt. studies 7—38136
- intercalation cpd. with AsF_6, Raman scatt., coupled electron-phonon excitation 7—46045
- MIS struct., light scatt. from inversion layer 7—3033
- $(NH_4)_3PCr_4O_{16}$, polycrystn., internal vibr., IR and Raman spectra 7—22263
- orthophosphates, vibr., Raman and IR spectra 7—3048
- polyaniline, ^{15}N- and ^{2}H-substituted derivatives, vibrational spectra 7—53351
- quartz, incommensurate phase, temperature dependent low-frequency modes 7—6737
- quartz, two-freq. excitation hyper-Raman light scatt., asymm. effects study 7—33399
- quartz glass, microdefect accumulation kinetics during optical irradiation 7—38050
- Raman phonon piezospectroscopy, IR meas. 7—64647
- Raman scatt. by LO phonons, interference effects 7—59213
- rare earth cpds., RP_5O_{14}, R=La-Nd, Sm-Tb, ferroelastic transitions, soft modes, Raman spectra *(Chinese)* 7—38177
- rare earth mag. materials, hyper-Raman light scatt. by spin subsystem oscillations 7—7688
- rare earth molybdates, vibronic states 7—38138
- semiconductor, surface undulations produced by pulsed laser illumination, Raman microprobe analysis 7—12430
- semiconductor superlattices, phonons, acoustic and optic modes 7—12455
- semiconductor superlattices, plasmons, Raman spectra, EELS and finite-size effects 7—27392
- semiconductors, Raman scatt. in the presence of photoexcited nonequilibrium carriers 7—27719
- silica monolithic gels, autoclave prepared Raman studies 7—8314
- silicide formation on Si, initial nucleation processes 7—21767
- SOI thin films, props. after laser focused beam processing 7—32497
- transition metal oxides, catalysts, laser Raman spectra 7—53295
- ultrafine particles, Raman and X-ray scatt. study 7—64627
- Ag dimers and clusters, matrix isolated, guest-host interaction and photochem. transform. 7—15786
- Ag-AgCl surface system, adsorpt.-enhanced Raman scatt. and optical absorpt. 7—53301
- Ag_2HgI_4, thermochromic phase transition, Raman and optical absorption studies 7—7680
- AgI-Ag_2O-B_2O_3 glasses, superionic, crossover freq. between phonon and fracton regimes, scaling behaviour 7—44728
- $AgPO_3$-based glasses, struct. and elec. props., Raman spectra and ionic cond. meas. 7—6550
- Al-GaAs Schottky barrier contacts, MBE grown, interface reactions, vacuum annealing effects 7—45022
- Al-GaSb interfacial chem. reactions, surface refl. Raman Scatt. study 7—2275
- AlAs-GaAs superlattices, lattice vibration, Raman spectra 7—63937
- AlF_3-CaF_2-BaF_2 glasses, Raman spectroscopic study 7—7692
- AlGaAs-GaAs superlattices, Se (Si)(Mg)(Be) ion implantation, intermixing, residual damage 7—26782
- $Al_xGa_{1-x}As$, thin film, characterisation 7—53354
- $Al_2O_4$3-ZrO_2 composites, microstruct. charactn. by Raman spectroscopy *(Japanese)* 7—22684
- As-S-I semicond. glass system, IR and Raman spectra studies 7—3058
- As_2O_5, structural phase transition, Raman scatt. 7—6785
- As_2S_3, amorphous, low freq. light scatt. 7—27714
- B_2O_3-GeO_2 glass, vibrational spectra of structural units 7—3034
- $Ba(NO_2)_2D_2O$, lattice vibrs., mol. contrib., Raman spectra 7—46007
- $Ba(PO_3)_2$-$LiBa(Mg)AlF_6$ glasses, Raman spectra and network struct. studies 7—7695
- $BaPb_{1-x}Bi_xO_3$, semicond. phase, CDW gap, optical meas. 7—53328
- Bi complex, $MBi(PO_4)_3$, M=Cd, Pb, Co, Sr, Bo, structural and spectroscopic data correl., Raman and IR spectra anal. 7—53348
- $BiLiF_4$, lattice vibrs., Raman study 7—53329
- $Bi_{12}MO_{20}$:V, (M=Si,Ge,Ti), sillenite struct., local vibrs. of impurities, spectral study 7—7718
- $Bi_4Ti_3O_{12}$, Raman spectroscopy and dielec. anomaly 7—39111
- $BiVO_4$, ferroelastic, optical soft mode, quantum nature, EPR and Raman spectra study 7—45795
- BiX_2-GaX_4 complex; X=Cl, Br; struct. Raman spectra study 7—46020
- $Bi_{12}XO_{20}$ (X=Si,Ge,Ti), simultaneous anal. of vibr. spectra 7—46006
- C $CdCl_2$, impurity local modes and secondary features, Raman spectra anal. 7—33372
- a-C:H, props., review 7—51630
- a-C:H plasma grown films, struct., physical props. 7—58713
- CO, adsorbed on Ni, Raman spectra 7—17324
- CS_2, spectroscopic studies at high press. 7—27742
- CS_2, time resolved picosecond Raman induced phase conjugation 7—13141
- CaF_2 cryst., defect-induced hyper-Raman spectra obs. 7—53324
- CaF_2, epitaxial growth on GaAs (100)(111) 7—59437
- CaF_2:Sm^{2+}, electronic Raman transitions study 7—46017
- Ca_xNbO_{2+x}, defect structure, Raman spectroscopy 7—63604
- $Ca_{2-x}Nd_xGa_{2+x}Si_{1-x}O_7$, Ga gehlenite, cryst. struct. and optical props. 7—16525
- CaO-SiO_2 polycryst. silicates, FTIR and Raman spectra, isotopic shifts and force consts. 7—53341
- CaO_2, time resolved picosecond Raman induced phase conjugation 7—13141
- $CdBr_2$, impurity local modes and secondary features, Raman spectra anal. 7—33372
- $CdCl_{2(1-x)}Br_{2x}$ layered mixed crysts., Raman-active phonon mode study 7—51970
- CdI_2, layered cryst., Raman scatt. intensities and atomic bonding 7—22257
- $Cd_2Nb_2O_7$, soft mode damping in incommensurate phases, anomalous behaviour 7—38149

Raman spectra of inorganic solids continued

- $Cd_xZn_{1-x}Te$, second-order optical process, transient behavior, luminesc., Raman scatt. 7—64689
- $CeCu_2Si_2$, Raman scatt. study of electronic and vibr. excitations 7—33387
- CeF_3, epitaxial growth on Si (111) 7—59437
- $Ce_2(SeO_4)_3.5H_2O$, vibr., IR and Raman spectra 7—3046
- CoI_2, Raman scatt. from phonons and electronic excitations 7—53312
- Cs_2BrN_3, layered struct., X-ray diffr. and Raman spectra study *(German)* 7—26715
- $Cs_3Fe(SO_4)_3$, columnar cpds., vibr. spectra and phase transitions 7—17314
- $Cs_2HPO_4Te(OH)_6$, vibr. anal., IR and Raman spectra 7—39104
- Cs_2IN_3, layered struct., X-ray diffr. and Raman spectra study *(German)* 7—26715
- CsO-Nb_2O_5-Ga_2O_3 glass structure, Raman spectroscopy 7—1902
- $Cs_2ReBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7—53292
- $CsSbF_6$, high press. cryst. struct., Raman spectra studies 7—26860
- $Cs_2TcBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7—53292
- $Cs_2[Fe(CN)_5NO].H_2O$, thermal behaviour and vibr. spectra 7—64632
- Cu complexes, with porphyrin, effect of vinyl groups on meson. Raman spectra 7—15610
- Cu, corrosion inhibition complex study using Raman microscopy 7—46772
- Cu, X-ray Compton-Raman scatt. from atomic inner shell electrons 7—13257
- $CuAl_{1-x}Ga_xSe_2$, mixed crysts., Raman scatt. spectra 7—13168
- CuCl, off-centre model, vibr. and struct. props. 7—17316
- Cu_2O, Raman-like luminescence emission *(Japanese)* 7—59219
- EuS, mag. ordered and paramag. phases, Raman scatt. 7—22246
- Fe, thin corrosion films, laser Raman spectroscopy at 100 to 150°C in air 7—39722
- Fe, X-ray Compton-Raman scatt. from atomic inner shell electrons 7—13257
- Fe-Cr, high-temp. air corrosion products, distrib. and charactn. by Raman microscopy 7—65205
- $Ga_{1-x}Al_xAs$, ion-implanted, defect creation 7—21240
- $Ga_{1-x}Al_xAs$, disorder effects of Raman scatt. 7—7704
- $Ga_{1-x}Al_xAs$ solid soln. epitaxial layer composition, Raman determ. 7—64628
- GaAs (110) with Sb overlayers, electronic band bending at interface 7—58895
- GaAs, electron-LO phonon dynamics, subpicosecond Raman spectroscopy 7—46052
- GaAs, low-frequency Raman scattering anomaly 7—27710
- GaAs MBE heteroepitaxial layers, lattice distortions, X-ray diffr. and Raman studies *(Japanese)* 7—27219
- GaAs, metastable defects, electronic Raman scatt. of nonequilibrium holes 7—26748
- GaAs, passivation, by a-P and alkali metal polyphosphides 7—39778
- GaAs, plasma etching damage, Raman scatt. study 7—54023
- GaAs, residual acceptor assessment, Raman and selective pair luminescence studies 7—26771
- GaAs single quantum well, doubly resonant LO-phonon Raman scatt. via deform. pot., polarisation obs. 7—39114
- GaAs, stimulated Raman gain spectroscopy, below bandgap studies 7—22231
- GaAs, stress-induced doubly resonant Raman scattering 7—46029
- GaAs:H, ion implanted, damaged layers, IR Raman probing 7—59191
- GaAs:P, ion implanted and pulse laser annealed, Raman study 7—6653
- GaAs/AlAs superlattice, optical phonons and interface thickness, Raman scatt. studies 7—7705
- GaAs/AlAs superlattices, folded acoustical Raman line intensities 7—46050
- $GaAs/Ga_{1-x}Al_xAs(AlAs)$, short period superlattices, MOCVD growth, Raman scatt., AES, X-ray diffr. 7—27386
- GaAs/GaAlAs superlattice, optical phonons and interface thickness, Raman scatt. studies 7—7705
- GaAs-$(Ca,Sr)F_2$ heterostructure interfaces, twinning, Raman spectra 7—13148
- GaAs-$Al_xGa_{1-x}As$, multiple quantum well structs., expansion of electron-hole plasma, time-resolved Raman studies 7—22258
- GaAs-$Al_xGa_{1-x}As$-AlAs, p-type quantum wells, resonant Raman scatt. 7—22259
- GaAs-$Al_xGa_{1-x}As$ multiple quantum well structs., nonequilib. LO phonons 7—12457
- GaAs-$Al_xGa_{1-x}As$ quantum wells, doubly resonant LO-phonon Raman scatt. obs. 7—27722
- GaAs-$Al_xGa_{1-x}As$ quantum wells, doubly reson. LO phonon Raman scatt., photoluminescence spectra 7—53327
- GaAs-$Al_xGa_{1-x}As$ quantum wells, parabolic, light scatt. studies 7—64651
- GaAs-AlAs, superlattices, mixing, ion implantation, rapid thermal annealing, Raman scattering 7—53355
- GaAs-AlAs superlattices, Se implantation, effect on compositional disordering 7—26784
- GaAs-AlAs superlattices, folded acoustic branches, leakage-induced and disorder-activated modes 7—33389
- GaAs-AlAs superlattices, Raman scattering finite size effects 7—39105
- GaAs-AlGaAs and GaAs-AlAs quantum well structs., resonant Raman scatt., depend. on electric field 7—7707
- GaAs-AlGaAs quantum well heterostructures, spectroscopy of excitons and phonons 7—7706
- GaAs-$Ga_{1-x}Al_xAs$ superlattice, plasmon propagation across layers 7—27276
- GaAs-thermal oxide interfacial chem. reactions, Raman spectra, AES 7—27145
- $Ga_xIn_{1-x}P$ layers, MOVPE, photolum., comp. and growth temp. depend. 7—39403
- GaP MBE heteroepitaxial layers, lattice distortions, X-ray diffr. and Raman studies *(Japanese)* 7—27219
- GaP, microcrystals, amorphous-like Raman signals 7—53349
- GaP, phonon shifts due to temp. and pressure rise induced by a laser beam 7—2125
- GaP, phonons, ps laser induced transient dynamics 7—39113
- GaP, photoexcited plasmon-phonon modes, time-resolved Raman scatt. 7—39106
- GaSe, layered cryst., Raman scatt. intensities and atomic bonding 7—22257
- Ge, microcrystals, amorphous-like Raman signals 7—53349
- Ge microcrystals, gas-evaporated, thermal annealing, Raman and electron microscopic study 7—64635
- Ge-GeO_2, symmetry forbidden Raman scatt. from (100) oxidised surfaces 7—46002

Raman spectra of inorganic solids continued
$Ge_{1-x}Sn_xSe_2$ glasses, elec. cond. rel. to Mossbauer and Raman spectra 7−64250
Ge_xX_{1-x} (X=S,Se), chalcogenide glasses, stochastic random network model 7−63493
$Hg_{1-x}Cd_xSe$, reson. Raman Scatt. meas. 7−7701
β-HgI_2 crystals, phonon spectrum and vibr. mode symmetry, first-order Raman scatt. *(Russian)* 7−3056
HgI_2, red, layered cryst., Raman scatt. intensities and atomic bonding 7−22257
red-HgI_2, resonant inverse Raman scattering 7−7702
$In_{0.18}Al_{0.82}$As-GaAs strained layer superlattices, Raman studies 7−12854
InP surfaces, sputter etched, optoelectronic and structural props. 7−13661
InP:B, multiphonon absorpt. 7−59211
InP:Zn, ion implantation and annealing, Raman studies 7−6652
InSb, free-electron g-factor meas. by spin-flip Raman scatt. gain method 7−2470
$KBi_5(PO_4)_6$, structural and spectroscopic data correl., Raman and IR spectra anal. 7−53348
KBr:Eu^{2+}, impurity precipitates, Raman spectra meas. during annealing 7−64634
KBr:MnO_4, low temp. resonance Raman scatt. and luminescence 7−39101
KBr:MnO_4^-, resonance Raman scatt. spectra 7−22234
$K_3CO(CN)_6$, polytypism and phase transition, lattice dynamical calcs. 7−12262
KCl:Eu^{2+}, impurity precipitates, Raman spectra meas. during annealing 7−64634
$KCoF_3$ antiferromagnetic cryst., electronic Raman scatt. by high-energy magnetic excitons 7−46016
$KD_y(WO_4)_2$, vibr. characts. of O bonds, IR and Raman spectra 7−32587
$K_2HPCr_2O_{10}$, polycrystn., internal vibr., IR and Raman spectra 7−22263
KH_2PO_4 (KD_2PO_4), low freq. optical vibr. interaction, Raman spectra 7−46026
KI:Eu^{2+}, impurity precipitates, Raman spectra meas. during annealing 7−64634
KI/Tl^+, stability of V-type defects 7−26745
$KMBi_2(PO_4)_3$, M=Cd, Pb, Co, Sr, Bo, structural and spectroscopic data correl., Raman and IR spectra anal. 7−53348
KNO_2, cryst., Raman spectrosc. obs. 7−46001
K_2O-Ga_2O_3-SiO_2 glasses, Raman spectra 7−3035
K_2O-Nb_2O_5-Ga_2O_3 glass structure, Raman spectroscopy 7−1902
$K_3PCr_4O_{16}$, polycrystn., internal vibr., IR and Raman spectra 7−22263
$K_2ReBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7−53292
KSCN, vibr. spectrum in a phase with nonrigid-motion elements 7−17312
$KSbF_6$, high press. cryst. struct., Raman spectra studies 7−26860
K_2SeO_4, soft mode damping in incommensurate phases, anomalous behaviour 7−38149
$KTa_{1-x}Nb_xO_3$:CO_3^{2-}, impurity detection, IR transmission and Raman scatt. studies 7−13164
$K_2TcBr_6(Cl_6)$, solid, IR and Raman spectra, vibr. anal. 7−53292
K_2ZnCl_4, phase transitions, Raman-scattering study 7−52035
kBr:ClO_4^-, X irradiation, paramag. defect prod., EPR, Raman and IR spectra 7−22142
LaF_3, epitaxial growth on Si (111) 7−59437
$LiGa_5O_8$, Raman scatt. study 7−53316
LiH:Al(Mg)(Zn) single crysts., secondary emission, exciton luminesc. and reson. Raman scatt. studies 7−3038
$LiKSO_4$ crysts., low temp. phase transitions, Raman spectra and dielec. const. meas. 7−26943
$LiN(H_xD_{1-x})_4SO_4$ crysts., vibr. spectra and ferroelec. transition, Raman scatt. study 7−53304
$LiNbGeO_5$, luminesc. and cryst. struct. 7−32403
$LiNbO_3$, defect structure, Raman spectroscopy 7−63604
$LiNbO_3$, ilmenite modifications, vibr. spectra 7−22243
$LiNbO_3$:Fe cryst., Raman spectra, photo-induced refractive index change effects 7−53300
Li_2O-B_2O_3 glasses, rapidly quenched, struct. investig. by Raman spectra 7−1913
$xLi_2O.yLi_2SO_4.B_2O_3$, IR and Raman spectra, vibr. study and struct. 7−37879
Li_2SeO_4 single crystal, optic modes, room temp. Raman spectra study 7−53345
$LiTaO_3$, phonon modes, quasielastic light scatt. near T_c, Raman spectra anal. 7−3039
LiW_3O_9F, ordered O-F distrib., NMR, Raman spectra, electrostatic energy, site pot. calcs. *(French)* 7−32390
$Mg_2Si(Ge)(Sn)$, anharmonic effects, first order Raman scatt. studies 7−58429
MnF_2, light scatt. from magnons 7−45996
$MoW_5O_{19}^{2-}$, valence force field calcs., influence of metal atoms oxidation state 7−17323
NH_3 phase II, orientationally disordered, Raman spectra 7−22239
NH_4Cl, propagation and dephasing of phonon polariton pulses 7−16954
$(NH_4)_2ZnBr_4$, thermosensitive photo-selective phenomenon is single crysts., Raman scatt. obs 7−46038
$Na_{0.5}Bi_{0.5}TiO_3$, Raman spectra study 7−53303
Na_2CO_3, incommensurate crystal, Raman and IR spectra 7−17315
$NaLa(MoO_4)_2$: Nd^{3+}, Raman and IR spectra study 7−46046
$NaMoO_3F$, ordered O-F distrib., NMR, Raman spectra, electrostatic energy, site pot. calcs. *(French)* 7−32390
$NaNO_2$, solid ferroelectric and paraelectric phases, lattice vibrs., Raman and IR spectra anal., mol. dynamics calcs. 7−21373
$NaNbO_3$, ilmenite modifications, vibr. spectra 7−22243
Na_2O-B_2O_3-CuO glasses, B ions coordination state studied by X-ray and Raman spectroscopy 7−1892
Na_2O-Ga_2O_3-SiO_2 glasses, Raman spectra 7−3035
Na_2O-SiO_2-TiO_2 system, struct. of glasses and melts *(Japanese)* 7−21121
$Na_3PCr_3O_{13}.3H_2O$, polycrystn., internal vibr., IR and Raman spectra 7−22263
$Na_4P_2Se_6$, isomeric forms, $P_2Se_6^{4-}$ vibr. spectra, normal coordinate anal. *(German)* 7−22270
$Na_2WO_2F_4$, ordered O-F distrib., NMR, Raman spectra, electrostatic energy, site pot. calcs. *(French)* 7−32390
$Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7−6870
$Na_5[Cu(HIO_6)_2].16H_2O$, room temp. reson. Raman spectrum 7−64638
Nb_3(Al-Ge), high T_c supercond., Raman spectra studies 7−7699
Nb_2O_5 and Nb oxide cpds., synthesis of fine particles, struct. studies 7−59212
Nb_2O_5, defect structure, Raman spectroscopy 7−63604

Raman spectra of inorganic solids continued
$(NbSe_4)_2I$, lattice vibrs. at CDW transitions 7−51973
$NbW_5O_{19}^{3-}$, valence force field calcs., influence of metal atoms oxidation state 7−17323
Nd complex, tetra dimethyl sulphoxide neodymium nitrate, vibr., Raman. IR and luminesc. study 7−33392
$Nd_xCr(Ce)_{1-x}P_5O_{14}$ cryst. growth and characterisation, X-ray diffr., Raman scatt., visible and IR absorpt. meas. 7−44423
NdF_3, epitaxial growth on Si (111) 7−59437
Ni (100), adsorbed ^{12}CO and ^{13}CO, surface charactn. by Raman spectroscopy 7−42625
Ni, anodic polarisation, film identification by Raman spectra 7−28194
Ni, X-ray reson. Raman cross section and yield 7−46237
$NoBi_5(PO_4)_6$ structural and spectroscopic data correl., Raman and IR spectra anal. 7−53348
$NoMBi_2(PO_4)_3$, M=Cd, Pb, Co, Sr, Bo, structural and spectroscopic data correl., Raman and IR spectra anal. 7−53348
$(PBr_4)^+(MBr_4)^{-1}$ complex, M=B, Al, Ga, In, mol. vibr., Raman and IR spectra anal. 7−46021
P_2O_5-$Dy_2O_3(Pr_2O_3)$ glasses, struct., mag. and thermal props. 7−26658
α-P_4Se_3, cryst., press depend. of Raman spectrum 7−33376
$PbCl_2$-Sb_2O_3 glass system, structural aspects 7−44389
$Pb_5Ge_3O_{11}$, high pressure Raman scatt., phonon modes and Gruneisen parameters 7−33391
$PbGeS_3$, vibr. props., spectral study 7−3032
PbI_2 aggregated microcrystallites, Raman scatt. 7−22233
PbO-Fe_2O_3-P_2O_5 glasses, liquid chromatography and Raman scattering studies 7−11946
$Pb(PO_3)_2$-Fe_2O_3 glass, struct. props., chromatography and Raman spectra studies 7−21112
$PbWO_4$, struct., X-ray, IR absorpt. and Raman spectra 7−37954
PrP_5O_{14} cryst. growth and characterisation, X-ray diffr., Raman scatt., visible and IR absorpt. meas. 7−44423
Pt complexes, triphenylphosphine complexes, vibr., IR and Raman spectra 7−33397
$RbAg_4I_5$ superionic crystals, fine struct. of Raman scatt. spectra 7−46005
Rb_2CdCl_4 cryst., Raman spectra, structural phase transition and soft mode obs. 7−39117
Rb_2IN_3, layered struct., X-ray diffr. and Raman spectra study *(German)* 7−26715
Rb_2KFeF_6, structural phase transition, Raman scatt. and group-theoretical studies 7−52045
Rb_2KYFe_6, structural phase transition, Raman scatt. and group-theoretical studies 7−52045
$Rb_{0.3}MoO_3$, IR reflectivity and Raman scatt. from midgap-state exciton-polaritons 7−33386
Rb_2ReCl_6, solid, IR and Raman spectra, vibr. anal. 7−53292
Rb_2TcCl_6, solid, IR and Raman spectra, vibr. anal. 7−53292
Rb_2ZnBr_4, soft mode damping in incommensurate phases, anomalous behaviour 7−38149
$Re(CO)_3(MO)(MOH)_2$, (M=Mg,Al), evidence of metal-O bond, Raman and inelastic electron tunnelling spectra 7−7708
Ru complexes, $[Ru(bpy)_3](PF_6)_2$, single-cryst., polarised absorpt. spectra 7−64624
$(Sb_{1-x}Bi_x)NbO_4$ solid solns. and constituent cpds., vibr. spectroscopic study 7−39115
$SbBr_2$-$AlBr_4$ complex, struct. Raman spectra study 7−46020
SbX_2-GaX_4 complex; X=Cl, Br; struct. Raman spectra study 7−46020
Si, epitaxial growth using photochem. vapour deposition at 200°C 7−39431
Si films on fused quartz, laser annealing and Raman spectra 7−58708
Si, heteroepitaxial film, on Ge, Al-Mg spinel and sapphire substrates, resonance Raman scattering 7−64017
Si, ion implanted, amorphous phase transformation during rapid thermal annealing 7−16435
Si, microarea stress study by microprobe Raman spectroscopy 7−63708
Si, microcrystals, amorphous-like Raman signals 7−53349
Si, photochemical CVD at 200°C 7−59456
Si polycrystalline films, optical props. 7−7782
Si, Raman mode, anharmonic damping and freq. shift 7−27718
Si small particles, Raman depolarisation ratio 7−64652
Si substrate, anisotropic dry etching effects on surface props., XPS, ion channelling and Raman scatt. studies 7−28229
Si, thin film, characterisation 7−53354
Si:As, laser annealed, Raman scatt. study 7−53325
Si:$B^+(BF_2^+)$ submicron p-n junctions, ion implanted, dopant distrib., Raman study 7−21252
a-Si:H,Cl glow discharge films, Raman scatt. 7−39116
a-Si:H films, bond angle distortions, substrate temp. effects, Raman study 7−7882
a-Si:H films with columnar morphology, Raman scatt. study 7−64644
a-Si:H sputtered film, low-temp. optical props. 7−3101
a-Si:H/a-SiN_x:H superlattices, interface defects and disorder 7−52306
Si/$Si_{0.5}Ge_{0.5}$ strained layer superlattices, 2D electron systems 7−7380
Si/Si_xGe_{1-x} strained layer superlattices, folded phonon dispersion 7−44718
a-Si-Ge multilayer interfaces, Raman scatt., X-ray diffr. characterisation 7−27167
Si-Ge_xSi_{1-x} superlattices, Raman scatt. involving umklapp processes 7−3043
Si-Si_3N_4 and Si-Si_3N_4-SiO_2 SOI structures, laser recrystallisation, effects of different capping layers, characterisation 7−45511
Si-SiGe strained-layer superlattices, optical and electronic props. 7−53353
Si-SiO_2, symmetry forbidden Raman scatt. from (100) oxidised surfaces 7−46002
SiC, 27R and 33R polytypes, struct. identification by Raman scatt. 7−59205
β-SiC crystals, free carrier conc., Raman scattering 7−59197
SiC fibres, prep. from polycarbosilane, heat treatment, Raman study 7−65062
SiC particles and whiskers, charactn. by Raman spectroscopy 7−21790
SiC polytype heteroepitaxial growth, and identification by Raman scatt. study 7−63992
SiC:H,F amorphous films, struct., elec. and optical props. 7−22360
a-SiGe:H,F glow discharge films, microcrystallinity studies 7−45088
$Si_{1-x}Ge_x$ MBE crystals, ordering study 7−58709
Si_xGe_{1-x}:H,F amorphous films, struct., elec. and optical props. 7−22360
SiN_x:H films, amorphous, glow discharge deposited, IR absorpt. and Raman scatt. spectra 7−46003
Si_3N_4-Al_2O_3-$Y_2O_3(CeO_2)(La_2O_3)$ ceramics, sintered, IR and Raman spectra 7−46000

Raman spectra of inorganic solids continued
  SiO_2 glasses, gel-derived, defect studies 7–11944
  SiO_2, vitreous, Raman structural correlations 7–63501
  SiO_2:Na with adsorbed SO_2 and H_2S, FTIR and Raman spectra obs., Na promotion of Claus process 7–46869
  SiO_2-GeO_2 system, gels and gel-glasses, struct. study using vibr. spectroscopy 7–44381
  SiO_x:P films, pure and doped, low press. CVD growth, structural, optical, elec. props. 7–27186
  SiON-GaAs interface, plasma enhanced CVD deposited SiON, NH_3 plasma pretreatment effects 7–7874
  SiP_2O_7 glass, vibrational spectra of structural units 7–3034
  Si_xSe_{1-x} glasses, intermediate range order 7–11938
  Si_xSe_{1-x} low dimensional inorganic polymer glasses, cross-linked chain cluster model 7–11937
  $Si_xX_{1-x}(X=S,Se)$, chalcogenide glasses, stochastic random network model 7–63493
  $Si_{1-x}(ZnS)_x$:H amorphous films, synthesis and characterisation 7–17420
  $SmAsO_4$, vibrational spectra, IR and Raman obs., X-ray and thermal analysis 7–59198
  $SrNd_2S_4$-Nd_2S_3 solid solns., vacancy disorder charactn., Raman spectra study 7–58270
  $SrTiO_3$:H(D), O–H and O–D stretching vibrs. under applied electric field and uniaxial stress 7–44723
  $(TaSe_4)_2I$, lattice vibrs. at CDW transitions 7–51973
  $Te(OH)_62(NH_4)_2HPO_4$, $Te(OH)_6Na_2HPO_4.H_2O$, IR and Raman spectra, vibr. anal. 7–13147
  $ThSiO_4$ single crystal, low temp. Raman and room temp. IR spectra 7–13158
  Ti anodic oxide film, Raman spectra 7–46688
  TiO_2, anatase and rutile particles, Raman spectra intensity, effect of sizes 7–33385
  TiO_2 film on Nb_2O_5 waveguide, surface CARS spectroscopy 7–46036
  TiO_2 films, phase transitions, Raman spectra 7–12556
  TiO_2 films, pulse laser irradiated, Raman studies of phase transformations 7–12569
  TiO_2 thin films, struct., Raman spectra rel. to optical interf. 7–22367
  $Tl_3Fe(SO_4)_3$, columnar cpds., vibr. spectra and phase transitions 7–17314
  $Tl_3In(SO_4)_3$, columnar cpds., vibr. spectra and phase transitions 7–17314
  $Tl_4P_2Se_6$, isomeric forms, $P_2Se_6^{4-}$ vibr. spectra, normal coordinate anal. *(German)* 7–22270
  $TlSbS_2$, Raman spectra and vibr. modes, polarisation depend. 7–27725
  UO_2, U_4O_9, U_3O_8, U_3O_7, charactn. by micro-Raman spectroscopy 7–59203
  UX_3 (X=S, Se, Te), Raman scatt. from phonons and electronic excitations, low temp. 7–13149
  V_3Si, high T_c supercond., Raman spectra studies 7–7699
  WSi_2, silicide formation by rapid thermal annealing, Raman scatt. study 7–59193
  $YAsO_4$, internal and external vibrs., IR and Raman spectra studies 7–64648
  $YLiF_4$, lattice vibrs., Raman study 7–53329
  $YNbO_4$, defect structure, Raman spectroscopy 7–63604
  Y_2O_3-Al_2O_3-B_2O_3 system, glass formation, props. and struct. 7–2205
  ZnS_xSe_{1-x} polariton dispersion with Fermi reson., Raman scatt. cross-section *(Ukrainian)* 7–12623
  ZnS_xSe_{1-x}, scatt. of light by polaritons 7–39100
  ZnSe, phonons, ps laser induced transient dynamics 7–39113
  ZnSe-ZnTe strained-layer superlattices, lattice strain and lattice dynamics 7–58654
  ZnTe, obs. of time evolution from reson. Raman scatt. to excitonic-polariton luminesc. 7–33390
  ZnTe:O, hot luminesc., reson. Raman scatt. studies 7–64695
  ZrO_2, cubic zirconia, defect-induced hyper-Raman spectra obs. 7–53324
  ZrO_2 films, pulse laser irradiated, Raman studies of phase transformations 7–12569
  ZrO_2, Y_2O_3 partially stabilised, stress-induced phase transform., obs. by Raman microprobe *(Japanese)* 7–22683

Raman spectra of organic molecules and substances
  acetonitrile, anharmonic force consts., Fermi coupling, IR and Raman spectra 7–920
  acetonitrile, Raman bands, ClO_4^- ions effects 7–5686
  N-acetyl-L-amino acid methylamides solid and soln., conformers, IR and Raman spectra 7–33395
  acetylenedicarboxylic acids and alkali metal salts, Raman and IR spectra *(French)* 7–15609
  2-adamantanone, order-disorder phase transition, high press. effect, Raman study 7–38183
  alcohol dehydrogenase, liver, Cu substituted, ligand and coenzyme effects, resonance Raman spectra 7–62548
  4-n-alkyl-4′-cyanobiphenyl, mol. conformation and orientational order, nematic-isotropic transition, reson. Raman probe 7–21082
  allene, liq., ν_3 mode, vibr. dephasing, Raman spectra anal. 7–42621
  amino acids, H-bonded crysts., ps librational dynamics, time-resolved coherent Raman spectroscopy 7–47008
  ammonium hydrogen bis(trichloroacetate) single cryst., internal modes, IR and Raman spectra studies 7–26877
  anthracene, cryst. and soln., a_g modes, Raman scatt. tensor elements meas. 7–64639
  anthracene, excited states, vibronic coupling, one-photon spectrum 7–31051
  aromatic amines, reson. Raman spectra of Schiff's base derivatives *(Japanese)* 7–19870
  2-azido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7–36608
  trans-azobenzene, symmetry-forbidden electronic transition, reson. Raman excitation profiles 7–15604
  azobenzene and derivatives, reson. Raman spectra in solid state and aq. soln., solvent effects study 7–64643
  azulene, S_0-S_1 absorpt. spectra and Raman excitation profiles, vibr. intensity distribs., quantum-chem. anal. 7–42619
  bacteriorhodopsin intermediates, ps time-resolved resonance Raman spectroscopy 7–47006
  benzaldehyde, IR and Raman spectra, normal coordinate system 7–5671
  benzene, absolute Raman cross sections, meas. 7–15607
  benzene, liq., IR and Raman spectra, interaction between intra- and intermolecular modes *(Ukrainian)* 7–13144
  (η^6-benzene)tricarbonylchromium(0), charactn. by micro-Raman spectroscopy 7–64636

Raman spectra of organic molecules and substances continued
  benzene liq., stimulated Raman gain meas., vibr. energy transfer, thermal lens detection 7–62772
  benzenethiol in aq. Ag sol, SERS study 7–62385
  benzenethiolate adsorbed on Ag surface, SERS study 7–62385
  benzonitrile, liq., FTIR and Raman obs. on dynamic and interaction processes 7–53344
  m-benzosemiquinone radical anion, reson. Raman, EPR and MO studies 7–10603
  bicyclic compounds, valence force field and vibr. wavenumber calcs., IR and Raman data comparison 7–50079
  bicyclo (222) octane, plastic phase, monomolecular reorientational dynamics, Raman scatt. study *(French)* 7–26675
  bicyclohexyl, conformers, phase transform. vib., IR and Raman spectra 7–33393
  biopolymer components, UV resonance Raman spectroscopy appl. 7–23488
  bis(dichlorophosphoryl)methane, struct., conformational equilib., GPED, Raman and IR spectra 7–57176
  bis-dithiobiuret copper(II) chloride, Raman and IR spectra 7–62374
  1-bromo-2-methylpropane, gaseous phase, conformational stability, for IR and LF Raman spectra 7–10602
  bromomethane liq., mol. vibr., Raman spectra, temp. effects 7–64640
  bromotrifluoromethane mol., intermolecular and intramolecular vibrational energy distrib. study, IR multiphoton excitation, Raman spectra 7–42594
  1-butyne, vibr. anal., IR and Raman spectra 7–19852
  cadmium arachidate, Langmuir-Blodgett multilayers, order-disorder transitions, Raman spectra 7–53309
  trans-β-carotene, finite solid polyene, amorphous and cryst., visible absorpt. and wavelength-selective reson. Raman spectra 7–64641
  chloranil soft mode driven displacive transition, Raman meas. using I cell 7–59204
  1-chloro-2-methylpropane, gaseous phase, conformational stability, for IR and LF Raman spectra 7–10602
  chlorocyclohexane, conformational enthalpy and vol. changes, Raman spectroscopy determ. 7–62383
  (chloromethyl) phosphonothioic difluoride, microwave, IR and Raman spectra, conformational stability 7–36599
  2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7–46018
  chloromethyl thiocyanate, spectral characts. 7–15737
  p-chlorophenyltin, Raman and IR vibr. spectra 7–57058
  chlorophyll *a*, intact and metal-substituted, metal-sensitive bands in Raman and IR spectra 7–25520
  chlorophyll forms, vib. state and struct. anal., Raman spectra 7–19867
  crown ethers and metal complexes in soln. struct., Raman spectra 7–10601
  cyanoanthracene/tetracyanoethylene, ps Raman spectroscopy and electron transfer 7–46035
  cyanobicyclohexyls, crystn. and liq. cryst. phase, IR, Raman and dichroic spectra 7–3051
  cycloheptatriene, isomerisations, kinetic CARS appls. 7–36630
  cyclooctatetraene, liq., laser Raman spectrum *(French)* 7–7687
  cytochrome c, surface-enhanced reson. Raman spectrosc., 77-295K 7–28469
  cytochrome oxidase, resonance Raman spectral isolation of a and a_3 chromophores 7–23305
  cytosine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7–10600
  di(propylammonium) mercury tetrachloride, cryst. struct. and Raman study *(French)* 7–32418
  diacetylene, ion beam induced polymerisation 7–32525
  2,3-diazido-1,3-butadiene, vibr. spectra, mol. struct., conform., GPED anal., Raman and IR spectra anal. 7–36609
  3-diazo-2-butanone - do(d6), vibr. anal., IR and Raman spectra 7–19853
  1,2-dibromocyclopropane, rot. isomers, mol. vibr., IR and Raman spectra anal. 7–42609
  dibromomethane liq., mol. vibr., Raman spectra, temp. effects 7–64640
  dicarboxylic acid salts, config. in aq. solns., Raman spectra study, vibr. calcs. 7–10598
  dichloromethane liq., mol. vibr., Raman spectra, temp. effects 7–64640
  dichloromethane-d_0-dichloromethane-d_2, γ, mode vibr. linebroadening, Raman spectra 7–5685
  2,2-dichloropropane-$d_0(d_6)$, vibr. anal. IR and Raman obs. 7–919
  N,N′-dihydroxyethyldithiooxamide-do(d_4), vibr. anal., X-ray diffr., NMR, Raman, IR, visible and UV spectra 7–51741
  diisopropylamine, mol. struct. and conform., GPED, Raman IR spectra, MO calcs. 7–20043
  2,5-dimethoxybenzaldehydes, IR and Raman vibr. spectral anal. 7–57070
  dimethyl sulphoxide, Raman bands, ClO_4^- ions effects 7–5686
  1-D-3,3-dimethyl-1-butyne, acetylenic deuteron quadrupole coupling const. determ. 7–62410
  N,N-dimethylacetamide, vibr. relax. and noncoincidence effect, Raman spectra anal. 7–46048
  2,4-dimethylaniline, freq. assignments, IR and Raman spectra 7–22261
  dimethylbenzonitriles, IR and Raman spectra 7–25501
  dimethylcyclohexanes, conform. equilib., temp. and pressure effects, Raman spectra anal. 7–50150
  4,4-dimethylheptane, conform. anal., IR and Raman spectra 7–19863
  3,3-dimethylhexane, conformational anal., IR and Raman spectra obs. 7–15602
  dimethylsulphoxide, vibr. dephasing time meas., coherent Stokes Raman scatt. 7–57075
  12-(2^1,4^1dinitrobenzyl)pyridine, photochromism, nature and decay time of transient species, Raman spectra 7–10599
  2,4-dithiobiuret, Raman and IR spectra 7–62374
  dithiolates, cyclic vibr., IR and Raman spectra *(German)* 7–31045
  dye molecules, Raman and IR meas., quantum beat data interpretation 7–42591
  EBBA, nematogen, diffr. and spectroscopic study of solid states 7–64645
  EBBA melting and crystn. processes, Raman spectroscopy, X-ray and thermal anal. 7–63777
  ethane, vibr. anal. IR and Raman spectra, MNDO calcs. 7–10543
  ethane and derivatives, vibr. Raman stokes spectrum 7–57072
  ethane-$d_0(d_6)$, intensity parameters, Raman trace scatt. 7–15608
  ethanethiol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7–62388
  ethanol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7–62388

Raman spectra of organic molecules and substances continued
3-ethoxy-4-hydroxybenzaldehydes, IR and Raman vibr. spectral anal. 7—57070
ethyl 2-bromopropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7—49931
ethyl 2-chloropropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7—49931
ethylene jets, Raman scatt., Franck-Condon and double reson. study 7—31082
etioporphyrin metalocomplexes, isomers, vibr. spectra interpretation 7—42617
ferrocene, in zeolite Y, oxid., reson. Raman spectroscopy 7—25525
ferrocene derivatives, charactn. by micro-Raman spectroscopy 7—64636
flavin adenine dinucleotide, UV reson. Raman spectra 7—57073
flavin mononucleotide, UV reson. Raman spectra 7—57073
p-fluorophenyltin, Raman and IR vibr. spectra 7—57058
formate anion, isotopic species, vibr. anal., valence force fields calcs. 7—36577
formic acid-d_1, stretching vibr. Raman spectra 7—19866
glutathione-methylmercury aq. mixtures, complexation, Raman spectrum vibr. study 7—64637
glyoxal, vap., Raman-optical double reson. spectroscopy 7—10635
guanine, role of conformation sensitive Raman lines in polynucleotide structural anal. 7—10600
haemoglobin, inverse Faraday effect, mag. reson. Raman activity 7—65700
hexabromomethane, vibrational spectra, crystal dynamics and phase transitions 7—38132
hexamethyldisilylchalcogenides, Raman, IR and H NMR spectral characts. 7—15615
hexanitroethane, crystallographic and vibrational study 7—38131
HMTTeF-$TCNQF_4$ solid complex, partial charge transfer, Raman and XPS studies 7—32967
bis(2-hydroxyethyl)terephthalate single cryst., benzene ring modes, Raman tensors determ. 7—64642
imidazole, adsorbed on microlithographically prepared Cu, SERS obs. 7—27712
imidazole, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7—25526
indene/tetracyanoethylene, ps Raman spectroscopy and electron transfer 7—46035
indole, cryst. and melt, vibr., IR and Raman obs. 7—3049
indole, valence force const. IR and Raman freqs., normal coordinate anal. 7—914
insulin, UV reson. Raman spectra anal. 7—41481
iodomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
lanthanide thenoyltrifluoroacetonate pyridine, Raman and FTIR spectra 7—57061
liposomes, conformational state, millimeter wave irrad., Raman spectra study 7—23405
liquids, IR and anisotropic Raman band profiles theory, mol. interactions 7—31040
m-dinitrotetramethylbenzene, single cryst., vibr. study, IR reflectance and transmission and polarised Raman spectra 7—25512
MBBA, nematic liquid crystal, temp. depend. of cubic susceptibility, Raman study 7—22237
mercaptopyrimidines, substituted, vibr. IR, Raman and UV spectra 7—31043
methane, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
methane, vibr. dephasing, critical density broadening, Raman spectra anal. 7—62387
methionine, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
methyl(difluorophosphineborane), vibrational assignment, normal coordinate anal., Raman and IR spectra 7—62384
methyl cyanide-$d_0(d_3)$, lattice vibrs., Raman and IR spectra study 7—46019
methyl iodide, orientational dynamic, Raman scatt. investig. 7—42618
1-methyl-1′-octadecyl-2,2′-cyanine perchlorate dye, Langmuir-Blodgett multilayers, Ag/glass substrate, distance depend of SERS 7—32801
(methyl-N-ethyl-morpholinium)$(TCNQ)_2$, Raman scatt. in vicinity of spin-Peierls transition 7—53331
4-methyl-pyridine(-d_7), phase transitions, mol. mechanism, IR and Raman spectra 7—32637
N-methyl-thioacetamide on Cu and Ag surfaces, enhanced Raman spectroscopic obs. on rot. isomers 7—46037
N-methylacetamide, liq., low-freq. Raman spectra 7—50144
methylcyclobutane-do(d_3), conformational stability, low freq. Raman spectra anal. 7—50146
methylene, vibr. band broadening, Raman spectra 7—10597
methyloxycarbonyl-L-phenylalanyl-L-alanine ethyl dithioester, struct., reson. Raman spectra 7—5683
methylthiirane, vibr. spectra and ab initio calcs. 7—50147
MOVPE, reaction processes, Raman spectroscopy investig. 7—22538
neopentane, plastic phase orientational motion, Raman and IR spectra anal. 7—57067
nitrobenzene, time resolved picosecond Raman induced phase conjugation 7—13141
nucleic acid bases, H-bonded crysts., ps librational dynamics, time-resolved coherent Raman spectroscopy 7—47008
nucleic acid chromophores, UV resonance Raman spectroscopy 7—47007
α-octyl-ω-pentakis (oxyethylene), phase transition in water system, Raman spectra anal. 7—22244
4-octyloxy-4′-cyanobiphenyl, liq. crystal, vibr. dephasing, Raman spectra study 7—57067
oleic acid, polymorphism, order-disorder phase transition, IR and Raman spectra anal. 7—33379
oligo-DNA duplexes, sequence depend. struct., Raman spectra 7—31199
paraffins, brominated, longit. acoustic mode, Raman spectra 7—50149
4,4′-di-n-pentyloxyazoxybenzene, mesogenic transitions, Raman spectra 7—22241
1-pentyne, vibr. anal., IR and Raman spectra 7—19852
perfluorotrimethylgermyl anion, vibr., IR and Raman spectra *(German)* 7—31048
PET, drawn sheets, molecular orientation, Raman spectra, refractive index 7—53318
phenol adsorbed on ZnO surface, surface CARS spectroscopy 7—46036
phenols, vibr. spectra, calc. and interpretation 7—42596
phenyl compounds, vibr. studies, IR and Raman spectra 7—63758
phenylalanine, UV reson. Raman spectra anal. 7—41481
phenylalkynes, conform. in soln. and solid, vibr. anal., Raman and IR spectra study, valence force field calcs. 7—36612

Raman spectra of organic molecules and substances continued
photomerocyanines, optical time-resolved multichannel Raman spectroscopy 7—15010
phthalocyanine thin films, molecular orientation studied using Raman polarisation studies 7—22250
phthalocyanine-metal complex films, Raman spectra 7—3045
pink membrane prep. from deionised blue membrane of H. halobium, resonance Raman study 7—8506
platinum-cyanoalkene complexes, mol. vibr. study, Raman and IR spectra anal. 7—42626
PMMA, microdefect accumulation kinetics during optical irradiation 7—38050
polaroid K, reson. Raman scatt., absorpt. spectra, amplitude mode model anal. 7—64658
poly-di-n-hexylsilane, conform. kinetics and packing, spectrosc. obs. 7—37887
poly-peri-naphthalene, 1D graphite polymer, morphology and struct. 7—44400
polyacetylene:I, photoexcitation spectra 7—64657
polyacetylene, CDW, interaction and disorder 7—64136
trans-polyacetylene, Durham-route, conformational defects, resonance Raman scatt. studies 7—62554
trans-polyacetylene, highly oriented, photoexcitations and photocond. response 7—64292
trans-polyacetylene, highly oriented polarised Raman scatt. 7—7685
polyacetylene, p-type doped, reaction with H_2O 7—65316
polyacetylene, Raman scatt. from CDW, ab initio calcs. 7—46015
trans-polyacetylene, reson. Raman scatt. from amplitude modes, temp. effects 7—64654
cis-polyacetylene, resonance Raman scatt. *(Chinese)* 7—7683
trans-polyacetylene, with broken symm., reson. Raman scatt., photoinduced absorpt. spectra 7—64656
polyacetylene copolymers and composites, physical props., electrochemistry and environmental stability 7—2587
polydiacetylene cryst., Raman spectra, press. depend. 7—27726
polyesters, aromatic, conformational reorganisation viewed by Raman spectra 7—32311
polyethylene blends, melting, crystallisation, DSC, X-ray diffr., Raman spectra 7—44411
polyethylene films, picosecond Raman scatt. after IR excitation, ultrafast vibr. energy transfer 7—64621
polymers and related cpds., electronic props., Winter School, Kirchberg, Austria (March 1985) 7—4613
polymers Raman spectra charactn. 7—53296
polynucleotides, struct. anal. using Raman lines of mononucleotides 7—10600
polyoxyethylene, conformation, vibrational spectra, normal coordinate analysis 7—53317
polyoxymethylene, polymorphism and mol. aggregation, Raman microprobe, vibr. spectra 7—13152
polystyrene-polyisoprene copolymers, processability-conductivity correlation 7—64229
polythiophene, vibrational spectra and elec. conductivity 7—2598
polyvinylene, reson. Raman scatt., absorpt. spectra, amplitude mode model anal. 7—64658
propane, vibr. anal. IR and Raman spectra, MNDO calcs. 7—10543
propanes, ^1H labelled, IR and Raman spectra, vibr. analysis, D substitution effect 7—50141
protoporphyrin-IX, effect of vinyl groups on meson. Raman spectra 7—15610
protoporphyrinato nickel (II), isotope shifts, vibr., LF reson. Raman spectra 7—19868
pyridine, adsorbed on Ag, electrode pot. and Raman line intensities 7—19865
pyridine adsorbed on ZnO surface, surface CARS spectroscopy 7—46036
rare earth ethyl sulphates, vibronic states 7—38138
retinal homologues, Raman spectra of cis-trans isomers 7—17948
skatole, valence force const. IR and Raman freqs., normal coordinate anal. 7—914
trans-stilbene, ps Raman spectroscopy and electron transfer 7—46035
strontium formate dihydrate single crystals, polarised Raman scatt., water internal modes 7—53311
succinonitrile on Cu and Ag surfaces, enhanced Raman spectroscopic obs. on rot. isomers 7—46037
sulphobetaine polymers, phase behaviour and soln. props. 7—38164
TCNQ, single cryst., lattice mode assignment, Raman spectroscopic meas. and lattice dynamical calcs. 7—26883
terephthalic acid, linear chain struct., order-disorder phenomena, Raman scatt. study 7—21150
tetramethylbutadiene, lowest excited triplet state, reson. Raman spectrum 7—62376
tetraphenylmethane, vibr., dichroism, IR and Raman spectra 7—31042
tetraphenylporphin metal complexes, reson. Raman spectra 7—19862
three-level molecules, collective effects in resonant Raman scattering of intense optical waves 7—62382
toluene liq., stimulated Raman gain meas., vibr. energy transfer, thermal lens detection 7—62772
s-triazine, gas phase, mol. struct., GPED anal., ab initio force field calcs. 7—36457
1,2,4triazole, adsorbed on microlithographically prepared Cu, SERS obs. 7—27712
tribromoacetamide, ^{15}N isotope effects, Raman spectra, ab initio calcs. 7—19871
trichloromethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
trichloromethanesulphenyl chloride, mol. vibr. and config., Raman and IR spectra anal. 7—42622
trimethyl-d_9-pyrazine, normal vibrs., Raman and IR parameters investig. 7—50074
trimethylammonium hexochloroantimonate, mol. vibr., Raman and IR spectra anal. 7—53347
trimethylchlorogermane, liq., vibr. anal., isotope effects, Raman bandshape anal. 7—33371
3,3,4-trimethylhexane, config. anal., IR and Raman spectra 7—19861
2,3,3-trimethylhexane, conformational anal., Raman and IR spectral obs. and vibr. assignments 7—15614
trimethyloxonium hexachloroantimonate, mol. vibr., Raman and IR spectra anal. 7—53347
trimethylpyrazine, normal vibrs., Raman and IR parameters investig. 7—50074
trimethylsulfonium iodide-d_0(-d_9), vibr spectrum, normal coord. calcs. 7—50077

Raman spectra of organic molecules and substances continued
trimethylsulfonium-d_0(-d_9), vibr spectrum, normal coord. calcs. 7–50077
trioxane, Raman band second moment meas. 7–31054
tyrosine, UV reson. Raman spectra anal. 7–41481
UV resonance Raman scatt. studies of electronic excitations 7–19875
yttrium formate crystals and solutions, Raman spectra studies 7–46024
zinc tetra-2,3-pyridino porphyrazine, photoreduction, photochemical, electrochemical and spectroscopic study 7–33949
Al^{3+}-chymotrypsinogen(poly-L-aspartate), interactions, Raman spectra investig. of conform. changes 7–57071

Raman spectra of polyatomic inorganic molecules
thiometallato complexes, mol. vibr., electronic struct., IR and Raman spectra study 7–57068
three-level molecules, collective effects in resonant Raman scattering of intense optical waves 7–62382
transition metal complexes, IR and Raman spectra 7–50128
water, liq., Raman spectra in translational region 7–64622
water, liquid, OH stretching vibr. spectrum, mol. dynamics study, IR, Raman and neutron diffr. spectra 7–44329
Ag dimers and clusters, matrix isolated, guest-host interaction and photochem. transform. 7–15786
$((CO)_5W\text{-}H\text{-}W(CO)_5)^-$, struct., H atom dynamics, spectrosc. investig. 7–15613
CS_2, liq., reorientation, vibr. relax., Raman spectra 7–62379
$CsCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7–15605
$CsH_2PO_4(d_2)$, polarised IR and Raman spectra, internal vibrs. 7–50125
$CsH_2PO_4(d_4)$, polarised IR and Raman spectra, transition dipole moments, orientation calcs. 7–50124
Cu(I) complexes, UV absorpt. and reson. Raman spectra 7–10593
$(HF)_2$, IR and Raman spectra, vibr. calcs., secondary basis set superposition error 7–25478
H_2O clusters, Raman spectra 7–42826
H_2O, liq., network defect density, determ. from Raman spectra 7–15603
H_2O, ν_1 band, inverse Raman spectrosc. 7–5687
H_2O, third-order nonreson. susceptibility relative value, CARS meas. 7–50633
H_2S adsorbed on SiO_2:Na, FTIR and Raman spectra obs., Na promotion of Claus process 7–46869
$KrCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7–15605
Mo complex, tetraacetomolybdenum, metal–metal quadruple bonds, normal coordinate anal. 7–42578
Mo complexes, isopropylammonium dihydrogenoctamolybdate dihydrate, vibr. spectrum 7–36628
Mo complexes, with dioxo ligands, mol. vibr., IR and Raman spectra anal. 7–50151
$Mo_2Cl_8^{4-}$, metal–metal quadruple bonds, normal coordinate anal. 7–42578
NH_3, $\tilde{A}$ state, rot. depend. lifetimes and excitation profiles, Raman spectra 7–62378
NH_3, jets, Raman scatt., Franck-Condon and double reson. study 7–31082
NO_3^-, aq. soln., band shape anal., Raman and IR spectra 7–57067
Na_4^{3+}, stability and struct. $X\alpha$ and ab initio methods, Raman spectra anal. 7–10421
Ni complex, tetrakistrimethylphosphine Ni(0), synthesis and mol. vibr. study, Raman and IR spectra anal. 7–42627
OCS, rot.-vibr. anal., electronic ground state, MW, IR and Raman spectra 7–19820
P halide complexes, single halide anions, Raman shift investig. 7–19869
Pd complexes, bivalent, mutual influence of ligands, vibr. spectrosc. investig. 7–10585
$Pd(CN)_x$ ($x=1$ to 4), liq. NH_3 solns., Raman and IR vibr. spectra 7–57076
Pt complex, $[Pt(NH_3)_2(OH)_2(C_5H_7N_3O)_2](NO_3)_2.2H_2O$, metal stabilised cytosine iminooxo tautomer, form. and geometry 7–26710
Pt complex, tetrakistrimethylphosphine Pt(0), synthesis and mol. vibr. study, Raman and IR spectra anal. 7–42627
$RbCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7–15605
Re complex, tetraacetodichlororhenium, metal–metal quadruple bonds, normal coordinate anal. 7–42578
$Re_2Cl_8^{2-}$, metal–metal quadruple bonds, normal coordinate anal. 7–42578
SCN^-, aq. soln., band shape anal., Raman and IR spectra 7–57067
SF_6 jets, Raman scatt., Franck-Condon and double reson. study 7–31082
SO_2 adsorbed on SiO_2:Na, FTIR and Raman spectra obs., Na promotion of Claus process 7–46869
Sf_6, IR multiphoton excitation, time-resolved Raman spectra anal. 7–36629
$UO_2(NO_3)_2.6H_2O$, Raman spectra, totally symm. vibrs., band shapes 7–42628
$W(CO)_5$(piperidine), electronic spectra, excited state distortions, prereson. Raman intensities 7–10594
$W(CO)_5$(pyridine), electronic spectra, excited state distortions, prereson. Raman intensities 7–10594

Raman spectroscopy
see also Raman lasers; Raman spectra
adjacent optical fibre sensors in Raman spectrometry, simulation and optimisation *(French)* 7–31469
applications in chemical reactors, combustion and heat transfer 7–17788
CARS, single-pulse, noise props. with multimode pump sources 7–48866
CCD detector for low-light-levels 7–41499
coherent anti-Stokes Raman spectral profiles, analytical expressions 7–48854
coherent Raman technique with picosecond lasers, ultrasensitivity 7–56357
combustion and plasma diagnostics appl. 7–16332
conference on laser appls. in chem. and biophys., Los Angeles, CA, USA (Jan. 1986) 7–40993
continuous coherence transfer method for Raman magnetic resonance spectroscopy 7–41413
data manipulation, UNIX based computer workstation 7–48859
energy chemistry, instrumentation and techniques, literature review since 1977 7–59827
fibre optic chemical measurements in industry *(French)* 7–46894
flame diagnosis by laser Raman spectroscopy, 3D distrib. of temp. and conc. *(Chinese)* 7–59804

Raman spectroscopy continued
fluorescence rejection in Raman spectroscopy using a gated intensified diode array detector 7–15009
four-photon polarisation Raman spectroscopy for remote detection of hydrocarbons in water 7–46992
Fourier transform, appls. 7–56346
free jet spectroscopy by coherent Raman methods 7–15003
gratings written with single laser beam, laser-induced surface ripples, Raman microprobe obs. 7–20400
high-temperature corrosion film characterization using Raman microscopy 7–46772
Infrared and Raman Spectroscopy Literature Data Base, bibliography 1 October 1984 to 31 May 1986 7–41030
interferometric observation, photomultiplier and avalanche diode detectors appls. 7–61379
inverse, of liq. samples, exptl. conditions 7–61385
IR Raman spectroscopy, overview 7–61390
mobile CARS instrument for combustion and plasma diagnostics 7–44238
multiplex CARS temperature meas. precision using single-mode and multimode pump lasers 7–41376
optical multichannel spectrometer, digitisation and processing 7–15010
optical time-resolved multichannel Raman spectrometer, appl. to transient photomerocyanines 7–15010
picosecond Raman spectroscopy: a two dye laser synchronously pumped Raman system 7–41486
picosecond Raman studies using 5 kHz tunable dye laser system 7–18881
rapid reactions, microdroplet mixing technique investig. using Raman spectrosc. 7–54082
resonant Raman excitation profile measurements by stepped double scanning *(Russian)* 7–22269
rotational CARS generation through multiple four-colour interaction 7–50632
semiconductor thin film analysis, review 7–53354
semiconductor thin layers, orientation determ. using Raman scatt. light 7–61320
solid surfaces, chemistry and physics, book 7–60891
spontaneous Raman temp. sensor, based on signal backscattering from multimode fibre 7–41387
temperature distribution measurement using Raman ratio thermometry in optical fibre 7–25985
three-laser CARS meas. of two species 7–46897
time resolved meas. in gaseous samples, computer-controlled 7–18886

Ramsauer effect *see collision processes*

random-access storage
Ta_2O_5 films for MOS DRAMs using ultra-high purity Ta sputtering target 7–59423

random functions
see also random processes
long range random field models, scaling theory, 1/n expansion 7–24553
pseudo-random number generation, Chebyshev mixing, statistical tests 7–29732

random noise
see also thermal noise
$1/f^{\gamma}$ from single-energy-level defects 7–52712
1/f noise, carrier mobility fluctuation origin 7–38653
1/f noise, clustering Poisson processes 7–35408
1/f spectra in nonlinear dynamics, noise-induced trapping at attractor boundaries 7–48557
autoassociative neural network, influence of noise on behaviour 7–54525
coding theoretic approach to cancer detection 7–47252
coupled quadratic maps on 1D lattice, robust space-time intermittency and 1/f noise 7–41300
disordered surfaces, electrons and 1/f noise 7–38669
disordered systems, activated processes, logarithmic scaling and 1/f noise power spectrum 7–61248
electrical networks, 1/f noise, log-normal distrib. and cascade processes 7–48573
electron gas, low freq. fluctuation phenomena near metal-dielectric transition point 7–38654
fractal clusters and percolation clusters, diffusion noise 7–35415
Gaussian-Gaussian mixture, underwater noises modelling, detection 7–43512
gyroscopes, fibre optic, noise problems 7–20439
incommensurate-commensurate phase transition, noise supression 7–44752
interferometers, two-beam, noise power spectra induced by laser phase noise 7–30066
interferometric systems using frequency ramped single-mode diode lasers, limitations and noise 7–30065
IR lens centering machine 7–31542
K-distributed noise, Fokker-Planck description, stochastic diff. eqns. 7–61236
laser diode, dynamic spectra and propag. in single model fibres 7–20225
laser instabilities, semiclassical models, review 7–15921
laser-assisted collisions, random telegraph noise 7–50044
music, natural flicker noise, 1/f noise 7–61229
nonlinear conductors, current noise *(French)* 7–7298
nonlinear random waves, evolution of higher order spectra 7–62886
nonlinear resistor networks, resistance noise 7–56162
optical fibres, noise pulses dispersive broadening, nonlinear compensation 7–57582
p-n junction, generation-recombination noise in space-charge region, collective and corpuscular approaches 7–64298
phase meters, orthogonal with clipped signals, noise error statistical characts. 7–56302
photodiodes, 1/f noise, extended Burgess' variance theorem 7–45412
photometry in astronomy 1/f noise 7–40716
piezoelectric materials, acoustic resonance techniques for temp., stress and impurity characterization 7–45938
pressure-broadening, amplitude modulation servo control in FM spectroscopy 7–18888
radiothermometer, S/N ratio and sensitivity equations 7–18782
Rayleigh wave resonators and delay lines, 1/f noise 7–1348
selective line modulation atomic spectrometry, noise sources 7–61383
semiconductor, inversion bond bending at surface, generation-recombination noise 7–17067
semiconductor, nondegenerate, diffusion noise and hot-electron noise at arbitrary drift vels. 7–64299
semiconductor laser, phase and frequency noise, probability density function 7–20266

random noise continued
- semiconductor lasers field spectra computing asymmetry due to noise obs. *(Japanese)* 7—15862
- semiconductor materials and devices, characterisation by noise methods, review 7—59720
- semiconductors, 1/f noise and number fluctuations 7—38651
- semiconductors, Umklapp 1/f noise, Hooge parameter, relativistic correction, appl. to $Hg_{1-x}Cd_xTe$ resistors 7—2649
- spacial solar panels, LF noise as nondestructive inspection test 7—39996
- spatio-temporal coherence and chaos, conf. Los Alamos, USA, Jan. 1986 7—48158
- squeezing light noise in a cavity near the vacuum fluctuation level 7—15834
- SQUID magnetometers for medical and geophysical use *(Swedish)* 7—9849
- standards metrology, statistical analysis based on classical variance 7—18736
- stochastic Korteweg-de Vries hierarchy, soliton eqns. 7—29766
- stochastic modified Korteweg-de Vries equation 7—29767
- superconducting tunnel junctions, microwave detection, quantum statistical theory 7—2786
- symmetry in stochastic quantization with regularizing noise 7—14826
- GaAs devices, 1/f fluctuation, surface states effects *(Japanese)* 7—21955
- GaAs, hot-electron 1/f noise 7—21927
- GaAs, low frequency 1/f noise, new scale invariance 7—12770
- Ge (001), field emission flicker noise and electron states 7—33533
- HgCdTe materials for infrared detectors, prep. techniques 7—64019
- InSb, 1/f noise, temp. depend. 7—52710
- K-Ni coadsorbed layer on W (110), field emission flicker noise 7—32807
- $LiNbO_3$ SAW bifurcation and chaotic state obs. 7—2333
- Si, hot-electron 1/f noise 7—21927
- a-Si:H, electron traps, telegraph noise spectroscopy 7—21928
- a-Si:H n^+-i-n^+ struct., freq.-depend. noise studies 7—45484
- α-SiC:N, single carrier SCL flow, computer calcs. 7—21925
- W (112), K adatoms, density fluctuation simulation 7—32806

random phase approximation *see RPA calculations*

random processes
- *see also Brownian motion; chaos; fluctuations; Markov processes; probability; queueing theory; stochastic processes*
- 1D disordered system, random chains and complex transfer matrix attractors 7—61250
- anharmonic oscillator, nonlinear system under combined periodic and randomexcitation 7—9699
- anisotropic 2D square lattice, random hopping model, percolation, diffusion and conductivity 7—61282
- anisotropically correlated random field systems, crit. behaviour 7—56154
- anomalous diffusion on fractal, first passage time problem 7—277
- attractor lifetime in noisy co-dimension-two bifurcation 7—24545
- augmented Langevin description of multiplicative noise and nonlinear dissipation in Hamiltonian systems 7—29898
- averaged evolution operator of quantum system, nonMarkov theory of sudden modulation 7—29910
- Banach space valued dependent random variables, uniform bound in central limit theorem 7—29727
- Bayesian and Tikhonovian extrapolation of random processes *(Russian)* 7—18585
- Bernoulli-Laplace diffusion model, time to reach stationarity 7—61249
- bifurcations of subharmonics 7—29891
- binary random harmonic chains, special freqs. and Lifshitz singularities 7—35404
- bipartitioning of random graphs of fixed extensive valence, statistical mechanics methods 7—48523
- birth and death processes, anal. using stochastic formalism 7—18697
- Boolean cellular random nets, phase transitions 7—56171
- Caratheodory-type selections and random fixed point theorems 7—61234
- casino physics approach to probability and random processes teaching 7—35169
- Cayley tree, interacting random walkers, polymer statistics 7—9792
- Cayley trees, randomly closed, and fractal dimensionality 7—4784
- cellular networks, struct. and evolution 7—48625
- chaotic dynamical processes, coexisting sinks 7—9759
- classical diffusion, intermittency and quantum particle motion in modulated or random media 7—137
- cluster-cluster aggregation, intrinsic anisotropy of clusters 7—18694
- competitive trapping effects in a set of partiallyabsorbing traps 7—9793
- connectance effect on Lyapunov charact. exponents of products of symplectic random matrices 7—9768
- continuous time random walks with momentless waiting time distributions 7—24564
- continuum systems, transport props. near percolation threshold 7—41290
- correlated exponential random walks, linear Boltzmann transport formulation 7—35407
- correlated random walk on a BCC lattice with next-nearest-neighbour hops, self-consistent decoupling approx. 7—41259
- cosmic strings, fractal geometry and galaxy and cluster correlation functions 7—56115
- coupled oscillator chain, random attractors, dimensionality and phys. props. 7—9774
- coupled oscillators, special frequencies and asymptotics 7—56061
- curvature invariants of random interface generated by Gaussian fields 7—41273
- decay times in one-dimensional chains 7—48618
- delayed circle map, torus oscillations and collision torus-chaos 7—9776
- Devil's staircase 7—48574
- differential inclusions in Banach spaces 7—29696
- diffusion with a topological bias on random structures with a power-law distribution of dangling ends 7—18701
- diffusion-limited aggregation, anomalous diffusion for regular and random models 7—239
- diffusion-limited aggregation, generalization and fractal dimensions 7—247
- diffusion-limited aggregation without branching, Monte Carlo group anal. 7—61269
- dilute random-field Ising model, domain growth, self-similar dynamical scaling breakdown 7—35430
- discs with fluctuating radii, simulation of elastic response 7—56040
- disordered chain problem, integrable system canonical variables approach 7—35401
- disordered polymer chain, configurational statistics, random monomers 7—35433
- disordered systems, finite-size scaling and correlation lengths 7—35464

random processes continued
- domain walls in random field in two dimensions 7—18696
- dynamic fragmentation, particle size distrib., random Poisson process calcs. 7—31708
- dynamical processes in many-body systems, random motion approx. 7—48587
- dynamical system, time ordering and thermodynamics of fractal invariant measure 7—4790
- dynamical systems and statistical physics conf., Koszeg, Hungary, Aug.-Sept. 1984 7—48194
- Eden model, many-dimensional expansion 7—9756
- Einstein relation and exact Gell-Mann-Low function for random walks in media with random drifts 7—41251
- ergodic symmetrically distributed random field, nonadmission of percolation 7—56186
- exponentially modulated random excitations 7—50940
- Feigenbaum attractors for a class of 1D maps, fractal dimension 7—217
- fermion field on a random lattice 7—35716
- forced relaxation oscillations, chaotic blue sky catastrophe 7—4768
- free convection near wall, random method with creation of vorticity 7—20728
- frontier generating walk in gradient, determination of percolation threshold 7—35440
- generalised random walks in 1D, fractal props. 7—9785
- genuine self-avoiding walks, trapping 7—9771
- geometry of random sequential adsorption in one and two dimens. 7—9762
- Gibbs states in Czech models, uniqueness and half-space nonuniqueness 7—29886
- Ginzburg-Landau eqn., spatial struct. of time-periodic solns. 7—48576
- glass freezing as kinetics time scale singularity 7—26954
- graph partitioning and statistical mechanics, Monte Carlo simulation 7—48522
- gravitational lensing, flux conservation and random lensing in Friedmann universes 7—23994
- groundwater flow, stochastic anal. of three-dimensional flow in bounded domain 7—23761
- groundwater flow modelling, inverse problem soln. for two-dimensional steady state flow 7—23762
- growth probability and harmonic measure, fractal struct., scaling props. 7—61268
- heterogeneous media, spatial correlation functions from computer simulations 7—18692
- hierarchical system relaxation, finite Cayley tree random walk and hopping calcs. 7—4766
- hopping transport model, dynamics, phase transition 7—268
- hopping-controlled reactions with variable hopping range, models 7—33924
- hyperbolic attractors, synchronisation of canonical measures 7—210
- hypercube vertices random-walk diffusion, stretched exponential relax., numerical calcs. 7—56175
- incompressible motion on 2D and 3D lattices, appl. to turbulence 7—4772
- information processing using chaotic strange attractors 7—48578
- inverse semigroups, recurrence and nonrecurrence of random walk 7—61233
- ionising radiation interaction with matter, stochastic processes meas. optimisation 7—5535
- Ising model, transverse, random forces, relax. and memory functions, dynamical behaviour calcs. in high-temp. limit 7—56178
- Ising model on Bethe lattice with random bonds 7—38885
- Ising model on dynamical planar random lattice, exact soln. 7—41286
- Ising model on random 2D lattice, phase transitions 7—61275
- islands of stability and complex universality relations 7—48561
- Kauffman's model, multivalley structure, analogy with spin glasses 7—24571
- Kauffman's random Boolean network, approach to the stationary state 7—56155
- Kauffman cellular automata, two-dimens., phase transitions 7—35400
- kinetic gelation clusters in 3D anomalous diffusion, random walks 7—61279
- Laplacian random walk, reflecting and absorbing boundary conditions 7—18709
- lattice random walks, transverse spin rotation depolarisation 7—48558
- limit distribution of 1D random walk in random environment 7—14872
- linear biased correlated walk, general soln. 7—61237
- linear polymers, collapse transition, lattice self-avoiding walk model 7—35452
- linear polymers, collapse transition on fractal lattices, interacting self-avoiding walk model 7—48603
- linear transport eqns. in a random medium, projection operator methods 7—61287
- linear transport theory in a random medium 7—18727
- locally optimal rank-based tests for multivariate randomness 7—56015
- loop gas model, square lattice, critical behaviour 7—216
- Markov chain potentials, asymptotic behaviour, random walks and Brownian motion *(French)* 7—61228
- mathematical properties of statistical mechanics and dynamics 7—48203
- matrices, rigorous bounds and the replica method for products 7—35437
- mean field spin-glass models with random sites 7—38874
- mean field theory using random chessboard model 7—14889
- mean wave solution: bounded medium—discrete scatterers 7—48371
- mean-field equations for the matching and the travelling salesman problems 7—24546
- Mellin transforms and correlation dimensions 7—41253
- metallic fine particles, energy level statistics 7—38431
- microstructures, noise effects, device sensitivity 7—52713
- multi-dimensional intertwined basin boundaries and kicked double rotor 7—29902
- multiparticle diffusion, fractal kinetics 7—24604
- multiplicative random walk, self-similarity of fluctuations 7—231
- multivariate Meixner classes of invariant distributions of random matrices 7—24361
- N-city travelling salesman problem, optimisation by simulated annealing 7—48614
- nearest-neighbor distribution, theory 7—41036
- network models of porous media, hydrodynamic dispersion 7—1625
- nonidentical interacting particles, anomalously slow trapping by random sinks 7—229
- noninteracting fermions in random potential, invalidity of replica trick 7—18687
- nonlinear oscillator, parametrically excited bifurcations 7—56070

random processes continued
nonlinear random equations. with noncoercive operators in Banach spaces 7—24386
nonlinear stochastic oscillator, linear response 7—9704
nonlinear time evolution eqns., bifurcating periodic solns. 7—48562
nonlinear waves, bifurcation, stability and symmetry 7—41116
normal metal, Aharonov-Bohm effect, quantum coherence and transport, review 7—52559
one-dimensional maps, dynamical fractal props. 7—41255
one-dimensional random field Ising model, characteristic fractal dimension calc. 7—18724
one-dimensional random normal-superconductor mixture, models 7—38837
optical fibres, randomly 'broken' Landauer-type localisation of light 7—62838
oscillators, random, Lyapunov exponent and rot. number, asymptotic anal. 7—4720
packing of identical particles, model development 7—3613
partial determinacy of wave fields 7—41107
particle diffusion and trapping, arbitrary trap size and conc. 7—9761
percolation clusters, two-dimensional, fractal dimension of hull, Monte Carlo calcs. 7—241
percolation in random fields on a plane, duality principle 7—35469
planar random surface model, Ornstein-Zernike theory 7—9760
planar random surfaces with extrinsic action, critical exponents 7—29938
planar XY-model on a 2D random lattice, numerical simulation 7—24594
polymer self-avoiding network of fixed topology, renormalisation and exact critical exponent 7—260
polymers, lamellar, semicrystalline, chain folding models 7—41248
polymers, randomly coiled, endpoint distrib. for neighbor avoiding walks 7—48597
polymers and percolation, conformed invariance props. 7—48608
potential modelling with fields of correlated random variables 7—14873
quadratic forms of random variables extrema of distrib. *(Russian)* 7—48555
quadratic map with swept parameter, postponed bifurcations 7—14865
quantum systems, disordered, interacting, dynamics 7—56147
quasi-random and pseudo-random sequences, integral equation solution, comparative study 7—48560
quasirandom objects, off-equilib. space divisions, universal spectra 7—219
random central limit theorem for dependent random variables 7—29728
random fractals, Debye-Huckel theory 7—212
random fractals, measure theory 7—9766
random fractals 7—9767
random lattices versus regular lattices, Ising model, fermions on random lattices 7—35466
random spin systems 7—53006
random surfaces, Fadeev-Popov determinant, geometrical interpretation 7—18984
random surfaces, self-avoiding with fixed boundary, universality class 7—56156
random surfaces on cubic lattice, critical behaviour, phase diagram 7—24582
random variable transformation theorem, proof 7—41043
random walk on a quasiperiodic chain 7—48611
random walker on fractal lattice, superuniversality of acceleration correls. 7—61258
random walks on graphs, approach to equilibrium 7—18693
random walks on trapped lattices, statistical behaviour 7—4763
regular-random fractal model for cluster numbers and structure in percolation 7—35427
renyi dimensions from local expansion rates 7—61243
resistor and superconducting networks, random, multiscaling approach 7—17000
Riemann hypothesis, fractal random walk approach 7—14896
rigid sphere and disks glassy packing, critical exponent 7—61246
rotational diffusion in cubic fields 7—275
rough disks, shear flow, constitutive relations 7—35267
scaling theory of transient phenomena 7—29908
Schrodinger equation, transition from pure point to continuous spectrum 7—48460
self-avoiding chain molecules, generic model 7—24552
self-avoiding random walks on the hexagonal lattice, critical exponent calcs. 7—35405
self-avoiding walk, Monte Carlo algorithms, dynamic critical exponents 7—213
self-avoiding walk, relationship to uniform trees 7—237
self-avoiding walk, spiral, triangular lattice analysis 7—48610
self-avoiding walk, triangular lattice, θ point anal. 7—24551
self-avoiding walk, triangular lattice, connective constant, Monte Carlo anal. 7—215
self-avoiding walk, two-dimensional, exact exponents 7—214
self-avoiding walks on a crumpled fractal 7—41260
self-avoiding walks on random lattices, scaling theory 7—48563
semicrystalline polymer, loop entanglement in constrained liq. region, asymptotic behaviour 7—26666
Sherrington-Kirkpatrick spin-glass model, random energy and generalised random energy models 7—59017
Sierpinski carpet, random walk problem, spectral dimensionality and hyperscaling 7—18720
Sierpinski gasket, random walk generating functions 7—29892
slow viscous flow past a random array of spheres, macroscopic descript. 7—11537
spectra fluctuations in random media, Lenz shift phenomena 7—48577
spectral properties of random and almost periodic differential and finite-difference operators 7—48329
spherical-model limit in a random field 7—29896
spin glass, superalgebras and random spherical model 7—53008
square lattice, truly kinetic random walks, multifractal nature 7—56161
stable packing, local description 7—18695
stars, photospheric plasmas, time-dependent radiative transfer, analytical methods 7—55451
stationary random processes with a $1/\omega$ spectrum 7—29890
statistical mechanical systems, critical behaviour and random walk representations 7—48532
stochastic algorithms for physical systems 7—61077
stochastic network pore model, random pattern extension 7—9758
stochastic processes characts. accuracy improvement, redundant channel data utilisation 7—4802
strange attractor in a synergistic problem *(Russian)* 7—61252
strange attractors in two-dimensional maps, dimensionality calcs. 7—9772

random processes continued
strong uniform consistency of random kernel-type density estimates 7—48554
survival probability for particle diffusing in a medium containing nonoverlapping or spatially correlated traps 7—48648
thermally activated random walkers on ultrametric spaces, low temp. patterns 7—9783
time-continuous random walks on finite groups, transition probability calcs. 7—48337
time-dependent systems, density functional theory 7—41254
trajectories near a separatrix using the matching method 7—56166
trap-controlled random lattices, continuous time random walk calcs. 7—48551
trapping of genuine self-avoiding walks 7—24563
travelling salesman problem, numerical simulation 7—24547
travelling salesman problem, statistical mechanics 7—29925
triangulated random surfaces, intrinsic geometry, mean size fluctuations, model anal. 7—61226
triangulated random surfaces, intrinsic geometry, mean size fluctuations, Monte Carlo simulation of critical props. 7—61227
trifurcation sequence, renormalization-group eqn., power spectrum bounds 7—48567
two-dimensional site-percolation model, diffusion and long-time tails, vel. autocorrel. function calcs. 7—24606
two-sublattice systems, correlated random walks, Monte Carlo simulations 7—4783
two-sublattice systems, correlated random walks 7—4782
unstable equilibrium escape in random process with infinitely many interacting particles 7—29894
variance of random sets 7—60946
vibrations of nonlinear systems, non-Gaussian moment method *(Chinese)* 7—24542
viscous flow in supercooled liquids, transport theory anal. 7—63863
W*-algebras, convergences 7—29659
waiting time distrib. function, asymptotic solns. of continuous time random walk problems *(Chinese)* 7—35398
walk, size of local time increments 7—48620
walk motion, disorder induced transport on simple cubic lattice 7—35449
walks on cubic lattices with bond disorder 7—48617
X-Y model, spin-1/2 1D, random forces, relax. and memory functions, dynamical behaviour calcs. in high-temp. limit 7—56178
Al_2O_3-Na_2O, beta-type ionic cond., mixed alkali effects, percolation model 7—12355
H II regions internal motions, turbulence theory for random component 7—40902
H_2 diffusion in pure crysts., continuous-time correlated walk with unrestricted jumps model appl. 7—27015

range finding *see distance measurement*

range of particles *see energy loss of particles*

ranging, laser *see optical radar*

ranging (sonar) *see sonar*

rare earth alloys
see also cerium alloys; dysprosium alloys; erbium alloys; europium alloys; gadolinium alloys; holmium alloys; lanthanum alloys; lutetium alloys; neodymium alloys; praseodymium alloys; promethium alloys; rare earth compounds; samarium alloys; terbium alloys; thulium alloys; ytterbium alloys
crystalline electric field effects, cryst. pot. model 7—45599
high energy product permanent magnets, magnetising and B/H hysteresis loop meas. 7—53046
magnetic moment formation and mag. susceptibility 7—58995
misch metal-Fe-B melt-spun magnets, mag. and structural props. 7—53032
permanent magnetic materials, rare earth-transition metal alloy, 1960-85 bibliography 7—14726
rare earth-transition metal alloy magneto-optical thin films, under laser irradiation, thermal anal. 7—45995
silicide epitaxial formation by rapid annealing 7—21768
weak correl. regime, localised 4f states, quasi-particle energy calcs. 7—52492
X-ray absorpt. L_{III} spectra, Anderson impurity model 7—64819
Al-Fe-R, R=Ce, Er, Nd or Gd, rapidly solidified microstruct. 7—59502
Al-R (R=Er,Nd,Gd) rapidly solidified alloys, microstruct. and thermal props. 7—22667
Al-R (R=Gd, Ho, Er, Y) alloys, intermediate phase metastable extensions, DSC and X-ray diffr. studies 7—21413
Al-Zn-Mg-Cu, rare earth microalloying effect on struct. and mech. props. 7—53755
CoR alloys, R=rare earth, permanent quadrupole magnets, construction and calcs. 7—19578
Fe-R intermetallics, (R=rare earth), intersublattice mol. field studies 7—27306
Fe-R-B (R=rare earth) metallic glass permanent magnets, struct. and mag. props. 7—27565
FeR alloys, R=rare earth, permanent quadrupole magnets, construction and calcs. 7—19578
M-M′-X, (M=Ca,Sr,Sc,Y,La-Lu; M′=Co, Rh,Ir; X=Ge,Pb), structural and superconducting props. *(French)* 7—44491
$Ni_{4.15}Fe_{0.85}R$-Al matrix, (R = Mischmetal), H sorption, nonequilib. parameter 7—32836
R-Ag alloys, press.-induced structural transitions and mag. props. 7—7542
R-Co, 4f Co rich intermetallics, basal plane magnetocrystalline anisotropy 7—52972
R-Co alloys, magnetic moment irreversibility from temperature cycling 7—33194
R-Co-Fe system between 2:17 and 2:7 phase regions, phase equilibria, metallography, X-ray diffr., thermomagnetic anal. 7—17511
R-Fe-B sintered permanent magnets, depend. of coercivity on anisotropy field 7—45744
RAl_2 layered structural sintered composite, mag. entropy 7—59016
RAl_2, paramagnetic fluctuations, muon spin rotation studies 7—12941
RAl_2Si (R=Pr,Gd,Tb,Dy,Ho,Er,Tm,Lu), electronic struct., X-ray emission bands *(Russian)* 7—45138
$RAuCu_4$ (R=Gd, Tb, Dy, Ho, Er), cubic alloys, mag. props. 7—52936
RCo_5, (R=Tb,Dy,Ho, Pr,Nd,Ce,Sm,Gd,Er,Tm,Yb), magnetocrystalline anisotropy, rare earth contribution 7—45659
$R_2Co_{14}B$, permanent magnet, props. and struct. 7—53053
$R_2F_{14}B$, permanent magnet, props. and struct. 7—53053
$R_2(Fe,Al,Co)_{14}B$, mag. props., composition depend. 7—53030
$R_2Fe_{14}B$, cryst. field effects at rare-earth sites 7—45598

rare earth alloys continued
  $R_2Fe_{14}B$ permanent magnet materials, prep. and props., book contrib. 7−27981
  $R_2Fe_{14}B$, R=La-Nd, Sm, Gd-Tm, Lu and Y, ^{57}Fe Mossbauer spectra 7−64551
  RGa_8Co_2 (R=Ce, Pr, Eu), cryst. struct., mag. props. 7−45614
  RGa_8Fe_2 (R=La, Ce, Pr, Nd, Sm), cryst. struct., mag. props. 7−45614
  RMn_2, R=heavy rare earth, mag. state, spin echo NMR spectra 7−27629
  RNi_2 Laves phase (R=Y, La, Ce, Pr, Sm, Gd, Tb, Dy, Ho, Er), H induced amorphisation 7−51641
  Sn-R binary systems (R=La, Nd, Gd, Er, Lu), phase diagrams and equilib. 7−7961
  Ti-R (R=rare earth) alloys, rapidly solidified, tensile and creep props. 7−22778

rare earth compounds
  see also under the individual compounds e.g. cerium compounds
  see also rare earth alloys
  borides, RB_{66}, elec., optical and thermal cond. props. 7−21910
  core-electron spectroscopy, mixed valency versus covalency 7−45246
  crystal field parameters in binary systems *(Chinese)* 7−38518
  crystal field strength, ligand field effects, angular overlap anal. 7−2543
  crystals, magnetooptic anisotropy, ionic polarisability in cryst. field 7−53285
  didymium tartrate crystals, gel grown, charactn., thermal behaviour 7−39367
  dihydrides, Fermi surface nesting 7−52398
  β-diketonate complexes, multiphoton ionisation mass spectra 7−19960
  ethyl sulphates, vibronic states 7−38138
  hydrides, core level shifts, adiabatic excitation, sudden core excitation 7−53502
  hydrides, cryst. and mag. structs., superstruct. form. 7−33148
  intermediate valence systems, charge ordering 7−7189
  iron garnet films, surface-spin orientations, depth-selective Mossbauer spectroscopy 7−2907
  lanthanide (III) complexes, two-photon circular dichroism 7−27688
  lanthanide complexes, two-photon absorpt. 7−908
  lanthanide ions in aq. soln., thermodynamic props., oxidation states, coordination number and struct., review 7−12322
  lanthanide oxysulphides (oxyhalides), Eu^{3+}-doped, vibronic spectra 7−51968
  lanthanide paramagnetic systems, ^{13}C NMR spectral line broadening, magnetic suscept. anisotropy effects 7−27624
  lanthanide thenoyltrifluoroacetonate pyridine, Raman and FTIR spectra 7−57061
  light, insulating cpds., core hole screening, X-ray absorpt. studies 7−64796
  luminescence, conference, Rovno, USSR (Nov. 1984) 7−24263
  magnetic materials, hyper-Raman light scatt. by spin subsystem oscillations 7−7688
  magnets, spin reorientation phase transitions, fluctuation effects, critical behaviour *(Russian)* 7−52990
  mixed ligand crystals, temperature reduction and spontaneous crystallisation prep. 7−46294
  molybdates, improper ferroelectrics, energy spectrum and vacuum UV spectra 7−33413
  molybdates, vibronic states 7−38138
  naphthenate complexes, extract phase, FTIR and subtraction spectra 7−50142
  oxide surfaces, structure and rearrangements, atomic imaging 7−27078
  oxides, stabilizing admixture, effect of cation radius on sintering and cond. of ZrO_2 solid electrolytes 7−13398
  phosphate glasses, structural investigation 7−6522
  phosphates, preparative methods and growth, review 7−37913
  rare earth-transition metal-nonmetal ternary phase struct., crystallochem. anal. *(French)* 7−58234
  semiconductors, valence changes, many-impurity Anderson model 7−7186
  silicide thin films for microelectronics 7−38383
  superconducting Hamiltonian for f electron systems 7−45549
  tantalate phosphors for radiographic screens, fundamental props. 7−47231
  trifluorides:Nd^{3+}, absorption and luminescence spectra, Stark sublevels 7−3077
  vanadates, XES charactn. 7−51693
  weak correl. regime, localised 4f states, quasi-particle energy calcs. 7−52492
  $LiRP_4O_{12}$, flux cryst. growth 7−13345
  $R_2Co_3Si_5$ X-ray spectra and valence band electronic struct. 7−33484
  $R_2Cr_2C_3$, cryst. struct. 7−46423
  $R_3Fe_{5-x}Ga_xO_{12}$ garnets, dissoln. forms 7−58481
  RIG:Bi, growth-induced anisotropy 7−22103
  $R_2Mo_2C_3$, cryst. struct. 7−46423
  RNi_4P_2 type cpds. with $ZrFe_4Si_2$ type struct. *(Ukrainian)* 7−12010
  RP_5O_{14}, R=La-Nd, Sm-Tb, ferroelastic transitions, soft modes, Raman spectra *(Chinese)* 7−38177
  RSi_{2-x}-Si (R=Sc, Y, Gd, Ho, Tb, Dy, Er, Tm, Yb, Lu), silicide thin films, phase composition, conductance, surface morphology 7−7072
  R_3TaO_7, fluorite-related phases, solidification points 7−12241
  RWC_2, cryst. struct. 7−46423
  Si_3N_4-AlN-rare earth oxide systems, subsolidus phase relationships 7−39489
  (U, R)O_2, (R=Nd, Sm, Eu, Gd, Y), reactor fuels, thermal conductivity 7−19352

rare earth elements *see rare earth metals*

rare earth metals
  see also the individual metals e.g. cerium
  4f levels, appearance pot. spectrosc. 7−39324
  adsorbates on metal surfaces, EPR line shapes 7−53129
  atoms, 4d shell vacancies, radiational decay of states, X-ray spectra studies 7−10479
  crystalline electric field effects, cryst. pot. model 7−45599
  giant resonance absorption spectra of 4d electrons 7−10471
  ground and excited state props., local density total energy calcs. 7−7141
  heavy nuclei, α-decay widths 7−602
  high-performance phases, crystal structure models 7−16489
  impurities in ZnS, electrolum. of Schottky barriers, photolum., charge compensation, and impurity electron states 7−64700
  ion microprobe analysis of rare earth elements in minerals 7−60427
  ions, exchange collisions with positronium 7−50405
  ions in crystals, electron correl. contribs. to elec. dipole transition amplitudes 7−36549

rare earth metals continued
  lanthanides, hyperfine struct. in low-lying configs. 7−49954
  liquid state, kinetic characts. *(Russian)* 7−58517
  luminescence centre struct., rare earth elements in activated glasses 7−27754
  nuclei in solids, selective intensified spin diffusion, NMR spectra *(Russian)* 7−17232
  partial photoionisation cross sections at 3d thresholds 7−57138
  periodic spin structs., critical props. calcs. *(Russian)* 7−59031
  rare earth and rare earth-transition metal superlattices, magnetism *(Japanese)* 7−12951
  Stillwater Complex, Montana, rare-earth element evidence for form. of Ultramafic Series 7−65987
  surface physics, review 7−27073
  thermophysical props. studied using mol. laser radiation 7−58555
  total angular momentum, atomic mag. moments, calc. 7−62540
  weak correl. regime, localised 4f states, quasi-particle energy calcs. 7−52492
  $Gd_3Te_2Li_3O_{12}$:R, cathodoluminescence study *(German)* 7−22354
  InGaAs-InP heterostruct., rare earth doped, elec. and photoluminescence props. 7−46133
  Nd:$Ln_2(AlO_3)_6$ laser CW tunable in 1.05 to 1.08 μm region 7−10985
  R^{3+} ion systems, anti-Stokes luminescence 7−33426
  R^{3+} ions in dimethyl sulfoxide, room temp. fluorescence quenching of indoles 7−42670
  ThO_2:R, prep. and EPR studies of actinide and rare earth ions 7−27598
  Y_2SiO_5:R (R=Ce, Pr, Nd, Sm, Gd, Tb, Er, Tm, Yb), Czochralski growth 7−53556
  $Y_3Te_2Li_3O_{12}$:R, cathodoluminescence study *(German)* 7−22354
  $ZrSiO_4$: rare earths, luminescence-spectra props., hydrothermal synthesis methods 7−64683

rare gases *see inert gases*

rarefied fluid dynamics
  see also atomic beams; Knudsen flow; molecular beams
  cylindrical geometry, shear flow problems in rarefied gas dynamics 7−31843
  gases, statistical simulation modeling *(Russian)* 7−63181
  heat transfer in unsteady MHD Couette flow of electrically conducting viscous incompressible rarefied gas, theory 7−66448
  heated particle in rarefied gas, Brownian movement, kinetic description 7−51231
  high Mach number flow, transport theory conf., Montecatini Terme, Italy, June 1985 7−60874
  high Mach number flow past almost specularly reflecting plate 7−63186
  molecular gas flow, low density, collisional stimulation, intramol. motion and relax., macroscopic quantum effects 7−15693
  multicomponent gas mixtures, interaction with wall, Navier-Stokes boundary condition 7−51233
  null-collision technique in the direct-simulation Monte Carlo method, rarefied gas dynamics 7−31841
  polyatomic gas, sound wave propagation 7−44092
  rotating bodies, rarefied gas effect on forces and moments study 7−57882
  slightly rarefied gas mixture, behaviour over plane boundaries 7−1592
  slip flow, Gross-Jackson kinetic model eqn., convergence 7−48642
  spherical droplet condensation in free molecular limit 7−11469
  supersonic molecular beam intensities, translational temp. relax. 7−6254
  viscoelastic rarefied gas, MHD natural convection flows, buoyancy effects 7−6321

rarefied gas dynamics *see rarefied fluid dynamics*

rarefied gas flow *see rarefied fluid dynamics*

ray tracing, optical *see geometrical optics*

Rayleigh-Benard instability *see flow instability*

Rayleigh law *see Rayleigh scattering*

Rayleigh scattering
  alkanes, isomers study, depolarised Rayleigh-Brillouin scatt. investig. 7−62386
  alkoxycyanobiphenyls and related cpds. optical anisotropies, depolarised Rayleigh scatt. 7−39132
  4-n-alkyl-4′-cyanobiphenyls, nCBs, methyl red binary mass diffusion consts., forced Rayleigh scatt. 7−64661
  alkylcyanobicyclohexyls and related cpd. optical anisotropies, Rayleigh light scatt. 7−39131
  alkylcyanobiphenyls and related cpds. optical anisotropies, depolarised Rayleigh scatt. 7−39132
  atom, Rayleigh scatt., redistrib. function 7−19758
  atomic ions, low nucl. charge, Rayleigh scatt. and photon elastic scatt. cross-sections 7−895
  benzene, anharmonic forced Rayleigh scatt. 7−46057
  benzene, liq., Rayleigh ratio meas. for Ar- and Kr-ion laser wavelengths 7−53358
  carbon tetrachloride, liq., Rayleigh ratio meas. for Ar- and Kr-ion laser wavelengths 7−53358
  chlorobenzene, anharmonic forced Rayleigh scatt. 7−46057
  cyclohexane, liq., Rayleigh ratio meas. for Ar- and Kr-ion laser wavelengths 7−53358
  dynamic gratings induced by electrostrictive compression of critical microemulsions, studied by forced Rayleigh scattering 7−11032
  fibres, polarisation-maintaining birefringent, polarisation cross talk ultimate limit 7−25970
  fluids of optically isotropic mols., collision-induced light scatt. 7−33405
  forced Rayleigh scattering appl. to hydrodynamic meas. 7−11572
  gamma-rays, 145 and 279 keV, integral scatt. cross-sections at forward angles 7−10592
  gas mixtures, cross-over behaviour for exponent doubling near critical point, light scatt. expt. 7−32611
  glasses, Rayleigh and Brillouin scattering spectra, Bayesian deconvolution 7−13173
  insulating films with highly reflecting boundaries, thermal resistance 7−21781
  laser beam spatial energy distrib. determ. by Rayleigh scattering 7−43183
  liquids, highly viscous, mol. light scatt. spectra peculiarities 7−53360
  molecular fluids, interaction-induced Rayleigh light scatt. 7−59217
  nematic liquid crystals, orientational relax. time, light scatt. 7−51624
  nickel phthalocyanine films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7−59277
  nonequilibrium fluid with constant shear flow, Rayleigh line calcs. 7−26252
  optical switching using stimulated Rayleigh scattering 7−25895

Rayleigh scattering continued
pentacene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7−59277
PMMA, plastic optical fibres, for near IR transmission, prep. 7−62834
polarisation effects on Rayleigh scatt. and weak localisation 7−42924
polystyrene, plastic optical fibres, for near IR transmission, prep. 7−62834
polystyrene chemically attached to bis(9-anthrylmethyl) ether, forced Rayleigh scatt. technique, self-diffusion meas. 7−39888
pump-conjugate beam generation, stimulated Rayleigh scatt. of opposed light waves 7−43253
quartz, incommensurate phase, temperature dependent low-frequency modes 7−6737
Rayleigh-Brillouin gain spectroscopy in gases 7−10473
spontaneous resonance hyper-Rayleigh scattering, polaris. phenomena 7−37033
tetracene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7−59277
thin noncentrosymmetric crysts., Rayleigh scatt. of light 7−7710
toluene, liq., Rayleigh ratio meas. for Ar- and Kr-ion laser wavelengths 7−53358
toluene, liq., shear viscosity, Rayleigh correl. time meas., temp depend. 7−33402
two-level atoms, redistribution of radiation, Rayleigh scatt., atomic fluores., stochastic process calcs. 7−19754
$Ba_2NaNb_5O_{15}$, Rayleigh scattering, intensity oscillations 7−7711
GaAs, semi-insulating, IR light scattering from defect centres 7−64620
H_2O, near part of Rayleigh line wing 7−39134
He-N_2 mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect 7−16287
KH_2PO_4, hydrostatic pressure effect on ferroelectric relaxational mode, light scatt. study 7−2971
K_2O-PbO-SiO_2 glasses, chemically nonuniform struct., Rayleigh and Mandelstam-Brillouin scatt. 7−1891
$LiTaO_3$:Cr crystal, photoinduced light scatt., noise holographic grating mechanism 7−62775
N_2, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2-Ar mixture, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2-He mixture, depolarized Rayleigh light scattering, temp. dependence 7−31053
N_2-Ne mixture, depolarized Rayleigh light scattering, temp. dependence 7−31053
Na, D lines, collision-induced fluoresc., Rayleigh components 7−49998
ZrF_4 based IR fibres, realistic losses 7−37181

Rayleigh-Taylor instability *see flow instability*

Rayleigh waves
see also surface acoustic waves
acoustoelectronic Rayleigh wave devices 7−1350
associated acoustic wave mode propag. 7−1311
centrosymmetrical dielectric, Rayleigh waves on surface excited by external periodic electric field 7−31614
cubic materials, nonlinear surface waves 7−16093
cylindrical wire, Rayleigh and breathing modes 7−11195
device fabrication technology 7−1352
displacement/anisotropy relationship for crystal structures 7−1310
elastodynamic infinite element for elastic wave anal. 7−6142
excitation, detection and reflexion of Rayleigh andsurface skimming bulk waves 7−1374
first-arrival Rayleigh wave trains, use of on-scale obs. for source studies 7−47371
generation using acousto-optical interactions 7−1376
graphite (001), surface phonon dispersion, inelastic atom scatt. study 7−52227
half-space heated by laser radiation, thermoelasticity generalised dynamic problem 7−1476
integrated SAW transducer using reflective periodic structures 7−1375
laser interferometry meas. 7−1345
Lord Rayleigh's research activities 7−62
maximal surface-acoustic wave generation by thermoelasticity 7−1313
metals, texture and internal stress determ. using ultrasonic Rayleigh waves and neutron diffraction 7−46767
micro-cracking induced by Rayleigh wave 7−43794
modern technology, systems impact 7−1351
NDT using SAW techniques 7−3571
nonlinear convolver components 7−1349
shallow ocean, Rayleigh wave scattering by rigid plane barrier 7−8852
periodic waveguides, finite element anal. *(Japanese)* 7−6148
photothermal generation of Rayleigh waves 7−43621
plates, composite, impact tensile loading, crack bifurcation modes 7−50993
PMMA, brittle fracture, Rayleigh wave emissions 7−31699
propag. theory developed by Lord Rayleigh 7−1309
quadratic effects in the scattering of Rayleigh waves by a rectangular projection 7−43537
quantum aspects of Rayleigh waves; surface andinterface-waves at very high frequencies 7−1312
Rayleigh wave linear filters 7−1346
Rayleigh wave transducers 7−1373
resonator and oscillator appls. 7−1347
resonators and delay lines, 1/f noise 7−1348
sapphire, sub-surface, defect obs., by Rayleigh wave reflection in scanning acoustic microscope 7−13710
SAW reflections, two-component, from surface breaking slots 7−50819
scanning acoustic microscopy, appls. 7−1353
scattering by wedge, boundary method approach 7−26196
scattering of shear and Rayleigh waves by cracks 7−26194
seismic phase-reversed waves from underground nuclear explosions, apparent time delays 7−60177
seismic surface wave dispersion in layered medium, reduction of deep layers 7−47357
seismic wave propagation in pre-stressed medium 7−14200
semiconductors, Rayleigh wave excitation during optical pulse absorption 7−38314
surface cracks, acoustic microscopy 7−46768
surface waves using laser generation and EM acoustic transducer detection 7−44979
surface-breaking discontinuities, Rayleigh wave diffr. 7−27084
teleseismic waves, amplitude, phase and path anomalies of mantle waves 7−47348

Rayleigh waves continued
theory and appls., conf., London, England (July 1985) 7−22
thermooptic excitation efficiency 7−6954
thin rods in water, US press. distrib. prod. 7−6065
ultrasonic microspectroscopy using Rayleigh waves 7−1354
$Ba_{0.5}Sr_{0.5}TiO_3$ polycryst. films, SAW scatt. and ferroelec. transitions 7−44984
$(BiLu)_3(FeGa)_5O_{12}$ film, magnetic bubble motion, Rayleigh surface wave effects 7−33245
Cu (100), Rayleigh phonon dispersion, stress-induced freq. shift, EELS studies 7−27090
Fe, Armco, H charging, Rayleigh wave attenuation, mag. field effect 7−53107
GaAs, Rayleigh wave propag., 7−2334
Ni (100), adsorbed N, surface phonon dispersion, adsorbate induced reconstruction 7−52225
Pt (111), clean and O covered, surface phonon dispersion, inelastic atom scatt. meas., lattice dynamical calcs. 7−52226
Pt (111) with adsorbed Kr, adsorbate-substrate vibr. coupling 7−52221
n-Si, ultraheavily doped, Rayleigh surface waves, Brillouin scatt. study 7−21605
TiC (100), surface phonon dispersion curves, EELS determ. 7−52224
ZnO films on Si substrates, layer acoustic mode propagation, electroelastic effect 7−44978
ZrO_2-Y_2O_3 solid solutions, vibrational spectra 7−6738

reactance *see electric reactance*

reaction kinetics
see also catalysis; chemical exchanges; chemical reactions; explosions; potential energy surfaces for collision processes; reaction kinetics theory; reaction rate constants
acrylonitriles, ion form. by dissoc. electron attachment, mechanism 7−42754
activated chemisorption, internal degrees of freedom and measured activation energies, activation mechanism determ. 7−27113
allyl halides, laser-induced chem. reaction kinetics 7−23035
atom-molecule collinear reactive collisions, transition state calcs. 7−59746
azomethine derivatives, kinetic data eval. from freq. shifts of IR absorpt. bands 7−33911
benzonitrile, ion form. by dissoc. electron attachment, mechanism 7−42754
bimolecular fast reversible reactions diffusion influenced, kinetics study 7−65282
bimolecular reactions, diffusion influenced, kinetics study 7−65283
bimolecular surface reaction kinetics, adsorbate islanding effects, Monte Carlo model 7−65342
bond order and valence indices, rels. to Mulliken's population anal. and covalent chemical reactivity 7−56948
1,3-butadiene, laser powered homogeneous pyrolysis, kinetics investig. 7−65309
capron films, photodestruction kinetics with UV radiation, effects of tension 7−39905
carbon tetraiodide, crystal synthesis by trifluoroiodomethane+CO_2 IR irradiation 7−46831
catalysis, heterogeneous reactions, computerised conc.-controlled recycle reactor 7−54164
charge exchange, electronic nonequilibrium, kinetic eqns. *(German)* 7−3593
chelate ion exchanger kinetics, equilib. and kinetic data 7−13731
chelate ion exchanger kinetics 7−13730
chemical instabilities, statistical methods, conf., Oaxtepec, Mexico, Jan. 1986 7−24268
chemical reactions, Riemann geometrical formulation of least electronic motion 7−65281
chemical reactivity, potential energy surfaces, LCAO, MO and SCF calcs. 7−17764
coke dust, polydisperse, combustion kinetics 7−13776
electrodynamic thermogravimetric analyzer for aerosol particle kinetics obs. 7−3620
electronic struct. and dynamics, conf., Snowbird, UT, USA (April 1986) 7−55877
excited atom reaction dynamics, charactn. by laser induced fluoresc. 7−46836
ferrous spinel, oxidation kinetics and mechanism, elec. cond., thermogravimetry 7−27326
flames, one-dimensional premixed, wave characts. 7−8279
gas phase reaction kinetics, rapid scanning FTIR time-resolved spectrometry technique 7−48886
group theory of reaction mechanisms, global anal. 7−59743
high-pressure apparatus for chemical reaction rates meas. 7−33913
HTGR severe air ingress accident, graphite/O_2 reaction kinetics for various graphites 7−19415
hydrocarbon fuels, combustion, chem. kinetic modelling 7−54123
hydrocarbons, oxidation, inhibition by phenols, optimisation calcs. 7−46834
macrotransport processes in the presence of bulk andsurface chemical reactions 7−8299
mechanisms, pot. energy surface, symmetry selection rules, transition state theory 7−3573
metal sulphidation kinetics meas., thermobalance apparatus 7−30013
methane, combustion kinetics with Pd, Pt catalysts 7−39894
methane, pyrolysis in plasma jet and behind shock wave, chem. species distrib., calc. and meas. 7−37751
methane and related cpds., combustion and pyrolysis 7−18516
methanol+fulminic acid (acetonitrile oxide), reaction pathway, MNDO SCF calcs. 7−3582
3-methoxybenzanthrone in soln., picosecond spectroscopy of intermolecular proton phototransfer 7−54150
methoxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7−10398
methylhydroxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7−10398
molecular fluid, Brownian motion, diffusion limited kinetics 7−56167
Monte Carlo simulations of reaction kinetics on clusters and islands 7−22977
multidimensional systems, electronically nonadiabatic transitions 7−28302
multiple stationary states, oscillations and macroscopic spatial struct. in far from equilib. systems 7−28280
muonium+benzoic acid derivatives, addition reaction in aq. solns., Hammett free energy 7−15744

reaction kinetics continued

- Nile blue, oxazine dye, luminesc. and H^+ phototransfer in solns. 7−13762
- nitriles, sat., ion form. by dissoc. electron attachment, mechanism 7−42754
- nonequilibrium gas dynamics, chem. kinetics and turbulence 7−1647
- nonferrous metals and carbonates, chemical dissolution under conditions of gas form. 7−46820
- oriented symmetric top mols., reactivity, rot. state depend. 7−46809
- photoconsecutive and photoparallel reactions, kinetics 7−3598
- photoconsecutive reaction, kinetics, search algorithm *(German)* 7−3599
- polybutadiene, sequence distribs., polymerisation kinetics, IR spectra, NMR 7−16444
- polyester resins, polymerisation kinetics, dielectric behaviour anal. *(French)* 7−46847
- polyisoprene, sequence distribs., polymerisation kinetics, IR spectra, NMR 7−16444
- polymerisation kinetics, dielectric behaviour anal. *(French)* 7−46847
- polymerisation kinetics, simulation 7−54122
- polymerisation of monodisperse polystyrene latexes, space-flight dilatometer/reactor development and testing 7−13770
- polystyrene lattices, soln., salt-induced aggregation kinetics, quasielastic light scatt. 7−59796
- polyurethane biomaterials, hydrolytic stability in model biological media, surface morphology changes 7−17673
- potential energy surfaces, bifurcation, reaction dynamics 7−13724
- PTFE, bonding and surface struct., ESCA investigation, electron beam interactions 7−51662
- reacting particles, stochastic clustering and loss kinetics, fluctuations spectrum anal. 7−39851
- reactive species accumulation under irradiation, kinetic theory 7−28318
- semiconductor electrodes, adsorption, review 7−16867
- sigmatropic rearrangement, potential energy surface homology 7−13725
- solid-solution interfaces, transition probability of reactive processes, contrib. of medium phonons 7−54181
- styrene-butadiene-styrene block copolymer, thermoxidative degradation kinetics, fission track study 7−39877
- transition states location using algorithm for ab initio program package Gaussian 82 7−13720
- triaryl-substituted keto/enol pairs, gas-phase ion chemistry, mass spectra 7−13737
- trimethylgallium, photodissoc., laser photolysis/fluoresc. study 7−23046
- trimethylgallium decomposition during CVD, effect of added hydrazine, multiphoton and electron ionisation mass analysis 7−23010
- turbulent nonpremixed series parallel reaction, mixing effect 7−31889
- unimolecular reaction, kinetic data eval. from freq. shifts of IR absorpt. bands 7−33911
- AgO cathode used in AgO/Zn batteries, decomposition kinetics 7−46827
- Al-FeS_2, secondary cell, positive electrode reaction kinetics, AC impedance study 7−8372
- Al_2TiO_5 ceramics, form. by solid state reaction ofAl_2O_3 and TiO_2 powders 7−46385
- $C+H(H^+)$, methane form. kinetics model 7−5745
- C_n, cluster, (n=1 to 25), form. in laser vaporisation source, kinetics 7−5808
- CO catalytic oxidation on Pt (110), kinetic oscillations 7−28346
- CO oxidation on Pt(100), kinetic oscillations, computer simulations 7−23061
- CO^+ + CO + M, where M = CO, Ne and He, association reactions, third-order kinetics, temp. depend. 7−46817
- CO_2+amines, in nonaqueous solvents, reaction kinetics 7−46803
- Cl^-+H_2, reactive collisions, trajectory surface-hopping study 7−3576
- $Cs+H_2$, CsH form. kinetics, rot. distrib. *(French)* 7−13728
- CuH(CuF)(CuCl) and their cations, ab initio calcs. chemical reactivity 7−10400
- $D^+ + H_2(D_2)$ trajectory surface hopping calcs. 7−59747
- DCl + OH (OD), reaction rates, vibr. excitation and isotopic substitution effect 7−22996
- $F+I_2$, reaction dynamics, quasiclassical trajectory studies 7−22998
- Fe clusters+NH_3, reaction kinetics, cluster binding sites and adsorbate binding energies 7−54106
- Fe complex, nucleophilic attack, activation mechanism, EHT and INDO calcs. 7−39847
- Fe, passive, adsorption and absorpt. of Cl^- ions 7−28340
- Fe powder, ultrafine, and hot forged specimens, reduction temp. effect on struct. form. and props. 7−53670
- Fe_2O_3 reactivity, decomposition mechanism depend., reaction vol. and densification meas. 7−28308
- GaAs, VPE growth, reaction mechanisms 7−58693
- H transfer in double minimum potential, kinetic props. and quantum dynamics 7−54104
- $H+H_2$, hemiquantal reaction dynamics with ingoing half-trajectory matching 7−28271
- $H+H_2$, reactive scatt., infinite order sudden approx., discrete variable representation 7−65297
- $H+H_2$ collinear exchange reaction, time depend. arrangement channel quantum mechs. eqns. 7−17780
- $H+N_2O$, hot atom reaction, chem. laser, nonequilib. processes 7−1092
- $H^+ + D_2$, trajectory surface hopping calcs. 7−59747
- H_2 sorption, kinetic models and appls. to H_2-M systems 7−65646
- $H_2^+ + H_2$, H_3^+ form., quasiclassical trajectory surface hopping method 7−59750
- H_2SO_4 and NH_3 reactions for chemical storage of solar energy 7−40048
- $He+H_2^+$ reaction, expt. and quantum mech. results 7−3584
- KrF^* and Kr_2F^*, formation kinetics in He/Ar/Kr/F_2 mixtures *(Chinese)* 7−39892
- Mg_2Ni dehydriding kinetic rates, use as H_2 storage material 7−54363
- MoO_3-WO_3-H_2 system, reduction and alloy form., reaction products dispersion 7−3223
- N_2 on Fe and Re crystals, adsorpt. and dissoc., EHT calcs. 7−56988
- $N_2+He(He_2^+)$, reaction kinetics at atm. press., three-body processes 7−22984
- NH_3 unimolecular dissoc., pot. energy surface, classical trajectory study 7−13745
- N_2H, MCSCF equilib., transition struct. and reaction path determ. 7−8251
- N_2H_2, MCSCF equilib., transition struct. and reaction path determ. 7−8251
- NO^+ + NO, association reactions, third-order kinetics, temp. depend. 7−46817

reaction kinetics continued

- Na_2O-SiO_2 binder solns., ester curing, equilibria and kinetics, NMR study 7−8311
- Ni-Cd cell, electrode kinetics and failure-mode prediction, internal short equiv. resist. estimation 7−54288
- O+ethylene reaction intermediates microwave kinetic spectroscopy 7−13748
- OD-CO_2 chemical laser, energy capabilities study 7−62683
- OH + HCl (DCl), reaction rates, vibr. excitation and isotopic substitution effect 7−22996
- Pb, electrodeposition kinetics, stripping voltammetric technique 7−27949
- PbO adsorbed γ-methacryloxypropyltrimethoxysilane, chem. reaction, Fourier transform IR spectra 7−53308
- Pt,O_2(g)/stabilised ZrO_2 interfaces, electrode reactions, theory 7−65329
- Pt,O_2(g)/stabilised ZrO_2 interfaces, electrode reactions, electrochem anal. 7−65330
- S adsorbed on Pd(111), adsorbate oxidation kinetics *(German)* 7−33953
- SO_2 removal by injected limestone sorbents, graphite element drop-tube reactor design 7−22978
- Si, oxidation, linear regime analysis, film thickness 7−46729
- Si surface, Fe-promoted nitridation, kinetics 7−59698
- SiH_4, pyrolysis on hydrogenated a-Si surface, reaction mechanism and kinetics 7−13739
- SiO_2 films, prod. by low temp. CVD, role of carrier gas in deposition kinetics 7−59452
- SiO_2:Cl films prod. by Si oxidation in Cl containing ambients, impurity distrib. 7−26787
- Sn, electrodeposition kinetics, stripping voltammetric technique 7−27949
- Sn-Pb, electrodeposition kinetics, stripping voltammetric technique 7−27949
- UF_4, fluorination kinetics, catalysts and impurities effect 7−42120
- W, selective LPCVD kinetics 7−17469
- WF_6 reduction for selective LPCVD of W, reaction kinetics 7−16914
- Xe:Cl_n (n=1 or 2) 7−28297
- Xe:HCl, cooperative photoabsorpt. induced charge transfer reaction dynamics 7−28297

reaction kinetics models and mechanisms *see reaction kinetics theory*

reaction kinetics theory

- allyl phenyl ether, photoisomerisation reaction mechanisms, IR multiphoton excitation study 7−62372
- annihilation reactions, spatial and temporal asymptotic behaviour 7−49123
- Belousov-2 Zhabotinsky reaction, induction period, excitability bifurcation 7−65286
- Belousov-Zhabotinskii reaction, Farey triangle 7−65288
- Belousov-Zhabotinskii reaction, Fe^{3+} impurity effect 7−46800
- Belousov-Zhabotinskii reaction, Mn-catalysed, complex periodic oscills., Farey arithmetic anal. 7−39853
- Belousov-Zhabotinskii reaction, O_2 influence, theoretical anal. 7−54080
- Belousov-Zhabotinsky reaction, catalysed, ion induced oscills. 7−65301
- Belousov-Zhabotinsky reaction, oscillating, statistical exptl. study of target patterns *(French)* 7−28279
- benzenoid hydrocarbons, polycyclic, aromatic struct. and reactivity anal. correlated to Iball carcinogenicity indices 7−28275
- chain molecule, 1D, dissoc., vibr. relax., RRKM theory 7−8247
- chain molecule, classical, dissoc., vibr. relax., RRKM theory 7−8248
- chain molecules, 1D, unimolecular reaction dynamics, RRKM theory 7−8246
- chemical oscillators, bifurcation diagram 7−46799
- chemical reactivity, potential energy surfaces, LCAO, MO and SCF calcs. 7−17764
- chloromethane+Cl^-, substitution reaction, mol. dynamics, pot. energy surface, frozen solvent theory calcs. 7−54109
- condensed phase, curve crossing, dissipation, tunnelling and adiabaticity criteria 7−65284
- cyclopropane-1,1-d_2, thermal isomerisation, master eqn. iterative soon., variable successive overrelaxation method 7−33914
- diffusion controlled reactions, Monte Carlo study 7−22994
- diffusion-controlled energy transfer, kinetics, many-particle effects *(Russian)* 7−28282
- diffusion-reaction equation, microscopic selection principle 7−54079
- diffusion-reaction systems, fluctuations, adiabatic elimination of transport modes 7−39855
- extended Brusselator, multiple attractors 7−17777
- fusion, muon catalysed DT, reaction kinetics study, muon-sticking prob. anal. 7−25016
- gas dynamics, rel. to reaction energy threshold *(Russian)* 7−26381
- gaseous swarms, reactive phenomena theory 7−13749
- geminate pair recombination, interaction pot., anisotropic reactivity 7−22986
- Ginzburg-Landau critical regimes, periodic perturbation entrainment 7−3575
- homogeneous chem. system. entropy prod. rate 7−13721
- internal combustion engine, flow field using Lagrangian-Eulerian method *(Chinese)* 7−20813
- isomerisation reactions, phase space bottlenecks, statistical theories 7−65298
- isothermal autocatalytic reactions, singularity theory appl., uncatalysed reaction influence 7−65285
- malonic acid, Belousov-Zhabotinsky reaction, oscillatory states transition 7−17765
- methyl fluoride, proton bound dimer, hydrogen bond energy determ. gas-phase mass spectra anal. 7−28365
- methyl halides, nucleophilic substitution reactions, quantum-mechanical model, HMO calcs. 7−36482
- moving reaction front, precipitation patterns 7−46798
- open reactive systems, centre manifold onset, far-from-equilib. fluctuations scaling, virtual size parameter calcs. 7−35484
- Oregonator model, excitability thresholds, Hopf and SNIPER bifurcations 7−65287
- pattern dynamics and optimization by reaction diffusion systems 7−54078
- periodic systems, sensitivity anal., Floquet theoretic approach 7−39854
- polydienes, sequence distribs., Bernoullian process analysis, non-steady state kinetic method 7−17787
- polydienes, sequence distribs., kinetic treatment of first order Markovian process 7−16443
- random choice method for reactive gas with many chemical species 7−20812
- reaction channel with attractive Coulomb force, threshold continuity theorems 7−10697

reaction kinetics theory continued
reaction-diffusion eqns., semidiscrete approx. asymptotic behaviour 7—39880
reaction-diffusion systems, scaling, renormalization group anal. 7—59744
reaction-limited cluster aggregation kinetics, Smoluchowski eqns. modeling 7—41261
ring dynamics and percolation in an excitable medium 7—28277
solid state electrolyte, δ-transfer and diffusion *(French)* 7—17801
spiral waves in the Belousov-Zhabotinskii reaction 7—8271
static reaction-diffusion structures in folded slow manifold systems 7—22980
steady-state chemical kinetics on fractals, segregation of reactants 7—41295
surface reactions, irreversible, kinetic phase transitions, mean-field theory 7—33962
time delay effects in rate processes 7—39849
two-step chemical reaction, nonequilib. conc., steady state fluctuations and struct. factor 7—13726
Woodward-Hoffman rule, topological explanation 7—57012
Ar, doped with Cl_2, ArCl* and Cl^*_2 formation and excited states anal., mol. fluoresc. study 7—19946
$C_5MnCl_2.2.4NH_3+4.8NH_3$, thermochemical energy storage, kinetic study *(French)* 7—17782
Cl + methyl iodide, excitation function, microcanonical variational transition state theory 7—22995
Cl^-+chloromethane, substitution reaction, solvent effects nonadiabatic solvation, frozen solvent model study 7—54110
Co catalysed oxidation of Co, Si, and CoSi surfaces 7—46865
H_2-F_2-HF gaseous mixture, light initiated chain reaction, stimulated light scatt. study 7—62778
H_2-O_2-Ar mixture, reflected-shock flowfield calcs., random choice method appl. 7—20812
$H_3AsO_3+IO_3^-$, stirring effects and bistability, coalescence-dispersion model 7—46801
$I^-+ClO_2^-$, oscillatory reaction, stirring and premixing effects 7—28278
Li^++dimethyl ether, assoc., rate consts. pot. energy surface, canonical variational transition states theory 7—54108
$MnCO_3$, decomp. to Mn_3O_4, kinetic evol. for laser/thermal prep. 7—39870

reaction rate coefficients *see reaction rate constants*

reaction rate constants
actinides, aq. soln., reaction rate consts. of radiation-produced transients 7—60903
alkyl nitrides, conformational kinetics calcs., gas and liquid phases, MR spectra 7—19896
allyl phenyl ether, photoisomerisation reaction mechanisms, IR multiphoton excitation study 7—62372
ascorbic acid radical anion, Ca^{2+} exchange, ESR line broadening meas. of rate const. 7—28270
aziridine, bond inversion rate determ., PMR line shape anal. 7—19892
azomethine derivatives, kinetic data eval. from freq. shifts of IR absorpt. bands 7—33911
benzene, in liq. isopentane soln., quantum tunnelling of muonium reactions 7—50414
benzene, vibr. energy transfer, IR-UV double reson. 7—10718
benzenoid hydrocarbons, polycyclic, aromatic struct. and reactivity anal. correlated to Iball carcinogenicity indices 7—28275
1,3-butadiene+HCl, addition, internal excitation effect, rate const. meas. 7—17761
butane radical, absorpt. cross section and reaction rate consts. meas. using molecular modulation spectrometry 7—22997
ditert.-butyl malonate in dioxane-water media, acid-catalysed hydrolysis, kinetic and mechanistic studies 7—39884
t-butyl nitric oxide, singlet and triplet surfaces, unimol. reactions, spectroscopy, rate meas. 7—28300
chain molecule, 1D, dissoc., vibr. relax., RRKM theory 7—8247
chain molecules, 1D, unimolecular reaction dynamics, RRKM theory 7—8246
chelate ion exchanger kinetics, equilib. and kinetic data 7—13731
chemical reaction and charge-transfer processes, RIOSA quantum-mechanical study. 7—31159
chemically anisotropic molecules, reaction rates, orientation relax. 7—65303
chlorodifluoromethane photolysis, difluoromethyl IR spectra anal. 7—19836
$(CO_2)_n^+$ (n=2 to 4), cluster ion decay kinetics, mol. beam spectroscopy 7—13735
cobaltocene, gaseous, self-exchange electron-transfer kinetics, Franck-Condon barriers 7—36745
combustion research, using Harris Super minicomputer 7—33912
continuous IR laser excitation, chem. kinetics appl. 7—65310
cyclobutenediylic dyes, electron transfer rate consts. and fluoresc. lifetime determ. 7—25587
1,3-cyclohexadiene, anionic homoaromaticity. gas-phase acidity meas. 7—17762
cyclohexene, anionic homoaromaticity. gas-phase acidity meas. 7—17762
cyclooctadienes, anionic homoaromaticity. gas-phase acidity meas. 7—17762
cyclooctene, anionic homoaromaticity. gas-phase acidity meas. 7—17762
cytochrome c, electron transfer rate meas. 7—5760
diacetylene +O, rate const. meas., flash photolysis-reson. fluoresc. method 7—8263
diatomic molecules in flows with convective and diffusive particle transport, nonequilib. dissoc. 7—20811
diethyl fumarate, polymerisation rates at high pressures 7—39889
diffusion-controlled reactions among static reactive sinks, conc. depend. 7—39868
difluoromethyl diradical, form. obs., dimerisation rate const. determ. 7—28291
dilute gases, chem. reaction rate, viscous flow and thermal flux effect calcs. 7—28268
dual temperature thermal storage with complex compounds 7—65620
enzymatic reaction kinetics, rate const. calc. 7—59741
trans-ethyl cinnamate, polymerisation rates at high pressures 7—39889
ethyl radical, absorpt. cross section and reaction rate consts. meas. using molecular modulation spectrometry 7—22997
ethylene, chemisorption and decomposition on Ni (100) 7—59785
ferrocene, gaseous, self-exchange electron-transfer kinetics, Franck-Condon barriers 7—36745
flame propagation, unsteady and ID, mathematical anal. 7—57944

reaction rate constants continued
formaldehyde radical + formaldehyde radical, absorpt. cross section and rate const. determ. 7—28269
gas dynamics, rel. to reaction energy threshold *(Russian)* 7—26381
haeme proteins, ligand binding and electron transfer rates, spin-boson models 7—13952
hexamethylbenzene, proton transfer, high press. mass spectroscopy 7—54083
hydrocarbon fuels, combustion, chem. kinetic modelling 7—54123
hydroxymethyl radical, oxidation kinetics, phosphoresc., time depend. rate const. 7—10648
interstellar ion-polar neutral reactions, chemical models 7—48032
ion+molecule reaction rates at low temp. 7—23006
ion-molecule reaction rate determination meas. technique description 7—54076
iso-propyl radicals, radiolysis rate const. determ., UV absorpt, spectra 7—46860
iso-propylperoxy radicals, radiolysis rate const. determ., UV absorpt. spectra 7—46860
manganocene, gaseous, self-exchange electron-transfer kinetics, Franck-Condon barriers 7—36745
mesitylene, proton transfer, high press. mass spectroscopy 7—54083
metalloporphyrin polystyrene covalent complex, electron transfer reaction 7—39879
metalloporphyrins, electron transfer rate meas. 7—5760
methane, combustion kinetics with Pd, Pt catalysts 7—39894
methanol+OH, rate coeff. determ., flow tube temp. effect 7—59740
methyl cation+H_2 radiative assoc. rate 7—3585
methyl fluoride, proton bound dimer, hydrogen bond energy determ. gas-phase mass spectra anal. 7—28365
methyl halides, nucleophilic substitution reactions, quantum-mechanical model, HMO calcs. 7—36482
methyl ion+$H_2 \rightarrow CH_5^+ + h\nu$, rate coeffs. rel. to role of electronic transitions in radiative assoc. processes 7—66714
methyl radical+H(D), rate const. determ., laser photolysis and reson. fluoresc. 7—8250
methyl thiyl radical+$NO(NO_2)(O_2)$, reaction rate consts., mol. fluoresc. anal. 7—19917
2-methylaziridine, bond inversion rate determ., PMR line shape anal. 7—19892
3- methylcyclobutane in gas phase, photolysis and sensitised decompositions 7—23040
methyldioxy radical self-reaction, rate constant, flash photolysis and UV spectral study 7—54075
molecular dynamics of the A+BC reaction in rare gas solution 7—28273
multiple activation processes, graphical anal. 7—3574
muonium+aromatic cpds., reaction rate consts. 7—50415
muonium+diatomic molecule, gas-phase reaction dynamics 7—54092
muonium+ethylene, reaction, on amorphous SiO_2 7—54166
nitroaromatic radical anions in aqs. solns., electron transfer kinetics, temp. and steric configuration effect 7—39872
nitrobenzenes para-substituted, solvated anion radicals reaction kinetics in liq. NH_3, ESR spectra anal. 7—19907
non-Arrhenius rate constants involving diffusion and reaction 7—46797
OH radical dynamics in pulse radiolysis of Ar sensitised water vapour 7—8292
organic crystals, chem. transformations, phase transition effects *(Russian)* 7—28309
organosulphur compounds, atm. photooxidation rates 7—54113
pentamethylbenzene, proton transfer, high press. mass spectroscopy 7—54083
perfluorobenzene, electron transfer reaction kinetics, binding energy role 7—22989
perfluoromethylcyclohexane, electron transfer reaction kinetics, binding energy role 7—22989
peroxynitrate formation rate in stratosphere, $CFCl_2O_2 + NO_2$ reaction kinetics 7—23802
phenanthrene in methanol glasses, phosphoresc. quenching, time-depend rate const. 7—10648
α-phenyl-N-tert-butyl nitrone+O_2, solvent effect and temp. depend., luminesc. kinetics meas. 7—54130
photosynthetic bacteria reaction centre, electron transfer mechanism 7—23315
photosynthetic bacteria reaction centres, recomb. kinetics, electric field depend. 7—47017
polymer film deposition, electron beam induced polymerisation 7—27898
polymers, plasma oxidation, rates and mechanisms 7—23065
o-positronium, quenching reactions, solvent dielec. const. role 7—54077
o-positronium diffusion controlled quenching reactions, influence of solvent dielec. constant 7—39852
quinones, electron-transfer reactions, kinetic ESR spectra, computer simulation 7—25568
ruthenocene, gaseous, self-exchange electron-transfer kinetics, Franck-Condon barriers 7—36745
sensitised organic reactions, IR-laser induced, vibr. energy transfer rate control 7—65336
sonochemically enhanced Ullmann reactions 7—50903
spectroscopy, stopped-flow, first-order rate consts. and dead time determs. 7—48853
1,2,3,5-tetramethylbenzene, proton transfer, high press. mass spectroscopy 7—54083
tetramethyldioxetane in free jet expansion, overtone vibr. initiated unimol. reaction, RRKM theory 7—28299
thermonuclear reaction rates, resonant and nonresonant 7—25017
trichlorofluoromethane, IR photochemical reaction, rate coeff. 7—23037
trifluoromethyl radical+O_2, rate const. meas., laser photolysis and time-resolved mass spectrometry 7—8249
unimolecular reaction, kinetic data eval. from freq. shifts of IR absorpt. bands 7—33911
vinylacetylene, thermal decomp. in shock waves, rate const. 7—17772
vinylidene + $He(Ar)(N_2)(H_2)(CO)$(methane), collisional quenching, rate consts., time resolved spectra 7—31104
vitamins, electron-transfer reactions, kinetic ESR spectra, computer simulation 7—25568
$AlCl+CO_2$, rate coefficient meas., HT FFR kinetics study 7—46793
$Ar^+ + H_2$, chemical reaction and charge-transfer processes, RIOSA quantum-mechanical study. 7—31159
$C^+ + H_2(D_2)$, rate const. determ. 7—17774
$CH+H_2$, rate const. meas., fluoresc. detect. 7—17763
CN, generation by photolysis of NCNO, removal by H_2, HCl and HBr, fluoresc. 7—46812

reaction rate constants continued

- $CO^+ + CO + M$, where $M = CO$, Ne and He, association reactions, third-order kinetics, temp. depend. 7−46817
- $Ca(OH)_2 2Zn(OH)_2 2H_2O$, chem. comp., solubility in KOH, thermodynamic props., reaction equilib. const. 7−26962
- $ClO+ClO$ reaction kinetics, implications for Antarctic O_3 7−54090
- $ClONO_2+HCl$, homogeneous and heterogeneous components, kinetics, implications for stratosphere chem. 7−54091
- $ClONO_2+HCl(H_2O)$, kinetics, implications for stratospheric O_3 7−54089
- Co catalysed oxidation of Co, Si and CoSi surfaces 7−46865
- Cu surface, interaction with Cl_2 7−21642
- Fe cathode surface, plasma nitriding, N conc. profile modelling 7−54188
- Fe clusters$+NH_3$, reaction kinetics, cluster binding sites and adsorbate binding energies 7−54106
- $Fe_{3-\delta}O_4$, diffusion-controlled form. during reactions, defects effects 7−17768
- GaAs epitaxial nucleation and growth kinetics, substrate orientation depend., numerical anal. 7−64020
- $H+F_2(Cl_2)$, kinetic isotope effects, dynamics calcs. 7−54098
- $H+H_2$, collision theory thermal rate consts., on SLTH pot. surface 7−54085
- $H+HO_2$, abstraction reaction, saddle point geometries and barrier heights, ab initio SDCI calcs. 7−46806
- H_2-F_2-HF gaseous mixture, light initiated chain reaction, stimulated light scatt. study 7−62778
- HCl-Kr, mixture, vibr. relax., rate const. meas. 7−15687
- HCl-Xe, mixture, vibr. relax., rate const. meas. 7−15687
- HO_2+HO_2, rate constant, flash photolysis and UV spectral study 7−54075
- HO_2+methyldioxy radical, rate constant, flash photolysis and UV spectral study 7−54075
- HO_2+O_3, reaction rate const. meas. by photofragment fluoresc. detect. 7−22990
- H_2O, dissoc. and ion pair form., rate consts., computer simulation 7−28294
- H_2SO_4, kinetics of heterogeneous reactions for chemical storage of energy 7−23229
- $HSiCl+SiH_4(SiH_2Cl_2)$, insertion reaction rate const. meas., laser-excited fluoresc. detect. 7−46813
- $He+H_2{}^+$, reaction, quantum infinite order sudden approx. 7−54097
- $He^+ + H_2(D_2)$, rate const. determ. 7−17774
- $He_2{}^+ + Ne(N_2)(CO_2)$, charge transfer reaction rate consts. 7−22983
- $He(2^3X)$, metastable state, reactivity, rate coeff. determ., fluoresc. 7−19760
- $He_2(a^3\Sigma_u)$, metastable state, reactivity, rate coeff. determ., fluoresc. 7−19760
- $(Ir(H_2O)_6)^{3+}$, substitution inertness, rate const. meas. 7−59742
- $Li/SOCl_2$ cell, corrosion, calorimetric study 7−46929
- Li^++dimethyl ether, assoc., rate consts. pot. energy surface, canonical variational transition states theory 7−54108
- methyl+H→methane, ab initio pot. energy surfaces, channel model calcs. 7−28276
- $Mu+F_2(Cl_2)$, kinetic isotope effects, dynamics calcs. 7−54098
- $Mu+H_2(D_2)$ reaction, rate consts., 480 to 675K 7−50412
- Mu+hydrocarbons, chem. dynamics in liq. phase 7−54093
- $N^{3+}+H_2$, electron transfer rate const. calc. 7−33917
- $2N_2+N_2{}^+$ $(NO^+)(O_2{}^+)$, assoc., temp. depend. 7−13742
- $N_2+O \rightarrow NO+N$, reaction rate const., vibr. excitation effect, information theory approx. 7−46832
- $N_2{}^+ + 2N_2$, assoc., temp. depend. 7−13742
- $N_2{}^+ + O_2$, charge exchange reaction in temp. range 8 to 163 K, rate coeff. meas. 7−46810
- $NH+NO(NO_2)$, reaction rate consts. 7−3578
- NH_3, kinetics of heterogeneous reactions for chemical storage of energy 7−23229
- $NO^+ + NO$, association reactions, third-order kinetics, temp. depend. 7−46817
- $NO+NO_2 \rightleftharpoons N_2O_3$, kinetic meas., time-resolved IR laser absorpt. 7−17771
- $NO+O_3$, chemically reacting mixing layer struct., conc. field meas., entrainment and mixing anal. 7−44006
- NO_3+dimethyl sulphide, reaction rate coeff. meas. 7−22987
- N_2O+Na, gas phase kinetics, rate const. determ. 7−28272
- N_2O+NaO, gas phase kinetics, rate const. determ. 7−28272
- $NaO+O_2(CO_2)$, assoc. reactions with third body He, N_2 or N_2O, kinetics, atm. appl. 7−59748
- $Ne^+ + H_2(D_2)$, rate const. determ. 7−17774
- Ni-Fe (100) surface, break-up of oxide films by S_2 impingement, LEED and AES meas. 7−46260
- $No^+ + 2N_2$, assoc., temp. depend. 7−13742
- $O+CH^{\cdot}$, exothermic reactions, rate consts., classical trajectory study 7−17783
- O+formaldehyde, rate const. meas., laser-induced fluoresc., time-resolved detect. 7−46815
- O+HD reaction probabilities and rate consts. ab initio pot. energy surface 7−65295
- O+HD reaction rates, variational transition state theory 7−59749
- $O+NO_2$ (ClO) stratospheric reactions, rate const. meas. 7−8265
- $O+SF_5(SF_2)(SOF)$, gas-phase reaction rel. to plasma processing 7−3586
- O+unsaturated hydrocarbon, relative rate consts. at room temp. 7−28283
- O_2, glow discharge, metastable at. and mol. processes 7−16342
- O_2, photodissociation rate consts., stratospheric meas. 7−55260
- $O_2+B(BO)$, gas-phase oxidation, rate consts., fluoresc. and chemilumines. study 7−22985
- O_2+K, $O_2{}^-$ ion form., rate consts. 7−33926
- $O_2+SF_5(SF_2)(SOF)$, gas-phase reaction rel. to plasma processing 7−3586
- $O_2{}^+ + 2O_2(2N_2)$ assoc., temp. depend. 7−13742
- $O_2{}^+$+methane-$d_0(d_1)(d_2)(d_3)(d_4)$, reaction rate coeff. and product distrib. meas., isotope effect 7−13741
- O_3 sonolysis in aq. soln., reaction rate 7−13756
- O_3+Na, gas phase kinetics, rate const. determ. 7−28272
- O_3+NaO, gas phase kinetics, rate const. determ. 7−28272
- OH + HCl (DCl), reaction rates, vibr. excitation and isotopic substitution effect 7−22996
- OH+CO, reaction kinetics at atmospheric conditions 7−40529
- $OH+H_2(N_2O)$(hydrocarbons), collisional quenching of OH, rate const. meas. 7−10654
- SF_6, electron transfer reaction kinetics, binding energy role 7−22989
- SOF_2, gas-phase hydrolysis, reaction rate consts. 7−13744
- SOF_4, gas-phase hydrolysis, reaction rate consts. 7−13744

reaction rate constants continued

- βSiC single cryst., wet and dry oxidation kinetics and interface characts. 7−13674
- SiH_4 pyrolysis rates, modelling of CVD 7−64911
- SiH_4+Hg, SiH_4 decomposition by $Hg(6^3P_1)$ photosensitisation 7−54149
- U, reaction rate with water vapour, 30–80 °C 7−42119
- $UO_2{}^{2+} + 2RH \rightleftharpoons R_2UO_2 + 2H^+$, ion exchange equilibria and kinetics 7−25071

reactions (chemical) *see chemical reactions*

reactions (nuclear) *see nuclear reactions and scattering*

reactive ion etching *see sputter etching*

reactive sputter deposition *see sputter deposition*

reactive sputter etching *see sputter etching*

reactive sputtering *see sputtering*

reactively sputtered coatings *see sputtered coatings*

reactors (nuclear) *see fission reactors*

Read diodes *see IMPATT diodes*

readout, digital *see digital readout*

real time computer systems *see real-time systems*

real-time systems

- *see also online operation*
- cardiac action potentials and twitches, real time acquisition and analysis 7−65737
- cardiovascular models for real time applications 7−34094
- computer animation of human walking, real-time, for pathological gait evaluation 7−28569
- flight simulation, vestibular and visual perception cues, coordination 7−14011
- fringe contrast meas., stellar interferometry 7−29402
- NDT by real-time holographic interferometry 7−28239
- oceanographic current meas. for real-time appls. 7−9273
- QRS complex detection under strong noise, medical appl. 7−47266
- reactor simulation for operator training, use of computer graphics 7−55940
- SAF: a sophisticated engineering simulator mainly devoted to emergency guidelines testing and crisis situation analysis 7−62056
- signal processing VIII, conf., San Diego, CA, USA (Aug. 1985) 7−24276
- software for real-time acoustic remote sensing instrumentation and atmospheric pollution control 7−54403

rearrangement (molecular) *see isomerisation*

reboilers *see boilers*

receivers

- *see also acoustic receivers; radio receivers; television receivers*
- heterodyne optical communication, receiver performance 7−20469
- microwave receiver, W-band, for electron temperature meas. in Tokamak TJ-1 7−44241
- NMR imaging of breasts, receiver coil 7−65831
- three channel cochlear neuroprosthesis for the deaf, implantable receiver/portable transmitter config. 7−8765
- transimpedance measurement receivers for modulated optical power in optical fibre systems 7−50785

receiving antennas

- 1.5K cryogenerator for use with SIS detectors 7−30023
- EM subsurface radar using transient field radiated by wire antenna 7−23866
- low-cost satellite image reception and analysis facility 7−66305
- optical lens systems, antennas explanation *(German)* 7−20381
- radioastronomy principles (book) 7−35140
- submillimetre spectroscopy and appls. conf., Cannes, France (Dec. 1985) 7−29585

recombination, electron-hole *see electron-hole recombination*

recombination, ion *see ion recombination*

reconnaissance satellites *see artificial satellites*

record players *see gramophones*

recorders

- digital magnetic recorders, raising recording density 7−41365
- ferroelectric hysteresis loop tracer, automatic 7−4865
- particle beam fusion accelerator II (PBFA II) data acquisition system with waveform recorders 7−30753
- zenith angle transducers in deviation recorders, accuracy *(Russian)* 7−34707

recording instruments *see recorders*

recovery

- *see also recovery-creep*
- anthracene single crysts., structural imperfections as triplet exciton traps, defect recovery 7−64160
- dislocation structure, low energy, props. and effects 7−63622
- ethylene-hexene copolymer, creep and recovery in small uniaxial deform. region 7−13527
- Inconel 600, recovery kinetics, X-ray determ. 7−22722
- polyaminobismaleimide resin, dynamic recovery and embrittlement 7−38108
- polyethylene, linear high density, creep and recovery in small uniaxial deform. region 7−13527
- shape memory alloys, mech. props., polycrystal model *(Japanese)* 7−53789
- Si-Al Schottky barriers, Ar ion implantation damage, thermal anneal recovery 7−17101
- steel, austenitic stainless, softening mechanism in hot working 7−3333
- steel, Cr, ferritic, neutron irrad., isochronal annealing, elec. resist. recovery 7−58348
- steel, Cr-Ni-Ti-Al, cold-prestrained, length changes during annealing 7−65058
- steel, duplex stainless, decomp. of deformed ferrite, TEM obs. 7−28091
- steel, stainless, neutron irradiation effects on mech. props., damage and yield stress 7−51865
- time depend. plasticity theory, stress relax., creep, plastic flow 7−43703
- AgBr-AgI crystals, strain-ageing 7−6627
- AgCl, strain ageing, temp. depend. 7−65065
- Al, deformed, acoustic emission on heating 7−51958
- Al-Cu, directionally crystallised, crystallographic texture transform. during wear 7−17660
- Al-Cu-Mg, hot workability, recrystallisation during torsional deform. *(Korean)* 7−46559
- Al-Cu-Mg-Al_2O_3-Al_4C_3, IN 9021, mechanically alloyed precip. hardened, tensile behaviour 7−13525

recovery continued
Al-Hf dilute quenched cold-worked alloys, vacancy migration recovery processes, PAC and positron annihilation studies 7—39545
Al-Mg (0.2 wt.%), subgrain growth rel. to prior cold work and annealing temp. 7—17551
Al_3Ni-Al eutectic alloy, Bauschinger effect, influence of Al_3Ni dispersion state *(Japanese)* 7—22761
BeO, beryllia, polycrystalline ceramics, spall strength, plate impact meas., spall zone model calcs. 7—33797
Co, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7—59575
CsI:Tl, γ-ray radiation damage, recovery 7—63657
Cu, dynamic softening during deform. at high temps. and strain rates 7—33690
Cu, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7—59575
Cu-Al bronze, hot deform. and annealing, mechanical props. and softening kinetics 7—17552
Cu-Al-Mn, thermoelastic martensite form., effect of thermal and stress cycling 7—22680
Cu_3Au, electron irradiation, long range ordering, recovery, vacancy migration and clustering, positron lifetime study 7—39543
Cu_3Au, irradiation disordering and reordering by fusion neutrons, electrical resistivity meas. 7—51864
CuPd, disordering by 14 MeV Cu ions between 296 and 823 K 7—51877
α-Fe, electron irradiated, residual resistivity recovery and mag. after-effect 7—27570
Fe, neutron irradiation effects on mech. props., damage and yield stress 7—51865
Fe, rolling texture, effect of parity 7—59548
GaAs-AlGaAs heterojunctions, Be^+, O^+ ion implantation, impurity profiles, elec. characts. meas., SIMS, annealing 7—12813
Ge ⟨111⟩, dynamical recovery 7—13475
Mg, high purity polycrysts., creep behaviour, recovery, and stress exponent determ. 7—26840
Mo, polycrysts., dynamic recovery during rapid dumping of energy from pulsed laser *(Russian)* 7—32495
Mo single cryst., rolling, dynamic recovery rel. to deform. temp. *(Russian)* 7—65095
Mo, single crystals, rolling, rel. between dynamic recovery and changes in orientation *(Russian)* 7—53759
Ni, dynamically deform., polygonisation, recrystallisation *(Russian)* 7—46504
Ni, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7—59575
Ni-B, implanted, mech. props., disorder and amorphicity 7—53819
Ni-CO, limitations of dynamic recovery as revealed by temp. change tests at large strains 7—22723
Ni-P, implanted, mech. props., disorder and amorphicity 7—53819
Ni_2Cr, recrystn. kinetics and mech. props., influence of P 7—22718
Pb-Sn solder, deform. props. 7—46590
Si, Czochralski grown, tensile props., 900-1200°C 7—51922
Si:O, Czochralski grown, exigent-accommodation-volume factor associated with O precipitation 7—32670
Ta, Ne implanted, annealing behaviour of H traps 7—46506
β-$TbH(D)_{1.9+x}$, defect study 7—37971
Ti alloy, heat cycling regimes and effects 7—8028
Ti-Al-V (6,4 wt.%), α morphology rel. to thermomech. treatment 7—46520
TiNi alloy, shape memory and reversibility effects, deform. effects *(Russian)* 7—13508
Zr, doped with O, mech. props. and elec. resist. at 4.2 K influence of annealing *(French)* 7—59554
Zr, neutron irradiated, solute effects on damage production and recovery 7—51861
Zr-Ti (Sn)(Dy)(Au), neutron irradiated, solute effects on damage production and recovery 7—51861
Zr-Ti(Sn)(Au), low temp. damage prod. and recovery after fusion neutron irradiation 7—51862

recovery-creep
dislocation network model of recovery-controlled creep 7—2022
PMMA, two-stage deform. recovery, annealing study under dimensional constraint 7—32554
polycarbonate, two-stage deform. recovery, annealing study under dimensional constraint 7—32554
polystyrene, two-stage deform. recovery, annealing study under dimensional constraint 7—32554
steel, Cr-Mo-V, rotor, high temp. creep, prior austenite grain size effect 7—53828
Al alloy, high temp. creep, role of surface layer in power law breakdown 7—65089
Al-Ag alloys, isothermal ageing, hardness and creep behaviour 7—8068
Cd, polycrystalline, work-hardening and recovery during steady-state creep 7—63734
CoO, subgrain size after creep 7—39603

recrystallisation
microstructural processes and features only
see also recrystallisation annealing; recrystallisation texture
Al-Zn-Mg-Cu, impact toughness improvement by intermediate thermomech. treatment 7—53907
α-brass, hot rolled, recrystallized microstruct., deform. processes 7—13500
CMOS/SOI devices, laser recrystallisation 7—8014
dielectromagnetics for AC machine magnetic circuits 7—22725
1-difluoronitroacetyl-2,2-dimethylhydrazine, cryst. and mol. struct., X-ray diffr. anal. 7—26735
electron beam annealing, pseudo-line, thermal anal., 2D finite element method *(Japanese)* 7—32507
films, oriented crystalline, on amorphous substrates, prep. by zone melting recrystallisation and surface-energy-driven grain growth 7—38385
incubation and completion times, estimation 7—59547
laser materials processing developments at GEC Hirst Research Centre (UK) 7—53581
mercury carboxylates, thermotropic phase transition temps. and heats of phase changes 7—2155
Mg-Al alloys, precipitation and recrystallisation rates under small external stress 7—17532
plasma limiter materials, operating performance, plasma-induced degradation 7—26818
polyphenylene sulphide coatings, internal struct., curing effect 7—22861
SOI, conf., Boston, MA, USA (Dec. 1985) 7—35101

recrystallisation continued
SOI, films lamp zone melting recrystallisation, effect of plasma nitrided SiO_2 encapsulent 7—38391
SOI films, lamp zone melting recrystallisation, liquid-solid interface 7—38419
SOI films, twin stabilised planar growth 7—38392
SOI films, zone melting recrystallisation, subboundary structure 7—38388
SOI films, zone-melting recrystallisation, capping techniques 7—38390
SOI films scan-melted at low velocities, subboundary misalignment 7—38387
SOI heterostructure technology 7—38750
SOI technology by zone-melting recrystn. on quartz substrates 7—21736
steel, austenitic stainless, Mo and/or N alloyed, recrystn. after hot working 7—3326
steel, austenitic stainless, Mo-N alloyed, static recrystn. and hot ductility 7—3327
steel, austenitic stainless, softening mechanism in hot working 7—3333
steel, C, dislocation structure, rolling temp. effects *(Russian)* 7—44552
steel, Cr, austenitisation, recrystallisation, pearlite transform. rel. to hot deform. 7—28033
steel, eutectoid, phase rot., effect of recrystn. processes during heat deform. *(Russian)* 7—53760
steel, hot working of austenite, transition from multiple- to single-peak recrystn. 7—65057
steel, low C, dynamic recrystn., transition of flow behaviour 7—53756
steel, medium and high C, coalescence recrystallisation, cementite particles effect 7—46515
steel, microalloyed, hot ductility rel. to grain size and precip. 7—28088
steel, Si, recrystallised grain growth, 650 to 850°C 7—46509
steel, stainless, cold rolled sheet, struct. form. during recrystn., optimum heat treatment schedule 7—3340
steel, structural heredity in heat cycling 7—33703
steel sheet, low C, Al-killed, cold-rolled, batch-annealed, recrystn. model for controlling mech. props. 7—13474
steels, microalloyed, high strength, phys. metallurgy and appls. 7—65066
superalloy single crystals, directional solidification, mech. anisotropy, fatigue, creep 7—3293
Ag, polycrystalline film, recrystallisation under thermal stress *(Russian)* 7—58702
Ag, sputtering yield, weight loss method studies 7—59340
Al and alloys, dynamic restoration during hot rolling 7—22724
Al, deformed, acoustic emission on heating 7—51958
Al recrystallisation, cryst. boundary stresses, synchrotron X-ray topography study 7—26684
Al, repeated cold rolling effect on recrystn. Vickers hardness obs. 7—59543
Al-Cu-Li, 2020, low-cycle fatigue, effect of environment and temp. 7—28117
Al-Cu-Mg, hot workability, recrystallisation during torsional deform. *(Korean)* 7—46559
Al-Cu-Mg-Al_2O_3-Al_4C_3, IN 9021, mechanically alloyed precip. hardened, tensile behaviour 7—13525
Al-Zn-Mg-Cu alloy, microalloying effect on struct. and mech. props. 7—53755
$Ba(NO_2)_2$, cryst. struct., X-ray diffr. study 7—32411
α-brass, hot rolled, recrystallized microstruct., deform. processes 7—13500
$Ca_2Nd_8(SiO_4)_6O_2$:Cm ceramic simulated nuclear waste forms, radiation effects on microstruct. and fracture props. 7—58373
Cr films, thin polycrystalline sputtered, oxidation by CW CO_2 laser irradiation 7—13642
Cu alloys, high-strength, rad.-enhanced recrystn. 7—51871
Cu alloys, neutron damage microstructs. 7—58347
Cu, dynamic softening during deform. at high temps. and strain rates 7—33690
Cu, isoaxial bicrysts, with ⟨001⟩ tilt boundaries, dynamic recrystn., effect of grain boundaries 7—17549
Cu single crysts., low temp. recrystallisation characts. *(Russian)* 7—17546
Cu, sputtering yield, weight loss method studies 7—59340
Cu, steady state deform. 7—21334
Cu-Al, dynamic recrystallisation, grain boundary bulging 7—39540
Cu-Al bronze, hot deform. and annealing, mechanical props. and softening kinetics 7—17552
Cu-Ni, dynamic recrystallisation, grain boundary bulging 7—39540
Cu-Sn-B(Mg)(P), ductility at high temp., alloying additions effect *(Japanese)* 7—13515
Cu-Sn-Pb system, struct. form. during sintering 7—64967
Cu-Zr amorphous alloy, induced recrystallisation by electron and laser beam irradiation 7—12152
CuAu, ordering and recrystallisation, TEM studies *(Russian)* 7—16479
Fe, hot deformed, metadynamic recrystn. 7—3335
Fe-Ni, austenite form. during continuous heating *(Russian)* 7—17557
Fe-Si, electrical steels and alloys, conf., Vladimir, USSR (Dec. 1984) 7—9576
Fe-Si (3 wt.%), microstructure, change in stereological characteristics on secondary recrystallisation 7—13468
Fe-Si-B, normalising, decarburisation, secondary recrystallisation, mag. induction obs. 7—8020
$Fe_{40}Ni_{40}B_{20}$, amorphous, positron annihilation studies 7—45859
GaAs, epitaxial layers, grown in temp.-gradient field, effects on dislocation density 7—13393
GaAs films on oxidised Si, zone melting recrystallisation 7—38396
LaB_6 dispersed powders and compact specimens, struct. and morphology 7—64976
$LiTaO_3$ single crysts., synthesis and recrystallisation under hydrothermal conditions 7—3157
Mg_2SiO_4, fosterite-based ceramic with BaO addition, synthesis, sintering, struct. and props. 7—46397
Mo, recrystallised, microstruct. and creep charact. *(Russian)* 7—39600
Mo, single cryst., recrystallised after hydraulic extrusion, wide-angle boundaries of anomalous grain 7—44563
Ni powder, ultradisperse, recrystallisation inhibition at high press. *(Russian)* 7—59481
Ni single crysts., low temp. recrystallisation characts. *(Russian)* 7—17546
Ni thin strips, cryst. growth 7—53580
Ni ultradisperse powders, recrystallisation induced dilatation effect 7—39537
Ni-base superalloys and intermetallics, rapidly solidified, mech. props. 7—22839
Ni-Cr superalloy, heat-resistant, heat treatment effect on ductile props. in cold deform. 7—46584

recrystallisation continued
Ni-Cr superalloy, high-temp. material, microstruct. and mech. props. with high-temp. heating 7−3341
Ni-Ta amorphous alloy, struct. changes and crystallization during heating *(Russian)* 7−16419
PLZT ceramics, hot pressed, chemically induced grain boundary migration and recrystallisation 7−27027
Pb-Sn (2 wt.%), high temp. fatigue, dynamic recrystallisation 7−39667
Pd-H system, phase form., process *(Russian)* 7−33640
Si films, laser-induced melting and recrystn., heat transfer algorithm 7−21269
Si on insulating substrates, zone melting recrystallisation 7−2414
Si, polycrystalline film SOI structures, recrystn. by laser irradiation 7−32856
Si, polycrystalline films, laser-recrystallized, grain boundary location using antireflection cap 7−46312
Si SOI structures, polycrystalline Si films, seeding laser recrystn. 7−58706
Si, selective epitaxial growth by reduced press. CVD 7−53625
Si:Al(In), recrystallisation by pulsed electron beam, impurity profiles 7−16605
Si:As on sapphire, ion beam recrystallised and laser annealed, elec. props. 7−16649
Si:B, ion implanted, transient annealing and residual defect DLTS study *(Chinese)* 7−12642
Si-on-fused-SiO_2, cryst. quality improvement by zone melting recrystn. *(Japanese)* 7−33553
Si-Si_3N_4 and Si-Si_3N_4-SiO_2 SOI structures, laser recrystallisation, effects of different capping layers, characterisation 7−45511
Si-SiO_2 structures, prod. by recrystallisation, subgrain boundaries, barrier effects 7−52305
Si_3N_4, deposition in $SiCl_4$-H_2-O_2-N_2 system, dimensional effects 7−64910
SiO_x, deposition in $SiCl_4$-H_2-O_2-N_2 system, dimensional effects 7−64910
Te crystalline thin films, laser-induced transform., transient conductance and optical meas. 7−12142
Te-based thin films, crystn. rate, thermal stability, erasable optical recording appl. 7−37069
Ti alloy, heat cycling regimes and effects 7−8028
Ti, heat treated, softening, in situ HVEM obs. 7−17548
Ti polycrystalline films, electron beam bombardment, recrystallisation, oxidation and phase transforms. 7−21746
Ti-Al-Mo-V-Cr alloy VT22, metallographic study of β-solid soln. decomp. 7−39523
Ti-Si interface, nucleation and growth of $TiSi_2$, influence of O_2 7−21541
TiAl, deform. at high temp., flow and brittle fracture stress *(Japanese)* 7−13516
Ti_3Al, struct., phase comp. rel. to crystallisation rate and heat treatment 7−46442
TiC-Ni-Mo sintered carbides, struct. and physicomech. props. 7−3256
Tl_xSe_{100-x} glasses, glass transition, melting, recrystallisation, elec. transport 7−64246
W doped wire, effect of dopants on microstruct. *(Korean)* 7−17547
W wire, K-doped, non-sag struct. form., model 7−7957
W-Re alloys, annealed and sintered, elevated temp. softening, appl. for thermionic energy conversion 7−28077
p-$ZnSnP_2$ single cryst., recombination radiation, cryst. growth effects 7−53394
$ZrC_{0.98}$, sintered polycryst., primary recrystn. process 7−28056

recrystallisation annealing
brass L80 foil, grain struct. form. after isothermal annealing 7−53761
InP:Si, ion implanted, rapid thermal annealing and solid phase epitaxy 7−21296
multi-level SOI recrystallization using a novel seed structure 7−53778
sapphire, implanted ions recrystallisation driven migration and oriented precipitation 7−2266
SOI film, two-beam laser recrystallisation 7−38393
SOI films, halogen lamp recrystallisation 7−38394
SOI films, laser recrystallisation, agglomeration, surface roughness and crystal imperfection 7−38389
SOI films, recrystallisation by obliquely scanned pseudoline electron beam 7−58686
SOI large area growth, pseudo-line electron beam technique with lateral seeded epitaxy *(Japanese)* 7−7842
SOI laser recrystallisation, orientation control 7−53777
SOI laterally seeded epitaxial films recrystallised by electron beam, subgrain boundaries charactn. 7−53779
SOI rapid-zone recrystallisation using pulsed Xe arc lamp, elec. and physical props. 7−53776
SOI structures, lateral epitaxy formation, melting and resolidification 7−38386
steel, deep drawing, recrystn. texture development, investig. by ODF anal. 7−13466
steel, die, preliminary heat treatment schedule 7−8023
steel, duplex stainless, decomp. of deformed ferrite, TEM obs. 7−28091
steel bimetallic plate, cold-clad, diffusion processes in preboundary zone 7−46708
Al evaporated films, O contaminated, recrystn., after annealing 7−38412
Al-Mg alloys 5056 and 5083, recrystn. kinetics after hot deform. 7−3328
Al-Mg and Al-Zn-Mg alloys, plasma-coated, heat treatment effect on fine struct. and failure mechanism 7−3496
Al_2O_3, amorphous layers, formation and annealing, ion irradiation 7−58385
β-Al_2O_3, diffusion of implanted ions *(Chinese)* 7−51798
Cu, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
Fe, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
Fe-Si (2 wt.%), microstruct., mag. props., thermomech. history effect 7−7551
Fe-Si (3 wt.%), secondary recrystallisation, seed grain formation, influence of elastic anisotropy energy 7−13470
Fe-Si (3 wt.%), secondary recrystallisation grains, subboundaries formation and their influence on mag. domain struct. 7−13471
Fe-Si sheets, grain oriented, generation of secondary nuclei *(Japanese)* 7−22717
GaAs films on amorphous insulating substrates, laser recrystallisation 7−38397
GaAs:Zn, ion damage and recrystn. annealing, conversion electron EXAFS meas. 7−64821

recrystallisation annealing continued
GaAs-AlAs, superlattices, mixing, ion implantation, rapid thermal annealing, Raman scattering 7−53355
a-GaAs-Si (100), epitaxial regrowth by excimer laser annealing, FET fabrication 7−32875
$Ga_{0.47}In_{0.53}As$:Be epitaxial films, ion implanted, rapid thermal and furnace annealing 7−22729
InP films on oxidised Si substrate, laser recrystallisation 7−38398
Mg, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
Mo alloys, grain boundary enrichment by O and C, nonmonotonic temp. depend. *(Russian)* 7−59534
Mo, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
Nb-Zr (1 wt.%) alloy, hydroextruded, optimum degree of deform., microstruct. 7−3325
Ni, dynamically deform., polygonisation, recrystallisation *(Russian)* 7−46504
Ni, recrystallisation, deform. threshold, annealing temp. depend. *(Russian)* 7−59546
$NiAl_2O_4$, spinel growth, thin film Al_2O_3 substrate, topotactic relationships 7−58717
Ni_2Cr, recrystn. kinetics and mech. props., influence of P 7−22718
SOI films, halogen lamp recrystallised, minority carrier lifetime studies 7−33101
Si, amorphised and rapid thermally annealed, extended defects 7−16660
Si films, grain size and texture enhancement by seed selection through ion channelling 7−38401
Si films, solid epitaxial regrowth, structural and electrical characteristics 7−38403
Si films, structural changes due to annealing 7−52346
Si films on glass substrates, laser recrystallisation 7−38395
Si, ion beam induced recrystn., channelling effect 7−16650
Si ion implanted, epitaxy by thermal and laser processing, review 7−33706
Si, polycrystalline films, low press. CVD growth and annealing, morphology obs. 7−3187
Si, surface, laser beam melting and recrystallisation 7−12431
Si wafer, laser and energy-beam annealing of mechanical damage, melting and recrystallisation 7−46516
Si:BF_2^+ (001), ion implanted, residual defects, cross-sectional TEM study 7−32471
Si:O, ion implanted, structure before and after heat-pulse annealing 7−16600
Si:P, ion implanted, dynamic annealing, dose rate effects 7−12093
Si:P, Ni^+, ion implantation and annealing 7−21245
Si:PF_n^+ ion implanted, recrystallisation kinetics during fast thermal annealing 7−16618
β-SiC monocryst. thin films, ion implantation and annealing, amorphisation and recrystn. processes study 7−16596
V and alloys, dispersion hardened, strength changes and recrystn. 7−17545
ZnS, fused polycryst. layers, photocond. and photolum. spectra, defect form. influence 7−46142
$ZrC_{0.98}$, sintered polycryst., primary recrystn. process 7−28056

recrystallisation texture
brass L80 foil, grain struct. form. after isothermal annealing 7−53761
steel, deep drawing, recrystn. texture development, investig. by ODF anal. 7−13466
steel, low C, Al killed sheet, overaging, continuous annealing, carbide precip., hardness *(Korean)* 7−46474
superalloys, columnar grained and single-crystal, high-temp. strength with surface recrystallised layer *(Japanese)* 7−53788
Al, directionally solidified, rolling, recrystallisation texture 7−33646
Al, repeated cold rolling effect on recrystn. Vickers hardness obs. 7−59543
BN, wurtzite, sintered polycryst., texture form. during hot compacting at high press., sphalerite transition 7−53685
Cu, recrystallisation texture, deformation temp. effects *(Russian)* 7−8007
Fe, hot deformed, metadynamic recrystn. 7−3335
Fe-Si, grain oriented, hot rolling texture, thickness variations 7−8009
Fe-Si (3 wt.%), continuously cast slabs, high temp. grain growth during reheating 7−8019
Fe-Si (3 wt.%), recrystallisation texture regulation using small deformations 7−13472
Fe-Si (3 wt.%), secondary recrystallisation, sharp ribbed texture formation 7−13469
Fe-Si (3 wt.%), secondary recrystallisation, seed grain formation, influence of elastic anisotropy energy 7−13470
Fe-Si (3.3 wt.%), grain-oriented, domain refined, core losses 7−33692
Mo-Re (27 wt.%), rolling, reorientation, annealing effect *(Russian)* 7−39598
Nb-Zr (1 wt.%) alloy, hydroextruded, optimum degree of deform., microstruct. 7−3325
Si wafer, laser and energy-beam annealing of mechanical damage, melting and recrystallisation 7−46516
V and alloys, dispersion hardened, strength changes and recrystn. 7−17545
$(Yb_{0.95}Eu_{0.05})_2O_3$, luminophor, granulometric composition 7−22715

rectangular waveguides
calorimeter for single intense microwave pulse 7−9847
dielectric rod waveguides with flat cross-section, anal. 7−43383
plasma-filled rectangular waveguides, excitation study *(Japanese)* 7−63288
CO_2 thin-film-coated waveguide laser, RF excited 7−5908

rectification
photoconductor-liq. crystal rectifier, liq. crystal dielectric anisotropy, low-freq. inversion effect 7−45395
a-CdS/n-Si heterojunctions, elec. props. 7−64342

rectifier tubes
No entries

rectifier valves *see rectifier tubes*

rectifiers
see also solid-state rectifiers
JT-60 toroidal field power supply, rectifier, voltage regulation characteristics 7−36262

recursion method
amorphous semicond. III-V and II-VI cpds., electronic struct. of bulk and defect sites, tight-binding recursion method 7−45222
binary non-crystalline alloys, electronic density of states calc. 7−45112

recursion method continued
disordered alloy surfaces, density of states calc. 7−21961
disordered multilayered systems, local density of states determ., recursion method 7−52528
disordered systems, single particle energy spectrum, local density of states 7−12593
expectation values and response functions calcs. 7−38430
lattice stability and defect form., noncentral forces effects, tight binding parameter calcs., recursion method 7−51694
metals, electronic structures of lattice defects, tight binding recursion method 7−27289
Penrose lattice, 2D, DC cond., recursion method calcs. for tight-binding Hamiltonian 7−64192
semiconductors, zinc-blende and diamond struct., recursion calcs., K space method 7−2453
Au, structural stability of reconstructed (110) surfaces 7−7326
GaP finite cluster, local electronic struct., recursion method calcs. 7−2464
Ge, electronic struct. of incoherent grain boundary, recursion approach 7−64161
Ir, structural stability of reconstructed (110) surfaces 7−7326
Li-Mg disordered, phonons and martensitic phase transitions 7−58423
Mo dislocated lattice, local density of states calcs. in tight binding model, modified recursion method 7−52401
Mo-Fe dilute alloy, Fe solute atom-screw dislocation interaction force, modified tight-binding recursion method calcs. 7−51814
PdH_x, electronic density of states, recursion method 7−64043
Pt, structural stability of reconstructed (110) surfaces 7−7326
Si (111), disordered adsorption of H, electronic struct. calcs. 7−27377
Si, with stacking faults, electron and phonon spectra, recursion method 7−32945
Y_2Co_{17}, local orbital moment, recursion method calcs. 7−45640
$Y_2Co_{14}B$ intermetallic cpd., electronic struct. and mag. props., tight-binding calcs. 7−2450
$Y_2Fe_{14}B$, electronic struct. and mag. props. recursion method calcs. 7−2452

recursive functions
Lax pairs for higher order eqns. of soliton hierarchies 7−29765

red shift
see also Doppler effect; gravitational red shift
1701+610, QSO with tidal tail, CCD imaging and spectroscopic obs. 7−4589
active galactic nuclei, spectroscopic obs. and red shifts 7−4566
active galaxies, redshifts from H I 21-cm emission obs. 7−48066
Anon 0052−07, red shift meas. 7−4495
atomic spectral lines, Cherenkov radiation effect 7−15549
B2 1225+317, QSO, high-resolution spectroscopy of $z=1.79$ absorpt. line system 7−66782
B2 1225+317, quasar, Lyman-alpha forest from 3140 Å to 3940 Å 7−48097
benzonitrile-Ar(Kr)(N_2O)(H_2O)(trifluoromethane) van der Waals complexes, LIF spectra 7−50222
biferrocene, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7−25507
biferrocenium hexafluorophosphate, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7−25507
biferrocenium triiodide, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7−25507
$((bpy)_2ClRu)_2pyz(PF_6)_2$, intervalence transfer electronic absorpt. band energy, press.-induced freezing effect 7−25507
carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7−31093
Case emission-line galaxies in direction of Bootes void, spectroscopic survey 7−29534
Centaurus galaxy cluster, vel. struct. and distrib. of different galaxy types 7−9547
clusters and superclusters 7−60818
clusters of galaxies, components red shifts determ. 7−60817
cosmology, red shift-number test implications 7−35079
dwarf galaxies, low surface brightness, in Virgo cluster, H I red shifts 7−4560
elliptical galaxies, radical vels. rel. to non-uniform Hubble flow 7−24225
entropy and redshift of distant objects 7−9544
N-ethyl carbazole, complexes with alkyl cyanides, bonding, fluoresc. excitation spectra anal. 7−31093
expanding universe, redshift, ang. size 7−18527
field galaxies, red shifts and fluxes use to determine Universe mass density 7−40968
fluorene and derivatives, low-energy electronic transitions, UV-visible spectra 7−31062
G1200−2038, dwarf galaxy with Seyfert characts., emission-line redshift 7−48069
galaxies, nearby, effect of Virgocentric flow model on observed rels. 7−40723
galaxies, red shift quantisation evidence 7−60812
galaxies, redshift-magnitude formula for Universe with cosmological const. and radiation press. 7−40924
galaxies in Corona Borealis region, redshift survey rel. to large-scale struct. 7−40922
galaxies in rich southern clusters, redshifts and stellar vel. dispersions 7−60819
galaxies near groups of galaxies, radial vel. meas. 7−4550
galaxy clusters and superclusters, peculiar vels. and geometrical elongation 7−55840
galaxy formation redshift, role of baryon concentration in string wakes (at $z \gtrsim 200$) 7−14687
GC 1556+335, quasar, ejected or intervening material model for absorpt.-line spectrum 7−29552
Hubble's law, perturbation due to Local Group mass 7−40928
Hubble constant, implications for zero-value cosmological const. 7−24250
Hubble flow, evidence for non-uniform vel. field 7−24225
Hubble law derivation from cosmological redshift 7−66796
Hydra I cluster of galaxies, red shifts determ. 7−60816
9-hydroxyphenalenone-de(di) Shpolskii matrix isolated, H bonding, phosphoresc. 7−19926
ice stretching vibr., red shift 7−22236
inert gas halide cryogenic solns., UV excitation and stimulated emission 7−10645
intergalactic absorption clouds number density, evidence for redshift evolution from quasars UV spectra 7−55829

red shift continued
intergalactic Lyman-alpha absorbers, nonspherical clouds model rel. to column density-redshift relation 7−60805
intergalactic voids at high redshifts, constraints from QSO Lα absorbers 7−55823
iodomethane high-n Rydberg states, absorpt. density effects 7−50167
IR 1017+08, recession vel. of OH maser emission 7−29539
BL Lac candidates, X-ray selected, spectroscopic identification as low-redshift quasars 7−48085
BL Lac objects, updated redshifts and relation to galaxies and quasistellar objects 7−47732
lensing galaxy of triple QSO PG 1115+080, photometric obs. rel. to redshift 7−66781
light transversing a gravitational wave background, red-shift, rel. scatt. coherence 7−4735
markarian 490, high ionisation starburst galaxy, optical red shift meas. 7−4574
Markarian galaxies, catalogue 7−55496
Markarian galaxies in Zwicky clusters, red shifts of galaxies and clusters 7−4567
merocyanine dyes, J aggregate form. in mixed monolayers, visible spectra and surface pressure-area isotherms anal. 7−31059
4-methylindole, electronic transition, methyl substitution effect, UV spectra anal. 7−42642
MSH 05−22, D-galaxy characts. 7−40919
NGC 4005 galaxy group, H I 21 cm line obs. rel. to system rotation 7−55841
NGC 4151, Seyfert galaxy, redshift of outflowing component in Mg II line profile 7−55834
NGC 4214, 4449, blue irregular galaxies, redshifts and H II regions kinematics 7−40925
NGC 4922, binary galaxy, heliocentric radial vel. from spectrophotometric investigation 7−24200
NGC 5548, Seyfert 1 galaxy redshifts of broad-line regions rel. to supermassive binary model 7−66756
nickel (II) tetra (p-vinylphenyl) porphyrin, benzene soln., aggregation and luminesc. props., visible spectra anal. 7−42635
non-cosmological redshifts of spectral lines 7−66459
octahalobistrimethylacetorhenium, press. tuning IR spectral shifts 7−22242
Pisces-Perseus supercluster galaxies, 21-cm survey in declination zone +21.5° to +27.5° 7−4576
PKS 2005−489, BL Lac object, spectral characts. 7−18450
polymers, dye molecule doped, pressure-induced optical shifts and compressibilities 7−25606
QSO 0046−293, obs. of first $z>4$ object 7−48096
QSOs, high-redshift, from UK Schmidt Telescope objective prism plates, spectroscopic obs. 7−24236
QSOs in PC survey, obs. of low-z broad absorption line objects 7−24234
quasar candidates among flat-spectrum radio sources, optical spectra and redshifts *(Chinese)* 7−4582
quasar in direction of LMC (0557−672), V-magnitude and redshift 7−4592
quasar pairs, absorpt. line redshifts rel. to galaxy correls. and quasars environment 7−24216
quasars, redshifts from H I 21-cm emission obs. 7−48066
quasars, UV continuum evolution with redshift 7−55849
quasars in central region of Virgo cluster, space distrib. and redshifts 7−35063
quasars Lα absorption systems, constraints on intergalactic voids at high redshifts 7−55823
radio galaxies, OH absorpt. vels. from Arecibo survey 7−40895
secular redshift variations, effects of cosmological deceleration and peculiar motion 7−60796
Selected Area 57 quasar candidates 7−4591
southern spiral galaxies, BV photometry and radial vel. 7−66768
superconducting cosmic strings, form. of moderate redshift galaxies on gravit. unstable shells 7−24518
tetra-n-butylammoniumoctahalorhenium, press. tuning IR spectral shifts 7−22242
Universe age, constraints from globular clusters and cosmic expansion rate 7−55869
vibrationally excited mol. IR absorpt. red shift for CO_2 laser pulse duration control 7−43174
Virgo galaxy cluster, vel.-distance relation and orbits of H I deficient spiral galaxies 7−24230
X-ray sources, extragalactic, relation between X-ray luminosity and redshift 7−14679
zinc (II) tetra (p-vinylphenyl) porphyrin, benzene soln., aggregation and luminesc. props., visible spectra anal. 7−42635
Zwicky galaxy clusters containing Markarian galaxies, redshifts of galaxies and clusters 7−4567
$BeAl_2O_4$:Ni^{2+}, chrysoberyl, laser induced fluoresc. and decay lifetime 7−46135
CO absorption line towards M82, radial vel. rel. to large mol. halo or intergalactic mol. gas 7−24223
CS_2, dynamically compressed liq., UV-visible spectrum, effects of temperature 7−22284
H plasma, β spectral line peak asymmetry 7−51518
H_2-HF complex, struct., bonding, vibr. freq. shift 7−19817
HF complexes, H-bonded, vibr. transition freqs., red shifts 7−10546
$K_4Mo_2Cl_8$, press. tuning IR spectral shifts 7−22242
Li, spectral emission line profile, laser produced plasma, polarisation shift *(French)* 7−6446
$(NH_4)_4Mo_2Br_8$, press. tuning IR spectral shifts 7−22242
SO_3 complexes with selected O_2-containing bases, matrix isolation IR spectra 7−36615
Sf_6, IR multiphoton excitation, time-resolved Raman spectra anal. 7−36629

reduced gravity experiments *see zero gravity experiments*

reduction (chemical)
see also oxidation
actinide metals, preparation and physical props. 7−17778
actinide-noble metal alloys, thermodynamic props., coupled reduction meas. 7−13752
alkaline earth orthovanadates, surface electrochem. of O, cyclic voltammetric obs. 7−33957
ceramic oxides, cond., for use as molten carbonate fuel cell electrodes 7−13854
4-cyanopyridine, electrochem. reduction, SERS 7−54165

reduction (chemical) continued
- E-glass batch melting redox and its effect onspecific glass properties 7−7947
- flavins, mol. geometry and REDOX props., MINDO/3 calcs. 7−56976
- flavins, struct. and REDOX props., electron distrib., MINDO/3 calcs. 7−56977
- hemerythrin, binuclear Fe cluster, PMR probe investig. 7−50184
- mesophyll chloroplasts from sugar cane, photosynthetic electron transport 7−59953
- Odessa Fe meteorites, plasma cleansing and reduction 7−34956
- organic charge transfer solids, review 7−7222
- oxide, laser reduction to metal, effect of heat conduction 7−17674
- oxides, elec. props. under conditions of oxidation, reduction and catalysis 7−7250
- 4-pentyl-4′-cyanobiphenyl, nematic, electrochemistry, orientational effects 7−26622
- polyacetylene:K films, doping, redox potential studies 7−32475
- polyaniline, geometries, bond struct., electrochemistry, MNDO calcs. 7−15750
- polyazulene, electrochem. and mag. props. 7−52929
- solid oxide electrolytes, electroreduction, galvanostatic process kinetics 7−21505
- steel, austenitic stainless, stress corrosion cracking susceptibility, cathodic reduction treatment effects 7−8185
- vesicle bilayer membranes, oxidation-reduction mechanisms 7−13810
- zinc tetra-2,3-pyridino porphyrazine, photoreduction, photochemical, electrochemical and spectroscopic study 7−33949
- Ag clusters, photographic role, size effects 7−15788
- Ag electrodes, galvanostatic oxidation, relax. spectrum anal. 7−13788
- B, powdered, and cpds., O and H content eval. 7−27964
- Br_3^-, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7−52546
- $CaFe_xMn_{1-x}O_{3-y}$ ferrites, microdomains, role in oxidation, reduction and annealing 7−46830
- Cd^{2+}, reduction, rel. to coumarin adsorpt. on dropping Hg electrode 7−58609
- CdSe-polysulfide solar cells, nitrite reduction to ammonia 7−39999
- CdSeTe-polysulfide solar cells, nitrite reduction to ammonia 7−39999
- CdTe, electrodeposition from acidic aq. solns., voltammetry 7−27188
- CeO_2, reduction by thermal treatment in vacuum or H_2 atmosphere, IR, PMR and ESR spectra 7−59756
- Cr surface, passivity, coulometric investig. 7−13625
- Cu, reduction, electrochem., autocatalytic, by formaldehyde 7−54138
- Cu, with adsorbed O, reaction with CO and H_2 7−59784
- Cu-O, laser reduction to metal, effect of heat conduction 7−17674
- Fe, layer growth on polysiloxane surface in stream of H_2-Cl_2 mixture *(Russian)* 7−65353
- Fe powder, ultrafine, and hot forged specimens, reduction temp. effect on struct. form. and props. 7−53670
- Fe surface oxide layer, reduction by H adsorption, AES and LEED studies 7−8297
- FeCN ion, mass transfer of submerged jet impinging on cylindrical surface 7−26325
- α-Fe_2O_3, reduction-sintering prep., mag. props. 7−59054
- I_3^-, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7−52546
- In^{3+}, reduction, rel. to coumarin adsorpt. on dropping Hg electrode 7−58609
- K_2O-Ga_2O_3-SiO_2-Al_2O_3-Fe_2O_3-FeO melts, struct. role of Fe^{3+}, Ga^{3+}, Al^{3+}, Fe redox ratio 7−26635
- MgO, positron lifetime spectra, impurity effects 7−39278
- Mo porous electrodes for alkali metal thermoelec. convertor, voltammetric studies 7−28405
- MoO_3, interaction, of reduction products with C to form Mo_2C 7−8260
- MoO_3-WO_3-H_2 system, reduction and alloy form., reaction products dispersion 7−3223
- MoO_3-WO_3-H_2 system, reduction and alloy form. 7−7923
- NO, adsorpt. and reduction on C:K 7−63946
- NO_x in-furnace reduction, reburning, bench scale process evaluation 7−17798
- Nb-Al_2O_3, high temp. interactions, X-ray diffr., DTA studies 7−8259
- Nb-Cr_2O_3, high temp. interactions, X-ray diffr., DTA studies 7−8259
- Nb-Y_2O_3, high temp. interactions, X-ray diffr., DTA studies 7−8259
- $Nb_{0.94}O_2$ form. by shock reduction of Nb_2O_5 powder; rutile struct. study 7−2102
- NiO (100), adsorption of CO, ethylene and H_2O, surface reactions 7−23055
- O_2, electroreduction, cobalt porphyrin effect, cyclic voltammetry and UV-absorpt. spectroscopy 7−59778
- Rh-Ru alloys, electroreduction, electrocatalytic activity 7−54137
- Ru complex, Creutz-Taube complex with HUO_2PO_4, synthesis, struct. and oxidation, IR and X-ray spectra anal. 7−46840
- α-$RuCl_3$, intercalation reactions, electron/ion transfer and exchange reactions 7−46837
- Si substrate for W CVD, effect of dopants and crystal perfection 7−22576
- SiO_2:GeO_2 integrated optical waveguides, laser heating effect on opt. props. 7−50792
- SiO_2-Na_2O-Al_2O_3-ZnO-Fe_3O_4-Si glass system, Fe behaviour at various compositions and reducing conditions 7−1899
- SnO_2 thin films, photochemical fabrication and micropatterning from SnI_2 7−46315
- T_2O water decomposition using ZrO_2-Pt cell for H_2 production 7−3581
- Ta+SiO_2→Ta_2O_5+Si, redox reaction induced by shock loading 7−59763
- TeO_x:Ge,Sn films, optical props., thermal stability 7−39207
- TiO_2-redox polymer detector junctions, flatband pot. meas. 7−13787
- V complex, vanadium(III)bis(2,2′-bipyridyl) chloride-Fe(III) system, photogalvanic effect 7−54145
- V_6O_{13} electrodes, prep. by electrolytic reduction of molten salts 7−3211
- W films, LPCVD deposition kinetics in single wafer vacuum reactor 7−59448
- W LPCVD films by WF_6/Si reduction method, influence of deposition variables 7−17461
- W selective LPCVD films on Si substrate, characts. 7−38409
- W selective low press. CVD growth on Ti, $TiSi_2$ and PtNiSi, surface reactions, struct. 7−27183
- WF_6 reduction for selective LPCVD of W, reaction kinetics 7−16914
- ZnO-electrolyte interface, electrolum. under cathodic and anodic pulsed polarisation 7−13235

redundancy
- *see also bandwidth compression; data compression; logic design*
- fault detection procedure for faulty sensors, implementation 7−5368
- highly redundant number representation for optical computing 7−10864
- stochastic processes characts. accuracy improvement, redundant channel data utilisation 7−4802

redundancy theory *see redundancy*

reeling *see winding (process)*

reentrant superconductors *see magnetic superconductors*

references (standards) *see standards*

reflectance *see reflectivity*

reflection
- *see also acoustic wave reflection; electromagnetic wave reflection; neutron reflection; reflectivity*
- compressive wave 1D, stress field calc. after reflections *(Chinese)* 7−11335
- fluid layer, finite difference method and spurious reflection of waves 7−51185
- high-multiplicity, optical density as a fn. of interface structure 7−39923
- multilayer interference systems, layer thickness dispersion effects 7−4698
- nonequal travel-time layered model, filtering inverse method, reflection coeff., impedance calcs. 7−61119
- optical thin film, thickness and refractive index determ., reflection and transmission meas. *(German)* 7−61370
- pressure wave, stepped, plane, reflection from convex cylindrical cavity 7−61127
- seismic waves, refl. coeff. at core-mantle boundary rel. to 2 to 50 km size corrugations 7−66018
- thin metal films, polycryst., specular reflection coeff., effect of ageing 7−12884

reflection high energy electron diffraction
- defects at surfaces, microscopy and diffr. studies 7−2325
- desorption from GaAs oxidised surface, desorption temp. meas. 7−58608
- dynamical diffr. calcs., surface struct. anal. 7−32232
- graphite surface, methane adsorption, incomplete wetting at low temps. 7−32798
- III-V semiconductors, MBE, surface effects and growth dynamics 7−58711
- intensity oscills., periodic surface steps array effects, multiple scatt. theory calcs. *(Japanese)* 7−11856
- MBE growth mechanism determ., dynamic RHEED method anal. 7−7062
- overlayer nucleation and growth, surface defects, characterisation by surface-sensitive diffr. 7−21614
- semiconductor growth mechanisms, in situ RHEED 7−53603
- semiconductor superlattices, synthesis by MBE *(Japanese)* 7−12544
- semiconductors, MBE growth, RHEED and photoemission studies 7−2438
- steel, stainless, passivation, role of Cr 7−46686
- surface (111), Si-Ge and Si-$NiSi_2$, study using an MBE system with automatic ellipsometer, nondestructive anal. 7−7058
- surfaces and overlayers, struct. determ. with diffr. methods 7−2324
- symmetry of zone-axis patterns in reflection high-energy electron diffraction 7−16373
- ω-tricosenoic acid Langmuir-Blodgett films, RHEED 7−16887
- Ag, initial stages of epitaxy on Si(111), UHV electron microscopy study 7−27210
- AlGaAs surface cleaning using ECR radical beam gun 7−54028
- AlGaAs-GaAs single quantum well, MBE growth interruption, well width fluctuations 7−7865
- AlN reactively evaporated encapsulating films, annealing, RBS and RHEED studies 7−21744
- Au, initial stages of epitaxy on Si(111), UHV electron microscopy study 7−27210
- $Ca_{1-x}Ba_xF_2$ epitaxial layer growth and struct., electron microscopy studies 7−27174
- CaF_2, crack-free epitaxial film, on GaAs (100), surface morphology, elec. props. 7−39392
- $Cd_xHg_{1-x}Te$ layers, MOVPE, CdTe substrate orientation effect, RHEED, SEM obs. 7−59447
- CdTe (001), Cd and Te desorpt., surface stoichiometry and reaction kinetics, RHEED studies 7−21613
- CdTe, MOVPE on {111}CdTe, twin nucleation 7−33579
- Cu, initial stages of epitaxy on Si(111), UHV electron microscopy study 7−27210
- Cu/Mo multilayered film growth, RHEED intensity oscills. *(Japanese)* 7−63987
- Cu-Mo multilayer film growth, RHEED intensity obs. 7−7051
- $CuInSe_2$ epitaxial films deposited on GaAs and CdS, RHEED studies 7−12549
- GaAs (001), chemisorption of CF_3 radicals, RHEED, photoelectron spectra, HF SCF calcs. 7−53497
- GaAs growth mechanisms, in situ RHEED 7−53603
- GaAs, MBE growth, transient behaviour, RHEED oscillations 7−64904
- GaAs, MBE initial growth stage on (100) Si substrate, RHEED, AES and TEM 7−52356
- GaAs MBE layer growth and surface anal. *(Korean)* 7−2417
- GaAs surface cleaning using ECR radical beam gun 7−54028
- GaAs/$Al_xGa_{1-x}As$ modulated structs., MBE growth kinetics, RHEED studies 7−7066
- GaAs/Au contacts, growth modes, AES, UPS, XPS and RHEED studies 7−21753
- GaAs-$Al_{0.3}Ga_{0.7}As$, thin single quantum well, MBE growth kinetics, normal and inverted interfaces 7−45045
- GaAs-ZnSe, MBE growth on GaAs epilayers, nucleation and characterisation 7−45046
- GaAs(100), MBE growth parameter influence on surface kinetic processes, RHEED specular beam intensity meas. 7−2424
- Ge, epitaxial films, remote plasma-enhanced CVD 7−39395
- In, growth on GaAs (110), RHEED study 7−2425
- $In_xGa_{1-x}(Al_{1-x})As$, MBE growth rates, temp. dependence 7−17426
- $LiInSe_2$ epitaxial films on GaAs and GaP, RHEED 7−52318
- $LiNbO_3$ (001), z-cut, surface struct., RHEED studies 7−2308
- Mo epilayers on MBE GaAs, RHEED study of struct. 7−21755
- Nb films, oriented, electron beam evaporation in ultrahigh vacuum onto GaAs 7−3175
- Nb-Ta superlattice single crystals, MBE growth 7−39385
- $NbSe_2$, thin film fabrication on MoS_2 by van der Waals epitaxy *(Japanese)* 7−12547

- **reflection high energy electron diffraction** continued
  - Ni-Si interface, struct., RHEED, Rutherford backscattering spectrometry 7—27143
  - NiSi$_2$-Si, epitaxy of NiSi$_2$, study using an MBE system with automatic ellipsometer, nondestructive anal. 7—7058
  - Pb (110), surface initiated melting, ion shadowing and blocking meas., RHEED 7—44769
  - Pt particle/Al$_2$O$_3$ surface, ethylene hydrogenation, intrinsic size effects 7—3607
  - Si (001), clean and with adsorbed H, RHEED intensities 7—27123
  - Si (111), Ar ion bombardment, RHEED and REM studies 7—32511
  - Si (111), convergent beam RHEED studies 7—32764
  - Si, epitaxial growth using photochem. vapour deposition at 200°C 7—39431
  - Si MBE grown layers, arbitrary doping profiles 7—12109
  - Si, MBE growth, RHEED intensity oscillations 7—7068
  - Si, MBE growth, selective diminution in RHEED pattern from (001)-2×1 reconstructed surface 7—7069
  - Si, photochemical CVD at 200°C 7—59456
  - Si surface study after Ar ion-assisted Cl$_2$etching 7—3538
  - Si:Ar, high dose implanted, thermal regrowth, RHEED studies 7—21734
  - Si-CaF$_2$-Si structure, reduction of Ca and F surface segregation by solid phase epitaxy of Si 7—38357
  - Si-Ge, epitaxy of Ge, study using an MBE system with automatic ellipsometer, nondestructive anal. 7—7058
  - a-Si$_{1-x}$C$_x$ films, RF spattered, IR absorpt., X-ray diffr., RHEED *(Japanese)* 7—53584
  - Si$_{1-x}$C$_x$ thin films, glow discharge deposition and struct. props. 7—64932
  - Si$_3$N$_4$, reaction bonded ceramic, combined RHEED and SEM study 7—16432
  - Sn films, sputtered onto polypropylene sheet, orientation rel. to deposition rate 7—45061
  - W film on MBE GaAs, RHEED study of struct. 7—21755
  - ZnO piezoelectric thin films, layer struct., RHEED and X-ray diffr. studies 7—16888
  - ZnO:Al films, RF reactive sputter deposition, struct., elec. and optical props. *(Japanese)* 7—27900
  - ZnS films, MBE growth on Si (100), substrate temp. effects 7—39384
  - ZnS:Mn films, struct. and electroluminescence props. *(Japanese)* 7—27783
  - ZnSe layers on Ge (100), MBE growth and photoluminesc. 7—7858
  - ZnSe-ZnS electroluminescent MIS structures, MOCVD growth and charactn. 7—59443
  - ZnSe-ZnTe strained layer superlattices, MBE growth on InP substrates 7—13366
  - ZnTe-ZnSe(S) superlattices, hot wall epitaxial growth and photoluminesc. props. 7—13220
- **reflection nebulae** *see nebulae*
- **reflection spectra** *see reflectivity; spectra*
- **reflectivity**
  - *see also electroreflectance; magnetoreflectance; piezoreflectance; thermoreflectance*
  - 7—39072
  - Al, mirror coatings, UV reflectivity loss, in space 7—25938
  - (+)-4-n-alkoxyphenyl 4-(2″-methylbutyl)-biphenyl 4″-carboxylates, chiral smectic C phase structures, visible spectral studies 7—1855
  - angular scan-attenuated total reflection spectra, instantaneous obs. 7—4901
  - anthracene crystal monolayer, photodimer disorder effects, UV reflection spectra anal. 7—53362
  - attenuated total reflection spectrophotometry, calibration 7—24715
  - Au$_x$(TeO$_2$)$_{1-x}$ thin films, nanosecond laser annealing, Au cluster redistrib., growth and coalescence 7—12145
  - β-(BEDT-TTF)$_2$IBr$_2$, polarised reflectance spectra 7—7697
  - BEDT-TTF polyhalides, reflectance spectra, temp. depend. 7—46031
  - benzene, Fourier transform IR spectroscopy, quantitative intensity meas. 7—48869
  - borate glasses, optical dispersion, reflection spectra in vacuum and extreme UV region 7—27734
  - cadmium arachidate, Langmuir-Blodgett films, struct. disorder and polymerisation competition at elevated temp., IR spectra obs. 7—46163
  - cellulose, particle size and order changes, ^{13}C NMR and NIR diffuse reflectance spectroscopy responses 7—27610
  - chemical moieties at surfaces, IR diode laser spectroscopy 7—41512
  - cholesteric liq. cryst., imperfect, reflection coeffs. and light depolarisation 7—45963
  - crystal integrated reflectivity calibration, using uncollimated, point X-ray source 7—26591
  - Danaines golden pupae, natural broad-band interference reflector microspectrophotometry 7—54676
  - detection sensitivity of a superficial layer *(French)* 7—64707
  - dibenzotetrathiafulvalene radical ion complexes, electronic structs., mag. props., polarised reflectivity study 7—53330
  - dielectric cryst. thin films, refl. and transmission coeffs., S-matrix method calcs. *(Russian)* 7—33473
  - diffuse reflectance and photoacoustic spectroscopy comparisons in UV, visible and IR regions 7—30099
  - diffuse reflectance IR accessories, crit. eval. 7—24714
  - diffusely reflecting coatings, props. 7—3099
  - diffusive reflectance IR spectra, absorbing matrices effects 7—17831
  - disperse media, diffuse radiation reflection 7—42918
  - dyes, degenerate four-wave mixing, transient phase conjugation 7—57477
  - EUV materials, low reflectance 7—57488
  - figured multilayer optical element, image quality 7—37102
  - film properties, magnetron sputtering apparatus performance 7—59420
  - fluoride and oxide glasses, reflection spectra in extreme UV region 7—22278
  - Fresnel's reflectivity and transmission formula, modification for time-depend. optical parameters 7—31238
  - E-glass fibre composite interfaces, surface studies using diffuse reflectance and photoacoustic FTIR spectra 7—46044
  - graphite, laser excitation effects, time resolved picosecond reflectivity study 7—12136
  - graphite fibre reinforced epoxy, reflectance and thermal response during high-power CO$_2$ laser irrad. 7—32496
  - graphite intercalation compound with H$_2$SO$_4$, optical study of K-point π-band dispersion 7—17317
  - graphite surface pulsed laser melting, cluster form. and evaporative loss, nanosecond time resolved reflectivity meas. 7—12137
  - grating structs., determ. of surface polariton minigaps, const.-freq. and const.-angle scans 7—2506
- **reflectivity** continued
  - Gurevic equation derivation for reflectance from plane bounded scatt. media 7—20137
  - holographic diffraction gratings, reflective props., recorded on threshold materials, num. investig. 7—43343
  - II-VI semiconductors, refractive index dispersion and two-mode refl. spectra behaviour calc. model *(Russian)* 7—45971
  - III-V semiconductors, elec. parameter mapping by numerical image processing of light beam induced current topography 7—33051
  - Inconel 600 in direct absorption received, optical props. at high temp. 7—40042
  - inhomogeneous films, optical props., model *(French)* 7—59278
  - IR crystals, reststrahlen spectra, review 7—39119
  - IR reflectance spectrometry, diffuse and specular components 7—41493
  - Kevlar fibre surface, diffuse reflectance FTIR spectroscopy, fibre accessibility and water absorption 7—46040
  - layered synthetic microstructure spectrogoniometer for soft X-ray spectroscopy 7—35647
  - liquid crystalline polymer, electric field FT-IR reflectance spectra 7—25688
  - liquid crystals, optical studies by ATR technique 7—16413
  - liquid crystals, optical studies by ATR technique 7—16414
  - liquid films, power reflection, variable angle 7—53424
  - liquid films, power reflectivity spectra 7—22208
  - liquid thin film, with and without Al substrate, refl. coeffs., admittance method investig. 7—64711
  - living human body, spectral radiative props. study 7—18013
  - m-dinitrotetramethylbenzene, single cryst., vibr. study, IR reflectance and transmission and polarised Raman spectra 7—25512
  - metal-insulator superlattices, optical properties, plasma wave effects 7—64599
  - 1-methylcytosine, (010) and (101) single cryst. faces, transition-moment directions, polarised reflection spectra 7—15619
  - 1- methyluracil, electronic spectrum, polarised refl. spectra 7—27737
  - monolayer at liquid/solid and gas/solid interfaces, IR external refl. spectroscopy optimisation 7—48883
  - multilayer coatings, for excimer laser, reflectivity calcs. 7—57521
  - multilayer mirrors, reflectivity, roughness effects 7—42908
  - multilayer X-ray mirrors, fabrication, in situ monitoring system 7—37217
  - multilayer X-ray reflectivity calcs., lossy transmission line theory 7—37103
  - near-IR reflectance analysis, calibration methods 7—29963
  - nearly degenerate four wave mixing 7—62787
  - nematic liquid crystal, guided modes and surface plasmon-polaritons obs. with attenuated total refl. 7—64664
  - nematic liquid crystal, surface-aligned, interfacial region, optical study 7—58132
  - neutron beam spatial condensation by asymmetric diffr. in thermal neutron monochromatisation 7—16363
  - nickel phthalocyanine films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
  - nonlinear dielec. film, optical reflectivity and transmissivity power depend. calcs. 7—53429
  - optical theorem, scatt. with a boundary 7—53356
  - ore minerals, preliminary diagnostics, use of refl. spectra as part of automated system 7—29264
  - organic films, on inorganic substrates, FT IR reflection spectrosc. 7—39097
  - paper, optical constants determ. in FIR, inverse synthesis determ. method 7—3010
  - partially transparent materials, reflectivity meas. at high temp. 7—33355
  - pentacene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
  - periodic multilayer design using Chebysheff polynomials 7—43322
  - perylene red film coated on Ge, ATR and refl.-absorpt. IR spectroscopic analysis 7—41510
  - phosphate glasses, optical dispersion, reflection spectra in vacuum and extreme UV region 7—27734
  - picolyltricyanoquinodimethane, mol. cryst., charge transfer transitions, electronic spectra 7—22279
  - plasma, collisional, degenerate four-wave mixing and phase conjugation 7—25899
  - PMMA film on glassy C, IR external refl. spectroscopy obs. 7—41509
  - poly-vinylacetate-Cu, thin polymer films, Fourier transform IR ellipsometry 7—53334
  - polyacetylene films, oriented, optical props., photocond. meas. 7—64717
  - polybutylene terephthalate fibres, phase transitions, surface characterisation, spectrosc. methods 7—63505
  - polydiacetylene-toluene-sulphonate, single crystal, transient photoinduced reflectance change study 7—53257
  - polyethylene film, low density, diffusion and sorption of liquids, IR ATR spectrosc. obs. *(German)* 7—53302
  - polymer blend films, Fourier transform IR/ATR spectroscopy studies 7—53333
  - polymer-metal composite thin films, plasma deposition, optical props. 7—27947
  - polymer-metal system, enhanced ATR spectra of polymer surface layers 7—22266
  - polysiloxane liquid crystals, colour gamut 7—1857
  - prism-metal film-nematic liq. cryst. system, excitation of nonlinear surface EM waves 7—25866
  - reflectance spectra, absorption band positions extraction 7—14503
  - reflection-absorbance FT IR spectra of chromatograph effluent, continuous recording 7—15016
  - trans-retinylidene Schiff base, protonation on crystal surfaces, attenuated total refl. IR study 7—50102
  - rough-surfaced absorbing surfaces, optical props., processing effects 7—39074
  - semiconductor laser, actively mode-locked, diode facet reflectivity influence on dynamics 7—36959
  - semiconductor laser amps. with reduced facet reflectivity, gain props. *(German)* 7—62687
  - semiconductor thin films, weakly absorbing, thickness, optical consts. and relax. time determ. 7—39194
  - semiconductors, ferromagnetic, dielectric function and reflectivity above T$_c$ 7—7661
  - semiconductors, solid-phase epitaxial regrowth, amorphous-crystalline interface evolution 7—12568
  - slowly decaying interfacial profiles, correspondence with reflectivity 7—45967
  - snow, IR meas. of grain size and melting degree 7—23719

reflectivity continued
- sodium salicylate as combined fluoresc./refl. coating for broad band detector *(German)* 7—4891
- solid particle receiver materials, optical props., diffuse reflectance of Norton Masterbeads at high temp. 7—40044
- SOS films, regrowth rates of amorphous layers created by self-implantation 7—16661
- stearic acid mono- and bi-layers on Al and Au, refl.-absorpt. IR spectra, order-disorder transitions 7—46165
- surface ATR and reflection-absorption IR spectroscopic analysis of thin films 7—41510
- surface FTIR reflectance spectroscopy characterisation 7—46043
- surface IR external reflection spectroscopy of thin films on glassy C electrodes 7—41509
- surface spectral reflectance, evaluation of linear models, colour vision appl. 7—28522
- Te elemental and alloy thin films, laser irrad. effects, refl. meas., optical data storage appl. 7—12144
- tetracene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
- tetrachlorodibenzodioxins, isomers, identification, micro-diffuse reflectance and matrix isolation FT-IR techniques 7—25502
- tetrathiafulvalenes, N-containing, charge transfer complexes, struct. and elec. props. 7—44514
- thin films and interfaces, characterisation by optical reflectance and ellipsometry 7—45084
- $(TMTSF)_2$ $AsF_6(SbF_6)$, SDW semicond. phase, for-IR conductivity 7—45969
- 22-tricosenoic acid Langmuir-Blodgett films, guided optical waves in ATR geometry 7—31462
- two-level atoms on conventional and phase conjugated surfaces, laser induced phenomena 7—57025
- waveguide diffraction gratings, Rouard's method and coupled mode theory 7—57530
- X-ray telescope mirrors, surface scatt. meas. by triple axis spectrometer 7—37104
- Ag contacts, transparent, for a-Si solar cells with ITO antireflection coating 7—65478
- Ag film, lauric acid adsorpt., reflectivity and laser excited surface plasmon spectroscopy meas. 7—45011
- Ag film, pure transition radiation following electron irrad. *(French)* 7—64708
- Ag film bounded by Langmuir-Blodgett films, antisymmetric coupled surface-plasmon-polaritons 7—22364
- Ag films, loss coeffs. determ. of long-range surface plasmons 7—2650
- $AgGaS_2$, reflectivity spectra, 1.2 to 25 eV, contrib. of electronic transitions 7—46067
- $AgGaSe_2$, cryst. field and spin-orbit interactions at fundamental gap, reflectivity meas. 7—16997
- $AgGaSe_2$, reflectivity spectra, 1.2 to 25 eV, contrib. of electronic transitions 7—46067
- $AgGaX_2$ (X=S,Se), low temp. reflectivity spectra 7—53366
- $(Al,Ga)As/(Ca,Sr)F_2$ multilayer structures, MBE grown, broadband high-reflectivity mirrors fabrication 7—11091
- Al film, reactively evap., morphology and opt. props. 7—59272
- Al, IR spectrum, intraband and interband processes 7—22256
- Al, reflectivity meas. on shock-unloading solids 7—27693
- Al thin films, pulsed laser melting, transient elec. resist. and reflectance meas. 7—12141
- Al/Ag layers, surface plasmon dispersion, plasma wave effects, reflectivity meas. 7—58848
- $AlCl_3.6H_2O$ single cryst., polarised IR reflection spectra 7—3054
- AlF_3 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7—27734
- Al_2O_3, dispersion of surface polaritons 7—2505
- Al_2O_3, uniaxial, transverse bulk polaritons, IR refl. 7—17319
- As_2Se_3, cryst., optical props., ab initio total energy calcs. 7—45965
- a-$As_2Te(se)_3$, surface phonon generation and picosecond light pulse detection 7—12456
- Au films, rapid crystn. kinetics under laser irrad., picosec. transient reflectance meas. 7—11915
- Au thin films, quantum size effect in optical transmission and refl. spectra 7—59275
- $Ba(ClO_3)_2.H_2O$ single crystal, Fourier transform IR spectroscopy, quantitative intensity meas. 7—48869
- $BaPb_{1-x}Bi_xO_3$, semicond. phase, CDW gap, optical meas. 7—53328
- $BaPb_{1-x}Bi_xO_3$, superconductivity and metal-semicond. transition 7—58940
- $BaSO_4$, barite, IR and far IR optical props. 7—13116
- Bi chalcogenides, binding energies, chem. shifts XPS and diffuse refl. spectra *(German)* 7—1943
- Bi-Ga two-layer film compositions, refl. and microstruct., temp. depend. 7—53428
- $Bi_{25}FeO_{40}$, reflectivity spectra structure, thermoreflectance 7—59207
- $Bi_{12}MO_{20}$:V, (M=Si,Ge,Ti), sillenite struct., local vibrs. of impurities, spectral study 7—7718
- $(Bi_{1-x}Sb_x)_2Te_3$ single crystal, optical constants, IR spectra study 7—46030
- $Bi_{12}Si(Ge)(Ti)O_{20}$, reflectivity spectra structure, thermoreflectance 7—59207
- a-C:H polymeric layers, plasma-activated CVD produced, spectroscopic investigations 7—22572
- CN^-, oxidation at Pt electrode, polarisation modulation IRRAS 7—17836
- CO and K coadsorbed on Ni (111), adsorbates electrostatic interaction, IR reflection-absorption spectra, TPD, LEED obs. 7—32824
- $CdIn_2O_4$ RF sputtered films, transparent heat mirror characts., elec. and optical meas. 7—39199
- CdS, excitonic polaritons, transmission and damping 7—58748
- CdS, transmission and damping of excitonic polaritons 7—58747
- $CdSe_xTe_{1-x}$, bound excitons, thermal dissoc., photoluminescence, reflectivity meas. 7—46122
- $CdSnO_4$:PbO highly conducting films, characterisation 7—22049
- Cd_2SnO_4 transparent thin film electrodes prepared by DC reactive sputtering from Cd-Sn alloy targets 7—22477
- CdTe, cathodic electrochemical surface modifications, Cd layer form. 7—65239
- CdTe, d-core transitions, reflectivity spectra 7—53364
- $CePd_3$ mixed valence system, conduction carrier density, energy and temp. depend. 7—21882
- Co optical props., refl. and spectroscopic ellipsometry meas., hybridisation effects 7—39073

reflectivity continued
- $CoGaInS_4$ pseudoternary layers cpds., optical props., comp. depend. studies 7—39072
- CoO_x-FeO_x selective coatings, spray pyrolysis for high temp. appls. 7—5974
- $CoSi_2$ optical props., refl. and spectroscopic ellipsometry meas., hybridisation effects 7—39073
- $Co_xZn_{1-x}InS_4$ pseudoternary layers cpds., optical props., comp. depend. studies 7—39072
- $CrCl_3$, ionic crystals, optical and electron energy loss studies 7—3066
- $CsCaF_3$, fluoroperovskites, IR refl. spectra, temp. depend. 7—22248
- Cu (115), low temp. behaviour of surface roughness 7—6941
- Cu films, rapid crystn. kinetics under laser irrad., picosec. transient reflectance meas. 7—11915
- Dy_2O_3-Er_2O_3-Ho_2O_3, mixtures, IR reflectance spectrum, wavelength standard 7—41330
- Eu chalcogenides, IR optical parameters, rel. to chemical bonds 7—53291
- Fe electrode in NaOH, pot. modulated reflectance spectra 7—28316
- Fe-C, ferrite and cementite refl., polishing conditions effect *(German, English)* 7—22938
- Fe-Cr alloy, oxide film form., FTIR reflectance spectroscopy characteris. 7—46043
- Ga-Se-Te, phase change optical recording, write erase characteristics 7—57491
- GaAs (100) unpinned surface, picosecond transient reflectivity 7—59168
- GaAs doping superlattices, photoreflectance 7—53368
- GaAs, optical reflection anisotropy due to surface band bending 7—39062
- GaAs, overlapping etch pits, density, evaluation technique 7—32443
- GaAs, solid-phase-epitaxy, interface structure and impurity effects 7—2407
- GaAs surfaces, picosecond laser interactions, time-resolved optical studies 7—12134
- GaAs wafers, subsurface structural defects, photon backscattering studies 7—12059
- GaAs-$Al_xGa_{1-x}As$ MQW and superlattice structures, for IR reflectivity 7—27724
- GaAs-$Al_xGa_{1-x}As$ quantum wells, photoreflectance spectra, hydrostatic press. 7—52784
- GaAs-AlAs multiple quantum wells, photoconductivity, photoreflectance and photolum. meas. 7—27368
- GaAs-AlGaAs multiple quantum wells, temp. depend. of photoreflectance 7—7753
- GaAs-$Ga_{1-x}Al_xAs$ superlattices, optical props. 7—3007
- GaN, band struct., pseudopotential method anal. 7—52421
- Ge, growth surface optical characts. oscills. during MBE, automatic reflection ellipsometry meas. 7—64715
- Ge, pulsed laser melting, time-resolved reflectivity meas. 7—2158
- Ge, reflectivity meas. during pulsed laser irradiation 7—12132
- a-Ge, surface phonon generation and picosecond light pulse detection 7—12456
- p-Ge, threshold switching and microwave-induced spontaneous emission in static magnetic field 7—52707
- HgCdTe, epitaxial film, interdiffusion profiling, microreflection spectroscopy 7—53369
- HgCdTe, p-type, acceptor conc., IR reflectance studies 7—64600
- $HgCr_2Se_4$ spinel magnetic semicond., electronic struct., elec. props., defects and ferromag. anisotropy 7—38857
- $HgGa_2Se_4$, optical props. in fundamental absorption region 7—39065
- HgTe, d-core transitions, reflectivity spectra 7—53364
- HgTe-CdTe superlattice, alloying, far IR study 7—13143
- InGaAsP DFB lasers, extremely low-noise facet-reflectivity-controlled 7—31320
- InN, band struct., pseudopotential method anal. 7—52421
- In_2O_3:Sn, sputtered films prep. and optical props. 7—53587
- InSb, optical reflection anisotropy due to surface band bending 7—39062
- InSb surface damage layer refl. spectra and thickness meas. 7—22209
- $In_{2-x}Sn_xO_{3-y}$ coatings, evacuated window glazings for energy efficient buildings 7—54352
- $In_{2-x}Sn_xO_{3-y}$ thin films, RF reactive sputtering prep., elec. and optical props. 7—39378
- $In_{2-x}Sn_xO_{3-y}/Ag/In_{2-x}Sn_xO_{3-y}$ magnetron sputtered transparent heat-reflective films, thermal stability study 7—53426
- K-KCl melts metal-nonmetal transition, elec. cond. and optical reflectivity study 7—38457
- $KCLO_4$ single crystals, vibr. anal., optical modes, IR spectra studies 7—22245
- KCl microcrystalline powders, additive coloration 7—32434
- $K_{0.3}MoO_3$, IR reflectivity and Raman scatt. from midgap-state exciton-polaritons 7—33386
- $KZnF_3$, fluoroperovskites, IR refl. spectra, temp. depend. 7—22248
- LaF_3, broadband VUV reflectance coatings for Al mirrors 7—57520
- $LaNiAl_{11}O_{19}$, magnetoplumbite type cpd., synthesis, cryst. growth and struct., electronic spectra 7—44476
- LaS, NaCl type lattice, current carriers and cond. 7—45346
- Li_2CO_3-Na_2CO_3-K_2CO_3 molten salt in direct absorption received, optical props. at high temp. 7—40042
- $LiInS_2$, lattice vibrs. and interatomic forces, IR reflectivity spectra anal. 7—26882
- $LiKSO_4$, high temp. phase transitions, IR spectra study 7—7698
- $LiYF_4$, broadband VUV reflectance coatings for Al mirrors 7—57520
- γ-methacryloxypropyltrimethoxysilane, chem. reaction on PbO surface, Fourier transform IR spectra 7—53308
- Mo-Si multilayer mirror, reflectivity and stimulated emission in XUV spectra region 7—37099
- $NH_4H_2PO_4$, temp. depend. IR active lattice modes in para- and antiferro-electric phase 7—46012
- $NbSe_3$, chain-like conductors, electrical anisotropy 7—52593
- Ni surface phonon generation and picosecond light pulse detection 7—12456
- Pb thin films, surface plasmon detection, attenuated total refl. meas. 7—16961
- $Pb_xCd_{1-x}F_2$, phonon spectra, superionic props. 7—6735
- $Pb_{1-x}Cd_xSe$, inter-band transitions, thermoreflectance study 7—3029
- $PbGeS_3$, vibr. props., spectral study 7—3032
- PbSnTe BH laser reflectivity, lateral confinement effects 7—43090
- Pd Frank-Van der Merwe growth on Ag (111), AES, surface reflectance spectra studies 7—32829
- Pd, reflectivity and electronic struct. studies 7—17298
- Pd_2Si, reflectivity and electronic struct. studies 7—17298
- Rb-RbCl melts, metal-nonmetal transition, elec. cond. and optical reflectivity study 7—38457

reflectivity continued
RbCaF_3, fluoroperovskites, IR refl. spectra, temp. depend. 7–22248
$Rb_{0.3}MoO_3$, IR reflectivity and Raman scatt. from midgap-state exciton-polaritons 7–33386
S, liq., index of refr., refl. and extinction coeff. 0.4 to 2.0 μm, temp. depend. 7–3009
Sb_3Te_3 crysts., pure and Cd-doped, point defects, reflectivity and elec. props. room temp. meas. 7–33008
ScN compensated semimetal single crysts., electronic struct., reflectivity and elec. props. meas. 7–27253
Si, epitaxial wafers and films, temporal behaviour of modulated optical reflectance 7–53422
Si films, laser-induced melting and recrystn., heat transfer algorithm 7–21269
Si, high dose implantation, with Co, Ni, Fe ions struct. and phase modifications 7–12095
Si, optical reflection anisotropy due to surface band bending 7–39062
Si polycrystalline films, optical props. 7–7782
a-Si, prep. by low press. CVD, characts. 7–7884
Si, pulsed laser melting, time-resolved reflectivity meas. 7–2158
Si, reflectivity meas. during pulsed laser irradiation 7–12132
Si surface, (111)2×1, electronic surface transitions studied by polarised light 7–2664
Si surfaces, passivated by H/hydrogen mixtures, surface dielectric layers characterisation 7–17746
Si transiently molten layers, dielec. function, picosec. laser pulse reflectivity meas. 7–52488
Si:As(B), ion implanted, pulsed laser annealing, optical reflection kinetics 7–58323
Si:B(BF_2) wafers, activated carrier density profile and scatt. rate meas., nondestructive IR attenuated total refl. technique 7–22207
Si:Cu, amorphous, explosive crystn., RBS and time-resolved reflectivity studies 7–21265
a-Si:H,B(P) films, optical props. 7–64720
a-Si:H thin films, elec. and optical props., thickness depend. 7–46168
a-Si:H/a-SiN_x:H superlattices, interface struct., optical reflectance determ. 7–12497
Si:P, polycrystalline films, LPCVD, charactn. 7–53615
Si/a-SiO_2/ZrO_2-Y_2O_3, SOI system fabrication, charact. 7–22025
Si-Ag multilayer reflector for EUV 7–20388
Si-Al_2O_3, SOS struct., UV reflectance meas., ellipsometry study 7–33414
SiC, hot pressed, IR optical absorpt. and refl. 7–59167
Si_xN_{1-x} amorphous thin films grown by ion beam assisted deposition, IR and ion beam anal. 7–39209
SiO_2, fused, optical constants, ATR determ. 7–27681
SiO_2 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7–27734
SiO_2-Si interface, insulator props. after exposure to H_2+N_2 and NH_3. 7–59693
SnO_2:F coatings, evacuated window glazings for energy efficient buildings 7–54352
$TaSe_3$, chain-like conductors, electrical anisotropy 7–52593
$(TaSe_4)_2I$, chain-like conductor, Peierls gap, optical study 7–52469
Te crystalline thin films, laser-induced transform., transient conductance and optical meas. 7–12142
TeO_x:Ge,Sn films, optical props., thermal stability 7–39207
TiN coatings, N partial pressure effects on composition, spectral reflectance and colour 7–53420
TiN film deposition by reactive sputtering, hardness and optical props. 7–22481
TiN films, reflectance and colour 7–46160
TiN_x sputtered films on sapphire, elec. and optical props., depend. on substrate temp. 7–39192
$TlGaS_2$, exciton states, absorpt. and refl. spectra 7–46066
$TlGaSe_2$ crystals, exciton spectrum, phase transitions 7–7124
TlI, excitons, band struct., polarised refl. spectra 7–27738
$TlIn_{0.95}Ga_{0.05}S_2$, crystals, vibr. spectra in vicinity of phase transitions 7–17321
$TlInS_2$, crystals, vibr. spectra in vicinity of phase transitions 7–17321
$TlIn(S_{0.8}Se_{0.2})_2$, crystals, vibr. spectra in vicinity of phase transitions 7–17321
$TlSbS_2$, near band gap optical props. 7–7715
U alloys, optical and elec. transport props., review 7–13119
UPt_3 single crysts., electronic structure., low energy reflectivity study 7–45137
VH_x, $(0.60 < x < 0.67)$, optical reflectivity meas. 7–33398
W film deposition by photolytic dissoc., charactn. 7–17466
YIG, optical reflectivity meas. by synchrotron radiation spectroscopy 7–59135
Y_2O_3 film, electron beam evap., struct. characteris. using TEM, opt. props. 7–21732
Y_2O_3, single crystals, optical spectra in VUV 7–53363
$Zn_xHg_{1-x}Se$, far IR spectra study 7–22262
ZnO/Ag/ZnO magnetron sputtered transparent heat-reflective films, thermal stability study 7–53426
Zn_3P_2, optical props. 7–39067
ZnTe, d-core transitions, reflectivity spectra 7–53364
ZrC_x, reactively sputtered films, optical props. 7–39202
ZrC_xN_x, reactively sputtered films, optical props. 7–39202
ZrF_4 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7–27734
ZrN_x, reactively sputtered films, optical props. 7–39202
$ZrTe_3$, optical props. 7–64667

reflectometry
see also microwave reflectometry; time-domain reflectometry
absolute reflectometer for 0.8 to 2.5 μm region 7–56320
angle meas. by multireflected autocollimation 7–35495
black-body reflectometer for room temp. emissivity meas. 7–14990
computer simulation of the photodetection process in optical range finding 7–41467
differential amplitude scanning optical microscope, appl. to surface studies 7–345
fibre optic hydrophones improvement 7–43601
fibre optic sensors, multimode, with freq. output, reflectometric detector arrangement 7–57581
fibre optic simple reflectometer configured to sense temperature 7–25994
fibre reflectometer to monitor refractive index changes in fluids 7–25995
fibrinogen saturated adsorbed layer, variable angle reflectometry *(French)* 7–28459

reflectometry continued
frequency domain reflectometry for fibre/integrated optic systems, high resolution distrib. fibre optic sensing 7–25987
inhomogeneous structs., ellipsometric data anal., complex refl. coeffs. determ. method 7–41430
injection laser application for measuring surfacegeometric parameters 7–4816
IR meas. of grain size and melting degree of snow 7–23719
optical fibre characteristics and industrial production techniques *(French)* 7–1282
optical frequency-domain reflectometry, modulation freq. sweeping, for fibre diagnostics 7–14996
reflection measurements, additional device, spectrophotometer SPECORD 7–9876
surface testing by microscope-TV-computer system 7–14922
swept wavelength reflectometer for integrated-optic measurements 7–41432
temperature measurement by relative spectroreflectometry, intensity functions effects 7–9836
thermal inertia measurement, reflective-cavity method investig. 7–46753
AlGaAs, MOCVD growth, refractive indices meas. by in situ reflectometry 7–59270
Fe-C, ferrite and cementite refl., polishing conditions effect *(German, English)* 7–22938

reflector antennas
see also antenna reflectors
Cassegrain antennas, phase and frequency stability, appls. 7–60547
Cassegrain large antennas, quasioptical coupling of Gaussian beam systems, radiotelescope performance 7–40698
Effelsberg 100 m radiotelescope, surface meas. by microwave holography 7–24005
far field pattern, reflector support boom effect 7–50472
GIOTTO spacecraft high gain antenna mechanical design and development 7–23974
HF field expression, reflector caustic region, Maslov method appl. 7–36852
large space antenna assembly feasibility at space station 7–60540
microwave radiometers, effects of rain on surface 7–9213
multiple reflector antennas, diffraction losses calc., asymptotic transition region theory 7–50471
spaceborne radiometer antenna reflector, MM wave, development 7–23920
strained radiotelescope reflectors, phase distortions compensation, automatic control 7–60541

reflex klystrons
No entries

refraction
see also acoustic wave refraction; electromagnetic wave refraction; refractive index
No entries

refractive index
see also photorefractive effect; refractometers
α-2nP_2 cryst., refractive index temp. hysteresis 7–39071
n-alcohols, IR intensities in liq. phase, OH vibrs., assoc. model 7–53336
alkali halide mixed crystals, phys. props., review 7–37943
alkali halides, refractive index, Szigeti charge, dielec. parameters ab initio calcs. 7–13082
4-(trans-4′-n-alkylcyclohexyl) isothiocyanatobenzenes, mesogenic props. 7–1852
anodic films on Al, double-refraction theory 7–39743
antireflection coatings with Chebyshev and Butterworth spectral responses 7–43321
C thin films, RF discharge deposition, mech., elec. and optical props. 7–22509
cholesteric blue phases, refractometric meas. 7–7664
cholesteric liq. cryst. mixtures, pitch, struct., phase transition point and optical props. studies 7–1881
Corning glass films, RF magnetron sputtered, optical props. 7–57552
$Cu_6PS_5Br(Cl)$, superionic cryst., refractive indices, optical-refractometric correlation *(Russian)* 7–3016
α-cyanoacrylate cements for biomed. equipment, opt. parameters 7–25910
dielectric coatings for laser mirrors, fabrication 7–15965
dielectric cryst., linear magneto-optical effect anisotropy 7–39092
Dralon fibres, gamma-irradiated, optical props. 7–39068
electromagnetics, profile reconstruction, inverse methods, review 7–42857
ethyl cellulose solns., lyotropic mesophase system, refractometry 7–53261
Fermat's principle used to derive $F=ma$ eqn. in medium of varying refractive index 7–35145
ferrofluid, near mm wavelength studies of refr. indices by dispersive Fourier transform spectra 7–53289
fibre mode field transformer between dissimilar waveguides 7–50770
fibres, single-mode with arbitrary index profiles, dispersion calc. 7–25976
fibres, weakly guiding with arbitrary refractive index distrib., anal. 7–11126
fibres with monotonically increasing core radius, mode conversion 7–57590
fluid, chaotically convecting thin layer, temp. field, light scatt. meas. 7–51126
fluoride-glass single-mode fibres, ultralow-loss, design 7–11152
fluorobiphenylalkane nematics, physical and mol. props. 7–38983
fluorocarbon films plasma deposited on Si, ellipsometry studies 7–22373
fluorophosphate glass, type OK1, interrelationship of refr. index, viscosity and F content 7–57492
fused coupler anal. by effective-index method 7–20418
fused taper couplers, depend. on external refractive index, theoretical and expt. study 7–20417
gas, laser beam configs. for cumulative interaction with electrons 7–11584
glass, Ar ion implantation, effect on mechanical and optical props. *(Chinese)* 7–51796
glass, semiconductor-doped, high-speed intensity-dependent refractive index 7–37071
glass substrate, CdS_xSe_{1-x} doped, for thin film waveguides 7–5941
glass waveguides, Ag film diffused, diffusion process and optical props. 7–50737
glasses, optical basicity and refractivity 7–7660
heavy metal halide glass fibres, IR materials, dispersion shifted fibre designs with low bending losses 7–37177
heavy metal halide glass fibres, single mode, at long wavelengths, ultra low microdeformation loss predictions 7–37176

refractive index continued
- high-power single mode operation of index-guided inner stripe (I^2S) laser by MOCVD 7—50592
- II-V semiconds., cryst. growth, characterisation and appls., review 7—26685
- II-VI semiconductors, refractive index dispersion and two-mode refl. spectra behaviour calc. model *(Russian)* 7—45971
- inhomogeneous films, optical props., model *(French)* 7—59278
- inorganic crystals, optical rotary power and refractive index 7—33357
- inverse problems and the Newton-Kantorovich method 7—62596
- ionic crystals, electronic polarisabilities and photoelastic behaviour 7—44444
- isobutyric acid-H_2O, near-critical binary fluid mixture, refractive index, Lorentz-Lorenz rel. 7—7659
- $LiNbO_3$ proton-exchange 128° Y-cut optical waveguides, acousto-optic interaction effects 7—62824
- magnetically ordered crysts., optically active, refractive indices and refraction vectors 7—59173
- metallography, interference layer technique, phase optical consts., data collection construction *(German, English)* 7—4645
- methanol-isooctane mixture, coexistence curve determ. by meas. refractive index 7—38162
- molecular gas, vibr. excited, polarisability and refr. index 7—44097
- monoclinic crystals, molecular refractivities and anisotropies, variances 7—7665
- MQW waveguides, transmission characts., matrix method anal. 7—1261
- multiple quantum wells and superlattices, refractive index, exciton effects 7—13115
- multipoint fibre optic refractive index sensors 7—43419
- nematic liq. cryst. refractive indices, mol. statistical theory 7—37852
- nematic liq. crystals, molecular association, influence on dielectric and electro-optic props. 7—16407
- nematic liquid crystals, Frank constants, effects of compression 7—63702
- nickel phthalocyanine films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
- nitromethane, shock-compressed, refractive index, laser interferometric meas. 7—30081
- nonlinear guided-wave phenomena, review 7—57422
- nonlinear surface polaritons 7—2507
- nylon bicomponent fibres, optical props., interf. determ. 7—45974
- optical crystals, (001) plates, photoelastic optical inhomogeneity 7—43272
- optical fibre, stress-applied, with inhomogeneous core *(Japanese)* 7—50780
- optical films, ion-assisted thin film deposition and applications 7—39434
- organic fusion reactor coolant, radiation stability, refractive index meas. 7—62059
- paper, optical constants determ. in FIR, inverse synthesis determ. method 7—3010
- pentacene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
- n-pentane, field asymmetry of the critical-isotherm equation and the gravitational effect 7—33349
- n-pentane-dichloromethane, excess thermodynamic props. 7—52079
- PET, drawn sheets, molecular orientation, Raman spectra, refractive index 7—53318
- PET film, trichroic IR absorpt. analysis, methods description 7—33380
- planar optical waveguide, Si-clad, numerical anal. *(Japanese)* 7—6000
- PMMA, refractive index, thermal variations 7—33369
- PMMA, shock-compressed, refractive index, laser interferometric meas. 7—30081
- polydimethylsiloxane, refr. index and thermal expansion coeff. variations with temp. 7—39060
- polystyrene, refractive index, thermal variations 7—33369
- polyvinyl acetate film, trichroic IR absorpt. analysis, methods description 7—33380
- powders, finely dispersed, optical consts. light scatt. 7—39138
- precision millimetre wave meas. in birefringent and ceramic materials 7—14978
- quartz, ion implanted optical waveguides, refractive index profiles 7—25964
- reabsorption correction for luminophor, influence of refractive index 7—937
- reflection in turbulent atmosphere under induced temperature nonuniformity of refractive index 7—60384
- ridge waveguide lasers, 1.55 μm bridge contacted, gain guiding to index guiding transition 7—57322
- rugate filter simulation via stepped-index dielec. multilayer 7—1251
- sapphire, shock-compressed, refractive index, laser interferometric meas. 7—30081
- satellite communications, amplitude scintillations, meas. and preliminary effects *(Italian)* 7—23821
- semiconductor active waveguides, gain-guided modes 7—50563
- semiconductor gain medium carrier-induced refractive index change, saturation effects 7—43103
- semiconductor lasers, index-guided, self stabilisation of fundamental lateral mode 7—57320
- semiconductor narrow and wide bandgap materials, refractive indices 7—13118
- semiconductor thin films, weakly absorbing, thickness, optical consts. and relax. time determ. 7—39194
- semiconductors, ferromagnetic, dielectric function and reflectivity above T_c 7—7661
- sheared cholesteric polymer refractive index evolution mechanisms study 7—13120
- silica, fused, shock-compressed, refractive index, laser interferometric meas. 7—30081
- silica glass, F-doped, fabrication by sol-gel method 7—43277
- single mode fibre dispersion prediction, equivalent-step index parameters 7—43411
- single-mode fibres, circular and polarisation-maintaining, 2D index distrib. determ. from near-field meas. 7—11118
- single-mode fibres, dispersion-determined limits on production tolerances 7—11119
- single-mode fibres, refr. index profile determ. by far-field power meas. at 1300 nm 7—1272
- solar cells, optical sheets, intensity enhancement by surface texturing 7—46940
- SOS films, pulsed laser beam excitation, femtosecond dynamics 7—13249
- SOS films, regrowth rates of amorphous layers created by self-implantation 7—16661
- stimulated Raman scattering, transient refractive-index changes 7—20332
- stimulated scattering of light in unstable resonators 7—43225

refractive index continued
- surface waveguide nonlinear props. 7—57486
- tetracene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
- transparent ferroelectric ceramics, cryst. chem. and struct. props. and modifications 7—6590
- vapour layer on liquid surface, mathematical model 7—20843
- water, wavelength of light, classroom demonstration 7—35167
- water media, refractive index, macrocorrel. bond effects, polarisation-interference method studies *(Russian)* 7—59174
- water vapour refr. index in IR windows, 19 to 7.8 μm 7—39066
- waveguides in glass multimode planar and channel appl. of refracted near-field technique to profile meas. 7—20424
- Si, low energy ion beam damage, ellipsometric characterisation, two-film optical model 7—27680
- $AgGaSe_2$, optical band-pass filter using accidental isotropy and optical activity 7—15966
- Ag_2O-Tl_2O-B_2O_3 glasses, physical props. and tandem monovalent ions effect 7—3013
- AlGaAs, MOCVD growth, refractive indices meas. by in situ reflectometry 7—59270
- Al_2O_3 films, optical props., stoichiometry depend. 7—53421
- Al_2O_3 thin films, spectral ellipsometric TEM and electron spectra studies 7—27208
- As-Se:Ag amorphous films, Ag doping profiles, ellipsometric studies 7—7779
- As_2S_3 chalcogenide glass, photoinduced gradient waveguide form. *(Russian)* 7—43374
- As_2S_3 films, prep. by spin coating or melt quenching, optical props. 7—39208
- Au films, sputtered, optical and elec. props., influence of surface scatt. of electrons 7—52858
- BN, film, optical energy gap, density, hardness 7—39204
- BN MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7—22023
- Ba_2NaNb_5-O_{15}, parametric light scattering, nonlinear diffraction 7—37044
- $Ba(PO_3)_2$-AlF_3-NaF system, glass form. and props. 7—11929
- $BaTiO_3$, hexagonal, optical props. around 222K struct. phase transition 7—27685
- Bi films, IR and visible spectra, refractive index, extinction coeff. and dielectric const. 7—46156
- $Bi_4Ge_3O_{12}$ single cryst. growth, characterisation and appls. 7—33550
- Br_2, liquid, optical props. 7—17294
- C films, diamond like, prep. and props. 7—22472
- C films, transparent, sputter- and plasma-deposition 7—22474
- C MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7—22023
- a-C:H, film, optical energy gap, density, hardness 7—39204
- a-C:H, films, plasma deposition characterisation of hydrocarbons used 7—39422
- a-C:H films, plasma deposited, optical props. 7—27799
- CO_2 ice, absorpt. coeff. and refr. index, laboratory meas. UV to microwave, review 7—3008
- CO_2 waveguide laser, anomalous refr. indices of amplifying medium 7—36933
- CO_2-ethane gaseous mixture, determ. of virial coeffs., ref. index meas. method 7—51362
- $CdGa_2S(Se)_4$ defect chalcopyrite struct. crysts., linear optical response, atomic core electron contrib. calcs. 7—39061
- CdS, refractive index nonlinearity due to excitonic molecule resonance state 7—11044
- CdS_xSe_{1-x} doped glasses, optical nonlinearities 7—57431
- CdSe crystals, laser beam defocusing, rel. to Hall mobility and carrier density 7—52652
- Cd_2SnO_4, CVD, struct., elec. and optical props. *(Korean)* 7—27940
- CsBr-AgBr fibres, growth by Stepanov's method 7—31533
- $CsNO_3$-$NaNO_3$ system, molten, refractive indices 7—64598
- Cu-Fe alloys, electronic structure and impurity states, optical investigations *(Russian)* 7—32943
- GaAS-GaAlAs MQW waveguides, nonlinear propag. 7—26033
- GaAlAs laser, collinear nearly degenerate four-wave mixing in amplifying media 7—11071
- $Ga_{1-x}Al_xAs$ MIS and SIS structures, prep. by metallorganic chem. hydride method, electrophysical props. 7—22018
- GaAs, ion implanted and laser irradiated, defect studies 7—32432
- GaAs, nonlinear refractive index, dispersive nonlinearities meas. 7—43192
- a-GaAs, optical absorpt. and refractive index spectra 7—27735
- GaAs, refractive index dispersion, Fabry-Perot cavity oscillations obs. 7—59171
- GaAs waveguide, thermal index changes by optical absorpt., all-optical signal processing 7—31381
- GaAs/AlAs quantum well structures, electroreflectance spectra and field-induced refractive index modulation 7—13135
- GaAs-$Ga_{1-x}Al_xAs$ heterostruct., light interf. meas. of thickness and comp. during epitaxial growth 7—64026
- GaAs-GaAlAs MQW optical waveguides, nonlinear props. 7—37027
- GaInAs/InP, nonlinear optical absorpt. at room temp. 7—59169
- GaInAsP/InP, planar single mode heterostructures, calculated characts. 7—31326
- $(Gd,Sc)_3Ga_5O_{12}Nd,Cr$, spectroscopic, optical and thermo-mechanical props. and laser performance 7—10963
- Ge, holes optical effective mass, determ. by interf. method 7—17290
- Ge:P crystals, seeded growth in soft lined crucible, dopant distrib. 7—53559
- Ge-Se:Ag amorphous films, Ag doping profiles, ellipsometric studies 7—7779
- H_2 stimulated Raman scattering around 126 nm effect of refractive index dispersion 7—20326
- HfO_2-Ln_2O_3, (Ln=Y,Gd,Tb,Er,Yb), solid soln. single crysts., physico-chem. props. 7—2097
- I_2, liquid, optical props. 7—17294
- $In_{0.52}Al_{0.48}As$ optical waveguides, MBE growth on InP 7—11107
- InGaAs/InP multiple quantum well waveguides, low loss, MOCVD growth 7—43358
- InGaAsP-InP optical switches, carrier induced refractive index change 7—57606
- InGaAsP-InP waveguides, optical parameters 7—62831
- In_2O_3:Sn films, electron effective mass determ., refractive index carrier density depend. meas. 7—38440
- InP refractive index and its temp. coeff. at 0.96 to 13 μm 7—39070

refractive index continued
- InP waveguide, thermal index changes by optical absorpt., all-optical signal processing 7—31381
- InSb, transient grating formation under two-photon excitation 7—11037
- KI crystal, dispersion curves near 1s and 2s exciton resonances 7—53260
- KNO_3-glass, ion-exchange diffusion, planar waveguides 7—11108
- Li-P-O-N glass, prep. and characterisation 7—26654
- LiF, shock-compressed, refractive index, laser interferometric meas. 7—30081
- $Li_{1-x}H_xNbO_3$, struct. and props. 7—12017
- α-$LiIO_3$ crystals, anomaly of optical props., 100 to 140°C, influence of growth defects 7—59172
- $LiMO_3$ (M=Nb,Ta), ion implanted optical waveguides, refractive index profiles 7—25964
- $LiNbO_3$ films, sputter deposition, refractive index 7—7851
- $LiNbO_3$, He^+ implantation, lattice disorder, refractive index changes 7—25966
- $LiNbO_3$, optoelectronic material, radiation effects 7—26811
- $LiNbO_3$, photoinduced light scatt. 7—3011
- $LiNbO_3$ proton-exchanged single cryst. optical waveguides, electro-optic effects, lattice const. and refractive index changes meas. 7—22220
- $LiNbO_3$ substrates, growth and composition effects 7—26025
- $LiNbO_3$, temp. tuning coeff., meas. using SHG based interferometry 7—11051
- $LiNbO_3$:Fe cryst., Raman spectra, photo-induced refractive index change effects 7—53300
- $LiNbO_3$:Fe crystals, refractive index gratings, microphotometric study 7—62649
- $LiNbO_4$ crystal, surface photorefractive effect under UV laser irradiation 7—2057
- $LiTaO_3$ substrates, growth and composition effects 7—26025
- $NaBF_4$, orthorhombic, cryst. growth and phys. props. 7—7834
- Na_2O-CaO-SiO_2 coating glass for optical fibres, preparation 7—7949
- Na_2O-TiO_2-GeO_2 glasses, refractive index, density 7—59170
- $NaPO_{2+x}N_y$ glass prep. and props., comp. calcs. 7—7951
- Os single cryst., energy band struct. and optical absorpt. studies 7—16938
- PLZT transparent ceramics, laser beam self-deflection and self-focusing meas. 7—5960
- PbF_2-GaF_3 glass films, vacuum deposition 7—64905
- PbSnTe BH laser reflectivity, lateral confinement effects 7—43090
- $PbTiO_3$, cryst. optical studies of precursor and spontaneous polarisation 7—45921
- Pd, optical constants measured by a multiple-wavelength ellipsometer 7—27683
- Pd_2Si and PdSi, optical constants measured by a multiple-wavelength ellipsometer 7—27683
- RbI crystal, dispersion curves near 1s and 2s exciton resonances 7—53260
- Rb_2ZnCl_4, cryst., incommensurate modulation, light propag. 7—22196
- S, liq., index of refr., refl. and extinction coeff. 0.4 to 2.0 μm, temp. depend. 7—3009
- Sb-S, thin films, amorphous and thermally annealed, optical props. *(Russian)* 7—17352
- Sb-Se, thin films, amorphous and thermally annealed, optical props. *(Russian)* 7—17352
- Sc thin films, vacuum-deposited, struct. and optical props. 7—58698
- Si, complex refractive index meas. during pulsed laser annealing 7—45970
- Si, electrooptical effects 7—59182
- Si, high dose implantation, with Co, Ni, Fe ions struct. and phase modifications 7—12095
- Si, ion bombarded with H ions, refractive index variations in the near-surface region 7—17299
- Si, ion implanted, damage profiles, multilayer anal. by optical spectra *(Chinese)* 7—58294
- Si, thermal and electronic transport, photothermal deflection spectroscopy 7—32731
- Si:As, ion implantation, damage profiles determ. by spectroscopic ellipsometry and stripping *(Chinese)* 7—32468
- a-Si:H, glow discharge thin films, deposition rate, optical props., influence of substrate temp. 7—59460
- a-Si:H, laser-assisted CVD growth, optical props. 7—22210
- a-Si:H, optical dispersion relations, determ. 7—33353
- a-Si:H, photoinduced absorpt., ps decay 7—27684
- a-Si:H, picosecond photoinduced absorption decays, interference effects 7—3012
- Si:H (100) proton bombarded surface, complex refractive index profile, ellipsometry study 7—22216
- a-Si:H sputtered film, low-temp. optical props. 7—3101
- a-Si:H thin films, elec. and optical props., thickness depend. 7—46168
- a-Si:H/a-$SiO(N)_x$:H multilayer films, interface electroabsorpt. meas. 7—2689
- Si-Ag multilayer reflector for EUV 7—20388
- SiN films, plasma CVD deposition and props. *(Japanese)* 7—13381
- SiN, microwave plasma deposition, fabrication and characterisation 7—39421
- a-SiN_x:H plasma-enhanced CVD film props. rel. to SiH_4-N_2 gas vol. ratio, RF power and substrate temp. *(Korean)* 7—3201
- a-$Si_{1-x}N_x$ films, plasma CVD deposited, as antireflective coatings for solar cells *(Japanese)* 7—23141
- Si_3N_4, amorphous, optical dispersion relations, determ. 7—33353
- Si_3N_4 antireflection coating, sputter deposition and optical props., laser appls. 7—59421
- Si_3N_4 film synthesis by ion-assisted deposition, antireflection coating use 7—37213
- Si_3N_4 films, plasma-enhanced CVD deposition from $SiH_4/NH_3/N_2$ mixtures 7—39414
- Si_3N_4 films prep. by ECR plasma CVD, phys. and elec. props. 7—58716
- Si_3N_4, laser activated CVD, deposition rate, refractive index 7—33591
- a-Si_3N_4:H films deposited by plasma enhanced CVD, optical and elec. props. 7—39205
- Si_xN_{1-x} amorphous thin films grown by ion beam assisted deposition, IR and ion beam anal. 7—39209
- SiO thin dielec. film, deposition on Kodial glass, optical props. 7—7872
- SiO_2, amorphous, thermal, UV irradiation induced compaction and photoetching 7—12146
- SiO_2 amorphous optical fibers, material dispersion study over IR region 7—7663
- SiO_2 film interference system, influence of normal nonhomogeneity of refractive index *(Czech)* 7—64712
- SiO_2 film on Si produced by thermal oxidation 7—65228
- SiO_2 film synthesis by ion-assisted deposition, antireflection coating use 7—37213

refractive index continued
- SiO_2 films on Si, low-temperature annealing, interfacial props. of MOS structures 7—46526
- SiO_2, kinetics of growth on Si, optical props. 7—17740
- SiO_2, laser activated CVD, deposition rate, refractive index 7—33591
- SiO_2, optoelectronic material, radiation effects 7—26811
- SiO_2, refractive index changes formed by N^+ implantation 7—25915
- SiO_2:F, P fibres, dopant materials behaviour in MCVD process 7—20462
- SiO_2:GeO_2 integrated optical waveguides, laser heating effect on opt. props. 7—50792
- SiO_2-TiO_2 channel waveguides, for low radiation loss branching/combining optical circuit 7—31458
- SiO_x, amorphous, photoassisted oxidation 7—46662
- SiO_x films deposited by reactive evaporation, characterisation 7—64013
- SiO_xN_y films, deposited by plasma-enhanced CVD, charact. 7—2413
- SiO_xN_y films, PECVD deposited, props. as selective diffusion barrier 7—2440
- SiO_xN_y plasma-enhanced CVD films as selective Zn diffusion barriers 7—12539
- SiO_xN_y, plasma-enhanced deposited oxynitride films, IR and UV transmission 7—33474
- SiO_xNy dielectric waveguides, optical props. 7—57535
- SiO_2-TiO_2 solid solutions, phase relationships and spectroscopic features 7—63826
- $SmClO_3$, water soln., nonlinear refractive index meas. 7—27682
- SnTe:Bi epitaxial layers, vacuum deposition, optical and electrical props. 7—59430
- TeO_2-based halide glasses, prep., thermal, mechanical, elec. and optical props. characterisation *(French)* 7—37884
- TeO_x:Ge,Sn films, optical props., thermal stability 7—39207
- Ti film on Si, heat treatment in O_2, N_2 or O_2/N_2, Ti silicides, TiO and TiN formation 7—65191
- Ti surface oxide films, anodic and cathodic polarisation, ellipsometric anal. *(Japanese)* 7—33828
- TiN thin films, optical const., thickness and preparation effects 7—13241
- TiO_2, amorphous, optical dispersion relations, determ. 7—33353
- TiO_2 film interference system, influence of normal nonhomogeneity of refractive index *(Czech)* 7—64712
- TiO_2 thin dielec. film, deposition on Kodial glass, optical props. 7—7872
- TiO_2/SiO_2 Fabry-Perot filters, index meas., influence of deposition parameters on wavelength shift 7—37115
- TlBr-TlCl fibres, growth by Stepanov's method 7—31533
- TlBr-TlI polycrystalline fibres with crystalline cladding, optical characts. 7—37186
- $TlNO_3$-glass, ion-exchange diffusion, planar waveguides fabrication 7—11108
- WO_3 thin films, refractive indices, emissivity studies *(French)* 7—64718
- YIG, epilayers, SIMS anal. 7—27207
- Y_2O_3 film, electron beam evap., struct. characteris. using TEM, opt. props. 7—21732
- ZnCl aqueous soln., shock-compressed, refractive index, laser interferometric meas. 7—30081
- ZnS film, ellipsometric in situ studies of growth 7—39196
- ZrO_2 single crystals, stabilised, growth by skull melting technique, charactn. 7—53560
- ZrO_2 thin films, high index, optical consts. in UV region 7—7775
- ZrO_2 thin films, optical consts. in UV regions, influence of evaporation parameters 7—39193
- ZrO_2-SiO_2 optical films, struct. modification by coevaporation 7—45064

refractive index measurement
- *see also refractometers*
- air, in precision rangefinding, error of point approx. method 7—66342
- asymmetrical elliptical preforms or fibres, index profile meas. 7—50760
- combined qualitative and quantitative methods 7—41434
- computer-controlled reflection and transmission meas. of semiconductor thin films 7—4902
- dielectric thin films, refr. index and thickness meas. using waveguide props. 7—56323
- dralon fibres of kidney cross-sectional shape, double refr. meas. 7—4882
- environmental conditions induced errors correction 7—340
- fibre optic simple reflectometer configured to sense temperature 7—25994
- fibre reflectometer to monitor refractive index changes in fluids 7—25995
- fibres and preform rods refractive index profile reconstruction from transverse interferometric data 7—11113
- glasses, optical, holographic interferometry of instantaneous deform. *(Chinese)* 7—57611
- holographic, spectroscopy for refraction indicators determ., layer thickness meas. appl. 7—9877
- IR coating refractive index meas., automatic expt. setup *(Chinese)* 7—48831
- light guide measurement instruments *(German)* 7—62851
- liquid, index meas. using Gaussian beam transformation by Winkelmann-Abbe bi-prism 7—42904
- liquid mixtures, refractive index meas. using speckle based fibre optic sensor 7—11124
- nonlinear refractive index, measurement using monochromatic spatially modulated wave 7—62750
- optical fibres, refractive indices and birefringence meas., interferometric methods 7—29644
- optical microscope, differential phase simplified, for surface topography and index variation meas. 7—9893
- optical thin film, thickness and refractive index determ., reflection and transmission meas. *(German)* 7—61370
- paper, optical constants determ. in FIR, inverse synthesis determ. method 7—3010
- planar graded waveguides, parameters meas. in near IR, refractometric method 7—37150
- PMMA-phosphate plasticizer systems, phase equilibrium and struct. *(Russian)* 7—63515
- polymers, permittivity, loss tangent and refractive index meas., mm-wave technique 7—18820
- reference materials anal. for refractive index meas. 7—56321
- rotating linearly polarised light source for optical meas., using acousto-optical filter 7—18850
- semiconductor films, absorbing, optical constants from transmission and reflection props. 7—41433
- shock-compressed transparent materials, refr. index meas. using laser interferometry 7—30081
- spatially extended refr. index fields, speckle photography 7—41431
- thin films, dispersion meas. using interf. method 7—18863

refractive index measurement continued
- thin films, optical constants and thickness meas. by two-incident angle ellipsometry *(Chinese)* 7−48828
- thin films, thickness and refractive index simultaneous measurement by spectral analysis *(Japanese)* 7−24688
- transparent media refractive index determ. by diffraction method 7−41435
- U-shaped curved multimode fibre sensor for process refractometry and temp. meas. *(German)* 7−11160
- water-content meas., systematic error reduction by structural method and microcomputer 7−48832
- waveguide, refractive index profiling using propagation-mode near-field method 7−11141
- waveguide ion-exchanged slab, charactn. 7−43372
- Ar, refractive index meas. in diamond anvil cell 7−35534
- $LiNbO_3$ integrated optical substrates, refractive index meas. by total internal reflection 7−26027

refractivity *see refractive index*

refractometers
- eye examination setup, OAP-311, rational refraction system 7−8747
- rangefinding by optical method, precision, for long baseline meas., error of point approx. method for air integral refr. index 7−66342

refractometry *see refractive index measurement*

refractories
- *see also ceramics; cermets; clay*
- carbide powder, mech. treatment model, energy characts. 7−53653
- carborundum refractory provisions with aluminium-chromium phosphate binder 7−46395
- compactum under quadrilateral compacting press. 7−13397
- corundum-graphite, thermomech. props. 7−22806
- creep, long-term strength characts., parametric methods suitability 7−22942
- electrical insulators for liq. metal blankets of fusion reactors 7−49624
- electron microscopy studies, symposium, Nantes France (July 1986) 7−18479
- engine appl., conf., London, England (Nov. 1985) 7−5
- failure mode anal. of refractory brick in rotary kiln burning zones 7−28140
- failure with thermal loads, anisotropy effects, US propag. obs. 7−33791
- films, mech. props., struct., test methodology 7−33684
- hard coatings, multicomponent systems selection 7−46668
- icosahedral boron-rich solids 7−63537
- laser-induced vaporization mass spectrometry of refractories 7−23079
- metal nitride films, prep., props., microelectronics appls. 7−33557
- metals, crystal growth and surface self-diffusion in high elec. fields, FEM studies 7−37914
- mullite-corundum, creep behaviour rel. to struct. features 7−22770
- photoelectric method for the simultaneous measurement of longitudinal and transverse deformations of specimens 7−33875
- specific heat, resistivity and integral emissivity meas., automatic high-speed pulse meas. 7−4842
- ultrahigh-temperature thermionic conversion in space nuclear power, material considerations 7−65506
- US flaw detection of refractory products 7−22960
- Al_nM chem. reaction, M=refractory metal, for Si LPE layer form. 7−7043
- Al_2O_3-TiN composite, interfacial reaction and mass transport of components during sintering 7−3254
- BeO powder prop., porous struct. changes during heating of powdered hydroxide and basic carbonate 7−22617
- Hf-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7−28018
- HfC, HfN, refractories, basic props., survey 7−64883
- Mg-SiO-H_2, nucleation, physical spinodal theory 7−21428
- $MgAl_2O_4$:He spinel, implanted, high temp. electron irrad., structural damage 7−51829
- Mo, laser photochemical etching by surface halogenation 7−46676
- Nb/Yb-YbO_x/Nb all-refractory Josephson junction 7−38818
- NbC heaters use in α-SiC single cryst. growth 7−27881
- NbN_xC_y superconducting thin films, dual ion-beam sputter deposition 7−2758
- Ni-base superalloys, age hardening, ordered strengthening phase characts., electron microscopy *(French)* 7−22710
- Ni-Co based refractory alloys, γ'-phase strengthening rel. to comp 7−46496
- SiC refractory materials, passive oxidation 7−13612
- SiO-H_2, nucleation, physical spinodal theory 7−21428
- SiO_2, corrosion by molten Mn steel *(Japanese)* 7−65167
- Ti-Mo(W)-N, phase equilibria between high melting nitrides and refractory binder metals 7−28018
- TiB_2-MoB base electrode materials for elec. spark alloying 7−28205
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7−3255
- $Ti_xMo_yC_z$-TiO_2-C black mixture, complex carbide interactions on heat treatment, homogenisation 7−53684
- TiN, deformation-induced stacking faults, synthesis by vibratory milling 7−44572
- $TiSi_2$ ultrafine powder prep. and film charactn. 7−64975
- VN, deformation-induced stacking faults, synthesis by vibratory milling 7−44572
- W, laser photochemical etching by surface halogenation 7−46676
- WC-Co composites, plastic deform. mechanisms, dislocation struct., TEM obs. *(French)* 7−22765
- W_5Si_3-GaAs, Schottky contact, electrical and metallurgical studies 7−27422
- Zr-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7−28018
- $ZrC_{0.98}$, sintered polycryst., primary recrystn. process 7−28056
- ZrO_2, Y_2O_3 stabilised thermal barrier coatings, ionisation assisted physical vapour deposition 7−46349

refractory materials *see refractories*

refrigeration
- *see also cryogenics; freezing; low-temperature production*
- 1.5K cryogenerator for radioastronomical use 7−30023
- closed-cycle cooler, simplified cold head design 7−56277
- cooling device for operation at 10K, mounting without rot. seals on four-circle diffractometer 7−14954
- cryogenic engineering conf., Berlin, Germany (April 1986) 7−48183
- cryorefrigerator for neutron diffractometer, unit for holding and centering on a Eulerian cradle 7−30019

refrigeration continued
- diamond-anvil cell and closed-cycle refrigerator system 7−41400
- dilution refrigerators commercially available *(Japanese)* 7−41394
- expansion turbine, miniature cryogenic, gas bearing with tangential feed holes, instability onset speed 7−56289
- expansion turbines, gas-bearing miniature, high-performance dynamic balancing system 7−56288
- far-IR detectors cooling technology *(Japanese)* 7−56340
- heat pump cycles and refrigeration-machines, maximum capabilities 7−37457
- hybrid closed-cycle cryocooler, for DC SQUID use 7−56278
- LEP collider, refrigeration system of superconducting accelerating cavities 7−49780
- magnetic refrigerator, Ericsson, regenerator and working material heat transfer process 7−56284
- magnetic refrigerator, performance improvement by He condensation heat transfer enhancement 7−56283
- magnetic refrigerator, rotary, for superfluid He production 7−35525
- magnetic refrigerator, rotating, for He liquefaction 7−56282
- miniature refrigerators, review 7−48750
- NMR superconducting magnets, refrigerator coding systems 7−54713
- piston expander, balanced pressure, ideal cycle analysis 7−56275
- poultry processing plant refrigeration heat recovery system 7−8428
- rare earth aluminium RAl_2 layered structural sintered composite, mag. entropy 7−59016
- refrigerants and mixtures, eqn. of state, hard sphere calc. 7−56273
- rotary jet expanders, isentropic efficiency, influence of transient performance in press. pulse tubes 7−14953
- satellite refrigerator efficiency, influence of heat exchanger longit. heat cond. 7−56274
- shuttle heat transfer losses in split-cycle Stirling refrigerator 7−56287
- solar cooling by direct evaporation from sprays 7−37532
- solar refrigeration using NH_3H_2O system in Egypt 7−40041
- superconducting equipment refrigeration technology develop. using liquid He 7−18790
- two stage Gifford-McMahon cycle cryorefrigerator operating at 20K 7−14951
- Vuilleumier refrigerator with mag. linkage, test and analysis 7−56290
- $CaCl_2$ absorbent for solar refrigeration, binding materials for structural improvement 7−23222
- $Dy_3Al_5O_{12}$, refrigerant characts. for Carnot mag. refrigerator 7−56286
- EuS, refrigerant capacity and use in mag. cooling 7−56285
- $Gd_3(Ga_{1-x}Fe_x)_5O_{12}$ and $GD_3[Al_3(Ga_{1-x}Fe_x)_2]O_{12}$, mag. solid soln. systems for regenerator materials 7−59015
- $Gd_3Ga_5O_{12}$, refrigerant characts. for Carnot mag. refrigerator 7−56286
- $Gd_3Ga_5O_{12}$, sintered, mag. refrigerant, Kapitza conductance to He II 7−58603
- $Gd_3Ga_5O_{12}$, use in mag, refrigerator for He liquefaction 7−56283
- $Gd_3Ga_5O_{12}$, use in rot. mag. refrigerator for He liquefaction 7−56282
- He compressor, regenerative oilfree, for cryopumps 7−56298
- He Joule-Thomson satellite refrigerator, advantages 7−48755
- He liquefaction, condensation heat transfer enhancement for mag. refrigerator performance improvement 7−56283
- He liquefaction, refrigerant characts. of $Dy_3Al_5O_{12}$ and $Gd_3Ga_5O_{12}$ 7−56286
- He liquefaction, rot, mag. refrigerator design 7−56282
- He liquefier, condensing and freezing purification system 7−56280
- He liquefier with turbo-expanders, prediction method for cool-down characts. 7−56276
- He refrigeration, large scale 7−48749
- He, small capacity refrigerators, perforated plate heat exchanger matrices 7−56279
- ^{4}He refrigerators for large superconducting devices, thermodynamic optimisation 7−48753
- ^{3}He-^{4}He dilution refrigerator, liquid He cooled trap 7−319

refrigerators
- low-cost solar-energy stimulated absorption refrigerator for vaccine storage 7−65576
- solar-powered solid-adsorption ice maker design 7−65585
- solid gas adsorption cooling system, refrigerator and heat pump using natural zeolite 7−65567
- Stirling cryocoolers, trends and development 7−65535
- thermoelectric refrigerating machines calc., eval. of accuracy 7−34049

regenerative receivers *see radio receivers*

Regge poles and trajectories
- bare pomeron trajectory calcs., vacuum Regge singularity Green's function in QCD 7−41773
- boson resonance decay width calcs., Reggeon anal. 7−5009
- charmed particle formation, quark-gluon-string model 7−41750
- demibootstrap approach to hadron-spectrum dynamics 7−19064
- hadron squared mass spectrum, stochastic approach 7−30261
- hadronic systems eqn. of state, S-matrix statistical mechanics formulation, many-particle process effects *(Russian)* 7−41772
- Klein-Gordon equation, gluonium and Regge trajectories 7−9974
- multipomeron exchange processes, improved Regge-eikonal model and multiplicity distribs. 7−19089
- N-reggeon vertex, BRST invariance 7−41765
- O(2) superstring theory, BRST quantization and Regge trajectory 7−19039
- quark-antiquark linear pot., Regge trajectories 7−19091
- relativistic string, closed, rotational motion and vacuum trajectories 7−61507
- repeat 1st entry 7−36724
- spectrum supersymmetry of Regge trajectories 7−5079
- strings, equations of motion with rigidity, classical solns. 7−49119
- three-reggeon vertex, props. in string theories 7−49107
- $hN \to h'X$,100 GeV, longitudinal hadron momentum distrib. calcs. and reggeon, pomeron exchange, quark-parton model anal. 7−61749
- $K^-p \to \pi^-\Sigma^+$, 5-140 GeV, extensive reaction anal., strange Regge trajectory props. 7−61747
- $K^-p \to \pi^-\Sigma^+$, pole plus cut model anal. 7−15174
- π structure function, Fock state expansion of hadronic wave function in QCD *(Chinese)* 7−24887
- $\pi^-p \to \eta\eta' n(\eta\eta n)$, cross sections, double-Reggeon graph contributions, mass spectra structure in $\phi\pi^0$ and $\eta\eta'$ systems 7−61770
- $\pi^-p \to \phi\pi n$, cross sections, double-Reggeon graph contributions, mass spectra structure in $\phi\pi^0$ and $\eta\eta'$ systems 7−61770
- $\pi^+p \to K^+\Sigma^+$, 5-140 GeV, extensive reaction anal., strange Regge trajectory props. 7−61747
- $\pi^+p \to K^+\Sigma^+$, pole plus cut model anal. 7−15174

Reggeon field theory
  hadron-nucleus reactions, superhigh energy cross sections in critical and supercritical Pomeron models 7—19090
  Hamiltonian field theory, spectral props. *(French)* 7—61506

Reggeons *see Regge poles and trajectories*

regulators *see controllers*

Rehbinder effect *see mechanical properties of substances; surface phenomena*

relational databases
  dBase III files for maintenance of undersea features names on IBM compatibles 7—65927
  LWR System Analysis and Risk Assessment system 7—15289
  molecular structures and properties, display system, Winchester Graphical System 7—49875
  neurosurgical intensive care unit, computerised monitoring system 7—34320
  nuclear power plant emergency response and security system 7—42141
  water level measurement stations prototype network, test and evaluation software 7—66364

relative density *see density*

relative humidity *see humidity*

relativistic band structure calculations
  1D disordered systems, relativistic electronic states 7—12584
  diatomic crystal, 1D relativistic model, transfer matrix and dispersion relation 7—52382
  Kondo lattice, heavy fermion band form., effective magnetic moments, and Wilson ratio, relativistic KKR calcs. 7—22091
  Kramers' theorem in the relativistic electronicstructure calculation 7—7098
  relativistic surface states of distorted surfaces, relativistic Kronig-Penney eqn. 7—7319
  s-dimensional semiconds., Fermi energy, relativistic corrections, free-Fermi-gas model calcs. 7—2465
  semiconductor heterojunctions, interface states, 1D relativistic models 7—52753
  surface states, relativistic, of finite crystal 7—2662
  CsI, high press. metallisation, relativistic self-consistent APW calcs. 7—21812
  GeO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7—64077
  GeTe, energy bands, relativistic empirical tight binding theory 7—45149
  Pb, self-consistent relativistic band struct., normal and high press. 7—52413
  PbTe(Se)(S), energy bands, relativistic empirical tight binding theory 7—45149
  SnO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7—64077
  SnTe, energy bands, relativistic empirical tight binding theory 7—45149
  Sr, relativistic band struct., self-consistent calcs. under normal and high press. 7—64068
  Ta, Compton profiles, APW calcs. 7—27809
  TeO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7—64077
  UAu_3, band struct., theoretical XPS intensities 7—39353
  UIr_3, band struct., theoretical XPS intensities 7—39353
  UPt_3, band struct., theoretical XPS intensities 7—39353
  URu_3 (Rh_3) (Pd_3) (Ir_3) (Pt_3), hybridisation, electronic struct. and props. 7—45136
  $USi_3(Sn_3)(Ru_3)$, electronic struct. and f hybridisation 7—12600
  W, Compton profiles, APW calcs. 7—27809
  Yb, relativistic band struct., self-consistent calcs. under normal and high press. 7—64068

relativistic corrections
  see also Lamb shift
  alkali-metal atoms, photoionisation cross sections, ab initio RRPA calcs. 7—36462
  atom-ion collisions, K shell charge transfer cross sections, symmetric eikonal theory 7—50328
  atomic ions, ground state electronic struct., Dirac-Slater method anal. *(Chinese)* 7—56925
  atomic relativistic bound-state energies determ. extremum principles 7—868
  atoms, quasirelativistic theory, Dirac second-order eqn. 7—49958
  atoms and ions, H to Ne, relativistic Gaussian basis sets 7—36468
  atoms and molecules, relativistic quantum mechanics 7—36503
  composite system, two-photon transition amplitude, relativistic invariance 7—36531
  Compton profiles, first Born approx. 7—10503
  diatomic mols., mass-vel. corrections, relativistic kinetic energies 7—10452
  Dirac operators, consistency of use in basis set variational solns. with Dirac hole theory 7—19692
  electron bound states in dense plasma, spectral displacement *(French)* 7—11605
  electronic structure calcs., relativistic effects 7—36504
  fifth order geometrical aberration eqn. of combined focusing-deflection system *(Chinese)* 7—36867
  H_2^+, higher vibr.-rot. levels calcs., relativistic connections 7—42588
  heavy atoms, photoionisation, Cooper minima, relativistic effects 7—36561
  highly ionized atoms, hyperfine splitting, Hartree-Fock-Dirac calcs. 7—30974
  hydrogenic species, relativistic atomic struct. calcs., momentum space approach 7—42461
  M X-ray energy shifts, relativistic Dirac-Fock wave fns. calc. 7—19727
  many-fermion systems, vacuum-induced Friedel-type oscillations 7—29887
  methane, equilib. bond lengths, relativistic corrections 7—36477
  particle beams, high power, collision effects calcs. 7—30117
  photoionisation, relativistic Cooper minima for ground-state atoms, independent-particle approx. calcs. 7—62275
  photoionisation of ions, ionic and point-Coulomb relativistic Cooper minima, independent particle approx. calcs. 7—62276
  quasi-relativistic methods in Hartree-Fock theory, one-electron integrals 7—10381
  regular two-component Pauli-like effective Hamiltonians in Dirac theory 7—19728
  relativistic symmetric eikonal approximation for electron capture 7—31161
  s-dimensional semiconds., Fermi energy, relativistic corrections, free-Fermi-gas model calcs. 7—2465
  second-row atoms, g_J factors, many-body calcs. 7—62265

relativistic corrections continued
  semiconductors, Umklapp 1/f noise, Hooge parameter, relativistic correction, appl. to $Hg_{1-x}Cd_xTe$ resistors 7—2649
  transition elements, first row, energy-adjusted ab initio pseudopots. 7—49898
  transition metals, second row hydrides, low-lying states, spectroscopic parameters determ. using large valence basis sets 7—42500
  Ag_5^{q+}, electronic struct., Dirac scattered wave study 7—42818
  Ar, 3s-subshell excitation, photoabsorption spectra anal., HF calcs., config. interaction calcs. 7—30947
  Ar VII, oscillator strengths, transition energies and probabilities, CI STO calcs. 7—25423
  Ar^+, $3p^44p$ configuration, multielectron photoionisation, relativistic HF calcs. 7—36567
  AuH bonding, ab initio fully relativistic calcs. 7—15531
  Be isoelectronic series, fine struct. multiconfigurational DF calcs. 7—62266
  Be-like ions, excitation cross sections, Coulomb-Born approx. 7—25658
  Bi, electron scatt., relativistic effects, Kohn-Sham theory 7—42765
  C isoelectronic series, intercombination transition probabilities, CI calcs. 7—36489
  Ca, electronic struct. calcs., relativistic effects 7—36504
  Ca IX, oscillator strengths, transition energies and probabilities, CI STO calcs. 7—25423
  Cd, autoionisation widths, calcs. and optogalvanic spectra 7—36521
  Cd, oscillator strengths and excitation energies, relativistic CI and MCRHF calcs. 7—50260
  Cl isoelectronic sequence, allowed 3-3 transitions, Slater parameter optimisation, HF CI calcs. 7—48205
  Cr^{23+}, dielectronic satellite spectra CI HFS calcs. 7—42506
  Cs, isotope shifts, relativistic DF contrib., reson. doublet, UV laser spectroscopy 7—10475
  Cu-like heavy positive ions, binding energy and electron density, relativistic Thomas-Fermi theory 7—49923
  Cu_3, ground state surface, ab initio calcs. 7—42467
  CuH, singlet and triplet Σ^+ pot. energy curves investigated by valence-only CI calcs. 7—42495
  Er, low-lying states electronic density, ab initio multiconfiguration DF calcs. 7—15486
  F-like ions, energy level distances, relativistic perturbation theory calcs. 7—866
  Fe XV, allowed transitions, Hartree-Fock and Dirac-Fock calcs. 7—15494
  Fe XV, oscillator strengths, transition energies and probabilities, CI STO calcs. 7—25423
  Fr, isotope shifts, relativistic DF contrib., reson. doublet, UV laser spectroscopy 7—10475
  Ga_2O, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7—50252
  H, quadrupole moment, relativistic two-body eqn. 7—49959
  H-like atoms, relativistic corrections to ground state energies, Dirac eqn. variation perturbation method 7—24766
  H-like ions, dielectronic recomb. rate consts. calcs. 7—36759
  H_2 formulation of ab initio optical potential for electron elastic scatt. 7—15714
  H_2, ortho to para transition, decay rate, quantum electrodynamic method 7—10674
  HD^+, higher vibr.-rot. levels calcs., relativistic connections 7—42588
  HT, rot. vibr., line position meas. in optoacoustic spectra 7—62456
  He energy levels, relativistic correction, variational calcs. 7—869
  He isoelectronic sequence, relativistic second-order many-body corrections 7—870
  ^3He, hyperfine struct., relativistic contribs. contribs. 7—42509
  He-like atoms, ground state energies, Dirac-Coulomb eqn., relativistic perturbation soln. 7—24767
  He-like ions, multiconfiguration DF study 7—62298
  He-like ions, radiative corrections, multiconfigurational DF study 7—62299
  Hg, electron scatt., relativistic effects, Kohn-Sham theory 7—42765
  Hg, oscillator strengths and excitation energies, relativistic CI and MCRHF calcs. 7—50260
  Hg, transitions, relativistic SCF calcs. 7—49979
  InO_2, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7—50252
  k, electron scatt., relativistic effects, Kohn-Sham theory 7—42765
  K, relativistic effective potentials in quantum Monte Carlo calculations 7—49902
  Kr, relativistic electron (positron) elastic scatt. 7—36767
  Kr, two-electron-one-photon excitations, X-ray photoabsorpt. studies 7—36527
  Kr^{3+}, spontaneous two-photon decay rates 7—15530
  Li, ^4P_J levels, relativistic autoionisation, threshold phenomena, CI mechs. 7—49950
  Li, ^4P_j level, relativistic autoionisation, CI mechs. 7—49949
  Li I, oscillator strengths, transition matrix elements, Dirac-Fock approx. 7—843
  Li, relativistic effective potentials in quantum Monte Carlo calculations 7—49902
  Li-like ions, hyperfine structure, relativistic corrections, nucl. struct. effects 7—57007
  Mg II, core-excited states, energy levels and lifetimes, HF calcs. 7—867
  Mg IX, $1s^22l2l'$-$1s^22l3l''$ transition, correl. and relativistic effects 7—42552
  Mg isoelectronic series, energy levels, multiconfig. optimised pot. model calcs. 7—19723
  Na, electron scatt., relativistic effects, Kohn-Sham theory 7—42765
  NaI core-excited states, energy levels and lifetimes, HF calcs. 7—867
  Ne, Auger process, relativistic close-coupling approach 7—62340
  Ne-like ions, energy level distances, relativistic perturbation theory calcs. 7—866
  Ne^{q+}+Ne(O), low-Z collisions, relativistic SCF calculations 7—10409
  O, electron affinity, CI STO calcs. 7—5606
  O II forbidden lines, relativistic corrections rel. to improved radiative transition probabilities 7—66442
  $Os_2Cl_8^{2-}$ ion, conformation calc. by SCF-Xalpha-SW method, relativistic corrections 7—16508
  P VI-XIII, in plasmas, spectra, 22-92 Å 7—15537
  P-containing compounds, Auger parameters and relativistic Dirac-Fock atomic calcs. 7—15651
  Pb, electron momentum spectra, multiconfiguration DF wavefunction 7—50351
  Pb, electron scatt., relativistic effects, Kohn-Sham theory 7—42765
  PbH_4, equilib. bond lengths, relativistic corrections 7—36477

relativistic corrections continued
- Pt_2, MO calcs. with optimised Pt relativistic pseudopot. 7−10451
- PtCO, MO calcs. with optimised Pt relativistic pseudopot. 7−10451
- PtH, MO calcs. with optimised Pt relativistic pseudopot. 7−10451
- $Pt(NH_3)_2Cl_2$, relativistic and nonrelativistic electronic struct. and bonding, multiple scatt. wave study 7−36461
- Ra, photoionisation, 20-channel relativistic random phase calcs., interchannel coupling 7−36566
- Ra relativistic splittings of Cooper minima, RRPA study 7−862
- S isoelectronic series, transition probabilities and wavelengths 7−15550
- Si isoelectronic sequence, allowed 3-3 transitions, Slater parameter optimisation, HF CI calcs. 7−48206
- Sn_3, electronic states, pot. energy surface, relativistic calcs. 7−5613
- Th, plasma, XUV spectra, isotope line identification, HF and DF calcs. 7−15487
- TiO_2, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7−50252
- Xe, atomic inner shells, two-photon transitions, relativistic SCF calc. 7−36573
- Xe, electron elastic scatt., electron spin polarisation, HF calcs. 7−25369
- Yb, photoionisation, relativistic RPA calcs. 7−42567

relativistic electron beam tubes
- conf., Saskatoon, Canada, May 1986 7−29595
- cyclotron resonance maser linear theory with resonant electrodynamic systems 7−62658
- Doppler-shifted cyclotron resonance maser, theory, TE and TM modes 7−43040
- magnetised virtual cathode microwave generator, high-efficiency 7−20964
- magnetoactive plasma waveguides, non periodic waves 7−63287
- orotron with sinusoidal HF distribution along electron trajectories, theory 7−50458
- Varian-NCSU relativistic magnetron, initial test results 7−30043

relativistic fluid dynamics
- anisotropic fluid distributions in bimetric general relativity 7−34846
- astrophysical jets, general relativistic decollimation theory 7−60522
- black holes accretion disks, adiabatic jets from funnels of thick disks 7−34844
- Boltzmann gas, semi-relativistic, fitting formulae for eqn. of state 7−40685
- 3C 273 jet, swinging relativistic plasma beam model 7−66783
- comoving-frame radiative transfer equation, general Eulerian formulation 7−55441
- cosmology, evolution of adiabatic perturbations in baryonic Universe 7−4597
- cylindrical-symmetric relativistic shock wave with azimuthal mag. field, nonexistence 7−4325
- cylindrical-symmetrical relativistic shock wave, motion in presence of axial mag. field 7−4322
- cylindrically-symmetrical relativistic shock waves, astrophysical appl. 7−47685
- mathematical structure of test relativistic magnetofluiddynamics 7−61107
- nuclear matter relativistic flow, production via oblique shock waves 7−24949
- perfect fluid, self-gravitating, Einstein-Maxwell and scalar field eqns. solns. 7−51344
- plane relativistic shock waves, corrugation stability 7−11463
- plane-symmetric gravitating fluid, static solns. and equilib. distribs. 7−51343
- radio sources, extragalactic, relativistically expanding plasmon model for rapid flux variations *(Chinese)* 7−4577
- rotating ideal fluid, equilib. conditions in parameterised post-Newtonian formalism 7−1651
- space-charge flow form., relativistic theory 7−51040
- special relativistic shock tube problems 7−26365

relativistic mechanics
- *see also relativistic fluid dynamics; relativistic scattering theory*
- artificial satellites, relativistic eqns. of motion about finite-size rotating Earth 7−34826
- classical particles, Lagrangian anal. of invariant third-order eqns. of motion in relativistic mechanics 7−35274
- composite system in motion, structure in rel. quantum mech. 7−41150
- foundations of relativity *(German)* 7−4681
- massive particles with integer spin in arbitrarily curved space-time, Lagrangian *(German)* 7−48464
- McVittie's pressure isotropy eqn., first integral 7−56034
- path integrals in configuration space in weakly relativistic many-body theory 7−30202
- PSR 1913+16, binary pulsar, proper motion determ. from periastron times 7−55696
- radio sources, extragalactic, relativistically expanding plasmon model for rapid flux variations *(Chinese)* 7−4577
- spatially extended EM system in zero-point radiation, thermal effects of radiation, class. oscillators 7−41185
- spinless relativistic particle, BRS Hamiltonian quantisation in rel. gauges 7−14825

relativistic plasmas
- axisymmetric Bennett pinch stability, two fluid approx., relativistic electromagnetic hydrodynamic calcs. 7−44232
- backward Compton scatt. for electric field probes in high-density relativistic plasma 7−1759
- braided electrons form. during cyclotron heating, relativistic effects 7−63307
- 3C 273 jet, swinging relativistic plasma beam model 7−66783
- cold plasma, nonlinear waves stability anal. 7−1690
- cylindrical diode, relativistic non-neutral electron flow, macroscopic extraordinary-mode stability props. 7−44259
- dielectric surface-relativistic electron beam interaction, expt. investig. 7−44195
- electron and positron emission spectra for relativistic plasmas 7−40684
- electron beam in parallel-plate waveguide, fully focused, stimulated Raman scatt. 7−11652
- electron beam interaction, static transverse periodic mag. field generation 7−44185
- electron beam interaction with preformed channels in gaseous atmospheres 7−44190
- electron beam propagation in the ion-focused regime 7−44189
- electron beam propagation through plasma into vacuum, computer simulation studies 7−63305
- electron cyclotron absorption and amplification in mirror-confined plasmas, ang. and momentum distrib. depend. 7−37679

relativistic plasmas continued
- electron cyclotron fluctuations in magnetised plasma, quasi-linear relativistic treatment 7−37690
- electron-cyclotron maser instability in relativistic plasmas 7−11694
- electron-positron gamma-ray laser 7−1070
- EM wakefields for axisymmetric charge distrib. moving through cold uniform plasma, 2D dynamics 7−44263
- EM wave amplification by ring-beams distrib. of moderately relativistic electrons 7−51503
- envelope solitons of electromagnetic waves in a magnetized plasma 7−44176
- gamma-ray emission from relativistic plasma 7−40684
- magnetised plasmas, linear waves 7−44235
- magnetised virtual cathode microwave generator, high-efficiency 7−20964
- Maxwellian plasma, collisionless, EM wave, relativistic distrib. function 7−1729
- MHD with anisotropic press., Hamiltonian theory 7−44130
- nonlinear magnetosonic waves, relativistic theory 7−6384
- nonlinear plasma dynamics in the plasma wake-field accelerator 7−44192
- plasma waves propag., global nonlinear aspects 7−1728
- pulsars, radio emission mechanism, due to instability of relativistic plasma 7−55698
- quasilinear diffusion in a relativistic magnetically active plasma 7−11601
- resonant electrons in monochromatic EM wave, relativistic motion and damping during transverse propag. 7−26444
- solitons of rounding EM waves, kinetic eqns. 7−11695
- synchrotron absorpt.-emission coeff. in plasmas 7−26399
- ultrarelativistic colliding plasmas, electrostatic instabilities 7−58049

relativistic quantum field theory
- *see also Dirac equation*
- axial model in curved space-time 7−61453
- Bargmann-Wigner and Gelfand-Yaglom equations, relationship 7−41638
- center-of-mass motion of a system of relativistic Dirac particles 7−48939
- classical relativistic particles with internal structure, formalism and applic. to first order internal spaces 7−41592
- closed bosonic string theory as the Kahler geometry of loop space 7−41770
- closed-time-path functional formalism in curved spacetime, cosmological back-reaction problems 7−41215
- constrained Hamiltonian dynamical system, path integral quantisation 7−18532
- constraint and functional methods in field theory 7−56452
- Coulomb fields, quantum solns. and classical limits 7−30192
- covariant light front perturbation theory and three-particle equations 7−41651
- critical phenomena, field theory applications 7−41578
- curvature and torsion from matter, Lorentz gauge symm. 7−41208
- curvilinear space phenomenological electrodynamics 7−5037
- de Sitter space, integral transform in (4+1) dimens. 7−35666
- Dirac constraint quantisation, consistent factor ordering 7−41612
- Dirac particle in four species 7−10016
- discretization effects on classical Klein-Gordon lattice 7−35668
- Einstein-Maxwell-σ theory, 6D, spontaneous breaking of global and local symmetries 7−35369
- euclidean Markov field and relative quantum fields fromstochastic partial differential equations in fourdimensions 7−412
- Fermi field theory, irreducible fields fulfilling canonical anticommutation relations 7−4947
- field theories in Robertson-Walker background, consistency of Hamiltonian diagonalisation 7−4969
- finite temperature quantum field theory in curved spacetime, quasilocal effective Lagrangians 7−41216
- Gel'fand-Yaglom wave equation, subsidiary conditions based on new representation 7−35669
- Gross-Neveu model, generalisation for several coupling constants 7−30201
- Hamiltonian dynamics of higher-order gravit. theories 7−48502
- interacting field theory in 2D, Sugawara-Sommerfield construction 7−48986
- invariant identities for scalar fields, response to comment 7−41629
- invariant identities for scalar fields 7−41628
- Klein-Gordon equation, gluonium and Regge trajectories 7−9974
- Lagrangian density of gravit. field, gauge principle and Riemannian geometry 7−61201
- Lagrangian relativistic theory in 2D space-time, connection with Hamiltonian description 7−35722
- Lagrangian wave equations, arbitrary-helicity, systematics 7−56412
- local scalar fields, canonical quantisation over quantum space-time 7−48942
- many-fermion systems, vacuum-induced Friedel-type oscillations 7−29887
- mass dependence of coupling constants in relativistic mean field models 7−4990
- massive scalar field in the static space-time of a cosmic string 7−41217
- massless bosonic free fields, covariant description 7−41635
- multilocal model and relativistic string theory 7−35831
- multiparticle prod. by external sources 7−35667
- nonAbelian gauge theory, scalar formalism using Klein-Gordon-type wave eqn. 7−4952
- nonlocal quantum numbers in field theory 7−15064
- operator ordering in nonlinear Lagrangian formalism of relativistic quantum field theory 7−30180
- particle families as radial excitations, eigenstates of relativistic wave eqns. 7−30179
- path integrals in configuration space in weakly relativistic many-body theory 7−30202
- phase-space formalism for quantized fields in complex space-time 7−61420
- photons and neutrinos, gauge transformations 7−46
- pseudoclassical spin 1/2 particle models, classical trajectory and spin precessions 7−18997
- quarkonia, relativistic generalisation of Bohr quantification 7−49049
- real- and imaginary-time field theory at finite temperature and density 7−48983
- relativistic fermion-antifermion equation and a mass spectrum of mesons 7−41774
- relativistic potential model for Dirac particle, bound state level ordering 7−61465
- relativistic Schrodinger equation, Green function calc. *(Chinese)* 7−48437
- relativistic wave equations, invariance algebras and superalgebras 7−61440

relativistic quantum field theory continued
- scalar product in relativistic quantum mechanics of two interacting spin-0 particles 7−24786
- self-interacting quantum electron, chaotic plane-wave solutions 7−41697
- semiclassical approximation for relativistic potentials for massless particles 7−56441
- spin-1/2 singleton dipole, canonical form. for second order wave eqn. of spin 1/2 field 7−48954
- spin-2 field theory in de Sitter spacetime, forbidden mass range 7−56417
- spinless relativistic particle, BRS Hamiltonian quantisation in rel. gauges 7−14825
- spinor particles in gravit. field, relativistic quantum theory 7−35717
- synchrotron radiation of relativistic magneton, classical and quantum theory 7−62603
- Thirring model, derivative coupling model equivalence and fermionic Green's fns. 7−48993
- two fermion problem in QED 7−49044
- two-body relativistic systems, bound-state solns., invariant scalar products and conserved currents 7−48984
- vacuum polarisation and fractional fermion number 7−24759
- wavelike solutions to the Einstein equations coupled to neutrino and gauge fields 7−35349
- zero mass limit of spin $^3/_2$ wave equations 7−9743
- zero mode representations of Majorana fields and Klein transformations 7−9983
- zero-point field in a circular-motion frame 7−41610
- $ed\to ed$, relativistic corrections to polarisation tensor 7−41821

relativistic scattering theory
- *see also elementary particle scattering; quantum field theory of elastic scattering; relativistic mechanics*
- backward elastic scattering, asymptotic behaviour 7−56471
- basis states for relaticistiv three-body calculations of particles with spin 7−19032
- charged spinless particles, relativistic scatt. theory 7−5010
- Coulomb scattering for the Dirac equation, asymptotic observations 7−15085
- few-nucleon systems, relativistic calcs. 7−61843
- hadron-hadron elastic scattering amplitude calcs., model anal. for $\sigma_{el}/\sigma_{tot}\to 1$ 7−61746
- Lippmann-Schwinger eqns., derivation from Faddeev wave function eqns. 7−5011
- Lippmann-Schwinger eqns. for three-particle systems 7−5012
- Lippmann-Schwinger equation solution for short-range potentials 7−19034
- multichannel nonpotential scattering theory, extension to Lie-isotopic case 7−35745
- multiple Coulomb scattering of fast charged particles, excess-path-length distrib., Yang eqn. soln. 7−61508
- T matrix, Schwinger variational functionals 7−48949
- three-particle system, low-energy scatt. parameters, limiting model-independent correlations 7−5013
- ultrarelativistic vector particles stopping ray differential cross section calcs. *(Russian)* 7−19263
- $ed\to e'pn$, quantum field theory, projecting properties on the light front and suppression of loop diagrams 7−41669
- $e^+e^-\to\pi\pi\pi\pi$, cross sections, N/D model anal. 7−61739
- γN elastic scattering, 0-450 MeV, relativistic anal. 7−19114
- $\gamma N\to\pi N$, polarization observables coupled channel model predictions 7−5104
- $K^-d\to N\Lambda\pi$, three-body multichannel, two body interaction anal. 7−36057
- $K^-d\to N\Sigma\pi$, three-body multichannel, two body interaction anal. 7−36057
- N-d scattering below breakup threshold, momentum space Faddeev calcs. 7−19252
- $NN\to MN$, unified description of coupled system at intermediate energy 7−41837
- $NN\to NN$, relativistic Fadeev calcs. 7−61733
- $NN\to\pi NN$, relativistic Fadeev calcs. 7−61733
- $NN\to\pi d$, relativistic Fadeev calcs. 7−61733
- $\bar{p}p\to\Delta^{++}n$, partial wave anal. in dibaryon resonance region 7−35895
- $p\bar{p}\to\Lambda\bar{\Lambda}$, exchange K+K* coupled channels analysis 7−5107
- $\bar{p}p\to pn\pi^+$, partial wave anal. in dibaryon resonance region 7−35895
- $pp\to pp'\gamma$, cross sections and analyzing power, pot. model calcs. 7−5115
- pp scattering, relativistic three-body unitary anal. 7−56570
- $\pi d\to NN$, unified description of coupled system at intermediate energy 7−41837
- $\pi d\to\pi NN$, relativistic Fadeev calcs. 7−61733
- $\pi d\to\pi d$, relativistic Fadeev calcs. 7−61733
- $\pi d\to\pi d$, unified description of coupled system at intermediate energy 7−41837
- πNN bound state problem, appl. to deuteron and 4,4 resonance 7−19033
- $\pi\pi$ scattering, three channel N/D model anal., π form factors and vertex fns. 7−61739
- πn elastic partial wave scatt. anal. 7−41836
- $\pi^-\bar{p}\to\pi^0 n$, left-right asymm. in Roper resonances region, partial wave anal. comparison 7−35903

relativity
- *see also general relativity; light cones; relativistic mechanics; relativistic quantum field theory; relativistic scattering theory; special relativity*
- No entries

relaxation
- *for dislocation relaxation see dislocation damping*
- *see also anelastic relaxation; chemical relaxation; dielectric relaxation; magnetic relaxation; stress relaxation; ultrasonic relaxation; viscoelasticity*
- electron beam in drift space 7−36873
- epoxy-epoxyester polymers, relax. and specific orientation in surface layers *(Russian)* 7−63918
- glass and melt, relaxational processes, eqn. of state 7−21386
- glass relaxation 7−26650
- glasses, tiling model, relax. behaviour, Monte Carlo simulation 7−44816
- glassy materials, relax. from Levy stable distribs. 7−32299
- hierarchical structures, complexity and relax. 7−18702
- hypercube vertices random-walk diffusion, stretched exponential relax., numerical calcs. 7−56175
- liquids, free volume, entropy, and relaxation phenomena 7−21484
- multiatomic gases, kinetic eqns. for relaxation processes 7−31915
- piezoelectric materials, acoustic resonance techniques for temp., stress and impurity characterization 7−45938

relaxation continued
- polymer solns., conc. relax. of long wavelength density fluctuation 7−37838
- polymers, continuous relaxation time spectra, graphoanalytic and compute calcs. *(Russian)* 7−63519
- sequential dynamics for master eqns., Kohlrausch relaxation 7−199
- solar wind velocity distribs, collisional relaxation 7−34818
- stellar dynamics, relaxation and dynamical friction in non-integrabl stellar systems 7−4524
- thermal relaxation, model problem 7−57974
- $Ar-H_2$ mixtures, transport and relax. cross-sections, close-coupling calcs 7−51363
- $Mn_{1-\Delta}O$, manganosite, relax. kinetics in $CO-CO_2$ mixtures 7−58539
- $Pd_{40}Ni_{40}P_{20}$ metallic glass, structural relax., shear and longitudinal sound vel. meas. 7−51655

relaxation oscillators
- singular perturbation of relaxed periodic orbits 7−61008

relaxation theory
- Canard chaos in van der Pol's Equation 7−61254
- generation of curvilinear co-ordinate systems, boundary fitted grids, control functions, transformation rules 7−6178
- plates, circular, elasto-plastic deflection analysis, full system vs. layered yield criteria prediction 7−1450
- steady Euler eqns., multiple-grid and Osher's scheme 7−51021

relaxation time, carrier *see carrier relaxation time*

relay systems (radio) *see radio links*

relay systems (satellite) *see satellite relay systems*

relays (repeaters) *see repeaters*

reliability
- *see also quality control; standards; testing*
- BH laser diodes, very low threshold high reliability 1.30 μm high yield manufacturer by MOCVD 7−31340
- car battery sealing and rechargeability improvement *(Japanese)* 7−65430
- cardiac defibrillators, safety and reliability *(Spanish)* 7−65892
- conf., Austin, Texas, USA (Nov. 1985) 7−14703
- conference theory of reliability, Varenna, Italy, (July-Aug. 1984) 7−4635
- considerations in the numerical solution of elastoplastic, viscoplastic and flow problems 7−1452
- electric power industry Inter-RAM conference, Syracuse, NY, USA (June 1986) 7−9592
- flowmeters, propeller type, vibration effects 7−37597
- gas laser with high reliability, anal. methods *(German)* 7−20188
- implantable electronic devices reliability, case studies 7−60122
- laser gyroscope reliability for inertial navigation platforms *(Italian)* 7−25860
- NASA Lewis Research Center, technology for spacecraft improvement 7−66428
- nuclear plants, Terry turbine equipment and procedure modification for reliability improvements 7−36202
- nuclear power plant, UNIRAM modelling for availability improvement 7−10274
- nuclear power plant availability impact of limiting conditions for operation 7−10272
- nuclear power plant availability improvement by reactor trip prediction software 7−10275
- nuclear power plant in-service inspection and reliability programme 7−15292
- nuclear power plant operation simplification by reliability data collection 7−10276
- nuclear power plant reliability and availability enhancement, generic software package 7−15467
- nuclear power plant Risk Management Query System 7−15291
- nuclear power plant safety system reliability, design stage quantitative anal. 7−62020
- nuclear power plant status monitor design and operation 7−15267
- nuclear power plants, reliability and risk allocation, decision theoretic anal. 7−36081
- nuclear reactor, WWER temp. meas. reliability checking method *(Russian)* 7−30594
- optical component reliability, effects of solder creep 7−15997
- photovoltaic technology assessment 7−46939
- portable gas chromatograph evaluation for transformer site polychlorinated biphenyl meas. 7−46994
- pulsed power accelerators, low-jitter Marx generators for reliability 7−30766
- PWR plant-specific availability modelling 7−10198
- reactor components, dynamic reliability model for damage accumulation processes 7−30535
- reactor core coolant channels, coherent blockages, statistical thermodynamics, percolation anal. 7−36194
- RP-10 reactor trip module, availability anal. 7−10238
- San Onofre Unit 1, problems of material aging and reliability 7−42177
- SCARE postprocessor program to MSC/NASTRAN, ceramic components reliability anal. 7−17750
- secondary cells failure mechanism and rate, reliability studies using Weibull statistics 7−65450
- semiconductor laser failure causes and distrib., laboratory service life tests 7−62692
- semiconductor lasers with high-reliability for optical communications 7−43142
- solar cells, reliability, design and construction 7−3679
- thermistors characts. var. implications for air temp. meas. 7−9233
- TMI-1 availability management programme, pilot demonstration phase 7−15304
- VVER-440 reactor, heat removal from active zone, reliability anal. *(Russian)* 7−763
- CdS/CdTe screen-printed thin-film solar cell for indoor consumer electronics *(Japanese)* 7−65472
- CdS-CdTe screen printed solar cell modules, long term reliability tests 7−23158
- Li batteries with confirmed reliability and safety 7−59830
- Li, battery reliability for memory backup *(Japanese)* 7−65425
- Na-S cell reliability models using ceramic degradation mechanisms 7−59831
- Ni-Cd lightweight space battery, reliability and life testing 7−65449
- Si, crystalline, solar cell arrays, reliability lessons for thin film modules 7−13910
- a-Si:H thin film solar cells, repeatable meas. system for accelerated stress testing 7−23174

- **reliability theory**
  - *see also statistical analysis*
  - incident control, simulation of man machine interaction 7–15287
  - nuclear safety, system design and anal. 7–15288
- **reluctance motors**
  - ultrasonic medical image scanner using reluctance motor 7–54688
- **remanence**
  - *see also coercive force*
  - ferromagnetic hysteresis, domain wall pinning, mathematical model anal. 7–7544
  - graphite, nonmagnetic samples, ferromag. behaviour 7–53040
  - haematite, chemical remanent magnetisation and structural-sensitivity characterisation 7–29004
  - haematite containing rocks, strain reorientation and remanence 7–23637
  - multidomain material, screening of domain moments and remanence stability 7–47430
  - particulate magnetic recording tapes, hysteretic props. ang. depend. studies 7–53058
  - PMMA, nonmagnetic samples, ferromag. behaviour 7–53040
  - polycrystalline magnets, influence of single particle coercivities on virgin curves 7–45751
  - polycrystalline permanent magnet, texture influence on coercive field strength computation *(German)* 7–2902
  - polymers, highly conjugated, giant nomadic polarisation investig. 7–7635
  - pyroclastics from 1985 eruption of Nevado del Ruiz, Colombia, reversed magnetisation obs. 7–34482
  - rocks, ensemble of interacting monodomain grains 7–8923
  - rocks, short-term viscous effects on measurements of remanence 7–18179
  - roof-tiles used as floor of kitchen oven in Italy, polyphase magnetization 7–47336
  - steel, structural, heat treated, coercivity in various remanent magnetization states, NDT method development 7–65259
  - steel reinforcement, hot-rolled, strength characts. eval. using mag. method 7–39824
  - teflon, nonmagnetic samples, ferromag. behaviour 7–53040
  - thermally activated viscous remanence in magnetite- and haematite-bearing dolomites 7–60250
  - Al, nonmagnetic samples, ferromag. behaviour 7–53040
  - AuCr spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7–53019
  - $BaFe_{12}O_{19}$ powders, coprecipitated, magnetisation reversal, mag. dilution effects 7–53062
  - $Cd_{0.6}Mn_{0.4}Te$, spin-freezing process, time-depend. of thermoremanent magnetization 7–2863
  - Co-Ni-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7–27581
  - Co-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7–27581
  - Co-Ti(Pt) sputtered films, mag. props., O impurity effects 7–33238
  - Cu, nonmagnetic samples, ferromag. behaviour 7–53040
  - Cu-Mn spin glass, intrinsic remanent magnetisation and anisotropy energy, temp. depend. 7–45690
  - Cu-Mn spin glass, remanent magnetization, field dependence 7–59018
  - CuMn spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7–53019
  - $CuMn_{0.05}Ni_{0.03}$, spin glass, long-time low temp. relaxation 7–38870
  - $Eu_xSr_{1-x}Te$, dilute antiferromag., phase diagram, spin glass props. *(German)* 7–12981
  - Fe ferromagnetic particles in Al_2O_3 thin films, mag. props., comparison with spin glasses 7–7557
  - Fe-Nd-B magnets, microstructure and mag. props. 7–53049
  - Fe-Ni alloy, mag. remanence at low-temperature 7–24088
  - $(Fe_{0.8}Ga_{0.2})_2TiO_5$ spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7–53019
  - $(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, metallic spin glass, time decay of saturated remanent magnetisation 7–59058
  - γ-Fe_2O_3 particles, colloidal suspension, mag. props. of ionic ferrofluids 7–45758
  - $Fe_{78}Si_9B_{12}$ amorphous alloys, surface crystallisation and mag. props. 7–51649
  - $Fe_{2.4}Ti_{0.6}O_4$, magnetisation in 1 to 30 microns particle size range 7–47425
  - Gd_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7–53039
  - $Mn_{0.97}Ti_{0.03}As$, mag. phase transitions, effect of Ti additions 7–27519
  - Nd-Fe-B-Co-Al based permanent magnets. mag. props. and temp. characts. 7–53045
  - Tb_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7–53039
  - $Zn_{0.5}Co_{0.5}FeCrO_4$, cluster spin glass, spin freezing 7–27531
- **remanent magnetism** *see remanence*
- **remote control** *see telecontrol*
- **remote control equipment** *see telecontrol equipment*
- **remote metering** *see telemetering*
- **remote sensing**
  - *see also infrared imaging; remote sensing by laser beam*
  - 4-camera video system, development and use 7–4235
  - acoustic remote sensing of atmosphere and oceans, symposium, Paris (October 1985) 7–48133
  - advanced image processing and planetological appl., conference, Vulcano, Italy (September 1985) 7–24270
  - aerial digital images enhancement, high altitude, histogram specification techniques 7–40608
  - aerial photographs, potential precision of monocular and stereoscopic obs. 7–47317
  - aerospace imagery, appl. to prediction of presence of oil and gas 7–66335
  - aerospace technology, conference, Washington, DC, USA (Sept. 1986) 7–48171
  - aggregated soils, microwave diel. models 7–23649
  - agricultural remote sensing, database design (hardware and software) 7–60410
  - agricultural remote sensing, Space Remote Sensing Center projects and commercial prospects 7–60258
  - agricultural remote sensing for state of crops and soil 7–23651
  - airborne microwave rain scatterometer/radiometer, DP software system *(Japanese)* 7–23908
  - airborne microwave rain scatterometer/radiometer, hardware system development *(Japanese)* 7–23907
  - airborne microwave rain scatterometer/radiometer, satelliteborne weather radar system *(Japanese)* 7–23911

remote sensing continued
  - airborne microwave rain scatterometer/radiometer system, microwave backscatter expt. of ocean surface *(Japanese)* 7–23910
  - airborne microwave rain scatterometer/radiometer system, rain meas. and data anal. *(Japanese)* 7–23909
  - airborne reconnaissance, conf., Diego, CA, USA (Aug. 1985) 7–18491
  - airborne reconnaissance, operational cartography appl. 7–23517
  - airborne remote sensing from remotely piloted aircraft 7–55289
  - airborne thermal scanner data for min. temp. surveys 7–4133
  - ultralight aircraft, capability for remote sensing 7–8952
  - aircraft icing conditions detection method, by ground-based microwave radiometry 7–23871
  - Antarctic, atm. lee-vortices, topographic effects 7–60322
  - APEX, aerogeophysical prospecting expert system *(Chinese)* 7–55268
  - aquatic areas in SW Finland, generalisation of Landsat MSS interpretations 7–9035
  - Arabian heat low structure, bulk tropospheric heat budget 7–4152
  - Arcachon Basin (French W coast), drainage channel network chart *(French)* 7–55058
  - ARCHIMEDES 1 experiment for oil slicks detect. at sea, methods and results 7–3744
  - archiving systems, ERS-1 Data Centre 7–40567
  - arid and semiarid regions remote sensing methods 7–9186
  - arid rangeland, New Mexico, Landsat albedo meas. 7–14286
  - asteroids mineralogy, photometric system from spectral props. of achondrites and ordinary chondrites 7–66521
  - S Atlantic cloud amounts from Meteosat I images 7–47521
  - Atlantic Ocean tropical cyclones, cloud canopy tops temp. and future max. winds 7–29197
  - atmosphere, EHF sounding from Space Shuttle 7–40568
  - atmosphere, lidar obs. of struct. of unstable marine boundary layer 7–29133
  - atmosphere, O_3 data from Nimbus-7 SBUV instrument 7–55178
  - atmosphere, O_3 density var. meas. by Nimbus-7 and SME 7–60323
  - atmosphere, O_3 meas. with Nimbus-7 TOMS instrument 7–55177
  - atmosphere, press. and temp. vertical profiles retrieval *(Russian)* 7–29277
  - atmosphere, satellite data effects on FGGE general circulation statistics 7–66265
  - atmosphere, satellite retrievals, systematic errors 7–66266
  - atmosphere, total O_3 content determ. from remotely-sensed data 7–66216
  - atmosphere, tropical synoptic-scale diagnosis, test of ECMWF model 7–29196
  - atmosphere, water vapor vertical profile structures retrieved fromsatellite data via classification anddiscrimination 7–4218
  - atmosphere dust storm detection, satellite image processing method 7–66329
  - atmosphere precipitable water detection by ground based 1.35 cm radiometry *(Chinese)* 7–29311
  - atmosphere temp. by satellite IR radiometry, constrained inversion technique 7–29293
  - atmosphere temperature profile, remote sensing procedure with high vertical resolution 7–66218
  - middle atmosphere turbulence, obs. and meas. by VHF radar 7–4246
  - atmosphere water vapour, satellite remote sensing 7–4112
  - atmosphere water vapour content, microwave radiometric meas. at NPL 7–34606
  - atmospheric passive sounding using Millimetre-Wave Atmospheric Sounder from Space Shuttle *(German)* 7–40617
  - atmospheric temperature estimation model *(Japanese)* 7–34750
  - Azov Sea, USSR, subsatellite remote sensing expts. 7–66185
  - balloon borne remote sensing, single-axis platform performance 7–23913
  - balloon-borne remote sensing, single-axis platform design 7–23912
  - NW Black Sea, interpretation of sea surface space imagery using SVIT digital processing system 7–66144
  - NW Black Sea, remote meas. of sea surface temp. by two-channel method 7–66145
  - BRASA 1, Brazilian satellite for environmental data collection *(Spanish)* 7–66354
  - Canadian petroleum exploration, appl. of remote sensing 7–40585
  - cartographic projection for remote sensing reference TV mosaic data bank 7–55048
  - cartography automation conf. London, England (Sept. 1986) 7–35105
  - chlorophyll pigment concentration using low-altitude airborne ocean colour data 7–14163
  - cirrus cloud, influence on climate and weather processes, global perspective 7–4157
  - cloud amount determ., comparison of surface and satellite meas. methods 7–9079
  - cloud cover estimation, appl. of bispectral satellite measurements 7–29148
  - cloud imaging from satellites, structural-stochastic model for imaging 7–14391
  - clouds radar echo characteristics over Black, Kara and E Siberian seas 7–34615
  - colour enhancement of multispectral images decorrelation and HSI contrast stretches 7–60424
  - commercial satellite remote sensing 7–14398
  - conf., Ann Arbor, MI, USA (Oct 1985) 7–15
  - conference on space exploitation and utilisation, Honolulu, HI, USA (1985 December) 7–24297
  - cryothermometer using molecular luminesc. 7–48740
  - cumulus cloud, spatial inhomogeneities analysis using Landsat data 7–66235
  - data classification, improvement using additional variables and hierarchical struct. 7–4222
  - data inversion techniques 7–47723
  - decomposed granite soil thickness, spectral reflectance and surface temp. *(Japanese)* 7–40479
  - definitions and different meanings of the concept ‘remote sensing’ 7–29301
  - differential bare field drainage properties from airborne microwave observations 7–23915
  - diffused wide-angle calibration source for remote sensors 7–18862
  - digital elevation models, comparative test of photogrammetrically sampled models 7–47316
  - digital elevation models, performance evaluation of two bivariate processes using transfer functions 7–3971
  - Doppler imaging radars, response characts. determ. using speckle 7–55322
  - earth surface, emissive props. model for radiometric meas. 7–66125
  - electro-optic phase modulation gas correlation spectroscopy 7–9182

remote sensing continued
  environmental change, remote detect., data struct. appls. 7—4240
  environmental management appl. of remote sensing data processing by group method of data handling *(Japanese)* 7—65673
  ERASME airborne side-looking C-band radar, data processing and calibration 7—9205
  erosion by wind, satellite remote sensing of dust storms for erosion vulnerable areas 7—8949
  errors arising due to imprecise knowledge of water permittivity 7—66331
  ERS-1 active microwave instrumentation, operational control 7—47550
  ERS-1 European remote sensing satellite, ground reception facilities for Australia 7—4292
  ERS-1 satellite, Australian involvement 7—4294
  ERS-1 wind and wave calibration workshop, Schliersee, Germany (June 1986) 7—24305
  estuaries remote sensing, overview 7—66158
  fault and geothermal anomaly remote sensing method 7—28920
  fault imaging from space for civil engineering purposes 7—60406
  Fergana intermontane basin, USSR, geology from remotely sensed images 7—66029
  fibre optic absolute sensors, remote, problems and approaches 7—20435
  fibre optic sensors for remote measurement 7—43394
  Finland, snow cover water equivalent retrieval for satellite microwave radiometry 7—23711
  first year sea ice in tank, multifreq. passive SHF and EHF obs. 7—23659
  fog cover remote sensing at night satellite IR radiometry method (AVHRR) 7—4216
  forestry and range applications of high altitude reconnaissance technology 7—23905
  Fourier-based textural feature extraction procedure 7—9207
  Fram Strait, ice transport 7—34539
  fundamental principles (book) 7—35139
  geological lineament analysis of Landsat MSS imagery of N Wales and W England 7—55033
  geological remote sensing, rocky surface mineralogy by optical and IR reflectance spectroscopy 7—29291
  geostationary satellite temperature retrievals, assimilation into numerical prediction model 7—34618
  glacier velocity determ. in Antarctica using satellite images 7—66190
  global cloud cover, zonal struct. and correl. 7—34612
  GOES-I, J, K instruments developed by Kodak 7—23971
  greybody, meas. of ambient radiation, emissivity, truth temp. 7—9869
  ground cover thematic classification map, use of multitemporal data 7—8951
  groundwater in Kasserine Basin, Tunisia, multistage exploration 7—4067
  Gulf of Carpentaria, 1984 October 25-6 cloud line and morning glory wind surges 7—4091
  hail, remote sensing with S-band dual linear polarization radar 7—66344
  Halogen Occultation experiment, Si photodiode array for solar edge tracking 7—23900
  HF radar sea echoes, Bragg coherence 7—40588
  HF skywave remote sensing, frequency management 7—40646
  Himalayan, snow cover area rel. to summer monsoon onset over Kerala, India 7—9125
  Hurricane Gloria (1985), assoc. sea surface cooling, satellite obs. 7—66252
  hydro resources identification using enhanced satellite imagery, example from Peninsular Malaysia 7—17848
  hydrogeological map production using remote sensing, methodological problems 7—55295
  ice cover on sea and lakes, remote sensing method based on nonthermal radiowave emission 7—66141
  pack ice motion remote sensing, AVHRR imagery method 7—23886
  image correction for radiometric effects 7—55290
  image sensors, conf., Stuttgart, Germany (Sept. 1986) 7—60886
  imagery from satellite, video technology appls. *(Japanese)* 7—66349
  imaging of Earth surface from satellite, effect of atmos. horizontal inhomogeneities 7—66301
  imaging spectropolarimeter-photometer for satellite, for Earth resources exploration 7—40604
  infrared remote sensing of Earth surface, selection of spectral band optimal pairs 7—66330
  IR CCD coupling structure for space appls., using CMT detector 7—29309
  IR imaging of hillside at range of 300 metres, radiance statistics versus ground resolution 7—4035
  IR satellite image processing, kinetic temp. image modelling 7—23899
  Israel Meteorological Service numerical forecasts, use of satellite sounding 7—34736
  JEOS, JANUS Earth Observation Satellite 7—34824
  KS-147A LOROP camera integration into RF-5E aircraft 7—18898
  KS-147A LOROP camera system 7—18897
  KS-147A LOROP camera system for RF-5E aircraft 7—18899
  LAGEOS satellite Earth rotation parameters meas. anal. 7—40398
  Lake Balaton, Hungary, subsatellite remote sensing expts. 7—66185
  Lake Michigan, water quality modelling using Thematic Mapper data 7—34697
  Lake Sevan, determ. of organic matter and chlorophyll using laser fluorescence 7—23713
  land surface, remote sensing techniques and methodologies 7—8947
  land surface imaging, context classifier for pixel analysis of images 7—23873
  land surface imaging, effect of shadowing by topography and clouds 7—23883
  land surface radar remote sensing; FINRACS file of radar cross-sections 7—23877
  land surface remote sensing, cloud removal method and mosaicking 7—23882
  land surface remote sensing and climate, conf., Rome, Italy (Dec. 1985) 7—23921
  land-cover mapping from synthetic aperture radar obs., importance of radiometric correction 7—4200
  Landsat and SPOT high resolution satellite images: a new component for geographic data bases 7—40405
  landsat data, appl. to thematic mapping 7—3967
  Landsat data, Fourier filtering for information extraction in surveying and mapping 7—47582
  Landsat data applications, data base approach 7—4223
  LANDSAT MSS, sensor and data processing methods 7—55323
  Landsat MSS remote sensing, principal component analysis theory 7—47564

remote sensing continued
  lineament analysis, comparative study in Nigeria 7—55292
  linear feature extraction using visual model 7—60404
  littoral cartography, SPOT remote-sensing image segmentation 7—29307
  low-cost satellite image reception and analysis facility 7—66305
  S Mangyshlak, Kazakhstan, USSR, oil and gas deposits 7—66028
  meteorological imagery textural features classification 7—9151
  meteorological remote sensing from satellite for global weather prediction review 7—55324
  meteorological satellite, radiometers, IR detectors and their calibration 7—23898
  meteorological satellite IR detectors, cooling by passive radiation 7—18878
  meteosat IR meas., surface and cloud-top temp. determ. atmospheric correction scheme 7—18310
  Microwave Limb Sounder 183 GHz radiometer 7—60433
  microwave radar sensing, modelling interactions between ocean and environment 7—60423
  microwave radiometry of atmos. and ocean, calibration of multichannel systems 7—60409
  microwave scattering from sea surface using new semi-empirical sea spectrum 7—23664
  microwave sensors, satellite borne, Earth Observation appls. *(German)* 7—40616
  middle atmosphere dynamics and remote sensing, symposium, Prague (Aug. 1985) 7—40986
  MM-wave radiometer system for remote sensing appls. 3 mm operation, aircraft/helicopter installation 7—23880
  model taxonomy 7—14396
  multiband space imagery, correl. of spectral radiance parameters 7—66339
  multipurpose space experiment for land studies, concept and dimensions 7—66336
  multispectral imagery dimension reduction and interpretable, Chebyshev polynomials 7—4236
  multispectral scanner surveying, specular-spot and hotspot regions 7—60403
  Near-Caspian Depression, USSR, oil reservoir below salt beds, detection method using remote sensing 7—55294
  NERC airborne thematic mapper campaigns (1983 and 1984) 7—60256
  Nubia, Egypt, aerial techniques for groundwater prospecting 7—34698
  nuclear reactor surface temp., analysis of Landsat TM images of Chernobyl 7—49585
  oblique CCD reconnaissance camera operation, atmospheric effects 7—18900
  observing-systems simulation expts., historical summary 7—9070
  ocean, satellite remote sensing in visible band 7—4187
  ocean, wind-wave relationships, Seasat radar altimeter meas. 7—34581
  ocean backscatter depression in C and Ku bands due to surface oil 7—8460
  ocean colour spectral variability measurement using solar-induced chlorophyll fluoresc., intraspectral correlation technique 7—47547
  ocean current velocity remote sensing, by satellite far IR method 7—34720
  ocean dynamics, importance of satellite remote sensing techniques 7—60263
  ocean floor geomorphology, processing techniques for digital sonar images from GLORIA 7—4220
  ocean lidar remote sensing, correl. between time- and depth-resolved lidar signals 7—23665
  ocean mesoscale eddy remote sensing, microwave radar altimetry method 7—9231
  ocean remote sensing, appl. of side-looking radar of Cosmos-1500 satellite 7—66424
  ocean remote sensing by satellite, book 7—48209
  ocean surface evaporation, estimation method using remote sensing data 7—23791
  ocean surface waves, SAR imaging, importance of motion related contributions 7—23663
  ocean surface wind measurement, Seasat scatterometer studies of effect of wave height and environmental conditions 7—66159
  ocean wave microwave scatterometry, two-scale model 7—23686
  ocean wave spectra, transformation into SAR image spectra 7—66341
  ocean waves, SAR image spectra, numerical simulation 7—23662
  ocean waves, SAR images 3D formulation 7—9208
  oceanic precipitation, Nimbus 7 SMMR meas. rel. to El Nino 7—66245
  oceanographic image anal. expert system, knowledge-based, features 7—23901
  oceanography, regularities in development of mushroom-shaped ocean currents from satellite imagery anal. 7—66143
  oil slick remote sensing, X-band radar, and IR methods 7—9217
  optical parameters of atmos., satellite remote sensing method involving imaging of land 7—55296
  optical remote sensing from space, conf., Cannes, France (Nov. 1985) 7—35094
  optical sensor technology *(Japanese)* 7—60420
  Oregon, USA, fault patterns obs. and Cenozoic rot. characts. 7—66068
  organic vapours, detection with active and passive sensors, comparison 7—46990
  outlines on land surface, interactive procedures for aerial images 7—60401
  Pacific Ocean, zones of storm waves and stillness identification from satellite clouds imaging 7—34731
  Pakistan, current status and future programmes of remote-sensing appls. 7—4206
  passive microwave remote sensing, scatt. from layered medium connected with rough interfaces 7—20109
  pattern recognition problem for imaging of land surface, estimation of recognizability 7—66332
  permafrost mapping method for forest areas, Landsat Thematic Mapper method 7—29302
  photogrammetry, image displacement on film during exposure due to motion of camera platform 7—54847
  polar mesospheric clouds, altitudes, SME obs. 7—60434
  polar mesospheric clouds 7—9276
  polar satellite remote sensing, conf., Avignon, France (June 1986) 7—48190
  power station thermal discharges 7—40503
  precipitation, preferred orientation relationship with dual polarisation radar echo characts. 7—60367
  projective transformation of space imagery into mosaics and photomaps, minimisation of Earth curvature effect 7—65922

remote sensing continued
  push-broom linear array scanner, design of all-reflective flat-field objective 7—55320
  radar images cross correlation, relief and reflective surface influence on terrain 7—66122
  radar imaging of Earth's surface, effect of meteorological conditions on satellite imagery 7—66217
  radar remote sensing by SAR method, data processing using NEDIPS computer 7—47579
  radar remote sensing of Earth surface, optimal Doppler centroid estimation 7—23650
  radar remote sensing of Earth surface by SAR method, compensation for antenna motion 7—23878
  radar remote sensing of land surface, stereo viewing of opposite-side image pairs 7—29300
  radarclinometry, mathematical theory and algorithm 7—34372
  Radarsat synthetic aperture radar system for remote sensing satellite 7—47578
  radiance variance from heterogeneous scenes in optical and IR 7—47533
  radiometer responsivity normalization, for IR and optical remote sensing 7—60407
  radiometric correction method for MKF-6 camera remote sensing 7—60408
  radiowave propagation and acoustic sounding developments 7—34607
  rain, sea ice, snow, remote sensing by microwave radiometry method using classification algorithm 7—23874
  rain remote sensing, satellite passive microwave imagery methods 7—47563
  rain remote sensing from space, by passive microwave methods 7—60387
  rainfall and cloud remote sensing by satellite, monitoring methods used by Bristol University 7—47562
  randomly oriented particle layer, vector solution for mean EM fields 7—14365
  real-time photogrammetric input versus digitised maps: accuracy, timeliness and cost 7—40406
  reflectance spectra information extraction, absorption band positions determ. 7—14503
  resources management master planning, GIS and remote sensing role 7—4072
  resources remote sensing from satellite, policies of industrial countries 7—66126
  River Amazon, plume region, sediment and chlorophyll characts. 7—34509
  River Don, USSR, subsatellite remote sensing expts. 7—66185
  rock type recognition, computer-aided drainage network anal. form Landsat imagery 7—4238
  SAR data, spaceborne, registration to topographic maps 7—4237
  SAR sea ice imagery, geophys. anal., computer-assisted techniques 7—4243
  satellite orbit selection to ensure round-the-clock coverage during remote sensing 7—55298
  satellite passive microwave ice map, near real-time data system 7—4242
  satellite remote sensing, Doppler props. of radars in circular orbits 7—4288
  satellite remote sensing, simultaneous Earth obs. from two satellites 7—4204
  sea ice, C-band passive microwave spectral emission during growth phase 7—23661
  sea ice of glacier ice thermal emission 7—60264
  sea surface, dye patches used for remote sensing observation, spectral radiance and visibility 7—60405
  sea surface, temperature, NOAA-7 far-IR remote sensing technique 7—9215
  sea surface temp. determ., model for 8 to 12 μm band near-horizon radiance 7—60374
  sea surface temp. from AVHRR meas., split-window retrieval using 12 μm data 7—55293
  sea surface temperature, algorithms from AVHRR data 7—4241
  sea surface temperature, multichannel infrared satellite method, atmospheric correction 7—23881
  sea surface temperature determ., remote sensing procedure with atmospheric correction and one calibration point 7—40485
  sea surface temperature determ. from IR radiometry, two-angle viewing method 7—66338
  sea surface temperature field, equatorial waves detect. from shipboard and satellite meas. 7—66142
  sea-ice type classification, 33.6 GHz microwave imagery method 7—23885
  seafloor geoacoustic properties determ., appl. of three related reson. methods 7—66097
  Seasat SAR imagery, methods for extracting sea ice data 7—23867
  sediment suspended load in lakes, Landsat remote sensing technique 7—29303
  side-looking radar imagery from Cosmos-1500 satellite, digital processing 7—66340
  snow cover satellite remote sensing, NOAA-7 imaging method 7—23712
  snowmelt runoff determination, Landsat MSS remote sensing method 7—23875
  soil erosion planning, vectorization of Landsat TM land cover classification data 7—47443
  soil erosion planning in Dane County, Wisconsin 7—47442
  soil hydraulic properties determ. from passive microwave data 7—23868
  soil mapping, utility of Landsat imagery in data base for small-scale mapping 7—4205
  soil moisture meas., remote sensing in 100 MHz-1 GHz range 7—55273
  soil moisture sensing method, by 19.1 GHz microwave radiometry 7—34564
  soil moisture vars. Bhaskara-II brightness temp. map of India 7—14321
  soil surveying, LANDSAT remote sensing method with machine data processing 7—23652
  soil surveys, appl. of remote sensing, symposium, Wageningen, Netherlands (March 1985) *(French English)* 7—18476
  soils, thermal IR reflection, angular emissivity meas. *(French)* 7—55291
  solid state image sensors and their appls., conf., Cannes, France (Nov. 1985) 7—24288
  space commercialisation, conference, Washington, DC, USA (October 1985) 7—24264
  space engineering, conf., Sydney, Australia, (March 1986) 7—26
  space images interpretation, mesofractures anal. rel. to oil and gas exploration 7—66337
  spaceborne camera using TI TC-104 linear CCD array 7—29406
  spaceborne imaging radars, Earth and planetary obs. 7—55334

remote sensing continued
  spaceborne radiometer antenna reflector, MM wave, development 7—23920
  spaceborne remote sensing systems (book) 7—41027
  spaceborne synthetic aperture radar sensor technology 7—4234
  spatial diversity index mapping, for classes in grid cell maps 7—4221
  Spot (satellite probe for Earth observation), large market for space imaging *(French)* 7—60505
  SPOT and Landsat imaging and equipment, conf., Innsbruck, Austria (April 1986) 7—55887
  SPOT satellite series, characts. 7—47551
  stereo-radargrammetry, implications of Gestalt formations for Venus Radar Mapper 7—9379
  stratosphere, far-IR spectrum, high resolution meas. with Fourier transform spectrometer 7—55262
  stratosphere, O_3 and NO_2 var. (1979 to 1984) 7—29205
  submillimeter astronomy, low noise heterodyne receiver 7—34868
  Sudan, Savanna Zone, NOAA AVHRR monitoring of rainfall and vegetation 7—40506
  surface albedo vars. in Africa, Meteosat image meas. method 7—55272
  surface emissivity near Lake Eyre, NOAA-7 AVHRR meas. 7—14287
  surface ore detection from space *(Russian)* 7—23646
  surface pressure remote meas. using O_2 A-band absorption 7—14380
  surface properties influence on spectral relationships (narrow to broadband) for clear sky conditions 7—60257
  tectonic lineament imaging and identification using remotely sensed data 7—66333
  temperature of atmosphere, estimation from remotely sensed IR data physical models *(Japanese)* 7—18316
  temperature of land surface, microwave remote sensing method 7—60411
  temperature remote sensing for cloudy atmosphere, IRT radiation transfer model 7—60399
  terrain data interactive image processing, digital SM-4 Omega system 7—66334
  terrain illumination influence on imaging from space 7—60402
  terrestrial imaging using space camera lenses, design 7—43314
  thematic mapper data geodetic correction to cartographic standards 7—60425
  thematic processing (automated) of natural object imagery 7—55297
  thermal IR multispectral scanner, airborne instrument for mineral deposits detection 7—14393
  thermal IR remote sensing appl. for water management in humid and arid areas 7—34696
  thermodynamical approach *(Russian)* 7—9242
  tidal current remote sensing, radar and TM methods for currents near sandbanks 7—9218
  tracer transport of the diabatic circulation deducedfrom satellite observations 7—9104
  training system for digital image processing theory, using microcomputer 7—18542
  transform techniques for electro-optical pre-detectorsignal processing 7—5852
  transient medium-scale wave activity in the summerstratosphere from LIMS data 7—9069
  tropical atmosphere, O_3 content and sources 7—55194
  tropical convection during northern summer, 40-50 day oscill., outgoing longwave radiation anal. 7—34623
  two-wavelength IR-thermography, subresolution meas., accuracy 7—4239
  ultrasonic remote sensor for position meas. *(German)* 7—61327
  underwater sound source localisation, appl. of acoustic amplitude ranging techniques 7—66161
  vegetation in Ethiopia, 1983-4 drought, AVHRR images analysis 7—40505
  Venus, struct. of Maxwell Montes and Thessera Fortuna from Venera 15 and 16 radar images 7—9394
  VHF radar for ocean surface current and sea state remote sensing 7—60422
  VIDARS anal. station, photogrammetric tools for panoramic sector scan imagery 7—18901
  VISSR Atmospheric Sounder data, effect on Limited-Area Finemesh Model 7—47501
  volcanic lava flow type discrimination, SIR-B radar method 7—60231
  water level measurement stations prototype network, test and evaluation software 7—66364
  weather satellite automatic picture transmission, design of grey scale test pattern generator 7—29292
  wind at sea-surface, remote sensing method involving whitecaps 7—9216
  wind speed extraction with pulse-limited radar altimeter, effect of whitecaps and foam 7—29306
  winds over ocean, improved radar altimeter wind speed algorithm 7—66347
  winter stratosphere, integrated enstrophy budget determ. from Nimbus-7 LIMS data 7—4125
  CO, atmospheric remote sensing, gas filter radiometer method 7—18317
  HCl in stratosphere, near-IR satellite remote sensing and interference from OH airglow 7—23926
  NO, Zeeman modulated radiometer for remote detection 7—55313

remote sensing by laser beam
  aerosol inhomogeneities, lidar data anal. *(Russian)* 7—29132
  aerosols, atmospheric, multiwave laser sounding, review 7—34678
  Antarctic spring stratosphere; aerosol and temp. var., lidar obs. 7—60325
  Arctic polar stratospheric clouds, airborne lidar meas. 7—60334
  atmosphere, DIAL monitoring, H_2O absorption line parameters 7—47535
  atmosphere, DIAL monitoring, O_2 absorption line parameters 7—47534
  atmosphere, nonlinear refr. phase compensation of light beam in droplet medium 7—4183
  atmosphere measurement by laser methods 7—40605
  atmosphere optical extinction coeff. profiling method *(Russian)* 7—18315
  clouds, lidar investigation 7—55135
  four-photon polarisation Raman spectroscopy for remote detection of hydrocarbons in water 7—46992
  heterodyne lidar with laser receiver for remote sounding of atm. 7—4214
  IR-laser spectroscopy for measurement applications in the industrial environment 7—23267
  lidar equation taking account of polarization, second order scattering and travelling time effects 7—60380
  lidar for supercooled fogs artificial dispersal anal. 7—34733
  lidar system for atmospheric aerosol meas., design aspects 7—18320
  mesosphere Na layer, lidar obs. 7—34753

remote sensing by laser beam continued
- mobile CARS instrument for combustion and plasma diagnostics 7—44238
- ocean remote sounding, laser beam double passage across narrow-band stochastic water surface 7—55065
- organic vapours, detection with active and passive sensors, comparison 7—46990
- photoacoustic spectroscopy of humid and polluted air 7—20569
- rain characteristics in turbulent atm., determ. from optical beams propag. characts. *(Russian)* 7—29131
- satellite laser ranging, observations smoothing via correction of orbital parameters and station coordinates 7—54844
- sea level determination by near-vertical airborne lidar method 7—23887
- Trivandrum, India, aerosol altitude vertical profiles, monsoon effects, lidar obs. 7—66213
- troposphere, climatic and environmental parameters meas., laser remote sensing *(German)* 7—40081
- wind, airborne Doppler lidar measurements 7—40561
- wind measurement in planetary boundary layer, lidar method accuracy 7—14347
- CO_2 laser radar, coherent FM CW, signal amplitude distrib. meas. 7—40570
- CO_2 laser radar performance, target and atmospheric influence 7—40571
- O_3 in stratosphere, DIAL meas. from Shuttle, error analysis 7—40560

Rene *see nickel alloys*

renormalisation
- $\lambda\theta^4$ triviality issue in a Robertson-Walker spacetime 7—30160
- $\lambda\phi^4$ theory, two-, three-dimensional, finite temp. props., Monte Carlo anal. 7—24798
- $\lambda\phi^4$ theory triviality problem in time-dependent space-time 7—18998
- $(\lambda\phi)_{3+1}{}^4$, gaussian effective potential, nontrivial positive λ_B soln. 7—409
- σ models, minimal R operation in the 1/N expansion 7—35719
- σ-models, renormalization groups flow 7—15050
- $\Phi_4{}^4$ Euclidean field theory theory, Lipatov 7—56402
- $\phi_4{}^4$ theory with negative coupling, renormalised perturbation theory 7—49005
- $(\phi^{2N})_2$ field theory, mass gap and mass renormalisation using finite elements method 7—35702
- ϕ^4 theory, stochastic quantization simulation, renormalisation theory for bare couplings 7—48960
- *CP* nonconservation at the unification scale, three-generation phase-invariant measure 7—19029
- adjoint string at finite temperature, renormalisation group study 7—49117
- alloys, binary, phase diagrams and short range order, Monte Carlo simulations 7—53704
- analytically regularized 1/N expansion, pathology of minimal subtraction renormalisation 7—56445
- Anderson model, Coulomb repulsion between localised and extended states 7—17157
- Anderson-Hubbard model, real-space renormalisation group method 7—38842
- axial model in curved space-time 7—61453
- Bethe-Salpeter equation, renormalized forms 7—15048
- Blume-Capel model, ferromag. and antiferromag. props. 7—2867
- Blume-Emery-Griffiths model, 3D semi-infinite, real-space renormalisation group study 7—38156
- book, gauge field theory introduction 7—35134
- Bose fluid, interacting, nonlinear quantum and classical renormalization-group trajectories 7—35396
- bosonic σ-model, two-dimensional, defined on curved two-space, conformal anomaly anal. 7—9953
- BRS transformations and anomalies, differential geometric interpretation 7—56457
- Casimir effect in renormalizable field theory 7—30178
- charge transfer compounds, thermodynamic and dynamic props. 7—59048
- circle mappings, renormalisation group methods 7—56168
- closed strings in background fields, β-functions and vertex operators 7—49118
- cloudy bag model, renormalised πNN coupling constant and P-wave phase shifts 7—5067
- composite vector bosons, unstable particle case 7—41711
- conjugated polymers, self-localised excitations 7—64168
- Coulomb gases, 2D, hierarchical model with Kosterlitz-Thouless fixed point 7—9797
- Coulomb gauge self-energy fn., integral representation 7—56437
- Coulomb-like gauge for massive gauge fields, SU(2) model appl. 7—4957
- critical behavior and renormalization of quantum fields 7—49004
- critical behaviour finite cutoff and higher transient effects 7—282
- critical letting, 2D, exact decimation-type functional renormalisation 7—44955
- curved space-time, field theory renormalisation and renormalisation group eqns. 7—35665
- Delaunay percolation networks with topological disorder, renormalisation group approach 7—35434
- differential eigenvalue equations, second order, extension of renormalized Numerov method 7—29737
- dilute magnetic systems, environmental percolation, large-cell Monte Carlo renormalisation-group calcs. 7—2861
- dimerised XY chain, exact real space renormalisation group transformation 7—35445
- dirty superconductors, strong-coupling theory, McMillan soln. and T_c degradation 7—64394
- disordered conductor, mesoscopic fluctuations distrib. function, renormalisation-group anal., statistical props. 7—272
- disordered interacting electron systems, effective Landau theory, sp. ht. behavior 7—32958
- dissipative quantum maps 7—41266
- driven diffusive system, critical behaviour, field theoretic renormalisation group study 7—9811
- driven diffusive system, field theory of critical behaviour 7—29949
- $E_8\times E'_8$ superstring theory, low-energy gauge interactions, renormalisation group anal. 7—41687
- effective action for the Yukawa$_2$ quantum field theory 7—61424
- effective renormalised coupling constants and the critical point 7—44745
- Einstein gravit. from soln. of renormalisation group eqn. of Weyl gravit. 7—41212
- Einstein relation and exact Gell-Mann-Low function for random walks in media with random drifts 7—41251
- electrolyte solutions, symmetric problems, field theoretic approach 7—11874

renormalisation continued
- electron, radiative mass and g-2, QED between conducting plates 7—457
- electron gas, degenerate, tunnelling atom interactions, low temp. behaviour 7—27270
- electroweak Glashow-Weinberg-Salam theory, one-loop effects 7—61509
- electroweak interaction, higher order anal. 7—49019
- electroweak radiative corrections, renormalization scheme dependence 7—35774
- electroweak standard model, 1-loop renormalisation, leptonic processes appl. 7—61512
- energy-momentum tensor, vacuum expectation value and props. 7—48509
- exciton-phonon interactions, integral operator method anal. *(Chinese)* 7—12612
- ferroelectrics, and low temp. renormalisation group 7—64585
- ferromagnetic systems, critical point phenomenology and neglect of irrelevant variables, renormalisation group results anal. 7—64468
- ferromagnets, static surface critical behaviour, scaling and renormalisation, book contrib. 7—33183
- field theories in Robertson-Walker background, consistency of Hamiltonian diagonalisation 7—4969
- finite field theories, 3D, with and without supersymmetry, S-matrix and vacuum stress finiteness 7—61472
- finite quantum field theories, general features 7—48974
- finite systems, hyperuniversality and renormalisation group, finite-size scaling 7—56203
- finite temperature deconfinement transition, Monte Carlo renormalisation group calcs. of critical exponent 7—49054
- finite temperature field theory, renormalisability 7—30161
- finite temperature QED at one loop level, renormalisation and radiative corrections 7—19056
- finite volume effects on critical behaviour, exactly solvable model 7—35487
- flavour symmetry, dynamical breaking and scalar exchange 7—30210
- fluid hierarchical reference theory, smooth cut-off formulation 7—6491
- fourth generation quark-lepton effects on third generation, quark-lepton mass matrices and renormalisation group eqns. 7—56482
- fractal dimensions at percolation threshold, position space renormalisation group approach 7—48605
- functional equations, exact soln., differential eqn. approach 7—73
- functional integrals, renormalized expansions, coherent pot. to lattice model 7—18706
- gap equation models for chiral symm. breaking in QCD 7—35738
- Gelmini-Roncadelli model, one-loop renormalisation group anal., ν mass generation 7—24817
- Glashow-Weinberg-Salam model, on-shell renormalisation scheme 7—35747
- Hadamard and minimal renormalisations of scalar field in curved space-time 7—48511
- heavy fermion systems, disorder and coherence 7—21888
- heavy leptonium, radiative corrections to one-photon annihilation leptonic decays 7—35871
- heavy quark distribs., renormalisation scheme 7—24848
- heavy quark forces and potentials in SU(2) lattice gauge theory *(Chinese)* 7—35657
- Heisenberg antiferromagnetic chain, $S=1/2$ random-exchange, correlation effects 7—52928
- Heisenberg ferromagnet, dynamic structure factors, real space renormalization group calcs. 7—2878
- Heisenberg ferromagnet, interaction anisotropy influence on surface magnetism 7—52970
- Henon's dissipative map, quantized, period doubling, renormalization group anal. 7—56067
- hierarchical fermion model, renormalisation on square lattice in 2D 7—56153
- hierarchical lattices, geometrical phase transitions and universality 7—41321
- hierarchical scalar lattice field theories, non-Gaussian renormalisation group fixed point 7—9938
- improved block-spin transformations and redundant operators 7—4777
- incommensurately modulated phases, scatt. theory 7—26938
- infinite cluster at percolation threshold, Monte Carlo renormalisation approach to fractal dimensions 7—35439
- integral quantum Hall effect and localisation 7—64274
- interfacial transitions, bifurcation of renormalisation-group fixed pts. 7—27062
- inverse scattering analysis using renormalisation techniques 7—62598
- irreversibility of flux of renormalisation group in 2D 7—41636
- Ising disordered systems, thermodynamic props., renormalisation group calcs. 7—56185
- Ising ferromagnet, surface effects, mean field renormalisation group study 7—12982
- Ising ferromagnets on triangular lattice, bond- and site-diluted model, critical props. 7—12983
- Ising generalised mixed spin model, renormalisation group approach *(Chinese)* 7—9779
- Ising model, 3D thermodynamic functions at $T>T_c$ *(Ukrainian)* 7—9781
- Ising model, anisotropic, mean-field renormalisation approach 7—4775
- Ising model, critical exponents in non-integer dimensions 7—56172
- Ising model, dipolar, critical relax. at marginal dimension 7—52925
- Ising model, two-dimensional, large block spin interaction 7—41285
- Ising model, two-dimensional, Yang-Lee zeros 7—238
- Ising model on square superlattice, critical props., real space renormalisation group calcs. *(Chinese)* 7—27532
- Ising models on diamond lattice, renormalisation anal. and spin observables 7—48632
- Ising spin-1 model, with bilinear and biquadratic exchange interactions, renormalisation group calcs. 7—53010
- Ising triangular lattice, 2×1 and 2×2 structures, phase transitions 7—63765
- islands around islands, class renormalisation 7—222
- Kakutani metric appls. to small Ising systems and gauge-field quantisation 7—41294
- kinetic Ising model dynamics, Monte-Carlo renormalization group study 7—259
- Kobayashi-Maskawa matrix, renormalisation group eqns., quark mixing, CP nonconservation 7—5034
- Kolmogorov and Batchelor consts. relationship 7—43872
- Kosterlitz-Thouless transition analytic soln. of renormalisation equations 7—27480
- Langevin equation, renormalization and stochastic quantization 7—395

enormalisation continued
lattice gauge theory, baryon mass calc., quark mass renormalization 7—30155
lattice gauge theory, continuum limit and renormalized trajectory, weak coupling expansions 7—19009
lattice gauge theory, Monte Carlo renormalization group methods 7—61476
lattice gauge theory, Monte Carlo renormalization group transformation, β-fn. anal. 7—9957
lattice gauge theory, renormalisation group methods conf., Wuppertal, Germany, Nov. 1985 7—60883
lattice QCD, improved actions, redundant operators and scaling 7—56513
lattice QCD, weak Hamiltonian, eye diagrams, calculational technique 7—477
lattice QED, renormalisation flow 7—15107
lattice SU(N)×SU(N) chiral models, two-loop coupling constant renormalization 7—424
lattice theory, weak matrix element calcs., chiral behaviour and multipoint Green's fns. 7—61484
left-right squark flavour mixing, effect on CP violation, minimal low energy supergravity anal. 7—35737
length scaling in mean field renormalisation group 7—30154
liquid crystals, isotropic-nematic phase transition, crossover behaviour, renorm. group calcs. *(Russian)* 7—21445
Lorentz, conformal and gauge anomalies in external fields 7—41219
Lorenz-type flows, universal scenarios for chaos onset 7—230
magnetic materials with two sublattices, phase transitions, fluctuation effects 7—38872
magnetic systems with strong spin fluctuations, Arrott plots 7—12972
mass parameters in renormalized perturbation theory, absence of log., growths 7—41641
massive ϕ^4 theory, dimensional regularisation, mass independence of minimal subtraction scheme 7—41626
massive confined quark, QCD and QED energy shifts, cavity perturbation theory 7—15116
massive scalar field, renormalized vacuum expectation value of stress tensor, Hadamard function 7—18996
mean field renormalisation group, length scaling, critical indices 7—61260
mean-field renormalisation group, unified approach to bulk and surface critical behaviour 7—48665
mechanical analogy of the renormalisation group in the large-*n* limit 7—18686
metal self-similar network, magnetoresistance, periodic oscillating corrections 7—7210
metric space-time as renormalisation group eqn. fixed point on fractal structs. 7—48505
micellar solutions, origin of nonuniversality 7—46879
Migdal-Kadanoff renormalisation, appl. to Potts model 7—24600
multicritical phenomena and critical dynamics, differential renormalisation group generators 7—38159
multiplicative renormalisation of 2D chiral theories 7—30216
N=1 supergravity, SU(3)×Su(2)×U(1) models, superparticle and t-quark masses 7—41228
n-vector model, critical behaviour for $1<n<2$ 7—48666
N-vector model, quantum crossover behaviour in large-N limit 7—422
nonperturbative inconsistency of stochastic quantization in odd dimensions 7—61442
nonrelativistic interaction models with infinities, renormalisation, Green's function 7—30171
nonrenormalization theorems for chiral anomalies in N=1 supersymmetry 7—4963
nontrivial field theories, necessity-sufficiency problem of renormalisation 7—56455
nuclear quadrupole phonon model, SU(3) supersymmetric limit, renormalization for nonsemisimple and semisimple algebra 7—41911
O(4) nonlinear σ-model with Wess-Zumino term, two-dimensional, IR fixed point and renormalizability 7—9967
O(N) nonlinear σ-model, hierarchical, continuum limit 7—9939
one-dimensional quasiperiodic systems, electron spectral clustering and wave-function scaling, renormalisation-group calcs. 7—18723
one-loop operator matrix elements in the Unruh vacuum 7—14845
open bosonic strings in gravitational, tensor and Yang-Mills fields, renormalization props. 7—24826
open superstring theory, vector field effective action 7—5076
particle coupled to fermionic environment, ground state static props. 7—45107
particle distribution size increase simulation using Monte Carlo technique and renormalisation anal. 7—29731
particle families as radial excitations, eigenstates of relativistic wave eqns. 7—30179
percolation, clusters, num. methods *(Czech)* 7—4773
periodic Anderson model, extended and localised states 7—38504
phonon-phonon interaction via paramag. centres 7—44719
polyacetylene, CDW, interaction and disorder 7—64136
Polyakov's string theory on multi-loop computations 7—15133
polymer chains, four-dimensional, asymptotic logarithmic behaviour renormalization anal. 7—4779
polymer dynamics, Rouse-Zimm model, renormalisation group calcs. 7—25691
polymer self-avoiding network of fixed topology, renormalisation and exact critical exponent 7—260
polymer solutions, weak-flow effects, renormalisation-group anal. 7—20764
polymers, conjugated, correlation effects and excited states 7—27279
Potts model, renormalisation and phase transitions, symmetry breaking 7—284
Potts model on Koch curve, renormalisation group approach 7—14884
Potts model on Sierpinski carpets, Migdal-Kadanoff bond-moving renormalisation anal. 7—24588
proton-rich nuclei, superallowed β-decay and axial-vector strength renormalisation 7—49329
QCD, order of the finite temp. chiral phase transitions, renormalisation group eqn. 7—15119
QCD, perturbative, IR asymptotic, behaviour, contour gauges, renormalization group anal. 7—61596
QCD, quenched lattice approx. hadron mass calcs. using renormalization group improved SU(3) gauge action 7—61581
QED, phase shifts and the Kondo effect 7—41698
QED, renormalisation theory, nonstandard interpretation 7—41691
QED, threshold effects in spontaneously broken theories, gauge and scheme depend. 7—5041

renormalisation continued
quantum field theory, renormalisation group methods and necessity-sufficiency condition 7—56456
quantum vacuum definition for spin 1/2 fields in Robertson-Walker metrics 7—48510
quasicrystals, Fibonacci chains, spectrum, global scaling props. 7—58724
quasicrystals, magnetic phase structure on the Penrose lattice 7—53013
quasiperiodic maps, renormalisation procedure 7—220
random field models with long range exchange, scaling theory, 1/n expansion 7—24553
random field problem, critical behaviour, Fisher renormalisation 7—41289
random nonpercolating conductor networks, insulation breakdown calcs. 7—58744
reaction-diffusion systems, scaling, renormalization group anal. 7—59744
real- and imaginary-time field theory at finite temperature and density 7—48983
reduction and reparametrization of quantum field theories 7—35711
relaxation and finite volume effects, stochastic numerical simulations 7—61481
renormalons in QED and Borel summability 7—10015
resistor-diode percolation on the hierarchical diamondlattice, real space renormalization group anal. 7—243
review of renormalization theory 7—49000
Ricci-flat supersymmetric σ-models, counterterm counterexamples. 7—61446
rigid surface in high-dimensional space 7—18707
scalar field theory and gauge theory, renormalized coupling constants by Monte Carlo methods 7—41618
scalar field theory with matrix fields, renormalisability in 1/N expansion 7—61470
scaling laws and universality of critical phenomena in an external field 7—14906
Schrodinger equation, quasiperiodic, symbolic dynamics for renormalisation map 7—24440
Schwinger-Dyson equations, from block-spin expectation values to renormalized couplings 7—56429
self-interacting scalar field, scale invariance, renormalisation group eqn., Callan-Symanzik eqn. 7—56420
semi-infinite ferromagnetic q-state Potts bulks separated by bond diluted interface, criticality 7—33179
sine-Gordon field theory, mass gap and mass renormalisation using finite elements method 7—35702
site percolation in a honeycomb lattice, renormalisation group calcs. 7—9798
smectic-A-smectic-C phase transition, Frank consts. corrections, renormalisation-group method calcs. 7—16742
solid-solid transitions, continuous, driven by eight-component order parameter Hamiltonian densities and renormalisation-group theory 7—51993
spinless fermions solvable 1D two-band model calcs., renormalisation-group eqns. 7—208
spinor fields, renormalisation by asymptotics 7—56449
statistical physics and field theory conf., Groningen, Netherlands, Aug. 1985 7—55899
stochastic Hamiltonian systems, scaling, renormalisation approach 7—41263
stochastic quantization method, renormalization scheme for fictitious-time correlations 7—4979
SU(2) gauge theory, Monte Carlo renormalisation study of deconfining transition 7—15073
SU(2) lattice gauge theory, finite temperature, Migdal renormalization group anal. 7—9966
SU(2) lattice gauge theory, Monte Carlo renormalization group study 7—19002
SU(2) lattice gauge theory, renormalisation and continuum limit of composite operators 7—19017
SU(3) lattice QCD, β-function at large β, Monte Carlo renormalisation group anal. scaling deviations 7—24781
superconducting Josephson contacts, critical current quantum renormalisation 7—12921
superconductors, random fields, weakly first-order phase transition 7—22068
supergravity GUTs, N=1, Higgs potential minima with vanishing cosmological constant 7—9731
superstring models, renormalisation group anal. 7—9737
superstring one-loop nonrenormalization theorem in covariant path-integral formalism 7—24514
supersymmetric effective action in 3D, parity violation and renormalisation procedure 7—48992
surface and interface magnetism, dilution effects and influence of nature of interaction 7—59032
thermo field dynamics, development and generalization 7—9984
thermo field dynamics, spontaneous creation of dissipation 7—56407
thermodynamical variables, renormalisation group approach 7—18733
thermofield dynamics, perturbative, renormalization of thermal state vacuum 7—9970
three gluon vertex in light cone gauge, renormalisation anal., nonlocal terms 7—5059
time-dependent renormalization in non-equilibrium thermo field dynamics 7—35712
$(TMTSF)_2X$, quasi-1D, role of kinetic interchain coupling 7—45302
$(TMTTF)_2X$, quasi-1D, role of kinetic interchain coupling 7—45302
transverse sound attenuation, critical behaviour at electronic mobility edge 7—45154
trifurcation sequence, renormalization-group eqn., power spectrum bounds 7—48567
turbulence, renormalization-group analysis 7—11390
two loop diagram, 1440-fold symmetry 7—9977
U(1) lattice gauge theory, renormalisation group transformations *(Chinese)* 7—35658
uniaxial systems with strong dipolar interaction, nonasymptotic crit. behaviour 7—64467
unitary renormalisable Yang-Mills theory without Higgs bosons, electroweak model 7—41630
universal strange attractor underlying Hamiltonian stochasticity 7—56163
vacuum polarization in curved backgrounds deduced from Hadamard kernels 7—48503
vector bosons, renormalisation scheme depend. of electroweak parameter shifts 7—19053
Wilson loop renormalisation beyond leading order 7—61451

renormalisation continued
- Yang-Mills theory, general three-vertex, BRS identities and renormalizability of the light-cone gauge 7−35724
- Yang-Mills theory, renormalisation in light cone gauge 7−61475
- Yang-Mills theory in the light cone gauge, BRS formalism and renormalisation 7−48987
- *B*-meson decays without charmed particles in the finalstate 7−517
- $\gamma\gamma \rightarrow M^+M^-$ ($M=\pi,K$), next-to-leading-order perturbative QCD calcs. 7−61591
- $Fe_{1-x}Co_xCl_2$, random-field and competing-anisotropy effects, sp. ht. study 7−2872
- GaAs-GaAlAs multiple quantum well structs., band-gap renormalisation 7−58888
- ^4He, superfluid, renormalization-group functions and nonuniversal critical behaviour 7−63892
- $Mo_{1-x}Re_x$, enhanced superconductivity by electron renormalization of directly obs. Brout-Visscher local phonon 7−38824
- NbH_x, H transfer integral renormalisation 7−12085
- TaH_x, H transfer integral renormalisation 7−12085
- Zn, phonon spectrum fine structure 7−16702

repackaging *see packaging*

repeaters
- 1.5 micron fibre submarine transmission system sea trial 7−31519
- fiber-optic inverter repeater to cancel distortion 7−15993

replica techniques
- glass mirror, replicated, applic. to large segmented opt. systems 7−37088
- Polaform process, holographic embossing at Polaroid 7−25751
- steel, eutectoid, 1.3 wt.% Cr, specimen prep. technique influence on analytical TEM obs. of partitioning 7−22950
- Al-Si-Mn-Fe,intermetallic phases, TEM obs., extraction replica technique 7−39807

replicas
- No entries

research and development management
- *see also research initiatives*
- automotive long range highway vehicle propulsion system using fuel cells, R&D needs 7−65456
- direct energy conversion R and D in Russia 7−13923
- geologic research management and organisation 7−40480
- mm wave research in Finland, radioastronomy receivers develop. *(Finnish)* 7−60549
- nuclear reactor development research in France *(French, English)* 7−19398
- photovoltaic research based on general semiconductor research 7−3678
- H_2 energy R and D in India, overview 7−65643

research initiatives
- Bioengineering Program of the UniversidadNacional de Tucuman (Argentina, 1974-85), cardiac fibrillation, defibrillation research 7−4650
- biomedical engineering, EEC research programme 7−4649
- Delft ion beam pattern generator project progress 7−41532
- nuclear power station safety of reactors from earthquakes, seismic research 7−36209
- nuclear research, summary of recent papers *(Dutch)* 7−54670
- Particle Beam Fusion Accelerator II (PBFA II), quality assurance of R&D project 7−30763
- Ni-H_2 aerospace cells for low Earth orbit appls., research technology advances 7−34022

residual stresses *see internal stresses*

resins *see polymers*

resistance (electric) *see electric resistance*

resistance noise *see thermal noise*

resistance thermometers
- AC four-terminal bridge for low-resistance thermometry 7−9834
- analogue thermistor thermometer for 0 to 100°C range 7−14943
- bridge circuit for precision meas. 7−48736
- ceramic resistors for noise thermometers 7−4851
- commercial probes, characts., props. and reliability *(German)* 7−18778
- four-terminal AC bridge, easy to build, for temp. down to 1K 7−14957
- low temperature meas., engineering thermometers comparison, Allen-Bradley, TVO and TSKU-21 7−30022
- microbead surface temperature determination, IR, thermocouple and resist. thermometric techniques 7−30008
- multichannel temp. meas. system with built-in microcomputer 7−41381
- sensors based on transistors and ICs review 7−48743
- surface temp. meas. of poor heat conducting materials radiation technique accuracy 7−26133
- thick film chip resistors as low temperature thermometers 7−316
- voltage-to-time converter for thermometer 7−30011
- C resistors for cryogenic thermometry 7−56267
- C-glass resistance thermometer for low temps. and mag. fields up to 7T 7−61331
- CdO-$Bi_2Ru_2O_7$ thick film resistors with high TCR for temperature sensing 7−48735
- Co-Ba-Ni-O_2 thermal resistance thermometer study *(Chinese)* 7−24650
- Ga melting and triple points realisation, comparison of sealed cells 7−61333
- Ni thin film temp. sensor *(German)* 7−61332
- Pt, low temperature measurement, errors 7−9833
- Pt resistance thermometers for industrial appls. *(Dutch)* 7−308
- Pt thin film resistance thermometer, low temp. high mag. field use 7−14941
- Rh-Fe microwires as resistance thermometers 7−307
- Si-based sensors, deposition methods and appls. 7−48715

resistance welding
- steel, surface conversion, phosphate coatings, corrosion protection during welding 7−8198

resistivity *see electrical conductivity*

resistors
- *see also photoresistors; posistors; thermistors; thick film resistors; thin film resistors; varistors*
- calibration, computer-controlled AC bridge for precision resistance meas. 7−18832
- ceramic resistors for noise thermometers 7−4851
- characteristics for multi-megajoule capacitor bank appl. 7−30792
- resistance transfer standard, theory and design 7−18828
- $Hg_{1-x}Cd_xTe$, Umklapp 1/f noise, Hooge parameter, relativistic correction 7−2649
- $NiFe/SiO_2/CoPt$ multilayer magnetoresistors sensitivity anal. 7−48786

resists
- *see also electron resists; photoresists*
- PMMA and Microdeposit 23M, As^+ ion bombardment, appl. for ion beam lithography and masking 7−26810
- polymer resists, bonds, radiation effects and crosslinking 7−37907
- WO_3 amorphous films as high-contrast inorganic ion resists 7−63672

resolving power (optical) *see optical resolving power*

resonance
- *see also atomic beam electric resonance; circuit resonance; cyclotron resonance; dielectric resonance; Fermi resonance; magnetic resonance; magnetoacoustic resonance; molecular beam electric resonance; optical double resonance; vibrations*
- Axiom A dynamical systems, resonance location, simple model 7−29893
- axisymmetric satellite on elliptical orbit, resonant periodic motion 7−34830
- cylindrical waveguides, resonance phenomena and aperiodic wave processes 7−50463
- difference resonance expt. with polarising prism 7−26385
- energies, determ., equivalence use between boxing and scaling 7−15469
- epoxy-polyamide mixture, dynamic props. in wide temp.-freq. range 7−33721
- F-region parameters determ., resonance scattering method 7−55356
- gyroscope, noncontact, in resistive medium, run-up system 7−43653
- gyroscopic systems, periodically perturbed nonlinear bifurcation behaviour 7−11274
- Hamiltonian, resonance perturbation by mode coupling *(Chinese)* 7−35264
- molecules and ions, teaching approach using transparent overlays 7−9638
- rod-type vibr.-freq. transducers, resonator shape optimisation 7−1482
- satellite rotation, struct. of higher-order reson. zones in plane of elliptical orbit 7−34829
- stellar dynamics, numerical comparison of reson. orbits in quasispherical galaxy (1/1 resonance) 7−55740
- thermal radio emission at sea surface 7−60268
- TM wave resonance absorption in inhomogeneous plasma 7−58018
- Venus/Earth orbital resonance, contrib. to recurrent phenomena of Venus 7−66489
- vocal tract resonances in oscine bird sound prod.:evidence from birdsongs in a He atm. 7−47126
- BW alloy fibre, torsional pendulum, shear modulus and internal friction meas. 7−48232

resonance reactions and scattering, nuclear *see nuclear resonance reactions and scattering*

resonances, baryon *see baryon resonances*

resonances, meson *see meson resonances*

resonant absorption of gamma-rays *see Mossbauer effect*

resonant cavities *see cavity resonators*

resonant cavity wavemeters *see wavemeters*

resonant gamma-ray interactions in crystals *see Mossbauer effect*

resonators
- *see also cavity resonators; crystal resonators; dielectric resonators; resonance*
- Fabry-Perot resonator, M-band cryst. luminesc., exciton-photon system, optical bistability phenomenon *(Russian)* 7−20323
- fibre optic ring resonator with wavelength-selective input refl. coeff. 7−1273
- high frequency, boundary-integral eqns. calcs. *(Russian)* 7−56007
- mutual scattering effects between spheres, microwave open resonator meas. 7−1008
- optical holographic associative memory using a phase conjugate resonator 7−25733
- optical resonators and neural networks 7−54512
- SAW resonators, 600 MHz band, driving current dependence of aging drift 7−20553
- shell resonators, electrostatic excitation eqns. 7−11332

resource allocation *see operations research*

reticles *see masks*

retina *see eye*

retrieval, information *see information retrieval*

revaporisation *see vaporisation*

reverberation
- *see also anechoic chambers; architectural acoustics; echo*
- audioconference rooms and reverberators, modelling 7−37253
- computerised system for reverberation time meas. 7−43606
- digital reverberation time meter 7−20506
- evolutionary spectra of non-stationary underwater sound reverberation process *(Chinese)* 7−20494
- room reverberation time in an almost-two-dimensional diffuse field 7−37250
- room reverberation time meas. using cross-correlation of two relatively prime pseudorandom sequences 7−62914
- sound field in room, grasp and development of spatial information by closely located four-point microphone 7−37258
- statistical spatial acoustics, reverberation time meas. for low density of eigenfrequencies *(German)* 7−57637

reverberation chambers
- energy acoustic system, functional method of parameter estimation 7−37236
- sound power measurements in a rectangular reverberation room *(Japanese)* 7−62928
- space variances in the mean-square pressure at theboundaries of a rectangular reverberation room 7−6049

reverse martensitic transformations
- shape memory effects in plastic transform. conditions *(Russian)* 7−33656
- steel, Ni, N29, crystallostruct. changes during reverse martensitic transform., effect of ultrasonic action *(Russian)* 7−53724
- steel, Ni maraging, austenite form. characts. *(Russian)* 7−46466
- steel, Ni-Co-W, maraging, martensite-austenite reversible transforms. during tensile deform. and thermal cycling 7−17528
- Cu-Al-Zn, β-phase stability, mech. props. rel. to quenching rate 7−33659
- Cu-based alloys, rapid solidified and ion implanted, struct. studies 7−21130
- Cu-Zn-Al, dislocation density and mobility during reversible martensitic transforms. 7−26759
- Fe alloys, martensitic transformations, effect of stresses and mag. fields 7−53731
- Fe-Mn, kinetics of α-phase form. and role in shape memory effect *(Russian)* 7−46581

reverse martensitic transformations continued
  Fe-Mn alloy, p/m type, martensitic transform. and struct. form. mechanisms 7−33658
  Fe-Ni-Cr, high-purity, irrad., void swelling and nucl.-induced phase transforms. 7−58340
  Ti, reversible martensite $\omega \rightleftarrows \alpha$ transformation 7−33654
  Ti-Al-Cr-Mo alloy VT3-1 mech. props. depend. on decomp. product morphology for metastable phases 7−39655
  TiNi alloy, shape memory and reversibility effects, deform. effects *(Russian)* 7−13508
  TiNi, reverse memory of form, effect of thermal cycling 7−33660
  Zr, reversible martensite $\omega \rightleftarrows \alpha$ transformation 7−33654
  ϵ-ZrH_x, shape memory effect *(Russian)* 7−59577
reversible shape memory effect *see shape memory effects*
reviews
  see also Bibliography Index (special index bound with Author index)
  3D elastic bodies, contact problems, mathematical models of friction 7−51002
  ^{252}Cf neutron brachytherapy, complications: review of reported experiences 7−28667
  ^{26}Al in the interstellar medium 7−48050
  accelerated crucible rotation technique for cryst., growth, review of theoretical models 7−39368
  acoustic properties of solids, defect effects *(Russian)* 7−26069
  acoustical 1D random lattices, Anderson localisation of waves *(French)* 7−16013
  acousto-optic interactions anal., multiple plane wave approach 7−17305
  acousto-optic modulators, deflectors and Q-switches, basics 7−50605
  actin system and the rheology of peripheral cytoplasm 7−65787
  actinide ions in aq. soln., thermodynamic props., oxidation states, coordination number and struct., review 7−12322
  actinide metals, preparation and physical props. 7−17778
  actinide metals, solid state and thermodynamic props., f-electron bonding and struct., review 7−12321
  actinide systems, photoelectron spectroscopy, review of present status 7−39348
  actinides, elastic neutron scatt. and diffr. studies, review 7−12945
  activated reactive evaporation 7−33576
  adaptive image transform coding techniques 7−1036
  aerosols, atmospheric, multiwave laser sounding 7−34678
  aggregation phenomena and fractal aggregates *(French)* 7−9757
  aging and vision 7−17970
  agricultural weather analysis, operational assessment programme of Joint Agricultural Weather Facility 7−29126
  air pollution of N America, dry deposition of S and N oxides 7−34570
  Alfven wave heating, diagnostics, review 7−6412
  alkali halide mixed crystals, phys. props. 7−37943
  alkali halides:H, trapped atomic H and muonium 7−45900
  alkali metals, condensed phase, thermodynamic props. study 7−32684
  alkaline earth sulphide phosphors, prep. and thermolum. 7−17488
  alloys, high temp. corrosion in sulphidising/oxidising environments 7−39737
  alloys, preferential sputtering, segregation, mixing and diffusion 7−59337
  alloys, pseudoelasticity and shape memory effects 7−8060
  aluminosilicate glasses, magic-angle spinning NMR, review 7−64536
  amorphous semiconductors, X-ray absorpt. studies 7−64756
  Ampere-Neumann electrodynamics of metallic conductors 7−20115
  analytical electron microscopy of thin films, review *(Czech)* 7−59261
  anomalous He line stars, observational data review 7−66595
  anomalous phonon dispersion in helium II 7−63893
  Antarctic Circumpolar Current 7−23701
  antinucleon physics, review 7−30277
  aquatic organism acidification effects, data evaluation and compilation 7−40054
  ASDEX Tokamak, ohmic and auxiliary heating, impurity prod. 7−63293
  astronomy and astrophysics, 1986 annual review, book 7−24315
  atmosphere vertical temperature distrib., relation to solar and atmospheric radiation propag. *(French)* 7−14338
  atmospheric chemistry of carbonyl cpds. 7−34569
  atmospheric electric field disturbances 7−29231
  atom-surface scattering, general theory of scattering 7−59359
  atomic and molecular clusters in beams 7−31204
  atomic collision processes, resonant transfer excitation and dielectronic recomb. review 7−50366
  atomic data for astrophysics, recent developments 7−40689
  atomic negative ions, electron detachment, overview 7−15563
  atomic nuclei, high energy collisions, expt. results 7−42048
  atomic vapour, lifetime determ., fluoresc. study 7−36546
  atoms, electronic struct. and dynamics study by electron spectrometry 7−36755
  atoms, multiphoton ionisation theory 7−19793
  atoms in a low field 7−898
  audiology, state of the art 7−8593
  aurora borealis and aurora australis, relation to solar wind-magnetosphere interaction *(French)* 7−60439
  back and trunk musculature, devices for dynamic evaluation and rehabilitation 7−3923
  baryons structure, hyperfine interactions 7−56518
  Basin and Range province, USA, shallow subsurface temp. surveys 7−60398
  binary asteroids and satellites of asteroids, implications for occultation obs. 7−18367
  binocular vision, neural mechanisms 7−17982
  biochemistry of vision, perspective 7−17975
  biocular magnifiers and design methods 7−50695
  biofluid mechanics, nontraditional, perspectives 7−54652
  biological systems, laser studies of fast processes 7−23302
  biologically significant solids, irradiated, ESR and ENDOR studies, review 7−23309
  biomagnetic computational tools, trends: from procedural codes to intelligent scientific models 7−54634
  biomagnetic inverse problem, basic math. and EM concepts 7−54626
  biomagnetic inverse problem, role of model and computational expts. 7−54628
  biomagnetic method, principles and clinical validity 7−47138
  biomedical engineering research, targeting to impact medical practice 7−3917
  biomedical lasers, development trends and market pot. 7−47196
  biorheology, new trends, Poiseuille Award Lecture 7−60854
  blood filtration rates 7−54654
reviews continued
  brain electrical and magnetic activity monitoring 7−8743
  breast cancer risk in women rel. to ionising radiation *(Russian)* 7−54682
  British X-ray astronomy, review 7−24019
  brittle failure in compression, micromechanics, splitting, faulting and brittle-ductile transition 7−13590
  Calder Hall, 30 years of operation, design, procedures and requirements 7−56795
  Calder Hall, 30 years of operation, overview 7−56794
  Calder Hall, safety, inspection and maintenance 1956-86, review 7−56809
  Calder Hall fuel elements, 30 years of metallurgical experience 7−56758
  Canada, radwaste management programmes 7−42206
  Canadian petroleum exploration, appl. of remote sensing 7−40585
  canal rays to ion implantation 7−55920
  cancer induction and nonstochastic effects 7−54679
  capillary liquids, static problems, soln. methods 7−44950
  Carreau fluid creeping flow past Newtonian drops 7−63188
  cell automated classification techniques, imaging flow cytometer 7−8774
  ceramic composites, non-oxide, CVD fabrication 7−64993
  ceramic composites, sintering, role of shear deform. 7−64988
  ceramic cylindrical nuclear fuels, computer modelling, review 7−720
  ceramic eutectic composites, microstruct. and mech. props. 7−64991
  ceramic materials, lifetime prediction 7−8218
  ceramics, ion implantation and near surface microstructures, analytical electron microscopy 7−37816
  ceramics, powder prep., sintering and compaction, internal combustion engine appl. 7−3240
  cerebellum, role in visual guidance of movement 7−40143
  cerebral magnetic fields 7−3809
  CERN ISR $\bar{p}p$ physics 7−42249
  chalcogenide glasses, AC conduction, theoretical models and expt. data, review 7−64252
  chalcogenide glasses in integrated and fibre optics 7−31412
  channelling and channelling radiation 7−51898
  chemical electric field effects in biological macromols. 7−54444
  chemically peculiar stars, surface mag. fields characts. 7−66594
  children, differential effects of various causes of deafness on eyes, refr. errors, and vision 7−8555
  chromosome aberrations and reproductive death of mammalian cells: quantitative correl. between these effects *(Russian)* 7−14054
  cirrus cloud, influence on climate and weather processes, global perspective 7−4157
  classical one-component plasma, equilib. props. in 3D and 2D, review *(French)* 7−32039
  classical tachyons and possible applications 7−4679
  classifier-directed signal processing in brain research, EEG and magnetoencephalogram appl. 7−54820
  climate change due to CO_2 produced by industry 7−55253
  CNS tumours, contrast-enhanced NMR imaging, clinical review 7−3855
  coal-fired power stations, radioactivity 7−59893
  coarse-mesh nodal methods for n diffusion and transport neutron diffusion reviews 7−5314
  collision dynamics, laser effects, overview 7−20002
  collisional excitation, alignment and orientation 7−42764
  colour defects rel. to eye disease 7−17994
  colour vision, cones and opponency 7−17991
  P/Comet Halley (1982i), dust IR characts. 7−18385
  P/ Comet Halley (1982i), gas phenomena 7−14531
  P/Comet Halley (1982i), nucleus characts. review 7−18383
  comets in 1984, observations and designations 7−47790
  complex eigenvalues of differential eqns., critical layer singularities 7−4714
  complex shear flows, turbulence modelling 7−51077
  composite electroceramics, book contrib. 7−27645
  composite materials, method for predicting nonlinear viscoelastic props. 7−63020
  composition-modulated metallic foils, mech. props., book contrib. 7−27222
  compositionally graded semiconductors and device applics., book contrib. 7−27323
  computation, physical limits, reversible computation 7−55919
  computational continuum dynamics, introduction 7−4800
  computer simulation of transport in solids, book contrib. 7−26994
  conducting antiferromagnets, collective excitations *(Russian)* 7−58998
  conducting polymers 7−58797
  conjugated polymer and macrocyclic ligand thin films, extended π-electron systems, deposition, charactn. and appl. 7−64001
  conservation laws in nonconservative linearelastodynamics 7−1408
  cool stars, chromospheres and UV characts. 7−47838
  coronary arteriography, quantitative, state of the art, book 7−54742
  corrosion of electronic materials and devices, causes and prevention 7−33815
  corrosion science, role of electron spectroscopy 7−22860
  corrosion-related aspects of the chemistry and freq. of occurrence of atmospheric precipitation 7−46664
  cosmic microwave background radiation anisotropy, review 7−48106
  cosmic ray research, the early history, 1900 to 1927 7−48263
  cosmic X-ray background, spectral characteristics and spatial fluctuations 7−66792
  cosmological constant, compatibility of zero value with obs. 7−24250
  cosmology, big bang and unified theories of Universe *(French)* 7−60841
  covalent chemical bonding, MO anal. 7−49917
  CP violation, present status 7−56466
  cryobiology, status and outlook 7−54838
  crystal growth, heat and mass transfer in microgravity and on Earth 7−53510
  crystal growth from soln., solvent role, protein appl. 7−21142
  crystal growth research in China 7−53509
  cumulonimbus clouds, introductory review 7−4142
  cutting tools, performance improvement through the use of ion plated coatings 7−53931
  cycling, analytical and experimental biomechanics 7−54666
  degenerate four-wave mixing with guided waves 7−11070
  dense plasma generation by ballistic compressors 7−16312
  dermatology appls. of lasers, overview 7−34223
  desertification, review and definitions of concept 7−9157
  design principles of detectors at colliding beams 7−56911
  Dicke model and the theory of driven and spontaneousemission 7−5864
  dielectric breakdown of solid dielecs., review of Japanese research 7−45931
  differential reflectivity technique for rainfall meas. 7−23869

reviews continued
digital signal processing in studies of animal acoustical communication, including human speech 7—50854
digital videofluorography, clinical basis 7—28678
Dirac, Faraday, Born and medical imaging 7—60115
disease, understanding by use of NMR spectroscopy 7—14103
dislocation density reduction in crystal growth of GaAs and InP 7—2020
dislocation structures, low energy, in interfaces 7—63976
disordering transitions, nucleation mechanism, review 7—44743
dissipative dynamical systems, review 7—29909
distributed-index planar microlens and stacked planar optics: a review of progress 7—31416
DNA base damage induced by ionising radiation, review of current aspects 7—47169
DNA double helix, effect of base sequence on fine struct. 7—54454
DNA lesions, role in form. of radiation damage in chromosomes *(Russian)* 7—47170
double barrier reson. tunnelling, perpendicular quantum transport in superlattices 7—12811
dye laser, DFB producing tunable picosecond pulses 7—10992
Earth accumulation and initial state, dynamical model 7—34367
Earth interior structure, determ. via seismic waves *(French)* 7—23588
earthquake depth determination methods 7—54933
earthquake location and analysis methods 7—54932
earthquake precursory changes in chemistry of emitted gases 7—34394
earthquake prediction research in Japan, results (1978 to 1986) 7—4000
ECRH expts. in tokamaks and stellarators 7—6411
elastoplastic and elastoviscoplastic problems, FEM 7—26155
electric cells, construction and characts. *(French)* 7—3629
electrical impedance imaging 7—60116
electro-optic devices, Pockels cell 7—50729
electro-optical meteor observation, techniques and results 7—47716
electroceramic composites, props. and struct. 7—64558
electrochromic materials, book contrib. 7—25913
electromagnetic struct. of nuclei and nucleons, review 7—30315
electron irrad. induced transforms. in alloys and ceramics 7—2065
electron microscopy in materials science, some appls. 7—44324
electron relaxation studies, review 7—22158
electron transfer in bacterial photosynthesis 7—13974
electron transport, role of phys. parameters in regulation: diffusion, collision and complex form. 7—17964
electron tunnelling spectroscopy and scanning tunnel microscopy 7—41545
electronic mobility in semiconductor heterostructures 7—7350
electronic speckle pattern interferometry, basic principles, configs., industrial appls. 7—35588
electronic states in semiconductor heterostructures 7—7307
electrospark deposition coating process 7—53978
electroweak tests of the Standard model 7—56485
EM techniques in hyperthermia 7—40240
embryo and foetus, irrad. effect 7—54680
emission nebulae and abundances in galaxies, review 7—40903
endoscopes, fibre optics, diagnostic and surgical appl. 7—40243
energetic heterogeneity of solids, determ. from adsorption data, review 7—2387
energy conversion and storage using insertion materials, review 7—28391
engineering ceramics, gas turbine engine appls. 7—3241
engineering measurements, optical methods 7—30072
engineering nitrogen ceramics, prep., fabrication, appls. 7—53683
epidemiological evaluation of radiation risk usingpopulations exposed at high doses 7—8687
epitaxial growth of transition metal silicide, on Si 7—21766
epoxide resins, particulate filled, parameters determining strength and toughness 7—65071
ERG, progress over 25 yrs. 7—17980
evoked potentials in vision research 1961-86 7—17981
excimer lasers in medicine, surgical appls. 7—60073
excited atom, radiative process fluctuations 7—889
extracellular neural recording with multichannelmicroelectrodes 7—8780
faint galaxies as probes for distant Universe 7—4610
fast atom bombardment mass spectrometry, industrial appls. 7—54206
fatigue crack growth, dynamics factors *(Japanese)* 7—20657
fibre drawing, high speed and coating 7—11134
fibre optic, Mach-Zehnder interferometric sensors 7—20432
fibre optic level transducers, review 7—43405
fibre optic radiation sensors, high bandwidth 7—20449
fibre optic sensor modulating techniques, review 7—57580
fibre optic sensors, development, configs., and appls. 7—31485
fibre optic sensors, distributed 7—20434
fibre optic sensors and their appls. 7—20431
fibre optic sensors for chem. industry, industrial meas. of press., temp., and level 7—57579
fibre optics in laser Doppler velocimetry 7—50771
fibre reinforced plastics, hybrid, tensile, compressive, flexural and shear props. 7—39532
fibre-optic gyroscope technology, state-of-the-art 7—20441
field-effect, chemical microsensors, advances 7—48710
films, oriented crystalline, on amorphous substrates, prep. by zone melting recrystallisation and surface-energy-driven grain growth 7—38385
fine particle magnetism 7—59064
fine structure in ionisation cross sections, surface science appl. 7—27074
finite difference eigenvalues, asymptotic correction 7—18324
FIR heterodyne detectors, review 7—35596
FIR lasers, high power, review 7—36976
fissile materials and nuclear weapons proliferation 7—55945
flow in tubes and arteries: a comparison 7—3815
flow induced vibration of nuclear fuel rods *(Japanese)* 7—25034
flow visualisation modern developments, review 7—11561
flowmeters, variable pressure and pressure difference 7—44077
fluid mechanics numerical expt., computational methods 7—43836
foot pressure measurement: a review of clinical findings 7—8728
four-wave mixing and dynamic gratings, basic considerations 7—11029
Fourier transform IR spectroscopy, biological and biomedical appl. 7—54831
fractional quantum Hall effect 7—7269
fracture mechanics and strength size effects, phys. evidence 7—57756
free electron lasers, FIR, review 7—36974
Fresnel diffraction computation, review 7—18521
frustration in amorphous magnetic systems 7—59037
fusion machines, plasma-surface interactions, design studies 7—63298
fusion reactor structural materials, irradiation, He effects control 7—51845

reviews continued
galactic corona, IUE obs. rel. to kinematics, ionisation, and abundances 7—48054
Galaxy, black hole at galactic centre, observational evidence 7—29541
gamma-ray astronomy at the highest energies 7—55856
gas lasers, condensed and compressed 7—36952
geodetic strainmeter and tiltmeter techniques and design 7—23906
geology, second childhood of ancient science *(Russian)* 7—60254
geomagnetic activity prediction on 1 to 10 year time scale 7—23956
geomagnetic field reversals, review 7—23539
geomagnetic pulsations at low latits., exptl. aspects 7—55371
geothermal heat flow anomalies and their interpretation 7—28929
giant resonances in excited nuclei 7—56595
glass ceramics, development in China, review 7—6527
glass-making, review 7—3259
gluons, properties in hadrons, gluonic structure functions, review *(Polish)* 7—30243
grain boundaries, structure and properties under external influences, review 7—12080
grain boundary diffusion mechanisms in metals 7—52143
graphite, plasma interactive component surfaces, H recycling props. 7—63295
graphite intercalation cpds., 2D magnetism, review 7—59033
graphite intercalation cpds., staging, struct., dynamical and magnetic props., review 7—1966
groundwater flow in low-permeability environments 7—29097
groundwater hydrology, parameter identification procedures for inverse problem 7—23730
gyroscopes, solid state, optical 7—20437
Hadamard transform spectroscopy, instrumentation and mathematical details 7—56352
hadronization of quarks and gluons into hadron jets at high energies 7—41749
haeme proteins, long-range electron transfer 7—8482
haemodynamics and biochem. factors interactions, rel. to transient ischaemic attacks and strokes 7—65786
hard coatings grown from vapor phase, review 7—22469
Hawaiian lavas, geochemical and geophysical constraints on origin 7—8943
heat transfer, review of 1985 literature 7—48221
heavy elastica, critical review 7—11286
heavy flavour lifetimes 7—61548
heavy ion collisions, relativistic hydrodynamics, entropy, π prod., quark-gluon plasma, review 7—615
heavy ion reaction duration meas. using e^+ and e^- spectra and product distribs., review 7—42044
heavy metal fluoride glasses for optical applications 7—11080
heavy-fermion superconductors, anomalous pairing and superconducting state, review 7—2774
heterodyne/coherent optical fibre communications, ultimate performance 7—31490
heterojunction transistors 7—52811
high mass dilepton production in hadron collisions 7—56574
high resolution Auger spectroscopy in energetic ion atom collisions 7—62490
high sensitivity spectroscopic techniques 7—56354
highland crust composition from IR observations 7—24030
highly reflecting diffusers, middle-IR region, develop. status study 7—57615
HLLW solidification, review of alternative wasteforms and processes 7—36296
hot carriers in quasi-2-D polar semiconductors 7—12807
hot-electron generation and transport in high-intensity laser interaction 7—26431
human eye movement research 7—17978
human visual suppression 7—17995
hydrological modelling techniques, developments 7—55113
hydrology, soil water and groundwater flow in unsaturated zone 7—18236
hydromagmatic eruptions, implications for volcanic hazard in Italy 7—66053
hydrophones for use in medical US fields, calibration 7—60063
hypernuclei identification in nuclear emulsions, review *(Polish)* 7—30887
hyperon polarization in hadronic collisions 7—35908
Iceland, accretionary volcanic processes rel. to crustal struct. 7—66081
Iceland, geothermal activity and gases and volcanism 7—34430
ICP-AES, weighted lin. regression, review 7—8347
II-V semiconds., cryst. growth, characterisation and appls., review 7—26685
III-V semiconductor layers, metalorganic MBE 7—53601
III-V semiconductors, Hall effect in semiconductor assessment 7—17041
III-V semiconductors, localised electron states of substantial transition metal impurities, review 7—27295
imaging systems for digital radiography: present statusand future prospects 7—8679
immiscible viscous fluids, fingering in Hele-Shaw cells 7—43854
impedance spectroscopy applic. to materials sci., book contrib. 7—24659
improbable nuclear reactor accidents, source-term containment anal. recent progress review 7—36218
incoherent scatter radar probing of GP-100 km atm. and ionosphere 7—9211
independent fission yield measurements 7—61948
inelastic light scattering by electronic excitations in semiconductor heterostructures 7—13171
infrared detection and imaging 7—56260
inorganic and protein crystal growth—similarities and differences 7—23283
inorganic cpds., vapor state and matrix isolation spectroscopy 7—15593
insertion device beam line optics 7—43305
instabilities in optical bistability 7—1220
instantons and the U(1) anomaly in QCD, review 7—5048
insulators, chemical modification by ion implantation, hot atom chemistry processes, review 7—26813
integrated optical devices *(Spanish)* 7—37208
interacting binary stars, IUE obs. rel. to evolution and models 7—47997
interface chemistry of III-V semiconductor-metal interfaces 7—21544
interference automatic fringe pattern analysis 7—18869
intermediate valence and heavy fermion model systems 7—33122
intermetallic phases, appl. as high temp. materials, review 7—22775
internal friction in solids, review 7—6720
internal gravity waves in deep sea, review of theory 7—23702
interplanetary dust, IR and visible obs. anal. 7—47762

reviews continued
  interstellar 220 nm feature, interpretation 7—48018
  interstellar dust, submm characts. 7—48059
  interstellar dust *(Russian)* 7—40899
  interstellar grain models, comparison with obs. 7—48013
  interstellar matter, observations and models 7—66725
  interstellar medium, He and heavy-element enrichment 7—40905
  interstellar molecules, radio observations 7—14636
  interstellar molecules, visible and UV studies/1980-4 7—14639
  intracranial pressure: review of clinical problems, meas. techniques and monitoring methods 7—40323
  inverse scattering and three-wave interaction in nonlinear optics 7—11030
  inverse scattering problems in acoustic (review) 7—62857
  Io, ground-based IR obs. anal. 7—34916
  ion beam channelling, in semiconductor superlattices 7—51902
  ion-induced Auger emission from solid targets 7—59360
  ionic crystals, grain boundaries, review 7—6632
  ionic solids, interaction energies, relativistic ab initio calc. 7—52109
  ionic solids, radiation effects, review 7—26792
  ionic solids, relativistic ab initio calcs. 7—52110
  ionospheric radio propagation models and prediction 7—18334
  IR optical materials, crystalline, review 7—37064
  irreversible processes and Onsager relations 7—29865
  ISEE-3 Geotail Mission, mag. field meas. 7—29369
  ISEE-3 Geotail Mission, suprathermal ion and electron results 7—29368
  Ising models, 2D, with competing interactions, Monte Carlo studies, review 7—59043
  ISOLDE Users' guide 7—19598
  Japanese synchrotron radiation facilities, present and future 7—5505
  Jaynes-Cummings model and beyond in quantum optics 7—1065
  joints, adhesive, defect detection, NDT techniques 7—28248
  K-type stars, orange giants and dwarfs, review 7—4457
  Knudsen flow, rarefied gases in tubes and systems, state of the art 7—51234
  lake surface energy balance modelling 7—23722
  lakes and oceans, 1D models of thermal stratification 7—55076
  lakes drift currents, conservation of vol. global constraints *(French)* 7—47472
  lanthanide ions in aq. soln., thermodynamic props., oxidation states, coordination number and struct., review 7—12322
  laser enhanced plating and etching using photothermal effects 7—59651
  laser etching and deposition, basic mechanisms, review 7—53923
  laser excitation dynamics of at. and mol. clusters in free jets 7—42823
  laser frequency standards 7—36977
  laser fusion, direct drive, thermal electron transport, review 7—26391
  laser fusion and hot-electron transport, mag.-field generation 7—26470
  laser generation of acoustic waves in liquids and gases 7—20556
  laser hazard analysis, nominal hazard zone 7—60094
  laser heating for chemical conversions: unique features and limitations 7—65307
  laser instabilities, semiclassical models 7—15921
  laser interactions with condensed matter, review 7—12125
  laser noise, coherence and photon statistics 7—1072
  laser processing of high-tech materials at high irradiance 7—13342
  laser-assisted etching of electronic materials 7—28162
  laser-induced damage in solids 7—38054
  laser-induced processes in spectroscopy, isotope separation, and photochemistry 7—36554
  laser-induced surface effects in semiconductor and metal surfaces, nonlinear optical diagnostics 7—2061
  laser-tissue interaction, thermal and biological aspects of medical laser appl. 7—60037
  lasers and optical fibres, technology, theory, propagation and nonlinear optical phenomena, review 7—43437
  light-harvesting chlorophyll a/b-protein complex II of higher plants 7—59951
  linacs, high-current beam dynamics and transport, theory and experiment, review 7—62117
  lipoxygenase systems after ionising irrad. as a mediatory function of mol. factors *(Russian)* 7—14051
  liquid crystal mesophases, orientational optical nonlinearity, review 7—1880
  liquid crystals, positron annihilation, review 7—39273
  liquid crystals, structures, energies and interactions of defects, review 7—63441
  liquid phase electroepitaxy, growth kinetics 7—7906
  liquid-mirror telescope, history of concept 7—9374
  LMFBR sub-assemblies, mech. response under local accident conditions, state-of-the-art review 7—25129
  local approach of fracture, continuum damage mechanics 7—50988
  localisation and interaction problems 7—64178
  long lived radionuclides, transfer through marine food chains, data review 7—28728
  low pressure processing plasmas, spectroscopic diagnostics and kinetics 7—37762
  low-dimensional dichalcogenides as secondary cathodic materials, book contrib. 7—28394
  low-mass stars, rot. vel. evol. 7—66570
  lower hybrid wave heating and current drive, review 7—6413
  LWR analysis, assembly homogenization techniques, review 7—5324
  LWR LOCA, phase separation mechanisms in branching conduits, review 7—5384
  LWR safety, main contributions to the KfK Nuclear Safety Project, review 7—36221
  LWRs, thermal hydraulics research, history and present status 7—29653
  macromolecular networks theory 7—65677
  macroscopically inhomogeneous anisotropic media, kinetic phenomena, review *(Russian)* 7—56195
  magma chambers, magma convection and mixing 7—4028
  magnetic and thermoelec. methods of phase analysis 7—28240
  magnetic bubble domain devices, review 7—17209
  magnetic field sensors using magnetoresistive effect 7—48789
  magnetic resonance imaging, state of the art and future 7—18055
  magnetoencephalography, inverse problem, instrumental and analytical perspective 7—54627
  magnetoencephalography, inverse problem, medical perspective 7—54689
  magnetosphere-ionosphere coupling studies recent advances 7—23939
  magnetospheric substorm studies, review of recent progress 7—23947
  magnetotail, broad-band electrostatic waves 7—60481
  Magnus effect, early investigations and question of priority 7—41048
  marine weather prediction, 3D models 7—55245

reviews continued
  materials fatigue behaviour, influencing factors *(Japanese)* 7—39642
  materials microanalysis, techniques 7—54244
  materials modification with ion beams, review 7—16647
  materials science and processing, outline of trends 7—46282
  materials synthesis with shock compression, book contrib. 7—27957
  meandering channels, flow and pollutant dispersion, 3D modelling 7—44052
  mechanical alloying, development of strong alloys 7—39534
  medical hand-held surgical CO_2 lasers, advanced appls. 7—34219
  medical images, digital, optical storage technology for archiving 7—28654
  medical imaging objectives 7—60114
  medical thermography 7—60070
  medicine, conventional X-ray imaging 7—60078
  meson science in Japan, evolution 7—566
  meson-exchange currents in time-like axial-charge transitions 7—56532
  mesons structure, hyperfine interactions 7—56518
  metal, Fermi surface, pseudopotential calcs., program set review *(Russian)* 7—64050
  metal clusters, theory 7—15793
  metal matrix composites, liq. metal infiltration prep., wetting 7—46372
  metal nitride films, prep., props., microelectronics appls. 7—33557
  metal silicide layers on Si, thermal oxidation 7—65209
  metal surface, pulsed laser induced desorption 7—58617
  metal surfaces, inverse photoemission studies, review 7—59279
  metal surfaces, ion beam and laser processing for improvement corrosion resist., surface modification program 7—65200
  metal surfaces, ion implanted, durability 7—53918
  metal-ceramic particle composites, cast, solidification, struct. and props. 7—7932
  metallic alloys and cpds., phonon point contact spectroscopy, review *(Russian)* 7—12788
  metallic films, quasi-two-dimensional, localisation and interactions 7—64171
  metallic materials, crystal to glass transform., kinetics and thermodynamics 7—44399
  metallic materials, high strength, life time prediction in crop-fatigue interaction regime *(German)* 7—53905
  metallic materials, ion implantation and near surface microstructures, analytical electron microscopy 7—37816
  metallic materials, nucl. anal. *(German)* 7—54211
  metals, adiabatic shear bands, struct. 7—32549
  metals, grain boundary interactions with dislocations *(Russian)* 7—63645
  metals, grain boundary structure *(German)* 7—44571
  metals, high temp. corrosion in sulphidising/oxidising environments 7—3494
  metals, irradiation-induced transient creep during pulsed irradiation 7—13528
  metals, plasticity and viscoplasticity 7—46552
  metals, point defects in thermal equilibrium, laser interferometry-neutron diffr. studies 7—58274
  metals, pointed, corrosion, impedance plot methods 7—3486
  metals, positron annihilation studies, review 7—46180
  metals and alloys, electronic structure, positron annihilation studies, review 7—45126
  metals and alloys, thermal conductivity theory, Lorenz ratio 7—45272
  metals and DNA: molecular left-handed complements 7—17941
  meteorological satellite remote sensing for global weather prediction 7—55324
  microelectronic materials, XPS appls., book contrib. 7—46279
  micropulsations, generation and propag. mechanisms of low-latit. mag. pulsations 7—55370
  microstructure, systematic description 7—22633
  microwave and low-level RF radiation effects on brain tissue and animal behaviour 7—23403
  microwave detection of nonelectrical props. in China 7—48682
  migration imaging, photographic technologies XDM and AMEN 7—24717
  molecular astrophysics 7—14488
  molecular biology of visual pigments 7—54477
  molecular dynamics, spectroscopy study review 7—55913
  molecular gas mass in Galaxy 7—9530
  molecular multiple-photon excitation 7—19987
  molecule-surface dynamics, expts. 7—46267
  molten salts, microscopic struct. and dynamics, review 7—44348
  molten semiconductors and semimetals, structural changes caused by heating, acoustic investigations 7—51942
  Monte Carlo simulation of hard hadronic processes 7—56563
  Mossbauer spectra in paramagnetic relaxing systems 7—59132
  moving dislocations, first recorded obs. by TEM 7—32444
  multi-reference CI wave functions, geometrical energy derivative eval. 7—56994
  multicore optical fibres for sensors 7—25988
  multidimensional space physics, Metagalaxy 7—4663
  multijunction concentrator solar cells 7—3651
  multilayers for X-ray optics 7—1245
  multiphoton stripping of atoms 7—42576
  muon decay experiments 7—56548
  Nagoya University Institute of Plasma Physics, Annual Review (April 1985-March 1986) 7—63249
  naphthalene derivatives, β R-substituted, polymorphism, review and comparative study *(French)* 7—32349
  nebular chemical characts. 7—40900
  neuronal activity in human brain, feasibility of developing a method, theoretical review 7—65901
  neutral atoms laser coding and EM trapping 7—19777
  neutrino deep inelastic scattering, neutral current struct., review 7—19096
  neutrino masses and mixings 7—61531
  neutron dosimetry in high intensity fields, SSNTD limitations, review 7—42234
  neutron radiotherapy of resist tumours: interactions with low LET 7—28665
  neutron scattering studies of dynamic props., book contrib. 7—26897
  Newns-Anderson model, time-depend., for moving particles on metal surfaces 7—52263
  NMR techniques for solid samples 7—61361
  noctilucent clouds, observational props. rel. to behaviour of upper atmosphere 7—23925
  non-metallic solids, positron and positronium behaviour, review 7—38516
  noncentrosymmetric laser crystals, struct. and props. study review 7—62709

reviews continued
  nonlinear guided-wave phenomena 7−57422
  nonlinear optical and electro-optical material advances, book contrib. 7−25914
  nonlinear optics, surface probe appls. 7−11064
  nonlinear optics, trends 7−31380
  nonlinear problems in accelerator physics 7−56900
  nonlinear Raman spectroscopy combustion and plasma diagnostics appl. 7−16332
  normal metal, Aharonov-Bohm effect, quantum coherence and transport, review 7−52559
  Northern Hemisphere, 1986 spring meteorological conditions 7−4166
  Nova X-ray laser expts., status 7−20245
  novae, UV studies by IUE satellite 7−47940
  nuclear fuels, diffusion processes, review 7−19350
  nuclear medicine 7−65847
  nuclear medicine software in Europe: current situation, aspects and projects 7−23433
  nuclear NDT development at Harwell 7−65270
  nuclear reactions in stars 7−60535
  nuclear reactor accidents, fission product release expts. overview 7−772
  nuclear shapes studied by Coulomb excitation 7−56598
  nucleon decay, expt. review 7−56546
  nucleon structure, deep inelastic lepton scatt. rel. to nature of strong interaction 7−10028
  oceanic expeditions and Earth tectonics, new tectonic concept *(Russian)* 7−66076
  oncogenic transformation of cells in culture: pragmatic comparisons of oncogenicity, cellular and mol. mechanisms 7−60855
  online acoustic emission monitoring of cracks in nuclear systems, review 7−54066
  ρ Oph dark cloud, multi-freq. obs. 7−48024
  optical bistability at semicond. absorpt. edges 7−25868
  optical bistability in semiconductor injection lasers 7−57325
  optical coherent, squeezed and photon number states, preparation, meas. and information capacity 7−57287
  optical diagnostic studies in plasmas and plasma processing, review 7−37758
  optical fibre appls. in electricity supply 7−57578
  optical fibre couplers 7−50759
  optical fibre fabrication by plasma activated CVD 7−11132
  optical fibre intrinsic sensors for temp. meas. 7−50762
  optical fibre mode field diameter: toward a standard definition 7−57593
  optical fibre reliability 7−20455
  optical fibre sensors, intrinsic and extrinsic distributed 7−50768
  optical fibre strength, dynamic and static fatigue 7−50769
  optical fibre technology 7−20436
  optical fibres, polarisation-maintaining and their appls., review 7−11136
  optical fibres, vapour axial deposition, developments 7−11131
  optical fibres sensing in medicine 7−60072
  optical materials, review 7−37063
  optical nondestructive evaluation at the National Bureau of Standards 7−39835
  optical nonlinearity near the bandgap in semiconductors, review 7−62747
  optical system design for automated thermal expansion measurements 7−24694
  optical waveguide sensors 7−50779
  optical-fibre sensors, distributed, review 7−37166
  optics and lasers in medicine 7−29567
  organic charge transfer complex, neutral-ionic transition *(Japanese)* 7−45249
  organic charge transfer solids 7−7222
  organic materials for integrated optics 7−25911
  organic nonlinear optical materials 7−25870
  oscillation with photorefractive gain 7−11008
  oscillator strength meas., linear and nonlinear optical methods, review 7−893
  OTDR present and future 7−41436
  oxides, tunnel structure, mixed framework of octahedra and tetrahedra 7−1997
  oxidic actinide cpds., systematic props., oxidation states, fluorite lattice and thermodynamic props., review 7−12013
  oxynitride glass development, book contrib. 7−28003
  circum-Pacific region, subduction zone seismicity 7−54934
  particle bombard. induced erosional and depositional phenomena 7−63652
  pellet injection into hot plasma, review 7−6437
  peridotites, petrology and geodynamics evolution 7−54967
  permanent magnet materials, props., struct., exchange interactions 7−53053
  Phanerozoic time scale calibration, recent advances 7−47383
  phase equilibria, thermodynamics, review *(Japanese)* 7−38226
  phase grating detection, speckle correl., optical inverse scatt. 7−50495
  phase-coupled high power laser arrays, diffr. limited output beams 7−50586
  photoacoustic, photothermal and rel. techniques 7−51946
  photoemission spectroscopy, time resolved VUV, expts. on Si and InP surfaces 7−18919
  photoformation of dielectric materials 7−53633
  photography, progress in 1985 *(Japanese)* 7−56366
  photonics, high bandwidth appls. 7−20433
  photothermal spectroscopy, semiconductor transport and defects 7−48732
  photovoltaic arrays, electrical performance characterisation, overview 7−54317
  photovoltaic concentrator research progress 7−17903
  physiological optics during the first quarter-century of Vision Research 7−17973
  piezoelectric ceramics, prep. and industrial appls. 7−13096
  pigmentary retinitis in industry, review of literature and personal obs. 7−13995
  pion absorption in nuclei 7−56704
  planetary nebulae, astrophysical significance *(German)* 7−55776
  plasma assisted CVD deposited thin films for microelectronic appls. 7−22562
  plasma effects in laser fusion: past and future 7−26472
  plasma electronics, review 7−1789
  plasma pot. calcs. from meas. Langmuir probe characts. 7−18306
  plasma wave generation, laser interactions and particle acceleration, review *(French)* 7−31954
  plasma waves in laser fusion plasmas, review 7−26405
  plasma-surface interactions in plasma-enhanced CVD, book contrib. 7−27943

reviews continued
  plastic fibre optic technology introduction 7−50764
  PLT, RF heating techniques and equipment, review 7−25176
  polyatomic molecules, electron scatt. theory 7−36765
  polyatomic systems. ro-vibr. energy levels, variational calcs. 7−50057
  polymer composites containing anisometric particles, flow and flow orientation 7−37498
  polymer electrolyte developments, book contrib. 7−27008
  polymers, ion bombardment effects 7−32524
  polymers, molecular ordering, optical microscopy 7−11953
  polymers, thermoluminesc. and oxyluminesc., review *(Japanese)* 7−59267
  polymers, vitreous, optical props. 7−20375
  polymers Raman spectra charactn. 7−53296
  polysulphone degradation and stabilisation 7−59652
  polyynes, strongly coupled Peierls insulators, soliton, polaron and photoexcitation props. 7−64114
  position annihilation, electron-positron interactions, review 7−46179
  positron and positronium atomic physics 7−36783
  positron emission tomography, physico-technical aspects *(Russian)* 7−34241
  positron-phonon interaction and positron diffusion in solids, review 7−38240
  positrons from heavy ion collisions 7−56702
  powder metallurgy, modern science and technology 7−7921
  powders, high alloy, prod. by water atomisation 7−53658
  pre-equilibrium processes, state of art 7−5213
  Precambrian basinal and shelf sedimentation relation to Archaean-Proterozoic boundary 7−34492
  protein crystal growth, the future 7−23274
  protein dynamics and ligand binding 7−13950
  protein structure, knowledge-based prediction and novel mols. design 7−65692
  pseudosphere, chaos, quantal description, review 7−24556
  pulsars, theory, discovery, and astronomical impact 7−47964
  pulsed holographic interferometry, NDT appls. 7−39838
  pulsed photoacoustic generation mechanisms 7−50892
  PWRs, activity build-up in primary circuit, review *(German)* 7−19408
  pyroelectric devices and materials 7−64578
  pyroxene mineral lattice defects and crystalline plasticity *(French)* 7−34476
  QED, intense external field intensity problems 7−49046
  quantum amplifiers, master eqn., linear theory 7−1050
  quantum effects of elementary particle interaction with intense EM field 7−49045
  quantum field theory, homotopy theory applications, review 7−24793
  quantum fluctuations in optical bistability 7−1056
  quantum Hall effect, fractional and integral forms, review 7−38590
  quantum Hall effect, publications and citations, anal. 7−48220
  quantum well lasers—gain, spectra, dynamics 7−10935
  quark-gluon plasma, perturbative and nonperturbative theory 7−56510
  quartz, crystalline, neutron and electron irrad., glassy props. 7−63664
  quasars, characts. review 7−48098
  quasicrystals, rapidly solidified, stability 7−26678
  radiation risks in perspective 7−54681
  radio astronomy from GLK radar to MERLIN, concepts and inventions 7−47708
  radioactive waste disposal, engineered barrier research in Canada 7−49708
  radioastronomy, absolute flux scale 7−29550
  radiohalogen prod. for medical appl. 7−28693
  radionuclide imaging 7−60082
  Raman spectroscopy, role in study of energy sources, literature review since 1977 7−59827
  Raman spectroscopy, semiconductor thin film anal. 7−53354
  random magnets, basic concepts, review 7−7485
  rapid solidification technology 7−39493
  rapidly rotating nuclei, nuclear struct. studies 7−56594
  rapidly solidified alloys, developments and engng. design implications 7−27967
  rare and forbidden decays of muons and pions 7−56549
  rare earth metals, surface physics 7−27073
  rare earth phosphates, preparative methods and growth, review 7−37913
  rare earth tantalate phosphors for radiographic screens, fundamental props. 7−47231
  rare earth-iron-boron permanent magnet materials, prep. and props., book contrib. 7−27981
  reactor containment integrity and radionuclide behaviour during severe accidents, review of R&D 7−779
  reactor post-dryout boiling, dispersed flow heat transfer, review 7−5400
  reactor thermohydraulic explosions, spinodal lines and eqns. of state, review 7−5396
  real- and imaginary-time field theory at finite temperature and density 7−48983
  recording materials used in holography, general review 7−25744
  refractory compound films, mech. props., struct., test methodology 7−33684
  refrigerators, miniature 7−48750
  regulation and decision making in the nucl. power industry, review 7−8367
  relative tissue kerma sensitivity of thermoluminescent materials to neutrons 7−54760
  relativistic heavy ion accelerators, review 7−30787
  remanent life assessment, predictive methods, present status and future developments 7−8217
  remote handling in hot cells, state of the art and future view 7−49555
  remote sensing applications in Pakistan, current status and future programmes 7−4206
  remote sensing of estuaries, overview 7−66158
  renormalization theory 7−49000
  resolution in sonar systems—a review 7−26101
  resonance theory for elastic wave scattering 7−48222
  retinal circuitry, retrospective review 7−17976
  review of visual development 7−17969
  rolling bearings, friction, wear and corrosion control 7−46658
  Saharan dust transport by atmosphere 7−9073
  SAR data, spaceborne, registration to topographic maps 7−4237
  SASCHA programme on fission product release under reactor core melting conditions, review 7−774
  SAW gas sensors, design aspects 7−48716
  scalar comparison eqns. in stability of motion theory 7−86
  scanning acoustic microscopy, NDT appl. 7−3564

reviews continued
scanning Fabry-Perot interferometers for the far infrared 7—41453
scanning tunnelling microscopy, overview 7—4916
scattering of electrons, nucleons, and pions as probes of nuclear structure 7—56593
sea surface temperature, algorithms from AVHRR data 7—4241
seismic exploration, outlook for development of methods and equipment 7—47341
seismic method in search for oil and gas, development trends 7—4225
semiconductor detectors for nuclear radiation 7—49835
semiconductor doping superlattices, n-i-p-i crystals 7—7348
semiconductor electrodes, adsorption, review 7—16867
semiconductor laser failure causes and distrib., laboratory service life tests 7—62692
semiconductor laser research in Japan 7—10984
semiconductor lasers, LPE grown effect of crystal defects on reliability 7—36960
semiconductor lasers, recent advances 7—36965
semiconductor materials, electrophysical parameters, local monitoring non-destructive contactless UHF cavity methods 7—48768
semiconductor materials and devices, characterisation by noise methods 7—59720
semiconductor microstructure growth by MBE 7—7856
semiconductor physics, review collection 7—48201
semiconductor strained-layer superlattices: a brief review 7—7347
semiconductor superlattices, quantum wells and heterostructures 7—2701
semiconductor superlattices and quantum wells, evolution 7—7343
semiconductor surfaces, interaction with H_2 7—58632
semiconductor wide-gap II-VI superlattices 7—7346
semiconductors, atomic layer epitaxy, review 7—13362
semiconductors, electron-hole liq., general props., review 7—7121
semiconductors, ion implantation and near surface microstructures, analytical electron microscopy 7—37816
semiconductors, SEM-based characterisation techniques 7—51598
semiconductors for integrated optics/optoelectronics in optical fibre communication systems, props. 7—11178
sensors for intelligent processing of materials 7—41366
SEXAFS technique overview, evolution, accomplishments and impact 7—64767
shock wave compression, review 7—21351
silicate glasses, cation environments, EXAFS and NEXAFS studies 7—63482
silicate glasses, magic-angle spinning NMR, review 7—64536
single-mode fibres with modified dispersion characts. 7—11125
Skyrme model, recent developments in context of QCD, review 7—414
Skyrme model for baryons 7—30197
soft X-ray laser development at Princeton, progress 7—20251
SOI formation by ion implantation of O^+ or N^+ 7—32526
solar cells, thin film and modules, performance testing, overview 7—54309
solar magnetic structures and convection, evidence for large-scale circulation *(French)* 7—24094
solar photovoltaic power supplies for instruments and control equipment 7—23137
solar radiation and the eye, review of knowledge relevant to eye care 7—8649
solar radiation research and photovoltaic solar energy conversion technology, overview 7—55217
solar wind *(Russian)* 7—40663
solid electronic structure change, high press. appl., review *(Czech)* 7—58411
solid laser materials *(French)* 7—25830
solid lasers made from activated ionic crystals 7—36971
solid-solid interfaces, radiation-induced mixing 7—32516
solid-state gas sensors, role of catalysis 7—48718
solid-state resistive and electrochemical sensors in gas anal. *(Spanish)* 7—39936
solid-state sensors, classification 7—48714
solids, sputtering and atomic collisions, computer simulations 7—59323
solids in contact, interfacial bonding 7—27148
soliton stability in plasmas and hydrodynamics 7—105
space development and thermal phenomena, materials processing in microgravity environment *(Japanese)* 7—39843
spatial vision, 1961 and 1986 7—17971
speckle classical model, statistical props. 7—42926
speckle metrology techniques, displacement and strain meas. 7—42936
speckle statistical theory, Fourier optics 7—42927
spectral holes, persistent, in external fields 7—5959
sphere-pac fuels for LWRs and LMFBRs, analytical and expt. performance, review 7—36158
spin glasses, recent expts. 7—45686
spin glasses, review, recent developments, characteristic props. and related phenomena 7—59030
split Hopkinson pressure bar method use in dynamic testing 7—22944
Spot (satellite probe for Earth observation), large market for space imaging *(French)* 7—60505
sputter deposition, recent advances 7—39377
squeezed light, effects of optical processing on nonclassical props. 7—1054
squeezed light state generation 7—1055
static high pressure research, review 7—21350
statistical regularisation in nuclear scatt. data eval., review 7—616
steel, austenitic stainless, creep and anelasticity at const. homogeneous dislocation struct. 7—17586
steel, C-Mn, arc welds, as-deposited strength, toughness, microstruct. 7—13555
steel, stainless, passivity rel. to comp. and microstruct. 7—39711
steel, wear-mechanism maps 7—22842
steel power plant components, remaining creep life assessment 7—8220
steels, microalloyed, high strength, phys. metallurgy and appls. 7—65066
stellar mass loss, radiation-driven wind theory for hot luminous stars 7—47841
stereological advances, recent, impact on quantitative studies of the nervous system 7—34357
stereology of arbitrary particles, review of unbiased no. and size estimators 7—346
stereoscopic vision 7—17996
storm disturbances of F_2-layer 7—9288
strained-layer superlattices *(Japanese)* 7—52771
strange stars, global props. and surface characts. 7—29495
strangeness in relativistic heavy ion collisions 7—5260
stress relaxation, dislocation-diffusion mechanisms *(Russian)* 7—32564
string theory, ultraviolet finiteness, elementary exposition 7—61633

reviews continued
structural applications of the electron spin echo method 7—13018
sub-barrier fusion reactions 7—56703
sub-millimetre/far-IR emission from warm and cold dust clouds, observational review 7—48022
submm coherent and incoherent detect. techniques for FIRST mission 7—47711
submm spectroscopy for comets 7—47795
superalloys, oxide dispersion strengthened, manufacturing process developments 7—27979
superconducting linear accelerators for heavy ions 7—56886
superconducting magnets in fusion reactor design 7—49680
superconducting materials, advances and developments *(French)* 7—27476
superconductivity, technology at zero degrees, past achievements and future prospects 7—22057
superheavy elements, nuclear properties and laboratory synthesis, review 7—61904
superhelical DNA 7—34102
supernovae, supernebulae and nucleosynthesis, review 7—40854
superstring phenomenology 7—61199
supersymmetric models of particle physics and their phenomenology 7—56467
surface analysis, AES, XPS, ISS and SIMS, review 7—28372
surface analysis by AES and XPS, appl. of data compilations to improve meas. uncertainty 7—28377
surface analysis by laser ionisation 7—52213
surface engineering for corrosion protection 7—3478
surface geometry meas., optical techniques 7—29976
surface magnetism, review 7—58984
surface modification by ion beam methods, review 7—27081
surface reconstruction, theory 7—12433
surface SHG technique, book contrib. 7—25896
surface structure, electron microscopy, review 7—51593
surfaces and overlayers, struct. determ. with diffr. methods 7—2324
surfactant systems, drag reduction, physico-chem. props., rheology 7—43992
Swedish perspectives on the use of computers in cardiology 7—28741
symmetry tests in particle and nuclear physics, review 7—30205
T-10 tokamak, plasma-wall interactions 7—63294
T Tau stars, characts. of light vars. 7—47858
TEM, systems design, computer aided image processing, appls. 7—41539
temperature measurement equipment review 7—35517
tendon stiffness: methods of meas. and significance for movement control 7—54825
TeV neutrino beams, physical bases and geophysical appls., review 7—40587
TEXTOR, plasma-wall interactions, heating, review 7—63289
TFTR, plasma-wall interactions heating and diagnostics study 7—63291
thematic mapping from Landsat and collateral data, past experience and future potential 7—3967
thermal sensors based on transistors and ICs 7—48743
thermal-wave imaging for nondestructive evaluation 7—46754
thermophysical props. of matter, dynamic measurement at high temp. and pressure 7—314
thermotropic liq. cryst. polymers, history, prep. and charactn. 7—6508
thick film sensors, review 7—48717
thin hard coatings, adhesion test methods, review 7—46741
thiometallato complexes, mol. vibr., electronic struct., IR and Raman spectra study 7—57068
time-delay-domain and pseudorandom-noise photoacoustic and photothermal wave processes 7—41479
time-dependent ponderomotive force 7—58007
tokomak, toroidally symmetric, thermal instability MARFE phenomena review 7—63290
Total Diet Program, residue identification by mass spectroscopy 7—54205
transition metal alloys, binary, substitutional, segregation and order 7—22685
transition metal dopant complexes photolum. in Si, review 7—45203
transition metal impurities in host metals, magnetic nature, superconductivity studies, review 7—7437
transition metal oxides, catalysts, laser Raman spectra 7—53295
transition metal oxides, Fe group, metallic behaviour, rel. to mag. and elec. props. 7—2487
transition metals, finite temp. ferromagnetism, review, book contrib. 7—33149
transport in living plants 7—65728
tribo-frontiers in surface modification 7—53917
turbulence, coherent struct., spatial details 7—43870
turbulent boundary layers, mean flow, drag reduction, review 7—16171
turbulent spot dynamics 7—6194
two-level atoms on conventional and phase conjugated surfaces, laser induced phenomena 7—57025
ultra-thin semicond. film growth techniques, review *(Japanese)* 7—7857
ultrafast optical electronics from femtoseconds to tetrahertz 7—45993
ultralow-loss glasses, book contrib. 7—25917
ultrametric structures, introduction and appls. 7—48332
underdense coronal plasma, laser interaction physics 7—26432
Uranus satellites discovery, historical anal. for Ariel and Umbriel 7—66501
urban hydrometeorology 7—9032
US attenuation spectral analysis of grain size and dislocation content 7—65271
US defect location and sizing, technique developments 7—65269
US imaging in medical diagnosis 7—60059
US materials charactn. digital signal processing 7—33892
USA geological radwaste repository programme, overview 7—42205
Van Vleck paramagnetic susceptibility, cryst. field effect, temp. depend., approximate formulae, review 7—12935
vapour levitation epitaxy, system design and performance 7—59445
vapour phase crystal growth, ion/surface interactions, photo-induced reactions 7—53609
varied line-space gratings: past, present and future 7—62821
Venus ionosphere, electron and ion concs. and ionisation sources 7—34902
vergence adaptation 7—34138
vertical interfaces, solid, photothermal beam-deflection imaging 7—48721
viscous flow Saffman-Taylor model, random walk techniques 7—57811
visual adaptation, search for site 7—17985
visual cortex 7—23331
visual defects survey on Tristan da Cunha, 1984 7—65742
visual perception of medical images 7—60009
visual transduction in vertebrate rods and cones 7—17986

reviews continued
- volume discharges, high pressure in gas lasers 7—36953
- water in planetary bodies, occurrence and physical state 7—34895
- well-logs zoning and correl., computer techniques 7—9195
- white dwarf stars, formation and evolution 7—9474
- wideband spectrometer backends, review 7—34876
- wire chambers, aging problems, models and design parameters, review 7—42300
- Wolf-Rayet stars 7—40849
- world Climate Research Programme objectives and plans 7—66303
- WWER-440 reactor, permissible power determ., review *(German)* 7—15263
- X-ray absorpt. spectroscopy, impact on biology, applications and development, review 7—65899
- X-ray absorpt. spectroscopy of 4f mixed valence cpds. 7—59301
- X-ray bursters, neutron star characts. 7—60725
- X-ray double crystal diffractometry, semiconductor materials anal. 7—51577
- X-ray laser expts. 7—62678
- X-ray multilayered optics, collective French effort, survey 7—30139
- X-ray photoelectron diffr. studies of surface and epitaxial overlayer structures, review 7—27862
- X-ray topographic studies in the Peoples' Republic of China 7—26594
- X-ray total external reflection, surface studies 7—16360
- X-ray transmission CT, phys. aspects 7—60080
- X-ray tube anode, evolution 7—18066
- XUV laser expt. survey 7—20198
- yield stress, time depend. prop., meas. tech. 7—43834
- $(\alpha$,X), theoretical treatments of reactions and scattering 7—42039
- $e^+e^-\rightarrow$jets, geometric struct. anal. review, QED tests, review 7—541
- $e^+e^-\rightarrow$jets, hadronic final states, QCD and string model comparisons, review 7—30274
- ν properties, review 7—30218
- Al, electrodeposition from nonaq. solns. *(Japanese)* 7—64964
- Al-Li base system, solid-state phase transform. 7—46456
- Al-Mn system, quasicrystal form., metallurgy 7—3295
- AlGaAs-GaAs superlattices, impurity electron states *(Japanese)* 7—12662
- $Al_xGa_{1-x}As$ films and multilayer structures, MOCVD growth and characterisation, review 7—33586
- $Al_xGa_{1-x}As$ solar cells, MOCVD growth and characterisation, review 7—34043
- Ar, positron scattering, cross-section meas. 7—20054
- ^{211}At, possible applications to human cancer therapy, review 7—28657
- Be$^-$, metastable ion, shape resons. scaled local density calcs. 7—42464
- C fibres, conversion of acrylonitrile based precursor 7—59475
- a-C:H, diamondlike, dielectric film, props. rel. to deposition parameters 7—39419
- a-C:H, props., review 7—51630
- CO, electrostatic autoionis., review 7—951
- CO_2 ice, absorpt. coeff. and refr. index, laboratory meas. UV to microwave 7—3008
- CO_2, positron scattering, cross-section meas. 7—20054
- CaF_2 insulating layers on Si, epitaxial growth and charact. 7—39393
- $CaPuTi_2O_7$, substituted zirconolite, high level waste, self-irrad. effects, mech. props. 7—805
- Cd electrodes, electrotechnological aspects and alkaline battery appls., review 7—3638
- Cd-Hg-Te phase diagram, numerical descriptions, review 7—26913
- $Cd_xHg_{1-x}Te$, abrupt interfaces using thermal and photo-MOVPE, Hall meas. 7—27917
- Ce cpds., valence fluctuations and c-f mixing interaction 7—2558
- ^{252}Cf, historical review of discovery and development, radiotherapy appl. 7—24348
- ^{252}Cf neutrons, review of RBE and OER values, brachytherapy appl. 7—28666
- ^{252}Cf physics and dosimetry 7—28708
- Co and its alloys, spin wave excitations and magnetisation temp. depend. 7—45642
- Co-Ni, aq. and atmospheric corrosion 7—39696
- Cu, resonant photoemission, atomic correl. effect 7—907
- ^{19}F NMR appls. in medicine 7—23427
- Fe alloys, martensitic transformations, effect of stresses and mag. fields 7—53731
- Fe and its alloys, spin wave excitations and magnetisation temp. depend. 7—45642
- Fe, cast, ductile, austempering techniques 7—59552
- GaAs, EL2 and As antisite defect props., review *(Japanese)* 7—7152
- GaAs, IR imaging 7—32238
- GaAs, ion implanted, rapid thermal annealing 7—58296
- GaAs, melt grown, theoretical and expt. fundamentals of decreasing dislocations 7—53547
- GaAs, VPE grown, defect formation leading to deep levels, review 7—64151
- GaAs-AlAs alternate monolayer compounds structures, MBE growth 7—21716
- GaAs-AlGaAs heterointerface, band offsets, overview 7—12831
- GaAs-AlGaAs superlattices, band structure of holes *(Japanese)* 7—12825
- GaInAs films and structures, gas source MBE, review 7—33572
- GaInAsP films and structures, gas source MBE, review 7—33572
- Ge (111) cleaved surface, optical props. and atomic struct. 7—58595
- Ge-CaF_2-Si epitaxial structures, growth, structural and electrical props. 7—38356
- Ge_xSi_{1-x}-Si strained-layer heterostructure, transport, optical props. and appls. 7—7349
- H, interaction at metal surfaces and interfaces 7—21670
- H$^-$ ion source development for linac appl., review 7—62127
- H-metal disordered systems, neutron vibr. spectroscopy, review 7—21381
- H_2, ortho-para conversion, non-dissociative, on mag. surfaces, theory review 7—17781
- H_2+air detonations, large scale expts. review, reactor safety 7—36211
- ^{3}H, environmental aspects, toxicity, metabolism and dosimetry: research at CRNL 7—54774
- ^{3}H in plants 7—54779
- ^{3}H in the aquatic environment, current literature review 7—54381
- ^{3}H metabolism in animals 7—60097
- He, positron scattering, cross-section meas. 7—20054
- ^{4}He, superfluid, flow properties w.r.t. cryogenic appls. 7—52171
- ^{3}He-^{4}He superfluid soln., phonon-impurity system kinetics, review *(Russian)* 7—52179
- HfC, HfN, refractories, basic props., survey 7—64883

reviews continued
- Hg chalcogenides of form $Hg_3X_2Y_2$, phys. characts. review *(Russian)* 7—53254
- HgTe based superlattice, MBE growth and props. 7—7345
- HgTe-CdTe superlattices, present status, props. and applications *(Japanese)* 7—12829
- [^{123}I]iodoamphetamine, SPECT imaging and radiopharmaceutical prod., review 7—28656
- InGaAs, CVD growth by VPE, review 7—39417
- $In_{1-x}Ga_xAs_yP_{1-y}$ cpd. semicond. alloys, lattice and band struct. props., review *(Japanese)* 7—7109
- In_2O_3:Sn evaporated films, optical props. and applications to energy-efficient windows 7—46157
- InP and InP based materials, epitaxial growth, review 7—33574
- InP films and structures, gas source MBE, review 7—33572
- InP, melt grown, theoretical and expt. fundamentals of decreasing dislocations 7—53547
- $In_{2-x}Sn_xO_{3-y}$ solar cells, state-of-the-art review 7—40007
- $LiMO_2$, M=Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu props., review 7—64437
- $LiNbO_3$ integrated optics, review of theory and technology 7—20470
- $LiNbO_3$:H optical waveguides, devices, charactn. and future prospects 7—26022
- Mg$^-$, metastable ion, shape resons. scaled local density calcs. 7—42464
- MgH_2-$LaH_{2.8}$ hydrides, H diffusion coeff., NMR studies 7—32705
- (n,n) $<$0.5 MeV, scatt. anisotropy, resonances, diff. cross sections, spin channels 7—41995
- N pollution in hydrosphere and atmosphere, appls. of isotopic studies 7—28422
- $N_2+N_2^+(Ar^+)$, charge transfer, crossed mol. beam study 7—57166
- Nb and Nb alloys, substrate, heat resistant coatings 7—13644
- NbTi-Cu Al stabilised superconducting detector magnet technology for high energy accelerators 7—49779
- Nd:YAG laser, multidisciplinary use 7—47199
- Ne like soft X-ray laser driven by high power optical lasers 7—62680
- Ni and its alloys, spin wave excitations and magnetisation temp. depend. 7—45642
- Ni base superalloys, techniques for required props. prod. *(Turkish)* 7—59657
- NiO-based aligned eutectics, microstruct., crystallography and interfaces 7—65025
- O_2-I_2 chemical lasers 7—15852
- Pd-H, and substitutional alloys, thermodynamics of dil. solns. 7—21480
- SF_6, discharge characts. and insulating props., review of Japanese research 7—44279
- Se Ne-like laser, progress in anal. 7—20194
- Si (111) cleaved surface, optical props. and atomic struct. 7—58595
- Si, defect reactions and atomic diffusion 7—38264
- Si, defects and device processing, achievements and limitations 7—32428
- Si ion implanted, epitaxy by thermal and laser processing, review 7—33706
- Si MBE, review 7—33573
- Si, nitridation treatments, review 7—17747
- Si, oxidation 7—65227
- Si, polycrystalline, fabrication and use, overview 7—32879
- Si, self-diffusion and impurity diffusion, review 7—32713
- Si solar cells, high efficiency devices 7—3649
- a-Si technology, review of developments 7—38551
- Si:C,O wafers, C and O contents,, Fourier transform IR spectra studies, book contrib. 7—44596
- Si:H, summary of present state of research 7—16584
- Si:H and near-surface damage of Si caused by H ions, review 7—16813
- a-Si:H solar cell technology in Japan, recent advances 7—40009
- a-Si:H-based films, photochemical vapour deposition, review 7—46345
- Si:O, defects created by electron irradiation and subsequent thermal treatments, review 7—16642
- Si:O, diffusivity and solubility of O review 7—16809
- Si:O, review 7—16583
- Si:O,C, intrinsic point defects and impurity interactions 7—16611
- Si:O Czochralski crystals and melts, internal gettering, review 7—32341
- Si:O_1 thermal donor formation and structure, review 7—17562
- Si:O(N), impurity-dislocation interactions, review 7—16610
- Si-based sensors, deposition methods and appls. 7—48715
- Si-GaF_2-Si epitaxial structures, growth, structural and electrical props. 7—38356
- SiC whisker or particle reinforced Al composites, deform. thermal expansion, strengthening mechanisms 7—3373
- SiC-Si3N_4 fibres, prep. by polycarbosilazane precursors pyrolysis 7—27988
- SiO_2, nitridation treatments, review 7—17747
- Ti and its alloys, casting technology 7—7914
- Ti in power generation industry 7—46283
- U alloys, high press. magnetic and superconducting props., review 7—12952
- U alloys, optical and elec. transport props., review 7—13119
- $U_{1-z}Ce_zO_{2+x}$, nonstoichiometry, chemical thermodynamics 7—52083
- $U_{1-z}Ln_zO_{2+x}$ (Ln=Y, La, Nd, Gd), nonstoichiometry, chemical thermodynamics 7—52083
- UO_2, heat capacity, enthalpy, critical review 7—16787
- V properties and uses in engineering alloys and VC_x, report 7—39456
- V-N system, phase equilib., crystallography, thermodynamic props. 7—28011
- ZnS:Mn thin films, electrolum., review 7—27784
- ZrO_2 ceramics, displacive transform. mechanism 7—65031
- ZrO_2, MgO partially stabilised ceramics, thermal treatment, mech. props., microstruct. 7—65067

revolution *see rotation*

revolving *see rotation*

rewinding *see winding (process)*

Reynolds number *see flow*

RF amplifiers *see radiofrequency amplifiers*

RF cosmic radiation *see radiofrequency cosmic radiation*

RF heating *see radiofrequency heating*

RF oscillators *see radiofrequency oscillators*

RF spectrometers *see radiofrequency spectrometers*

RF spectroscopy *see radiofrequency spectroscopy*

RF sputter deposition *see sputter deposition*

RF sputtered coatings *see sputtered coatings*

RF sputtering *see sputtering*

RFI *see radiofrequency interference*

RHEED *see reflection high energy electron diffraction*

rhenium
  see also nuclei with ......
  adatom interactions on W (110), self-consistent calcs., tight binding formalism 7−2382
  anisotropy of thermoelectric power and electrical resistivity 7−17017
  etching by photochem. machining 7−22909
  Fermi surface, 2D angular correlation of positron annihilation radiation 7−39240
  pulsed ion implantation in Mo 7−51867
  surface, adsorpt. and dissoc. of N_2, EHT calcs. 7−56988
  surface, graphite monolayers, on Re surface, struct. and props., AES, TDS and thermionic emission anal. 7−45017
  surface, high-field corrosion, field-ion microscopy studies 7−33830
  surface, LiI impact, surface ionisation in high vacuum, work function increases due to adsorpt. 7−46264
  Rh-Re/SiO_2 catalysts, metal dispersion 7−39918
  Si:Re, self-consistent one-electron states of 5d transition-atom impurities 7−32950
  Si-Re, metal implantation using pulsed electron beam 7−6882

rhenium alloys
  see also rhenium compounds
  AuRe, heat of form. and cryst. struct., linear augmented STO calcs. 7−51705
  Co-Cr-Re system, phase equilib., struct., microstructural, X-ray phase and durometric analyses 7−17513
  Co-Ni-Re-P films for perpendicular mag. recording media, electroless deposition and mag. props. 7−27580
  CoNiReP alloy films for perpendicular mag. recording, thickness depend. of perpendicular coercivity 7−59066
  $Co_{90}Re_{10}$, sputtered thin film recording media, micromag. and struct. studies 7−33243
  $Cr_{1-x}Re_x$, antiferromag. superconductor, upper crit. mag. field *(Russian)* 7−58963
  Dy-Re-Fe(Co)(Ni), intermetallide-based solid solns., phase equilib. and mag. props. 7−22639
  Fe-Cr-Re system, interaction of intermediate phases, phase equilibria 7−17514
  Mo-Re (27 wt.%), rolling, reorientation, annealing effect *(Russian)* 7−39598
  Mo-Re alloys, electron struct., X-ray spectra studies *(Russian)* 7−45135
  $Mo_{1-x}Re_x$, enhanced superconductivity by electron renormalization of directly obs. Brout-Visscher local phonon 7−38824
  $Mo_{1-x}Re_x$ system, thermal EMF and topological electronic transition 7−45286
  Mo_3(SiRe), neutron irrad., supercond. investig. *(Russian)* 7−12926
  Ni-base superalloys, creep resist. improvement, role of Re additions, APFIM study 7−22772
  Re-Mo, softening effect, kink nucleation on dislocations 7−44662
  ReW-C multilayer mirrors as X-ray filters for slit scan radiography 7−34243
  Th-Re, diffusion and electrotransport of transition metals in BCC Th 7−63888
  $U_{1-x}Th_xRe_2$, polymorphic transform., supercond. crit. temp., low temp. sp. ht. meas. 7−17125
  W-Re, damage mechanisms, cold brittleness, dislocation motion *(Russian)* 7−59619
  W-Re alloys, annealed and sintered, elevated temp. softening, appl. for thermionic energy conversion 7−28077
  W-Re alloys, mech. props., conc. depend. in different struct. conditions *(Russian)* 7−53876
  W-Re amorphous thin film thermal stability, crystallisation behaviour studies 7−63464
  $Zr_{75}Rh_{25}$ and $(Zr_{75}Rh_{25})_{93}Be_7$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7−38148

rhenium compounds
  see also rhenium alloys
  octahalobistrimethylacetorhenium, press. tuning IR spectral shifts 7−22242
  tetra-n-butylammoniumoctahalorhenium, press. tuning IR spectral shifts 7−22242
  Re complex, tetraacetodichlororhenium, metal–metal quadruple bonds, normal coordinate anal. 7−42578
  Re_7B_3, inverse boundaries, rel. to defects in M_7C_3 carbides 7−12083
  $Re(CO)_3(MO)(MOH)_2$, (M=Mg,Al), evidence of metal-O bond, Raman and inelastic electron tunnelling spectra 7−7708
  $Re_2Cl_8^{2-}$, metal–metal quadruple bonds, normal coordinate anal. 7−42578
  $Re_6L_8L'_6$, (L, L′ = S, Se, Cl, Br), cluster compounds, electronic struct., 3-band model, tight-binding and extended Huckel method calcs. 7−32913
  $Re_xNb_{1-x}Se_2$ layered system, cryst. struct., X-ray diffr. studies 7−44486
  ReO_3, bridging angle, high press. EXAFS studies 7−64781
  $ReO_2(CN)_4$, vibr. anal., force consts. 7−10538
  ReS_2, single cryst. growth by chem. vapour transport, elec. resist., Hall mobility meas. 7−64251
  $ReSe_2$, single cryst. growth by chem. vapour transport, elec. resist., Hall mobility meas. 7−64251
  Re_6Te_{15}, cluster type struct., X-ray diffr. study, thermodynamical form. consts. determ. 7−44494

rheology
  see also biorheology; plasticity; viscoelasticity
  ABS polymers, molten, having good dispersion of rubber particles, rheological props. 7−16214
  bifurcation by shear band localisation, incrementally nonlinear constitutive eqns. *(French)* 7−1441
  Boger fluids, rheological props. 7−51236
  ceramics, plasticity, model representations 7−11368
  clay kaolin aqueous suspensions, particle association, floc formation, shear, time-dependent properties 7−8308
  coal tars, rheological props., composition influence 7−6170
  concentrated dispersions, shear viscosity, clustering effects, structure-dependent packing fraction, shear-thinning and shear-thickening, elastic modulus 7−8309
  concentrated dispersions, shear viscosity discontinuities, structure transitions 7−8310
  concentrated suspensions, particle interactions, continuum approx., falling ball rheometry 7−37409

rheology continued
  cyclohexane-carbon tetrachloride-ethyl acetate, ultrasonic and rheological study 7−31727
  dense fluids, dynamic shear viscosity and normal stress coeffs., theory 7−37412
  dense liquids, planar Couette flow, rheological props., mol. dynamics simulation 7−57791
  dextran solns., enzymatically synthesized, shear-induced struct. 7−6174
  dilute suspensions, rheological effects of nonuniform particle distribs. 7−37410
  elasto-plastic anisotropic media, necking and forming limit diagrams, instability problem *(French)* 7−31665
  electrodiffusion diagnosis of rheological and rheodynamic characteristics of viscoelastic and nonlinear-viscoplastic fluids 7−43823
  electrorheological suspensions, viscoelastic behaviour 7−43826
  epoxyorganosilicon oligomer, structurisation and curing, rheokinetics *(Russian)* 7−26173
  equations of state, conf., Ann Arbor, MI, USA (Oct. 1985) 7−18481
  equations of state and constitutive equations 7−21389
  fatigue crack growth, two element structural rheological model 7−16128
  flowing colloidal crystals, spatially periodic suspensions 7−8305
  fluids possessing yield stress, cavern sizes and mixing performance, X-ray-heavy metal tracer method 7−11565
  foams, dry, rheology, 2D model 7−16238
  glassy polymers, time depend. nonlinear deform. 7−63733
  granular materials and dispersions, flow, conf., Blacksburg, VA, USA (Feb. 1985) 7−35086
  gypsum, initial hardening with cement, pulse rheometry investig. 7−37411
  high concentration suspensions Reynolds numbers, homogenisation methods 7−6289
  Hookean dumbbell suspensions in steady state shear flow, hydrodynamic interaction, num. investig. 7−31868
  hydroxypropyl cellulose, lyotropic liq. crystals., capillary rheometry 7−63099
  hydroxypropyl guar gels in capillary tubes, slip vels. meas. 7−11550
  interfacial monolayer between surfactants, rheological anal. of the Marangoni effect. 7−38233
  kaolin suspensions, rheological behaviour at high shear rates 7−6226
  Lennard-Jones fluid, shear thinning, mol. dynamics method calcs. 7−21059
  low-grade coal-liquid CO_2 slurry plastic viscosity and yield stress obs. 7−39952
  magnetorheological suspensions, struct., phys. props. and dynamics 7−37521
  microemulsions, salinity variations, viscosity properties, microstructural changes, Krieger-type formula modelling 7−8307
  molar mass polydispersity index, dynamic rheological meas. 7−43830
  non-Newtonian incompressible stationary flow, free boundary calcs. 7−43994
  nonNewtonian media, highly viscous, hydrodynamics and heat transfer 7−43985
  olivine-basalt partial melts, rheology and struct. 7−8931
  partially immersed spheres, attractive forces, influence of interfaces *(French)* 7−63098
  plane elasticity, two-grid FEM method 7−6089
  plastisols, mixed powder, rheology 7−53656
  polyampholytes, styrene-based, synthesis and rheological props. 7−11891
  polydiacetylene solutions, semidilute, rod-coil transition, aggregation 7−15752
  polydimethylsiloxane melt, molecular orientation induced by elongational and shearing strains 7−44347
  polyethylene, crosslinkable, EPDM rubber blends, rheology., mixing torque obs. 7−43825
  polyethylene, triple-step shear-strain, constitutive eqns. 7−43831
  polyethylene-linear polythene blends, rheological and mech. props. 7−1914
  polymer blending microrheology, blend morphology origination, influence of coalescence 7−43828
  polymer blending microrheology, deform. of Newtonian drops submerged in Newtonian fluid flowing through converging cone 7−43827
  polymer composites containing anisometric particles, flow and flow orientation 7−37498
  polymer fluids, nonline., elastic props, convective transfer processes 7−43824
  polymer melts, mol. wt. and mol. wt. distrib. from dynamic meas. 7−43829
  polymer solutions, bubbles growth and collapse 7−37531
  polymer solutions, gelling, rheology, mol. network model 7−51016
  polymer solutions, viscoelastic, boiling, rheological investig. 7−51015
  polymeric fluids, nonequilibrium extensions of Simha-Somcynsky equilib. theory 7−21387
  polymers, ferrite-filled, highly loaded, melt rheology 7−12345
  polypropene, molten, glass fibre reinforced, rheological props. *(French)* 7−11369
  polypropylene-EPDM elastomer multicomponent blend, $CaCO_3$ filled, mech. and rheological props. 7−3381
  polystyrene latex spheres, colloidal dispersion, high freq. elastic moduli calc. 7−38083
  porous material, model, applic. to powder densification by hot isostatic pressing *(French)* 7−13400
  propylene-Al_2O_3 system, mixing and flow props. *(Japanese)* 7−44832
  pyroxene, mineral lattice defects and crystalline plasticity, review *(French)* 7−34476
  randomly oriented rods in viscous Newtonian liquid, rheological behaviour 7−57895
  rock flow due to gravity, use of Newtonian and non-Newtonian fluid dynamics scaling without inertia 7−8939
  rocks, problems in extrapolation of laboratory rheological data to tectonic processes 7−66107
  rocks, rheology in low-stress regime, weakening due to water 7−47435
  rodlike particles suspended in Newtonian and non-Newtonian fluids, rheological props. 7−37407
  rubber blends, cryo-ground, rheology rel. to natural rubber matrix viscosity 7−59566
  scleroglucan solns., low temp. sol-gel transition, rheological behaviour, optical rot. 7−51018
  seawater, oceanographic implications of non-Newtonian rheology of phytoplankton cultures 7−14299
  slurries, flow curve, rheological props. 7−43833
  soap-mineral oil lubricating grease, 12 Li-hydroxysterate greases, thick film, ambient pressure, shear flow transient tests *(French)* 7−6169

rheology continued
- sodium p-n octylbenzenesulphonate, aq. solns., micelle form., acoustic and rheological props. 7−13823
- surfactant systems, drag reduction, physico-chem. props., rheology 7−43992
- suspensions, shear viscosity behavior at low and high shear-rates 7−43993
- tetrafluoroethylene-perfluoroethylene copolymers, composition-props. correls. *(Russian)* 7−16746
- thermoplastic polymers, molten state, with glass fibres, rheological props. *(French)* 7−63097
- viscoelastic disperse mixture, effective rheological properties, calcs. 7−26233
- viscoelastic solid growth under frontal hardening conditions, stressed state form. 7−43712
- viscoelastic thixotropic fluids, unsteady shear flow and constitutive relation 7−16140
- viscous creeping motion equations, soln, using cartesian-tensors 7−14778
- viscous incompressible fluid, homogenisation method, force free particles *(French)* 7−8304
- yield stress, time depend. prop., meas. tech. 7−43834
- α-Fe_2O_3 particles in silicone oil, mag. suspension, rheology 7−37408

rheopexy *see rheology*

rho mesons
- effective gauge theory for low energy mesons, stable and unstable classical solns. 7−427
- EM form factors and $\pi\pi$ scattering, consistency in $\rho(1600)$ region, dispersion relation anal. 7−567
- micrononcausal Euclidean wave functions assuming Yukawa type couplings 7−41596
- QCD effective action for π and vector mesons 7−15117
- scalar lattice QCD, hadron static props., form factors, charge radii, lepton widths 7−49080
- Skyrme model, incorporation of ρ, ω mesons as dynamical gauge bosons, consistency with QCD, vector-meson dominance 7−9965
- $\mu p \rightarrow \rho^0 X$, inclusive distribs. in deep inelastic interactions at 280 GeV/c 7−41862
- $\pi N \rightarrow \rho N$, vector-meson prod., helicity-amplitude relations from skyrmion model 7−41838
- $\pi^- p$ reaction, meson polarisation investig. 7−49181
- $\rho(770)$, $\rho''(1600)$ contributions to π-form factor model 7−30270
- $\rho \rightarrow \pi\gamma$, partial decay widths in QCD with coloured light scalars 7−19105
- $\rho^- \rightarrow \pi^- \gamma$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
- $\rho^- \rightarrow \pi^- \pi^0$, pseudoscalar coupling constant, relativistic confinement calcs. 7−515
- ρ^0, tensor polarization meas. in $\bar{\nu} N \rightarrow \rho^0$ 7−5083
- $\rho'(1600)$, observation in e^+e^-, γp reactions 7−61711

rhodium
- *see also nuclei with ......*
- electrodeposition from sulphate solns., grain growth, additive effect *(Japanese)* 7−17481
- epitaxial film struct. and surface purity on clean and Cu-covered MgO single cryst. substrates 7−16896
- epitaxial films, growth and struct. rel. to substrate 7−22490
- etching by photochem. machining 7−22909
- foils, ion bombarded, desorbed neutral energy distrib. studies 7−22406
- overlayers on Si surfaces, FIM 7−52284
- paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
- polycrystalline films, electrical size effects 7−7412
- single-layer metallic structures obs. in EUV and VUV 7−22215
- supported Rh, CO-induced struct. changes, H_2 effect, IR study 7−23063
- surface, (100), coadsorption of CO and H_2, adsorbate-adsorbate interactions effects 7−44997
- surface, (100), diffusion of Rh adsorbed clusters, classically exact overlayer dynamics 7−38328
- surface, (111), electronic structure, S effects on heterogeneous catalysis 7−54185
- surface, (111) clean and with adsorbed O, ion bombarded, desorbed atoms distributions 7−22420
- surface, oxidised, in acidic solns., zero charge points 7−13783
- surface (110), of H(D), form. of high density chemisorbed phase, LEED investigations 7−27094
- surface (111), adsorbed H and D, delocalised quantum behaviour, EELS study 7−38666
- surface (111), coadsorbed of CO, O and NO, EELS 7−16860
- surface (111), NO adsorpt. and dissoc., EELS and LEED study 7−16859
- surfaces, adsorption and desorption of NO, effect of surface structure 7−6994
- surfaces, clean and B contaminated, adsorption and dissociation of H_2O 7−27135
- underpotential deposit on SnO_2:F electrode 7−44998
- AgBr:Rh^{3+}, IR radiative recomb. 7−7748
- Ge-Rh interfacial atomic struct. and cpd. form., FIM studies 7−32846
- Rh/GaAs Schottky contact, correlation between solid-state reaction and electrical props. 7−58655
- Rh-Re/SiO_2 catalysts, metal dispersion 7−39918
- Si-Rh interfacial atomic struct. and cpd. form., FIM studies 7−32846

rhodium alloys
- *see also rhodium compounds*
- rare earth $RPdSi_2$ and RRh_2Si_2 (R=Y, La, Lu) ternary compounds, superconductivity 7−12901
- $CaRh_2B_2$, structural relationship to $BaAl_4$ 7−16496
- $CeRh_3(Bi_{1-x}Si_x)_2$, 4f shell dehybridisation, Curie temp. and mag. moments 7−45679
- $CeRh_2Si_2$ Neel temp., chem. press. effects, partial substitution depend. meas. 7−59011
- Cu-Rh, diamag. susceptibility calc. 7−45615
- Cu-Rh, dilute alloy, surface composition, Auger electron spectroscopy 7−16845
- $EuRh_{1.5}Sn_{4.2}$, anomalous mag. and elec. props. 7−64440
- FeRh, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7−64826
- $Fe_{0.1}Rh_{0.9}$, saturated absorpt. of gamma radiation, ^{57}Fe Mossbauer study 7−7621
- $Hf_{1s-x}\$Rh_xH_y$, crystal-amorphous transformation, thermodynamics and kinetics 7−21108
- Pd-Ag-Rh, electronic structure, KKR-CPA method 7−64074
- Pd-Rh, high temp. air oxidation, surface comp., AES 7−22891
- Pd-Rh alloy thin films, co-deposited, phase form. 7−59492
- Pd-Rh-P-Si, surface alloy vitrification by laser treatment 7−21271

rhodium alloys continued
- PdRhPSi(SiNi), amorphous laser processed surface alloy on cryst. Ni in NaOH soln., anodic characts. 7−28317
- Pt-Ph phase diagrams, thermodynamic calc. from expt. data on solidus temp. 7−3274
- Pt-Rh alloy, thermal expansion meas. 7−44864
- Pt-Rh alloys, surface composition, lattice vibrational entropy 7−52207
- Pt-Rh surfaces, N_2 and CO adsorption, temp. depend. and work function studies 7−33960
- Pu-Rh-B system, phase equilibria and cryst. struct. 7−16781
- Rh-B surface, effect of B surface segregation on adsorption and dissociation of H_2O 7−27135
- Rh-Fe microwires as resistance thermometers 7−307
- Rh-Ru alloys, electroreduction, electrocatalytic activity 7−54137
- $Sn_{1-x}Tb_{4+x}Rh_6Sn_{18}$, disordered II′ phase, structural study, electron and X-ray diffr. meas. 7−63549
- $SnYb(La\text{-}Gd)(Ca)(Sr)(Th)_3Rh_4Sn_{12}$ crysts., structural distortion and chem. bonding, X-ray diffr. studies 7−1947
- URh_3, 5f band narrowing, evidence from resonant photoemission 7−27855
- URh_3B, 5f band narrowing, evidence from resonant photoemission 7−27855
- Urh_3, hybridisation, electronic struct. and props. 7−45136
- YRh_3B, supercond. and mag. props. 7−38800
- $Zr_3Rh\text{-}H_2$, amorphous alloy formation, solid state reactions 7−27982
- $Zr_3Rh\text{-}H_2$, thermal stability of hydrides 7−26664
- $Zr_{1-x}Rh_xH_y$, crystal-amorphous transformation, thermodynamics and kinetics 7−21108

rhodium compounds
- *see also rhodium alloys*
- silicide, epitaxial growth on Si (111) 7−21760
- $Ce(Rh_{1-x}Co_x)_3B_2$ ferromag. Kondo system, anomalous elec. resist. temp. depend. 7−2601
- $Co_{1-x}Rh_xS_2$, prep., mag. and crystallographic props. 7−33154
- $ErRh_4B_4$, body-centred tetragonal, cryst. struct., X-ray diffr. study 7−26704
- $ErRh_4B_4$, superconducting and ferromagnetic transitions 7−64385
- $HeRh^{2+}$ adsorbed compound ion, field dissociation by atomic tunneling 7−33919
- $HeRh^{2+}$, cpd. ion, dissoc. in high elec. field, at. tunnelling, orientational and isotope effects 7−42777
- HfRhSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607
- $Ho(Ir_{0.7}Rh_{0.3})_4B_4$, antiferromag. superconductors, upper crit. mag. field *(Russian)* 7−58963
- Rh complex, dirhodium tetraoctanoate, discotic mesophase struct., optical microscopy, DSC and X-ray diffr. study 7−26627
- Rh complex, Rh_2(1,3-diisocyanopropane)$_4^{2+}$, lowest excited states, absorption spectra anal., 7−25532
- Rh complex, Rh_2(2,5-dimethyl-2,5-diisocyanohexane)$_4^{2+}$, lowest excited states, absorption spectra anal., 7−25532
- Rh complex, tetraphenylarsonium-bis(maleonitriledithiolato)rhodate(II), dopant in the Ni complex, hyperfine interactions, EPR-ENDOR study 7−53124
- Rh complex, tris-1,10-phenanthroline rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
- Rh complex, tris-2,2′-bipyridine rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7−50231
- Rh complexes, $Rh_2(acetate)_4(H_2O)_2{}^+$, aq. soln., $\pi_{RhRh}{}^*$ odd electron orbital evidence, ESR spectrum 7−15628
- $Rh_x(CO)_y$ (x=4 to 7, y=12,15,16), metal cluster bonding topology, graph theory 7−42817
- $Rh_{1-x}Ru_xS_2$, prep., mag. and crystallographic props. 7−33154
- $URhGa_5$, structural chemistry, mag. behaviour 7−16513
- ZrRhSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607

rhodopsin *see proteins*

Richardson effect *see thermionic emission*

ridge waveguides *see rectangular waveguides*

Riemann-Cristoffel tensors *see general relativity; tensors*

Righi-Leduc effect *see thermomagnetic effects*

rigidity *see shear modulus*

rimming steel *see steel*

ring lasers
- cavity construction for single-mode tunable pulsed ring dye laser 7−11006
- coupled ring laser Lorenz systems, periodic-chaotic transition, stability anal. 7−62732
- dye laser, CW multimode, spontaneous oscillations of emission spectrum 7−43085
- dye laser, high resolution computer controlled 7−20249
- dye laser for probing trapped ions, optical frequency standard appl. 7−20285
- dye ring laser, 580 nm, CW, single-mode, dye circulation system 7−1201
- dynamic frequency characteristic, Floquet theory 7−43162
- femtosecond streak camera 7−18895
- gas lasers, asymmetry in wave interaction 7−36995
- gyroscope, correlated emission laser type 7−41368
- gyroscope, doubly dithered, harmonic mixing signal appl. 7−42872
- gyroscope, passive resonant ring laser, progress 7−20440
- gyroscope, random dither modulation 7−57376
- gyroscope, ring laser type, skewed probability densities, coloured noise effect 7−41369
- homogeneously broadened, single-mode, periodic and chaotic output pulsations 7−11009
- homogeneously broadened ring laser, optical bistability and instabilities due to mode-mode competition 7−62735
- injection lasers, external cavity, resonant self-pulsing, instabilities 7−43156
- intensity correlations; effective eigenvalue charactn. 7−50531
- light velocity meas., using streak camera and ring laser 7−18766
- lock-in threshold and winking pattern, dependence on phase interactions 7−15909
- magnetometer based on ring laser sensor, for weak fields *(Chinese)* 7−4189
- optical ring resonator, photorefractive gain, multimode operation 7−57377
- plane wave Maxwell-Bloch eqns. linear stability anal. 7−15910
- Raman laser, all-fibre low-threshold synchronously pumped 7−57375
- ray matrix method for analysis of opt. resonators with image rot. 7−50599

ring lasers continued
  resonator with continuously irregular layer reflector, FTIR prism, natural oscills. 7—36996
  rhodamine 110 dye laser, passive mode locking and dispersion compensation 7—62742
  rhodamine 6G ring dye laser, flashlamp pumped, short pulse generation using colliding pulse mode locking 7—43170
  rhodamine 6G ring dye laser with external retroreflecting mirror 7—50597
  ring cavity, twin photon beam generation, intracavity four-wave mixing 7—62733
  single-mode laser with unstable ring resonator 7—1198
  single-mode model 7—20179
  solid ring laser with active mode locking, amplitude characts. 7—62739
  solid-state ring and linear lasers with electro-optic Q-switching, numerical modelling 7—36999
  spatial effects and Eckhaus instability, Lorenz eqns. 7—50532
  swept parameter ring laser model with additive white noise, postponed bifurcations 7—62734
  transverse mode generation 1D diaphragm effect 7—43163
  two-mode lasers with controlled phase anisotropy, EM wave interaction theory 7—43161
  two-mode ring laser with backscatter, freq. depend. 7—37000
  AlGaAs-GaAs narrow spectral linewidth semiconductor optical-fiber ring laser 7—25817
  CO$_2$ homogeneously broadened ring laser, optical bistability and instabilities due to mode-mode competition 7—62735
  CO$_2$ TEA laser, tunable travelling-wave, single mode operation 7—15840
  He-Ne/methane ring lasers stabilised using FM resonances, frequency reproducibility 7—1206
  LiF:F$_2^-$ laser, room temperature, active element, thermal effects 7—62714
  LiNbO$_3$:H ring resonators, operation at 0.79 μm and 1.3 μm 7—26029

ringers *see bells*

riometers *see ionospheric measuring apparatus*

ripplons
  superfluid films and interfaces, at T=0, local interactions 7—38283
  ^{4}He superfluid films, one-dimensional electron system, localisation, ripplons, scatt. and Coulomb interaction effects *(Russian)* 7—27050
  ^{4}He superfluid saturated film, spin polarised H thermal accommodation meas. 7—38299

rivers
  see also lakes
  Aberystwyth, Wales, metal and acid pollution of river due to metal mine 7—23235
  acoustic Doppler current profiler, vessel-mounted, for use in rivers and estuaries 7—9262
  alluvial river channel, modelling of channel development 7—18234
  Amazon, contrib. to hydrographic props. and current flow on continental shelf of W equatorial Atlantic 7—8988
  Amazon, plume region, currents 7—34511
  Amazon, plume region, water mass characts. 7—34510
  Amazon, sediment processes on continental shelf 7—34457
  Amazon, suspended sediment coagulation and settling on continental shelf 7—34458
  Amazon continental shelf suspended sediment flux and conc. 7—34459
  Amazon plume region, sediment and chlorophyll characts. 7—34509
  Amazon River, continental shelf, clay mineral reactions effect on Al distrib. in sediments and waters 7—34551
  Amazon River, continental shelf, high-resolution seismic stratigraphy, sedimentological interpretation 7—34465
  Amazon River, continental shelf organic C accumulation, stable isotope characts. 7—34463
  Amazon River, continental shelf sediment accumulation and transport ^{210}Pb anal. 7—34462
  Amazon River, water discharge and suspended sediment concs. (1982 to 1984) 7—23766
  Amazon River continental shelf, bedforms 7—34460
  Amazon River continental shelf, surficial sediments and dense nearbed sediment suspensions 7—34461
  Amazon River continental shelf, suspended sediments effect on geochem. processes 7—34550
  Amazon River continental shelf, Th partitioning between dissolved and particulate phases 7—34549
  Amazon River subaqueous delta, sedimentary structures distrib. 7—34464
  Anambra Basin, Nigeria, water supply of Njikoka and Awka areas 7—18218
  annual streamflow series, freq. anal. technique for multiyear drought durations 7—23758
  NW Black Sea rivers, water masses detect. from interpretation of sea surface space imagery 7—66144
  Carboniferous drainage system in Europe, sediment transport 7—47409
  Cauvery and its tributaries, India, flow data, fit of gamma probability distrib. 7—55093
  Chesapeake Bay, fluvial and estuarine sediment load in Rappahannock River 7—28990
  Clyde estuary, UK, Hg pollution and sulphide content of sediments 7—3732
  Clyde River pollution control and cleaning 7—13941
  Coatzacoalcos estuary, heavy metals pollution 7—46975
  Columbia River, Washington, USA, Late Holocene flood freq., fluvial deposits anal. 7—47470
  composite channel flow, periodical large surface eddies generation 7—20803
  computer-aided drainage network anal. from Landsat imagery, use in rock type recognition 7—4238
  Cooper Creek, SW Queensland, Australia, Quaternary drainage patterns and stratigraphy 7—34496
  Danube, exploitation of waters by Gabcikovo-Nagymaros hydroelectric power scheme 7—29087
  Deccan upland region, India, late Quaternary alluvial history and climate 7—60287
  Don River, USSR, subsatellite remote sensing expts. 7—66185
  downstream fish migration protection technologies for hydroelectric application 7—34075
  drainage from uniform soil layer on hillslope simple hydrological model 7—23756
  drainage network simulation 7—55088
  Esk River, Cumbria, seasonal changes in surface level of salt marsh 7—8914
  flood and flash-flood forecasting, generalised stochastic hydrometeorological model, case study 7—66202
  flood and flash-floods forecasting, generalised stochastic hydrometeorological model formulation 7—66201
  flood control, drainage master plan 7—66188
  flood control, drainage master plan 7—66189
  flood frequency analysis, appl. of historical and palaeoflood information 7—23769
  flood frequency analysis using historical data 7—29118
  flood frequency analysis using the Cox regression model 7—23775
  flood frequency curves, similarity among river basins 7—29113
  flood modelling and forecasting, empirical relationship 7—40504
  flood peak frequency estimation 7—18239
  flooding due to urbanization 7—54384
  flow data, missing, time series model for generation 7—66172
  flow modelling and forecasting (book) 7—48199
  free surface unsteady flows having shocks or bores, explicit numerical schemes 7—60302
  Glen Feshie, Cairngorms, Scotland, age of river terraces 7—34497
  gravel pits in Rhine Valley north of Strasbourg, hydrological balance with groundwater *(French)* 7—47468
  Gulf of Mexico, Louisiana and Texas shelf, freshwater characts. 7—55055
  Hawaii, large valleys morphology rel. to runoff valleys and groundwater sapping valleys 7—55095
  Housatonic basin, Connecticut, appl. of stream chemistry to hydrological parameters estimation 7—23771
  Huangpu River, China, water quality model, parameter estimation using prototype expert system 7—55111
  ice bridges, reinforcement via layer-by-layer ice buildup 7—55092
  SW Idaho batholith, USA, river flow meas. rel. to chemical denudation rates 7—9038
  SW India, monsoonal runoff var. in 2000 yr records 7—47532
  Japan, river flooding and land-slides during July 1985 in Noto area *(Japanese)* 7—18226
  Kamchia River mouth, Bulgaria, Fe in sediments, river and sea water 7—29085
  Kolyma River, USSR, large fulgurites discovery *(Russian)* 7—66119
  Kullumkol-Su River, USSR, mud flow characts. 7—34566
  Liaohe River mouth sea ice, creep behaviour under uniaxial compression *(Chinese)* 7—23673
  loads underestimation by rating curves, statistical anal. 7—23728
  Mandovi and Zuari estuaries of Arabian Sea, dissolved O$_2$ concs. 7—14313
  Maryland Piedmont, USA, flood plain sediment deposition since 1730 AD 7—29081
  meandering channels, flow and pollutant dispersion, 3D modelling 7—44052
  meandering stream, secondary flows and the pool-riffle unit 7—34562
  Lower Mekong Basin, centralised basinwide river forecasting system 7—18227
  Mersey Estuary, England, phthalate ester pollution 7—55085
  Mersey estuary, UK, Hg pollution and sulphide content of sediments 7—3732
  Mississippi, stage changes causing crust elevation 7—8794
  Mississippi delta, USA, coastal changes accompanying rapid land subsidence 7—4023
  Mississippi River, USA, sediment flow regime in historic times 7—29114
  Mississippi River delta area, ^{226}Ra, in sediments and water column 7—66168
  Mutonga drainage basin, Mount Kenya, palaeoclimatic-ecological significance of sand dunes 7—18186
  Newark Bay, New Jersey, USA, heavy metals in water column of estuary 7—55084
  Nile Delta, Egypt, Holocene sediment accumulation history 7—23653
  Nile delta sediment deposition history at Rosetta and Damietta, promontories 7—34565
  Ob River valley, photochemical mist obs. 7—9136
  Ohau River (braided), New Zealand, bedload movement and bar development 7—34563
  Okanagan lake tributaries, BC, Canada, P content of suspended sediment and bioavailability 7—4070
  Orange River, delta cone rel. to sediment sound vel. provinces in Cape Basin 7—55008
  W Oregon, USA, rain-on-snow runoff, effects of clearcutting 7—23788
  Port Xiawan, China, Trace element distrib. in drill-core sediment 7—46974
  power station in Germany, environmental impact on river *(German)* 7—65657
  Pripyat River, groundwater regime and balance in forest and marsh landscapes of right bank 7—9050
  Puget Sound, Washington, USA, hydrocarbon pollution in urban estuary 7—66167
  radioactive pollution, low-level gamma-ray study 7—23236
  radioisotope distribution in precipitation, surface and groundwaters in NW Yugoslavia 7—23254
  regional hydrologic analysis, model error estimators for least squares regression 7—18252
  Rhein-Felsberg basin, Switzerland, snowmelt and runoff remote sensing 7—23875
  Rock Creek, USA, alkalisation due to bridge construction 7—23787
  Rouge River, Quebec, migration patterns of asymmetric meandering river 7—23765
  runoff, volume and peak, implications for flood retarding structures 7—60280
  Sagehen Creek, California, size distrib. of surficial bed material during extreme snowmelt flood 7—23733
  sand waves, bed form response to sudden flow decrease *(Japanese)* 7—18223
  sand-bed streams of American Midwest, flow variability and bankfull depth 7—9040
  sandy river bed, bridge pier scouring and dune migration *(Japanese)* 7—18225
  sandy river bed instability due to bed load motion *(Japanese)* 7—18224
  seasonal runoff forecasts, stochastic modelling 7—23740
  seasonal runoff forecasts use for optimal water supply planning 7—23741
  sediment transport capacity of sheet and rill flow 7—29106
  sediment transporting capacity of overland flow, determ. on plane and irregular beds 7—14317
  sedimentation, conf., Jackson, MS, USA (March to April 1986) 7—41008

rivers continued
- sedimentation, horizontal laminae formation under upper flow regime plane bed conditions 7—4031
- porous sediments, water flow within sediments due to flow over bedform shapes 7—55102
- E Shropshire, England, rainfall, runoff and erosion on bare arable soils 7—9039
- simulation of river reservoirs, linear dynamical system integral invariant approach 7—18214
- stream gauge data adjustment for urbanization effects 7—34567
- streamflow statistics, period fuzzy cluster analysis method for the description of overyear flow process *(Chinese)* 7—23716
- streamflow statistics, user of periodic gamma autoregressive processes 7—18245
- streams, contaminants transport 7—28427
- sulphate deposition from atm., conc. in streams 7—28426
- suspended sediment conc. influence on open channel velocity distrib. 7—18244
- Susquehanna River, runoff effects on tidal signals propag. in upper Chesapeake Bay 7—66164
- Tawhai State Forest, New Zealand, catchments, runoff characts. 7—29100
- Tawhai State Forest, New Zealand, storm runoff, hillslope and low order stream response 7—29101
- temperature distribution downstream from dam or reservoir 7—23782
- E Texas, storm flow and sediment losses from site-prepared forestland 7—23768
- topographic partitioning of watersheds, appl. of digital elevation models 7—23723
- Ulu Jelai River, Peninsular Malaysia, hydro resources identification from enhanced satellite imagery 7—17848
- United States and Canada, 1986 July, water conditions 7—29094
- United States and Canada, 1986 June, water conditions 7—9053
- United States and Canada, 1986 September, water conditions 7—55100
- urban water balance, model for daily totals 7—18246
- USA, August 1986 hydrological conditions 7—23718
- USA, October 1986 hydrological conditions 7—55101
- Vancouver, BC, Canada, urban water balance model 7—18247
- Volga River Delta, USSR, hydrographic map from space images 7—66184
- water mixing in strong currents *(Russian)* 7—23666
- water pollution due to acid precipitation, chemical tracers to identify pollution episode 7—17927
- wetland surface water dynamics 7—66193
- WODA—a modelling support system for BOD-DOassessment in rivers 7—9041
- Yellow River, China, sediment discharge to sea 7—55089
- Yellow river sedimentation in Sanmen Gorge reservoir of hydropower station 7—29086
- Yukon rivers, dissolved O_2 depressions under ice cover 7—55106
- N Zeravshan faults, USSR, tectonic movements indicated by river drainage pattern 7—66070
- ^{63}Ni in Columbia River sediment below the Hanford Reservation 7—13936
- Tl, determ. by atomic absorption spectrometry for river sediment, coal, coal fly ash 7—59801

RKKY interaction
- antiferromagnetic metals and alloys, 4f-local moments, SDW instability 7—58970
- metals, indirect-exchange interaction, realistic calc. 7—38854
- AuCr spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7—53019
- $Cd(Cu_{1-x}Al_x)_2$, mag. and cryst. props. 7—27506
- $Cd(Cu_{1-x}Ni_x)_2$, mag. and cryst. props. 7—27506
- CuMn spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7—53019
- $ErRh_4B_4$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7—22077
- $ErRh_4B_4$, magnetic transition temps., RKKY interaction studies 7—22107
- $(Fe_{0.8}Ga_{0.2})_2TiO_5$ spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7—53019
- $(Fe_{1-x}V_x)_{84}B_{16}$, amorphous, low temp. resistivity anomaly *(Chinese)* 7—64198
- $Gd(Cu_{1-x}Co_x)_2$, mag. and crystallographic props. 7—38903
- $HoMo_6S_8$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7—22077
- $RAuCu_4$ (R=Gd, Tb, Dy, Ho, Er), cubic alloys, mag. props. 7—52936
- $SmRh_4B_4$, magnetic transition temps., RKKY interaction studies 7—22107
- $YbBe_{13}$, low temp. Mossbauer study 7—33309

road traffic
- community and individual response to changes in traffic noise exposure 7—46986
- correlation of vehicular noise to various trafficand geometrical characteristics in ThessalonikiGreece 7—8469
- highway noise barriers, insertion loss model 7—6038
- Hong Kong, ambient traffic noise levels 7—59898
- noise, effects on daily life, Japanese survey *(Japanese)* 7—46984
- noise, kerbside L_{10} level prediction 7—50837
- noise annoyance assessment 7—50844
- noise level distribution, probabilistic evaluation 7—46987
- psychophysiological acoustics of indoor sound due to traffic noise during sleep 7—18014
- urban traffic noise, cannon and facade effects 7—46989
- vegetative barriers for highway noise abatement 7—23261

road vehicles
- *see also automobiles*
- exhaust emission control equipment, to limit NO_2 7—59905
- MEV 1 electric vehicle prototype with additional solar cells *(German)* 7—3644
- solar vehicles, electrical networks *(German)* 7—3643

robot vision *see computer vision*

robots
- *see also artificial intelligence; industrial robots*
- automatic US scanning system for NDT of composites 7—22969
- CADD/CAE use for remote vehicle system mission planning at nuclear facilities 7—49608
- conference on space exploitation and utilisation, Honolulu, HI, USA (1985 December) 7—24297
- cornea cutting for implantation by microsurgery robot *(Japanese)* 7—14153

robots continued
- FBR reprocessing plant using remote maintenance, Japanese design 7—61977
- FFTF interim examination and maintenance cell, remote tool development 7—49547
- FRG nuclear fuel reprocessing plant, remote maintenance aspects, manufacturer's viewpoint 7—49559
- laboratory, decision criteria for purchasing 7—24637
- laboratory, for analytical samples preparation 7—29990
- manipulation aids for handicapped with upper extremity impairment 7—34351
- microwave hyperthermia system, robot-operated, for testing large surface tumors 7—8675
- mobile robot use in nuclear power plants, TMI-2, Hope Creek, Salem 7—49613
- nuclear fuel reprocessing plants, remote maintenance using servomanipulator based system 7—5338
- radiological emergencies, mobilisation of robotic and teleoperated mobile vehicles at accidents 7—30633
- reactor pressure vessel manipulators, functions and basic concepts *(German)* 7—56807
- remote handling in hot cells, state of the art and future view 7—49555
- remote handling systems for reprocessing plant maintenance and reactor dismantling, testing and design 7—49614
- remote reconnaissance vehicle for core-bore sampling, operational experience at TMI-2 7—49612
- remote work vehicle, design rationale, radiological decontamination work 7—49741
- remotely operated TRU waste size reduction and material handling process at SRP 7—49698
- security robots for nuclear materials management 7—36318
- self navigating mobile interior robot appl. as security guard/sentry 7—36317
- sensory feedback in upper limb prostheses, robotics perspective 7—34347
- synergistic relationship between computers and robotics 7—24638
- system theory, conf., Knoxville, TN, USA (Apr. 1986) 7—14714
- TFTR, maintenance manipulator development 7—19431
- TMI-2 operations, robotics development, remote reconnaissance vehicle 7—49611
- TOR fast reactor fuel reprocessing facility, integrated remote handling system 7—49558
- US NDT, conf., London, England, 1986 7—18505

Rochelle salt
- crystals, low temp. relaxational soft made transforms., dielec. spectra meas. 7—17279
- crystals grown from carbamide-containing soln., dielec. props. study 7—64557
- phase transition dynamics 7—21367
- polydomain crysts., low freq. dispersion of dielectric const. near phase transition points, ordinary and deuterated salts 7—22174

rock magnetism
- AF demagnetization discharge equipment 7—55274
- anhysteretic and rotational remanent magnetization depend. on magnetite particle size 7—23858
- authigenic magnetite, precipitation in sedimentary rocks and magnetisation 7—60253
- basalt from Egypt (El-Bahnasa and Tahna), magnetic mineralogy 7—34480
- cave sediments, Pwll y Gwynt, S Wales, palaeomagnetic study 7—8820
- clay from compressional zones in Greece and Taiwan, mag. fabric 7—23638
- Early Cretaceous/Late Jurassic dike swarm in NE Brazil, rock magnetism and palaeomagnetism 7—54869
- Datong volcanic cluster, Pleistocene geomagnetic palaeointensity determ. 7—18112
- gyromagnetic remanence importance in alternating field demagnetization 7—47426
- haematite, chemical remanent magnetisation and structural-sensitivity characterisation 7—29004
- haematite containing rocks, strain reorientation and remanence 7—23637
- central Kurin depression, USSR, deep rocks NRM and ferromag. minerals characts. 7—55022
- limestones of Jurassic and Cretaceous, Curie temperature and mag. mineralogy 7—8917
- magmatic rocks, palaeomagnetic field statistical estimation 7—54866
- magnetic susceptibility, relation to strain in laboratory expts. 7—66109
- multidomain material, screening of domain moments and remanence stability 7—47430
- nontronite, effects of shock and thermal alteration on mag. props., and implications for Martian surface 7—55024
- oceanic crust, magnetisation modelling in North and Equatorial Atlantic Ocean using Magsat data 7—40414
- oceanic crust. mag. struct. of upper kilometre at DSDP Hole 504B, E Pacific Ocean 7—29007
- oceanic lithosphere, mag. props. model rel. to mag. signatures of oceanic lithosphere 7—65938
- olivines (synthetic), magnetic props. and oxidation expts. 7—34479
- oxidation state of rocks formed during normal and reversed geomagnetic polarity times 7—55023
- Precambrian basic intrusives of E Baltic Shield, mag. remanence components and palaeomagnetism 7—28828
- pyroclastics from 1985 eruption of Nevado del Ruiz, Colombia, reversed magnetisation obs. 7—34482
- red cherts of Inuyama area, central Japan, paleomagnetism and paleolatit. 7—54872
- remanence of ensemble of interacting monodomain grains 7—8923
- remanent crystallization magnetization in magnetite containing rocks 7—55020
- short-term viscous effects on measurements of remanence 7—18179
- siderite containing rocks, anomalous mag. props. and palaeomag. 7—40468
- stable viscous remanent magnetization and overprinting new mechanism 7—8920
- step-wise remagnetisation method for palaeointensity var. 7—54865
- stratum axial symmetry determ. using induction method *(Russian)* 7—34705
- tectonic deformation effects on rock magnetism and compensation methods for palaeomagnetic studies 7—23636
- thermally activated viscous remanence in magnetite- and haematite-bearing dolomites 7—60250

- **rock magnetism** continued
  - titanomagnetite, magnetisation in 1 to 30 microns particle size range 7—47425
  - Toba tuffs, stratigraphy, palaeomagnetism and mag. fabric rel. to sources and eruptive styles 7—28958
  - tuff from N Kenya, superparamagnetism of volcanic glasses 7—8919
  - Fe-Ni alloy, magnetic remanence of meteorites at low-temperature 7—24088

- **rocket vehicles** *see rockets*

- **rockets**
  - *see also missiles; space vehicles; weapons*
  - exhaust gas diffusion in exponential atmosphere 7—14400
  - Intercosmos 13 rocket (1975—22B), inclination var. analysis 7—55419
  - ionosphere, vibr. relax. of CO$_2$ during injection from spacecraft 7—34087
  - Skylark rockets, contrib. to British X-ray astronomy 7—24019
  - Space Shuttle Challenger, wind conditions on day of launch failure 7—60314
  - Tournesol final-stage (1971-30B) at 15th-order resonance, orbit analysis 7—55420

- **rocks**
  - *see also minerals; rock magnetism*
  - Absaroka Mountains, WY, USA, Eocene thick lava flows, recorded rapid secular geomag. var. 7—65931
  - Ackley Granite, SE Newfoundland, geochemical trends rel. to magmatic-metallogenic processes 7—8941
  - Aileu Formation, East Timor, Indonesia, interpretation of ^{40}Ar/^{39}Ar and K/Ar dating 7—28916
  - alkaline igneous rocks from Hokkaido, isotopic ages rel. to Late Cretaceous time-scale points 7—47390
  - Amitsoq gneisses (early Archaean) of Isukasia area, W Greenland, geochronology and isotopic var. 7—34485
  - andesite, acoustic emissions for triaxial compression *(Japanese)* 7—66111
  - andesite acoustic emission, for rock under triaxial compression 7—18322
  - aquifier formations of Gombe subcatchment, Benue Valley, Nigeria, hydrogeology 7—18217
  - Late Archaean granites of Napier Complex, Enderby Land, Antarctica, Rb-Sr, Sm-Nd and U-Pb systematics 7—14231
  - Archaean high-grade gneiss and granite-greenstone terrain in Western Australia, tectonic relations 7—34491
  - Archaean high-grade metasediments, rare earth element patterns and tectonic significance 7—34486
  - Archaean rocks of Kola Peninsula, upper crustal struct. along Pechenga Bay-Kovdor-Alakurtti profile 7—47395
  - Archaean tonalites, petrogenesis rel. to origin and early growth rate of continents 7—14229
  - areal micellar polymer flooding calc. 7—6307
  - Argentina, site preselection for radwaste repository *(Spanish)* 7—42225
  - basalt, shock implantation of noble gases 7—55581
  - basalt composition rel. to continental and oceanic volcanic assocs. 7—34418
  - basalt formation, peridotite root zone beneath Grand Lagon Nord, New Caledonia *(French)* 7—66087
  - basalt from Egypt (El-Bahnasa and Tahna), magnetic mineralogy 7—34480
  - basalt lavas in Iceland and on Mars, viscosities determ. from small surface features anal. 7—55518
  - basalt melts, US vel. and attenuation meas. to 1500°C 7—8933
  - basalt-bentonite mixtures, waste packing material, diffusion of tritiated water and chloride 7—40057
  - basaltic glasses, N isotope geochemistry rel. to mantle degassing and structure 7—60193
  - basalts, tectonic settings discrimination using trace element abundances 7—28957
  - basalts from Reunion and Grand Comore Islands, Indian Ocean, noble gas systematics 7—29012
  - basalts from S Atlantic hotspots, geochemical correl. with southern African kimberlites 7—34409
  - basalts from Sea of Japan, U and Th contents as indicators of continental-type volcanism 7—14274
  - basalts of Les Vignes complex, France, ^{40}K-^{40}Ar and palaeomag. data rel. to Bajocian-Bathonian boundary calibration 7—47389
  - Bay of Islands Ophiolite, 2D seismic reflection modelling of fossil oceanic crust-mantle transition 7—40428
  - Bir Safsaf-Aswan uplift, SW Egypt, petrology, geochemistry, and structural development 7—66118
  - black shale, climatic cycle evidence *(French)* 7—66288
  - brine-saturated, dielectric response, analytical model 7—22203
  - brine-saturated fractured rock, elec. cond. for various confirming press. 7—29002
  - Cainozoic basalts of E China, Pb, Sr and Nd isotope systematics and chemical characts. 7—29011
  - calc-alkaline volcanic rocks of Namaqua mobile belt, South Africa, evidence for Middle Proterozoic volcanic arc 7—34493
  - Caledonian orogen collapse and 'Old Red Sandstone' characts. 7—4013
  - Canadian approach to site characterization for a nuclear fuel waste disposal vault 7—42224
  - Caradocian tuff horizon, Welsh Borders, radiometric dating 7—47384
  - carbonate structure of Monte La Queglia (Abruzzo, Central Italy), geophysical investigations 7—40477
  - Upper Carboniferous tonstein and tuff sanidines, ^{40}Ar/^{39}Ar ages rel. to time scale improvement 7—47388
  - cavities in brittle rock and their gravity signatures 7—47308
  - Cevennes Medianes, France, vaugneritic magma evol. and characts. 7—40472
  - Circle quadrangle, Alaska, S central region, petrological evidence for terrane boundary 7—47437
  - clay, anisotropically consolidated, plasticity model for mechanical behaviour 7—14265
  - claystone at Cretaceous/Tertiary boundary in E Hokkaido, evidence for flora devastation 7—40476
  - coal deposits of Raniganj series, India, mechanical props. rel. to induced seismicity 7—23568
  - columnar-jointed rock mass, cross-hole acoustic meas. 7—47367
  - compressibility of porous rock and pore volumes, micromechanical model 7—40467
  - compressive strength under confining press., size effect estimation *(Japanese)* 7—66110
  - computer-aided drainage network anal. from Landsat imagery, use for rock type recognition 7—4238

- **rocks** continued
  - conference on radwaste underground repositories, Hannover, Germany (Mar. 1986) 7—41010
  - consolidated, thermal conductivity meas., heat pulse line source method 7—40609
  - cordierite-bearing diatreme at Fontmarcel, France *(French)* 7—66044
  - cordierite-diatexites, Aubusson, France, petrography, composition, age *(French)* 7—66099
  - cosmic-ray induced ionization intensities near Kaohsiung, Taiwan, ground, sea-level meas. *(Chinese)* 7—55399
  - Cosserat media, inelastic behaviour of plane frictionless block-systems 7—1432
  - crack shape distribution in uniaxial compressed rock sample 7—66112
  - crack tensor and its relation to wave velocity anisotropy in jointed rock masses 7—55016
  - cracking due to thermal stress, for granite, diabase, limestone 7—40466
  - cratering, small-scale impacts into cold or warm rocks, laboratory expts. 7—9389
  - Early Cretaceous/Late Jurassic dike swarm in NE Brazil, rock magnetism and palaeomagnetism 7—54869
  - crystalline, pore vol. and transport prop. changes during press. cycling 7—40471
  - crystalline rock, radionuclide transport in fast channels 7—28425
  - crystalline rocks, characts. from field expts., suitability for HLW disposal repository 7—5464
  - crystalline rocks, nonsorbing species porosity and diffusivity 7—23639
  - Deccan continental flood basalts, evidence for volcanic activity *(French)* 7—18137
  - deep geological radwaste disposal, basic geological studies for storage environment *(French)* 7—42226
  - deep groundwater flow, governing principles, effects on geological radwaste disposal 7—5462
  - deformation, appl. of stream function and Gauss's principle of least constraint in structural geology 7—29009
  - Devonian granites of Canadian Appalachians, radiogenic heat prod. rel. to thermal nature of earth crust 7—66041
  - Devonian rocks of Kvamshesten, W Norway, tectonic implications of Solundian (Upper Devonian) magnetisation 7—34376
  - Devonian shales from Appalachian Basin, C and S relations as indicator of deposition environment 7—65988
  - diapiric deformation, relation between initial conditions and late stage of Rayleigh-Taylor instabilities 7—66108
  - Donets Basin, USSR, Carboniferous deposits parting fractures 7—34403
  - drill cuttings, thermal cond. absolute meas. apparatus 7—29270
  - dry dunite, exptl. study of O$_2$ transport and related kinetic phenomena 7—54954
  - dunite nodule from Reunion Island, Indian Ocean, noble gas systematics 7—29012
  - dynamic analysis of saturated porous media, higher order, mixed, and Hermitean finite element procedures 7—14263
  - dynamic response of saturated porous media, evaluation of u-w and u-π finite element methods 7—14262
  - Earth crust deformation, appl. of two-layer model for biaxial extension of lower layer 7—8886
  - eclogites, equilibration temps. and origin depths, implications for subcontinental mantle evol. 7—28955
  - Eifel periodotite xenoliths, trace element and isotope geochemistry rel. to subcontinental lithosphere 7—34484
  - Eifel volcanic tuffs, ^{40}Ar/^{39}Ar age determs. rel. to age and duration of Middle Pleistocene cold period 7—47392
  - elastic moduli changes during thermal cycling between 110 and 370K *(Japanese)* 7—47432
  - elastic properties, effect of press. 7—47424
  - elastic wave attenuation in rocks containing fluids 7—6718
  - elastic wave velocity determ. methods *(Japanese)* 7—29312
  - elastoplastic dilatation model 7—14272
  - Elbe valley, lithospheric geochemistry and petrology in fault zone 7—54946
  - electric currents (thermally stimulated) in 7 rock types from Greece 7—4026
  - electrical conductivity pressure depend. theory, for cracked rock 7—29008
  - electrical parameters of rocks, relation to chemical comp. 7—18181
  - England, Carboniferous sandstones origin, determ. from zircons dating 7—47409
  - environmental standard reference materials, determ. of sampling constants 7—34748
  - failure during uniaxial loading, 2D computer model 7—8922
  - failure mechanics, rupture length and propag. speed determ. from seismic and acoustic data 7—8855
  - failure process, dynamic description 7—57738
  - fission track dating, grain allocation in population method 7—47568
  - flow due to gravity, use of Newtonian and non-Newtonian fluid dynamics scaling without inertia 7—8939
  - fluid transport in porous media, generalised Darcy's and Fick's laws 7—57915
  - Flysch della Laga formation, Italy, fission track dating 7—40598
  - fractal structure in architectural features of fracture fields in rocks *(French)* 7—66100
  - fracture, EM emission and light radiation *(Chinese)* 7—29000
  - fracture analysis 7—66106
  - fracture mechanics, stress field due to faulting in presence of asperity 7—8822
  - fracture mechanics, tectonic stress evolution and earthquake rebound in antiplane case 7—8821
  - fractured porous rock, contaminant transport 7—55027
  - fractured rock masses, fluid flow simulation, hybrid boundary element-finite element analysis procedure 7—34478
  - fractures in rock mass, 2D continuity, stochastic evaluation 7—55019
  - frequency dependent seismic wave propagation in rocks, pore water effects 7—28883
  - friction and faulting 7—60251
  - fulgurites, form., extreme reduction and metal silicate liquid immiscibility 7—47439
  - fulgurites of Kolyma River, USSR, struct. and location of find *(Russian)* 7—66119
  - gamma-source backscatter density gauges modelling 7—34716
  - garnet amphibolites metamorphism, garnet-hornblende thermometry and min. press. limits 7—29005
  - geotechnics dictionary 7—55908
  - glassy submarine basalts dating and He isotope disequilibrium 7—66352
  - granite, faults and fractures *(French)* 7—55014

rocks continued
granite, stick slip and shear fracture energy at elevated press. 7—47427
granite pluton, NW Ontario, radionuclide migration over recent geological time 7—28917
granites and density loss in far E USSR 7—34402
granites of E Zambia, initial ^{87}Sr/^{86}Sr ratios and Rb-Sr ages 7—18147
granites petrogenesis in megathrust zones, role of strain heating 7—40443
granulites of N Kapuskasing uplife, Ontario, deep crustal struct. and tectonic history 7—14277
Gulf Coast domes rock salt 7—47428
Hawaiian lavas, geochemical and geophysical constraints on origin 7—8943
heat storage furnace, low-cost electric, using crushed rock for storage, residential use 7—65635
HLW, deep granitic formation, mechanical behaviour of host rock 7—5483
Holocene sediments of Himalayan-Andaman Arc, deformational structs. (seismites) prod. by earthquakes 7—66120
Holocene tephras identification using magnetite comp., appl. of discriminant function anal. 7—8893
hydraulic fracturing of rock, 3D dynamics using finite difference theory 7—55041
NW Iapetus Ocean, Early Palaeozoic bottom current var., mudstones anal. 7—23694
Iberian margin, continental tholeiitic magmatism *(French)* 7—66065
igneous, chemical analysis of 7—29263
igneous cumulates, evidence for magmatic heat pump 7—47406
igneous petrology, effects of convection and mixing in magma chambers 7—4028
igneous rocks, Al content of hornblende as empirical geobarometer 7—55029
impact spherules from near base of Middle Ordovician in N Illinois, petrology and origin 7—34499
Indian upper mantle rocks, pressure-temp. studies for Gruneisen coeff. and specific heat 7—55267
Inuyama area, central Japan, paleomagnetism rel. to tectonic history of Pacific Northwest 7—54871
Jabal Tirf layered gabbro, SW Saudi Arabia, mineral chemistry rel. to magma origin 7—29015
Josephine ophiolite of Klamath Mountains, N California, timing and kinematics of emplacement 7—14282
Middle-Lower Jurassic rocks of Venetian region, N Italy, Ir anomaly detect. 7—55038
Karelian granite-greenstone terrain, ages and comps. of volcanic rocks 7—34489
Kennett Formation, E Klamath Mountains, California, island arc sedimentation in Middle Devonian 7—29017
Kerri-Kerri Formation, Darazo, Nigeria, elec. resist. survey rel. to water resources 7—18219
Kidal gneissic assemblage (Adrar des Iforas, Mali), tectonometamorphic evolution rel. to Pan-African thrust tectonics 7—66117
Kiglapait Intrusion, Labrador, composition of cumulate igneous rocks 7—60211
kimberlites from southern Africa, geochemical correlation with S Atlantic hotspots 7—34409
komatiites, role of spurious correl. in development of alteration model 7—55039
limestone, crack-seal mechanism as deform. factor in strike-slip faulting 7—29010
lithosphere, elastic props. var. with press. and temp., laboratory anal. 7—55015
LLW and ILW repository in Switzerland, constructional concepts and site selection 7—42222
Ludlovian bentonites from Welsh Borders, Great Britain, K-Ar biotite data 7—47386
Maghrabi Formation, SW Egypt, deposits from mixed estuarine and tidal-flat environment of Cenomanian age 7—18185
magma ascent by porous flow, role of magmons 7—8928
magma ascent in deformable vent, vent response to magma reservoir press. 7—8929
magma series identification from Brazilian island of Fernando de Noronha *(French)* 7—66045
magma transport along fractures, effects of gas release 7—54971
magnetite particle size measurement, by magnetic remanence method 7—23858
Upper mantle rocks, viscosity of partial melts 7—8934
marble, development of conjugate-shear fracture *(Chinese)* 7—34474
marble, temp. effect on dielec. behaviour at 1 kHz 7—47434
marble tombstone weathering due to air pollution, Philadelphia, USA 7—59886
Mariana Trough basalt glasses, light noble gases comp. anal. 7—40436
Mars, obs. of sedimentary deposits in northern lowland plains 7—55517
Marydale Group, southern Africa, metamorphosed banded Fe formation, Pb-Pb dating and assoc. geochem. 7—60189
mass transport in discrete fracture networks, prediction by geometric field data use 7—66192
mass transport in porous media, macroscopic balance laws 7—57914
mechanical behaviour of layered soil or rock containing decaying heat source, theory 7—14264
mechanics, behaviour of viscoelastic medium with microfractures under extension and shear 7—29003
mechanics, displacement gauge including linear variable differential transformer 7—34695
mechanics and fluid flow of jointed rock masses, coupled model 7—60297
melt viscosities, expts. on diopside-albite rock melts 7—60248
mesostructures development in detached folds, example from West Virginia 7—4030
Mesozoic sedimentary rocks of Colorado Plateau, relation to Mogollon Highlands of Arizona 7—29016
metamorphic map of Zambia, explanatory notes 7—18184
metamorphic rocks of Orfordville Belt, New Hampshire, press., temp. and structural evolution 7—55044
Mkushi Gneiss Complex, central Zambia, Rb-Sr and K-Ar, geochronology 7—14230
Mohr diagram and 3D strain 7—40594
Msissi norite (S Morocco), 140 Ma K/Ar age 7—60195
mylonites of Priest River Complex, Washington-Idaho, metamorphic history rel. to tectonic evolution 7—4033
neutrino beam interaction with stressed medium, acoustic response anal. 7—14397
neutron gamma logging models, min. dimensions *(Russian)* 7—34477

rocks continued
nonlinear compaction model for sandstone 7—4027
oceanic basalts, siderophile and chalcophile abundances rel. to Pb isotope evolution and growth of Earth's core 7—34397
oceanic basalts of Oceanographer transform, Mid-Atlantic Ridge, three-component isotropic heterogeneity 7—54956
oceanic basalts-seawater interactions, hydrothermal alteration of upper oceanic crust 7—28993
oceanic sediment barrier, geological and geochemical props. for HLW disposal 7—5463
Olary Block, South Australia, stratigraphic and structural constraints on Proterozoic tectonic history 7—55045
olivine-pyroxene-plagioclase system, effect of water saturation on partial melt distrib. 7—8925
Onverwacht Group, Archaean flow-top alteration zones form. in low-temp. sulphate-rich environment 7—34488
ophiolite sheets and slivers, evidence for tectonic stratification of crust and lithosphere *(Russian)* 7—66076
Ordovician-Silurian boundary stratotype, Ir abundances meas. 7—4014
Outer Hebrides, evidence for enriched lithospheric keel, mantle xenoliths comp. anal. 7—47407
overburden deposits, influence on const. current elec. field in anisotropic medium 7—28831
Oxfordian-Kimmeridgian boundary breccia of Quercy, SW France, typology and genetic interpretation *(French)* 7—14273
P wave velocity during thermal cycling, effect of temp. *(Japanese)* 7—47431
palaeosol, 2200 Myr old, near Waterval Onder, South Africa, reappraisal 7—29022
Palaeozoic rocks of Lizard front, SW England, Variscan strain pattern 7—14279
partial melting phenomena in Earth and planetary evolution, conference, Eugene, Oregon (September 1984) 7—4625
partially molten rock, effects of sample-electrode interface polarisation on elec. props. 7—8932
partially molten systems, distrib. of apparent dihedral angles on random sections 7—8927
partially molten systems, permeabilities and interfacial areas and curvatures 7—8926
penetration expts. 7—14271
peridotite, melting phase relations up to 14 GPa rel. to origin of peridotitic upper mantle 7—8937
peridotite, partially molten, connectivity of melt phase 7—8924
peridotite melting under ultrahigh pressure, SEM and EPMA analysis appl 7—34481
petrographic parameters quantification, appl. of digital image processing *(Spanish)* 7—34740
phosphate rock standard, anal. 7—33982
plane strain kinematics 7—14270
Late Pleistocene-Recent volcanics from S Italy, appl. of Cassignol K-Ar dating technique 7—47393
Plio-Pleistocene marine sequence of North Island, New Zealand, mag. polarity stratigraphy 7—34378
plutonic rock masses, characterisation of nuclear waste disposal sites 7—10296
porosity measurement technique 7—23846
porous, brine saturated, permittivity freq. depend., Bergman-Milton theory of bounds appl. 7—23635
porous, permeability, percolation concept anal. 7—47436
early Precambraian Al_2O_3 rich rocks of Kaapvaal Craton, indicators of palaeosols 7—29020
Precambrian basic intrusives of E Baltic Shield, palaeomagnetism rel. to polar wander path 7—28828
Precambrian continental crust, petrological-geochemical model from deep drillholes in USSR 7—34413
Precambrian ophiolites and basement in Central Asian foldbelt, Mongolia, structural-metamorphic evolution 7—34495
Precambrian palaeopedology, conference, Raleigh, North Carolina (June 1985) 7—24275
Precambrian palaeosols of Dominion and Pongola Groups, Transvaal, chemistry and mineralogy 7—29018
Precambrian palaeosols on basaltic and granitic parent materials, elemental concs. profiles 7—29019
Precambrian permafrost horizons, appl. as indicators of palaeoclimate 7—29023
Precambrian rocks of Ural Mountains, implications for geodynamic regimes 7—34494
Precambrian supracrustal rocks of Finland, tectono-exogenic evolution 7—34490
Early Proterozoic bimodal volcanic rocks in central Colorado, petrography and stratigraphy 7—23644
Early Proterozoic bimodal volcanic rocks in central Colorado, petrogenesis and tectonic setting 7—23645
Proterozoic mafic volcanic rocks of Nagu-Korpo area, SW Finland, stratigraphy and geochemistry 7—14275
Early Proterozoic supracrustal rocks of SW United States, geochemistry and tectonic setting 7—55037
N Pyrenees, tectonostratigraphic units rel. to apparent western termination of North Pyrenean fault 7—14280
pyroclastics and lavas from most recent eruption of Mono Craters, California, eruption sequence and age 7—40447
pyroclastics from 1985 eruption of Nevado del Ruiz, Colombia, reversed magnetisation obs. 7—34482
dry quartzite, exptl. study of O_2 transport and related kinetic phenomena 7—54954
quartzose sandstones of Barbados, palaeogeography and tectonics 7—28981
radioactive waste repository, heat induced fracturing of rock in an existing uniaxialstress field 7—5484
rheological properties, problems in extrapolation of laboratory data to tectonic processes 7—66107
rock rheology in low-stress regime, weakening due to water 7—47435
Roberts Victor eclogites, ^{18}O/^{16}O ratios rel. to ancient oceanic crust hypothesis 7—55042
roughness of natural fault surfaces 7—66102
sandstone, porous medium with fractal struct., nucl. mag. relax. 7—27625
sandstone, seismic compressional velocity, effects of pore filling material 7—14266
sandstone, synthetic, relation between mag. susceptibility and strain in laboratory expts. 7—66109

rocks continued
- sandstone and mudstone, relation between seismic velocity and porosity *(Japanese)* 7—54901
- sandstone cores, oil and water content meas. using microwave techniques 7—55288
- sandstone-mudstone suites, tectonic setting determ. using SiO_2 content and K_2O/N_2O ratio 7—29014
- sandstones, porosity and clay content effects on wave vels. 7—47429
- sandy rock, pore moisture thawing and freezing, aq.-phase press. influence 7—52004
- sapphirine granulites correlation in Indo-Antarctic metamorphic terrain, Late Proterozoic dates from Eastern Ghats Province 7—34414
- NW Sayan region, USSR, Precambrian granitoids isotopic age 7—23601
- sectional strain ellipse during progressive coaxial deformations 7—40470
- sedimentary basin analysis (book) 7—35129
- sedimentary basin stratigraphy, effects of lithosphere in-plane stress 7—14278
- sedimentary rocks, horizontal laminae formation under upper flow regime plane bed conditions 7—4031
- sedimentary rocks, straining of cross-bed populations 7—4034
- sedimentary rocks of Dnieper-Donets Basin, struct. along Kiev-Gomel' DSS profile 7—47394
- sedimentary rocks of Great Valley, California, seismic vel. and Q struct. 7—3988
- sedimentary rocks of San Fernando Valley, California, effects on 1 to 5-second microtremors 7—54898
- Seychelles microcontinent, younger igneous rocks isotopic and geochronological anal. 7—40452
- Sharyzhalgai complex, Baikal region, USSR, ultrabasics Rb-Sr isochrone anal. 7—23603
- shear failure of rock joints, constraints for empirical relations 7—55018
- Silurian-Devonian boundary volcanic rocks from Vendee (W France), U-Pb zircon dating 7—47387
- simulated borosilicate radwaste glass, granite and water, geochemical interactions, repository appl. 7—807
- single fracture characts. and gas flow 7—23641
- site investigations for final disposal of spent nuclear fuel in Finland 7—42228
- slate schist, crack propagation under mode I and II loading 7—8921
- sonic logging, 2D spectrum anal. 7—4203
- sonic logging, 2D spectrum anal. 7—55332
- Stanovoi area, USSR, granulites isotopic age and geological implications 7—23600
- strain analysis, use of Fry's method 7—40593
- strain-space plasticity formulation for hardening-softening materials with elastoplastic coupling 7—26164
- strain-strength properties, effect of press. 7—47424
- streamline routing through fracture junctions 7—55028
- stress data, acquisition and radio telemetry *(Russian)* 7—34681
- stress-strain state at high press., appl. of nonlinear heredity models 7—55021
- strike-slip faults in Erquy-Frehel red sandstone deposition *(French)* 7—66005
- Stripa granite drill cores, fracture toughness meas. 7—55017
- subducting lithospheric slabs, thermal vel. models rel. to teleseismic mislocation of island arc earthquakes 7—14209
- suevite deposit of Ries crater, fluidisation and hydrothermal alteration, and implications for Mars 7—55049
- surfaces of natural joints, correlation 7—60249
- synthetic sulphide bearing rocks, complex resist. 7—8918
- Tazekka, Morocco, Carboniferous volcanosedimentary complex *(French)* 7—66046
- tektite fragments for Barbados, $^{40}Ar/^{39}Ar$ laser-probe dating rel. to Eocene-Oligocene boundary age 7—47391
- tephra fall from Nevado del Ruiz volcano, Columbia, 1985 November 13, petrology and distrib. 7—8896
- tetrahydrofuran hydrate-bearing rock samples, acoustic and resistivity meas. 7—55026
- thermal characts., use for lithosphere characts. determ. 7—54953
- thermal conductivity of Pannonian Depression rocks *(Rumanian)* 7—8940
- thermal dynamics of a block-filled underground hot water store 7—46972
- thermal inertia of vesicular basalt lava from Hawaii 7—40736
- thermoelastic response of fluid-saturated porousrock 7—14267
- thermoelastic strain in half-space covered by unconsolidated material, prediction technique 7—29001
- thermophysical characts. determ., automatic meas. system 7—9219
- S Tien Shan, greenschist metamorphism conditions and geotectonic evol. model 7—34401
- Toba tuffs, stratigraphy, palaeomagnetism and mag. fabric rel. to sources and eruptive styles 7—28958
- Triassic core in Cretaceous series of Morgon massive *(French)* 7—66059
- Triassic megaporphyritic monzogranites of S California, evidence for 160 km offset along San Andreas Fault 7—55043
- Triassic sediments of Betic Cordillera, Spain, colour meas. rel. to Fe oxides mineralogy determ. 7—66098
- Ultramafic Series of Stillwater Complex, Montana, rare-earth element evidence for magma evolution 7—65987
- ultramafic xenoliths, clues to Earth accretionary history 7—40390
- Venus, rock comp. at Vega 2 landing site 7—55510
- viscoplastic, damage and failure 7—1507
- volcanic rocks, Tengchong region, China, dating using ^{230}Th-^{238}U systematics 7—18321
- volcanic rocks from Yap-Mariana trenches intersection, petrology, geochemistry, and tectonic implications 7—34469
- volcaniclastic materials, thermoluminescence ages, meas. apparatus 7—47571
- water porosity changes associated with mechanical stress relief 7—23640
- weathering of mafic and ultramafic rocks in Archaean atmosphere, expt. meas. 7—29021
- Wenlockian pyroclastic biotites of Gotland (Sweden), radiometric K-Ar ages *(French)* 7—47385
- Wilcox aquifer, Texas, groundwater flow rel. to sand body interconnectedness in multiple-aquifer system 7—23760
- xenoliths, kinetics of partial melting and dissolution 7—8944
- Zabargad Island, struct. and Red Sea rifting 7—66034
- Al_2O_3 porous ceramics, elec. cond. and fluid flow permeability correls. 7—38566
- $CaCO_3$ marble rock, laser treatment 7—51821
- $CaCO_3$ cement (caliche) in Keweenawan sedimentary rocks (~1.1 Gyr), Michigan, implications for climate and sedimentation 7—29024

rocks continued
- K-rich lamprophyres of S Scotland, Late Caledonian dyke swarm with assoc. vents 7—4032
- Mg_2SiO_4-$MgSiO_3$ system, melting and phase relations at 20 GPa under hydrous conditions 7—8935
- Os, isotopic composition in terrestrial samples from accelerator mass spectrometry meas. 7—23611
- U and Th, concentrations in geological samples, plastic track detector study 7—40596
- U concentration meas. in soil and rocks by γ-ray spectrometry 7—54373
- U^{6+}, migration behaviour in tuff 7—5480
- $^{234}U/^{238}U$ activity ratios in geological materials, determ. by α spectrometry 7—60255

Roentgen rays *see X-rays*

roentgenography *see radiography*

rolling
- *see also cold rolling; hot rolling*
- adsorption-plasticised strip, surface layer rheology influence on stressed and strained state 7—17582
- BCC lattice crystal, rolling, interrelationship between struct. and orientation changes *(Russian)* 7—53773
- α-brass, rolling deform. texture, shear band angles 7—33724
- metal sheets, rolled, US SH wave vel., ang. depend. 7—38126
- polycarbonate, fracture, effect of rolling orientation on ductile-brittle transition 7—46644
- polyethylene terephthalate films, struct., effect of rolling *(Russian)* 7—13476
- polymers films, high modulus, fabrication by solid-state rolling 7—46525
- steel, austenitic stainless, single crysts., rolling texture and elastic consts. *(Russian)* 7—51912
- steel, Cr-Mo, normalised heavy section plate, weld cold cracking susceptibility *(Japanese)* 7—3425
- steel, Cr-Mo, plate, directional solidification, rolling, strength, toughness, microstruct., weldability 7—59622
- steel, high strength, control-rolled in two-phase region, ductile unstable failure *(Japanese)* 7—53865
- steel, high strength line pipe, H induced cracking susceptibility, comp. and treatment effect 7—39619
- steel, HSLA, rolled sheets, residual surface stresses, corrosion pot., X-ray obs. 7—39704
- steel, HSLA, TM-rolling, role of reverse temper embrittlement 7—8112
- steel, Nb-V microalloyed, controlled rolled, yield strength rel. to microstruct. *(Chinese)* 7—13503
- steel, Ni, plate manufacture, direct quenching and tempering process 7—59556
- steel, Ni, plates, direct quenching and tempering manufacturing process *(Japanese)* 7—3342
- strip, infinitesimal and large strain in rolling contact problems 7—11359
- wear in rolling contact 7—22845
- Al, directionally solidified, rolling, recrystallisation texture 7—33646
- Al disks, 1100 rolling contact deform. 7—17594
- Al-Cu (2 wt.%) single crystals, rolled, shear band form. rel. to ϑ' precipitates 7—3385
- Al-Cu (2 wt.%) single crystals, rolled, shear band form., ϑ precip. 7—28099
- B fibre reinforced Al, bond form. between alitized B fibres and matrix in rolling 7—3331
- Cu, porous sintered, rolling technology optimisation 7—53673
- Fe-Si, structure, texture and mag. props. 7—12995
- Fe-Si sheets, grain oriented, generation of secondary nuclei *(Japanese)* 7—22717
- Fe-Si-Al, electrical steel sheet, rollability, core losses *(German)* 7—59549
- Mo, single crystals, rolling, rel. between dynamic recovery and changes in orientation *(Russian)* 7—53759
- Mo-Re (27 wt.%), rolling, reorientation, annealing effect *(Russian)* 7—39598
- PbCaSn, rolling deform. texture, shear band angles 7—33724
- Ti, plate, fatigue crack initiation in orthotropic materials, effect of stress freq. *(Japanese)* 7—53867
- Ti, rolling, texture form., metastable high press. phase transform *(Russian)* 7—65029
- Ti sheet, grain orientation distrib. meas. by etch pit method 7—46510
- Ti-Al-V (6, 4 wt.%) plates, rolling, heat treatment, microstruct., mech. props., turbine blade appl. 7—17644

rolling mills
- laser distance sensor *(Japanese)* 7—20313

root loci
- *see also poles and zeros*
- Bernoulli polynomials, imaginary roots *(French)* 7—60933

roots of polynomials *see polynomials*

rotamers *see rotational isomerism*

rotating bodies
- *see also angular velocity measurement; centrifuges; gyroscopes; rotation*
- 3D hypersonic rarefied gas flow around rotating bodies 7—20761
- artificial satellites, relativistic eqns. of motion about finite-size rotating Earth 7—34826
- artificial satellites, struct. of higher-order reson. zones in rot. in plane of elliptical orbit 7—34829
- asteroids, rotation axes determ. via amplitude-magnitude method 7—34907
- asteroids, rotation characteristics 7—34906
- astronomical bodies, rot.-mag. field connection rel. to origin of Earth-Moon system 7—23509
- astronomical systems, ang. momentum-mass relation rel. to characteristic actions $\hbar^{(s)}$ in struct. of Universe 7—4602
- axisymmetric satellite on elliptical orbit, resonant periodic motion 7—34830
- ball rolling on rotating plane, inclusion of viscosity and friction, diff. eqn. soln. 7—41097
- beams, rot., pretwisted, preconed, nonlinear flap-lag extensional vibrs. 7—63036
- body suspended on string with impact interactions, stability of permanent rotations 7—41090
- cavity fill-up in rotor blades by liq., anal. 7—44020
- celestial bodies, instability of retrograde resonance rotation 7—47671
- ω Cen, globular cluster, rot., vel. dispersion, and mass determ. 7—9520
- charged black holes, bosonic instability anal. *(Russian)* 7—55702
- P/Comet d'Arrest (1976 XI), search for periodic photometric vars. 7—55564

rotating bodies continued
- P/Comet Giacobini-Zinner (1985 XIII), periodic photometric variations in near-nucleus zone 7−55564
- P/Comet Halley, shape, rotation state and puzzling observational findings 7−29434
- P/Comet Halley (1910 II), spin vector refinement and discrete dust sources map (May-June 1910) 7−4365
- P/ Comet Halley (1982i), effect of spin modulation on gas phenomena 7−14531
- P/Comet Halley (1982i), photoelectric discovery of 52-hour periodicity in nuclear activity 7−55563
- P/Comet Halley (1982i), photometry and activity of nucleus at pre-perihelion heliocentric distances > 4.6 AU 7−47763
- P/Comet Halley (1982i), rot. period determ. from photometric obs. 7−47787
- P/Comet Halley (1982i), rotation model involving 2.2 day precession 7−55567
- P/Comet Halley (1982i), sense and period of nucleus rot. from Vega missions 7−9438
- P/Comet Halley (1982i), Vega TV obs. *(Russian)* 7−4374
- cometary nuclei; nongravit. forces on short-period comets with low equatorial obliquities 7−47764
- cometary nuclei, nongravit. forces on short-period comets with high equatorial obliquities 7−47765
- cryogens, geometry and rot. effects on convection onset 7−57833
- 511 Davida, speckle interferometry and photometry rel. to dimensions, rot. pole and albedo 7−24045
- disc with jump-like nonhomogeneity, elastic, limit and decohesive carrying capacities 7−63001
- disk, rotating bladed, vibrating anal. using holographic interferometry and laser vibrometry 7−31719
- dynamic contact with rigid wall, deform. and fracture investig. 7−31663
- electrogoniometer for thoracolumbar rot. meas. 7−28786
- EM induction equation in spherical region with boundary, Green's function for differential and rigid body rot. 7−66445
- equatorial satellites, librational motion in gravit. field of rot. nonspherical planet 7−34831
- ferromagnetic rigid body in magnetic field, rotation problem 7−41087
- film flow on a rotating disk 7−31749
- forced torsional vibration 7−37363
- galactic disks, modal analysis of rotating polytropic cylinders 7−18453
- galaxies, contrib. of winds and rot. to radio trails bending 7−35045
- galaxies, N-body simulation of random vels. of interstellar giant mol. clouds 7−18445
- galaxies of Local Supercluster, rot. axes orientation 7−14662
- galaxies rotation curves, alternatives to dark matter models 7−47692
- Galaxy, differential rotation and interstellar vel. gradients 7−60755
- Galaxy, inner rot. curve shape 7−35050
- Galaxy, OH clouds vel., use for Sun-galactic centre distance determ. 7−4554
- globular clusters dynamical modelling 7−14613
- gravitational lens galaxies, deflection profile-rot. vel. relation for quadrupole gravitational lens 7−66453
- gyroscope with small self-excitation, motion, rotation evolution 7−43654
- gyroscopic motion with friction, two time scale anal. 7−48353
- Hori method for rotation of celestial body about mass centre 7−66437
- hypersonic viscous shock layer investig., on rotating bodies 7−20756
- Jupiter, similarity model illustrating effects of toroidal mag. field and rotation on magnetosphere 7−9407
- 22 Kalliope, photoelectric photometry and pole orientation from magnitude-aspect' relations 7−47749
- LMC, rotation of old long-period variable stars system 7−55605
- magnetic dipoles, stability of equilib. points of motions in two-dipole field 7−34839
- Mercury, limiting direct and retrograde orbits of possible satellites 7−24035
- merged galaxies remnants rot. vel. 7−55797
- modal synthesis method considering rotational effects *(Chinese)* 7−11270
- molecules, second-rank tensor correl. fns. and spectral densities 7−50076
- Moon, precessional dynamo model for lunar palaeomag. field 7−34892
- Newton's second law at small accelerations, test from disc galaxies grav. radiation 7−48081
- nonhomogeneous semi-infinite circular cylinder, torsional oscill. from impulsive twist 7−24415
- Phoebe, rot. characts. and V-photometry 7−34918
- planetary N-body problem, Hamiltonian eqns. in post-Newtonian approximation 7−47672
- planetary satellites, cartographic coordinates and rotational coordinates (1985) 7−34893
- planets, cartographic coordinates and rotational coordinates (1985) 7−34893
- planets, evolution of inclinations of rot. axes 7−9388
- planets, primordial rotations, 3D numerical expts. 7−66483
- planets, rot. freqs. rel. to satellites orbital freqs. 7−14508
- relativistic corotating spherical mass shells, singularities and gravimetric effects 7−41182
- rigid body, heavy symmetrical, suspended on string, stationary motions 7−11266
- rotating axisymmetric expanding universe with an electromagnetic field 7−24245
- rotating disk flow, von Karman similarity soln. 7−57852
- Salyut-6/Kosmos 1267 and Salyut-7/Kosmos-1443 orbital complexes, generalised gravit. orientation regime 7−34832
- shells, cylindrical, rotating, vibration 7−37365
- shells of revolution, finite axisymmetric deflections, strain-displacement relations 7−57682
- shells of revolution, rigid body motion, basis functions 7−50945
- shock wave generation in supersonic flow, rotating body shape effect 7−43974
- solid disc, cyclic rotations, dynamic stress anal. 7−24424
- spinning structure dynamic anal., free vibr. problem, numerical algorithms 7−37366
- spiral galaxies, flat rot. curves, antigravity as possible cause 7−35377
- spiral galaxies, large scale props. determ. from kinematics 7−35048
- steady flow induced by a rotating circular cylinder in a rectangular tank 7−37475
- symmetric satellite with viscoelastic antenna in circular orbit, evolution of spin about mass centre 7−34828
- triaxial galaxies, relaxation and dynamical friction in non-integrable stellar systems 7−4524
- triaxial rigid body motion under gravitational attraction force 7−48348

rotating bodies continued
- 47 Tuc, globular clusters, rot., vel. dispersion, and mass determ. 7−9520
- two-layer planet with Burgers-body mantle, moment of inertia, effect of faulting 7−14509
- Universe, average density and Regge law 7−35072
- Universe, mag. field and rot. 7−40963
- vacuum Einstein eqns., solitonic approach to self-gravitating disks and rings 7−48473
- Venus, limiting direct and retrograde orbits of possible satellites 7−24035
- vertically stratified thin accretion disks, baroclinic waves 7−14477

rotation
- *see also angular velocity measurement; molecular rotation; optical rotation; rotating bodies; rotational flow; stellar rotation*
- active rotator systems subject to noise, two-dimensional, cooperative phenomena and phase transitions 7−4673
- electromagnetic field, vacuum energy in rotating system 7−24779
- hydrostatic circular thrust bearings: a study of inertia effects 7−51003
- perturbed elliptic motion, generalisation in rotating frame 7−29631
- rigidly rotating perfect fluids in general relativity, Wahlquist soln. 7−47680

rotation by magnetisation *see Einstein-de Haas effect*

rotational band (nuclear) *see nuclear collective states and giant resonances*

rotational flow
- *see also swirling flow; vortices*
- N Adriatic Sea, current struct. of M2 tidal component from rotary anal. of Taylor model 7−40486
- air flow, rot. and vibr. spheres heat transfer 7−43928
- annulus, cylindrical, rot., convection, asymptotic theory 7−51169
- atmosphere, local vorticity and heat balances for blocking anticyclones in spectral general circulation model 7−29138
- atmosphere, transient cyclone-scale vorticity forcing of blocking highs 7−9094
- axial flow turbine stages, design 7−31814
- axisymmetric flow in rot. spherical shell, numerical expts. 7−20733
- balance equations in periodic domain, numerical model, balanced turbulence 7−34604
- baroclinic vortex pairs in rot. fluid 7−51168
- Benard-Marangoni's instability, nonuniform temp. gradient and Coriolis force effect 7−43886
- centrifuges, cylindrical, with compartments, sedimentation, Coriolis force reduction 7−20736
- chaotic mixing, two periodic model flows anal. 7−43934
- circular cylinder rotating in rectangular tank, induced flow 7−37475
- circular orifice, 3-D hydrodynamic interaction of a finite sphere, num. soln. 7−51303
- compressible flow, nonself adjoint operator, eigenvalue problem 7−57861
- compressible fluid, flow due to oscillatory point source 7−63156
- compressible isentropic spiral flow between two coaxial circular cylinders, instability 7−6216
- cone in external stream, boundary layer eqns., FORTRAN code 7−37468
- convection, finite-amplitude axisymmetric, between rigid rotating planes 7−26272
- convection, rot. cylindrical annulus, instabilities of columns 7−51128
- convective turbulence with rot. and mag. fields, mixing length theory 7−29388
- Couette flow, circular, mass transfer at smooth and rough surfaces 7−51163
- Couette-Taylor flow, quasiperiodic to turbulent transition, strange attractors 7−63120
- Couette-Taylor flow, rotating, Eckhaus boundary and wavenumber selection 7−43938
- creeping flow over rot. cylinder between parallel plates 7−20784
- cryogens, geometry and rot. effects on convection onset 7−57833
- cryoturbogenerator rotors, heating and convection of boiling fluid 7−31796
- cyclone dust collectors, spherical, cone and semi-spherical forms, turbulent rot. air flows 7−16183
- cylinder, partially-filled, rotating, fluid flow 7−16188
- cylinder, rotating horizontal, partially filled by viscous fluid, transient temp. distrib. 7−6215
- cylindrical annulus, imposed temp. gradient, flow regimes study 7−43933
- cylindrical cavity, inertial waves in fluid, time-depend. complex eigenfrequencies 7−57856
- cylindrical compressible flow, circumferential distortion, surge interaction and rotating stall *(French)* 7−1638
- differentially heated annulus with unstable stratification, convection characts. *(Russian)* 7−29129
- drops, rotating in weightlessness, equilib. shapes 7−63198
- ellipsoid of revolution, incompressible turbulent boundary layers, inverse mode calc. 7−31768
- equilibrium conditions for rot. ideal fluid in parameterised post-Newtonian formalism 7−1651
- film-splitting flows in forward roll coating 7−26291
- finite amplitude convection in a rotating porous medium 7−57842
- finite amplitude disturbance wave ensemble-zonal mean flow nonlinear reson. interaction in rot. barotropic atm. *(Chinese)* 7−4079
- fluid separation in rotating tube, cavitation investig. by Runge-Kutta method *(German)* 7−51245
- forced convection boiling of R-12 under swirl flow, heat transfer 7−63162
- forced flow between two infinite discs 7−11428
- free inertia motion of a rotating nonhomogeneous fluid *(French)* 7−63158
- free inertial movements in a rotating fluid *(French)* 7−16185
- fully developed turbulent flow in rot. channel, large-eddy simulation 7−37450
- gravitating rotating gaseous disk, nonlinear convective instability development calcs. 7−66766
- gravity current on sloping bottom, rot. flow interaction, shelf wave generation, flow visualisation expts. 7−43947
- gravity waves, N-layer stratified fluid, variational formulation 7−43950
- Hadley circulations on a nonuniformly heated rotating plate 7−63159
- hodograph transformation and solutions in rotational plane EMFD flows 7−1575
- homoentropic rotating torus, dynamical instability and growth rate upper limit 7−47693
- homogeneous fluid between rot. infinite disks, normal blowing effect 7−51161
- homogeneous rotating fluid flow through rectangular opening 7−18189
- homogeneous uniformly rot. McLaurin spheroid in mag. field, equilib. and stability, stellar appl. 7−47686
- hydromagnetic cylindrical shock in a rotating gas 7−57934

rotational flow continued
hydromagnetic stability of stratified compressible fluid between two rotating cylinders 7—57936
hydromagnetic Stokes flow in a rotating fluid with suspended small particles 7—44008
ideal fluid in PPN formalism 7—4314
ideal incompressible fluid, rot. motion, stability study 7—51164
immiscible fluid on outside surface of horizontal rot. cylinder, selective coating 7—51157
impulsively started circular cylinder, buoyancy effects on transient flow and heat transfer 7—26279
incompressible fluid flow from annular slit, flow pot. determ., unsteady axisymmetric problems 7—20796
inertio-gravity waves effects on a decaying two-dimensional turbulence in rotation *(French)* 7—16197
internal gravity waves, stratified shear flow, wave-action model study 7—43948
inverse energy cascade, 2D turbulence, vortices meas. in a square box 7—16190
inviscid flows, 3D, finite element method 7—43940
inviscid incompressible fluid, localised rot. disturbances, steady Euler eqn. soln. 7—43937
jets, unsteady, similarity solns. 7—6217
kaolin suspensions, rheological behaviour at high shear rates 7—6226
linear stability of hydromagnetic flow for nonaxisymmetric disturbances 7—63230
linearly stratified, rotating flow over long ridges ina channel 7—6224
liquid film on a rotating disk, slip effect 7—57849
magnetic fluids, internal rot., constitutive eqn. 7—43922
magnetic fluids, Taylor instability, mag. field effects 7—31738
Maxwell fluid between eccentric rot. cylinders, spectral/finite element calcs. 7—51176
meridional flow in self-gravitating body, mechanical flow in barotropic star with const. ang. momentum 7—29464
MHD Rayleigh problem in rotating fluid 7—51320
minimum moment acting on rotating body in viscous liq. 7—51160
mushroom-like currents (vortex dipoles), obs. in ocean and laboratory tank 7—29033
natural convection in rapidly spinning systems, heat transfer and flow visualisation 7—63161
nonlinear balance and gravity-inertial wave saturationin a simple atmospheric model 7—1582
nonlinear convection of compressible fluid in rot. spherical shell, theory 7—9459
numerical simulation of viscous flows in hydraulic turbomachinery by the finite element method 7—26256
oblate bodies rotation in incompressible low-Reynolds number flow 7—51167
particle motion near immiscible fluid interface 7—20738
pipe, nonaligned straight, rot., finite element soln. 7—43930
polymer solutions, bubbles growth and collapse 7—37531
polymer solutions, dumbbell kinetic theory, structural approach, vector model *(French)* 7—6259
power-generating turbine, cooling systems, flow behavior 7—6221
radial fingering pattern of immiscible liqs. in circular Hele-Shaw cell 7—63160
rarefied gas effect on moving and rot. bodies, forces and moments study 7—57882
rigid particle suspensions, mass and entropy transport 7—32691
rotating Benard convection, transition to turbulent flow, instability heat transfer meas. 7—26253
rotating channels, turbulence, spectral characts. 7—43869
rotating cylinder in quiescent fluid, turbulent shear flow, flow visualisation, eddies 7—16168
rotating disk flow, von Karman similarity soln. 7—57852
separation of fine particles, using rotating tube with alternate flow 7—35502
shallow water, elliptical vortices 7—26251
shallow water flow incident upon slender orography, semi-geostrophic response to elongated ridge 7—29122
shrouded disc enclosed flow, Navier-Stokes eqn. soln. 7—20735
solitary rotational water waves, Lyapunov stability, oceanic appl. 7—63164
sparsely packed porous medium, double diffusive convection, rot. effect 7—1553
spatial oscillations in confined rotating fluid, temporal development 7—16186
sphere in rot. and straining inviscid flow, virtual mass and lift force 7—57848
spherical segment entering compressible fluid, surface press. distrib. 7—51203
spinning baseball, lateral force study 7—48231
stirrers and induction pumps, liquid metal velocity distrib. effects on electrodynamic forces *(Polish)* 7—63231
stratosphere, winter polar vortex simulated as material entity 7—47489
stream function and stream-function-coordinate (SFC) formulation for inviscid flow field calculations 7—26289
surface tension driven convection subjected to rotationand non-uniform temperature gradient 7—6213
swirling flow, axisymmetric vortex breakdown in circular pipe 7—26286
thermally stratified fluid, slow flow between rot. eccentric spheres with radial gravit. field 7—26333
transonic flow, three dimensional rotor flow with shocks, variational principles 7—43970
turbulence scalar flux in rot. system, two-scale direct interaction approach 7—26294
turbulent channel flow, rotating system strong effects 7—1580
turbulent flow struct. in rot. channel, large-eddy simulation 7—37442
turbulent mixing across density interface in presence of rot. 7—1543
turbulent swirling flow in diffusers, Navier-Stokes eqn. soln. 7—6222
twisted circular-sector ducts, fluid flow and heat transfer anal. 7—11374
two-layer flow in rot. channel, solitary internal waves 7—57855
variable viscosity revolving fluid between rotating cylinders, flow instability 7—57854
viscoelastic fluid flow between rot. plates 7—43939
viscoelastic fluids, flow phenomena, statistical study 7—31845
viscoelastic fluids, kernel function for constitutive eqn. 7—6172
viscous fluid, time depend. rotational flow over infinite porous disk with magnetic field 7—26290
viscous fluid outside rot. horizontal cylinder, coating flows 7—51156
viscous Newtonian and nonNewtonian fluids, power and Taylor nos., Taylor vortices 7—51158

rotational flow continued
wing, rot., inviscid incompressible flow, impulse distrib. 7—43921
He, channelled cryogenic liquids, heat transfer and hydrodynamics 7—16261
Hg layer, rotating, heated from below, subject to mag. field, oscillatory instability 7—16193
N_2, channelled cryogenic liquids, heat transfer and hydrodynamics 7—16261

rotational isomerism
acetaldehyde, mm and sub-mm wave spectra, centrifugal distortion and internal rot. anal. 7—57056
acetamide, rot. barriers, polarisation functions, ab initio calcs. 7—15496
acetone, CS_2 soln., internal pot. energy surface, CNDO calc. 7—42486
acetone-d_1(-d_2)(-d_3), microwave and mm-wave rot. spectra, rot. spectrum, internal rot. and struct. 7—25497
1- acetylcyclohexene, rot. barrier, conform. stability, MINDO/3 and MNDO calcs., UV spectra anal., CNDO calcs. 7—25405
acetyldimethyl phosphine, geometries and rotation barriers, structures, ab initio calcs. 7—15501
acyclic alcohols, hydroxyl stretching freqs., rotamer pop., CNDO calcs., IR spectra anal. 7—36611
acyclic azines, substituted, fluorescence props. 7—62444
alcohols, saturated, OH stretching band integrated intensity, rel. to struct. 7—62343
alkane chains, internal rot. in anisotropic environment 7—956
alkyl nitrides, conformational kinetics calcs., gas and liquid phases, MR spectra 7—19896
alkyl nitrites gas and liquid phases, syn-anti conformer equilib., MR chem. shift study 7—19895
9-aminotriptycene, 9-substituents, cct. barriers 7—64539
aniline-H_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
aniline-methane van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
aniline-N_2 van der Waals complex, rot. isomerism, mol. vib. and rot., laser induced fluoresc. spectra 7—19932
anthracene-NH_3, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7—19936
benzophenone, STO 3G MO struct. and internal rot. pot., minimal basis set calc. 7—30928
benzyl chloride, ^{1}H NMR, internal rot. pot., long-range coupling consts. 7—19885
benzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7—50178
1,1′- bipyrrole, rot. isomerism, mol. conformation, electronic struct. ab initio STO calcs. 7—15478
3,3′-biselenienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7—36697
3,3′-bithienyl derivatives, nematic liquid crystal conform. anal., optical twisting powers, dipole moments meas. 7—36697
n-butane-d_9, C-H bonds, vibr. anal. gas phase IR spectra simulation 7—19825
1,2-chloropropane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7—19690
1-cyanoaziridine, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7—15516
cyclohexanols, hydroxyl stretching freqs., MM2/CNDO model calcs., IR spectra anal. 7—36610
cyclohexylphosphine, chair conform. identification in the gas phase, microwave spectra anal. 7—36597
cyclopropyl silane, excited torsional state, microwave spectrum, stark spectroscopy, ODR 7—50092
decafluorobutane, rot. isomerism and vibro spectra calc. 7—5682
deltic acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7—25387
di(2-pyridyl)dichalcogenides, conform. and rot. isomerism ^{13}C NMR spin-lattice relaxation study 7—19888
1,2-dibromocyclopropane, rot. isomers, mol. vibr., IR and Raman spectra anal. 7—42609
2,6-dichlorobenzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7—50178
1,2-dichloroethane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7—19690
dichloromethylbenzene-do(d_1)(d_6), internal rot., ^{13}C spin-lattice relax. times and NOE factors 7—50189
2,6-difluorobenzyl cyanide, spin-spin coupling consts. and internal rot. pots., determ. 7—50178
diisopropylamine, mol. struct. and conform., GPED, Raman IR spectra, MO calcs. 7—20043
dimethylcyclohexanes, conform. equilib., temp. and pressure effects, Raman spectra anal. 7—50150
4,4-dimethylheptane, conform. anal., IR and Raman spectra 7—19863
1,3-dioxolanes, pseudorotation, gas-phase electron diffr. investig. 7—50354
O,O′-dipheniioxydimethylsilane, internal rot., steric struct. influence, T_1 meas. 7—10629
diphenyl group-containing mols., conform. and internal rot. dynamics, CINDO calcs. 7—62285
diphenylbutadiene, soln., rot. reorientation dynamics and picosecond photoisomerisation 7—15592
dithioformic acid, conform. struct. and stability, rot. barrier, SCF and HF calcs. 7—25427
epihalohydrins, IR spectra, vibr. assignments 7—36603
ethane, internal rot. barrier, Coulombic models calcs. 7—9630
ethane, intramol. interactions, NOLMO calcs. 7—10411
ethane-d_0(d_6), intensity parameters, Raman trace scatt. 7—15608
ethanethiol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7—62388
ethanol, standard geometry functions 7—849
ethanol, XH(X=O,S) stretching vibr. profiles, rot. isomerism, Raman spectra study 7—62388
ethyl 2-bromopropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7—49931
ethyl 2-chloropropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7—49931
ethylamine, geometrical structural parameters calcs. GPED 7—20042
ethylamine standard geometry functions 7—849
fluorophenols, torsional far IR spectra, tilt influence, use of CNDO/2 method 7—56982
fluorotoluene, rot. isomerism, supersonic jet spectroscopy study 7—57129
formamide, rot. barriers, polarisation functions, ab initio calcs. 7—15496

rotational isomerism continued
- 1-formylaziridine, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7−15516
- formylcyclopropane, internal rot. and nitrogen inversion, ab initio and MNDO calcs. 7−15516
- D-glucopyranose, struct. stereochemistry, solvation props. PCILO calcs. 7−15518
- glycolic acid, rot. isomerisation, ab initio SCF calcs., IR Ar matrix spectra 7−19851
- glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, rot. anal., visible fluoresc., spectra study 7−50229
- hexakis(dimethylsilyl)benzene, rot. isomerisation mechanism and barriers, ^{4}H and ^{13}C NMR spectra anal., EFF calcs. 7−25359
- 2,2,4,4,7,7-hexamethyl-2-sila-1,3-dioxepane, internal rot., steric struct. influence, T_1 meas. 7−10629
- hexamethyldisilylchalcogenides, struct. 7−15615
- 3-hexyne, vibr. spectra, normal coordinate calcs., free internal rot. 7−50069
- hydrocarbon, sat. linear, conformational density of states 7−5588
- 9-hydroxytriptycene, 9-substituents, cct. barriers 7−64539
- isobutyraldehyde, barriers to rotation adjacent to double bonds 7−10394
- isobutyric acid, barriers to rotation adjacent to double bonds 7−10394
- Meldrum's acid, ionisation rot. barriers 7−62307
- methoxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7−10398
- 2-methoxyethylamine, H bonded config. mol. rot., rot. isomerism barrier, quadrupole coupling consts., microwave spectra 7−50093
- methyl group motion, rotation barrier and spin-lattice relax. time meas. 7−50291
- methyl isopropyl ketone, barriers to rotation adjacent to double bonds 7−10394
- methyl silane, rot.-vibr. anal., Fourier transform IR spectra 7−19846
- methyl vinyl ketone, mol. torsional interactions, flexible model, far-IR spectra anal. 7−50101
- 3-methyl-2-phenyl-5-(3-methyl-2-phenyl-1-acetyl-3,4-dehydro-6-piperidyl)piperidine, restrained rot., NMR line form anal. 7−10630
- methylamine, torsional-wagging tunnelling and torsional-wagging-rotational problem 7−62347
- methylhydroxycarbene, energies, struct., vibr. freqs. and unimol. reactivities 7−10398
- methylsilanethiol, gauche and trans isomers, struct., dipole moments, internal rot. obs. 7−5668
- 9-methyltriptycene, 9-substituents, cct. barriers 7−64539
- nitromethane, solid, methyl group rot., pot. surface calcs. 7−11972
- nitrosomethanol, rotamers, struct., ab initio calcs. 7−56955
- organic molecule conformational anal., vapour phase IR spectra study 7−57069
- organic ring systems, edge inversion at trivalent phosphorus centre; NMR spectra anal., ab initio SCF calcs. 7−25362
- oxalic acid, isomerisation and unimol. dissoc. channels, MO calcs. 7−28295
- perylene-NH_3, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7−19936
- phenol, OH group rot., barrier height, MO study 7−848
- podocarpane derivatives, rotation barriers of interacting axial methyl groups, mol. dynamics study, ^{13}C NMR 7−10626
- propanol, standard geometry functions 7−849
- propyl fluoride, microwave spectra, r_s struct., moments of inertia meas. 7−10556
- propylamine, standard geometry functions 7−849
- rotationally isomeric molecules, vibr., theory 7−57045
- squaric acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7−25387
- steroids, unsaturated, methyl group rot. barrier studied by NMR and force-field calcs. 7−10627
- trans-stilbene, soln., rot. reorientation dynamics and picosecond photoisomerisation 7−15592
- trans-stilbene, vap., free rot. obs., fluoresc. 7−50314
- succinonitrile on Cu and Ag surfaces, enhanced Raman spectroscopic obs. on rot. isomers 7−46037
- tetradecafluorohexane, rot. isomerism and vibro spectra calc. 7−5682
- 4,4,8,8- tetrafluorotricyclo(5.1.0.0^{3,5}) octane, syn isomer struct., X-ray anal. 7−21187
- 4,4,7,7-tetramethyldioxepane, internal rot., steric struct. influence, T_1 meas. 7−10629
- thioanisole and its derivatives, long range spin-spin coupling consts., NMR and mass spectra 7−19886
- threo isomers, definition, twofold rot. axis 7−9636
- toluylaldehydes, mobilities, microwave and far IR complex permittivities meas. 7−53218
- trifluoroacetaaldehyde, combined microwave-optical barrier determ. 7−42602
- trifluoronitrosomethane, combined microwave-optical barrier determ. 7−42602
- trifluoronitrosomethane, geometric and electronic props. SCF and CI calcs. 7−15527
- vinyl formate, gas phase structure anal., ab initio calcs., molecular mechanics calcs., IR spectra 7−19691
- N-aryl-4-t-butyl-thiazoline-2-thiones, rot. barrier, enantiomer separation 7−13759
- CO, Ar matrix isolated, librovibr. spectra, indirect dephasing model 7−15582
- $((CO)_5W\text{-}H\text{-}W(CO)_5)^-$, struct., H atom dynamics, spectrosc. investig. 7−15613
- NH_3, matrix isolated, orientation-inversion motions, inertial model 7−42580
- NH_3 unimolecular dissoc., pot. energy surface, classical trajectory study 7−13745
- Pt complex, diaminodichloplatinum(II), isomers orbital study, coordination with DNA, relativistic multiple scatt. Xα calcs. 7−56973
- SO_2-H_2S complex, microwave spectrum, rot. transitions 7−42601
- Zn complexes, zinc(II)-bis-histidine:Cu, Jahn-Teller effect induced phase transition, ESR detect. 7−53122

rotator phase in solids *see nuclear magnetic resonance; plastic crystals*

rotatory dispersion power *see optical rotation*

rotons
- fractional quantum Hall effect of a multicomponent fermion system, collective excitations 7−21835

rotor model (nuclear) *see nuclear collective model*

rotors
- cryoturbogenerator rotors, heating and convection of boiling fluid 7−31796
- horizontal-axis wind turbine free yaw behaviour 7−54260
- inertial clock based on computer controlled servo-driven corotation system with superconducting suspension 7−14927
- Jeffcott rotors, conditions for backward whirling motion 7−31681
- superconducting turbogenerator rotors, stress-strain state investigation 7−13511
- vibration dynamics, linear model 7−50976
- ^{3}He, superfluid B phase, autocorrelation functions and spinless oscillations 7−12389

roughness measurement *see surface topography measurement*

rovibronic levels *see molecular rotation-vibration*

RPA calculations
- (α,α′), giant resonance, RPA transition density 7−25007
- alkali-metal atoms, photoionisation cross sections, ab initio RRPA calcs. 7−36462
- anharmonic γ-vibrations, microscopic description using self-consistent coordinate method 7−10097
- aromatic molecules, planar, electronic transition energies and oscill. strengths calcs. 7−19706
- block copolymer, heterogeneous, single-chain neutron scatt., de Gennes scatt. formalism calcs. 7−44418
- bosonic reservoirs at finite temp., master equation based on second RPA dynamics 7−35967
- bound quark-meson system, RPA calcs., solitons, chiral model of nucleon 7−18989
- broken symmetry bases, RPA approx. 7−589
- charged colloidal dispersions, elastic scatt., static struct. factor, RPA calcs. 7−65357
- core polarization effects in odd nuclei, HF and RPA schemes 7−61821
- core polarization effects of giant resonances on transition densities of open-shell nuclei 7−61847
- deformed nuclei, Gamow-Teller resonance anal. using quasiparticle-phonon model 7−49333
- deformed nuclei, low-lying collective M1 states, microscopic calcs. 7−49224
- diffuse jellium-metal film surface, electrodynamic response, microscopic theory RPA calcs. 7−52458
- disorder points in d-dimensional mag. systems with competing interactions, RPA calcs. 7−7516
- electron gas, dynamic struct. factor, particle self-energy contributions 7−45182
- electron-electron interactions, appl. for hot electron decay 7−32934
- electronic transition energies and oscillator strengths, CNDO/S-RPA calcs. 7−19706
- ferromagnets, non-Heisenberg systems, random phase approx. and Green's function anal. *(Russian)* 7−45597
- giant Resonances in Hot and rotating nuclei 7−35933
- isovector magnetic mode in deformed nuclei 7−24954
- magnetised plasma, neutron excitation of Landau and collective modes 7−7134
- major shell and spin-orbit splitting in relativistic nucl. struct. theory 7−41894
- many-electron atoms, relativistic HF and RPA calcs. 7−19675
- metals, thermodynamics during high-pressure shock 7−21352
- methane, electronic transitions, 2-photon transition probability calcs. 7−25619
- muon polarisation function and spin dynamics 7−53188
- nuclear excitation energy-temperature relation, correlation effects, RPA anal. 7−19214
- nucleon system interacting through pairing force, specific heat, finite-temperature BCS plus RPA anal. 7−56619
- polymer blends and copolymers, dynamics, RPA calcs. 7−37836
- polymer solutions, thermodynamic props. 7−16386
- polystyrene latex spheres, colloidal dispersion, high freq. elastic moduli calc. 7−38083
- polystyrene-polybutadiene block copolymer, single-chain neutron scatt., de Gennes scatt. formalism calcs. 7−44418
- quasi-2D strongly-coupled electron-phonon systems, CDW and superconductivity, polaron theory 7−58750
- quasi-one-dimensional electron gas, screened hydrogenic impurity, binding energy 7−52508
- rotating nuclei, microscopic description of collective excitations 7−41867
- semiconductor superlattices, dynamical screening, quasi-2D electron gas, electron-phonon interactions 7−45464
- semiconductor superlattices, plasmons, Raman spectra, EELS and finite-size effects 7−27392
- small metal particles, dynamic polarisability, jellium model, RPA calcs. 7−52460
- spin-isospin nuclear response in deep inelastic region, random phase approximation 7−5157
- spin-spin coupling const., polarisation propagator anal., RPA CI INDO calcs. 7−49942
- strongly coupled electron-phonon systems, 1D and 2D, BCS pairing versus bipolaron crystallisation 7−45552
- superconducting electron pairing, exchange and correl. contributions 7−45574
- superconducting state parameters, pseudopot. depend. 7−12896
- surface spin-isospin modes, RPA calcs. 7−56589
- thermal linear response theory for dissipative high spin quantum states 7−19223
- two dimensional, electron gas, partially occupied Landau level, dielec. const. RPA calcs. 7−64139
- two-component plasmas, strongly degenerate, thermodynamics 7−16962
- two-neutrino double beta decay, suppression by nuclear struct. effects, matrix elements 7−49316
- β-decay far from stability, half-lives, RPA and perturbation theory calcs. 7−49326
- Δ isobar Landau-Migdal parameters and high momentum props. of spin-isospin response functions 7−5180
- (μ,X) total capture rate calcs., sum rule approach 7−656
- (p,p), surface effects and the spin-isospin nuclear response function 7−30326
- $(\pi^{\pm}, \pi^0)$ on A=40-208, isovector monopole and dipole giant resonances, RPA-DWIA anal. 7−30398
- C, photoionis. cross section, generalised RPAE calcs. 7−42574

RPA calculations continued
- ^{12}C, dynamic and static longitudinal structure factors, RPA anal. 7−41884
- ^{12}C, longitudinal struct. factors, RPA calc. 7−35945
- ^{12}C(e,e′), longitudinal charge response, RPA calcs. 7−56669
- ^{12}C(e,e′), longitudinal charge response in quasielastic region, RPA approach 7−61861
- ^{12}C(e,e′), relativistic RPA response function for quasielastic scatt. in local density approx. 7−41984
- ^{A}Ca(e,e′), A=40, 48, relativistic RPA response function for quasielastic scatt. in local density approx. 7−41984
- ^{40}Ca, dynamic and static longitudinal structure factors, RPA anal. 7−41884
- ^{40}Ca, longitudinal struct. factors, RPA calc. 7−35945
- ^{40}Ca(e,e′), longitudinal charge response, RPA calcs. 7−56669
- ^{40}Ca(e,e′), longitudinal charge response in quasielastic region, RPA approach 7−61861
- ^{48}Ca, multipole depend. of giant resonance spreading width, RPA calcs. 7−49357
- CeAs, antiferromag., anisotropic exchange and spin dynamics, neutron study 7−33147
- CeSb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7−33147
- ^{52}Cr(n,n′), direct contributions, DWBA anal. 7−42014
- ^{56}Fe, dynamic and static longitudinal structure factors, RPA anal. 7−41884
- ^{56}Fe, longitudinal struct. factors, RPA calc. 7−35945
- ^{56}Fe(e,e′), longitudinal charge response, RPA calcs. 7−56669
- ^{56}Fe(e,e′), longitudinal charge response in quasielastic region, RPA approach 7−61861
- ^{56}Fe(n,n′), direct contributions, DWBA anal. 7−42014
- n-GaAs, free carrier IR absorpt. spectra, scattering mechanisms, RPA calcs. 7−2604
- n-GaAs slabs, ionised-impurity-mediated free-carrier absorption 7−17335
- ^{146}Gd, collective excitation spectrum in the quasiparticle phonon model 7−30305
- H_2 formulation of ab initio optical potential for electron elastic scatt. 7−15714
- Li-Na liquid alloy, ordering potential, concentration-concentration structure factor 7−32261
- Na overlayer on Al, two step pot. model, nonlocal corrections to Fresnel optics calc. 7−64716
- ^{29}Ne, parity nonconserving alpha decay widths, Fermi liquid model and RPA model 7−15204
- ^{58}Ni(n,n′), direct contributions, DWBA anal. 7−42014
- O, photoionis. cross section, generalised RPAE calcs. 7−42574
- ^{208}Pb($\pi^{\pm}$, $\pi^{\pm\prime}$) isoscalar 10.5 MeV giant 2^+ state, diff. cross sections, RPA calcs 7−25007
- Ra, photoionisation, 20-channel relativistic random phase calcs., interchannel coupling 7−36566
- Ra relativistic splittings of Cooper minima, RRPA study 7−862
- Se, trigonal, optical props., local field effects 7−22204
- n-Si, complex dielectric fn., carrier interactions, Monte Carlo calcs. 7−33041
- ^{A}Ti, A=46, 48, spin-orbit contribs. to collective M1 transitions 7−56637
- USb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7−33147
- ^{238}U(e,e′f), 5-23 MeV, coincidence cross section meas. 7−19240
- Xe, two-photon one-electron ionisation cross sections, RPA, LDA HF calcs. 7−49912
- Yb, photoionisation, relativistic RPA calcs. 7−42567

rubber
- anisotropic sheets, complex permittivity tensor meas. and refl. characts. study 7−33317
- blends, cryo-ground, rheology rel. to natural rubber matrix viscosity 7−59566
- carboxylated rubber, study of maleic acid residue and vinylic monomer on props. 7−39902
- crosslinked chain entanglement and orientational effect, form factor, deform. depend. 7−6711
- electroconductive rubber for flexible electrogoniometer, clinical use *(Japanese)* 7−14139
- epoxy resins, rubber-modified, toughening mechanism 7−28112
- ethylene-propylene-diene rubber, H_2O sorption and diffusion in presence of vulcanisation accelerators *(Russian)* 7−8300
- fractographic investigation of rubber containing inhomogeneous inclusions, tensile and fatigue fracture surfaces 7−13565
- gel and mol. wt. influence on mech. props. 7−37904
- half-space, rigid sphere impact, coeff. of energy absorpt. 7−1520
- Hexsyn rubber, high-flex ozone resistant, prep. and appl. 7−13767
- natural, low temp. crystallisation, shear and compressive strain 7−6559
- natural, mol. orientation, FT IR dichroism 7−13159
- natural, mol. orientation, FT IR dichroism 7−17322
- natural rubber/polybutadiene elastomers, C black distrib., flow behaviour depend. 7−43832
- Neoprene/styrene-butadiene rubber laminates, water permeation study 7−12374
- nitrilebutadiene rubber, diffusion coeffs. of salt soln. and distilled water, solubility meas. 7−2269
- nonlinear elastic constitutive model, strain stiffening behaviour 7−13497
- nylon-6-rubber-modified rubber blends, mixing effect on morphology, mech. and impact props. 7−37903
- particle reinforced, with distributed damage, micromech. model for nonlinear viscoelastic behaviour 7−43698
- pineapple leaf fibre reinforced rubber, phys. and mech. props. 7−3378
- propylene rubber, mixture with incompatible polymers, surface layer of films investig. 7−37888
- PVC-styrene-butadiene rubber blends, bending in elastic range 7−39606
- radiotherapy, assessment of a rubber-based compound as a bolus material 7−14125
- rubber-epoxy materials exhibiting increased crack resistance 7−17509
- rubber-glass interfaces, form. and rupture *(French)* 7−54072
- silicone rubber, vulcanised, elec. props. 7−7302
- solutions, inverse sedimentation of glass-phenol formaldehyde resin microspheres 7−38325
- steel-rubber, adhesive bond strength quality assurance using acousto-US technique 7−33881
- styrene-butadiene rubber, C-black loaded, elec. props., effect of gamma irrad., dosimetry appls. 7−33006

rubber continued
- styrene-butadiene rubber, tear strength, crosslinking, viscoelastic loss mechanisms 7−39632
- styrene-butadiene rubber, thermoelastic coeff. Gruneisen parameter, thermal effects 7−39576
- tear test methods comparison 7−28236
- thermoplastic rubber/liquid crystal polyester dualcoextrusion coating system for optical fiber drawing 7−11190
- vulcanizates, natural and styrene butadiene rubber, environment effect on friction and wear 7−8131
- $BaTiO_3$-graphite-rubber composites, varistors fabrication 7−58841

rubbing (abrasion) *see abrasion*

rubidium
- *see also nuclei with ......*
- atom, excited states, radiative lifetimes, depopulation cross sections, fluoresc. 7−10502
- atom, four-level system, optical pumping effect, Doppler-free laser spectroscopic techniques 7−19783
- atom, IR stimulated Raman scatt. 7−30972
- atom, photoionisation cross sections, ab initio RRPA calcs. 7−36462
- atom, superfluoresc., coherent ringing 7−15580
- atom, thermal collisional quenching of He *(German)* 7−15694
- atoms, elastic positron scatt., integral eqn. approach 7−42762
- boiling liquid metal, critical heat flux *(German)* 7−49565
- electronic band struct., interatomic distance, role of p-orbitals, EHT tight-binding calcs. 7−32906
- fluid, collective modes 7−1833
- high press. phase, β-Sn-type struct., pseudopot. perturbation calcs. 7−51938
- intracellular distribution, in ICRP Reference Man 7−65861
- ion, effective electron inelastic excitation cross section, resonance effects study 7−42772
- liquid, Voronoi polyhedra statistics, changes during rapid quenching, computer simulation 7−32263
- liquid alkali metals, temp. depend. of mag. susceptibility 7−33152
- outer-core emission spectra, many-body effects and spin-orbit partner behaviour obs. 7−53436
- phonon spectra, dynamical pseudopot. shell model calcs. 7−51965
- polyacetylene:Rb, elec. cond. temp. depend. meas. 7−17030
- positron annihilation, high-momentum components and core enhancement effects 7−46195
- rapidly quenched, Voronoi polyhedron distrib. calc., mol. dynamics method 7−26636
- supercooled liquid, structural relax. 7−37840
- tensile strength under (110) uniaxial stress *(Chinese)* 7−26825
- transient excitation produced by nonresonant laser pulses 7−15569
- vapor, wall-induced velocity changing collisions, laser optical pumping, complete Doppler coverage 7−962
- vapour, density meas. 1450-2000K, 1.7-5.2 MPa 7−51371
- vapour, dimer spectral line shape, nonadiabatic effects study 7−36696
- vapour, optically pumped, reson. quality factor optimisation 7−42564
- vapour collisional ionisation study *(French)* 7−10729
- C_8Rb, first stage intercalation cpd., self-consistent band struct. calc. 7−52395
- Na_2O-SnO_2-SiO_2:Rb^+, glass diffusion of cations, 500-800°C 7−12371
- Rb + He^+, L shell X-ray prod. cross sections meas. first Born approx. and ECPSSR theory anal. 7−36526
- Rb XXIX X-ray lines, wavelengths and identifications 7−5626
- Rb^+, electron impact s-ionisation, ultrasoft X-ray spectroscopy study *(Russian)* 7−984
- ^{76,77,82,84m}Rb, ground state hyperfine struct. determ. by RF mag. reson. and laser optical pumping 7−25681
- Rb-RbCl melts, metal-nonmetal transition, elec. cond. and optical reflectivity study 7−38457
- Rb-Sr geochronological system, isochrons time-temp. relation 7−66008
- Rb-Xe laser-enhanced spin-exchange collisions 7−10453
- Rb+Ar(He), oscillator strength, pot. curves *(French)* 7−10728
- Rb+$H_2(D_2)$, fine-structure transition cross-sections, quantum-mechanical calcs., importance of perturber rotational levels 7−57161
- Rb+He, afterglow, inelastic collisions quenching cross sections 7−42746
- Rb+He, He2^1P_1 and 2^1S_0 state quenching 7−57153
- Rb+He, Penning ionisation, pot. well depth calcs., electron energy spectra anal. 7−62510
- Rb+perfluoroheptene, vapor phase reactions, chemiluminesc. obs. 7−59767
- Rb+Rb, collisional ion-pair form., Coulomb pot. 7−15698
- Rb+Rb(K), Doppler free two-photon spectra, freq. shift, line broadenings 7−57155
- Rb_4^{3+}, stability and struct. Xα and ab initio methods 7−10421
- ^{85}Rb alkali gas cell atomic freq. standards 7−41357
- ^{87}Rb alkali gas cell atomic freq. standards 7−41357
- ^{87}Rb vapour, multiphoton reson. under hyperfine optical pumping 7−36568
- Ru+H^+ charge transfer collisions, laser radiation influence 7−25646

rubidium alloys
- $Cs_{1-x}Rb_x$, low temp. phase diagram, compression effects 7−33641
- K-Rb dilute alloy, electron-electron and electron-phonon interactions, plastic deform. effects 7−12710
- K-Rb temperature-conc.-density phase diagram calcs. 7−3282
- $Rb_{1-x}K_x$, low temp. phase diagram, compression effects 7−33641

rubidium compounds
- *see also rubidium alloys*
- graphite intercalation compound, 2D Rb liquid, modulation potential, X-ray study 7−44639
- halide crystals, phase transitions and relative stability 7−26932
- ice:RbOH, phase transition, dielec. studies 7−53220
- intercalation cpd. with graphite, RbC_{24}, 2D layer melting dynamics, neutron scatt. meas. 7−21420
- silicate phases, $Rb_2MSi_5O_{12}$, M=Mg, Fe, (Co, Zn), with pollucite struct., cryst. struct., X-ray powder diffr. 7−32409
- CsCl-RbCl, electronic dielectric const. and fractional ionic character of chemical bond 7−2966
- $Cs_xRb_{1-x}UO_2(NO_3)_3$, solid soln., spectral luminesc. 7−13224
- $K_{1-x}Rb_xAlF_4$, shear structural phase transition, temp. behavior 7−63809
- $K_{0.5}Rb_{0.5}I$ mixed crystals, phonon combination bands, far-IR spectra anal. 7−64650
- $K_{1-x}Rb_xI$ mixed crystals, FIR props., optical phonons 7−46011
- $(Na,Rb)_2O$-GeO_2 glasses, mixed alkali effect 7−12367
- poly(ethylene oxide)-$RbAg_4I_5$, room temp. ionic cond. comp. depend. meas. 7−12363

rubidium compounds continued
Rb-RbCl melts, metal-nonmetal transition, elec. cond. and optical reflectivity study 7—38457
$Rb_{1-x}(ND_4)_xD_2PO_4$ structural glass phase, X-ray scatt. meas. 7—26660
$RbAg_4I_5$ ionic conductivity meas., electrodeless meas. method 7—48777
$RbAg_4I_5$, solid electrolyte, microscopic disorder, Mossbauer spectroscopy 7—58533
$RbAg_4I_5$, superionic conductor, diffusional modes calc. *(Russian)* 7—27003
$RbAg_4I_5$ superionic crystals, fine struct. of Raman scatt. spectra 7—46005
Rb_2AgI_3, energy band struct., fundamental optical absorption 7—7093
$Rb(AlSi_2O_6)$, synthetic leucite, high temp. X-ray diffr. study 7—21176
$Rb_{1.47}Al_{1.47}Ti_{6.53}O_{16}$ hollandite-type struct. refinement, cation substitution effects study 7—58232
$Rb_{1.5}Al_{1.5}Ti_{6.5}O_{16}$, solid soln. with $Ba_{1.24}Al_{2.48}Ti_{5.52}O_{16}$, cryst. struct., neutron diffr. study 7—63563
$RbBSi_2O_6$, glassy and crystalline, IR spectra 7—59199
$RbBr:Ba^{2+}(Ca^{2+})(Eu^{2+})(Sr^{2+})$, Z_2 colour centres, picosecond relax., nonstationary spectra 7—59233
RbBr-Rb molten system, struct. studies, XANES anal. 7—63429
RbC_8, 2D graphite intercalation cpds., bond angle determ, EXAFS study, Debye-Waller anisotropy. 7—59293
RbC_x (x=8, 24), intercalation cpds., XANES studies, polarisation effects 7—59294
RbCN, cryst., phase transition and glass transition 7—12260
$RbCaF_3$, fluoroperovskites, IR refl. spectra, temp. depend. 7—22248
Rb_2CdCl_4 cryst., Raman spectra, structural phase transition and soft mode obs. 7—39117
$RbCdF_3$, struct. phase transition, ENDOR study 7—33298
$RbCdF_3:Cr^{3+}$, tetragonal phase, ENDOR study 7—2952
$Rb_2CdF_4:Cr^{3+}$, Li^+, Cr^{3+} centres, EPR study 7—7589
$Rb_2Cd_2(SO_4)_3:Mn^{2+}$, langbeinite, reversible phase transitions, EPR studies 7—63810
RbCl crystals, resonant secondary luminescence and vibr. F-centre relax. 7—33434
RbCl, divalently doped, ionic thermocurrent studies 7—7262
RbCl, luminescing solids, nonradiative decay channels of electronic excitations 7—27760
RbCl, self-trapped excitons, excitation-induced atomic motion 7—21822
$RbCl:Ag^+$, hydrostatic press. depend. of tunnelling splitting 7—64590
RbCl:I, relaxed exciton states, optical conversion 7—53397
RbCl-RbBr mixed crystals, X-ray diffraction and color centres 7—58258
RbCl+K, crossed mol. beam expts. involving long-lived collision complexes 7—22999
$RbCl(Br)(I):Ag^+(OH^-)$ crysts., paraelec. centres, elec. dipole moment temp. depend., dielec. meas. 7—38508
RbCn, SCF pot. energy and dipole surface calc. 7—42579
$RbCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7—15605
$Rb_{1-x}Cs_xFeCl_3$, random singlet-magnetic ground state system, mag. ordering effects 7—33167
$RbCuCl_3$ single crysts., mag. suscept. meas., exchange interactions, magnetic and crystallographic transitions studies 7—52950
$Rb_4Cu_9Cl_{13}$, solid electrolyte, elec. cond. and cryst. struct. 7—2257
$Rb_4Cu_9Cl_{13}$ solid electrolyte single crysts., anisotropic elec. cond. meas., structural model 7—52126
$RbCu_4Cl_3I_2$, luminesc. band profile, localised carrier tunnel recomb. effects calcs. 7—3075
Rb_2CuX_3, (X=Cl, Br, I), energy band struct., fundamental optical absorption 7—7093
RbD_2PO_4, ultrasonic propagation, pulse-echo method, anomalies 7—44703
$RbFeCl_3$, hexagonal antiferromagnet, singlet-ground-state system, mag. excitations *(Japanese)* 7—22112
$RbFeF_4$ layer cpd., structural phase transitions studies 7—26942
$Rb_5Gd(MoO_4)_4$, palmierite-type cpd., cryst. struct. determ. 7—21174
RbH, ground and excited states long range pot. curves calcs. 7—19994
RbH, X $^1\Sigma^+$ state, HF quality Slater basis sets 7—19719
$(Rb^+(H_2O)_n)_xMoO_3^{x-}$, composition and struct. 7—16518
RbH_2PO_4 crystals, electrogyration effects investig. 7—3022
$RbH_2PO_4:Tl^{2+}$, impurity centres, ESR line width studies 7—38498
$RbHSO_4$ single crysts., surface layer phase transitions, surface cond. anomalies obs. 7—63925
$RbHSeO_4$, optical birefr. meas., temp. depend. 7—27689
$RbHSeO_4$ single cryst. ferroelec., H bond vibr., polarised IR spectra studies 7—27707
RbI crystal, dispersion curves near 1s and 2s exciton resonances 7—53260
RbI crystals, bound excitation X-ray induced luminesc. spectra 7—53400
RbI, Debye-Waller factors of ^{129}I, Mossbauer study 7—2135
RbI, exciton self-localisation, radiation defects, lumin. studies 7—64681
RbI, piezoreflectance of excitons in fundamental absorpt. region 7—22219
RbI single cryst. high press. Brillouin scatt. meas. 7—3061
RbI_3, cryst. struct., X-ray diff. study 7—44461
Rb_2IN_3, layered struct., X-ray diffr. and Raman spectra study *(German)* 7—26715
Rb_2KFeF_6, structural phase transition, Raman scatt. and group-theoretical studies 7—52045
Rb_2KMF_6, (M=Al, Cr, Fe, Y, Br), structural phase transitions 7—52044
Rb_2KYFe_6, structural phase transition, Raman scatt. and group-theoretical studies 7—52045
$RbLiMoO_4$, phase transitions, optical polarisation obs. 7—16732
$RbMCl_3$, (M=Cu, Cr), hexagonal Jahn-Teller crysts., struct. phase transitions, face-sharing coupling, ground-state configuration 7—2180
$RbMCl_3$ (M=Cu, Cr), hexagonal Jahn-Teller crystals, struct. phase transitions, mean-field approx. 7—2181
$Rb_2Mg(SO_4)_26H_2O:CO^{2+}$ optical absorption spectrum 7—13180
$Rb_2Mg(SO_4)_2.6H_2O:Cu^{2+}$, electronic and EPR spectra 7—13019
$RbMnCl_3$, photoexcited crysts., exciton annihilation, luminesc. decay curves 7—53385
Rb_2MnCl_4, optical dichroism, spin forbidden *d-d* transitions, intensity prod. mechanisms 7—33360
Rb_2MnCl_4, photoexcited crysts., exciton annihilation, luminesc. decay curves 7—53385
Rb_2MnCl_4, quasi-2D uniaxial antiferromagnet, mag. phase diagram 7—7517
$Rb_2Mn_{0.7}Cr_{0.3}Cl_4$, randomly disordered mag. system, mag. cluster excitations and wave-like magnons 7—38881
$Rb_2Mn_{1-x}Cr_xCl_4$, reentrant spin glass state, quasi-2D XY system, Cl^{35} NMR spectra study 7—27613
$Rb_2Mn_xCr_{1-x}Cl_4$ mixed crystals, mag. props. 7—2897
$RbMnF_3$, absorption bands in paramag. state, temp. depend. 7—46069
$RbMnF_3$, thermal behaviour of two-exciton bands 7—2497

rubidium compounds continued
$Rb_{0.3}MoO_3$, $(\bar{2}01)$ plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7—58846
$Rb_{0.3}MoO_3$ blue bronze, structs., sliding motion of CDW 7—64129
$Rb_{0.3}MoO_3$, blue bronze, CDW state, nonlinear transport 7—64222
$Rb_{0.3}MoO_3$, CDW current rigidity under inhomogeneous conditions 7—45303
$Rb_{0.3}MoO_3$, CDW current density-voltage relation near the depinning threshold 7—58798
$Rb_{0.3}MoO_3$, CDW transport, crystal quality, inhomogeneous conductivity, contact geometry 7—52587
$Rb_{0.3}MoO_3$, IR reflectivity and Raman scatt. from midgap-state exciton-polaritons 7—33386
$Rb_{0.3}MoO_3$, NMR evidence of Frohlich mode 7—53156
$Rb_{0.3}MoO_3$, sliding motion of CDW, NMR study 7—64134
$Rb_{1-x}(ND_4)_xD_2PO_4$, NMR in random fields, cluster formation and local dynamics of D glass 7—38959
$Rb_x(NH_4)_{1-x}AlF_4$, ESR study of orientational order with Fe^{3+} probe 7—53119
$Rb_{1-x}(NH_4)_xH_2AsO_4$, proton glassy state, dielec. props. 7—13075
$Rb_{1-x}(NH_4)_xH_2(P,As)O_4$, mixed system, proton localisation, obs. by incoherent neutron scatt. 7—12224
$Rb_{0.61}(NH_4)_{0.39}H_2PO_4$, mixed crystal, dielec. study of ferroelec. transition 7—53248
$Rb_{1-x}(NH_4)_xH_2PO_4$, lattice constants, temp. and concentration dependence, X-ray diffraction anal. 7—1976
$Rb_{1-x}(NH_4)_xH_2PO_4$, press. depend. of proton glass freezing, dielec. props. 7—2209
$RbNO_3$ cryst., AC cond. near first-order phase transition points 7—21948
$RbNO_3$, optical absorpt. spectrum, temp. depend. near successive phase transition points 7—27736
$RbNO_3$, polycryst., IR absorpt. spectra 7—33396
Rb_2NaScF_6, Ce doped, 5d-4f spectra, impact of ion-host interactions 7—39143
Rb_2NaYF_6, Ce doped, 5d-4f spectra, impact of ion-host interactions 7—39143
$Rb_2O-B_2O_3$ glasses, thermodynamic props. 7—2211
Rb_2O-SiO_2 glasses, intrinsic and recomb. luminesc. and fundamental absorpt. spectra 7—13195
$Rb_2Pb_4Nb_{10}O_{30}$, ferroelectric with tetragonal W-bronze struct., first-order transition 7—39048
Rb_2ReCl_6, solid, IR and Raman spectra, vibr. anal. 7—53292
RbSD, mol. reorientation, elec. field gradient ^2H NMR 7—13052
$RbSbTeO_6$, ionic conductivity and powder X-ray diffr. characterisation 7—12362
Rb_2SeO_4, cryst. struct. at room temp. 7—58215
$RbSn_2Br_3$, cryst. struct., X-ray determ. 7—21182
$RbSn_2F_5$, F^- motion, NMR and electrical conduction 7—52132
Rb_2TcCl_6, solid, IR and Raman spectra, vibr. anal. 7—53292
$RbUO_2(NO_3)_3$, charge transfer bands position, ionisation pot. effects, luminesc. spectra anal. 7—46146
RbV_xO_y crysts., struct., cathodic reduction from melt, and elec. props. studies 7—58236
$Rb_{0.023}WO_3$, crystal growth and struct., SEM and TEM anal. 7—46288
RbX (X=Cl, Br), H-interstitials, struct. and crowdion mechanism 7—38939
Rb_2ZnBr_4, soft mode damping in incommensurate phases, anomalous behaviour 7—38149
Rb_2ZnCl_4, commensurate-incommensurate phase transition, X-ray and dielec. studies 7—63800
Rb_2ZnCl_4, cryst., incommensurate modulation, light propag. 7—22196
Rb_2ZnCl_4, incommensurate transition, pot. energy and mol. dynamics ab initio calcs. 7—21435
Rb_2ZnCl_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7—51956
Rb_2ZnCl_4, X-ray induced luminesc. and thermoluminesc. spectra anal. 7—46132
$Rb_2ZnF_4:Cr^{3+}$, Li^+, Cr^{3+} centres, EPR study 7—7589
$RbZr_2P_3O_{12}$, thermal expansion, structural model 7—44858

ruby

Al_2O_3:Cr,Ga, Cr-Ga complexes, energy transfer 7—22321
activated crysts., coherent propag. of small-area pulses 7—43038
fluorescence, radiative trapping effects, 77 to 300K 7—53395
impurities optical dephasing temp. and freq. depend. 7—22286
intraline spin-spin relax. meas. in $^4A_2$ ground state 7—2945
laser, fabrication, output characts. *(Korean)* 7—31332
laser, Q-switched, pulse stretching for bubble chamber holography 7—43169
laser, single mode Q-switched, phase conjugation of laser beam 7—25904
laser, technology developments, higher performance standards 7—50585
laser, ultrashort pulse generation by passive mode locking 7—1205
laser lethargy obs. in optical region 7—5895
laser material, nonradiative relaxation, picosecond time resolved studies 7—10956
laser oscillator, novel design 7—15895
laser pulse compression and amplification, stimulated Brillouin scatt. in acetone *(Chinese)* 7—57455
laser pulses, 1.6 ns, generation by passive Q-switching 7—25854
lasers using low-magnification unstable resonators 7—36997
luminescence R lines, wavelength shift under shock compression 7—13239
luminescent R-line emission, pressure calibration to shock wave eqn. of state of Au and Cu 7—18802
optical phase conjugator, absolute phase shift 7—20364
pulse lasers, short period loss modulation anal. *(Russian)* 7—50527
R, fluoresc. line lifetime meas., high press. conditions, modulation fluorometry technique 7—22307
rod, small-area pulse duration reduction during coherent propag. across absorber 7—50654
synchronized ruby/N_2 laser system for plasma prod. and diagnostics 7—31356
Thomson scatt. plasma diagnostics, ruby filters for stray light reduction 7—1752
Al_2O_3:Cr, ruby, spin memory, relax., luminesc. 7—39176
Al_2O_3:Cr,Ga, ruby, Cr-Ga complexes, luminesc. study 7—22320
Al_2O_3:Cr,Ga, ruby, Cr-Ga complexes, energy transfer 7—22321
$Al_2O_3:Cr^{3+}$, radiation colour centres, excitation energy transfer 7—21200
$Al_2O_3:Cr^{3+}$, ruby, optically excited crystals, critical Cr conc. depend. of electrical instability 7—7280
Al_2O_3Cr,Ga, ruby, Cr-Ga complexes, luminesc. study 7—22320

ruby continued
Cr weakly coupled ions, cooperative photon emission 7−59256
Cr^{3+} absorption spectrum, spin-orbit interaction effects 7−13182
Cr^{3+} ground state, superposition-model analyses of EPR data 7−7158
Cr-doped, alternating-sign resonant photocond., impurity ion excitation 7−2643
Cu-ruby glasses, optical props., transmission and attenuation spectra 7−13177
Ge-Al_2O_3:Cr, layer-substrate structs., ESR, line-shape, nondestructive contactless meas. of layer conductivity 7−38924

Rudermann-Kittel-Kasuya-Yosida interaction *see RKKY interaction*

Runge-Kutta methods
alkali halides, F-centre production, impurity aggregate effects 7−21202
compressible Navier-Stokes eqns., pseudo-time algorithm for integration to steady state 7−26302
fluid separation in rotating tube, cavitation investig. by Runge-Kutta method *(German)* 7−51245
heat transfer characteristics, of flat plate thermometers, effect of variable fluid property 7−43910
liquid surface tension, pendent drop profile computer calcs. 7−2298
nonautonomous rigid system of ordinary differential equations, difference schemes *(Russian)* 7−61062

rupture (solid) *see fracture*

Russell-Saunders coupling
atomic configurations, energy expressions in L-S coupling scheme 7−49891
oscillator strengths, transition energies and probabilities, CI STO calcs. 7−25423
Be, isoelectronic series, dielectronic recomb. rates calcs. 7−50352
C isoelectronic series, intercombination transition probabilities, CI calcs. 7−36489
C V, electron impact excitation of inelastic transitions 7−979
Ca III, allowed transactions, oscill. strengths and excitation energies 7−5631
Cd, autoionisation widths, calcs. and optogalvanic spectra 7−36521
$Cs_2NaHoBr_6$, excitation, electronic absorpt. and luminesc. spectra, crystal field splittings 7−46088
Fe II, electron impact excitation, collision strengths, R matrix method, CI calcs. 7−25424
Fe XV, oscillator strengths, transition energies and probabilities, CI STO calcs. 7−25423
Gd, spin-polarised Auger electron spectroscopy 7−33489
He, electron impact excitation, fine-struct. effect, electron spin polarisation fn. 7−50374
K^-, electron affinity and photodetachment cross sections, ab initio multichannel calcs. 7−36463
Kr^{28+}, electron impact excitation cross sections, CI calcs. 7−36493
Mg-like ions, electron impact excitation, LS coupling, distorted wave approx. 7−42767

rust prevention *see corrosion protection*

ruthenium
see also nuclei with ......
chemisorption on InP electrodes, time resolved photoelectrochemical meas. 7−27415
electronic, structural and cohesive props., theoretical study 7−37922
Fermi surface, 2D angular correlation of positron annihilation radiation 7−39240
film, ion beam mixing of marker atoms, heat of mixing effect 7−21304
quadrupole orientation of ^{103}Ru at low temps. 7−38522
surface, (0001), with adsorbed H monolayer, adsorbate bonding and vibr. 7−52291
surface, (001), adsorbed Xe multilayers, inverse photoemission spectra, final-state screening effects 7−13251
surface, (001), adsorpt. of ethylene, $H_2(CO_2)$ coadsorpt. effects 7−32789
surface, (001), alkali modified adsorption of O, TDS, AES, EELS, work function meas. 7−58637
surface, (001), chemisorption and rot. epitaxy of Li, LEED, TDS obs. 7−12479
surface, (001), CO and K coadsorpt., angle resolved Auger lineshapes 7−2372
surface, (001), CO chemisorption, inverse photoemission spectra 7−21638
surface, (001), H_2 chemisorption, effect of coadsorbed O_2, LEED spectra anal. 7−33959
surface, (001), H adsorption sites at saturation coverage, LEED 7−58645
surface, (001), vibr. dephasing of terminally bonded CO 7−17318
surface (1010) with K overlayers, struct. and energetics, chemisorption and desorption studies 7−21659
surface lattice dynamics of ordered overlayers 7−2342
surface modification of CdTe photoelectrochemical solar cells 7−40017
surfaces, (001), clean and O covered, adsorption of NO_2, EELS, thermal desorption mass spectrometry 7−52267
surfaces, CO reactions, $Ru(CO)_x^{n+1}$ formation, field desorption study 7−54183
surfaces (001), coadsorption of H_2O and Li 7−21645
underpotential deposit on SnO_2:F electrode 7−44998
Ru, behaviour, restraint in pot vitrification process 7−25251
Ru-Ir bicrystal superlattice, stacking struct. and superconductivity 7−2432
Ru-Ir bicrystal superlattices, X-ray and transport studies 7−27159
Ru(100) surface, CO adsorbed monolayers, surface spectroscopy 7−15931

ruthenium alloys
see also ruthenium compounds
Al-Mn-Ru-Si icosahedral alloys, EXAFS study 7−39317
$CeRu_2$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7−32900
$CeRu_2Si_2$, heavy fermion, magnetism and spin fluctuation effects induced by partial substitution 7−38850
$CeRu_2Si_2$, heavy-fermion system, magnetoacoustic effects in high mag. fields 7−64506
$CeRuSn_3$, cage-like void structures *(German)* 7−32365
Cr-Ru, BCC alloys, supercond. and mag. props. 7−7443
Cu-Ru bimetallic system, electron microscopy 7−16504
$LaRuSn_3$, cage-like void structures *(German)* 7−32365
$Nd_2Fe_{14-x}Ru_xB$ alloys, mag. props., comp. depend. study 7−7547
$NdRuSn_3$, cage-like void structures *(German)* 7−32365
$PrRuSn_3$, cage-like void structures *(German)* 7−32365
Pu-Ru-B system, phase equilibria and cryst. struct. 7−16781
Rh-Ru alloys, electroreduction, electrocatalytic activity 7−54137
Ru-Cu_2S system, annealing, phase comp., DTA 7−46412

ruthenium alloys continued
$Ru_xFe_{80-x}B_{20}$ amorphous alloys, magnetic phase diagram, magnetisation and Mossbauer studies 7−53042
UAl(Ga)(Sn)Ru ternary alloys, magnetic behaviour, elec. resist. and sp. ht. meas., 5f electron effects 7−12999
URu_3, 5f band narrowing, evidence from resonant photoemission 7−27855
URu_3, electronic struct. and f hybridisation 7−12600
URu_3, hybridisation, electronic struct. and props. 7−45136
URu_3B, 5f band narrowing, evidence from resonant photoemission 7−27855
URu_2SI_2, heavy electron system, competing electronic correlations, press. effect 7−45539
URu_2Si_2 heavy fermion system, core levels and band struct., electron spectra studies 7−52418
URu_2Si_2, monocrystalline, thermal expansion and sp.ht. 7−44866
URu_2Si_2, $ThRu_2Si_2$, magnetochemistry and crystal chemistry 7−58976
V-Ru-Os, B2 alloys, correlation between superconductivity and structural transitions 7−52881
W-Ru amorphous thin film thermal stability, crystallisation behaviour studies 7−63464
Zr-Ru, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
Zr-Ru-Ir system, solidus surface projection of Zr-ZrRu-ZrIr partial system 7−7972
Zr-ZrRu-ZrIr partial system, phase diagram and crystn. 7−22642

ruthenium compounds
see also ruthenium alloys
HfRuSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607
silicide, epitaxial growth on Si (111) 7−21760
BaO-RuO_2-Fe_2O_3 system, equilibria description 7−65340
$Bi_2Ru_2O_7$ thick film resistors with high TCR for temperature sensing 7−48735
$CeMRu_2Si_2$ (M=La,Y), high energy EXAFS and XPS studies 7−64801
$Co_{1-x}Ru_xS_2$, prep., mag. and crystallographic props. 7−33154
$Eu(Cu_{1-x}Ru_x)Si_2$, substitution effects on mixed valence behaviour, Mossbauer and XANES studies 7−64183
Eu_3RuO_7, crystal struct. determ. 7−16520
Nd_3RuO_7, crystal struct. determ. 7−16520
$Rh_{1-x}Ru_xS_2$, prep., mag. and crystallographic props. 7−33154
Ru (II) complexes, Ru NMR chem. shifts 7−50190
Ru (II) complexes in solns., luminesc. behaviour, temp. depend. 7−22331
Ru complex, chiral probe for A-form helices of DNA and RNA 7−34096
Ru complex, circular dichroism spectra 7−33359
Ru complex, Creutz-Taube complex with HUO_2PO_4, synthesis, struct. and oxidation, IR and X-ray spectra anal. 7−46840
Ru complex, $K_3[Ru(C_2O_4)_3].4.5H_2O$, cryst. struct. determ. *(French)* 7−1961
Ru complex, mixed-valence ion, class II, two-electron intervalence transfer 7−52544
Ru complex, outer sphere electron transfer, solvent relax. dynamics effect 7−65290
Ru complex, $Ru(bipyridine)_3^{2+}$-methylviologen copolymer, quenching 7−31107
Ru complex, $Ru(bpy)_3^{2+}$, charge transfer states assignments, MCD and CD spectra anal. 7−31056
Ru complex, $Ru(bpy)_3^{2+}$, rigid solutions, luminescence, magnetic circular polarisation 7−64685
Ru complexes, $[Ru(bpy)_3](PF_6)_2$, single-cryst., polarised absorpt. spectra 7−64624
Ru complexes, X-ray transition multiplet structures, secondary quantisation 7−10616
Ru-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7−64779
Ru-Ti-O ceramic coatings, synthesis by reactive ion plating, struct., electrophysical props. 7−64031
Ru_7B_3, inverse boundaries, rel. to defects in M_7C_3 carbides 7−12083
$Ru_3(CO)_{12}$, electron beam decomposition for sub-micron patterns 7−53597
α-$RuCl_3$, intercalation reactions, electron/ion transfer and exchange reactions 7−46837
$Ru(NH_3)_5$-bipyridylbutadiene-$Ru(NH_3)_5$ compound, photoisomerisation mol. switching, electronic coupling parameter calc. 7−19678
RuNO complexes, extraction behaviour with γ-irradiated TBP-kerosene 7−25072
$RuNO(NO_3)_3$, photodissociation in nitric acid soln. 7−25057
RuO_2 films, sputter deposition using hollow cathode discharge ion source 7−41536
RuO_2/Ti interface, struct. study using LEED, AES and XPS 7−63981
RuO_2-TiO_2, thin films, microheterogeneous struct. 7−12541
RuO_4, staining agent for transmission electron microscope obs. of polymer lamellar morphology 7−21132
RuO_4 transitions in ν_3 band, freq. meas. 7−36624
Sm_3RuO_7, crystal struct. determ. 7−16520
Ti-Ru oxide anodes, durability in Cl cells with Hg anodes 7−32562
TiO_2-RuO_2 in chloride solns., corrosion and electrochem. props. 7−53951
$URuGa_5$, structural chemistry, mag. behaviour 7−16513

Rutherford backscattering *see particle backscattering*

rutile *see titanium compounds*

S-matrix theory
see also dispersion relations
S-matrix unitarization within reactive perturbation theory 7−25440
above threshold multiphoton ionisation 7−19805
Anderson impurity model, single particle excitation spectra, scatt. eqns., S-matrix approach 7−52385
bosonic massless gauge fields with arbitrary spin and permutation symm. 7−4960
charged spinless particles, relativistic scatt. theory, partial wave S-matrix calcs. 7−5010
chiral field, Bethe-ansatz soln., complete S-matrix and bootstrapping props. 7−48961
closed strings in open-string field theory 7−56529
composite systems, interface response and scatt. matrix theories 7−7033
conformally invariant quantum mech., S-matrix determ. 7−29812
covariant light front perturbation theory and three-particle equations 7−41651
CP^{N-1} model, deconfinement by minimally coupled massless fermions 7−56516
dielectric objects, light scattering, Stokes reciprocity relations 7−42895

S-matrix theory continued
- dielectronic recombination, electric field enhancement over Rydberg spectrum 7—5618
- dissipative nuclear collisions, Ericson fluctuations 7—49352
- electron scatt. in a laser field, modified perturbation theory 7—36572
- EM topology and transmission line theory, bounds on norms of scattering matrices 7—10811
- finite field theories, 3D, with and without supersymmetry, S-matrix and vacuum stress finiteness 7—61472
- group theory approach to scatt., realistic models 7—49006
- hadronic systems eqn. of state, S-matrix statistical mechanics formulation, many-particle process effects *(Russian)* 7—41772
- Hermite expansion functions for finite-rank approx. of wave operators and S matrix 7—24352
- infrared divergences in the ϕ^4 and Wess-Zumino models 7—30198
- interacting quantum field theory in curved space-time, S-matrix approach 7—47675
- monopole asymptotic scatt., bound-state spectrum and dynamical symm. 7—56424
- nonlinear Schrodinger model in strong coupling regime, nonperturbation scheme for S-matrix 7—4991
- nonlinear Schrodinger model in strong coupling regime, S-matrix nonperturbative calc. 7—4992
- particles, fields and now strings 7—49001
- quantum scattering on the hyperboloid, geometric quantization anal., S-matrix calcs. 7—48431
- resonance energies and widths, comparison of theoretical methods for short-range potentials 7—14814
- scattering theory for SUSY hamiltonians, nonstationary approach, quantum mech., nuclear interactions 7—30214
- semi-off-shell string amplitudes, local operator expansion 7—41759
- sine-Gordon *S*-matrix, heuristic derivation Landau singularities due to soliton loop diagrams 7—35727
- Skyrme model for baryons, π-baryon S-matrix in adiabatic approx. 7—30197
- SO(2,3) S-matrix, strong factor, heavy ion appls., phase shifts 7—30391
- string theory, Fradkin-Tseytlin S-matrix generating functional, BRS hamiltonian approach 7—61611
- string theory effective actions and on-shell S-matrix elements 7—15061
- supersymmetric string dynamics, conformal field theory on a super-Riemann surface 7—41761
- unitary or asymptotic completeness equations, analytic struct. 7—49007
- Be^-, metastable ion, shape resons. scaled local density calcs. 7—42464
- C^{4+}+He, two-electron capture cross sections, comparison of calc. methods 7—15703
- H, laser-assisted electron elastic scatt., differential cross sections, exchange and dressing study 7—20046
- H_2-Ar, rot. line broadening calc., projection operator algebra and linked cluster theorem 7—42687
- HCl, low-energy electron collisions, inelastic processes, R matrix theory anal. 7—31180
- Mg^-, metastable ion, shape resons. scaled local density calcs. 7—42464
- ^{A}Pu(n,n′), A=240,242,244 collective band scheme and statistical S-matrix formalism 7—61874
- ^{238}U(^{40}Ar,^{40}Ar′), multiple Coulomb nucl. excitation to high spin states, iteration method of soln. 7—42056
- ^{238}U(^{84}Kr,^{84}Kr′), multiple Coulomb nucl. excitation to high spin states, iteration method of soln. 7—42056

safety
- *see also accidents; alarm systems; fission reactor safety; fusion reactor safety; health hazards; protection*
- alkaline dry battery 6AM6, safety design *(Japanese)* 7—65426
- biomedical electronic instruments safety and testing Electrotechnical Testing Institute practices *(Czech)* 7—18090
- biomedical equipment, safety, DHSS view 7—54796
- biomedical equipment electrical safety, conf., London, (Jan. 1987) 7—48195
- biomedical equipment safety testing 7—54798
- broadcast transmitting station radiation hazards 7—14045
- Bulgarian radiation exposure from nuclear power facilities *(Russian)* 7—54763
- BWR fuel, criticality safety anal., burnable poisons effects 7—740
- CAGR dismantled fuel, criticality safety, BNFL storage 7—739
- cardiac defibrillators, safety and reliability *(Spanish)* 7—65892
- CASMO-2 spent-fuel-rack criticality analysis 7—36176
- Castor V/21 PWR spent fuel storage cask, testing and analyses 7—56864
- computer-assisted instruction for nuclear criticality safety 7—35186
- conference, ANS winter meeting, Washington, DC, USA, (Nov. 1986) 7—29591
- conference on radwaste underground repositories, Hannover, Germany (Mar. 1986) 7—41010
- criticality accident detection at nuclear reprocessing plants, CEA developments 7—36174
- criticality excursions in fissile solutions using CRITEX program 7—19373
- criticality safety, American National Standards 7—761
- criticality safety, density-analog storage criteria 7—760
- criticality safety, DOE/ONS safety projects overview 7—758
- criticality safety, Monte Carlo code analysis problems 7—750
- criticality safety, Prescott interaction problem, MONK 6.4 anal. 7—751
- criticality safety, replacing aged professionals 7—759
- criticality safety, storage, transport, Limiting Surface Density Method 7—757
- criticality safety, US/Japan data development program plan 7—752
- criticality safety, validation 7—756
- criticality safety analysis codes for shipping casks in Japan 7—15414
- criticality safety in fissile material storage, conf., Jackson, WY, USA, (Sept. 1985) 7—13
- criticality safety in low enriched U storage arrays in commercial plant 7—732
- criticality safety of Hanford fuel storage facilities 7—742
- crystalline rocks, characts. from field expts., suitability for HLW disposal repository 7—5464
- Czechoslovakia, safety aspects of radioactive waste disposal 7—42215
- damaged fuel assemblies, neutron tomography 7—30555
- deep geologic storage of spent nucl. fuel, radiation safety and personnel monitoring 7—36303
- direct spent fuel disposal, safety and technical aspects *(German)* 7—15408
- electrical safety limits for medical equipment 7—54794
- electrical shock, heart muscles effect *(German)* 7—3776

safety continued
- electrical shock, safety criteria, conf., Toronto, Ontario, Canada (Sept. 1983) 7—18500
- electrically powered biomedical equipment, safety standards 7—54795
- extended fuel burnup, criticality safety implications 7—733
- FBRs, safety assessment of severe accidents 7—62029
- ferritic spent fuel casks, predrop test anal., stresses and fracture toughness 7—46651
- fibre optics' advantages for computerised control systems, data highways and sensors 7—15988
- fissile material, critical soln., heating-up, nucleation and boiling 7—19368
- fissile material storage, criticality safety, efficiency improvements 7—747
- fissile materials, criticality safety ANSI/ANS standards 7—745
- fissile solution storage criticality safety, Poisoned Tube Tank 7—735
- fluorinel nuclear fuel dissolution process, soluble B for criticality control, calc. validation 7—36172
- French nuclear fuel manufacturing, criticality safety 7—731
- gamma-ray skyshine calcs., effects on nuclear facility design 7—42239
- high density spent-fuel storage racks, neutron absorbing materials performance 7—19543
- HLW or spent fuel, role of canister in final disposal system 7—5457
- hot cells, posting in/out technique 7—62100
- inherently safe fusion power plant designs 7—792
- JAERI criticality safety facilities and expts. 7—734
- Konrad facility for final storage of radwaste, safety anal. *(German)* 7—5444
- large scale enriched uranium soln. handling, criticality safety 7—736
- laser hazard analysis, nominal hazard zone 7—60094
- laser surgical instruments, surface treatment for improved safety 7—34328
- leaky cable intrusion detection sensors 7—36308
- LLW in cement, ocean transport off Taiwan 7—49685
- LNG vapour plume, interaction with storage tanks, simulation 7—1593
- Magnox reactors, ingestion dose study from postulated releases 7—42231
- MARS, implications of probabilistic risk assessment for fusiondecision making 7—793
- materials management conf. New Orleans, LA, USA, (June 1986) 7—35087
- MOCVD laboratory, integrated safety system 7—22528
- monostatic microwave sensor for outdoor perimeter protection 7—36309
- nuclear criticality safety training, interactive computer-based simulator 7—35188
- nuclear fuel fabrication facilities, criticality safety training among NRC licensees 7—35184
- nuclear fuel facilities, criticality safety, performance based training and education 7—35183
- nuclear fuel systems having a free surface, reactivity effects from surface waves 7—30571
- nuclear industry commitments to criticality safety performance based training 7—35185
- nuclear plant alarms, handling and presentation 7—62030
- nuclear utility industry, long range goal setting 7—42243
- occupational exposure reduction during nuclear facility decommissioning, IAEA review 7—25259
- packaged LLW burial in Belgium, preliminary investigation *(French)* 7—42209
- PRA techniques and reduced source terms, Indian Point hearing 7—62028
- preventive safety at nuclear facilities, criticality accident prevention 7—36175
- PUFF-PLUME emergency response atmospheric dispersion model, field eval. at SRL 7—34292
- PWR fuel in spent fuel storage racks, criticality safety, Generic Reactivity Equivalence 7—743
- radiation risks and radiation protection at Chalk River Nuclear Lab. 7—25268
- radioactive waste-related risks below regulatory concern, criteria for USA 7—30686
- radwaste packages with several shields, buildup factors for point-kernel calcs. *(German)* 7—36267
- reinforced concrete pads for spent nuclear fuel casks, hardness effects on design 7—49700
- remote handling facilities at Harwell 7—62036
- research reactor fuel, in-storage criticality safety during manufacturing 7—730
- SCALE, criticality safety analysis appl. on mainframe and microcomputer 7—15413
- SCALE, nuclear waste cask analysis, critically safety analysis 7—15411
- SCALE, nuclear waste cask analysis software, heat transfer analysis capabilities 7—15412
- SCALE, nuclear waste cask analysis software, implementation, validation and application 7—15424
- SCALE, spent fuel cask analysis, cross-section processing techniques 7—15421
- SCALE, spent fuel cask analysis software, conf., Saclay, France, (June 1986) 7—14700
- SCALE, spent fuel cask analysis software 7—15410
- SCALE, spent fuel casks analysis software, isotopics, radiation spectra and decay heat 7—15423
- Sellafield nuclear reprocessing plant, computer-based training for criticality safety 7—35187
- shielded storage vault for radioactive reference sources 7—56882
- shielding analysis methods available in the SCALE computational system 7—15422
- simulated basalt geological radwaste repository, SSNTD neutron dosimetry 7—42199
- spent fuel criticality safety in large tanks 7—737
- spent fuel shipping casks, surface dose to determine fuel loading pattern *(Japanese)* 7—25242
- spent fuel transportation, safety criteria and accident anal. 7—42241
- spent nuclear fuel, geological disposal, precipitation effects on long-term radionuclide release 7—42198
- spent nuclear fuel, reprocessing and direct disposal, radiological comparison *(German)* 7—49683
- spread spectrum microwave bistatic intrusion detection sensor performance update 7—36310
- SSNTD technique for Rn and thoron meas. in the environment 7—42430
- STARFIRE, implications of probabilistic risk assessment for fusiondecision making 7—793
- steel radioactive waste canisters, localised corrosion, mathematical model 7—46709
- surface storage of ILW and LLW, French approach *(French)* 7—42208

safety continued
- surface storage of radwastes, safety criteria for site selection in France *(French)* 7—42218
- textile industry, conf., Charlotte, NC, USA (May 1986) 7—29594
- thin film solar cells manufacture, elec. and EM hazards 7—59849
- thin-film photovoltaic cell production, gas, health and safety hazard controls 7—17876
- TMAP, fusion safety analysis code for tritium movement and inventory predictions 7—36258
- TMI-2 boron dilution, criticality safety, operational considerations 7—753
- TMI-2 defueling criticality safety 7—754
- Tohoku 300 MeV e^- linac cooling system, trouble and warning system 7—19579
- vehicle barrier systems 7—36311
- ZPPR fuel storage, borated concrete medium, criticality safety 7—746
- C-Zn dry battery with outer metallic jacket *(Japanese)* 7—65427
- GaAs, AlGaAs, MOCVD, design of safe facility 7—22529
- GaAs thin film photovoltaic cells, large-scale manufacture, hazard characterisation of AsH_3 gas and GaAs waste 7—39998
- Li batteries with confirmed reliability and safety 7—59830
- Li battery pack fabrication, safety 7—34008
- Li-SO_2 primary cells, safety hazards during charging 7—34007
- Pb reflected UO_2 fuel pumps, criticality safety, expt. benchmark anal. 7—749
- Pb-acid stationary battery crevice corrosion cracking and counter measures 7—46930
- $(Pu,U)O_2$ MOX fuel pins, ANSI standard criticality limits extension to heterogeneous systems 7—36156
- Pu soln. storage in 6 inch pipes, criticality safety 7—738
- Pu storage, criticality safety benchmarks 7—755
- a-Si:H thin film photovoltaic production, safety and industrial engineering 7—13894
- T release in fusion reactor test cell, modelling, operation of atmospheric cleanup system 7—36259
- U, enriched, storage in steel tubes in concrete, criticality safety 7—748
- UO_2 pins in boron-steel CAGR skip, criticality safety for long term storage 7—744
- $UO_2(NO_3)_2$ solution, criticality in slab geometry, benchmark expts. 7—36173
- ^{235}U fuel units, criticality safety in underwater rack storage 7—741
- WF_6, physicochemical props. rel. to CVD for VLSI appls. 7—17462

safety systems
- *see also alarm systems*
- cloud-to-ground Lightning Position and Tracking System for electric utility weather problems 7—14371
- nuclear power plant emergency response and security system 7—42141
- nuclear power plant safety system reliability, design stage quantitative anal. 7—62020
- nuclear power plants, vital area determination techniques 7—30640
- SNR 2 fast breeder reactor development project *(German)* 7—15303
- testing strategies and testing environment for reactor safety system software 7—19418
- Zarnowiec nuclear power station, safety system eval. *(Polish)* 7—19413
- H_2O_2 behaviour in RBMK-1000 BWR safety control system coolant circuit 7—30631

Salam-Weinberg model *see Weinberg model*

salt water conversion *see desalination*

samarium
- *see also nuclei with ......*
- atom, 12.76 μm forbidden line broadening 7—36517
- atom, $^7F_1 \rightarrow {}^7F_0{}^0$ transition, Hanle effect, obs. of incoherent population effect and ground-state incoherence components 7—10515
- atom, Auger transitions, relative intensities for KMX and KXY groups 7—25442
- atom, four-wave light mixing, collision-and stochastic-fluctuation induced Hanle reson. 7—15559
- atom, polarisation switching and optical bistability in Fabry-Perot cavity 7—1218
- atom, reson. ionisation photoelectron spectroscopy 7—19799
- atom, resonant UPS, 5p valence band interaction, photoionisation cross section 7—15564
- atomic vapour, lifetime determ., fluoresc. study 7—36546
- clusters isolated in solid Ar, size-dependent valence change 7—20089
- $L\gamma'_{2,3}$ satellite, X-ray emission spectra anal. 7—36523
- mixed valent clusters, X-ray absorpt. studies 7—64791
- overlayers on Al (111), homogeneous intermediate valence, photoemission 7—39351
- oxidation kinetics 7—65190
- phase transitions at high pressures 7—64457
- RF resonances, Raman heterodyne detection 7—10499
- small clusters, matrix isolated, mixed valence, critical cluster size 7—64186
- vapour, collision-induced Ramsey resons. obs. oscillating zeeman sublevel coherence detection 7—874
- vapour, optical bistability expts., polarisation switching 7—62759
- vapour, vel. diffusion effects, RF-laser double reson., Raman heterodyne investig. 7—882
- X-ray emission spectra with fluorescence-excitation and near-threshold electron-excitation methods 7—46246
- $BaFCl:Sm^{3+}$, charge transfer excitation and emission spectra 7—64688
- $BaS:Sm^{3+}$, photolum. of Sm^{3+} ions 7—59246
- $CaF_2:Sm^{2+}$, electronic Raman transitions study 7—46017
- $CaF_2:Sm^{2+},Nd^{3+}$ energy transfer efficiency 7—7734
- $CaS:Sm^{3+}$, photolum. of Sm^{3+} ions 7—59246
- $GdBO_3$: Pr^{3+}, Sm^{3+}, host lattice sensitisation, energy transfer and photolum. 7—46113
- $K_2Cd_2(SO_4)_3:Sm$, thermoluminescence 7—39191
- $MgS:Sm^{3+}$, photolum. of Sm^{3+} ions 7—59246
- Nd^{3+}, Sm^{2+}: CaF_2 lasers, Sm^{2+} sensitisation 7—10962
- Sm-Si Schottky barriers, elec. and struct. characts., 7—38675
- $Sm+H^+$, K-shell ionisation cross sections 7—50326
- $Sm+H^+$, 4 MeV collisions, L-subshell ionisation probabilities, impact parameter depend. 7—42749
- $Sm^{q+}+Xe$ collisions, $q=34$ to 52, resonant electron transfer and L-shell excitation, X-ray spectra study 7—30979
- ^{147}Sm ion beam cross section meas. using SSNTD 7—19594
- ^{153}Sm, accidental internal deposition, absorbed organ dose, γ-camera meas. 7—8688
- $SrB_4O_7:Sm^{2+}$, fluorescence shift, pressure depend. *(French)* 7—4805
- $SrS:Sm^{3+}$, photolum. of Sm^{3+} ions 7—59246

samarium alloys
- Knight shift, density matrix perturbational approach 7—33283
- Al-Sm, oxidation kinetics 7—65190
- $Co_{80}Sm_{20}$, sputtered thin film recording media, micromag. and struct. studies 7—33243
- Fe-Sm amorphous alloys, crystn. behavior, DTA, magnetisation and X-ray diffr. meas. 7—44372
- Mg-Sm-Zn system, phase equilib. 7—46413
- Sm-Co amorphous thin films, low temp. mag. props. *(Chinese)* 7—38910
- Sm-Co-B rapidly quenched ribbons, hard mag. props. and struct. 7—53048
- Sm-Co-Fe-transition metal permanent magnets, magnetisation 7—53033
- Sm-Fe amorphous thin films, low temp. mag. props. *(Chinese)* 7—38910
- Sm-Fe-Co-B-Si melt-spun alloys, mag. props. 7—27553
- $Sm_{11}Cd_{45}$, giant cells, polyhedral packing 7—11992
- $Sm_2(Co, Fe, Cu, Zr)_{17}$ sintered compact permanent magnet, mag. props., comp. and heat treatment effects *(Korean)* 7—2894
- SmCo permanent magnet linear undulator for ENEA free electron laser expt., dipole moment meas 7—43151
- $SmCo_5$ aligned deposits, plasma spraying 7—39371
- $SmCo_5$ and Sm_2Co_{17} plastic magnets, magnetisation process, depend. of surface flux density 7—27548
- $SmCo_5$, anisotropic permanent magnet, prep. and investig. 7—52969
- $SmCo_5$ fine particles, produced by ball milling, strain and domain wall energy *(Japanese)* 7—7556
- $SmCo_5$ powder in nylon-12 and polybutylene tetraphthalate, thermoplastic magnet, heat resistance 7—27567
- $SmCo_5$ powder magnet, texture form. in alternating and steady mag. fields 7—27977
- Sm_2Co_{17} single domain particles, SEM domain obs. 7—27566
- $Sm_2(CoCu)_{17}$ magnets, cast, coercivity and microhardness 7—53880
- $Sm_2(Co_{1-x}M_x)_{17}$ (M=Fe,Mn), rapidly quenched ribbons, mag. props. 7—27552
- $SmCu_2$ single cryst., high field transverse magnetoresist. meas., Fermi surface determ. 7—52576
- $SmIn_3$ antiferromagnetic alloys, thermoelec. power meas., band gap form. 7—38543

samarium compounds
- *see also samarium alloys*
- monochalcogenides, cation substituted, phase transition to mixed valence state 7—21883
- $(YSmLuCa)_3(FeGe)_5O_{12}$, bubble lattice, magnetisation curves 7—53094
- $BaSm_2Ti_4O_{12}$, dielectric props. at low temps. 7—45909
- $(BiDySmLu)_3(FeAl)_5O_{12}$ bubble garnet films, Bi-substituted, LPE growth rate reduction 7—45049
- $(BiDySmLuGd)_3(FeGa)_5O_{12}$ bubble garnet films, Bi-substituted, LPE growth rate reduction 7—45049
- $LiSmP_4O_{12}$, flux cryst. growth 7—13345
- Sm^{3+} complexes, samarium (III) 4,7,13,16,21-pentaoxa-1,10-diazabicyclo-8,8,5-tricosane cryptand, luminesc. 7—13191
- Sm^{3+} complexes, UV and visible absorption spectra 7—13176
- $SmAsO_4$, vibrational spectra, IR and Raman obs., X-ray and thermal analysis 7—59198
- SmB_6, cryst. struct. determ., defect content 7—58245
- SmB_6, disordered Sm ions, ESR study 7—53128
- SmB_6, X-ray emission spectra with fluorescence-excitation and near-threshold electron-excitation methods 7—46246
- SmB_6: Eu^{2+} energy gap temp. depend., impurity ESR study 7—45151
- $SmB_6:Er^{3+}$, Jahn-Teller phenomena in valency-mixing surroundings 7—45240
- $SmB_6:Er^{3+}$ energy gap temp. depend., impurity ESR study 7—45151
- $SmB_6:Gd^{3+}$ energy gap temp. depend., impurity ESR study 7—45151
- $SmClO_3$, water soln., nonlinear refractive index meas. 7—27682
- $SmCo_5$ hybrid undulator, high field strength wedged-pole 7—56310
- $Sm_{1-x}Eu_xS(Se)$ solid solns., X-ray absorpt. spectra d-f exchange interactions effects study, comp. depend. 7—3114
- $SmFeO_3$, muon bonding sites, muon spin rot. study 7—45896
- $Sm_3Ga_5O_{12}$, photoelectret, photoconductivity 7—45919
- SmIG, low temp. evolution of Faraday rotation 7—64615
- $SmLiGe_2$, crystal structure *(Ukrainian)* 7—12009
- $SmLu(FeGa)_5O_{12}$ films, with submicron domain structures, mag. inhomogeneity 7—45782
- $(SmLuGd)_3(FeGaSc)_5O_{12}$ films, with submicron domain structures, mag. inhomogeneity 7—45782
- $SmMnSi_2$, struct. and mag. props. studies *(French)* 7—37950
- $Sm_2(MoO_4)_3$, improper ferroelectrics, energy spectrum and vacuum UV spectra 7—33413
- $Sm(NO_3)_3.6H_2O$, electrical and optical props. 7—59223
- Sm_2O_3, aging in air 7—65160
- SmOBr, single cryst. growth, struct., X-ray diffr. study 7—44431
- $SmRh_4B_4$, magnetic transition temps., RKKY interaction studies 7—22107
- Sm_3RuO_7, crystal struct. determ. 7—16520
- SmS, golden phase, f-d hybridisation gap 7—27231
- SmS, mixed valent system, atomic relax., determ. from XANES studies 7—64798
- $SmSc_3(BO_3)_4$, preparation, struct. and props. 7—1968
- $Sm_{1-x}Sc_xS$ alloys, intermediate valence, X-ray absorption study 7—7789
- $Sm_{1-x}Sc_xS$, first order valence phase transition, XANES study 7—38524
- SmSe, high press. EXAFS studies at 77 K 7—64799
- SmSe, thermoelec. power, elec. resist., meas. near semiconductor-metal transition, press. up to 12 GPa 7—45404
- $Sm_{0.75}Y_{0.25}S$, intermediate valence cpd., charge relax. rates, determ. by phonon spectra 7—2557
- $Sr_{1/2}Sm_{3/2}Li_{1/2}Fe_{1/2}O_4$, layer cpd., Mossbauer spectra 7—45849
- $(YLuSmCa)_3(FeGe)_5O_{12}$ epitaxial films, transition layer 7—45779
- $(YSm)_3(FeGa)_5O_{12}$ garnet film, demagnetisation, elongation of striped domain struct. 7—45737
- $(YSmLuCa)_3(FeGe)_5O_{12}$ epitaxial layer, conversion electron Mossbauer spectra 7—48926
- $(YSmLuCa)_3(FeGe)_5O_{12}$, epitaxial films, Faraday rot., Sm^{3+} conc. effect. 7—53070
- $(YSmLuCa)_3(FeGe)_5O_{12}$, film, stripe domain stabilisation for Bloch line memory 7—59087
- $(YSmLuGd)_3(FeGa)_5O_{12}$ garnet film struct. and mag. props., mag. bubble memory appls. *(Japanese)* 7—7575

- **sample preparation** *see specimen preparation*
- **sampling circuits** *see analogue-digital conversion; signal processing equipment*
- **sand**
  - airborne, arid land millimetre wave radio links, design considerations 7−40518
  - Al-Ubaylah barchan dunes, Saudi Arabia, sand grain size distrib. 7−8950
  - Amazon River continental shelf, bedforms 7−34460
  - atmosphere sand and dust storms, MM wave propagation 7−47480
  - dune field in Mutonga drainage, Mount Kenya, origin and palaeoclimatic-ecological significance 7−18186
  - dune migration and shaping due to wind 7−4036
  - infiltration from cavities, num. soln. 7−18254
  - liquefaction, initial static shear stresses effect 7−4037
  - New Mexico, USA semiarid sand site, soil water movement and recharge 7−23774
  - ocean wave transport of suspended sand in shallow water 7−34471
  - radiation protection capability of desert sand against fusion neutrons 7−49729
  - river, sandy river bed instability due to bed load motion *(Japanese)* 7−18224
  - river sand waves, bed form response to sudden flow decrease *(Japanese)* 7−18223
  - rock, pore moisture thawing and freezing, aq.-phase press. influence 7−52004
  - sandstorm effect on radiowave propag., system design for Riyadh, Saudi Arabia 7−4111
  - sandstorms of Arabian Gulf, due to anomalous anticyclones? 7−55233
  - surface emissivity near Lake Eyre, NOAA-7 AVHRR meas. 7−14287
  - thermal conductivity and diffusivity measurement by transient hot-strip method 7−56257
  - wave dominated nearshore environment, suspended sand conc. meas. 7−23630
  - zircon sand, α-activity in airborne particulate, cellulose nitrate track detector study 7−49856
- **sapphire**
  - anvil cell for high pressure research 7−9841
  - birefringent, millimeter wave dielectric meas. 7−14978
  - colour-centre crystal, laser appls. 7−43120
  - crack propagation threshold, surface energy determ. 7−58401
  - filaments, CO_2, laser heating, evaporation and chlorination 7−58331
  - growing crystals, hot zone heat transfer simulation 7−32321
  - heat pulse propag. in single cryst. sapphire 7−27034
  - high fluence D implantation, trapping and desorption, saturation conc. studies 7−26781
  - implanted ions recrystallisation driven migration and oriented precipitation 7−2266
  - ion implantation, mechanical surface property modifications 7−32473
  - laser crystal, with colour centres, radiation generation 7−10968
  - leucosapphire abrasive, simulation of polymer binders using organic liqs., bond strength investig. 7−38301
  - long range interaction between rare gas atoms/molecules and surfaces, calc. 7−3135
  - optical fibres, shocked, spectral transmission characts. 7−31466
  - profiled cryst. growth, static thermal stability, growth angle determ. 7−32334
  - profiled crystals, bubble distrib., cellular struct., residual stresses 7−32422
  - profiled crystals, prod., quality characts. 7−33615
  - profiled crystals, prod. from gas-saturated liq., struct., effects of growth conditions 7−32327
  - sapphire:Co, spinel phase composite, study of γ-ray irrad. effects on optical absorpt. spectra 7−46071
  - shock-compressed, refractive index, laser interferometric meas. 7−30081
  - SOS structure, UV reflectance meas., ellipsometry 7−33414
  - Stepanov growth, radiative-conductive heat transfer simulation 7−31630
  - stress corrosion, crack tip, dissociative chemisorpt. 7−33812
  - sub-surface defect obs. by Rayleigh wave reflection in scanning acoustic microscope 7−13710
  - substrate, adhesion of metallic films, mechanical resonance spectra 7−21712
  - substrate, ion beam induced enhancement of noble metal film adhesion 7−21292
  - substrate, resonance Raman scattering of Si film 7−64017
  - substrates, epitaxial growth of ZrO_2-Y_2O_3 films by reactive sputtering 7−27217
  - surface, as-grown, high resolution imaging 7−44977
  - surface, cadmium stearate Langmuir-Blodgett films, thermal disordering, optoacoustic IR spectra anal. 7−52236
  - surface, Pt film adhesion, O enhancement 7−46790
  - surfaces, precision ultrafine, practical prep. method 7−1290
  - thin films, quantitative anal. by AES 7−59310
  - Ti^{3+}:sapphire laser material, scattering centre formation mechanism 7−10960
  - tube prod. by Stepanov method at high growth rates 7−7837
  - AlN-sapphire, low temp. epitaxial film growth 7−13387
  - Al_2O_3, leucosapphire single crystals, transformation of colour centres 7−37986
  - α-Al_2O_3 sapphire single crystal optical fibres, low loss, characts. 7−37187
  - Al_2O_3:Mo, W, Cr, leucosapphire, growth by horizontal directional crystallisation, mass transport of Mo, W 7−22459
  - Al_2O_3-transition metal film interfaces, thermal reaction, backscattering spectra, X-ray diffr. studies 7−52304
  - Cu-Al_2O_3, interaction, X-ray photoelectron spectroscopy, Auger electron spectroscopy 7−58669
  - Nd:YAG laser and sapphire contact probe, surgical appls. 7−34228
  - Si-Al_2O_3, SOS struct., UV reflectance meas., ellipsometry study 7−33414
  - Ti:sapphire laser, 750 to 790 nm, pulsed injection control 7−36984
  - Ti^{3+}:Al_2O_3 coherently pumped laser, output characts. 7−31331
- **satellite atmospheres** *see planetary satellite atmospheres*
- **satellite ground stations**
  - ERS-1 European remote sensing satellite, ground reception facilities for Australia 7−4292
  - low-cost satellite image reception and analysis facility 7−66305
  - METSIS system for satellite broadcast of weather information; earth station config. 7−47522
  - RF radiation hazards, menace or myth 7−18018
- **satellite links**
  - *see also artificial satellites*
  - aerial digital images enhancement, high altitude, histogram specification techniques 7−40608
- **satellite links** continued
  - airborne microwave rain scatterometer/radiometer, satelliteborne weather radar system *(Japanese)* 7−23911
  - Australia satellite data, meteorological appls. 7−4291
  - BRASA 1, Brazilian satellite for environmental data collection *(Spanish)* 7−66354
  - datalink using hologram laser beam corrector-collimator 7−25754
  - ERS-1 active microwave instrumentation, operational control 7−47550
  - ERS-1 European remote sensing satellite, ground reception facilities for Australia 7−4292
  - ERS-1 wind scatterometer antenna, mechanical aspects 7−23975
  - imagery from satellite, video technology appls. *(Japanese)* 7−66349
  - ionospheric dispersion effects on operation 7−60473
  - JEOS, JANUS Earth Observation Satellite data handling and transmission 7−34824
  - meteorological satellite data access in Australia, requirements and technical infrastructure 7−4293
  - meteorological satellites, water vapour imagery for weather anal. and forecasting, research developments 7−55335
  - METSIS system for satellite broadcast of weather information; earth station config. 7−47522
  - microwave radiometry use for snow cover water equivalent determ. 7−23711
  - NOAA data processing system *(Japanese)* 7−4287
  - Radarsat synthetic aperture radar system for remote sensing satellite 7−47578
  - rain attenuation and water vapour radiometric meas. at NPL 7−34606
  - sea surface temperature, algorithms from AVHRR data 7−4241
  - Seasat SAR imagery, methods for extracting sea ice data 7−23867
  - VLBI observations with orbiting radiotelescope 7−47730
  - weather pictures from space using Meteosat *(German)* 7−23970
  - wind scatterometer antenna release shock loads 7−23976
- **satellite relay systems**
  - *see also satellite ground stations; satellite links*
  - 250 MHz/GHz scintillation parameters, equatorial, polar and auroral environments 7−66384
  - aerospace technology, conference, Washington, DC, USA (Sept. 1986) 7−48171
  - amplitude scintillations, meas. and preliminary effects *(Italian)* 7−23821
  - conference on space exploitation and utilisation, Honolulu, HI, USA (1985 December) 7−24297
  - Earth-space paths, low elevation, amplitude scintillations meas. and modelling, telecom. systems impact 7−4110
  - ERS-1 satellite, Australian involvement 7−4294
  - GPS use for NBS calibration service, time and frequency transfer, appl. 7−14926
  - INMARSAT satellite transmission of oceanographic data 7−60429
  - ionospheric dispersion effects on operation 7−60473
  - low-earth-orbit satellite tracking and data acquisition, use of microcomputer systems 7−55425
  - optical technologies for communication satellites appls., conf., Los Angeles, CA, USA (Jan. 1986) 7−29588
  - space engineering, conf., Sydney, Australia, (March 1986) 7−26
  - UHF/SHF SATCOM propagation and system design 7−40555
- **satellites, artificial** *see artificial satellites*
- **satellites, planetary** *see planetary satellites*
- **Saticons** *see television camera tubes*
- **saturable absorption, optical** *see optical saturable absorption*
- **saturable core reactors**
  - RFX fusion expt., Italy, design criteria for switching units 7−30667
- **saturable reactors** *see saturable core reactors*
- **saturation control** *see chemical variables control*
- **saturation effects, optical** *see optical saturation*
- **saturation measurement** *see chemical variables measurement*
- **Saturn**
  - asteroid orbits perturbations, effects of secular resonances ν_{16} and ν_5 7−47748
  - atmosphere, semiannual oscillations 7−29418
  - atmosphere chemistry, gas-phase synthesis of organophosphorus compounds 7−24058
  - Cassini mission, near-IR satellite and ring objectives 7−40755
  - Cassini mission, Titan encounter dynamics 7−40671
  - Cassini mission and interaction between magnetosphere and surfaces 7−40754
  - Cassini mission to Saturn system, trajectory possibilities 7−40668
  - connection between ring system and atmosphere 7−9409
  - E-ring, dynamical evolution 7−9408
  - EUV emission altitude var., evidence for low latitude proton precipitation 7−9412
  - F-ring, braided struct. prod. 7−24060
  - formation, planetary growth rate around 1 solar mass star 7−55497
  - G-ring shepherding satellite, evidence from ground-based obs. 7−55526
  - G.D. Cassini (1625-1712) and Saturn 7−29651
  - inner moons, ice, ion bombardment, classical dynamics model 7−23996
  - kilometric radiowave emission and centrifugal flute instability 7−24061
  - magnetosphere fast neutral atoms emission and effects on solar wind, cometary exosphere analogue 7−55521
  - occultation candidate stars for Uranus' rings (1985-90) and Saturn's rings (1986-91), VI photometry 7−24124
  - Phoebe, rot. characts. and V-photometry 7−34918
  - planetary satellites, cratering in icy targets 7−34863
  - protosatellite accretion disks, global characts. 7−34914
  - ribbon feature in 45°-50° North light zone, baroclinically unstable model 7−40753
  - ring system, bending waves anal. using Voyager radio occultation data 7−55527
  - ring system, large-amplitude stationary periodic wave theory rel. to rings fine struct. 7−23987
  - ring system, numerical simulation of binary encounters 7−66499
  - ring system mass, determ. from planetary rot. freq. 7−14508
  - ring-system structure, nonlinear study of Mimas 5:3 density wave 7−24057
  - rings, IUE spectral obs. 7−47759
  - rings, profiling by radio occultation 7−34886
  - rings, small particle phenomena 7−34924
  - rings, struct. and evol. 7−24059
  - satellite system, exponential distance law *(French)* 7−34911
  - satellite tori 7−9411
  - satellites, compact ephemerides (April to October 1987) 7−4295

Saturn continued
- satellites, conf., Vulcano, Italy (September 1985) 7−29597
- satellites, cratering due to fragments from Hyperion 7−34922
- satellites, cratering record 7−34920
- satellites, icy elastic lithosphere-convective mantle interaction 7−34921
- satellites, telescopic obs. 7−34919
- small additional satellites, evidence from Voyager imaging obs. 7−24055
- southern globe and ring features (1966-80) 7−18371
- spherical albedo, relation to observable characts. of planetary atmosphere 7−24031
- tenuous outer ring material, evidence from Voyager 2 photopolarimeter expt. 7−24056
- Titan, appl. of Fourier transform IR spectra study of the $2\nu_9$ band of propyne 7−50119
- Titan, atm. and surface characts. determ. from projected Cassini mission 7−40757
- Titan, atmosphere amino acids synthesis 7−34858
- Titan, N_2 spectral emission and photoelectron fluxes due to solar EUV radiation 7−9413
- Titan, precursor disk density waves 7−34862
- Titan, study of collision-induced absorpt. spectra in N_2-methane mixture 7−50097
- Titan, surface microwave imaging 7−40756
- Titan, surface volatiles 7−34923
- Titan (Saturn VI), HCN detect. at 88 GHz 7−9410
- Titan Probe mission, design characts. 7−40669
- Titan Probe within Cassini mission 7−40670
- H_2 number density in upper atmosphere, calc. using temperature models 7−14517

SAW *see surface acoustic waves*

sawtooth generators *see function generators*

SC (sudden commencement) *see magnetic storms*

scalar particles *see sparticles*

scale invariance *see scaling phenomena*

scalers (circuits) *see scaling circuits*

scales *see balances*

scaling circuits
- decade scaler with fractional variable division factor 7−10367

scaling phenomena
- *see also elementary particle theory; renormalisation*
- Φ^4 field theory on square lattice, finite size scaling anal. 7−9945
- Baxter model, free-energy amplitude in finite-size scaling 7−48604
- complex temperature plane zeros, scaling theory and multicritical mean-field models 7−56202
- cosmic ray hadron interactions, ang. distrib. and scaling violation 7−14467
- cosmological model, self-similar, galactic scale phenomena and dark matter 7−35076
- covariant quantum field theory and scaling limits 7−48936
- covariant quantum field theory of gravitation, scaling limit and space-time metric 7−56134
- Cvitanovic-Feigenbaum eqn., complete soln. classes 7−14893
- EAS characts. calcs. using above-critical pomeron theory with additive quark model 7−14449
- EMC effect, SLAC data reanalysis and x rescaling 7−49233
- ferromagnets, static surface critical behaviour, scaling and renormalisation, book contrib. 7−33183
- finite systems, hyperuniversality and renormalisation group, finite-size scaling 7−56203
- frequency scaling at the onset of finite amplitude oscillation 7−48581
- glueball (0^{++}), mass scaling, SU(N) Hamiltonian lattice calcs., Monte Carlo anal. 7−35807
- gluon thermodynamics with an extended plaquette action, deconfinement in lattice QCD 7−41723
- Gross-Neveu model, lattice actions, effects of one-loop improvement on scaling behaviour 7−410
- Heisenberg model, finite-size scaling calcs. 7−56179
- infinite-range Ising model, complex temp. plane zeros in mean-field approx. 7−35454
- Ising strips, correl. lengths universal scaling form calcs., boundary conditions depend. 7−56177
- KNO scaling and superclusters and hadronic multiplicity distribs. 7−19132
- lattice QCD, β=5.7, evidence for scaling, SU(3) deconfinement temp. anal. 7−19072
- lattice QCD, deconfining phase transition and continuum limit 7−61568
- lattice QCD, improved actions, redundant operators and scaling 7−56513
- lattice QCD, quenched SU(2) simulation, evidence for m_π^2 scaling 7−61602
- length scaling in mean field renormalisation group 7−30154
- metal self-similar network, magnetoresistance, periodic oscillating corrections 7−7210
- N-vector model, quantum crossover behaviour in large-N limit 7−422
- nuclear collisions, scaling violation in central region of pseudo-rapidity distrib. 7−10134
- O(N)×O(N) supersymmetric model, flat directions and spontaneous breaking of scale invariance 7−9993
- O(N) σ-model, lattice actions, effects of one-loop improvement on scaling behaviour 7−410
- O(n) models, finite-size scaling in higher dimensions 7−14903
- O(N) nonlinear σ-models, conformal invariance and parastatistics in 2D 7−18991
- one-dimensional quasiperiodic systems, electron spectral clustering and wave-function scaling, renormalisation-group calcs. 7−18723
- open reactive systems, centre manifold onset, far-from-equilib. fluctuations scaling, virtual size parameter calcs. 7−35484
- Pamir experiment, scaling violation in γ-ray families 7−14447
- Pamir expt. data, comparison with strong interaction model with weak scaling violation 7−10038
- Poincare group, group scaling, classical gauge theory and gravit. corrections 7−24762
- QCD, nucleon spin conservation at short distances 7−490
- QCD light cone gauge, integral equation for multiplicity distribution 7−15115
- randomly triangulated planar random surfaces, scaling props. 7−35681
- resonance energies, determ., equivalence use between boxing and scaling 7−15469
- scaling limits and DLR equations in the Euclidean field theory 7−49003
- self-avoiding walks on random lattices, scaling theory 7−48563

scaling phenomena continued
- SU(2) gauge theory, Monte Carlo renormalisation study of deconfining transition 7−15073
- SU(2) lattice gauge theory, finite temperature, Migdal renormalization group anal., transition temp. scaling props. 7−9966
- SU(2) Yang-Mills lattice theory, correlation lengths and finite size effects 7−56426
- SU(3) lattice gauge theory, $\Delta\beta$ and asymptotic scaling 7−4955
- SU(3) lattice gauge theory, scaling behaviour of heavy-quark potential 7−486
- SU(3) lattice gauge theory, topological susceptibility Monte Carlo calcs. 7−61455
- SU(3) lattice QCD, β-function at large β, Monte Carlo renormalisation group anal. scaling deviations 7−24781
- SU(N) gauge theories, effects of self-dual fourth-rank tensor scalar fields on asymptotic freedom 7−390
- SU(N) Yang-Mills theory, d=4, lattice actions, effects of one-loop improvement on scaling behaviour 7−410
- SUSY QCD, nucleon spin conservation at short distances 7−490
- thermodynamics functions, scaling laws and universality of critical phenomena 7−14906
- three-spin ising model, conformal invariance and critical behaviour 7−53009
- threshold percolation density in strongly correlated lattice systems 7−14895
- universal functional equation for period doubling in constant jacobian maps 7−30183
- X-Y model, spin-1/2 antiferromagnetic rings, ground state finite-size scaling calcs. 7−56179
- 2N, 0.1-1.0 GeV^2/c^2, nucleon magnetic moment and effective hadronic degrees of freedom 7−24973
- $\alpha\alpha$, $\sqrt{S_{NN}}$=31 GeV, neutral energy spectra, obs. of KNO scaling 7−35897
- (e,e′), Y-scaling, FSI and scaling variables 7−56560
- e^+e^-, $4 \leq E_{c.m.} \leq 34$ GeV, unified multiplicity scaling, quantum statistical analysis 7−61709
- $e^+e^- \rightarrow$hadrons, sub-Poissonian hadronic multiplicity distribs. 7−19121
- $e^+e^- \rightarrow X$, rapidity dependence of multiplicity distrib., KNO scaling 7−532
- (γ,ψX), rescaling of parton distribs. 7−61883
- hh large angle scatt., spin effects 7−24912
- $lN \rightarrow X$, deep inelastic scatt., impulse approx. and scaling variable modification 7−527
- μp, $4 \leq E_{c.m.} \leq 20$ GeV, unified multiplicity scaling, quantum statistical analysis 7−61709
- N magnetic moment, scaling limits in nuclei 7−56554
- $\bar{\nu}\nu \rightarrow$hadrons, sub-Poissonian hadronic multiplicity distribs. 7−19121
- (p,γX), rescaling of parton distribs. 7−61883
- (p,l^+l^-X), l=lepton, rescaling of parton distribs. 7−61883
- pp, $\sqrt{S_{NN}}$=31 GeV, neutral energy spectra, obs. of KNO scaling 7−35897
- $\bar{p}$p, CERN energies, multiparticle distribs. in limited rapidity intervals, asymptotic KNO scaling violation 7−15175
- $\bar{p}$p, multiparticle distrib. limited rapidity intervals, asymptotic KNO scaling 7−35917
- $\bar{p}$p, SPS energies, fragmentation props. of quark and gluon jets 7−5129
- $\bar{p}$p elastic scattering, 10-100 GeV, impact-parameter representation anal., comparison with pp 7−35906
- $\bar{p}p \rightarrow$quark+gluon jets, fragmentation props., Q^2-dependent scaling violation effects 7−61772
- $\bar{p}p \rightarrow X$, multiplicity distrib., clusters 7−30295
- $\pi^- N \rightarrow \pi X$, 4 GeV/c in ^{12}C, multiplicity of charged and neutral particles 7−19131
- a-DyNi, critical props. and universality class of disordered systems 7−2884

scaling tubes *see counting tubes*

scandium
- *see also nuclei with ......*
- atom, STF HF wave functions 7−25365
- Auger spectroscopy, edge effects 7−3121
- oxidation kinetics 7−65190
- single crystal surface characterization, RBS/channeling, SEM and LAMMA anal. 7−12425
- thin films, vacuum-deposited, struct. and optical props. 7−58698
- $SC^+ + H_2$ endothermic reaction ab initio pot. energy surfaces 7−13746
- Sc VI, transition probabilities and wavelengths 7−15550
- Sc^-, core size role in photoelectron spectra 7−15571
- Sc-CO, mol. bonding, pseudopot., and singles-and-doubles CI calcs. 7−10440

scandium alloys
- *see also scandium compounds*
- Al-Li-Sc, cast, decomp., mech. props., struct. *(Russian)* 7−59532
- Al-Sc, oxidation kinetics 7−65190
- AlMgSc first wall materials, sputtering and radiation induced segregation 7−38072
- Ce-Sc, shape memory effect *(Russian)* 7−59583
- Ce-Sc (B at.%), γ to α transition, EMF generation, press. depend. near crit. point *(Russian)* 7−53723
- CeSc alloys, gamma to alpha transform., press. and alloying effects *(Russian)* 7−12257
- Fe-Sc alloys, struct. and mag. props., NMR and X-ray diffr. studies *(Russian)* 7−6578
- Fe-Sc amorphous alloys, Curie temp., mag. moment and magnetovolume effects 7−33172
- Sc-Bi alloys, thermodynamic props. and phase equilib. 7−3276
- Sc-Ga(In)(Sb), alloy form, thermodynamics 7−22637
- $Sc(CO_{1-x}Al_x)_2$, pseudobinary system, weak itinerant ferromagnetism 7−2825
- ScCe, Ce impurity, ground state studies, multiplet effects, near-edge XAS 7−64803
- $Sc(Co_{1-x}Al_x)_2$, anomalous high field magnetisation 7−64438
- $ScGa_3$, band struct., coupling energy *(Russian)* 7−58732
- $ScH_x(D_x)$, H diffusion 7−52117
- $Sc_6Nc_{18}Si_{11}$, cryst. struct. determ. 7−58205
- ScPd, inter-band optical cond., microscopical calc. *(Russian)* 7−59166
- TbSc, dilute alloys, hyperfine fields and local moment form. 7−64433

scandium compounds
- *see also scandium alloys*
- rare earth cpds., $RSc_3(BO_3)_4$, (R=Ce,Pr,Nd,Sm), preparation, struct. and props. 7−1968

scandium compounds continued
- $Ca_3Sc_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7−53404
- Cr,Nd: $(Gd,Sc)_3Ga_5O_{12}$ laser crystals, growth and quality 7−13346
- Cr,Nd:$GdScGa_5O_{12}$ laser Q switching for optimising use of stored energy 7−25851
- Cr,Nd:$GdScGa_5O_{12}$ laser rods losses and efficiency meas. 7−43106
- Cr:$ScBO_3$ laser, tunable over 785 to 892 nm 7−15872
- Cr^{3+}:$Gd_3Sc_2AL_3O_{12}$ laser, flash-lamp pumped 7−15902
- $(Gd,Sc)_3Ga_5O_{12}$ laser materials, high strength, development 7−10961
- $GdScGa_5O_{12}$:Cr, Tm crystals., dual freq. lasing study 7−43117
- $Gd_3Sc_2Ga_3O_{12}$, garnets 7−21045
- $Gd_{2.813}Tm_{0.17}Ho_{0.017}Sc_yCr_{0.05}Ga_{4.95}O_{12}$, laser active medium operating in 2 μm range 7−50568
- HfO_2-Y_2O_3, solid solution single crystal growth 7−7838
- $KSc(MoO_4)_2$, first-order ferroelastic transition 7−58460
- $Li_3Sc_2\ (PO_4)_3$, cryst. struct. at 573K, X-ray diffr. studies 7−44487
- $Li_3Sc_2(PO_4)_3$, microtwinning, X-ray struct. investig. 7−44567
- $Li_3Sc_2(PO_4)_3$, monoclinic modification, cryst. struct. studies 7−44488
- $Na_3Sc_2(PO_4)_3$ cryst. struct., tetrahedra disorder and ion-ion correls. studies 7−26723
- Nd,Cr:$(Gd,Sc)_3Ga_5O_{12}$, spectroscopic, optical and thermo-mechanical props. and laser performance 7−10963
- PbO-Nb_2O_5-Sc_2O_3 oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
- $ScAl_3C_3$, cryst. struct. determ. 7−58242
- $ScBO_3$, luminesc. of Sb^{3+} 7−33442
- $Sc_4Cl_6B(N)$ infinite chain phases, single cryst. struct. studies 7−32385
- $Sc_7Cl_{12}B(N)$ metal-metal bonded cluster phases, single cryst. struct. studies 7−32385
- Sc_3CoC_4, cryst. struct. determ. 7−58241
- $ScD_{1.8}$, neutron diffr. study 7−38254
- ScN compensated semimetal single crysts., electronic struct., reflectivity and elec. props. meas. 7−27253
- ScO, electric dipole moment calcs., laser fluoresc. excitation spectroscopy 7−19930
- ScO, low-lying states, SDCI calcs. 7−25421
- ScS, low-lying states, SDCI calcs. 7−25421
- Sc_2S_3, solid, elec. cond. *(Japanese)* 7−33002
- $ScSi_{2-x}$-Si, silicide thin films, phase composition, conductance, surface morphology 7−7072
- $Sc_2Si_xO_y$;Nd^{3+}, spontaneous and stimulated emission 7−39171
- $Sc_2V_3Si_4$, cryst. struct. determ. 7−58243
- $ScZnGaO_4$, luminescence props. 7−17341
- $Sm_{1-x}Sc_xS$ alloys, intermediate valence, X-ray absorption study 7−7789
- $Sm_{1-x}Sc_xS$, first order valence phase transition, XANES study 7−38524
- $(U, Sc)O_{2\pm x}/ZrO_2$-Y_2O_3 interface charactn. 7−21677
- $(Y,Sc)_3Ga_5O_{12}$:Cr^{3+},Er^{3+}, spectral, luminesc. and lasing props., Stark sublevel lifetimes 7−25827
- ZrO_2-Sc_2O_3, cubic to β martensitic transform. 7−22681
- ZrO_2-Sc_2O_3 films, composition and struct., X-ray emission and ESCA studies 7−22385

scanning acoustic microscopes *see acoustic microscopes*

scanning acoustic microscopy *see acoustic microscopy*

scanning electron microscope applications *see scanning electron microscopy*

scanning electron microscope examination of materials
- *see also scanning electron microscopy*
- abrasive wear mechanism, wear process successive obs. in SEM 7−8229
- Al-Li-Mg powders, mech. alloying 7−64968
- aramid fiber reinforced epoxy, delamination fracture toughness 7−53900
- asbestos-brucite-polyphenylene sulphide composites 7−53925
- bladder urothelium, mouse, electron irrad. effects, SEM obs. 7−60058
- calcium oxalate, crystallization processes using reverse osmosis 7−53538
- calcium oxalate crystals, precip. by reverse osmosis system, habit modifiers 7−16460
- cellulose, particle size and order changes, ^{13}C NMR and NIR diffuse reflectance spectroscopy responses 7−27610
- cellulose fibre reinforced polyester, prep., and props. 7−3265
- ceramic wear behaviour, cathodolum. mode appl. in SEM 7−8228
- cermet powder, surface treatment and surface props. *(Japanese)* 7−46666
- cordierite glass and glass-ceramic, comparative single-point diamond scratching behaviour 7−46654
- diamond, synthesis by laser induced CVD, low press. 7−13371
- diamond CVD, Raman and IR spectroscopy study 7−17428
- duodenal lesions by thoracic irrad., surface SEM studies 7−28621
- electrical treeing, breakdown lifetime and microstruct. sequence 7−13092
- fluorozirconate glass, chem. durability, reaction with water 7−39682
- gilsonite, microstructure and mechanical props. 7−44838
- glass fibre reinforced polypropylene, subjected to pure bending, dynamic tensile props. 7−46545
- glass waveguides, Ag film diffused, diffusion process and optical props. 7−50737
- graphite fiber reinforced epoxy, delamination fracture toughness 7−53900
- graphite fibre, benzene-derived, exfoliation and characters. 7−46663
- graphite fibre reinforced epoxy, interlaminar fracture toughness, effects of rad. 7−33773
- graphite fibre reinforced epoxy laminates static or fatigue loading, fracture surface anal. *(German)* 7−22826
- graphite particulate composites, opt. and scanning electron microscopic obs. of graphite struct. 7−22933
- graphite surface pulsed laser irradiation, SEM, TEM and STEM microstructural studies 7−12139
- hard materials, wear resist., comparative study 7−3457
- Hastelloy alloys, C-4, C-22 and C-276, welding metallurgy 7−46448
- Langmuir-Blodgett films, SEM monitoring of internal structure 7−45015
- laser annealing, pulsed, surface structure formation 7−58322
- magnetic films, Neel surface domain wall structures, spin-polarized SEM studies 7−13010
- magnetic materials, domain obs. by colloid-SEM method *(Japanese)* 7−7533
- metal wire connections, contact resist., effect of fretting 7−21980
- metal-carbide composites, implantation modified, friction, surface chemistry 7−46660
- microtopography evaluation with SEM 7−296
- monotectic alloy, section prep., micromilling, polishing *(German, English)* 7−22937
- mother-of-pearl, fracture surfaces, analytical techniques appl. 7−8781
- Nimonic 105, Ni-base superalloys, precip. and tensile deform. behaviour 7−65078

scanning electron microscope examination of materials continued
- nylon 6 composites, formed by in situ polymerisation of caprolactam, mech. performance 7−39575
- p-n structures, electron-probe analysis using the dependence of the induced current on the acceleration voltage 7−38348
- pearlite-austenite interface, SEM obs. 7−39505
- pearlite-martensite interface, SEM obs. 7−39505
- peridotite melting under ultrahigh pressure, SEM and EPMA analysis appl. 7−34481
- PET film, solvent induced crystallisation, morphology, SEM obs. 7−44406
- phenolic resin composites, optimisation for friction materials 7−39475
- photoreceptor cells from retina of domestic pig, comparison of size as determ. by light and scanning electron microscopy 7−13999
- plastics, conductive, continuous milling *(Japanese)* 7−46408
- poly 2-aminopyridine films, electrochemical synthesis, SEM obs. 7−53691
- poly p-phenylene benzobisthiazole-poly 2,5(6)benzimidazole blends, phase separation morphology 7−7981
- polyacetylene films, polymerisation condition effect on morphology 7−37906
- polydiacetylene single crystal fibres in composites, stress-induced twinning 7−16567
- polyester, clay-filled, tensile behaviour 7−3382
- polyethylene, cold-rolled low-density, morphology and transport props. 7−13519
- polyimide film, etching and surface modification in plasmas, XPS, SEM and contact angle meas. 7−28166
- polymer surfaces, erosive wear by steel ball blasting 7−3446
- polyphenylene sulphide coatings, internal struct., curing effect 7−22861
- polypropylene mica filled composites, struct.-mech. props. relations 7−1919
- polypropylene-ethylene-propylene copolymer blends, isotactic, mechanical props. and morphology 7−63539
- polysilicon oxidation, appl. to double polysilicon devices 7−39774
- polyvinylidene films, void strict., SEM obs. 7−6552
- porous materials, fluid permeability, SEM images, digital image anal. 7−4923
- propylene-Al_2O_3 system, mixing and flow props. *(Japanese)* 7−44832
- PVC, suspensions, grain formation 7−22694
- PVC-thermoplastic copolyester elastomer blends, γ-irrad., mech props., fractography 7−21317
- reactive ion etching, AES, photoluminescence, SEM obs. 7−65241
- rocks, scanning Auger microscopy as a high-resolution microprobe for geologic materials 7−34683
- rubber-modified epoxy resins, toughening mechanism 7−28112
- sapphire, filaments, CO_2 laser heating, evaporation and chlorination 7−58331
- scanning electron microscope cathodoluminescence technique for anal. of band structure in solids 7−51595
- semiconductor, EBIC image interpretation using Monte Carlo simulations 7−35640
- semiconductor interfaces, SEM three-dimensional characterisation 7−52312
- semiconductors, laser damage of solid targets 7−58326
- semiconductors, scanning electron microscope characterisation, book contrib. 7−41551
- SOI structures, lateral epitaxy formation, melting and resolidification 7−38386
- Solar Max samples, erosion studies 7−46743
- stainless steel, ferritic, for selective solar absorbers, conversion coating anal. 7−23224
- stainless steel electrode surface damage anal. in high energy spark gaps 7−33991
- steel, austenitic, Al-Mn, mech. props., oxidation and corrosion behaviour 7−65218
- steel, austenitic stainless, corrosion product release in lithiated high temp. water, mechanism and kinetics 7−65172
- steel, austenitic stainless, fusion reactor blanket material, oxidation and volatisation rates in air 7−53957
- steel, austenitic stainless, Mo-ion plated, corrosion resist. in flowing Na environment 7−59667
- steel, austenitic stainless, rapidly solidified, microstruct. characterisation 7−22672
- steel, austenitic stainless, tensile and impact props., effect of grain boundary carbides 7−33785
- steel, B-containing, H-embrittled grain boundaries, Auger anal. 7−59633
- steel, bearing type, quenching temp. rel. to microstruct. and fracture surface morphology 7−8015
- steel, boronised, boride-substrate interface morphology 7−53984
- steel, C, fatigue crack growth behaviour at US freq., influence of temp. 7−39622
- steel, C, wear behaviour with US vibr. effect superimposed on static contact load 7−3452
- steel, Ca, inclusion globularising, Ba additions effect 7−21193
- steel, Cr-Mo, breakaway oxidation and internal cracking at 900°C, freq. anal. of AE signal 7−17718
- steel, Cr-Mo, crack initiation under sustained load, effect of impurity segregation 7−65111
- steel, Cr-Mo, high C, bonded carbide, secondary temper hardening, microstruct. 7−17542
- steel, Cr-Mo, oxidation kinetics, breakaway oxidation and inversion phenomena 7−17714
- steel, CR-Mo-Ni, temper embrittlement, effect of V additions 7−13575
- steel, eutectoid, microstruct. obs. of bainite stars 7−53695
- steel, finite-pearlite and austenitic, fractographic characts. of fatigue crack development 7−46643
- steel, growth under impact tension 7−28105
- steel, HSLA, microalloyed, precipitate size and comp., influence of reheating temp., investig. by electron microscopy 7−65054
- steel, ion implantation and thermal oxidation treatments for wear reduction 7−3481
- steel, linepipe, H-induced cracking 7−22881
- steel, low-alloy, bainitic transform., kinetics and mechanism 7−13447
- steel, managing, 18 Ni, erosion, effect of microstruct. and mech. props. 7−22849
- steel, medium C, wear, influences of materials and operating parameters 7−8133
- steel, mild, corrosion in sea water, calcareous deposits form. 7−3485
- steel, Mn, austenitic, friction induced martensitic transform., wear resist., work hardened surface layer 7−17531

scanning electron microscope examination of materials continued
- steel, Mn, lath martensite, embrittlement in specimens containing 6 to 10% Mn *(Japanese)* 7—33774
- steel, Mn-Cr, case carburising, mech. props., influence of inclusion characts. 7—65135
- steel, Ni-Cr, deform. dislocation struct., fracture 7—33740
- steel, Ni-Cr, tensile flake form., H damage, dislocation transportation *(Chinese)* 7—8077
- steel, Ni-Cr-Mo, cylinder-on-disc lubricated sliding wear expts. *(Chinese)* 7—59639
- steel, pressure vessel weld metal, cleavage fracturing stages at inclusion sites 7—8092
- steel, rotor type, deformed, microcrack dimens. rel. to acoustic emission parameters and struct. 7—65258
- steel, small surface crack propag. 7—65142
- steel, stainless, duplex, austenitic-ferritic, cavitation erosion 7—65149
- steel, stainless 304, erosion by sharp alumina particles 7—3453
- steel, tool, high speed, splat quenched, microstruct. variations 7—46439
- steel, Zn phosphated, corrosion resist., cyclic voltammetry, SEM obs. 7—65181
- steels, stainless, α-particle irradiated, mech. props. and microstruct. 7—51872
- surface features, thermal wave imaging studies in a SEM 7—44874
- surface layers under toluene, laser irradiated, supersaturation with C 7—51820
- synthetic Cu salts, corrosion on bronze, TEM and SEM study 7—17737
- thermoplastic materials, erosion resistance, angular particle impingement at normal incidence 7—3442
- thin films, quality testing using hardness meas. in SEM 7—8210
- triorthophosphates, superionic, synthesis and charactn. 7—53530
- Udimet 700, Ni-base alloy, solidified, dendrite arm spacing rel. to cooling rate 7—53713
- wollastonite reinforced polyamide 6, strength props., depend. on humidity and temp. 7—39636
- wood pulp fibre-cement paste composites, fibre-matrix interface, SEM obs. 7—64985
- Ag film on Cu substrate, depth profile shape, AES, influence of crystallographic orientation 7—27205
- Ag-Si interfaces, micro-quantitative AES anal. using SEM-SAM apparatus 7—27147
- AgCl films deposited by evaporation and RF sputtering, compositional and morphological anal. 7—16892
- Al alloy, small surface crack propag. 7—65142
- Al, anodising by chromic acid, surface struct., abrasion resist., hardness, adhesion props. 7—13646
- Al disks, He ion implanted, He re-emission ratios and surface obs. *(Japanese)* 7—12089
- Al film deposition on amorphous substrates 7—21770
- Al films, vapour deposited, effect of O partial press. 7—52339
- Al, mechanically deformed, thermoacoustic imaging 7—46757
- Al, plastic deformation under impact loading, metallography, SEM and TEM studies *(Russian)* 7—3361
- Al surface, ion induced secondary electrons, surface topography effects 7—13280
- Al surface, ion irradiated, flaking, orientation dependence 7—38074
- Al/TiN/Si contacts for VLSI, analytical electron microscopy 7—58651
- Al-Al_2O_3, ion plated coatings using pulsed O_2 process 7—22586
- Al-Al_2O_3-Ag MIM structs. biased near breakdown voltage, optical emission 7—52853
- Al-Al_2O_3-Au MIM structs. biased near breakdown voltage, optical emission 7—52853
- Al-Al_2O_3-MgO, cast particulate composites, microstruct. and mech. props. 7—65086
- Al-base bearing alloyed, leaded, wear characts. 7—33808
- Al-Cu-Be (3, 0.1 wt.%), precip. reactions 7—53738
- Al-Cu-Mg, IN 9021, creep crack growth fracture morphology 7—53881
- Al-Fe-R, R=Ce, Er, Nd or Gd, rapidly solidified microstruct. 7—59502
- Al-Li-Cu-Mg quaternary alloy, initiation of voiding at second-phase particles 7—39645
- Al-Li-Cu(-Mg), stress corrosion resist. and mech. props. 7—33833
- Al-Mg, rapidly solidified powders, effect of extrusion parameters on props. 7—39595
- Al-Mg-Si, Al-Mg, cast, mica particle dispersed composites, struct., strength, hardness 7—59574
- Al-Mn-Si, quasicryst., X-ray diffr., TEM and SEM study 7—12299
- Al-Si/Ti/Al-Si VLSI metallisation, electromigration and microstruct. props. 7—21550
- AlCuLi alloys, large quasicrystalline dendrites, triacontahedral solidification morphology 7—32345
- Al_2O_3, particle shape of plasma sprayed oxides, SEM obs. 7—2403
- Al_2O_3 subsurface layers formed by O_2^+ ion implantation into Al, O_2 bubbles obs. 7—2035
- Al_2O_3 thin films, electron emission characts., continuous dynode appl. 7—17376
- Al_2O_3-Co solar absorber coating, spectrally selective surfaces 7—23223
- Al_2O_3-SiC composites, microstruct. and mech. props. *(Japanese)* 7—22821
- Al_2O_43-ZrO_2 composites, microstruct. charactn. by Raman spectroscopy *(Japanese)* 7—22684
- α-$AlPO_4$, berlinite, piezoelec. and elastic props., effect off defects on phys. props. 7—51909
- AlSb-GaSb superlattices, low-temp. growth by plasma process *(Japanese)* 7—7061
- Al_2TiO_5-mullite composites, thermal and mech. props., effect of comp. *(Japanese)* 7—26987
- Au polycrystalline tips, grain rotation and grain boundary annihilation, in situ SEM study 7—32460
- Au-GaAs, annealed, interface erosion 7—21683
- Au-InP, solid-state reactions, Au_2P_3 formation 7—58550
- $AuGa_2$-GaAs (001), chemically unreactive interfaces formation 7—7050
- B fibre reinforced Al matrix composites, transverse mech. props., isothermal exposure effect 7—39688
- c-BN, high press. sintering 7—22615
- BN, wurtzitic compacts, sintered, particle size distrib., hardness, phase comp. 7—59603
- $BaTiO_3$:Nb(Ca), ferroelec. domains, SEM and TEM obs. 7—2998
- C fibre reinforced epoxy, electrodeposition of polymer interphase 7—13592
- C fibres, B modified, effect on mech. props. 7—17570
- C fibres, Celion, mechanical and fracture behaviour 7—22786
- C fibres, polymer-coated, charactn. and pot. for composite appl. 7—22632

scanning electron microscope examination of materials continued
- C fibres, pretorsional deform., annealing, acid treatment, struct., mech. props 7—22768
- $CaCO_3$ crystal symmetry elements determ. by SEM 7—58107
- CaF_2, crack-free epitaxial film, on GaAs (100), surface morphology, elec. props. 7—39392
- CaF_2-Si interface, with epitaxially grown insulator, post-growth annealing treatments 7—7074
- $CaPO_3$ crystal formation in tissues, SEM studies 7—28445
- $CaTiSiO_5$, sphene crystals, melt growth and character. 7—7840
- $Cd_xHg_{1-x}Te$ layers, MOVPE, CdTe substrate orientation effect, RHEED, SEM obs. 7—59447
- CdO bent whiskers, three-dimens. reconstruction of electron microscope objects 7—56377
- CdS-Cu_2S, solar cells, SEM and Auger microanalysis 7—23189
- CdSe lattice defects, digital struct. anal. by ion beam thinning for high resolution electron microscopy 7—6616
- CdTe grown on Si by LPMOCVD, physical props., SEM obs. of surface morphology 7—27181
- CdTe, MBE growth on GaAs substrates, struct. and optical props. 7—64907
- CdZnTe, MBE growth on GaAs substrates, struct. and optical props. 7—64907
- Co-Ni-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7—27581
- Co-P electroless plated thin films, microstructure, mag. props., mag. recording appl. 7—27581
- CoCrAlY electron beam physical vapour deposition coating microstruct., TEM characterisation 7—52334
- CoNiCr-Cr sputtered thin films, film struct., mag. props. 7—33227
- $CoSi_2$, MBE growth, struct. props. and device appls. 7—21738
- $CoSi_2$ self-aligned silicide technology using rapid thermal processing 7—52154
- $CoSi_2$-Si epitaxial heterostructures, growth and characterisation 7—27212
- Cr, vacuum-deposited, hardness and struct. studies 7—33761
- Cr/Ni interface broadening and topography of Auger sputtered profiles 7—53485
- Cu, diffusion bonding, strain-free mounting appl. 7—3572
- Cu, erosion by spherical non-friable steel shot, impact angle effect 7—8136
- Cu wires, thin, sputter-induced cones 7—51881
- Cu-Al (6 wt.%), erosion by spherical non-friable steel shot, impact angle effect 7—8136
- Cu-Al bronzes, microstruct., corrosion 7—39697
- Cu-Al-Ni-Ti-Zr, shape memory alloy, grain refinement, fracture mode, Ti and Zr additions effect 7—3301
- Cu-Co (2 at.%), underaged, fatigue props., comparison of single crysts. and polycrysts. *(German)* 7—46648
- Cu-Pd alloy, surface segregation, scanning Auger electron microscopy study 7—21578
- Cu-Zn-Al shape memory alloys, rapidly solidified, microstruct. and props. *(Chinese)* 7—8043
- Cu-Zr, amorphisation under action of high press. and shear deform. *(Russian)* 7—58163
- $Cu_{33}Zr_{67}$ metallic glasses, flux pinning and critical current peak effect studies 7—22079
- (Fe,Co,Ni)-P layers, electrochemical deposition, struct. *(Chinese)* 7—7037
- Fe, cast, cavitation resist., microstructure, SEM obs. *(German, English)* 7—59641
- Fe, cast, nodular graphite, fatigue crack propag. rel. to microstruct., SEM obs. *(Chinese)* 7—13542
- Fe, cast, pearlitic, nodular, fractographic anal. 7—53882
- Fe, metal surfaces immersed in liquid media, pulsed laser oxidation and nitridation 7—59656
- Fe, reaction with HCl-O_2-Ar mixtures at 550°C 7—17713
- Fe sputtered films, mag. perpendicular anisotropy, Mossbauer studies 7—59076
- Fe thin films, sputter deposited at oblique incidence, microstruct. and mag. props. *(Japanese)* 7—33560
- Fe/Ni Reed blades, Au coated, AES/SEM study 7—44972
- Fe-Cr-Ni-Mn-N (18, 20, 5, 0.16 wt.%), weld metal, fully austenitic, tensile and fracture props. at 4K 7—53901
- Fe-Mo (14.5 wt.%), ageing, discontinuous dislocational transform., coercivity obs. 7—3305
- Fe-Ni-P-C, amorphisation under action of high press. and shear deform. *(Russian)* 7—58163
- Fe-Si (3 at.%), grain-oriented, fatigue crack growth, direct, real-time obs. *(Japanese)* 7—59615
- Fe-Ti/AISI 304 stainless steel system, ion beam mixed, wear and friction studies 7—46657
- $Fe_{78}B_{13}Si_9$, magnetron sputtered amorphous alloys, thermal, mag. and magnetomechanical props. 7—33249
- $Fe_{76}Nd_{16}B_8$ plasma sprayed permanent magnets, characts. 7—45754
- $Fe_{14}Nd(Y)(Ce)_2B$ fine particles prep. by hydriding, mag. props., recording appls. 7—53660
- $Fe_{40}Ni_{40}B_{20}$, amorphous alloys, domain wall motion, SEM obs. 7—52978
- $Fe_{50}Ni_{30}B_{20}$, amorphous alloys, domain wall motion, SEM obs. 7—52978
- $Fe_{10}Ni_{65}Si_{10}B_{15}$ spin glass, amorphous, effect of phase segregation during struct. relax. 7—39517
- $Fe_{80}P_{13}C_7$ alloy, metallic glass surface layers by rapid quenching, microhardness 7—3512
- Fe_2SiO_4-Zn_2SiO_4, limited solid soln., cation ordering 7—51709
- Ga-As-AlGaAs superlattice, laser induced disordering and Si impurity incorporation 7—45018
- GaAs, dislocation network density determ., thermal wave microscopy 7—51778
- GaAs epitaxial films, growth by close-spaced vapour transport, unwanted doping, X-ray diffr., SEM obs. 7—27187
- GaAs films, initial stages of MBE growth on Si (100) 7—63995
- GaAs films on oxidised Si, zone melting recrystallisation 7—38396
- GaAs, LEC grown, obs. of Ga precipitates 7—32663
- GaAs MBE layer growth and surface anal. *(Korean)* 7—2417
- GaAs, semiconducting and semi-insulating LEC crystals, SEM-EBIC characterisation 7—51777
- GaAs, semiinsulating LEC substrates, defect etching 7—59694
- GaP epitaxial layers, MOCVD growth on Si, TEM and SEM 7—38416
- GaP on Si substrate, MOCVD growth and characterisation 7—27926
- GaP/GaAsP epitaxial layers, MOCVD growth on Si, TEM and SEM 7—38416
- GaSb:Gd,Ho crystal grown by horizontal zone melting, precipitate identification 7—21462

scanning electron microscope examination of materials continued
Ge epitaxial films, CVD growth on Ge substrates, surface morphology 7−53618
Ge-CaF$_2$-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7−12566
Hf$_{1-x}$Cu$_x$ metallic glass, thermal stability and phase transformations 7−21125
Hg$_{1-x}$Cd$_x$Te MBE layers, plasma oxidation, oxide growth, comp. and surface struct. 7−54018
HoFeO$_3$ crystals, flux growth, secondary phase and microdiscs form. 7−13344
In$_{0.53}$Ga$_{0.47}$As, LPE growth on semiinsulating InP:Fe, SEM studies 7−22591
In$_2$O$_3$:Sn vapour deposited films, growth, struct., electronic props. 7−12535
InP, reactive ion etching, AES, photoluminescence, SEM obs. 7−65241
InP substrates, influence of inhomogeneities on quality of quaternary layers 7−32770
InP:Fe, Czochralski-grown, stoichiometric-related faulted loops, struct. and lumin. props. 7−51772
InP:S, LEC grown, influence of growth conditions on defects 7−32427
n-InP:Zn, Zn diffusion 7−63882
InSb-NiSb eutectic composite, rel. between metal fibre morphology and elec. props. 7−59644
KCl, solute trapped from air-acetylene flame, morphological investig. 7−28362
LaB$_6$ dispersed powders and compact specimens, struct. and morphology 7−64976
LiF, pore-grain boundary configs., fracture surface, SEM obs. 7−32458
LiND$_4$SO$_4$, ferroelastic and ferroelectric domain struct., SEM obs. 7−27675
LiNH$_4$SO$_4$, ferroelastic and ferroelectric domain struct., SEM obs. 7−27675
LiNbO$_3$ crystals, struct. defects and etch figures 7−44555
LiNbO$_3$ polycrystalline films, prep. by hydrolytic decomp. of metal alkoxide alcoholic solns., SEM obs. 7−7044
Li$_2$O-SiO$_2$ glass, Pt catalysed crystallisation 7−6524
Li$_2$O-SiO$_2$ glasses prepared under microgravity and 1-g melting conditions, homogeneity 7−21117
MgAl$_2$O$_4$, particle shape of plasma sprayed oxides, SEM obs. 7−2403
MgO, deformed and annealed, red cathodoluminescence spectrum 7−27792
MgO single crystals, high temp. creep and dislocation struct. at low stresses 7−21336
MgO:Al crystals, cathodolum., effect of heat treatment 7−7767
MgO-Al$_2$O$_3$-SiO$_2$-GeO$_2$ cordierite ceramics, sintering, microstruct., thermal props. 7−52088
Mo, hydroextruded single crystals, nonuniformity of texture deform. *(Russian)* 7−33695
MoS$_2$ coatings, thickness meas., nondestructive methods performance 7−18751
MoS$_2$, high press. synthesis, characterisation 7−26716
MoS$_2$, surface chemistry and props., photoemission, SIMS and SEM anal. 7−44971
NaNbO$_3$ polycrystalline films, prep. by hydrolytic decomp. of metal alkoxide alcoholic solns., SEM obs. 7−7044
Na$_2$O-B$_2$O$_3$-SiO$_2$ ThO$_2$-rich porous glass ceramic, phase separation *(Afrikaans)* 7−13439
Na$_2$O-V$_2$O$_5$-P$_2$O$_5$, crystallised glass, containing V bronze crysts., elec. cond. 7−21922
Nb, pure, tensile deform., brittle fracture, H effect, SEM obs. *(Chinese)* 7−8078
Nb thin whiskers, struct., heat treatment effects, SEM study 7−12579
Nb$_3$Ge, high supercond. transition temp., struct. instabilities and electronic props. 7−58943
Nd-Dy-Fe-B-based sintered magnet, microstruct., heat treatment effects 7−53767
Nd-Fe-B amorphous ribbons, effect of crystallisation conditions on hard mag. props. 7−27561
Nd-Fe-B permanent magnets, prod. by hydrogen decrepitation/attritor milling route 7−22606
Ni, grain boundaries in very clean tips, SEM, FEM obs. 7−52148
Ni, intergranular cavitation in high temp. creep, fractographic techniques appl. 7−53804
Ni, intergranular H embrittlement kinetics 7−65134
Ni, ion implantation and pulsed laser melt quenching, metastable phase and defect struct. form. studies 7−16625
Ni-Ag overlayers, pulsed electron beam irradiation, heat flow model 7−38062
Ni-Al-Cr, melt spun ribbons, microstruct., mech. props., Cr conc. effect 7−28031
Ni-Al-Mo-W system, constitution of Ni$_3$Al-Ni$_3$Mo-Ni$_3$W section 7−13434
Ni-B-Si ternary system, liq.-solid equilib. in Ni-rich region *(French)* 7−65004
Ni-base alloy, (Nimonic 75), creep-fatigue interaction, SEM and TEM studies *(Chinese)* 7−13543
Ni-base alloy 718, cast, weld heat-affected zone liquation morphology 7−53715
Ni-base superalloys, cast, solidification behaviour w.r.t. Hf additions *(Chinese)* 7−7984
Ni-base superalloys, single cryst. and directionally solidified, oxidation in air at 1093 °C 7−65179
Ni-base superalloys, stability of lamellar γ-γ' struct. 7−46566
Ni-Co-Cr-Al-Y coatings, electron beam deposition, oxidation rel. to pretreatment 7−46702
Ni-Cr superalloy IN738LC creep induced damage identification using electron backscatt. patterns 7−46748
Ni-P electroless deposited amorphous coatings, wear resistance, crystallisation effects 7−53913
Ni-ZnO/ZnS, selective Ni black coating, struct. and optical response 7−58697
Ni$_3$Al-Be, ductility, strength, grain boundary segregation, solid soln. strengthening, Be addition effect 7−39608
Ni$_3$Al(B,Ti), rapidly solidified powders, struct. of consolidated products 7−3222
Ni$_3$B/Ni eutectic, SEM and HREM struct. and chem. anal. 7−17515
Ni$_{69.2}$Cr$_{6.6}$Si$_{13.7}$B$_{7.9}$Fe$_{2.6}$, amorphous alloy, 70 MeV Ni^{+6} ion irrad., surface swelling 7−16646
NiO-CaO eutectic, directionally solidified, struct. imperfections 7−65026
NiSi$_2$, MBE growth, struct. props. and device appls. 7−21738

scanning electron microscope examination of materials continued
NiSi$_2$-Si Schottky barrier heights, study by electron beam induced current 7−27381
Ni$_{33}$Zr$_{67}$ metallic glasses, flux pinning and critical current peak effect studies 7−22079
PZT powders, oxalate method prep., particle size *(Japanese)* 7−7941
PZT, prep. by oxalate method in ethanol soln. *(Japanese)* 7−3245
PZT, shock-recovery expts. 7−38119
Pb-Al-Mg-Sn-Li, strength and microstruct. 7−8047
Pb-Bi-Sn(In), alloy filaments, prod. by glass-coated melt spinning, enhancement of supercond. 7−58937
Pb-In films, Josephson junction, thermal stress cycles, hillock form. *(Japanese)* 7−12536
Pb-In-Au thin films, hillock growth kinetics, grain boundary diffusion, SEM study 7−27221
Pb-Li, strength and microstruct. 7−8047
Pd (100), surface topographies, SEM and scanning tunnelling microscopy studies 7−12436
Pd, pulsed current electrodeposition, pulse parameters effect on deposit morphology, H content 7−59473
PdSi, phase transform. to Pd$_2$Si, kinetics 7−16795
Pd$_{81}$Si$_{19}$, glassy, surface topographies, SEM and scanning tunnelling microscopy studies 7−12436
Pt silicide formation, defects study by scanning Auger microscopy 7−21195
Pt surface, graphite island form., FEM, SEM and AES studies 7−32805
Pt-group metal silicides epitaxial growth on Si (111) 7−21760
Rb$_{0.023}$WO$_3$, crystal growth and struct., SEM and TEM anal. 7−46288
β-Sb$_2$O$_4$:V(Mo), struct. characterisation, X-ray, neutron, and electron microscopy studies 7−32383
a-Sb$_2$S$_3$ films, thermally induced relax. of mechanical stresses 7−8032
Sc, single crystal surface characterization, RBS/channeling, SEM and LAMMA anal. 7−12425
Se, thin films, amorphous, crystn. 7−44371
Si detector material analysis using back electron beam induced current 7−44319
Si dislocation-free single crysts., microdefect recomb. activity, electron irrad. and annealing effects, SEM study *(Russian)* 7−21287
Si film growth for MOS-VLSI, Ti and Pt silicide form. 7−7870
Si MBE layers, defect characterisation, luminesc., TEM studies 7−13227
Si multilayers, LPE growth, DEM, TEM obs. 7−12565
Si p-n structures, induced current pot., temp. depend., impurity levels, SEM 7−17073
a-Si, prep. by low press. CVD, characts. 7−7884
Si surface roughening by reactive ion etching, mech. 7−65240
Si, thermal oxidation in dry O$_2$, 2D anal. *(Japanese)* 7−33859
Si wafer, stacking and technological faults, elec. activities, SEM study *(Russian)* 7−21234
Si wafers, striation prod. by grazing ion incidence 7−63684
Si:B, F implanted amorphous layers, struct. and elec. props., ESR and Hall effect meas. 7−26634
a-Si:H sputtered films, intrinsic stress, H effects 7−7078
Si:P, Ni$^+$, ion implantation and annealing 7−21245
Si:P, polycrystalline films, LPCVD, charactn. 7−53615
Si/PtSi(CrSi$_2$) Schottky diodes, surface imperfection induced elec. leakage paths 7−2719
Si-CaF$_2$-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7−12566
Si-W, buried conductor formation, low press. CVD W deposition on porous Si 7−32877
SiAlON-YAG ceramics, Auger electron microscopic quantification of phase comp. 7−22951
SiC corroded, scanning Auger microscopy study 7−13617
β-SiC dendrites, CVD, propag. mechanism 7−38423
β-SiC, epitaxially grown, antiphase boundaries 7−46722
SiC fibre reinforced Al composite wires, neutron irrad., mech. props., fusion reactor appl. 7−49628
SiC particle reinforced Al-Cu-Mg composite, failure mechanism, SEM obs. 7−65132
α-SiC polycrysts., pulsed laser annealing and ion beam mixing surface modification studies 7−16657
βSiC single cryst., wet and dry oxidation kinetics and interface characts. 7−13674
SiC, sintered, microstruct. and props., influence of fabrication method *(Japanese)* 7−22622
α-SiC, sintered, non-equilib. surface conditions and microstruct. changes following pulsed laser irrad. and ion beam mixing of Ni overlayers 7−65170
α-SiC, sintered, occurrence and distrib. of B-containing phases 7−39466
β-SiC, ultrafine powder synthesis in thermal arc plasmas 7−27916
SiC whisker reinforced Al, flame spraying fabrication and forging, whisker distrib. and strengths 7−59483
SiC-Al composites, heat treatment and neutron irrad. effects on mech. props. 7−65081
a-SiGe:H,F glow discharge films, microcrystallinity studies 7−45088
Si$_3$N$_4$, reaction bonded, thermal cond. *(Japanese)* 7−6902
Si$_3$N$_4$, reaction bonded ceramic, combined RHEED and SEM study 7−16432
Si$_3$N$_4$, sintered, fatigue strength under rotary bending 7−65128
Si$_3$N$_4$-ZrO$_2$ composites, thermal instability 7−28158
SiO$_2$, diffusion of F, consts. and profiles meas. 7−58540
SiO$_2$-GeO$_2$ silica core optical fibres, VAD deposited, structural inhomogeneities 7−11153
Si(111) substrates, MBE growth of non-lattice-matched (Ba,Ca)F$_2$, (Pb,Sn)Se-(Ba,Ca)F$_2$ and CdTe-(Ba,Ca)F$_2$ layers 7−27216
Sm-Co-B rapidly quenched ribbons, hard mag. props. and struct. 7−53048
Sm$_2$Co$_{17}$ single domain particles, SEM domain obs. 7−27566
Sn crystal symmetry elements determ. by SEM 7−58107
Sn films, sputtered onto polypropylene sheet, orientation rel. to deposition rate 7−45061
SnO$_2$:F electrodes, surface modification by underpotential deposition of noble metals 7−44998
Ta, grain boundaries in very clean tips, SEM, FEM obs. 7−52148
Ta-Ir alloy, amorphous, rapidly solidified, high temp. oxidation 7−33841
Tb$_{0.27}$Dy$_{0.73}$Fe$_2$, Terfenol, polycrystalline, domain structures and magnetomech. coupling 7−53025
Te$_{80}$S$_{19}$As overcoated trilayer struct., laser writing mechanism, microscopy studies 7−20149
(Ti,Al)N layers on high speed steel, morphology and props., deposition temp. and sputtering atmosphere depend. 7−53975

scanning electron microscope examination of materials continued
β-Ti alloy, springs, design and mech. props. 7−46630
Ti binary alloys, reduced technological plasticity and struct. *(Russian)* 7−17583
Ti, metal surfaces immersed in liquid media, pulsed laser oxidation and nitridation 7−59656
Ti-Al-V (6,4 wt.%), annealed fatigue crack growth in water, SEM fractography *(Chinese)* 7−8076
Ti-Al-V (6,4 wt.%), powder metallurgy, thermomechanically treated, deform. behaviour 7−53908
TiN films on tool steel, plasma-assisted CVD deposited, interfacial composition 7−52303
TiN magnetron sputtered films, electrochemically measured porosity 7−46317
TiN reactively RF sputtered coatings, structural defects and porosity, electrochem. polarisation meas. 7−52333
TiN-C(BN), hard composite coatings, deposition and props. 7−46623
TiN-coated gear cutting hobs, wear characteristics, mechanical and structural props. 7−53980
TiN-coated high-speed steel cutting tools, coating quality and surface finish., tool metallurgy and design 7−53979
U-Ti dilute alloys, phase transformations 7−16730
W base heavy metal alloys, mech.-props., porosity, impurity effects 7−17495
W CVD films, chem. charactn. 7−16915
W, grain boundaries in very clean tips, SEM, FEM obs. 7−52148
W selective CVD films, diffusion barrier props. 7−52155
W selective LPCVD films on Si substrate, characts. 7−38409
W-GaAs diode system, Schottky barrier degradation after high temp. annealing 7−33089
W-Si system, selective deposition of W films on Si wafers, WSi_2 formation 7−21748
W-Ti-Si interface, WSi_x form. by rapid thermal annealing, growth kinetics, Ti film effects 7−63969
W-Zr amorphous films as diffusion barriers between Al and Si 7−21504
WC-Co, abrasive wear, 3D shape effect 7−17652
WC-Co compact, stereological analysis of struct. form. during consolidation of carbide powder 7−53688
n-WSe_2 single crystal, growth, struct. and photoelectrochem. props. 7−27879
WSi_x CVD films on Si and Si_3N_4 coated Si, excess Si redistribution upon annealing 7−21723
Zn, electrochem. corrosion in $NaClO_2$ aq. soln. 7−17702
Zn, electrodeposition kinetics on Zn single crystals, pot. step method, SEM anal. 7−27189
Zn_3P_2 polycrystalline films, hot-wall deposited, elec. and optical props. 7−22487
ZnSe-ZnS electroluminescent MIS structures, MOCVD growth and charactn. 7−59443
ZrO_2 base ceramic thermal barrier coatings, erosion rel. to processing and microstruct. 7−3450
ZrO_2, cubic, crystal growth, stabiliser distrib. coeff. 7−53561
ZrO_2, Y_2O_3 partially stabilised, crack config. *(Japanese)* 7−65138
ZrO_2-CaO-P_2O_5-SiO_2 glass ceramics, prep. and mech. props. *(Japanese)* 7−7942
ZrO_2-SiO_2 optical films, struct. modification by coevaporation 7−45064
ZrO_2-Y_2O_3/(U, M)$O_{2\pm x}$, M=Sc or Y, interface charactn. 7−21677
ZrO_2-Y_2O_3-TiO_2 ceramics, transport, sintering behaviour 7−13421
$ZrSiO_4$ crystal symmetry elements determ. by SEM 7−58107

scanning electron microscopes
see also scanning electron microscopy
electrostatic electron-beam deflectors, comparison of electron optics 7−18910
field emission gun scanning electron microscope columns, computer modelling 7−41548
hemispherical retarding field energy analyser with microchannel plate detector 7−15035
magnetic contrast, type-1, rel. to mag. field vector pot. 7−56378
raster tunnel microscope *(German)* 7−48918
spin polarised operation, spatial resolution for mag. domain studies 7−56376
Stereoscan 360, total computer control SEM 7−4924
structural improvements, computerisation *(German)* 7−48921

scanning electron microscopy
see also scanning electron microscope examination of materials; scanning electron microscopes
Auger electron microprobe, spatial resolution improvement to ultimate values 7−30131
Auger microscopy, high resolution, for mineral surfaces 7−60426
Auger microscopy, quantitative multi-element analysis 7−23112
Auger microscopy and AES, effects of peak to background ratios 7−23111
automatic method for astigmatism meas. and correction 7−41541
backscattering pattern technique and use for creep tested specimens 7−46748
biological materials, ion beam etching using saddle field source, SEM studies 7−28797
channelling patterns, many beam effects and phase information 7−32534
charging effects in low-voltage scanning electron microscope metrology 7−56388
coatings, ultralow load hardness testing in a scanning electron microscope 7−46740
conference, Leuven, Belgium (May, 1986) 7−40988
contamination effects removal in SEM image by homomorphic filtering 7−367
correlation technique for TEM, SEM and light microscopy of fixed tissues in Epon blocks 7−40378
crack distributions on plane sections, correction of window size distortion 7−59711
divergent X-ray beam technique in a scanning electron microscope 7−63400
EBIC image interpretation using Monte Carlo simulations 7−35640
electron back scatter diffr. patterns for cryst. symmetry elements determ. 7−58107
electron tunnelling spectroscopy and scanning tunnel microscopy, review 7−41545
Fourier smoothing of scanning Auger microscope images using an optimal Wiener filter technique 7−16368
heterostructure lattice mismatch determ. by X-ray diffr. in SEM 7−6482
image analysis, fully automated system 7−56385

scanning electron microscopy continued
in situ technique, metal tip crysts. morphological evolution study 7−32239
LEED with microscopic resolution 7−56387
length meas. in μm range 7−4812
low energy SEM combined with LEED 7−21056
magnetic contrast, type-1, rel. to mag. field vector pot. 7−56378
magnetic meas. at surfaces, high resolution, with spin polarised electrons 7−3119
magnetic microfield 3D reconstruction, computerised microtomography methods 7−4874
magnetic surfaces, polarised electron probes 7−33264
MCP detection quantum efficiency meas. 7−41542
microcomputer-aided images acquisition and enhancement 7−377
microelectronic devices and materials, characterisation methods, book 7−41028
microtomography in scanning electron microscope 7−41543
multispectral scanning Auger imaging technique 7−23110
online digital recording system 7−4933
optical surface contaminants identification, using electron spectroscopy and SEM techniques 7−4935
photoresists, uncoated, SEM inspection, low-loss electron images 7−9927
scanning Auger microscopy as a high-resolution microprobe for geologic materials 7−34683
scanning electron acoustic microscopy, signal generation and contrast mechanisms 7−24726
SEM stereophotogrammetric method and system for three-dimens. eval. of features on flat substrates 7−40377
semiconductor materials characterisation techniques, review 7−51598
semiconductors, scanning electron microscope characterisation, book contrib. 7−41551
spin polarised, for mag. domains obs. 7−17197
stereocomputer, three axis, for SEM photogrammetry 7−4934
stereological stereometry for volume meas. 7−56386
stereophotogrammetry, comparator design 7−56384
structural improvements, computerisation *(German)* 7−48921
submicron backscattered electron microanalysis in SEM 7−23113
surface topography meas. using SEM with two secondary electron detectors 7−295
thermal wave imaging with thermoacoustic detection 7−43586
thermal- and acoustic-wave techniques in scanning electron microscopy 7−48917
three dimensional characterisation, of semiconductor interfaces 7−52312
three-dimensional reconstruction of objects characterised by linear elements 7−56377
tunnelling microscope data, information and image processing 7−30132
ultra-high vacuum techniques with field emission gun, surface studies 7−24725
vacuum chambers, piezodriven spindle for specimen holder 7−48922
voltage contrast meas., data acquisition and processing techniques 7−24727
X-ray fluorescence analysis in SEM, at. number depend., detection limits improvement 7−23103
X-ray fluorescence for material analysis 7−59821
X-ray image acquisition using an IBM-PC, SEM based energy dispersive spectroscopy 7−4942

scanning optical microscopes *see optical microscopes*

scanning optical microscopy *see optical microscopy*

scanning radiography *see radiography*

scanning-transmission electron microscope examination of materials
see also scanning-transmission electron microscopy
amorphous specimen, STEM technique for quantifying ang. correls. 7−21057
cellular growth structures, rapid solidification, compositional profiling 7−46453
conference, electron microscopy and anal. Newcastle-upon-Tyne, England, (Sept. 1985) 7−14707
diamond, electronic structure, STEM study 7−16939
glasses, leached, analytical electron microscopy studies using ultramicrotomic thin sections 7−6544
grain growth, local texture development, STEM selected area channelling 7−16575
graphite surface pulsed laser irradiation, SEM, TEM and STEM microstructural studies 7−12139
MgO-monticellite ceramic, high resoln. TEM and STEM study 7−22738
polymer-substrate interfaces, electron diffraction 7−16378
PVC-polycaprolactone interface, diffusion, temp. and time depend. 7−32723
René 80, first stage aluminised coating microstruct., STEM obs. 7−17709
silicate glass, Na desorption during X-ray microanalysis 7−23114
small metallic spheres, plasmon excitations, EELS study in STEM 7−32937
stainless steel, 304, strain effects on sensitisation developments, STEM/EDS and electrochemical potentiokinetic reactivation methods 7−54014
steel, dual-phase, Mn-partitioning, austenite form. 7−39552
steel, duplex stainless, manual metal arc weld metals, microstruct. and phase transform. 7−59526
steel, stainless, ferritic, irrad., grain boundary segregation, STEM microanalysis 7−22701
steel, structural, STEM-EDS X-ray microanalysis of grain boundary segregation 7−22702
STEM use in electron damage meas. 7−16635
thin films in STEM, cathodolumin. spectrum 7−22355
Al-Fe-Si, dil., solidification, intermetallic cpd. form. 7−13442
Al-Mg (6.5 wt.%), grain boundary segregation, STEM-EDX analysis 7−39518
Al_2O_3, bicrystals, high-purity, grain boundary structures 7−58668
Al_2O_3-ZrO_2, rapid solidification, alumina dendrite morphology 7−21424
Ca, near-trace-element concs. in organic matrix, electron energy loss anal. 7−46903
CoCr RF sputtered magnetic films, Cr segregation, STEM study 7−44827
Fe-Cr-Al-Ce, microstruct., high temp. corrosion rel. to Ce additions 7−13648
Fe-Ni-Al-C (22, 8, 2.4 wt.%), rapidly quenched, metastable modulated struct., analytical STEM study 7−46450
GaAlAs-GaAs MQW structure, compositional fluctuations, STEM/EDX microanal. 7−45077
GaAs, nucleation and growth on Ge, antiphase boundary struct. 7−2420
GaAs:Si, dislocations, STEM and CTEM micrographs 7−1825

scanning-transmission electron microscope examination of materials continued
- GaAs/metal interface microstruct. and reactions, stability and elec. props., TEM and STEM studies 7−12515
- Ge_3N_4 native insulator layer on Ge single cryst., microstruct. and props. studies 7−12574
- GeO_2 native insulator layer on Ge single cryst., microstruct. and props. studies 7−12574
- $In_xGa_{1-x}As/In_yGa_{1-y}As$ and $(InAs)_m(GaAs)_n$ superlattices, MBE grown, optical studies 7−13221
- $KFe_{17}O_{25}$, ceramic, radiation induced products STEM microanalysis 7−16639
- MgO crystal surface, defocussed dark-field electron microscope images 7−6485
- MgO smoke particles, energy filtered imaging by scanning CTEM technique 7−22404
- Na_2O-B_2O_3-SiO_2 glass, Na desorption during X-ray microanalysis 7−23114
- Ni-Si thin film diffusion couples, lateral silicide formation 7−21540
- Pt electrochemical electrode surface struct. existence of electro-faceting 7−16841
- Si film, amorphous, small-angle scatt. of electrons in STEM obs. of defects and voids 7−21754
- Si SEM determ. of surface structure 7−56387
- Si:Cu, ion implantation-amorphised, direct imaging of pulsed laser-induced buried molten layers 7−12130
- SiC fibre reinforced Al composite wires, neutron irrad., mech. props., fusion reactor appl. 7−49628
- Ta-Ir alloy, amorphous, rapidly solidified, high temp. oxidation 7−33841
- W selective low press. CVD growth on Ti, $TiSi_2$ and PtNiSi, surface reactions, struct. 7−27183
- ZrF_4-BaF_2-LaF_3-AlF_3-NaF glass, crystal growth and microstruct. 7−1896

scanning-transmission electron microscopes
- *see also scanning-transmission electron microscopy*
- cathodoluminescence detection and analysis system for use with thin films 7−22355
- focused electron probes, Fourier analysis 7−18934
- lens, objective, high excitation, Munro programs data variations effect on predicted opt. props. 7−18933
- microanalytical system design 7−56382
- VG HB501, high resolution secondary electron imaging capabilities 7−18932

scanning-transmission electron microscopy
- *see also scanning-transmission electron microscope examination of materials; scanning-transmission electron microscopes*
- dark field electron microscopy for biological struct. determ., scattered electrons 7−40387
- dynamic focusing for reflection microscopy in STEM 7−16376
- EELS in STEM of surfaces and interfaces, dielec. theory and verification 7−18935
- energy filtered imaging by scanning CTEM technique 7−22404
- Fourier analysis of focused electron probes 7−18934
- HV STEM and EELS at 1000 kV 7−1825
- materials characterisation at subnanometer spatial resolution using finely focussed electron beams 7−21058
- secondary electron imaging, high resolution, in VG HB501 instrument 7−18932
- small particles, appls. of STEM 7−32242
- small particles, digital X-ray imaging 7−32244
- transmitted electron image observation in conventional SEM 7−4932

scanning tunnelling microscopy
- apparent adatom size w.r.t. density of states in scanning tunnelling microscope, bias voltage depend. 7−44321
- atom transfer mechanisms 7−4921
- automation 7−18924
- Basel University system and applications 7−18921
- biological and technological appls. in air at atm. press. 7−4917
- charge and current corrugation correls., Si (111) anal. 7−63410
- chemical appls. 7−18920
- computer automation for scanning tunneling microscopy 7−18925
- design criteria 7−4920
- distance-voltage characteristics, HV behaviour 7−26600
- forces acting between W tip and Ag surface during scanning tunnelling microscopy 7−26599
- gate oxide defect localisation by tunnelling current microscopy and dielec. breakdown meas. 7−26601
- graphite, contamination-mediated deformation, scanning tunnelling microscope study 7−44967
- graphite surface, giant corrugations, scanning tunnelling microscopy 7−44320
- graphite surface in air and water, scanning tunneling microscopy study 7−21585
- high-stability vibration insensitive, appls. 7−18922
- metal film growth on semicond. surfaces, scanning tunnelling microscopy studies 7−21053
- metals and insulators, energy dissipation 7−51596
- micro-mechanics, Si-beams rectangular cross-section for atomic force sensing 7−51590
- multiple image potential effects 7−58108
- overview of instrumentation and appls. 7−4916
- phonon detection appl. 7−51588
- piezoelectric actuators for scanning tunnelling microscopy, behaviour and calibration 7−18926
- raster tunnel microscope *(German)* 7−48918
- resolution, image and field states and thin oxide layers, theory 7−21054
- resonant electron tunnelling through unfilled defect level in insulating film, scanning tunnelling microscopy calcs. 7−64315
- review *(Czech)* 7−6484
- semiconductor surface, appl. of scanning tunnelling microscopy 7−11864
- semiconductors and metals study 7−51591
- solid surface atomic-scale imaging by scanning tunneling microscopy 7−37811
- solid surfaces, chemistry and physics, book 7−60891
- spectroscopy of single atoms in the scanning tunneling microscope 7−33060
- submicron techniques, conf., Nova Scotia, Canada (July-Aug. 1984) 7−35104
- surface electron state spectroscopy with scanning tunnelling microscope 7−7306
- surface microstructure on rough surfaces, scanning tunnelling microscopy studies 7−21580

scanning tunnelling microscopy continued
- surface modification with the scanning tunneling microscope 7−21052
- surface structure studies, appl. to Si (111) surface 7−4919
- surface studies, from 4.2-300K 7−4918
- surface topography meas. using scanning tunnelling microscopy 7−37814
- surfaces, scanning tunnelling microscopic images, distance dependence 7−11861
- theory 7−11866
- tunnel microscope for study of material atomic surface structure, operation and construction *(German)* 7−35637
- UHV scanning tunnelling microscope, construction 7−18923
- vacuum tunnelling currents anomalous barrier heights 7−21983
- wide-range low-voltage piezoelec. bimorph scanning tunnelling microscope 7−21049
- Ag films, electroplating in electrochemical cell, scanning tunneling microscopy studies 7−22589
- GaAs cleaved semiconductor surfaces 7−21051
- GaAs, p-n junction, scanning tunneling potentiometry study 7−45439
- GaAs, semi-insulating, surface photocond., surface topography meas. using scanning tunnelling microscopy 7−45376
- GaAs-AlGaAs heterojunctions, scanning tunnelling microscopy, potentiometry 7−52780
- Ge, atomic-scale surface modifications by scanning tunnelling microscope 7−58583
- $Nb/Nb_2O_3/Pb$ film struct., Josephson and tunnel junctions, scanning tunnelling microscope study 7−64410
- $NbSe_2$ (2H), surface struct., scanning tunnelling microscopy obs. 7−52212
- Nd-Fe-B, microstructure, scanning tunnelling microscopic studies 7−58494
- Pd_2Si polycryst. film on Si, ion sputtering effects, XPS, UPS and scanning tunnelling microscopy studies 7−59357
- Si (001), scanning tunnelling microscopy 7−27072
- Si (111), absorbed Ag, structure, scanning tunnelling microscopy studies 7−58625
- Si (111), adsorbed Ag, geometry and local electron states 7−58626
- Si (111)2×1, electronic struct., scanning tunnelling microscopy studies 7−38668
- Si cleaved semiconductor surfaces 7−21051
- Si, surface, quantum states and atomic struct. 7−32775
- Si-SiO_2 interface relief study using scanning tunnelling microscopy 7−63978
- W mono-atomic tips for scanning tunnelling microscopy 7−21050

scattering
- *see also acoustic wave scattering; backscatter; electromagnetic wave scattering; potential scattering*
- Born partial wave integrals, numerical evaluation 7−48462
- conformally invariant quantum mech., S-matrix determ. 7−29812
- discrete scatt. theory, eigenvalue problems and nonlinear differential-difference evolution eqns. 7−4725
- double P_N transport calcs. for highly anisotropic scatt. 7−61289
- elastic wave scattering by rigid elliptic fibre 7−26195
- elastic waves, fourth-order accurate finite-difference scheme 7−3991
- Helmholtz-type eqns., weak-element method 7−24484
- inverse scatt. problem, quasiclassical approx. 7−24441
- inverse scattering problem for a layered medium 7−9711
- linear system with contractive propagator, Naimark's theorem on dilation, scatt. operators 7−35346
- Lippmann-Schwinger equation, iterative solution 7−48461
- low energy scattering theory for one-dimensional systems with $\int dxV(x)=0$ 7−61153
- mean wave solution: bounded medium−discrete scatterers 7−48371
- multigroup finite element neutron transport, inclusion of anisotropic scattering in FELICIT code 7−19324
- nonlinear Schrodinger model with attractive coupling, quantum inverse scatt. transform 7−122
- nonrelativistic multichannel scatt., strong limit of operator values sequence 7−29818
- particle-particle interactions, wavefunction collapse and the optical theorem 7−24468
- phase problem, complex coherence function 7−9710
- Poisson brackets hierarchy between elements of scatt. matrix 7−35345
- quantal scattering calcs., energy-adapted basis sets 7−48411
- quantum second virial coefficient paradox 7−24614
- scalar-wave localization in a two-component composite 7−14788
- seismic surface waves, phase speed perturbations and 3D scatt. effects due to topography 7−28866
- seismic waves, time-domain apparent attenuation operators for compressional and shear waves 7−54928
- singularities of the scatt. kernel and characterization of convex obstacle 7−4724
- slow particle scattering, phase shift calcs. 7−29816
- solar cosmic rays, interplanetary scatt. mean free path for relativistic protons 7−66405
- solitons, inverse scattering methods and quantum field theory limit 7−9682
- Spencer-Lewis eqn. of electron transport theory, moment reconstruction technique 7−61290
- stationary radiative transfer eqn. with cylindrical symm., inverse problems 7−24602
- surface, periodic, scalar scattering, effect of modeling errors 7−41162
- surface analysis from scattering amplitude, inverse problem 7−61116
- vacuum Einstein eqns., solitonic approach to self-gravitating disks and rings 7−48473
- wave equation with a time-periodic potential, scattering operator existence *(French)* 7−35291
- Wigner's theorem and asymptotic condition in scatt. theory 7−29792

scattering matrix *see S-matrix theory*

SCC *see stress corrosion cracking*

SCF calculations
- *for MS SCF (MS Xalpha) calculations see Xalpha calculations*
- *see also HF calculations; Xalpha calculations*
- A_xB_{1-x} BCC alloys, low temp. props., spin fluctuations, alloying effects 7−52402
- acetamide, rot. barriers, polarisation functions, ab initio calcs. 7−15496
- acetylene, protonated, $d_0(d_3)$, struct., vibr. freqs., IR intensities 7−5677
- acetylene, X-ray photoelectron spectrum study, diabatic model anal. 7−36448
- acid-base equilibr. in soln., thermodynamic props., SCF theory 7−54156

SCF calculations continued
- acrolein, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7−56983
- alkane molecules, T beta-decay, molecular effects, neutrino mass determ. 7−49310
- alkane molecules, T beta-decay, molecular final-state interactions 7−49311
- allenes, monosubstitution, stabilisation energies, isodemic methyl exchange reaction study, ab initio LCAO SCF calcs. 7−25389
- aluminosilicates, at. charges, SCF and semiempirical calcs. 7−2942
- anharmonic effects in imperfect crystals, self consistent statistical theory 7−51984
- atomic diabatic states, nonadiabatic interactions, CI wave fns. expansion, ab initio LCAO SCF CI calcs. 7−49945
- atomic ionisation energy and electron affinity, correl. energy estimation by local approx. 7−56991
- atomic ions, ground state electronic struct., Dirac-Slater method anal. *(Chinese)* 7−56925
- atomic transition and ionisation energies, g-Hartree ab initio calcs. 7−15488
- atoms, nonrelativistic numerical MCSCF wavefunction calc. method 7−30917
- Auger electron spectra of the metallic elements $_{47}$Ag to $_{51}$Sb, main and satellite structures 7−7795
- bacteriochlorophyll a, config. for photosynthesis, SCF HF INDO calcs. 7−858
- band structures of semiconductor superlattices with ultrathin layers *(Japanese)* 7−12824
- benzene, π-electron SCF ground state, bond orbital reson. theory 7−853
- benzene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7−25414
- benzene, mol. wave fns. drawing, MS-X$_\alpha$-SCF calcs. 7−49921
- benzene, valence and Rydberg states, CASSCF-contracted CI calcs. 7−56997
- benzenes, substituted, ionisation pots., electron affinity, HAM/3 study 7−19710
- bicalicene, cyclic, electronic structure, SCF CI calcs., NMR and PMR 7−50185
- binaphthyls, near-IR triplet-triplet spectrum and circular dichroism as probes for electron delocalisation 7−31086
- bond order and valence indices, rels. to Mulliken's population anal. and covalent chemical reactivity 7−56948
- butadiene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7−25414
- carbonyl imines, relative stability, ab initio SCF MO study 7−57003
- carboranes, optimised struct. and relative stabilities, ab initio calcs. 7−30930
- CH mol., photodissoc., ab initio SCF with CI calcs. 7−42499
- chiral mols., vibr. mag. dipole transition moments, rot. strengths, SCF HF calcs. 7−49885
- chlorin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7−10447
- chloroazidobenzene derivatives, UV spectra, SCF-CI calcs. 7−57000
- chlorophyll-H_2O system, ab initio LCAO SCF MO calcs., ionisation pot., electron affinity, intermol. mechanics 7−8520
- 1,2-chloropropane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7−19690
- CN^-—H_2O, quantum-chem. MO SCF calcs. 7−5597
- compound metal clusters, struct. and electronic structs. calcs. 7−15783
- Coulomb interaction, effect on Peierls gap 7−32933
- coupled-cluster approach, convergence accel., DIIS method 7−15468
- crown ethers, simulated ab initio MO calc. 7−49908
- cyclic ketones, α-bond rupture, photochem. reaction, ab initio SCF CI calcs. 7−56998
- deltic acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7−25387
- di-t-butyl silylene, triplet ground-state, electronic and stearic effects, ab initio calcs. 7−25419
- diabatic surface formalism transition structures, approximate location, MC SCF calcs. 7−10374
- diamond, muonium-related paramagnetic centres, UHF calcs. 7−38980
- diatomic mols., mass-vel. corrections, relativistic kinetic energies 7−10452
- dibenzotetraphene, radical cations, electronic and photoelectron spectra 7−57079
- 1,2-dichloroethane, rot. isomerism, energy levels and struct., vib. anal. ab initio SCF MO calcs. 7−19690
- dichloromethane, CH stretching overtone intensities, SCF calcs. 7−5586
- dielectric closed shell quantum systems, SCF energy surface, catastrophe theory anal. *(Rumanian)* 7−14832
- 1,2-difluoroethane, gauche and trans conformers, stability, ab initio calcs. 7−15500
- dimethyl silylene, triplet ground-state, electronic and stearic effects, ab initio calcs. 7−25419
- dimethylphosphinic acid cation, geometry optimisation, approximate Hessian 7−25345
- disulphide bond, S-S dihedral angle, ab initio SCF MO calcs. 7−15504
- dithioformic acid, conform. struct. and stability, rot. barrier, SCF and HF calcs. 7−25427
- electron-positron systems, two-component density-functional theory; self-consistent density calcs. 7−27277
- electronic struct. of impurities in metals, valence-electron-only molecular orbital calcs. 7−2528
- electronic structure of micro-clusters, ab initio studies 7−31203
- ethane, bond rupture surfaces, MC SCF calcs. 7−30922
- ethane, orthopositronium annihilation rates 7−62543
- ethylene, nuclear spin-spin coupling constants evaluated using manybody methods 7−5705
- ethylenes, fluorinated, photoelectron spectrosc. 7−42682
- f-electron and conduction electron superconductivity, periodic Anderson model, self-consistent calcs. 7−12908
- fluorobenzonitrile radical ions, self consistent reaction field calcs. 7−36481
- formamide, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
- formamide, rot. barriers, polarisation functions, ab initio calcs. 7−15496
- formate ion, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
- formic acid dimer, symm. stretching modes in gas phase 7−25475
- formyl radical pair, anharmonic vibr. effects, ab initio SCF-CI calcs. 7−10444

SCF calculations continued
- fourth-row atoms, core electron Coulomb and exchange operators calcs. 7−30944
- glycine, zwitterion, electronic excitation spectrum, aq. solvation effects, CI calcs. 7−50160
- glycolic acid, rot. isomerisation, ab initio SCF calcs., IR Ar matrix spectra 7−19851
- halogen thiocyanates (isothiocyanates), ionis. pots., photoelectron spectrosc. and ab initio calcs. 7−25601
- halomethanes, natural hybrid orbitals and photoelectron spectra 7−56941
- hexahalo complexes, vibronic coupling and state Jahn-Teller effect 7−19725
- hydrides, first and second row, NMR chem. shift bond length derivatives 7−42644
- hydroxyethylene, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7−56983
- III-V semiconds., electronic struct. calcs. 7−12608
- inorganic Cl compounds, NQR freqs., SCF MOLCAO CNDO/2 calcs. 7−30952
- intermolecular interaction energies, SCF calcs., variation-perturbation procedure 7−15505
- isolated molecules, SCF computer program in molecular orbitals basis set 7−49913
- isolated polyatomic mol., intramolecular vibrational relax. rate, threshold energy depend. calcs. 7−31023
- Lewis structures and Feynman diagrams, treatment of germinal correl. in Fock space 7−41127
- $(M-OH_2)^{n+}$ complexes, charge transfer and electric mobility, ab initio SCF calcs. 7−62253
- metal-solid electrolyte boundary, self-consistent electron theory, double layer, parametric instability, capacitance anomalies 7−52832
- methane, bond rupture surfaces, MC SCF calcs. 7−30922
- methane, electron scatt. cross section calc., parameter-free model interaction 7−62535
- methane, force field, HF SCF and GAS SCF calcs. 7−62268
- methane, natural hybrid orbitals and photoelectron spectra 7−56941
- methane ion, photoelectron spectrum, Jahn-Teller effect, ab initio SCF and CI calcs. 7−42683
- methanimine, fluorination effect on double bonds, SCF HF and MP2 ab initio calcs. 7−10384
- methanol+fulminic acid (acetonitrile oxide), reaction pathway, MNDO SCF calcs. 7−3582
- methyl imino sulphurdifluoride, ab initio calcs. at SCF level, equilib. geometries and population anal. 7−10382
- methylamine, N-methyl substitution, bond dissoc. energies ab initio calcs. 7−15503
- methyldiazohydroxide, dissoc., ab initio calcs., rel. to carcinogenesis 7−56962
- N-methylhydroxylamine, N-methyl substitution, bond dissoc. energies ab initio calcs. 7−15503
- methylnitrite, photodissoc. S_1 pot. surface, MC SF calcs. 7−25347
- molecular H-bonded systems, interaction energies, polarisation counterpoise corrections 7−62262
- molecular nucl. mag. shielding consts. ab initio wave function calcs. 7−5594
- molecules, macroscopic solvation, electron distrib. ab initio INDO SCF calcs. 7−54099
- multi-reference CI wave functions, geometrical energy derivative eval. 7−56994
- multiconfigurational SCF electronic energy domain struct. 7−19683
- muons in metals, valence-electron-only molecular orbital calcs. of Knight shift 7−2961
- nematic liquid crystal-isotropic liquid phase transition, dimensional effects, UV dichroism *(Russian)* 7−2202
- nitromethane, first excited states, dissoc. nature, SCF CI calcs. 7−56959
- nitromethane dimer, non-bonded and H-bonded interactions, SCF calcs. 7−25357
- nitrone, active CAS SCF orbitals, intrinsic localisation procedure 7−25413
- one-component classical plasma, struct. factor, self-consistent approach *(Russian)* 7−58110
- one-dimensional quantum systems, spatial structures and dynamic excitations, self-consistent theory 7−44755
- open-shell SCF wavefunctions, anal. energy third derivatives 7−25341
- organic Cl compounds, NQR freqs., SCF MOLCAO CNDO/2 calcs. 7−30952
- organic cpds. electron correl., SCF calcs. 7−19721
- organic ring systems, edge inversion at trivalent phosphorus centre; NMR spectra anal., ab initio SCF calcs. 7−25362
- pentaphenes, radical cations, electronic and photoelectron spectra 7−57079
- phonon-assisted quantum diffusion, self-consistent mode mixing. 7−45436
- phosphamethane, fluorination effect on double bonds, SCF HF and MP2 ab initio calcs. 7−10384
- phosphonium ylides, fluorine-substituted, structs., energetics, ab initio SCF calcs. 7−30923
- planar four-coordinated metal complexes, symm. effects, RHF MO SCF calcs. 7−56963
- polyacetylene, alkaline metal doped, ab initio SCF MO calc. of electronic struct. 7−64048
- polyacetylene, self-consistent calc. of solitons 7−64105
- polyene chains, electronic struct., long-range electrostatic effects and terminal group influence 7−56987
- porphin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7−10447
- porphyrin dimers, free-base, electronic spectra, quantum chem. calcs. 7−10416
- porphyrins, proton motion, electrostatic pot. distrib., SCF-MO-LCAO calcs. 7−57147
- potential energy surfaces, LCAO, MO and SCF calcs. 7−17764
- prop-1-en-2-al, geometry optimisation, approximate Hessian 7−25345
- random systems with off-diagonal disorder, localisation studies 7−32959
- relativistic many-fermion systems, vacuum-induced Friedel-type oscillations 7−29887
- resonant tunnelling current, self-consistent anal. 7−38685
- semiconductor, surface space charge layer, electronic self-energy calc. *(Korean)* 7−27373
- semiconductor heterojunction discontinuities, self-consistent density functional calcs. 7−7364
- semiconductor heterojunctions, self-consistent density functional calcs. 7−17097

SCF calculations continued
semiconductor-alloy phase diagram, first-principles self-consistent local-density total-energy calcs. 7−44751
semiconductors, electron-hole recombination, coherent effects due to Coulomb interaction 7−7255
silaethylene, harmonic vibr. freqs., IR spectra, ab initio SCF CI calcs. 7−15600
singly excited configurations, MCSCF method based on superposition 7−5611
small metal particles, dynamic polarisability, jellium model, RPA calcs. 7−52460
solvated electrons, absorption spectra, temp. effects 7−58752
spin-spin coupling consts., ab initio diamagnetic spin-orbital contrib. 7−927
squaric acid, crystal struct., vibr. anal., monoanion props., ab initio SCF calcs. 7−25387
transition metal hydrides, dipole moments, CASSCF/MRCI calcs. 7−10443
transition metal surfaces, multi-adatom interactions, self-consistent calcs., tight binding formalism 7−2382
trifluoromethyl, inversion barrier heights, SCF and CI calcs. 7−62289
trifluoromethyl imino sulphurdifluoride, ab initio calcs. at SCF level, equilib. geometries and population anal. 7−10382
trifluoronitrosomethane, geometric and electronic props. SCF and CI calcs. 7−15527
troxidone, antiepileptic drug, electrostatic pot., ab initio SCF-MO-LCA. study 7−855
two dimensional, electron gas, partially occupied Landau level, dielec. const. RPA calcs. 7−64139
two-configuration SCF wave functions, IR intensities and polarisabilities evaluation 7−10582
unconventional SCF method for calculations on largemolecules 7−5581
valence virtual MOs for CI calcs. 7−860
vector processors, generalised VB method 7−10437
N-vinylcarbazole, halogeno and nitro derivatives, struct., PMR, MNDO calcs. 7−933
wave equations consistency of use in basis set variational solns. with Dirac hole theory 7−19692
Ag adsorbed layer on Si (111), geometric struct. and density of states, cluster model and charge self-consistent extended Huckel method calcs. 7−21619
Al atomic cluster, trapping regions around impurity atoms, charge density 7−53195
Al-H(He) systems, vacancy-impurity centres, positron lifetime meas. 7−39254
AlGaAs/GaAs heterostruct., quasiatomic system, electronic struct. studies 7−38699
AlGaAs/GaAs/AlGaAs selectively doped double heterojunction FET system, high mobility electron subband struct. studies 7−12838
Ar, self-consistent exchange parameters, radial depend. anal. 7−49920
$(ArH)^{+*}$, short-range pot. curves, Lyman-α line blue wing *(French)* 7−10463
As_2, electronic states, spectroscopic props., SCF CI calcs. 7−62294
AuH bonding, ab initio fully relativistic calcs. 7−15531
BaO, self-consistent electronic structs. 7−32910
Be, charge density distrib., local density approx. calcs. 7−6577
Be, modified HF SCF equation 7−56970
C-centres radicals, merostabilisation energy calcs. 7−30924
C_2 ion, low lying quartet states, radiative transition probabilities, CASSCF and MC-CI electronic wavefunctions 7−49946
C_4, struct., energies, single reference CI calcs. 7−19720
CCH, $X^2\Sigma^+$ state, rot.-vibr. energies, ab initio calc. using nonrigid bender Hamiltonian 7−25422
CF_3 chemisorption on GaAs (001), electronic struct., RHEED, photoelectron spectra, HF SCF calcs. 7−53497
CO, insertion reactions, electron correl. effects, MP2 and CAS SCF calcs. 7−65289
CO_2, vibr., hyperspherical coordinates, semiclassical SCF calcs. 7−5584
CaO, self-consistent electronic structs. 7−32910
CaO, XANES spectra, band struct. calcs. 7−64738
Cd, oscillator strengths and excitation energies, relativistic CI and MCRHF calcs. 7−50260
Ce alloy cubic Laves phases, electronic struct., self-consistent APW calcs. 7−12599
Ce, core and valence photoemission, calc. 7−33516
Ce, electronic struct. and superconducting transition temp. calcs. *(Chinese)* 7−27244
$CeBe_{13}$, band struct. calc. 7−32905
Cl_3, electronic struct., ab initio SCF and CI study 7−5605
ClO, electric dipole moment fn. calcs. 7−10442
ClOO, low-lying electronic states, SCF-X_α-MS calcs. 7−49922
$Co_{0.92}Fe_{0.08}$, FCC, Fermi surface, de Haas-van Alphen studies 7−52406
$Cr(CO)_6$, electronic struct., X-ray and photoelectron spectra 7−5699
$Cr(CO)_6$, SCF-SW-Xalpha ab initio XANES calcs. 7−64776
CrO_2, half-metallic ferromagnet, band struct. calcs. 7−7091
CsI, high press. metallisation, relativistic self-consistent APW calcs. 7−21812
Cu cluster surface, Na atom adsorpt. SCF ab initio and Ci calcs. 7−52259
Cu-Ni alloys, surface segregation, tight-binding Hartree Hamiltonian, cluster-Bethe-lattice approx. calcs. 7−38665
Cu_{13}, fragmental cluster model and electronic struct. *(Ukrainian)* 7−12597
$(Cu_2Cl_6)^{2-}$ dimers, electronic struct., mag. props., $X\alpha$-SW calcs. 7−10419
CuH(CuF)(CuCl) and their cations, ab initio calcs. chemical reactivity 7−10400
F-He, van der Waals mol., interaction pot., MBPT calcs. 7−42721
FNO_2, semi-empirical MO-LCAO method validity eval. 7−15482
Fe-Al disordered alloys, electronic struct., mag. props. and Mossbauer spectra 7−64073
Fe-Te cluster, localised props., multiple scatt. $X\alpha$ SCF method 7−21848
Fe_{13} clusters, icosahedral and cubo-octahedral coordination, electronic struct., first-principles method calcs. 7−45132
$Fe_{1-x}O$, wustite, electronic struct. and X-ray absorption spectra 7−2479
Ga to Kr, Coulomb and exchange operators, valence electron only SCF calcs. 7−15507
Ga_2, electronic states, CASSCF and FOCI calcs. 7−62267
n-GaAs, depletion and accumulation layer profiles, self-consistent Hartree approx. calcs. 7−27375
GaAs, dielectric response and electronic states 7−33320

SCF calculations continued
GaAs, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7−2536
GaAs/AlAs superlattices, electronic band structure, pseudopot. method calc. 7−17084
GaO, lower electronic states, SCF-X_α SW calcs. 7−30948
Ge (001) (2×1), electronic struct., first principles self-consistent calc. 7−12778
Ge, dielectric response and electronic states 7−33320
H atoms, finite chains, intermediate one-particle states 7−7145
H-bonded systems, polarisation function SCF calcs. 7−19685
$H+HO_2$, abstraction reaction, saddle point geometries and barrier heights, ab initio SDCI calcs. 7−46806
H_2, bond rupture surfaces, MC SCF calcs. 7−30922
H_2-Ar pairs collision-induced rototranslational spectra, ab initio dipole-moment surface 7−15493
H_2-He collision complexes, rotovibr. spectra. SCF CEPA calcs. 7−42478
H_2+NH_3, ab initio potential-energy surface, HF, SCF calcs. 7−10716
HBeOH (HBOH) (HCOH) (HMgOH) (HAlOH) (HSiOH), struct. and vibr. freqs., SCF calcs. 7−10386
HCl^-, bound electronic states, ab initio Born-Oppenheimer calcs. 7−42469
HD, nuclear spin-spin coupling constants evaluated using manybody methods 7−5705
HF, 1s core orbital, inadequate representation, basis set superposition error 7−25346
HF, macroscopic solvation, electron distrib. ab initio INDO SCF calcs. 7−54099
HF, nuclear spin-spin coupling constants evaluated using manybody methods 7−5705
H_2O, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
H_2O dimer, transition from trapped to solvated electrons, ab initio calcs. 7−19700
H_2O, electron scatt., small-angle, meas. and calcs. 7−50346
H_2O mol., IR absorpt. spectra, anharmonicity effects, contact transformational and quantum chemical calcs. 7−25385
H_2O, vibr., hyperspherical coordinates, semiclassical SCF calcs. 7−5584
H_2O-Cu(Ni) complexes, binding, SCF CI calcs. 7−56958
H_2O-H_3O^+ molecule, intermolecular energy anal. SCF calcs. 7−15479
$(H_2O)_n$, n=4 to 8, geometries and relative energies, Monte Carlo energy minimisation study, ab initio SCF calcs. 7−30921
$H_3O^+(H_2O)_2$, SCF interaction energies, nonadditivity 7−57143
H_2POOH, bonding, ab initio calcs., proton exchange reactions 7−5589
H_2POSH, bonding, ab initio calcs., proton exchange reactions 7−5589
H_2PSSH, bonding, ab initio calcs., proton exchange reactions 7−5589
HSCN (HNCS), ionis. pots., photoelectron spectrosc. and ab initio calcs. 7−25601
$H_2Si_2^-$, electronic struct., MC SCF CI and CEPA calcs. 7−56992
HXCHY where X,Y=CH_2, NH and O, 1,3 shift, SCF and CI study 7−10448
He, modified HF SCF equation 7−56970
He to U, electron-nucl. cusp. SCF wave functions 7−49879
He^+ low energy ion-surface scatt., reionisation process theory 7−22413
He-H_2 van der Waals mol., diagrammatic perturbation theory 7−5607
$He+Li^{3+}(C^{6+})(O^{8+})$, electron capture, Coulomb integral eval. 7−15679
He^++He^+, electron capture cross sections, SCF-CI calcs. 7−15526
Hg atom, two-photon excitation cross section, Hartree-Slater self-consistent calcs. 7−50042
Hg, oscillator strengths and excitation energies, relativistic CI and MCRHF calcs. 7−50260
Hg, transitions, relativistic SCF calcs. 7−49979
InO, lower electronic states, SCF-X_α SW calcs. 7−30948
InP:Fe, midgap impurity levels, isomer shift and charge state calcs. 7−2538
Kr, self-consistent exchange parameters, radial depend. anal. 7−49920
$LaBe_{13}$, band struct. calc. 7−32905
La_2O_3 cryst., Auger spectra, electron polarisation effect 7−59313
Li alloys, Zintl phases, binary and ternary, electron densities, sp^3-bonding character, calc. 7−32907
Li cpds., energy stability, struct., vibr. spectra, MO LCAO SCF calcs. 7−15512
Li like ion plasma, population inversion collisional-radiative model 7−25463
Li microclusters, fragmentation channels rel. to magic number studies 7−5811
Li surface, CO chemisorption, molecule-cluster interaction ab initio SCF-CI calcs. 7−45013
Li-H_2 system, second derivative nonadiabatic coupling matrix elements determ. pot. energy surfaces 7−42501
Li+HCl quenching reaction, electronic struct., ab initio SCF CI calcs. 7−56995
$Li+He^{2+}$, electron capture, Coulomb integral eval. 7−15679
LiAl(Ga)(In)(Zn)(Cd) B32-type Zintl phases, mag. props., exchange enhancement, APW calcs. 7−27504
$LiCl(H_2O)$, ion pairs, struct. and stability, H^+ transfer reaction path, SCF-CNDO/2 calcs. 7−25400
$LiF(H_2O)$, ion pairs, struct. and stability, H^+ transfer reaction path, SCF-CNDO/2 calcs. 7−25400
LiH, electronic struct., mol. cluster calcs. 7−7110
LiH, vibr. transition freqs. obtained from SCF and correlated wave functions, effects of basis set selection 7−25420
$(LiH)_x$ linear infinite chains study, pseudo-lattice method, ab initio SCF calcs. 7−36470
Li_2S, triplet ground-state, electronic and stearic effects, ab initio calcs. 7−25419
Mg-$B_{12}H_{12}$, stable conform., SCF-MO calcs. 7−15477
Mg_2FeH_6 cryst. complexes, Madelung field effects, quantum chem. calcs. 7−11984
Mg_2NiH_4 cryst. complexes, Madelung field effects, quantum chem. calcs. 7−11984
Mg_2Si antifluorite semicond., electronic struct. calcs. 7−12608
$Mo(Co)_6$, electronic struct., X-ray and photoelectron spectra 7−5699
N_2, elec. field gradients, finite field MBPT 7−5603
N_2, ground state, pot. curves, MR CI and MC SCF calcs. 7−49936
N_2, momentum-space props., Compton profiles 7−42505
N_2, plasma, electron velocity distrib., self-consistent determ. 7−20859
N_2, Rydberg states, SCF and CI calcs. 7−19715
NF, $(b^1\Sigma^+, a^1\Delta) \rightarrow X^3\Sigma^-$ radiative decay processes 7−42522
NF_3^+, inversion barrier heights, SCF and CI calcs. 7−62289
NH_3 dimer, geometry and energy calcs. SCF calcs. 7−15499

- **SCF calculations** continued
  - NH_4^+, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7—19696
  - N_2H, MCSCF equilib., transition struct. and reaction path determ. 7—8251
  - N_2H_2, MCSCF equilib., transition struct. and reaction path determ. 7—8251
  - NH_2NO_2, electronic ground and first triplet states struct., SCF calcs. *(French)* 7—15498
  - NO^{2+}, $^2\Sigma^+$ and $^2\Pi$ states, ab initio MC SCF CI calcs. 7—49937
  - NO_2 and ions, deform. densities, d function role in ab initio calcs. 7—62260
  - N_2O, protonation site and energies, N_2OH^+ struct. ab initio MO calcs., SCF calcs., CI calcs. 7—15480
  - N_2OH^+ isomers, struct. and energy levels, ab initio MO, SCF and CI calcs. 7—15481
  - NS^+, electronic states study, CI calcs. 7—19714
  - $NSCl_3$, NSOF and NSF_3 and their isomers, ab initio calcs. at SCF level, equilib. geometries and population anal. 7—10382
  - Na atoms, nonlinear parametrical EM wave interaction, saturation, stark shift and multipole radiation effects calcs. *(Russian)* 7—19767
  - Na microclusters, fragmentation channels rel. to magic number studies 7—5811
  - NaIn B32-type Zintl phases, mag. props., exchange enhancement, APW calcs. 7—27504
  - $NaLi^+$, first- and second-order nonadiabatic coupling consts. Born-Oppenheimer corrections, MCSCF calcs. 7—36464
  - Ne, self-consistent exchange parameters, radial depend. anal. 7—49920
  - Ne-He van der Waals mol. pot., ab initio HF SCF calcs. 7—36459
  - $Ne^{q+}+Ne(O)$, low Z ion-atom collisions, differential cross-section 7—10409
  - Ni clusters with surface adsorbed CO, surface electronic and mag. struct. 7—21969
  - Ni, spin polarised electronic struct., mag. and bonding props. 7—32904
  - Ni_n (n=1 to 6) clusters, electronic struct., ab initio SCF and CI calcs. 7—10446
  - $Ni(CO)_4$, electronic struct., X-ray and photoelectron spectra 7—5699
  - NiH, spin polarised electronic struct., mag. and bonding props. 7—32904
  - Ni_xH clusters, charge distrib., Hartree-Fock SCF INDO calcs. 7—52411
  - $NiTe_2$, electronic struct. determ. by self-consistent LMTO-ASA method 7—7111
  - O chemisorbed layer on Ni (001), self-consistent field He scatt. cluster model calcs. 7—53471
  - OCN^--H_2O interaction, pot. surface, SCF MO calcs. 7—56967
  - OClO, low-lying electronic states, SCF-X_α-MS calcs. 7—49922
  - OH+cytosine, ab initio SCF MO calcs. 7—8478
  - $Os_2Cl_8^{2-}$ ion, conformation calc. by SCF-Xalpha-SW method, relativistic corrections 7—16508
  - Pb, self-consistent relativistic band struct., normal and high press. 7—52413
  - Pd_3Fe, disordered phase, electronic struct. anal. 7—58735
  - PdH_x, nonstoichiometric, electron density of states, analytic CPA model calcs. 7—52400
  - $PdTe_2$, electronic struct. determ. by self-consistent LMTO-ASA method 7—7111
  - $Pt_2(P_2O_5H_2)_4^{4-}$, electronic struct., bonding and spectra SCF EHT calcs. 7—42489
  - $PtTe_2$, electronic struct. determ. by self-consistent LMTO-ASA method 7—7111
  - RbCn, SCF pot. energy and dipole surface calc. 7—42579
  - SF_3 radicals, electronic struct., ab initio SCF CI calcs. 7—19716
  - SF_6, electron affinity, HF SCF calcs. 7—49907
  - SH_3 radicals, electronic struct., ab initio SCF CI calcs. 7—19716
  - SO_2 and ions, deform. densities, d function role in ab initio calcs. 7—62260
  - Sc to Zn, STF HF wave functions 7—25365
  - ScO, low-lying states, SDCI calcs. 7—25421
  - ScS, low-lying states, SDCI calcs. 7—25421
  - Si (001) (2×1), electronic struct., first principles self-consistent calc. 7—12778
  - Si, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7—2536
  - Si, self-consistent band struct. and total energy, Shaw pot. calcs. 7—32909
  - Si, self-consistent Hartree-Fock and screened exchange calcs. 7—12585
  - a-Si:H, configurational models and adiabatic potentials of H 7—51632
  - a-Si:H, Si—H—Si three centre bonds IR spectra, LCAO-MO-SCF-STO-3G calcs. 7—6741
  - Si:H(Ne)(Ar), ground state one-electron energies, SCF MS X_α calcs. 7—44582
  - Si:Hg(Au)(Pt)(Ir)(Os)(Re)(W), self-consistent one-electron states of 5d transition-atom impurities 7—32950
  - Si:Mg(Be) metastable impurity levels, self-consistent local-density total-energy calcs. 7—38503
  - $Si{:}O_2B$, ab initio MO electronic struct. calcs. 7—38499
  - SiCl, spectral and struct. props., MO calcs. 7—25418
  - SiF, core-excited Rydberg state, SCF calcs. 7—851
  - Si_xGe_{1-x} coherently strained bulk alloys on Ge (001) substrate, indirect band gap and band alignment calcs. 7—2481
  - SiH, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7—19713
  - SiH_2, $^1A_1$, $^1B_1$ and $^3B_1$ states equilib. and stretched SiH bonds SCF CI calcs. 7—49944
  - SiH_2, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7—19713
  - SiH_2 radicals, singlet-triplet energy separation, SCF CI calcs. 7—19718
  - SiH_3, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7—19713
  - SiH_4, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7—19713
  - SiO_4-Li, crystalline quartz with Li-associated electron trap, electronic struct. 7—21860
  - Sn_3, electronic states, pot. energy surface, relativistic calcs. 7—5613
  - Te cpds., valence electron configs., X-ray chemical shift and Mossbauer isomer shift, SCF anal. 7—32893
  - $ThBe_{13}$, band struct. calc. 7—32905
  - Ti, Compton profiles due to valence electrons, self-consistent calcs. 7—13250
  - TiH_2, Compton profiles due to valence electrons, self-consistent calcs. 7—13250
  - TlCl crystal, electronic struct. 7—38449
- **SCF calculations** continued
  - Tm intermediate valence systems, dynamics, self-consistent perturbation theory studies 7—27309
  - UBe_{13}, band struct. calc. 7—32905
  - UPt_3, heavy fermion superconductivity and normal state props. 7—52412
  - $USi_3(Sn_3)(Ru_3)$, electronic struct. and f hybridisation 7—12600
  - V_{15}, fragmental cluster model and electronic struct. *(Ukrainian)* 7—12597
  - VO, low-lying states, SDCI calcs. 7—25421
  - VS, low-lying states, SDCI calcs. 7—25421
  - Xe, atomic inner shells, two-photon transitions, relativistic SCF calc. 7—36573
  - ZnSe (110) surface atomic geometry and energy states, self-consistent pseudopot. calcs. 7—21582
  - ZnSe:Cu(Ag)(Au), cationic substitutional impurities and metal vacancy, microscopic models 7—27296
- **schizons** *see elementary particle weak interactions*
- **schlieren devices** *see schlieren systems*
- **schlieren systems**
  - air jet, development and breakaway, coanda effect, interferometric, Schlieren and shadowgraph investigs. 7—51358
  - diffraction-schlieren image method of measuring hollowcylindrical objects 7—6024
  - fusion plasma particle density distrib. meas. method 7—58060
  - light sources for schlieren optics methods, comparison 7—57503
  - refractometry, combined qualitative and quantitative methods 7—41434
  - sparks, sliding, schlieren method investig. 7—32158
  - synchronized Schlieren method for vortex shedding in cascade during acoustic resonance 7—20572
  - trapped internal waves from body moving in ocean thermocline, phase config, visualisation 7—31854
  - turbine cascade in wind tunnels, transonic flow meas. 7—26313
  - C plasma, nonuniform, shock wave propag. investig 7—44174
- **Schmitt trigger** *see trigger circuits*
- **Schottky anomaly**
  - $Dy_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7—27305
  - $Er_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7—27305
  - $KHo(MoO_4)_2$, Ho^{3+} ground state, low temp. sp. ht., Stark components 7—44840
  - N_2-Ar solid mixtures, sp. ht. due to N_2 mol. rot. 7—32680
  - $Pr_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7—27305
  - $Y_{1-x}Dy_x$ dilute alloys, spin density wave antiferromagnetism 7—52947
  - $YbBe_{13}$ single cryst., sp. ht. meas. 7—2227
- **Schottky-barrier diodes**
  - *see also semiconductor-metal boundaries*
  - detectors, frequency and polarisation-selective 7—41470
  - interface density meas. using I-V characteristics 7—58857
  - metal-semiconductor Schottky diodes, interface state form. and barrier height control 7—52839
  - models and elec. charactn. methods 7—52738
  - optical beam induced current imaging of dislocations in semiconductors 7—58106
  - polysilicon for solar cell appls., DLTS study 7—38512
  - submillimetre spectroscopy and appls. conf., Cannes, France (Dec. 1985) 7—29585
  - triangular barrier structures, effective barrier height reduction by n-type doping 7—2671
  - Ag-InP Schottky diodes formed on cleaved surfaces 7—58850
  - Al-InP Schottky diodes formed on cleaved surfaces 7—58850
  - Au-GaAs Schottky-barrier diode hot-electron temperature measurement, method 7—52623
  - Au-TiO_2:Nb diodes, trapping states, admittance spectra study 7—45494
  - $Ga_{0.96}Al_{0.04}Sb$ layers, liq. phase epitaxial growth, elec. and photoelec. characterisation 7—39443
  - GaAs films on amorphous insulating substrates, laser recrystallisation 7—38397
  - GaAs, Schottky barrier lowering by submicron ohmic contacts 7—7332
  - GaAs Schottky-barrier behaviour, Monte Carlo simulation 7—45491
  - GaAs/Au(Cr) Schottky barriers, hole diffusion length, photon and electron excitation studies 7—2707
  - GaAs-Au Schottky diodes, DLTS 7—58896
  - GaAs-GaAs:In epitaxial layers, dislocation reduction, device performance effects 7—7354
  - GaAs-Mo Schottky diodes, elec. characts. and microstruct. study 7—22015
  - In-InP Schottky diodes formed on cleaved surfaces 7—58850
  - InP surface metal-p^+-n enhanced Schottky barriers formed by open tube diffusion technique 7—2710
  - InP:Si, substrate, encapsulated annealing, using SiN encapsulant 7—39779
  - InP-Cu(Au)(Ag), interphase contact interaction 7—33087
  - InP-InP:As epitaxial layers, dislocation reduction, device performance effects 7—7354
  - $In_{2-x}Sn_xO_{3-y}$-i-n^+-InP Schottky diode, solar cell props. 7—65474
  - Pt-Schottky diode fabrication using photo-CVD 7—7869
  - PtSi/p-Si thin Schottky diodes, TEM, TED, I-V curve and photoemission characts. 7—12861
  - PtSi-Si, interfacial metallurgical interactions, elec. characts., effect of H 7—52834
  - Pt_xSi_{1-x}/n-GaAs contacts, elec. and metallurgical characts. 7—64345
  - Si interdigital Schottky diode structure with fast UV response 7—24701
  - Si n-n^+ epitaxial layers, recomb. parameters anal. by moving light strip method 7—21930
  - Si Schottky diodes with dislocations, tunnelling transitions 7—52831
  - Si surface barrier detector, annular transmission, fabrication and characts. 7—19661
  - Si:B,H(D) Schottky and n^+-p junction diodes, electrical transport of acceptor-compensating defect 7—16823
  - Si:B,P highly doped epitaxial layers, growth by low press. VPE, appl. to Schottky diode form. 7—39432
  - n-Si:$B^+(BF_2^+)$, ion implanted, rapid thermal annealing, DLTS 7—16619
  - Si:O, energy levels and capture cross-sections of thermal donors 7—16988
  - Si/PtSi/V/Al Schottky barrier diode metallisation system 7—2666
  - Si/PtSi($CrSi_2$) Schottky diodes, surface imperfection induced elec. leakage paths 7—2719
  - Si-Al Schottky barrier diodes, ion implant modification 7—45498
  - Si-PtSi thin film Schottky diodes, barrier height meas. 7—64308
  - Ti-Si MIS Schottky barriers, influence of silicide formation on barrier height 7—45499

Schottky-barrier diodes continued
- W-GaAs diode system, Schottky barrier degradation after high temp. annealing 7—33089
- WSi$_x$-GaAs interface, thermal stability 7—52302

Schottky barriers *see Schottky effect*

Schottky defects
- insulators, Schottky defect form. enthalpy-Debye temp. correl. study 7—26742

Schottky effect
- *see also work function*
- anthanthrone-Ag struct., charge carrier photogeneration *(Japanese)* 7—38610
- deep trap profiles determ. 7—58768
- double Schottky barrier, grain boundaries, elec. props. in presence of deep bulk traps, appl. to ZnO varistors 7—7334
- epitaxial silicide technology 7—52835
- heterojunction band lineups and interface dipoles, tight binding theory 7—7368
- III semiconductor-metal interface, reaction and interdiffusion , review 7—21544
- metal surfaces, ion-electron emission mechanism 7—7825
- metal-p$^+$-n structures, Schottky barrier height enhancement, calcs. including free carriers 7—2709
- metal-semiconductor contact, microscopic many-electron model 7—27431
- metal-semiconductor interfaces and Schottky barriers, microscopic and macroscopic props. 7—2721
- metallophthalocyanine thin films, cosublimation doping and Schottky contact formation 7—21974
- MIS Schottky barriers,, image force effect 7—7330
- models and elec. charactn. methods 7—52738
- Norde current-voltage plots, Schottky barrier height estimation 7—17068
- polycrystalline semiconductor Schottky junction, 2D elec. pot. calc. 7—7331
- polyvinyl carbazole plasma CVD thin films, photoconductive props. study, IR and UV spectra meas., electrode effects 7—27367
- semiconductor, EBIC image interpretation using Monte Carlo simulations 7—35640
- semiconductors, electrical breakdown at grain boundaries 7—45339
- Si-Al Schottky barriers, Ar ion implantation damage, thermal anneal recovery 7—17101
- surface junction solar cells, illumination and surface recombination effects on currents, anal. 7—34046
- surface layers, carrier conc., spatial depend. *(German)* 7—2670
- surface layers, pot. variation, analytical approx. *(German)* 7—7329
- surface layers, potential distrib., anal. *(German)* 7—52734
- thin films, interfaces and phenomena, conf., Boston, MA, USA (Dec 1985) 7—18502
- tight-binding theory 7—52813
- triangular barrier structures, effective barrier height reduction by n-type doping 7—2671
- ZnO:Bi (Sb) (transition metal), Schottky-like barriers, ion implantation, annealing 7—58860
- Ag-CdTe (100) interface, photoemission studies, surface struct., growth behaviour, Schottky barrier and surface photovoltage 7—39352
- Al-GaAs (100) interface, Schottky barrier form. 7—2717
- Al-GaAs Schottky barrier contacts, MBE grown, interface reactions, vacuum annealing effects 7—45022
- Al-Ge-Si, heterojunction ohmic contacts 7—27432
- Al-Si:Ar,H, ion implanted ultrahigh Schottky barriers, interfacial traps, DLTS study 7—45489
- Al$_x$Ga$_{1-x}$As bandgap determ. by Schottky barrier spectral response meas. 7—2667
- Au-CdIn$_2$S$_2$Se$_2$-In Schottky diodes, I-V charact. 7—33010
- Au-GaAs, contact, structural and elec. props. 7—27424
- Au-GaAs, interface state meas. at Schottky contacts, admittance characterisation technique 7—2718
- Au-GaAs, Schottky contact, interface states, trap characterisation 7—27421
- Au-GaAs contacts, elec. and struct. props. 7—2711
- Au-GaAs contacts, proton bombard., I-V characts. 7—7386
- Au-GaAs$_{1-x}$Sb$_x$ Schottky barriers, I-V characts., temp. depend. 7—64344
- Au-InP high-speed internal photoemission detectors enhanced by grating coupling to surface plasma waves 7—52688
- CdTe, Schottky-barrier height determ. including electron-hole recomb. and electron trapping effects 7—2720
- CoSi$_2$-Si heterostructures, MBE or solid phase epitaxially grown, Schottky barrier heights, DLTS spectra 7—12859
- CoSi$_2$-Si Schottky barriers, epitaxially grown, supercond. below 1.05K, tunnelling spectra 7—12860
- Cu-Cu$_2$O Schottky barrier solar cells, interfacial layer effects investig. using n-V$_{oc}$ diagram 7—54304
- GaAlAs-Mo junctions, Schottky barrier height, electrical props. 7—64346
- GaAs (110), substrate for In growth, RHEED study 7—2425
- GaAs backwall Schottky barrier solar cells, minority carrier current collection, built-in elec. field enhancement limitations 7—54305
- n-GaAs, cleaved clean (110) surface initial band bending cause, noble metal deposition 7—22017
- GaAs device structures, γ-ray effects, surface generation-recombination processes 7—64349
- GaAs, dielectric overlayers, effect on surface depletion potential 7—38678
- GaAs inverted rib, phase modulators grown by VPE, optical and electrooptical anal. 7—31450
- GaAs MESFETs, reactive ion etching, DC characteristics *(Japanese)* 7—59701
- GaAs microelectronics, role of Schottky contacts *(German)* 7—52735
- GaAs, Schottky barrier formation, effect of surface annealing 7—12785
- GaAs, Schottky barrier lowering by submicron ohmic contacts 7—7332
- GaAs Schottky-barrier formation and microscopic metal clusters 7—45497
- GaAs substrates, laser-induced metal and alloy plating, silicide form. 7—39448
- GaAs:B, ion implanted, near-intrinsic and extrinsic photocapacitance due to the EL2 level 7—7147
- GaAs/Al epitaxial contacts, MBE growth 7—22488
- GaAs/Al(Mn)(Ag) interfaces, interactions, XPS and elec. transport studies 7—7384
- GaAs/Au(Cr) Schottky barriers, hole diffusion length, photon and electron excitation studies 7—2707
- GaAs/metal Schottky barrier diode, electrical props. 7—27426
- GaAs/Ni Schottky barrier, current-voltage characts. under electron distrib. disturbance 7—52733

Schottky effect continued
- n-GaAs/Ti-Pt system, Schottky barrier height, doping depend. 7—2708
- GaAs-metal interfaces, Fermi level pinning 7—2714
- GaAs-Mn(V), extrinsic surface states, core level UPS study 7—2713
- GaAs-Nb(NbN) Schottky barriers 7—58856
- GaAs-TiSi$_2$ (Au) interfaces, struct. and elec. props. 7—22013
- GaAs(110)-Al, Schottky barrier form., effect of surface and interface kinetics 7—2668
- GaP bicrystals, potential barriers of grain boundaries 7—21976
- a-GeSi:H,F double Schottky barrier structures, surface photovoltage meas. and calc. 7—17093
- In-GaAs(110), interfacial chem. reaction, UPS study 7—2276
- In$_x$Al$_{1-x}$As/Au Schottky barrier heights, composition dependence 7—45431
- In$_{0.5}$G$_{0.5}$P layers, LPE, elec. and optical props. 7—17119
- In$_{0.53}$Ga$_{0.47}$As-W-InP structures, LPE growth on structured substrates 7—46353
- In$_x$Ga$_{1-x}$As (100)-metal interfaces, Fermi level pinning and chem. interactions 7—2712
- InP (110) cleaved surface and Schottky diodes 7—58850
- InP/Al(Mn)(Ag) interfaces, interactions, XPS and elec. transport studies 7—7384
- n-InP/Au Schottky contacts, surface treatment by plasma-induced O radicals 7—38674
- InP/metal Schottky barrier diode, electrical props. 7—27426
- InP-Au(Al) Schottky barriers, defects introduced by mech. polishing 7—39768
- InP-metal interfaces, Fermi level pinning 7—2714
- Mg$_x$Zn$_{1-x}$Te-In Schottky barriers, C-V and photoelec. studies 7—64307
- Mn/GaAs interface formation on clean and oxidised (110) surfaces 7—45029
- MoS$_x$Se$_{2-x}$ solar cells, performance, illumination intensity effects 7—54325
- Ni-GaAs, barrier height meas., UV-ozone cleaning of GaAs (100) 7—28228
- Ni-Si interface reactions induced by pulsed incoherent light, silicide formation 7—32725
- NiSi$_2$-Si, interface states, barrier height, Fermi level 7—27430
- NiSi$_2$-Si, interfacial defect states 7—27428
- NiSi$_2$-Si, structural characterisation 7—27429
- NiSi$_2$-Si (111), Schottky barrier height, rel. to Fermi level positions 7—27427
- NiSi$_2$-Si Schottky barrier heights, study by electron beam induced current 7—27381
- PdSi$_2$-Si, interface states, barrier height, Fermi level 7—27430
- PrH$_{2+x}$, (x=0-0.5), low temp. specific heat meas. 7—32681
- Pt-a-Si:H Schottky barrier contact, photocurrent excitation nonadditivity effects 7—17099
- PtSi-Si, interfacial metallurgical interactions, elec. characts., effect of H 7—52834
- Rh/GaAs Schottky contact, correlation between solid-state reaction and electrical props. 7—58655
- Si, ion implanted with Ar$^+$, H$_2$ passivation, polycrystalline phase formation 7—12087
- a-Si, metallic state, prep., characts., appl. in devices *(Japanese)* 7—52697
- p-Si Schottky barriers, N$_2$ and Ar ion beam etching effects *(Korean)* 7—12858
- Si Schottky diodes, H$_2^+$ bombarded, elec. props. 7—38677
- Si substrates, laser-induced metal and alloy plating, silicide form. 7—39448
- Si surfaces, passivated by H/hydrogen mixtures, surface dielectric layers characterisation 7—17746
- Si thin film, doped, electron beam evaporation, elec. props. 7—2743
- Si:Ag-Ag, formation of Schottky junctions by Ag implantation in Si 7—12784
- a-Si:H n$^+$-i-n$^+$ struct., freq.-depend. noise studies 7—45484
- a-Si:H p-i-Pd cells, carrier transport 7—17023
- a-Si:H/metal junction, pot. profile determ. 7—2715
- p-Si/Al Schottky barriers, Ar$^+$ implantation damage, oxidation, etching and elec. props. 7—21290
- Si/NiSi$_2$ heterojunction, interface states, DLTS and hydrogenation studies 7—12777
- Si-Al Schottky barrier formation, local electronic struct., EELS study 7—21975
- Si-silicide interface, Schottky barrier heights, size effect 7—52837
- Si-Ti(TiSi$_2$), Schottky barrier height investig. 7—2716
- a-SiGe:H,F films, glow discharge deposition and elec. props. 7—64917
- a-SiGe:H,F/Pd(Au)(Ni), Schottky barrier height, internal photoemission meas. 7—45501
- a-Si$_{1-x}$Ge$_x$:H/Al Schottky barrier form. and characts. 7—12787
- a-Si$_{1-x}$Ge$_x$:H/a-Si:H/Al Schottky barrier form. and characts. 7—12787
- Sm-Si Schottky barriers, elec. and struct. characts., 7—38675
- TaIr-GaAs Schottky barrier contacts 7—17102
- Ti-Si, native contamination layer effect on interface props. 7—17104
- Ti-Si, Schottky barrier heights, 175 to 295K, silicide form. 7—38679
- TiSi$_2$ Schottky barrier diodes, barrier heights 7—45432
- Ti$_x$W$_{1-x}$-Si, Schottky barrier heights, 175 to 295K, silicide form. 7—38679
- W-GaAs, Schottky contact, electrical and metallurgical studies 7—27422
- W$_5$Si$_3$-GaAs, Schottky contact, electrical and metallurgical studies 7—27422
- ZnO varistors, bulk electron traps 7—45348
- ZnS, rare earth impurities, electrolum. of Schottky barriers, photolum., charge compensation, and impurity electron states 7—64700

Schottky gate field effect transistors
- dielectric films, on compound semiconductors, conf., Las Vegas, USA (Oct. 1985) 7—35108
- microstructures and microdevices, conf., Goteborg, Sweden (Aug. 1986) 7—35097
- picosecond electro-optic sampling 7—53278
- GaAs devices, 1/f fluctuation, surface states effects *(Japanese)* 7—21955
- GaAs, dielectric overlayers, effect on surface depletion potential 7—38678
- GaAs MESFETs, reactive ion etching, DC characteristics *(Japanese)* 7—59701
- GaAs semiinsulating LEC substrate, elec. homogeneity evaluation, thermally stimulated drain conductance meas. 7—32954
- In$_x$Ga$_{1-x}$P LPE layers lattice-matched to GaAs, Hall mobility meas. and MESFET fabrication 7—7905

Schottky gate field effect transistors continued
W-GaAs, Schottky contact, electrical and metallurgical studies 7−27422
W_5Si_3-GaAs, Schottky contact, electrical and metallurgical studies 7−27422

Schottky noise *see random noise*

Schrodinger equation
1D, asymptotic behaviour, Stokes phenomenon for eqn. $y''(z)\text{-}z^m y(z)=0$ 7−35299
2D Schrodinger operator construction for given scatt. amplitude at fixed energy 7−29814
AC-driven damped 1D sine-Gordon system, phase-pulling and space-time complexity 7−48440
adiabatic invariants and asymptotic behavior of Lyapunov exponents of the Schrodinger equation 7−29801
Anderson model, 1D, anomalous scaling and generalised Lyapunov exponents 7−45108
anharmonic oscillator, $\kappa X^2+\beta X^4$, nonperturbative method study 7−61164
anharmonic oscillator, Rayleigh-Schrodinger perturbation theory 7−56084
anharmonic oscillators, quartic and sextic, Schrodinger eqn., eigenvalues, lower bounds calc. 7−41126
approximate solution optimisation 7−41146
atom-ion collisions, electron capture, off-shell Coulomb radial wavefunctions soln. 7−62520
atomic positive ions, Z=2 to 50, quantum defect values 7−24323
bidimensional Schrodinger equation, uniqueness of restoration *(Russian)* 7−56064
Bose condensate, solitary wave solutions of nonlinear Schrodinger equation 7−18689
bound-state problem, Morse pot., Schrodinger eqn. soln. 7−14831
charged particle bremsstrahlung by barrier penetration in 1D 7−29775
classical and quantum particle, stationary states and discrete energies 7−29783
closed-form solutions for the modified potential 7−41148
complex time-dependent Ginzburg-Landau eqn., asymptotic spatial patterns 7−35310
Compton effect, Schrodinger's treatment 7−29620
conformally flat Riemannian metrics, Schrodinger operators and semiclassical approx. 7−56074
continuum wave solution, expansion in resonant states 7−18626
dilated Schrodinger operators with non-trapping pots. in classical limit, absence of resonances 7−9686
Dirac-Coulomb eqn., Schrödinger eqn. decomposition, perturbation soln. 7−24767
discrete nonlinear Schrodinger eqn., quasiperiodic solns. 7−48423
discrete nonlinear Schrodinger equation, quasi-periodic solns. 7−56080
discrete Schrodinger operator absence of localisation 7−48424
discrete self-trapping equation, non-steady soln. 7−14821
dynamical systems and statistical physics conf., Koszeg, Hungary, Aug.-Sept. 1984 7−48194
effective potentials from effective classical potentials 7−35327
Ehrenfest theorem for the charged quantized Schrodinger field with arbitrary spin 7−29811
eigenstate determination using large N method 7−61167
eigenvalues calcs. using recurrence rels. 7−24449
electronic polarisability, Schrodinger eqn., numerical soln. method anal. 7−24457
equation with polynomial potential, soln. using numerical method 7−41125
essential spectra for Schrodinger operators including unbounded hard cores 7−61154
Euclidean supersymmetric quantum theory, stochastic representation of arbitrary fermion sectors 7−18630
evolution loops for Schrodinger particle in time-dependent external fields 7−4707
exact solution with combined oscillator-Coulomb potential 7−41122
few-body systems with correlated basis functions, variational method 7−4701
finite-amplitude gravity waves in fluid, nonlinear 3D Schrodinger eqn. 7−16199
Gaussian wave-packet dynamics 7−48409
generalized Green's functions and spectral densities in the complex energy plane 7−29797
global scaling properties of the spectrum for aquasiperiodic Schrodinger equation 7−283
Green function for relativistic Schrodinger equation *(Chinese)* 7−48437
harmonic oscillator, quantum kinematics of Newtonian symmetry group 7−41131
harmonic oscillator, schrodinger equation and canonical perturbation theory 7−48401
harmonic oscillator, time-depend. mass, with driving force, exact soln. 7−35331
heavy quarkonium pot. models, Green's function Schrodinger eqn. calcs. 7−15121
heterostructures, time-dependent wave packet tunnelling in applied fields 7−45437
Hill determinant method, false eigenvalues 7−9697
hyperbolical potential functions, energy eigenvalues 7−42725
inhomogeneous electron gas pressure calc. *(German)* 7−64145
integral form, collocation method soln. 7−116
inverse scatt. problem, quasiclassical approx. 7−24441
inverse scattering problem, reconstruction of local potentials for Schrodinger eqn. 7−61151
ion acoustic waves in magnetised plasma, nonlin. modulation 7−58009
ion-surface collisions, excited state form. dist., reson. charge exchange, multichannel theory 7−46266
Kadomtsev-Petviashvili eqn., recursion operator, Schrodinger operator, squared eigenfunctions 7−24478
L_p spectrum of Schrodinger operators 7−48415
Langmuir solitons theory 7−1671
Langmuir turbulence, Zakharov eqns., nonlinear Schrodinger limit 7−11647
large-order shifted $1/N$ expansions 7−4717
lattice Bose gas in 1D, equilibrium thermodynamics 7−61276
lattice Schrodinger operators with exponential disorder, cut discontinuity, large order behaviour 7−9937
local equivalent, with relativistic kinematics, WKB approximation 7−56406
low energy scattering theory for one-dimensional systems with $\int dxV(x)=0$ 7−61153

Schrodinger equation continued
low-energy scattering for medium-range potentials, Schrodinger eqn. with central pots. 7−35308
magnetic material props., Schrodinger representation 7−4702
Magnus and Magnus-like expansions convergence 7−14810
many electron atom and ion systems, theoretical model 7−14815
many-body bound states, hyperspherical and integro-differential approaches 7−48405
many-electron Schrödinger eqn. for molecular systems, computational considerations 7−4700
many-nucleon system, wave fn. analysis using Fadeev formalism 7−61810
Marchenko integral eqn., Fredholm theory 7−41156
matter properties, deduction from Schrodinger equation *(German)* 7−14816
Maxwell-Dirac isomorphism 7−48447
metal surface quasi-stationary spectrum of nearby Rydberg atoms 7−49984
molecular multiple-photon excitation 7−19987
momentum Bloch functions, closure property 7−45123
multicomponent generalizations of integrable nonlinear partial differential eqns. 7−74
multidimensional equation, ground state energy, upper and lower bounds, construction 7−41124
N distinguishable particles, Schrodinger eqn. derivation from stochastic processes 7−29805
non-relativistic conformal symmetries and invariant tensor fields 7−35674
nondissipative quantum diffusion eqns., comment and reply 7−41309
nonlinear, interacting soliton equations, inverse method 7−48433
nonlinear, rational multisoliton solns. 7−48404
nonlinear, robust bistable solitons 7−41145
nonlinear coupled problems of Schrodinger eqn. and Klein-Gordon eqn. *(Chinese)* 7−101
nonlinear optical waveguide, soliton propagation with dissipation and damping 7−62828
nonlinear Schrodinger eqn., local and nonlocal conserved quantities 7−56063
nonlinear Schrodinger equation, numerical integration 7−29794
nonlinear Schrodinger equation, perturbation-induced radiative losses in soliton collisions 7−24453
nonlinear Schrodinger equation, phenomenological quantisation scheme 7−18634
nonlinear Schrodinger equation on lattice, classical and quantum variants 7−29817
nonlinear Schrodinger equation with an external field, soliton studies 7−41121
nonlinear Schrodinger equation with linear damping term, finite difference scheme 7−56073
nonlinear Schrodinger equations 7−61137
nonlinear Schrodinger model in strong coupling regime, nonperturbation scheme for S-matrix 7−4991
nonlinear Schrodinger model in strong coupling regime, S-matrix nonperturbative calc. 7−4992
nonlinear Schrodinger model with attractive coupling, quantum inverse scatt. transform 7−122
nonlocal exchange kernel, numerical solution 7−48412
nonrelativistic free particles, wave functions 7−24446
nonrelativistic radial quasipotential eqns., limiting values of solns. 7−35342
nonrelativistic scattering on a line, Jost matrix integral form. 7−61149
nonrelativistic Schrodinger eqn. in quasiclassical theory 7−61145
nonspreading wave packets for the cubic Schrodinger equation with a bounded potential 7−35307
one dimensional, integral equation solution 7−48414
one-dimensional atom-surface energy transfer, consistent quantum treatment 7−27840
one-dimensional potential scattering, time-dependent Schrodinger theory *(Korean)* 7−29802
one-dimensional Schrodinger eqn. with double-well pot. 7−29807
one-dimensional wave equations in random and quasiperiodic media, localisation 7−21872
ontological basis for quantum theory 7−48441
open quantum systems, Lindblad theory for collective mode damping 7−61138
oscillators, random, Lyapunov exponent and rot. number, asymptotic anal. 7−4720
particle dynamics in Coulomb pot. anisotropic harmonic oscillator pots. 7−61163
particle ground state under influence of uniformly charged sphere 7−18539
particle in various square well pots., algebraic approach 7−35332
particle moving in free space, eigenfunction normalisation 7−29638
particle quantisation, force quadratic in the velocity, Lagrangian Feynman path-integral procedure, 7−24472
particle trapping for time-periodic pots., semiclassical approach 7−48397
path integrals on half-line, Schrodinger eqn. soln. 7−18612
period time depend. systems, folding transform. appl. 7−18620
periodic envelope wave, 1D stability against 2D perturbations, nonlinear Schrodinger eqn. calcs. 7−41160
periodic solid, one-dimensional, Schrodinger eqn. soln for electron in uniform electric field 7−56078
perturbation-theory method of calculating the energies andexcitation energies of atomic, molecular, andsolid-state systems 7−5596
perturbed nonlinear Schrodinger eqn., spatio-temporal coherence and chaos, conf. Los Alamos, USA, Jan. 1986 7−48158
perturbed nonlinear Schrodinger equation, solitons as invariant tori 7−41154
phase space eigenfunctions of multidimensional quadraticHamiltonians 7−144
piecewise constant potential, improved regula falsi method 7−48413
polymers, highly conducting, electronic structure, correlation effects 7−64064
potential barrier, 1D piecewise-linear, exact soln. of the Schrodinger eqn. 7−4703
probability and energy density currents, expression as density functionals 7−117
propagators for quantum systems with electromagnetic fields, constructive representations 7−48420
quantum cosmology, fermionic perturbations and wavefunction of the Universe 7−56128
quantum decay into a continuum at weak bias 7−35330
quantum state, nature 7−48267

Schrodinger equation continued
quantum systems, minimum uncertainty states, classical props. 7—14823
quantum systems uniform semiclassical approx. 7—24475
quantum-mechanical Green's function and nonlinear superposition law 7—14817
quark model three-body forces, Schrodinger eqn. soln. 7—56511
quarkonium, Jost function and T-matrix derivation 7—61558
quarkonium physics in the pot. approach 7—30238
quasielastic neutron scatt., nonlinear effects and lineshape calcs. 7—63403
quasiperiodic, symbolic dynamics for renormalisation map 7—24440
quenched exponential decay, unstable continuum effects 7—141
radial, exact soln. with singular Bargmann's potential *(Russian)* 7—41159
random chain of coupled oscillators, special frequencies and asymptotics 7—56061
random Schrodinger equation, transition from pure point to continuous spectrum 7—48460
reactive scattering, quantum mechanical, via exchange kernels, exchange interaction calcs. 7—28284
resonance energies, quasiclassical estimates 7—29809
resonance energies and widths, comparison of theoretical methods for short-range potentials 7—14814
resonance states, wave function localisation using optical potential 7—14811
RF driven plasma, low-dimensional chaos in a driven damped nonlinearSchrodinger equation 7—6408
rotating harmonic, 3D, and doubly anharmonic oscillators, Schrodinger eqns., confinement pots. 7—35313
runaway phenomenon, diffusion with varying drag 7—57977
scattering theory, one-dimensional extensions 7—61150
Schrodinger equation, classical physics teaching approach 7—35171
Schrodinger equations, $L^{\infty}(R^n)$ decay of classical solns. 7—56085
Schrodinger inverse scattering problems, 3D anal. using differential and integral methods 7—18638
Schrodinger operators with matrix potentials, spectral props. 7—119
Schrodinger-Coulomb-Green's function, derivation from scatt. expansion, wave functions 7—61159
secondary ion emission, electron exchange mechanism theory 7—13293
self-trapping on a dimer, discrete nonlinear Schrodinger eqn., time-depend. solns. 7—18721
shifted $1/N$ expansion for energy eigenvalues of the exponential cosine screened Coulomb potential 7—36442
simple separable Hamiltonian having bound states in the continuum 7—35321
singular nonlinear Schrodinger eqns. with polynomial nonlinearities, special spins. 7—29799
size quantization near semiconductor surface *(Russian)* 7—64882
soliton turbulence, transport by negative eddy viscosity 7—14790
spatial transform method for multidimensional (2+1) problems 7—24444
spectral problem hierarchies of integrable eqns. obtained as nonisospectral deformations 7—61160
spectral properties of random and almost periodic differential and finite-difference operators 7—48329
stationary states of nonlinear Schrodinger eqn. *(French)* 7—63256
Stokes phenomena and monodromy deformation problem for nonlinear Schrodinger equation 7—24445
Stokes phenomena and the monodromy deformation problem for the nonlinear Schrodinger equation 7—35317
SU(2) gauge theory on $R \times S^3$ topology 7—61431
sudden approximation, classical limits 7—4704
SVZ method applied to Schrodinger equation with $V=\lambda\ \mathrm{ctg}^2\pi x$ pot. 7—61135
thermal neutron elastic scatt., electrical model anal. 7—25020
thin films, electron dynamics in external longitudinal mag. field, electron energy spectrum calcs. 7—58906
three perspectives on Schrodinger's cat paradox 7—35298
three point charges, Schrodinger eqn. soln. in hyperspherical basis 7—30390
time dependent Schrodinger eqn., soln. using symmetric Trotter-Suzuki formulae 7—56066
time dependent Schrodinger eqn. solns. for two-state problem 7—35314
time evolution in discrete quantum systems, geometrical interpretation 7—29776
time-dependent invariant associated to nonlinear Schrodinger-Langevin equations 7—41134
time-dependent Schrodinger eqn., variational principles 7—14818
triatomic molecules, bending vibrs., Schrodinger eqn. calcs. 7—36581
two-electron atomic states with conserved angular momentum and parity, Schrodinger eqn. 7—5593
unitary equivalence of relativistic and nonrelativistic potential problems *(Russian)* 7—14833
unitary quantum time evolution by iterative Lanczos reduction 7—24451
variably spaced multiquantum well struct., resonant tunnelling, Airy function approach calcs. 7—58878
wave propagation in disordered arrays, resistance growth with density of scatterers 7—35294
Zeeman effect, first-order quadratic, nodal coordinates 7—50013
(p,p), Dirac and Schrodinger approach, scatt. model 7—41988
$\bar{q}q$ realistic pot. with running coupling constant, fine and hyperfine splitting 7—19068
Be, $^3P^0$ and $^1P^0$ Rydberg series, autoionising states, complex eigenvalue Schrodinger eqn. soln. 7—62329
GaAs n^+-n-n^+ structs., quasi-elastic inter-Landau-level scattering processes 7—17086
GaAs-$Al_xGa_{1-x}As$ semicond. superlattice, exciton transitions study 7—52432
H atom, 2D, reciprocal expansions of polar and parabolic bases of continuous spectrum 7—29813
H, electronic states in uniform mag. field, cylindrical adiabatic approx. calcs. 7—42479
H, multiphoton ionisation by intense laser field, integral eqn. approach 7—62339
H, Schrodinger eqn., many dimensional analogue, quantum mechanical many-body problem 7—42460
H-like atoms, relativistic corrections to ground state energies, Dirac eqn. variation perturbation method 7—24766
H-like atoms, stability, particle in a spherical box theory 7—9629
$He+H^+$, united atom rot. coupling collisions 7—958
^3He, Schrodinger equation hard core anal. 7—61812
Hg atom, two-photon excitation cross section, Hartree-Slater self-consistent calcs. 7—50042

Schrodinger equation continued
Mg isoelectronic series, energy levels, multiconfig. optimised pot. model calcs. 7—19723
np scattering, medium energy, Schrodinger operator construction 7—61724
a-Si, density of states, spectral function, calcs. using eqn. of motion method in k-space 7—27236
a-Si:H/SiN_x:H (a-SiC:H) double-barrier structs., resonant tunnelling coeffs. 7—45467

Schroedinger equation *see Schrodinger equation*

Schwarz-Hora effect
No entries

Schwarzschild metric
black hole, charged particle orbits in field of two charges 7—18653
black hole, dynamical stability of tori 7—9508
black hole, geodesic motion in globally regular space-time 7—47968
black hole, particle creation due to curvature 7—9509
black hole with cosmic string, thermodynamics and metric 7—18660
black holes, nucleation of vacuum phase transitions, Euclidean action 7—56102
centrally symmetric space-time, Schwarzschild's formula 7—47687
distorted Schwarzschild black holes, multipole moment formalism 7—48487
divergence free Weyl conformal tensor and perfect fluid distributions 7—61171
Doppler shifting of a distant light source in aSchwartzschild gravitational field 7—4319
Einstein-Maxwell equations, type one soln., charged analogue of Schwarzschild's interior soln. 7—35357
extended manifolds of general relativity, tachyon prod. 7—35348
gravitation theory, dimensionless const. 7—29624
imperfect fluid sources to Schwarzschild exterior soln. using $g_{00}g_{11}=-1$ condition 7—56100
massive Schwarzschild black hole, entropy in stable thermal equilib. 7—24502
multiple black holes in asymptotically Euclidean static vacuum space-time, nonexistence 7—66652
Penrose's quasi-local mass 7—29828
Poincare gravitational gauge theory, torsion soln. existing with Schwarzschild metric 7—56107
quantum mechanics in curved space, wave eqn. derivation 7—49
scattering theory, classical and quantum for linear scalar fields on Schwarzschild metric 7—18684
strong equivalence principle for charged particles 7—24493

Schwarzschild space *see Schwarzschild metric*

Schwinger source theory
ϕ_4^4 theory with negative coupling, continuum limits of Schwinger fns. 7—49005
ϕ_ν^4 quantum field theory, coupling constant bound violation 7—9980
Abelian U(1) lattice gauge theory, mag. monopoles and charged states 7—24760
charged spinless particles, relativistic scatt. theory, Lippmann-Schwinger eqns. 7—5010
chiral gauge theories, gauge-invariant point-splitting procedure 7—56425
chiral Schwinger model, path integral quantization 7—56427
chiral Schwinger model in curved space-time 7—24795
confined Yang-Mills field, propag. props. and condensate form. 7—48991
dimensional regularization and perturbative solution of the chiral Schwinger model 7—41662
exact solution at finite temp. 7—24787
Marshalek boson derivation, SU_6 quantum case 7—387
massive Schwinger model with Wilson fermions, chiral condensate calcs. 7—61541
odd-dimensional gauge theory, Schwinger-DeWitt proper-time method 7—4954
QED_2, discretized light-cone quantization of Schwinger models 7—56497
string theory, energy-momentum tensor and conserved currents 7—35833
T matrix, Schwinger variational functionals 7—48949
two-dimensional model for strongly interacting matterat high particle density 7—5045
vacuum structure and the fermion-boson transformation 7—19004
H, external electric field, first-order perturbed wave fn. 7—36465

science education *see education*

scientific societies *see societies*

scintigraphy *see radioisotope scanning and imaging*

scintillation
see also phosphorescence; phosphors
250 MHz/GHz scintillation parameters, equatorial, polar and auroral environments 7—66384
1741—038, quasar, refractive interstellar scintillation obs. 7—55845
centroid anisoplanatism, scintillation effects 7—57243
P/Comet Halley (1982i), occultation of PKS 2314+03, scintillation meas. 7—18381
P/Comet Halley (1982i) tail, radio source scintillation obs. 7—66516
9,10-dichloroanthracene monocrystals, alpha scintillations, decay kinetics 7—7769
dye solutions, excited state absorpt. measurements 7—42516
F-layer irregularity obs, of SAR arc event 7—60470
hematoporphyrin.2HCl, dye, energy transfer excitation *(Japanese)* 7—22342
intensity cross spectrum, two frequency 7—10826
interstellar scintillation, use for meas. of pulsar space vel. 7—60698
ionosphere, effect of mag. activity on equatorial scintillations 7—34762
pulsars, multiple imaging by refr. in interstellar medium 7—40856
pulsars interstellar scintillation, effects of refractive and diffractive scatt. 7—55759
random medium with Kolmogorov spectrum and inner scale of turbulence, intensity covariance of point source 7—57245
satellite communications, amplitude scintillations, meas. and preliminary effects *(Italian)* 7—23821
solar wind, large-scale disturbances 7—23968
troposphere, meas. and modelling of amplitude scintillations on low-elevation Earth-space paths 7—4110
two-colour correlation in turbulent atmosphere 7—14372
^{198}Au, activity meas., thermal neutron flux density meas. using liquid scintillation technique 7—17844
BaF_2, Bridgman-Stockbarger growth and scintillation props. 7—59408
$Bi_4Ge_3O_{12}$, high quality large cryst. growth, colour and precip. form., pulse height resolution 7—53554

scintillation continued
  $Bi_4Ge_3O_{12}$ single cryst. growth, characterisation and appls. 7−33550
  ^{60}Co, activity meas., thermal neutron flux density meas. using liquid scintillation technique 7−17844
  CsI(Na) inorganic scintillators, role of activators 7−33459
  $^{57}FeF_3.3H_2O$, resonance scintillators for recoilless 14.4 keV γ-quanta 7−62202
  $K_4{}^{57}Fe(CN)_6.3H_2O$, resonance scintillators for recoilless 14.4 keV γ-quanta 7−62202
  NaI:Tl,OH^-, NO_3^-, CO_3^{2-} crysts., scintillation props., vibrational spectra, anion impurity effects *(Russian)* 7−22348
  NaI(Tl) inorganic scintillators, role of activators 7−33459
  $ZnWO_4$, Czochralski grown, quality, colour rel. to scintillation output 7−59407

scintillation chambers
  see also scintillation counters
  hodoscopes based on multipliers load characts. 7−10357

scintillation counters
  see also photomultipliers; position sensitive particle detectors
  ΔE-E telescope system using plastic scintillation detector for n beam flux monitor 7−825
  acrylic scintillators, influence of mag. fields 7−62227
  afterpulsing in 130 mm diameter photomultiplier tubes 7−62229
  algorithms for qualitatively and quantitatively determining the radiocontamination of environmental samples including various measurement arrangements *(Polish)* 7−56918
  background suppression in a gas scintillation proportional counter for exotic X-rays 7−42308
  BGO, energy resolutions for p and α 7−5557
  BGO γ-detector, interpolation method for functions of the two variables 7−36400
  BGO calorimeter, performance in electron beam 7−62224
  BGO calorimeter at LEP, characteristics improvement *(French)* 7−49839
  BGO scintillators, surface roughness and crystal shape effects 7−15452
  bioassay procedures for radionuclides for atomic radiation workers 7−8696
  charged particle identification using plastic phoswich detectors 7−49803
  CLEO II scintillation TOF system, tests of conventional and microchannel plate photomultipliers 7−25308
  coincidence spectrometer with scintillation and planar detectors, time characts. 7−36438
  cosmic ray detectors for EAS 7−66414
  cosmic ray EAS, scintillation detector calibration for ANI instrument 7−14466
  CT, X-ray flux meas., minimising photomemory effects 7−56392
  9,10-diphenylanthracene, scintillation props. and triplet-triplet annihilation 7−62215
  electromagnetic calorimeter for L3 detector, energy and position resolution *(French)* 7−19664
  electromagnetic calorimeter with wavelength shifting fibre readout 7−49804
  ethanol from Bulgarian wines, liquid scintillation meas. 7−20071
  evaluation and calibration using cyclotron and ECR source 7−42312
  fast neutron dosimetry using CR-39 with scintillator filled etched pit method 7−42410
  fluorescence detection systems for EXAFS meas. 7−61415
  gamma camera, electronically collimated, gas scintillation utilisation 7−65845
  gas-scintillator detection of low-energy electrons 7−5536
  gasolines as primary solvents in liquid scintillation counting 7−36417
  glass fibre detectors, high resolution, initial meas. 7−62221
  high-energy gamma ray spectrometer for heavy-ioninduced experiments 7−5528
  hodoscopes based on multipliers, load characts. 7−10357
  hodoscopic scintillation gamma spectrometers with light-guide spectrum mixers 7−10351
  Karlsruhe 4π BaF_2 γ-detector, time-and-energy resolution of prototype crystals 7−5543
  KEK TOPAZ barrel TOF counters, laser calibration system 7−62214
  large acceptance mag. detector for CEBAF 7−36379
  large tapered BGO crystals, performance for 6-20 MeV photons 7−62235
  light guides for large area scintillation counters, props. and parameters 7−25311
  liquid scintillation efficiency tracing, activity determination 7−56906
  liquid scintillation nuclear activity metrology instrument, design *(Chinese)* 7−5559
  low background radiometric system without additional anticoincidence counters, counting efficiency decrease *(Russian)* 7−49837
  low background scintillation installation for double beta decay experiments 7−19630
  low level liquid scintillation counter performance in a low level surface laboratory 7−19642
  low-energy β-imaging system for T distrib. meas. 7−42441
  magnetic scintillation electron spectrometer for cosmic radiation meas., specifications computing 7−40715
  massive monopole search using CR-39, scintillation and streamer tubes 7−42396
  maximal effective area determ. 7−36415
  multichannel scintillation detector for high energy photon radiation 7−25304
  multidetector arrays, expt. possibilities at Darmstadt-Heidelberg crystal ball 7−30833
  multiple detector CAMAC controlled system, 3 photon annihilation spectroscopy sum energy analyser, SiO_2 fine powder data 7−42435
  NE104 and NE110 aged large vol. scintillators, response to fast n, p and e 7−5538
  NE-102 plastic scintillator, response to ^3He nuclei 7−5558
  neutron detectors, main types *(Rumanian)* 7−10362
  neutron position sensitive scintillation detector for fragment correlations 7−62212
  neutron scattering expts., evaluation of data from 1D-PSD used in TOF method 7−11846
  neutron-activation detectors, activity meas. by gamma spectrometry, systematic errors 7−49793
  nonlinear response to relativistic charged particles *(Chinese)* 7−25318
  Opti-Fluor and Aquasol-2 liquid scintillation cocktails, comparison of counting characts. 7−30835
  optical fibre track imaging detector 7−5556
  organic scintillators, neutron spectrum unfolding by differentiation 7−42319

scintillation counters continued
  plastic scintillator, degradation due to Tevatron tunnel background radiation 7−49818
  plastic scintillators, light yield and scintillation response duration determ. 7−36416
  polymethylmethacrylate scintillator, active charged-particle protection of neutral-radiation detectors 7−10358
  scintillator-photodiode hodoscope, electromagnetic shower position detection 7−42442
  sealed radioactive check sources for liq. scintillation counters, American standards 7−36370
  slow plastic scintillators, decay times 7−62230
  thermal neutron dosimetry using CR-39 with scintillator etch pit method 7−42409
  thin film detectors, response characts. for fission fragments 7−5544
  transverse BGO compton suppression shield for Ge γ-spectrometer, expt. and Monte Carlo study 7−25300
  two dimensional angular correlation of positron annihilation using a scintillation camera 7−36420
  X-ray remote detect., coupling between plastic scintillators and light fibres 7−25320
  BaF_2 scintillators, γ-ray and charged particle detection 7−49807
  BaF_2 scintillators, positron lifetime meas., Ag thermal vacancy form. data 7−42434
  BaF_2 scintillators, properties of optical greases 7−49810
  BaF_2 scintillators, pulse height response in charged particle detection 7−42321
  BaF_2 scintillators, timing props. 7−62232
  $Bi_4Ge_3O_{12}$ detector 2D angular correlation apparatus for positron annihilation studies 7−36423
  CsF detectors, use in lifetime spectrometers for e^+e^-annihilation studies 7−5554
  CsI:Tl, energy resolutions for p and α 7−5557
  CsI:Tl, γ-ray radiation damage, recovery 7−63657
  CsI:Tl crystal, response to electrons and pions 7−62206
  CsI(Na) scintillation detector, single-coordinate, position-sensitive, space resolution determ. 7−10359
  CsI(Tl) scintillator response to light particles and heavy ions *(Italian)* 7−25327
  CsI(Tl) scintillator with photodiode readout, response to light particles and heavy ions 7−25312
  $^{57}FeF_3.3H_2O$, resonance scintillators for recoilless 14.4 keV γ-quanta 7−62202
  Ge-BGO Compton suppression spectrometer system, time pickoff for BGO suppression shield 7−5529
  Ge-NaI(Tl) anti-Compton spectrometer, on-line neutron response, γ prod. 7−5532
  He scintillators, diphenylstilbene as a wavelength shifter 7−62233
  ^3He, use in gas scintillation counters 7−30897
  $K_4{}^{57}Fe(CN)_6.3H_2O$, resonance scintillators for recoilless 14.4 keV γ-quanta 7−62202
  Li glass, Ce activated, light conversion efficiency 7−62213
  NaI(Tl) scintillation counter with vacuum photodiode 7−42432
  Pb scintillation calorimeter for electron and pion detection, radiation damage props. 7−15451
  Pb-glass detectors, removal of phototubes 7−49834
  ^{220}Rn, concs. determ. by scintillation counting method, appl. to Japanese Fumaroles and hot springs 7−9199
  Si detectors, high UV sensitivity and scintillator readout appls. 7−19666
  Si pin photodiode characteristics 7−42341
  Xe gamma-quantum detector, position sensitive 7−36412
  Xe, liquid scintillation spectrometer 7−62199
  ZnS scintillator for TFTR fusion product emission meas. 7−11731

scintillation detectors *see scintillation counters*

scintillation spectrometers *see particle spectrometers; scintillation counters*

scintillators *see scintillation; scintillation counters*

scintillometers *see scintillation counters*

scorching *see combustion*

Scott effect
  No entries

SCR *see thyristors*

screening *see shielding*

screening, nuclear *see nuclear screening*

screens, fluorescent *see fluorescent screens*

screens, phosphorescent *see fluorescent screens*

screens (display)
  see also fluorescent screens
  VDT viewability enhancement 7−28536
  X-ray screen-film-combinations, line spread function *(German)* 7−15044

screw dislocations
  asymmetric radiation due to oscillating dislocations 7−44546
  BCC metals, Snoek-Koster relax. model investig. *(Russian)* 7−12115
  crack edge, screw dislocation motion, Green's function 7−37388
  crack tip, image forces and pot. energy of dislocations 7−26758
  dielectric materials, linear isotropic, lattice defects 7−26749
  grain boundary dislocations, elastic props. 7−21205
  hexaethylene glycol dodecyl ether, lyotropic liquid crystal, defect-mediated phase transition, electron-microscopy obs. 7−21439
  mixed dislocations, dynamic annihilation study 7−44548
  parallel, configurational force calcs. 7−26751
  polypropylene, isotactic, γ-phase morphology 7−6554
  smectic A liquid crystals, screw dislocation dynamics 7−21090
  stationary configurations of point vortices and other logarithmic objects in two dimensions 7−57858
  stearic acid, B modification, growth kinetics of (001) and (110) faces from n-alkanes 7−58174
  type II superconductors, flux-line lattice, elastic and plastic props. 7−27481
  vacancy self-diffusion in cubic lattice 7−44888
  Al single crystals, helical dislocations with low dislocation density 7−51774
  AlH_3, cryst. imperfection obs., TEM 7−32445
  Al_2SiO_5 polymorphs, dislocation strain energy 7−16555
  Au crystallites, annealing, grain boundary untwisting and untilting, dislocation climb and glide 7−12076
  Cu-Ni alloys, dislocation vel. determ., stress pulse etch pit and slip line cinematography techniques 7−63627
  Fe, Armco and Vacofer, yielding behaviour, H influence 7−33753

screw dislocations continued
Fe, edge and screw dislocation density determ., TEM, etching and positron lifetime meas. 7—38006
α-Fe:H, H induced softening, yield stress reduction 7—39607
Fe:He(C), distribution and migration of interstitial impurities in the field of a screw dislocation core 7—6669
Fe-Al, B2-ordered alloys, dislocation energies and mobilities 7—58283
Fe-H system, dislocated single crystals, positron trapping reduction on H charging 7—39262
Fe-N, Snoek-Koster relax., dislocation effects *(Russian)* 7—44686
GaAs, dislocation core struct. 7—38007
GaAs, dislocation-complex defect interactions, photoluminescence studies 7—16608
GaAs, undoped, thermal activation of plastic deform., 528-813K 7—6710
InP, dislocation-complex defect interactions, photoluminescence studies 7—16608
InP single crystals, thermal activation of glide 7—21213
KCl (100), interaction of NaCl mol. beams with surface, desorption flux meas., SIMS obs. 7—33508
K_2O-CaO-SiO_2 system, cryst. growth kinetics, morphology, melt comp. depend. 7—46303
Li hydrides, ($LiAlH_4$, LiH, $LiBH_4$), cryst. imperfection obs., TEM 7—32445
LiF crystals, influence of deformation temp. on change in density 7—44655
MgH_2, cryst. imperfection obs., TEM 7—32445
MgO:Fe, small angle [001] twist boundaries, Fe solute effect 7—32459
$MgO(Al_2O_3)_n$, electron beam irrad., point defect aggregation, screw dislocation climb 7—63662
Mo, cyclic deformation 7—22719
Mo-Fe dilute alloy, Fe solute atom-screw dislocation interaction force, modified tight-binding recursion method calcs. 7—51814
Na hydrides, ($NaAlH_4$, NaH, $NaBH_4$) cryst. imperfection obs., TEM 7—32445
Nb single crystals, cyclic deform., dislocation behaviour 7—63729
$NbSe_4I_{0.33}$, vapour grown, cryst. growth by microsteps 7—58176
Ni-based superalloys, stiffness consts., dislocation line energy and tension, ultrasonic vel. meas. 7—63719
Ni_3Al, dislocation line stability 7—21212
Ni_3Al, stiffness consts., dislocation line energy and tension, ultrasonic vel. meas. 7—63719
$NiSO_4.6H_2O$ crystals, soln., grown, steps on {001} faces, screw dislocations glide 7—58181
Si, dislocation density reduction by thermal cyclic annealing 7—12072
Si:H, impurity clustering, hydride form. on dislocations, TEM study 7—26964
W-Ni dilute alloy, Ni enrichment at screw dislocations, atomistic calcs. and atom probe FIM meas. 7—33638

scrubbing (abrasion) *see abrasion*

scuffing *see abrasion*

sea ice
Antarctic ice shelves, tidal spectrum beneath ice shelf 7—34522
Antarctic marginal ice zone, sea ice atmosphere interaction 7—23684
Arctic Ocean, anomalously high ice drift velocities 7—23691
E Arctic Ocean, sea ice form. conditions 7—34535
Arctic Ocean, snow melt, sea ice and surface albedo 7—23658
N Atlantic, sea ice drift and ocean stresses 7—29050
Beaufort Sea, pack ice motion 7—23886
C-based passive microwave spectral emission during growth phase 7—23661
climate simulations to BP 18000 years, surface condition effects 7—29236
enhanced formation due to massive smoke injection into atmosphere, contrib. to protracted climatic effects 7—66297
Filchner-Ronne Ice Shelf, Antarctica, numerical flow model and ice thickness 7—18221
first year sea ice in tank, multifreq. passive SHF and EHF obs. 7—23659
floes, interacting around an obstacle, simulation methodology 7—55081
Fram Strait, ice transport 7—34539
pack ice motion remote sensing, AVHRR imagery method 7—23886
ice pump mechanism for melting of ice and refreezing at a greater height 7—29056
inhomogenous ice layer with rough surfaces, EM wave scattering 7—29044
laboratory-grown, acoustical reflection and scattering from underside 7—43507
Labrador Sea, iceberg severity seasonal prediction 7—8977
landfast ice in Canadian Arctic, water drag coeffs. and currents 7—66155
Liaohe River mouth, creep behaviour under uniaxial compression *(Chinese)* 7—23673
microwave dielectric props. at 4.8 and 9.5 GHz, and ice struct. 7—66154
Newfoundland shelf, seasonal ice extent 7—23685
Norwegian and Greenland seas during Pleistocene, ice shelf existence and climate 7—23699
ocean optics VIII, conference, Orlando, Florida (March-April 1986) 7—24285
ocean-atmosphere system, response to increased atmospheric CO_2 conc. *(Russian)* 7—23834
Okhotsk Sea, drift ice used to trace water circulation 7—55060
pressure ridge keels spacing and draft distribs. 7—23683
radar remote sensing, appl. of side-looking radar of Cosmos-1500 satellite 7—66424
radiowave emission from ice undergoing deformation, and remote sensing application 7—66141
remote sensing by microwave radiometry method using classification algorithm 7—23874
remote sensing of sea-ice type, 33.6 GHz microwave imagery method 7—23885
Ross Ice Shelf, Antarctica, nitrate flux rel. to solar cosmic rays 7—55091
SAR sea ice imagery, geophys. anal., computer-assisted techniques 7—4243
satellite passive microwave ice map, near real-time data system 7—4242
Seasat SAR imagery, methods for extracting sea ice data 7—23867
shore ice, melting rel. to mushroom-like currents (vortex dipoles) in ocean 7—29033
simulated sea ice, SHF dielec., struct. and salinity props. 7—23660
sub-ice measurements 7—9271
synoptic-scale influences of sea ice and snow cover 7—47498
thermal emission from ice cover, statistical model 7—60264
thermodynamic modelling for ocean-atm. interaction anal. 7—34534

sea ice continued
Venetian Lagoon, freezing since 9th century AD rel. to climate of W Europe and England 7—66286
Weddell Sea, ice cover and marginal ice zone 7—8976
wind caused drift of free ice in the marginal ice zone 7—8963

sealing *see seals (stoppers)*

seals (stoppers)
see also glass-metal seals
alkaline dry battery 6AM6, safety design *(Japanese)* 7—65426
car battery sealing and rechargeability improvement *(Japanese)* 7—65430
low-temperature In compression feedthroughs, for superconducting or Cu wire 7—35527
Stirling engines, moderate temp., mechanical losses in rolling seals 7—65561
UHV Be windows, for use in synchrotron radiation installations 7—18796
In seal and appl. to proximity focussed image intensifier *(Chinese)* 7—48763
In wire extrusion 7—48761
Pb-acid flexible sealed battery *(Japanese)* 7—65431
Pb-acid medium-capacity sealed battery series *(Japanese)* 7—65432

seawater
air-sea temperature difference rel. to wind algorithm, Seasat scatterometer studies 7—66159
Antilles-Guiana countercurrent, struct. in vicinity of Demerara Rise 7—14305
North Atlantic deep water production, sporadic shutdown during Glacial-Holocene transition 7—34538
W Atlantic Ocean, frontal surveys with towed profiling cond./temp./depth meas. package (SeaSoar) 7—14298
W equatorial Atlantic Ocean, hydrographic and current obs. on continental slope and shelf 7—8988
Azov Sea, USSR, subsatellite remote sensing expts. 7—66185
Baltic Sea, comparison of measured and computed light scatt. by suspended particles 7—9024
Black Sea, abyssal waters temps. rel. to ocean climatic state *(Russian)* 7—66156
NW Black Sea, interpretation of sea surface space imagery using SVIT digital processing system 7—66144
NW Black Sea, remote meas. of sea surface temp. by two-channel method 7—66145
Black Sea, vel. distrib. of surface current in vicinity of N Caucasus coast 7—14306
bubble clouds breaking waves, meas. by automatically recording inverted echo sounder (ARIES) 7—8991
cosmic rays depth-energy relation, determ. from primary cosmic ray energy spectra 7—4281
daylight absorption coeff. 7—14288
density, temp. depend. 7—14289
East Pacific Rise and Guaymas Basin, hot springs U-Th-Pb systematics 7—40462
effective salinity determ., conductivity comparator 7—4209
equation of state using UNESCO formula *(Russian)* 7—40488
estuarine water properties, remote sensing methods 7—66158
Gulf Stream warm-core ring, mean and near-inertial vel. fields meas. 7—8990
hydrothermal alteration of upper oceanic crust (DSDP Hole 504B), chemistry of seawater-basalt interactions 7—28993
IR radiance, near horizon, rel. to sea surface temp., model for 8 to 12 μm band 7—60374
laser beam double passage across narrow-band stochastic water surface, ocean remote sounding 7—55065
marine environment monitoring, conference, Texel, Netherlands (June 1984) 7—18472
E Mediterranean Sea, water masses and circulation patterns in deep water layer 7—29063
Mid-Atlantic Ridge rift valley, Mn geochemistry near high-temp. vents 7—34468
mixing in strong currents *(Russian)* 7—23666
Morocco Basin, water temps. from sediment accumulation during Late Quaternary 7—14259
W Nansen Basin, Arctic Ocean, water masses and chemical constituents 7—29065
near-bottom density currents, vertical struct. 7—14308
Newfoundland coastal waters, temp. regulation of bacterial activity during spring phytoplankton bloom 7—4057
non-Newtonian rheology of phytoplankton cultures, oceanographic implications 7—14299
ocean optics VIII, conference, Orlando, Florida (March-April 1986) 7—24285
ocean water, synthetic, AES study using solution nebulisation 7—13835
NE Pacific Ocean, annual and interannual vars. of steric sea level along line P 7—8986
Pacific Ocean, high nitrite levels off N Peru as signal of instability in marine denitrification rate 7—29080
equatorial Pacific Ocean, vertical turbulence struct. and turbulent exchange 7—14307
passive tapered channel for wave kinetic energy conversion 7—46917
Persian Gulf, evaporation from coastal water of central pt. 7—66127
Phanerozoic, seawater, SR isotopic comp. var. 7—60273
Red Sea, hydrographic props. and exchanges with Indian Ocean in summer 7—29064
relative ionic composition of ocean water, statistical anal. of data 7—14315
salinity-temperature front, double-diffusive horizontal intrusions, linear stability theory 7—26250
sea surface temperature, images from Advanced Very High Resolution Radiometer (AVHRR) data 7—14297
sea surface temperature anomaly field in N Atlantic Ocean, autoregression model 7—14309
sea surface temperature data, appl. to indirect estimation of mixed layer thickness 7—9019
sea surface temperature determ., remote sensing procedure with atmospheric correction and one calibration point 7—40485
sea surface temperature determ. from IR radiometry, two-angle viewing method 7—66338
sea surface temperature field, equatorial waves detect. from shipboard and satellite meas. 7—66142
sea surface temperature fields, appl. to modelling of seasonal evolution of upper layer circulation 7—9020

seawater continued
- sea surface temperature variations, contrib. to protracted climatic effects of massive smoke injection into atmosphere 7−66297
- Solea graben, Mediterranean Sea, ore deposition and off-axis hydrothermal metamorphism 7−60247
- stratified bottom current, nature of structural instability 7−14310
- surface heat anomalies, effect on dynamic struct. of atmospheric vortices 7−9134
- TAG geothermal field, Mid-Atlantic Ridge, hydrothermal activity dating 7−8915
- temperature coefficients of elec. conductivity of Atlantic and Pacific seawater comparison 7−66139
- trace metals in seawater, interaction with humic acid 7−54383
- Vaisala-Brunt frequency, calc. from hydrologic obs. using rational interpolation splines 7−14312
- water masses properties anal., appl. of elec. field meas. in sea 7−47444
- CO_2 absorption, impact upon biosphere of atmospheric disturbance of C cycle 7−40546
- Ca concentrations, potentiometric determ. over wide salinity range via admixture technique 7−14311
- K concentrations, potentiometric determ. over wide salinity range via admixture technique 7−14311
- $Li_2B_4O_7$-Li_2SO_4-LiCl-H_2O, saturated soln., phase equilibrium, props. 7−40507
- P content of seawater, determ. method involving nitrate oxidation 7−4227
- ^{226}Ra, ^{222}Rn and ^{210}Pb systematics in near bottom water of N Pacific 7−23703
- ^{232}Th concentrations in seawater, meas. techniques and results 7−34554
- ^{A}U (A=238, 234) ratios in seawater, meas. techniques and results 7−34554

second-order optical susceptibility *see nonlinear optical susceptibility*

second sound
- *see also liquid helium sound propagation*
- anisotropic solid, heat conducting second sound and internal energy 7−57669
- Bose superfluid, fluctuation dispersion of transport coeffs. 7−38284
- solids, heat propag. by second sound, nonlinear hyperbolic system 7−2281
- vibrating superleak transducers, vortex nucleation, critical velocity effects 7−12385
- ^3He-^4He dil. mixtures, specific heat measurements with second-sound Helmholz resonator 7−21566
- ^3He-^4He superfluid soln., phonon-impurity system kinetics, review *(Russian)* 7−52179
- ^3He-B, spin hydrodynamics, slow modes 7−44944
- ^4He, liq. films, first and second sound 7−32734
- ^4He solid-liquid interface, acoustic wave transmission, second sound effects 7−21568
- ^4He superfluid, first and second sound, stochastic wave fields, acoustic turbulence calcs. 7−44938
- ^4He superfluid, specific heat measurements with second-sound Helmholz resonator 7−21566
- ^4He, superfluid, thermal shock profiles, evolution 7−44934
- ^4He superfluid-solid He interface, macroscopic surface oscillations, second sound and kinetic phenomenon, hydrodynamic approx. calcs. 7−32745

secondary cells
- alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
- battery technology trends (1981-6) and prospects *(Japanese)* 7−65429
- car battery sealing and rechargeability improvement *(Japanese)* 7−65430
- computerised management system for batteries in space vehicle appls. 7−34021
- dynamic rechargeable battery end-of-life prediction 7−8373
- failure mechanism and rate, reliability studies using Weibull statistics 7−65450
- graphite additive to electrodes, examination 7−39984
- photovoltaic accumulators, developments *(Spanish)* 7−23131
- polyacetylene, undoped, elec. props., thermal isomerisation and impurity effects 7−64232
- polymers, electroactive, electrode appls. for nonaqueous secondary batteries 7−65437
- space appls., proceeding of NASA/Goddard workshop, Greenbelt, MD, USA (Nov. 1985) 7−29578
- spacecraft batteries, testing facilities at the European Space Battery Test Centre 7−55412
- transition metal dichalcogenides, low-dimens., as secondary cathodic materials, book contrib. 7−28394
- Al-air alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
- Al-air battery with crystallizer to extend electrolyte lifetime, traction appls. 7−65441
- Al-FeS_2, secondary cell, positive electrode reaction kinetics, AC impedance study 7−8372
- Al-FeS_2 secondary cell, characts. of $AlCl_3$/1-butylpyridinium chloride electrolyte *(Japanese)* 7−8371
- Al-FeS_2 secondary cell performance develop. using $AlCl_3$/1-butylpyridinium chloride electrolyte 7−8370
- Al-FeS_2 secondary cell with basic $AlCl_3$-NaCl melt, cell performance and positive electrode reaction *(Japanese)* 7−13852
- B″-Al_2O_3-Na_2O solid electrolytes, degradation in Na-S batteries 7−3466
- (CF_n)-Li battery, complex impedance plots *(Japanese)* 7−23129
- Ca-$SOCl_2$ cells with $Ca(AlCl_4)_2$-$SOCl_2$ electrolytes, performance improvement using C cathodes 7−65444
- Fe-air alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
- $La_{0.8}Nd_{0.2}Ni_{2.5}Co_{2.4}Si_{0.1}$ electrode, storage capacity investig. 7−33946
- Li batteries, electronic devices interfacing 7−59832
- Li cells, kinetics of semicond. polymer electrodes 7−54285
- Li secondary battery development with Bi-Pb-Sn-Cd alloy negative electrode *(Japanese)* 7−65435
- Li secondary battery using NbS_3 prep. under high press., performance 7−13853
- Li solvated electron electrode for secondary batteries 7−23130
- Li three electrode cells, electrode processes at Li-polymer electrolyte interface 7−3639
- Li/amorphous V_2O_5-P_2O secondary cells, ethylene carbonate/2-methyltetrahydrofuran electrolyte 7−3635
- Li/$Li_{1+x}V_3O_8$ batteries, comparison with other secondary cells, influence of micro- and macro-structural alterations 7−46932
- Li/MoS_2 cell, spirally wound, inductive impedance 7−46931

secondary cells continued
- Li/MoX_2 and Li/WX_2 (X=S,Se,Te) electrochemical cells at low voltages, dichalcogenide decomposition 7−65436
- Li-air alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
- Li-Al/FeS_2 cell with LiCl-LiBr-KBr molten electrolyte 7−65439
- Li-$CuMo_6S_{8-y}$ porous film, prep. by solid-gas reaction, secondary battery appl. 7−27897
- Li-MoS_2, 65 Ah rechargeable batteries, design and testing 7−34010
- Li-SO_2 rechargeable cell with $Li(SO_2)_3AlCl_4$ electrolyte and C electrodes 7−65443
- Li-TiS_2, 35 Ah ambient temperature rechargeable cells, design options 7−34011
- $MoSe_3S$ cathode for secondary Li batteries, prep. and characterisation 7−64948
- N/s 14 kWh/21 kW batteries for electric vehicles, performance testing 7−65438
- Na/β-Na_2O-Al_2O_3/NiCl secondary cell, characterisation 7−65428
- Na-S cell reliability models using ceramic degradation mechanisms 7−59831
- Na-S cells, with Na_2O-ZrO_2-Al_2O_3-SiO_2 glass electrolytes, ionic cond., glass transition temp. meas. 7−26998
- Ni-Cd accumulators, examination of graphite additive to electrodes 7−39984
- Ni-Cd advanced aerospace cell design 7−34014
- Ni-Cd aerospace cells, 34 Ah, voltage-temperature charge verification testing 7−34019
- Ni-Cd aerospace cells, flood starved design 7−34015
- Ni-Cd aerospace cells, low Earth orbit life cycle characterisation testing 7−34020
- Ni-Cd aerospace cells, separator qualification testing 7−34013
- Ni-Cd aerospace cells, study of long term storage effects 7−34018
- Ni-Cd alkaline accumulator develop. in Hungary *(Hungarian)* 7−17855
- Ni-Cd batteries, design for consumer electronics appls. 7−59834
- Ni-Cd batteries, Goddard model for aerospace appls., alterations using computer simulation 7−34017
- Ni-Cd cell, electrode kinetics and failure-mode prediction, internal short equiv. resist. estimation 7−54288
- Ni-Cd cell containing Pellon 2536 separator, life testing, satellite appl. 7−65446
- Ni-Cd cell separator with Pellon 2536, space qualification program 7−65445
- Ni-Cd cells, additive effects on anodic behaviour of negative Cd electrode in KOH solutions 7−3637
- Ni-Cd cells, General Electric 50 Ah, qualification testing of separator and positive plate processing 7−34012
- Ni-Cd cells, O_2 recombination rate on plastic-bonded Cd electrode doped with $Ni(OH)_2$ 7−54287
- Ni-Cd cells for spacecraft, self-discharge characts. at elevated temperatures 7−34016
- Ni-Cd geosynchronous orbit satellite batteries, life prediction 7−65447
- Ni-Cd high-capacity battery *(Japanese)* 7−65433
- Ni-Cd high-performance battery *(Japanese)* 7−65434
- Ni-Cd lightweight space battery, reliability and life testing 7−65449
- Ni-Cd secondary cell performance effect of Cd electrode sinter, cell testing 7−65448
- Ni-Cd storage batteries, structural features and additives effects on elec. props. of Ni active materials *(Hungarian)* 7−17857
- Ni-Fe alkaline accumulator develop. in Hungary *(Hungarian)* 7−17855
- Ni-Fe alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
- Ni-H_2 aerospace batteries, low Earth orbit test program 7−34025
- Ni-H_2 aerospace cells for low Earth orbit appls., research technology advances 7−34022
- Ni-H_2 alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
- Ni-H_2 batteries, 40 Ah, bipolar, for space appls., parametric testing 7−34027
- Ni-H_2 cell for space appls., 4.5 inch IPV development program 7−34026
- Ni-H_2 cells, lightweight, direct radiating, for space appls. 7−34023
- Ni-H_2 cells technology for RADARSAT spacecraft appls., test program 7−34024
- Ni-H_2 secondary cells for low-Earth-orbit satellites, reliability and life testing 7−65451
- Ni-H_2 secondary cells heat generation and transfer rates 7−65452
- Ni-hydride cell, hermetically sealed rechargeable battery with stable electrode material, expt. study 7−54290
- Ni-Zn alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
- Pb acid batteries, maintenance free design 7−59833
- Pb acid battery initial short-circuit current prediction and obs. 7−3634
- Pb-acid batteries, mass transport during plate formation 7−39985
- Pb-acid battery, effect of chemisorbed H_2O on positive plate elec. capacity 7−54284
- Pb-acid battery, stability of SnO_2 conductor at PbO_2 cathodes 7−65440
- Pb-acid battery, study of positive plates by photoacoustic spectrophotometry 7−54283
- Pb-acid cells, dissolution and immobilisation of Sb, cell design 7−54289
- Pb-acid flexible sealed battery *(Japanese)* 7−65431
- Pb-acid medium-capacity sealed battery series *(Japanese)* 7−65432
- Pb-acid stationary battery crevice corrosion cracking and counter measures 7−46930
- Pb-acid storage batteries, role of transport phenomena *(Hungarian)* 7−17856
- V Redox cell, eval. of electrode materials 7−54286
- Zn-air alkaline batteries, thermodynamic framework for efficiency estimation 7−3636
- Zn-air battery with flowing alkaline electrolyte 7−65442
- Zn-Br cells, selection of quaternary ammonium bromides as electrolyte 7−39986
- Zn-NiOOH cells, KOH conc. effects on shape change and cycle life 7−28393

secondary electron emission
- alkanes, long-chain, cryst. and molten, low energy electron transmission and secondary electron emission expts. 7−33492
- beam-foil experiments with molecular ions, anal. 7−39326
- contrast mechanisms in electron and ion induced secondary electron images 7−27834
- electron beam gate, limiting currents taking secondary electron emission into consideration 7−31237

secondary electron emission continued
energy distribution of secondary electrons, relationship with surface electron struct. 7—22396
ethylene propylene, fluorinated, ionis. pot. and work function meas. using low-energy electron beam 7—22397
ferromagnets, spin polarised secondary electron emission, book contrib. 7—33495
graphite, secondary-electron emission and electron-energy loss spectra 7—33491
integral secondary electron spectroscopy *(Russian)* 7—61406
integral secondary-electron spectroscopic methods 7—22398
ion-induced secondary electrons emitted from foil, diffraction obs. 7—13307
metal clean surfaces, ion-induced secondary electron spectra 7—59346
metals, phase transitions, ion-induced secondary particle emission 7—39341
nondestructive depth profiling using secondary emission spectroscopy 7—27836
PET, ionis. pot. and work function meas. using low-energy electron beam 7—22397
polypropylene, ionis. pot. and work function meas. using low-energy electron beam 7—22397
SEM, transmitted electron image observation 7—4932
semiconductor, electron excitation, distrib. fn. of slow secondary electrons 7—46255
single crystal, elastic scatt. of slow electrons over surface, effect of mag. transform. *(Russian)* 7—52549
STEM, high resolution secondary electron imaging capabilities of VG HB501 instrument 7—18932
surfaces, high-resolution mag. meas. with spin polarised electrons 7—3119
tetracene, film, energy distrib. curves *(Russian)* 7—17375
transition metal surfaces, metastable noble-gas atom interactions 7—64852
XPS, UPS, work function meas. 7—12485
Al foil, H$^+$ induced ridge electrons emission 7—46270
Al, heavy ion impact, secondary electron energy spectra 7—46265
Al surface, ion induced secondary electrons, surface topography effects 7—13280
Al surface, O_2 adsorption, electron beam effects, AES and secondary electron emission studies 7—27835
AlN formed by N ion implantation of Al, electronic struct. 7—58926
Al_2O_3 films, ion secondary electron emission 7—22416
Al_2O_3 thin films, electron emission characts., continuous dynode appl. 7—17376
Au foil, H$^+$ induced ridge electrons emission 7—46270
C foil, H$^+$ induced ridge electrons emission 7—46270
C foil, secondary electron emission from fast ion bombardment 7—53459
CuBe, oxidised, secondary electron emitters, AES and ESCA studies *(Chinese)* 7—54238
GaAs, secondary electron emission, effect of illum. in space charge region 7—17374
GaP emitters, secondary electron energy distrib. rel. to work function 7—46256
H$^+$+He collisions, secondary electron spectra, Wannier ridge obs. 7—10736
H_2, molecular solid, charged particle irradiation, secondary electron emission 7—21569
H_2, solid, bombarded by fast charged particles, secondary electron emission 7—7797
In monolayer and multilayer surface diffusion, growth mode and thermal stability on W (100), LEED, TDS and scanning AES studies 7—2386
MgO, energy spectra meas. of secondary electrons for controlled emission 7—39340
MgO films, ion secondary electron emission 7—22416
Na, carrier scattering, photo- and secondary electron emission studies 7—13324
NbN(C) sputtered films on Nb substrates, surface props. 7—64833
Ni (100), adsorption of CO, C_2H_4, O_2 or H_2, X-ray induced secondary electron emission 7—27866
Ni (100), Cu overlayer growth, X-ray induced secondary electron emission meas. 7—27865
Si:N, high dose implanted, swelling, saturation, and sputtering effects 7—16648
TiN(C) sputtered films on Nb substrates, surface props. 7—64833
W (110), secondary electron spectra in narrow solid angle 7—13281
W (110), secondary electrons, energy distribution, relationship with surface electron struct. 7—22396

secondary emission
see also secondary electron emission; secondary ion emission
alkali metal chlorides, electron-stimulated desorption, Coulombic ejection mechanism 7—59315
alkali metal iodides, electron-stimulated desorption, Coulombic ejection mechanism 7—59315
alkali metal surfaces, electron spectroscopy by deexcitation of metastable He atoms 7—59364
electrode surface contamination, desorpt., field and secondary emission, enhancement by electric fields 7—23033
naphthalene, isotopically mixed cryst., resonant secondary emission and spectral diffusion 7—42665
polystyrene thin film surfaces, electronic excitation, secondary electron emission studies 7—53460
surface micrography using ion-induced secondary emission target currents 7—59362
Al:F, electron-stimulated desorption, Coulombic ejection mechanism 7—59315
Cu surface oxidation, ion-induced secondary emission target current meas. 7—59684
In surface oxidation, ion-induced secondary emission target current meas. 7—59684

secondary ion emission
see also secondary ion mass spectra; secondary ion mass spectroscopy
binary compounds, H ion bombarded, secondary ion emission *(Russian)* 7—59321
electron exchange mechanism theory 7—13293
energy spectra, apparatus and meas. procedure 7—13298
insulators, fast heavy ion impact-induced secondary ion emission studies 7—27845
ion bombardment of thin films, secondary emission yield, incident charge state depend. 7—59319
ion implantation induced nonequilibrium surface layers, electron emission props. 7—12090

secondary ion emission continued
ionic compounds, secondary ion emission, bond breaking model 7—59344
isotope fractionation, velocity-dependent 7—53472
mass spectra, cluster ion monomolecular decays 7—13300
metals, phase transitions, ion-induced secondary particle emission 7—39341
metals, secondary ions, angular resolved energy spectra 7—27852
oxygen pressure dependence 7—64859
positive and negative ion exoemission, physicochemical conception 7—13301
sputtering secondary ion energy distrib., surface chem. anal. 7—53486
Al, FCC cryst. struct., secondary ion emission, current density effects 7—59318
Al surface, clean and oxidised, secondary ion emission. 7—64851
Ar$^+$ average equilib. charge state determ., H$^+$ secondary ion yield meas. on Au and C target surfaces 7—42757
Fe-based amorphous alloys, secondary ion emission during heating *(Russian)* 7—51656
Fe-based metallic glasses, secondary ion emission and sputtering 7—3137
GaAlAs, LIMA anal., effect of alloy composition on secondary ion yields 7—28376
Kr$^+$ average equilib. charge state determ., H$^+$ secondary ion yield meas. on Au and C target surfaces 7—42757
Ni (111), temp. depend., under Ne$^+$ bombardment 7—64856
Ni, cryst., anomalous ion-photon and secondary ion emission mean Curie pt. 7—39343
Si, positive ion yields of impurities in amorphous and crystalline samples 7—17381
Ta, BCC cryst. struct., secondary ion emission, current density effects 7—59318
V surface, clean and oxidised, secondary ion emission 7—64850
Zr, HCP cryst. struct., secondary ion emission, current density effects 7—59318

secondary ion mass spectra
Si:O, heavily doped, SIMS meas. of O conc. 7—17388
applied materials charact., conf., San Francisco, CA, USA (April 1985) 7—18495
arachidic acid Langmuir-Blodgett films, SIMS depth profiling 7—59356
cluster ion monomolecular decays 7—13300
conference, Oconomowoc, WI, USA (April-May 1985) 7—18468
conversion layers on Al, struct., TEM, LAMMA, AES, XPS, SIMS, ion scatt. spectra 7—23094
dynamical, secondary ion emission, oxygen pressure dependence 7—64859
garnet bubble films, H_2^+-implanted, H out-diffusion suppression of overlayers 7—38259
glass frit, SIMS 7—9919
InP:Si, ion implanted, rapid thermal annealing and solid phase epitaxy 7—21296
low temp. solids, low energy atom and ion bombardment, sputtering and radiation damage mechanisms study 7—27844
LPCVD production, anal and solar cell appls. 7—17452
metal films, characterisation by SIMS, Auger spectroscopy and TEM 7—12550
mother-of-pearl, fracture surfaces, analytical techniques appl. 7—8781
PMMA, ion beam damage effects, surface characterisation by SIMS 7—26817
probe exposure to tokamak plasma, SIMS study 7—37740
semiconductor microelectronic structures, depth profiling by SIMS and AES 7—26790
SOI buried layer form. by high dose implantation, mass transport studies 7—32479
solid surfaces, fast dust particle impact and related techniques, ion form. studies 7—46259
SOS structures, SIMS depth profiling, electron stimulated desorption and charging effects 7—33501
sputter depth profiling, factor anal., appl. to elemental detect. limits 7—23081
steel, austenitic stainless, precipitation and B grain boundary segregation studies 7—33673
steel, stainless, nuclear fuel pin cladding, C distrib., SIMS study 7—19360
steel, stainless, surface corrosion products after exposure to liq. alkali metals, glow discharge optical spectroscopy, SIMS anal. 7—22896
transition metal nitrides and carbides, hard wear-resistant coatings, microstructural and microchemical characterisation 7—52328
(Al, Ga)As films, doped, Si migration during MBE growth 7—27171
Al surface, clean and oxidised, secondary ion emission. 7—64851
Al surface, plasma oxidised, adsorption of benzoic acid and benzaldehyde, SIMS and XPS 7—65351
Al-Li(Mg)(Na)(Be), thermal surface oxide layers, SIMS characterisation 7—13650
AlAs/GaAs superlattice mixing induced by Si$^+$ implantation 7—58649
AlAs-GaAs superlattices, Si ion implantation, dose-dependent mixing 7—12500
AlAs-GaAs superlattice, Si$^+$implantation, depth dependent mixing 7—27032
AlGaAs:Sb, MBE growth, Sb doping 7—2038
AlGaAs-GaAs superlattices, Si-Be co-doping, compositional disordering suppression, SIMS study 7—16878
AlGaAs-GaAs-Si, Be superlattices, correlation between Si diffusion and Si-induced disordering 7—38034
$Al_xGa_{1-x}As$:Be epitaxial layers, ion implanted, rapid thermal annealing 7—21257
$Al_xGa_{1-x}As$-GaAs layered structures, metal organic VPE grown, depth profiles, SIMS anal. 7—21684
Al_2O_3:C,S CVD layers, C and S distrib., SIMS anal. 7—6668
AuGe-Nb-GaAs, ohmic superconducting contacts to GaAs 7—33088
BN pyrolytic crucibles for MBE, AES, XPS, SIMS, and bulk anal. after vac. baking 7—53596
$BaTiO_3$, PTCR ceramics, SIMS 7—9919
C, dielectric film growth, on GaAs and InP substrates 7—39420
C thin films, sputtering yields for O and Ne ions 7—59341
(CdHg)Te, LPE growth, use of in-situ wash melts 7—59466
CdTe LPE layers, matrix atom diffusion, SIMS studies 7—21513
p-CdTe, single crystal and thin film, chemical etching study 7—46724
CoO single crysts., ^{18}O diffusion coeff. meas. 7—32707
Cu-Mn-Sn, phase conc. nonuniformities rel. to annealing *(Russian)* 7—59494
Cu-Zn, preferential sputtering, AES and SIMS studies 7—53467
Cu_xS-CdS solar cells, comp. of differing junction types, AES, SIMS determ. 7—23167

secondary ion mass spectra continued
  GaAS:Be, MOVPE, diethylberyllium dopant source, elec. characts. 7—22521
  GaAlAs/GaAs, semicond. superlattice heterojunction interface, SIMS anal. *(Japanese)* 7—2396
  GaAlAs-GaAs superlattice struct., dynamic SIMS profiles 7—22417
  $Ga_{1-x}Al_xAs$, quantitative anal. by SIMS *(Chinese)* 7—54239
  GaAs, laser-induced melting and nonlinear optical studies 7—12432
  GaAs MBE layer growth and surface anal. *(Korean)* 7—2417
  GaAs substrates and devices, surface anal., SIMS appl. 7—22417
  GaAs: Si(Se)(Zn)(Be), ion implanted, rapidly annealed, damage removal process 7—17043
  GaAs:Al, surface layer, degree of disordering, effect of dopant 7—63929
  GaAs:Cs, impurity ion beam effects, SIMS depth profiling 7—22419
  GaAs:In, LEC growth, annealing, solid soln. hardening, dislocation density, elec. props. 7—17404
  GaAs:In annealed substrates, In distribution in surface region 7—44959
  GaAs:S,Si epitaxial layers, close space vapour transport growth, photoluminescence and electrical props. 7—21776
  GaAs:Si,Be, MBE, dopant interaction 7—52362
  GaAs:Sn epilayers, MOCVD using triethylgallium and tetraethyltin, characterisation 7—22515
  GaAs/AlGaAs superlattices, Si implanted, compositional disordering, SIMS studies 7—12091
  GaAs-AlGaAs heterojunctions, Be^+, O^+ ion implantation, impurity profiles, elec. characts. meas., SIMS, annealing 7—12813
  GaAs-GaAlAs:Si modulation doped quantum wells, electron mobility, temp. depend. 7—45473
  GaInAs-SiO_2 system, annealing behaviour, SIMS and elec. meas. 7—38270
  GdTbFe, corrosion resistance improvement by metal coatings 7—53952
  Ge:Ga single crysts., tracer diffusion coeff. and isotope effect, SIMS meas. 7—27019
  HgCdTe anodic oxide surface analysis by laser ionisation 7—13275
  HgCdTe epitaxial layers and structures, characterisation of intentional dopants 7—12552
  In-glass, glow discharge induced changes 7—12577
  InAs substrates and devices, surface anal., SIMS appl. 7—22417
  InGaAsP/InP, semicond. superlattice heterojunction interface, SIMS anal. *(Japanese)* 7—2396
  In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7—12535
  InP, quantitative trace anal. of impurities by SIMS 7—53480
  InP substrates and devices, surface anal., SIMS appl. 7—22417
  InP:Fe, epitaxial layers, MOCVD, doping profiles, SIMS, resist., temp. depend. 7—21248
  InP:Fe, LPE growth, SIMS 7—52363
  InP:Fe,Ga,Sb, LEC growth, dislocation density, resistivity, SIMS obs. 7—53552
  InP:Sn substrate/epilayer interface, Sn depth profiling, AES and SIMS studies 7—27146
  InP:Ti, Hg, semi-insulating, impurity electron state compensation mechanism, SIMS, SSMS, EPR and Hall effect meas. 7—64164
  n-InP:Zn, Zn diffusion 7—63882
  InP/InGaAs heterojunction bipolar transistors, open-tube Zn diffusion 7—44914
  InP=Si(Sn)(Be), doping using thermal atomic beams in chemical beam epitaxy 7—44584
  KCl (100), interaction of NaCl mol. beams with surface, desorption flux meas., SIMS obs. 7—33508
  LiF surface, Ar^+ and Ar^{2+} bombarded, desorption of F^+, secondary ion mass spectra study 7—21661
  Li_2O-Al_2O_3-SiO_2 glass, sputtering, SIMS depth profiling 7—13314
  Mg sialon ceramics, SIMS 7—9919
  MgO:C, single crystals, solute C and C segregation, SIMS study 7—16759
  MgO:C, single crystals, solute C and C segregation, SIMS study 7—16761
  MgO:C single crystals, solute C and C segregation, SIMS study 7—16760
  MgO:H, C single crystals, ion implanted, C and H diffusion behaviour, SIMS studies 7—32714
  Mo/Al-Si interdiffusion kinetics and contact resistance study for VLSI appls. 7—21714
  MoS_2, surface chemistry and props., photoemission, SIMS and SEM anal. 7—44971
  NH_3^++NO, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7—20028
  NO^++NH_3, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7—20028
  Nb, sputtering, SIMS depth profiling 7—13314
  NbC, amorphous films, prep. and characts. 7—7885
  Ni film on Cu, SIMS meas. of interdiffusion coeffs., SIMS analysing depth 7—27853
  Ni-B, precipitation and B grain boundary segregation studies 7—33673
  PbSe films, photosensitivity mechanism 7—58923
  PbSe:Ag, electron irrad. stimulated impurity diffusion 7—63878
  $Pb_{1-x}Sn_xTe$:$^{57}Br^+$, depth profiles, SIMS meas. and theoretical calcs. 7—6662
  Pd (111), CO and O co-adsorption, SIMS and TPD studies 7—27137
  Si buried oxide structure formed by O ion implantation 7—12099
  Si ceramics, SIMS 7—9919
  Si, epitaxial growth using photochem. vapour deposition at 200°C 7—39431
  Si, impurity profiles, depth resolution of SIMS 7—54253
  Si MBE grown layers, arbitrary doping profiles 7—12109
  Si materials and process charact. for VLSI, SIMS studies 7—33988
  Si SOI structure, O^+ implantation and high temp. annealing 7—44579
  Si shallow p-n junctions, reactive ion etching damage, defects and leakage current studies 7—27411
  Si single crysts., insulating cpd. form. by ion beam synthesis, RBS, SIMS and cross-sectional TEM studies 7—26779
  Si surface layers characterisation after annealing in an RF H plasma 7—58630
  Si, wafer aqueous cleaning, chemical action, book contrib. 7—46737
  Si wafers, surface contaminants, identification, depth distrib., SIMS 7—22418
  Si:Ag, implantation damage regrowth studied via Ag depth profiling 7—22730
  Si:Al, atom and acceptor depth distributions of channelled Al as a function of ion energy and crystal orientation 7—21247

secondary ion mass spectra continued
  Si:Al, ion implanted and annealed, Al precipitation, TEM studies 7—21238
  Si:Al surfaces, SIMS anal. of contaminants 7—33989
  Si:As, ion implanted, rapid thermal annealing 7—16615
  Si:As, ion implanted polycrystalline films, electrical activation by rapid thermal annealing 7—58914
  Si:As surface, $TiSi_2$ formation 7—12551
  Si:As^+(As_2^+), ion implanted, phys. props., spreading resist., TEM, Rutherford backscattering, SIMS 7—26775
  Si:B, diffusion and activation of implanted B during rapid thermal annealing 7—16643
  Si:B, implant redistribution during high pressure oxidation, SIMS and C-V meas. 7—27020
  Si:B, ion implanted, amorphous layer thickness, SIMS profiling 7—51794
  Si:B, SIMS depth profiles in the near-surface region, correction for ion yield transients 7—22430
  Si:B, SIMS depth profiles, characterisation and removal of ion yield transients in the near surface region 7—65368
  Si:B,H(D) Schottky and n^+-p junction diodes, electrical transport of acceptor-compensating defect 7—16823
  Si:B(As)-Ti(Co), silicide formation using rapid thermal processing, defect behaviour 7—32726
  Si:B(Au), electron irrad. stimulated impurity diffusion 7—63878
  Si:C(C,P), C diffusion during annealing and P in-diffusion 7—16812
  Si:Ga MBE layers, ion implantation doping using liq. metal ion source, carrier conc., spreading resist., SIMS profiles 7—12563
  Si:H, B(Al)(GA)(In), polishing, acceptor compensation by atomic H 7—33860
  Si:H, ion implanted and annealed, H depth distribs. 7—26785
  a-Si:H,B, effective p^+ doping by plasma-assisted B diffusion 7—38036
  a-Si:H doping superlattice interface struct. charactn. 7—58652
  Si:H films, H content meas. 7—12553
  a-Si:H films deposited by dual ion beam sputtering, characterisation 7—32882
  a-Si:H solar cells, p-layer doping by plasma assisted B diffusion 7—13898
  Si:N, high dose implanted, swelling, saturation, and sputtering effects 7—16648
  Si:O, diffusivity and diffusion mechanism of O 7—16810
  Si:O, diffusivity and solubility of O review 7—16809
  Si:O, enhanced diffusion at thermal donor formation temp. 7—44911
  Si:O, Fourier transform IR spectroscopy and SIMS calibrations for O conc. meas. 7—16606
  Si:O(O,C), impurity aggregation, SIMS 7—16778
  Si:P,O,D, donor passivation and reactivation 7—17031
  Si:P(Al), random and channelled implantation profiles and range parameters of dopants 7—21246
  Si:Sb, dry oxidation retarded impurity diffusion, SIMS meas. and numerical simulations 7—27014
  Si:Sb, pot. enhanced doping during MBE growth, elec., optical props., cryst. quality 7—12112
  Si:Sb(As)(P)(B) epitaxial films, low temp. deposited by low press. CVD, autodoping 7—27182
  Si-B^+, Ge^+, preamorphised shallow junctions, end-of-range and mask edge lateral damage 7—38071
  Si-Si_3N_4 SOI structs., formation by N^+ implantation 7—32532
  Si-SiO_2, buried oxide formation by O^+ implantation, donor creation, enhanced conductivity 7—32529
  Si-SiO_2, buried oxide SOI struct., effects of annealing temp. on characts. 7—33099
  SiC powders, surface charactn. and treatment 7—2306
  β-SiC:Al^+(P^+) epitaxial films, ion implanted, rapid thermal annealing 7—16905
  β-SiC:B(N) films, ion implanted, rapid thermal annealing 7—17569
  a-SiC:H,B, effective p^+ doping by plasma-assisted B diffusion 7—38036
  SiGe superlattice structures, Sb doped, MBE grown, comp., doping profiles, SIMS, Rutherford backscattering spectra 7—7035
  SiO_2 glass, surface analysis by laser ionisation 7—13275
  SiO_2:Cl, ion implanted, Cl ion redistrib., SIMS studies 7—21249
  SiO_2:Cl films prod. by Si oxidation in Cl containing ambients, impurity distrib. 7—26787
  SiO_2:Cs-Si MOS, semicond. flatband voltage depend. on impurity distrib. 7—27433
  SiO_2:Si, SIMS depth profiling 7—13314
  SiO_2-Si, quantitative distribution eval. of P 7—54254
  SiO_2-Si interface, insulator props. after exposure to H_2+N_2 and NH_3. 7—59693
  Si3N_4 powders, surface charactn. and treatment 7—2306
  $SrCe_{0.95}Yb_{0.05}O_{3-\delta}$ proton conductor, D solubility, SIMS study 7—12298
  TaO_5 layer on Ta, SIMS depth profiling 7—13314
  Ta_2O_4:H films, NPL standard, distrib. of H, AES and SIMS 7—26789
  $TaSi_2$-Si interface, ion implanted, dopant diffusion, SIMS anal. 7—38271
  TiC amorphous films, organic molecules detection by static SIMS 7—64838
  TiC, amorphous films, prep. and characts. 7—7885
  $TiSi_2$:B(P)(As) films on Si, impurity diffusion 7—7077
  $TiSi_2$:O films, quantitative SIMS analysis, in situ ion implantation of ^{18}O reference level 7—12100
  W CVD films, chem. charactn. 7—16915
  W selective CVD films, diffusion barrier props. 7—52155
  W selective LPCVD films on Si substrate, characts. 7—38409
  WSi_x-GaAs interface, thermal stability 7—52302
  YIG, epilayers, atomic concentrations 7—27207
  ZnS, MBE growth on Si (100), photoluminesc. props. 7—3174
  ZnSe:Cl layers grown by MBE, blue photoluminesc. 7—52364
  ZnSe-ZnS strained-layer superlattice, low pressure MOVPE growth 7—53604
  Zr (0001) HCP to BCC phase transition He^+ capture effects, AES, TDS and SIMS studies 7—58590

secondary ion mass spectroscopy
  alkaline ion source design for SIMS *(French)* 7—9922
  applications in materials characterisation 7—13846
  buried interfaces in metallic film structures, SIMS anal. 7—17382
  ceramics, SIMS 7—9919
  ceramics, SIMS depth profiling 7—13314
  depth profiles, characterisation and removal of ion yield transients in the near surface region 7—65368
  depth resolution limitations, semiconductor impurity profiles 7—54253
  distinction of O and S 7—17843

secondary ion mass spectroscopy continued
- electronics and vacuum physics, conf., Bratislava, Czechoslovakia (Sept. 1985) 7—24292
- image depth profiling with high dynamic range, automated method 7—23086
- ion source for SIMS equipments with primary ion mass separation *(German)* 7—9915
- materials microanalysis, techniques, review 7—54244
- microelectronic materials, characterisation by SIMS, book contrib. 7—44976
- microprobe analysis using liquid metal ion source 7—9920
- molecular threshold electron spectra, TEPSICO-II apparatus 7—18907
- organic samples analysis, modular instrument for SIMS and direct chromatography 7—13841
- quadrupole SIMS, data acquisition and control system 7—24722
- quantitative distribution analysis, of P in SiO$_2$-Si layer system 7—54254
- rare earth elements in minerals 7—60427
- secondary ion imaging, with charge-coupled device camera 7—48912
- semiconductor doping profiles, appls. and limitations of SIMS 7—35621
- semiconductor industry, appl. of SIMS, SAES, XPS 7—16847
- semiconductor materials charactn. 7—59820
- stainless steel, ferritic, for selective solar absorbers, conversion coating anal. 7—23224
- stigmatic ion microscope, elimination of residual image distortion 7—61403
- stigmatic ion microscopy, high resolution imaging 7—4922
- submicron techniques, conf., Nova Scotia, Canada (July-Aug. 1984) 7—35104
- surface anal. methods *(Japanese)* 7—63921
- surface analysis, AES, XPS, ISS and SIMS, review 7—28372
- surface analysis appl. 7—32774
- surface and interface anal. for electronic devices and circuits 7—17373
- surface characterisation of polymeric materials, ion beam effects 7—26817
- surface science techniques, book 7—60888
- tandem accelerator secondary ion mass spectrometry, semiconductor dopants 7—54252
- techniques for surface and thin film analysis 7—33992
- thin films, trace anal. of H, C and O using extremely high vacuum SIMS 7—54243
- tissue culture cells, imaging intracellular elemental distrib. and ion fluxes using ion microscopy, freeze-fracture 7—60139
- CdS, oxidised, SIMS/XPS characterisation 7—39934
- Ga$^+$ ultra-fine ion probes for SIMS imaging microanalysis 7—4908
- Si:H, polycrystalline, grain boundary interactions 7—12117

security locks (electronic) *see safety systems*

security of data
- *see also data handling*
- LWR System Analysis and Risk Assessment system 7—15289

security of information *see security of data*

sedimentation
- *see also disperse systems; sediments; water treatment*
- alluvial river channel, modelling of channel development 7—18234
- Amazon River, continental shelf, high-resolution seismic stratigraphy, sedimentological interpretation 7—34465
- Amazon River, continental shelf organic C accumulation, stable isotope characts. 7—34463
- Amazon River, continental shelf sediment accumulation and transport ^{210}Pb anal. 7—34462
- S Atlantic, Oligocene palaeocean and palaeoclimate conditions 7—23698
- S Australia, beach-ridge behaviour density during Holocene 7—4025
- Banff National Park, Alberta, Canada, lake sediments and Holocene glaciation 7—23721
- basalt formation, peridotite root zone beneath Grand Lagon Nord, New Caledonia *(French)* 7—66087
- Bay of Bengal, suspended particulate matter chem. composition 7—14314
- bidispersion, dil., sedimentation and diffusion, Onsager symmetry, kinetic coeffs. 7—26322
- Bohai, sedimentation characts., effects of Yellow River 7—55089
- carboxymethylcellulose, monosubstituted, cadoxene solns., diffusion, sedimentation and flow birefringence *(Russian)* 7—63859
- cellulose acetate, membranes, osmosedimentation, performance, morphology 7—13816
- Cenozoic humidity and environments deduced from the variations of kaolinite in East-Atlantic sediments *(French)* 7—66090
- centrifuges, cylindrical, with compartments, sedimentation, Coriolis force reduction 7—20736
- Chesapeake Bay, estuarine sediment record of soil erosion 7—23707
- Chesapeake Bay, fluvial and estuarine sediment load in Rappahannock River 7—28990
- China, loess deposits, palaeomagnetism, palaeoclimate and sedimentary history 7—40557
- chitin nitrate, sedimentation vel., mol. mass and conform. parameters *(Russian)* 7—10803
- chitozane, sedimentation vel., mol. mass and conform. parameters *(Russian)* 7—10803
- chloroplast matrix, pea, protein-synthesising apparatus, light quality effect, sedimentary props. 7—59952
- clastic dikes in Numidian Flysch, Tunisia and Sicily *(French)* 7—66006
- Col de la Cine faulting during Mesozoic, tectonic control on sedimentation *(French)* 7—18161
- colloidal suspensions, solitary wave model anal. of sedimentation 7—57911
- continental shelves of Alaska and California, sediment resuspension events 7—28989
- Cooper Creek, SW Queensland, Australia, Quaternary drainage patterns and stratigraphy 7—34496
- debris flows, noncontact speed sensors 7—40615
- Deccan upland region, India, late Quaternary alluvial history and climate 7—60287
- early Paleogene deformation in south-eastern slipped sedimentary cover of the Argentera Massif (French Maritime Alps) *(French)* 7—66057
- earthquake record in lake sediments 7—3993
- Europe, Carboniferous drainage system, sediment transport 7—47409
- SW Finnish Archipelago, grain-size distrib. rel. to sediment transport in short zones 7—28988
- Ganges deep sea fan, sedimentary and diagenetic patterns *(French)* 7—66088
- gel-like sediment form., Brownian dynamics simulation, colloidal and hydrodynamic interaction effect 7—13825
- high concentration suspensions Reynolds numbers, homogenisation methods 7—6289

sedimentation continued
- hillslope failure due to groundwater seepage 7—29112
- horizontal laminae, formation under upper flow regime plane bed conditions 7—4031
- hydropower station Sanmen Gorge project, China, environmental impact of sedimentation in reservoir 7—29086
- Illinois Basin, tectonic subsidence mechanisms rel. to sedimentation patterns 7—54984
- Jiangsu Province, China, characts. of tidal current and suspended load sedimentation on tidal mud flat *(Chinese)* 7—55012
- Kavaratti atoll, sandy beach sediment transport processes (in Indian Ocean) 7—14257
- Keweenawan sediments, Michigan, implications of CaCo$_3$ cement (caliche) 7—29024
- Kullumkol-Su River, USSR, mud flow characts. 7—34566
- lake sediments as method for determining occurrence of past earthquakes 7—3993
- lamination of sediments from periodic graded bedding *(French)* 7—66176
- Laurentian Trough, Gulf of St. Lawrence, radionuclide profiles, sedimentation rates, and bioturbation 7—28995
- Port Lianyungang, muddy beach geology and erosion on Yellow Sea coast *(Chinese)* 7—55013
- liquid, metals, immiscible, decomp. sedimentation and precipitation in weightlessness and quasiweightlessness 7—63823
- marine biological production and fate of organic matter on continental shelves 7—47467
- marine snow (amorphous aggregates) in Panama Basin, flux and sinking speed 7—66093
- Maryland Piedmont, USA, flood plain sediment deposition since 1730 AD 7—29081
- Mechigmen Gulf (Bering Sea), sediment transport in surf zone 7—40464
- Mediterranean Sea, geochemistry of sediments of different ages, book 7—29608
- Mississippi River, USA, sediment flow regime in historic times 7—29114
- neogene paleocirculation and paleoclima record of ODP Leg (tropical and subtropical east Atlantic) *(French)* 7—66091
- Nile Delta, Egypt, Holocene sediment accumulation history 7—23653
- Nile delta sediment deposition history at Rosetta and Damietta, promontories 7—34565
- ocean bottom boundary layer with suspended sediments, model including turbulence 7—34470
- Ohau River (braided), New Zealand, bedload movement and bar development 7—34563
- Ossau Valley, France, sedimentology and morphology *(French)* 7—66177
- equatorial Pacific sediment magnetostratigraphy, Neogene to Pleistocene 7—3977
- poly-m-phenylenisophthalamide, in dimethyl acetamide, hydrodynamic props., conform. characts. *(Russian)* 7—11894
- Precambrian basinal and shelf sedimentation relation to Archaean-Proterozoic boundary 7—34492
- Pyrenees occidentales, France, cover and tilted fault blocks gliding *(French)* 7—66000
- remote sensing method for lake suspended sediment mapping, Landsat chromaticity technique 7—29303
- river, sandy river bed instability due to bed load motion *(Japanese)* 7—18224
- river, suspended sediment conc. influence on open-channel velocity distrib. 7—18244
- River Amazon, sediment processes on continental shelf 7—34457
- River Amazon, suspended sediment coagulation and settling on continental shelf 7—34458
- river with sandy bed, bridge pier scouring and dune migration *(Japanese)* 7—18225
- rivers, conf., Jackson, MS, USA (March to April 1986) 7—41008
- rivers, sand waves, bed form response to sudden flow decrease *(Japanese)* 7—18223
- rivers of SW Idaho batholith, sediment yields rel. to erosional denudation rates 7—9038
- Rouge River, Quebec, migration patterns of asymmetric meandering river rel. to erosion and sediment transport 7—23765
- rubber solutions, inverse sedimentation of glass-phenol formaldehyde resin hollow microspheres 7—38325
- Saharan dust transport by atmosphere, observations and model 7—14343
- salt marsh creek, River Esk, Cumbria, seasonal changes in surface level 7—8914
- sand particle suspension and transport by shallow water waves 7—34471
- sand-bed streams of American Midwest, flow variability and bankfull depth rel. to floodplain accretion 7—9040
- sandstone-mudstone suites, tectonic setting determ. using SiO$_2$ content and K$_2$O/N$_2$O ratio 7—29014
- shore wave field, numerical modelling by boundary element method 7—55079
- stochastic model of kinetic type 7—13820
- strike-slip faults in Erquy-Frehel red sandstone deposition *(French)* 7—66005
- suspension time for particles in upper ocean 7—66094
- Tai Lake, China, storm deposition study 7—55097
- Tatayema volcano, Japan, crater lake sulphur sedimentation history 7—34421
- Tazekka, Morocco, Carboniferous volcanosedimentary complex *(French)* 7—66046
- tidal current ridges formation, developmental conditions 7—40461
- turbidity flows near to shore, model for equilibrium conditions 7—14258
- Var ridge, Western Mediterranean, submarine sedimentary dunes built by turbidity currents *(French)* 7—34466
- Yellow Sea, sedimentation characts., effects of Yellow River 7—55089
- ^{210}Po, spontaneous deposit counting method *(Chinese)* 7—9237

sediments
- *see also rocks; sedimentation*
- Aberystwyth, Wales, metal and acid pollution of river due to metal mine 7—23235
- acoustic backscattered response of sedimentary particles 7—57626
- Amazon River, continental shelf, clay mineral reactions effect on Al distrib. in sediments and waters 7—34551
- Amazon River, continental shelf, high-resolution seismic stratigraphy, sedimentological interpretation 7—34465
- Amazon River, continental shelf suspended sediment flux and conc. 7—34459
- Amazon River, water discharge and suspended sediment concs. (1982 to 1984) 7—23766

sediments continued
- Amazon River continental shelf, bedforms 7—34460
- Amazon River continental shelf, surficial sediments and dense nearbed sediment suspensions 7—34461
- Amazon River continental shelf, suspended sediments effect on geochem. processes 7—34550
- Amazon River continental shelf, Th partitioning between dissolved and particulate phases 7—34549
- Amazon River subaqueous delta, sedimentary structures distrib. 7—34464
- central Arctic Ocean, sediment texture characts. 7—23696
- Arctic Ocean crust, seafloor geology and petroleum potential 7—18146
- N Atlantic, core record of Matuyama short polarity intervals 7—60154
- S Atlantic, Miocene and Pliocene stratigraphy and palaeoceanography 7—23634
- S Atlantic Ridge, geology in 20 to 30 degrees South area 7—34410
- E Australian marine sediments containing phosphorite, ages, chemistry and deposition 7—23631
- Baffin Bay, sediments rel. to land-ocean correls. during last interglacial-glacial transition 7—34568
- Baltic Sea, comparison of measured and computed light scatt. by suspended particles 7—9024
- Banff National Park, Alberta, Canada, lake sediments and Holocene glaciation 7—23721
- Bugaboo Glacier, BC, Canada, lateral moraine and glacial history 7—23720
- Cape Basin, sediment sound vel. provinces from multichannel seismic refl. profiles 7—55008
- cave sediments in New Zealand, Pleistocene secular variations from palaeomagnetic record 7—54860
- Chesapeake Bay, estuarine sediment record of soil erosion 7—23707
- China, loess deposits, palaeomagnetism, palaeoclimate and sedimentary history 7—40557
- China Sea sediments, U, Th, Ra, ^{40}K conc. and distrib. 7—28431
- clay minerals in sediments from the west equatorial Pacific 7—40463
- Columbia River, Washington, USA, Late Holocene flood freq., fluvial deposits anal. 7—47470
- Cooper Creek, SW Queensland, Australia, Quaternary drainage patterns and stratigraphy 7—34496
- cosmic dust placers in blue ice lakes of Greenland, struct. and comp. 7—14548
- deep sea pelitic sediments, soil mechanics behaviour *(French)* 7—18176
- deep-sea sediments, O isotope stratigraphy, graphic correl., appl. to Late Quaternary 7—23894
- DSDP site 577, Shatsky Rise, Pacific Ocean, evidence for Cretaceous-Tertiary boundary extinctions 7—23706
- earthquake record in lake sediments 7—3993
- East Pacific Rise, anal. of finely dispersed minerals in sediments from drillholes 7—14260
- NE Ellesmere Island, NWT, Canada, glacial geology and marine stratigraphy 7—4062
- environmental monitoring of marine bivalves and sediments using X-ray fluorescence and neutron/prompt gamma activation anal. 7—34077
- SW Finnish Archipelago, grain-size distrib. rel. to sediment transport in short zones 7—28988
- fire areas (of red sediments and vegetation carbonization) in California, USA, due to hot groundwater 7—23654
- glaciolacustrine sediments of Yukon Territory, stratigraphic, isotopic and micrological evidence for early Holocene thaw unconformity 7—9034
- Glen Feshie, Cairngorms, Scotland, age of river terraces 7—34497
- Gulf of California, NMR imaging, method for organic rich layers 7—9198
- heavy metals pollution of Cpatzacoalos estuary and Ostion Lagoon, sediment anal. 7—46975
- Holocene sediments of Himalayan-Andaman Arc, deformational structs. (seismites) prod. by earthquakes 7—66120
- Holsteinian interglacial sediments, N Germany, stratigraphy and ESR dating 7—34669
- horizontal laminae, formation under upper flow regime plane bed conditions 7—4031
- Indian Ocean, Quaternary temps. determ. and sediment planktic foraminifera chem. anal. 7—29074
- International Association for Great Lakes Research, 29th conference, Scarborough, Ontario (May 1986) 7—18507
- Jiangsu Province, China, characts. of tidal current and suspended load sedimentation on tidal mud flat *(Chinese)* 7—55012
- Kamchia River mouth, Bulgaria, Fe in sediments, river and sea water 7—29085
- Kerguelen-Heard Plateau, sediments and stratigraphy *(French)* 7—66092
- Konkan coast, India, effect of waves in sediments redistrib. 7—28997
- lahars from Nevado del Ruiz volcano, Columbia, 1985 November 13, contrib. of ice cap melting 7—8896
- Lake Karewa, India, sediments ^{13}C/^{12}C and C/N ratios, palaeoclimate characts. determ. 7—4175
- Lake Michigan, USA, southern basin sediments, pollutant polycyclic aromatic hydrocarbons 7—29089
- Lake Michigan sediments, polychlorinated biphenyls of atm. and nonatmospheric origin 7—8459
- lakes, sediment cores, distributed parameter models for vertical mixing 7—66183
- lakes, wind-induced sediment resuspension, model 7—9042
- Laurentian Trough, Gulf of St. Lawrence, radionuclide profiles, sedimentation rates, and bioturbation 7—28995
- Loess Hills region of Iowa, USA, Quaternary geology and geomorphology 7—47441
- Madeira Abyssal Plain, Np and Am distrib. and diffusion in sediment 7—36273
- marine biological production and fate of organic matter on continental shelves 7—47467
- marine sediments, bulk physical props. estimation at depth from seafloor geophysical meas. 7—55009
- marine sediments of Pacific, trace metal chemistry of metalliferous sediments 7—23633
- Mars, obs. of sedimentary deposits in northern lowland plains 7—55517
- Maryland Piedmont, USA, flood plain sediment deposition since 1730 AD 7—29081
- Mechigmen Gulf (Bering Sea), sediment transport in surf zone 7—40464
- Mediterranean Sea, geochemistry of sediments of different ages, book 7—29608
- methane biological production in soil and sediments, enhanced due to increase atmos. CO$_2$ levels 7—29152
- micrometeorite spherules in marine sediments, O isotope study 7—9441

sediments continued
- Middle America Trench, Guatemala, subduction erosion versus sediment offscraping at toe of trench 7—14248
- Milankovitch cycles through geologic time, conf., Princeton, USA (May 1985) 7—55883
- Milwaukee harbour, Wisconsin, USA, PCBs in dated sediments 7—13935
- Mississippi River, USA, sediment flow regime in historic times 7—29114
- Mississippi River delta area, ^{226}Ra, in sediments and water column 7—66168
- modified box corer and extruder for marine pollution studies 7—34089
- Mono Lake sediments, California, record of Pleistocene geomagnetic variation and atmospheric ^{10}Be 7—23842
- Morocco Basin, stratigraphy of sediment accumulation during Late Quaternary 7—14259
- Nile delta sediment deposition history at Rosetta and Damietta, promontories 7—34565
- Nineyeast Ridge and adjoining depressions in Indian Ocean, seismic struct. of crust and sediments 7—40433
- ocean, longshore transport on shallow shore by random wave action 7—28996
- ocean, sediment cores, distributed parameter models for vertical mixing 7—66183
- ocean floor sediment as repository barrier, radionuclide diffusion 7—5481
- oceans, acoustic scatt. and total internal reflection 7—6035
- Okinawa Trough, sediments chem. comp. and characts. *(Chinese)* 7—47420
- SW Pacific, Miocene and Pliocene stratigraphy and palaeoceanography 7—23634
- Pacific coast of USA, contaminants of sediments of nearshore basin slopes 7—18209
- Pacific Ocean floor, hydrocarbons identification in sediments and bottom water layer 7—29079
- equatorial Pacific sediment magnetostratigraphy, Neogene to Pleistocene 7—3977
- palaeooceanographic events as cause of regional marine sediment horizons 7—18202
- peat deposits in E North America, appl. to atmospheric deposition of toxaphene 7—40064
- Port Hope Harbour, Lake Ontario, sediment quality assessment and benthic community 7—28423
- Port Xiawan, China, Trace element distrib. in drill-core sediment 7—46974
- Poyang Lake, China, Quaternary evol., sediment anal. *(Chinese)* 7—55105
- protalus ramparts of lateglacial age in upland Britain 7—34498
- Puget Sound, Washington, USA, hydrocarbon pollution in urban estuary 7—66167
- Qingdao coast, China, Quaternary sediments rel. to changes of palaeographical environment during past 20000 years *(Chinese)* 7—55011
- Red Sea rift, mineral comp. of coarse aleuritic fraction of surface sediments 7—14261
- Red Sea rift seafloor, sedimentary cover structure near 18°N 7—34472
- Reykjanes Ridge rift valley, Upper Quaternary sediments stratigraphy, foraminiferal anal. 7—29073
- rigid boundary channels carrying sediment-laden flow, resistance to flow and vel. distrib. 7—20802
- River Amazon, plume region, sediment and chlorophyll characts. 7—34509
- river loads underestimation by rating curves, statistical anal. 7—23728
- rivers of SW Idaho batholith, sediment yields rel. to erosional denudation rates 7—9038
- Rouge River, Quebec, migration patterns of asymmetric meandering river rel. to erosion and sediment transport 7—23765
- Sagehen Creek, California, size distrib. of surficial bed material during extreme snowmelt flood 7—23733
- salt marsh creek, River Esk, Cumbria, seasonal changes in surface level 7—8914
- San Fernando Valley, California, effects of sediments on 1 to 5-second microtremors 7—54898
- sand dunes, thermoluminescence dating method used for Sri Lanka red-sand beds 7—23847
- sand dunes in Mutonga drainage, Mount Kenya, origin and palaeoclimatic-ecological significance 7—18186
- sand-bed streams of American Midwest, flow variability and bankfull depth rel. to floodplain accretion 7—9040
- sea-bed mineral formation, geochemical modelling, Mn nodules 7—28998
- seafloor geoacoustic properties determ., appl. of three related reson. methods 7—66097
- Severn Estuary, southwestern UK, microscopic particles from coal fired power stations 7—60275
- Severn Estuary, UK, sediment trace metal record for last 2000 years 7—18211
- Skagerrak-Kattergat region, seismic investigations of sedimentary layers 7—14233
- South China Sea, palaeoclimate and palaeooceanography during Holocene, sediment O isotopic anal. *(Chinese)* 7—55264
- stream sediments around El Sid-Fawakhir Gold Mine, Eastern Desert, Egypt, Hg contents and dispersion patterns 7—18148
- subduction rel. to melange formation and prism accretion dynamics 7—28967
- sulphate deposits in fractured till in S Alberta, Canada, origin and distrib. 7—23726
- Tatayema volcano, Japan, crater lake sulphur sedimentation history 7—34421
- E Texas, storm flow and sediment losses from site-prepared forestland 7—23768
- tidal current ridges, form. mechanism and developmental conditions 7—40461
- till deposits in drumlins near Caledonia, S Ontario, inverse-graded units 7—9033
- Tonga Trench axis and intersection with Louisville guyot chain 7—54955
- transport capacity of sheet and rill flow 7—29106
- transporting capacity of overland flow, determ. on plane and irregular beds 7—14317
- unsaturated alluvium, fluid flow and energy transport assoc. with high-level radioactive waste disposal 7—23767
- Venice lagoon, sediment heavy metal pollution 7—60276
- water flow in porous sediments, due to flow over bedform features 7—55102
- Yellow River, China, sediment discharge to sea 7—55089
- Am alpha particle activity in sea sediment, detection with plastic foils 7—36431

sediments continued
As speciation in natural waters and sediments 7−23250
$^{13}C/^{12}C$ ratios, stratigraphic tool in East Mediterranean *(French)* 7−60190
^{40}Kr, sedimentary processes and metal depth profiles 7−55010
^{63}Ni in Columbia River sediment below the Hanford Reservation 7−13936
O isotopic records in deep-sea sediments, implications for Holstein interglaciation 7−47529
^{210}Pb, sedimentary processes and metal depth profiles 7−55010
Se speciation in natural waters and sediments 7−23250
Tl, determ. by atomic absorption spectrometry for river sediment, coal, coal fly ash 7−59801

Seebeck effect
glass melts, nonisothermal, meas. of standard Seebeck coeffs. by means of ZrO_2 electrodes 7−3597
growth dislocations, in-situ detection using Seebeck effect 7−32451
TCNQ salt, conducting Langmuir-Blodgett film, electronic transport props. 7−38782
TCNQ salt, N-n-propyl phthalazinium 7,7,8,8 $TCNQ_2$, struct., elec., mag. props., EPR meas. 7−33005
$Ba(Bi,Pb)O_3$, semiconducting props., X-ray powder diffr. and transport meas. *(Japanese)* 7−64237
Bi thin films, lattice thermal cond. meas., modified Mayadas-Shatzkes model 7−21554
CdSb thin films, preparation and thermoelec. props. 7−64374
$Ce_xLa_{1-x}Al_3$ solid solns., magnetic and thermoelectric props. 7−7212
FeO, wustite, defect agglomeration at high temps., elec. conduction model 7−21197
$Fe_3(1-\delta)O_4$, magnetite, synthesis, crystal growth and characterisation 7−2647
$Li_xSn_{1-x}Y_2O_4$, metal-insulator transition, Seebeck coeff. and elec. resist. studies 7−21817
SnO_2 thin films, vacuum evaporated, thermoelec. power, temp. and thickness depend. 7−58918
VO_x, elec. resist., Seebeck coeff. meas., 1023-1323K 7−38531
V_2O_5-TeO_2-PbO, glass, elec. and optical props. *(Korean)* 7−27330
YFe_2O_4, elec. resist. and Seebeck coeff. studies 7−21914
$Y_{1-x}M_xCrO_3$, (M=Mg, Ca, Sr, Ba), electrical and thermal transport props 7−45319

segregation
microstructural processes and features only
see also grain boundary segregation; Guinier-Preston zones; spinodal decomposition
alloys, ion bombardment-induced segregation and redistribution 7−58381
alloys, phase separation, low Q SANS studies 7−52066
alloys, preferential sputtering, segregation, mixing and diffusion 7−59337
alloys, rapid solidification technology, review 7−39493
$Au_x(TeO_2)_{1-x}$ thin films, nanosecond laser annealing, Au cluster redistrib., growth and coalescence 7−12145
binary alloy, directional solidification, buoyancy effects 7−6764
binary semiconductor alloys, directional solidification, convection, segregation, ampoule and furnace design 7−59501
C fibre reinforced Al, segregation of doping elements, Si, Bi 7−65046
cellular growth structures, rapid solidification, compositional profiling 7−46453
coarsening, particle motion and diffusion interactions, in situ obs. 7−32652
crystal growth and directional solidification, transport processes, analytical modelling and expt. obs. 7−53541
diffusion-limited aggregation, anisotropic sticking probability on 2D square lattice, computer simulation 7−24590
film deposition, surface segregation and impurity concentrations 7−2409
fusion materials, modeling of precipitation under cascade damage 7−52059
glass ceramics, development in China, review 7−6527
glass forming systems, immiscibility 7−2214
glasses, thermodynamics, miscibility and phase separation 7−63498
grain boundaries, electron microscope analysis 7−37818
graphite, pulsed laser melting, impurity redistrib., RBS channelling, Raman scatt. and TEM meas. 7−12135
HT-9 martensitic steel, radiation induced segregation 7−56830
HVEM, materials characterisation, critical voltage effect 7−37819
III-V semiconductors, single crystal growth, formation of microinclusions 7−21141
immiscible melts, separation under reduced gravity *(German)* 7−22972
impurity diffusion, with form. of segregation phases at dislocations *(Russian)* 7−52146
$L1_2$ ordered intermetallic cpds., symm. tilt boundaries, geometrical models 7−32454
layered solid, marker evolution on ion irrad., computer simulation 7−21302
major element segregation in irradiated binary and ternary alloys 7−32661
marker evolution on ion irrad., computer simulation 7−21302
metal films, characterisation by SIMS, Auger spectroscopy and TEM 7−12550
metal surfaces, deformed, imaging using ion bombardment 7−39342
metallic glasses, magnetic relaxation and struct. transformations 7−27557
metals, ion implantation of inert gases, high press. precip. phases 7−38031
metals, segregation during exponential cooling to an aging temperature 7−53744
numerical finite difference model for steady state cellular array growth 7−21787
phase separation, cluster kinetics and self-similar structure functions 7−44836
phase separation on regular and fractal lattices in two dimensions 7−14887
polycrystalline materials, intercrystalline internal adsorption, terminology *(Russian)* 7−58611
polydimethyl siloxane based polyurethane, phase segregation degree quantitative determ. 7−3307
polystyrene interactions in bad solvent, experimental study 7−58124
polystyrene/poly(methylphenylsiloxane) liquid mixtures, phase separation processes, structure function scaling law test 7−1832
powder bodies, zonal segregation, model analysis 7−27962
rapid solidification, steady and oscillatory cellular morphologies 7−2157
semiconductor, dopant profiles modification due to surface and interface modifications 7−58306

segregation continued
semiconductor-alloy phase diagram, first-principles self-consistent local-density total-energy calcs. 7−44751
silicides, quantitative Auger anal., correction factors 7−27831
solid solutions, atomic interaction energies, determ. from short-range order coeffs., inverse Monte Carlo methods 7−32653
solid solutions, isomorphous decomp., cluster distrib., time-dependent evolution of function *(Russian)* 7−52061
solid-solid interfaces, radiation-induced mixing 7−32516
solidification, rapid, oscillatory morphological instabilities, role of diffusion in the solid. 7−12235
stainless steel, ion irradiated, X-ray microanalysis, of equilibrium and nonequilibrium segregation 7−46488
stainless steel-Sb, X-ray microanalysis, of equilibrium and nonequilibrium segregation 7−46488
steel, alloy, trace element precipitation and segregation, hot brittleness effects *(French)* 7−17608
steel, austenitic stainless, electron beam welded, void swelling under electron irrad. 7−51830
steel, austenitic stainless, FCC lattice, stacking fault energy calcs. *(Russian)* 7−12081
steel, austenitic stainless, passivation and pitting corrosion rel. to Ti stabilisation and Mn content *(German)* 7−39756
steel, Cr-Mo, toughness, impurity element effects 7−53856
steel, Cr-Mo-Fe-C, crack resist., temp. and comp. depend. study *(Russian)* 7−13553
steel, Cr-Ni, microsegregation phenomena in long-term holding at 400°C 7−13458
steel, duplex stainless, manual metal arc weld metals, microstruct. and phase transform. 7−59526
steel, eutectoid, 1.3 wt.% Cr, specimen prep. technique influence on analytical TEM obs. of partitioning 7−22950
steel, ferritic, energy-dispersive X-ray analysis, contamination influence on P meas. in presence of Mo 7−23106
steel, ferritic-pearlitic, welded joints, hot embrittlement proneness 7−39658
steel, high strength line pipe, H induced cracking susceptibility, comp. and treatment effect 7−39619
steel, high-strength low-C weldable, C content effect on struct. and mech. props. 7−46583
steel, low-alloy, high-temp. drop in plasticity 7−46640
steel, micro-alloyed, low C, B containing, heat-affected zone props. 7−17543
steel, Mn, influence of S on failure mechanism in dual α/γ phase *(French)* 7−33760
steel, Mn-V, low-pearlitic, normalized, struct. and mech. props., sheet thickness depend. 7−8006
steel, plain C, peritectic reaction, temp. and comp., influence of alloying elements 7−13435
steel, solubility of S in presence of Mn and Si 7−39524
steel, stainless, Cr type, chem. microinhomogeneity of solid solns. effect on brittleness 7−3422
steel, stainless, films, sputter deposited, vacuum annealing-induced solute depletion 7−64012
steel, stainless, martensitic, cooling rate and heat treatment effect on chem. microinhomogeneity 7−3294
steel, stainless, surface segregation and grain boundary precipitation during heating, atom probe study 7−33672
steel, stainless, Type 316, microstruct. exam. around weldments 7−22697
steel, structural, temper embrittlement, preferential segregation, Auger spectra 7−53737
steel, took, Cr-Mo-V, hot working, ductility, C content, toughness, eutectic carbide segregation 7−59592
Stepanov method growth, dopant evaporation effects 7−32319
ternary intermetallic compounds, single crystal, Czochralski growth, charactn. 7−53557
tetrabutylammonium iodide in formamide, surface segregation phenomena, angle resolved electron spectroscopy 7−52058
transition metal alloys, binary, substitutional, segregation and order 7−22685
transition metal alloys, dilute binary FCC, surface segregation 7−63830
transition metal-metalloid metallic glasses, struct. relax. and segregation *(Russian)* 7−32300
X-ray microanalysis, of equilibrium and nonequilibrium segregation 7−46488
Ag (100), adsorption of Cl, Auger, LEED, XPS, thermal desorption studies 7−58635
Ag-Cu (15 wt.%), rapidly solidified, microsegregation 7−59524
Ag-Ge-Ga-Al FCC alloys, faulted structure, X-ray diffr. studies 7−58292
Ag-Zn (50 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7−32658
AgCu powder, ultrafine, surface segregation of atoms during oxidation 7−54004
$AgI_{0.75}$-$KI_{0.25}$ mixture, Soret effect meas. under microgravity 7−21499
Ag(Ni, S) ternary alloys, surface cosegregation props. 7−52206
Al-Cu, solidification, microsegregation in coarsened dendritic microstruct. 7−28048
Al-Cu-Mg, cast composite, mica particle distrib. 7−46375
Al-He system, He bubble form. by proton irrad., positron studies 7−44526
Al-Li-Be alloys, arc-melted, microstruct. evaluation 7−22655
Al-Li(Mg)(Na)(Be), thermal surface oxide layers, SIMS characterisation 7−13650
Al-Mn-Fe alloy, aging characteristics, pre-cold working effects 7−53758
Al-Sc (La)(Sm), oxidation kinetics 7−65190
Al-Si, hypereutectic alloys, primary Si particles 7−33649
Al-Si(Cu), microsegregation, effect of solidification rate 7−46480
Al-Xe, implanted, form. of solid precipitates and fluid bubbles, TEM obs. 7−38032
AlAs/GaAs superlattice mixing induced by Si^+ implantation 7−58649
$Al_xGa_{1-x}As$:Be epitaxial layers, ion implanted, rapid thermal annealing 7−21257
AlMgSc first wall materials, sputtering and radiation induced segregation 7−38072
α-Al_2O_3, cation solute segregation to surface 7−21593
α-Al_2O_3, surface, segregation of Y and Mg, atomistic lattice simulation 7−58492
α-Al_2O_3:Br, ion implanted, RBS and annealing studies 7−32515
$As_{1-x}S_x$:Ag film, coordination distance determ., EXAFS study 7−64004
Au aqueous colloids, diffusion- and reaction-limited kinetic aggregation, cluster-mass distrib. meas., dynamic scaling 7−21467

segregation continued
Au-Cu sputtered alloys, segregation, surface compositional changes 7−58585
Au-Fe (10 to 35 at.%), early stage clustering struct. 7−59536
Au-Pd, preferential sputtering and surface segregation 7−59339
$BaTiO_3$ ceramics, sintering, liq. phase enhanced discontinuous grain growth control 7−46384
Bi-Sb(-Te), single cryst. alloys, component distrib., stratified heterogeneity 7−46302
$Bi_{12}GeO_{20}$, pure and doped crystals phys. props. 7−7283
BiI_3, layered semicond. with hexagonal end honeycombed structs., growth and optical props. 7−22277
$Bi_{12}SiO_{20}$, pure and doped crystals phys. props. 7−7283
CdS epitaxial films, initial oxidation stages, diffusion mass transport between CdO islands 7−8206
CdS, single crystal, US wave absorption, impurity distrib. effect., electron-probe X-ray anal. 7−53241
CdSe, single crystal, US wave absorption, impurity distrib. effect., electron-probe X-ray anal. 7−53241
CdTe, segregation coeffs. of Ag, Co, I and In, recoil implanted radioactive tracer technique 7−21461
Co-Cr films, sputter deposition, microstructure and its growth mechanism 7−27179
Co-Cr sputtered films, segregated microstructure, TEM studies 7−12538
Co-Cr-Fe sputtered films, dilute, Mossbauer effect 7−22167
CoCr films, sputter deposition, mag. characteristics of initial deposition layer 7−27574
CoCr RF sputtered magnetic films, Cr segregation, STEM study 7−44827
CoNi thin films, oblique-deposited, mag. props., O impunity effects 7−33244
CoO_x sputtered thin, annealing effects on mag. props. and structure, Co-CoO layer separation 7−27180
$CrSi_2$,Ar^+ ion beam induced surface and subsurface modifications, AES study 7−64846
Cr_3Si, Ar^+ ion beam induced surface and subsurface modifications, AES study 7−64846
Cu-Ag, surface segregation 7−44829
Cu-Al (111), S segregation, LEED and AES studies 7−2321
Cu-Al (25 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7−32658
Cu-B, cast struct., segregation, conc. undercooling 7−3291
Cu-Ce, cast struct., segregation, conc. undercooling 7−3291
Cu-Er metallic glass, ion beam mixing, diffusion and phase separation meas. 7−16659
Cu-Ge-Ga-Al FCC alloys, faulted structure, X-ray diffr. studies 7−58292
Cu-Ni alloy surface segregation, H chemisorbed monolayer effects calcs. 7−21465
Cu-Ni alloy surfaces, composition, low energy ion scatt. study 7−32771
Cu-Ni alloys, chemisorpt.-induced surface segregation, time-of-flight atom probe and AES studies 7−32657
Cu-Ni alloys, surface segregation, tight-binding Hartree Hamiltonian, cluster-Bethe-lattice approx. calcs. 7−38665
Cu-Pd alloy, surface segregation, scanning Auger electron microscopy study 7−21578
Cu-Sb-S cpds., valence bands and semiconducting gaps, nonstoichiometry and phase separation 7−16941
Cu-Sn (14.4 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7−32658
Cu-Zn (52 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7−32658
$Cu_xAg_{1-x}InSe_2$, liquid-encapsulated Bridgman-Stockbarger melt growth and props. 7−59403
$Cu_{70-x}Au_{30}Fe_x$, ferromagnetic interactions, EXAFS and XANES anal. of Fe atom environment and clustering 7−64808
$Cu_{98}Fe_2$, antiferromagnetic interactions, EXAFS and XANES anal. of Fe atom environment and clustering 7−64808
$CuIn_yGa_{1-y}Se_2$, liquid-encapsulated Bridgman-Stockbarger melt growth and props. 7−59403
Fe, grey cast, skin casting under microgravity conditions 7−22661
Fe, porous, segregation of impurity elements, alloying elements selection and activated sintering 7−53742
α-Fe single crystals, activation energy of S diffusion, surface segregation, AES obs. 7−39529
α-Fe surfaces, segregated elements, bonding state 7−16763
Fe-B, B solubility in Fe 7−7971
Fe-B amorphous sandwich films, concentration-dependent diffusion 7−45027
Fe-base alloys, grain boundary internal adsorption of C and P, segregation study *(Russian)* 7−6961
Fe-based metallic glasses, retardation of annealing embrittlement by Ce microadditions 7−65118
Fe-Cr-Mo, surface segregation, Auger anal. 7−16844
Fe-Mn(S), surface comp. and surface tension, effect of S and Mn *(Chinese)* 7−6916
Fe-Ni (36 at.%), Invar, oxidation, effect of annealing conditions 7−28167
Fe-Si-B metallic glasses, struct. relax. *(Chinese)* 7−65070
Fe-Si-C single cryst., surface segregation and interactions 7−2322
Fe-Sn (001), surface segregation of Sn, surface struct. anal. 7−58594
Fe-Sn (100), surface structural transitions during Sn surface segregation 7−52210
$Fe_{84}B_{16}$ amorphous alloy, interstitial element segregation during fracture *(Russian)* 7−53875
$Fe_{81}B_{13.5}Si_{3.5}C_2$ amorphous and cryst. alloy, Si diffusion and segregation 7−6859
$Fe_{0.92}Cr_{0.08}$, near surface layer conc. profile, XPS *(Russian)* 7−58582
FeCrAlY, Al_2O_3 adhesion mechanism 7−33843
FeCrNiWMo alloys, sputtering effects on props 7−36240
$Fe_{40}Ni_{40}B_{20}$ metallic glass ribbon, failure mechanics and atom probe study correlations 7−28139
FeNiCr, grain boundary solute segregation 7−56833
FeNiCr:Sb,P, grain boundary segregation, Auger and energy dispersive X-ray mapping 7−16571
Ga-In, liq., surface segregation, ion bombard. photon emission study 7−32265
GaAs, semi-insulating, LEC grown, midgap native donor concentration 7−33547
GaAs, sputtered, comp. depth profiles, AES, XPS, inverse Laplace transforms 7−22390
GaAs:Sn epilayers, MOCVD using triethylgallium and tetraethyltin, characterisation 7−22515

segregation continued
GaAs-AlGaAs superlattice, surface and interface optical phonons, EELS studies 7−6955
Ge, floating zone growth, lateral solute segregation rel. to gravity conditions 7−53576
GeSi thermally evaporated epitaxial heterolayers on GaAs substrate, Si distrib. *(Russian)* 7−63988
Hf_2Co, surface oxidation, XPS 7−8184
$Hf_{1-x}Cu_x$ metallic glass, thermal stability and phase transformations 7−21125
In-Sn alloy, diffusion coeffs. of In and Sn determ. by AES using Xe ion bombardment 7−22405
In-Sn alloys, solid and liquid, surface composition, Auger electron spectra study 7−12421
$In_xGa_{1-x}As$, photoluminescence determ. of effects due to In alloying 7−46096
InP epitaxial films, MOCVD grown, identification of acceptors and donors 7−58688
InP:Ti(Cr)(Ni), LEC growth, precipitate phase identification 7−16754
InP(Sb), ion milling, TEM 7−39344
Ir-Pt (2 at.%), surface segregation, AES study 7−27066
$KBr:Eu^{2+}$, impurity precipitates, Raman spectra meas. during annealing 7−64634
$KCl:Eu^{2+}$, impurity precipitates, Raman spectra meas. during annealing 7−64634
KCl-En solid soln. crysts., thermal and radiation induced decay, impurity aggregation study *(Russian)* 7−2216
$KI:Eu^{2+}$, impurity precipitates, Raman spectra meas. during annealing 7−64634
K_2O-PbO-SiO_2 glasses, chemically nonuniform struct., Rayleigh and Mandelstam-Brillouin scatt. 7−1891
$MgAl_2O_4$ stoichiometric spinel, electron beam-induced diffusion, cracking and phase separation 7−16641
$MgAl_2O_4$:He spinel, implanted, high temp. electron irrad., structural damage 7−51829
$MgAl_2O_4:Ni^{2+}$, Czochralski growth and optical props., effective segregation coeff. 7−59406
MgO, cation solute segregation to surface 7−21593
MgO:C, single crystals, solute C and C segregation, SIMS study 7−16759
MgO:C, single crystals, solute C and C segregation, SIMS study 7−16761
MgO:C single crystals, solute C and C segregation, SIMS study 7−16760
$MgO:Ca^{2+}$ (100), entropy of segregation calcs. 7−2323
Mn oxides, oxides, Ni- and Co-containing, structural chemistry, EXAFS studies 7−63578
Mn-Cu, sintered damping alloy, tempering, & solid soln. breakdown mechanism 7−22692
Mo and alloys, containing pores, segregation effects *(Russian)* 7−59533
Mo film ion beam mixing of marker atoms, heat of mixing effect 7−21304
Mo film on Si, ion beam mixing, amorphous layer form. 7−21301
Mo-N polycrystalline films, implanted, single defects, X-ray diffr. data anal. 7−38372
$Na_{1+4y+x}Zr_{2-y-x}Si_xP_{3-x}O_{12-2z}$ nonstoichiometric monoclinic NASICONs, X-ray powder Rietveld refinements 7−12304
Nb, elastic aftereffect due to O, press. effect and clustering 7−32548
Nb-C alloy, thermotransport of C 7−46479
Nb-Li alloys, interstitial impurity distrib., thermodynamic anal. *(Russian)* 7−32430
Nb-N polycrystalline films, implanted, single defects, X-ray diffr. data anal. 7−38372
Nd-Fe-B permanent magnet, microstructure and coercivity 7−27559
Ni (100), adsorbed S, segregation kinetics, AES and LEED studies *(Chinese)* 7−58607
Ni (111), adsorption of Te, adsorbate induced C segregation and dissolution 7−12477
Ni, ion irradiation-induced implant diffusion and segregation, synergistic effects, kinetic model calcs. 7−16658
Ni/Cr(Nb) alternating layers, ion beam mixing 7−21303
Ni-Ag amorphous thin films, crystallisation and internal constraints *(French)* 7−2433
Ni-Al-Cr, melt spun ribbons, microstruct., mech. props., Cr conc. effect 7−28031
Ni-Au (110), Au-enriched by surface segregation, LEED 7−27080
Ni-base superalloy, cast, high Al-Ti, eutectic form. and σ-phase control *(Chinese)* 7−7983
Ni-base superalloy, IN-100, rheocast, processing-struct. charactn. 7−46449
Ni-Cr, high temp. alloys, carburisation, finite difference model of C diffusion 7−39712
Ni-Cr alloy, surface segregation, scanning Auger microprobe study 7−22703
Ni-Cr-Ti-Al(-Mo), dendritic single crysts., microsegregation 7−46477
Ni-Cu alloy, equilib. segregation, embedded atom simulation 7−17538
Ni-Cu binary alloys, surface segregation *(Japanese)* 7−12422
Ni-Cu binary alloys, surface segregation studied by atom-probe 7−44966
Ni-Mo (6 at.%), oxidation, ESCA study 7−22897
Ni-Pt, surface segregation, composition anal., AES studies 7−7999
Ni-Si, ductility, influence of rad.-induced segregation 7−53798
Ni-Ti metallic glass, ion beam mixing, diffusion and phase separation meas. 7−16659
NiAlY alloys, alumina scale growth mechanism, ^{18}O tracer study 7−33840
$Ni_{75}B_{15}Si_{10}$ amorphous alloy, metalloid redistribution, scanning Auger microprobe study 7−32655
NiCrAlY, Al_2O_3 adhesion mechanism 7−33843
$Ni_{50}Fe_{50}$ (100) alloy, segregation and adsorption of S 7−21617
p-Si:As oxidation in HCl ambient, impurity pile-up, bubble pattern form. and local oxide bowing 7−13675
$Pb_5Ge_3O_{11}$, surface segregation of Pb upon heating to the melting pt. 7−6931
PbI_2, layered semicond. with hexagonal end honeycombed structs., growth and optical props. 7−22277
$Pb_{1-x}Sn_xTe$ surfaces, AES, LEED and Kikuchi pattern obs. 7−52200
$PbTe_{1-x}S_x$, free carrier scatt. near a phase transition 7−38557
Pt binary alloys, surface segregation struct. and composition 7−7013
Pt surfaces, impurity segregation, high resolution AES studies 7−33668
Pt-Ni alloys, surface segregation, ISS study 7−52208
Pt-Rh alloys, surface composition, lattice vibrational entropy 7−52207

segregation continued
Rh/GaAs Schottky contact, correlation between solid-state reaction and electrical props. 7—58655
Rh-B surface, effect of B surface segregation on adsorption and dissociation of H_2O 7—27135
Ru film, ion beam mixing of marker atoms, heat of mixing effect 7—21304
S, surface segregation on V, effect on H permeation, AES anal. 7—32660
Sb-Sn alloy, maximum microsegregation from peritectic phase systems 7—12286
Si (111), thermal oxidation, initial stages, AES, LEED and photoelectron spectra studies 7—3543
Si, amorphisation and crystallisation 7—11914
Si, impurity and defect props., processes and characterisation *(Japanese)* 7—7151
Si, MBE cryst. growth, dopant incorporation 7—12559
Si substrate, dopant redistrib. during Pd_2Si formation 7—21255
Si, surface, laser beam melting and recrystallisation 7—12431
Si, with transition metal impurities, detect. using rapid thermal annealing 7—2044
Si:Al(In), recrystallisation by pulsed electron beam, impurity profiles 7—16605
Si:As, highly doped, spinodal decomposition and clustering 7—52063
Si:As, ion implanted, rapid thermal annealing, metastable activation 7—16616
Si:As(B)(P), impurities at dislocations and grain boundaries, high-resolution TEM imaging 7—37815
Si:As(P)(B)-SiO_2 interface, segregation, transport coeffs. of impurities 7—63880
Si:B, impurity transport in mag. Czochralski growth, computer simulation 7—58182
Si:B,C,O, O clustering and thermal donor formation kinetics 7—17566
Si:B (As) diffusion source, diffusion into single crystal Si 7—32727
Si:C,O, solubility, segregation, diffusion and precipitation 7—16777
a-Si:H, H clustering, multiple quantum NMR 7—32671
Si:H, impurity clustering, hydride form. on dislocations, TEM study 7—26964
Si:In, heavily doped, laser induced oxidation 7—13672
Si:N, N incorporation and behaviour 7—16598
Si:O, Czochralski cryst. growth, impurity segregation, high axial mag. field effect 7—26960
Si:O, structure and props. of the thermal donor 7—16766
Si:O(O,C), impurity aggregation, SIMS 7—16778
Si:P polycrystalline films, segregation at grain boundaries, NMR study 7—38953
Si:P(As)/SiO_2 interface, oxidation rates and oxide props., dopant effects determ. 7—12514
Si:W^+ layers, implanted and annealed, struct., TEM, electron diffr. studies 7—32858
Si/Ni system, silicide formation, ion beam induced, embedded markers and moving species 7—21298
Si-CaF_2-Si structure, reduction of Ca and F surface segregation by solid phase epitaxy of Si 7—38357
SiC (0001) and $(000\bar{1})$ surface segregation, electron spectroscopy 7—21459
SiGe superlattice structures, Sb doped, MBE grown, comp., doping profiles, SIMS, Rutherford backscattering spectra 7—7035
SiO_2-Si, quantitative distrib. eval. of P, SIMS 7—54254
Sn-Pb system, metastable quasi-eutectic struct., existence range 7—3275
TeO_x films, nanosecond pulsed laser-induced segregation 7—44610
$Te_{80}S_{19}As$ overcoated trilayer struct., laser writing mechanism, microscopy studies 7—20149
$(Ti,Cr)B_2$ sintered electrode exposed to liq. Al, degradation, effect of segregated Cr 7—28045
Ti, heat treated, softening, in situ HVEM obs. 7—17548
Ti-Al-V, VT23, α and β phases, temp. relationship of chem. comp. *(Russian)* 7—39520
TiFe, oxidised, bulk and surface phase composition 7—46700
UNiAl, surface segregation behaviour 7—33519
V-based alloys, alloying and impurity effects 7—53666
V-C alloy, thermotransport of C 7—46479
W, grain growth, impurity effects 7—28044
W monocrystals, with P impurities, removal during chem. and metallurgical treatments 7—6645
W-Ni dilute alloy, Ni enrichment at screw dislocations, atomistic calcs. and atom probe FIM meas. 7—33638
WSi_x CVD films on Si and Si_3N_4 coated Si, excess Si redistribution upon annealing 7—21723
WSi_x films, CVD, resistivity and composition changes by annealing 7—2738
YIG mixed cryst. films, LPE, segregation 7—53641
YNiAl, surface segregation behaviour 7—33519
Zn-Al, solidification, segregation, foundry procedure appl. 7—53712
ZnSe:Ga, impurity segregation model calcs., elec. props., precipitate effects 7—16762
Zr-Ni metallic glass, crystallisation, metastable crystalline phase form. 7—21126
ZrNiAl, surface segregation behaviour 7—33519

Seidel theory *see aberrations*

Seignette salt *see Rochelle salt*

Seignettoelectric materials *see ferroelectric materials*

seismic waves
see also seismology
2.5D in-plane wave propag., seismic appl. 7—8845
2D reflection modelling of fossil oceanic crust-mantle transition Bay of Islands Ophiolite, Newfoundland 7—40428
3D imaging of seismic sources, technique for anisotropic heterogeneous media 7—28872
3D ray tracing, implications for teleseismic mislocation of island arc earthquakes 7—14209
absorbing boundary conditions and surface waves 7—65947
absorption effects on plane waves in layered media, linear viscoelastic theory 7—28868
absorptive acoustic wave eqn, with wraparound and edge-effect elimination 7—54908
S Alaska, USA, ray eqn. migration of wide-angle reflections 7—66033
amplitudes at antipode, determ. for compressional waves 7—28864
anelastic media with welded boundaries, inhomogeneous body wave propagation 7—28896

seismic waves continued
anomalous splitting of seismic multiplets, interpretation in terms of aspherical struct. 7—28892
Baikal zone, USSR, observations of teleseismic waves 7—47358
basalt melts, US vel. and attenuation meas. to 1500°C 7—8933
Beijing-Baigezhuang profile, rel.-depth curves rel. to magnetotelluric data inversion *(Chinese)* 7—34375
body wave amplitude fluctuations, modelling via 3D slowness method 7—40426
body wave modelling from Rainbow Mountain-Fairview Peak-Dixie Valley (Nevada) earthquakes, 1954-59, appl. to seismic processes anal. 7—40429
body waves displacements, numerical modelling of nonplanar faults 7—28886
body waves from lithospheric earthquakes in S Kuril Islands, implications for source mechanisms 7—28885
body-wave modelling of Shumagin Islands (Alaska) earthquake sequence, appl. to focal mechanisms determ. 7—54886
borehole seismograms from Long Valley, California, implications for caldera struct. 7—40448
Born approximation for scattering from local nonuniformity 7—8858
boundary element method for 3D problems transient elastodynamic anal. 7—34694
N California, USA, mantle struct. and teleseismic P-wave residuals azimuthal var. 7—66031
N California Coast Ranges, 3-D vel. struct. from inversion of local earthquake arrival times 7—3987
channel waves, appl. to study of crustal and upper mantle struct. by explosion seismology methods 7—47342
columnar-jointed rock mass, cross-hole acoustic meas. 7—47367
complex body waves inversion 7—14214
computer vision system for automatic seismic wave-field movement anal. 7—23902
converted reflected waves, dynamic characts. 7—23547
Coso region, California, USA, crust seismic struct. 7—66032
density of rock correlated to seismic velocity 7—28875
diffraction separation, Karhunen-Loeve, transform appl. 7—57618
Earth free oscillations, generation by localised source in viscoelastic inhomogeneous Earth 7—28887
Earth subsurface, wave reflectors and sources detection 7—23562
elastic waves computation, fourth-order accurate finite-difference scheme 7—3991
exploration seismology, development of non-contact methods for wave excitation and detect. 7—47341
explosion body-wave magnitudes variability, anal. of RULISON/GASBUGGY anomaly 7—3990
explosion seismic source, in axisymmetric cavity radiation patterns 7—8843
extremal inversion of travel-time residuals, appl. to Long Valley caldera 7—28862
fault displacement due to incidence of seismic wave 7—54919
first motions of 1930 Santa Monica and 1979 Malibu earthquakes, California, appl. to focal mechanisms determ. 7—54883
first-arrival Rayleigh wave trains, use of on-scale obs. for source studies 7—47371
focusing and defocusing of body waves by 3D struct. in source region 7—54907
free oscillations and surface waves of an aspherical Earth 7—60180
frequency dependent seismic wave propagation in rocks, pore water effects 7—28883
G-type, generation under initial stress 7—8851
Gaussian beams for surface waves in transversely isotropic media 7—47362
geothermal site (hot dry rock), shear-wave polarization in cracked rock 7—14205
Gobles oil field (SW Ontario) microearthquakes, first motions rel. to fault plane solns. 7—28856
Great Valley, California, 2D seismic vel. struct. along synclinal axis 7—28861
Great Valley, California, vel. and Q struct. from synthetic seismogram modelling of refr. data 7—3988
half-space containing slot or a step, finite difference method for source and wave diffraction 7—47347
high-freq. seismic waves from earthquakes in laterally varying layered structs. 7—47356
Imperial Valley, California, travel-time, time-term, and basement depth maps 7—28860
inclined-layer velocity model, simultaneous estimation of hypocentres and velocity parameters 7—14207
Kinki district, Japan, shear wave splitting above earthquakes 7—47381
Krivoi Rog superdeep hole site, Ukraine, seismic investigations 7—47343
L_g-waves propagation, effects of structural boundaries 7—3992
Lamb's plane problem in thermoelastic solid 7—6128
layered elastic medium response to explosive point source, exact evaluation using leaking modes 7—54895
layered media wave propagation, using wavefield factorization and invariant imbedding 7—8837
LF radiation from point sources in fluid-filled borehole 7—23561
Lg waves from nuclear explosions, magnitudes determ. for E Kazakhstan underground explosions 7—28858
lithosphere velocities, determ. for East European Platform along Baltic Sea-Black Sea profile 7—14236
longitudinal wave velocity and amplitude in rocks, effect of press. 7—47424
Love wave propag., weak variational formulation 7—8853
Love waves, propag. along surface of elastic body with arbitrary shape 7—28888
Love waves, propagation in irregular dry sandy layer 7—8825
Love-type seam-waves in washout models of coal seams 7—47366
Michoacan (Mexico) earthquake, 1985 September 19, strong ground motion anal. 7—18126
microseism propag. between two sites on deep sea floor, press. and elec. field fluctuations meas. 7—28869
microtremors, 1 to 5-second, in San Fernando Valley, California, 2D study of site effects 7—54898
multi-layered elastic half space, seismic waves due to horizontally propag. vertical fault *(Chinese)* 7—47340
W Nagano Prefecture earthquake, 5 to 30 g accelerations and boulder ejection, 14 Sept. 1984 event 7—18129
Nahanni (Canada) earthquake aftershock, missing V-accelerograph peak rel. to vertical accel. exceeding 2 g 7—28871

seismic waves continued
near-field ground motion synthesis, seismic radiation from kinematic fault models 7—54897
Ninghe, China, strong ground motion of Nov. 1976 earthquake 7—28851
nonuniform waves propag. in space divided by thin fluid-filled fracture, theory 7—28891
North Sea peak ground accel. prediction from seismic risk anal. 7—4004
one-dimensional problem of scattering for potentials on positive semiaxis 7—65976
optimal wave detection procedures, anal. of multidimensional seismic wave recording systems 7—47345
P-wave initial pulses from tensile fractures, radiation patterns 7—60182
P-wave modelling with cellular automata 7—66320
P-wave reflection sounding, appl. as exploration tool within Zimbabwe underground mine 7—65950
P-wave travel times, estimation of slowness-dependent source and receiver corrections 7—54893
P-wave travel-times from Tonga subduction zone 7—65946
P-wave velocities in Baltic Shield, determ. from off-FENNOLORA refr. data. 7—14232
P-wave velocities in Barbados accretionary wedge, implications for origin of convex wedges 7—28992
P-wave velocities in Gulf of Genoa, results from location methods for underwater shots 7—14217
P-wave velocities in rock samples containing tetrahydrofuran hydrates, acoustic vel. meas. 7—55026
P-wave velocity in the source region of theeastern Yamanashi earthquakes, Japan 7—8865
P-waves, first motions obs. rel to nonshear-type earthquakes 7—8854
P-waves, travel-time residuals rel. to tomographical mapping of lithosphere and asthenosphere beneath S Scandinavia 7—14234
P-waves, vel. in Tornquist-Teisseyre zone (Poland) rel. to deep crustal struct. 7—14235
P-waves, waveform data inversion for earthquake source parameters estimation 7—54882
P-waves from Miramichi (New Brunswick) earthquake sequence, GRF broad-band array anal. 7—54921
particle motion polarisation, complex anal. 7—28867
PcP wave amplitudes, evidence against 2 to 50 km size corrugations on core-mantle boundary 7—66018
peak ground acceleration due to faulting, kinematic dislocation model 7—65956
S Peru, 3D P- and S-wave vel. structures rel. to tectonics 7—14227
PKIKP travel times, evidence for inner core anisotropy 7—66024
PKP, PKIKP travel-time residuals, implications for core-mantle boundary topography and liq. core lateral heterogeneity 7—66036
PKP travel times, evidence for aspherical struct. of core-mantle boundary 7—66017
PKP-D, PKP-C, differential travel times anal. rel. to lateral heterogeneity in inner core 7—66026
plane layered media, global matrix formulation of wave phenomena 7—61125
polarisation measurement, appls. in three-components seismic prospecting 7—47344
post-stack depth migration in freq.-space domain, theory 7—8836
progressive attenuation of high-frequency energy in seismic reflection data 7—34389
propagation in Earth's interior, appl. to internal struct. determ. *(French)* 7—23588
Puget Sound (Washington) region, strong ground motion prediction rel. to 1965 Seattle earthquake 7—3980
pulses, diffraction effects 7—28908
ray tracing eqns. and Fermat's principle in an isotropic Earth for surface waves 7—47361
Rayleigh phase-reversed waves from underground nuclear explosions, apparent time delays 7—60177
Rayleigh wave propagation in pre-stressed medium 7—14200
Rayleigh wave scattering by rigid plane barrier in shallow ocean 7—8852
Rayleigh waves from Shagan River test site, USSR, plasma anal. 7—54894
reflected wave time fields in 3D stratified media, loops of 1D cross sections 7—23544
reflected waves in San Andreas fault zone, reanal. of COCORP deep seismic profile at Parkfield, California 7—54938
reflection profiling, reflection and transmission and generalized primary wave 7—23553
reflection-refraction survey in Skagerrak and Kattegat, investigations of sediments and lower crust 7—14233
reflections below upper mantle discontinuities beneath Mid-Atlantic Ridge 7—60179
refraction along axis of Kenya rift, implications for crustal struct. 7—54957
relation between attenuation, phase dispersion and frequency 7—65948
resolution matrix for wave vels., calc. via tomographic inversion method 7—14212
rock failure, rupture length and propag. speed determ from seismic and acoustic data 7—8855
S and sS phases, evidence of lower mantle shear vel. discontinuity 7—66016
S-waves, first-motion obs. in central Alaska rel. to down-dip tension in Pacific plate 7—28855
S-waves, propag. effects in inhomogeneous mantle rel. to lower mantle vel. struct. 7—66015
San Fernando earthquake, 1971 February 9, complex polarisation anal. of particle emotion 7—28867
sandstone, seismic compressional velocity, effects of pore filling material 7—14266
ScS—S differential travel times, implications for heterogeneity scales near core-mantle boundary 7—66019
sediment velocities, estimation at depth from seafloor geophysical meas. 7—55009
sediments with shear modulus fluctuations, due to rigid-nonrigid phase transition 7—54879
separation of apparent and intrinsic attenuation in layered media, inversion method 7—23552
SH waves in layered media, Green's functions-leaking modes calc. 7—60173
SH-wave reflection from prestressed transition layer 7—14199
SH-waves, index for meas. of topographic effects on ground motion intensity 7—14201
shear crack in elastic medium, nonstationary radiation direction 7—54916

seismic waves continued
short period S-waves, sedimentary layer amplification 7—8868
short-period regional phases, explosion discrimination capabilities anal. using regional data from W United States events 7—3989
SKS and SKKS waves from Tonga-Fiji events, anomalous difference travel times and amplitude ratios 7—65945
slow seismic waves in sandy bottom materials 7—28900
sound velocity provinces in Cape Basin sediments, results from multichannel seismic refl. profiles 7—55008
Sp and Ps waves from Wellington (New Zealand) subcrustal earthquakes, anal. 7—28863
Sp diffraction beneath Australian Shield 7—14206
stratigraphic filter theory, effects of parallel bedding and random inhomogeneities 7—28877
strong ground motion damping ratio, calc. method using microtremor data *(Japanese)* 7—18125
strong motion, moment magnitude scale for Petatlan region, Mexico from peak horizontal vel. 7—28857
strong-motion data analysis, effect of array configuration on source inversion 7—28853
strong-motion records from 1983 Japan Sea earthquake, waveform inversion for rupture process anal. 7—54889
Sturm-Liouville problem on the semiaxis, potential reconstruction 7—65977
surface ground motion during earthquake, rot. components determ. 7—14202
surface wave dispersion in layered medium, reduction of deep layers 7—47357
surface waves, appl. to study of crustal and upper mantle struct. by explosion seismology methods 7—47342
surface waves, asymptotic normal modes of laterally heterogeneous Earth 7—40425
surface waves, higher mode, meas. in W Europe rel. to upper mantle vel. and density struct. 7—14237
surface waves, phase speed perturbations and 3D scatt. effects due to topography 7—28866
surface waves, simultaneous smoothing of phase and group vels. from multi-event data 7—28865
surface waves from Colombia (1979 December 12) aftershocks, appl. to source mechanisms determ. 7—54887
surface waves in W Ganga Basin, India, shear vel. struct. rel. to crustal block of oceanic affinity 7—54939
synthetic seismograms 7—54896
synthetic seismograms for transversely isotropic layered media 7—3995
T-waves, duration rel. to earthquake magnitudes and seismic motion and appl. to tsunami warning 7—14208
teleseismic body waves, appl. of regularisation method for seismic source time functions determ. 7—8824
teleseismic waves, amplitude, phase and path anomalies of mantle waves 7—47348
time-domain apparent attenuation operators for compressional and shear waves, expt. versus single-scatt. theory 7—54928
Tomioka, Fukushima, Japan, borehole logging of crust and seismic wave amplification *(Japanese)* 7—18115
tomographic exploration, appl. to thermal convection in Earth interior *(French)* 7—23618
tomographic source imaging of M_L~3 earthquakes near Anza, S California, appl. to rupture characts. determ. 7—40431
topographic effects on surface wave propagation and scattering 7—23581
trajectory of rays in 3D stratified homogeneous media, approx. calc. method 7—28874
transverse wave reflection at free surface of half-space with depth depend. properties 7—54918
travel times estimation method for laterally homogeneous Earth 7—23895
travel-time errors, contrib. to earthquake hypocentre location errors 7—54892
traveltime inversion for the flat-layer model 7—28880
tsunami along Kyushu coast, Japan, AD 1662, AD 1769 and AD 1707 events *(Japanese)* 7—8833
tsunami at Bungo, Japan, Sept. 1596 event *(Japanese)* 7—8832
tsunami directional propagation theory *(Russian)* 7—18119
tsunami generation and propag. modelling, microcomputer code 7—8830
tsunami magnitude, relation to fault parameters *(Japanese)* 7—4005
tsunami occurrence in E Pacific, exceedence probability estimate 7—47375
tsunami of AD 1804 Kisakata earthquake, Japan *(Japanese)* 7—28852
tsunami of Tenmei Odawara earthquake, 23 August 1782, discovery of dd documents 7—18133
tsunami warning, implications of T-wave duration rel. to earthquake magnitudes and seismic moment 7—14208
two-phase media, wave velocity and attenuation in laboratory models 7—54909
underwater acoustic exploration, appl. of array processing for parallel linear recursive Kalman filtering 7—65986
Urup tsunami of Kuril and Sakhalin islands, October 1963, source parameters *(Russian)* 7—60185
valley seismic signal distribution, for valleys with semi-elliptical boundaries 7—54917
velocities along Kiev-Gomel' DSS profile, implications for struct. of deep crustal layers and sedimentary cover 7—47394
velocity struct. of crust beneath Saudi Arabia, ray path interpretation 7—28956
velocity structure of upper crust in Kola Peninsula, determ. along Pechenga Bay-Kovdor-Alakurtti profile 7—47395
vertically inhomogeneous media, wavefield computation by freq. domain finite-difference method 7—60172
vertically orientated cracks influence on shear wave polarization 7—23556
volcanic tremor at Mount St. Helens (April and May 1980) 7—3981
Washington continental margin, crustal struct. from seismic refr. data 7—4006
wavefield extrapolation by linearly transformed wave eqn. 7—28878
wavenumber and wavetype coupling in laterally heterogeneous media 7—23551

seismographs *see seismometers*

seismology
see also earthquakes; seismic waves; seismometers
2D reflection modelling of fossil oceanic crust-mantle transition Bay of Islands Ophiolite, Newfoundland 7—40428
3D slowness method, appl. to modelling of body wave amplitude fluctuations 7—40426
1977 global seismicity, centroid-moment tensor solutions 7—47379

seismology continued
absorption effects on plane waves in layered media, linear viscoelastic theory 7—28868
accumulation method for estimating the signal in seismic data 7—28876
acoustic emission from andesite undergoing triaxial compression 7—18322
acoustic-to-seismic transfer function for outdoor ground surfaces 7—26070
acoustical imaging, conference, The Hague, Netherlands (Apr. 1985) 7—24293
N Aegean, seismic activity as middle-term precursor of Calabrian earthquakes 7—23582
West Africa, seismicity (1615-1984) 7—54878
large aftershock prediction, based on prior aftershock activity 7—28850
central Alaska, seismic evidence for down-dip tension in Pacific plate 7—28855
W Alaska, seismicity studies synthesis 7—28907
S Alaska, USA, ray eqn. migration of wide-angle reflections 7—66033
algorithm for determining pulse response of medium, z-transformation method 7—60396
W Alps, prediction of places for strong earthquakes 7—65973
Altai-Sayan region of Siberia, seismicity during AD 1963 to 1984 period 7—54900
Amazon River, continental shelf, high-resolution seismic stratigraphy, sedimentological interpretation 7—34465
Amazonian foothills of Peruvian Andes, seismicity and tectonic activity 7—47373
N American Cordillera, USA, deep seismic traverse and orogenic evolution 7—55000
amplitudes at antipode, determ. for compressional waves 7—28864
Andaman-Nicobar Islands, seismo-tectonics anal. 7—65962
andesite, acoustic emissions for triaxial compression *(Japanese)* 7—66111
anomalous splitting of seismic multiplets, interpretation in terms of aspherical struct. 7—28892
Anza, California, USA, seismicity and source parameters rel. to crustal stress 7—65951
Aquitaine shelf, crustal thinning, deep seismic data 7—54961
Asia, crust struct. from teleseismic obs. 7—60170
Central Asia, precursory seismicity to strongest earthquakes 7—65969
Astrid Ridge off Queen Maud Land, Antarctica, fracture zone nature, seismic obs. 7—66035
N Atlantic, upper mantle seismic velocity inhomogeneities 7—54920
Atlantic and Pacific, crust struct. from seismic profiling studies 7—8850
Mid-Atlantic Ridge at 20°S, deep structure from seismic profile 7—34400
Middle Atlas seismicity *(French)* 7—60181
Australia, underplated crustal material indicated by seismological evidence 7—8900
automatic linking process of seismogram using branch and bound search 7—23904
Axial Seamount, Juan de Fuca Ridge, acoustic noise due to hydrothermal vents 7—23558
Lake Baikal area, USSR, microseismicity observations 7—47358
Baikal zone, USSR, observations of teleseismic waves 7—47358
Baltic Shield, crustal struct. determ. from off-FENNOLORA refr. data 7—14232
band-limited reflection seismograms, lin. inversion 7—23583
Barbados accretionary wedge, P-wave vel. distrib. rel. to origin of convex accretionary wedges 7—28992
Beijing-Baigezhuang profile, rel.-depth curves rel. to magnetotelluric data inversion *(Chinese)* 7—34375
Bhatsa reservoir, Maharashtra, India, induced seismicity anal. 7—23578
Black Sea trough, crust struct., geology and tectonics 7—60214
NW Bohemia, Czechoslovakia, microseismicity 7—54912
Borah Peak, Idaho, USA, fault scarp shallow struct. by seismic profiling 7—23557
borehole volume strainmeter application to seismology 7—66350
S California, mechanisms for 1930 Santa Monica and 1979 Malibu earthquakes 7—54883
California, seismic hazard anal. from props. of Quarternary faults 7—40430
California, seismic risk anal. and appl. to North Sea 7—4004
S California, USA, forecast model for large and great earthquakes 7—54922
S California, USA, prediction of strong earthquakes, probabilistic approach 7—3997
N California Coast Ranges, 3-D vel. struct. from inversion of local earthquake arrival times 7—3987
Cameroon Adamawa region, crust mantle seismic velocity structure 7—8839
Campi Flegrei, Italy, volcanic area ground deformation and seismicity 7—23642
Campi Flegrei volcanic area, S Italy, Q_c from volcanic microearthquakes 7—3999
Canadian Cordillera, seismic refl. geometry of Columbia River fault zone and Shuswap metamorphic complex 7—14281
Canadian seismograph operations and data availability for 1984 AD *(French English)* 7—65959
Cape Basin, sediment sound vel. provinces from multichannel seismic refl. profiles 7—55008
carbonate platform stratigraphy as record of past earthquakes 7—8859
E Carpathians Arc Bend, Romania, tectonic movements depth and age rel. to seismicity 7—28987
catastrophe theory, caustics and traveltime diagrams 7—47360
Great Caucasus, USSR, gravity anomalies for earthquake prediction 7—65971
Centroid-moment tensor solutions (1986 January-March) 7—47378
Cheliff basin, Algeria, seismotectonics 7—28906
central Chile, 3 March 1985 great earthquake and earthquake occurrence 7—4001
Chile, interplate coupling rel. to temporal vars. of mechanisms of intermediate-depth earthquakes 7—54888
Chile subduction zone earthquake recurrence rates and magnitudes 7—8903
N China, appl. of order clustering methods to seismogenic process of strong earthquakes *(Chinese)* 7—34384
China, coal prospecting, use of seismic refl. method *(Japanese)* 7—23854
China, crustal stress state rel. to faulting and earthquakes *(Chinese)* 7—34396
China, SE coastal region, seismic active belts and geomag. anomalies correlation 7—47337
China, seismic activity anal., use of fluid-geochem. methods 7—40421
N China, seismic tomography *(Chinese)* 7—28912
Chugoku District, Japan, AD 1983 and AD 1984 seismicity 7—18130

seismology continued
coal mine exploration by in seam reflection method *(Hungarian)* 7—66351
coal mines, in-seam seismic exploration technique *(Hungarian)* 7—60416
coal seam exploration, seismic reflection profiling method using shear waves 7—14385
Colombia earthquake, 1979 December 12, aftershocks, source mechanisms using digital surface-wave data 7—54887
common depth point method for small velocity inhomogeneities 7—23852
common-midpoint stacked data, with automatic phase correction 7—66324
computer vision system for automatic seismic wave-field movement anal. 7—23902
continental crust, seismic reflectors, elec. cond., water and stress 7—4011
continental crust density rel. to seismic vel., relationship use in gravity data anal. 7—18144
continuation of geophysical fields meas. on a curvilinear surfaces, computation scheme 7—55302
outer core, lateral variations of density and seismic velocity 7—47400
core-mantle boundary topography and liq. core lateral heterogeneity, results from travel-time residuals 7—66036
coupled nonlinear oscillators of saw tooth type 7—14215
Crimea-Romania, lithosphere struct. along Geotraverse V 7—60207
crust, velocity profiles use to determine mantle contrib. to ocean gravity field 7—54849
crust inhomogeneities of fractal nature 7—28901
crustal tilt anomaly patterns assoc. with earthquakes, features and classification *(Chinese)* 7—34388
E Cuba, seismic hazard 7—55301
data acquisition system (MIPEX) for seismic reflection profiling *(Japanese)* 7—55265
data interpretation in seismology using a priori information 7—14383
data processing, appl. of homomorphic system concept *(Rumanian)* 7—9244
deconvolution processing of seismic vibroseisrecords *(Rumanian)* 7—8862
deep mantle seismic discontinuities, broadband records anal. 7—47401
diffraction separation, Karhunen-Loeve, transform appl. 7—57618
diffraction tomography, shallow appl. 7—9202
diffraction tomography and multisource holography applied to seismic imaging 7—66321
Earth free oscillations, generation by localised source in viscoelastic inhomogeneous Earth 7—28887
Earth inner core, search for lateral heterogeneity from differential travel times near PKP-D and PKP-C 7—66026
Earth inner core, seismic anisotropy inferred from PKIKP travel times 7—66024
Earth interior structure, determ. via seismic waves *(French)* 7—23588
Earth mantle, seismic exploration rel. to struct. of intermediate mantle zone *(Russian)* 7—66038
Earth subsurface, wave reflectors and sources detection 7—23562
earthquake catalogue (worldwide), software for data bank 7—65975
earthquake depth determination methods, review 7—54933
earthquake detection and recording by small seismograph networks, results from SNARE system 7—28873
earthquake focal regions, physics and geodynamics of deform. processes, conf., Potsdam, East Germany (November 1985) 7—48140
earthquake hypocentre location errors appraisal, complete approach for single-event locations 7—54892
earthquake hypocentre location method, using nonlinear inversion scheme 7—23859
earthquake location and analysis methods, review 7—54932
earthquake prediction, solid Earth tide tilt and strain near to dilatant region 7—3996
earthquake prediction research in Japan, results (1978 to 1986) 7—4000
earthquake risk trend analysis, appl. of human-computer interaction method to real example *(Chinese)* 7—34385
earthquake source mechanisms, behaviour of viscoelastic medium with microfractures under extension and shear 7—29003
earthquake source mechanisms, numerical modelling of nonplanar faults 7—28886
earthquake source parameters estimation by waveform data inversion, appl. to global seismicity (1981-3) 7—54882
earthquake-resistant raised floor systems, seismic support of electronic and computer equipment 7—4003
earthquakes magnitudes, seismicity and detectability, study using global network 7—54890
East European Platform seismic model of lithosphere beneath Baltic Sea-Black Sea profile 7—14236
eastern USA, earthquake source scaling relations, nuclear plant safety appl. 7—36236
eigenvalues, efficient computation 7—18323
elastic waves computation, fourth-order accurate finite-difference scheme 7—3991
electric current sources, resonant phenomena accompanying seismic-ionospheric electrical interaction 7—28890
EM emission during seismic activity, crustal mechanical-electric convertors model 7—8856
end-point contributions to synthetic seismograms 7—18117
Eromanga Basin, N Australia, seismic study of crust and Carboniferous orogeny 7—65960
N Eurasia, seismic velocity structure of lower lithosphere and asthenosphere 7—8857
Eurasia northern shield areas, mantle Q depth and freq. depend. 7—54906
Eurasia shield area, upper mantle Q freq. dependence 7—54904
Europe, combined geophysical-thermal models of crust and upper mantle 7—28933
NW Europe, contemporary seismicity and tectonics 7—28848
W Europe, upper mantle vel. and density struct. from higher-mode surface-wave meas. 7—14237
Europe broad-band and long-period seismology, conf., Paris, France (November 1984) 7—35081
exploration, long streamer appls. 7—28910
exploration, teaching approach 7—48253
exploration seismology, outlook for development of methods and equipment 7—47341
exploration seismology, post-stack depth migration in freq.-space domain 7—8836
explosion body-wave magnitudes variability, anal. of RULISON/GASBUGGY anomaly 7—3990
explosion seismic source, in axisymmetric cavity radiation patterns 7—8843
explosion seismology, new approach to study of crustal and upper mantle struct. 7—47342

seismology continued
explosive seismic source for deep-towing behind ship, using chemical explosive 7—55309
extended marine arrays versus simulated extended arrays 7—47365
extremal inversion of travel-time residuals, appl. to Long Valley caldera 7—28862
faulting predictability, slip events along a laboratory fault 7—40419
finite difference eigenvalues, asymptotic correction 7—18324
first-arrival Rayleigh wave trains, use of on-scale obs. for source studies 7—47371
S Florida Platform, seismic velocity struct. of crust 7—54930
free oscillations, eigenfrequencies first order asymptotics 7—18116
free oscillations of Earth, for slightly anisotropic Earth 7—23554
free oscillations spectra, anomalous splitting rel. to inner core anisotropy 7—66025
free-oscillations spectra splitting and Earth 3D struct. 7—60187
frequency response functions gain and phase, estimation of confidence intervals 7—23857
frequency-apparent magnitude relations 7—8827
Friuli, Italy, focal parameter determ. from seismicity and geodetic data 7—8829
Friuli earthquake of 1977, Italy, fault rupture determ. from aftershocks 7—8828
W Ganga Basin, India, evidence for oceanic crustal block from shear vel. struct. 7—54939
Garm region, Central Asia, seismicity rel. to deform. in zone of continental convergence 7—28847
gas reservoirs seismic response 7—9194
Gaussian beams for surface waves in transversely isotropic media 7—47362
geophone differencing to attenuate horizontally propagating noise 7—23862
geosound signal detection, appl. of adaptive dig. filtering *(Chinese)* 7—20508
geothermal site (hot dry rock), shear-wave polarization in cracked rock 7—14205
W Germany, DEKORP 2-S seismic profile of crust deep struct. 7—40418
The Geysers geothermal area, California, USA, induced seismicity and extensional tectonics 7—28972
global activity of large earthquakes, statistical characts. *(Chinese)* 7—34386
global seismic activity, correl. with Sun's motion around solar system barycentre 7—18127
gravitational wave detection experiments, correl. of geophys. factors 7—47697
S Great Basin, Nevada, local stress field determ. from earthquakes focal mechanism 7—54884
Great Britain, Moho seen on seismic refl. profiles, flatness as artefact of isostatic compensation 7—60176
Great Valley, California, 2D seismic vel. struct. along synclinal axis 7—28861
ground motion intensity, index for meas. of effects of topography 7—14201
Guerrero gap, Mexico, seismic prognosis rel. to Michoacan earthquake (1985 September 19) 7—18126
Gulf of Genoa, location methods for underwater seismic shots and structural implications 7—14217
Hans Glacier, Spitsbergen, upper layer stresses and icequakes 7—14316
Hawaii, earthquakes of regular occurrence and earthquake prediction 7—65958
hazard mapping using 4D Markov model of seismic regime 7—60183
Hebrides region, seismic struct. 7—65985
Hellenic Arc, prediction of strong shocks using Bayesian discrete distrib. 7—54935
high-frequency seismic surveying with grouping of elastic-wave sources 7—23548
high-resolution seismic reflection, appl. as exploration tool within Zimbabwe underground mine 7—65950
Himalayan-Andaman Arc, earthquakes rel. to deformational structs. (seismites) in Holocene sediments 7—66120
holography simulation for seismic purposes 7—18124
Hungary, seismicity of historical earthquakes since 1859 AD 7—28845
hypocentres and velocity parameters, simultaneous estimation for inclined-layer velocity model 7—14207
imaging of complex structures by 3D-migration techniques 7—34395
imaging of seismic sources, 3D vector-wave field technique for anisotropic heterogeneous media 7—28872
Imperial Valley, California, travel-time, time-term, and basement depth maps 7—28860
Imperial Valley (California) earthquake, 1979, assoc. vertical crustal deform. and implications for fault behaviour 7—54929
India, microseisms due to cyclonic storms at sea 7—28899
India region, earthquake return periods 7—28898
SW Indian Ocean Ridge, seismic activity and faulting 7—47370
Indian Shield and Tibetan Plateau, mantle seismic velocities and tectonics 7—8838
induced earthquakes in Zhelin reservoir, E China, focal mechanisms 7—23571
induced seismicity, IASPEI symposium, Hyderabad, India (1984) 7—18484
induced seismicity near Charvak reservoir, USSR, statistical anal. and mathematical models 7—23576
induced seismicity of Indian coal-mines, field investigations 7—23568
intraplate stresses and seismicity, role of topography and density heterogeneities 7—34449
inverse problem, scattering from local nonuniformity in Born approx. 7—8858
inverse problem in prospecting, definition of velocity change in wave eqn. soln. 7—14198
inverse scattering, asymptotic anal. 7—40420
inverse scattering for a variable background, geophysical problems, seismology appl. 7—34721
inversion algorithm, 2.5 D Born inversion with arbitrary reference 7—66322
inversion methods for elastic media, state-space approach 7—47554
inversion of seismic sections, by generalized linear inversion *(Hungarian)* 7—60186
inversion problem using non-linear least squares algorithm 7—54903
W Ionian Sea, reflection data and deep seismic soundings 7—54877
Iran-Afghan region, precursory seismicity to strongest earthquakes 7—65968

seismology continued
NE Iraq, earthquake activity in Lesser Zab region 7—14218
Israel, seismic activity (for 1984) 7—47382
N Italy, geophysical exploration of upper crust from Ligurian coast to N Po Valley 7—14240
iterative geophysical tomography 7—40612
iterative inversion for seismic velocity using waveform data 7—47346
NE Japan, probability of future large earthquake based on current seismicity 7—8847
Japan, seismicity changes assoc. with impounding of major artificial reservoirs 7—23569
NE Japan arc, 3D seismic velocity struct. of subduction zone 7—18128
NE Japan arc, normal faulting events in upper plane of deep seismic zone 7—14211
Japan Sea earthquake (1983 May 26), rupture process determ. via waveform inversion method 7—54889
Japan Sea earthquake of 1983, aftershock spatial distribution 7—65953
Japan Sea earthquake of 26 May 1983, anomalous aftershocks 7—65982
Japan-Arc area, upper mantle seismic velocity structure 7—8840
Kanto-Tokai district, Japan, regional study of coda Q^{-1} 7—18132
Kenya rift, crustal struct. from seismic refr. study 7—54957
Kerguelen Plateau province, crust struct. from gravity anomaly and seismic refl. obs. 7—28952
Kiev-Gomel' DSS profile, struct. of deep crustal layers and sedimentary cover 7—47394
Kilauea volcano, Hawaii, Rn soil gas emissions rel. to geology activity 7—34424
Kinki district, Japan, crust seismic velocity struct. 7—65983
Kirishima Volcano, seismicity and stress field (1982-5) 7—8898
Kola Peninsula, upper crustal struct. along Pechenga Bay-Kovdor-Alakurtti profile from geophysical data 7—47395
Konda fault, Osaka Plain, Japan, displacement caused by 1510 earthquake 7—8863
Krivoi Rog superdeep hole site, Ukraine, seismic investigations 7—47343
Kulyab, Tadjikistan, USSR, earthquakes due to active salt doming 7—47372
S Kuril Islands, space-time distrib. and focal mechanisms of lithospheric earthquakes 7—28885
L_1 deconvolution and its application to seismic signal processing 7—34717
L_g-waves propagation, effects of structural boundaries 7—3992
Lake Oroville, California, reservoir-induced seismicity rel. to August 1975 earthquake sequence 7—23574
Lamb's plane problem in thermoelastic solid 7—6128
lattice filtering applications to earthquakeobservation 7—9248
layered elastic medium response to explosive point source, exact evaluation using leaking modes 7—54895
lithosphere, elastic props. var. with press. and temp., laboratory anal. 7—55015
Long Valley, California, borehole seismograms anal. rel. to caldera struct. 7—40448
long-period regional body wave inversion for crust struct. 7—8849
Love waves propagation in irregular dry sandy layer, phase vels. determ. 7—8825
magnetic zone sounding, US vel. and attenuation meas. to 1500°C on basalt melts 7—8933
magnitude frequency b-values for earthquakes, unbiased estimation 7—23565
magnitude-frequency relation generalisation 7—8860
upper mantle, seismic anisotropy by mineral alignment model 7—28893
lowermost mantle, seismic velocity and Q-struct., teleseismic study 7—34392
mantle base (D'' region), seismic lateral heterogeneity and convection 7—8841
upper mantle beneath Eurasian shield, freq. depend. of Q 7—54905
upper mantle of N Atlantic, seismic velocity inhomogeneities 7—54920
upper mantle seismic anisotropy due to crystallite partial alignment 7—60175
marine sediments, bulk physical props. estimation at depth from seafloor geophysical meas. 7—55009
marine seismic profiling from drifting ship using light-weight streamer 7—34742
median filtering of seismic data, response in high-freq. range 7—66357
Mediterranean-Asiatic seismic belt, earthquake foci and stress state 7—54915
Mexico City, appl. of Bayes theorem to prediction of inter-arrival times of strong earthquakes 7—14210
Michigan Basin, USA, seismic refl. profiling study of crust 7—28894
Michoacan (Mexico) earthquake, 1985 September 19, strong ground motion anal. 7—18126
microearthquakes of Gobles oil field area, SW Ontario, evidence for pumping-induced seismicity 7—28856
microseism propag. between two sites on deep sea floor, press. and elec. field fluctuations meas. 7—28869
microtremors, 1 to 5-second, in San Fernando Valley, California, 2D study of site effects 7—54898
Middle America Trench, seismic refl. survey rel. to sediment offscraping at toe of trench 7—14248
migration algorithm, for fast plane-wave and single-shot migration 7—34393
migration by diffraction stack method 7—14382
mineral resource deposits at D latitude positions with high seismicity 7—65966
minimum phase properties estimation 7—47368
Miramichi (New Brunswick) earthquake sequence, January-March 1982, GRF broad-band array anal. 7—54921
Moho depth in and around Great Britain 7—54937
Moho seen on seismic refl. profiles, flatness as artefact of isostatic compensation 7—60176
Mono Craters area, E California, shallow magma chamber indicated by teleseismic obs. 7—54924
Mount Hood area, Oregon, USA, seismic velocity struct. and extensive-dilatancy anisotropy 7—40432
moving-window analyzer using maximum entropy analysis 7—55285
multidimensional seismic wave recording systems, efficiency anal. 7—47345
Mygdonian graben, Greece, struct., microearthquake data anal. 7—66010
N^{th} root stacking, theory, appl. and examples 7—29273
Nagano region, Japan, tectonic-seismic activity and $^3He/^4He$ anomalies in hot springs 7—40422
Nahanni (Canada) earthquake aftershock, missing V-accelerograph peak rel. to vertical accel. exceeding 2 g 7—28871

seismology continued
natural gas hydrate deposits prospecting, acoustic and resistivity meas. on rock samples containing tetrahydrofuran hydrates 7−55026
near-field ground motion synthesis, seismic radiation from kinematic fault models 7−54897
central New Hebrides Island Arc, seismicity patterns assoc. with asperity complex 7−40427
New Hebrides island arc, tectonic collision and crust struct. 7−18122
New Madrid seismic zone, evidence for periodic energy release 7−3986
New Madrid seismic zone, evidence for recurrent faulting, Mini-Sosie refl. data anal. 7−23626
New Madrid Seismic Zone, tectonic development of rift complex 7−14252
New Zealand, seismicity, struct. and tectonics of Wellington region 7−23624
Nineyeast Ridge and adjoining depressions in Indian Ocean, seismic struct. of crust and sediments 7−40433
Ninghe, China, strong ground motion of Nov. 1976 earthquake 7−28851
nonshear-type earthquakes of Alpine-Himalayan belt, evidence from P-wave first motions 7−8854
nonstationary radiation direction from shear crack in elastic medium 7−54916
nonuniform waves propag. in space divided by thin fluid-filled fracture, theory 7−28891
North Sea, seismic hazard assessment 7−23579
North Sea, seismicity characts. 7−47380
North Sea peak ground accel. prediction from seismic risk anal. 7−4004
S Norway and adjacent offshore areas, seismic refl. data rel. to lineaments trends 7−29026
nuclear explosions, Lg magnitudes of E Kazakhstan underground explosions 7−28858
nuclear explosions at Novaya Zemlya, yield estimation using seismic data 7−47349
nuclear explosions monitoring, seismic discrimination capabilities anal. using regional data from W United States events 7−3989
nuclear plants, seismic hazard methodology for the central and eastern USA 7−15285
nuclear power station design and seismic ground motion in Central Europe *(German)* 7−19404
nuclear test ban, seismic monitoring 7−47376
numerically efficient full wavefield approach to synthetic seismogram computation 7−26117
observation network in Japan, automatic event detection and location system 7−66359
ocean storm generated microseisms, amplitude spectra 7−28899
oceanic crust, layer density and seismic velocity profiles 7−60171
oil and gas seismic prospecting, computer algorithm for synthetic seismograms 7−60395
oil/gas searching techniques, development trends 7−4225
Okhotsk Sea, lower mantle slab penetration indicated by teleseismic data 7−54923
Okinawa Trough, seismic structural features *(Chinese)* 7−47410
one-dimensional problem of scattering for potentials on positive semiaxis 7−65976
optimum gain curve for true amplitude recovery processing [geophysics] *(Japanese)* 7−65944
Oradea-Inand area, Romania, Pannonian sequence seismic facies interpretation *(Rumanian)* 7−8946
Osmansagar reservoir, Hyderabad, India, microearthquakes obs. 7−23573
P400 watergun source 7−9196
P-wave travel times, estimation of slowness-dependent source and receiver corrections 7−54893
NW Pacific, crust struct. and composition near Emperor fault 7−34412
S Pacific, seismic anisotropy of oceanic lithosphere 7−47352
circum-Pacific belt, prediction of strongest earthquakes 7−65970
circum-Pacific belt, seismic risk calc. using Gumbel's third distrib. 7−28902
Pacific Ocean basin, phase velocity anomalies 7−47359
circum-Pacific region, subduction zone seismicity, review 7−54934
East Pacific Rise at 12°N, seismic study of shallow crust struct. 7−54927
Paris Basin, Variscan overthrusts characts. 7−4012
Parkfield, California, USA, forecasting of future earthquake using geodetic obs. 7−28979
PcP wave amplitudes, evidence against 2 to 50 km size corrugations on core-mantle boundary 7−66018
peak ground acceleration due to faulting, kinematic dislocation model 7−65956
Petatlan region, Mexico, moment magnitude scale from recorded peak horizontal vel. 7−28857
PKP travel times, evidence for aspherical struct. of core-mantle boundary 7−66017
plane-layer prestack inversion in the presence of surface reverberation 7−23560
Poisson earthquake occurrence model, nuclear power plant site anal. 7−25150
Poland, crustal seismic velocity struct. of E European Platform 7−14196
Powder River (Oregon) earthquakes, 1984, evidence for seismic zone on Oregon-Idaho border 7−3985
precursory accelerated motions of dislocations of a fault *(Chinese)* 7−3979
precursory geochemical changes, conf., Honolulu, USA (Dec. 1984) 7−29576
precursory seismicity changes in New Zealand and California 7−8842
primary reflection coefficients, non-Gaussianity, significance for deconvolution 7−34391
processing techniques and data improvement provided by single-sweep recording 7−23559
prospecting, medium response parameter optimal estimation 7−65978
prospecting, subsurface anomaly free surface response to SH wave with source on surface 7−28905
prospecting problems, Cauchy problem *(Chinese)* 7−28846
prospecting with multispread 3D seismic logging method *(Rumanian)* 7−9245
Q-profile calcs. using seismic data inversion technique 7−65949
Quebec, Canada, reservoir induced seismicity at several hydroelectric sites *(French)* 7−18118
Rainbow Mountain-Fairview Peak-Dixie Valley (Nevada) earthquakes, 1954-59, seismic processes anal. 7−40429
ray tracing and seismic modeling 7−29313
Rayleigh waves from Shagan River test site, USSR, plasma anal. 7−54894

seismology continued
Red Sea, sedimentary section struct., seismic data anal. 7−28927
Red Sea rift seafloor, sedimentary cover structure near 18°N 7−34472
reflecting structures reconstruction from vertical seismic profiles with moving source 7−28882
reflection data, nonlinear elastic inversion strategy 7−29274
reflection profiling, 2D velocity inversion and synthetic seismograms 7−66323
reflection profiling, computer model for image ray tracing 7−3994
reflection profiling, edge effects in cylindrical slant stacks 7−47350
reflection profiling, reflection and transmission and generalized primary wave 7−23553
reflection profiling in deep water, suppression of peg legs and multiples 7−55281
reflection profiling method for very shallow struct. 7−23557
reflection profiling method using reverse-time migration 7−14203
reflection profiling of coal measures, use of discriminant analysis method 7−4211
reflection profiling of deep crust, using wide range of incidence angles 7−40418
reflection surveys for deep crust anal. 7−14394
reflection tomography inversion method 7−28911
reflection tomography method for subsurface velocity struct. 7−23555
refraction profiling, extension of linear regime of waveform inversion problem 7−40417
regional seismological travel time differences 7−47363
reservoir induced seismicity at several hydroelectric sites *(French)* 7−18118
reservoir-induced seismicity in vicinity of Lake Bhatsa, Maharashtra, India 7−23567
resolution enhancement of processed seismic data using prior weighting functions 7−26084
resolution matrix for wave vels., calc. via tomographic inversion method 7−14212
rock fracture, development of conjugate-shear fracture in marble *(Chinese)* 7−34474
rock samples containing tetrahydrofuran hydrates, acoustic and resistivity meas. 7−55026
rupture length and propag. speed, determ. from seismic and acoustic data 7−8855
rupture mechanisms 7−60251
SACUDIDA program for seismic hazard calc. 7−55301
Samoa-Gilbert-Ralik area of SW Pacific, intraplate deformation seismicity 7−34445
San Andreas fault, California, United States, fractal geometry and seismicity 7−66030
San Andreas fault, central branch, gravity anomalies and earthquake epicentres 7−65972
San Andreas fault, reanal. of COCORP deep seismic refl. profile at Parkfield, California 7−54938
San Andreas fault, United States, seismicity and fault geometry 7−66348
San Andreas fault near Hollister, USA, electrical resistivity temporal variations 7−28840
San Andreas fault system, S California, seismic evidence for conjugate slip and block rot. 7−14216
San Fernando earthquake, 1971 February 9, complex polarisation anal. of particle emotion 7−28867
S San Jacinto fault zone, California, rupture patterns and preshocks of large earthquakes 7−28854
sandstone, seismic compressional velocity, effects of pore filling material 7−14266
sandstone and mudstone, relation between seismic velocity and porosity *(Japanese)* 7−54901
Saudi Arabia, ray path interpretation of crustal struct. 7−28956
S Scandinavia, seismic tomographical mapping of lithosphere and asthenosphere 7−14234
Schur algorithm for seismic inversion and continuous-time prediction 7−26086
Sea of Okhotsk, lower mantle slab penetration, broadband S-waves anal. 7−47416
seafloor theoretical seismograms, for oceanic crust study using underwater explosions 7−23563
seismic damage prediction and understanding appl. of OR techniques 7−60169
seismic imaging, spectral resolution aspects 7−26116
seismic measuring transducers, possibility of unification 7−28889
seismic shallow layer reflecting survey system for Japan Geographical Survey Office *(Japanese)* 7−23855
seismic source inversion, effect of strong-motion array configuration 7−28853
seismic source mechanisms, relation to tectonic characts. of seismic region 7−8823
seismic source time functions determ., appl. of regularisation method to teleseismic body waves 7−8824
seismic sources (2D) causing plane strain deformation, two representations 7−14195
seismic telemetry system of large dynamic range, design and performance 7−28870
seismicity by percolation model 7−65965
seismicity of crust instability zone, stochastic theory 7−65964
seismicity of tectonically similar regions around the world 7−65974
seismogram synthesis for use in acoustic well-logging 7−47364
SEISOBS, modified version of SEIS83 for ocean bottom seismograms *(Japanese)* 7−65979
shallow seismic sources, field comparison 7−47374
shear velocity variations near core-mantle boundary, mantle heterogeneity scales determ. 7−66019
shear wave source, vibrator with vertical dipole *(Chinese)* 7−4191
Shirshov Ridge, Bering Sea, tectonics and seismic profiling 7−23627
Shumagin Islands earthquake sequence, Alaska, 1983 February 14, focal mechanisms 7−54886
W Siberia, multiwave refl. profiling exploration methods 7−54899
Sierra Leone submarine Rise, Atlantic Ocean, sedimentary mantle and basement struct., seismic anal. 7−23607
Sierras Pampeanas of Argentina, compressional earthquakes rel. to foreland deformation tectonics 7−66113
signal image interpretation system, rule-based, seismic data anal. appl. 7−23903
simultaneous correlation analysis of gravity, magnetic and seismic data, appl. to deep crustal investigations 7−47552

seismology continued
simultaneous smoothing of phase and group vels., appl. of multi-event surface wave data 7−28865
Skagerrak-Kattergat region, seismic refl. and refr. investigations 7−14233
soil motion reconstruction from seismograms 7−23546
SE Solomon Islands, earthquake multiplet characts. and tectonics 7−47377
S Spain, crust seismic velocity struct. under Betic cordillera 7−8826
NW Spain, seismic velocity struct. of crust 7−54936
spectrum analysis by narrow-band method 7−66356
spent fuel racks supported by aseismic bearing devices, seismic behaviour 7−30698
spherical Earth, strict bounds on its seismic velocity 7−54925
Sri Lanka, seismicity anal. 7−23570
Sriramsagar reservoir, Andhra Pradesh State, India, microearthquake investigations 7−23575
stacking of seismic traces, for estimation of acoustic impedance function *(Hungarian)* 7−18123
strain measurement, prediction of thermoelastic strain in half-space covered by unconsolidated material 7−29001
stratified Earth models compatible with Rayleigh wave ellipticity and phase velocity 7−28903
stress field due to faulting in presence of asperity, antiplane crack model 7−8822
strong ground motion damping ratio, calc. method using microtremor data *(Japanese)* 7−18125
strong ground motion prediction in Puget Sound region, appl. to 1965 Seattle earthquake 7−3980
Sturm-Liouville problem on the semiaxis, potential reconstruction 7−65977
subduction zone mantle struct. by teleseismic imaging first-arrival time method 7−23566
submarine canyons, seismic vel. replacement by wave-eqn. datuming before stack 7−29269
subseafloor profiling using seismic waves *(Japanese)* 7−47559
Sunda Arc, seismic history and seismotectonics 7−65952
surface ground motion during earthquake, rot. components determ. 7−14202
Surugu Bay, Japan, microearthquake activity (1981-3) 7−8869
Sutton (Alaska) earthquake, 1984 August 14, activity on Talkeetna segment of Castle Mountain fault system 7−3984
Swift Reservoir earthquakes, Washington, 1958-63, seismicity anal. along S St. Helens seismic zone 7−54885
synthetic seismograms 7−54896
synthetic seismograms for transversely isotropic layered media 7−3995
synthetic seismograms for vertical inhomogeneous media, finite difference calc. 7−60172
systematic errors determ. in magnitude estimates, anal. of data from Parkfield, California 7−54891
t-x reflection curves for arbitrary 3D media 7−28881
Takase Dam, Japan, microearthquake activity before and after water impounding 7−23572
tectonic feedback in earthquake cycle at plate boundaries 7−3998
tectonic stress evolution and earthquake rebound, numerical solns. for antiplane case 7−8821
teleseismic mislocation of island arc earthquakes, 3D ray tracing results 7−14209
teleseismic waves, amplitude, phase and path anomalies of mantle waves 7−47348
Tengchong volcanic-geothermal region, China, microseismicity and hydrothermal activity *(Chinese)* 7−54875
S Texas, evolution of seismic barriers and asperities caused by fault planes depressuring in oil and gas fields 7−3982
Thien Dam, NW Himalayas, India, microearthquake obs. 7−23577
thin bed analysis using 3D scale model expts. 7−28909
three-component seismic measurements via polarisation method, theoretical aspects 7−47344
three-dimensional Born inversion with an arbitrary reference 7−28879
Tibet, lower crust seismic velocity struct. 7−18120
time-spectral analysis in structural formational anal. 7−23850
Tokai District, Japan, earthquake precursory crustal deformation *(Japanese)* 7−8834
Tokyo metropolitan area, short period S-waves of sedimentary layer amplification 7−8868
Tomioka, Fukushima, Japan, borehole logging of crust and seismic wave amplification *(Japanese)* 7−18115
tomographic exploration, appl. to thermal convection in Earth interior *(French)* 7−23618
tomographic source imaging of $M_L \sim 3$ earthquakes near Anza, S California, appl. to rupture characts. determ. 7−40431
tomographic study of crust struct., algorithms and filter selection 7−23872
tomography for 3D struct. and vel. determ. 7−29268
Tonga subduction zone area, S-wave splitting in upper mantle wedge 7−47355
Tonga-Fiji earthquakes, anomalous difference travel times and amplitude ratios of SKS and SKKS waves 7−65945
Tonga-Kermadec island arc, tectonic struct. from earthquake mechanisms 7−8823
Tornquist-Teisseyre zone (Poland), deep crustal struct. in contact zone of Palaeozoic and Precambrian platforms 7−14235
trace equalization and whitening by spectral balance in seismic refl. profiling 7−54880
traveltime inversion for the flat-layer model 7−28880
tsunami generation and propag. modelling, microcomputer code 7−8830
Tydeman fracture in N Atlantic seismic study of crust and mantle 7−8844
Tyrrhenian Sea region, subduction zone geometry and stress patterns 7−28976
underground explosions-earthquakes discrimination using discriminant functions, examples for Eurasia and North America 7−28849
underwater acoustic exploration, appl. of array processing for parallel linear recursive Kalman filtering 7−65986
central Urals region, USSR, crust struct. and ore prospecting multi-wave seismic obs. 7−23549
velocity analysis by ray parameter method, for marine survey data *(Chinese)* 7−54931
velocity discontinuity at 400 km and olivine in upper mantle 7−47404
vertical seismic profiling, fast time-domain computation of 1D synthetic profiles 7−14204
vertical seismic profiling 1D inverse problem, soln. 7−34390

seismology continued
vertical seismic profiling method, separation of upgoing and downgoing waves 7−55283
vibrational seismic signals selection by varying distance between exciting sources 7−23550
vibroseis observations, amplitude-phase spatial analysis method 7−29266
volcanic tremor at Mount St. Helens (April and May 1980) 7−3981
Vrancea, Romania, 1985 August 1 seismic doublet source parameters *(Rumanian)* 7−8861
VSP data migration by ray eqn. extrapolation in 2D variable vel. media 7−8846
Washington continental margin, crustal struct. from seismic refr. data 7−4006
water gun cavity collapse behaviour and far-field pattern 7−55282
wave and velocity fields, determ., perturbation theory method *(Russian)* 7−65963
waveform inversion method for rupture process 7−65955
weak elastic anisotropy 7−28884
Wellington region, New Zealand, anal. of Sp and Ps phases from microearthquake survey 7−28863
Westmorland (California) earthquake, triggered surface displacement on Imperial and Superstition Hills faults 7−3983
Xianshuihe Fault Zone, S China, seismic activity estimation via earthquake activity parameters *(Chinese)* 7−34387
Yakataga seismic gap, S Alaska, strain accumulation 7−14246
Yamada fault region, Kinki district, Japan, geological, geophys. and hydrological study *(Japanese)* 7−66085
Yamasaki fault earthquake in Japan, associated crust resistivity changes *(Japanese)* 7−8835
Yinchuan-Pingluo (China) earthquake, 1739 January 3 7−28859
Yunnan Province, China, crustal struct., seismic refr. profiles anal. 7−40446
zero-offset data, complete inversion 7−47369
zero-offset seismic refl. profiling, 3D data inversion for velocity and depth depend. reflectivity 7−60174
Rn concentration variations in active volcanoes and seismic regions 7−54963
Rn outgassing related to geothermal faults 7−54964

seismometers
see also seismology
array analysis of seismic signals 7−66319
borehole volume strainmeter application to seismology 7−66350
calibration, transducer inductance effects 7−40613
certification of an infralow-frequency vibrator for seismic vibrations meas. 7−4207
global seismic network, magnitudes, seismicity and earthquake detectability study 7−54890
HS1 digital ocean bottom seismograph *(Chinese)* 7−29260
hydrophone array equipment for sea bottom seismometry 7−23890
multidimensional seismic wave recording systems, efficiency anal. 7−47345
ocean bottom seismograph calibration method and OBS transfer functions 7−23889
seismic measuring transducers, possibility of unification 7−28889
seismic telemetry system of large dynamic range, design and performance 7−28870
SNARE, earthquake detect. and recording system for small seismograph networks 7−28873
standard installation inspection, infralow-frequency vibration parameters meas., using microcomputer 7−4208
strong ground motion regime seismic accelerometers, freq. response 7−55275
strong-motion seismic arrays, effect of array configuration on source inversion 7−28853

selectively doped heterojunction field effect transistors *see high electron mobility transistors*

selenium
see also nuclei with ......
amorphous, elec. resist. and Hugoniot shock wave vel. meas. 7−32567
amorphous, residual potential, dark discharge 7−27360
amorphous, structural disorder model 7−26641
amorphous, vitrification and crystallisation, thermal prehistory effects *(Russian)* 7−63479
amorphous films, crystn., kinetic study 7−21101
amorphous-crystalline mixture, electrical conductivity formula, anal. 7−58804
anti-Stokes Raman laser, high-power, radiating at 169 and 146 nm 7−43076
atmospheric aerosol, Se and Te content at Missouri, USA 7−18273
atom, CNDO/2 parameterisation 7−49929
atom, fluoresc., SRS eval. as excitation source 7−30981
atom, photoionisation and autoionisation, UV spectra 7−10524
atom, specific column and atomic absorpt. spectroscopic determ. 7−33976
atomic laser, VUV, antiStokes Raman 7−15850
film grown by hot wall epitaxy, XPS 7−7821
film waveguide effects on quartz SAW resonator, amplitude-freq. characts. anal. 7−16050
glassy state, phys. props., chem. bonds and defects 7−6530
highly ionised atoms injected into PLT and TFTR discharges, spectra 7−19748
liquid, structure, bond equilibrium theory anal. 7−63499
multilayered structure, piezoelectric effect *(Russian)* 7−64572
speciation in natural waters and sediments 7−23250
thin film formation by pulsed laser evaporation 7−59426
thin films, amorphous, crystn. 7−44371
trigonal, optical props., local field effects 7−22204
vitreous chalcogenide semicond. layers, deep trapping levels, photostimulated effects *(Russian)* 7−2754
VUV radiation generation by antiStokes Raman laser process 7−11050
X-ray laser targets, hydrodynamic aspects 7−20208
AlGaAs:Mg-GaAs:Se concentrator solar cells, 26 percent efficient 7−3699
AlGaAs-GaAs superlattices, Se ion implantation, intermixing, radiation damage 7−26782
$Al_xGa_{1-x}As$:Mg/GaAs:Se quantum well heterostruct., photopumped laser operation 7−25818
AlSb:Se, donor studies, incoherent laser saturation method 7−27298
C-Se plasma, radiation cooling and gain calc. for C VI 182 Å line 7−6360
$Cu_{1.8}S$-Se-CdTe thin film polycrystalline solar transducers, photosensitivity spectra 7−34036

- **selenium** continued
  - $Ga_{1-x}Al_xAs$:S(Se), MBE growth, dopant incorporation 7−12533
  - GaAs:Cr,Se, impurity complex, luminescence study 7−53396
  - GaAs:Ge,Se, diffused contact regions, rapid thermal annealing 7−17103
  - GaAs:Se, ion implanted, rapidly annealed, damage removal process 7−17043
  - GaAs:Se, ion implanted, annealing mechanism 7−26777
  - GaAs:Si,Se MOCVD epitaxial layer photolum. spectral shift and doping efficiency obs. *(Japanese)* 7−45076
  - GaAs/AlAs/GaAs:Se heterojunctions, elec. behaviour, DLTS studies 7−7360
  - GaAs-AlAs superlattices, Se implantation, effect on compositional disordering 7−26784
  - n-$Ga_xIn_{1-x}Sb$:S, impurity states, press. and comp. depend., Hall coeff. and elec. resist. meas. 7−2533
  - GaSb:Se single crysts., Czochralski growth, carrier conc. rel. to dopant conc. 7−22462
  - He-Se laser discharge, population density ratios determ. from Kirchhoff's law for excited He I states 7−58072
  - InSb:Te(Se)(S)(Cd)(Zn) thin films, doping, Hall effect meas. 7−21743
  - KBr:Se^{2-}, mag. circular dichroism, electric conductivity, mobility of anion vacancies 7−3024
  - Ne-like laser, progress in anal. review 7−20194
  - $Pb_{0.75}Sn_{0.25}Te$:In, Ge(S)(Se), elec. resist., photocond., Hall effect meas. 7−17050
  - Se I, spectral lines, transition probability meas. by emission method 7−50022
  - Se XXIV and XXV plasma, dielectronic recombination calcs. 7−26510
  - Se XXV plasma, laser produced, electron impact, laser transitions 7−26508
  - Se^-, resolved Zeeman thresholds in photodetachment in mag. field 7−42549
  - Se^{25+}, dielectronic recombination, density depend. 7−976
  - Se^{26+}, dielectronic recombination, density depend. 7−976
  - Se^{27+}, dielectronic recombination, density depend. 7−976
  - Se:O, electrophotographic props., doping depend. *(Japanese)* 7−12752
  - a-Se:Te films, space-charge depletion studies of deep states 7−59148
  - Se-$Se_{1-x}Te_x$ photoreceptors, amorphous, xerographic time of flight technique for drift mobility determ. 7−58807
  - Se_2, geometry optimisation using energy exponent 7−25344
  - ^{75}Se, pot. source for use in high-activity brachytherapy irradiators 7−40291
  - Si:Se, chalcogenide pairs, electronic structs., Green's function calc. *(Chinese)* 7−58759
  - a-Si:Se(Te) thermally evaporated films, photoelectronic props. 7−38640
  - $Si_{1-x}Ge_x$:Se solid solns., deep levels investig. 7−2529
  - $SiSe^+$, photothermal release of carriers, deep levels, capacitance spectroscopy 7−16968
- **selenium alloys**
  - *see also selenium compounds*
  - As_xSe_{100-x}, vitreous chalcogenide semicond. layers, deep trapping levels, photostimulated effects *(Russian)* 7−2754
  - Cs-Se system, phase diagram 7−6759
  - Cu_2Se, Cu filament growth, superionic transport mechanism 7−45104
  - $EuMo_6S_{8-y}Se_y$, mag. field induced supercond. under pressure 7−64414
  - Se-Te liquid alloys, struct. study by neutron diffr. 7−51610
  - Se-Te liquid mixtures, mass density at high temp. and press. 7−63701
  - Se-Te-Au(Ag) liq. mixtures, electronic props. 7−64247
  - Te-Se thin films, laser irrad. effects, refl. meas., optical data storage appl. 7−12144
  - $Te_{80}S_{19}As$ overcoated trilayer struct., laser writing mechanism, microscopy studies 7−20149
  - Tl_4GeSe_4-Tl_4SnSe_4 systems, phase equilibria 7−6760
- **selenium compounds**
  - *see also selenium alloys*
  - SeS, rot. anal., isotropic shifts, mol. moments, IR Fourier transform spectra 7−62370
  - As-Sb-Se glasses, calorimetric meas. 7−26652
  - As-Se:Ag amorphous films, Ag doping profiles, ellipsometric studies 7−7779
  - $As_{10}Ge_{22.5}Se_{67.5}$ glass grating couplers, fabrication using electron beam induced Ag doping *(Japanese)* 7−62817
  - $As_{40}Ge_{10}Se_{25}S_{25}$ glass grating couplers, fabrication using electron beam induced Ag doping *(Japanese)* 7−62817
  - As_xSe_{100-x}, chalcogenide glass, Vickers microhardness indentation and fracture mechanics 7−21342
  - $As_{0.2}Se_{0.5}Te_{0.3}$ chalcogenide glass, struct. models, X-ray diffr. and Monte Carlo calcs. 7−6548
  - $As_{0.45}Se_{0.10}Te_{0.45}$ glassy alloy, struct. model and switching props. 7−1904
  - Ge-Se:Ag amorphous films, Ag doping profiles, ellipsometric studies 7−7779
  - $Ge_{10}As_{40}Se_{25}S_{25}$ and $Ge_{22.5}As_{10}Se_{67.5}$ glass films, photodarkening effect, exposure characts. *(Japanese)* 7−64706
  - $Ge_{25}Se_{75}$, amorphous, anomalous photoinduced transformations study 7−45070
  - $Ge_{25}Se_{75}$ glass films, photodarkening effect, exposure characts. *(Japanese)* 7−64706
  - $Ge_{20-x}Se_{80-x}In_{2x}$ system, chalcogenides, thin films, optical and electrical props. 7−27446
  - $NH_4H_2PO_4$:SeO_4^{3-}, partially deuterated, D concentrations in $H_2PO_4^-$ and NH_4^+ radicals, ESR spectra 7−27671
  - $(NH_4)_2SeCl_4$, crystal struct. investig. 7−12001
  - Se-Te, glass forming melts, nonisothermal crystn., DTA, crit. cooling rate 7−44394
  - $SeCn^-$, rots. in aqs. soln., ^{14}N NMR, spin-lattice relax. 7−27620
  - SeF_4, geometry optimisation using energy exponent 7−25344
  - SeF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7−25549
  - SeF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7−25550
  - SeF_6, shape reson. behaviour, inner-shell photoabsorpt. and valence-level photoelectron spectra 7−5718
  - $Se_{100-x}Ge_x$ amorphous alloy, photodarkening, structure model anal. 7−3003
  - SeH, photoionisation, ionisation pot. and bond energies 7−19979
  - SeO, geometry optimisation using energy exponent 7−25344
  - SeO_2, binding energy, XPS investig. 7−5720
  - SeO_2 ground vibr. state, rot. const. sub mm spectra 7−31028
  - SeO_2, struct., pot. functions, electron diffr. and spectroscopic data 7−15708
  - SeO_4^{n-}, electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7−856
- **selenium compounds** continued
  - $Se_{1-x}Te_x$-Se photoreceptor, amorphous, xerographic time of flight technique for drift mobility determ. 7−58807
  - $Se_{50}Te_{50}$, Auger elemental depth profiling, preferential sputtering 7−54247
  - $Se_{1-x}Tl_x$, liq. semicond., Se-rich, optical absorpt. edge 7−22213
  - Te-Se, whisker crystals, growth and elec. props. 7−12578
  - Tl-Ge-Se, bulk glass formation region, elec. and struct. characts. 7−58159
- **self-adjusting systems**
  - *see also learning systems; model reference adaptive control systems*
  - adaptive control of a solar central receiver: modelling and simulation 7−59877
  - blood pressure regulation during surgery using self tuning controller 7−54805
- **self-consistent field methods** *see SCF calculations*
- **self-diffusion**
  - *see also self-diffusion in gases; self-diffusion in liquids; self-diffusion in solids*
  - charged colloidal particles, mean-squared displacement and self-diffusion coeff. 7−28360
  - Knudsen effect on plasma-particle mass transfer, self-diffusion 7−1678
- **self-diffusion in gases**
  - binary-gas mixtures, phys. props. prediction, SSR-MPA and MSK pots. 7−51361
  - diatomic gases, shear viscosity and self-diffusion coeff. calc. using Mason-Monchick approx. 7−31912
  - monatomic gases and their mixtures, dilute gas props. 3 parameter MSK pot. calcs. 7−16285
  - rotational-translational diffusion, self van Hove fn. study 7−63857
  - He-N_2 mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect on physical parameters 7−16287
  - Kr, transport phenomena, multiparametric potential models 7−6344
  - Ne, transport phenomena, multiparametric potential models 7−6344
- **self-diffusion in liquids**
  - aromatic aldehydes in cyclohexane solvent, internal mobility study, far-IR and microwave Fourier transform spectra anal. 7−64631
  - binary liquid mixtures, viscosity, excess volume and self-diffusion 7−58515
  - binary liquid mixtures, viscosity, excess volumes and self-diffusion 7−58516
  - chain molecules, self-diffusion coefficients, conc. depend. *(Russian)* 7−62555
  - conducting polymer solns., scaling laws for charge transport 7−17002
  - ellipsoidal molecules, pure liq. phase, transport props., PMR obs. 7−38228
  - glass transitions, crystal melting and liquid quenching in two-dimensions 7−16748
  - Lennard-Jones fluid, self-diffusion constant, Green-Kubo and nonequilib. calcs. comparison 7−52100
  - Lennard-Jones fluid, transport coeffs., mol. dynamics 7−12336
  - Lennard-Jones liquid, shear thinning and thickening, mol. dynamics study 7−11869
  - methanol. liq., cross-correl. fn., diffusional dynamics study 7−37822
  - mixtures, transport processes, mutual diffusion, microscopic description 7−58514
  - $NaNO_2$ aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7−32692
  - particle motion study in concentrated dispersions, tracer diffusion method 7−51351
  - polymer chain dynamics, temp. depend. cubic lattice model simulation 7−998
  - polymer gels, self-diffusion coeff. calcs. 7−52099
  - polymer mixture, self-diffusion coeff. calcs. 7−52099
  - polymer solutions, solvent self-diffusion 7−6844
  - polystyrene sulphonate, ionomers, in soln., dynamics, neutron spin echo obs. 7−51607
  - polystyrene-poly(2,6-dimethyl-1,4-phenyleneoxide) blend, fast mutual diffusion meas. 7−2241
  - rare earth metals, liquid state, kinetic characts. *(Russian)* 7−58517
  - rotational-translational diffusion, self van Hove fn. study 7−63857
  - solid-liquid interface, self diffusion coeff., Debye-Waller factor calc. 7−16706
  - 1,3,5- trimethylbenzene, melting point meas., liq. self-diffusion study, hard-spheres method 7−52003
  - viscous liquids, defects and relaxation 7−11877
  - Ag chalcogenides, molten, US vel. investig. 7−38124
  - AgI phase diagram, molecular-dynamics simulation 7−26912
  - Ar-Kr liquid mixtures, diffusion coeffs., simulation 7−44344
  - C_8K type graphite intercalation cpds., mol. dynamics study of model system 7−63430
  - CsCl aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7−32692
  - Li, self-diffusion and isotopic effects, pseudopot. formulation 7−26990
  - NaCl aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7−32692
  - SiO_2 liq., stretched and compressed, glass transition, ion dynamics simulation 7−16747
  - T_2O, liq., molecular dynamics simulation 7−26992
- **self-diffusion in solids**
  - *see also diffusion creep*
  - n-alkanes, self-diffusion, vacancy energy calcs. 7−63876
  - alloy, nonuniformly distrib., internal friction rel. to diffusion *(Russian)* 7−65074
  - alloys, atomic diffusion via vacancies, quasielastic coherent scatt. studies 7−58527
  - alloys, binary, self-diffusion in surface layer *(Russian)* 7−44898
  - alloys, creep activation energy 7−63732
  - alloys, FCC, internal friction, interaction between dislocation kinks and substitutional solute atoms 7−51935
  - alloys, self-diffusion and melting point 7−21507
  - atomic migration in monatomic crystals 7−2250
  - austenitic steel weldments, C redistrib., general soln. 7−21506
  - binary alloys of BCC metals, interdiffusion coeffs. 7−44896
  - d1-camphene, methyl reorientation, high press. NMR study 7−27609
  - close-packed crystals, imperfect, self-diffusion of impurities, thermally-activated change in mechanism *(Russian)* 7−58523
  - coefficients calculation with aid of elastic constants 7−16797
  - diamond, type IIa, ion implanted, volume expansion 7−58298
  - edge dislocation climb, vacancy diffusion and capture calcs. *(Russian)* 7−44550

self-diffusion in solids continued
- FCC solids, vacancy diffusion, jump dynamics and isotope effect calcs. 7-44890
- flexible macromolecules, diffusion in limited vol. *(Russian)* 7-38256
- graphite, dynamic simulation of interstitial atom, self-energy and migration energy calcs. 7-2014
- Inconel 600, recovery kinetics, X-ray determ. 7-22722
- isotope effect, quasi-harmonic calcs., appl. to CoO and NiO 7-26996
- nuclear fuels, diffusion processes, review 7-19350
- paragonite mica, characteristic beam damage in TEM images 7-12159
- polymers, stress/strain coupled diffusion studied by vibrational time-delay technique 7-51012
- polypropylene oxide, undiluted state diffusion coeff., temp. depend. 7-38255
- polystyrene chemically attached to bis(9-anthrylmethyl) ether, forced Rayleigh scatt. technique, self-diffusion meas. 7-39888
- screw dislocations, vacancy self-diffusion in cubic lattice 7-44888
- solid-liquid interface, self diffusion coeff., Debye-Waller factor calc. 7-16706
- steel, austenitic stainless, sensitisation resistance improvement, application of analytical electron microscopy 7-39762
- steel, Ni alloy, laser-induced C atom directional motion 7-44894
- steel, Ni-Co-W, maraging, martensite isothermal aging, hardness, struct. and elec. resist. kinetic behaviour study 7-17553
- steel, Ni-Cr-Mo, vacuum carburising with methane *(Japanese)* 7-13631
- void nucleation as vacancy diffusive instability 7-21198
- Zerodur glass ceramic, long-term dimensional stability as consequence of diffusion *(German)* 7-63488
- Ag-Zn (50 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7-32658
- α-AgI, ionic motions and neutron inelastic scatt., mol. dynamics studies 7-27004
- AgI phase diagram, molecular-dynamics simulation 7-26912
- AgSn(Sb), impurity-vacancy and impurity-impurity interactions calc. from diffusion enhancement 7-6672
- Al, divacancy migration and small vacancy cluster form. 7-37977
- Al thin films, stress relax. mechanisms 7-21784
- Al thin films, vacancy redistrib. kinetics, machine modelling study *(Russian)* 7-6860
- Al-H, H-point defect interactions, extended Huckel mol. orbital calcs. 7-44533
- Al-Hf dilute quenched cold-worked alloys, vacancy migration recovery processes, PAC and positron annihilation studies 7-39545
- Al-Mn surface icosahedral phase form., ion beam mixing and interdiffusion 7-16653
- Al-Si-Fe, RR 58, electroslag refined, creep 7-39582
- Al-Zn dilute alloys, stress-induced mixed dumbbell tunnelling, sound propag. meas. *(Russian)* 7-51674
- Au tip crysts. morphological evolution and surface self-diffusion, in situ scanning electron microscopy study 7-32239
- Au-Cu sputtered alloys, segregation, surface compositional changes 7-58585
- CU_2S, superionic conductor, ionic conductivity and diffusion 7-44899
- CdTe LPE layers, matrix atom diffusion, SIMS studies 7-21513
- CeO_2-ZrO_2 solid solutions, O self-diffusion, effect of grain boundary movement 7-21522
- Cf diffusion in Ta-Cf dilute alloy 7-12353
- Co compounds, diffusivity, conc. and temp. depend. 7-21518
- Co-Sb system, α-solid soln., interdiffusion *(Japanese)* 7-6861
- CoB layers and crystals, prep. by diffusion and CVD processes 7-17434
- CoO single crysts., ^{18}O diffusion coeff. meas. 7-32707
- $CoSi_2$, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7-2263
- Cr vacancy formation enthalpy, positron annihilation studies 7-44536
- $CsDSO_4$, superionic transition, NMR 7-38951
- Cu, (100) surface self-diffusion of H isotopes, substrate motion effects 7-38237
- Cu, diffusion of Zn, electrochemical method 7-44897
- Cu, steady state deform. 7-21334
- Cu-Al, diffusion coefficients, composition depend. *(Russian)* 7-32701
- Cu-Al (25 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7-32658
- Cu-Er metallic glass, ion beam mixing, diffusion and phase separation meas. 7-16659
- Cu-Fe, diffusion of Fe studied by Mossbauer spectroscopy 7-2252
- Cu-Sn, diffusion coefficients, composition depend. *(Russian)* 7-32701
- Cu-Sn (14.4 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7-32658
- Cu-Zn, preferential sputtering, AES and SIMS studies 7-53467
- Cu-Zn (52 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7-32658
- Cu-Zn alloys, electron irradiation, interstitial cluster form., diffusion rates, resistivity 7-2013
- Cu_3Au, electron irradiation, long range ordering, recovery, vacancy migration and clustering, positron lifetime study 7-39543
- Cu_3Au, quenched, vacancies, ordering and annealing, positron lifetime and elec. resist. meas. 7-39544
- $CuInS_2$, chem. diffusion, 20-100°C 7-16799
- Es diffusion in Ta-Es dilute alloy 7-12353
- Fe, diffusion of ^{59}Fe and $^{60}C0$, mag. anomalies, quasi-chemical model 7-6862
- Fe, polymorphic forms stability, elastic consts. in 20 to 1470°C range, enthalpy of fusion rel. to self-diffusion activation energy 7-6781
- Fe-Al, ^{26}Al diffusion, radioactive isotope meas. *(Russian)* 7-32700
- Fe-Ni alloys, diffusion, plastic deformation effects *(Russian)* 7-58531
- Fe-Si-Cr system, ordering process, thermal expansion studies *(Russian)* 7-1932
- $Fe_{84}B_{16}$ amorphous alloy, layer-by-layer phase anal., depth-selective conversion-electron Mossbauer spectroscopy 7-17255
- $Fe_{81}B_{13.5}Si_{3.5}C_2$ amorphous and cryst. alloy, Si diffusion and segregation 7-6859
- $FeCr_{10}P_{13}C_7$ amorphous alloy, surface layer chemical bonds, XPS studies 7-12417
- FeO_2-CaO-MgO-BaO-Na_2O, wustite solid solns., interdiffusion coeffs., 1073-1473K *(Japanese)* 7-12357
- Fe_3O_4, magnetite, Fe and impurity cations, migration enthalpies meas. 7-58541
- Fm diffusion in Ta-Fm dilute alloys 7-12353
- Ge ⟨111⟩, dynamical recovery 7-13475
- Ge, ionisation-stimulated annealing of Frenkel pairs under electron or gamma irradiation 7-38061

self-diffusion in solids continued
- $H_{0.33}TaS_2$, host lattice-intercalant strong interaction, proton mobility hysteresis, PMR study 7-53159
- In-Sn alloy, diffusion coeffs. of In and Sn determ. by AES using Xe ion bombardment 7-22405
- InGaAs, high-field autovariance coeff., diffusion coeff., and noise at 300 K 7-64260
- Ir single crystals, bulk self-diffusion, radiometric anal. *(Russian)* 7-58530
- KCl microcrystalline powders, additive coloration 7-32434
- K_2TiF_6, ion motions and cond., NMR relax. time meas. 7-38246
- La epitaxial layer on W field emitter, surface self-diffusion studies 7-32702
- Li spinel insertion compounds, reactions, mag. and elec. props. 7-33920
- $LiNbO_3$ single crystal, self-diffusion of Li ions 7-21512
- Li_2O-SiO_2 glasses, molecular dynamics simulation 7-1901
- $Li_xV_6O_{13}$ single cryst., Li transport props. and partial molar entropy 7-6871
- $MgAl_2O_4$ stoichiometric spinel, electron beam-induced diffusion, cracking and phase separation 7-16641
- MgH_2-$LaH_{2.8}$ hydrides, H diffusion coeff., NMR studies 7-32705
- Mo/Si, amorphous multilayers, annealing, diffusion, structural relax. 7-52309
- NaCl, cation self-diffusion by single vacancy mechanism, reaction coordinate approach calcs. 7-32706
- Na_2O-Al_2O_3-GeO_2 glasses, ionic transport meas., packing density depend. 7-32710
- Na_2O-B_2O_3-SiO_2 glass, Na^+ self-diffusion and elec. cond. studies 7-21515
- Nb (110), vacancy formation, positron studies 7-44537
- Nb, positron annihilation Doppler broadening studies 7-39255
- Nb-C alloy, thermotransport of C 7-46479
- Nb-Sb alloys, B8 phase, diffusion studies 7-12354
- NbH_x, interstitial H total cross-section determ., localised modes and diffusion, neutron transmission meas. 7-12061
- Ni compounds, diffusivity, conc. and temp. depend. 7-21518
- Ni, thermal diffusivity determ., temp. wave modified method 7-12352
- Ni-Al system, diffusion interaction of the β and γ' phases 7-38242
- Ni-Co based refractory alloys, γ'-phase strengthening rel. to comp 7-46496
- Ni-Ti metallic glass, ion beam mixing, diffusion and phase separation meas. 7-16659
- Ni-Zr amorphous alloy, Ni and Zr mobilities 7-32698
- Ni_3Al and NiAl, positron annihilation and DSC studies of diffusion mechanisms 7-46204
- $Ni_{60}Nb_{40}$ glass ribbons, H embrittlement susceptibility, effects of cold working 7-46503
- NiO, diffusion processes down coincident tilt boundaries 7-38253
- NiSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7-2263
- Pb glaze glass system, local coordination EXAFS studies 7-63484
- Pb-In-Au thin films, hillock growth kinetics, grain boundary diffusion, SEM study 7-27221
- β-PdH_x, spin polarisation torsional spectroscopy 7-33280
- Pd_2Si, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7-2263
- $Pd_{80}Si_{20}H_3$ metallic glass, H diffusion, quasielastic neutron scatt. studies 7-52119
- Pt (110), surface self-diffusion, directional depend., surface energy anisotropy 7-6956
- Pt-W, Pt diffusion and platelet defect form. *(Russian)* 7-44895
- PtSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7-2263
- $ScD_{1.8}$, neutron diffr. study 7-38254
- $ScH_x(D_x)$, H diffusion 7-52117
- Si, Czochralski growth, relax. in point defects system 7-16468
- Si, defect reactions and atomic diffusion 7-38264
- Si, ionisation-stimulated annealing of Frenkel pairs under electron or gamma irradiation 7-38061
- Si, self-diffusion and impurity diffusion, review 7-32713
- Si, self-diffusion without vacancies and interstitials, concerted exchange mechanism 7-26997
- Si:Au. U- and W-shaped impurity diffusion profiles investigation 7-16805
- Si:N, deep level generation and annihilation 7-16612
- Si-Al, P, defect struct. and dynamics 7-16552
- SiO_2, amorphous, densified, O diffusion kinetics, annealing, gamma-ray effects 7-52127
- SiO_2-Na_2O-CaO-Al_2O_3-MgO glasses, heavy ion irradiation, enhanced diffusion, preferential sputtering 7-32523
- Ta-H system, diffusion, coherent quasielastic neutron scatt. 7-51581
- TaC, high temp. hardness, stacking faults, hardening rel. to C diffusion 7-3369
- TaD_x, nonstoichiometric, D atom disorder and diffusion 7-58532
- Ti-Sn-Y rapidly solidified alloys, dispersoid particle coarsening 7-22704
- $Ti_{1.2}Mn_{1.8}H_3$ hydride, H diffusion, quasielastic neutron scatt. studies 7-52135
- V-C alloy, thermotransport of C 7-46479
- V-Nb-Mo system, mutual diffusion *(Russian)* 7-52116
- W (011) plane, edge atoms surface migration activation energy, emission current meas. 7-32887
- W-H system, H diffusion, ^{181}Ta Mossbauer effect studies *(Russian)* 7-32699
- $Y_{4x}Zr_{1-4x}O_{2-2x}$, ionic cond., defect struct., self-diffusion calcs. 7-12356
- Zn, microalloyed, superplasticity and self-diffusion parameters 7-2251
- Zn, neutron irradiated, yield-stress recovery 7-22720
- β-Zr-Co system, fast Co diffusion, quasielastic neutron scatt. studies 7-52120
- Zr-Sn, diffusion, chem. activity, modified evaporation method 7-38243
- Zr-Ti, diffusion, chem. activity, modified evaporation method 7-38243
- Zr_2O-Y_2O_3, ionic diffusion coeffs. comp. depend., quasielastic light scatt. temp. depend. meas. 7-12364

self-focusing
- *see also electrostriction; optical self-focusing*
- electron beam, relativistic, propagation at sub-Torr pressures 7-42262
- nematic liquid crystal, director-light wave interaction, orientational self-focusing 7-6510
- sound self-focusing, media with negative second viscosity 7-20489

self-induced transparency
- dressed atoms, self-induced transparency and photon echo 7-15958

- **self-induced transparency** continued
  - propagation effects in strong pump-weak probe interactions 7—11076
  - pulses of different wavelengths, simultaneous propag. in three-level absorbers 7—15954
- **self inductance** *see inductance*
- **self-optimising systems** *see self-adjusting systems*
- **self-organising systems** *see self-adjusting systems*
- **self-phased arrays** *see antenna phased arrays*
- **self testing** *see automatic testing*
- **self-trapping** *see self-focusing*
- **self-tuning control** *see adaptive control; self-adjusting systems*
- **self-tuning systems** *see adaptive control; self-adjusting systems*
- **Selfoc optics** *see gradient index optics*
- **SEM** *see scanning electron microscopy*
- **semi-insulating materials** *see semiconductor materials*
- **semiconductor alloys** *see semiconductor materials; semiconductors*
- **semiconductor counters**
  - *see also position sensitive particle detectors*
  - adaptive multichannel systems in X-ray flaw detection 7—39817
  - algorithms for qualitatively and quantitatively determining the radiocontamination of environmental samples including various measurement arrangements *(Polish)* 7—56918
  - avalanche semiconductor detector for single optical photons, 60 ps time resolution 7—42335
  - CCDs, use in vertex detection 7—42334
  - CCDs for high-energy particle tracking, NA32 charm production expt. 7—25325
  - coincidence spectrometer with scintillation and planar detectors, time characts. 7—36438
  - complex Ge detector systems and Compton suppression spectrometers, Monte Carlo simulation 7—5530
  - conf., Munich, Germany, March 1986 7—40990
  - conf., Vienna, Austria, February 1986 7—40989
  - conference on semiconductors, Jevnaker, Norway (June 1986) 7—14705
  - detector electronics for measurements in heavy overload conditions 7—42439
  - drift chamber based detector concepts 7—15458
  - drift diode, low capacity, operational parameters 7—42327
  - EELS parallel detection setups 7—18943
  - fluorescence EXAFS meas. from 2 to 25 keV using Si photodiode array detector 7—61413
  - Harwell solid state alpha detector, sources of series resistance 7—36418
  - high-energy gamma ray spectrometer for heavy-ioninduced experiments 7—5528
  - ion implanted semiconductor detectors, radiation resistance *(Russian)* 7—49836
  - JET soft X-ray diode array diagnostic 7—25164
  - large-area semiconductor detectors for beta radiation 7—25303
  - linear detector for time-resolved EXAFS in dispersive mode 7—61412
  - MOS neutron sensors, detection props. depend. on radiation field 7—25305
  - multidetector arrays, expt. possibilities at Darmstadt-Heidelberg crystal ball 7—30833
  - neutron detectors, main types *(Rumanian)* 7—10362
  - p^+nn^+ junction radiation detector, reversed biased struct. 7—30899
  - peak fitting programme for γ-ray spectra measured in semicond. detectors *(Czech)* 7—62205
  - Peltier battery cooled Si(Li)rig spectrometers *(Czech)* 7—62203
  - photoconductor X/γ-ray detectors and X-raybolometers 7—10361
  - photodiode arrays, position sensitive detector for synchrotron X-ray radiation 7—42337
  - position sensitive LSI detector for low energy ESCA electrons 7—19668
  - principles and new developments of semiconductor detectors 7—42343
  - radiation damage in semiconductor detectors and electronics 7—42331
  - radiomicroscopy using Si microdetector, appl. to beta tracers 7—47223
  - readout electronics and semiconductor detectors, present directions and outstanding problems 7—42322
  - semiconductor detectors for nuclear radiation 7—49835
  - semiconductor drift chamber detector concepts 7—42326
  - solid state α- sensitive floor monitor 7—36306
  - spectrometer, with Si surface-barrier detector and 6 keV resolution 7—10349
  - spherical measuring geometry X-ray radiometric anal. 7—35645
  - strip detectors, performance, effects of strip width 7—42324
  - three-dimensional reconstruction in high energy particle physics 7—25323
  - transverse BGO compton suppression shield for Ge γ-spectrometer, expt. and Monte Carlo study 7—25300
  - ultra low level counting with Ge spectrometers, α-induced background from ^{210}Pb decay 7—25299
  - X-ray detector, windowless, use in light element analysis in TEM 7—23099
  - X-ray image sensors based on optical time-delay-and-integration CCD imager 7—24753
  - n-γ radiation field dosimetry using miniature Si photodiodes 7—25262
  - GaAs, neutron-damaged, photoconducting flat response detectors from UV to X-ray region 7—5563
  - Ge detector, solder natural radioactivity effects in low background expts. 7—62220
  - Ge detectors, high pressure large volume, pulse shaping system for fast coincidence 7—49814
  - Ge drift detector, tomographic device, for external analysis of tissue chemical props. 7—47273
  - Ge γ-detectors, correlation between deep-level parameters and energy resolution 7—15454
  - Ge, high pressure detector, pulse rise-time meas. 7—49809
  - Ge Lege-type detector, time props. 7—62216
  - Ge, nuclear radiation detector, spherical coaxial structure, elec. field distrib. 7—5562
  - Ge solid state detectors, peak intensity losses for deuterons 7—49802
  - Ge:Li low-level spectrometers, background components 7—25316
  - Ge-BGO Compton suppression spectrometer system, time pickoff for BGO suppression shield 7—5529
  - Ge-NaI(Tl) anti-Compton spectrometer, on-line neutron response, γ prod. 7—5532
  - Ge(Li), absolute photon densities determ. in ^{103}Pd decay 7—5569
  - Ge(Li) detector, disc source, correction for full energy peak efficiency *(Japanese)* 7—830
  - Ge(Li) detector system, monoenergetic γ-ray spectrum modeling 7—30898
  - HgI_2 detector, electrical characteristics 7—49838
- **semiconductor counters** continued
  - HgI_2 solution-grown crystals, X-ray and γ-ray irrad. effect on elec. props., radiation detector performance 7—58838
  - HgI_2, timing techniques for γ-ray detector performance 7—49815
  - InP:Fe, photoconducting flat response detectors from UV to X-ray region 7—5563
  - NaI:Tl, triple-coincidence spectrometer for ^{26}Al, ^{22}Na 7—25317
  - Si, amorphous layer radiation detector development 7—30858
  - Si barrier detectors for charged particle detection *(Czech)* 7—62204
  - a-Si based integrated type X-ray sensor *(Japanese)* 7—15456
  - Si charged particle detector, large-area 7—25326
  - Si detector, 1 m^2 array for UA2 expt., construction and performance 7—42342
  - Si detector development, ion implantation technique *(Chinese)* 7—5561
  - Si detector material, diagnostic techniques 7—46895
  - Si detector material analysis using back electron beam induced current 7—44319
  - Si detector with 2D pad readout, performance 7—30857
  - Si detectors, development of test structures 7—42323
  - Si detectors, electrical props., numerical simulation 7—42328
  - Si detectors, high UV sensitivity and scintillator readout appls. 7—19666
  - Si detectors, large area, properties and radiation stability 7—42333
  - Si detectors for high precision tracking 7—19662
  - Si detectors for Small Angle Spectrometer of Fermilab Collider Detector, construction, performance 7—42340
  - Si drift chamber for two-dimensional particle detection 7—25324
  - Si drift chambers, electron dynamics 7—42329
  - Si image sensors appls., conf., Cannes, France (Nov. 1985) 7—24288
  - Si junction detector, characterisation by automatic system 7—19663
  - Si microstrip detector structures with implanted p-n junctions, functional props. 7—42325
  - Si microstrip detectors with VLSI readout, test beam results 7—42330
  - Si microstrip particle detector, low leakage current 7—19667
  - Si PIN diode X-ray detector, pulse calibration technique *(Chinese)* 7—5534
  - Si photodiodes, use for dose depth distrib. meas. in oncology 7—60092
  - Si pin photodiode characteristics 7—42341
  - Si position sensitive detector, photon counting image acquisition system, performance analysis 7—30088
  - Si position sensitive detector, Tevatron beam tube tests 7—30856
  - Si position sensitive detectors for the Helios expt., test procedures 7—42336
  - Si position sensitive detectors for the Helios expt., X-Y tracking modules, design, testing 7—42338
  - Si position-sensitive photodetectors, fabrication procedure 7—49791
  - Si radial drift chambers for low noise radiation detection 7—42318
  - Si sampling calorimeters, position resolution 7—15465
  - Si strip detectors, radiation damage 7—42332
  - Si surface barrier detectors, systematic meas. of pulse height defects for heavy ions 7—5553
  - Si surface barrier detector for fusion neutron spectroscopy 7—11727
  - Si surface barrier detector, annular transmission, fabrication and characts. 7—19661
  - Si surface barrier telescope for solar particles, characts. and calibration 7—62217
  - Si vertex detector, calibration 7—62211
  - Si vertex detector for CERN NA14 expt., operation 7—42339
  - Si:Li electron spectrometer for in-beam internal pair spectroscopy 7—49788
  - Si(Li) detector with high purity ^{76}Ge for double beta-decay meas., background test 7—49840
  - Si(Li)-W 4 inch sandwich calorimeter for $\bar{p}p$ collider expts. 7—5548

- **semiconductor defects** *see crystal defects*

- **semiconductor device manufacture**
  - *Used for commercial manufacture only*
  - diffusion in III-V semiconductors, modelling techniques 7—58522
  - solar cell high throughput automated fabrication line with ion implantation and halogen lamp annealing 7—8417
  - thin film solar cells manufacture, elec. and EM hazards 7—59849
  - thin-film photovoltaic cell production, gas, health and safety hazard controls 7—17876
  - AlGaAs-GaAs space solar cells, LPE production and characterisation 7—3666
  - GaAs solar cells, fracture strength as function of manufacturing process steps 7—3696
  - GaAs thin film photovoltaic cells, large-scale manufacture, hazard characterisation of AsH_3 gas and GaAs waste 7—39998
  - a-Si monolithically interconnected photovoltaic panels, single chamber glow discharge manufacturing process 7—13892
  - Si solar cell fabrication by sheet casting 7—17868
  - Si, solar cell fabrication using laser groove technique, commercial viability 7—59862
  - a-Si solar cells, fabrication and characts. 7—13891
  - Si solar cells, terrestrial, production costs and conversion efficiency 7—17869
  - Si:B, amorphous, solar cell, roll-to-roll mass prod. process 7—17902
  - a-Si:H thin film photovoltaic production, safety and industrial engineering 7—13894

- **semiconductor device models**
  - 1/f noise, carrier mobility fluctuation origin 7—38653
  - carrier transport theory, picosecond processes 7—45342
  - diode equation $I = I_0\ [\exp(qV/kT)-1]$, validity 7—35153
  - heterojunction transistors 7—52811
  - hot electron transient behaviour 7—12729
  - interdigitated back contact solar cell for high concentrated sunlight, optimisation 7—3657
  - multijunction solar cells with similar doping superlattice structures 7—3675
  - n-i heterojunction, time depend. tunnelling and coherent Zener oscills. 7—17087
  - optically induced inversion in the MIS solar cell 7—8380
  - photodiodes, 1/f noise, extended Burgess' variance theorem 7—45412
  - Schottky barrier, models and elec. charactn. methods 7—52738
  - Schottky diodes, interface state form. and barrier height control 7—52839
  - solar cell, 1D modelling using personal computers 7—8404
  - solar cell I-V characteristics, parameter recovery, curve fitting error criteria 7—39995
  - solar cells, amorphous, with specified optical, elec. and recomb. props., optimisation model 7—54300

semiconductor device models continued
solar cells, I-V characts. anal. including generation-recomb. current and diffusion current 7−8381
solar cells, III-V ternary alloy monolithic three-junction, computer modelling 7−3672
solar cells, low bulk resist., sensitivity anal. using SPCOLAY computer code 7−8406
solar cells, passivated, high efficiency, optimum surface dopant conc. 7−23190
thyristor p-n-p-n structures, on state spreading, diffusion and drift ratio 7−21937
tunnelling diode, quantum-well resonant, transient response obtained from Wigner function 7−33080
two-dimensional carrier systems, parallel transport 7−52827
two-layer semiconductor MIS system, injection currents, upon creation of nonequilibrium surface depletion 7−33095
unipolar devices, modelling of MIS structures 7−45509
AlGaAs:Mg-GaAs:Se concentrator solar cells, 26 percent efficient 7−3699
AlGaAs/GaAs/Ge multijunction solar cell, model for calc. of displacement damage by radiation 7−13878
AlGaAs/GaAs/InGaAs multijunction solar cell, model for calc. of displacement damage by radiation 7−13878
AlGaAs-GaAs heteroface space solar cells with 21 percent conversion efficiency 7−3694
$\mathrm{Al_{0.55}Ga_{0.45}As}$:Te edge region photocapacitance at constant bias, anal. 7−7287
CdS/CuInSe$_2$ solar cells, modelling and anal. 7−17893
n-CdZnS/p-CuInSe$_2$ polycrystalline solar cells, open circuit voltage 7−17889
CdZnS-InP heterojunction solar cell, numerical anal. 7−23155
p-CuInSe$_2$-CdZnS-ZnO solar cells, device anal. 7−23171
Cu$_2$S-CdS polycrystalline solar cell, freq. dispersion in admittance 7−65464
GaAlAs laser diodes, stripe geometry, directly modulated in microwave range, freq. response study 7−11017
GaAs concentrator cells, design options and constraints 7−3698
GaAs FETs, elec. resist., Hall effect, influence of electronic subband mag. depopulation 7−38740
GaAs FETs, electron drift vel.-elec. field characts. 7−38569
GaAs Schottky-barrier behaviour, Monte Carlo simulation 7−45491
Ga$_{1-x}$P$_x$-GaP-Si mechanically stacked multijunction solar cells, p-n junction model 7−3668
InGaAsP wideband semicond. lasers, limitations on switching speed 7−10943
n-InSb MOS structures, heterogeneity of generation processes, expt. 7−17106
Si, impurity ionisation, doping conc. and temp. depend. 7−38509
Si MINP solar cells, high efficiency, performance, fabrication, characts. 7−23153
Si n-n$^+$ epitaxial layers, recomb. parameters anal. by moving light strip method 7−21930
Si point contact solar cells, modelling and expt. results 7−13869
Si point-contact solar cells for high conc. appls., modelling and expt. 7−23150
Si polycrystalline thin film strain resistance model *(German)* 7−64033
Si solar cell simulation by Monte Carlo modelling 7−8405
Si solar cells, crystalline, metal grid optimisation and emitter tailoring, computer model extension 7−54292
Si solar cells, high efficiency, identification of key parameters limiting perform. 7−59846
Si space solar cells, damage coeffs. of 1 MeV electron fluences 7−13880
Si:H based alloy thin films, optical constants determ., device modelling appl. 7−7666

semiconductor device testing
see also integrated circuit testing
acoustic microscope, Leitz ELSAM, for semiconductor device inspection *(German)* 7−31591
characterisation by noise methods, review 7−59720
light scattering particle counters, quantitative count calibration 7−56397
MOS device, microcomputer-based instrumentation system for carrier transport study 7−64350
photon detector devices, local investig. by scanning laser microprobe 7−30083
solar cell modulus with welded and soldered interconnections, thermal cycling tests 7−23194
solar cell optical and electrical characts., meas. systems 7−13906
solar cells, AM 1.5 global and direct solar simulation and secondary reference cell calibration 7−23175
solar cells volt-ampere characts. meas. *(Slovak)* 7−39994
solar test facility for high concentration solar cells, water cooled black-body calorimeter 7−13849
spacial solar panels, LF noise as nondestructive inspection test 7−39996
AlGaAs-GaAs space solar cells, LPE production and characterisation 7−3666
CdS/CdTe screen-printed thin-film solar cell for indoor consumer electronics *(Japanese)* 7−65472
CdS-CdTe screen printed solar cell modules, long term reliability tests 7−23158
GaAs space qualified solar cell production by organic metal CVD, performance testing 7−65492
a-Si photovoltaic modules, electrochemical degradation 7−17870
a-Si solar cells and modules, hot spot durability testing 7−13915
Si:H, amorphous, solar cells, current-induced and light-induced degradation, non-equivalence 7−17908
a-Si:H thin film solar cells, repeatable meas. system for accelerated stress testing 7−23174
a-Si:H thin film solar cells, accelerated stress testing using photodiode array 7−28403

semiconductor devices
see also field effect devices; Gunn devices; integrated circuits; semiconductor counters; semiconductor diodes; semiconductor junction lasers; space-charge limited devices; thermistors; thyristors; transistors; transit time devices; varistors
amorphous semiconductors for microelectronics appls., conf., Los Angeles, CA, USA (Jan. 1986) 7−24282
characterisation by MeV He$^+$ microbeam analysis 7−13315
conference, Jevnaker, Norway (June 1986) 7−14705
conference, Madras, India (Nov.-Dec. 1985) 7−35102
conference, Tokyo, Japan (Aug. 1986) 7−48173
cooling efficiency by two-phase thermosiphons 7−11504

semiconductor devices continued
crystalline semiconducting materials and devices, book 7−60894
electrical characterisation, non-contacting methods, book contrib. 7−45335
high-speed electronics, conf., Stockholm, Sweden (Aug. 1986) 7−52798
III-V semiconductor materials and devices, review 7−58801
MOVPE, conf., Universal City, CA, USA (Apr. 1986) 7−18477
physical processes, book 7−35
semiconductor, EBIC image interpretation using Monte Carlo simulations 7−35640
GaAs microelectronics, role of Schottky contacts *(German)* 7−52735
GaAs semiconductor/liquid junction device performance improvement 7−17098
GaAs:Cr free and metallised surfaces, SAW absorpt. meas., hybrid SAW semicond. devise appls. 7−52217
n-Si/methanol junction device performance improvement 7−17098
TaS$_3$, quasi-1-dimens. conductor, dynamic behaviour, possible electronic appls. 7−38548

semiconductor diode light emitters *see light emitting diodes*

semiconductor diodes
see also avalanche diodes; charge storage diodes; light emitting diodes; photodiodes; Schottky-barrier diodes; solid-state rectifiers; tunnel diodes; varactors; Zener diodes
current limiters, impact ionisation breakdown 7−52639
double barrier heterostructure diodes, resonant tunnelling effect *(Japanese)* 7−12828
equation $I = I_0\,[\exp(qV/kT)-1]$, validity 7−35153
thermometric characts. of planar semiconductor diodes correction *(Czech)* 7−61334
GaAs p-n homojunction diode, photocurrent meas. of defect distribution 7−32851
GaAs, V$_F$-T characteristics of p-n junction at low temp. *(Chinese)* 7−12792
GaAs-AlGaAs-GaAs large area graded gap diodes, discrete resistance levels obs. at low temps. 7−52749
GaAsP, V$_F$-T characteristics of p-n junction at low temp. *(Chinese)* 7−12792
GaP, V$_F$-T characteristics of p-n junction at low temp. *(Chinese)* 7−12792
Ge, reverse recovery experiments, diode geometry effect 7−34038
n-InGaAsP/p-GaAs diodes, photocurrent meas. of defect distribution 7−32851
Si charged particle detector, large-area 7−25326
Si p-i-n diodes, potential distribution 7−58817
Si:B,H(D) Schottky and n$^+$-p junction diodes, electrical transport of acceptor-compensating defect 7−16823
Si:B(P), doping by XeCl excimer laser irrad., ultra-shallow junction fabrication 7−58303
SiC:N(Al) p-n junction diodes, impurity 7−27192

semiconductor doping
see also doping profiles; ion implantation
chalcogenide glass films, metal ion doped, impurity effects 7−11943
chalcogenide glass grating couplers, fabrication using electron beam induced Ag doping *(Japanese)* 7−62817
channelling contrast microscopy, He$^+$ microbeam, semiconductor impurity profiles 7−51587
crystalline semiconducting materials and devices, book 7−60894
diamond, synthesis and props. *(Russian)* 7−16588
doped semiconductors, prep. and thermal cond., review 7−38279
epitaxial layers, transient doping during CVD 7−52317
film growth kinetics under simultaneous doping conditions 7−45052
impurity doping by photonuclear reactions 7−16589
laser materials processing developments at GEC Hirst Research Centre (UK) 7−53581
LPCVD production, anal and solar cell appls. 7−17452
materials modification with ion beams, review 7−16647
metallophthalocyanine thin films, cosublimation doping and Schottky contact formation 7−21974
mixed group III and group V ion implantation 7−21243
modulated semicond. structs., conf., Kyoto, Japan (Sept. 1985) 7−4630
MQW DFB laser, theoretical anal. 7−20223
n-i-p-i crystals, doping superlattices 7−7348
polyacetylene:K films, doping, redox potential studies 7−32475
pulsed ion beams, solid phase epitaxy 7−12096
quantum well structures, metal-insulator transition due to surface roughness scatt. 7−27400
radiation-enhanced diffusion of implanted impurities in semiconductors, calc. 7−6883
redistribution of dopants during prebake land epitaxial deposition 7−38039
semiconductor-fluid interfaces, illum., adsorption, competition for photogenerated charge carriers 7−27105
a-Si:H, structural characterisation, hyperfine interaction, ESR, ENDOR 7−53135
SOI buried layer form. by high dose implantation, mass transport studies 7−32479
SOI wafers, O implantation prep., background doping effects 7−32478
solar cell efficiency, doping gradient effects 7−8412
tandem accelerator secondary ion mass spectrometry 7−54252
triangular barrier structures, effective barrier height reduction by n-type doping 7−2671
vacancy conc. change due to doping with isovalent impurities 7−51813
Al-Ge-Si, heterojunction ohmic contacts 7−27432
AlGaAs:Mg LPE layers, Mg doping and injection laser threshold current 7−12092
AlGaAs:Sb, MBE growth, Sb doping 7−2038
AlGaAs:Si(Zn), MOCVD, impurity induced disordering, quantum well laser fabrication and characts. 7−27934
AlGaAs/GaAs:Si heterostruct., MBE growth on polar surfaces 7−7863
AlGaAs-GaAs superlattices, Si-Be co-doping, compositional disordering suppression, SIMS study 7−16878
Al$_x$Ga$_{1-x}$As films and multilayer structures, MOCVD growth and characterisation, review 7−33586
Al$_x$Ga$_{1-x}$As:Si, LEDs, luminesc. props. *(Korean)* 7−27786
Al$_x$Ga$_{1-x}$As:Si, Si diffusion from sputtered Si film 7−58537
Al$_x$Ga$_{1-x}$As:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7−21242
AlInAs-GaInAs selectively doped heterostructs., MOCVD growth, HIFET fabrication appl. 7−17429
As-S:Ag photodoping, energy expenditure determ. *(Russian)* 7−21261

semiconductor doping continued
As_2S_3:Ag, amorphous, charge fluctuation, Ag doping effects 7–7700
B and U impurity concentration in semiconductors, microanalytical estimation 7–38040
$(Ba_{1-x}La_x)TiO_3$ semiconducting ceramic props., grain boundary and dopant effects *(Japanese)* 7–6631
$BaTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7–2539
$BaTiO_3$:Ce, Mg, Ga(Cr)(Cu), double doping study 7–2037
$BaTiO_3$:$Y_2O_3(La_2O_3)(Ce_2O_3)$, semiconductor props., influence of dopant oxides 7–6650
Bi-Ge-S chalcogenide glasses doping mechanism and structural effects, EXAFS study 7–1909
p-$Cd_xHg_{1-x}Te$, doped and undoped, minority carrier lifetime 7–45353
$CdSnO_4$:PbO highly conducting films, characterisation 7–22049
CdTe, segregation coeffs. of Ag, Co, I and In, recoil implanted radioactive tracer technique 7–21461
CdTe, single cryst., transmission region optical props., impurities effects 7–39128
n-CdTe:In, high mobility, growth by photoassisted MBE 7–22485
CdTe:In, photocorrosion, vacancies, photoluminescence spectra 7–27948
pCdTe:Sb epilayers, photoassisted MBE growth, substitutional Sb doping 7–53607
$Cu_{2-x}Cd_xTe$-$Zn_{39.5}Cd_{60.5}Te$:I, heterojunction solar cells, fabrication and characterisation *(Korean)* 7–28402
Fe_xO:$Li_2O(CaO)(Al_2O_3)(SiO_2)$, synthetic wustite, elec. cond., doping elements effect *(Korean)* 7–2609
Ga-As-AlGaAs superlattice, laser induced disordering and Si impurity incorporation 7–45018
GaAS:Be, MOVPE, diethylberyllium dopant source, elec. characts. 7–22521
$Ga_{1-x}Al_xAs$:S(Se), MBE growth, dopant incorporation 7–12533
$Ga_{1-x}Al_xAs$:Si, electrical current induced liq. phase epitaxy 7–27955
GaAs epitaxial film shallow homojunction solar cells fabrication by Zn solid state diffusion method 7–17860
GaAs, epitaxial growth, $\delta(z)$ doping layer, electronic states 7–52729
GaAs epitaxial layers, vacancy doping 7–6656
GaAs films, MBE growth and structural characterisation 7–21775
GaAs, hydride VPE layers, deep level incorporation and background doping 7–17120
GaAs, ion implant depth profiles, channelling, Monte Carlo simulation 7–51811
GaAs, ion implantation, H^+, He^+, Ar^+ 7–12094
GaAs, ion implanted, rapid thermal annealing, review 7–58296
GaAs, large dislocation-free cryst. growth for LSI appls. 7–64895
GaAs metalorganic MBE 7–53601
GaAs n-i-p-i doping superlattices, selective contacts, MBE growth through shadow mask 7–13356
GaAs: S, Sn, epitaxial layers, photoluminescence spectra 7–46095
GaAs:Al, surface layer, degree of disordering, effect of dopant 7–63929
GaAs:Bi, epitaxial layers, purification by Bi doping 7–58301
GaAs:Er MBE layer, dopant trapping level, photolum. obs. 7–44581
GaAs:In, LEC growth, annealing, solid soln. hardening, dislocation density, elec. props. 7–17404
GaAs:In, low In conc., LEC cryst. growth employing thermal stress anal. 7–46305
GaAs:In, VPE growth, isoelectronic In doping, etch pit densities 7–46340
GaAs:In (B)(Si), dislocation free crystals, LEC grown, microscopic defects, eutectic etching 7–16545
GaAs:In MBE layers, defect density reduction by isoelectronic In doping 7–3176
GaAs:MG, MOVPE, p-type doping using an organometallic Mg precursor 7–22522
GaAs:Sb, deep level formed by Sb doping 7–52496
GaAs:Si, annealing behaviour of impurities in presence of stress 7–65060
GaAs:Si, flow-rate modulation epitaxy, Si planar doping 7–17443
GaAs:Si,Se MOCVD epitaxial layer photolum. spectral shift and doping efficiency obs. *(Japanese)* 7–45076
GaAs:Si(S), LEC grown, struct. defects, influence of Si and S doping 7–53550
GaAs:Sn, epitaxial layers, current carrier distrib. 7–12530
GaAs:Sn epilayers, MOCVD using triethylgallium and tetraethyltin, characterisation 7–22515
GaAs:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7–21242
GaAs:Te, struct. environment of dopant, study by EXAFS in fluorescence mode. 7–59300
GaAs:Te films, flash evaporation, annealing, elec. props. 7–64373
GaAs:Zn,Si, selective double diffusion using sputtered Si masks 7–51805
GaAs:Zn epilayers, metalorganic CVD, Zn incorporation 7–63996
GaAs/metal Schottky barrier diode, electrical props. 7–27426
n-GaAs/Ti-Pt system, Schottky barrier height, doping depend. 7–2708
GaAs-(AlGa)As heterostructure, modulation-doped, valence band mixing, and optical emission 7–7344
GaAs-$Al_xGa_{1-x}As$-GaAs, multilayer struct., variable angle of incidence spectroscopic ellipsometric study 7–48830
GaAs-AlGaAs heterojunctions, Be^+, O^+ ion implantation, impurity profiles, elec. characts. meas., SIMS, annealing 7–12813
GaAs-Bi, distrib. coeff. of Bi, crystn. from molten solns. 7–46428
GaAs-$Ga_{1-x}Al_xAs$ superlattices and heterojunctions, electronic struct. 7–12821
GaAs-GaAs:Cr(Te), VPE grown, photoluminescence study, effect of substrate doping 7–27771
$GaAs_{1-x}P_x$:Be^+-GaP:Be^+ strained-layer superlattices, ion implantation doping, structural study 7–38030
GaN:Zn films, MOVPE, electron cyclotron resonance plasma excitation, low temp. growth 7–22549
GaP emitters, secondary electron energy distrib. rel. to work function 7–46256
GaSb:Gd,Ho crystal grown by horizontal zone melting, precipitate identification 7–21462
GaSb:Te(Se)(Si)(Ge) single crysts., Czochralski growth, carrier conc. rel. to dopant conc. 7–22462
GaSe layer cpd., Al dopant intercalation, Auger and IR spectra studies *(Russian)* 7–32476
Ge, floating zone growth, lateral solute segregation rel. to gravity conditions 7–53576
Ge, vapour phase growth on Ge substrates, influence of p and n doping 7–3198
a-Ge:D,H, plasma deposited, deuteron magnetic resonance 7–27626
a-Ge:H, B, P, As, dopant incorporation and doping efficiency 7–44587

semiconductor doping continued
a-Ge:H, elec. props., effect of H plasma press. *(Korean)* 7–27332
Ge:H, H composition at surfaces and interfaces 7–27083
Ge:Na(K), impurity addition by electrolysis 7–44578
Ge:P crystals, seeded growth in soft lined crucible, dopant distrib. 7–53559
$Ge_{30}S_{70}$:Ag chalcogenide films, Ag photodoping, optical transmission spectra 7–59231
Ge_xSi_{1-x}-Si strained-layer heterostructure, transport, optical props. and appls. 7–7349
HgCdTe materials for infrared detectors, prep. techniques 7–64019
InAs, nuclear transmutation doping 7–38025
InAs:Sb(Ga)(Mn), single crystal, elec. inhomogeneity, effects of isovalent impurities 7–7229
n-InAs:Sn,Te, LPE growth, elec. characts. 7–33603
$In_{1-x}Ga_xAs_yP_{1-y}$:Cd on InP, activation energy of impurity 7–32942
$In_{1-x}Ga_xAs_yP_{1-y}$:Te films, Fermi energy, dopant conc. depend. 7–52867
InP, Hall scatt. factor 7–45361
InP:Bi thin film, epitaxy, impurity distrib., photoluminesc. spectra anal. 7–53388
InP:Fe, epitaxial layers, MOCVD, doping profiles, SIMS, resist., temp. depend. 7–21248
InP:Fe, OMVPE grown, electronic and optical props. 7–52868
InP:Fe,Ga,Sb, LEC growth, dislocation density, resistivity, SIMS obs. 7–53552
InP:Ga,As,Sb single crysts., LEC growth, isoelectronic doping, dislocation density, X-ray topography 7–33549
InP:Mn, LPE growth, carrier conc. control and appl. to buried heterostructure laser diodes 7–21774
InP:S,Ga,Sb, LEC growth, appl. mag. field method, dislocation etching 7–53553
InP:Si, substrate, encapsulated annealing, using SiN encapsulant 7–39779
InP:Ti(Cr)(Ni), LEC growth, precipitate phase identification 7–16754
InP:Yb LPE layers, luminesc. and elec. props. 7–59464
InP:Zn(Cd), interstitial-substitutional diffusion, doping effects 7–6878
InP:Zn(Cd), thin films, prep. and characts., appl. for solar cells 7–17895
InP/InGaAs heterojunction bipolar transistors, open-tube Zn diffusion 7–44914
InP/InGaAs:Zn, PIN detectors, OMVPE growth 7–27931
InP/metal Schottky barrier diode, electrical props. 7–27426
InP=Si(Sn)(Be), doping using thermal atomic beams in chemical beam epitaxy 7–44584
In_2S_3:Co, photoconductivity, Co impurity energy levels *(Korean)* 7–33049
InSb:Te, Cd, Zn single crystals, Czochralski growth, solute distrib., mag. field effect on melt 7–3158
InSb:Te(Se)(S)(Cd)(Zn) thin films, doping, Hall effect meas. 7–21743
InSe layer cpd., Al dopant intercalation, Auger and IR spectra studies *(Russian)* 7–32476
$MgFe_2O_4$, photoelectrochemical props., effect of defects and doping 7–45385
Ni-AuGe-GaAs, ohmic contacts, interface reactions, elec. behaviour 7–27031
$Pb_{1-x}Sn_xTe$:$^{57}Br^+$, depth profiles, SIMS meas. and theoretical calcs. 7–6662
PbTe:Ga, doping during vapour phase growth, elec. props. 7–26774
PdTe:Cd, free charge carrier conc., donor action and Te precipitates effects *(Russian)* 7–16592
Sb_2Te_3:Sn, Tl, single crystals, X-ray spectral microanalysis 7–44590
Si, acceptor neutralizing species, low temp. injection mechanisms 7–32482
Si, deep impurity centres, thermophysical studies 7–58765
Si defect annealing and impurity activation during high-intensity As^+ implantation doping 7–58295
a-Si, doped, thermal equilibration struct. 7–1887
Si doping superlattices, anomalous mobility enhancement 7–7381
Si dot junction solar cells, fabrication and anal. 7–3708
Si epitaxial layers, autodoping effects 7–63635
a-Si films, ion implanted device structures, solid phase epitaxy, elec. props. 7–12564
Si, Fourier transform photoluminescence analysis 7–53412
Si, implanted layers, short time annealing, light source comparisons 7–21263
Si, impurity ionisation, doping conc. and temp. depend. 7–38509
Si, ion implantation, H^+, He^+, Ar^+, elastic vibrations 7–12094
Si MBE, review 7–33573
Si, MBE cryst. growth, dopant incorporation 7–12559
Si MBE grown layers, arbitrary doping profiles 7–12109
Si MBE growth, conf., Toronto, Ont., Canada (May 1985) 7–9588
Si MBE homoepitaxial growth, expt. considerations 7–13369
Si, mag.-field Czochralski-grown neutron transmutation doped, thermal behaviour 7–53574
Si, mixed group III and group V ion implantation 7–21243
Si multilayers, LPE growth, DEM, TEM obs. 7–12565
Si, neutron doping in RBMK-1000 power reactors 7–38068
Si, neutron transmutation doped, optical current deep level transient spectroscopy 7–52525
Si, neutron-irradiated, photoluminescence study of annealing process 7–51833
Si, neutron-transmutation doped, spatially resolved carrier lifetime meas. 7–7257
Si, neutron-transmutation-doped, elec. resist. inhomogeneity form. characts. estimation 7–38026
Si, nondegenerate, minority carrier diffusion length and doping density 7–33031
Si, recoil implantation of O_2, characterisation by double-crystal X-ray diffraction, TEM, Monte Carlo simulation 7–51807
Si, reduced-pressure low temp. epitaxy, photochem. effects 7–59455
Si self-doping using Stepanov method, elec. resist. meas. 7–32470
Si solar cell performance, influence of heavy doping 7–23147
Si solar cells, front and back polycrystalline Si contacted 7–13908
Si solar cells, heavy doping effects 7–3653
Si solar cells, loss reduction by ion implantation, laser radiation, protective coatings *(Dutch)* 7–23134
Si solar cells, low recombination p^+ and n^+ regions for high performance 7–3655
Si, transmutation doped, carrier lifetime and hall effect, high temp processing effects 7–33027
Si, transmutation-doped, carrier recomb. props. at gamma-irrad. defects, transport meas. 7–38575
Si wafers, doped by neutron transmutation, minority carrier lifetime, photocond., annealing 7–38785

semiconductor doping continued
- Si:Al, Mg transmutation doping by proton irrad. 7–38027
- Si:Al(In), recrystallisation by pulsed electron beam, impurity profiles 7–16605
- Si:As, deep level spectra, ion implanted defects, laser annealing 7–21869
- Si:As, high dose implanted, defect density reduction by low temp. oxidation 7–58297
- Si:As,P, double diffused shallow junctions, rapid thermal annealing 7–22006
- Si:As (B)(BF_2^+), p-n junction diode, rapid thermal annealing 7–22005
- Si:As films, heavily doped, grown by partially ionised MBE, phys. and elec. characts. 7–12561
- Si:As^+, epitaxial regrowth, CW Ar laser annealing *(Korean)* 7–27197
- Si:Au, deep levels, multiexponential anal. of deep level transient spectroscopy 7–52524
- Si:Au,Fe-SiO_2, MOS struct., trap centres 7–7388
- Si:B, B ion dose identification, HF C-U meas. 7–6661
- Si:B, excimer laser-induced shallow diffusion, junction form. 7–38038
- Si:B, laser microprobe mass analysis, quantitative 7–54250
- Si:B, low temp. epitaxial films, nonequilib. doping effects 7–58672
- Si:B, MBE grown, coevaporation doping 7–12562
- Si:B,P highly doped epitaxial layers, growth by low press. VPE 7–39432
- Si:B film deposition in Si_2H_6-B_2H_6-He gas system, doping effect 7–27184
- Si:B layers, preamorphised and ion implanted, structural and elec. characterisation 7–52347
- Si:B MBE layers, shallow states, photoluminescence spectra, doping level depend. 7–13228
- Si:B p^+-n-n^+ solar cells fabricated using masked ion implantation, electro-optical characts. 7–23143
- Si:B(Ga)(As)(Sb) 7–2040
- Si:B(P), doping by XeCl excimer laser irrad., ultra-shallow junction fabrication 7–58303
- Si:C,O,P, C precipitation after P junction diffusion 7–16779
- Si:C,P, C diffusion during annealing and P in-diffusion 7–16812
- a-Si:D,F, plasma deposited, deuteron magnetic resonance 7–27626
- a-Si:F,H films, glow discharge deposition, B doping efficiency 7–17436
- Si:Fe, silicides obtained by Fe^+ implantation 7–6655
- Si:Ga MBE layers, ion implantation doping using liq. metal ion source, carrier conc., spreading resist., SIMS profiles 7–12563
- Si:Gd, grown from melt, electrical and optical props., residual impurities 7–63636
- Si:H, amorphous, p-i-n solar cells, stability behaviour, impurities and doping residues effect 7–17912
- Si:H, amorphous, transient photoconductivity characterisation 7–52692
- a-Si:H, B, P, As, dopant incorporation and doping efficiency 7–44587
- Si:H, dendritic web cryst., solar cells and modules fabrication status 7–8391
- a-Si:H, distrib. of states study by capacitance-voltage method 7–7089
- a-Si:H, doped, electronic transport 7–21916
- a-Si:H, fluctuation induced gap states 7–27242
- a-Si:H, gas-phase and ion-implantation doped, doping efficiencies 7–51790
- Si:H, H composition at surfaces and interfaces 7–27083
- a-Si:H, H_2 distrib., exodiffusion spectra 7–27026
- a-Si:H, influence of H on defects and instabilities 7–26647
- a-Si:H, plasma deposited NMR, Pake doublet 7–27617
- a-Si:H,B, effective p^+ doping by plasma-assisted B diffusion 7–38036
- a-Si:H,B films, hole transport, time-of-flight meas. 7–45320
- a-Si:H,B/a-Si:H,P doping modulated superlattice, photo-induced excess conductivity 7–17051
- a-Si:H,B(As) RF sputtered coatings, gas-phase doping efficiency 7–63471
- a-Si:H,F by thermal CVD, photosensitivity, spin density, conductivity and p-n type 7–17454
- a-Si:H and a-Si:H, B films, photoinduced changes in elec. props. 7–38634
- a-Si:H film, photoenhanced deposition and characts. 7–53635
- a-Si:H films, high rate deposition and impurity doping effects *(Japanese)* 7–13385
- a-Si:H films photo-CVD, photoelectric and structural props. and P doping 7–7869
- a-Si:H modulation doped multilayers, planar and perpendicular cond. meas. 7–38717
- a-Si:H multilayer films, charge transfer doping, cond., photocond. meas. 7–38735
- a-Si:H solar cell prep. by laser-induced CVD of SiH_4 7–7890
- a-Si:H solar cells, p-layer doping by plasma assisted B diffusion 7–13898
- Si:H(Ne)(Ar), ground state one-electron energies, SCF MS X_α calcs. 7–44582
- Si:In, substitutional ion implanted dopants, electron and positron channelling studies 7–26778
- Si:N, N incorporation and behaviour 7–16598
- Si:Na(K), impurity addition by electrolysis 7–44578
- n-Si:O, donor states of O rel. to heat treatment 7–12647
- Si:P, directional plasma etching, in SF_6+$CFCl_3$ discharge 7–39788
- Si:P, MBE grown, coevaporation P doping 7–26773
- Si:P, meas. of heavy doping parameters 7–12855
- Si:P, polycrystal. thin film, carrier transport, temp. depend. study 7–22043
- Si:P, polycrystalline films, LPCVD, charactn. 7–53615
- a-Si:P, selective doping and solid phase epitaxial growth, MOSFET appls. 7–27893
- Si:P, surface conc. manipulation for P diffusion using ambient control 7–6660
- Si:P, transmutation doped, deform. pot. shear const. determ. 7–38086
- Si:P,B, SiO_2 coated cryst., floating zone growth under microgravity 7–53575
- Si:P,Sb, mixing of P and Sb ions by recoil implantation, sheet resist., annealing temp. depend. 7–21291
- Si:P films, CVD and electrical props. 7–64913
- Si:P solar cells, shallow junction formation by light-induced diffusion from spin-on source 7–8418
- Si:P(As)(P,B)(As,B) films, surface energy driven secondary grain growth 7–22740
- Si:Sb, pot. enhanced doping during MBE growth, elec., optical props., cryst. quality 7–12112
- Si:Sb MBE, electron irrad. effect on doping levels and profiles 7–63660
- Si:Sb MBE film, doped by electron impact ion source, improved doping characts. 7–12101
- Si:Sb MBE layers, doping by secondary implantation 7–12102
- Si:Sb-SiGe modulation doped superlattices, growth and props. 7–7379

semiconductor doping continued
- Si:Sb(As)(P)(B) epitaxial films, low temp. deposited by low press. CVD, autodoping 7–27182
- Si:Ti, deep level transient spectroscopy, transient capacitance data anal. 7–52526
- Si:Zn, amorphous-crystalline interface, backscattering and channelling study 7–6663
- Si/SiO_2 system, dielec., elec. and struct. props. 7–7040
- Si-Ge:O, single crystal, thermodonors rel. to solubility of O 7–12648
- Si-M (M=In, Te, Re, Bi), metal implantation using pulsed electron beam 7–6882
- Si-$Si_{0.55}Ge_{0.45}$ modulation doped superlattice, MBE grown, electron mobility enhancement, Hall meas. 7–7382
- Si-SiO_2, Si oxidation kinetics, interface width determ. 7–39764
- Si-SiO_2 interface properties in the 10^{17}-10^{19} cm^{-3} doping range 7–38762
- Si-SiO_2:Cs MOS, semicond. flatband voltage depend. on impurity distrib. 7–27433
- SiC:H, amorphous CVD film, electron optical characterisation 7–52372
- a-SiC:H,B, effective p^+ doping by plasma-assisted B diffusion 7–38036
- a-SiC:H–a-Si:H, solar cell, fabricated by plasma deposition *(Korean)* 7–33585
- a-SiC:H(B), thin film, solar cells fabricated by plasma deposition *(Korean)* 7–33585
- SiC:P(N)(B)(Al) thin films, impurity 7–27192
- a-SiGe:D,F, plasma deposited, deuteron magnetic resonance 7–27626
- SiGe:H, amorphous, p-i-n solar cells, stability behaviour, impurities and doping residues effect 7–17912
- a-SiGe:H,F alloy films, F incorporation and annealing props. 7–44588
- $Si_{1-x}Ge_x$, epitaxial growth, struct., and elec. props. 7–52354
- Si_xGe_{1-x}:Ga, resistivity and Hall constant, temp. depend. 7–7231
- SiN_x:H,B microcrystalline films, B doping 7–44586
- a-Si_xN_{1-x}:H,B films, DC sputtered, photoelectronic and optical props. 7–27361
- SiO_2-Si, quantitative distrib. eval. of P, SIMS 7–54254
- SnO_2:F films, CVD growth using hydrofluoric acid as doping material 7–7871
- SnTe:Bi epitaxial layers, vacuum deposition, optical and electrical props. 7–59430
- $SrTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7–2539
- TiO_2:Cr(Cd) thin films, extension of optical absorpt. range by doping 7–39144
- ZnS:Al, low resistivity, grown by MOVPE 7–27921
- ZnSe:Al, single crystals, growth, exciton luminesc. 7–22453
- ZnSe:N, MBE growth and doping, photoluminescence studies 7–27749
- ZnSe:Si, single crystal growth, chem. transport method *(Korean)* 7–27880

semiconductor-electrolyte boundaries
- adsorption on semiconductor electrodes, review 7–16867
- equivalent circuit model, Mott-Schottky data dispersion 7–22008
- illuminated, adsorption, competition for photogenerated charge carriers 7–27105
- photoelectrochemical system, quantum yield interpretation and surface state model calcs. 7–23036
- polythiophene film in electrochem. color switching cells, cycle life, stability and characts. 7–62815
- n-WSe_2-electrolyte interface, microwave photoelectrochemistry studies 7–27413
- n-$AgInSe_2$/polyiodide junctions, photoelectrochemical activity 7–2704
- $AgIn_5Se_8$ photoelectrodes, thermodynamic stability in electrolytes 7–54330
- $Al_xGa_{1-x}As$ bandgap determ. by Schottky barrier spectral response meas. 7–2667
- Bi_2CdS_4 thin film photoelectrodes, electrochemical photovoltaic cell appls. 7–17918
- CdS reaction with aq. CuCl, TEM 7–39920
- CdS:In-SnO_2 (glass), spray pyrolysed, photoelectrochemical studies 7–52830
- CdS-CdSe-sulphide-polysulphide multiple junction photoelectrochemical cells 7–59863
- CdS-Cu_2S heterojunction, form. by photoelectrochemical process, phys. props. under light irrad. 7–45456
- CdSe electrodes, photoanodic dissolution in NaCl soln. *(Japanese)* 7–23026
- CdSe thin film liquid-junction photovoltaic cell, photoelectrochem. charactn. 7–54331
- CdSe-CdTe-selenide-polyselenide multiple junction photoelectrochemical cells 7–59863
- CdSe-polysulfide solar cells, nitrite reduction to ammonia 7–39999
- CdSe-polysulphide photoelectrochem. system. corrosion reactions, thermodynamic stability calcs. 7–28320
- CdSeTe-polysulfide solar cells, nitrite reduction to ammonia 7–39999
- $CdSe_{0.65}Te_{0.35}$/aqueous polysulphide interface, photoelectrochemical props. 7–52829
- Cr_2O_3-GaAs, struct. and electrophysical props. 7–17109
- p-CuCNS photocathode, dye-sensitized, stabilisation by Pt deposition 7–27416
- $CuCrO_2$:Ca, semiconductor, prep., opto-electronic props. 7–2705
- $CuIn_5S_8$ photoelectrodes, thermodynamic stability in electrolytes 7–54330
- $CuInSe_2$ electrodeposited films, photoelectrochem. solar cells fabrication 7–3710
- $CuInSe_2$, pH effects on surface properties 7–23201
- n-$CuInSe_2$ photoelectrochemical cells 7–23199
- n-$CuInSe_2$/I^--I_2 acidic electrolyte contact, interphase characterisation 7–2703
- Cu_2O film-electrolyte interface, photoelectric effect 7–38723
- Fe_2O_3/o-toluidine photoelectrochemical imaging system *(Japanese)* 7–35590
- FeS_2-electrolyte photoactive interface, electronic props. 7–33086
- GaAs electrodes, H_2 production by photoelectrolysis of water 7–3723
- GaAs semiconductor/liquid junction device performance improvement 7–17098
- p-GaAs/electrolyte, photoelectron emission spectra, thermodynamic consts. 7–12856
- GaP-electrolyte interfaces, Fourier transform IR spectroscopy 7–27124
- GaSe laminar semicond. intercalation cpds., phase equilibria and stability studies *(Russian)* 7–21409
- InP electrodes, surface modified, time resolved photoelectrochemical meas. 7–27415
- p-InP/Co(Pt) photocathodes for photoelectrochemical solar cells, H_2 evolution from alkaline solns. 7–13922

semiconductor-electrolyte boundaries continued
- p-InP/electrolyte, photoelectron emission spectra, thermodynamic consts. 7−12856
- InP-aqueous electrolyte interfaces, laser induced photoelectrochemistry 7−27412
- InSe laminar semicond. intercalation cpds., phase equilibria and stability studies *(Russian)* 7−21409
- MoS_2 electrodes, H_2 production by photoelectrolysis of water 7−3723
- $NiFe_{1.96}O_{4+\gamma}$ electrodes in aq. electrolytes, photoelectrochem. characts. meas. 7−46854
- Sb_2S_3-electrolyte interfaces, electrochemical photovoltaic cell fabrication appl. 7−40016
- Si for solar cells, characterisation by electrolyte-semiconductor interphase and SERS investigation 7−13887
- Si, impurity and carrier conc. profiles, electrochem. C-V method *(Chinese)* 7−12105
- Si materials for solar cells, nondestructive assessment using electrolyte-semiconductor boundary 7−13886
- n-Si porous electrodes, photoelectrochem. behaviour 7−3711
- n-Si/methanol junction device performance improvement 7−17098
- Si-aqueous electrolyte interfaces, impedance spectra, freq. dispersion 7−27414
- Si-electrolyte interface, Fourier transform IR spectroscopy 7−27124
- n-Si-MnO photoanodes, photoelectrochemical and struct. behaviour 7−54329
- $Si\text{-}TiO_2$-electrolyte system, charge-transfer processes 7−22007
- TiO_2 electrodes, H_2 production by photoelectrolysis of water 7−3723
- TiO_2-redox polymer detector junctions, flatband pot. meas. 7−13787
- ZnO:Co, pulsed-laser induced photopots., time evolution, electron-hole recombination 7−45379
- ZnO-electrolyte interface, electrolum. under cathodic and anodic pulsed polarisation 7−13235
- ZnO-electrolyte interface, photoconductivity and photocurrent spectra, influence of exciton absorption 7−45486

semiconductor electron states *see band structure of crystalline semiconductors and insulators; electron energy states of amorphous solids; electron energy states of liquid semiconductors*

semiconductor epitaxial layers
- adamantine semiconductor epitaxial layers, structural stability and selectivity 7−12518
- atomic layer epitaxy, review 7−13362
- atomically controlled growth in 2, 1 and OD, and applications 7−52370
- CdTe films, MBE growth, photoluminescence and TEM characterisation 7−22376
- compound semiconductor multilayered structure, cross-sectional obs. with TEM 7−2416
- conference, Boston, MA, USA (Dec. 1985) 7−18508
- doping profiles determ. 7−12111
- heterostructure lattice mismatch determ. by X-ray diffr. in SEM 7−6482
- high speed X-ray double crystal rocking curve analysis 7−51578
- III-V semiconductor layers, metalorganic MBE 7−53601
- III-V semiconductors, chemical beam epitaxy 7−52360
- III-V semiconductors, epitaxial growth by rapid thermal MOCVD 7−53605
- III-V semiconductors, gas source MBE, review 7−33572
- III-V semiconductors, line defects, TEM obs. 7−51751
- III-V semiconductors, MBE, surface effects and growth dynamics 7−58711
- III-V semiconductors, selective photoetching studies of defects 7−32426
- InGaAsP epitaxial films, X-ray diffr. charactn. *(Japanese)* 7−63399
- laser materials processing developments at GEC Hirst Research Centre (UK) 7−53581
- liquid phase electroepitaxy 7−33607
- microstructure growth by MBE 7−7856
- MOVPE, conf., Universal City, CA, USA (Apr. 1986) 7−18477
- multispectral high efficiency solar cells, semicond. selection criterion 7−8399
- recombination lifetime profiles meas., injection level depend. 7−52874
- SOI films, halogen lamp recrystallisation 7−38394
- SOI heterostructure technology 7−38750
- solid-phase epitaxial regrowth, amorphous-crystalline interface evolution 7−12568
- SOS, double solid phase epitaxial regrowth, amorphous layer, self-implantation, ion energy, defect density 7−58691
- SOS epitaxial layers, strain meas., using X-ray diffr. 7−44305
- transient doping during CVD 7−52317
- $AgGa_{1-x}In_xSe_2$ thin films, evaporated, photosensitivity and optical props. study *(Korean)* 7−53423
- (Al, Ga)As films, doped, Si migration during MBE growth 7−27171
- $(Al,Ga)As/(Ca,Sr)F_2$ multilayer structures, MBE grown, broadband high-reflectivity mirrors fabrication 7−11091
- AlAs, VPE growth by chloride transport method 7−64930
- AlAs:Si films and AlAs:Si-GaAs:Si superlattices, MBE growth and electrical props. 7−22052
- AlAs:Si MBE layers, photoluminesc. 7−39160
- AlAs-GaAs quantum-wells, low temp. growth by modified MBE 7−39386
- AlGaAs, chemical beam epitaxial growth investig. 7−7878
- AlGaAs epitaxial layers and superlattices, X-ray diffr. analysis 7−21047
- AlGaAs epitaxial layers, large scale MOVPE growth 7−22552
- AlGaAs epitaxial layers, OMCVD, compositionally graded growth technique for device structs. 7−22553
- AlGaAs laser diodes, MOCVD grown, struct. fabrication and characts. *(Japanese)* 7−20272
- AlGaAs laser diodes, MBE grown, fabrication and characts. *(Japanese)* 7−20273
- AlGaAs layers MOCVD using dimethyl aluminium hydride, C acceptors, photolum. 7−22517
- AlGaAs, low press. MOCVD grown, surface morphology and defects 7−64023
- AlGaAs, MOVPE, laser assisted, selective area irrad., carrier conc. 7−22545
- AlGaAs:Mg LPE layers, Mg doping and injection laser threshold current 7−12092
- AlGaAs:Sb, MBE growth, Sb doping 7−2038
- AlGaAs/GaAs, abrupt heterojunction structures, large area uniformity, MOVPE reactor design 7−22524
- AlGaAs-GaAs heteroepitaxial wafer for solar cell appls., uniform growth by MOCVD 7−64929
- AlGaAs-GaAs solar cell fabrication, elec. characts. and space appl. 7−54307

semiconductor epitaxial layers continued
- $Al_xGa_{1-x}As$, AlAs and GaAs epitaxial multilayers as optical interferometric elements 7−342
- n-$Al_xGa_{1-x}As$ epitaxial layers, graded-gap, resistance, press. dependence 7−33113
- $Al_xGa_{1-x}As$ heteroepitaxial layers formed by metalloorganic chem. hydride method, electrophys. props., comp. effect 7−64370
- $Al_xGa_{1-x}As$, low press. OMVPE, selective growth embedding in etched grooves on GaAs 7−22554
- $Al_xGa_{1-x}As$ MBE layers, deep electron traps, flux ratio effects 7−12641
- $Al_xGa_{1-x}As$ surface, protection by As and GaAs ultrathin layers, AES sputter depth profiles 7−54022
- $Al_xGa_{1-x}As$:Be epitaxial layers, ion implanted, rapid thermal annealing 7−21257
- $Al_xGa_{1-x}As$:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7−21242
- $Al_xGa_{1-x}As$-GaAs layered structures, metal organic VPE grown, depth profiles, SIMS anal. 7−21684
- AlGaInAs layers on InP, LPE growth 7−33608
- AlGaInP, MOCVD, photolum., quantum wells, double heterostruct. laser appl. 7−39405
- AlGaInP visible semiconductor lasers grown by metalorganic vapor phase epitaxy 7−50590
- $Al_xGa_{1-x}N$ epitaxial layers, MOCVD, growth mechanism, Ga incorporation rate 7−39411
- $Al_xGa_{1-x}N$ MOVPE growth, struct. and elec. props. 7−21729
- AlInAs-GaInAs selectively doped heterostructs., MOCVD growth, HIFET fabrication appl. 7−17429
- AlN films, OMVPE, Hall mobilities, impurity band 7−39410
- AlN-sapphire, low temp. epitaxial film growth 7−13387
- (Cd,Mn)Te quantum well structure, wide-gap II-VI superlattices 7−7346
- $Cd_xHg_{1-x}Te$, abrupt interfaces using thermal and photo-MOVPE, Hall meas. 7−27917
- $Cd_xHg_{1-x}Te$ layers, MOVPE, CdTe substrate orientation effect, RHEED, SEM obs. 7−59447
- $Cd_xHg_{1-x}Te$ MOVPE growth on CdTe/sapphire substrate 7−27918
- $Cd_xHg_{1-x}Te$ MOVPE layers, elec. props. and Hall effect behaviour 7−27444
- CdS epitaxial films, initial oxidation stages, diffusion mass transport between CdO islands 7−8206
- CdS/ZnS, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
- CdS-CdTe heterostructure, closed-tube CVD and charactn. 7−59444
- CdSe/ZnSe, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
- CdTe (001), Cd and Te desorpt., surface stoichiometry and reaction kinetics, RHEED studies 7−21613
- CdTe (001) films, MBE grown on InSb substrates, low temp. photolum. studies 7−22317
- CdTe, annealing in Cd or Hg vapour, defect concentrations 7−65064
- CdTe, epitaxial growth on GaAs (100) 7−21779
- CdTe epitaxial layers, MBE growth on GaAs substrates, photoluminesc. 7−46083
- CdTe epitaxial layers on GaAs substrates, X-ray diffr. 7−27201
- CdTe films, detachable oriented, VPE 7−33567
- CdTe films, organometallic VPE growth mechanism 7−64914
- CdTe films on InSb, interface struct. and band offsets 7−58664
- CdTe grown on Si by LPMOCVD, physical props. 7−27181
- CdTe, heteroepitaxial growth on GaAs (100) substrates 7−45034
- CdTe homoepitaxy on CdTe (111) by laser MBE, nucleation kinetics 7−22499
- CdTe LPE layers, matrix atom diffusion, SIMS studies 7−21513
- CdTe, MBE growth, crystallographic orientations and condensation coeffs. 7−3180
- CdTe, MBE growth on Si using $(Ca, Ba)F_2$ buffer layer 7−46325
- CdTe MOVPE growth on InSb substrate, characts. 7−27920
- CdTe, MOVPE on {111}CdTe, twin nucleation 7−33579
- CdTe, OMVPE growth on InSb substrates 7−33577
- n-CdTe:In, high mobility, growth by photoassisted MBE 7−22485
- pCdTe:Sb epilayers, photoassisted MBE growth 7−53607
- CdTe-(Cd,Mn)Te MQW, optical and magnetooptical props. 7−13137
- CdTe-GaAs heteroepitaxial interface, at. resolution HVEM study 7−2392
- CdTe(Se) heteroepitaxial layers, deposition on InAs 7−7045
- $Cd_{1-x}Zn_xTe$, MBE growth 7−13358
- Cu/nS_2 films, LPE growth 7−46359
- $CuInSe_2$ epitaxial films deposited on GaAs and CdS, RHEED studies 7−12549
- GaAS:Be, MOVPE, diethylberyllium dopant source, elec. characts. 7−22521
- GaAlAs, MOVPE growth rate, orientation depend. 7−22556
- GaAlAs-GaAs epitaxial superlattice, X-ray double crystal characterisation, rocking curves calc., computer simulation technique 7−58105
- GaAlAs-GaAs solar cells grown by MBE, material props. and device parameters 7−23164
- $(Ga_{0.5}Al_{0.5})As$, MBE grown, elastic consts., diffuse X-ray scatt. study 7−16918
- $Ga_{0.65}Al_{0.35}As$-GaAs quantum wells, elect. field-induced decrease of exciton lifetimes 7−45481
- $Ga_{1-x}Al_xAs$ solid soln. epitaxial layer composition, Raman determ. 7−64628
- $Ga_{1-x}Al_xAs$:S(Se), MBE growth, dopant incorporation 7−12533
- $Ga_{1-x}Al_xAs$:Si, electrical current induced liq. phase epitaxy 7−27955
- $Ga_{1-x}Al_xAs$-GaAs, thickness and conc. of thin $Ga_{1-x}Al_xAs$ epitaxial films, determ. by photoemission jumps method *(French)* 7−38381
- GaAlAsGaAs quantum well heterostructures, grown by MOCVD, props. 7−45479
- $Ga_{0.94}Al_{0.06}Sb$/GaSb epitaxial struct., misfit dislocations anomalous visibility, Bragg geometry X-ray topograms 7−2019
- $Ga_{0.96}Al_{0.04}Sb$ layers, liq. phase epitaxial growth, elec. and photoelec. characterisation 7−39443
- $Ga_{1-x}Al_xSb$ epitaxial layers, MOCVD, morphology rel. to growth conditions 7−39408
- GaAs (001), chemisorption of CF_3 radicals, RHEED, photoelectron spectra, HF SCF calcs. 7−53497
- GaAs (100) films, mol. beam epitaxy system *(Czech)* 7−7854
- GaAs, atomic layer epitaxy growth, photolum., Hall meas. 7−22527
- GaAs, chemical beam epitaxial growth investig. 7−7878
- n-GaAs compensated samples, MOVPE grown, Hall effect meas. 7−27348
- GaAs crystals, liquid-phase electroepitaxial growth, dislocation density reduction 7−58681

semiconductor epitaxial layers continued
  GaAs crystals, selective etching and photoetching of CrO$_3$-HF aq. solns. 7−32442
  GaAs device structures, γ-ray effects, surface generation-recombination processes 7−64349
  GaAs epilayers, MOCVD on Si for solar cell appls. 7−27928
  GaAs epilayers, plasma enhanced metalorganic CVD 7−46336
  GaAs epilayers grown on Ge or Ge/Si substrates, defects 7−21778
  GaAs, epitaxial film on (001) oriented Si and Ge substrates, structural props. 7−58687
  GaAs epitaxial film shallow homojunction solar cells fabrication by Zn solid state diffusion method 7−17860
  GaAs epitaxial films, domain form., crystallographic analysis 7−58690
  GaAs epitaxial films, growth by close-spaced vapour transport, unwanted doping, X-ray diffr., SEM obs. 7−27187
  GaAs epitaxial films, MOCVD growth using tertiarybutylarsine source 7−59439
  GaAs epitaxial films, switched laser MOVPE stepwise monolayer growth 7−13372
  GaAs, epitaxial growth, $\delta(z)$ doping layer, electronic states 7−52729
  GaAs epitaxial layer, EL2 midgap electron trap prod. by rapid thermal annealing, DLTS study 7−64154
  GaAs epitaxial layers, OMVPE growth on Si (100) 7−3190
  GaAs epitaxial layers, vacancy doping 7−6656
  GaAs epitaxial layers, MOCVD grown, influence of growth parameters on residual impurities 7−7047
  GaAs epitaxial layers, native deep level defects 7−12888
  GaAs epitaxial layers, large scale MOVPE growth 7−22552
  GaAs, epitaxial layers, selective growth in MOMBE and MOCVD systems 7−22555
  GaAs epitaxial layers, OMCVD growth, optimisation using photoluminesc. analysis 7−39396
  GaAs epitaxial layers, MOCVD growth, boundary layer effects, photoluminesc. study 7−64923
  GaAs epitaxial layers and heterostructures grown on Si substrates, material props. 7−7046
  GaAs epitaxial layers grown directly on Si (100) by low press. MOVPE 7−27924
  GaAs films, initial stages of MBE growth on Si (100) 7−63995
  GaAs films, MBE growth and structural characterisation 7−21775
  n-GaAs films, magneto-optical studies under high hydrostatic press. 7−13247
  GaAs, grown in temp.-gradient field, effects on dislocation density 7−13393
  GaAs growth mechanisms, in situ RHEED 7−53603
  GaAs high quality layers grown on Si by MOCVD 7−27922
  GaAs, homoepitaxial growth, cross hatch defect structure 7−45054
  GaAs, hydride VPE layers, deep level incorporation and background doping 7−17120
  GaAs LPE layers, heavily doped and compensated, hopping cond., density of states at Fermi level, carrier conc. determ. 7−2753
  GaAs, laser MOVPE growth 7−33580
  GaAs layers, LPE growth from Ga-As-Bi soln., kinetics, edge growth effects 7−39444
  GaAs layers, MBE, oval defects 7−59433
  GaAs layers, MOVPE, Zn acceptor impurities, magnetophotolum. 7−22308
  GaAs, low frequency $1/f$ noise, new scale invariance 7−12770
  GaAs MBE films, oval defects and whiskers 7−13364
  GaAs, MBE growth, acceptor impurity background reduction 7−3173
  GaAs, MBE growth, defect reduction using superlattice structures 7−13359
  GaAs, MBE growth, transient behaviour, RHEED oscillations 7−64904
  GaAs MBE heteroepitaxial layers, lattice distortions, X-ray diffr. and Raman studies *(Japanese)* 7−27219
  GaAs, MBE initial growth stage on (100) Si substrate, RHEED, AES and TEM 7−52356
  GaAs MBE layer growth and surface anal. *(Korean)* 7−2417
  GaAs MBE layers, bias-dependent capture-emission processes, DLTS anal. 7−64166
  GaAs, MBE layers, deep level defects, passivation by H$_2$ plasma exposure 7−21850
  GaAs MBE layers, deep level defects and impurities 7−22051
  GaAs MBE layers, oval defects, particulate effects during growth 7−21194
  GaAs MBE layers on Si (100), crystalline quality, rapid thermal annealing effects 7−12519
  GaAs MBE substrate refractory metals growth 7−21755
  GaAs, MOCVD, plasma stimulation, growth kinetics, elec. props. 7−22548
  GaAs MOCVD growth on Si with superlattice intermediate layers, material props. 7−27923
  GaAs MOCVD growth on Ge (100) and Si (100) substrates, antiphase and single domains 7−27925
  GaAs, MOCVD growth on Si, band gap energy and stress 7−38368
  GaAs MOCVD layers, lateral growth mechanisms 7−64032
  GaAs, MOVPE, laser assisted, selective area irrad., carrier conc. 7−22545
  GaAs, MOVPE growth rate, orientation depend. 7−22556
  GaAs, magneto-optical photoluminescent spectra studies 7−46148
  GaAs metalorganic MBE 7−53601
  GaAs molecular beam epitaxial layers, defect density reduction by thermal annealing, TEM study 7−45041
  GaAs, OMVPE, low pressure growth from trimethylgallium+AsH$_3$ 7−17439
  GaAs sawtooth doping superlattices, photoluminescence, transport props. 7−52825
  GaAs, single domain epitaxial growth on Ge (100) 7−22578
  GaAs single domain layer growth on Si wafers by MOCVD/MBE, heteroepitaxy 7−52357
  GaAs, solid-phase-epitaxy, interface structure and impurity effects 7−2407
  GaAs substrate for MBE growth, thermal etching 7−7861
  GaAs surface, anisotropically etched, p-n junction formation by MOCVD 7−13374
  GaAs, ultrathin layers, liquid phase epitaxial growth on GaAlAs substrate 7−53645
  GaAs, VPE grown, defect formation leading to deep levels, review 7−64151
  GaAs, VPE growth, reaction mechanisms 7−58693

semiconductor epitaxial layers continued
  GaAs:B buried isolation layer form. by focused ion beam, FIBI-MBE system 7−51804
  GaAs:Bi, epitaxial layers, purification by Bi doping 7−58301
  GaAs:Er MBE layer, dopant trapping level, photolum. obs. 7−44581
  GaAs:In, VPE growth, isoelectronic In doping, etch pit densities 7−46340
  GaAs:In MBE layers, defect density reduction by isoelectronic In doping 7−3176
  GaAs:MG, MOVPE, p-type doping using an organometallic Mg precursor 7−22522
  GaAs:Mg MBE layers, photoluminescence 7−22295
  GaAs:S, Sn, photoluminescence spectra 7−46095
  GaAs:S,Si epitaxial layers, close space vapour transport growth, photoluminescence and electrical props. 7−21776
  GaAs:S layers obtained by gas-phase epitaxy, electrophysical props. 7−7418
  GaAs:Si, flow-rate modulation epitaxy, Si planar doping 7−17443
  GaAs:Si, MBE growth, carrier concentration, dislocation effects 7−58682
  GaAs:Si,Be, MBE, dopant interaction 7−52362
  GaAs:Si,Se MOCVD epitaxial layer photolum. spectral shift and doping efficiency obs. *(Japanese)* 7−45076
  GaAs:Si heteroepitaxial growth on sapphire, low press. MOCVD three-step method 7−27927
  GaAs:Si/AlAs multiquantum well structs., band struct. and photolum. studies 7−12843
  GaAs:Sn, current carrier distrib. 7−12530
  GaAs:Sn epilayers, MOCVD using triethylgallium and tetraethyltin, characterisation 7−22515
  GaAs:Sn LPE layers, heavily doped, Mossbauer study 7−38967
  GaAs:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7−21242
  GaAs:Zn epilayers, metalorganic CVD, Zn incorporation 7−63996
  GaAs:Zn(C) epilayers, low pressure MOCVD growth, impurity incorporation 7−59442
  GaAs/Al$_x$Ga$_{1-x}$As multi-quantum well structs., photoluminescence studies 7−3078
  GaAs/Al$_x$Ga$_{1-x}$As quantum well structs., MOVPE growth chemistry 7−22550
  GaAs/AlAs MBE superlattice, interface struct., HREM study 7−17096
  GaAs/AlGaAs 2D electron gas MBE structures, carrier mobility and density meas. 7−64321
  GaAs/AlGaAs quantum wells and double heterostruct. lasers, chemical beam epitaxy, photolum. 7−22523
  GaAs/AlGaAs single heterojunction quantum well structs., photolum. characts. 7−46085
  GaAs/Au contacts, growth modes, AES, UPS, XPS and RHEED studies 7−21753
  GaAs/Ca$_x$Sr$_{1-x}$F$_2$ (100) SOI structures, epitaxial GaAs films, antiphase disorder 7−52315
  GaAs/CaF$_2$ system, MBE growth processes, growth chamber transfers 7−64902
  GaAs/Ge heterojunction interfaces, cyclic behaviour of band discontinuities 7−7365
  GaAs/n-AlGaAs MBE-grown selectively doped heterostructs., 2D electron gas, transport props. 7−21988
  GaAs-(Ca,Sr)F$_2$ heterostructure interfaces, twinning, Raman spectra 7−13148
  GaAs-Al Schottky barrier contacts, MBE grown, interface reactions, vacuum annealing effects 7−45022
  GaAs-Al$_{0.44}$Ga$_{0.56}$As quantum wells, MBE grown, tunnelling assisted photon emission, photoluminescence meas. 7−46120
  GaAs-Al$_{0.7}$Ga$_{0.3}$As SQW structure, photolum. switching by pulsed elec. field 7−13197
  GaAs-Al$_x$Ga$_{1-x}$As MBE superlattices, low temp. photoluminesc. spectra 7−22340
  GaAs-Al$_x$Ga$_{1-x}$As MOCVD quantum well structures, time-resolved photolum. 7−53410
  GaAs-Al$_x$Ga$_{1-x}$As solar cell, operation with band-gap gradient in space charge region 7−54295
  GaAs-Al$_x$Ga$_{1-x}$As(In$_x$Ga$_{1-x}$As) lattice-mismatched heterojunctions, misfit strain relaxation, X-ray study 7−21718
  GaAs-AlAs MBE MQW struct., photoluminesc. spectra *(Chinese)* 7−59240
  GaAs-AlGaAs, MBE materials for high-speed digital heterostructure devices 7−45480
  GaAs-AlGaAs quantum wells, MBE grown, photolum. study 7−27758
  GaAs-AlGaAs quantum wells, electron-phonon scatt. rate reduction by total spatial quantisation 7−45482
  GaAs-Bi, distrib. coeff. of Bi, crystn. from molten solns. 7−46428
  GaAs-Ga$_{1-x}$Al$_x$As heterostruct., light interf. meas. of thickness and comp. during epitaxial growth 7−64026
  GaAs-GaAlAs heterostructure, LPE grown, interface photoluminescence spectra 7−53390
  GaAs-GaAlAs laser, light-activated, negative resistance, characts. *(Chinese)* 7−5901
  GaAs-GaAs MOVPE epitaxially-grown interfaces, anomalous C-V carrier conc. profiles, model 7−52648
  GaAs-GaAs:Cr(Te), VPE grown, photoluminescence study, effect of substrate doping 7−27771
  GaAs-GaAs:In epitaxial layers, dislocation reduction, device performance effects 7−7354
  GaAs-GaAs-Al$_x$Ga$_{1-x}$As heterostructures, photosensitivity spectra 7−64319
  GaAs-Ge epitaxial interface, extended defects, geometrical character 7−6640
  GaAs-Ge heteroepitaxy on Si substrates, recrystallised Ge-on-insulator intermediate layers 7−52358
  GaAs-In$_x$Ga$_{1-x}$As strained layer superlattices, photolum. microimaging of dislocations 7−27161
  GaAs-Si heteroepitaxial interface, at. resolution HVEM study 7−2392
  GaAs-Si heteroepitaxial interface, atomic structure 7−52298
  GaAs-ZnSe, MBE growth on GaAs epilayers, nucleation and characterisation 7−45046
  GaAs$_{0.12}$P$_{0.88}$:N, Te and GaP:N, Si(Te) epitaxial layers, minority carrier lifetimes, surface and interface recombination effects 7−7424
  GaAs$_{0.6}$P$_{0.4}$ LEDs, MOCVD growth on Si substrates 7−17438
  GaAs$_{1-y}$P$_y$, epitaxial structs., radiative characts., deep centres effects 7−45220
  GaAs$_{1-x}$P$_x$:N epitaxial layers, N conc. determ. 7−63989
  n-GaAs$_{1-x-y}$Sb$_x$P$_y$ epitaxial film, impurity distrib., cond. and Hall mobility study 7−51808

semiconductor epitaxial layers continued

- GaInAs, anodic oxides, growth and composition 7−39781
- GaInAs epitaxial layer on InP, depth profiling and interface detection using anodic oxidation 7−45057
- GaInAs-InP epitaxial superlattice, X-ray double crystal characterisation, rocking curves calc., computer simulation technique 7−58105
- $Ga_{0.47}In_{0.53}As$:Be epitaxial films, ion implanted, rapid thermal and furnace annealing 7−22729
- $Ga_{0.47}In_{0.53}As$-$Si_3N_4(SiO_2)$ interface, elec. charact. 7−38752
- $Ga_{47}In_{53}As$, photoluminescence line shape of excitons 7−3087
- $Ga_xIn_{1-x}As$, low-pressure MOVPE growth 7−7873
- GaInAsP epitaxial layers, double axis X-ray diffractometry at glancing angles 7−37805
- GaInAsP epitaxial layers, X-ray double crystal characterisation, rocking curves calc., computer simulation technique 7−58105
- GaInAsP-InP BH laser fabrication, MOCVD epitaxy, validation by photoluminescence imaging 7−31360
- GaInAs(P)-InP heterostructures, gas source MBE growth 7−53598
- GaInAsSb, MOVPE, band gap rel. to growth temp. 7−39409
- $Ga_xIn_{1-x}P$ epitaxial layers, OMVPE, surface morphology, photolum. 7−22557
- $Ga_xIn_{1-x}P$ layers, MOVPE, photolum., comp. and growth temp. depend. 7−39403
- $Ga_xIn_{1-x}P$, OMVPE growth and characterisation 7−3192
- $Ga_{1-x}In_xSb$ epitaxial layers, MOCVD, morphology rel. to growth conditions 7−39408
- GaN, electron-hole plasma generation 7−27358
- GaN films, OMVPE, Hall mobilities, impurity band 7−39410
- GaN, X-ray phase anal., elastic props. 7−45050
- GaN:Zn films, MOVPE, electron cyclotron resonance plasma excitation, low temp. growth, photolum. 7−22549
- GaP emitters, secondary electron energy distrib. rel. to work function 7−46256
- GaP epitaxial layers, MOCVD growth on Si, TEM and SEM 7−38416
- GaP, epitaxial structs., radiative characts., deep centres effects 7−45220
- GaP films, MBE grown on Si, antiphase domain structures 7−64014
- GaP LPE layers, reuse of Ga melt for LED prep., effect on electrical characts. 7−22592
- GaP MBE heteroepitaxial layers, lattice distortions, X-ray diffr. and Raman studies *(Japanese)* 7−27219
- GaP on Si substrate, MOCVD growth and characterisation 7−27926
- GaP:Cu, 1.65 eV luminescence, optically detected mag. resonance studies 7−64547
- GaP-$GaAs_xP_{1-x}$ strained layer superlattices, photolum. microimaging of dislocations 7−27161
- GaSb/AlSb single quantum wells, electroreflectance and photoluminescence studies 7−46136
- GaSb-based wafers, determ. of (110) and (-110) directions by etching 7−59696
- Ge epitaxial films, CVD growth on Ge substrates, surface morphology 7−53618
- Ge, epitaxial films, remote plasma-enhanced CVD 7−39395
- Ge epitaxial growth on CaF_2/Si (111), film quality improvement by Ge predeposition 7−7070
- Ge, heteroepitaxy on CaF_2-Si (111) 7−22497
- Ge heteroepitaxy on CaF_2-Si structures, planarised growth by electron beam exposure to predeposited layers 7−52855
- Ge, MBE growth on CaF_2/Si (111), structural and electrical characteristics 7−45051
- Ge, MBE on Si, role of surface reconstruction, LEED, Rutherford backscattering, channelling meas. 7−7034
- Ge, vapour phase growth on Ge substrates, influence of p and n doping 7−3198
- Ge-Si alloy, MBE on Si substrates, stacking fault tetrahedra form. 7−21769
- GeSi thermally evaporated epitaxial heterolayers on GaAs substrate, Si distrib. *(Russian)* 7−63988
- $Hg_{1-x}Cd_x(Mn_x)Te$/CdTe superlattices, twin faults, X-ray obs. 7−45036
- HgCdTe and HgTe-CdTe superlattices, IR photolum. by Fourier transform spectroscopy 7−46134
- HgCdTe epitaxial layers and structures, characterisation of intentional dopants 7−12552
- HgCdTe epitaxial layers, Hall effect and elec. resist. characterisation 7−64375
- HgCdTe, interdiffusion profiling, microreflection spectroscopy 7−53369
- p-$Hg_{0.78}Cd_{0.22}Te$:Sb LPE films, elec. props. 7−7426
- $Hg_{1-x}Cd_xTe$ films, LPE using a semiclosed rotational boat 7−64937
- $Hg_{1-x}Cd_xTe$ films, organometallic epitaxial growth on CdTe and characterisation 7−22579
- $Hg_{1-x}Cd_xTe$, MBE growth, crystallographic orientations and condensation coeffs. 7−3180
- $Hg_{1-x}Cd_xTe$ MBE layers, plasma oxidation, oxide growth, comp. and surface struct. 7−54018
- $Hg_{1-x}Mn_xTe$ LPE crystals, magnetophonon reson. recomb. with phonon emission 7−63755
- HgTe based superlattice, MBE growth and props. 7−7345
- HgTe-CdTe superlattices, band struct., optical and magneto-optical studies 7−64337
- In $As_{1-x}Sb_x$ epitaxial layers, MOCVD, strained-layer superlattices 7−39407
- $In_xAl_{1-x}As$/Au Schottky barrier heights, composition dependence 7−45431
- InAs, $In_xGa_{1-x}As$, atomic layer epitaxy growth, photolum., Hall meas. 7−22527
- n-InAs:Sn,Te, LPE growth, elec. characts. 7−33603
- $In_{0.5}G_{0.5}P$ layers, LPE, elec. and optical props. 7−17119
- $In_xGa_{1-x}(Al_{1-x})As$, MBE growth rates, temp. dependence 7−17426
- InGaAlP epilayers, MOCVD, laser appl. 7−39404
- InGaAs and InGaAsP, nonuniform, dynamical X-ray rocking curve simulations 7−2408
- InGaAs, chemical beam epitaxial growth investig. 7−7878
- InGaAs epitaxial films, MO-chloride VPE growth 7−22566
- InGaAs epitaxial layers on InP substrates, ion beam crystallography 7−32863
- InGaAs, LPE diffusion-limited growth 7−21727
- InGaAs layers on InP, LPE growth 7−33608
- InGaAs/GaAs lattice-strained double heterojunction bipolar structs., comp., recomb. props. and device performance 7−64322
- InGaAs/InP heteroepitaxial structs., misfit stress, elastic eqns., comment 7−21676

semiconductor epitaxial layers continued

- InGaAs-GaAs MOVPE epitaxially-grown interfaces, anomalous C-V carrier conc. profiles, model 7−52648
- InGaAs-InP heterostruct., rare earth doped, elec. and photoluminescence props. 7−46133
- $In_{0.53}Ga_{0.47}As$-W-InP structures, LPE growth on structured substrates 7−46353
- $In_{1-x}Ga_xAs$, MOCVD, optical and elec. props. rel. to growth temp. 7−53613
- $In_xGa_{1-x}As$, gas source MBE growth 7−52361
- $In_xGa_{1-x}As$-$In_yAl_{1-y}As$ superlattices, lattice-matched and lattice-mismatched, dislocation filtering 7−21671
- InGaAsP (001), surface, dislocation etch pits, new etchant props. 7−59699
- InGaAsP epitaxial films, strain mapping by an X-ray diffraction technique 7−21786
- InGaAsP film, defect struct. and strain anal., X-ray topography 7−52344
- InGaAsP, LPE growth on $GaAs_{0.7}P_{0.3}$ substrate, crosshatch pattern 7−59472
- InGaAsP layers, LPE on GaAs, immiscibility region, lattice matching 7−59465
- InGaAsP layers, VPE growth, X-ray characterisation 7−21780
- InGaAsP layers on InP (001), origin of grown-in dislocations 7−38415
- InGaAsP, layers on InP, rel. lattice parameter meas., convergent beam electron diffraction 7−52371
- InGaAsP local struct., EXAFS and near-edge struct. studies 7−64006
- $In_{1-x}Ga_xAs_yP_{1-y}$/InP heterojunctions, MOCVD grown, spectroscopic ellipsometry study 7−39195
- $In_{1-x}Ga_xAs_yP_{1-y}$:Te films, Fermi energy, dopant conc. depend. 7−52867
- $In_xGa_{1-x}As_ySb_{1-y}$, mid-IR source and detector material 7−36964
- $In_{1-x}Ga_xP$, epitaxial films, radiative recomb. 7−59257
- $In_{1-x}Ga_xP$ epitaxial layers, LPE, surface morphology rel. to lattice mismatch 7−33604
- InGaPAs, LPE growth on GaAs, immiscibility effects 7−39442
- InGaPAs/GaAs interface stress, Cr-related luminescence study 7−46101
- InP, chemical beam epitaxial growth investig. 7−7878
- n-InP compensated samples, MOVPE grown, Hall effect meas. 7−27348
- InP epitaxial films, MO-chloride VPE growth 7−22566
- InP epitaxial films, MOCVD grown, identification of acceptors and donors 7−58688
- InP, epitaxial films, radiative recomb. 7−59257
- InP epitaxial layers, MOVPE, elec. characts., photolum. 7−22519
- InP films, hydride VPE, impurity incorporation, defect charactn. 7−53614
- InP, MOCVD on structured substrates, mass transport 7−39397
- InP, MOVPE on SiO_2 masked substrates at reduced press., vapour etching 7−39398
- InP, MOVPE; morphology, photolum., carrier conc. and mobility 7−22518
- InP pure and Er doped liquid phase epitaxial films, elec. props. in strong elec. fields 7−38779
- InP, ultrapure, atmospheric pressure OMVPE growth 7−13375
- InP, VPE using flow modulation 7−7039
- InP:Bi thin film, epitaxy, impurity distrib., photoluminesc. spectra anal. 7−53388
- InP:Fe, epitaxial layers, MOCVD, doping profiles, SIMS, resist., temp. depend. 7−21248
- InP:Fe, LPE growth, SIMS 7−52363
- InP:Fe, OMVPE grown, electronic and optical props. 7−52868
- InP:Mn, LPE growth, carrier conc. control and appl. to buried heterostructure laser diodes 7−21774
- InP:Sn substrate/epilayer interface, Sn depth profiling, AES and SIMS studies 7−27146
- InP:Yb LPE layers, luminesc. and elec. props. 7−59464
- InP-InP:As epitaxial layers, dislocation reduction, device performance effects 7−7354
- InSb heterostructures, MBE growth 7−27910
- InSb metalorganic magnetron sputtered films, structural and compositional characts. 7−21725
- InSb:Tl, physicochemical behaviour of Tl 7−21452
- $LiInSe_2$ epitaxial films on GaAs and GaP, RHEED 7−52318
- $MoSe_2$-MoS_2 ultrasharp interfaces grown with van der Waals epitaxy 7−13367
- $NiSi_2$-Si epitaxial interface, extended defects, geometrical character 7−6640
- $Pb_{1-x}Eu_xTe$ epitaxial layers, mag. props. 7−45772
- PbS, weak-field magnetoresistance, multi-valley model *(Korean)* 7−33114
- PbSe, energy band structure, thermoreflectance study 7−3028
- $PbSe_{1-x}S_x$ epitaxial films, absorpt. edge, band gap, comp. depend., 77-300K 7−39063
- $Pb_{0.8}Sn_{0.2}$ Te epitaxial films, vacuum deposition growth in a quasiclosed vol. 7−46329
- $Pb_{1-x}Sn_xTe$ films prepared by MOCVD, elec. props. 7−27919
- PbTe films prepared by MOCVD, elec. props. 7−27919
- PbTe, weak-field magnetoresistance, multi-valley model *(Korean)* 7−33114
- $PbTe_{1-x}S_x$ epitaxial films, absorpt. edge, band gap, comp. depend., 77-300K 7−39063
- PbTeSe layers, LPE growth on nonplanar (100) and (110) oriented substrates, laser appl. 7−17479
- Pd-Si thin film growth, Pd_2Si formation, TEM study *(Chinese)* 7−7038
- Se film grown by hot wall epitaxy, XPS 7−7821
- Si (111), MBE, ordered and disordered growth modes 7−12558
- Si, amorphisation and crystallisation 7−11914
- Si, atomic imaging of semiconductors using JEOL 4000 EX TEM 7−32230
- Si crystal growth and epitaxial layer deposition for VLSI devices 7−46299
- Si, defect diagnostics for submicrometer VLSI, book contrib. 7−44562
- Si epitaxial film, with current filament radiation temp. coordinate distrib. 7−38650
- Si epitaxial films, low temp. growth by very low press. CVD 7−27936
- Si, epitaxial growth using dual heating, slip dislocations and radial temp. gradient 7−38366
- Si, epitaxial growth using photochem. vapour deposition at 200°C 7−39431
- Si epitaxial layers, autodoping effects 7−63635
- Si epitaxial layers, free carrier conc., optical interference determ. 7−2745
- Si epitaxial layers, impurity anal. by photoluminescence spectroscopy 7−7057
- Si epitaxial layers, selective, surface morphology 7−32880
- Si epitaxial layers, selectively grown, lattice strain 7−64920

semiconductor epitaxial layers continued
Si epitaxial layers, ultrahigh-purity, photoluminesc. studies 7−45033
Si epitaxial layers, VPE growth, charactn. *(Japanese)* 7−63986
Si, epitaxial low temp. growth by hot wall UHV/low press. CVD techniques, surface optimisation 7−3194
a-Si films, ion implanted device structures, solid phase epitaxy, elec. props. 7−12564
Si films, laser beam melted, facet formation at solid-melt interface 7−38418
Si films, low-temperature growth by reactive ion beam deposition 7−59459
Si films, solid epitaxial regrowth, structural and electrical characteristics 7−38403
Si films, solid phase epitaxial regrowth on epitaxially grown $MgO.Al_2O_3$ 7−38399
Si, gamma-ray effects on micro defects and electrophysical props. 7−16629
Si, heavily doped crystals, behaviour of O and dopants 7−32483
Si, heteroepitaxial growth on ZrO_2-Y_2O_3 substrates 7−21735
Si, heteroepitaxy on CaF_2-Si (111) 7−22497
Si heteroepitaxy using BaF_2 epitaxial buffer layers 7−12522
Si homoepitaxial thin film growth by ultrahigh vacuum ion beam sputter deposition 7−22582
Si islands, selective epitaxial deposition on SiO_2, morphology 7−38402
Si LPE layer form., depend. on Al_nM chem. reaction, M=refractory metal 7−7043
Si, LPE on patterned substrates, growth and characters 7−22599
Si, local autoepitaxial layers, packing defect density, depend. on crystallographic orientation of side boundaries 7−58701
Si, low pressure epitaxy using Si_2H_6 7−53623
Si MBE, impurity sticking coeffs., substrate orientation depend. 7−52355
Si MBE, review 7−33573
Si, MBE cryst. growth, dopant incorporation 7−12559
Si, MBE dopant profiling, electrochemical CV technique 7−12108
Si MBE films, deep level defects 7−12668
Si, MBE grown, abrupt doping profiles, spreading resist. determ. 7−12110
Si, MBE grown, defect densities 7−12560
Si MBE grown layers, arbitrary doping profiles 7−12109
Si MBE growth, conf., Toronto, Ont., Canada (May 1985) 7−9588
Si, MBE growth, RHEED intensity oscillations 7−7068
Si, MBE growth, Radclean surface cleaning process 7−12557
Si, MBE growth, selective diminution in RHEED pattern from (001)-2×1 reconstructed surface 7−7069
Si, MBE growth on CaF_2/Si (111), structural and electrical characteristics 7−45051
Si MBE growth on Si (100) and (111), interface formation 7−21773
Si MBE homoepitaxial growth, expt. considerations 7−13369
Si MBE layers, deep levels, DLTS meas. 7−12667
Si MBE layers, defect characterisation, luminesc., TEM studies 7−13227
Si MBE layers, defects 7−21772
Si MBE layers, spreading resist. anal. carrier spilling effects 7−2741
Si MBE layers, spreading resist., etching, bevelling, staining characterisation techniques 7−12891
Si, MBE on Si, role of surface reconstruction, LEED, Rutherford backscattering, channelling meas. 7−7034
Si, MBE on Si substrates, stacking fault tetrahedra form. 7−21769
Si, MBE simultaneous growth on multiple substrates, apparatus 7−7867
Si materials science issues in IC processing 7−35115
Si multilayers, LPE growth, DEM, TEM obs. 7−12565
Si n-n^+ epitaxial layers, recomb. parameters anal. by moving light strip method 7−21930
Si, on Ge, Al-Mg spinel and sapphire substrates, resonance Raman scattering 7−64017
Si, oxidation, surface layer defect formation 7−46733
Si, oxidation and epitaxy, limited reaction processing 7−22577
Si periodic epitaxial structures, intraband IR absorpt., photocond. meas. 7−52674
Si, photochemical CVD at 200°C 7−59456
Si, SOI lateral solid phase epitaxy, selective P ion implantation 7−52359
Si SOI technology, two-step oxidation technique on MBE film 7−22912
Si, selectively epitaxial, origin of lattice defects 7−32881
Si thickness meas. by autocorrelation function 7−41336
Si:Al films, LPE in a temperature-gradient field 7−64936
Si:Al surfaces, SIMS anal. of contaminants 7−33989
Si:Ar^+, ion implanted thin film, defect form., dose depend. study 7−51793
Si:As films, heavily doped, grown by partially ionised MBE, phys. and elec. characts. 7−12561
Si:As^+, epitaxial regrowth, CW Ar laser annealing *(Korean)* 7−27197
Si:B, low temp. epitaxial films, nonequilib. doping effects 7−58672
Si:B, MBE grown, coevaporation doping 7−12562
Si:B, O epitaxial wafers, effect of pre- and postdeposition annealing on O precipitation 7−45060
Si:B,O epitaxial wafers, internal gettering heat treatments and O precipitation 7−45059
Si:B,P highly doped epitaxial layers, growth by low press. VPE 7−39432
Si:B MBE layers, shallow states, photoluminescence spectra, doping level depend. 7−13228
Si:Ga epitaxial layers, growth induced planar defects 7−38414
Si:Ga MBE layers, ion implantation doping using liq. metal ion source, carrier conc., spreading resist., SIMS profiles 7−12563
Si:O, P, Sb wafers, O precipitation during simulated CMOS cycles 7−38218
Si:O epitaxial films for hetero-bipolar transistors 7−53599
Si:O epitaxial wafers, preanneal heat treatment effect on precipitation 7−38219
Si:O/Si interfaces, MBE grown, O trapping effects 7−16881
Si:P, MBE grown, coevaporation P doping 7−26773
Si:Sb, pot. enhanced doping during MBE growth, elec., optical props., cryst. quality 7−12112
Si:Sb MBE film, doped by electron impact ion source, improved doping characts. 7−12101
Si:Sb MBE layers, doping by secondary implantation 7−12102
Si:Sb(As)(P)(B) epitaxial films, low temp. deposited by low press. CVD, autodoping 7−27182
Si/a-SiO_2/ZrO_2-Y_2O_3, SOI system fabrication, charact. 7−22025
Si-alkaline earth fluoride structures, heteroepitaxial growth, struct., elec. props. 7−12567
Si-Ge-Si epitaxial layer structs., particle channelling study, statistical equilib. 7−58386

semiconductor epitaxial layers continued
Si-Si homoepitaxial interfaces, MBE grown, oxygen trapping 7−32855
Si-Si interfaces, MBE grown, sputter cleaned, microstructure, electron microscopy obs. 7−12512
Si-$Si_{0.55}Ge_{0.45}$ modulation doped superlattice, MBE grown, electron mobility enhancement, Hall meas. 7−7382
SiC (4H) p-n junction, ion implanted, S-type I-V characteristic 7−64320
β-SiC crystals, free carrier conc., Raman scattering 7−59197
SiC, cubic, epitaxial films, compensation 7−7268
3C-SiC, epitaxial growth on Si by low press. CVD 7−3188
β-SiC epitaxial layers, cubic cryst. struct., electron diffr. and microscopy studies 7−27199
SiC, epitaxial layers from soln. in melt 7−22597
SiC, growth, struct., and elec. props. 7−52354
3C-SiC, MBE growth on Si substrates using multielectron beam heating 7−17425
3C-SiC, n- and p-type epitaxial CVD layers, elec. props. temp. depend. studies 7−58917
β-SiC thin films, CVD epitaxial growth on 6H α-SiC substrates 7−22502
SiC transport kinetics during epitaxial layer growth 7−45048
β-SiC:Al^+(P^+) epitaxial films, ion implanted, rapid thermal annealing 7−16905
SiC:P(N)(B)(Al) thin films, impurity 7−27192
β-SiC(:N) single crystals, CVD grown, elec. props., temp. dependence 7−2740
$Si_{1-x}Ge_x$, epitaxial growth, struct., and elec. props. 7−52354
$Si_{1-x}Ge_x$ MBE crystals, ordering study 7−58709
SnTe:Bi epitaxial layers, vacuum deposition, optical and electrical props. 7−59430
(Zn,Mn)Se quantum well structures, wide-gap II-VI superlattices 7−7346
Zn_3As_2, semiconducting, MBE growth 7−53590
ZnS, CVD films on sapphire substrates, epitaxial nature 7−3199
ZnS, epitaxial film, TEM and photoelectron study 7−53408
ZnS films, MBE growth on Si (100), substrate temp. effects 7−39384
ZnS, MBE growth on Si (100), photoluminesc. props. 7−3174
ZnS:Al, low resistivity, grown by MOVPE 7−27921
ZnS:In epitaxial films, photoluminescence. decay props. 7−39166
ZnS/ZnSe, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
ZnSe epitaxial films, twin boundaries, high resolution TEM obs. and computer simulation studies 7−51784
ZnSe epitaxial layers, MOVPE grown, elec. and photolum. props. 7−7420
ZnSe epitaxial layers on GaAs(100) substrates, anomalous twin boundaries, TEM obs. 7−27198
ZnSe, heteroepitaxial growth on GaAs, energy band gap, elastic strain effects 7−59242
ZnSe laser-induced epitaxial growth on GaAs using organic compounds 7−52366
ZnSe layer growth by plasma-assisted epitaxy 7−52365
ZnSe layers on Ge (100), MBE growth and photoluminesc. 7−7858
ZnSe MBE layers on GaAs, lattice mismatch effects, TEM, photolum. and X-ray diffr. studies 7−45042
ZnSe:As, MOCVD growth, exciton and deep emission bands 7−52367
ZnSe:Cl layers grown by MBE, blue photoluminesc. 7−52364
ZnSe/GaAs, electron beam pumped lasing action obs. 7−43093
ZnSe/GaAs:Cr heterostructure, interface stress 7−38352
ZnSe-ZnS electroluminescent MIS structures, MOCVD growth and charactn. 7−59443
ZnSe-ZnTe strained layer superlattice on InP, TEM obs. 7−52778
ZnTe, chemical vapour transport and homoepitaxial growth in closed-tube system, thermodynamic analysis 7−33582
ZnTe epilayers, chemical transport growth, photoluminesc. props. 7−39413

semiconductor glasses *see amorphous semiconductors; chalcogenide glasses*

semiconductor growth
7−39406
2D systems, proceedings of Winter School, Mauterndorf, Austria (Feb. 1986) 7−48131
3D ICs, selection rule for epitaxial growth techniques, LPE, MOVPE and MBE 7−46326
amorphous compositionally modulated superlattices, growth and struct. 7−27168
amorphous hydrogenated semiconductors, NMR studies, rel. to growth process 7−38405
amorphous semiconductor films, photo-assisted CVD and opto-electronic characterisation 7−33595
amorphous semiconductors, conference, Palo Alto, CA, USA (April 1986) 7−29602
atomic layer epitaxy, review 7−13362
atomically controlled growth in 2, 1 and OD, and applications 7−52370
BH laser diodes, very low threshold high reliability 1.30 μm high yield manufacturer by MOCVD 7−31340
binary semiconductor alloys, directional solidification, convection, segregation, ampoule and furnace design 7−59501
buried heterostructure laser devices, LPE growth 7−33609
CdS-$CuInSe_2$ solar cells fabricated by DC magnetron sputtering of Cu_2Se and In_2Se_3 7−23170
CdTe films, MBE growth, photoluminescence and TEM characterisation 7−22376
chlorodimethyl(triethylarsine) gallium, MOCVD adduct, chemisorption and thermal heterogeneous decomp. 7−22558
coevaporation system using quadrupole mass spectrometer 7−22494
confined vertical growth method 7−17411
crank TJS lasers grown by MOCVD, 10000 h operation 7−31341
crystal growth, industry needs 7−53540
crystals, Czochralski, growth, slip dislocation generation 7−22467
CVD, adsorption on Si (111) of Si-H system species, rel. to temp., supersaturation, bond strength and press. 7−33583
Czochralski growth,mag., expt. model 7−44428
doped semiconductors, prep. and thermal cond., review 7−38279
epitaxial films, MOCVD growth on Si substrates, substrate offset angle effects 7−22567
film growth kinetics under simultaneous doping conditions 7−45052
films, oriented crystalline, on amorphous substrates, prep. by zone melting recrystallisation and surface-energy-driven grain growth 7−38385
Gault process for III-V compound semiconductor crystals growth 7−46300
heterostructure growth by MBE, growth approaches to improve interface quality 7−2421

semiconductor growth continued
- $Hg_{1-x}Mn_xTe$-HgTe dilute mag. semicond. superlattices, MBE growth and props. 7—13357
- II-V semiconds., cryst. growth, characterisation and appls., review 7—26685
- II-VI semiconductor films, prep., electronic props., solar cell appl. *(Japanese)* 7—54299
- II-VI semiconductors, low-temperature epitaxial growth, MBE and MOCVD 7—64906
- II-VI semiconductors, MOCVD, prep. and props. of metal alkyls 7—22520
- III-V quaternary alloy semiconductors, thermodynamic anal. of MOVPE growth 7—16884
- III-V semiconductor films, metalorganic MBE 7—53601
- III-V semiconductors, chemical beam epitaxy 7—52360
- III-V semiconductors, epitaxial growth by rapid thermal MOCVD 7—53605
- III-V semiconductors, MBE, surface effects and growth dynamics 7—58711
- III-V semiconductors, MBE growth, kinetic processes 7—2418
- III-V semiconductors, metal organic MBE and VPE growth, kinetic and thermodynamic aspects 7—7064
- III-V semiconductors, organometallic CVD using metalorganic halides 7—33587
- III-V semiconductors, single crystal growth, formation of microinclusions 7—21141
- III-V semiconductors, VPE, interplay between kinetics and diffusion in hot wall reactors 7—46330
- $In_{0.53}Ga_{0.47}As$:Fe metalorganic CVD epitaxial growth and elec. props. 7—63993
- infrared detectors, conf., Innsbruck, Austria (April 1986) 7—60871
- InGaP/InGaAlP double heterostructure and multiquantum-well laser diodes, MBE growth and characterisation 7—62689
- IR optical materials, production 7—37075
- laser diode, V-grooved inner group, LPE grown, 100 mW 1.5 μm operation 7—57354
- laser diode heterostructures LPE growth on InP:S substrate, substrate quality evaluation 7—32453
- layered structures and epitaxy, conference, Boston, MA, USA (Dec. 1985) 7—18508
- liquid phase electroepitaxy 7—33607
- MBE, semiconductor crystal growth, trends *(Japanese)* 7—3182
- MBE grown superlattices, effect of barrier config. and interface quality on props. 7—52790
- MBE growth, process monitoring and equipment 7—27909
- MBE growth, RHEED and photoemission studies 7—2438
- MBE growth mechanisms, in situ RHEED 7—53603
- MBE of semiconductor quantum wells and superlattices 7—59431
- metal-semiconductor interfaces, epitaxial silicide technology 7—52835
- metallophthalocyanine thin films, cosublimation doping and Schottky contact formation 7—21974
- microdevices and superlattices, MBE growth, quasi-gas transition layers 7—38379
- microstructure growth by MBE 7—7856
- MOCVD, organometallic precursors monitoring by laser mass spectroscopy 7—22547
- MOCVD laboratory, integrated safety system 7—22528
- MOCVD technology 7—3195
- modulated semicond. structs., conf., Kyoto, Japan (Sept. 1985) 7—4630
- morphological stability in epitaxy, appl. to optoelectronic monolithically integrated structures 7—27172
- MOVPE, conf., Universal City, CA, USA (Apr. 1986) 7—18477
- optical long-wavelength components by VPE 7—46343
- optoelectronic components, MOVPE, atm. press. growth, operating characts. 7—27930
- photovoltaic research at Solar Energy Research Institute, USA 7—8389
- processing and fabrication techniques, laser diagnostic methods 7—22500
- quantum heterostructure materials and devices 7—52786
- quantum well and 2D electron gas structures, epitaxial growth 7—52310
- quantum wells and superlattices, recent developments 7—17094
- Si/SrO/Si heteroepitaxial structure formation by molecular beam epitaxy 7—53600
- SOI, conf., Boston, MA, USA (Dec. 1985) 7—35101
- SOI films, halogen lamp recrystallisation 7—38394
- SOI films, recrystallisation by obliquely scanned pseudoline electron beam 7—58686
- SOI films, twin stabilised planar growth 7—38392
- SOI heterostructure technology 7—38750
- SOI large area growth, pseudo-line electron beam technique with lateral seeded epitaxy *(Japanese)* 7—7842
- SOI structures, lateral epitaxy formation, melting and resolidification 7—38386
- SOI technology by zone-melting recrystn. on quartz substrates 7—21736
- solid phase epitaxy, interaction of high power pulsed ion beams 7—12096
- solid-phase epitaxial regrowth, amorphous-crystalline interface evolution 7—12568
- solid-state devices and materials, conf., Tokyo, Japan (Aug. 1986) 7—48173
- SOS, double solid phase epitaxial regrowth, amorphous layer, self-implantation, ion energy, defect density 7—58691
- superlattices and quantum wells, evolution, heteroepitaxial growth 7—7343
- ultra-thin semicond. film growth techniques, review *(Japanese)* 7—7857
- vacuum evaporation prep. employing shaking mechanism 7—13363
- vapour levitation epitaxy, system design and performance 7—59445
- $AgGaS_2(Se_2)$, chalcopyrite, crystal growth, nonlinear IR props. 7—37040
- (Al, Ga)As films, doped, Si migration during MBE growth 7—27171
- $(Al,Ga)As/(Ca,Sr)F_2$ multilayer structures, MBE grown, broadband high-reflectivity mirrors fabrication 7—11091
- Al-Ge-Si, heterojunction ohmic contacts 7—27432
- AlAs, VPE growth by chloride transport method 7—64930
- AlAs:Si films and AlAs:Si-GaAs:Si superlattices, MBE growth and electrical props. 7—22052
- AlAs-GaAs quantum-wells, low temp. growth by modified MBE 7—39386
- $Al_xGa_{1-x}As$ layers, form. by regrowth on surface of GaAs during contact with undersaturated liq. containing Al 7—46311
- AlGaAs BH laser with flared waveguides, high power operation, MOCVD growth 7—57352
- AlGaAs, chemical beam epitaxial growth investig. 7—7878
- AlGaAs epitaxial layers, large scale MOVPE growth 7—22552
- AlGaAs epitaxial layers, OMCVD, compositionally graded growth technique for device structs. 7—22553

semiconductor growth continued
- AlGaAs epitaxial wafers, highly uniform growth by large capacity MOCVD reactor 7—22551
- AlGaAs heterostructs., low temp. LPE growth 7—64939
- AlGaAs high-power pulsed laser 7—10997
- AlGaAs high-power ridge-waveguide GRIN-SCH laser diode 7—10988
- AlGaAs laser diodes, MOCVD grown, struct. fabrication and characts. *(Japanese)* 7—20272
- AlGaAs laser diodes, MBE grown, fabrication and characts. *(Japanese)* 7—20273
- AlGaAs, laser-assisted MOVPE growth 7—64928
- AlGaAs layer, separating on GaAs surface, growth mechanism, Auger depth profiling 7—44434
- AlGaAs layers MOCVD using dimethyl aluminium hydride, C acceptors, photolum. 7—22517
- AlGaAs, low press. MOCVD grown, surface morphology and defects 7—64023
- AlGaAs, MOCVD growth on Ge substrates for high efficiency tandem solar cell appl. 7—3671
- AlGaAs, MOCVD growth, refractive indices meas. by in situ reflectometry 7—59270
- AlGaAs, MOVPE, laser assisted, selective area irrad., carrier conc. 7—22545
- AlGaAs, triethylgallium pyrolysis temp. in presence of AsH_3 or trimethylaluminium 7—22541
- AlGaAs:Mg-GaAs:Se concentrator solar cells, 26 percent efficient 7—3699
- AlGaAs:Sb, MBE growth, Sb doping 7—2038
- AlGaAs:Si(Zn), MOCVD, impurity induced disordering, quantum well laser fabrication and characts. 7—27934
- AlGaAs/GaAs, abrupt heterojunction structures, large area uniformity, MOVPE reactor design 7—22524
- AlGaAs/GaAs DFB laser diodes, MOCVD growth, CW operating characts. 7—25836
- AlGaAs/GaAs:Si heterostruct., MBE growth on polar surfaces 7—7863
- AlGaAs-GaAs DH injection lasers, MOCVD growth on Si substrates 7—57356
- (AlGa)As-GaAs DQW-SCH lasers grown by MOCVD, design, fabrication and characterisation 7—36990
- AlGaAs-GaAs heteroepitaxial wafer for solar cell appls., uniform growth by MOCVD 7—64929
- AlGaAs-GaAs heteroface solar cells, role of window layer 7—3695
- AlGaAs-GaAs single quantum well, MBE growth interruption, well width fluctuations 7—7865
- AlGaAs-GaAs single quantum wells with growth interrupted heterointerfaces, photoluminesc. 7—39168
- AlGaAs-GaAs solar cells, MOCVD on GaAs, Ge and Ge-Si substrates 7—3650
- AlGaAs-GaAs solar cells, high efficiency DH cells fabrication using MOCVD 7—3693
- AlGaAs-GaAs solar cells, fabrication on Si substrates 7—46937
- AlGaAs-GaAs solar cell fabrication, elec. characts. and space appl. 7—54307
- AlGaAs-GaAs space solar cells, LPE production and characterisation 7—3666
- $Al_xGa_{1-x}As$ cascade solar cells, OM-VPE growth, in-situ-grown tunnel junction 7—8387
- $Al_xGa_{1-x}As$ films and multilayer structures, MOCVD growth and characterisation, review 7—33586
- $Al_xGa_{1-x}As$ layers and quantum well struct., MOVPE growth chemistry 7—22550
- $Al_xGa_{1-x}As$, low press. OMVPE, selective growth embedding in etched grooves on GaAs 7—22554
- $Al_xGa_{1-x}As$ MBE layers, deep electron traps, flux ratio effects 7—12641
- $Al_xGa_{1-x}As$, MOCVD, equilib. gas phase species 7—22542
- $Al_xGa_{1-x}As$:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7—21242
- AlGaInAs layers on InP, LPE growth 7—33608
- AlGaInP, MOCVD, photolum., quantum wells, double heterostruct. laser appl. 7—39405
- $Al_xGa_{1-x}N$ epitaxial layers, MOCVD, growth mechanism, Ga incorporation rate 7—39411
- $Al_xGa_{1-x}N$ MOVPE growth, struct. and elec. props. 7—21729
- $Al_{0.4}Ga_{0.6}Sb$-GaSb-$Al_{0.4}Ga_{0.6}Sb$ MBE strained layer DH, optically pumped laser oscill. 1.6 to 1.8 μm 7—5888
- AlInAs-GaInAs selectively doped heterostructs., MOCVD growth, HIFET fabrication appl. 7—17429
- AlN films, OMVPE, Hall mobilities, impurity band 7—39410
- AlN-sapphire, low temp. epitaxial film growth 7—13387
- AlSb-GaSb superlattices, low-temp. growth by plasma process *(Japanese)* 7—7061
- As-Se glass, IR optical materials, production 7—37075
- As_2Se_3 single cryst. growth from vapour phase, crucible diameter and sealing press. depend. 7—27877
- Au-Ge-Ni-GaAs, non-alloyed ohmic contact, solid phase epitaxy 7—27423
- $Bi_{2-x}As_xS_3$ thin films, solution-gas interface deposition technique 7—7901
- $Bi_{0.52}Sb_{1.48}Te_3$, semiconducting solid soln., thermoelectric props 7—45365
- $Bi_2Te_{2.4}SeO_{0.6}$, semiconducting solid soln., thermoelectric props 7—45365
- (Cd,Mn)Te quantum well structure, wide-gap II-VI superlattices 7—7346
- Cd chalcogenides, cryst. growth by SSSR-zone melting method 7—64897
- Cd_3As_2 amorphous films, structure and growth morphology 7—45078
- $CdGa_2S_4$ single crystals, chemical vapour transport growth, microhardness, crack patterns 7—7833
- (CdHg)Te, LPE growth, use of in-situ wash melts 7—59466
- $Cd_xHg_{1-x}Te$, abrupt interfaces using thermal and photo-MOVPE, Hall meas. 7—27917
- $Cd_xHg_{1-x}Te$, Bridgman growth using Accelerated Crucible Rotation Technique 7—46307
- $Cd_xHg_{1-x}Te$ heterostructures, MOVPE, computer controlled reactor, charactn. 7—59446
- $Cd_xHg_{1-x}Te$ layers, MOVPE, CdTe substrate orientation effect, RHEED, SEM obs. 7—59447
- $Cd_xHg_{1-x}Te$ MOVPE growth on CdTe/sapphire substrate 7—27918
- $Cd_xHg_{1-x}Te$ MOVPE layers, elec. props. and Hall effect behaviour 7—27444
- $Cd_xHg_{1-x}Te$, photo-epitaxy, free radical mechanism 7—53612
- $CdIn_2O_4$ thin films, DC reactive sputtered, elec. and optical props. 7—38788
- $Cd_{1-x}Mn_xS$, crystal growth and charact. *(Japanese)* 7—7829
- $Cd_{1-x}Mn_xTe$ films, hot wall vacuum growth, twinned struct. 7—53593
- CdS anodic film growth, initial stages, voltammetry and computer simulation studies 7—28216

semiconductor growth continued
CdS crystal growth and charact. *(Japanese)* 7−7829
CdS films, spray deposited, laser annealing, struct., carrier mobility 7−58318
CdS skeletal and hollow crystals grown under time-increasing supersaturation 7−21144
CdS thin films, deposition by dip technique 7−3210
CdS thin films, electrochem. bath deposition, photovoltaic cell props. 7−7900
CdS/ZnS, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
CdS-CdTe heterostructure, closed-tube CVD and charactn. 7−59444
CdS-$CuGaSe_2$ solar cells, physical properties and photovoltaic potential of $CuGaSe_2$ thin films 7−12889
CdS_xTe_{1-x} single crystals, growth form $CdCl_2$-CdS-CdTe ternary system, liquidus surface anal. 7−33644
CdSb thin films, preparation and thermoelec. props. 7−64374
CdSe thin films, electrodeposited from $SeSO_3{}^{2-}$ soln., comp. performance, polarography, RBS, cyclic voltammetry, power meas. 7−2411
n-CdSe thin films grown from low purity materials for solar cell appls. 7−65480
CdSe thin films made by tarnishing 7−22587
CdSe/ZnSe, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
$CdSnAs_2$ crystal growth from melt sealed by LiCl-KCl mixture 7−7839
Cd_2SnO_4, CVD, struct., elec. and optical props. *(Korean)* 7−27940
Cd_2SnO_4 transparent thin film electrodes prepared by DC reactive sputtering from Cd-Sn alloy targets 7−22477
CdTe, atomic layer epitaxy on CdTe (111) substrates, growth mech. 7−12525
CdTe, cathode sputtering process statistical modelling, optical layer deposition 7−39375
CdTe, closed tube CVD growth using NH_4Cl transport agent 7−27913
CdTe, epitaxial growth on GaAs (100) 7−21779
CdTe epitaxial layers, MBE growth on GaAs substrates, photoluminesc. 7−46083
CdTe films, detachable oriented, VPE 7−33567
CdTe films, organometallic VPE growth mechanism 7−64914
CdTe grown on Si by LPMOCVD, physical props. 7−27181
CdTe, heteroepitaxial growth on GaAs (100) substrates 7−45034
CdTe homoepitaxy on CdTe (111) by laser MBE, nucleation kinetics 7−22499
CdTe layers, electrochemical deposition, struct. and elec. props. 7−12526
CdTe, MBE growth, crystallographic orientations and condensation coeffs. 7−3180
CdTe, MBE growth on GaAs substrates, struct. and optical props. 7−64907
CdTe, MBE growth on Si using (Ca, Ba)F_2 buffer layer 7−46325
CdTe MOVPE growth on InSb substrate, characts. 7−27920
CdTe, MOVPE on {111}CdTe, twin nucleation 7−33579
CdTe, OMVPE growth on InSb substrates 7−33577
CdTe thin film solar cells fabricated by evaporation *(Japanese)* 7−34044
n-CdTe:In, high mobility, growth by photoassisted MBE 7−22485
CdTe:In, photocorrosion, vacancies, photoluminescence spectra 7−27948
pCdTe:Sb epilayers, photoassisted MBE growth 7−53607
CdTe(Se) heteroepitaxial layers, deposition on InAs 7−7045
CdZnTe, epitaxial growth via low press. CVD, IR detector appls. 7−64926
CdZnTe, MBE growth on GaAs substrates, struct. and optical props. 7−64907
$Cd_{1-x}Zn_xTe$, MBE growth 7−13358
$Co_xIn_2S_{3+x}$ thin films, spray pyrolysis deposited, structural and optical props. 7−22468
$CoS_{1.035}$ film, soln. growth, optical absorpt. coeff. 7−39446
Cu/nS_2 films, LPE growth 7−46359
$Cu_xAg_{1-x}InSe_2$, liquid-encapsulated Bridgman-Stockbarger melt growth and props. 7−59403
$CuAl_xGa_{1-x}Se_2$, chem. transport reactions, growth and morphology 7−7830
$CuBiS_2$ thin films, spray pyrolytic deposition, elec. and optical props. 7−7894
$CuIn_yGa_{1-y}Se_2$, liquid-encapsulated Bridgman-Stockbarger melt growth and props. 7−59403
$CuInS_2$, chemical transport, thermodynamics 7−7832
$CuInS_2$ films, RF sputtering, struct. and elec. props. 7−3169
$CuInS_2$, heterogeneous, VLS growth, electronic defects, photocurrent spectra, photolum., EBIC analysis 7−27288
CuInSe thin films, flash evaporation prep. and characterisation 7−7893
$CuInSe_2$ coatings, sputter deposition 7−39377
$CuInSe_2$, flash evaporation, elec. and optical props. 7−7892
$CuInSe_2$ large grain (112) oriented thin films grown by RF sputtering, solar cell applications 7−17422
$CuInSe_2$ polycryst. semicond. growth from melt, surface props., ion bombardment and annealing effects 7−46304
$CuInSe_2$, thin film, electron beam evaporation optical props. *(Korean)* 7−27801
$CuInSe_2$ thin film growth 7−13368
Cu_2S/CdS large-area solar cells, reactive sputtering 7−46943
Cu_xS films, field assisted chemiplating for CdS/Cu_xS heterostruct., growth mechanism 7−59470
GaAS:Be, MOVPE, diethylberyllium dopant source, elec. characts. 7−22521
a-Ga_xAS_{1-x}:H, plasma deposition in RF capacitively coupled system 7−64927
GaAlAs laser, LPE grown, effect of crystal defects on reliability 7−36960
GaAlAs, MOVPE growth rate, orientation depend. 7−22556
GaAlAs single freq. heterostruct. injection lasers, LPE and VPE growth 7−62699
GaAlAs/GaAs, junction isolated LED structures, MOCVD, characts. 7−27935
GaAlAs/GaAs MOCVD growth for surface emitting lasers 7−53630
GaAlAs/GaAs TJS lasers on Si substrates, MOCVD growth 7−62691
GaAlAs-GaAs MOCVD solar cells on Ge and Ge/Si substrates 7−23182
GaAlAs-GaAs multi-heterostructures, MOCVD growth for surface emitting lasers 7−59440
GaAlAs-GaAs solar cells grown by MBE, material props. and device parameters 7−23164
$Ga_{0.65}Al_{0.35}As$-GaAs quantum wells, elect. field-induced decrease of exciton lifetimes 7−45481
$Ga_{1-x}Al_xAs$ and GaAs multilayer structures, metalorganic MBE growth 7−7860

semiconductor growth continued
$Ga_{1-x}Al_xAs$:S(Se), MBE growth, dopant incorporation 7−12533
$Ga_{1-x}Al_xAs$:Si, electrical current induced liq. phase epitaxy 7−27955
GaAlAsGaAs quantum well heterostructures, grown by MOCVD, props. 7−45479
$Ga_{1-x}Al_xSb$ epitaxial layers, MOCVD, morphology rel. to growth conditions 7−39408
GaAs , laser-assisted MOVPE growth 7−64928
GaAs (100) films, mol. beam epitaxy system *(Czech)* 7−7854
GaAs, AlGaAs, MOCVD, design of safe facility 7−22529
GaAs, atomic layer epitaxy growth, photolum., Hall meas. 7−22527
GaAs, atomic layer epitaxy in low press. MOCVD system 7−53628
GaAs, CVD, laser selective deposition on GaAs and Si substrates 7−22546
GaAs, chemical beam epitaxial growth investig. 7−7878
n-GaAs compensated samples, MOVPE grown, Hall effect meas. 7−27348
GaAs crystals, liquid-phase electroepitaxial growth, dislocation density reduction 7−58681
GaAs, Czochralski growth of high quality crysts. 7−53548
GaAs, dislocation density reduction in crystal growth 7−2020
GaAs epilayers, MOCVD on Si for solar cell appls. 7−27928
GaAs epilayers grown on Ge or Ge/Si substrates, defects 7−21778
GaAs epitaxial films, domain form., crystallographic analysis 7−58690
GaAs epitaxial films, growth by close-spaced vapour transport, unwanted doping, X-ray diffr., SEM obs. 7−27187
GaAs epitaxial films, MOCVD growth using tertiarybutylarsine source 7−59439
GaAs epitaxial films, switched laser MOVPE stepwise monolayer growth 7−13372
GaAs, epitaxial growth, δ(z) doping layer, electronic states 7−52729
GaAs, epitaxial growth, thermodynamic equilib. displacement controlled 7−53616
GaAs epitaxial layers, OMVPE growth on Si (100) 7−3190
GaAs epitaxial layers, vacancy doping 7−6656
GaAs epitaxial layers, MOCVD grown, influence of growth parameters on residual impurities 7−7047
GaAs, epitaxial layers, grown in temp.-gradient field, effects on dislocation density 7−13393
GaAs epitaxial layers, large scale MOVPE growth 7−22552
GaAs, epitaxial layers, selective growth in MOMBE and MOCVD systems 7−22555
GaAs epitaxial layers, OMCVD growth, optimisation using photoluminesc. analysis 7−39396
GaAs epitaxial layers, MOCVD growth, boundary layer effects, photoluminesc. study 7−64923
GaAs epitaxial layers grown directly on Si (100) by low press. MOVPE 7−27924
GaAs epitaxial nucleation and growth kinetics, substrate orientation depend., numerical anal. 7−64020
GaAs epitaxial wafers, highly uniform growth by large capacity MOCVD reactor 7−22551
GaAs excimer-laser-stimulated CVD, polycryst. thin film growth and props. 7−64912
GaAs film on NaCl, heteroepitaxial growth and composition 7−7052
GaAs films, initial stages of MBE growth on Si (100) 7−63995
GaAs films, MBE growth and structural characterisation 7−21775
GaAs Films, vacuum chemical epitaxy 7−39406
GaAs gas phase epitaxial growth, layer thickness uniformity, flow conditions depend. meas. and model calcs. 7−52348
GaAs growth mechanisms, in situ RHEED 7−53603
GaAs high quality layers grown on Si by MOCVD 7−27922
GaAs, homoepitaxial growth, cross hatch defect structure 7−45054
GaAs, horizontal Bridgman growth, semi-insulating props. characts. 7−64896
GaAs inverted rib, phase modulators grown by VPE, optical and electrooptical anal. 7−31450
GaAs, LEC, undoped, stoichiometry 7−53563
GaAs, LEC grown, threshold for dislocation form., role of cryst. dia. and impurity hardening 7−53551
GaAs, LEC growth, solid-liq. interface, meniscus shape, X-ray image processing appl. 7−17406
GaAs, LEC growth configuration, thermal stresses, effect of liq. encapsulation, thermoelastic anal. 7−59414
GaAs, LEC growth for IC technology appls. 7−64894
GaAs, LEC single cryst. homogeneity, effect of strong mag. field 7−53549
GaAs, LPE from soln. in laminar flow, high growth rates 7−33605
GaAs LPE on channelled (100) GaAs substrates 7−13391
GaAs, large dislocation-free cryst. growth for LSI appls. 7−64895
GaAs, laser MOVPE growth 7−33580
GaAs layers, effect of impurities on solid phase epitaxial growth 7−16907
GaAs layers, LPE growth from Ga-As-Bi soln., kinetics, edge growth effects 7−39444
GaAs layers, MBE, oval defects 7−59433
GaAs layers and quantum well struct., MOVPE growth chemistry 7−22550
GaAs MBE films, oval defects and whiskers 7−13364
GaAs, MBE growth, acceptor impurity background reduction 7−3173
GaAs, MBE growth, defect reduction using superlattice structures 7−13359
GaAs, MBE growth, transient behaviour, RHEED oscillations 7−64904
p-GaAs, MBE growth of high quality films *(Chinese)* 7−33566
GaAs MBE layer growth and surface anal. *(Korean)* 7−2417
GaAs MBE layers, oval defects, particulate effects during growth 7−21194
GaAs, MOCVD, gas phase depletion and flow dynamics in horizontal reactors 7−17433
GaAs, MOCVD, H_2 carrier gas effect 7−17432
GaAs, MOCVD, plasma stimulation, growth kinetics, elec. props. 7−22548
GaAs, MOCVD, uniform growth on multi-wafers 7−22536
GaAs, MOCVD growth, thermal decomp. rates 7−22540
GaAs, MOCVD growth on Ge substrates for high efficiency tandem solar cell appl. 7−3671
GaAs MOCVD growth on Si with superlattice intermediate layers, material props. 7−27923
GaAs MOCVD growth on Ge (100) and Si (100) substrates, antiphase and single domains 7−27925
GaAs, MOCVD growth on Si, band gap energy and stress 7−38368
GaAs MOCVD layers, lateral growth mechanisms 7−64032

semiconductor growth continued
GaAs, MOCVD layers on Si substrates with superlattice intermediate layers, DLTS studies 7−38501
GaAs, MOVPE, laser assisted, selective area irrad., carrier conc. 7−22545
GaAs, MOVPE growth, flow patterns in vertical reactors 7−22535
GaAs, MOVPE growth rate, orientation depend. 7−22556
GaAs, melt grown, theoretical and expt. fundamentals of decreasing dislocations 7−53547
GaAs metalorganic MBE 7−53601
GaAs molecular layer epitaxy, UV light effects, photo-assisted reactions and adsorpt. phenomena *(Japanese)* 7−7048
GaAs n-i-p-i doping superlattices, selective contacts, MBE growth through shadow mask 7−13356
GaAs, nucleation and growth on Ge, antiphase boundary struct. 7−2420
GaAs, OMVPE, low pressure growth from trimethylgallium+AsH_3 7−17439
GaAs, organometallic VPE growth, use of tertiarybutylarsine 7−45047
GaAs, polycrystalline thin films, RF sputter deposition on silica substrates, light transmission props. 7−46320
GaAs, selective growth by reduced press. MOCVD 7−53627
GaAs, semi-insulating, LEC grown, midgap native donor concentration 7−33547
GaAs, semi-insulating, nonstoichiometry study, lattice parameter meas. 7−38220
GaAs, semiconducting and semi-insulating LEC crystals, SEM-EBIC characterisation 7−51777
GaAs, single domain epitaxial growth on Ge (100) 7−22578
GaAs, solar cells fabrication on Si substrates by MOCVD 7−23183
GaAs, solid-phase-epitaxy, interface structure and impurity effects 7−2407
GaAs, stepwise monolayer growth by switched laser MO-VPE 7−53626
GaAs substrate for MBE growth, thermal etching 7−7861
GaAs surface, anisotropically etched, p-n junction formation by MOCVD 7−13374
GaAs, ultrathin layers, liquid phase epitaxial growth on GaAlAs substrate 7−53645
GaAs, VPE growth, reaction mechanisms 7−58693
GaAs, VPE growth in hydride system, elec. props. 7−2751
GaAs:C, low C conc., crystal growth using pyrolytic BN coated graphite 7−59398
GaAs:In, B, electrical props., role of residual B impurity, liquid encapsulated Czochralski growth 7−45312
GaAs:In, LEC growth, annealing, solid soln. hardening, dislocation density, elec. props. 7−17404
GaAs:In, low In conc., LEC cryst. growth employing thermal stress anal. 7−46305
GaAs:In, VPE growth, isoelectronic In doping, etch pit densities 7−46340
GaAs:In (B)(Si), dislocation free crystals, LEC grown, microscopic defects, eutectic etching 7−16545
GaAs:In crystals, LEC growth, grown-in dislocation elimination 7−22465
GaAs:In MBE layers, defect density reduction by isoelectronic In doping 7−3176
GaAs:MG, MOVPE, p-type doping using an organometallic Mg precursor 7−22522
GaAs:Mg MBE layers, photoluminescence 7−22295
GaAs:S,Si epitaxial layers, close space vapour transport growth, photoluminescence and electrical props. 7−21776
GaAs:Si, flow-rate modulation epitaxy, Si planar doping 7−17443
GaAs:Si, MBE growth, carrier concentration, dislocation effects 7−58682
GaAs:Si, semi-insulating, ion implanted, LEC growth, elec. activation efficiency, stoichiometry dependence 7−46298
GaAs:Si,Be, MBE, dopant interaction 7−52362
GaAs:Si heteroepitaxial growth on sapphire, low press. MOCVD three-step method 7−27927
GaAs:Si(S), LEC grown, struct. defects, influence of Si and S doping 7−53550
GaAs:Sn epilayers, MOCVD using triethylgallium and tetraethyltin, characterisation 7−22515
GaAs:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7−21242
GaAs:Te films, flash evaporation, annealing, elec. props. 7−64373
GaAs:Zn epilayers, metalorganic CVD, Zn incorporation 7−63996
GaAs:Zn(C) epilayers, low pressure MOCVD growth, impurity incorporation 7−59442
GaAs/(GaAl)As LOC lasers, MOCVD growth and characts. 7−25835
GaAs/Al quantum wells, MBE growth, photoluminescence and absorption linewidth studies 7−7749
GaAs/$Al_xGa_{1-x}As$ modulated structs., MBE growth kinetics, RHEED studies 7−7066
GaAs/AlAs heterostruct., transition layer form. during LPE 7−45074
GaAs/AlGaAs heterostructs. on Si substrate, MOCVD and MBE growth 7−7883
GaAs/AlGaAs pair-groove-substrate MQW laser with self-aligned stripe geometry 7−20260
GaAs/AlGaAs quantum wells, MBE growth, interface disorder studies 7−7026
GaAs/AlGaAs quantum wells, MBE growth and energy levels, photoluminescence meas. 7−7067
GaAs/AlGaAs quantum wells and double heterostruct. lasers, chemical beam epitaxy, photolum. 7−22523
GaAs/AlGaAs quantum well structures, MOCVD growth, photolum., TEM obs. 7−27929
GaAs/AlGaAs separate confinement heterostructure lasers, LPE prep. 7−10940
GaAs/AlGaAs single quantum wells, interrupted MBE growth and temperature-dependent optical spectra 7−46082
GaAs/AlGaAs superlattice heterostructures, MBE on nonplanar substrates 7−59425
GaAs/CaF_2 system, MBE growth processes, growth chamber transfers 7−64902
GaAs/$Ga_{1-x}Al_xAs$(AlAs), short period superlattices, MOCVD growth, Raman scatt., AES, X-ray diffr. 7−27386
GaAs/GaAlAs superlattice structs., metalorganic MBE growth 7−7864
GaAs/GaAlAs ultrathin layer systems, MOCVD growth and struct. props. 7−7063
GaAs/GaPAsSb, double heterostruct., LPE, lattice matching, X-ray diffr., luminesc. 7−58884
GaAs-$Al_{0.37}Ga_{0.63}As$ quantum wells, photolum. studies, MBE growth, effect of interruption 7−39150

semiconductor growth continued
GaAs-$Al_{0.3}Ga_{0.7}As$, thin single quantum well, MBE growth kinetics, normal and inverted interfaces 7−45045
GaAs-$Al_xGa_{1-x}As$, heterojunction form. anal. 7−39436
GaAs-$Al_xGa_{1-x}As$ MOCVD quantum well structures, time-resolved photolum. 7−53410
GaAs-$Al_xGa_{1-x}As(In_xGa_{1-x}As)$ lattice-mismatched heterojunctions, misfit strain relaxation, X-ray study 7−21718
GaAs-AlAs, solid soln., temp.- and current-controlled LPE, theoretical model 7−39447
GaAs-AlAs alternate monolayer compounds structures, MBE growth 7−21716
GaAs-AlAs device structs., MBE prep. using In-free mounting techniques 7−3183
GaAs-AlGaAs, MBE materials for high-speed digital heterostructure devices 7−45480
GaAs-AlGaAs heterostructures, transport props. of 2D electron and hole gases 7−52812
GaAs-AlGaAs MQW structures, MBE grown, material parameters meas. 7−38721
GaAs-AlGaAs quantum well heterostruct. devices, atm. press. MOVPE growth 7−22574
GaAs-Bi, distrib. coeff. of Bi, crystn. from molten solns. 7−46428
GaAs-GaAs cascade solar cells, OM-VPE growth, in-situ-grown tunnel junction 7−8387
GaAs-GaAs MOVPE epitaxially-grown interfaces, anomalous C-V carrier conc. profiles, model 7−52648
GaAs-Ge crystal growth on Ta_2O_5-coated Si substrates, zone melting and MOCVD 7−53579
GaAs-Ge heteroepitaxy on Si substrates, recrystallised Ge-on-insulator intermediate layers 7−52358
GaAs-InAs strain layer modulated structures, MBE grown, cross-sectional TEM 7−7032
GaAs-InAs superlattice, reflection electron diffraction intensity oscillation 7−7030
GaAs-Si, nucleation and growth of GaAs 7−45038
GaAs-Si p-n heterojunctions, interface charge polarity 7−38686
GaAs-ZnSe, MBE growth on GaAs epilayers, nucleation and characterisation 7−45046
GaAsP, CVD, laser selective deposition on GaAs and Si substrates 7−22546
GaAsP, MOCVD growth, IR laser assisted grading 7−27945
GaAsP terrestrial solar cells, high-efficiency concepts 7−8390
GaAsP-GaAs(P) strained-layer superlattices, MOCVD and device prep. 7−7876
$GaAs_{0.6}P_{0.4}$ LEDs, MOCVD growth on Si substrates 7−17438
GaAsSb terrestrial solar cells, high-efficiency concepts 7−8390
GaAs(100), MBE growth parameter influence on surface kinetic processes, RHEED specular beam intensity meas. 7−2424
GaInAs films and structures, gas source MBE, review 7−33572
GaInAs terrestrial solar cells, high-efficiency concepts 7−8390
GaInAs/InP heterostructures, VPE, homogeneity, mobilities 7−58882
GaInAs/InP quantum wells, atmospheric organometallic vapour phase epitaxial growth 7−27912
GaInAs-InP, quantum well structures, adduct MOVPE, photolum., magnetoresist charactn. 7−27388
$Ga_{0.28}In_{0.72}As/Al_{0.28}In_{0.72}As$ photodiode heterostructures, atm. press. MOCVD, 2 μm, sensitivity, structural charactn. 7−27933
$Ga_{0.47}In_{0.53}As$-InP junction lasers, chem. beam epitaxy and performance characts. 7−20254
$Ga_{1-x}In_xAs$/InP heterostructures, MOVPE, electron mobility, exciton peak, magnetotransport 7−58883
$Ga_{1-x}In_xAs$-$Al_{1-y}In_yAs$ superlattices, electronic struct., depend. on growth axis 7−64329
$Ga_xIn_{1-x}As$, low-pressure MOVPE growth 7−7873
$Ga_xIn_{1-x}As$/GaAs heterostructures, low press. MOVPE, photolum., Auger profiling 7−27389
GaInAsP films and structures, gas source MBE, review 7−33572
GaInAsP:InP heterostructures, MOVPE, press. control, reactor design 7−39399
GaInAsP/InP entirely VPE-grown 1.5 μm DFB lasers with low threshold currents 7−50577
GaInAsP/InP heterojunctions, atmospheric press. MOVPE growth TEM studies 7−3196
GaInAsP-InP BH laser fabrication, MOCVD epitaxy, validation by photoluminescence imaging 7−31360
GaInAsP-InP CW phase-locked semiconductor laser array, MOCVD growth 7−57351
GaInAs(P)-InP heterostructures, gas source MBE growth 7−53598
GaInAsP-InP lasers, single-step LPE fabrication 7−10996
GaInAsSb, MOVPE, band gap rel. to growth temp. 7−39409
$Ga_{0.85}In_{0.015}As_{0.13}Sb_{0.87}/Al_{0.4}Ga_{0.6}As_{0.035}Sb_{0.965}$ DH lasers, MBE grown, 2.07 μm laser oscillation 7−43096
$Ga_{1-x}In_xAs_ySb_{1-y}$ system, low temp. phase equilib. 7−52001
GaInP-AlGaInP-GaAs heterostructures, MOVPE, Hall effect, photolum. 7−39401
$Ga_xIn_{1-x}P$ epitaxial layers, OMVPE, surface morphology, photolum. 7−22557
$Ga_xIn_{1-x}P$ layers, MOVPE, photolum., comp. and growth temp. depend. 7−39403
$Ga_xIn_{1-x}P$, OMVPE growth and characterisation 7−3192
$Ga_xIn_{1-x}P$/GaAs ($Al_yGa_{1-y}As$) heterostructures, OMVPE, photolum., lattice matching 7−39402
$Ga_{1-x}In_xSb$ epitaxial layers, MOCVD, morphology rel. to growth conditions 7−39408
GaN films, epitaxial growth by reactive ion plating, elec. props. 7−3206
GaN films, OMVPE, Hall mobilities, impurity band 7−39410
GaN:Zn films, MOVPE, electron cyclotron resonance plasma excitation, low temp. growth 7−22549
GaP epitaxial layers, MOCVD growth on Si, TEM and SEM 7−38416
GaP films, MBE growth on Si(211), defects obs. 7−58695
GaP, floating zone melting prep., elec. props. 7−64238
GaP, LPE macrosteps, shape of atomic steps and interface supersaturation 7−58689
GaP on Si substrate, MOCVD growth and characterisation 7−27926
GaP/GaAsP epitaxial layers, MOCVD growth on Si, TEM and SEM 7−38416
GaSb, crystal growth and synthesis, thermodynamics, optimisation algorithm appl. 7−16461
GaSb, LPE growth from Ga and Sn solns. 7−59467
p-GaSb, low-temp. growth by plasma process *(Japanese)* 7−7061

semiconductor growth continued
GaSb:Gd,Ho crystal grown by horizontal zone melting, precipitate identification 7–21462
GaSb:Te(Se)(Si)(Ge) single crysts., Czochralski growth, carrier conc. rel. to dopant conc. 7–22462
GaSb-GaAs photodiode, low-temp. growth by plasma process *(Japanese)* 7–7061
Ge, amorphous layers on GaAs, solid phase epitaxial Growth during annealing 7–21777
Ge, cathode sputtering process statistical modelling, optical layer deposition 7–39375
Ge, Czochralski growth, cryst. wt. rel to melt temp. variation 7–7841
Ge epitaxial films, CVD growth on Ge substrates, surface morphology 7–53618
Ge, epitaxial films, remote plasma-enhanced CVD 7–39395
Ge epitaxial growth on CaF_2/Si (111), film quality improvement by Ge predeposition 7–7070
Ge film growth on (HgCd)Te substrates, surface preparation effects 7–45037
Ge, floating zone growth, lateral solute segregation rel. to gravity conditions 7–53576
Ge, heteroepitaxy on CaF_2-Si (111) 7–22497
Ge large crystal growth by Stepanov method 7–33543
Ge, MBE growth on CaF_2/Si (111), structural and electrical characteristics 7–45051
Ge polycrystalline film, preferred orientation control by two-step growth method 7–21728
Ge polycrystalline films, photoassisted CVD prep. 7–3200
Ge:Ga(Be)(Zn) extrinsic photoconductor material, cryst. growth and characterisation 7–64893
Ge:P crystals, seeded growth in soft lined crucible, dopant distrib. 7–53559
Ge-Si alloy, MBE on Si substrates, stacking fault tetrahedra form. 7–21769
Ge-Si alloys, strained layer epitaxy, review of developments 7–52343
Ge-Sn heterostructure, MBE growth in ultra-high vac. system 7–2423
$Ge_{35}S_{65}$ films, evaporated, structural changes on illumination and heat treatment *(Japanese)* 7–22489
GeSAgAu films prep. by simultaneous vacuum evaporation, Au effect on metal-photosurface deposition *(Japanese)* 7–3177
GeSe, cryst. growth in Xe atmosphere, expts. performed on Spacelab D1 mission 7–21145
GeSi thermally evaporated epitaxial heterolayers on GaAs substrate, Si distrib. *(Russian)* 7–63988
a-GeSi:H, deposition kinetics and structural control 7–45087
GeSi-Si strained layer superlattices, growth using limited reaction processing 7–39430
Ge_xSi_{1-x}-Si structures, epitaxial growth 7–39387
HgCdTe, bulk melt growth and LPE, defect control 7–64940
HgCdTe, cryst. growth by travelling heater method 7–64892
HgCdTe focal plane array photodetectors, growth, performance and array fabrication 7–15001
HgCdTe, Hg-rich LPE growth using dipping furnace 7–64943
HgCdTe, high quality LPE on CdZnTe, IR detector anal. 7–64941
HgCdTe, LPE growth in multi-slice apparatus 7–64942
HgCdTe materials for infrared detectors, prep. techniques 7–64019
HgCdTe, single cryst. growth by travelling heater method 7–64891
$Hg_{1-x}Cd_xTe$, epitaxial growth by low temp. metalorganic CVD 7–27911
$Hg_{1-x}Cd_xTe$ films, LPE using a semiclosed rotational boat 7–64937
$Hg_{1-x}Cd_xTe$ films, organometallic epitaxial growth on CdTe and characterisation 7–22579
$Hg_{1-x}Cd_xTe$, MBE growth, crystallographic orientations and condensation coeffs. 7–3180
$Hg_{1-x}Cd_xTe$, photochemical organometallic vapour phase epitaxy 7–27946
$Hg_{1-x}Cd_xTe$/CdTe superlattices, MBE growth and props. 7–53602
HgI_2 single cryst. growth new technique 7–53562
HgTe based superlattice, MBE growth and props. 7–7345
HgTe films, deposition by photolysis of (t-butyl)HgTe(t-butyl) 7–3197
HgTe-CdTe superlattices, growth of GaAs (100) substrates by MBE 7–12520
HgTe-CdTe superlattices grown on lattice-mismatched GaAs substrates 7–52341
HgZnTe bulk crystals, travelling heater method growth and charactn. 7–59387
In $As_{1-x}Sb_x$ epitaxial layers, MOCVD, strained-layer superlattices 7–39407
InAlAs, growth by MBE, alloy clustering, surface quality, role of kinetics and thermodynamics 7–32866
$In_{0.52}Al_{0.48}As$ optical waveguides, MBE growth on InP 7–11107
InAs, atomic layer epitaxy growth, photolum., Hall meas. 7–22527
InAs surface on InP, epitaxial regrowth 7–2431
n-InAs:Sn,Te, LPE growth, elec. characts. 7–33603
InAs/GaAs single quantum well structures grown by atomic layer epitaxy 7–22486
InAs-GaAs superlattices grown by beam-separation MBE, surface morphology and elastic strain 7–7031
$InAs_xP_{1-x}$, LEC-grown single crystals, growth defects and lattice strains 7–38001
$In_{0.5}G_{0.5}P$ layers, LPE, elec. and optical props. 7–17119
$In_xGa_{1-x}(Al_{1-x})As$, MBE growth rates, temp. dependence 7–17426
InGaAlP epilayers, MOCVD, laser appl. 7–39404
InGaAlP transverse mode stabilized visible laser diodes fabricated by MOCVD selective growth 7–50591
InGaAs, CVD, laser selective deposition on GaAs and Si substrates 7–22546
InGaAs, CVD growth by VPE, review 7–39417
InGaAs, chemical beam epitaxial growth investig. 7–7878
InGaAs epitaxial films, MO-chloride VPE growth 7–22566
InGaAs, LPE diffusion-limited growth 7–21727
InGaAs layers on InP, LPE growth 7–33608
InGaAs/GaAs GRIN SCH SL quantum well laser, MOCVD grown 7–50557
InGaAs/InP heterostructures, chloride VPE, interface form. control 7–58656
InGaAs/InP multiple quantum well waveguides, low loss, MOCVD growth 7–43358
InGaAs/InP photodiodes, MOCVD growth and characts. 7–27932
InGaAs-GaAs MOVPE epitaxially-grown interfaces, anomalous C-V carrier conc. profiles, model 7–52648
InGaAs-InP, direct growth on GaAs substrates using MOVPE 7–22510

semiconductor growth continued
$In_{0.2}Ga_{0.8}As$-GaAs cascade solar cells, OM-VPE growth, in-situ-grown tunnel junction 7–8387
$In_{0.53}Ga_{0.47}As$, LPE growth on semiinsulating InP:Fe, SEM studies 7–22591
$In_{0.53}Ga_{0.47}As$-W-InP structures, LPE growth on structured substrates 7–46353
$In_{1-x}Ga_xAs$, MOCVD, optical and elec. props. rel. to growth temp. 7–53613
$In_xGa_{1-x}As$, atomic layer epitaxy growth, photolum., Hall meas. 7–22527
$In_xGa_{1-x}As$, gas source MBE growth 7–52361
$In_xGa_{1-x}As$/InP heterostructures, OMVPE growth, quality, source comp., press. effect 7–39400
InGaAsP double heterostructures for laser diodes, LPE growth, influence of P vapour ambient 7–46355
InGaAsP, LPE growth on $GaAs_{0.7}P_{0.3}$ substrate, crosshatch pattern 7–59472
InGaAsP laser, LPE grown, effect of crystal defects on reliability 7–36960
InGaAsP layers, LPE on GaAs, immiscibility region, lattice matching 7–59465
InGaAsP layers, VPE growth, X-ray characterisation 7–21780
InGaAsP, MOVPE system, gas switching mass spectrometry 7–22526
InGaAsP materials, OMVPE growth for long wavelength detectors and emitters 7–27931
InGaAsP/InP 1.3 μm lasers grown on p-InP substrates, low threshold, high T_0 operation 7–1180
InGaAsP/InP laser wafers, pinhole defects, identification of source 7–46356
InGaAsP/InP multiquantum well layers, LPE, photolum., X-ray diffr. 7–53640
InGaAsP/InP superlattices, gas-source MBE grown, X-ray diffr. and TEM studies 7–32839
InGaAsP-InP distributed-feedback injection laser, fabrication by LPE and VPE 7–57337
InGaAsP-InP Fabry-Perot and DFB lasers, VPE transport fabrication 7–20277
InGaAsP-InP planar surface BH lasers with hydride VPE-grown Fe-doped current blocking layers 7–20261
InGaAsSb/AlGaSb DH lasers, MBE grown, room-temperature 2.2 μm operation 7–20219
$In_{1-x}Ga_xP$ epitaxial layers, LPE, surface morphology rel. to lattice mismatch 7–33604
$In_xGa_{1-x}P$ LPE layers lattice-matched to GaAs, Hall mobility meas. and MESFET fabrication 7–7905
InGaPAs, LPE growth on GaAs, immiscibility effects 7–39442
In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7–12535
InP and InP based materials, epitaxial growth, review 7–33574
InP, chemical beam epitaxial growth investig. 7–7878
n-InP compensated samples, MOVPE grown, Hall effect meas. 7–27348
InP, direct synthesis, growth, liquid encapsulated Czochralski method 7–59397
InP, dislocation density reduction in crystal growth 7–2020
InP epitaxial films, MO-chloride VPE growth 7–22566
InP epitaxial layers, MOVPE, elec. characts., photolum. 7–22519
InP films, hydride VPE, impurity incorporation, defect charactn. 7–53614
InP films, MOCVD growth using plasma pre-cracking 7–7880
InP films and structures, gas source MBE, review 7–33572
InP, floating zone melting prep., elec. props. 7–64238
InP, MOCVD on structured substrates, mass transport 7–39397
InP, MOVPE on SiO_2 masked substrates at reduced press., vapour etching 7–39398
InP, MOVPE; morphology, photolum., carrier conc. and mobility 7–22518
InP, melt grown, theoretical and expt. fundamentals of decreasing dislocations 7–53547
InP, ultrapure, atmospheric pressure OMVPE growth 7–13375
InP, undoped and Zn(Cd) doped thin films, prep. and characts., appl. for solar cells 7–17895
InP, VPE using flow modulation 7–7039
InP:Fe, epitaxial layers, MOCVD, doping profiles, SIMS, resist., temp. depend. 7–21248
InP:Fe, LPE growth, SIMS 7–52363
InP:Fe, OMVPE grown, electronic and optical props. 7–52868
InP:Fe, programmed magnetic field applied LEC crystal growth 7–59399
InP:Fe,Ga,Sb, LEC growth, dislocation density, resistivity, SIMS obs. 7–53552
InP:Fe semi-insulating layers, MOVPE growth and elec. characts. 7–22511
InP:Ga,As,Sb single crysts., LEC growth, isoelectronic doping, dislocation density, X-ray topography 7–33549
InP:Mn, LPE growth, carrier conc. control and appl. to buried heterostructure laser diodes 7–21774
InP:S, LEC grown, influence of growth conditions on defects 7–32427
InP:S,Ga,Sb, LEC growth, appl. mag. field method, dislocation etching 7–53553
InP/GaInAs/InP heterostructures, OMVPE, high speed p-i-n photodiodes, photolum., Hall meas. 7–27387
InP-$Ga_{1-x}In_xAs_yP_{1-y}$ double heterostructs., device quality, growth by MOVPE 7–7877
InP-GaInAs planar BH lasers, OMVPE growth 7–1183
β-In_2S_3 thin films, spray pyrolysis grown, optical energy gaps 7–33467
InSb, Czochralski growth rate and spreading resist. relations *(Japanese)* 7–26679
InSb films, preparation of highly sensitive magnetoresistance elements 7–7859
InSb heterostructures, MBE growth 7–27910
n-InSb, low-temp. growth by plasma process *(Japanese)* 7–7061
InSb, pulsed laser evaporation, neutral and charged particle emission 7–3120
InSb:Te, Cd, Zn single crystals, Czochralski growth, solute distrib., mag. field effect on melt 7–3158
InSb:Te crystals, Czochralski growth, layered heterogeneity, melt temp. fluctuations, mag. field effect 7–27888
InSe single crysts., growth by travelling heater method, carrier conc., photoelectrochemical props. 7–59410
In_2Se_3 films, laser synthesized, optical props. 7–59276
In_2Se_3 films, synthesis with pulsed ruby laser 7–58707
$In_{2-x}Sn_xO_{3-y}$ films, reactive RF magnetron sputtering prep., elec. and optical props. 7–46324

semiconductor growth continued

- $In_{2-x}Sn_xO_{3-y}$ thin films, RF reactive sputtering prep., elec. and optical props. 7—39378
- $MoSe_2$-MoS_2 ultrasharp interfaces grown with van der Waals epitaxy 7—13367
- $NbSe_2$, thin film fabrication on MoS_2 by van der Waals epitaxy *(Japanese)* 7—12547
- (Pb,Sn)Se IR detector arrays, heteroepitaxial growth on fluoride-covered Si substrates 7—39429
- $Pb_{1-x}Cd_xSe$ films, laser deposition 7—59422
- $Pb_{1-x}Eu_xSe$, MBE growth for IR device appls. 7—64908
- $Pb_{1-y}(S_xTe_{1-x})_y$, solid solution, growth from vapour, region of homogeneity 7—46285
- $Pb_{0.8}Sn_{0.2}$ Te epitaxial films, vacuum deposition growth in a quasiclosed vol. 7—46329
- $Pb_{1-x}Sn_xTe$ films prepared by MOCVD, elec. props. 7—27919
- PbTe crystals, Bridgman growth in centrifuge, convection effects *(French)* 7—53542
- PbTe, diffusion controlled travelling heater method growth, thermal diffusion effect 7—53527
- PbTe films grown by hot-wall epitaxy on KCl and BaF_2, TEM anal. 7—59432
- PbTe films prepared by MOCVD, elec. props. 7—27919
- PbTe IR detector arrays, heteroepitaxial growth on fluoride-covered Si substrates 7—39429
- PbTe:Ga, doping during vapour phase growth, elec. props. 7—26774
- PbTeSe layers, LPE growth on nonplanar (100) and (110) oriented substrates, laser appl. 7—17479
- SbSI, hollow cryst. growth from vap. 7—53520
- SbSI, SbSOI, cryst. growth and elec. charactn. 7—53564
- SbSI single crysts., vapour growth, morphology rel. to temp. gradients 7—46287
- Se, thin film formation by pulsed laser evaporation 7—59426
- Se, thin films, amorphous, crystn. 7—44371
- Si (111), MBE, ordered and disordered growth modes 7—12558
- Si alloys, amorphous, CVD, electrical and optical props. 7—33596
- Si, amorphised films, solid phase epitaxial regrowth, TEM characterisation 7—32883
- Si, axial magnetic Czochralski growth 7—32343
- Si bicrystals, Czochralski growth, tilt boundaries 7—53558
- Si, CVD, thermal diffusion effects, math. model 7—2410
- Si, CVD in annular tubes, film thickness profiles in mixed convection-diffusion regime 7—27190
- Si crystal growth, mould shaping, spinning, method 7—53568
- Si crystal growth and epitaxial layer deposition for VLSI devices 7—46299
- Si, crystal growth and solidification, high speed laser heating technique 7—53566
- Si, crystalline and amorphous, Monte Carlo growth simulation models 7—16470
- Si, Czochralski grown, tensile props., 900-1200°C 7—51922
- Si, Czochralski grown crystals, octahedral crystalline inclusions, TEM obs. 7—16581
- Si, Czochralski growth, large diameter crystals, under horizontal or vertical mag. field 7—32342
- Si, Czochralski growth, relax. in point defects system 7—16468
- Si, Czochralski growth of high quality crysts. 7—53548
- Si, dendritic web cryst., solar cells and modules fabrication status 7—8391
- Si deposition from SiH_4-Ar-H_2 system 7—23011
- Si, directional crystallisation, carbon-fabric support 7—13350
- Si, doped, laser deposition for interconnections 7—53632
- Si epitaxial films, low temp. growth by very low press. CVD 7—27936
- Si, epitaxial growth, conf., Toronto, Ont., Canada (May 1985) 7—9588
- Si, epitaxial growth using dual heating, slip dislocations and radial temp. gradient 7—38366
- Si, epitaxial growth using photochem. vapour deposition at 200°C 7—39431
- Si epitaxial layers, selectively grown, lattice strain 7—64920
- Si epitaxial layers, VPE growth, charactn. *(Japanese)* 7—63986
- Si, epitaxial low temp. growth by hot wall UHV/low press. CVD techniques, surface optimisation 7—3194
- Si, epitaxial overgrowth on SiO_2 surface 7—21737
- Si film, deposition by photolytic or pyrolytic dissoc. of SiH_4 under laser irrad. 7—13388
- Si, film deposition by radical jet laser-induced CVD 7—59457
- Si film solar cells on steel substrates 7—13921
- Si films, low-temperature growth by reactive ion beam deposition 7—59459
- a-Si films, preparation in separated ultra-high vacuum reaction chamber 7—59434
- Si films, solid phase epitaxial regrowth on epitaxially grown $MgO.Al_2O_3$ 7—38399
- a-Si films, superlattice structure, photo-CVD deposition; solar cell fabrication 7—59450
- Si films on glass substrates, laser recrystallisation 7—38395
- Si films on insulator, lamp zone melting, defect entrainment 7—53642
- Si for solar cells, growth by horizontal supported web technique 7—17412
- Si growth by SOG method and Stepanov method, stability anal. 7—33602
- Si growth for electronic industry 7—33590
- Si, heteroepitaxial growth on ZrO_2-Y_2O_3 substrates 7—21735
- Si, heteroepitaxy on CaF_2-Si (111) 7—22497
- a-Si high quality films and superlattice solar cells, prep. method 7—46346
- Si homoepitaxial thin film growth by ultrahigh vacuum ion beam sputter deposition 7—22582
- Si, ingot and foil casting 7—53711
- Si LPCVD films properties when formed from SiH_4 in vertical flow reactor 7—22563
- Si LPE layer form., depend. on Al_nM chem. reaction, M=refractory metal 7—7043
- Si, LPE on patterned substrates, growth and characters 7—22599
- a-Si, large are uniform thin films, production by scanning plasma method *(Japanese)* 7—17449
- Si, laser-induced CVD for direct writing of Si lines 7—64921
- Si, local autoepitaxial layers, packing defect density, depend. on crystallographic orientation of side boundaries 7—58701
- Si, low pressure epitaxial growth, appl. to dielec. isolation technology 7—53624
- Si, low pressure epitaxy using Si_2H_6 7—53623
- Si MBE, impurity sticking coeffs., substrate orientation depend. 7—52355
- Si MBE, review 7—33573
- Si, MBE cryst. growth, dopant incorporation 7—12559

semiconductor growth continued

- Si MBE grown layers, arbitrary doping profiles 7—12109
- Si, MBE growth, RHEED intensity oscillations 7—7068
- Si, MBE growth, Radclean surface cleaning process 7—12557
- Si, MBE growth, selective diminution in RHEED pattern from (001)-2×1 reconstructed surface 7—7069
- Si, MBE growth on CaF_2/Si (111), structural and electrical characteristics 7—45051
- Si MBE growth on Si (100) and (111), interface formation 7—21773
- Si MBE homoepitaxial growth, expt. considerations 7—13369
- Si MBE layers, defects 7—21772
- Si, MBE on Si substrates, stacking fault tetrahedra form. 7—21769
- Si, MBE simultaneous growth on multiple substrates, apparatus 7—7867
- Si, mag.-field Czochralski-grown neutron transmutation doped, thermal behaviour 7—53574
- Si, magnetic Czochralski growth, at high pulling rates 7—33551
- Si, magnetic-field-applied Czochralski growth *(Chinese)* 7—59401
- Si materials science and technology, conf., Boston, MA, USA (May 1986) 7—29598
- Si materials science issues in IC processing 7—35115
- Si multilayers, LPE growth, DEM, TEM obs. 7—12565
- a-Si, obliquely deposited film, elec. and optical props. 7—12529
- Si, oxidation and epitaxy, limited reaction processing 7—22577
- Si, photochemical CVD at 200°C 7—59456
- Si, polycrystalline, fabrication and use, overview 7—32879
- Si, polycrystalline film SOI structures, recrystn. by laser irradiation 7—32856
- Si, polycrystalline films, low press. CVD growth and annealing, morphology obs. 7—3187
- Si, polycrystalline films, laser-recrystallized, grain boundary location using antireflection cap 7—46312
- Si powder layers, melt recrystallisation for solar cell fabrication 7—17492
- a-Si, prep. by low press. CVD, characts. 7—7884
- Si, reduced-pressure low temp. epitaxy, photochem. effects 7—59455
- Si ribbon casting for solar cell fabrication 7—13907
- Si ribbon growth, dislocation dynamics and thermal viscoplastic stresses 7—2017
- Si SOI structures, polycrystalline Si films, seeding laser recrystn. 7—58706
- Si SOI technology, two-step oxidation technique on MBE film 7—22912
- Si, selective epitaxial growth by reduced press. CVD 7—53625
- Si self-doping using Stepanov method, elec. resist. meas. 7—32470
- Si sheet, growth by horizontal supported web technique, solar cell efficiency 7—53567
- Si, single cryst. temp. distrib. during czochralski growth, computer modelling 7—17414
- Si, single crystal, effects of shape of crystn. front, melting boundary 7—6566
- a-Si solar cell modules fabricated with single-chamber load-lock deposition system 7—59860
- Si solar cell photovoltaics, edge-defined film fed growth 7—17413
- a-Si solar cells, fabrication methods using UHV reaction chamber system, high conversion efficiency 7—54293
- Si solar cells, spinning method for Si sheet mass production 7—13918
- Si solar cells with internal reflection, fabrication by solution growth on steel substrates 7—3683
- Si, Stepanov reverse method cryst. growth, thermal and capillary conditions 7—33545
- Si strips, grown by Stepanov's reversed method, strength, struct., electrophysical props., effects of thermal conditions during growth, photocell appl. 7—32325
- Si superlattice structs. using MBE *(German)* 7—64317
- Si, technology and electronic materials *(Japanese)* 7—22466
- Si, thin sheets, EFG, thermal capillary mechanism for growth limit 7—17407
- Si tube, growth from shaped seed, struct. development 7—32326
- Si, ultrasonic shaping during pulling cryst. growth 7—33541
- Si VPE using $SiCl_4$-SiH_4-H_2 system *(Chinese)* 7—33578
- Si:Al films, LPE in a temperature-gradient field 7—64936
- Si:Ar, high dose implanted, thermal regrowth, RHEED studies 7—21734
- Si:As films, heavily doped, grown by partially ionised MBE, phys. and elec. characts. 7—12561
- Si:As^+, epitaxial regrowth, CW Ar laser annealing *(Korean)* 7—27197
- Si:B, impurity transport in mag. Czochralski growth, computer simulation 7—58182
- Si:B, MBE grown, coevaporation doping 7—12562
- Si:B, magnetic Czochralski growth, computer simulation of B transport 7—32344
- Si:B, O epitaxial wafers, effect of pre- and postdeposition annealing on O precipitation 7—45060
- Si:B,O(Sb,O), heavily doped Czochralski wafers, O precipitation, 450°C thermal annealing 7—58477
- Si:B,P highly doped epitaxial layers, growth by low press. VPE 7—39432
- Si:B film deposition in Si_2H_6-B_2H_6-He gas system, doping effect 7—27184
- Si:BF_2^+, ion implanted, solid phase epitaxial growth, cross-sectional TEM study 7—38364
- Si:Bi, solute trapping by lateral motion of {111} ledges 7—44592
- Si:C, carbide form. in Stepanov cryst. growth 7—33544
- Si:C, Czochralski grown, incorporation and disposition of C 7—32484
- Si:C crystals, Stepanov method growth, defect structs. 7—32421
- a-Si:F,H films, glow discharge deposition, B doping efficiency 7—17436
- Si:Ga epitaxial layers, growth induced planar defects 7—38414
- Si:Ga MBE layers, ion implantation doping using liq. metal ion source, carrier conc., spreading resist., SIMS profiles 7—12563
- a-Si:H, C superlattice struct., solar cell performance 7—46945
- a-Si:H, deposition rates in diode and triode discharges 7—3193
- a-Si:H, form. by ion flux control under toroidal mag. field *(Japanese)* 7—17446
- a-Si:H, glow discharge deposited, nucleation, substrate temp. effects 7—22504
- a-Si:H, glow discharge deposition, surface roughness evolution 7—64933
- a-Si:H, glow-discharge deposition, growth kinetics, radical separation technique 7—22513
- a-Si:H, laser-assisted CVD growth, optical props. 7—22210
- Si:H, microcrystalline, photo-CVD growth 7—13382
- a-Si:H, photo-CVD deposition, initial processes *(Japanese)* 7—7053
- a-Si:H, plasma enhanced CVD, integrated model 7—39423
- a-Si:H,F by thermal CVD, photosensitivity, spin density, conductivity and p-n type 7—17454
- a-Si:H,F films, glow discharge decomposition from Si_2F_6 7—64924
- a-Si:H,F films, H-radical-assisted CVD, hole transport 7—64264

semiconductor growth continued
a-Si:H,F films, prep. using H radical assisted CVD *(Japanese)* 7−17430
a-Si:H,P multilayer films, plasma CVD and elec. cond. studies 7−39428
a-Si:H doping modulated superlattices, light-induced excess cond., deposition effects 7−27410
a-Si:H evaporated layer production from RF discharge, growth mechanism and props. 7−64898
a-Si:H film, photo-assisted plasma CVD 7−33593
a-Si:H film, photoenhanced deposition and characts. 7−53635
a-Si:H film prep. by compressed mag. field magnetron sputtering *(Japanese)* 7−46323
a-Si:H films, CVD, optical and electronic props. 7−33597
a-Si:H films, CVD using microwave excited Ar plasma stream 7−64918
a-Si:H films, charge carrier dynamics, influence of preparation conditions 7−33053
a-Si:H films, discharge and CVD deposition, surface reactions 7−33601
a-Si:H films, glow discharge deposited, persistent photoconductivity 7−58835
a-Si:H films, growth and photovoltaic appls. 7−64236
a-Si:H films, growth habit, influence of substrate struct., ellipsometry study 7−45055
a-Si:H films, high rate deposition and impurity doping effects *(Japanese)* 7−13385
a-Si:H films, high rate deposition by RF planar magnetron sputtering *(Japanese)* 7−39373
a-Si:H films, laser induced CVD using SiH_4 photodecomposition 7−13376
a-Si:H films, photo-CVD from SiH_4-H_2 7−39394
a-Si:H films, photo-enhanced CVD 7−33594
a-Si:H films, photochemical vapour deposition from SiH_4-H_2 7−64916
a-Si:H films, plasma CVD, deposition kinetics *(Japanese)* 7−17450
a-Si:H films, RF glow discharge deposition, optical and electrical props. 7−33598
a-Si:H films, reactive deposition 7−33592
a-Si:H films, sputter deposition, optical and ESR props. 7−33565
a-Si:H films high-rate deposition by RF planar magnetron sputtering *(Japanese)* 7−17419
a-Si:H films preparation by CVD 7−17453
a-Si:H films with columnar morphology, Raman scatt. study 7−64644
Si:H microcrystalline films, glow discharge prep., elec. and optical props. 7−7415
a-Si:H solar cell prep. by laser-induced CVD of SiH_4 7−7890
a-Si:H solar cells deposited from disilane, blue response and efficiency improvement 7−17877
a-Si:H solar cells prod. by positive-column glow-discharge method 7−8397
a-Si:H/a-$Si_{1-x}C_x$:H superlattices, glow-discharge deposition 7−7879
a-Si:H/a-Si_3N_4:H superlattices, plasma deposition methods 7−39439
a-Si:H/a-SiGe:H multilayers, reactive deposition 7−33592
a-Si:H-based films, photochemical vapour deposition, review 7−46345
Si:O, Czochralski cryst. growth, impurity segregation, high axial mag. field effect 7−26960
Si:O, Czochralski-grown wafers, growth striations, X-ray topography study 7−59400
Si:O, dendritic web growth, plastic flow, O effects 7−16471
Si:O, deposition from SiH_4-N_2O, role of adsorption stages 7−17447
Si:O epitaxial films for hetero-bipolar transistors 7−53599
Si:P, MBE grown, coevaporation P doping 7−26773
Si:P, polycrystalline films, LPCVD, charactn. 7−53615
a-Si:P, selective doping and solid phase epitaxial growth, MOSFET appls. 7−27893
Si:P,B, SiO_2 coated cryst., floating zone growth under microgravity 7−53575
Si:P films, CVD and electrical props. 7−64913
Si:P(B) LPCVD films, amorphous and polycrystalline, struct., elec. resist. meas. 7−52870
Si:Sb, pot. enhanced doping during MBE growth, elec., optical props., cryst. quality 7−12112
Si:Sb MBE layers, doping by secondary implantation 7−12102
Si:Sb(As)(P)(B) epitaxial films, low temp. deposited by low press. CVD, autodoping 7−27182
Si-alkaline earth fluoride structures, heteroepitaxial growth, struct., elec. props. 7−12567
Si-B_2O_3 interaction during Si MBE, Auger spectra study 7−13277
Si-CaF_2 SOI technology by heteroepitaxial growth 7−22022
Si-CaF_2-Si structure, reduction of Ca and F surface segregation by solid phase epitaxy of Si 7−38357
Si-on-fused-SiO_2, cryst. quality improvement by zone melting recrystn. *(Japanese)* 7−33553
Si-SiO_2, lateral solid phase epitaxial growth, SOI transistors fabrication 7−2399
a-Si_{1-x} C_x:H films prepared by plasma CVD method, props. *(Japanese)* 7−12543
β-SiC CVD film growth and props., gas phase comp. depend. simulation and meas. 7−22516
3C-SiC, epitaxial growth on Si by low press. CVD 7−3188
SiC, epitaxial layers from soln. in melt 7−22597
SiC film, laser deposition for solar cell use 7−53634
a-SiC films, glow discharge deposition from tetramethyldisilane 7−64919
β- SiC films on substrates, CVD, X-ray topography 7−63998
SiC, growth, struct., and elec. props. 7−52354
SiC, LPE growth by temp. gradient zone melting. solubilities 7−64934
SiC, LPE growth by temp. gradient zone melting, Tb-Si solvent 7−64935
3C-SiC, MBE growth on Si substrates using multielectron beam heating 7−17425
SiC polytype heteroepitaxial growth, and identification by Raman scatt. study 7−63992
α-SiC, single cryst. growth using furnace with NbC heaters 7−27881
β-SiC thin films, CVD epitaxial growth on 6H α-SiC substrates 7−22502
β-SiC thin films, TEM obs. of process induced defects 7−58696
a-SiC:H thin films, glow discharge deposition, energy gap and activation energy 7−46352
a-SiC:H−a-Si:H, solar cell, fabricated by plasma deposition *(Korean)* 7−33585
a-SiC:H(B), thin film, solar cells fabricated by plasma deposition *(Korean)* 7−33585
SiC:P(N)(B)(Al) thin films, impurity 7−27192
a-$Si_{1-x}C_x$:H films, glow discharge deposition, optical emission spectroscopic diagnostics 7−39412
$Si_{1-x}C_x$ thin films, glow discharge deposition and struct. props. 7−64932
SiC(100), cubic, grown on Si(100) by CVD, surface morphology 7−46339

semiconductor growth continued
a-SiGe:H,F films, glow discharge deposition and elec. props. 7−64917
SiGe-Si structures, MBE growth mode and interface structure 7−52311
$Si_{1-x}Ge_x$, epitaxial growth, struct., and elec. props. 7−52354
a-$Si_{1-x}Ge_x$:H,F alloy films, RF glow discharge deposition in ultrahigh vacuum reactor 7−53619
Si_2H_6 generation device for amorphous Si deposition system 7−22501
SiN_x:H,B, microcrystalline, wide-gap, RF glow discharge deposition 7−22503
a-Si_3N_4:H films, plasma enhanced CVD, chemical and mech. props. 7−38420
a-Si_xN_{1-x}:H,B films, DC sputtered, photoelectronic and optical props. 7−27361
$Si_{1-x}(ZnS)_x$:H amorphous films, synthesis and characterisation 7−17420
SnO_2 thin films, photochemical fabrication and micropatterning from SnI_2 7−46315
SnO_2:F films, CVD growth using hydrofluoric acid as doping material 7−7871
SnO_2:F thin films, CVD deposition, elec. and optical props. 7−7425
SnO_2:F-n-Si(poly) solar cells fabricated by CVD, characterisation 7−59859
Te-Se, whisker crystals, growth and elec. props. 7−12578
TiO_2 films, sol-gel method prep., appl. to photoelectrochem. electrodes 7−7903
n-WSe_2 single crystal, growth, struct. and photoelectrochem. props. 7−27879
(Zn,Mn)Se quantum well structures, wide-gap II-VI superlattices 7−7346
Zn_3As_2, semiconducting, MBE growth 7−53590
$Zn_yCd_{1-y}Te$, crysts. grown from non-stoichiometric melts, Zn distrib. calc. 7−51678
ZnO crystals, real struct. during growth process, effect of plastic deform. 7−11974
ZnO films, DC sputtered, structure changes during growth 7−7848
ZnO:Al films, RF reactive sputter deposition, struct., elec. and optical props. *(Japanese)* 7−27900
ZnO:Si thin films, RF magnetron sputtered, conductive and transparent props. 7−22476
Zn_3P_2 amorphous films, preparation and optical props. 7−13360
Zn_3P_2 polycrystalline films, hot-wall deposited, elec. and optical props. 7−22487
ZnS, film deposition, surface morphology and preferential orientation 7−27906
ZnS films, MBE growth on Si (100), substrate temp. effects 7−39384
ZnS, MBE growth on Si (100), photoluminesc. props. 7−3174
ZnS, polycrystalline, AC driven thin film electrolum. displays 7−7762
ZnS, single cryst. growth by gas source MBE 7−17397
ZnS, ZnSe, crystal growth by chem. transport using NH_4Cl transport agent 7−59385
ZnS:Al, low resistivity, grown by MOVPE 7−27921
ZnS:Cu,Mn films, vacuum deposition and DC electroluminescence 7−7868
ZnS/ZnSe, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
ZnS_xSe_{1-x}, single crystals, growth, exciton luminesc. 7−22453
ZnSe cryst., low press. melt growth technique, photolum., laser appl. 7−33548
ZnSe films, electrochemical co-deposition, photoelec. conversion characts. 7−46959
ZnSe films; CVD 7−64909
ZnSe, heteroepitaxial growth on GaAs, energy band gap, elastic strain effects 7−59242
ZnSe hydrothermal growth, cathodolum. props. 7−63531
ZnSe laser-induced epitaxial growth on GaAs using organic compounds 7−52366
ZnSe layer growth by plasma-assisted epitaxy 7−52365
ZnSe layers on Ge (100), MBE growth and photoluminesc. 7−7858
ZnSe, MOCVD, chemical reactions monitoring 7−53611
ZnSe, MOVPE growth kinetics on GaAs 7−22544
ZnSe, single crystals, growth, exciton luminesc. 7−22453
ZnSe:Al, MOCVD growth, deep level characterisation 7−52519
ZnSe:As, MOCVD growth, exciton and deep emission bands 7−52367
ZnSe:Cl layers grown by MBE, blue photoluminesc. 7−52364
ZnSe:N, MBE growth and doping, photoluminescence studies 7−27749
ZnSe:Si, single crystal growth, chem. transport method *(Korean)* 7−27880
ZnSe/GaAs interface, MOCVD grown, ZnSe film stoichiometry 7−39415
ZnSe-ZnS strained-layer superlattice, low pressure MOVPE growth 7−53604
ZnSe-ZnTe strained layer superlattices, MBE growth on InP substrates 7−13366
ZnTe, chemical vapour transport and homoepitaxial growth in closed-tube system, thermodynamic analysis 7−33582
ZnTe epilayers, chemical transport growth, photoluminesc. props. 7−39413
ZnTe films, vacuum deposition, elec. resist. and photocond. meas. 7−3179
ZnTe-ZnSe(S) superlattices, hot wall epitaxial growth and photoluminesc. props. 7−13220
ZnTe-ZnSe(S) superlattices, MBE and atomic layer epitaxy growth 7−13365

semiconductor-insulator boundaries
see also semiconductor-insulator-semiconductor structures
1D rectangular double-barrier struct., reson. tunnelling condition 7−58898
conference, Toulouse, France (April 1985) 7−35103
cylindrical solid-state diode with thermal free carriers, single injection current 7−17111
dielectric films, on compound semiconductors, conf., Las Vegas, USA (Oct. 1985) 7−35108
disorder induced gap state model 7−2656
disordered oxide-semiconductor interface, inversion layer electronic density of states 7−58852
electrical properties of semiconductor interfaces *(Japanese)* 7−64316
insulating thin layers, specific breakdown field concept 7−39035
interface physics and chem., conf., Pasadena, CA, USA (Jan. 1986) 7−4
interface struct., dielectric film mol. beam epitaxial growth 7−38360
ionic cryst.-semicond. superlattice interface excitations, classical anal. 7−52845
MOS systems, freq. spectrum of reciprocal capacitance 7−38741
polysilicon oxidation, appl. to double polysilicon devices 7−39774
polysilicon oxide, elec. cond. model 7−45526
polysilicon-SiO_2, surface texturing effect on SiO_2 cond. and breakdown 7−39773

semiconductor-insulator boundaries continued
- polysilicon-SiO_2 interface, enhanced electron injection 7—38755
- polysilicon-SiO_2 interfaces, textured, electronic props. 7—38754
- processing and charactn. techniques, conf., Los Angeles, CA, USA (Jan. 1986) 7—18489
- SOI film, two-beam laser recrystallisation 7—38393
- SOI films, inhomogeneous carrier transport props., influence of temp. 7—33094
- SOI films, thermal stresses during zone melting recrystallisation, subboundaries, in-plane orientation 7—33554
- SOI formation, high dose O^+ ion implantation, lamp annealing 7—32527
- SOI heterostructure technology 7—38750
- SOI struct., implanted buried oxide elec. props., high temp. annealing effects 7—58904
- SOI structures, ion beam synthesised, carrier lifetime increase 7—12865
- SOI structures, ion implanted, defect EPR spectra studies 7—27603
- SOI structures, thickness determ. using optical interf. method 7—18743
- SOI technology by zone-melting recrystn. on quartz substrates 7—21736
- SOI thin films, props. after laser focused beam processing 7—32497
- SOS, crystalline quality improvement by ion beam technique 7—16651
- SOS, ion beam improved, elec. characts. 7—17114
- SOS structures, SIMS depth profiling, electron stimulated desorption and charging effects 7—33501
- surface state density spectrum determ. using equivalent three element circuit *(Russian)* 7—27434
- TEM characterisation of semiconductor heterostructs. and interfaces 7—52806
- transverse-wave reflection at a piezoelectric-semiconductor interface under acoustic bonding conditions 7—16005
- $(Al,Ga)As/(Ca,Sr)F_2$ multilayer structures, MBE grown, broadband high-reflectivity mirrors fabrication 7—11091
- CaF_2 epitaxial films on Si, structural and electrical props. improvement by rapid thermal annealing 7—38400
- CaF_2 insulating layers on Si, epitaxial growth and charact. 7—39393
- CaF_2-GaAs (100), surface morphology, elec. props. 7—39392
- CaF_2-Si (111) interface, electronic struct. 7—38737
- Cr_2O_3-GaAs, struct. and electrophysical props. 7—17109
- GaAs, dielectric overlayers, effect on surface depletion potential 7—38678
- GaAs, substrate for CaF_2 epitaxial growth 7—39204
- $GaAs/Ca_xSr_{1-x}F_2$ (100) SOI structures, epitaxial GaAs films, antiphase disorder 7—52315
- $GaAs/CaF_2$ system, MBE growth processes, growth chamber transfers 7—64902
- $GaAs/LiNbO_3$ struct., SAW parametric generation with light pumping 7—63934
- GaAs/PTCDA rectifying junction, nondestructive semicond. props. eval. method 7—12876
- GaAs-$(Ca,Sr)F_2$ heterostructure interfaces, twinning, Raman spectra 7—13148
- GaAs-Al_2O_3, interface struct., dielectric film mol. beam epitaxial growth 7—38360
- GaAs-Ga_2Se_3, insulating coating, stoichiometric vacancies, carrier mobility 7—52846
- GaAs-Ge-SiO_2, semiconductor MBE layers on Ge islands on insulator, photolum. study 7—33455
- GaAs-oxide interfaces, defect stabilised electronic properties 7—38748
- GaAs-SiO_xN_y films, props. of insulation film as selective diffusion barrier 7—2440
- GaAs-SiON interface, plasma enhanced CVD deposited SiON, NH_3 plasma pretreatment effects 7—7874
- GaAs-thermal oxide interfacial chem. reactions, Raman spectra, AES 7—27145
- GaInAs-SiO_2 system, annealing behaviour, SIMS and elec. meas. 7—38270
- $Ga_{0.47}In_{0.53}As$-$Si_3N_4(SiO_2)$ interface, elec. charact. 7—38752
- Ge-Al_2O_3:Cr, layer-substrate structs., ESR, line-shape, nondestructive contactless meas. of layer conductivity 7—38924
- Ge-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7—12566
- InP/SrF_2 lattice mismatch, temp. depend. 7—63849
- InP-C based MIS struct., interfacial characts. 7—2732
- InP-SiO_2 interface, electron localisation 7—45514
- InSb, anodic native oxide, interface width, AES profiles 7—22911
- $LiNbO_3$-Si, acoustoelectronic storage, effects of illumination, temp. change, electric fields 7—7405
- Ni-ZnSe-SiO_2-Si struct., energy barriers for photocharging of trapping sights in ZnSe layer 7—52844
- SOI films, halogen lamp recrystallised, minority carrier lifetime studies 7—33101
- SOI, zone melting recrystallisation 7—2414
- Si (111)-CaF_2, MBE grown, electronic struct. 7—2725
- Si (111)-CaF_2, UV irradiation-induced ordered struct., photoelectron spectroscopy study 7—7396
- Si, epitaxial overgrowth on SiO_2 surface 7—21737
- Si, heteroepitaxial growth on ZrO_2-Y_2O_3 substrates 7—21735
- Si, oxidation, thermal SiO_2 growth kinetics model 7—8207
- Si, polycrystalline film SOI structures, recrystn. by laser irradiation 7—32856
- Si porous layers on p-substrates, oxide form. rel. to SOI struct. realisation 7—39771
- Si SOI, buried oxide structures, ion implanted, ESR studies 7—59111
- Si SOI structure, high-dose ${O_2}^+$ implanted, dopant diffusion 7—52139
- Si SOI structure, O^+ implantation and high temp. annealing 7—44579
- Si SOI structures, implanted buried oxide, high-temp. annealing 7—6654
- Si SOI structures, ${O_2}^+$ implanted, oxide precipitates, ordering 7—21449
- Si SOI structures, polycrystalline Si films, seeding laser recrystn. 7—58706
- Si SOI structures using buried layers of oxidised porous Si 7—13660
- Si SOI technology, two-step oxidation technique on MBE film 7—22912
- Si SOS structure, strain gauges for thermophysical meas. appls. 7—4831
- a-Si solar cells, insulator-semiconductor interface properties 7—13901
- Si:As on sapphire, ion beam recrystallised and laser annealed, elec. props. 7—16649
- Si:As(P)(B)-SiO_2 interface, segregation, transport coeffs. of impurities 7—63880
- a-Si:H, contact resist. meas. technique 7—24658
- a-Si:H thin films, bulk and interface struct., in situ ellipsometry study 7—27200
- a-Si:H ultrathin layers, photoluminescence characts., layer thickness depend. in variety of sample configurations 7—46123
- a-Si:H/SiO_x:N,H heterostruct., transport props 7—38768

semiconductor-insulator boundaries continued
- a-Si:H/a-SiN_x:H multilayer films, coplanar conductance, voltage-induced anomalies study 7—2729
- a-Si:H-Si_3N_4:H double barrier structs., resonant tunnelling 7—52848
- a-Si:H-SiN_x:H layered structures, effect of a-SiN_x:H composition on band bending near interface 7—45510
- Si:${O_2}^+$, Si on insulator structs., amorphous and crystalline oxide precipitates 7—13655
- Si:P(As)/SiO_2 interface, oxidation rates and oxide props., dopant effects determ. 7—12514
- Si/a-SiO_2/ZrO_2-Y_2O_3, SOI system fabrication, charact. 7—22025
- Si/oxide interfaces, native and thermal, stoichiometry and interface transition layer, atom probe FIM study 7—32844
- Si/Si_3N_4 interfaces, phase separated structures, Ar^+ ion bombardment effects, ZPS studies 7—22439
- Si/SiO_2, ion implantation-induced interface states generation and charge trapping study 7—12874
- Si/SiO_2, two-step oxidation of thin gate oxides, trapping characts., hot electron effect study 7—64351
- Si/SiO_2 interface, oxide trap capture cross section and tunnelling emission, DLTS study 7—12875
- Si/SiO_2 interface band discontinuities, Cs and H intralayer effects obs. 7—22020
- Si/SiO_2 interface struct., suboxide states, localisation and crystallographic depend., XPS study 7—58653
- Si/SiO_2 system, dielec., elec. and struct. props. 7—7040
- Si/SiO_2 system, two-step oxidation and interface structs. 7—3542
- Si-Al_2O_3, SOS struct., UV reflectance meas., ellipsometry study 7—33414
- Si-alkaline earth fluoride structures, heteroepitaxial growth, struct., elec. props. 7—12567
- Si-C based MIS struct., interfacial characts. 7—2732
- Si-CaF_2, interface struct., high resolution TEM study 7—2394
- Si-CaF_2, MBE of CaF_2 on Si and overgrowth with Si or Ge, characteris. 7—22495
- Si-CaF_2 interface, strains in MBE grown insulator films, MeV ion channelling meas. 7—7080
- Si-CaF_2 interface, with epitaxially grown insulator, post-growth annealing treatments 7—7074
- Si-CaF_2 interface, with MBE grown insulator, trap states, I-V, C-V meas. 7—7407
- Si-CaF_2 SOI technology by heteroepitaxial growth 7—22022
- Si-CaF_2 structure with epitaxial CaF_2, electronic characteris. 7—22026
- Si-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7—12566
- Si-CaF_2-Si MOSFET structures, heteroepitaxial growth, struct., elec. props. 7—12567
- Si-$CoSi_2$-CaF_2, MBE growth of epitaxial insulator-metal-semicond. struct. 7—22496
- Si-on-fused-SiO_2, cryst. quality improvement by zone melting recrystn. *(Japanese)* 7—33553
- Si-polymer contact solar cell fabrication 7—23168
- Si-pyrex, irreversibility of anodic bonding 7—33910
- Si-Si_3N_4, insulator growth by rapid thermal processing 7—22921
- Si-Si_3N_4, SOI, N^+ implanted, microstructural characterisation 7—52300
- Si-Si_3N_4, SOI structs. formed by N^+ implantation EPR of defects 7—33273
- Si-Si_3N_4 and Si-Si_3N_4-SiO_2 SOI structures, laser recrystallisation, effects of different capping layers, characterisation 7—45511
- Si-Si_3N_4 buried nitride SOI structs., N^+ ion implantation, elec. and physical props. 7—33100
- Si-Si_3N_4 SOI structs., formation by N^+ implantation 7—32532
- Si-SiN_xO_y, insulator growth by rapid thermal processing 7—22921
- poly-Si-SiO_2, Ar^+ laser recrystallised interface characts., effects of technological parameters *(Chinese)* 7—33092
- Si-SiO_2, buried layer SOI structs., elevated temp. high dose O^+ implantation, effect of annealing 7—32530
- Si-SiO_2, buried oxide formation by O^+ implantation, donor creation, enhanced conductivity 7—32529
- Si-SiO_2, buried SiO_2 formation, high dose O^+ implantation at room and liquid N_2 temp. 7—32528
- Si-SiO_2, E′ centre in thermally grown SiO_2, bias depend. annealing 7—45503
- Si-SiO_2, insulator growth by rapid thermal processing 7—22921
- Si-SiO_2, interface props., ellipsometry *(Russian)* 7—17293
- Si-SiO_2, interface trap annealing, rapid thermal processing 7—22027
- Si-SiO_2, lateral solid phase epitaxial growth, SOI transistors fabrication 7—2399
- Si-SiO_2, MBE SOI formation, Auger study 7—32876
- Si-SiO_2, new donors effect, interface effect due to internal oxidation 7—33093
- Si-SiO_2, SIMOX wafers, epitaxial growth 7—32878
- Si-SiO_2, SOI struct., deep O^+ implantation, strain and damage in Si 7—32531
- Si-SiO_2, SOI structs. formed by O^+ implantation, EPR of defects 7—33272
- Si-SiO_2, Si oxidation kinetics, interface width determ. 7—39764
- Si-SiO_2, trap generation by avalanche electron injection 7—3531
- Si-SiO_2 (111) interface, dangling bonds, dipolar interactions investig. 7—17107
- Si-SiO_2 in MOS structs., charge phenomena in thermal films with avalanche injection 7—2727
- Si-SiO_2 interface, AES depth profiling during sample rotation 7—27829
- Si-SiO_2 interface, chem. transition, density of states calcs. 7—7397
- Si-SiO_2 interface, chem. struct., XPS determ., suboxide distrib. and interface state form. 7—38358
- Si-SiO_2 interface, computer simulation of high-resolution TEM images 7—44318
- Si-SiO_2 interface, ESR signal from P_{b0} centres, anisotropic props. 7—38940
- Si-SiO_2 interface, electrically active defects 7—33102
- Si-SiO_2 interface, electronic state charactn. 7—38747
- Si-SiO_2 interface, insulator props. after exposure to H_2+N_2 and NH_3. 7—59693
- Si-SiO_2 interface, microchemistry 7—32850
- Si-SiO_2 interface, positive charge generation; rel. to high field electron transport in SiO_2 7—38571
- Si-SiO_2 interface, roughening induced during AES depth profiling 7—21685
- Si-SiO_2 interface, struct. models 7—58658
- Si-SiO_2 interface, study using variable energy positron beam 7—38063
- Si-SiO_2 interface, wet oxidised, RF plasma annealing effects 7—54026

semiconductor-insulator boundaries continued
  Si-SiO_2 interface formation by catalytic oxidation using adsorbed alkali metals 7—54017
  Si-SiO_2 interface in MOS capacitors, trap charge effect 7—27437
  Si-SiO_2 interface properties in the 10^{17}-10^{19} cm^{-3} doping range 7—38762
  Si-SiO_2 interface roughness, evolution, characterisation 7—32852
  Si-SiO_2 interface state density effect on elec. props. of Pt-diffused MOS struct. *(Japanese)* 7—7404
  Si-SiO_2 interface struct., ellipsometric charactn., rel. to elec. props. 7—63985
  Si-SiO_2 interfaces, microstruct. and electronic props. 7—38359
  Si-SiO_2 interfaces, surface roughness and elec. cond. 7—2724
  Si-SiO_2 SOI struct. formed by high dose ion implantation, high resolution TEM study 7—59690
  Si-SiO_2 SOI structure, lateral solid phase epitaxial growth, TEM study 7—38369
  Si-SiO_2 struct., interfacial charged centres, low temp. RF plasma treatment 7—2661
  Si-SiO_2 structs., low and high temp. oxidised, inversion electron mobility study 7—22019
  Si-SiO_2 structures, prod. by recrystallisation, subgrain boundaries, barrier effects 7—52305
  Si-SiO_2 system, H_2 diffusion 7—21531
  Si-SiO_2 system, interface state generation by nonionizing UV radiation 7—38760
  Si-SiO_2:S, effect of S on the oxide charge 7—7024
  Si-SiO_x interface density of localised states, C-V and G-V characts. meas. 7—38734
  Si-TiO_2 MIS structures, low temp. CVD of TiO_2 films 7—17105
  βSiC single cryst., wet and dry oxidation kinetics and interface characts. 7—13674
  SiC-Si, interface struct. study 7—45021
  SiN_x-Si:H amorphous multilayer films, charge transfer doping, cond., photocond. meas. 7—38735
  Si_3N_4 films prep. by plasma anodisation, XPS depth profiling 7—58667
  Si_3N_4 localised films on Si substate, laser deposition 7—39418
  Si_3N_4, SOI formation by ion implantation 7—32526
  Si_3N_4/GaAs buried interface, EXAFS studies in total reflection and dispersive modes 7—64765
  Si_3N_4-SiO_2-Si structs., injector props. 7—38763
  SiO_2, behaviour under high elec. field/current stress conditions 7—7254
  SiO_2 film on Si produced by thermal oxidation 7—65228
  SiO_2 films on Si produced by surface oxidation, stresses and defects 7—65230
  SiO_2 on polysilicon, thermally grown, elec. cond. and breakdown props. 7—45508
  SiO_2, SOI formation by ion implantation 7—32526
  SiO_2 thermal oxide films on Si substrate, ramp-voltage-stressed I-V characts. 7—17112
  SiO_2 thermally grown on Si substrates, breakdown and defects studies 7—33104
  SiO_2/Si (111) interface ordering, X-ray diffr. 7—32848
  SiO_2/SiC interface. elec. characts., MOS conductance technique meas. 7—12873
  SiO_2-Si, quantitative distrib. eval. of P, SIMS 7—54254
  SiO_x-Si:H amorphous multilayer films, charge transfer doping, cond., photocond. meas. 7—38735
  SiO_xN_y-Si:H amorphous multilayer films, charge transfer doping, cond., photocond. meas. 7—38735
  Si(111) substrates, MBE growth of non-lattice-matched $(Ba,Ca)F_2$, (Pb,Sn)Se-$(Ba,Ca)F_2$ and CdTe-$(Ba,Ca)F_2$ layers 7—27216
  Si(111)-CaF_2, interface form., photoemission study 7—2395
semiconductor-insulator-semiconductor structures
  carriers in insulator and at semiconductor-insulator interface 7—2730
  layered structures with metallised surfaces, interface excitations 7—22031
  Si, photocurrent amplification 7—64360
  Si/SrO/Si heteroepitaxial structure formation by molecular beam epitaxy 7—53600
  SIS struct. photoresponse kinetics, current flow mechanism 7—52854
  SOI, conf., Boston, MA, USA (Dec. 1985) 7—35101
  solar cells on polysilicon substrates 7—40008
  GaAlAs heterostructures with an insulating layer 7—12866
  $Ga_{1-x}Al_xAs$ MIS and SIS structures, prep. by metallorganic chem. hydride method, electrophysical props. 7—22018
  n^--GaAs/$Al_xGa_{1-x}As$/n^+-GaAs capacitors, accumulation layers magnetotunnelling obs. 7—12880
  Ge-CaF_2-Si, Ge heteroepitaxy on CaF_2-Si (111) 7—22497
  Ge-CaF_2-Si epitaxial structures, growth, structural and electrical props. 7—38356
  Ge-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7—12566
  InSb/Teflon SIS structs., EM magnetoplasma Gaussian beams, propag. and size resonances study 7—58905
  $In_{2-x}Sn_xO_{3-y}$ solar cells, state-of-the-art review 7—40007
  Si buried oxide structure formed by O ion implantation 7—12099
  a-Si:H/a-SiO_2:H superlattice micropores, pyrene molecules adsorption and confinement 7—27112
  Si/$CoSi_2$/Si structs., parallel and perpendicular transport, supercond. props. 7—45518
  Si-CaF_2, MBE of CaF_2 on Si and overgrowth with Si or Ge, characteris. 7—22495
  Si-CaF_2-Si, Si heteroepitaxy on CaF_2-Si (111) 7—22497
  Si-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7—12566
  Si-CaF_2-Si structure, reduction of Ca and F surface segregation by solid phase epitaxy of Si 7—38357
  Si-GaF_2-Si epitaxial structures, growth, structural and electrical props. 7—38356
  Si-SiO_2-InSb hybrid struct. spectral characts. and detection props. 7—38712
  Si-SiO_2-Si layered struct., dose calcs. for X-ray and X-ray irrad. 7—58333
  Si-SiO_2-Si tunnel dielectric, breakdown mechanism 7—33098
  SnO_2-SiO_x-Si surface barrier solar cells, optimisation of fabrication process 7—23154
semiconductor integrated circuits *see monolithic integrated circuits*
semiconductor junction lasers
  1.3 μm laser amplifier with integrated passive waveguides 7—20278
  actively mode-locked laser, diode facet reflectivity influence on dynamics 7—36959
semiconductor junction lasers continued
  aging, electronic apparatus *(Czech)* 7—57317
  amplifiers, optical bistability at 1.55 μm 7—57368
  arrays, far-field analytical model 7—11018
  asymmetric quarter-wave-shifted DFB semiconductor lasers 7—10990
  beam location and focusing using computer-controlled spot-centring technique 7—5934
  BH laser arrays, Y coupled, in-phase locked, high-power CW operation 7—50576
  BH laser diodes, thermal props. 7—57328
  BH laser diodes, very low threshold high reliability 1.30 μm high yield manufacturer by MOCVD 7—31340
  Bragg injection semiconductor laser with external mirror, distrib. feedback 7—36985
  buried heterostructure laser devices, LPE growth 7—33609
  buried structures, wavelength selective infrared microscopy for nondestructive observation 7—35589
  chromatic dispersion meas. of multimode optical fibre waveguides *(Czech)* 7—11122
  chromatic dispersion measurement system using 'n' LD light sources different in wavelength 7—14995
  cleaved coupled cavity lasers, multilongit. mode model 7—57372
  compact linear array external cavity laser with diode elements, wavelength control 7—36992
  complementary self-aligned laser arrays, MOCVD growth 7—31339
  composite cavity waveguide complementary semiconductor lasers, low threshold current, large output power 7—62727
  conference, laser science advances, Dallas, TX, USA (Nov. 1985) 7—9573
  coupling of laser diodes to monomode elliptic core fibres using lens 7—20426
  crank TJS lasers grown by MOCVD, 10000 h operation 7—31341
  CW, SHG from sub-monolayer molecular adsorbates 7—16874
  DFB, coupling coeff. determ. method 7—57314
  DFB amplifiers, optical bistability 7—57324
  DFB laser, 1.5 μm, feedback effects on spectra 7—31321
  DFB laser, V-groove, 1.3 to 1.55 μm operation 7—20257
  DFB laser deficiencies and proposed alternatives 7—1194
  DFB laser diode, direct FM characts. meas. using delayed self-homodyne technique 7—11014
  DFB laser diode, gain-switched, transform-limited 5.6 ps optical pulse generation using pulse compression technique 7—31367
  DFB laser diodes repeaters for 1.5 micron fibre submarine transmission system sea trial 7—31519
  DFB lasers, fibre-extended-cavity, oscillation frequency tuning 7—57381
  DFB lasers, phase tunable type, 1.5 μm operation, FM and spectral characts. study 7—43171
  DFB lasers, single longitudinal-mode high-power type, design, theoretical aspects 7—10987
  DFB lasers, spectral chirping suppression 7—20220
  DFB semiconductor laser amplifier, optical freq. selective amplification 7—57311
  DFB semiconductor lasers, external optical feedback 7—57332
  DFB semiconductor optical amplifiers, adjustable gain and bandwidth 7—57365
  DFB type, fibre optic technology advances 7—1193
  diode laser, single quantum well, wavelength switching by injection-current control 7—50556
  diode laser, V-grooved inner group, LPE grown, 100 mW 1.5 μm operation 7—57354
  diode laser array, radiation patterns, phase measurement 7—1207
  diode laser arrays, gain-guided, ten-stripe, high-order eigenmodes 7—10986
  diode laser arrays, phase-locked, supermode structure 7—57362
  diode laser coupling to single-mode fibre using planoconvex graded-index rod lens 7—15973
  directly modulated semicond. lasers, gain nonlinearity effects calcs. 7—20218
  discrete diode lasers ensemble, high spectral purity single mode CW and pulse output 7—43091
  double-channel planar BH multimode laser, 1.55 μm fibre grating external cavity, single-mode behaviour 7—15908
  double-channel single stripe lasers, analytic study 7—43141
  dynamic spectra and propag. in single model fibres 7—20225
  electron-beam-excited, nonaxial excitation modes 7—43102
  electron-beam-pumped, single longitudinal mode operation 7—10938
  electronic beam deflection using grating output coupler 7—31317
  EM field probe, sensitive HF, using semiconductor laser in small loop antenna 7—24657
  external cavity laser, compact linear array 7—43154
  external cavity semiconductor lasers, polarisation and wavelength control *(Japanese)* 7—25858
  external-cavity laser diode, stabilisation of spectral linewidth and oscill. freq. using fibre-optic ring resonators *(Japanese)* 7—5921
  face-pumped laser, bimolecular recombination, bistability theory 7—57336
  failure causes and distrib., laboratory service life tests 7—62692
  fast frequency-tunable external-cavity laser, FSK modulation, 100 Mbits/s 7—57383
  fibre optic interferometer using FM laser diodes 7—31470
  fibre optic links, bit error rate, noise meas. on laser diodes single modes 7—37230
  fibre optical sensors, semiconductor laser and integrated optics use 7—25998
  fibre-optic element for digital information storage 7—42995
  field spectra computing asymmetry due to noise obs. *(Japanese)* 7—15862
  gain medium carrier-induced refractive index change, saturation effects 7—43103
  gain-guided diode laser arrays, eigenmodes, junction-heating effects 7—62688
  gain-guided laser arrays, excess modes 7—31316
  gain-guided modes in active semiconductor waveguides 7—50563
  gain-guided triple stripe lasers, self-consistent anal. 7—62702
  graded-index separate-confinement heterostruct. laser, carrier capture time 7—1100
  gradient index lens for low-loss coupling of laser diode to single-mode fibre 7—31465
  harmonic modulation of semiconductor lasers, meas. appl. *(German)* 7—25820
  heterodyne bias freq. locking for coherent optical communication *(Chinese)* 7—57382
  heterodyne interferometer using direct modulation of diode laser wavelength 7—41440

semiconductor junction lasers continued

- heterolaser emission, spatial characteristics control 7—10941
- high frequency response characteristics of DFB-DC-PBH LDs 7—50593
- high power, for optical systems, phase front meas. 7—20301
- high-power laser diodes for optical disc memory light source, ML6000 series *(Japanese)* 7—20271
- high-power semiconductor laser diode arrays 7—10983
- high-power single mode operation of index-guided inner stripe (I^{2}S) laser by MOCVD 7—50592
- III-V compound, effect of LPE grown crystal defects on reliability 7—36960
- III-V semiconductor, integrated optoelectronics, micrograting form. by HV electron beam lithography 7—31443
- III-V semiconductors, gas source MBE, review 7—33572
- index guided laser diodes, 1.3 μm, far-field fine struct. study 7—57389
- index-guided semiconductor lasers, self stabilisation of fundamental lateral mode 7—57320
- information processing and communications appl. 7—1285
- InGaP/InGaAlP double heterostructure and multiquantum-well laser diodes, MBE growth and characterisation 7—62689
- injection heterolasers with crescent-shaped active region, spectroscopic props. 7—36962
- injection laser application for measuring surfacegeometric parameters 7—4816
- injection laser with external selective resonator, wide tuning range 7—43099
- injection lasers, bistable, instability studies *(Chinese)* 7—10923
- injection lasers, external cavity, resonant self-pulsing, instabilities 7—43156
- injection-locked semiconductors lasers, freq. chirping, small signal analysis 7—50562
- integrated coupled-cavity lasers, design and fabrication 7—25843
- interferometric distance meas. by wavelength shift of laser diode light 7—4806
- IR laser developments with tunable crystals and diodes 7—15887
- IR spectroscopy appl. of semiconductor radiation detectors and diode lasers 7—15865
- laser-diode/multimode-fibre coupling analysis using a planoconvex GRIN lens 7—31480
- light-wave communication appl. 7—15903
- limitations and noise of interferometric systems using frequency ramped single-mode diode lasers 7—30065
- linewidth broadening factors, review 7—57330
- linewidth caused by spontaneous emission, comparison of mode-locked and single-mode operation 7—20224
- linewidth determination from self-heterodyne meas, with subcoherence delay times 7—20300
- linewidth reduction for spectroscopic source 7—10924
- linewidth reduction of semiconductor diode lasers 7—15868
- low-threshold current constricted DH lasers, fabrication *(Chinese)* 7—31314
- LPE growth on InP:S substrate, substrate quality evaluation 7—32453
- matrix switches, integrated optical, laser diode gain guides 7—37209
- mode locked, suppression of timing and energy fluctuations by CW injection 7—50609
- mode locking using fast multiple quantum well absorber 7—50655
- mode partition noise in CW and pulsed operation 7—57331
- modulated semicond. structs., conf., Kyoto, Japan (Sept. 1985) 7—4630
- modulation measuring apparatus for injection laser 7—5929
- module for single-mode fibre based on confocal combination lens method 7—15984
- monolithic laser diode linear arrays, quasi-CW, high-power operation 7—43137
- monolithic optoelectronic ICs for high-speed fibre optic transmission 7—37203
- MQW DFB laser, theoretical anal. 7—20223
- multielectrode DFB laser, broad wavelength tuning under single-mode oscillation 7—20258
- multimode rate-equation anal. appl. to longitudinal mode modulation 7—20292
- multiple quantum well dot laser, spectrum linewidth in mag. field 7—57313
- multiple-stripe-geometry laser arrays, chirped and unchirped, modal eigenfunctions 7—57335
- multiquantum barrier, electron reflectance, theoretical study 7—7341
- multiwavenumber linearized diode laser spectra by overlapping frequency scans 7—41492
- narrow linewidth, single frequency, with phase conjugate external cavity mirror 7—43157
- narrow stripe geometry lasers, nonlinear light-current characts. 7—15866
- narrow-linewidth fibre laser with integral fibre grating 7—5904
- natural linewidth of semiconductor lasers 7—57318
- near IF lasers, props. and high modulation appls. *(German)* 7—20291
- nonlinear amplifiers, low-energy optical switching 7—57369
- nonlinear dynamics and chaos 7—62703
- nonlinear semiconductor laser amplifier, static and dynamic props. 7—15912
- nonlinear system modeling based on Volterra series 7—20226
- nonsymmetrical five-layer LOC, DFB and DBR lasers, waveguiding props. 7—57319
- optical bistability in laser amplifiers, physics and appls. 7—62751
- optical bistability in semiconductor injection lasers, switching speeds, review 7—57325
- optical bistability in semiconductor laser amplifiers, switching speed 7—50564
- optical communications appl. 7—43142
- optical long-wavelength components by VPE 7—46343
- optical transmitter appl. *(German)* 7—5913
- optoelectronic components, high performance, long wavelength, MOVPE, atm. press. growth, operating characts. 7—27930
- output power fluctuation due to reflected lightwaves in laser diode modules 7—31342
- output power stabilisation methods 7—20304
- parametric oscillations producing travelling refr. index modulation wave 7—50647
- phase and frequency noise, probability density function 7—20266
- phase locked semiconductor laser arrays, injection current tailoring 7—57327
- phase-coupled high power laser arrays, diffr. limited output beams 7—50586

semiconductor junction lasers continued

- phase-locked array, five-stripe, junction down mounting, high power CW operation 7—57364
- phase-locked array, intensity and wavelength fluctuations, duty cycle effects 7—43176
- phase-locked controlled filament laser 7—10925
- phase-locked injection laser arrays with variable stripe spacing, coupled-mode analysis 7—50581
- phased array diode lasers, far-field wavefront props., coupled mode anal. 7—31318
- phased-array diode lasers coupled-mode anal. 7—43095
- phased-array laser, single-lobe radiation pattern generation using variable phase-shift zone plate 7—43182
- phased-array with uniform stable supermode 7—43139
- photosensitive properties of injection laser, effective gain method 7—62693
- picosecond electronics and optoelectronics, topical meeting, Lake Tahoe, NV, USA (Mar. 85) 7—41007
- polarisation switching, injection locking mechanism 7—57380
- power control for semiconductor lasers *(German)* 7—50578
- pulsed layer, signal spectrum variation, expt. study and input signal cct. design 7—36966
- quantum electronics, conf., Bucharest, Rumania (Sept. 1985) 7—55888
- quantum electronics, conf., San Francisco, CA, USA (June 1986) 7—48147
- quantum heterostructure materials and devices 7—52786
- quantum well and quantum wire structs., dynamic and spectral props. 7—5892
- quantum well laser diode, characts. *(Japanese)* 7—10942
- quantum well lasers, graded barrier, pulsed operation, near- and far-field obs. 7—31319
- quantum well lasers, resonant injection 7—10927
- quantum well lasers—gain, spectra, dynamics 7—10935
- quantum-box lasers, 3D, gain and threshold current density 7—10937
- reactive magnetron sputtering, microelectronics appl. 7—33556
- reflected light characteristics for 790 nm semicond. laser diode *(Japanese)* 7—15867
- review of recent advances 7—36965
- review of research in Japan 7—10984
- ridge waveguide lasers, 1.55 μm bridge contacted, gain guiding to index guiding transition 7—57322
- satellite datalink using hologram laser beam corrector-collimator 7—25754
- schlieren optics methods, comparison of light sources 7—57503
- sectional constricted planar co-cavity laser diode, longitudinal mode-temp. locking study *(Chinese)* 7—10932
- self-pulsing lasers, quasiperiodic route to chaos under large signal current modulation 7—62706
- semiconductor, digital control using microcomputer, freq. stabilisation *(Japanese)* 7—5912
- semiconductor laser amps. with reduced facet reflectivity, gain props. *(German)* 7—62687
- semiconductor laser monolithically integrated with optical waveguide, laser oscillations *(Japanese)* 7—25859
- separated multiclad-layer, rigorous waveguiding anal. 7—15898
- signal recording and averaging in diode-laser spectroscopy 7—41503
- single-mode operation, influence of external resonator on emission spectrum 7—62695
- size-effect modulation laser, three-terminal, gain-switching characts., fast transient response 7—10936
- sources in single mode fibre system, diode lasers versus LEDs 7—62844
- sources in single mode fibre system, diode lasers versus LEDs 7—62845
- stripe-geometry injection laser model *(Czech)* 7—5882
- superlattices for optical components improvement *(Swedish)* 7—1284
- superluminescent diodes, high frequency modulation 7—62744
- surface-emitting phase-locked array of diode lasers, 300 mW operation 7—57360
- synchronous modulation by sinusoidal current and light 7—43173
- tandem-electrode laser diode, flip-flop operation, tuning characts. 7—57315
- temperature profile model of laser diode arrays with heat sinks 7—20221
- transmitters for high-bandwidth fibre optic system 7—25978
- transverse beam deflection in semiconductor laser 7—5933
- travelling-wave rate eqn. anal. 7—62701
- tunable diode laser control by a stepping Michelson interferometer 7—43135
- tunable laser diodes relevant to IR fibreoptics technology, new developments 7—36963
- tunable narrow-band emission of a semiconductorlaser with transmission grating feedback 7—1099
- twin-channel lasers, optical characts. modelling 7—20302
- twin-stripe lasers, optical and electronic control of Hopf bifurcation 7—57326
- unstable resonator, phase-locked arrays 7—1196
- unstable resonator semiconductor lasers, expt. 7—57374
- unstable resonator semiconductor lasers, theory 7—57373
- upside down mounted ridge-waveguide lasers, thermal resistance, device model anal. 7—43092
- wavelength stabilization of tunable diode lasers using an internally-coupled Fabry-Perot interferometer 7—31353
- AlAs-GaAs superlattice waveguides in separate confinement heterostructure laser diodes, threshold current density 7—20267
- AlGaAs BH laser with flared waveguides, high power operation 7—57352
- AlGaAs high-power pulsed laser 7—10997
- AlGaAs high-power ridge-waveguide GRIN-SCH laser diode 7—10988
- AlGaAs injection heterolasers and integrated laser-photodetector pairs, prepared by microcleaving 7—31343
- AlGaAs integrated-hybrid Bragg heterostruct. laser thermal stability of distributed-refl. spectral bands 7—57393
- AlGaAs laser, mode hopping suppression by saturable absorber 7—62696
- AlGaAs laser, tunability and mode-transition characteristics 7—20293
- AlGaAs laser, tunability, appl. to Cd$^+$ ion drift velocity meas. *(Japanese)* 7—20294
- AlGaAs laser arrays with Si disordered facet windows, high power operation 7—43140
- AlGaAs laser diode, HF stabilisation 7—15864
- AlGaAs laser diode array travelling-wave amplifier, high peak power, gateable picosec. optical pulses 7—20252
- AlGaAs laser diodes, MOCVD grown, struct. fabrication and characts. *(Japanese)* 7—20272
- AlGaAs laser diodes, MBE grown, fabrication and characts. *(Japanese)* 7—20273
- AlGaAs laser rib-waveguide, gain- to index-guiding transition 7—31315

semiconductor junction lasers continued
- (AlGa)As lasers, separately pumped, continuous control 7—20287
- AlGaAs low current threshold visible laser diodes, $(AlGaAs)_m(GaAs)_n$ superlattice quantum well 7—10926
- AlGaAs MQW lasers, index-guided, fabrication by selective disordering using Be focused ion beam implantation 7—20269
- AlGaAs multiquantum well-buried optical guide lasers, fabrication by Si-induced disordering 7—10995
- AlGaAs superlattice for visible laser diode, energy band structure *(Japanese)* 7—12823
- AlGaAs:Mg LPE layers, Mg doping and injection laser threshold current 7—12092
- AlGaAs:Si(Zn), MOCVD, impurity induced disordering, quantum well laser fabrication and characts. 7—27934
- AlGaAs/GaAs DBR laser with multiquantum well active/passive waveguides 7—57350
- AlGaAs/GaAs DFB laser diodes, MOCVD growth, CW operating characts. 7—25836
- AlGaAs/GaAs laser diodes, advanced optoelectronic technology 7—1187
- AlGaAs/GaAs long cavity ridge waveguide DFB lasers, spectral linewidth reduction 7—1179
- AlGaAs/GaAs ridge waveguide quantum well lasers with high quantum efficiency 7—15905
- AlGaAs-GaAs, DFB lasers, low threshold, 0.88 μm emission, MOCVD fabricated with ridge waveguide struct. 7—5906
- AlGaAs-GaAs DFB-TJS external-cavity laser with optical phase control loop, spectral linewidth 7—20222
- AlGaAs-GaAs DH injection lasers, MOCVD growth on Si substrates 7—57356
- (AlGa)As-GaAs DQW-SCH lasers grown by MOCVD, design, fabrication and characterisation 7—36990
- AlGaAs-GaAs GRIN-SCH SQW laser, wide-stripe, injection locking 7—20290
- AlGaAs-GaAs graded barrier quantum well heterostructure laser diodes with compositionally graded and superlattice buffer layers 7—57353
- AlGaAs-GaAs heterostructure travelling-wave amplifier based on injection laser diode 7—62694
- AlGaAs-GaAs index-guided lasers with mode filter, props. study 7—5905
- AlGaAs-GaAs laser diodes, elec. field depend. of photoconductivity spectra 7—20227
- AlGaAs-GaAs narrow spectral linewidth semiconductor optical-fiber ring laser 7—25817
- $Al_{0.3}Ga_{0.7}As$-GaAs optically-pumped multiple quantum well laser 7—5922
- $Al_xGa_{1-x}As$:Mg/GaAs:Se quantum well heterostruct., photopumped laser operation 7—25818
- $Al_xGa_{1-x}As$/GaAs multi-quantum-well Zn-diffused mesa BH lasers, submilliampere lasing 7—10991
- $Al_xGa_{1-x}As$-GaAs BH quantum well edge-injection laser array 7—57355
- $Al_xGa_{1-x}As$-GaAs broad area quantum well lasers, single-mode single-lobe operation 7—10930
- $Al_xGa_{1-x}As$-GaAs double heterostruct. injection laser, power-current characteristics study 7—62704
- $Al_xGa_{1-x}As$-GaAs heterostruct. injection laser with coupled cavity, dynamic stability 7—62705
- $Al_xGa_{1-x}As$-GaAs LOC lasers for high power low threshold current density operation, optimisation 7—10934
- $Al_xGa_{1-x}As$-GaAs mesa BH MQW lasers with 880 μA threshold current at 77 K 7—50595
- $Al_xGa_{1-x}As$-GaAs stripe-geometry quantum well heterostructure lasers defined by defect diffusion 7—1181
- AlGaInP, MOCVD, photolum., quantum wells, double heterostruct. laser appl. 7—39405
- AlGaInP visible semicond. lasers, mesa stripe struct., MOVPE grown, 621 nm CW operation at 0°C 7—20262
- AlGaInP visible semiconductor lasers grown by metalorganic vapor phase epitaxy 7—50590
- $Al_{0.4}Ga_{0.6}Sb$-GaSb-$Al_{0.4}Ga_{0.6}Sb$ MBE strained layer DH, optically pumped laser oscill. 1.6 to 1.8 μm 7—5888
- CdS and $Zn_xCd_{1-x}S$, electron-pumped, high-efficiency semiconductor laser 7—5884
- CdS laser excited with several electron beams, light pulse formation 7—43098
- CdSe laser with microminiature cryogenic refrigerator 7—43153
- GaAlAs channelled-substrate-planar laser, measuring modulus and phase of chirp/modulated power ratio 7—57391
- GaAlAs DH laser amplifier, Fabry-Perot type, gain and frequency bandwidth 7—20228
- GaAlAs diode laser, frequency shift in magnetic field 7—5885
- GaAlAs diode laser, gain compression, picosecond transmission meas. 7—20289
- GaAlAs injection lasers, single-frequency, linewidth investig. 7—25819
- GaAlAs laser, collinear nearly degenerate four-wave mixing in amplifying media 7—11071
- GaAlAs laser, LPE grown, effect of crystal defects on reliability 7—36960
- GaAlAs laser amplifier, high sensitivity picosecond optical pulse detection 7—50565
- GaAlAs laser diode, extremely weak feedback, lasing wavelength shift anal. 7—31325
- GaAlAs laser diodes, stripe geometry, directly modulated in microwave range, freq. response study 7—11017
- GaAlAs laser diodes, self-coupling effects and appls. 7—57386
- GaAlAs laser diodes under microwave intensity modulation, linearity charactn. 7—10944
- GaAlAs laser structs., double crystal X-ray rocking curves, interference peaks 7—44303
- GaAlAs laser-diode array, high-speed electronic beam steering 7—43185
- GaAlAs lasers, injection, photodetection props. 7—31379
- GaAlAs lasers, polarisation-resolved low-frequency noise 7—15863
- (GaAl)As monolithic composite-cavity laser, chem. etching technique 7—50579
- GaAlAs, semiconductor laser coupled with short external cavity, stable single longitudinal mode operation 7—62737
- GaAlAs single freq. heterostruct. injection lasers, LPE and VPE growth 7—62699
- GaAlAs wideband free-space lasercom transmitter, design 7—31354
- GaAlAs wideband lasercom transmitter, performance 7—31355
- GaAlAs/GaAs circular BH surface emitting lasers, fabrication using selective meltback method 7—5911
- GaAlAs/GaAs MOCVD growth for surface emitting lasers 7—53630
- GaAlAs/GaAs single quantum well laser, current pumped, second quantised state lasing 7—50559

semiconductor junction lasers continued
- GaAlAs/GaAs surface-emitting linear laser arrays with etched mirrors 7—20255
- GaAlAs/GaAs TJS lasers on Si substrates, MOCVD growth 7—62691
- GaAlAs-GaAs DFB lasers with double channel planar buried heterostructure, low threshold operation 7—20256
- GaAlAs-GaAs DFB laser with double-channel planar BH 7—50594
- GaAlAs-GaAs laser diodes, catastrophic optical damage, electrolum., cathodolum., EBIC and TEM obs. 7—57329
- GaAlAs-GaAs laser failure causes and distrib., laboratory service life tests 7—62692
- GaAlAs-GaAs microcavity surface-emitting laser 7—57361
- GaAlAs-GaAs multi-heterostructures, MOCVD growth for surface emitting lasers 7—59440
- GaAlAs-GaAs ridge waveguide DFB lasers, lateral anal. 7—62686
- GaAlAs-GaAs surface-emitting laser diodes, lateral pumping struct. 7—57359
- GaAlAs-GaAs surface-emitting laser with TiO_2-SiO_2 dielec. multilayer reflector 7—59427
- GaAlAsSb/GaSb/GaInAsSb injection double heterostructure laser, room temp. operation 7—62697
- GaAs DH laser struct., external injection of spontaneous emission 7—31328
- GaAs injection laser, twin-stripe, lateral behaviour, self-consistent model 7—15861
- GaAs laser diode, single-quantum well, carrier temperature and wavelength-switching 7—43097
- GaAs laser excited with several electron beams, light pulse formation 7—43098
- GaAs, laser material, intervalence band absorpt. coeff. calc. 7—3015
- GaAs, proton bombard., optoelectronic effects 7—21295
- GaAs sawtooth doping superlattices, prep., LED and laser appls. 7—7372
- GaAs/(GaAl)As LOC lasers, MOCVD growth and characts. 7—25835
- GaAs/AlGaAs pair-groove-substrate MQW laser with self-aligned stripe geometry 7—20260
- GaAs/AlGaAs quantum wells and double heterostruct. lasers, chemical beam epitaxy, photolum. 7—22523
- GaAs/AlGaAs separate confinement heterostructure lasers, LPE prep. 7—10940
- GaAs/GaAlAs heterostruct. laser with monolayer superlattice, threshold currents 7—62698
- GaAs/GaAlAs single quantum well laser, threshold current density 7—25816
- GaAs-(Al,Ga)As double heterojunction lasers, dislocation control, electroluminescence 7—7046
- GaAs-$Al_{0.65}Ga_{0.35}As$, transverse junction stripe laser, lateral heterobarrier by diffusion enhanced alloy disordering 7—10929
- GaAs-AlAs device structs., MBE prep. using In-free mounting techniques 7—3183
- GaAs-AlGaAs DFB struct. with multiquantum well for surface emitting laser 7—10939
- GaAs-AlGaAs DH injection laser, optical and transport props., emission energy shift, threshold current meas. 7—1101
- GaAs-AlGaAs high-power laser array of phase-locking free struct. 7—62725
- GaAs-AlGaAs large optical cavity semicond. laser arrays 7—10989
- GaAs-AlGaAs multiple quantum well lasers, voltage-controlled optical bistability, 2D exciton 7—5883
- GaAs-AlGaAs SCH lasers, lasing gain and threshold current 7—31327
- GaAs-AlGaAs short cavity multiquantum well lasers, dry etching, threshold current and single mode operation 7—20253
- GaAs-GaAlAs, quantum well lasers, characts., comparison with GaInAs-InP 7—5891
- GaAs-GaAlAs diode laser array, diffraction-limited emission, aperture graded-index lens external cavity 7—11005
- GaAs-GaAlAs laser, light-activated, negative resistance, characts. *(Chinese)* 7—5901
- GaAs-GaAlAs monolithic laser amplifier, C^3, with bistable characts. 7—25842
- GaAs-GaAlAs pnpn laser, carrier transport in heterostructure base region, carrier confinement factor in lasing region 7—43094
- GaAs-GaAlAs pnpn laser diode, optical bistability and switching characts. 7—62752
- GaAs-GaAlAs resonant injection quantum well diodes and lasers 7—43104
- GaInAs-InP, quantum well lasers, characts., comparison with GaAs-GaAlAs 7—5891
- $Ga_{0.47}In_{0.53}As$, laser material, intervalence band absorpt. coeff. calc. 7—3015
- $Ga_{0.47}In_{0.53}As$-InP junction lasers, chem. beam epitaxy and performance characts. 7—20254
- GaInAsP DFB lasers, 1.3 μm, single-mode, realisation and characts. *(German)* 7—57357
- GaInAsP integrated coupled-cavity lasers, design and fabrication 7—25843
- GaInAsP:Er semiconductor injection laser, single longitudinal model operation at 1.5 μm 7—50558
- GaInAsP/InP, planar single mode heterostructures, calculated characts. 7—31326
- GaInAsP/InP entirely VPE-grown 1.5 μm DFB lasers with low threshold currents 7—50577
- GaInAsP/InP laser diodes, amplification piezoeffect 7—5889
- GaInAsP/InP stressed heterostructure lasers, lifetimes meas. 7—5890
- GaInAsP/InP surface emitting laser with flat surface circular buried heterostructure 7—31358
- GaInAsP-InP BH laser fabrication, MOCVD epitaxy, validation by photoluminescence imaging 7—31360
- GaInAsP-InP CW phase-locked semiconductor laser array, MOCVD growth 7—57351
- GaInAsP-InP double heterostructure lasers, 1.5 μm, chemical beam epitaxial growth 7—57310
- GaInAsP-InP etched mirror laser, passivation with angled sputtering 7—57358
- GaInAs(P)-InP heterostructures, gas source MBE growth 7—53598
- GaInAsP-InP lasers, single-step LPE fabrication 7—10996
- GaInAsP-InP laser, anisotropic deform. influence on radiative characts., threshold, polarisation and watt-ampere charact. 7—43100
- GaInAsP-InP laser, anisotropic deform. influence on radiative characts., spectral characts. 7—43101
- GaInAsP-InP surface-emitting laser with circular BH, low temp. CW operation 7—31337

semiconductor junction lasers continued
- $Ga_{0.28}In_{0.72}As_{0.6}P_{0.4}$, laser material, intervalence band absorpt. coeff. calc. 7−3015
- GaInAsSb/AlGaAsSb injection lasers, threshold current density reduction 7−5886
- $Ga_{0.85}In_{0.015}As_{0.13}Sb_{0.87}/Al_{0.4}Ga_{0.6}As_{0.035}Sb_{0.965}$ DH lasers, MBE grown, 2.07 μm laser oscillation 7−43096
- GaSb-AlSb quantum well lasers, reduction of Auger effect, 1-5 μm wavelength region 7−5893
- In GaAsP lasers, high speed design and performance 7−62700
- InGaAlP epilayers, MOCVD, laser appl. 7−39404
- InGaAlP transverse mode stabilized visible laser diodes fabricated by MOCVD selective growth 7−50591
- InGaAs/GaAs GRIN SCH SL quantum well laser, MOCVD grown 7−50557
- $In_{0.53}Ga_{0.47}As$-InP layers, photolum. and laser emission 7−7739
- $In_xGa_{1-x}As$ pseudomorphic quantum well lasers, carrier collection and stimulated emission 7−10928
- InGaAsP 1.3 μm diode laser, ultra-high-speed modulation 7−5924
- InGaAsP 1.5 μm DFB laser diodes, optical communication appls. 7−37202
- InGaAsP 1.55 μm mode-locked laser with single-mode fibre output 7−50600
- InGaAsP BH lasers, radiative, Auger and nonradiative currents 7−57312
- InGaAsP buried crescent injection lasers, differential quantum efficiency 7−25815
- InGaAsP buried crescent injection lasers, low threshold 1.5 μm operation 7−43136
- InGaAsP buried heterostructure lasers, polarisation, effect of stress relax. caused by repetitive temp. change 7−62690
- InGaAsP constricted mesa laser, 8 Gbit/s return-to-zero modulation by gain switching 7−31366
- InGaAsP DFB lasers, extremely low-noise facet-reflectivity-controlled 7−31320
- InGaAsP DFB laser, phase noise and linewidth 7−31322
- InGaAsP DFB laser for passive ring cavity-type fibre optic gyroscope 7−57562
- InGaAsP device fabrication using $HBr-H_2O$ etching soln. 7−46728
- InGaAsP double heterostructures for laser diodes, LPE growth, influence of P vapour ambient 7−46355
- InGaAsP injection lasers, mode-locked and gain-switched, timing jitter 7−11013
- InGaAsP laser, LPE grown, effect of crystal defects on reliability 7−36960
- InGaAsP laser amplifiers, recombination, gain and bandwidth characts. 7−57334
- InGaAsP lasers, injection, photodetection props. 7−31379
- InGaAsP ridge waveguide laser threshold current optimisation, simplified hybrid optical model 7−57321
- InGaAsP TM-wave injected BH laser, ps switching optical bistability 7−50629
- InGaAsP wideband semicond. lasers, limitations on switching speed 7−10943
- InGaAsP/InP 1.3 μm lasers grown on p-InP substrates, low threshold, high T_0 operation 7−1180
- InGaAsP/InP DFB lasers, DFB mode oscillation, temp. range 7−5910
- InGaAsP/InP laser wafers, pinhole defects, identification of source 7−46356
- InGaAsP/InP:Fe buried crescent lasers with wide-bandwidth and high power 7−50560
- InGaAsP-InP, 1.5 μm laser with high external quantum efficiency and controlled emission wavelength 7−57323
- InGaAsP-InP, heterolaser struct., distributed feedback conditions, luminesc. spectra anal. 7−50561
- InGaAsP-InP, integrated external cavity laser 7−36993
- InGaAsP-InP buried heterostructure lasers, internal thermal stress distrib. 7−10931
- InGaAsP-InP DFB laser with modified double-channel planar BH struct., 1.3 μm high-speed operation 7−15896
- InGaAsP-InP DFB lasers with monolithic external cavity, spectral characts. for 1.3 μm 7−20281
- InGaAsP-InP DFB laser monolithically integrated with tunable external cavity, linewidth and FM characts. 7−57316
- InGaAsP-InP distributed-feedback injection laser, fabrication by LPE and VPE 7−57337
- InGaAsP-InP Fabry-Perot and DFB lasers, VPE transport fabrication 7−20277
- InGaAsP-InP heterostruct. laser output characts., quantum size effect active layer thickness variation effects 7−31323
- InGaAsP-InP heterostructures, light emission and degradation characts. 7−45455
- InGaAsP-InP high power long wavelength laser diode 7−10998
- InGaAsP-InP high-performance 1.3 μm laser structures with both facets etched 7−20259
- InGaAsP-InP laser diodes, low resist. contacts on p-side 7−20276
- InGaAsP-InP laser, ridge waveguide, threshold current anal. 7−31338
- InGaAsP-InP laser, single-mode, 1.3 μm, analog FM 7−37002
- InGaAsP-InP laser failure causes and distrib., laboratory service life tests 7−62692
- InGaAsP-InP low-threshold separate-confinement heterostruct. laser characts. 7−31324
- InGaAsP-InP planar surface BH lasers with hydride VPE-grown Fe-doped current blocking layers 7−20261
- InGaAsP-InP-ridge waveguide lasers, LPE fabricated, design and 1.5 μm low-threshold operation 7−15897
- $In_{1-x}Ga_xAs_{1-y}P_y$-InP quarter-wavelength-shifted DFB laser source for 1.55 μ underwater optical cable system *(Japanese)* 7−62720
- InGaAsSb/AlGaSb DH lasers, MBE grown, room-temperature 2.2 μm operation 7−20219
- $In_xGa_{1-x}As_ySb_{1-y}$, mid-IR source and detector material 7−36964
- InP device fabrication using $HBr-H_2O$ etching soln. 7−46728
- InP dual-wavelength channelled-substrate BH laser light source 7−62726
- p-InP substrate mass transport BH laser, narrow active stripe 7−31357
- InP:Mn, LPE growth, carrier conc. control and appl. to buried heterostructure laser diodes 7−21774
- InP/InGaAsP device structures, LPE growth 7−33610
- InP-$Ga_{1-x}In_xAs_yP_{1-y}$ double heterostructs., device quality, growth by MOVPE 7−7877
- InP-GaInAs planar BH lasers, OMVPE growth 7−1183
- Pb salt diode laser calibration, wavemeter 7−5930

semiconductor junction lasers continued
- Pb salt tunable diode laser for two-tone optical heterodyne spectroscopy 7−30102
- PbEuSeTe/PbTe single quantum well diode laser with side optical cavity 7−43105
- $PbO-SiO_2$ glass sputtered antireflection coatings on semiconductor laser facets 7−15964
- PbSe-PbS($Pb_{1-x}Sn_xSe$)($Pb_{1-x}Eu_xSe$) DH lasers with remote p-n junctions 7−57333
- $Pb_{0.88}Sn_{0.12}$ Te cryst., annealing characts. and laser fabrication *(Chinese)* 7−10933
- PbSnTe laser, single-mode, 8 μm with buried heterostructure, design 7−36980
- $Pb_{1-x}Sn_xTe$-PbTe graded-gap heterostruct., spectral photoelec. quantum efficiency 7−36961
- PbTe-EuTe short period superlattices, props., appl. to laser diodes 7−52785
- PbTeSe layers, LPE growth on nonplanar (100) and (110) oriented substrates, laser appl. 7−17479
- Si FEL, possibility of obtaining coherent short wave radiation 7−20237
- $Zn_xCd_{1-x}S$ and ZnS_xSe_{1-x}, electron-pumped, high-efficiency semiconductor laser 7−5884
- ZnSe/GaAs, electron beam pumped lasing action obs. 7−43093

semiconductor junctions
- *see also p-n junctions; semiconductor superlattices*
- 2D hot electron time-depend. energy relax., nonequilib. optical phonon effects 7−64102
- 2D systems, proceedings of Winter School, Mauterndorf, Austria (Feb. 1986) 7−48131
- band offset prediction, effective dipole model calcs. 7−45452
- band offsets at pseudo-ternary semiconductor-alloy heterojunctions 7−12835
- band-edge discontinuities, heuristic approach 7−52815
- capacitance meas. for complex systems 7−38681
- conference, Boston, MA, USA (Dec. 1985) 7−18508
- curved interface, quasi-2D quantum electron states 7−17066
- dilute magnetic semicond. quantum wells, 2D magnetic polaron effect calcs. 7−38467
- disordered, with dispersive transport, elec. transient process 7−17074
- double barrier heterostructure diodes, resonant tunnelling effect *(Japanese)* 7−12828
- double heterostructs., photon recycling, non-perfect optical confinement 7−33449
- double heterostructures, luminescence radiation photon recycling 7−13208
- double quantum well structs., parallel electron transport studies 7−45474
- dynamical phenomena at surfaces, interfaces and superlattices, summer school, Erice, Italy, (July 1984) 7−1
- electrical characterisation, non-contacting methods, book contrib. 7−45335
- electrical properties of semiconductor interfaces *(Japanese)* 7−64316
- electronic mobility in semiconductor heterostructures 7−7350
- electronic states in semiconductor heterostructures 7−7307
- evolution of semiconductor superlattices and quantum wells 7−7343
- excitation diffusion and energy relax. 7−21792
- exciton linewidth calcs., polar optical phonon scatt. 7−2491
- heterointerfaces, characterisation and appls. *(Japanese)* 7−52769
- heterojunction band discontinuities, dielec. electronegativity anal. 7−2699
- heterojunction band line-ups, tight-binding theory 7−52813
- heterojunction band lineups and interface dipoles, tight binding theory 7−7368
- heterojunction band offsets, two-level model anal. 7−7363
- heterojunction discontinuities, self-consistent density functional calcs. 7−7364
- heterojunctions, breakdown of electron affinity rule, photoemission tests 7−2690
- heterojunctions, design and characts. *(Japanese)* 7−52768
- heterojunctions, electron transport, theory 7−7369
- heterojunctions, interface states, 1D relativistic models 7−52753
- heterojunctions, nonequilibrium electron-phonon scatt. 7−45457
- heterojunctions, self-consistent density functional calcs. 7−17097
- heterostructure growth by MBE, growth approaches to improve interface quality 7−2421
- heterostructures, interface effects on electron dynamics 7−27401
- heterostructures, structure, EXAFS studies 7−12509
- heterostructures, ultrafast switching mechanism 7−38693
- heterostructures, valence band discontinuity, modified Harrison model calcs. 7−27398
- heterostructures and superlattices in semiconductors, concepts and appls. 7−52779
- heterostructures in amorphous semiconductor devices, characts. and appls. *(Japanese)* 7−52770
- hot electron transient behaviour, numerical model 7−12729
- II-VI semiconductor lattice matched heterojunctions, common anion rule failure 7−7367
- III-V semiconductor quantum well structures, destruction mechanism due to impurity diffusion 7−63971
- III-V semiconductors, gas source MBE, review 7−33572
- III-V semiconductors, MBE, surface effects and growth dynamics 7−58711
- inelastic light scattering by electronic excitations in semiconductor heterostructures 7−13171
- interface physics and chem., conf., Pasadena, CA, USA (Jan. 1986) 7−4
- interfacial bonding and adhesion, characterisation techniques, electronic struct. 7−27418
- interfacial bonding and adhesion, conf., Aspen, CO, USA (Aug. 1985) 7−24269
- layer inhomogeneous, hot electron effects, N-type current-voltage characts. calcs. 7−38689
- MBE growth, RHEED and photoemission studies 7−2438
- microelectronic structures, depth profiling by SIMS and AES 7−26790
- microstructure growth by MBE 7−7856
- models on the formation of semiconductor interfaces 7−52739
- modulated semicond. structs., conf., Kyoto, Japan (Sept. 1985) 7−4630
- modulation doped heterostructures, 2D electron gas, transport coeffs., parallel conduction effects 7−2677
- multilayer isotypic n^+-n heterostructures, S-type current-voltage characts. 7−52758
- multilayer structures, X-ray diffr. characterisation 7−51574
- n^+-n-n^+ submicron struct., ballistic electron transport 7−22004

semiconductor junctions continued
- n-i heterojunction, time depend. tunnelling and coherent Zener oscills. 7−17087
- parallel quantum well structs., Aharonov-Bohm oscills., quantum interference effects calcs. 7−12844
- polar semiconductors, quasi-2D, hot carriers 7−12807
- polystors, inhomogeneous semiconductor structs., photoconductivity theory 7−21950
- probing semiconductor-semiconductor interfaces 7−64336
- quantum well and 2D electron gas structures, epitaxial growth 7−52310
- quantum well ground state, 2D gas, electron temp. and energy losses 7−17092
- quantum well structures, linear optical props. elec. field depend. waveguide electroabsorpt. and sum rules 7−13133
- quantum well structures, localised states, strain depend. 7−7312
- quantum well structures, metal-insulator transition due to surface roughness scatt. 7−27400
- quantum wells, electronic struct., interface disorder effects 7−45476
- quantum wells in electric fields, subband energies, variational Gram-Schmidt orthogonalization procedure 7−45440
- quasi 2D electron gas in quantum well, cyclotron reson. lineshape calcs. 7−27269
- quasi-1D semicond. heterostructs., polaron transport props. calcs. 7−12627
- review of advances in semiconductor superlattices, quantumwells and heterostructures 7−2701
- semiconductor crystals, chem. and electronic considerations 7−60920
- size-quantised variable gap layer, 2D electron spectrum and optical transitions calcs. 7−38688
- spectroscopy of 2D plasmas in semiconductor heterojunctions 7−2702
- squeezable junctions for electron tunnelling and surface electric field experiment 7−24344
- strained layers, band offsets, lattice mismatch effects, deformable ion approx. calcs. 7−21993
- two-dimensional electron systems, exchange potentials and plasma modes 7−7139
- two-dimensional hole systems, magnetotransport *(Japanese)* 7−12826
- Ag/amorphous chalcogenide, Ag photodiffusion, semiconductor heterojunction formation 7−45026
- AlAs/GaAs/AlAs quantum wells, eigenvalues calcs. 7−12820
- AlAs-GaAs double-barrier structures, resonant tunnelling, room temp. effects 7−21985
- AlAs-GaAs MIS capacitors, dynamic storage of holes 7−33071
- AlAs-GaAs quantum-wells, low temp. growth by modified MBE 7−39386
- AlGaAs heterostructs., low temp. LPE growth 7−64939
- AlGaAs/GaAs, abrupt heterojunction structures, large area uniformity, MOVPE reactor design 7−22524
- AlGaAs/GaAs heterostruct., quasiatomic system, electronic struct. studies 7−38699
- AlGaAs/GaAs modulation-doped heterojunctions, 2D electron gas, DX centres 7−38694
- AlGaAs/GaAs:Si heterostruct., MBE growth on polar surfaces 7−7863
- AlGaAs/GaAs/AlGaAs selectively doped double heterostructs., electron conc. and mobility 7−12839
- AlGaAs/GaAs/AlGaAs single quantum well, negative differential mobility and drift vel. overshoot 7−52803
- AlGaAs-GaAs, selectively doped heterojunctions, energy relax. of 2D electrons, deformation potential constant 7−12801
- AlGaAs-GaAs heterostructures, organometallic VPE grown, galvanomagnetic effect 7−12800
- AlGaAs-GaAs heterostructures, dissipationless quantum Hall effect, size-depend. quantised breakdown 7−45469
- AlGaAs-GaAs n-n heterojunction, thermionic current and capacitance, effect of subband quantisation in 2D electron gas 7−17090
- AlGaAs-GaAs single quantum well, MBE growth interruption, well width fluctuations 7−7865
- AlGaAs-GaAs single quantum wells with growth interrupted heterointerfaces, photoluminesc. 7−39168
- AlGaAs-GaAs-AlGaAs single quantum well heterostruct., negative differential mobility and drift velocity overshoot 7−52787
- $Al_xGa_{1-x}As$ heteroepitaxial layers formed by metalloorganic chem. hydride method, electrophys. props., comp. effect 7−64370
- $Al_xGa_{1-x}As$ heterojunction, tunnelling current modulation by optical phonons 7−27394
- $Al_xGa_{1-x}As/GaAs$ photoexcited heterojunction, charge transfer calcs. 7−12688
- $Al_xGa_{1-x}As/GaAs$ quantum wells, photolum., periodic variation investig. 7−2688
- $Al_xGa_{1-x}As$-GaAs heterostructures, 2D electron space charge layers, plasmon and magnetoplasmon excitation 7−38696
- AlGaInP, MOCVD, photolum., quantum wells, double heterostruct. laser appl. 7−39405
- AlInAs-GaInAs heterostruct., alloyed NiGeAuAgAu ohmic contacts, charact. 7−22016
- $Al_{0.48}In_{0.52}As-Ga_{0.47}In_{0.53}As$ SQW, electron temp. depend. on well width, photolum. obs. 7−12810
- $Cd_xHg_{1-x}Te$ heterostructures, MOVPE, computer controlled reactor, charactn. 7−59446
- a-CdS/n-Si heterojunctions, elec. props. 7−64342
- CdS/ZnS, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
- nCdS-n-GaAs photoanode, flux anal. of multiple junction solar cells 7−23162
- CdS-Si and CdS-$CuInSe_2$ heterojunctions, struct., elec. and photoelectric props. 7−22001
- CdSe/ZnSe, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
- CdTe films on InSb, interface struct. and band offsets 7−58664
- CdTe-GaAs heteroepitaxial interface, at. resolution HVEM study 7−2392
- p-crystalline Si/n-amorphous Si heterojunction, electrostatic pot. barrier distrib. calcs. 7−58881
- $CuInSe_2$ epitaxial films deposited on GaAs and CdS, RHEED studies 7−12549
- Cu_xS-CdS solar cells, comp. of differing junction types, AES, SIMS determ. 7−23167
- GaAlAs/GaAs heterostructure, absorption coeff. and thermal conductivity meas. by photothermal spectroscopy 7−41474
- GaAlAs/GaAs:C quantum wells interface struct. and luminesc. efficiency 7−7735
- $Ga_{1-x}Al_xAs-GaAs-Ga_{1-x}Al_xAs$ heterostructures, tunneling through indirect-gap barriers 7−21999

semiconductor junctions continued
- $Ga_{1-x}Al_xAs/Ga_{1-y}Al_yAs/GaAs$ double barrier tunnelling struct., negative resist. calcs. 7−45451
- $Ga_{1-x}Al_xAs$-GaAs, thickness and conc. of thin $Ga_{1-x}Al_xAs$ epitaxial films, determ. by photoemission jumps method *(French)* 7−38381
- GaAlSb/GaSb (111) heterostructures, signs of misfit dislocations, X-ray topographic determ. 7−38349
- $Ga_{0.94}Al_{0.06}Sb/GaSb$ epitaxial struct., misfit dislocations anomalous visibility, Bragg geometry X-ray topograms 7−2019
- GaAs 2D electron gas, dynamical cond., IR cyclotron reson. meas., electron interaction effects 7−45195
- GaAs diode, active layer <1 μm, low temp. current flow 7−52757
- GaAs heterostructures, valence subbands, excitons and luminescence 7−7321
- GaAs, inversion layers, hot free electron gas, intraband absorpt. coeff. calc. 7−33083
- GaAs junction, temp. meas. using capacitance change of space-charge region 7−48742
- GaAs n^+-n-n^+ structs., quasi-elastic inter-Landau-level scattering processes 7−17086
- GaAs quantum well structures, metal-insulator transition due to surface roughness scatt. 7−27400
- GaAs quantum wells, 2D hot-electron mobility 7−45470
- GaAs quantum wells, band offsets, inelastic light scatt. studies 7−7362
- GaAs quantum wells, optical Stark effect on excitons 7−31384
- GaAs short n^+nn^+ structs., elec. transport props. in high elec. and mag. fields 7−33084
- GaAs single quantum well, doubly resonant LO-phonon Raman scatt. via deform. pot., polarisation obs. 7−39114
- GaAs single quantum wells, free excitons, phase coherence and line broadening 7−45170
- GaAs:Si/$Al_xGa_{1-x}As$ quantum wells, photolum. studies 7−39178
- GaAs/$Al_xGa_{1-x}As$ heterostruct., 2-D density of states in extreme quantum limit 7−2455
- GaAs/$Al_xGa_{1-x}As$ heterostructs., 2D electron gas, polaron screening effects, optical absorpt. calcs. 7−2511
- GaAs/$Al_xGa_{1-x}As$ heterostructure interfaces, band discontinuities, electrical meas. 7−52814
- GaAs/$Al_xGa_{1-x}As$ quantum wells, excitonic transitions, photocurrent spectra studies 7−7816
- GaAs/$Al_xGa_{1-x}As$ quantum well structs., MOVPE growth chemistry 7−22550
- GaAs/$Al_xGa_{x-1}As$, tunnelling through III-V low-barrier heterostructures 7−52799
- GaAs/AlAs double barrier struct., electron transport, scatt. matrix theory 7−12822
- GaAs/AlAs:Mg/GaAs tunnel structs., current transport mechanisms 7−7357
- GaAs/AlAs/GaAs:Se heterojunctions, elec. behaviour, DLTS studies 7−7360
- GaAs/AlGaAs 2D electron gas MBE structures, carrier mobility and density meas. 7−64321
- GaAs/AlGaAs heterostructs. on Si substrate, MOCVD and MBE growth 7−7883
- GaAs/AlGaAs quantum wells, MBE growth, interface disorder studies 7−7026
- GaAs/AlGaAs quantum wells and double heterostruct. lasers, chemical beam epitaxy, photolum. 7−22523
- GaAs/AlGaAs quantum well structures, MOCVD growth, photolum., TEM obs. 7−27929
- GaAs/AlGaAs single and coupled double wells, energy depend. light hole mass. photolum. spectra anal. 7−38691
- GaAs/AlGaAs single heterojunction quantum well structs., photolum. characts. 7−46085
- GaAs/AlGaAs single quantum wells, interrupted MBE growth and temperature-dependent optical spectra 7−46082
- GaAs/GaAlAs 2D electron gas, cyclotron resonance study 7−2676
- GaAs/GaAlAs double quantum well structures, ambipolar carrier transport, optical TOF study 7−12802
- GaAs/GaAlAs HJFET and HJBT 7−52811
- GaAs/GaAlAs single quantum wells, steady-state photoluminescence studies 7−7750
- GaAs/GaAlAs/GaAs heterostructure barriers, tunnel current and electron tunnelling times with mag. field 7−52810
- GaAs/GaInAs interface, EELS near a single misfit dislocation 7−33497
- GaAs/GaPAsSb, double heterostruct., LPE, lattice matching, X-ray diffr., luminesc. 7−58884
- GaAs/Ge heterojunction interfaces, cyclic behaviour of band discontinuities 7−7365
- GaAs-(Al,Ga)As-GaAs heterojunction barrier, tunneling current, probe pressure effect 7−45441
- GaAs-(AlGa)As heterostructure, modulation-doped, valence band mixing, and optical emission 7−7344
- GaAs-(AlGa)As heterojunctions, low temp. elec. transport props. 7−33084
- GaAs-$Al_{0.37}Ga_{0.63}As$ quantum wells, photolum. studies, MBE growth, effect of interruption 7−39150
- GaAs-$Al_{0.3}Ga_{0.7}As$, thin single quantum well, MBE growth kinetics, normal and inverted interfaces 7−45045
- GaAs-$Al_{0.7}Ga_{0.3}As$ SQW structure, photolum. switching by pulsed elec. field 7−13197
- GaAs-$Al_xGa_{1-x}As$, heterojunction form. anal. 7−39436
- GaAs-$Al_xGa_{1-x}As$ heterojunctions, subband Landau-level spectroscopy 7−21996
- GaAs-$Al_xGa_{1-x}As$ heterostructures, voltage-controlled dissipation in the quantum Hall effect 7−27393
- GaAs-$Al_xGa_{1-x}As$ heterojunction, chemical pot. of electrons, effect of mag. field 7−38682
- GaAs-$Al_xGa_{1-x}As$ heterostructures, selectively doped, electron transport in strong electric fields 7−38687
- GaAs-$Al_xGa_{1-x}As$ junction, 2D electron gas, plasmons, radiation absorpt. and emission 7−2686
- GaAs-$Al_xGa_{1-x}As$ quantum wells, doubly resonant LO-phonon Raman scatt. obs. 7−27722
- GaAs-$Al_xGa_{1-x}As$ quantum wells, parabolic, light scatt. studies 7−64651
- GaAs-$Al_xGa_{1-x}As$-GaAs, multilayer struct., variable angle of incidence spectroscopic ellipsometric study 7−48830
- GaAs-$Al_xGa_{1-x}As$-GaAs, perpendicular transport, tunnelling, thermionic emission studies 7−52781
- GaAs-$Al_xGa_{1-x}As$-GaAs transverse magnetic field effects on tunnelling 7−58874

semiconductor junctions continued
GaAs-Al$_x$Ga$_{1-x}$As(In$_x$Ga$_{1-x}$As) lattice-mismatched heterojunctions, misfit strain relaxation, X-ray study 7—21718
GaAs-AlAs double barrier heterostructures, resonant tunnelling through quantum well states 7—58870
GaAs-AlAs heterojunctions, asymmetrically doped, photoresponse under external bias 7—38692
GaAs-AlAs-GaAs heterostructure, tunnelling transmission probability, many-band pseudopotential model 7—38701
GaAs-AlGaAs, band structure of holes *(Japanese)* 7—12825
GaAs-AlGaAs heterointerface, band offsets, overview 7—12831
GaAs-AlGaAs heterojunctions, Be$^+$, O$^+$ ion implantation, impurity profiles, elec. characts. meas., SIMS, annealing 7—12813
GaAs-AlGaAs heterojunctions, fractional quantum Hall effect of 2D electrons *(Japanese)* 7—12827
GaAs-AlGaAs heterojunctions, energy band discontinuities, internal photoemission meas. 7—13331
GaAs-AlGaAs heterojunction, narrow 2D electron gas, mag. depopulation of 1D subband 7—17080
GaAs-AlGaAs heterostruct., band discontinuity determ., DLTS, interface charge density, trap conc. 7—12833
GaAs-AlGaAs heterostructures, energy band alignment, thermionic emission of holes 7—13319
GaAs-AlGaAs heterostructures, zero mag. field thermopower meas., temp. var. 7—33075
GaAs-AlGaAs heterostructures, transport props. of 2D electron and hole gases 7—52812
GaAs-AlGaAs heterostructures, density of states of Landau levels 7—52822
GaAs-AlGaAs quantum wells, etched ultrasmall structs., photolum. excitation spectra meas. 7—22293
GaAs-AlGaAs-GaAs heterostructure barriers, quantum tunnelling 7—52816
GaAs-AlGaAs-InGaAs strained-layer quantum well heterostructures, negative differential resistance 7—45443
GaAs-Ga$_{0.7}$Al$_{0.3}$As heterojunction, donor-acceptor radiative recomb. mechanism, photolum. spectra study 7—17083
GaAs-Ga$_{1-x}$Al$_x$As superlattices and heterojunctions, electronic struct. 7—12821
GaAs-Ga$_{1-x}$Al$_x$As heterojunction, 2D electron and hole mobilities 7—7350
GaAs-Ga$_{1-x}$Al$_x$As heterojunctions, electron energy levels 7—17082
GaAs-Ga$_{1-x}$Al$_x$As heterojunctions, impurities, optical props. 7—27396
GaAs-Ga$_{1-x}$Al$_x$As heterostruct., light interf. meas. of thickness and comp. during epitaxial growth 7—64026
GaAs-Ga$_{1-x}$Al$_x$As quantum wells, interband photocond. and excitonic Landau level transitions in mag. field 7—27390
GaAs-Ga$_{1-x}$Al$_x$As quantum well, hydrogenic donor low-lying excited states, reson. states, positions and widths 7—45460
GaAs-Ga$_{1-x}$Al$_x$As undoped quantum wells, excitonic spectrum, valence band coupling and Fano resonance effects calcs. 7—27256
GaAs-Ga$_x$Al$_{1-x}$ heterojunction, nonequilibrium electron-phonon scatt. 7—45457
GaAs-GaAlAs heterojunction, 2D system, high order fractional quantisation obs. 7—27397
GaAs-GaAlAs heterojunctions, cyclotron resonance, screening effects 7—38706
GaAs-GaAlAs heterojunctions, electron-phonon interactions, cyclotron and magnetophonon reson. meas. 7—45463
GaAs-GaAlAs heterostructures, dissipationless quantum Hall effect, crit. current density meas. 7—2696
GaAs-GaAlAs heterostructure, LPE grown, interface photoluminescence spectra 7—53390
GaAs-GaAlAs interface dislocations, stereographic obs. by IR light scatt. 7—32235
GaAs-GaAlAs quantum well excitons, interface disorder and mobility 7—52808
GaAs-GaAlAs quantum wells, nonlinear optics and electro-optics 7—52809
GaAs-GaAlAs-GaAs heterojunction barriers, single particle tunnelling, five level k.p theory 7—64341
GaAs-GaAs MOVPE epitaxially-grown interfaces, anomalous C-V carrier conc. profiles, model 7—52648
GaAs-GaAs:Cr(Te), VPE grown, photoluminescence study, effect of substrate doping 7—27771
GaAs-GaAs:In epitaxial layers, dislocation reduction, device performance effects 7—7354
GaAs-GaAs-Al$_x$Ga$_{1-x}$As heterostructures, photosensitivity spectra 7—64319
GaAs-Ge crystal growth on Ta$_2$O$_5$-coated Si substrates, zone melting and MOCVD 7—53579
GaAs-Ge epitaxial interface, extended defects, geometrical character 7—6640
a-GaAs-Si (100), epitaxial regrowth by excimer laser annealing, FET fabrication 7—32875
GaAs-Si heteroepitaxial interface, at. resolution HVEM study 7—2392
GaAsAl$_x$AlGa$_{1-x}$As, 2D electron gas, edge depletion width 7—58866
GaInAs epitaxial layer on InP, depth profiling and interface detection using anodic oxidation 7—45057
GaInAs/GaAs single quantum well pseudomorphic structs., high electron mobility meas. 7—12841
GaInAs/InP heterojunction, 2D electron gas nonequilib. cyclotron reson. obs. 7—12845
GaInAs/InP heterostructures, VPE, homogeneity, mobilities 7—58882
GaInAs/InP quantum wells, atmospheric organometallic vapour phase epitaxial growth 7—27912
GaInAs-AlInAs heterojunctions, parallel conduction, quantum Hall effect, hydrostatic press. 7—52764
GaInAs-InP, quantum well structures, adduct MOVPE, photolum., magnetoresist charactn. 7—27388
Ga$_{0.47}$In$_{0.53}$As/InP heterojunction, chem. beam epitaxy grown, 2D electron gas 7—12803
Ga$_{0.47}$In$_{0.53}$As-InP heterojunction, with three electron subbands, hydrostatic press. effect 7—2695
Ga$_{0.47}$In$_{0.53}$As-InP heterojunction, MOCVD grown, 2D hole gas 7—21992
Ga$_{1-x}$In$_x$As/InP heterostructures, MOVPE, electron mobility, exciton peak, magnetotransport 7—58883
Ga$_x$In$_{1-x}$As/GaAs heterostructures, low press. MOVPE, photolum., Auger profiling 7—27389
GaInAsP/InP heterojunctions, atmospheric press. MOVPE growth TEM studies 7—3196

semiconductor junctions continued
GaInAsPInP heterostructures, MOVPE, press. control, reactor design 7—39399
GaInP-AlGaInP-GaAs heterostructures, MOVPE, Hall effect, photolum. 7—39401
Ga$_{1-x}$In$_x$P/GaAs heterojunction band discontinuity determ., C-V profiling 7—58880
Ga$_x$In$_{1-x}$P/GaAs (Al$_y$Ga$_{1-y}$As) heterostructures, OMVPE, photolum., lattice matching 7—39402
Ga$_x$In$_{1-x}$P$_y$As$_{1-y}$-InP heterojunction interfaces, electron energy band structure *(Chinese)* 7—33070
GaN n-i structures, elec. conductivity 7—38565
GaP/GaAsP epitaxial layers, MOCVD growth on Si, TEM and SEM 7—38416
GaSb/AlSb single quantum wells, electroreflectance and photoluminescence studies 7—46136
GaSb/AlSb strained-layer heterojunction valence band discontinuity, XPS core level meas. 7—21984
GaSb/GaSb:Si (111) autoepitaxial structures, signs of misfit dislocations, X-ray topographic determ. 7—38349
GaSb/InAs/GaSb quantum wells, carrier densities and mobilities, magnetotransport meas. 7—12846
Ge, MBE on Si, role of surface reconstruction, LEED, Rutherford backscattering, channelling meas. 7—7034
Ge-GaAs heterostructures, lattice theory, phonon propagation 7—58602
Ge-Si(111) interface, geometrical struct. 7—38310
Ge-Sn heterostructure, MBE growth in ultra-high vac. system 7—2423
a-GeSi:H,F double Schottky barrier structures, surface photovoltage meas. and calc. 7—17093
GeSi-Si heterostructures, MBE grown, structural props., quality, electron diffr., imaging obs. 7—7036
Ge$_x$Si$_{1-x}$-Si multilayers, MBE grown, thermally annealed, Ge diffusion, strain relax., ion channelling, backscattering anal. 7—6896
Ge$_x$Si$_{1-x}$-Si strained layer heterojunctions, selectively doped, hole mobilities, temp. depend. 7—7383
Ge$_x$Si$_{1-x}$-Si strained-layer heterostructure, transport, optical props. and appls. 7—7349
HgCdTe epitaxial layers and structures, characterisation of intentional dopants 7—12552
HgCdTe-CdZnTe heterojunctions, lattice matching 7—21717
Hg$_{1-x}$Cd$_x$Te heterojunctions, supersymmetry, band-inverting contact 7—52717
HgTe-Hg$_{1-x}$Cd$_x$Te double barrier, single quantum well heterostructures, resonant tunnelling 7—33068
InAs quantum well structures, metal-insulator transition due to surface roughness scatt. 7—27400
InAs surface on InP, epitaxial regrowth 7—2431
InAs/GaAs single quantum well structures grown by atomic layer epitaxy 7—22486
InAs/GaSb quantum well, 2D electron gas, cyclotron reson. oscills. meas. 7—38944
InAsSb/GaSb n-n heterojunctions, band discontinuities, C-V and I-V meas. 7—7366
InAsSbP/InAs bent heterostructures, dislocation distribution 7—21673
InGaAs/GaAs lattice-strained double heterojunction bipolar structs., comp., recomb. props. and device performance 7—64322
n$^+$-InGaAs/InAlAs/n$^-$-InGaAs, conduction band discontinuity determ. by current-voltage meas. 7—7352
InGaAs/InP heteroepitaxial structs., misfit stress, elastic eqns., comment 7—21676
InGaAs/InP heterostructures, chloride VPE, interface form. control 7—58656
InGaAs/InP quantum wires and boxes, low temp. photoluminesc. 7—59238
InGaAs/InP single quantum wells, transport and persistent photocond. props. 7—27385
InGaAs-GaAs MOVPE epitaxially-grown interfaces, anomalous C-V carrier conc. profiles, model 7—52648
In$_{0.5}$Ga$_{0.5}$As quantum wells, quantized energy levels, conduction-band nonparabolicity effects 7—2675
In$_{0.52}$Ga$_{0.48}$As/In$_{0.52}$(Ga$_{1-x}$Al$_x$)$_{0.48}$As heterostructures, conduction band edge discontinuity 7—12815
In$_{0.53}$Ga$_{0.47}$As, surface analysis using organic-on-inorganic contact barriers 7—21991
In$_{0.53}$Ga$_{0.47}$As/In$_{0.52}$Al$_{0.48}$As quantum wells, lamp annealing interdiffusion and optical props. 7—12502
In$_{0.53}$Ga$_{0.47}$As-InP, quasi-2D heterostructures, suppression of current filament by mag. field 7—52760
In$_{0.53}$Ga$_{0.47}$As-InP heterointerfaces, CV profiling 7—12834
In$_x$Ga$_{1-x}$As-GaAs single-quantum-well heterostructs., pseudomorphic, optical characterisation 7—22303
In$_x$Ga$_{1-x}$As/InP heterostructures, OMVPE growth, quality, source comp., press. effect 7—39400
In$_x$Ga$_{1-x}$As-In$_y$Al$_{1-y}$As heterojunction, cyclotron resonance linewidth due to alloy scatt. 7—27399
InGaAsP double heterostructures for laser diodes, LPE growth, influence of P vapour ambient 7—46355
InGaAsP layers on InP (001), origin of grown-in dislocations 7—38415
InGaAsP-GaAs double heterostructures, luminescence efficiency and surface recombination velocity 7—13196
InGaAsP-InP double heterostructures, luminescence efficiency and surface recombination velocity 7—13196
InGaAsP-InP heterostructures, light emission and degradation characts. 7—45455
In$_x$Ga$_{1-x}$As$_y$P$_{1-y}$-InP quantum well, 2D electron gas, self-consistent calcs. 7—58890
InGaPAs/GaAs interface stress, Cr-related luminescence study 7—46101
In$_2$O$_3$:Sn-ZnS:Cu,Cl,Mn-Al, surface electrical conductivity in ZnS:Cu,Cl,Mn thin films 7—38672
InP n$^+$n$^-$n$^+$ struct., space-charge limited magnetoconductivity 7—45472
InP, surface analysis using organic-on-inorganic contact barriers 7—21991
InP-GaInAs, 2D electron gas, persistent photoconductivity 7—33046
InP-InP:As epitaxial layers, dislocation reduction, device performance effects 7—7354
InSb heterostructures, MBE growth 7—27910
InSb/CdTe interface, quasi-2D electron gas obs. 7—21987
MoS$_x$Se$_{2-x}$ solar cells, performance, illumination intensity effects 7—54325
NiSi$_2$-Si epitaxial interface, extended defects, geometrical character 7—6640
PbS/PbSe heterostructure, band offsets, photovoltaic study 7—58872

semiconductor junctions continued
- $Pb_{1-x}Sn_xTe$ heterojunctions, supersymmetry, band-inverting contact 7—52717
- Si diffusion layers with high charge carrier densities, IR radiation refl. 7—13123
- Si, MBE on Si, role of surface reconstruction, LEED, Rutherford backscattering, channelling meas. 7—7034
- Si materials science issues in IC processing 7—35115
- Si n-n^+ epitaxial layers, recomb. parameters anal. by moving light strip method 7—21930
- Si, quantum well controlled conductivity, new donors 7—38491
- Si solar cell junction form., dopant diffusion process 7—28401
- a-Si technology, review of developments 7—38551
- Si:As,P, double diffused shallow junctions, rapid thermal annealing 7—22006
- $Si:As^+(As_2{}^+)$, ion implanted, phys. props., spreading resist., TEM, Rutherford backscattering, SIMS 7—26775
- Si:Au n-n^+ isotype junction, enhanced magnetosensitivity 7—7370
- Si:B-Si polycrystal-single cryst. interface, impurity diffusion across boundary 7—27013
- a-Si:H, density of states, SCLC meas., effect of injection electrodes 7—64265
- a-Si:H n^+-i-n^+ struct., freq.-depend. noise studies 7—45484
- a-Si:H stable heterojunction solar cells develop., thermal degradation phenomenon 7—65477
- a-Si:H/SiN_x:H (a-SiC:H) double-barrier structs., resonant tunnelling coeffs. 7—45467
- a-Si:H/a-Ge:H multilayer films, photoconductivity enhancement 7—27443
- a-Si:H/a-SiN_x:H heterostructures, interface formation and microstructural evolution 7—2389
- a-Si:H/c-Si heterojunctions, energy-band discontinuities, internal photoemission studies 7—58869
- Si:H(F)-SiGe:H(F) amorphous multilayer struct., fabrication and near IR photoconductivity characts. 7—52797
- Si:O/Si interfaces, MBE grown, O trapping effects 7—16881
- Si:Sn,B, shallow junction formation, preamorphisation by Sn implantation 7—7338
- a-Si/Si (111) interface ordering, X-ray diffr. 7—32848
- Si-B^+, Ge^+, preamorphised shallow junctions, end-of-range and mask edge lateral damage 7—38071
- Si-Ge heterojunction, structural and electronic props. 7—21997
- Si-Ge multilayered structures, Bi ion implanted, projected range distribs., glancing angle RBS anal. 7—63689
- Si-InP (110) heterojunction, characterisation 7—33079
- Si-SIPOS heterojunction current flow props. 7—38713
- Si-Si interfaces, MBE grown, sputter cleaned, microstructure, electron microscopy obs. 7—12512
- a-Si-SnO_x interface, solid state reaction, XPS study 7—22449
- SiC:H-Si:H heterojunction, amorphous solar cell anal. *(Chinese)* 7—34029
- SiGe-Si structures, MBE growth mode and interface structure 7—52311
- $Si_{1-x}Ge_x$, epitaxial growth, struct., and elec. props. 7—52354
- SiN_x/Si:H interface, slow states, transient photocond. studies 7—38670
- Si(111) substrates, MBE growth of non-lattice-matched $(Ba,Ca)F_2$, (Pb,Sn)Se-$(Ba,Ca)F_2$ and CdTe-$(Ba,Ca)F_2$ layers 7—27216
- $nSnO_2$-n-$CdGeP_2$:In heterojunction, elec. and photoelec. props. 7—45478
- ZnS/ZnSe, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7—53610
- ZnSe/GaAs:Cr heterostructure, interface stress 7—38352
- ZnSe-$In_{2-x}Sn_xO_{3-y}$ junctions, microstruct. optical props., influence of deposition method 7—21689

semiconductor materials
- *see also amorphous semiconductors; degenerate semiconductors; elemental semiconductors; heavily doped semiconductors; II-VI semiconductors; III-V semiconductors; III-VI semiconductors; IV-VI semiconductors; liquid semiconductors; magnetic semiconductors; many-valley semiconductors; narrow band gap semiconductors; organic semiconductors; polar semiconductors; semiconductors; ternary semiconductors*
- oxide films, transparent conducting phases, H_2 plasma treatment 7—3528
- oxides, elec. props. under conditions of oxidation, reduction and catalysis 7—7250
- photonic material developments 7—25912
- rare earth semiconductors, valence changes, many-impurity Anderson model 7—7186
- transition metal chalcogenides, ternary and quarternary, struct. and substitutional chem. 7—32384
- transition metal phosphorous trisulphides, electronic, structural and mag. props., intercalation cpds. and chemical props. 7—44499
- Ag_3AsS_3, proustite, energy band struct. at phase transitions 7—2167
- $(Ag_6Ge_4P_{12})Ge(Si)_6$, bonding relationships and electronic struct. calcs. 7—16941
- β-Ag_2Se, high temp. phase, band parameters, energy struct. 7—12603
- $(Ag_6Sn_4P_{12})Ge_6$ cluster cpd., elastic behaviour and vibr. anharmonicity 7—12223
- $(Ag_6Sn_4P_{12})Ge(Si)_6$, bonding relationships and electronic struct. calcs. 7—16941
- Ag_2Te-Ag_4SSe, thermoelectrical props. 7—45364
- $(Al_{0.02}In_{0.98})_2Se_3$, metastable complex defects, ESR studies 7—33270
- As_2Se_3, cryst., optical props., ab initio total energy calcs. 7—45965
- As_2Se_3, crystalline, electronic and geometric struct., ab initio total-energy calcs. 7—12607
- As_2Se_3 single cryst. growth from vapour phase, crucible diameter and sealing press. depend. 7—27877
- As_2Se_3 single crystals, geminate pair recomb., photocond., photoluminescence meas. 7—38581
- As_2Te_3, metastable state, rhombohedral struct. study *(French)* 7—44496
- Au-TiO_2:Nb diodes, trapping states, admittance spectra study 7—45494
- $Ba(Bi,Pb)O_3$, semiconducting props., X-ray powder diffr. and transport meas. *(Japanese)* 7—64237
- $BaPb_{1-x}Bi_xO_3$, semicond. phase, CDW gap, optical meas. 7—53328
- $Ba_{0.9}Sr_{0.1}TiO_3$:Sb, positive temp. coeff. of resist., synthesis method depend. 7—45324
- $BaTiO_3$:Mn, Mn oxidation state change near phase transitions 7—16974
- $BaTiO_3$:Nd, ceramics, diffuse phase transformations 7—16731
- $Bi_{2-x}As_xS_3$ thin films, solution-gas interface deposition technique 7—7901
- $Bi_{12}GeO_{20}$, photoelectric props., influence of deep trapping centres 7—7279
- BiI_3 extrinsic semiconductor, reverse H-like series, light absorpt. study 7—53370
- BiI_3, layered semicond. with hexagonal end honeycombed structs., growth and optical props. 7—22277

semiconductor materials continued
- BiI_3, layered semiconductor clusters, degenerate four-wave mixing, quantum size effects 7—20358
- Bi_2O_3 thin films, traps, TSC meas. *(Japanese)* 7—7423
- $Bi_{1-x}Sb_x$, photoconductivity in the FIR spectral range 7—12756
- $Bi_{0.52}Sb_{1.48}Te_3$, semiconducting solid soln., thermoelectric props 7—45365
- $Bi_{2-x}Sb_xTe_3$ polycryst. semicond. films, laser annealing effects 7—58317
- Bi_2Te_3 and Bi_2Fe_3-derived solid solns., carrier density, depend. of anisotropy parameter 7—7226
- Bi_2Te_3 doped crystals, energy formation of antisite defects 7—21204
- Bi_2Te_3-based solid solns., $CdCl_2$ doped, thermal conductivity studies 7—45363
- $Bi_2Te_{2.4}SeO_{0.6}$, semiconducting solid soln., thermoelectric props 7—45365
- CdI_2, interband two-photon absorpt., freq. depend. 7—33451
- CdI_2 single cryst., lux-ampere characts., temp. depend. 7—7285
- $Cd_2P_2S_6$ intercalated with pyridine, D NMR study 7—33279
- CdSb, cryst. growth, characterisation and appls., review 7—26685
- CdSb, optical energy gap and light emission *(Japanese)* 7—53264
- CdSb thin films, preparation and thermoelec. props. 7—64374
- Co-Ba-Ni-O_2 thermal resistance thermometer study *(Chinese)* 7—24650
- $Co_{0.2}Ga_2S_{3.2}$ single crysts., optical props. and impurity energy levels meas. 7—13122
- $Co_xIn_2S_{3+x}$ thin films, spray pyrolysis deposited, structural and optical props. 7—22468
- $CoS_{1.035}$ film, soln. growth, optical absorpt. coeff. 7—39446
- CrO_2, half-metallic ferromagnet, band struct. calcs. 7—7091
- CsV_xO_y, crysts., struct., cathodic reduction from melt, and elec. props. studies 7—58236
- Cu-Cu_2O Schottky barrier solar cells, interfacial layer effects investig. using n-V_{oc} diagram 7—54304
- Cu-Sb-S cpds., valence bands and semiconducting gaps, nonstoichiometry and phase separation 7—16941
- Cu-Te system, p-T diagram 7—21404
- p-CuCNS photocathode for dye-sensitised photoelectrochemical cell 7—3709
- p-CuCNS photocathode, dye-sensitized, stabilisation by Pt deposition 7—27416
- CuCl excited state dynamics studied by transient grating techniques 7—12616
- CuCl microcrystals, excitons, size quantisation effects, luminesc. spectra anal. 7—53409
- CuCl, optical bistability and pulse shaping 7—57433
- $CuCrO_2$:Ca, semiconductor, prep., opto-electronic props. 7—2705
- CuO-ZnO p-n contact, sensor appls. 7—64996
- Cu_2O film-electrolyte interface, photoelectric effect 7—38723
- $Cu_{1.8}S$-CdTe thin film polycrystalline solar transducers, photosensitivity spectra 7—34036
- Cu_2S films, chemically sprayed, optical and solar selective props. 7—54350
- Cu_2S films, flash-evaporated, optical props. and solar selectivity 7—64719
- Cu_2S/CdS large-area solar cells, reactive sputtering 7—46943
- Cu_2S-CdS heterojunction, form. by photoelectrochemical process, phys. props. under light irrad. 7—45456
- Cu_2S-CdS polycrystalline solar cell, freq. dispersion in admittance 7—65464
- Cu_2S-CdS solar cells, all-evaporation processed, characts. 7—8383
- Cu_2S-CdS solar cells, SEM and Auger microanalysis 7—23189
- Cu_xS-$Cd_{1-y}Zn_yS$ thin film solar cells perform., depend. on annealing temp. 7—17861
- Cu_xS-CdS solar cells, comp. of differing junction types, AES, SIMS determ. 7—23167
- $Cu_{2-x}Se$, electrical resistivity, temp. and carrier density dependences 7—38556
- $Cu_{2-x}Se$, struct. phase transition, X-ray diffr. studies 7—2179
- $Fe_xO:Li_2O(CaO)(Al_2O_3)(SiO_2)$, synthetic wustite, elec. cond., doping elements effect *(Korean)* 7—2609
- $FePS_3$, absorpt. spectra of transition metal ion 7—33411
- FeS_2 polycryst. photoactive MOCVD films, photocond. and time-resolved microwave cond. meas. 7—45386
- FeS_2-electrolyte photoactive interface, electronic props. 7—33086
- $FeSi_2$ thin films, appl. to electro-optic VLSI interconnects 7—53427
- $(GaSb)_{1-x}(Ge_2)_x$ metastable thin film alloys, struct. phase transitions, ion-channelling studies 7—58462
- Ga_2Te_3-In_2Se_3 solid solns., cryst. struct., X-ray powder diffr. studies 7—16526
- Gd_2Te_3-PbTe system, solid solns., synthesis and props. 7—21458
- Ge-Si, alloy, MBE on Si substrates, stacking fault tetrahedra form. 7—21769
- Ge-Si, lattice thermal cond. reduction by point defects at intermediate temps. 7—52161
- Ge-Si, p-n junctions, photoelectric props., effects of electron bombardment 7—7351
- Ge-Si alloys, piezoresistance under uniaxial elastic deform. *(Russian)* 7—58813
- Ge-Si alloys, strained layer epitaxy, review of developments 7—52343
- GeO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7—64077
- GeSi thermally evaporated epitaxial heterolayers on GaAs substrate, Si distrib. *(Russian)* 7—63988
- GeSi/Si strained layer superlattices, electronic and optical props. 7—7359
- GeSi-Si heterostructures, MBE grown, structural props., quality, electron diffr., imaging obs. 7—7036
- GeSi-Si strained layer superlattices, growth using limited reaction processing 7—39430
- GeSi-Si strained superlattices, order-disorder transitions, obs. 7—27166
- GeSi-Si strained-layer superlattices, elastic relax. effects on TEM 7—52378
- GeSi-Si superlattice, strain-induced order-disorder transition 7—21437
- $Ge_{0.6}Si_{0.4}$ rib waveguide avalanche photodetectors for 1.3 μm optical fibre communication 7—9896
- $Ge_{1-x}Si_x$:Cu, supersaturated solid solution, decomposition 7—32654
- Ge_xSi_{1-x} (111) vicinal surfaces, step-band formation, cross-sectional TEM studies 7—12412
- Ge_xSi_{1-x} alloys, (100) surface, shape resonances of chemisorbed OH groups 7—6998
- Ge_xSi_{1-x} surface, interaction with H_2 7—58632
- Ge_xSi_{1-x}-Si multilayers, MBE grown, thermally annealed, Ge diffusion, strain relax., ion channelling, backscattering anal. 7—6896
- Ge_xSi_{1-x}-Si strained layer heterojunctions, selectively doped, hole mobilities, temp. depend. 7—7383
- Ge_xSi_{1-x}-Si strained layer superlattices, bandgap meas. 7—27408

semiconductor materials continued
Ge_xSi_{1-x}-Si strained-layer heterostructure, transport, optical props. and appls. 7−7349
Ge_xSi_{1-x}-Si strained-layer superlattice, zone folding induced quasi-direct gap, optical absorpt. probability 7−27409
Ge_xSi_{1-x}-Si structures, epitaxial growth 7−39387
Ge_xSi_{1-x}-Si superlattices, Raman scatt. involving umklapp processes 7−3043
$GeTe$-$GeSe_2$, polythermal section of Ge-Te-Se, effects of deviations from stoichiometry 7−7977
Hg_2Cl_2, photocatalytic props., O_2 photogeneration from water 7−54151
HgI_2 crystals, AC photoconductivity, temp. depend. 7−64278
HgI_2, evaporation studies and phase stability 7−52025
HgI_2 single cryst. new growth technique 7−53562
HgI_2 single crysts., photoconduction, carrier surface generation and recombination 7−33045
HgI_2 solution-grown crystals, X-ray and γ-ray irrad. effect on elec. props., radiation detector performance 7−58838
In_2O_3:Sn evaporated films, optical props. and applications to energy-efficient windows 7−46157
In_2O_3:Sn films, electron effective mass determ., refractive index carrier density depend. meas. 7−38440
In_2O_3:Sn films, prep. by thermal decomposition of organometallic cpds., optical and electrical props. 7−17483
In_2O_3:Sn transparent conducting films, electr., optical props., appls. *(Korean)* 7−59842
In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7−12535
In_2O_3:Sn-ZnS:Cu,Cl,Mn-Al, surface electrical conductivity in ZnS:Cu,Cl,Mn thin films 7−38672
In_2O_3:Sn(In)(Cd) films, optical and elec. props. 7−22365
In_2O_3/CdTe solar cells, high efficiency 7−59838
β-In_2S_3 thin films, spray pyrolysis grown, optical energy gaps 7−33467
γ-In_2Se_3 bound layer, elec. props. and surface states *(Japanese)* 7−22038
In_2Se_3 films, laser synthesized, optical props. 7−59276
In_2Se_3 films, synthesis with pulsed ruby laser 7−58707
In_2Se_3 intercalation cpd. with Ag, prep. 7−54146
In_2Se_3, layered semicond., photolum. studies 7−7746
In_2Se_3:S(Li), electrical transport props. 7−21917
$In_{2-x}Sn_xO_{3-y}$ antireflection coating for a-Si solar cells with transparent Ag contacts 7−65478
$In_{2-x}Sn_xO_{3-y}$ films, reactive RF magnetron sputtering prep., elec. and optical props. 7−46324
$In_{2-x}Sn_xO_{3-y}$-ZnSe junctions, microstruct. optical props., influence of deposition method 7−21689
$In_{2-x}Sn_xO_{3-y}$ coatings, evacuated window glazings for energy efficient buildings 7−54352
$In_{2-x}Sn_xO_{3-y}$ films, transparent conducting oxides, H_2 plasma treatment 7−3528
$In_{2-x}Sn_xO_{3-y}$ solar cells, state-of-the-art review 7−40007
$In_{2-x}Sn_xO_{3-y}$ sputter deposited, elec. cond., oxidation resistant coatings for spacecraft applic. 7−22866
$In_{2-x}Sn_xO_{3-y}$ thin films, RF reactive sputtering prep., elec. and optical props. 7−39378
$In_{2-x}Sn_xO_{3-y}/Ag/In_{2-x}Sn_xO_{3-y}$ magnetron sputtered transparent heat-reflective films, thermal stability study 7−53426
$In_{2-x}Sn_xO_{3-y}$-CdTe solar cells, spray deposited, elec. and photoelec. props. 7−54321
$In_{2-x}Sn_xO_{3-y}$-i-n^+-InP Schottky diode, solar cell props. 7−65474
$In_{2-x}Sn_xO_{3-y}$-InP, solar cells for space appl. 7−3700
In_2Te_3:Fe, Fe^{2+} elec. inactivity study, mag. suscept., Mossbauer spectra and XPS anal. 7−52494
Ir complex, $(Ir(CO)_2 4,4',5,5'$-tetracyano-2,2′-biimidazole$)^-$, anisotropic conductor, phys. props. 7−7242
$K_{0.3}MoO_3$, Peierls semiconductor, nonlinear Hall effect, sliding of CDW 7−45357
Li-In-Sb, ternary phase diagram, electrochem. investig. 7−58441
Li_xGaSe intercalation cpd., elec. resist. and Hall effect meas. 7−12719
$Li_{0.9}Mo_{6-x}W_xO_{17}$, W substitutional effects on elec. resistivity and transport props. 7−45260
$Li_xTlGaSe_2$, ion intercalated, dark current and photocurrent relax. meas. 7−38622
$MgFe_2O_4$, photoelectrochemical props., effect of defects and doping 7−45385
Mg_2NiH_4, struct., thermal and elec. props., rel. to covalent bonding 7−21184
Mg_2Si antifluorite semicond., electronic struct. calcs. 7−12608
Mg_2Si(Ge)(Sn), anharmonic effects, first order Raman scatt. studies 7−58429
Mg_2Si(Ge)(Sn)(Pb), Hall effect in solid and liq. states 7−38647
$Mg_xZn_{1-x}Te$-In Schottky barriers, C-V and photoelec. studies 7−64307
$MnPS_3$, absorpt. spectra of transition metal ion 7−33411
$Mn_{0.61}Zn_{0.26}Fe_{2.13}O_4$, ferrite, conductivity study 7−21909
MoI_x, preparation, elec. and optical props. 7−64946
MoS_2 electrodes, H_2 production by photoelectrolysis of water 7−3723
MoS_2 films, RF magnetron sputtered, elec. and optical props. 7−2747
MoS_2, high press. synthesis, characterisation 7−26716
MoS_2(0001), Ar^+-sputtered, adsorption props., LEED, AES, EELS, and work function studies 7−52275
$MoSe_2$-MoS_2 ultrasharp interfaces grown with van der Waals epitaxy 7−13367
$(Na_{1-x}Li_x)_{0.9}Mo_6O_{17}$, Na substitutional effects on elec. resistivity and transport props. 7−45260
NbO_2, semicond., AC cond. meas., 4-196K, 5-92 kHz 7−45327
$NbSe_4I_{0.33}$, vapour grown, cryst. growth by microsteps 7−58176
$NiFe_{1.96}O_{4+\gamma}$ electrodes in aq. electrolytes, photoelectrochem. characts. meas. 7−46854
$NiMn_2O_4$, elec. cond. and cation distrib. 7−33009
$NiPS_2$, absorpt. spectra of transition metal ion 7−33411
NiS thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7−32870
NiSe thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7−32870
$NiSi_2$-Si epitaxial interface, extended defects, geometrical character 7−6640
$Pb_{1-x}Cd_xSe$ films, laser deposition 7−59422
$Pb_{1-x}Eu_xSe$, MBE growth for IR device appls. 7−64908
PbEuSeTe/PbTe single quantum well diode laser with side optical cavity 7−43105
$PbGeS_3$, vibr. props., spectral study 7−3032

semiconductor materials continued
PbI_2, layered semicond. with hexagonal end honeycombed structs., growth and optical props. 7−22277
PbI_2:Zn, single crysts., growth and semicond. behaviour 7−53577
Pb_3O_4 thin film, electronic props., electrochem. technique characterisation 7−7416
$5PbS.2Sb_2S_3$, boulangerite, elec. cond. *(Korean)* 7−27331
PbSnEuTe, superlattices, prep. by hot wall epitaxy, props. *(Japanese)* 7−12546
PbTe-$MnTe_2$ system, phase diagram, conductivity and thermoelectromotive force 7−63824
PbV_2O_6, vitreous and crystalline, mag. props. 7−7473
Pd-SiC interface, compositional depth profiles and intermixing, atom probe FIM study 7−32843
RbV_xO_y crysts., struct., cathodic reduction from melt, and elec. props. studies 7−58236
ReS_2, single cryst. growth by chem. vapour transport, elec. resist., Hall mobility meas. 7−64251
$ReSe_2$, single cryst. growth by chem. vapour transport, elec. resist., Hall mobility meas. 7−64251
α-$RuCl_3$, intercalation reactions, electron/ion transfer and exchange reactions 7−46837
Sb_2S_3-electrolyte interfaces, electrochemical photovoltaic cell fabrication appl. 7−40016
Sb_2Te_3 crystal, semimetallic, semicond. behaviour at low temps. 7−12716
Sb_2Te_3 doped crystals, energy formation of antisite defects 7−21204
Sb_2Te_3:Sn, Tl, single crystals, X-ray spectral microanalysis 7−44590
Sc_2S_3, solid, elec. cond. *(Japanese)* 7−33002
Si:Sb-SiGe modulation doped superlattices, growth and props. 7−7379
$Si/Ge_{1-x}Si_x$ superlattices, conduction band interactions and splitting, envelope-function approx. calcs. 7−64332
$Si/Si_{0.5}Ge_{0.5}$ strained layer superlattices, 2D electron systems 7−7380
Si-Ge:Au, reaction of Au centres to optical pumping 7−12755
Si-Ge:O, single crystal, thermodonors rel. to solubility of O 7−12648
Si-$Si_{1-x}Sn_x$ strained layer superlattices, electronic struct. 7−38707
Si-SiGe strained-layer superlattices, optical and electronic props. 7−53353
SiC, 6H polytype, defect lumin., due to excess C vacancies 7−53391
SiC (0001) and (000$\bar{1}$) surfaces, oxidation kinetics 7−33854
SiC (0001) surface, slip lines, AES studies 7−44559
SiC (100), cubic, grown on Si(100) by CVD, surface morphology 7−46339
SiC (4H) p-n junction, ion implanted, S-type I-V characteristic 7−64320
β-SiC CVD film growth and props., gas phase comp. depend. simulation and meas. 7−22516
SiC, corrosion pitting by molten salts 7−59695
SiC, covalent cryst., electronic struct., cluster approx. 7−52403
β-SiC crystals, free carrier conc., Raman scattering 7−59197
SiC, cubic, ab initio calc. of ground state props. 7−6751
SiC, cubic, electrically active centres 7−12736
SiC, cubic, epitaxial films, compensation 7−7268
3C-SiC, epitaxial growth on Si by low press. CVD 7−3188
β-SiC epitaxial layers, cubic cryst. struct., electron diffr. and microscopy studies 7−27199
SiC, epitaxial layers from soln. in melt 7−22597
β-SiC, epitaxially grown, antiphase boundaries 7−46722
SiC film, laser deposition for solar cell use 7−53634
β- SiC films on substrates, CVD, X-ray topography 7−63998
SiC, growth, struct., and elec. props. 7−52354
SiC, LPE growth by temp. gradient zone melting. solubilities 7−64934
SiC, LPE growth by temp. gradient zone melting, Tb-Si solvent 7−64935
3C-SiC, MBE growth on Si substrates using multielectron beam heating 7−17425
β-SiC monocryst. thin films, ion implantation and annealing, amorphisation and recrystn. processes study 7−16596
6H-SiC neutron-radiated crysts., green luminesc., electron-vibrational interaction study *(Russian)* 7−59255
SiC, paramag. muonium centres, hyperfine freqs. 7−52503
β-SiC, plasma etching 7−65223
SiC polytype heteroepitaxial growth, and identification by Raman scatt. study 7−63992
SiC single cryst., electron channelling patterns, lack of centrosymm. effects obs. and calcs. 7−51901
n-SiC single cryst., polar faces, reactive ion-plasma etching studies 7−33858
βSiC single cryst., wet and dry oxidation kinetics and interface characts. 7−13674
α-SiC, single cryst. growth using furnace with NbC heaters 7−27881
SiC, single-particle excitations, dynamic correl. corrections, local density theory 7−45115
β-SiC thin films, CVD epitaxial growth on 6H α-SiC substrates 7−22502
β-SiC thin films, TEM obs. of process induced defects 7−58696
α-SiC:Al,B,O crysts., photolum. and electrolum. studies *(Russian)* 7−22344
β-SiC:$Al^+(P^+)$ epitaxial films, ion implanted, rapid thermal annealing 7−16905
SiC:$B^+(Al^+)$, stoichiometric disturbances due to ion implantation 7−6651
β-SiC:B(N) films, ion implanted, rapid thermal annealing 7−17569
21R-SiC:N, shallow donor bound electronic transitions, light scatt. study 7−38494
α-SiC:N, single carrier SCL flow, computer calcs. 7−21925
6H-SiC:P; impurity paramagnetic and elec. props. study 7−53130
SiC:P(N)(B)(Al) thin films, impurity incorporation 7−27192
SiC:Ti,N, 6H polytype, ESR of $(TiN)^0$ impurity pairs 7−2926
$Si_{1-x}C_x$ thin films, glow discharge deposition and struct. props. 7−64932
Si_xC_{1-x} semiconductor alloys, ordering and decomposition 7−6574
β-SiC(:N) single crystals, CVD grown, elec. props., temp. dependence 7−2740
SiC(6H) single crystals, plastically deformed, dislocation glide motion 7−63624
SiGe superlattice structures, Sb doped, MBE grown, comp., doping profiles, SIMS, Rutherford backscattering spectra 7−7035
SiGe-Si strained layer superlattices, electric subbands 7−2700
SiGe-Si strained superlattices on Si substrates, MBE growth, characterisation, appl. for HEMT 7−27218
SiGe-Si structures, MBE growth mode and interface structure 7−52311
$Si_{0.55}Ge_{0.45}$-Si modulation doped superlattice, MBE grown, electron mobility enhancement, Hall meas. 7−7382
$Si_{1-x}Ge_x$, epitaxial growth, struct., and elec. props. 7−52354
$Si_{1-x}Ge_x$ MBE crystals, ordering study 7−58709
$Si_{1-x}Ge_x$:S(Se)(Te) solid solns., deep levels investig. 7−2529

semiconductor materials continued
- $Si_{50}Ge_{50}$, model alloy system, liquid-solid interface dynamics, rapid solidification 7—6761
- Si_xGe_{1-x} coherently strained bulk alloys on Ge (001) substrate, indirect band gap and band alignment calcs. 7—2481
- Si_xGe_{1-x} semiconductor alloys, ordering and decomposition 7—6574
- Si_xGe_{1-x}:Ga, resistivity and Hall constant, temp. depend. 7—7231
- Si_xGe_{1-x}/Si strained layer superlattices, folded phonon dispersion 7—44718
- Si_xGe_{1-x}/Si superlattices, strain induced confined electron states 7—7311
- SiN_x:H,B microcrystalline films, B doping 7—44586
- SiO_2/SiC interface. elec. characts., MOS conductance technique meas. 7—12873
- SmSe, thermoelec. power, elec. resist., meas. near semiconductor-metal transition, press. up to 12 GPa 7—45404
- SnO_2 (110), O deficient surface, photoemission study, comparison with TiO_2 (110) 7—46277
- SnO_2 films for solar cells, struct., elec., and optical props. 7—40003
- SnO_2, nonstoichiometry and defect equilib. rel. to cond. props. 7—52069
- SnO_2, oriented thin films, elec. props. 7—17123
- SnO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7—64077
- SnO_2 thin films, photochemical fabrication and micropatterning from SnI_2 7—46315
- SnO_2 thin films, vacuum evaporated, thermoelec. power, temp. and thickness depend. 7—58918
- SnO_2:Cl coatings, electrical and optical props. 7—58925
- SnO_2:F coatings, evacuated window glazings for energy efficient buildings 7—54352
- SnO_2:F films, CVD growth using hydrofluoric acid as doping material 7—7871
- SnO_2:F-n-Si(poly) solar cells fabricated by CVD, characterisation 7—59859
- SnO_2:Sb spray deposited coatings, comp., elec. props. thermal treatments, AES study 7—22393
- SnO_2:Sb thin films, doped and undoped, prep. by photolysis, phys. props. 7—22368
- nSnO_2-n-$CdGeP_2$:In heterojunction, elec. and photoelec. props. 7—45478
- SnO_2-n-Sb_2S_3-Al structures, polarization current relaxation and space charge 7—33090
- SnO_2-Pd-Sb H_2 gas sensor insensitive to alcohol *(Japanese)* 7—56242
- SnO_2-SiO_x-Si surface barrier solar cells, optimisation of fabrication process 7—23154
- SnO_x:F-$CuInS_2$ sprayed solar cells, photovoltaic props. 7—54322
- SnO_x-a-Si interface, solid state reaction, XPS 7—22449
- SnS_2-Tl_2S phases, ^{119}Su Mossbauer study *(French)* 7—27639
- $SnS_2(Se_2)$, polytypes, electronic behaviour, rel. to energy conversion 7—38447
- $(SnSe)_{1-x}Sb_x$ solid solns., phase diagrams and elec. props., comp. depend. 7—2172
- $SrTiO_3$:Mn, Mn oxidation state change near phase transitions 7—16974
- Te-Se, whisker crystals, growth and elec. props. 7—12578
- TeO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7—64077
- Ti-SiC interface, compositional depth profiles and intermixing, atom probe FIM study 7—32843
- TiO_2 (110), O deficient surface, photoemission study, comparison with SnO_2 (110) 7—46277
- TiO_2 electrodes, H_2 production by photoelectrolysis of water 7—3723
- TiO_2 films, sol-gel method prep., appl. to photoelectrochem. electrodes 7—7903
- TiO_2 in Si-TiO_2-electrolyte system, charge-transfer processes 7—22007
- TiO_2 sputtered thin film electrodes with low donor densities, photoelectrochemical behaviour 7—27359
- TiO_2:Cr(Cd) thin films, extension of optical absorpt. range by doping 7—39144
- TiO_2-redox polymer detector junctions, flatband pot. meas. 7—13787
- TiS_2, highly stoichiometric, compositional and struct. studies 7—2224
- TiS_2, nearly stoichiometric, direct reaction synthesis and characterisation 7—58499
- Tl_3MS_4 (M=P,As,Ta), electronic energy struct. and bonds, X-ray spectra studies 7—45148
- Tl_2S(Se)-GeS(Se), polythermal sections, physicochemical anal. 7—7975
- n-WSe_2 single crystal, growth, struct. and photoelectrochem. props. 7—27879
- n-WSe_2-electrolyte interface, microwave photoelectrochemistry studies 7—27413
- $Yb_{1-x}Tm_xSe$, anomalous Tm valence, lattice parameters, diamag. suscept. and Hall effect meas. 7—16998
- Zn_3As_2, semiconducting, MBE growth 7—53590
- $Zn_{1-x}Cd_xSb$ solid soln., cryst. growth, characterisation and appls., review 7—26685
- Zn_3P_2, optical props. 7—39067
- Zn_3P_2, photoconductivity response, surface damage 7—21951
- Zn_3P_2 polycrystalline films, hot-wall deposited, elec. and optical props. 7—22487
- ZnSb, cryst. growth, characterisation and appls., review 7—26685

semiconductor-metal boundaries
- *see also Schottky-barrier diodes*
- anthanthrone-Ag struct., charge carrier photogeneration *(Japanese)* 7—38610
- chalcogenide-metal contacts, interdiffusion, struct., comp., electron irrad. effects 7—21686
- compound semiconductor/metal contacts, interfacial microstruct., elec. props., phase diagrams 7—45495
- contact resist., four-terminal meas. techniques 7—35537
- contact resistance, determ. using ring structs. 7—58862
- current flow, dual-level transmission line model 7—45493
- deep trap profiles determ. 7—58768
- disorder induced gap state model 7—2656
- electrical properties of semiconductor interfaces *(Japanese)* 7—64316
- epitaxial silicide technology 7—52835
- film growth on semicond. surfaces, scanning tunnelling microscopy studies 7—21053
- formation, structural and electrical props. 7—38727
- III-V semiconductor ohmic contacts, funds. of theory and methods of technology *(Polish)* 7—64347
- III-V semiconductor-Au system, heat treatment, gaseous species evolution, mass spectra studies 7—39881

semiconductor-metal boundaries continued
- III-V semiconductor-metal interface, reaction and interdiffusion, review 7—21544
- III-V semiconductor-metal interface, thermodynamic stability considerations 7—21490
- interface physics and chem., conf., Pasadena, CA, USA (Jan. 1986) 7—4
- interfacial bonding and adhesion, characterisation techniques, electronic struct. 7—27418
- metal-p^+-n structures, Schottky barrier height enhancement, calcs. including free carriers 7—2709
- microscopic and macroscopic props. 7—2721
- microscopic many-electron model 7—27431
- models on the formation of semiconductor interfaces 7—52739
- periodic metal-semicond. array, depletion layer profile calc. 7—22010
- photoemf measurement in semiconductor, by two-capacitors method 7—30037
- processing and charactn. techniques, conf., Los Angeles, CA, USA (Jan. 1986) 7—18489
- rare earth silicide thin films for microelectronics 7—38383
- Schottky barrier, models and elec. charactn. methods 7—52738
- Schottky barrier heights, tight-binding theory 7—52813
- Schottky diodes, interface state form. and barrier height control 7—52839
- Schottky p-type polycryst. junction 7—7331
- Si-Al Schottky barriers, Ar ion implantation damage, thermal anneal recovery 7—17101
- silicides, rapid thermal annealing 7—21545
- surface junction solar cells, illumination and surface recombination effects on currents, anal. 7—34046
- system, silicide form., struct. and electronic props. 7—38363
- TEM characterisation of semiconductor heterostructs. and interfaces 7—52806
- thin films, interfaces and phenomena, conf., Boston, MA, USA (Dec 1985) 7—18502
- triangular barrier structures, effective barrier height reduction by n-type doping 7—2671
- Ag/amorphous chalcogenide, Ag photodiffusion, semiconductor heterojunction formation 7—45026
- Ag-CdTe (100) interface, photoemission studies, surface struct., growth behaviour, Schottky barrier and surface photovoltage 7—39352
- Ag-PbTe electrical contacts, photothermal deflection meas. 7—38784
- Ag-Si interfaces, micro-quantitative AES anal. using SEM-SAM apparatus 7—27147
- Al/III-V semiconductor interfaces, laser-induced chem. reactions 7—7017
- Al/Pt/Si structures, PtSi formation 7—63972
- Al/Si contacts, diffusion at room temp. *(German)* 7—32724
- Al-GaAs, pure and Si or Zn doped interfaces, composition depth profile, pulsed laser atom probe study 7—32842
- Al-GaAs (100) interface, Schottky barrier form. 7—2717
- Al-GaAs interfaces, convergent beam electron diffr. patterns 7—27156
- Al-Ge-Si, heterojunction ohmic contacts 7—27432
- Al-PbTe electrical contacts, photothermal deflection meas. 7—38784
- Al-semiconductor interfaces, form. of active electronic barrier, novel approach in corrosion prevention 7—65178
- Al-Si interface, amorphous W-Zr films on diffusion barriers 7—21504
- Al-Si:Ar,H, ion implanted ultrahigh Schottky barriers, interfacial traps, DLTS study 7—45489
- $Al_xGa_{1-x}As$ bandgap determ. by Schottky barrier spectral response meas. 7—2667
- As_2S_3 chalcogenide glass, Zn vacuum deposition rate, photostimulated changes 7—45075
- Au layer on GaP, emission spectrochemical anal. using glow discharge, appl. to in-depth anal. *(Japanese)* 7—63886
- Au-GaAs, annealed, interface erosion 7—21683
- Au-GaAs, contact, structural and elec. props. 7—27424
- Au-GaAs, interface state meas. at Schottky contacts, admittance characterisation technique 7—2718
- Au-GaAs, Schottky contact, interface states, trap characterisation 7—27421
- Au-GaAs (001), short range potential variations at interface 7—45500
- Au-GaAs (110) interface, photoemission studies, temp. effects 7—33517
- Au-Ge-GaAs, interfacial reactions, struct. after annealing 7—27154
- Au-Ge-Ni-GaAs, non-alloyed ohmic contact, solid phase epitaxy 7—27423
- Au-InP, solid-state reactions, Au_2P_3 formation 7—58550
- Au-InP high-speed internal photoemission detectors enhanced by grating coupling to surface plasma waves 7—52688
- Au-Ni-Au-Ge-Ni-GaAs, ohmic contacts, alloying, specific contact resistivity 7—27425
- Au-PbTe electrical contacts, photothermal deflection meas. 7—38784
- Au-TiB_2-Au-Ge-Ni-GaAs, ohmic contacts, alloying, specific contact resistivity 7—27425
- $AuGa_2$-GaAs (001), chemically unreactive interfaces formation 7—7050
- AuGe-GaAs and Ni-AuGe-GaAs interfaces, ion beam induced phenomena 7—12166
- AuZn layer on GaP, emission spectrochemical anal. using glow discharge, appl. to in-depth anal. *(Japanese)* 7—63886
- $BaTiO_3$, grain boundary inhomogeneity phenomena, microcontact meas. *(German)* 7—58893
- CdS, powder, metal-loaded, photoinduced electron-hole pair separation 7—59770
- CdS-Ag, size quantisation in CdS layer, surface plasma spectroscopy 7—32936
- CdTe-AuCu, AC contact impedance, influence on high freq., low temp. on fast transient junction meas. 7—64311
- CdTe-Cu interface form., effect of different cation-anion bond strengths 7—27149
- Co-Si, direct silicidation, on Si:B(As)(P), rapid thermal annealing 7—21546
- $CoSi_2$ self-aligned silicide technology using rapid thermal processing 7—52154
- $CoSi_2$-Si epitaxial heterostructures, growth and characterisation 7—27212
- $CoSi_2$-Si heterostructures, epitaxial growth 7—39387
- Cr-Ge thin film interface, interdiffusion, reaction and intermixing, soft X-ray photoemission study 7—27028
- Cu-GaAs (110), electron struct., synchrotron radiation photoelectron spectroscopy 7—27420
- Fe-GaAs(001)-c(8×2) interface, simultaneous epitaxy and substrate out-diffusion 7—38355
- Fe-Ge (110) interface, electronic struct. calc., mag. effects 7—45496
- $Fe_{80}C_{20}$-Si compositionally modulated amorphous struct., mag. and diffusional props. study 7—7564
- GaAlAs-Mo junctions, Schottky barrier height, electrical props. 7—64346

semiconductor-metal boundaries continued
GaAs - Ag (Au), excimer laser annealed Au(Ag) contacts 7−12857
GaAs (100)-Ni interface, effect of O on diffusion and compounding 7−21539
GaAs (110), substrate for In growth, RHEED study 7−2425
GaAs (110) with Sb overlayers, electronic band bending at interface 7−58895
n-GaAs, cleaved clean (110) surface initial band bending cause, noble metal deposition 7−22017
GaAs device structures, γ-ray effects, surface generation-recombination processes 7−64349
GaAs microelectronics, role of Schottky contacts *(German)* 7−52735
GaAs, ohmic contact, form. using ion beam mixing 7−21299
GaAs, ohmic contact resist. limitations 7−52838
GaAs, Schottky barrier lowering by submicron ohmic contacts 7−7332
GaAs Schottky-barrier behaviour, Monte Carlo simulation 7−45491
GaAs substrates, laser-induced metal and alloy plating, silicide form. 7−39448
GaAs/Al epitaxial contacts, MBE growth 7−22488
GaAs/Al(Mn)(Ag) interfaces, interactions, XPS and elec. transport studies 7−7384
GaAs/Au contacts, growth modes, AES, UPS, XPS and RHEED studies 7−21753
GaAs/Au contacts, interface morphology 7−45020
GaAs/Au-Ge/Ni ohmic contacts, ion implantation and metallisation prep. 7−22014
GaAs/Au(Cr) Schottky barriers, hole diffusion length, photon and electron excitation studies 7−2707
GaAs/metal interface microstruct. and reactions, stability and elec. props., TEM and STEM studies 7−12515
GaAs/metal Schottky barrier diode, electrical props. 7−27426
GaAs/Ni Schottky barrier, current-voltage characts. under electron distrib. disturbance 7−52733
n-GaAs/Ti-Pt system, Schottky barrier height, doping depend. 7−2708
GaAs-Al junction, interface states, DLTS study 7−58892
GaAs-Al Schottky barrier contacts, MBE grown, interface reactions, vacuum annealing effects 7−45022
GaAs-Au, contacts, elec. and struct. props. 7−2711
GaAs-Au contacts, proton bombard., I-V characts. 7−7386
GaAs-Au Schottky diodes, DLTS 7−58896
GaAs-AuGeNi contacts, interface composition and barrier heights 7−58891
GaAs-AuNiGe ($TiSi_2$)(Au) interfaces, struct. and elec. props. 7−22013
GaAs-AuNiGe ohmic contacts, microstruct. anal. and contact resist. meas. 7−2393
GaAs-metal interfaces, Fermi level pinning 7−2714
GaAs-Mn(V), extrinsic surface states, core level UPS study 7−2713
GaAs-Nb, oriented Nb films, electron beam evaporation in ultrahigh vacuum 7−3175
GaAs-Nb(NbN) Schottky barriers 7−58856
GaAs-Ni interfacial reactions, contact elec. props. 7−12504
GaAs-Pt reacted ohmic contact charactn., effect of Mg layer 7−7387
$GaAs_{1-x}Sb_x$-Au Schottky barriers, I-V characts., temp. depend. 7−64344
GaAs(110)-Al, Schottky barrier form., effect of surface and interface kinetics 7−2668
GaAs(110)-In, interfacial chem. reaction, UPS study 7−2276
p-GaP, powder, metal-loaded, photoinduced electron-hole pair separation 7−59770
GaP-Ga semiconductor-liquid metal contact, transition from rectifying to ohmic operation 7−52833
GaP-In semiconductor-liquid metal contact, transition from rectifying to ohmic operation 7−52833
GaSb-Al interfacial chem. reactions, surface refl. Raman Scatt. study 7−2275
a-Ge/au interfaces, atomic intermixing, asymmetries 7−21682
a-Ge/Pb/a-Ge trilayers, melting transition of Pb 7−32884
Ge-metal interfacial atomic struct. and cpd. form., FIM studies 7−32846
Ge-Sn interface form., growth mode, AES, RBS studies 7−58666
$Hg_{0.75}Cd_{0.25}Te$-Cu interface form., effect of different cation-anion bond strengths 7−27149
$Hg_{1-x}Cd_xTe$, sputtered and cleaved surfaces, deposition of In and Al reactive metals, UPS study 7−33513
$Hg_{1-x}Cd_xTe$/Ag(Cu)(Al) interfaces, morphology, Hg bonding effects 7−7021
$Hg_{1-x}Cd_xTe$/Pt interface, overlayer-cation reaction, XPS, UPS and LEED studies 7−65349
In adatom on Si (100), bonding coordination number, synchrotron photoemission studies 7−45071
In-GaAs reactions, interfacial native oxide layer effects 7−12501
In-Pt-GaAs, heterojunction ohmic contacts, interfacial struct. 7−27155
$In_xAl_{1-x}As$/Au Schottky barrier heights, composition dependence 7−45431
$In_{0.53}Ga_{0.47}As$-W-InP structures, LPE growth on structured substrates 7−46353
$In_xGa_{1-x}As$ (100)-metal interfaces, Fermi level pinning and chem. interactions 7−2712
InGaAsP-InP, solid-phase epitaxial Pd-Ge ohmic contacts 7−2706
InGaAsP-InP laser diodes, low resist. contacts on p-side 7−20276
In_2O_3:Sn-ZnS:Cu,Cl,Mn-Al, surface electrical conductivity in ZnS:Cu,Cl,Mn thin films 7−38672
InP electrodes, surface modified, time resolved photoelectrochemical meas. 7−27415
InP, high resistivity layer form. by ion implantation, ohmic contact characterisation 7−38035
InP surface metal-p^+-n enhanced Schottky barriers formed by open tube diffusion technique 7−2710
InP/Al UHV-cleaved and laser annealed interface, acceptor-like electron traps 7−7310
InP/Al(Mn)(Ag) interfaces, interactions, XPS and elec. transport studies 7−7384
n-InP/Au Schottky contacts, surface treatment by plasma-induced O radicals 7−38674
InP/metal Schottky barrier diode, electrical props. 7−27426
InP/Pd (110) interface, chem. reactions, overlayer morphology and Fermi level pinning 7−7020
InP-Au, metallic contact layers, thermal dissociation, P loss 7−23005
InP-Au interface, Fermi level pinning, growth characts., photoemission spectra 7−22009
InP-Au(Al) Schottky barriers, defects introduced by mech. polishing 7−39768
InP-Cu(Au)(Ag), interphase contact interaction 7−33087

semiconductor-metal boundaries continued
InP-metal interfaces, Fermi level pinning 7−2714
$Mg_xZn_{1-x}Te$-In Schottky barriers, C-V and photoelec. studies 7−64307
Mn/GaAs interface formation on clean and oxidised (110) surfaces 7−45029
Mo-Pd-Si, thin film metallisation system, interdiffusion, cpd. formation 7−21538
Mo-Si(111)(2×1) interface, early formation stage 7−27150
Nb/a-Si/Nb structures, AC Josephson effect 7−12919
$NbSi_2$ film form. by scanning electron beam annealing 7−21285
Ni/GaAs film/surface reaction, TEM 7−39920
Ni-AuGe-GaAs, ohmic contacts, interface reactions, elec. behaviour 7−27031
Ni-GaAs, barrier height meas., UV-ozone cleaning of GaAs (100) 7−28228
Ni-GaAs, interphase contact and interaction 7−16880
Ni-GaAs, lateral reactions, hot-stage TEM 7−27030
Ni-GaAs, metallurgical reactions, heavy ion Rutherford backscattering spectrometry 7−53488
Ni-Si, interphase contact and interaction 7−16880
Ni-ZnSe-SiO_2-Si struct., energy barriers for photocharging of trapping sights in ZnSe layer 7−52844
NiGeAuAgAu alloyed ohmic contacts to AlInAs-GaInAs heterostruct., charact. 7−22016
$NiSi_2$ formation by reaction of filament evaporated Ni with Si substrate 7−38268
$NiSi_2$-Si, interface states, barrier height, Fermi level 7−27430
$NiSi_2$-Si, Schottky barrier, interfacial defect states 7−27428
$NiSi_2$-Si, Schottky barrier height, structural characterisation 7−27429
$NiSi_2$-Si, stability of MBE grown thin $NiSi_2$ layers on Si (111) 7−38380
$NiSi_2$-Si (111), Schottky barrier height, rel. to Fermi level positions 7−27427
$NiSi_2$-Si (111) interface struct., X-ray standing-wave analysis 7−58661
$NiSi_2$-Si heterostructures, epitaxial growth 7−39387
$NiSi_2$-Si interfaces, convergent beam electron diffr. patterns 7−27156
NiTa-GaAs, phase separation, cross-sectional TEM 7−27152
Pb-Ge multilayers, cumulative disorder and X-ray line broadening 7−32847
Pd, evaporated on CdTe, core level electron binding energy shifts, photoemission spectra 7−22451
Pd/GaAs film/surface reaction, TEM 7−39920
Pd/Si interface composition and silicide form., atom probe FIM study 7−32845
Pd/Si:B,As/Si:B, As ion implant redistribution during Pd_2Si formation using rapid thermal annealing 7−16816
Pd-GaAs, metallurgical reactions, heavy ion Rutherford backscattering spectrometry 7−53488
Pd-GaAs, phase formation sequence, morphology 7−27153
Pd-SiC interface, compositional depth profiles and intermixing, atom probe FIM study 7−32843
$PdSi_2$-Si, interface states, barrier height, Fermi level 7−27430
Pt-GaAs, metallurgical reactions, heavy ion Rutherford backscattering spectrometry 7−53488
Pt-Si interface, defects in $PtSi_x$ formation 7−21195
Pt-Si interface, PtSi formation and passivation 7−21709
PtSi/Si heterogeneous interface struct., defects, and coherency, HRTEM meas. *(Japanese)* 7−7019
Pt_xSi_{1-x}/n-GaAs contacts, elec. and metallurgical characts. 7−64345
RSi_{2-x}-Si (R=Sc, Y, Gd, Ho, Tb, Dy, Er, Tm, Yb, Lu), silicide thin films, phase composition, conductance, surface morphology 7−7072
Rh/GaAs Schottky contact, correlation between solid-state reaction and electrical props. 7−58655
Si (100), oxidation enhancement by Ce overlayers, $CeSiO_3$ formation 7−28226
Si (111), ordered Au, Ag, Cu overlayers, surface states, inverse photoemission studies 7−2660
Si (111) with oxidised Cr overlayer, $CrSi_2$ formation and reduction of Cr_2O_3 during annealing 7−58660
Si (111)/Au interfaces, structural and electronic props., annealing effects 7−21679
Si (111)/Pt interface form. by interstitial chemisorpt. EXAFS and X-ray absorpt. resonance spectra studies 7−38336
Si (111)-(7×7), interface formation during W deposition 7−58710
Si oxidation, Si/oxide interface struct. 7−65231
Si Schottky diodes, H_2^+ bombarded, elec. props. 7−38677
Si, substrate for CVD of W, effects of dopants and cryst. perfection 7−16912
Si substrate reaction with amorphous and cryst. Ni-refractory metal alloys 7−21704
Si substrates, interaction with thin film amorphous metal alloys 7−21761
Si substrates, laser-induced metal and alloy plating, silicide form. 7−39448
Si:Ag-Ag, formation of Schottky junctions by Ag implantation in Si 7−12784
Si:As surface, $TiSi_2$ formation 7−12551
Si:B-Mo, specimen preparation by chemical etching and polishing, for electron studies 7−29989
a-Si:H, contact resist. meas. technique 7−24658
a-Si:H films, metal-semiconductor contacts, characterisation 7−38724
a-Si:H semiconductor-metal system, field effect problems, I-V meas. 7−38728
a-Si:H thin films, ohmic and quasi-ohmic contacts 7−38729
a-Si:H/Ti/Al system, solid state reactions, TEM and SAD studies 7−3602
a-Si:H/metal junction, pot. profile determ. 7−2715
a-Si:H-Pt Schottky barrier contact, photocurrent excitation nonadditivity effects 7−17099
Si:P/Ti, enhanced grain growth by silicide form. 7−27142
Si:S(Tl)(Ge)(P)/Pt system, impurity migration during silicide form. 7−6895
a-Si/Al films, laser-induced phase transitions, time resolved TEM study 7−38056
p-Si/Al Schottky barriers, Ar^+ implantation damage, oxidation, etching and elec. props. 7−21290
Si/Al/Ni system, contact structure formation by rapid thermal melting 7−45019
Si/Au buried interface struct. determ., optical second harmonic generation studies 7−63982
a-Si/Au thin film bilayers, Si crystallisation study 7−21699
Si/$CoSi_2$/Si structs., parallel and perpendicular transport, supercond. props. 7−45518

semiconductor-metal boundaries continued
Si/metal film interface, silicide nucleation, kinetic model 7—63970
Si/metal interfaces, silicide form. kinetics during thermal annealing 7—16897
Si/Nb, proximity effect, superconducting transition temp. meas. 7—45566
Si/$NiSi_2$ heterojunction, interface states, DLTS and hydrogenation studies 7—12777
Si/$NiSi_2$(111), intrinsic interface states and defect states 7—22011
Si/PtSi/V/Al Schottky barrier diode metallisation system 7—2666
Si/PtSi($CrSi_2$) Schottky diodes, surface imperfection induced elec. leakage paths 7—2719
Si/Ti amorphous superlattices, high resolution photovoltaic position sensing 7—48847
Si/Ti selectively sputter deposited interface, Auger and Rutherford backscatt. studies 7—21690
Si-Al Schottky barrier formation, local electronic struct., EELS study 7—21975
Si-Al struct., cond., transverse elec. field depend. 7—27417
Si-Al structures, ion mixing, effect of interfacial oxide 7—21537
Si-Au interface, atomic bonding 7—58663
Si-Au-Pt interfaces, PtSi formation, RBS studies 7—58547
Si-$Co_{50}Mo_{50}$-Au, amorphous $Co_{50}Ta_{50}$ alloys as diffusion barriers 7—44923
Si-$Co_{50}Ta_{50}$-Al, amorphous $Co_{50}Ta_{50}$ alloys as diffusion barriers 7—44923
Si-$CoSi_2$ heterostructures, MBE or solid phase epitaxially grown, Schottky barrier heights, DLTS spectra 7—12859
Si-$CoSi_2$ Schottky barriers, epitaxially grown, supercond. below 1.05K, tunnelling spectra 7—12860
Si-$CoSi_2$-CaF_2, MBE growth of epitaxial insulator-metal-semicond. struct. 7—22496
Si-$CoSi_2$-Si, transistor current modulation *(French)* 7—58894
Si-Co(Ni) bilayered films, chem., elec., and struct. charges upon annealing 7—22037
Si-Co(Pt)(Au), high energy density pulsed ion beam irradiation, study of reacted layers 7—52151
Si-Cr, lateral growth of $CrSi_2$, role of Si transport 7—38272
Si-Cu, interface, Auger electron emission *(Russian)* 7—17100
Si-Cu interface, atomic bonding 7—58663
Si-Cu interface, surface struct., angle resolved Auger electron emission determ. 7—21672
Si-metal, silicidation reactions, rapid thermal annealing/TEM technique 7—52156
Si-metal complexes on W(110), atomic interactions, FIM study 7—21691
Si-metal interfacial atomic struct. and cpd. form., FIM studies 7—32846
Si-metal-Si multilayers, backscattering contribution to Auger line intensity 7—28379
a-Si-metal-Si structures, rapid thermal sintering and annealing 7—21700
Si-Ni interface, silicide formation, backscattering spectrometry and TEM studies 7—21696
Si-Ni interface, struct., RHEED, Rutherford backscattering spectrometry 7—27143
Si-Ni thin film diffusion couples, lateral silicide formation 7—21540
Si-$NiSi_2$(Pd_2Si)(PtSi), interface electronic states *(Chinese)* 7—58845
Si-Pd interface, silicide formation, in situ ellipsometric studies 7—21694
Si-Pd_2Si interface, at. struct., TEM obs. 7—63977
Si-Pt interfacial growth following Si chemisorption, intermixing, SEXAFS obs. 7—64772
Si-PtSi, interfacial metallurgical interactions, elec. characts., effect of H 7—52834
Si-PtSi thin film Schottky diodes, barrier height meas. 7—64308
Si-silicide interface, Schottky barrier heights, size effect 7—52837
Si-silicide interfaces, electronic struct. 7—21972
Si-Sm Schottky barriers, elec. and struct. characts., 7—38675
Si-T(V) contacts, rectifying props. 7—2760
Si-Ti, native contamination layer effect on interface props. 7—17104
Si-Ti, Schottky barrier heights, 175 to 295K, silicide form. 7—38679
Si-Ti amorphous superlattice films, lateral photoeffect 7—45487
Si-Ti amorphous superlattice films, lateral photovoltage, wavelength dependence 7—45488
Si-Ti interface, laser irradiated, silicide formation 7—45079
Si-Ti thin-film superlattices, structure 7—38350
Si-Ti_xW_{1-x}, Schottky barrier heights, 175 to 295K, silicide form. 7—38679
Si-$TiSi_2$, $TiSi_2$ local epitaxial growth on Si (111), rapid thermal annealing, annealing ambient 7—33856
Si-Ti($CoSi_2$)-Al contacts, four-terminal resistor structs. for contact resist. determ. from end resist. meas. 7—38730
Si-Ti($TiSi_2$), Schottky barrier height investig. 7—2716
Si-transition metal interfaces, competing initial chemical reactions 7—21693
Si-W, buried conductor formation, low press. CVD W deposition on porous Si 7—32877
Si-W CVD film interaction, annealing, silicide formation 7—2390
Si-W interface, thermal behaviour rel. to silicide form. 7—16822
Si-W interfaces, microstruct. charactn. 7—16882
Si-W system, silicidation reaction suppression up to 1100°C 7—16821
Si-Yb interfaces, mixed valence of Yb, synchrotron radiation photoemission spectra, metal coverage and annealing temp. depend. 7—32966
a-SiGe:H,F/Pd(Au)(Ni), Schottky barrier height, internal photoemission meas. 7—45501
Si(111) with evaporated Al film, wire bondability 7—21710
SnO_2-n-Sb_2S_3-Al structures, polarization current relaxation and space charge 7—33090
SnO_2-Pd-Sb H_2 gas sensor insensitive to alcohol *(Japanese)* 7—56242
Ta_xCu_{1-x} amorphous thin-film diffusion barriers on GaAs, thermal and structural stabilities 7—52321
TaIr-GaAs Schottky barrier contacts 7—17102
$TaSi_2$ film form. by scanning electron beam annealing 7—21285
$TaSi_2$-Si interface, ion implanted, dopant diffusion, SIMS anal. 7—38271
Ti film on Si, heat treatment in O_2, N_2 or O_2/N_2, Ti silicides, TiO and TiN formation 7—65191
Ti/Si (111) interface, diffusion and silicide form. kinetics, XPS meas. 7—52308
Ti/Si interface, $TiSi_2$ formation by rapid thermal annealing 7—21707
Ti-Si interface, nucleation and growth of $TiSi_2$, influence of O_2 7—21541
Ti-Si interface, self-aligned Ti silicide formed by rapid thermalannealing 7—2391
Ti-Si thin films, silicide phase formation 7—21695
Ti-Si:As^+(P^+)(BF_2^+), $TiSi_2$ formation, ion implantation doping and masking oxide film effects 7—21708

semiconductor-metal boundaries continued
Ti-SiC interface, compositional depth profiles and intermixing, atom probe FIM study 7—32843
Ti-TiN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Zr-ZrN 7—38726
TiB_x plasma-enhanced CVD films on Si, furnace annealing, metallisation appls. 7—38411
$TiSi_2$ films on polysilicon, elec. resist., implications for low temp. appls. 7—58907
$TiSi_2$ formation by As^+ ion beam mixing and rapid thermal annealing 7—52153
$TiSi_2$ formation kinetics on Si (100) and Si (111) 7—38273
$TiSi_2$:B(P)(As) films on Si, impurity diffusion 7—7077
V/Si, silicide formation, comparison of SiO_2 and a-Si surface protection layers 7—58662
V-Ge(111) interface, temp. depend. intermixing, core level photoemission study 7—21542
W CVD films on Si substrate, growth kinetics and elec. props. 7—16909
W selective LPCVD layers on Si substrate, interfacial struct. 7—16883
W, selective LPCVD on Si substrate, elec. and struct. props. 7—17467
W-GaAs, Schottky contact, electrical and metallurgical studies 7—27422
W-Si, sputter deposition on Si (100), rapid thermal annealing 7—21548
W-Si multilayer structures, Auger depth profiles using a dual ion gun system 7—22429
W-Si system, selective deposition of W films on Si wafers, WSi_2 formation 7—21748
WSi_2-$TiSi_2$, bilayer, on Si, rapid thermal annealing 7—21549
WSi_x-GaAs interface, thermal stability 7—52302
WTi-Si barriers, modification by low energy Ar^+ ions 7—22433
Yb-Si (111) interface mixed valence behaviour, angle-integrated photoemission study 7—13327
ZnO, grain boundary inhomogeneity phenomena, microcontact meas. *(German)* 7—58893
Zr-ZrN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Ti-TiN 7—38726

semiconductor-metal-semiconductor structures *see semiconductor-metal boundaries*

semiconductor-metal transition *see electrical conductivity transitions; metal-insulator transition*

semiconductor processing *see semiconductor technology*

semiconductor quantum well lasers *see semiconductor junction lasers*

semiconductor quantum wells *see semiconductor superlattices*

semiconductor storage
MIS structure, carriers in insulator and at semiconductor-insulator interface, EEPROM appl. 7—2730
solid-state devices and materials, conf., Tokyo, Japan (Aug. 1986) 7—48173
AlAs-GaAs MIS capacitors, dynamic storage of holes 7—33071

semiconductor storage devices *see semiconductor storage*

semiconductor storage systems *see semiconductor storage*

semiconductor superlattices
2D systems, proceedings of Winter School, Mauterndorf, Austria (Feb. 1986) 7—48131
3D anisotropic system, surface states and quantum Hall effect 7—38700
p-AlGaAs/GaAs modulation-doped heterostruct., liq. phase epitaxy and carrier props. 7—33074
amorphous, carrier relax. processes *(Chinese)* 7—58864
amorphous compositionally modulated superlattices, growth and struct. 7—27168
amorphous semicond. multijunctions, charge carrier transport, theoretical anal. 7—38690
amorphous semiconductor superlattices, stochastic carrier transport props. *(Chinese)* 7—12791
amorphous semiconductors, conference, Palo Alto, CA, USA (April 1986) 7—29602
amorphous superlattices, mean free path and size quantisation 7—22003
APDs, impact ionisation, theory 7—12850
avalanche photodiodes, impact ionisation theory appl. 7—58886
band struct., nonparabolicity effects, Kane theory calcs. 7—2693
band structure, one-band approximation 7—12819
band structures of group IV and III-V materials, axial strain effects 7—2697
band structures of semiconductor superlattices with ultrathin layers *(Japanese)* 7—12824
boundary surface collective charge-density excitations 7—52776
bulk and surface plasma modes, band dispersion 7—33085
compositionally graded semiconductors and device applics., book contrib. 7—27323
compound semiconductor multilayered structure, cross-sectional obs. with TEM 7—2416
conduction band energy levels in superlattices with complex unit cells 7—27402
conference, Boston, MA, USA (Dec. 1985) 7—18508
doped, electromagnetic excitation of ultrasound 7—12213
doping superlattices, n-i-p-i crystals 7—7348
doping superlattices, physics and applications 7—52826
doping-modulated quasi-1D semiconductors, coherent polaron superlattices and long-range Coulomb forces 7—45184
double barrier reson. tunnelling, perpendicular quantum transport in superlattices 7—12811
dynamical phenomena at surfaces, interfaces and superlattices, summer school, Erice, Italy, (July 1984) 7—1
dynamical screening, quasi-2D electron gas, electron-phonon interactions 7—45464
effective mass eigenfunctions, well capture 7—38704
effective-mass superlattices, band struct. determ., comment 7—38442
electron-electron scatt. and mobilities, determ. 7—33003
electron-phonon scatt., Fohlich coupling 7—2681
electronic mobility in semiconductor heterostructures 7—7350
electronic props., calc. methods 7—27406
electronic props., review 7—27405
electronic states in semiconductor heterostructures 7—7307
envelope function calcs. 7—52818
evolution of semiconductor superlattices and quantum wells 7—7343
excitation diffusion and energy relax. 7—21792
excitons, optical props., size effect *(Japanese)* 7—12621
ferromagnetic superconductors, superlattices formed by coherent light beams 7—2622
graded gap, carrier transport calc. 7—12848

semiconductor superlattices continued
heavily doped, optical properties, plasma wave effects 7—64599
helicon wave propag., collision-induced instabilities study 7—2633
helicon wave quantised undamping 7—45466
heterostructures and superlattices in semiconductors, concepts and appls. 7—52779
heterostructures in amorphous semiconductor devices, characts. and appls. *(Japanese)* 7—52770
heterostructures with mass modulation in a magneticfield 7—7342
$Hg_{1-x}Mn_xTe$-HgTe dilute mag. semicond. superlattices, MBE growth and props. 7—13357
high-speed electronics, conf., Stockholm, Sweden (Aug. 1986) 7—52798
hole subband dispersion in strained/unstrained quantum wells 7—22000
hot electron diffusion study by Monte Carlo technique 7—45483
I-type, intersubband collective excitations *(Chinese)* 7—12804
II-VI semiconductors, low-temperature epitaxial growth, MBE and MOCVD 7—64906
III-V heterostructures, tunnelling, relevance to electronic devices 7—58885
III-V semiconductor, strained layer superlattice research developments 7—52766
III-V semiconductor quantum well structures, destruction mechanism due to impurity diffusion 7—63971
III-V semiconductor strained-layer effective-mass superlattices 7—7378
III-V semiconductor superlattices, pseudopotential approach to thermodynamic props. 7—7377
III-V semiconductor superlattices and quantum well structures, electronic props. 7—52817
III-V semiconductors, gas source MBE, review 7—33572
III-V semiconductors, MBE, surface effects and growth dynamics 7—58711
inelastic light scattering by electronic excitations in semiconductor heterostructures 7—13171
integral quantum Hall effect 7—2691
interface plasmon modes as collective electronic excitations 7—17081
inverse dielectric function, local field effects, spatial dispersion 7—52489
ion beam channelling, review 7—51902
ionic cryst.-semicond. superlattice interface excitations, classical anal. 7—52845
laser processing of high-tech materials at high irradiance, review 7—13342
lateral multiwire semiconductor superlattice, plasmon band struct. 7—38697
light absorpt. by free carriers, quasi-2D semiconducting superlattices 7—45968
local plasma oscillations of 2D electron gas 7—64120
magnetoroton bands 7—64335
MBE growth, quasi-gas transition layers 7—38379
MBE of semiconductor quantum wells and superlattices 7—59431
microstructure growth by MBE 7—7856
microstructures and microdevices, conf., Goteborg, Sweden (Aug. 1986) 7—35097
miniband structure, carrier transport props. 7—12849
models on the formation of semiconductor interfaces 7—52739
modulated semicond. structs., conf., Kyoto, Japan (Sept. 1985) 7—4630
modulation mass superlattice, negative resistance, quantum mechanical reflection 7—52763
MOVPE, conf., Universal City, CA, USA (Apr. 1986) 7—18477
MQW devices, physics, engineering and appls. 7—35120
MQW optical logic arrays, thermal crosstalk 7—38720
MQW structures, linear and nonlinear optical constants 7—64721
MQW waveguides, transmission characts., matrix method anal. 7—1261
multilayer structures, X-ray diffr. characterisation 7—51574
multiple quantum wells, optoelectronics for optical modulation and bistability 7—25952
multiple quantum wells and superlattices, refractive index, exciton effects 7—13115
multiquantum barrier, electron reflectance, theoretical study 7—7341
multispectral high efficiency solar cells, semicond. selection criterion 7—8399
n-i-p-i heterostructures, luminesc. and nonlinear optical props. 7—7756
optical absorpt. due to excitonic unbound states 7—64593
optical components appl. for improvement *(Swedish)* 7—1284
optical modulators and bistable devices using self-electro-optic effect 7—5990
parabolic semiconducting quantum wells, electrical and optical props. 7—22002
phonon-assisted tunnelling between two quantum wells, calc. 7—33073
phonons, acoustic and optic modes 7—12455
phonons at interfaces and superlattices, Green's function method 7—2340
picosecond electronics and optoelectronics, topical meeting, Lake Tahoe, NV, USA (Mar. 85) 7—41007
plasmon spectra in structures with periodic, quasiperiodic and random spacings 7—21842
plasmons, Raman spectra, EELS and finite-size effects 7—27392
polar semiconductors, quasi-2D, hot carriers 7—12807
quantum electronics, conf., San Francisco, CA, USA (June 1986) 7—48147
quantum heterostructure materials and devices 7—52786
quantum well heterostructures, intraband photocond. 7—64318
quantum well lasers—gain, spectra, dynamics 7—10935
quantum well Stark resonance, quasibound states, uniform electric field 7—45462
quantum well structs., 2-D thermopower studies 7—33081
quantum well structs., electric field effect for luminescence *(Japanese)* 7—13236
quantum well structure, electric-field-induced optical modulation, theory using Monte Carlo approach 7—17077
quantum well structures, electro-optic props., device applications *(Japanese)* 7—22223
quantum well structures, linear optical props. elec. field depend. waveguide electroabsorpt. and sum rules 7—13133
quantum wells, oscillator strengths of excitons 7—7375
quantum wells and superlattices, recent developments 7—17094
quantum-well heterostructures, photoconductivity 7—58889
quasi 2D quantum wells, linear and nonlinear electrical conduction 7—64331
quasi-3D systems, quantised Hall effect, scatt. theory calcs. 7—64333
resonant tunnelling current, self-consistent anal. 7—38685
review of advances in semiconductor superlattices, quantumwells and heterostructures 7—2701
semi-infinite type I, surface electronic collective excitation modes, ionised donor oscill. current effects 7—21837

semiconductor superlattices continued
semiconducting quantum well wires, hot electron transport 7—7356
Si-SiGe strained superlattices on Si substrates, MBE growth, characterisation, appl. for HEMT 7—27218
size-effect modulation laser, three-terminal, gain-switching characts., fast transient response 7—10936
solid-state devices and materials, conf., Tokyo, Japan (Aug. 1986) 7—48173
spectroscopy of 2D plasmas in semiconductor heterojunctions 7—2702
strained layer superlattice interfaces, Monte Carlo stability anal. 7—27165
strained layer superlattices, electronic and optical props. 7—7359
strained layer superlattices, symposium, Annandale, NJ, USA (June 1986) 7—48150
strained-layer superlattices: a brief review 7—7347
strained-layer superlattices, review *(Japanese)* 7—52771
structural characterization of superlattices by X-ray diffraction 7—52805
structure, EXAFS studies 7—12509
surface acoustic soliton, anal. 7—63938
surface EM waves, amplification 7—17075
surface plasmons obs. 7—52777
synthesis by MBE *(Japanese)* 7—12544
tunnelling-assisted impact ionisation rate calcs., analytical approx. 7—64324
two-dimensional carrier systems, parallel transport 7—52827
two-dimensional electronic systems, plasmons and intersubband resonances 7—52730
two-dimensional hole systems, magnetotransport *(Japanese)* 7—12826
two-dimensional Lennard-Jones strained layer systems, Monte Carlo stability anal. 7—2398
type I, memory function and dynamic conductivity in a mag. field 7—52775
type II, dielectric function inversion, explicit analytic results 7—52772
variably spaced multiquantum well struct., resonant tunnelling, Airy function approach calcs. 7—58878
vertical transport in multilayer semiconductor structures 7—38705
wide-gap II-VI superlattices 7—7346
(Al, Ga)As/GaAs undoped quantum wells, Al and Ga interdiffusion, photoluminesc. study 7—2271
(Al, Ga)As-GaAs superlattices, Si migration during MBE growth 7—27171
AlAs:Si films and AlAs:Si-GaAs:Si superlattices, MBE growth and electrical props. 7—22052
AlAs/GaAs superlattices, X-point excitons 7—33069
AlAs/GaAs superlattice/GaAs interface, inversion holes, long term storage 7—45442
AlAs/GaAs superlattice mixing induced by Si^+ implantation 7—58649
AlAs/GaAs:Si super-doped structs., short-period superlattice electrical and defect props. *(Japanese)* 7—7353
AlAs-GaAs superlattices, Si ion implantation, dose-dependent mixing 7—12500
AlAs-GaAs superlattice, Si^+implantation, depth dependent mixing 7—27032
AlAs-GaAs superlattices, disordering by Si and S implantation 7—45024
AlAs-GaAs superlattice, compositional disordering control by Ar ion implantation 7—51806
AlAs-GaAs superlattices, phase transitions under high press. 7—64016
Al_xGa_{1-x} As-GaAs multiple quantum wells, photoluminescence studies, press. depend. *(Chinese)* 7—13194
AlGaAs epitaxial layers and superlattices, X-ray diffr. analysis 7—21047
AlGaAs superlattice for visible laser diode, energy band structure *(Japanese)* 7—12823
AlGaAs superlattices, donor state instability, DLTS and Hall meas. 7—12663
AlGaAs:Si-GaAs 2D electron gas structure, scatt. mechanisms 7—38718
AlGaAs:Si(Zn), MOCVD, impurity induced disordering, quantum well laser fabrication and characts. 7—27934
AlGaAs/AlAs multiquantum-well structs., staggered band alignments 7—7361
AlGaAs/GaAs, abrupt heterojunction structures, large area uniformity, MOVPE reactor design 7—22524
AlGaAs/GaAs/AlGaAs selectively doped double heterojunction FET system, high mobility electron subband struct. studies 7—12838
AlGaAs-GaAs, band-gap discontinuity, determ. by quantum oscillations of photolum. intensity 7—13217
AlGaAs-GaAs, modulation doped heterostructs., high field transient transport 7—12836
AlGaAs-GaAs 2D electron gas structs., scatt. mechanisms 7—52783
(AlGa)As-GaAs DQW-SCH lasers grown by MOCVD, design, fabrication and characterisation 7—36990
AlGaAs-GaAs heterostructures, organometallic VPE grown, galvanomagnetic effect 7—12800
AlGaAs-GaAs MQW CCD spatial light modulators using electroabsorption effects 7—20407
AlGaAs-GaAs selectively doped heterostructures, orientation effect on contact resistance 7—38680
AlGaAs-GaAs superlattices, impurity electron states *(Japanese)* 7—12662
AlGaAs-GaAs superlattices, Si-Be co-doping, compositional disordering suppression, SIMS study 7—16878
AlGaAs-GaAs superlattices, Se (Si)(Mg)(Be) ion implantation, intermixing, residual damage 7—26782
AlGaAs-GaAs-Si, Be superlattices, correlation between Si diffusion and Si-induced disordering 7—38034
$Al_{0.23}Ga_{0.77}As$ multilayer structures, vertical transport 7—38719
$Al_{0.3}Ga_{0.7}As$/GaAs quantum wells, photocond. of confined donors 7—7282
$Al_{0.3}Ga_{0.7}As$-GaAs quantum well structure, electric-field-induced optical modulation, theory using Monte Carlo approach 7—17077
$Al_xGa_{1-x}As$ films and multilayer structures, MOCVD growth and characterisation, review 7—33586
$Al_xGa_{1-x}As$/GaAs, multilayer and superlattice structs., electronic subbands 7—58877
$Al_xGa_{1-x}As$-AlAs quantum well, magneto-optical absorpt. study 7—7681
$Al_xGa_{1-x}As$-GaAs layered structures, metal organic VPE grown, depth profiles, SIMS anal. 7—21684
$Al_xGa_{1-x}As$-GaAs superlattices, ion implanted, defect struct. 7—26783
$Al_yGa_{1-y}As$-AlAs heterojunctions, band discontinuities meas. 7—27407
AlGaInP, MOCVD, photolum., quantum wells, double heterostruct. laser appl. 7—39405
$Al_{0.4}Ga_{0.6}Sb$-GaSb-$Al_{0.4}Ga_{0.6}Sb$ MBE strained layer DH, optically pumped laser oscill. 1.6 to 1.8 μm 7—5888
AlInAs-GaInAS superlattices, electronic transport and depletion by tunnelling 7—27395

semiconductor superlattices continued
AlInAs-GaInAs superlattices, quantum photoconductivity, effective mass filtering 7—12847
$Al_{1-x}In_xAs$-GaAs strained layer superlattices, X-ray diffraction and excitation spectroscopy studies 7—12853
AlSb-GaSb superlattices, low-temp. growth by plasma process *(Japanese)* 7—7061
AlSb-GaSb superlattices, X-ray diffr. analysis 7—21047
(Cd,Mn)Te quantum well structure, wide-gap II-VI superlattices 7—7346
$Cd_xHg_{1-x}Te$, abrupt interfaces using thermal and photo-MOVPE, Hall meas. 7—27917
$Cd_{0.8}Mn_{0.2}Te/Cd_{0.7}Mn_{0.3}Te$ semimagnetic superlattices, electronic props., theory 7—45445
$Cd_{1-x}Mn_xTe$-$Cd_{1-y}Mn_yTe$ superlattices, electron diffr. using partially coherent illumination 7—37807
CdTe/(Cd,Mn)Te superlattice, optical props. heterointerface effects 7—7736
CdTe/ZnTe superlattice, quasi-2-D excitons in strongly localised regime 7—12617
CdTe-(Cd,Mn)Te MQW, optical and magnetooptical props. 7—13137
CdTe-$Cd_{0.6}Mn_{0.4}Te$ superlattices, high resolution electron microscope study 7—27162
CdTe-CdMnTe, quantum wells, excitons and kinetics 7—12622
CdTe-CdMnTe superlattices, photoluminesc. props. 7—13218
CdTe-HgTe superlattices, IR material characterisation, transport phenomena anal. 7—64338
Ga-As-AlGaAs superlattice, laser induced disordering and Si impurity incorporation 7—45018
GaAS-GaAlAs MQW waveguides, nonlinear propag. 7—26033
GaAlAs/GaAs, semicond. superlattice heterojunction interface, SIMS anal. *(Japanese)* 7—2396
GaAlAs-GaAs epitaxial superlattice, X-ray double crystal characterisation, rocking curves calc., computer simulation technique 7—58105
GaAlAs-GaAs MQW structure, compositional fluctuations, STEM/EDX microanal. 7—45077
GaAlAs-GaAs quantum well superlattices, applied electric field, quasi-eigenstates and eigenenergies, determ. 7—33072
GaAlAs-GaAs superlattice, Auger sputter depth profiling 7—21254
GaAlAs-GaAs superlattice struct., dynamic SIMS profiles 7—22417
$Ga_{0.65}Al_{0.35}As$-GaAs quantum wells, elect. field-induced decrease of exciton lifetimes 7—45481
$Ga_{0.8}Al_{0.2}As$-GaAs-$Ga_{0.8}Al_{0.2}As$ quantum well structs., electroreflectance spectra, model 7—33365
$Ga_{1-x}Al_xAs$-GaAs-$Ga_{1-x}Al_xAs$ heterostructures, tunneling through indirect-gap barriers 7—21999
$Ga_{1-x}Al_xAs$ and GaAs multilayer structures, metalorganic MBE growth 7—7860
$Ga_{1-x}Al_xAs$-GaAs quantum wells, diamag. shift of exciton energy levels 7—21824
$Ga_{1-x}Al_xAs$-GaAs-$Ga_{1-x}Al_xAs$ quantum well, donor ion dielec. response 7—45417
GaAlAsGaAs quantum well heterostructures, grown by MOCVD, props. 7—45479
$Ga_{1-x}Al_xAs$—GaAs superlattice, exciton CW-photoluminesc., excitation intensity depend. 7—59252
GaAs bulk and MQW structures, nonlinear channel waveguides 7—57553
GaAs doping superlattices, optically induced absorpt. modulation 7—7713
GaAs doping superlattices, efficient room temp. electroluminescence, tunability 7—27782
GaAs doping superlattices, temp. depend. of tunable lumin. 7—39182
GaAs doping superlattices, pulsed and CW photoluminescence obs. 7—46138
GaAs doping superlattices, photoreflectance 7—53368
GaAs epilayers, MOCVD on Si for solar cell appls. 7—27928
GaAs etalons, pulsed optical logic 7—57412
GaAs highly doped quantum wells, mobility enhancement 7—64325
GaAs, MBE growth, defect reduction using superlattice structures 7—13359
GaAs MOCVD growth on Si with superlattice intermediate layers, material props. 7—27923
GaAs metalorganic MBE 7—53601
GaAs modulation-doped heterostructs., quantum transport effects 7—52767
GaAs multiple quantum wells, charge-carrier dynamics, contactless microwave photocond. meas. 7—21998
GaAs, multiple quantum wells, absorption-induced optical bistability 7—57444
GaAs n-i-p-i doping superlattices, selective contacts, MBE growth through shadow mask 7—13356
GaAs quantum wells, electron interference effects, obs. of bound and reson. states 7—64334
GaAs quantum wells, hot-carrier phonon interactions, steady-state and picosecond meas. 7—12837
GaAs quantum wells, n-modulation-doped, negative absolute mobility of holes 7—7337
GaAs quantum wells, optical high-field transport expts. 7—52638
GaAs quantum-well wire hydrogenic impurity state binding energy and lowest exciton state lum. efficiency calc. 7—2683
GaAs sawtooth doping superlattices, prep., LED and laser appls. 7—7372
GaAs sawtooth doping superlattices, photoluminescence, transport props. 7—52825
GaAs superlattice solar cell structure with high efficiency and radiation tolerance 7—8414
GaAs ultrafast all-optical logic gate based on MQW bistable device 7—57415
GaAs:Si/AlAs multiquantum well structs., band struct. and photolum. studies 7—12843
GaAs:Si(B)-$Ga_{0.25}Al_{0.75}As$:Si(B) quantum wells, ion implanted, TEM and photolum. studies 7—58865
GaAs/$Al_{0.38}Ga_{0.62}As$ lattice-matched superlattice photoelectrochem. electrodes, photocurrent spectra 7—45377
GaAs/$Al_{1-x}Ga_xAs$ modulation-doped heterostructs., 2D electron gas mobility meas. and calcs. 7—12840
GaAs/$Al_xGa_{1-x}As$, superlattices, layered electron gas plasmons, Raman scatt., Green's functions calcs. 7—17313
n-GaAs/$Al_xGa_{1-x}As$ multilayer heterostructs., nonlinear high-freq. effects during vertical transport 7—2694
GaAs/$Al_xGa_{1-x}As$ modulated structs., MBE growth kinetics, RHEED studies 7—7066
GaAs/$Al_xGa_{1-x}As$ modulation doped heterostruct., high temp. annealing effects *(Chinese)* 7—12805

semiconductor superlattices continued
GaAs/$Al_xGa_{1-x}As$ MBE grown superlattices, effect of barrier config. and interface quality on props. 7—52790
GaAs/$Al_xGa_{1-x}As$ quantum-well bound states, valence-band offsets 7—7313
GaAs/$Al_xGa_{1-x}As$ quantum well structs., MOVPE growth chemistry 7—22550
GaAs/$Al_xGa_{1-x}As$ superlattices, magnetophonon oscills. damping, polar-optical phonon contrib. calcs. 7—27391
GaAs/$Al_xGa_{1-x}As$ superstructure, TEM images, composition anal. by thickness fringes, simulation 7—38353
GaAs/$Al_xGa_{1-x}As$ superlattices, optical transitions involving unconfined states, barrier width depend., photolum. spectra 7—52773
GaAs/AlAs 1-D MBE superlattice, struct. parameters, X-ray double cryst. diffr. studies *(Chinese)* 7—12503
GaAs/AlAs doped quantum well waveguides, IR intersubband absorpt. 7—59192
GaAs/AlAs MBE superlattice, interface struct., HREM study 7—17096
GaAs/AlAs MQW structures, life-time-free switching of luminescence by elec. fields 7—52791
GaAs/AlAs MQW structure, exciton-induced dispersion of electroreflectance at room temp. 7—53277
GaAs/AlAs quantum wells, photoexcited transport 7—2674
GaAs/AlAs quantum well structures, electroreflectance spectra and field-induced refractive index modulation 7—13135
GaAs/AlAs single quantum well heterostructures confined by short-period superlattices, photoluminesc. 7—22296
GaAs/AlAs superlattice, optical phonons and interface thickness, Raman scatt. studies 7—7705
GaAs/AlAs superlattices, electronic band structure, pseudopot. method calc. 7—17084
GaAs/AlAs superlattices, folded acoustical Raman line intensities 7—46050
GaAs/AlGaAs modulation doped heterostructs., transport props. studies 7—52752
GaAs/AlGaAs multi-quantum well heterostructures, optical gain, well width depend 7—46130
GaAs/AlGaAs multiple quantum well structures, hot-carrier relaxation, femtosecond optical meas. 7—52750
GaAs/AlGaAs multiple-quantum-well structures, shallow donors, far infrared spectroscopy 7—39121
GaAs/AlGaAs quantum wells, MBE growth and energy levels, photoluminescence meas. 7—7067
GaAs/AlGaAs quantum wells and double heterostruct. lasers, chemical beam epitaxy, photolum. 7—22523
GaAs/AlGaAs quantum well structures, MOCVD growth, photolum., TEM obs. 7—27929
GaAs/AlGaAs quantum wells, Monte Carlo study of hot electron transport 7—52804
GaAs/AlGaAs superlattice, compositional disordering by focused ion beams 7—6695
GaAs/AlGaAs superlattices, Si implanted, compositional disordering, SIMS studies 7—12091
GaAs/AlGaAs superlattices, hydrogenic impurity ground level wave function calcs., variational procedure 7—12664
GaAs/AlGaAs superlattice heterostructures, MBE on nonplanar substrates 7—59425
GaAs/AlGaAs superlattices, valence band electronic struct., pseudopot. calcs. 7—64339
GaAs/$Ga_{1-x}Al_xAs$ graded interface superlattice band struct. calcs. 7—58879
GaAs/$Ga_{1-x}Al_xAs$ multilayered structures, polariton dispersion relations 7—7125
GaAs/$Ga_{1-x}Al_xAs$(AlAs), short period superlattices, MOCVD growth, Raman scatt., AES, X-ray diffr. 7—27386
GaAs/GaAlAs disordered superlattices, carrier localisation obs. 7—12818
GaAs/GaAlAs double-well superlattice, ultra-fast optical modulator 7—52801
GaAs/GaAlAs graded gap superlattices, high velocity vertical transport 7—52802
GaAs/GaAlAs heterostruct. laser with monolayer superlattice, threshold currents 7—62698
GaAs/GaAlAs planar MQW structure, nonlinear coupling of guided waves 7—11106
GaAs/GaAlAs quantum-well structures, optical time-of-flight investigation 7—52800
GaAs/GaAlAs superlattice, optical phonons and interface thickness, Raman scatt. studies 7—7705
GaAs/GaAlAs superlattice structs., metalorganic MBE growth 7—7864
GaAs/GaAlAs ultrathin layer systems, MOCVD growth and struct. props. 7—7063
GaAs/n-AlGaAs MBE-grown selectively doped heterostructs., 2D electron gas, transport props. 7—21988
GaAs-$Al_{0.37}Ga_{0.63}As$ quantum wells, photolum. studies, MBE growth, effect of interruption 7—39150
GaAs-$Al_{0.44}Ga_{0.56}As$ quantum wells, MBE grown, tunnelling assisted photon emission, photoluminescence meas. 7—46120
GaAs-$Al_{0.4}Ga_{0.6}As$, intrabarrier recomb., luminesc. spectra anal. 7—53387
GaAs-$Al_xGa_{1-x}As$, multiple quantum well structs., expansion of electron-hole plasma, time-resolved Raman studies 7—22258
GaAs-$Al_xGa_{1-x}As$-AlAs, p-type quantum wells, resonant Raman scatt. 7—22259
GaAs-$Al_xGa_{1-x}As$, internal photoemission method for determ. of band offsets 7—12832
GaAs-$Al_xGa_{1-x}As$, superlattices, carrier behaviour, mag. field effect 7—45449
GaAs-$Al_xGa_{1-x}As$, modulation-doped quantum wells, photoabsorpt., electronic props. 7—64330
GaAs-$Al_xGa_{1-x}As$ (001) superlattices, periodicity, charge density and zone folding effects 7—2685
GaAs-$Al_xGa_{1-x}As$ multiple quantum well, electron-phonon interaction 7—2684
GaAs-$Al_xGa_{1-x}As$ multiple quantum well structs., nonequilib. LO phonons 7—12457
GaAs-$Al_xGa_{1-x}As$ modulation-doped structure, parallel cond. in quantum limit 7—12808
GaAs-$Al_xGa_{1-x}As$ multiple-quantum-well struct., electron heating below 1K 7—12817
GaAs-$Al_xGa_{1-x}As$ MBE superlattices, low temp. photoluminesc. spectra 7—22340

semiconductor superlattices continued
- GaAs-Al_xGa_{1-x}As MQW and superlattice structures, for IR reflectivity 7—27724
- GaAs-Al_xGa_{1-x}As multiple heterostructures, variable angle of incidence spectroscopic ellipsometry 7—39055
- GaAs-Al_xGa_{1-x}As MOCVD quantum well structures, time-resolved photolum. 7—53410
- GaAs-Al_xGa_{1-x}As quantum well structure, recomb. dynamics, photolum. obs. 7—12809
- GaAs-Al_xGa_{1-x}As quantum wells, homogeneously broadened 2D excitonic transitions, optical dephasing 7—45461
- GaAs-Al_xGa_{1-x}As quantum wells, photoreflectance spectra, hydrostatic press. 7—52784
- GaAs-Al_xGa_{1-x}As quantum wells, doubly reson. LO phonon Raman scatt., photoluminescence spectra 7—53327
- GaAs-Al_xGa_{1-x}As superlattice, composition anal., electron microscopy studies 7—7028
- GaAs-Al_xGa_{1-x}As semicond. superlattice, exciton transitions study 7—52432
- GaAs-Al_xGa_{1-x}As superlattice, dimensionality of subbands, plasmon dispersion 7—52765
- GaAs-Al_xGa_{1-x}As superlattices, integer quantum Hall effect at microwave frequencies 7—52820
- GaAs-Al_xGa_{1-x}As superlattice, hole subbands *(Chinese)* 7—58873
- GaAs-Al_xGa_{1-x}As superlattices, electronic and optical props., alloying and press. effects 7—64327
- GaAs-Al_xGa_{1-x}As type I superlattices, electronic struct., tight binding calcs. 7—45475
- GaAs-AlAs, mixing, ion implantation, rapid thermal annealing, Raman scattering 7—53355
- GaAs-AlAs Al_xGa_{1-x}As-AlAs, multi quantum well structs., picosecond spectra. 2D excitons 7—13215
- GaAs-AlAs alternate monolayer compounds structures, MBE growth 7—21716
- GaAs-AlAs device structs., MBE prep. using In-free mounting techniques 7—3183
- GaAs-AlAs MBE MQW struct., photoluminesc. spectra *(Chinese)* 7—59240
- GaAs-AlAs MQW structures, Ga^+ ion implantation defects 7—44585
- GaAs-AlAs multiple quantum wells, photoconductivity, photoreflectance and photolum. meas. 7—27368
- GaAs-AlAs short period superlattice, photoexcited carriers, dynamics 7—53402
- GaAs-AlAs superlattice struct., lithographic fabrication of TEM cross-sections 7—370
- GaAs-AlAs superlattices, acoustic and electronic props. 7—6730
- GaAs-AlAs superlattices, 2D excitons, magneto-optical study *(Japanese)* 7—13139
- GaAs-AlAs superlattice, energy bands, cohesive energy, form. energy, self-consistent calcs. 7—21995
- GaAs-AlAs superlattices, Se implantation, effect on compositional disordering 7—26784
- GaAs-AlAs superlattices, folded acoustic branches, leakage-induced and disorder-activated modes 7—33389
- GaAs-AlAs superlattices, confined longitudinal and transverse phonons, phonon spectrum calc. 7—38142
- GaAs-AlAs superlattices, Raman scattering finite size effects 7—39105
- GaAs-AlAs superlattices, GaAs and AlAs, energy band gap calc., self-interaction correction to local density approx. 7—45144
- GaAs-AlAs superlattices, lattice dynamics 7—52220
- GaAs-AlAs ultra-thin layer semicond. superlattices, energy band and stable structs. study 7—52789
- GaAs-AlAs(InAs) superlattices, lattice distortions 7—12510
- GaAs-AlGaAs, electronic props. 7—27405
- GaAs-AlGaAs, high quality MOVPE quantum wells, optical props. 7—53406
- GaAs-AlGaAs, multiple quantum well structs., 2s state, excitons, luminesc. study 7—22337
- GaAs-AlGaAs and GaAs-AlAs quantum well structs., resonant Raman scatt., depend. on electric field 7—7707
- GaAs-AlGaAs DFB struct. with multiquantum well for surface emitting laser 7—10939
- GaAs-AlGaAs extended state superlattices, shallow donor state transition energies 7—33082
- GaAs-AlGaAs heterointerface, band offsets, overview 7—12831
- GaAs-AlGaAs heterostructures, 2D electron system, collective excitations, light scatt. *(Japanese)* 7—12633
- GaAs-AlGaAs MQW optical NOR gate, exciton and carrier dynamics, time resolved obs. 7—50628
- GaAs-AlGaAs MQW structures, MBE grown, material parameters meas. 7—38721
- GaAs-AlGaAs modulation-doped quantum wells, photolum., giant oscillations, influence of mag. fields 7—7751
- GaAs-AlGaAs modulation-doped heterointerface, photoluminescence spectra studies 7—46137
- GaAs-AlGaAs multiple quantum wells, temp. depend. of photoreflectance 7—7753
- GaAs-AlGaAs multiple quantum well structs., photolum. under high laser excitation 7—13213
- GaAs-AlGaAs quantum wells, high electric field, interband transitions, photocurrent spectra obs. 7—7289
- GaAs-AlGaAs quantum well heterostructures, spectroscopy of excitons and phonons 7—7706
- GaAs-AlGaAs quantum wells, Stark shifts for heavy- and light-hole levels, well size depend. 7—12794
- GaAs-AlGaAs quantum well structs., luminesc. from 2s heavy hole exciton, low temp. 7—22338
- GaAs-AlGaAs quantum well heterostruct. devices, atm. press. MOVPE growth 7—22574
- GaAs-AlGaAs quantum wells, MBE grown, photolum. study 7—27758
- GaAs-AlGaAs quantum wells, hot electrons, Monte Carlo study 7—38708
- GaAs-AlGaAs quantum wells, field-induced lifetime enhancements, ionisation of excitons 7—39181
- GaAs-AlGaAs quantum wells, electron-phonon scatt. rate reduction by total spatial quantisation 7—45482
- GaAs-AlGaAs quantum wells, FIR studies of shallow donors 7—52819
- GaAs-AlGaAs superlattice, surface and interface optical phonons, EELS studies 7—6955
- GaAs-AlGaAs superlattice, lattice images, high contrast TEM obs. 7—7027
- GaAs-AlGaAs superlattices, band structure of holes *(Japanese)* 7—12825

semiconductor superlattices continued
- GaAs-AlGaAs superlattices and superstructures, growth by metal organic CVD *(Japanese)* 7—13386
- GaAs-AlGaAs superlattice defects, DLTS study 7—21854
- GaAs-AlGaAs superlattices, electronic props., calc. methods 7—27406
- GaAs-AlGaAs superlattice, hot electrons, real space transfer effect, photolum. studies 7—39180
- GaAs-AlGaAs superlattices, magnetotransport 7—45471
- GaAs-$Ga_{0.3}Al_{0.7}$As quantum wells, uniaxial stress depend. of spatially confined excitons 7—33078
- GaAs-$Ga_{1-x}Al_x$As superlattices and heterojunctions, electronic struct. 7—12821
- GaAs-$Ga_{1-x}AL_x$As superlattices, shallow impurity state binding energies 7—45416
- GaAs-$Ga_{1-x}Al_x$As, semiconductor superlattice, effective mass, mag. quantisation influence 7—52754
- GaAs-$Ga_{1-x}Al_x$As 2D quantum well heterostructures, magneto-impurities, mag. field and press. effects 7—52728
- GaAs-$Ga_{1-x}Al_x$As heterojunction, 2D electron and hole mobilities 7—7350
- GaAs-$Ga_{1-x}Al_x$As modulation-doped quantum well, photoluminesc. studies 7—2687
- GaAs-$Ga_{1-x}Al_x$As multiple quantum wells, intrinsic and extrinsic photolum. 7—39183
- GaAs-$Ga_{1-x}Al_x$As multiple well heterostructures, far IR absorpt. by shallow donors 7—45458
- GaAs-$Ga_{1-x}Al_x$As quantum well structures, energy spectra of donors and acceptors, spatially dependent screening effects 7—45459
- GaAs-$Ga_{1-x}Al_x$As quantum wells, with indirect gas semicond. barriers, electron tunnelling 7—64340
- GaAs-$Ga_{1-x}Al_x$As superlattices, optical props. 7—3007
- GaAs-$Ga_{1-x}Al_x$As superlattices, Brillouin scatt. 7—3063
- GaAs-$Ga_{1-x}Al_x$As superlattice localised states in barrier 7—17079
- GaAs-$Ga_{1-x}Al_x$As superlattice, plasmon propagation across layers 7—27276
- GaAs-$Ga_{1-x}Al_x$As superlattices, in appl. elec. field, interband optical transitions 7—53274
- GaAs-GaAlAs, modulation doped heterostructures, spectroscopy of 2D plasmas 7—2702
- GaAs-GaAlAs, multiple quantum well struct., transient photoconductivity characterisation 7—52692
- GaAs-GaAlAs, quantum well wires and boxes, optically detected carrier confinement, cathodolum 7—39188
- GaAs-GaAlAs fast MQW absorber for mode locking of semicond. lasers. 7—50655
- GaAs-GaAlAs heterojunctions, fractional quantum Hall effect obs. 7—52821
- GaAs-GaAlAs MQW optical waveguides, nonlinear props. 7—37027
- GaAs-GaAlAs MQW structures, exciton-exciton interaction 7—52439
- GaAs-GaAlAs MQW ultrafast all-optical gate with subpicosecond ON and OFF response time 7—11026
- GaAs-GaAlAs modulation doped quantum wells, hot carrier energy relax., time resolved photoluminescence spectra 7—52828
- GaAs-GaAlAs multilayer structures, Auger depth profiles using a dual ion gun system 7—22429
- GaAs-GaAlAs multiple quantum well structs., quasi-2D electron-hole plasma, band-filling effects, band gap renormalisation 7—7754
- GaAs-GaAlAs multiple quantum well structs., band-gap renormalisation 7—58888
- GaAs-GaAlAs passive MQW waveguide resonators, all-optical switching effects, expt. study 7—15967
- GaAs-GaAlAs quantum wells, exciton binding energy, magneto-optical determ. 7—7752
- GaAs-GaAlAs quantum wells, extrinsic photolum. 7—7755
- GaAs-GaAlAs quantum well structs., recomb. dynamics of carriers 7—12830
- GaAs-GaAlAs quantum wells, excitonic coupling in elec. field, photolum. spectra 7—64094
- GaAs-GaAlAs superlattice, electronic struct., envelope function approx., phonon limited mobility, Boltzmann eqn. 7—2698
- GaAs-GaAlAs superlattice, mag. levels 7—52476
- GaAs-GaAlAs superlattice structs., impact ionisation coeff., lucky drift model 7—52793
- GaAs-GaAlAs superlattices, electron states in microstructs. 7—52807
- GaAs-GaAlAs superlattices, density of states of Landau levels, sp. ht., magnetisation meas. 7—52823
- GaAs-GaAlAs:Si modulation doped quantum wells, electron mobility, temp. depend. 7—45473
- GaAs-In_xGa_{1-x}As strained layer superlattices, photolum. microimaging of dislocations 7—27161
- GaAs-InAs strain layer modulated structures, MBE grown, cross-sectional TEM 7—7032
- GaAs-InAs superlattice, reflection electron diffraction intensity oscillation 7—7030
- $GaAs_{1-x}Al_x$As MQW, MOCVD grown, excitons, photoluminescence spectra 7—38702
- $(GaAs)_{28}(AlAs)_{24}$ superlattices, lattice distortion, X-ray diffr. studies 7—63974
- GaAsP-GaAs(P) strained-layer superlattices, MOCVD and device prep. 7—7876
- $GaAs_{1-x}P_x$:Be^+-GaP:Be^+ strained-layer superlattices, ion implantation doping, structural study 7—38030
- $GaAs_{1-x}P_x$:Be^+-GaP:Be^+ strained layer superlattices, ion implantation doping, optical and elec. props., device appls. 7—44583
- GaInAs-InP, quantum well structures, adduct MOVPE, photolum., magnetoresist charactn. 7—27388
- GaInAs-InP epitaxial superlattice, X-ray double crystal characterisation, rocking curves calc., computer simulation technique 7—58105
- GaInAs-InP quantum well, CESR of 2D electrons 7—38941
- $Ga_{0.3}In_{0.7}$As-InP strained layer superlattice, inter-band magneto-absorption 7—45998
- $Ga_{0.47}In_{0.53}As/Al_{0.7}In_{0.3}As$ superlattices, electronic struct., strain-induced elec. field effects 7—7358
- $Ga_{0.47}In_{0.53}As/Al_{0.48}In_{0.52}As$ quantum well, interband magnetoabsorpt. meas., effective mass determ. 7—17088
- $Ga_{0.47}In_{0.53}As/Al_{0.48}In_{0.52}As$ superlattices grown by MBE, structural charactn. 7—52792
- $Ga_{0.47}In_{0.53}$As-InP quantum wells, photocurrent and dark current, multiple steps obs. 7—12796
- $Ga_{0.47}In_{0.53}$As-InP superlattices, MOCVD grown, room temp. excitons 7—21986

semiconductor superlattices continued
$Ga_{1-x}In_xAs$-$Al_{1-y}In_yAs$ superlattices, electronic struct., depend. on growth axis 7−64329
$Ga_xIn_{1-x}As/Al_xIn_{1-x}As$ MBE grown superlattices, effect of barrier config. and interface quality on props. 7−52790
$Ga_xIn_{1-x}As/GaAs$ heterostructures, low press. MOVPE, photolum., Auger profiling 7−27389
$Ga_xIn_{1-x}As$-GaAs strained layer superlattices, low temp. photolum. 7−53407
GaInAs(P)-InP heterostructures, gas source MBE growth 7−53598
GaInP-AlGaInP-GaAs heterostructures, MOVPE, Hall effect, photolum. 7−39401
$Ga_xIn_{1-x}P/Al_yGa_{1-y}As$ heterostructures, OMVPE, photolum., lattice matching 7−39402
GaP: Te(Zn), doping superlattices, growth and props. 7−64684
GaP-$GaAs_xP_{1-x}$ strained layer superlattices, photolum. microimaging of dislocations 7−27161
$GaP_{0.2}AS_{0.8}$ strained-layer superlattice, low-temp. pressure-depend. magneto-optic meas. 7−12793
$GaSb/Al_xGa_{1-x}Sb$ MBE grown superlattices, effect of barrier config. and interface quality on props. 7−52790
GaSb-$Al_xGa_{1-x}Sb$ multi quantum wells, excitons, electric field effect, photocurrent spectra obs. 7−7288
GaSb-AlSb multiple quantum well structs., size-induced direct to indirect gap transition 7−7373
GaSb-AlSb quantum wells, optical transitions, obs. 7−46086
GaSb-AlSb quantum-well structures, $2E_g$ transitions 7−46128
GaSb0-AlSb quantum wells, nonparabolic behaviour under hydrostatic press. 7−64328
Ge:H-Si:H amorphous superlattices, electrical transport 7−7336
Ge-Si alloys, strained layer epitaxy, review of developments 7−52343
Ge-Si superlattices, structurally induced optical transitions, electroreflectance spectra 7−59184
GeSi-Si strained layer superlattices, growth using limited reaction processing 7−39430
GeSi-Si strained superlattices, order-disorder transitions, obs. 7−27166
GeSi-Si strained-layer superlattices, elastic relax. effects on TEM 7−52378
GeSi-Si superlattice, strain-induced order-disorder transition 7−21437
Ge_xSi_{1-x}/Si, use to improve quality of Si heteroepitaxy on CaF_2-Si 7−22497
Ge_xSi_{1-x}-Si multilayers, MBE grown, thermally annealed, Ge diffusion, strain relax., ion channelling, backscattering anal. 7−6896
Ge_xSi_{1-x}-Si strained layer superlattices, bandgap meas. 7−27408
Ge_xSi_{1-x}-Si strained-layer heterostructure, transport, optical props. and appls. 7−7349
Ge_xSi_{1-x}-Si strained-layer superlattice, zone folding induced quasi-direct gap, optical absorpt. probability 7−27409
Ge_xSi_{1-x}-Si structures, epitaxial growth 7−39387
$Hg_{1-x}Cd_x(Mn_x)Te/CdTe$ superlattices, twin faults, X-ray obs. 7−45036
HgCdTe materials for infrared detectors, prep. techniques 7−64019
$Hg_{1-x}Cd_xTe/CdTe$ superlattices, MBE growth and props. 7−53602
HgTe based superlattice, MBE growth and props. 7−7345
HgTe-CdTe, IR photolum. by Fourier transform spectroscopy 7−46134
HgTe-CdTe superlattices, cut-off wavelengths meas. 7−3030
HgTe-CdTe superlattices, growth of GaAs (100) substrates by MBE 7−12520
HgTe-CdTe superlattices, present status, props. and applications *(Japanese)* 7−12829
HgTe-CdTe superlattice, semimetallic, band structure calc. 7−12851
HgTe-CdTe superlattice, IR magnetooptics and band struct. 7−13138
HgTe-CdTe superlattice, alloying, far IR study 7−13143
HgTe-CdTe superlattices, IR optical props. 7−13166
HgTe-CdTe superlattices, IR photoluminesc. spectra 7−13219
HgTe-CdTe superlattices, struct. characterisation 7−27164
HgTe-CdTe superlattices, electronic props., calc. methods 7−27406
p-HgTe-CdTe superlattices, magnetotransport props. 7−33076
HgTe-CdTe superlattices grown on lattice-mismatched GaAs substrates 7−52341
HgTe-CdTe superlattices, band struct., optical and magneto-optical studies 7−64337
In $As_{1-x}Sb_x$ epitaxial layers, MOCVD, strained-layer superlattices 7−39407
$In_{0.53}$ $Ga_{0.47}As$-InP, epitaxial single quantum wells, spectroscopy of excited states 7−46126
InAlAs/InGaAs modulation-doped heterostructs., 2D electron gas mobility meas. 7−12842
$In_{0.18}Al_{0.82}As$-GaAs strained layer superlattices, Raman studies 7−12854
$In_xAl_{1-x}As/GaAs$ strained-layer superlattices, effective mass reversal 7−17078
InAs/GaAs strained-layer superlattices, band struct., TEM, X-ray and photolum. spectra 7−38722
InAs-GaAs strained-layer superlattices, pseudo-alloy behaviour 7−7376
InAs-GaAs superlattices grown by beam-separation MBE, surface morphology and elastic strain 7−7031
InAs-GaSb superlattices, transient photovoltaic effect 7−12764
InAs-GaSb superlattice, band offset press. depend., magneto-optical studies 7−38698
InAs-GaSb superlattices, band line-up under hydrostatic press. 7−52782
InAs-GaSb thin film heterostruct., superlattice, electron transverse effective mass 7−21990
InGaAs strained-layer superlattices, valence-band nonparabolicity and tailorable hole masses 7−12798
InGaAs/InAlAs MQW pin diodes, room temp. current oscillations 7−45454
InGaAs/InAlAs multiple quantum well structs., nonlinear spectroscopy 7−1236
InGaAs/InP superlattices, effective mass filtering obs. 7−12799
InGaAs-GaAs, quantum well structs., p-type modulation doped, Hall effects, influence of built-in strain 7−7339
InGaAs-InAlAs MQW structure, anisotropic electroabsorpt. and optical modulation 7−13134
InGaAs-InAlAs multiple quantum wells, long wavelength optical modulation, electro-optical effects 7−7677
InGaAs-InAlAs strained-layer superlattices, MBE grown, optical characterisation 7−13142
$In_{0.2}Ga_{0.8}As$-GaAs strained-layer superlattice, low-temp. pressure-depend. magneto-optic meas. 7−12793
$In_{0.53}Ga_{0.47}As$-$In_{0.52}Al_{0.48}As$ modulation-doped heterostructs., interface roughness scatt. 7−2678
$In_{0.53}Ga_{0.47}As$-InP, double-barrier structs., tunnelling 7−45446

semiconductor superlattices continued
$In_{0.69}Ga_{0.31}As$-InP strained-layer effective-mass superlattices 7−7378
$In_{1-x}Ga_xAs$, MOCVD, optical and elec. props. rel. to growth temp. 7−53613
$In_xGa_{1-x}As/In_yGa_{1-y}As$ and $(InAs)_m(GaAs)_n$ superlattices, MBE grown, optical studies 7−13221
$In_xGa_{1-x}As$-$In_yAl_{1-y}As$ superlattices, lattice-matched and lattice-mismatched, dislocation filtering 7−21671
InGaAsP/InP, semicond. superlattice heterojunction interface, SIMS anal. *(Japanese)* 7−2396
InGaAsP/InP multiquantum well layers, LPE, photolum., X-ray diffr. 7−53640
InGaAsP/InP superlattices, gas-source MBE grown, X-ray diffr. and TEM studies 7−32839
InGaAsP-InP, heterolaser struct., distributed feedback conditions, luminesc. spectra anal. 7−50561
InGaAsP-InP, quantum well wire, Auger recombination 7−7374
InGaP-InGaAlP MQW structs., room temp. excitons 7−58745
InP doping superlattices, nonlinear optical absorption 7−39069
InP-$Ga_{0.47}In_{0.53}As$ superlattice, electron and hole impact ionisation rates 7−17076
InP-InGaAs single quantum wells, transport and persistent photoconductivity 7−38709
PbS/PbTe 1D superlattice struct., X-ray diffr. patterns, coherent and heterophase scatt. 7−64733
PbSe-SnSe strained layer superlattice, prep. and struct. anal. 7−52301
PbSnEuTe, superlattices, prep. by hot wall epitaxy, props. *(Japanese)* 7−12546
PbTe doping superlattices, transport and magneto-optical props. 7−12852
PbTe-EuTe short period superlattices, props., appl. to laser diodes 7−52785
PbTe-$Pb_{1-x}Sn_xTe$ superlattice, quantum Hall effect 7−2682
PbTe-$Pb_{1-x}Sn_xTe$ superlattice, electronic structs., envelope pn. approx. 7−45465
PbTe-PbEuSeTe, compositional and doping superlattices, struct., electronic, optical and magnetooptical studies 7−53290
PbTe-PbEuTeSe multiquantum wells, electron-hole recomb., photolum. 7−13216
PbTe-PbSnTe compositional and doping superlattices, struct., electronic, optical and magnetooptical studies 7−53290
Si doping superlattices, anomalous mobility enhancement 7−7381
Si FEL, possibility of obtaining coherent short wave radiation 7−20237
a-Si films, superlattice structure, photo-CVD deposition; solar cell fabrication 7−59450
a-Si high quality films and superlattice solar cells, prep. method 7−46346
Si, LPE on patterned substrates, growth and characterisation 7−22599
Si MBE, review 7−33573
Si quantum well struct., 2D electron gas, transport props. 7−52774
a-Si solar cells, fabrication methods using UHV reaction chamber system, high conversion efficiency 7−54293
Si substrates, props. *(Dutch)* 7−52755
Si superlattice structs. using MBE *(German)* 7−64317
a-Si:H, C superlattice struct., solar cell performance 7−46945
a-Si:H,B/a-Si:H,P doping modulated superlattice, photo-induced excess conductivity 7−17051
a-Si:H,F/a-Si,Ge:H,F superlattices, elec. transport studies 7−38716
a-Si:H,F-$Si_{0.4}Ge_{0.6}$:H,F superlattices, carrier scatt., optical absorpt. study 7−38711
a-Si:H doping modulated films, photocond., carrier separation effects 7−38641
a-Si:H doping modulated multilayers, light-induced excess conductivity 7−38643
a-Si:H doping modulated superlattices, light-induced excess cond., deposition effects 7−27410
a-Si:H doping superlattice interface struct. charactn. 7−58652
a-Si:H high efficiency p-i-n solar cells using superlattice p-layers 7−23177
a-Si:H modulation doped multilayers, persistent photocond. studies 7−38642
a-Si:H modulation doped multilayers, planar and perpendicular cond. meas. 7−38717
a-Si:H multilayer films, charge transfer doping, cond., photocond. meas. 7−38735
a-Si:H/Ge:H superlattice struct., light absorption and photocond. studies 7−38715
a-Si:H/a-$Si_{0.2}C_{0.8}$:H superstructures, hot electron conduction 7−45453
a-Si:H/a-$Si_{1-x}C_x$:H superlattices, glow-discharge deposition 7−7879
a-Si:H/a-Si_3N_4:H superlattices, plasma deposition methods 7−39439
a-Si:H/a-SiGe:H multilayers, reactive deposition 7−33592
a-Si:H/a-SiN_x:H, amorphous multilayer structures, optical props. 7−3014
a-Si:H/a-SiN_x:H interface system, struct. and electronic props. 7−38361
a-Si:H/a-SiN_x:H superlattices, interface struct., optical reflectance determ. 7−12497
a-Si:H/a-SiN_x:H superlattices, interface defects and disorder 7−52306
a-Si:H/*a*-SiN_x:H superlattice interface struct. charactn. 7−58652
a-Si:H/a-SiN_x:H superlattice films, prep., struct., and optical props. *(Chinese)* 7−58676
a-Si:H/a-SiO_2:H superlattice micropores, pyrene molecules adsorption and confinement 7−27112
a-Si:H/a-$SiO(N)_x$:H multilayer films, interface electroabsorpt. meas. 7−2689
Si:H-$Si_{1-x}C_x$:H amorphous super struct., hot electron generation 7−52794
a-Si:H-SiN_x:H, multilayer struct. study using HREM 7−16879
a-Si:H-based films, photochemical vapour deposition, review 7−46345
Si:Sb-SiGe modulation doped superlattices, growth and props. 7−7379
$Si/Ge_{1-x}Si_x$ superlattices, conduction band interactions and splitting, envelope-function approx. calcs. 7−64332
Si/Ge_xSi_{1-x}, convergent beam electron diffraction and imaging of strained-layer superlattices 7−17095
$Si/Si_{0.5}Ge_{0.5}$ strained layer superlattices, 2D electron systems 7−7380
Si/Si_xGe_{1-x} strained layer superlattices, folded phonon dispersion 7−44718
Si/Si_xGe_{1-x} superlattices, strain induced confined electron states 7−7311
Si-Ge_xSi_{1-x} superlattices, Raman scatt. involving umklapp processes 7−3043
Si-$Si_{0.55}Ge_{0.45}$ modulation doped superlattice, MBE grown, electron mobility enhancement, Hall meas. 7−7382
Si-$Si_{1-x}Ge_x$ strained layer superlattices, electronic struct. 7−38707
Si-$Si_{1-x}Sn_x$ strained layer superlattices, electronic struct. 7−38707
Si-SiC superlattice structs. prep. by photo-CVD, solar cell appl. 7−54326
Si-SiGe strained layer superlattices, electric subbands 7−2700

semiconductor superlattices continued
Si-SiGe strained-layer superlattices, optical and electronic props. 7−53353
Si-Ti amorphous superlattices, electronic and photoelectronic props. 7−12795
SiGe superlattice structures, Sb doped, MBE grown, comp., doping profiles, SIMS, Rutherford backscattering spectra 7−7035
SiGe-Si structures, MBE growth mode and interface structure 7−52311
(Zn,Mn)Se quantum well structures, wide-gap II-VI superlattices 7−7346
ZnSe/(Zn,Mn)Se superlattice, optical props. heterointerface effects 7−7736
ZnSe/Zn$_{1-x}$Mn$_x$Se strained layer superlattices, electronic energy states and relax. 7−45425
ZnSe-ZnMnSe, quantum wells, excitons and kinetics 7−12622
ZnSe-ZnMnSe strained layer superlattices, quantum confinement effects 7−27403
ZnSe-ZnMnSe superlattices, photoluminesc. props. 7−13218
ZnSe-ZnS strained-layer superlattice, low pressure MOVPE growth 7−53604
ZnSe-ZnTe strained layer superlattices, MBE growth on InP substrates 7−13366
ZnSe-ZnTe strained layer superlattice on InP, TEM obs. 7−52778
ZnSe-ZnTe strained-layer superlattices, lattice strain and lattice dynamics 7−58654
ZnTe-ZnSe superlattices, photoluminesc. 7−17339
ZnTe-ZnSe(S) superlattices, hot wall epitaxial growth and photoluminesc. props. 7−13220
ZnTe-ZnSe(S) superlattices, MBE and atomic layer epitaxy growth 7−13365
ZnTeSeS, superlattices, prep. by hot wall epitaxy, props. *(Japanese)* 7−12546

semiconductor switches
amorphous chalcogenide alloy, multicomponent, threshold switching phenomena 7−52709
doping superlattices, physics and applications 7−52826
MOSFET power switches for diagnostic neutral beam decelerating supply 7−19480
optically bistable semiconductor devices, carrier surface recombination 7−57401
pulsed power supplies, IEEE conf., Arlington, VA, USA (1985) 7−35110
SOS, submicron-gap photocond. switching 7−52689
GaAs/Langmuir-Blodgett MISS devices, switching characts. 7−38751
GaAs-GaAlAs MQW optical waveguides, nonlinear props. 7−37027
Ge semiconductor plasma, laser produced, ultrafast switching simulation 7−11020
InGaAsP-InP optical switches, carrier induced refractive index change 7−57606

semiconductor technology
See also under specific device headings
see also resists; semiconductor doping; semiconductor growth
2D diffusion kinetics, influence of point defects 7−38263
AES profiling for semiconductor materials examination, methods and problems 7−53458
compositionally graded semiconductors and device applics., book contrib. 7−27323
conference, Jevnaker, Norway (June 1986) 7−14705
devices and materials, conf., Tokyo, Japan (Aug. 1986) 7−48173
dielectric films, on compound semiconductors, conf., Las Vegas, USA (Oct. 1985) 7−35108
double layer dielec. films, X-ray irrad. effects 7−58332
dry etching of semiconductor materials 7−33819
dry etching using image reversal photoresists. *(Japanese)* 7−65199
electron beam annealing, pseudo-line, thermal anal., 2D finite element method *(Japanese)* 7−32507
ellipsometric metrology of ultrathin films, using dual incidence angle meas., error anal., optimum angle determ. 7−24686
gas-puff Z-pinch plasma X-ray source characts. 7−20925
heterojunction transistors 7−52811
heterojunctions, design and characts. *(Japanese)* 7−52768
high-speed electronics, conf., Stockholm, Sweden (Aug. 1986) 7−52798
III-V semiconductors, patterning using photoelectrochem. etching and focused ion beams 7−22924
impurity profiling in mixed diffusion by neutron activation analysis 7−59810
insulating films on semiconductors, conf., Toulouse, France (April 1985) 7−35103
insulating thin layers, specific breakdown field concept 7−39035
ion beam modification of materials, conf., Catania, Italy (9-13 June 1986) 7−60865
ion range and damage 3D distribs. including recoil transport 7−63691
ionic impact processing machines develop. *(Japanese)* 7−53637
laser enhanced plating and etching using photothermal effects 7−59651
laser etching and deposition, basic mechanisms, review 7−53923
laser induced etching of polyimide encapsulants in IC evaluation 7−53941
laser machining, physical processes in surface erosion 7−2053
laser materials processing developments at GEC Hirst Research Centre (UK) 7−53581
laser processing of high-tech materials at high irradiance, review 7−13342
laser processing of materials, conf., London, England (Dec. 1986) 7−48185
laser-assisted etching of electronic materials 7−28162
limited reaction processing, oxidation and epitaxy of Si 7−22577
materials characterisation, electron, ion, X-ray and optical probe methods 7−27203
metallic epitaxy on semiconductors of transition metals 7−27211
microdevices and superlattices, MBE growth, quasi-gas transition layers 7−38379
MNOS, dielectrics with deep traps, currents in strong elec. fields 7−33023
molecular electronics, developments and research 7−7221
MOS capacitor elec. parameters, effects of process chemical purity 7−33103
MOSFET, excimer laser beam irradiation and RIE, radiation damage 7−2056
multi-level SOI recrystallization using a novel seed structure 7−53778
NanoFab-150, focused ion beam system 7−18913
nanometer structure fabrication *(Japanese)* 7−12545
nuclear and space radiation effects in electronics, conf., Providence, RI, USA (July 1986) 7−55875
optical beam induced current imaging of dislocations in semiconductors 7−58106

semiconductor technology continued
optical fibre thermometry, advantages and appls. 7−9835
orientation device for grinding of semiconductor crystals 7−41363
photoelectrochemical etching of holographic gratings 7−26051
photonic material developments 7−25912
photovoltaic research based on general semiconductor research 7−3678
plasma and RIE etching 7−33821
plasma etching, UV and visible spectroscopy for plasma diagnostics 7−32102
plasma processing, conf., Palo Alto, CA, USA (April 1986) 7−35109
plasma properties in plasma etchers 7−33820
processing and charactn. techniques, conf., Los Angeles, CA, USA (Jan. 1986) 7−18489
rapid thermal annealing, of silicides and processing 7−21545
rapid thermal processing, bibliography 7−14727
rapid thermal processing, growth of oxides on Si 7−22929
rapid thermal processing, Si-SiO$_2$ interface trap annealing 7−22027
rapid thermal processors, thin dielectric film effects on pyrometric temp. meas. accuracy 7−18789
rare earth silicide epitaxial formation by rapid annealing 7−21768
reactive ion beam etching and associated systems 7−33822
reactive-ion etching, advances in technology 7−39690
scanning tunnelling microscopy of cleaved semiconductor surfaces 7−21051
sheet resistance low dose monitoring using the double implant technique 7−21244
short time annealing, light source comparisons 7−21263
silicide formation on Si, epitaxial nature, initial nucleation processes and effect 7−21767
silicide oxidation, thermodynamics and kinetics 7−22863
SIMS appl. to semiconductor materials charactn. 7−59820
SOI films, thermal stresses during zone melting recrystallisation, subboundaries, in-plane orientation 7−33554
SOI formation, high dose O$^+$ ion implantation, lamp annealing 7−32527
SOI formation by ion implantation of O$^+$ or N$^+$ 7−32526
SOI formation by O ion implantation of Si, ordered precipitate structure and coesite formation 7−52065
SOI heterostructure technology 7−38750
SOI laser recrystallisation, orientation control 7−53777
SOI laterally seeded epitaxial films recrystallised by electron beam, subgrain boundaries charactn. 7−53779
SOI rapid-zone recrystallisation using pulsed Xe arc lamp, elec. and physical props. 7−53776
SOI thin films, props. after laser focused beam processing 7−32497
spatially resolved ellipsometry, convergent beam approach 7−9874
submicron backscattered electron microanalysis in SEM 7−23113
superlattices, microstructures and microdevices, conf., Goteborg, Sweden (Aug. 1986) 7−35097
superlattices, synthesis by MBE *(Japanese)* 7−12544
thin film deposition in square groove, Monte Carlo simulation 7−12572
transition metal silicide, epitaxial growth on Si, progress review 7−21766
vacuum pump damage solutions for etch and CVD processes 7−35528
vacuum pumping system, oil-free, for semicond. processing 7−61353
vacuum technology survey, applications and prospects *(French)* 7−322
Al film, laser deposition for metallisation 7−53631
Al-SiO$_2$-Si system, contact pot. difference, effect of processing conditions 7−38746
AlGaAs/GaAs heterojunction bipolar transistor, self-aligned with InGaAs emitter cap 7−45492
Al$_2$O$_3$ insulating thin films, normal press. CVD *(German)* 7−59453
CaF$_2$-CoSi$_2$-Si, MBE growth of epitaxial insulator-metal-semicond. struct. 7−22496
CaF$_2$-Si, MBE of CaF$_2$ on Si and overgrowth with Si or Ge characts. 7−22495
CaF$_2$-Si structure with epitaxial CaF$_2$, electronic characteris 7−22026
n-CdSe thin films grown from low purity materials for solar cell appls. 7−65480
FeSi$_2$, epitaxial growth on Si, effects of thin interposing layers 7−22471
GaAlAs-GaAs superlattice struct., dynamic SIMS profiles 7−22417
GaAs (100), UV-ozone clearing, for device appl. 7−28228
GaAs, excimer laser projection etching 7−13662
GaAs, high temp. annealing, prevention of thermal surface damage 7−39546
GaAs laser induced etching in carbon tetrachloride atm., fluoresc. 7−59700
GaAs MESFETs, reactive ion etching, DC characteristics *(Japanese)* 7−59701
GaAs, ohmic contact, form. using ion beam mixing 7−21299
GaAs substrates and devices, surface anal., SIMS appl. 7−22417
GaAs, transient thermal processing 7−16601
GaAs: Si(Se)(Zn)(Be), ion implanted, rapidly annealed, damage removal process 7−17043
GaAs:Ge,Se, diffused contact regions, rapid thermal annealing 7−17103
GaAs:S surface elec. props. modification by plasma exposure 7−27346
GaAs:Si, annealing behaviour of impurities in presence of stress 7−65060
GaAs:Si, FET structs., rapid optical annealing for improved uniformity 7−16620
GaAs:Si(Be)(Mg), rapid annealing, temp. depend. of damage removal and carrier activation 7−17032
GaAs-AlGaAs superlattices and superstructures, growth by metal organic CVD *(Japanese)* 7−13386
a-GaAs-Si (100), epitaxial regrowth by excimer laser annealing, FET fabrication 7−32875
Ge heteroepitaxy on CaF$_2$-Si structures, planarised growth by electron beam exposure to predeposited layers 7−52855
HgCdTe, homogenization, wetting elimination 7−38221
Hg$_{1-x}$Cd$_x$Te, sputtered and cleaved surfaces, deposition of In and Al reactive metals, UPS study 7−33513
Hg$_{1-x}$Cd$_x$Te surfaces, sputtered and cleaved, deposition of unreactive Au, UPS study 7−33514
InAs substrates and devices, surface anal., SIMS appl. 7−22417
In$_2$O$_3$:Sn(Te), thin films, etching, comparison of solns. dilute HCl and H$_3$PO$_4$ 7−8208
InP {001} surfaces, chem. etch cleaning procedure 7−13668
InP, field assisted plasma grown oxide 7−39772
InP, submicron gratings, reactive ion beam etching and deformation-free LPE overgrowth 7−13659
InP substrates and devices, surface anal., SIMS appl. 7−22417
InP, surface, As-stabilisation, effect on elec. and physiochemical props. 7−38767
InP:Be(Si), isothermal anneal techniques, comparison 7−16603

semiconductor technology continued
InP:S, shallow n^+ diffusion of S, open-tube diffusion technique, n^+-p junction formation 7—44912
InP-Au, metallic contact layers, thermal dissociation, P loss 7—23005
Mo film on Si, ion beam mixing, amorphous layer form. 7—21301
$MoSi_2$:As-poly Si struct., redistribution of As by silicidation tempering 7—51812
Ni-Si interface reactions induced by pulsed incoherent light, silicide formation 7—32725
P_2O_5-SiO_2 glass in multilayer struct., laser-induced flow modelling 7—38057
SOI films, halogen lamp recrystallised, minority carrier lifetime studies 7—33101
Si, anisotropic etching, micropyramid inhibition method *(Japanese)* 7—3541
Si, CVD thin film backside gettering effectiveness 7—38217
Si charged particle detector, large-area 7—25326
Si, defects and device processing, achievements and limitations 7—32428
Si epitaxial layers, selective, surface morphology 7—32880
Si, etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7—3493
Si, gamma-ray effects on micro defects and electrophysical props. 7—16629
Si growth for electronic industry 7—33590
Si, impurity gettering, defect-defect interaction mechanisms 7—16585
Si LOCOS substrates, nucleation of dislocations at thin film edges 7—51597
Si, laser induced defects, rapid and classical thermal processing, annealing kinetics 7—44609
Si, low pressure epitaxial growth, appl. to dielec. isolation technology 7—53624
Si, low temp. oxidation studies, internal stress 7—33864
Si, low-temp. plasma nitridation process, props. and appls. 7—33867
Si materials science and technology, conf., Boston, MA, USA (May 1986) 7—29598
Si materials science issues in IC processing 7—35115
Si, oxidation kinetics, quantitative model 7—33863
Si, photon enhanced oxidation mechanisms 7—54032
Si, porous, W deposition for buried conductor formation 7—3189
Si, rapid thermal oxidation and nitridation 7—33861
Si, rapidly annealed with incoherent light, defect state generation 7—52504
Si SOI structures using buried layers of oxidised porous Si 7—13660
Si SOI technology, two-step oxidation technique on MBE film 7—22912
Si, single cryst., ultimate strength, surface treatment effect 7—2090
a-Si solar cell submodules, integrated type, laser patterning method 7—65470
Si surface, Fe-promoted nitridation, kinetics 7—59698
Si surface, RIE, Si_3N_4 CVD 7—59691
Si, surface nitridation, current status 7—33866
Si, technology and electronic materials *(Japanese)* 7—22466
Si wafers, pre-oxidation treatment, appl. of UV radiation 7—33862
Si wafers, surface contaminants, identification, depth distrib., SIMS 7—22418
Si:Al, depth profiles, redistrib. of annealed Al implants 7—63640
Si:As (B)(BF_2^+), p-n junction diode, rapid thermal annealing 7—22005
Si:BF_n^+(PF_n^+), ion implantation damage, backscattering channelling meas. 7—63675
Si:B(P), lateral diffusion, modeling LOCOS effects 7—33865
Si:Fe,O, Fe intrinsic gettering, EPR studies 7—16553
Si:N^+, dose and dose rate of ion implantation, Si_3N_4 formation 7—32533
Si:P, polycrystalline, excimer laser photochemical directional etching 7—65226
Si:transition metals, anomalous diffusion and gettering 7—2264
Si/Ni system, silicide formation, ion beam induced, embedded markers and moving species 7—21298
Si-B^+, Ge^+, preamorphised shallow junctions, end-of-range and mask edge lateral damage 7—38071
Si-Pd, Pd_2Si formation, TEM study 7—38267
Si-Pt, Pt_2Si formation, TEM study 7—38267
Si-Si_3N_4, nitridation of Si (100) by RF plasma, XPS study 7—33515
Si-Si_3N_4 and Si-Si_3N_4-SiO_2 SOI structures, laser recrystallisation, effects of different capping layers, characterisation 7—45511
Si-Si_3N_4 buried nitride SOI structs., N^+ ion implantation, elec. and physical props. 7—33100
Si-Si_3N_4 SOI structs., formation by N^+ implantation 7—32532
Si-SiO_2, buried layer SOI structs., elevated temp. high dose O^+ implantation, effect of annealing 7—32530
Si-SiO_2, buried oxide formation by O^+ implantation, donor creation, enhanced conductivity 7—32529
Si-SiO_2, buried oxide SOI struct., effects of annealing temp. on characts. 7—33099
Si-SiO_2, buried SiO_2 formation, high dose O^+ implantation at room and liquid N_2 temp. 7—32528
Si-SiO_2, MBE SOI formation, Auger study 7—32876
Si-SiO_2, SIMOX wafers, epitaxial growth 7—32878
Si-SiO_2, SOI struct., deep O^+ implantation, strain and damage in Si 7—32531
Si-SiO_2 interface, electrically active defects 7—33102
Si-SiO_2 interface, wet oxidised, RF plasma annealing effects 7—54026
Si-SiO_2 SOI struct. formed by high dose ion implantation, high resolution TEM study 7—59690
Si-$TiSi_2$, $TiSi_2$ local epitaxial growth on Si (111), rapid thermal annealing, annealing ambient 7—33856
SiH_4 pyrolysis rates, modelling of CVD 7—64911
Si_3N_4 CVD layers, etch rate modification by ion bombard. and annealing 7—28217
Si_3N_4, laser activated CVD, deposition rate, refractive index 7—33591
Si_3N_4-Ti, reaction under rapid thermal annealing 7—39334
SiO_2 CVD photox layers, Hg-sensitised, elec. props. 7—64379
SiO_2 films, effects of nitridation press. on props. 7—33818
SiO_2 films, LPCVD from diacetoxyditertiarybutoxysilane in temp. range 450 to 600°C 7—53622
SiO_2, growth and annealing, damp heating 7—22930
SiO_2, laser activated CVD, deposition rate, refractive index 7—33591
SiO_2 layers on Si, patterning of fine structs. by ion beam exposure and wet chemical etching 7—13656
SiO_2, plasma deposition rates, influence of insulating film 7—3203
SiO_2, surface nitridation, current status 7—33866
SiO_2, thin thermal dielectric, breakdown susceptibility, correlation with process dependent charge trapping 7—33333

semiconductor technology continued
SiO_2-GeO_2 film, oxide flow during H_2 treatment, planarization technique 7—2426
SiO_xN_y plasma-enhanced CVD films as selective Zn diffusion barriers 7—12539
SiO_xNy LPCVD layers, phys. and elec. charactn. 7—38792
Ta films, maskless ion beam assisted deposition 7—46342
TiN-$TiSi_2$ bilayers and selectivity doped thin films, material characterisation 7—33817
W films, maskless ion beam assisted deposition 7—46342
W-Si, sputter deposition on Si (100), rapid thermal annealing 7—21548

semiconductor thin films
for electronic conduction in crystalline and amorphous films, see "electronic conduction in crystalline semiconductor thin films" and "electrical conductivity of amorphous semiconductors and insulators", respectively
see also amorphous semiconductors; semiconductor epitaxial layers
2D grain structures, topology, geometry, nucleation conditions 7—32853
2D struct., time-depend. soln. 7—2755
7X GaAs, sputtered films, optical props., effective medium models *(Chinese)* 7—7774
absorbing, optical constants from transmission and reflection props. 7—41433
amorphous, laser-induced explosive crystallisation, Raman microprobe analysis 7—12430
amorphous hydrogenated semiconductors, NMR studies, rel. to growth process 7—38405
amorphous semiconductor films, photo-assisted CVD and opto-electronic characterisation 7—33595
amorphous semiconductors, conference, Palo Alto, CA, USA (April 1986) 7—29602
aromatic hydrocarbons, semicond., nondispersive transport, model of difficult jumps 7—58812
As-S, amorphous semicond. films, laser action on light sensitivity *(Russian)* 7—64713
Auger elemental depth profiling, preferential sputtering 7—54247
band population inversion under strong alternating elec. field 7—64371
bulk trap spectroscopy by temp.-modulated space-charge-limited current meas. 7—45338
chalcogenide layers, optical recording, physical basis *(Russian)* 7—50667
chalcogenide thin films, glass-crystal transitions, photoacoustic studies 7—45073
chalcogenide-metal contacts, interdiffusion, struct., comp., electron irrad. effects 7—21686
coherently strained Si-like structs., critical layer thickness, atomistic Monte Carlo calc. 7—12498
copper phthalocyanine evaporated thin films, mobility and trap concentration 7—2746
copper phthalocyanine thin films, thermoelectroluminescence studies 7—7770
deposition using low energy ion beam from single grid Kaufman type ion source *(Japanese)* 7—62156
electron scattering by charged impurities 7—21886
ellipsometry, variable angle of incidence 7—48830
films, transparent conducting oxides, H_2 plasma treatment 7—3528
grain structures and grain growth 7—16903
growth kinetics under simultaneous doping conditions 7—45052
heavily doped, optical absorption band shift 7—7776
high resolution microstruct. studies using TEM 7—21055
hole subbands, 4×4 Luttinger-Kohn Hamiltonian, numerical soln. 7—38783
hot electrons under quantum size effect conditions 7—38780
II-VI semiconductor films, prep., electronic props., solar cell appl. *(Japanese)* 7—54299
III-V semiconductors, organometallic CVD using metalorganic halides 7—33587
integrated circuit metrology with confocal optical microscopy 7—46773
lutetium bisphthalocyanine, doped p- and n-type thin films, cond., visible spectra anal. 7—52865
marker evolution on ion irrad., computer simulation 7—21302
materials characterisation, electron, ion, X-ray and optical probe methods 7—27203
MBE growth, process monitoring and equipment 7—27909
metal phthalocyanine films, electro-absorpt. spectra, charge transfer excitation 7—27695
metallophthalocyanine thin films, cosublimation doping and Schottky contact formation 7—21974
organic layers, carrier drift mobility, anomalous field depend. 7—58928
orientation determ. using Raman scatt. light 7—61320
oriented crystalline films on amorphous substrates, prep. by zone melting recrystallisation and surface-energy-driven grain growth 7—38385
passivating film on Li electrode, impedance meas. 7—33111
phthalocyanine thin films, gas-surface reactions, elec. cond. meas., ESCA 7—52262
phthalocyanine thin films, molecular orientation studied using Raman polarisation studies 7—22250
polycrystalline semiconductor thin film photovoltaic devices 7—40002
polycrystalline thin film solar cells, high efficiency tandem cell struct. 7—23198
polysilicon films, etching in parallel plate plasma reactor, freq. depend. 7—17744
quasi 2D electron system, spin relax. 7—64101
Raman microscopy study for nondestructive testing 7—46772
Raman spectroscopy, materials characterisation, review 7—53354
rapidly condensed highly dispersed films and glasses, phase size effect 7—2149
reflection and transmission meas., computer-controlled system with IR spectrophotometer 7—4902
Si-Ni thin film diffusion couples, lateral silicide formation 7—21540
SIPOS, AES and XPS studies *(Chinese)* 7—33511
size quantised films and wires, cond., carrier quasielastic scatt. by acoustic phonons 7—38781
SOI, conf., Boston, MA, USA (Dec. 1985) 7—35101
SOI, films lamp zone melting recrystallisation, effect of plasma nitrided SiO_2 encapsulent 7—38391
SOI film, two-beam laser recrystallisation 7—38393
SOI films, lamp zone melting recrystallisation, liquid-solid interface 7—38419
SOI films, laser recrystallisation, agglomeration, surface roughness and crystal imperfection 7—38389

semiconductor thin films continued
SOI films, recrystallisation by obliquely scanned pseudoline electron beam 7—58686
SOI films, twin stabilised planar growth 7—38392
SOI films, zone melting recrystallisation, subboundary structure 7—38388
SOI films, zone-melting recrystallisation, capping techniques 7—38390
SOI films scan-melted at low velocities, subboundary misalignment 7—38387
SOI structures, lateral epitaxy formation, melting and resolidification 7—38386
SOI technology by zone-melting recrystn. on quartz substrates 7—21736
SOI wafers, O implantation prep., background doping effects 7—32478
solar cells, thin films, technology, design and appls. 7—17872
SOS, submicron-gap photocond. switching 7—52689
SOS films, pulsed laser beam excitation, femtosecond dynamics 7—13249
SOS films, regrowth rates of amorphous layers created by self-implantation 7—16661
steady-state photoresponse under subbandgap illum., effect of surface states 7—64290
thickness, thermal wave meas., book contrib. 7—41345
vacuum evaporation prep. employing shaking mechanism 7—13363
weakly absorbing, thickness, optical consts. and relax. time determ. 7—39194
zinc phthalocyanine thin films, electrical, structural and gas sensing props. 7—38787
zinc phthalocyanine thin films, thermoelectroluminescence studies 7—7770
Si, low energy ion beam damage, ellipsometric characterisation, two-film optical model 7—27680
$AgGa_{1-x}In_xSe_2$ thin films, evaporated, photosensitivity and optical props. study *(Korean)* 7—53423
$AgInTe_2$ polycrystalline thin films, elec. and optical props. study 7—58924
AlGaAs, MOCVD growth, refractive indices meas. by in situ reflectometry 7—59270
$Al_xGa_{1-x}As$ film formation by laser beam interaction with AlAs/GaAs multilayer structure 7—12570
$Al_xGa_{1-x}As$ films and multilayer structures, MOCVD growth and characterisation, review 7—33586
$Al_xGa_{1-x}As$, thin films, Raman spectroscopy, characterisation 7—53354
AlN amorphous film, plasma CVD from metal organic Al source 7—52368
AlN formed by N ion implantation of Al, electronic struct. 7—58926
AlN thin crystalline stoichiometric film, electronic struct., electron spectra studies 7—58916
As-S, amorphous semicond. films, laser action on light sensitivity *(Russian)* 7—64713
$As_{1-x}S_x$:Ag film, coordination distance determ., EXAFS study 7—64004
As_2S_3, amorphous, bulk glass and thin films, photostructural changes, EXAFS meas. 7—39314
As_2S_3 amorphous chalcogenide optical grid, submicron resolution, VLSI appls. 7—48899
As_2S_3 amorphous films, persistent photocurrent 7—45389
As_2S_3 chalcogenide glass, Zn vacuum deposition rate, photostimulated changes 7—45075
As_2S_3 films photorefractive effect investig. using optical filtering 7—45990
As_2S_3 thin films, dissolution investig., surfactant effects 7—6802
As_2S_3 thin films, natural paramagnetic centres obs. *(Russian)* 7—45799
a-As_2S_3 vapour deposited films, thermostructural and photostructural changes, EXAFS study 7—64003
As_2Se_3 amorphous films, persistent photocurrent 7—45389
$As_{50}Se_{50}$ amorphous films used for optical recording, structural transformation mechanisms *(Russian)* 7—51823
As_xSe_{100-x}, vitreous chalcogenide semicond. layers, deep trapping levels, photostimulated effects *(Russian)* 7—2754
α-As_2Te_3 films, hole transport investigation by transient field-effect and time-of-flight methods 7—22040
$As_{2-x}Te_{3-x}In_{2x}$ and $As_{20-x}Te_{80-x}In_{2x}$ systems, chalcogenides, thin films, optical and electrical props. 7—27446
$Bi_{2-x}As_xS_3$ thin films, solution-gas interface deposition technique 7—7901
Bi_2O_3 thin films, traps, TSC meas. *(Japanese)* 7—7423
$Bi_{2-x}Sb_xTe_3$ polycryst. semicond. films, laser annealing effects 7—58317
C films, plasma deposited from methane, elec. conductivity, optical absorpt. 7—38786
a-C:H films, glow discharge deposited, valence electron props., electron energy loss spectra study 7—13288
Cd_3As_2 amorphous films, structure and growth morphology 7—45078
$CdCr_2Se_4$ thin films, ferromagnetic semicond., multielectron energy struct., absorpt. spectrum, temp. and doping depend. 7—38488
$CdGeAs_2$:Ni amorphous films, elec. cond., low temp. impurity breakdown, high field effects 7—52625
$CdIn_2O_4$ RF sputtered films, transparent heat mirror characts., elec. and optical meas. 7—39199
$CdIn_2O_4$ thin films, DC reactive sputtered, elec. and optical props. 7—38788
$Cd_{1-x}Mn_xTe$ films, hot wall vacuum growth, twinned struct. 7—53593
CdS anodic film growth, initial stages, voltammetry and computer simulation studies 7—28216
CdS, charge transport, rel. to electrophysical props. 7—17121
CdS evaporated films, cathodolum., effect of thermal annealing 7—22353
CdS films, formation by spray pyrolysis, characterisation of intermediate complexes 7—39372
CdS films, spray deposited, laser annealing, struct., carrier mobility 7—58318
CdS films, superlinearity of light-current characts. 7—64282
CdS films in CdS/CdTe solar cells, film thickness effects on photovoltaic props. 7—65468
CdS photoconductive thin films, optimum spray pyrolysis preparation conditions 7—17418
CdS polycryst. layers, photoelec. props. α-Cr_2O_3 regulator 7—45378
CdS polycrystalline films, temp. variation in thermoelectric power 7—22048
CdS thin film MIS structs., band bending and interface state density 7—7402
CdS thin films, deep trap depth, TSC meas. 7—58774
CdS thin films, deposition by dip technique 7—3210
CdS:Gd, Cl film solar cells, gamma radiation effects on photoelectric properties 7—34032
CdS/CdTe screen-printed thin-film solar cell for indoor consumer electronics *(Japanese)* 7—65472
CdS/CdTe sintered solar cell photovoltaic props. rel. to CdS film sintering conditions *(Korean)* 7—65476
CdSb thin films, preparation and thermoelec. props. 7—64374

semiconductor thin films continued
CdSe thin film liquid-junction photovoltaic cell, photoelectrochem. charactn. 7—54331
CdSe thin films, electrodeposited from $SeSO_3^{2-}$ soln., comp. performance, polarography, RBS, cyclic voltammetry, power meas. 7—2411
n-CdSe thin films grown from low purity materials for solar cell appls. 7—65480
CdSe thin films made by tarnishing 7—22587
CdSe:Cu films, radiative recomb. centres form., photolum. spectra studies *(Russian)* 7—33453
CdSe(S) thin films, electrophys. props., electron irradiation effects study, solar cell appl. 7—16894
$CdSe_xTe_{1-x}$ and $CdSe_xTe_{1-x}$:Cu films, deep local states, photosensitivity, spectral study 7—22371
$CdSe_xTe_{1-x}$ inhomogeneous solid soln., semicond. films, Hall effect temp. depend. meas. 7—58915
Cd_2SnO_4, CVD, struct., elec. and optical props. *(Korean)* 7—27940
Cd_2SnO_4 transparent thin film electrodes prepared by DC reactive sputtering from Cd-Sn alloy targets 7—22477
CdTe amorphous thin films, electrical and optical props. 7—22045
CdTe anomalous photovoltage films X-ray irradiation effects studies 7—58834
CdTe, electrodeposition from acidic aq. solns., voltammetry 7—27188
CdTe film in a photovoltaic cell, electrodeposition and props. 7—64938
CdTe films, electrochemically deposited, resistivity, carrier conc. and carrier mobility 7—7419
CdTe films, electrochemically deposited, comp., struct., AES, electron probe anal., X-ray diffr. spectroscopy 7—58694
CdTe films, illum. with monochromatic light, anomalous photovoltaic effect 7—52684
CdTe, polycryst., grown by UV-enhanced OMCVD, picosecond photocond. 7—52873
CdTe polycrystalline thin film solar cells 7—17888
p-CdTe RF sputtered thin films, resistivity, forbidden gap, optical and X-ray diffr. spectra studies 7—21747
p-CdTe, single crystal and thin film, chemical etching study 7—46724
CdTe thin film solar cells, efficiency improvement 7—17883
CdTe thin film solar cells fabricated by evaporation *(Japanese)* 7—34044
CdTe:In, photocorrosion, vacancies, photoluminescence spectra 7—27948
CdTe-$Cu_{1.8}$ thin film polycrystalline solar transducers, photosensitivity spectra 7—34036
CdZnS/$CuInSe_2$ solar cells, spray pyrolysis prep. and characts. 7—8374
$Cd_{0.8}Zn_{0.2}S$ films, solution-sprayed, photocurrent decay times 7—45525
$Co_xIn_2S_{3+x}$ thin films, spray pyrolysis deposited, structural and optical props. 7—22468
$CoS_{1.035}$ film, soln. growth, optical absorpt. coeff. 7—39446
Cr-Ge thin film interface, interdiffusion, reaction and intermixing, soft X-ray photoemission study 7—27028
$CuBiS_2$ thin films, spray pyrolytic deposition, elec. and optical props. 7—7894
$CuGaSe_2$ thin films, flash evaporated, optical and elec. props. 7—7417
$CuGaSe_2$ thin films, physical props, and photovoltaic potential 7—22047
$CuGaSe_2$-CdS solar cells, physical properties and photovoltaic potential of $CuGaSe_2$ thin films 7—12889
$CuIn(Ga)Se_2$ thin film solar cells, ESCA anal. 7—23197
$CuInS_2$ films, RF sputtering, struct. and elec. props. 7—3169
CuInSe thin films, flash evaporation prep. and characterisation 7—7893
$CuInSe_2$, electron beam evaporation optical props. *(Korean)* 7—27801
$CuInSe_2$ large grain (112) oriented thin films grown by RF sputtering, solar cell applications 7—17422
$CuInSe_2$ polycrystalline thin film solar cells 7—17888
$CuInSe_2$ polycrystalline thin film solar cells, donor-acceptor pair luminescence 7—17890
$CuInSe_2$ thin film growth 7—13368
$CuInSe_2$, thin films, flash evaporated, electrical cond. and optical absorpt. spectrum 7—33112
$CuInSe_2$ thin films, polycrystalline, elec. props., effect of excess Cu 7—52871
$CuInSe_2$/CdS, thin film chalcopyrite solar cells, electroplating prep. 7—17894
$CuInSe_2$-CdZnS solar cell development for space appls. 7—13917
$CuInSe_2$-Si:H, tandem modules, thin film design and fabrication 7—13913
$CuInTe_2$, amorphous, flash evap., DC cond. mechanisms, density of states 7—22041
$CuInTe_2$ thin films, flash evaporated, elec. conductivity, optical absorption 7—7428
Cu_2O film-electrolyte interface, photoelectric effect 7—38723
$Cu_{1.8}S$-Se-CdTe thin film polycrystalline solar transducers, photosensitivity spectra 7—34036
Cu_2S films, chemically sprayed, optical and solar selective props. 7—54350
Cu_2S films, flash-evaporated, optical props. and solar selectivity 7—64719
Cu_xS films, field assisted chemiplating for CdS/Cu_xS heterostruct., growth mechanism 7—59470
Cu_xS-CdS solar cells, comp. of differing junction types, AES, SIMS determ. 7—23167
$Fe_{80}C_{20}$-Si compositionally modulated amorphous struct., mag. and diffusional props. study 7—7564
Fe_2Se_3 and $As_2Se_{3-x}Fe_x$ films, electronic props. 7—58922
$FeSi_2$ thin films, appl. to electro-optic VLSI interconnects 7—53427
$Ga_{1-x}Al_xAs$ MIS and SIS structures, prep. by metallorganic chem. hydride method, electrophysical props. 7—22018
GaAs anomalous photovoltage films X-ray irradiation effects studies 7—58834
GaAs excimer-laser-stimulated CVD, polycryst. thin film growth and props. 7—64912
GaAs films, changes of optical consts. stimulated by external effects, determ. 7—22362
n-GaAs films, electron-hole plasma stratification and blue luminesc. near static domain 7—52666
GaAs films on amorphous insulating substrates, laser recrystallisation 7—38397
GaAs films on oxidised Si, zone melting recrystallisation 7—38396
GaAs LEC substrates, EL2 deep donor kinetics under annealing, IR absorpt., DLTS, Hall effect meas. 7—32955
GaAs LEC wafers, cathodolum. mapping, IR absorpt., X-ray topography obs. 7—33462
GaAs, MOCVD layers on Si substrates with superlattice intermediate layers, DLTS studies 7—38501
GaAs, polycrystalline thin films, RF sputter deposition on silica substrates, light transmission props. 7—46320

semiconductor thin films continued
GaAs semi-insulating thin wafers, EL2 defect and dislocation mapping, near-IR transmittance meas. 7—63605
GaAs semiinsulating LEC substrate, elec. homogeneity evaluation, thermally stimulated drain conductance meas. 7—32954
GaAs semiinsulating LEC wafers, radiative centres, local photoluminescence study 7—33458
GaAs, semiinsulating LEC substrates, defect etching 7—59694
GaAs semiinsulating slices, spatial inhomogeneities, near IR transmission imaging techniques 7—33400
GaAs thin films, grain boundaries, electronic props. 7—7172
GaAs thin films, on glass substates, transport props. 7—2742
GaAs thin semi-insulating wafers, EL2 distrib., dislocation network correl., near IR absorpt. maps and X-ray topographs 7—21203
GaAs, transport props., charge collection microscopy 7—52649
GaAs:Cr semiinsulating LEC wafers, microhardness cartography 7—32886
GaAs:H amorphous sputtered films, AC cond. studies 7—21947
GaAs:Te films, flash evaporation, annealing, elec. props. 7—64373
GaAs-$Al_xGa_{1-x}As$-GaAs, multilayer struct., variable angle of incidence spectroscopic ellipsometric study 7—48830
GaAsP, MOCVD growth, IR laser assisted grading 7—27945
GaP anomalous photovoltage films X-ray irradiation effects studies 7—58834
GaP coating for passivation of Si solar cells 7—65479
GaP thin films, optical props., meas. by surface plasmon excitation 7—46166
$(GaSb)_{1-x}(Ge_2)_x$ metastable thin film alloys, struct. phase transitions, ion-channelling studies 7—58462
Ge, amorphous and partially crystallised, X-ray absorpt. investig. of struct. *(German)* 7—46241
Ge amorphous films, struct. and crystn., EXAFS study 7—64005
Ge, amorphous layers on GaAs, solid phase epitaxial Growth during annealing 7—21777
Ge anomalous photovoltage films X-ray irradiation effects studies 7—58834
Ge film growth on (HgCd)Te substrates, surface preparation effects 7—45037
a-Ge films, laser-induced phase transitions, time resolved TEM study 7—38056
Ge ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7—17423
Ge polycrystalline film, preferred orientation control by two-step growth method 7—21728
Ge polycrystalline films, photoassisted CVD prep. 7—3200
Ge sputtered ⟨100⟩ textured film, TEM grain growth obs. 7—45040
Ge surface, GeO stabilisation on laser irrad., X-ray photoelectron spectra anal. 7—46723
Ge ultra-thin films, self-implantation, grain growth enhancement, TEM study 7—12173
a-Ge:H, B, P, As, dopant incorporation and doping efficiency 7—44587
Ge:H films, post-deposition hydrogenated, electrical props. 7—32296
a-Ge:H glow discharge deposited thin films, H content determ., spectroscopic ellipsometry study 7—38365
Ge-Sb-S glasses, optical and photo-acoustic props. study 7—22211
Ge-Se based glass films, photodarkening effect, exposure characts. *(Japanese)* 7—64706
GeS_2 amorphous films, persistent photocurrent 7—45389
a-$Ge_{30}S_{70}$ films, irreversible photobleaching 7—17353
$Ge_{35}S_{65}$ films, evaporated, structural changes on illumination and heat treatment *(Japanese)* 7—22489
GeSAgAu films prep. by simultaneous vacuum evaporation, Au effect on metal-photosurface deposition *(Japanese)* 7—3177
GeSe amorphous films, persistent photocurrent 7—45389
$GeSe_2$ amorphous films, persistent photocurrent 7—45389
a-$Ge_{20}Se_{70}$:Bi films, n-type, electron transport props. studies 7—7422
a-$Ge_{22}Se_{68}Bi_{10}$ thin film, photoconductivity 7—17052
$Ge_{20-x}Se_{80-x}In_{2x}$ system, chalcogenides, thin films, optical and electrical props. 7—27446
$Ge_4Se_{6-x}Te_x$ amorphous chalcogenide, elec. cond., prep. technique effects 7—7237
$Ge_4Se_{6-x}Te_x$ amorphous chalcogenide, elec. cond., bulk and thin film effects 7—7238
a-GeSi:H, deposition kinetics and structural control 7—45087
$GeTe_2$ amorphous films, struct. changes by annealing 7—63467
a-$Ge_{1-x}Te_x$ films, crystallisation behaviour and local order 7—44386
$Ge_{50}Te_{50}$, Auger elemental depth profiling, preferential sputtering 7—54247
H_2 production by photoelectrolysis of water using semiconductor electrodes 7—3723
HgCdTe:B, bulk and thin film, resonant impurity levels, magnetotransport studies 7—64162
a-HgSe films, elec. conductivity, thermoelectric power, optical absorpt. 7—22050
HgTe films, deposition by photolysis of (t-butyl)HgTe(t-butyl) 7—3197
In-Ga-As-P films highly excited, ps band filling 7—43261
InAs-GaSb thin film heterostruct., superlattice, electron transverse effective mass 7—21990
$InAs_{0.3}Sb_{0.7}$ IR detector, photoresponsivity meas. 7—7274
InGaAs films, organometallic CVD growth mechanisms, adduct formation 7—33588
InGaAsP, layers on InP, rel. lattice parameter meas., convergent beam electron diffraction 7—52371
InGaAsP, spinodally decomposed, elastic relax. effects on TEM 7—52378
InN films, IR absorption 7—7778
In_2O_3:Sn evaporated films, optical props. and applications to energy-efficient windows 7—46157
In_2O_3:Sn films, electron effective mass determ., refractive index carrier density depend. meas. 7—38440
In_2O_3:Sn films, prep. by thermal decomposition of organometallic cpds., optical and electrical props. 7—17483
In_2O_3:Sn films, theoretical model for optical props. in 0.3 to 50 μm range 7—39200
In_2O_3:Sn transparent conducting films, electr., optical props., appls. *(Korean)* 7—59842
In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7—12535
In_2O_3:Sn-ZnS:Cu,Cl,Mn-Al, surface electrical conductivity in ZnS:Cu,Cl,Mn thin films 7—38672
In_2O_3:Sn(In)(Cd) films, optical and elec. props. 7—22365
In_2O_3:Sn(Te), thin films, etching, comparison of solns. dilute HCl and H_3PO_4 7—8208

semiconductor thin films continued
In_2O_3Sn thin films, prep. by pyrolysis, props. 7—2749
InP (100), prep. by P deposition and annealing, surface reconstruction, LEED, EELS studies 7—38311
InP films, MOCVD growth using plasma pre-cracking 7—7880
InP films on oxidised Si substrate, laser recrystallisation 7—38398
InP, undoped and Zn(Cd) doped thin films, prep. and characts., appl. for solar cells 7—17895
β-In_2S_3 thin films, spray pyrolysis grown, optical energy gaps 7—33467
InSb amorphous films, metal-semicond. transitions, superconductivity 7—64085
InSb films, preparation of highly sensitive magnetoresistance elements 7—7859
InSb:Te(Se)(S)(Cd)(Zn) thin films, doping, Hall effect meas. 7—21743
InSb/$LiNbO_3$ layered struct. with transverse drift, SAW detection 7—12447
InSe and γ-In_2Se_3 films, formation by double source evaporation 7—59436
In_2Se_3 films, laser synthesized, optical props. 7—59276
In_2Se_3 films, synthesis with pulsed ruby laser 7—58707
$In_{2-x}Sn_xO_{3-y}$ films, reactive RF magnetron sputtering prep., elec. and optical props. 7—46324
$In_{2-x}Sn_xO_{3-y}$ coatings, evacuated window glazings for energy efficient buildings 7—54352
$In_{2-x}Sn_xO_{3-y}$ films, transparent conducting oxides, H_2 plasma treatment 7—3528
$In_{2-x}Sn_xO_{3-y}$ sputter deposited, elec. cond., oxidation resistant coatings for spacecraft applic. 7—22866
$In_{2-x}Sn_xO_{3-y}$ thin films, struct. 7—21722
$In_{2-x}Sn_xO_{3-y}$ thin films, RF reactive sputtering prep., elec. and optical props. 7—39378
MnS thin films, luminesc. and excitation spectroscopy studies 7—7741
Mo/Si, amorphous multilayers, annealing, diffusion, structural relax. 7—52309
Mo-Pd-Si, thin film metallisation system, interdiffusion, cpd. formation 7—21538
MoS_2 films, RF magnetron sputtered, elec. and optical props. 7—2747
$NbSe_2$, thin film fabrication on MoS_2 by van der Waals epitaxy *(Japanese)* 7—12547
NiS thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7—32870
NiSe thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7—32870
$Pb_{1-x}Cd_xSe$ films, laser deposition 7—59422
Pb_3O_4 thin film, electronic props., electrochem. technique characterisation 7—7416
PbS polycryst. semicond. films, laser annealing effects 7—58317
PbSe films, elec. cond. and thermoelec. power, dynamic behaviour 7—2750
PbSe films, photosensitivity mechanism 7—58923
$PbSe_xTe_{1-x}$ thin films, localised defect states and Hall effect 7—2752
$Pb_{1-x}Sn_xS$ films, phase composition, fast-electron diffr. 7—63990
$Pb_{0.8}Sn_{0.2}Te$ thin films, structural and elec. props., pulsed laser-irrad. effects study 7—21270
PbTe films and electrical contacts with Au, Al and Ag, photothermal deflection meas. 7—38784
PbTe heteroepitaxial films, low temp. lumin. 7—39157
PbTe oxidised disordered films, magnetoresist. quantum oscills. obs. 7—64271
PbTe single-cryst. films, negative photocond., slow relax. and photomemory 7—58832
PbTe:O films, O diffusion to bulk and crystallite boundaries 7—63884
PbTe:Tl(Tl,Na) films, superconducting transition 7—38797
a-Sb_2S_3 films, thermally induced relax. of mechanical stresses 7—8032
Sb_2S_3 thin films, vacuum deposited, elec. and photoconductive props. *(Korean)* 7—52682
Sb_2S_3-electrolyte interfaces, electrochemical photovoltaic cell fabrication appl. 7—40016
Se, thin film formation by pulsed laser evaporation 7—59426
Se vitreous chalcogenide semicond. layers, deep trapping levels, photostimulated effects *(Russian)* 7—2754
a-Se:Te films, space-charge depletion studies of deep states 7—59148
$Se_{50}Te_{50}$, Auger elemental depth profiling, preferential sputtering 7—54247
a-Si alloy development for photovoltaic power devices 7—34045
Si alloys, amorphous, CVD, electrical and optical props. 7—33596
Si, amorphised films, solid phase epitaxial regrowth, TEM characterisation 7—32883
Si, amorphous, small-angle scatt. of electrons in STEM obs. of defects and voids 7—21754
Si, amorphous film, Rutherford backscattering, depth resolution, modelling of noise sources 7—53487
Si, amorphous layers, liq. phase crystallisation under pulsed heating 7—44773
Si anomalous photovoltage films X-ray irradiation effects studies 7—58834
Si bicrystals and thin films, grain boundaries, electronic props. 7—7172
Si, CVD in annular tubes, film thickness profiles in mixed convection-diffusion regime 7—27190
Si CVD thin film, struct. and elec. props. 7—21730
Si, CVD thin film backside gettering effectiveness 7—38217
Si carbonaceous films, prod. in situ in Tokamak TEXTOR, depth profiling 7—22893
Si, crystalline, solar cell arrays, reliability lessons for thin film modules 7—13910
Si, crystallised thin films, electrical characterisation 7—33116
Si, deposition by photolytic or pyrolytic dissoc. of SiH_4 under laser irrad. 7—13388
Si deposition from SiH_4-Ar-H_2 system 7—23011
Si, doped, laser deposition for interconnections 7—53632
Si, doped layers, IR transmission spectra 7—59208
Si evaporated film on Ag island film, surface-enhanced Raman scatt. study 7—13165
Si, film deposition by radical jet laser-induced CVD 7—59457
Si film growth for MOS-VLSI, Ti and Pt silicide form. 7—7870
Si film solar cells on steel substrates 7—13921
Si films, amorphous-crystalline mixtures, annealing effect on optical props. 7—59273
a-Si films, density measurement using quartz oscillator 7—7079
Si films, grain size and texture enhancement by seed selection through ion channelling 7—38401

semiconductor thin films continued
Si films, laser-induced melting and recrystn., heat transfer algorithm 7−21269
Si films, n-channel inversion layers, piezoresist. effect studies 7−45318
Si films, phase diagram of laser induced melt morphologies 7−12131
Si films, processed and unprocessed, Raman microscopy of solid surfaces after laser irradiation 7−21264
Si films, structural changes due to annealing 7−52346
a-Si films, superlattice structure, photo-CVD deposition; solar cell fabrication 7−59450
a-Si films, surface passivation, study by photothermal deflection spectroscopy 7−59689
Si films on fused quartz, laser annealing and Raman spectra 7−58708
Si films on glass substrates, laser recrystallisation 7−38395
Si films on insulator, lamp zone melting, defect entrainment 7−53642
a-Si foils, pulsed laser irrad., clusters and plasmas, time resolved X-ray absorpt. meas. 7−64755
Si growth by SOG method and Stepanov method, stability anal. 7−33602
a-Si high quality films and superlattice solar cells, prep. method 7−46346
Si, implanted layers, short time annealing, light source comparisons 7−21263
Si ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7−17423
Si LPCVD films properties when formed from SiH$_4$ in vertical flow reactor 7−22563
a-Si, lamellate structure 7−21740
a-Si, large are uniform thin films, production by scanning plasma method *(Japanese)* 7−17449
Si materials science and technology, conf., Boston, MA, USA (May 1986) 7−29598
Si, microcrystalline films, carrier lifetime from transient photoconductivity meas. 7−7290
a-Si, obliquely deposited film, elec. and optical props. 7−12529
Si, oxidation, linear regime analysis, film thickness 7−46729
Si polycrystalline film, mobility temp. depend. *(Chinese)* 7−2744
Si, polycrystalline film SOI structures, recrystn. by laser irradiation 7−32856
Si, polycrystalline films, low press. CVD growth and annealing, morphology obs. 7−3187
Si polycrystalline films, optical props. 7−7782
Si polycrystalline films, sheet resistance, rapid thermal annealing prior to and post As ion implantation 7−12886
Si, polycrystalline films, undoped, nonlinear I-V characteristics 7−22039
Si, polycrystalline films, laser-recrystallized, grain boundary location using antireflection cap 7−46312
Si polycrystalline films on (100) Si substrate, epitaxial alignment using rapid thermal processing 7−38413
Si, polycrystalline layers, growth shape and struct. investig. 7−2405
Si, polycrystalline layers, TEM meas. of grain size 7−32672
Si polycrystalline thin film strain resistance model *(German)* 7−64033
Si porous films, IR absorpt. study 7−39149
a-Si, prep. by low press. CVD, characts. 7−7884
a-Si protection layer on the surface of V/Si during silicide formation 7−58662
a-Si pure and H doped films, defects and microvoids, positron annihilation study 7−45086
Si SOI structures, polycrystalline Si films, seeding laser recrystn. 7−58706
Si, semi-insulating polycrystalline films, electrical conduction mechanism 7−52869
Si, single crystal wafer, oxidation, rapid thermal processing 7−22928
Si solar cells with internal reflection, fabrication by solution growth on steel substrates 7−3683
Si thin film, doped, electron beam evaporation, elec. props. 7−2743
Si thin film, laser-irradiated melt morphology and order-disorder transitions studies 7−44614
Si, thin film, Raman spectroscopy, characterisation 7−53354
Si thin film solar cells, high performance considerations 7−23152
Si thin films, polycrystalline, elec. props. 7−33117
Si wafers, doped by neutron transmutation, minority carrier lifetime, photocond., annealing 7−38785
Si wafers, etching by NF$_3$, plasma and reagent pulse induced transients 7−3533
Si wafers, etching in SF$_6$ RF discharges, diagnostic meas. 7−28214
Si wafers, striation prod. by grazing ion incidence 7−63684
Si wafers, surface contaminants, identification, depth distrib., SIMS 7−22418
Si:As, ion implanted polycrystalline films, electrical activation by rapid thermal annealing 7−58914
Si:As films, preannealed and As ion implanted, structural changes during transient pot-annealing 7−16904
Si:As ion implanted films, defects charactn. by AC Hall effect meas. 7−38601
Si:B film deposition in Si$_2$H$_6$-B$_2$H$_6$-He gas system, doping effect 7−27184
Si:B layers, preamorphised and ion implanted, structural and elec. characterisation 7−52347
Si:Bi, solute trapping by lateral motion of {111} ledges 7−44592
Si:H, amorphous film, optical absorption and bandgap rel. to temp. *(Korean)* 7−59228
a-Si:H, B, P, As, dopant incorporation and doping efficiency 7−44587
a-Si:H, form. by ion flux control under toroidal mag. field *(Japanese)* 7−17446
a-Si:H, gas-phase and ion-implantation doped, doping efficiencies 7−51790
a-Si:H, glow discharge deposited, light soaking effects 7−52872
a-Si:H, glow discharge deposition, surface roughness evolution 7−64933
a-Si:H, H clustering, multiple quantum NMR 7−32671
Si:H, microcrystalline, photo-CVD growth 7−13382
a-Si:H, photoenhanced deposition and characts. 7−53635
a-Si:H, plasma enhanced CVD, integrated model 7−39423
a-Si:H,B films, hole transport, time-of-flight meas. 7−45320
a-Si:H,B(As) RF sputtered coatings, gas-phase doping efficiency 7−63471
a-Si:H,B(P) films, dopant conc. meas. and depth profiling by means of (p,γ) resonant reactions 7−12555
a-Si:H,Cl glow discharge films, Raman scatt. 7−39116
a-Si:H,F by thermal CVD, photosensitivity, spin density, conductivity and p-n type 7−17454
a-Si:H,F films, initial carrier trapping stages observed by femtosecond spectroscopy 7−27301
a-Si:H,F/a-SiGe$_x$:H,F multiple layered films for enhancement in photoresponse in near IR spectrum 7−52668

semiconductor thin films continued
a-Si:H,Ge single junction and tandem solar cells, thin film properties and corollary plasma diagnostics 7−13893
a-Si:H,N thin films, activated reactive evaporation 7−13355
a-Si:H,P multilayer films, plasma CVD and elec. cond. studies 7−39428
a-Si:H,P(B) films, ion implanted, photoelectric and optical props. 7−38615
a-Si:H and a-Si films, electrical conductivity and struct. 7−52866
Si:H based alloy thin films, optical constants determ., device modelling appl. 7−7666
a-Si:H CVD coating, high temp. elec. cond. meas. 7−45336
a-Si:H CVD films, density of states distrib., I-V characts. meas. 7−45113
a-Si:H doping modulated films, photocond., carrier separation effects 7−38641
a-Si:H evaporated layer production from RF discharge, growth mechanism and props. 7−64898
a-Si:H film, photo-assisted plasma CVD 7−33593
a-Si:H film prep. by compressed mag. field magnetron sputtering *(Japanese)* 7−46323
a-Si:H films, CVD, optical and electronic props. 7−33597
a-Si:H films, carrier transport 7−17023
a-Si:H films, charge carrier dynamics, influence of preparation conditions 7−33053
a-Si:H films, columnar morphology, evolution of vibr. spectra 7−64646
a-Si:H films, contact potential difference, surface photovoltage and conductivity 7−58855
a-Si:H films, deep levels in the mobility gap 7−12670
a-Si:H films, depth profiling of constituents and impurities, elastic proton scatt. 7−45044
a-Si:H films, discharge and CVD deposition, surface reactions 7−33601
a-Si:H films, electron irrad., photocond., absorpt. coeff. spectral depend. 7−64279
a-Si:H films, electronic props., effects of γ-irradiation 7−38584
a-Si:H films, glow discharge deposition 7−65325
a-Si:H films, glow-discharge-deposition, initial nucleation and growth 7−63997
a-Si:H films, growth and photovoltaic appls. 7−64236
a-Si:H films, growth habit, influence of substrate struct., ellipsometry study 7−45055
Si:H films, H content meas. 7−12553
a-Si:H films, high rate deposition and impurity doping effects *(Japanese)* 7−13385
a-Si:H films, high rate deposition by RF planar magnetron sputtering *(Japanese)* 7−39373
α-Si:H films, illumination effects on conductivity 7−7291
Si:H films, ion implant redistribution 7−16921
a-Si:H films, light-induced bond breaking 7−12517
a-Si:H films, metastable optically induced ESR, time depend. 7−45800
a-Si:H films, photo-enhanced CVD 7−33594
a-Si:H films, photocond. characts. stabilisation *(Japanese)* 7−45393
a-Si:H films, photoconductivity, thermal quenching obs. 7−52686
a-Si:H films, plasma CVD, deposition kinetics *(Japanese)* 7−17450
a-Si:H films, RF glow discharge deposition, optical and electrical props. 7−33598
a-Si:H films, reactive deposition 7−33592
a-Si:H films, sputter deposition, optical and ESR props. 7−33565
a-Si:H films, thermal-equilibrium defect processes 7−26640
a-Si:H films and solar cells, light induced effects 7−46954
a-Si:H films deposited by dual ion beam sputtering, characterisation 7−32882
a-Si:H films deposited in He atmosphere, characts. 7−45056
a-Si:H films preparation by CVD 7−17453
Si:H microcrystalline films, glow discharge prep., elec. and optical props. 7−7415
a-Si:H multilayer films, charge transfer doping, cond., photocond. meas. 7−38735
a-Si:H solar cells, dynamic equilibrium dangling bond density 7−17878
a-Si:H solar cells, i-layer stability thickness dependency 7−17880
a-Si:H solar cells, radiation damage by 12 MeV protons and annealing 7−13895
a-Si:H solar cells deposited from disilane, blue response and efficiency improvement 7−17877
a-Si:H sputtered film, low-temp. optical props. 7−3101
a-Si:H sputtered films, intrinsic stress, H effects 7−7078
a-Si:H thin film solar cells, device properties 7−13897
Si:H thin film solar cells, transparent module development 7−13911
a-Si:H thin film solar cells, light soaking condition effects 7−46956
a-Si:H thin films, bulk and interface struct., in situ ellipsometry study 7−27200
a-Si:H thin films, elec. and optical props., thickness depend. 7−46168
a-Si:H thin films, ohmic and quasi-ohmic contacts 7−38729
a-Si:H ultrathin layers, CW photoluminescence, layer thickness depend. 7−13202
a-Si:H ultrathin layers, photoluminescence characts., layer thickness depend. in variety of sample configurations 7−46123
a-Si:H/a-SiN$_x$:H superlattice films, prep., struct., and optical props. *(Chinese)* 7−58676
a-Si:H/a-SiO(N)$_x$:H multilayer films, interface electroabsorpt. meas. 7−2689
a-Si:H-based films, photochemical vapour deposition, review 7−46345
Si:O, deposition from SiH$_4$-N$_2$O, role of adsorption stages 7−17447
Si:P, polycrystal. thin film, carrier transport, temp. depend. study 7−22043
Si:P films, CVD and electrical props. 7−64913
Si:P polycrystalline films, segregation at grain boundaries, NMR study 7−38953
Si:P thin films, surface energy-driven grain growth during rapid thermal annealing 7−63994
Si:P(As)(P,B)(As,B) films, surface energy driven secondary grain growth 7−22740
Si:P(B) LPCVD films, amorphous and polycrystalline, struct., elec. resist. meas. 7−52870
a-Si:Se(Te) thermally evaporated films, photoelectronic props. 7−38640
Si:W$^+$ layers, implanted and annealed, struct., TEM, electron diffr. studies 7−32858
a-Si/Al films, laser-induced phase transitions, time resolved TEM study 7−38056
Si/Ge amorphous multilayer films, interdiffusion, neutron scatt. meas. 7−32722
Si/SiO$_2$ interface, digital control of avalanche injection method for studying carrier transport 7−64350

semiconductor thin films continued
a-Si-Ge multilayer films, interdiffusion, modulation wavelength depend. 7—27033
a-Si-Ge multilayer interfaces, Raman scatt., X-ray diffr. characterisation 7—27167
Si-SiC superlattice structs. prep. by photo-CVD, solar cell appl. 7—54326
Si-SiO_2 structures, prod. by recrystallisation, subgrain boundaries, barrier effects 7—52305
Si-Te-As-Ge chalcogenide glass film, electronic processes in strong elec. field 7—45524
a-Si_{1-x} C_x:H films prepared by plasma CVD method, props. *(Japanese)* 7—12543
β- SiC films on substrates, CVD, X-ray topography 7—63998
SiC, laser deposition for solar cell use 7—53634
β-SiC monocryst. thin films, ion implantation and annealing, amorphisation and recrystn. processes study 7—16596
SiC polytype heteroepitaxial growth, and identification by Raman scatt. study 7—63992
β-SiC thin films, TEM obs. of process induced defects 7—58696
β-SiC:B(N) films, ion implanted, rapid thermal annealing 7—17569
SiC:H, amorphous CVD film, electron optical characterisation 7—52372
a-SiC:H, elec., optical and local structure props. 7—45089
SiC:H,F amorphous films, struct., elec. and optical props. 7—22360
a-SiC:H glow discharge films, IR vibr. spectra 7—53434
a-SiC:H thin films, glow discharge deposition, energy gap and activation energy 7—46352
a-SiC:H(B), solar cells fabricated by plasma deposition *(Korean)* 7—33585
$Si_{1-x}C_x$ thin films, glow discharge deposition and struct. props. 7—64932
a-$Si_{1-x}C_x$:H, B(P) films, valence band localised holes, light-induced ESR spectra studies 7—53110
a-$Si_{1-x}C_x$:H, Si-Kβ spectra, soft X-ray emission spectra *(Japanese)* 7—13268
a-$Si_{1-x}C_x$:H,B(P) thin films, H bonding and H content, IR spectra studies *(Chinese)* 7—12524
$Si_{1-x}C_x$:H films, amorphous, bond lengths, comp. depend., EXAFS study 7—64757
a-$Si_{1-x}C_x$:H thin films, struct. investig., electron diffr. studies 7—2430
a-Si_xC_{1-x}:H films, adsorbates influence on conductance, surface state 7—33115
a-SiGe:D, F, vibr. modes, Fourier transform IR spectra studies 7—46053
a-SiGe:H, F glow discharge films, elec. and optical props. 7—46169
a-SiGe:H,F alloy films, F incorporation and annealing props. 7—44588
a-SiGe:H,F glow discharge films, microcrystallinity studies 7—45088
a-SiGe:H,F glow discharge films, electronic transport and density of states 7—45114
a-SiGe:H films, NMR, ESR and IR studies 7—45833
a-SiGe:H glow discharge films, field effect density of states determ. 7—21796
a-$Si_{1-x}Ge_x$:H/Al Schottky barrier form. and characts. 7—12787
a-$Si_{1-x}Ge_x$:H/a-Si:H/Al Schottky barrier form. and characts. 7—12787
$Si_{1-x}Ge_x$ films, optical band gap, photocond. props. 7—52672
$Si_{1-x}Ge_x$:H films, amorphous, bond lengths, comp. depend., EXAFS study 7—64757
Si_xGe_{1-x}:H,F amorphous films, struct., elec. and optical props. 7—22360
a-SiN:H films, optical absorption const. evaluation by photothermal deflection spectroscopy 7—22361
SiN_x:H,B, microcrystalline, wide-gap, RF glow discharge deposition 7—22503
SiN_x:H,B microcrystalline films, B doping 7—44586
a-SiN_x:H CVD film, IR and ^{29}Si NMR studies 7—38952
SiN_x:H films, amorphous, bond lengths, comp. depend., EXAFS study 7—64757
a-$Si_{1-x}N_x$:H,B films, ESR and IR spectra studies 7—7780
SiO_2 films, thermal growth kinetics 7—13663
a-SiO_x:H films, local struct. EXAFS study 7—59291
a-SiSn:Cl,H glow discharge films, elec. and optical props. *(Chinese)* 7—58805
a-$Si_{1-x}Sn_x$:H films, electronic structure of divalent defects 7—32960
α-Sn, thin film quantization studies using high resolution electron energy loss spectroscopy 7—27448
SnO_2, oriented thin films, elec. props. 7—17123
SnO_2 thin films, photochemical fabrication and micropatterning from SnI_2 7—46315
SnO_2 thin films, vacuum evaporated, thermoelec. power, temp. and thickness depend. 7—58918
SnO_2:F coatings, evacuated window glazings for energy efficient buildings 7—54352
SnO_2:F films, CVD growth using hydrofluoric acid as doping material 7—7871
SnO_2:F thin films, CVD deposition, elec. and optical props. 7—7425
SnO_2:Sb spray deposited coatings, comp., elec. props. thermal treatments, AES study 7—22393
SnO_2:Sb thin films, doped and undoped, prep. by photolysis, phys. props. 7—22368
SnSe thin films, vacuum deposited, high temp. phase form., X-ray diffr. study 7—32873
SnTe:In, superconducting transition 7—38798
$(Te_{90}Ge_5In_5)_{100-x}O$, Auger elemental depth profiling, preferential sputtering 7—54247
TiO_2 films, sol-gel method prep., appl. to photoelectrochem. electrodes 7—7903
TiO_2 sputtered thin film electrodes with low donor densities, photoelectrochemical behaviour 7—27359
TiO_2 thin film electrodes of photoelectrolysis solar cells for H_2 production 7—3725
TiO_2:Cr(Cd) thin films, extension of optical absorpt. range by doping 7—39144
$TiSi_2$ plasma-enhanced CVD films for interconnect appls. 7—52342
V_2O_5 and $Li_xV_2O_5$, amorphous thin films, electrical conductivity 7—58921
$Zn_xCd_{1-x}S$ thin films, struct. and electrical props. 7—64372
ZnO films, DC sputtered, structure changes during growth 7—7848
ZnO films, elec. props., decomp., chemisorption of O^-, photocond. meas. 7—27445
ZnO, on $LiNbO_3$($Bi_{12}SiO_{20}$), growth, acoustoelectric props. 7—38645
ZnO piezoelectric thin films, layer struct., RHEED and X-ray diffr. studies 7—16888
ZnO powder-polyvinyl butyral films, dark discharge props. 7—58919
ZnO thin film layered struct., SAW rapid attenuation 7—44983
ZnO thin film preparation by spray pyrolysis for photoelectrochemical solar cells 7—23166

semiconductor thin films continued
ZnO:Al films, RF reactive sputter deposition, struct., elec. and optical props. *(Japanese)* 7—27900
ZnO:Ga thin films, temp. depend. of conductivity, effect of H_2O vapour chemisorbed states 7—7427
ZnO:In films, microstruct., elec. and optical props., film thickness depend. study 7—16895
ZnO:In films, transparent conducting oxides, H_2 plasma treatment 7—3528
ZnO:Si thin films, RF magnetron sputtered, conductive and transparent props. 7—22476
Zn_3P_2 amorphous films, preparation and optical props. 7—13360
Zn_3P_2 polycrystalline films, hot-wall deposited, elec. and optical props. 7—22487
Zn_3P_2 thin films, amorphous-crystalline transitions, elec. cond., 100-300K 7—38560
Zn_3P_2, vacuum deposited films, struct., transmission electron microscopy and X-ray diffr. 7—52316
ZnS, fused polycryst. layers, photocond. and photolum. spectra, defect form. influence 7—46142
ZnS, polycrystalline, AC driven thin film electrolum. displays 7—7762
ZnS thin films, radiation enhanced adhesion to SiO_2 substrates 7—32504
ZnS:Cu,Mn films, vacuum deposition and DC electroluminescence 7—7868
ZnS:Er, impact cross section of Er^{3+} in luminesc. spectra 7—46150
ZnS:Mn electrolum. thin film-based structs., native memory formation, supersound effects study *(Russian)* 7—3020
ZnS:Mn electroluminescent thin films, photothermal deflection spectroscopy 7—27804
ZnS:Mn films, struct. and electroluminescence props. *(Japanese)* 7—27783
ZnS:Mn thin films, DC electrolum. and local destructive dielec. breakdown model calcs. 7—59147
ZnS:Mn thin films, electrolum., review 7—27784
ZnS:Mn thin films, local destructive breakdown and DC electrolum., film prep. and test conditions depend. 7—59146
ZnS:TbF_x, sputtered thin films, electrolum. and photolum. 7—7727
$ZnS_{0.9}Se_{0.1}$ coating for passivation of Si solar cells 7—65479
ZnSe films, electrochemical co-deposition, photoelec. conversion characts. 7—46959
ZnSe films; CVD 7—64909
ZnSe, thin films, surface electron states *(Russian)* 7—21971
ZnSe/GaAs interface, MOCVD grown, ZnSe film stoichiometry 7—39415
ZnTe films, vacuum deposition, elec. resist. and photocond. meas. 7—3179

semiconductors
Generalities and properties of unspecified materials only. For specific materials see semiconductor materials.
see also amorphous semiconductors; degenerate semiconductors; heavily doped semiconductors; magnetic semiconductors; many-valley semiconductors; narrow band gap semiconductors; polar semiconductors; thermoelectric effects in semiconductors and insulators
1/f noise and number fluctuations 7—38651
acoustical Hall effect 7—58823
activity coeffs. of electrons and holes in materials with parabolic density of states 7—27324
adatom overlayers, diffusion and interactions 7—7012
ambipolar photoconductors with surface states, photoelec. amplification 7—38620
anisotropic, electrical conductivity, inhomogeneous electric field depend. 7—52606
anisotropic, electro-magneto-thermo-elasticity, extended irreversible thermodynamic approach 7—58394
antiferromagnetic semiconductor, bound magnetic polarons, spin dynamics 7—7502
Auger recomb. of dislocation excitons 7—38578
Auger recombination via deep double-charged centres *(Ukrainian)* 7—12732
autosoliton formation kinetics, stable heated plasma of intrinsic semiconductor 7—38607
band gap, nonlocal exchange and correlation contributions 7—2458
beam-solid interactions and phase transformations, conference, Boston, MA, USA (Dec. 1985) 7—9590
bicrystal, diffusion length and grain boundary recomb. vel. determ. by laser excitation 7—41402
binary alloy solid solns. with retrograde solidus, decomposition 7—21457
binary semiconductor alloys, directional solidification, convection, segregation, ampoule and furnace design 7—59501
Bloch electrons, quantum transport in homogeneous time depend. elec. fields 7—52633
bound polarons in semiconductors with degenerate valence band edge 7—38466
carrier transport in built-in and external fields 7—52634
ceramics, granular struct. and elec. props. *(German)* 7—58495
channelling contrast microscopy, He^+ microbeam, semiconductor impurity profiles 7—51587
characterisation by SIMS, book contrib. 7—44976
charge carrier distrib., nonlinear eqn. 7—33028
charge transfer electron-exciton complexes 7—27258
charged defects, reaction rates 7—38497
charged impurities in a semiconductor, anal. of diffusion 7—52137
clusters, zero-dimensional excitons, optical spectra and luminesc. 7—12615
coherently driven exciton system, collective excitations and the dynamical stark effect 7—32919
collective excitations and interband transitions 7—2459
compensated, impurity photoconductivity, field and spectrum dependences, exclusion effect 7—38635
complex neutral defects, bound hole states, mag. props. 7—64157
compositionally graded semiconductors and device applics., book contrib. 7—27323
compound materials, relation between energy gap data and periodic table 7—12609
compound semiconductor multilayered structure, cross-sectional obs. with TEM 7—2416
compound semiconductors, radiation induced defects *(Japanese)* 7—21280
conference, Japanese Physical Soc. Nishinomiya-shi, Nyogo-ken, Japan (Sept. 1986) *(Japanese)* 7—48186
conference, Jevnaker, Norway (June 1986) 7—14705
conference, Munich, Germany, March 1986 7—40990
contactless measurement of carrier mobility and concentration in semiconductors 7—30036
contactless quasioptical resonator inspection 7—54052

semiconductors continued
- covalent, positron self-trapping and adiabatic diffusion 7—45228
- covalent semiconductor, intermediate radius exciton, orbital model *(Russian)* 7—16951
- crystal excitation by electric discharges, point defect ionisation 7—33331
- crystals, chem. and electronic considerations 7—60920
- cubic, phonon scatt. at electronically degenerate defect states 7—21827
- cubic, photoionisation of deep acceptors, drag of holes by light 7—12754
- cubic crystals, magneto-optic anisotropy induced by spatial dispersion 7—17307
- deep trap profiles determ. 7—58768
- defect calculations, review 7—48201
- defect polarization and Haldane-Anderson model 7—21858
- defects, electroreflectance characterisation 7—64606
- device physics, conf., Madras, India (Nov.-Dec. 1985) 7—35102
- devices and materials, conf., Tokyo, Japan (Aug. 1986) 7—48173
- diffusion without vacancies and interstitials, concerted exchange mechanism 7—26997
- direct gap, coherent polariton waves, anti-Stokes scatt. props. 7—16955
- direct impact induced amorphisation, effect of ion beam annealing 7—58383
- dirty semiconductors, parametric cyclotron resonance, inelastic electron scatt. from phonons 7—2466
- dislocation mobility in semiconductors under illumination 7—44545
- disordered, ion implanted, low power laser annealing 7—38055
- disordered, with dispersive transport, elec. transient process 7—17074
- disordered polycrystalline semiconductor, nonlinear percolation conductivity, alternating electric field 7—58816
- dispersive transport under conditions of maximum population of localized states 7—52605
- DLTS for defect characterisation 7—52521
- dopants, tandem accelerator secondary ion mass spectrometry 7—54252
- doped, H-like eigenstates, variational alternant MO method 7—25356
- doped, prep. and thermal cond., review 7—38279
- doped, thermodynamic and transport parameters near metal-insulator transition 7—38458
- doping profiles, appls. and limitations of SIMS 7—35621
- double Schottky barrier, grain boundaries, elec. props. in presence of deep bulk traps, appl. to ZnO varistors 7—7334
- dynamic Stark effect in interacting electron-hole systems, light-enhanced excitons 7—33366
- electrical breakdown at grain boundaries 7—45339
- electrical characterisation, non-contacting methods, book contrib. 7—45335
- electrical meas. in applied mag. fields, reverse-field reciprocity 7—58789
- electro-magneto-thermo-elasticity, classical irreversible thermodynamic approach 7—58393
- electroabsorption of light by deep impurity centres 7—45988
- electron energy distrib. form. due to monochromatic light intraband absorpt. 7—17285
- electron excitation, distrib. fn. of slow secondary electrons 7—46255
- electron spin relax. in a quantising mag. field 7—45822
- electron-electron scatt., energy loss to phonons, integral eqn. 7—52478
- electron-electron scatt. and mobilities, determ. 7—33003
- electron-electron scatt. in nondegenerate semiconductors, anisotropic electron distrib., displaced Maxwellian 7—2624
- electron-hole liquid in semiconductors, general props., review 7—7121
- electron-hole plasma, noise spectrum calcs. near slow recomb. wave excitation threshold 7—38649
- electron-hole recombination, coherent effects due to Coulomb interaction 7—7255
- electron-phonon weak scatt. in high elec. fields, Boltzmann eqn. 7—2625
- electronics materials, neutron activation anal., book contrib. 7—46914
- electrophysical parameters, local monitoring nondestructive contactless UHF cavity methods 7—48768
- epitaxial films, MOCVD growth on Si substrates, substrate offset angle effects 7—22567
- epitaxial layers, sharp doping profiles determ. 7—12111
- exciton region of semicond. spectrum, optical nonlinearity 7—52433
- excitonic trions, Landau level oscills., mag. field effect study 7—21820
- extrinsic, thermal gradient magnetoconc. effect 7—52659
- extrinsic n-type, stochastic self-oscillations under intense illumination 7—2639
- fast surface state parameter meas. using SAWs 7—11230
- field emission, conference, Berlin, Germany (July 1986) 7—29577
- films, weakly absorbing, thickness, optical consts. and relax. time determ. 7—39194
- FIR absorption and near-IR photoluminescence spectroscopy of bound excitons 7—39122
- fluorescence line shape anal. for free-to-bound transitions 7—46097
- Franz-Keldysh effect in semiconductors subjected to the fields of two interacting strong optical waves 7—53269
- free radical studies, muon spin rotation spectroscopy, compliment to ESR spectroscopy 7—42787
- grain boundaries, at. struct. 7—6638
- guided-wave bistable devices, semicond. clad dielectric, periodic coupling 7—57426
- Gunn effect, Korteweg-de Vries eqns. 7—12725
- Hall effect, finite element simulation 7—21940
- high frequency EM surface heating wave attenuation calcs. *(Russian)* 7—59307
- high resistivity semiconductors, xerographic time of flight technique for drift mobility determ. 7—58807
- high resolution microstruct. studies using TEM 7—21055
- highly excited, electron-hole plasma, thermodynamics 7—16963
- highly excited, nonequilibrium Green's functions and kinetic equations 7—32889
- highly excited nonlinear optical and transport props. of many-exciton system 7—32920
- homogeneous, isotropic, limited, vortical thermomagnetic currents calcs. *(Russian)* 7—33037
- hopping thermoelectric power near the mobility edge, critical behaviour 7—52661
- hot-carrier transport, Monte Carlo and Davydov calcs. 7—45341
- impact ionisation, soft energy thresholds and lucky drift model 7—52635
- implanted ions diffusion redistribution, effect of radiation defects 7—51810
- impure, Poole-Frenkel effect and donor ionisation pot. 7—21926
- impurity profile and concentration-dependent diffusion 7—51809
- impurity profiles, depth resolution of SIMS 7—54253

semiconductors continued
- induced spin orientation and polarisation of paramagnetic centres interacting with photocarriers 7—7583
- infrared detectors, conf., Innsbruck, Austria (April 1986) 7—60871
- inhomogeneous semiconductor, polarisation by strong HF elec. field 7—52664
- integrated optics/optoelectronics in optical fibre communication systems, semicond. props., review 7—11178
- interatomic potentials, handbook 7—35130
- interband absorpt. in disordered semiconductors, semiclassical approx. 7—53262
- interband-intraband electronic Raman scatt. 7—33377
- interface physics and chem., conf., Pasadena, CA, USA (Jan. 1986) 7—4
- interfaces, SEM three-dimensional characterisation 7—52312
- intermediate valence systems, Ferromagnetic order coexistence, mag. props 7—64187
- intraband luminesc., anal. 7—27759
- intrinsic, solid-state plasma, local impact ionisation regions form. 7—52663
- inversion band bending at surface, generation-recombination noise 7—17067
- ion beam induced epitaxial crystn., kinetics, mechanisms and microstruct. 7—12171
- ion implantation and near surface microstructures, analytical electron microscopy 7—37816
- ionised resonant donor and acceptor superlattice form., screened Coulomb interaction, carrier scatt. effects 7—16981
- laser annealing dynamics, thermal model 7—21272
- laser damage of solid targets 7—58326
- laser machining, physical processes in surface erosion 7—2053
- laser tomography, appl. in obs. of crystal defects *(Japanese)* 7—51750
- laser-induced surface effects, nonlinear optical diagnostics 7—2061
- lattice defect struct. anal. by X-ray diffr. using synchrotron radiation *(Japanese)* 7—63399
- layer semiconductors, low binding energy exciton impurity complexes *(Russian)* 7—16952
- light absorption by dislocations, exciton effects 7—53371
- light beam dynamic transformation by conduction electrons 7—11043
- magnetic two-phonon resonance involving acoustic phonons 7—45355
- magnetoconcentration effect, inhomogeneous mag. field 7—12743
- magnetophonon resonance of short-wave phonons, anisotropy 7—12744
- magnetoplasma gauss beam damping 7—58828
- many-photon Franz-Keldysh effect in the field of two electromagnetic waves 7—45987
- materials and devices, characterisation by noise methods, review 7—59720
- materials characterisation, conf., Palo Alto, USA (Apr. 1986) 7—48184
- materials characterisation by inductively coupled plasma mass spectrometry 7—46913
- MBE growth, RHEED and photoemission studies 7—2438
- metallic epitaxy on semiconductors of transition metals 7—27211
- microcrystallites, laser-excited, absorption blue shift 7—33409
- microelectronic devices and materials, characterisation methods, book 7—41028
- microelectronic materials, XPS appls., book contrib. 7—46279
- microelectronic materials processing, appl. of neutron depth profiling, book contrib. 7—44595
- micron-scale structures, MeV He^+ microbeam analysis 7—13315
- microstructures, Aharonov-Bohm effect 7—58824
- mixed crystals, luminescence-Raman scattering transformation *(Japanese)* 7—59219
- multilayer systems, non-Fourierian heat conduction 7—43632
- n-doped insulating phase, ESR line shape studies 7—22134
- negative differential resistance, scattering-induced, plasmon-phonon coupling and phonon reabsorption effects 7—2626
- neutral vacancy electron states, orbital removal method 7—64047
- nondegenerate, charged dislocation hole capture, hole thermal ionisation and free density calcs. 7—38574
- nondegenerate, diffusion noise and hot-electron noise at arbitrary drift vels. 7—64299
- nonequilibrium carrier recomb. processes, plasmon effects, luminesc. spectra calcs. 7—58818
- optical beam induced current images, defects in semiconductors 7—51759
- optical beam induced current imaging of dislocations in semiconductors 7—58106
- optical beam induced minority carrier distrib. 7—17036
- optical bistability at absorpt. edge, review 7—25868
- optical nonlinearity near the bandgap in semiconductors, review 7—62747
- optical semiconductor waveguides, coupling anal. between rib waveguides and optical fibres 7—25963
- optical switching, 130 femtosecond mid-IR pulse generation 7—50728
- optical transistor dynamic gain, semiconductor in low finesse cavity 7—57418
- p-type, magnetoresistance, two-band model calcs. 7—27349
- paramagnetic systems involving a muon, level crossing resonance 7—45905
- photoelectrochemical etching of holographic gratings 7—26051
- photoelectromagnetic effect under combined illum. 7—52673
- photoelectrons subjected to parallel elec. and quantising mag. fields 7—64280
- photoemission spectra, singularity anal. 7—39346
- photoenhanced oxidation using UV radiation 7—39775
- photoexcited semiconductor, fast carrier dynamics using modified Fresnel formula 7—31238
- photonic material developments 7—25912
- photorefractive effect for optical processing 7—57438
- photosensitive semiconductor, parametric instability due to a travelling illumination intensity grating 7—38614
- photothermal spectroscopy, transport and defect investigation, review 7—48732
- picosecond electronics and optoelectronics, topical meeting, Lake Tahoe, NV, USA (Mar. 85) 7—41007
- plane-parallel slabs, normal-incidence exciton transmission and refl. spectra 7—39058
- plasmon dispersion relations, correl. and inhomogeneity corrections, local density approx. calcs. 7—21839
- plasmon linewidth, memory-function approach 7—45193
- point defect behaviour, influence of isovalent impurities as sources of elastic stresses 7—51756
- polycrystalline, beam induced current characterisation, appl. to Si solar cells 7—7267
- polycrystalline, conf., Erice, Italy (July 1984) 7—4632
- polycrystalline, extended interfacial defects, geometrical character 7—6640

semiconductors continued
- polycrystalline, grain boundary segregation and diffusion 7—6641
- polycrystalline, grain-boundary barrier heights, grain curvature effects 7—2607
- polycrystalline, localised defects, EBIC studies 7—21933
- processing and charactn. techniques, conf., Los Angeles, CA, USA (Jan. 1986) 7—18489
- quantum electronics, conf., San Francisco, CA, USA (June 1986) 7—48147
- quasi-one-dimensional, bipolaron-impurity complexes 7—45180
- quasi-one-dimensional semiconductor, electron mobility investig. 7—2616
- radiation-enhanced diffusion of implanted impurities in semiconductors, calc. 7—6883
- radiative lifetime for IR detect. 7—35591
- Raman scatt. in the presence of photoexcited nonequilibrium carriers 7—27719
- rapid thermal processing, conf., Boston, MA, USA (Dec. 1985) 7—14713
- Rayleigh wave excitation during optical pulse absorption 7—38314
- refractive indices of some narrow and wide bandgap materials 7—13118
- relaxation, minority carrier injection, boundary conditions effects, numerical computation 7—21935
- resistivity, impurity depend. of nondegenerate semiconductor 7—7240
- resonant scatt. of carriers, effect on transport coeffs. 7—38602
- reversible picosecond brightening during interband absorpt. of intense light pulses in direct-gap semiconductors 7—12761
- review collection 7—48201
- s-dimensional, Fermi energy, relativistic corrections, free-Fermi-gas model calcs. 7—2465
- scanning electron microscope characterisation, book contrib. 7—41551
- scanning optical fibre microscope, laser beam induced current images 7—48846
- scanning tunneling microscopy model, appl. to semicond. surface 7—11864
- SCL current with nonlinear velocity-field relationship, I-V characts. 7—33020
- SEM-based characterisation techniques, review 7—51598
- semiclassical processes in a high-frequency field 7—52743
- semiconductor, EBIC image interpretation using Monte Carlo simulations 7—35640
- semiconductor-alloy phase diagram, first-principles self-consistent local-density total-energy calcs. 7—44751
- semiconductors, tunnel delocalisation of electrons 7—33022
- shock Hugoniot eqn. of state, electron band theory approach 7—21392
- singular perturbation anal. *(French)* 7—21905
- slow current relax. and assoc. effects 7—52671
- solid solutions, electron struct., X-ray and XPS spectra studies 7—12605
- space charge stratification, transient processes 7—64313
- spin waves, direct Coulomb interaction accompanied by spin-flip 7—7180
- straight-band, macrofilled polariton mode, polariton-phonon interaction instabilities *(Russian)* 7—32921
- structural, electronic and vibr. props., pseudopotential calcs. 7—16484
- substrates decohesion of thin films 7—21711
- superlattice band structures of group IV and III-V materials, axial strain effects 7—2697
- surface analysis by laser ionisation, review 7—52213
- surface and interface analysis, appls. conf., Veldhoven, Netherlands, (Oct. 1985) 7—24289
- surface chemistry, adsorption and desorption kinetic meas. combined with Auger spectroscopy 7—65348
- surface magnetoplasmons, dispersion characteristics 7—12636
- surface recombination vel. calc. 7—38587
- surface reconstruction model calcs. 7—32780
- surface space charge layer, electronic self-energy calc. *(Korean)* 7—27373
- surface topography meas. using scanning tunnelling microscopy 7—37814
- surface undulations produced by pulsed laser illumination, Raman microprobe analysis 7—12430
- surfaces, atomic, electronic and vibronic props. 7—2307
- surfaces, conference, Julich, Germany (April 1986) 7—55890
- surfaces, field-assisted photodesorption 7—32809
- systematic variation of Szigeti charge with anion radius/nearest-neighbour distance ratio 7—11987
- TEM, conference, Boston, MA, USA (Dec. 1985) 7—35119
- TEM specimen preparation using I^+ ion milling 7—18941
- ternary semicond. alloy ultrathin wires, alloy scatt. limited mobility calcs. 7—12724
- ternary tetrahedral semiconductors, order-disorder transformation 7—58432
- tetrahedral solids, dispersion of linear optical props., empirical tight-binding calc. 7—45966
- thermal diffusivity meas., mirage-effect thermal-wave method 7—45270
- thermal diffusivity measurement using photopyroelectric effect 7—14939
- time-resolved dielectric loss meas. 7—64562
- trace element anal. by spark source mass spectrography 7—46915
- transport phenomena, localisation and interactions, conf. Braunschweig, Germany (Aug. 1984) 7—60882
- transport phenomena in electron gas, correlation effects 7—38479
- two-electrode semiconductor systems, electric field, resistance and current distrib. calc. 7—38600
- two-photon-biexciton resonance, polarisation instability 7—3005
- ultrashort strain pulse excitation due to optical radiation absorpt. 7—32579
- Umklapp 1/f noise, Hooge parameter, relativistic correction, appl. to $Hg_{1-x}Cd_xTe$ resistors 7—2649
- unipolar injection in presence of deep centres with negative Hubbard energy 7—38568
- vacancy conc. change due to doping with isovalent impurities 7—51813
- wafer, ion implanted dopant profile evolution during annealing, diffusion eqn., anal. 7—58536
- wafers, surface temperature meas., non-contact method 7—41382
- weak-coupling polarons in semiconductors with a degenerate band 7—52443
- X-ray double crystal diffractometry, strain profiles, layer thickness determ. 7—51577
- zinc-blende and diamond struct., recursion calcs., K space method 7—2453
- zinc-blende semiconductors, high pressure phase transitions total energy methods 7—63802
- zincblende crystals, homopolar and heteropolar energy gaps 7—21811
- zincblende-structure semiconductors; muonium states, muon spin resonance studies 7—53206
- GaAs/AlGaAs quantum wells and double heterostruct. lasers, chemical beam epitaxy, photolum. 7—22523

semiconductors continued
- GaAs-AlAs Fibonacci superlattice, quasiperiodic ordering, X-ray scatt. study 7—2692
- SiN_x:H,B, microcrystalline, wide-gap, RF glow discharge deposition 7—22503

semicustom integrated circuits *see cellular arrays; integrated logic circuits*

semileptonic decays
- hyperon, semileptonic decay, bremsstrahlung, integration of photon quadrupole moment *(Spanish)* 7—61672
- hyperon beta-decay, Kobayashi-Maskawa angles and SU(3) breaking 7—41788
- hyperon decays 7—56545
- nucleon decay, expt. review 7—56546
- b(c)-quark$\rightarrow\mu\nu_\mu$X, semi-muonic branching ratio determ. and heavy quark fragmentation function calcs, e^+e^-, $\sqrt{s}=34.6$ GeV 7—61710
- B$\rightarrow$D*(D), decay ratio calcs., quark model anal. 7—19097
- $B\rightarrow Kl^+l^-$, rate and CP-nonconservation asymmetry, standard model calcs. 7—514
- $B\rightarrow Kl^+l^-$, rates and CP violation, fourth-generation standard model anal. 7—19099
- $B\rightarrow K\mu^+\mu^-$, Ke^+e^-, branching fraction upper limits 7—61655
- B meson semileptonic decay, $B^0\bar{B}^0$ mixing and lifetime ratio limits determ. 7—41789
- $b'\rightarrow\psi X$, detection possibilities of fourth generation b′ quarks 7—510
- h$\rightarrow$lWH, higgs-boson production via bremsstrahlung from heavy quarks 7—41683
- $K\rightarrow e\nu H$, Higgs production phenomenological limits 7—513
- $K^-\rightarrow\pi^0\gamma e\bar{\nu}$, decay probability, dependence on γ-detection threshold, T violation asymmetry 7—56538
- $K^-\rightarrow\pi^0\pi^0 e\bar{\nu}$, decay probability, form factor meas. 7—56538
- $K^+\rightarrow\pi^+ee^-$, effect of nonstandard vector boson couplings 7—35856
- $K^+\rightarrow\pi^+\pi^-e^+\nu$, gauged nonlinear σ model with Wess-Zumino condition 7—41790
- $K^+\rightarrow\pi^+\nu\bar{\nu}$, branching ratio, KMC predictions, fourth generation mixing effects 7—41785
- $K^+\rightarrow\pi^+\nu\bar{\nu}$, experimental BNL787, status, anal. of generation problem 7—41979
- $K_L{}^0\rightarrow\pi^-l^+\nu_l$, l^+ polarization, effects of heavy subdominantly coupled neutrino mixing 7—61652
- $\bar{K}^o\rightarrow e^-\pi^+\bar{\nu}$, search for T and CPT violation 7—41787
- $K^o\rightarrow e^+\pi^-\nu$, search for T and CPT violation 7—41787
- $L^-\rightarrow\bar{u}d\nu(\bar{c}s\nu)$ (L=heavy lepton), event search at CERN collider 7—61680
- $\Lambda_c{}^+$, semi-leptonic branching ratio calcs., statistical model anal. 7—15148
- $\Lambda_c{}^+\rightarrow\Lambda e\nu$, chiral lagrangian method, partial widths and branching ratio 7—35867
- n beta-decay, mag. field effects, spin effects and ν mass 7—41800
- $n\rightarrow pe\nu_e$, g_A/g_V meas. from beta-asymmetry meas. 7—35866
- $n\rightarrow pe\bar{\nu}_e$, neutron lifetime meas. techniques 7—56544
- $n\rightarrow pe\bar{\nu}_e$, recent expt. developments 7—56543
- $p\rightarrow l^+l^-\nu+meson^+$, superstring models, baryon and lepton number violation 7—35817
- $p\rightarrow\pi^0e^+$, lattice QCD Monte Carlo simulations 7—35763
- $\pi^+\rightarrow ae^+\nu_e$, a=axion, constraints on variant axion models 7—30237
- $\Sigma^-\rightarrow ne^-\bar{\nu}$, mag. moment meas. using spin-precession techniques 7—5093
- $\Sigma^-\rightarrow ne\nu$, electron energy spectrum calcs. with radiative corrections 7—61670
- τ neutrinoless decay, lepton-number and lepton-flavour violation search 7—61675
- $\tau\rightarrow\nu_\tau\pi$, branching fraction meas. 7—49144
- $\tau\rightarrow\rho\nu_\tau$, $K^*\nu_\tau$, branching ratios, effects of asymptotic flavour symmetry, QCD anal. 7—49143
- $\tau^-\rightarrow\nu_\tau\pi^-$, $\nu_\tau\pi^-\pi^0$, $\nu_\tau\pi^-(n\pi^0,n>1)$, branching fraction meas. 7—61676
- $\tau^-\rightarrow\nu_\tau\pi^-\pi^+\pi^-$, $\nu_\tau\pi^-\pi^+\pi^-(n\pi^0,n>0)$, branching fraction meas. 7—61676
- $\tau^-\rightarrow\omega\pi^-\nu_\tau$, branching ratio meas., $e^+e^-\rightarrow\tau^+\tau^-$ expt. 7—61674
- $\tau^-\rightarrow\pi^+\pi^-\pi^-\nu_\tau$, branching ratio 7—35874
- $Z^0\rightarrow q\bar{q}\nu\bar{\nu}$, minimal standard model anal. 7—19120
- $Z^o\rightarrow W^\pm l^\mp\bar{\nu}_e$, test for γW^+W^-, $Z^0W^+W^-$ structure, W-magnetic moment anal. 7—24870

semimagnetic semiconductors
- bound mag. polaron, anal. 7—58751
- bound magnetic polarons, variational model in adiabatic approx. 7—12624
- dilute magnetic semicond. quantum wells, 2D magnetic polaron effect calcs. 7—38467
- $Hg_{1-x}Mn_xTe$-HgTe dilute mag. semicond. superlattices, MBE growth and props. 7—13357
- magnetooptic materials and their applications 7—27703
- (Cd,Mn)Te, atomic layer epitaxy, review 7—13362
- (Cd,Mn)Te quantum well structure, wide-gap II-VI superlattices 7—7346
- (Cd,Mn)Te/CdTe superlattice, optical props. heterointerface effects 7—7736
- $Cd_{1-x}Mn_xS$, antiferromag. exchange constants between nearest-neighbour Mn^{2+} ions 7—64449
- $Cd_{1-x}Mn_xS$, crystal growth and charact. *(Japanese)* 7—7829
- $Cd_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7—7497
- n-$Cd_{1-x}Mn_xSe$, electric-dipole-induced spin resonance 7—27592
- n-$Cd_{1-x}Mn_xSe$, magnetoresist. and Hall effect meas. near metal-insulator transition 7—12741
- $Cd_{1-x}Mn_xSe$, powder, stress effects, amorphisation *(Korean)* 7—27960
- $Cd_{0.6}Mn_{0.4}Te$, spin-freezing process, time-depend. of thermoremanent magnetization 7—2863
- $Cd_{0.8}Mn_{0.2}Te$, dil. mag. semicond., low temp. mag. spectroscopy 7—64477
- $Cd_{0.8}Mn_{0.2}Te/Cd_{0.7}Mn_{0.3}Te$ semimagnetic superlattices, electronic props., theory 7—45445
- $Cd_{1-x}Mn_xTe$, crit. dynamics, AC susceptibility meas. 7—33181
- $Cd_{1-x}Mn_xTe$, low-temperature magnetic spectroscopy with DC SQUID 7—48780
- $Cd_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7—7497
- $Cd_{1-x}Mn_xTe$ dilute antiferromagnet, high field magnetisation meas. 7—64486
- $Cd_{1-x}Mn_xTe$ exciton localisation, time resolved photolum. study 7—46106
- $Cd_{1-x}Mn_xTe$ films, hot wall vacuum growth, twinned struct. 7—53593
- $Cd_{1-x}Mn_xTe$, frequency-dependent Faraday rotation 7—22225
- $Cd_{1-x}Mn_xTe$, interband Faraday rot. meas. 7—39093
- $Cd_{1-x}Mn_xTe$, low-temperature epitaxial growth, MBE and MOCVD 7—64906
- $Cd_{1-x}Mn_xTe$, muon spin precession freq. shift and relax. meas. 7—45881
- $Cd_{1-x}Mn_xTe$, photoluminescence position and lifetime 7—13205

- **semimagnetic semiconductors** continued
  - $Cd_{1-x}Mn_xTe$ semimag. semicond., ESR line shape meas., comp. and temp. depend. 7−7584
  - $Cd_{1-x}Mn_xTe$, semimagnetic semiconductor, optical absorpt. edge, press. dependence *(Chinese)* 7−39139
  - $Cd_{1-x}Mn_xTe$ sensing element for wideband optical fibre magnetic field sensor 7−25979
  - $Cd_{1-x}Mn_xTe$-$Cd_{1-y}Mn_yTe$ superlattices, electron diffr. using partially coherent illumination 7−37807
  - $Cd_{1-x}Mn_xTe(Se)$, mag. field-induced exchange effects, photolum. meas. 7−27705
  - $Cd_{1-z}Mn_zTe_{1-y}Se_y$, magnetic suscept. and ESR meas., temp. depend. study 7−45636
  - $Cd_{1-z}Mn_zTe_{1-y}Se_y$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7−7501
  - $(CdSe)_{1-x}(MnS)_x$ crystals, semimag. semiconductors, magnetooptic studies 7−64609
  - CdTe-$Cd_{0.6}Mn_{0.4}Te$ superlattices, high resolution electron microscope study 7−27162
  - CdTe-CdMnTe, quantum wells, excitons and kinetics 7−12622
  - $Cd_xZn_yMn_xTe(Se)$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7−7501
  - $Cd_{1-x}Zn_xTe$:Mn, hyperfine coupling constant, EPR study 7−22138
  - $Co_xZn_{1-x}In_2S_4$ solid soln. layer cpd., site coordination and short range magnetic order, XPS anal. 7−26724
  - n-$Hg_{1-x-y}Cd_xMn_yTe$ high field magnetoresist. and magnetisation, Mn-Mn exchange interaction effects 7−12964
  - $Hg_{1-x-y}Cd_xMn_yTe$, Shubnikov-de Haas oscillations 7−21943
  - $Hg_{1-x}Cd_x(Mn_x)Te$/CdTe superlattices, twin faults, X-ray obs. 7−45036
  - $Hg_{1-x}Fe_xSe$, ionised resonant donor and acceptor superlattice form., screened Coulomb interaction, carrier scatt. effects 7−16981
  - $Hg_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
  - $Hg_{1-x}Mn_xSe$, zero gap semimag. semiconductor, inversion asymmetry spin level splitting 7−58784
  - $Hg_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
  - $Hg_{1-x}Mn_xTe$, Hall coeff., magnetoresist. meas., exchange interaction, field, temp. effects 7−64270
  - p-$Hg_{1-x}Mn_xTe$, highly doped, ground state of shallow acceptor 7−7167
  - $Hg_{1-x}Mn_xTe$ LPE crystals, magnetophonon reson. recomb. with phonon emission 7−63755
  - $Hg_{1-x}Mn_xTe$, magnetoresist. meas., effect of valence band spectrum quantisation at low temps. 7−52653
  - $Hg_{1-x}Mn_xTe$, semimag. semicond., magneto-optical study of spin freezing 7−7678
  - $Hg_{1-x}Mn_xTe$, spontaneous Hall effect studies 7−45360
  - $Pb_{1-x}Eu_xTe$ epitaxial layers, mag. props. 7−45772
  - $Pb_{0.95}Gd_{0.05}Te$, antiferromag. exchange constant between nearest-neighbour Gd^{3+} ions 7−59002
  - $Pb_{1-x}Mn_xTe$, indirect exchange interaction between Mn^{2+} ions 7−27509
  - PbTe:Gd, mag. props. EPR study 7−53126
  - $Sn_{1-x}Mn_xTe$, degenerate ferro-spin-glass, transport props. and spin disorder 7−45330
  - (Zn,Mn)Se quantum well structures, wide-gap II-VI superlattices 7−7346
  - (Zn,Mn)Se/ZnSe superlattice, optical props. heterointerface effects 7−7736
  - $Zn_{1-x}Mn_xSe$, antiferromag. exchange constants between nearest-neighbour Mn^{2+} ions 7−64449
  - $Zn_{1-x}Mn_xSe$/ZnSe strained layer superlattices, electronic energy states and relax. 7−45425
  - $Zn_{0.95}Mn_{0.05}Te$, antiferromag. exchange const. determ., free exciton Zeeman splitting meas. 7−22229
  - $Zn_{1-x}Mn_xTe$, $x=0.25-0.71$, free exciton state exchange splitting, magnetoreflectance, magnetisation meas. 7−53288
  - $Zn_{1-x}Mn_xTe$, interband Faraday rot. meas. 7−39093
  - $Zn_{1-x}Mn_xTe$, photoluminescence position and lifetime 7−13205
  - $Zn_{1-x}Mn_xTe$ semimag. semicond., ESR line shape meas., comp. and temp. depend. 7−7584
  - ZnSe-ZnMnSe, quantum wells, excitons and kinetics 7−12622
  - ZnSe-ZnMnSe strained layer superlattices, quantum confinement effects 7−27403
- **semimetallic thin films**
  - Bi films, IR and visible spectra, refractive index, extinction coeff. and dielectric const. 7−46156
  - Bi films, oxidation in air and superheated steam 7−46674
  - Bi films, size quantised, IR spectrum, optical cond., two-band model 7−27803
  - Bi, lattice thermal cond. meas., modified Mayadas-Shatzkes model 7−21554
  - Bi, ultrathin films, size quantization effect on effective electron mass 7−38778
  - Bi-Ga two-layer film compositions, refl. and microstruct., temp. depend. 7−53428
  - Bi-Sb:Te(Sn) thin films, elec. props 7−64376
  - Sb overlayers on GaAs (110), electronic band bending at interface 7−58895
- **semimetals**
  - *see also antimony; arsenic; bismuth; semimetallic thin films*
  - acoustic spectra, effect of interband transitions 7−38478
  - collective excitations and interband transitions 7−2459
  - ferromagnets with low carrier densities, indirect exchange 7−33162
  - $HfTe_2$, electronic props. 7−2610
  - molten, structural changes caused by heating, acoustic investigations 7−51942
  - As-Sb alloys, magnetoresist., thermomag. power and Fermi surface quantum oscills. meas. 7−2578
  - HgTe-CdTe superlattice, semimetallic, band structure calc. 7−12851
  - $ZrTe_3$, optical props. 7−64667
- **Senftleben-Beenakker effect**
  - He-N_2 mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect on physical parameters 7−16287
- **sensing devices** *see detectors*
- **sensing devices, electric** *see electric sensing devices*
- **sensing devices, nonelectric** *see nonelectric sensing devices*
- **sensitisation (metallurgy)** *see corrosion; heat treatment*
- **sensitivity**
  - adaptive multichannel systems in X-ray flaw detection 7−39817
- **sensitivity** continued
  - biomedical US transducer array performance with PZT-polymer composite piezoceramic 7−3850
  - CCD photodetector, absolute spectral sensitivity 7−18876
  - coherence image detection theory 7−48849
  - echo inspection of articles with coarse-grained struct. and rough surface, max. attainable sensitivity calc. 7−65255
  - energy dispersive analysis accuracy and sensitivity for light element microanalysis 7−23101
  - Fourier transform IR spectroscopy, dynamic range considerations in ultimate sensitivity 7−48890
  - humidity sensor, burnt zircon with alkali hardener 7−18793
  - IC microtransducer for air flow and differential pressure sensing 7−61329
  - ideal bolometer, thermometric material sensitivity, background power effect 7−56344
  - IR external reflection spectroscopy for monolayers at liquid/solid and gas/liquid interfaces 7−48883
  - length measurement, improving sensitivity, noise removal *(Japanese)* 7−48690
  - membrane-capacitance manometer, sensitivity estimation 7−48706
  - Michelson interferometer, hand-held, design and sensitivity for Space Shuttle glow obs. 7−55421
  - MOSFET, Pt-gate, ammonia sensitivity, dependence on gate electrode morphology 7−61330
  - radiation diagnostics of electric potentials, sensitivity and resolution for dielec. materials 7−8233
  - retina, central part, distrib. of sensitivity to coloured light *(Japanese)* 7−65755
  - spectrophotometer, transient absorption, high sensitivity high resolution, development 7−18853
  - spectroscopy methods for analytical use 7−54226
  - surface IR external reflection spectroscopy of thin films on glassy C electrodes 7−41509
  - telescope, four-mirror, performance and complexity comparison of aspheric and spherical primaries 7−37092
  - tomography, computer assisted, detector width artifact correction 7−47255
  - triarylmethane dye, polymeric, sensitiser for poly-N-vinylcarbazole photocond. 7−12759
  - US inspection instruments, improved sensitivity 7−65256
  - US shadow method of inspection of rolled sheets, distorted form effect 7−39815
  - K^+ selective electrodes on valinomycin/PVC overlayered substrates 7−65375
- **sensitivity analysis**
  - *see also dynamic response; frequency response; transient response*
  - geodetic deformation nets, distance and distance ratio meas. sensitivity *(German)* 7−23520
  - integral neutron detectors, spectral sensitivity estimation 7−49845
  - membrane-capacitance manometer, sensitivity estimation 7−48706
  - plates, orthotropic folded, elasticity versus finite strip analysis 7−1427
  - radionuclide transport through engineered barriers, parameter-sensitivity analysis 7−49724
  - solar cells, low bulk resist., sensitivity anal. using SPCOLAY computer code 7−8406
  - Si solar cells, high efficiency, identification of key parameters limiting perform. 7−59846
- **sensors, nonelectric** *see nonelectric sensing devices*
- **sensory aids**
  - *see also contact lenses; handicapped aids; hearing aids*
  - artificial limbs, feedback in design 7−34345
  - aspheric ophthalmic lenses optimisation, Tscherning theory generalisation 7−65891
  - audiobiofeedback system for sensory aid to handicapped persons 7−34344
  - binoculars, passive, with ocular disparity, design 7−62813
  - biocular magnifiers and design methods 7−50695
  - Chorimac cochlear prosthesis, discrimination of elementary phonemes *(French)* 7−47288
  - functional neuromuscular stimulated hand orthoses, sensory feedback using electrodes fitted to shoulder 7−34354
  - HP program to determ. centre thickness of convex spectacle lenses 7−14158
  - ophthalmic lens design using spline surfaces 7−54813
  - ophthalmic spherocylindrical lenses, dioptric power in an off-axis meridian: the torsional component 7−40140
  - pictorial information transmission using point sound image, study for visually handicapped sensory aids appl. *(Japanese)* 7−34341
  - progressive addition lenses, peripheral power variations 7−34337
  - prosthetic sensory feedback system, open- and closed loop models 7−54814
  - Rehabilitation R&D Progress Reports 7−28774
  - sensory feedback in upper limb prostheses, robotics perspective 7−34347
  - systems incorporating zero power corrector, objectives and magnifiers for night vision appls. 7−50703
  - upper extremity prostheses with sensory feedback 7−34346
  - Zeiss Gradal HS progressive addition lens, designs using splines, max. wearing comfort 7−50712
- **separation**
  - *see also desalination; distillation; drying; filtration; isotope separation; magnetic separation*
  - binary mixtures, nonsteady thermodiffusional separation in regime with sampling 7−57973
  - block copolymer-homopolymer system, phase separation, statistical theory 7−38213
  - bubble separation diameter, preoccluded volume effects 7−44024
  - bulk gas separation by pressure swing adsorption 7−54258
  - cellulose acetate-polyarylate films, phase separation, porous struct. and strength *(Russian)* 7−26967
  - centrifugal separators for PWR power stations *(French)* 7−25102
  - enzyme recovery by liquid-liquid extraction using reversed micelles 7−40086
  - fine particles separation using rotating tube with alternate flow 7−35502
  - gas centrifuge, separative power, aspect ratio and feed flow rate effect 7−9828
  - n-heptane-perfluorohexane soln., phase separation, spinodal curves 7−13170
  - internal turbulent flow, separated flow region, Navier-Stokes solver 7−51069
  - ionic solute separation, conf., Smolenice, Czechoslovakia (Sept. 1985) 7−60863

- **separation** continued
  - leaching processes, 3D diffusion eqn., numerical soln. 7−48638
  - liquid-liquid extractions with microporous hollow fibers 7−54179
  - macromolecules, chem. inhomogeneous mixtures, fractionation efficiency anal. *(Russian)* 7−26928
  - micellar solutions, equilib. thermodynamic props. and phase separation theory 7−46876
  - natural gas separation using supported liquid membranes 7−11526
  - octamethylcyclotetrasiloxane, nonpolar liq. thin film, solvation and phase separation of water 7−44958
  - oil-water gravitational separation in beds of limited thickness 7−51299
  - pipe extraction column, operating with two-phase drops, design *(German)* 7−51311
  - polyisoprene-poly(isoprene-g-styrene) copolymer, phase separation study 7−38211
  - solvent-extraction systems, regularities in interfacial tension and emulsion unmixing 7−63903
  - spherical mols. model mixtures, phase equilibr. 7−38203
  - styrene-isoprene block copolymers, mol. architecture effect, phase separation 7−38212
  - surfactants, anionic, in wastewater, indirect at. absorpt. determ. using liquid-liquid extraction 7−17925
  - T-junction with horizontal inlet, two-phase flow, phase separation 7−1607
  - tetramethyl bisphenol A polycarbonate-styrenic polymer systems, phase props. 7−38209
  - tetramethyl bisphenol-A polycarbonate-aliphatic polyester blends, phase props. 7−38210
  - Ne-Ar mixtures, transient cataphoretic segregation in a discharge tube 7−20988
- **sequences** *see series (mathematics)*
- **series (mathematics)**
  - ζ-function method for infinite series 7−48310
  - automorphic forms and number theory, conference, Sendai, Japan (Nov. 1983) 7−48196
  - Birkhoff-Gustavson normal form, limitations, anharmonic oscillator model anal. 7−56081
  - drop, inviscid, in zero gravity environment, free and forced nonlinear oscills., Taylor series *(German)* 7−20739
  - Euler-MacLaurin sum rules, zeta-function derivation for infinite series 7−61034
  - fluid mechanics, nonlinear partial differential equations, hybrid boundary integral-Taylor series approach 7−61108
  - fluid-filled cylindrical shell, plane acoustic pressure wave, fourier series expansion 7−43516
  - fourth moment of waves propagating in random media, solution 7−36862
  - geometrical optics, Taylor series for point charact. of refracting plane 7−25713
  - infinite series of Bessel and Struve functions, closed expressions 7−61013
  - invariant density distrib. evolution under a discrete time quadratic map 7−35230
  - Kovalevskaya top perturbed motion, Lie series 7−84
  - Liouville series, Masser's conjecture on algebraic independence of values 7−48290
  - multivariate aberration series, acceleration of convergence 7−5846
  - multivariate Lagrangian aberration functions, singularities 7−5844
  - multivariate Lagrangian aberration series, extension of convergence 7−5845
  - optical fibre guided mode anal. using general power-series expansion method 7−31495
  - parametric magnetic head field eqns., generalised Poisson integral approach 7−42839
  - planetary potential, representation as convergent series 7−4678
  - plate, rectangular, on line supports, vibr. analysis, Lagrange multiplier-Fourier expansion 7−6145
  - plates, multiannular, buckling analysis using power series numerical method 7−20607
  - q-series, expansion into infinite products 7−48308
  - quasicrystal, one-dimensional, electronic states, Fibonacci sequence 7−52394
  - resonators, stable, approx. method for solving integral equations 7−20382
  - S-function infinite series and non-compact Lie groups 7−35229
  - semiconductor lasers, nonlinear system modeling based on Volterra series 7−20226
  - sine map and driven damped pendulum cross-over 7−18593
  - Timoshenko method of stresses calc. of shells under local loads 7−57696
  - two-component medium model dynamics, interaction of parallel elastic rods, Fourier series 7−1460
- **serrated yielding**
  - computer simulation using negative resist. characts. 7−2089
  - Portevin-Le Chatelier effect and plastic flow instabilities, dislocation models 7−38099
  - Al-Li-Cu-Mg-Zr, yield stress, temp. and strain rate depend. *(Japanese)* 7−33734
  - Al-Mg (5 at.%), Portevin-Le Chatelier band kinetics, video recording 7−65103
  - Al-Zn-Mg, serrated flow, second phase precip., dislocation ageing 7−22755
  - Al-Zn-Mg alloy, precipitation hardening, plastic flow instability 7−22757
  - Cu-Ag-Zr, serrated flow, disappearance 7−17588
  - Cu-Be, serrated flow, disappearance 7−17588
  - Cu-Ti alloy, powdered, dynamic strain ageing, 375-860K 7−28058
  - Ti-Al-Nb-Zr, plastic deform., elect. resist. oscills. 7−20605
- **SERS** *see surface enhanced Raman scattering*
- **serum albumin** *see proteins*
- **server systems** *see queueing theory*
- **service bureaux** *see computer facilities*
- **services, information** *see information services*
- **servicing** *see fault location*
- **servo systems** *see servomechanisms*
- **servomechanisms**
  - automatic focus control for head alignment 7−5968
  - inertial clock based on computer controlled servo-driven corotation system with superconducting suspension 7−14927
  - joint motion clusters in servomanipulator operations 7−36177
  - upper arm prosthesis, intelligent control system *(Chinese)* 7−60127
  - H_2O, vap., pressure-broadening, amplitude modulation servo control in FM spectroscopy 7−18888
- **servomotors**
  - circular traveling wave motor, speed control characts. and digital servosystem 7−35511
  - hollow conducting cylinder eddy current calc. 7−62585
  - piezodriven spindle for specimen holder in SEM 7−48922
- **servos** *see servomotors*
- **set theory**
  - *see also fuzzy set theory*
  - Alekseev variation extension for neutral nonlinear perturbed diff. eqn., rel. asymptotic equivalence appl. 7−61011
  - astrometry using point sets, subsets, bijection, and quadratic system 7−40672
  - Banach spaces, optimisation and differentiation 7−55985
  - calibre of a number field *(French)* 7−60932
  - compact convex sets, intersection property of balls 7−24351
  - complex dynamics, chaotic and Newton's method 7−61241
  - concrete universally topological categories and subcategories, classification 7−60992
  - growth, motion and 1-parameter families of symmetry sets 7−55960
  - Hausdorff dimension inequalities for ordinary differential eqns., applications 7−56000
  - local geometry of constitutive sets 7−60950
  - matchings ad Randon transforms in lattices, concordant sets 7−48619
  - operator theory, symposium, Athens, Greece (Aug. 1985) 7−55878
  - parameterization of the linear zeros of 6*j* coefficients 7−41052
  - schauder bases in locally solid lattice Banach spaces 7−29936
  - semilinear elliptic equation in L^1 with absorbing nonlinearity, optimal soln. conditions 7−60935
  - simultaneous reduction of sets of matrices under similarity 7−55954
  - stable attracting sets in dynamical systems and in their one-step discretizations 7−35417
  - structure theorem for simply connected L_2 sets 7−18549
  - variance of random sets 7−60946
- **sets (mathematics)** *see set theory*
- **SEXAFS** *see EXAFS*
- **Seyfert galaxies**
  - *see also Markarian galaxies*
  - active galactic nuclei, spectroscopic obs. and red shifts 7−4566
  - brightness scale length of outer regions, relation to active nuclei characts. *(Russian)* 7−55826
  - broad-line regions in Seyfert-1 galaxies, implications of UV spectra 7−55831
  - Byurakan second spectral sky survey in UMa field 7−4352
  - 3C 120, absolute spectrophotometry 7−24228
  - 3C 120, Seyfert galaxy, UV and optical obs. in two different states 7−55832
  - 3C 84, right ascensions and flux densities of nearby radio sources 7−66774
  - emission line profiles, calcs. for Keplerian cloud ensembles 7−4586
  - emission-line variability 7−14648
  - ESO 428-G14, new Seyfert 2 galaxy, photometric and spectroscopic study 7−9538
  - Fairall 9, Seyfert 1 galaxy, simultaneous EXOSAT and IUE obs. 7−66747
  - FIRST observational potential 7−48093
  - G1200−2038, dwarf galaxy with Seyfert characts., spectroscopy and imaging obs. 7−48069
  - galactic nuclei Kerr black holes, optically-thick gas steady spherically-symm. accretion, outgoing radiative flux 7−35044
  - Galaxy, twin-jet model for centre lobe rel. to former Seyfert stage 7−66740
  - intermediate Seyferts, emission line spectra, composite models 7−40913
  - IR spectra, 3.28 μm feature and continuum emission in galactic nuclei 7−9533
  - IUE observations, archival study and comparison with low-redshift quasars 7−60835
  - luminosity function and space density, determ. from 219 Seyfert galaxies 7−24202
  - Markarian 1018, spectrophotometric study of variability 7−55807
  - Markarian 231, Seyfert 1 galaxy, morphology and nuclear spectroscopy 7−48067
  - Markarian 231, Seyfert galaxy/QSO, CO (J=1-0) emission detect. and optical imaging 7−66757
  - Markarian 335, soft X-ray excess in Seyfert 1, accretion disk 7−60804
  - Markarian 380 as z=0.475 Seyfert galaxy, spectrophotometry 7−40915
  - Markarian 3, Seyfert 2 galaxy, dust in emission-line gas 7−66746
  - Markarian 609, absolute spectrophotometry 7−24228
  - Markarian 705, Seyfert ring galaxy, B and V surface photometry 7−66732
  - Markarian galaxies, catalogue 7−55496
  - MKN 739, multiple nucleus galaxy, interstellar characts. and obs. 7−55790
  - narrow emission line active galaxies, UV to Ir continuum 7−40912
  - narrow-line regions, anal. of interstellar gas clouds dynamics in galactic bulges 7−66707
  - narrow-line Seyfert galaxies with permitted Fe II emission (Mrk 507, 5C 3.100, I Zw 1), optical, X-ray, and IR props. 7−66751
  - nearest neighbour analysis *(Chinese)* 7−4549
  - NGC 1068, detect. of broad UV Fe II lines in spectrum of nucleus 7−14663
  - NGC 1068, high-excitation extranuclear gas, spectrophotometry 7−24211
  - NGC 1068, radio struct. in inner 1 arcsecond 7−48068
  - NGC 1275, 2D photometry of nuclear region 7−4555
  - NGC 1275, search for γ-ray emission 7−55857
  - NGC 1275, submm continuum characts. 7−48099
  - NGC 4051, EXOSAT obs. of low-freq divergent X-ray variability 7−66763
  - NGC 4151, broad-band study (γ-ray to IR) 7−60791
  - NGC 4151, detect. of intense Fe line emission at 6.4 keV 7−18452
  - NGC 4151, Seyfert 1 galaxy, C IV 155 nm line profile obs. (1978 to 1983) 7−60814
  - NGC 4151, Seyfert 1 galaxy, obs. of new outflowing absorpt. component in Mg II line profile 7−55834
  - NGC 4922, binary galaxy, spectrophotometric investigation 7−24200
  - NGC 5506, EXOSAT obs. of fractal X-ray time variability and spectral invariance 7−66764
  - NGC 5548, Seyfert 1 galaxy, double broad-line emitting regions as evidence for supermassive binary system 7−66756
  - NGC 5548, Seyfert 1 galaxy, evidence for black hole accretion event, He II obs. 7−35052

- **Seyfert galaxies** continued
  - NGC 5548, Seyfert 1 galaxy, optical spectrum vars. rel. to multiple-component broad-line region 7—66750
  - NGC 7469, Seyfert 1 galaxy, EXOSAT obs. of rapid hard X-ray variability and soft X-ray excess 7—48077
  - NGC 7469, type 1 Seyfert galaxy, emission lines mapping rel. to circumnuclear starburst 7—29536
  - NGC 985, absolute spectrophotometry 7—24228
  - nuclei, distrib. function description of cloud props. 7—29535
  - nuclei near-UV spectroscopy rel. to reddening and Bowen fluoresc. 7—55801
  - Per A, cool gas content, CO and H I obs. 7—60774
  - physical properties and spectral obs. 7—35032
  - Seyfert 1 galaxies, emission line profiles and profile ratios 7—55818
  - spectroscopy of galactic nuclei, results for complete sample of galaxies 7—40921
  - surface brightness distrib. 7—40909
  - thin disk model for UV excess of quasars and Seyfert 1 galaxies 7—40956
  - tidal triggering of activity in multiple systems 7—55788
  - tidal triggering of Seyfert galaxies and quasars, perturbed galaxy disk models versus obs. 7—9537
  - type 1.8 and 1.9 Seyfert galaxies, radio props. 7—29537
  - X-ray luminosity-redshift relationship for extragalactic objects, observational data 7—14679
  - II Zw 136, absolute spectrophotometry 7—24228
  - CO emission, spatial distrib. and central source 7—55808
  - H I emission from quasars and active galaxies, 21-cm obs. 7—48066
- **SF_6 insulation** *see gaseous insulation*
- **sferics** *see atmospherics*
- **SGEMP** *see electromagnetic pulse*
- **shape memory effects**
  - ageing and thermal cycling effects in shape memoryalloys 7—3336
  - alloy, intrinsic stresses evaluation by AE 7—39829
  - alloys, pseudoelasticity and shape memory effects, review 7—8060
  - alloys with shape memory, simulation of material behaviour 7—2088
  - $Cu_xMo_6S_8$, shape memory effect and rhombohedral-triclinic transition *(Russian)* 7—8058
  - heat engine performance and optimum stress calc. 7—23207
  - martensitic transformations, deformation process 7—39515
  - plastic transformation conditions *(Russian)* 7—33656
  - polycrystalline alloys, plastic deform., stress induced martensitic transform. *(Japanese)* 7—13514
  - practical efficiency of shape memory engines 7—65033
  - AgCd, martensite transformation and shape memory effect, resistivity and thermoelectric power meas. 7—53729
  - Ce-Sc, shape memory effect *(Russian)* 7—59583
  - Cu-Al-Mn, thermoelastic martensite form., effect of thermal and stress cycling 7—22680
  - Cu-Al-Ni, shape memory alloys, polycrystalline, cyclic deform., fatigue above transform temp. 7—3434
  - Cu-Al-Ni shape memory alloys, polycrystalline, cyclic deform. and fatigue above transform. temp. 7—3433
  - Cu-Al-Ni-Ti-Zr, shape memory alloy, grain refinement, fracture mode, Ti and Zr additions effect 7—3301
  - Cu-Al-Zn-Mn-Ni shape memory alloy, positron annihilation study 7—46206
  - Cu-Za-Al ribbons, rapidly, quenched, martensitic transform., stabilisation 7—22678
  - Cu-Zn-Al, dislocation density and mobility during reversible martensitic transforms. 7—26759
  - Cu-Zn-Al, quenched sheets, shape change rel. to thermal cycle *(Japanese)* 7—53790
  - Cu-Zn-Al, shape memory alloy, type II twins in self-accommodating martensite plate variants 7—22752
  - Cu-Zn-Al, thermoelastic, two way memory effect, dislocation form. model 7—22741
  - Cu-Zn-Al, thermoelastic, two-way memory effect, dislocations origin 7—22754
  - Cu-Zn-Al (26,4 wt.%), shape memory alloy, martensitic transform. crystallography *(Chinese)* 7—7994
  - Cu-Zn-Al (26,4 wt.%), shape memory alloy, crystallography of martensitic transform. *(Chinese)* 7—7995
  - Cu-Zn-Al shape memory alloys, rapidly solidified, microstruct. and props. *(Chinese)* 7—8043
  - Cu-Zn-Al shape memory alloys, grain refinement 7—53774
  - Cu-Zn-Al-Zr, shape memory alloys, grain-refined, effect of grain size on transform. temp. 7—39512
  - CuAlNi, shape memory alloys, mech. props., polycrystal model *(Japanese)* 7—53789
  - CuZnAl, isothermal growth of thermoelastic martensite, quenching and ageing effects 7—53730
  - CuZnAl, shape memory alloys, mech. props., polycrystal model *(Japanese)* 7—53789
  - Fe-Mn, kinetics of α-phase form. and role in shape memory effect *(Russian)* 7—46581
  - Fe-Ni-Nb, martensitic transform. and shape memory effect *(Russian)* 7—46470
  - Fe-Ni-Nb alloys, shape memory effect, effect of phase hardening *(Russian)* 7—53809
  - Nb, shape-memory effect and microstrain during hydride form. 7—16670
  - Ni-Ti, nitinol, memory alloy, martensitic transformations 7—39513
  - Ni-Ti, nitinol, shape memory alloy, phase transitions, thermal energy conversion appl. 7—39514
  - Ni-Ti, Nitinol, thermodynamics 7—58506
  - Ni-Ti-Nb, shape memory alloy, cast microstruct. 7—7988
  - Ti-Ni, shape memory alloys, metastable X-phase, cryst. struct., morphology, TEM, X-ray diffr. 7—37926
  - Ti-Ni (51 at.%), aged shape memory alloy, precip. morphology, comp., cryst. struct. 7—28049
  - TiNi alloy, shape memory and reversibility effects, deform. effects *(Russian)* 7—13508
  - TiNi rapidly solidified alloys, shape memory behaviour 7—22780
  - TiNi, reverse memory of form, effect of thermal cycling 7—33660
  - TiNi shape memory alloys, non-equiatomic, precip. processes 7—17535
  - TiNi shape memory alloys, wear resist. and hardness, influence of heat treatment *(Korean)* 7—17647
  - TiNi, shape memory alloys, mech. props., polycrystal model *(Japanese)* 7—53789
  - TiNi-TiAu alloys, martensitic transformations and shape memory effects *(Russian)* 7—17529
- **shape memory effects** continued
  - TiNi-TiFe alloys, martensitic transform. and props. *(Russian)* 7—39511
  - V, shape-memory effect and microstrain during hydride form. 7—16670
  - ε-ZrH_x, shape memory effect *(Russian)* 7—59577
- **shear** *see crystallographic shear*
- **shear flow**
  - *see also shear turbulence*
  - annular jet, wake and wake-induced shear layer excitation 7—37508
  - axial flow in square lattice rectangular rod bundle, wall shear stress meas. 7—16282
  - baroclinic instability over topography, nonlinear evolution 7—57804
  - buoyancy-driven convection in horizontal fluid layer extending over porous substrate 7—51136
  - cavitation in large scale shear flows 7—51244
  - cavity flows of multi-cavity channel, self-excited shear layer oscillations 7—51317
  - chaos motions in velocity shear flow, Lorenz eqn. theory *(Chinese)* 7—18258
  - chaotic shear flow, resonant fast dynamo 7—20808
  - colloidal crystals, shear melting and Taylor instabilities 7—43858
  - composite channel flow, periodical large surface eddies generation 7—20803
  - copolyesters, liq. crystalline, primary normal-stress difference determ. 7—6509
  - creeping flow over rot. cylinder between parallel plates 7—20784
  - customised shear layers on smooth and rough surfaces, development 7—51082
  - cylindrical geometry, shear flow problems in rarefied gas dynamics 7—31843
  - dense systems of spherical particles under shear dynamics 7—6258
  - dextran solns., enzymatically synthesized, shear-induced struct. 7—6174
  - diffusion, in shear flows, Taylor limit investig. 7—57925
  - diffusion, line-source near a surface, steady reversing shear flow, diffusion eqns. anal. 7—43884
  - discs, inelastic frictional, shearing assemblies, viscosity, granular temp., stress calcs. 7—37398
  - dispersion in parallel flow, computational method 7—16152
  - ducts, parallel shear flow, sound propag. 7—62871
  - fibre reinforced polymer composites, fibre orientation developments in moulding 7—3264
  - fluid mixing (stretching) by time periodic sequences for weak flows 7—31733
  - foams, dry, rheology, 2D model 7—16238
  - forced, vorticity meas., ensemble averaging effect 7—11464
  - gravity waves, N-layer stratified shear flow, Kelvin–Helmholtz instability 7—43951
  - hairpin vortices, generation in laminar boundary layers, obs. 7—57797
  - heterogeneous shear flows, generalisation of stability theory *(Chinese)* 7—26248
  - Hookean dumbbell suspensions in steady state shear flow, hydrodynamic interaction, num. investig. 7—31868
  - hydrostatic atmospheric gravity waves, influence of Coriolis force due to Earth's rot. *(French)* 7—18271
  - hyperbolic shear mixing layer, weakly amplified waves, nonlinear evol., Landau const. 7—63167
  - ideal fluid, shear flow stability, effect of stratification 7—26249
  - immiscible fluid mixture in shear flow, phase separation, spinodal decomposition under shear 7—21464
  - instability for shear-induced order-disorder transition 7—35287
  - interfacial waves, finite amplitude stability, effect of basic current shear 7—43946
  - internal gravity waves, stratified shear flow, wave-action model study 7—43948
  - jets, initially circular, flow development and control, shear layer growth 7—11482
  - jets, wave struct., Rayleigh linear inviscid instability anal., 7—51054
  - laminar flow through axisymmetric sudden expansions, shear layer instabilities obs. 7—11376
  - Lennard-Jones fluid, shear thinning, mol. dynamics method calcs. 7—21059
  - Lennard-Jones liquid, shear thinning and thickening, mol. dynamics study 7—11869
  - liquid films, air-driven, interfacial instability 7—11513
  - liquid thread breakup in linear flow 7—57805
  - natural rubber/polybutadiene elastomers, C black distrib., flow behaviour depend. 7—43832
  - nematic flows, unit-sphere description 7—20688
  - nonequilibrium flow, statistical methods, conf., Oaxtepec, Mexico, Jan. 1986 7—24268
  - nonequilibrium fluid with constant shear flow, Rayleigh line calcs. 7—26252
  - nonisothermal wake behind axisymm. body, turbulent vel. and temp. fields 7—11423
  - ocean currents shear, appl. to internal waves verification in offshore areas 7—40482
  - 4-n-octyl-4′-cyano-biphenyl nematic liq. cryst., torsional shear flow, tumbling instability obs. 7—11386
  - planar Couette flow nonequilibr. steady states, transient correl. functions 7—57792
  - plane flows of smooth nearly elastic circular disks, boundary conditions 7—26374
  - polymer fluids, nonline., elastic props, convective transfer processes 7—43824
  - polymer solutions, bubbles growth and collapse 7—37531
  - polymer solutions, dumbbell kinetic theory, structural approach, vector model *(French)* 7—6259
  - polymer solutions, weak-flow effects, renormalisation-group anal. 7—20764
  - polymeric colloidal suspensions in polymeric suspending fluids, dichroism and birefringence meas. 7—11478
  - polypropylene melt viscosity in shearing flow, mathematical models 7—44882
  - polypropylene melts, fibre filled, rheological behaviour under steady and oscillatory shear 7—37413
  - polystyrene melt viscosity in shearing flow, mathematical models 7—44882
  - Rayleigh's inflexion-point theorem and itsextensions 7—11384
  - rotating porous medium, unsteady free convective flow 7—51139
  - rough disks, shear flow, constitutive relations 7—35267
  - shear stress calculation for axial flow over rod bundle 7—43859
  - sheared disturbances, instability solns. 7—57808
  - slurries, flow curve, rheological props. 7—43833

shear flow continued
  smectic A liquid crystals, screw dislocation dynamics 7—21090
  smectic C films, phase winding and flow alignment 7—26628
  soap-mineral oil lubricating grease, 12 Li-hydroxysterate greases, thick film, ambient pressure, shear flow transient tests *(French)* 7—6169
  soft-sphere crystal, shear flow, nonequilib. mol. dynamics calcs. 7—1526
  soft-sphere fluid, shear flow, nonequilib. mol. dynamics calcs. 7—1526
  solidification, shear flow influence on phase transition 7—32620
  sols, shear flow, aggregative equilibr. 7—6291
  spanwise shear flow, interaction of decaying trailing vortices 7—51159
  spatial instability, Orr-Sommerfeld eqn. 7—51052
  stratified flow, entrainment, sheared density interface study 7—51266
  stratified flow, stability, Richardson's criterion 7—37511
  stratified fluid pressure-strain term, influence of buoyancy, numerical calc. 7—44005
  stratified laminar shear layer, stability 7—43849
  stratified shear flow, explosive processes, multidimensional and self-similar props. 7—37434
  stratified shear flow in ocean, wind mixing 7—34504
  stratified two-phase flows, interfacial stress, extended Charnock estimate 7—20774
  structures induced in alternatively sheared suspensions *(French)* 7—31861
  subsonic shear flow, ordered structure development, acoustic oscills. influence 7—20742
  surface waves, horizontal shear crossing, approx. soln. 7—57868
  unsteady wall shear stress ion an elastic tube *(French)* 7—63215
  very hard particles interaction, shear flow and temp. gradient coupling 7—51023
  viscoelastic thixotropic fluids, unsteady shear flow and constitutive relation 7—16140
  viscous flow, stress ensemble calcs. 7—43838

shear modulus
  adiabatic shear bands, nucleation, growth and coalescence, computational models 7—26837
  amorphization of a disclination core 7—6624
  amorphous polymers, secondary relax. processes, thermal history effect 7—63819
  anisotropic crystals with chain structure, elastic Green tensor 7—6700
  colloids, strongly interacting in suspension, viscosity and shear modulus calcs. 7—1617
  composite system, design problems with allowance for interphase reactions 7—43661
  dislocation kinetics behind shear shocks 7—26862
  epoxide resins, mech. and dielec. relax. rel. to spiro-ring struct. 7—17572
  erythrocyte marginal bands, newt, extensional and flexural rigidity obs. 7—8631
  fibre reinforced composite, spatially reinforced, deform. props. eval., rigidity 7—6097
  fibre reinforced plastics, hybrid, tensile, compressive, flexural and shear props., review 7—39532
  fluid surfaces, effective bending rigidity calcs., integration meas. 7—58571
  incompressible solids under shear, void growth 7—17576
  laminates, cross-ply, cracked, stiffness reduction anal. 7—44644
  Lennard-Jones liquid, shear thinning and thickening, mol. dynamics study 7—11869
  liquids, rheometrical device for meas. shear wave speed and elastic moduli 7—26823
  multispectral high efficiency solar cells, semicond. selection criterion 7—8399
  natural rubber/polybutadiene elastomers, C black distrib., flow behaviour depend. 7—43832
  plate with line crack subject to varying shear load, nonlinear elasticity anal. 7—48367
  plates, flexible, rectangular, on nonlinearly elastic base, optimal design 7—62995
  polycrystals with trigonal and tetragonal symmetry, effective elastic moduli, Hashin-Shtrikman bounds 7—32544
  polymer, filled, melt, matrix mol. wt. effect on rheological props. 7—16141
  polymer melts, viscoelasticity near a critical point 7—57781
  polymers, glassy, bimaterial interface, cracks, incipient plastic zone shape, elastic consts. effect 7—53874
  positive/negative, for small and large deformations of elastic materials 7—6088
  reissner-Sagoci problem for a non-homogeneous elastic solid 7—43680
  rubber, natural, low temp. crystallisation, shear and compressive strain 7—6559
  shear center of nonsymmetric open thin-walled sections 7—37337
  shell, nonhomogeneous spherical, viscoelasticity, vibr. study 7—6127
  solid, elastic transversely isotropic semiinfinite, torsional loading 7—43664
  steel, austenitic stainless, elastic moduli at 4 K, C and N effects 7—46541
  stress relaxation functions, shear, uniaxial and biaxial 7—26855
  thermally curing resin viscosity estimation from US shear wave reflectivity 7—1523
  type II superconductors, flux-line lattice, elastic and plastic props. 7—27481
  unidirectional composite, interfacial zone shear modulus *(French)* 7—63712
  viscoelastic disperse mixture, effective rheological properties, calcs. 7—26233
  viscoelastic test block dynamic rigidity form factor for complex Young's modulus meas. *(Hungarian)* 7—51010
  Al-Si, cold worked, damping characts. 7—28064
  BW alloy fibre, torsional pendulum, shear modulus and internal friction meas. 7—48232
  C fibre reinforced thermoplastic laminates, compressive strength 7—39580
  C fibres, pretorsional deform., annealing, acid treatment, struct., mech. props 7—22768
  Cd, polycrystalline rolled sheets, flow stress, hydrostatic press. effect, 600 MPa *(Japanese)* 7—33735
  Cr-Os-Ta-La system, anomalous elastic and thermal props. in region of phase transform. *(Russian)* 7—53783
  β-Cu-Zn-Al alloys, elastic constants and lattice stability 7—13492
  Fe, amorphous, elastic constants, relax. effects 7—51910
  Fe, polymorphic forms stability, elastic consts. in 20 to 1470°C range, enthalpy of fusion rel. to self-diffusion activation energy 7—6781
  $(KBr)_{1-x}(KCN)_x$ mixed crysts., elastic shear const. and internal friction, torsion pendulum resonance meas. 7—26829
  LiF, shocked along (111), temp. depend. of precursor amplitude 7—26836
  LiO_2, elastic and creep props., porosity and temp. depend. 7—53780

shear modulus continued
  Na_2O-Al_2O_3-SiO_2 glasses, elastic props., annealing and Al substitution effects 7—8035
  Ni-Ag(001), Au doped, thin films, interphase boundaries, struct. and composition 7—27158
  PbO-SiO_2 glass, elastic props. and short- and medium-range structs. *(Japanese)* 7—65077
  Si, elastic consts., mol. dynamic calcs., shear modulus 7—6705
  Si:P, transmutation doped, deform. pot. shear const. determ. 7—38086
  SiO_2 gels. prep. using tetraethoxysilane, elastic moduli 7—46537
  W-Cu compacted pseudoalloys, elastic props., deform. diagram and pores effect 7—33722

shear strength
  fabric dependence of anisotropic strength criterion 7—38084
  fibre reinforced composites, compact shear test specimens 7—39793
  fibre reinforced composites, compressive-fluxural/shear failure mode transition, interface strength 7—39586
  fibre reinforced composites with internal stresses under control 7—3383
  fibre reinforced concrete, shear test specimen geometry 7—46738
  fibre reinforced plastics, hybrid, tensile, compressive, flexural and shear props., review 7—39532
  graphite fibre reinforced epoxy, thermomech. behaviour, space rad. effects 7—51828
  jet flow perpendicular to flat plate, shear stress meas. by erosion technique 7—31898
  marble, development of conjugate-shear fracture *(Chinese)* 7—34474
  peridontal ligament, human, mech. props. of tooth and root sections 7—3824
  polymer honeycomb filter, strength and stiffness in shearing determ. 7—17634
  porous-glassy-carbon/bone interface, loaded, shear strength, rabbit obs. 7—54643
  rock joints, shear failure constraints for empirical relations 7—55018
  SCARE postprocessor program to MSC/NASTRAN, ceramic components reliability anal. 7—17750
  shear center of nonsymmetric open thin-walled sections 7—37337
  solders, rapid solidification cast vs. die attach soft type 7—39500
  steel, mild, shearing properties, axial compressive stress effects 7—8063
  steel, p/m, heat treatment effect on strength and yield parameters 7—53775
  steel, P/M, produced by hot forming, strength characts., influence of porosity, C content and compacting method 7—53823
  Al alloy, high press. strength, shock wave expts. 7—22782
  Al, high press. strength, shock wave expts. 7—22782
  Al, shearing properties, axial compressive stress effects 7—8063
  C fibre reinforced epoxy, electrodeposition of polymer interphase 7—13592
  C fibre reinforced plastics, strength, thermomech. props. thermal spiking and moisture absorpt. effect 7—28085
  C fibre reinforced plastic, cemented lap joint, stress-strain state and strength 7—33794
  Fe-Cr-Ni, hardening at low temp. *(Russian)* 7—39554
  Ni/NiO/ZrO_2, partially stabilised, bonding, stresses, shear strength 7—39845
  $Ni_{78}Si_{10}B_{12}$, metallic glass, shear crack propag. 7—65113
  W—Cu bond, mechanical properties, fusion reactor divertor plate appl. 7—26848

shear turbulence
  boundary layer 2D separation, mean flow similarity 7—31767
  buoyant and combusting flow, turbulence model 7—51083
  channel flow, curvature effect, num. simulation 7—57926
  chemically reacting passive scalars, statistical anal. 7—63127
  coherent struct., spatial details 7—43870
  coherent struct. in confined shear layer, system response influence 7—51089
  coherent struct. in reattaching laminar and turbulent shear layers 7—51079
  coherent structures in the far field of a turbulent wake 7—31773
  complex shear flows, turbulence modelling 7—51077
  compressible separated turbulent shear flow, mixing, flow meas. 7—51080
  compressible turbulent free shear layer interaction 7—51078
  entrainment flow paths, parallel and perpendicular relative efficiencies 7—20694
  flow-induced surface instabilities, Kramer-type compliant surfaces, irreversible processes effects 7—16159
  fluidelastic instability of rectangular plates under shearing load in subsonic flow 7—51057
  fully developed turbulent flow in rot. channel, large-eddy simulation 7—37450
  instability waves, wave action density analysis 7—16169
  interfacial wave generation, investigation through flow visualisation and LDA 7—37438
  jet diffusion flame in co-flowing air stream, turbulence struct. 7—43996
  jet flow perpendicular to flat plate, shear stress meas. by erosion technique 7—31898
  Karman vortex street modification in the freestream 7—20734
  meandering channels, flow and pollutant dispersion, 3D modelling 7—44052
  plate, uniform and shear flows at high Reynolds numbers, boundary value technique appl. 7—63126
  reacting and non-reacting turbulent liquid mixing layer, entrainment and mixing, composition meas. 7—16174
  ribbed wall channel, turbulent flow study using 2-component laser Doppler anemometry 7—37547
  rotating cylinder in quiescent fluid, turbulent shear flow, flow visualisation, eddies 7—16168
  stratified flow, entrainment, sheared density interface study 7—51266
  streamline curvature effects on turbulence in shear layers 7—6201
  swirled plumes, shear stresses, turbulent heat flux 7—6220
  third-order scalar transports, composite time scale model 7—51092
  turbulent boundary layers, wall-pressure peaks generation, flow struct. obs. 7—57821
  two layer fluid, chemically reacting mixing layer, vortical struct., flow visualisation anal. 7—44007
  two-dimensional shear-layer entrainment 7—31770
  two-dimensional turbulent jet, discrete vortex simulation, shear layers 7—16225
  two-phase wavy film flow, interfacial shear factor, interfacial mobility study 7—57899

- **shear turbulence** continued
  - unsteady incompressible turbulent boundary layer flow overa longitudinal cylinder 7−6195
  - velocity distribution in a circular pipe 7−43883
  - vertically stratified thin accretion disks, baroclinic waves 7−14477
  - vortex-pairing mechanism, interaction of free-stream turbulence with shear layer vortices 7−43931
  - vorticity and vel. struct. function eqn. isotropic forms 7−51090
  - wakes, press.-gradient effects and curvature 7−57843
- **shear turbulent flow** *see shear turbulence*
- **shear waves** *see elastic waves*
- **sheathing, cable** *see cable sheathing*
- **sheaths, plasma** *see plasma sheaths*
- **shell model (nuclear)** *see nuclear shell model*
- **SHG** *see harmonic generation*
- **SHG (optical)** *see optical harmonic generation*
- **shielding**
  - *see also magnetic shielding; radiation protection*
  - 1.43 MeV γ-ray penetration of shields, benchmark data for Pb, Al, steel and graphite 7−5487
  - close-fitting shield doors with sculptured edges for nuclear fuel reprocessing plant 7−49739
  - cold radiation shield design for linear detector array 7−35592
  - concrete shield, fast neutron albedo calcs. 7−30622
  - conf., London, England (September 1985) 7−18492
  - cyclotron, residual radioactivity in components and surroundings 7−8701
  - deep penetration problem, angular biasing scheme using 3D Monte Carlo method 7−10303
  - depth-dose distributions, conversion from slab to spherical geometries for space-shielding appls. 7−56879
  - gamma radiation transport, numerical integration technique 7−10301
  - general next event surface crossing estimators for Monte Carlo methods 7−30470
  - graphite, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
  - graphite shielding slabs, penetration of 2.75 MeV γ-rays 7−30712
  - hot cells, posting in/out technique 7−62100
  - JOYO radiation streaming, energy-space dependent error propagation in Monte Carlo coupling calculations 7−19335
  - LMFBRs, angular depend. of neutron-noise transmission through shields 7−42139
  - MICROSHIELD, microcomputer program for dose rate, gamma shielding anal. 7−42109
  - negative ion beam acceleration and transport experiments 7−15032
  - neutral beam injection duct concrete shield, differential gamma dose rate 7−36242
  - neutron leakage through an Fe shield at an accelerator, rel. to concrete augmentation of shielding 7−54764
  - neutron shields for medium-energy accelerators 7−42258
  - nondegenerate electron gas, selfconsistent screening effect, Coulomb interactions 7−29889
  - personal computer experience in radiation protection and shielding analysis 7−42235
  - personnel exposure in interventional radiology, shielding method 7−47261
  - Petten HFR, reactor vessel replacement, dismantling, segmentation, waste disposal, doses 7−5488
  - plasma sheath develop., Mather's type plasma focus geometry, geometrical conditions anal. 7−32182
  - PWR, n-γ shielding designs in France 7−25133
  - radiation shielding physics, state and development 7−49728
  - radiotherapy, improved system of customised photon shielding 7−3885
  - radiotherapy shielding block fabrication, pot. exposure to metal fumes, particulates, and organic vapours 7−40277
  - radwaste packages with several shields, buildup factors for point-kernel calcs. *(German)* 7−36267
  - safety analysis codes for shipping casks in Japan 7−15414
  - SCALE, criticality safety analysis appl. on mainframe and microcomputer 7−15413
  - SCALE, nuclear waste cask analysis, critically safety analysis 7−15411
  - SCALE, nuclear waste cask analysis software, heat transfer analysis capabilities 7−15412
  - SCALE, nuclear waste cask analysis software, implementation, validation and application 7−15424
  - SCALE, spent fuel cask analysis, cross-section processing techniques 7−15421
  - SCALE, spent fuel cask analysis software, conf., Saclay, France, (June 1986) 7−14700
  - SCALE, spent fuel cask analysis software 7−15410
  - SCALE, spent fuel casks analysis software, isotopics, radiation spectra and decay heat 7−15423
  - SCALE computation system, shielding analysis methods 7−15422
  - spherical concrete-walled room, gamma radiation reflection calcs. 7−42237
  - steel, shielding slabs, penetration of 2.75 MeV γ-rays 7−30712
  - steel shield for NMR imaging, fabrication and performance 7−47274
  - TMI-2 reactor vessel, gamma scanning of primary shield cavity, results 7−42238
  - ventilation duct in reprocessing plant shield, neutron streaming, numerical comparisons 7−19555
  - vitrified colemanite and impregnated polymer, nuclear shielding materials 7−726
  - β-particle transmission in LiF, acrylic, mylar, Teflon and PVC 7−25266
  - Al shielding slabs, penetration of 2.75 MeV γ-rays 7−30712
  - ^{252}Cf(n, X), spectral investigations for biological shield labyrinth calc. 7−36298
  - D-T neutrons transmitted through rare earth mixed concretes, neutron spectrum 7−25158
  - LiF, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
  - Pb apron for radiation protection, design improvement 7−60093
  - Pb, buildup factors and spectra for point isotropic γ-sources near the K-edge 7−36301
  - Pb, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
  - Pb shielding slabs, penetration of 2.75 MeV γ-rays 7−30712
  - U, shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104
- **shielding, magnetic** *see magnetic shielding*
- **ships**
  - *see also navigation; radio direction-finding*
  - boundary layer flow and frictional resistance of uniformly accelerating or decelerating flat plate 7−1544
  - flow around aft section, static pressure meas. 7−37594
- **ships** continued
  - Mutsu, ship propulsion reactor, thermal-hydraulic transient characts. from safety anal. *(Japanese)* 7−25128
  - spent nuclear fuel shipping vessel, neutron dose rates, Monte-Carlo anal. 7−25267
  - transmission and directivity characteristics of beam emitted by sonar dome of a boat *(French)* 7−43510
  - water waves and floating bodies, workshop, MIT, Cambridge, MA, USA (Feb. 1986) 7−48143
  - AgBr-AgI crystals, strain-ageing 7−6627
- **shock, thermal** *see thermal shock*
- **shock measurement**
  - laser-driven flyers backed by high impedance windows, vel. meas. 7−30029
  - manganin foil stress gauges, piezoresist. response meas. 7−29998
  - manganin stress gauges, dynamically loaded, piezoresistive response 7−29992
  - Microshell-tipped optical fibres, high-press. shock detectors 7−30030
  - multiwire chambers filament tension meas., using automated electronic tensometer 7−30004
  - polymeric materials, shock absorpt. charact., expt. technique 7−8222
  - polyvinylidene fluoride films, active gauge for initiation diagnostics 7−30000
  - polyvinylidene fluoride piezoelectric film stress gauge response under impact loading 7−29996
  - rarefaction wave velocities determ. at high pressures, use of Manganin stress gauges 7−48713
  - steel flatpack soil stress gauge, shock loading, elec. noise anal. 7−30001
  - velocity-interferometer data, digital image processing 7−18868
- **shock tubes**
  - *see also shock waves*
  - special relativistic shock tube problems 7−26365
  - T-shock tube, current disruption wave generation 7−63281
  - CO_2 interface evolution in shock tube, turbulent mixing zone 7−11460
- **shock wave effects**
  - alumina polycrystalline ceramics, shock fracture and recompaction, double impact technique study 7−33880
  - anthracene in benzene, fluorescence spectral shifts, laser-driven shock compression 7−27781
  - barrier puncture with brittle fracture by rigid cone 7−43786
  - beam, shock-loaded, large plastic strains eval. 7−43752
  - benzene, CARS, shock-compression induced frequency shifts 7−22272
  - benzene, shock decomposition products detection by chemiluminescence 7−23023
  - bytownite, thermoluminesc. study of exptl. shock-loading effects 7−55025
  - 3D chemically nonequilibrium viscous shock layer on catalytic surface 7−20810
  - conference, Spokane, WA, USA (July 1985) 7−18501
  - cosmic ray acceleration by supernova remnant shock-waves, orbit averaged Darwin quasi-neutral hybrid code 7−14425
  - detonation, time dependent 2D, interaction of edge rarefactions with finite length reaction zones 7−26363
  - detonation shock waves, transonic flow behind wave front, stationarity conditions 7−63174
  - diffuse interstellar clouds, ζ Oph direction model 7−48035
  - dislocation kinetics behind shear shocks 7−26862
  - dust particles, deposition, interaction with shock wave 7−1610
  - dynamic loading, shock-wave model in low-pressure region 7−26861
  - EM field production by shock wave propag. in condensed medium 7−32565
  - ethylene glycol, rapid cavitation induced by shock-wave refl., tensile strength meas. 7−31848
  - Euler transonic lifting flow, 2D/3D finite element soln., stream vector correction 7−43967
  - fibre reinforced composites, damping by dry friction of dynamic loads 7−32563
  - flow parameters in presence of shock waves, interferometry 7−43982
  - freons, liquid-vapour system, shock wave compression 7−31874
  - fused silica, laser-driven shock wave dynamics study 7−44691
  - gas-vapour-liquid mixtures, shock compression 7−43713
  - gas/particle nozzle flows, quasi 1D, shock waves 7−6238
  - gases, geometrical shock dynamics eqns. 7−26319
  - gases, hard and Maxwellian mols., shock wave struct., local entropy balance, bimodel approach 7−26320
  - glasses and polymers, stress meas. using transverse piezoresist. gauge 7−29999
  - glycerol, fluorescence spectral shifts, laser-driven shock compression 7−27781
  - graphite, nucl. grade, polycryst. beam, finite contact area effect on impact stresses 7−28050
  - Hugoniot eqn. of state, electron band theory approach 7−21392
  - Hugoniot values, calc. from atomic props. 7−44735
  - inert gas, shock wave instability, anomalous relaxation mechanism 7−31834
  - internal flow, Navier-Stokes eqn. num. soln. *(French)* 7−57872
  - interstellar shock waves, dust grains processing rel. to anomalous UV extinction towards open cluster (Trumpler 37) 7−48010
  - light gas gun for shock initiation studies, 63mm diameter 7−30031
  - liquid, impulsive failure, energy threshold 7−32539
  - liquid-solid impact, shock structs. and jetting conditions 7−32573
  - localisation of shock by digital image processing techniques 7−51224
  - mammalian tissues and bones, shock-absorbing props. 7−3829
  - materials modification and synthesis under high pressure shock compression, book contrib. 7−27957
  - materials synthesis under high-press. shock loading 7−33934
  - metal powders, shock wave induced consolidation, microlevel numerical modelling 7−27965
  - metallic samples, shock loaded, mass ejection meas. techniques 7−30032
  - metallic shock loaded free surfaces, mass ejection studies 7−32570
  - metals, asymmetric oblique supersonic collisions, shock polar method anal. 7−32572
  - metals, thermodynamics during high-pressure shock 7−21352
  - molecular production by MHD shocks in diffuse interstellar clouds 7−48034
  - molecular systems, energy transfer, mol. dynamics simulations 7−39895
  - Murchison carbonaceous chondrite, shock-induced volatile loss and implications for planetary accretion 7−34949
  - N, shock compressed, elec. cond. meas. 7−33019
  - nitromethane, CARS, shock-compression induced frequency shifts 7−22272

shock wave effects continued
nitromethane, shock-compressed, refractive index, laser interferometric meas. 7—30081
noise generation in transonic flow, investig. *(German)* 7—31833
nonequilibrium flows, transient processes, EM radiation field effect, shock wave effects 7—43979
nonequilibrium processes, computer simulation 7—18688
nontronite, effects of shock and thermal alteration on physical props., and implications for Martian surface 7—55024
oblique shock waves and turbulent boundary layer interactions, meas. and model 7—16208
oligoclase, thermoluminesc. study of exptl. shock-loading effects 7—55025
optical fibres, shocked, spectral transmission characts. 7—31466
piezoceramics, electrical response to shock waves 7—63178
plane detonation wave at convex corner, diffr. 7—57880
plexiglass, laser-driven shock waves using dye laser irrad. 7—32569
PMMA, shock-compressed, refractive index, laser interferometric meas. 7—30081
polycarbonate, shock-loaded, tension-recompression response method study 7—33879
polyurethane foams, shock wave attenuation capabilities 7—33972
polyvinylidene fluoride, shock response, ferroelec. and piezoelec. props. meas. 7—32568
powder compact recovery fixtures, shock-induced temperature distributions 7—39454
PVC, implosive compaction of powders 7—33630
PVC based powder mixtures, shock consolidation, densification, industrial appls. 7—39473
rarefaction or shock wave/duct area change interaction, numerical soln. 7—11461
reaction zone measurements in high explosive detonation waves by means of shock-induced polarization 7—11558
release adiabat approx. using the Hugoniot 7—21354
research yesterday, today and tomorrow 7—18547
rippled interface between liqs. of different densities, shock wave effects 7—58572
sapphire, shock-compressed, refractive index, laser interferometric meas. 7—30081
self-sustaining detonation 7—31839
sharp-fin-induced shock wave-turbulent boundary layer interactions 7—20693
shell, spherical, thick-walled, under short pulse loading max. stresses eval. 7—20640
shock adiabats determ. in low density materials 7—11468
shock induced consolidation of metal powders, multiphase mixture model 7—26864
shock wave compression, review 7—21351
shock wave fracture, interferometric investig. 7—44683
silica, fused, shock-compressed, refractive index, laser interferometric meas. 7—30081
solid-solid phase transformations, nonequilib. mol. dynamics calcs. 7—17646
solids, spherical shock wave propagation and Hugoniots 7—32574
sphere or cylinders, shock wave effects 7—20623
split Hopkinson pressure bar method use in dynamic testing, review 7—22944
steady-state shock wave parameters in porous compressible materials, approximate calcs. 7—31653
steel, C, shock compressed unloading above phase transition point 7—12266
steel, crack stability in shock loading 7—53871
steel, stainless, high velocity shock impact, numerical simulation of sample recovery fixture 7—38120
steel tubes,energy dissipation characts. 7—63034
supernova remnants, nonsteady shock model for permitted O I line emission from O-rich nebulosity 7—55779
Taylor internal struct. of weak shock waves 7—51228
thin hard coatings, adhesion test methods, review 7—46741
transonic flow, three dimensional rotor flow with shocks, variational principles 7—43970
ultra-high pressure shock generation using UV high power lasers 7—30028
van der Waals gases, sonic shocks 7—57976
vinylidene fluoride-trifluoroethylene copolymer, shock response, ferroelec. and piezoelec. props. meas. 7—32568
wall function approach to boundary conditions in regions of adverse press. gradient 7—6198
water, rapid cavitation induced by shock-wave refl., tensile strength meas. 7—31848
water, shock wave propag., free surface reflection effects, computer simulation studies 7—32540
young supernova remnants, shock-heated dust obs. rel. to remnant struct. and dynamics 7—55754
Al alloy, high press. strength, shock wave expts. 7—22782
Al, heterogeneous shock wave response, holographic interferometry studies 7—32571
Al, high press. strength, shock wave expts. 7—22782
Al, reflectivity meas. on shock-unloading solids 7—27693
Al, shock adiabats, shell effects 7—2104
Al, shocked. polycryst. positron annihilation ang. correlation studies 7—46197
Al steady-wave shock compression, thermoplastic shear 7—51937
Al, thermodynamics during high-pressure shock 7—21352
Al under shock loading conditions, constitutive relation 7—26865
Al-Ni powder mixtures, shock-induced chemical reactions, optical meas. 7—39463
AlCuSiC composite, shock response 7—26867
Al_2O_3, minerals, shock induced radiation 7—27694
Al_2O_3, shock loaded, release behaviour, plate impact expts. 7—2101
Ar, metastable population meas. and flow instability due to shock wave, comparison with models 7—16207
Ar, solid, high press. eqn. of state 7—21396
Ar-N_2(CO) molecular beams, shock heated, vibrational relaxation 7—10717
Au, static compression, basis for ruby pressure scale calibration 7—18802
BN, graphite-like powder particles, shock compression effects 7—39453
BN, wurtzite-type and zincblende-type, struct. changes by shock treatments 7—22676
B_2O_3-SiO_2 glass, Pyrex, shock loading meas., impact failure modes determ. 7—33798
C particle laden O_2 gas, normal shock wave anal. 7—51288

shock wave effects continued
C-O_2 suspension, parameters affecting postshock wave relax. zone 7—51289
CO_2 interface evolution in shock tube, turbulent mixing zone 7—11460
CS_2, dynamically compressed liq., UV-visible spectrum, effects of temperature 7—22284
CS_2 liquid, time-resolved IR spectral photography of shock-induced chemistry 7—27727
CS_2, shocked liquid, absorpt. spectra 7—27743
$CaCO_3$ porous minerals, dynamic shock-loaded response 7—26863
CaF_2, powder compacts, shock wave effects 7—51936
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromag. alloy struct., shock loading effects, mag. struct. anal. 7—2100
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromagnet, prep. and struct. 7—22605
Cr-graphite powder mixture, coatings form. in shock wave treatment 7—8183
CsI, Hugoniot overtake sound-rel. meas. 7—44705
Cu, shock Hugoniot, ab initio interatomic pot. calcs. 7—21395
Cu, shock-deformed, threshold stress meas. 7—26868
Cu, static compression, basis for ruby pressure scale calibration 7—18802
D+D reaction, detection of occurrence during shock fracture of D_2O ice 7—39874
$ErRh_4B_4$, superconducting and ferromagnetic transitions 7—64385
Fe-Ni-B, amorphous, shock loading, inclusions dissolving, domain struct. *(Russian)* 7—63487
$Fe_{0.94}O$, metallisation at elevated press. and temp., shock wave elec. resist. meas. 7—7297
α-Fe_2O_3 powder compacts, shock-modified, Morin transition, Mossbauer and magnetisation studies 7—2852
H, liq. and solid, cryogenic, high press. eqn. of state, laser interferometric meas. method 7—30027
H_2, jets, ignition behind reflected shock waves 7—37504
H_2O, Raman spectroscopy during the passage of strong shock waves 7—22271
KCl, minerals, shock induced radiation 7—27694
LaB_6 dispersed powders and compact specimens, struct. and morphology 7—64976
LiF, minerals, shock induced radiation 7—27694
LiF, shock-compressed, refractive index, laser interferometric meas. 7—30081
LiF shock-loaded single crysts., dislocation transport, impact surface sources effects calcs. 7—44543
LiF, shocked along (111), temp. depend. of precursor amplitude 7—26836
$LiNbO_3$, heterogeneous shock wave response, holographic interferometry studies 7—32571
MgO, minerals, shock induced radiation 7—27694
N_2 fluid, high temp. and press. vibrational spectra, CARS study 7—53326
N_2, liquid, molecular dissociation and shock-induced cooling at high densities and temperatures 7—28307
N_2, shock-induced molecular dissociation 7—23022
NH_3, cryogenic, high press. shock temp. meas. 7—32566
NaCl, minerals, shock induced radiation 7—27694
Nb, shock-synthesised superconductor, characterisation 7—38116
$Nb_{0.94}O_2$ form. by shock reduction of Nb_2O_5 powder, rutile struct. study 7—2102
Ni-Al powder system, cpd. formation during shock wave loading 7—39460
Ni-Al synthesis by shock compression of composite particles 7—39462
Ni-base alloys, microcryst. powders, shock consolidated, microshear bonding 7—22745
Ni-base superalloy powder, IN-100, shock consolidation 7—39459
Ni-base superalloy power, mach stem characterisation during shock wave loading 7—38117
Ni-Mo-Cr-B powders, amorphous and microcrystalline, shock consolidated, wear props. 7—46655
Ni_3Al produced by shock compaction, TEM 7—39480
$Ni(CO)_4$, shock pyrolysis, homogeneous nucleation, spectroscopic investig. 7—46823
$Ni_{52.5}Mo_{38}Cr_8B_{1.5}$ metallic glass, shock consolidated, wear props. 7—28154
NiTi alloy powder, shock compaction 7—59480
O_2, shock-induced molecular dissociation 7—23022
OH+Ar(N_2), $A^2\Sigma^+-X^2\Pi$ band pressure broadening 7—50305
PZT ceramic, pressure induced ferroelectric-antiferroelectric transition 7—22201
Pb, shock adiabats, shell effects 7—2104
SF_6 puffer-type circuit breakers, effects of aerodynamic shocks on performance 7—51223
Se, amorphous, elec. resist. and Hugoniot shock wave vel. meas. 7—32567
Si single cryst., laser-driven shock induced damage study 7—64829
SiC powder, dynamic compaction 7—39452
SiO_2, minerals, shock induced radiation 7—27694
$Ta+SiO_2 \rightarrow Ta_2O_5+Si$, redox reaction induced by shock loading 7—59763
Ti-Al powder mixture subject to explosive shock-wave loading, compound formation 7—39461
Xe, radiative wave generation by laser-driven supercritical shock, expt. obs. 7—1591
Zn ferrite, shock-synthesised or furnace-reacted, mag. props. 7—38904
ZnCl aqueous soln., shock-compressed, refractive index, laser interferometric meas. 7—30081
$Zn_{1-x}Fe_xFe_2O_4$, shock synthesised, X-ray diffr. 7—39899
ZnO shock compressed powders, catalytic activity for CO oxidation and methanol synthesis 7—39919
ZnO-Fe_2O_3 powder mixtures, shock synthesis of $Zn_{1-x}Fe_{2+x}O_4$ 7—37955

shock waves
see also compressible flow; detonation; explosions; plasma shock waves; shock tubes; shock wave effects; supersonic flow
1982 July 13 interplanetary shock causing magnetopause compression 7—47643
advection-diffusion eqns., shock layer solns., stability 7—28314
air, gaseous charge explosion, blast wave propag. 7—57881
bandlimited pulse from a dynamite source in an elastic medium 7—26076
bentonite clay suspension, thixotropic-coagulation struct., shock waves 7—6253
blast waves, energy content in stellar model 7—34856
broadband sock-associated noise and screech tones 7—20502
Burger's eqn., third-order solns. 7—37494
characteristic Galerkin and Lagrange Galerkin methods for evolutionary PDEs 7—14783
combined Fourier/shock spectra for improved test specification 7—20498
complex shear flows, turbulence modelling 7—51077

shock waves continued
- compressible flow, moving finite-element modelling 7−51222
- compressible flow, two-dimensional, unsteady flows, technique for integrating Euler eqns. 7−51225
- condensed matter cylinder, steady Mach wave dimensions calc. 7−31693
- conference, Cambridge, England (March 1986) 7−40987
- conference, Spokane, WA, USA (July 1985) 7−18501
- convergent air intake with plane walls, flow study 7−11465
- converging magnetogasdynamic cylindrical shock waves in a uniform atmosphere 7−37552
- cylinder-aerofoil configuration, Mach number effects on vortex shedding 7−16205
- cylindrical shock interaction with thin-walled perforated screen 7−11467
- cylindrical-symmetric relativistic shock wave with azimuthal mag. field, nonexistence 7−4325
- cylindrical-symmetrical relativistic shock wave, motion in presence of axial mag. field 7−4322
- cylindrically-symmetrical relativistic shock waves, astrophysical appl. 7−47685
- detonation waves, spherical, attenuation under strong luminesc., num. soln. 7−63179
- discontinuous flows, teaching using interactive techniques and windowing 7−60923
- Earth bow shock, electrostatic potential jump determ. from solar wind ion components meas. 7−34821
- equation of state calcs. 7−21393
- equations of motion of elastic medium of different moduli, general theory of solns. 7−1475
- Euler eqn., wavy wall solns. 7−51210
- flow structure near windward side V-shaped wings with attached shock wave, calcs. 7−20757
- Galactic wind and termination shock, accel. and transport of ultra-high-energy cosmic rays 7−66403
- galactic wind terminal shock and cosmic rays accel. 7−55390
- gas-matter suspensions, shock wave interaction with rigid walls, mathematical modelling 7−1590
- gas-particle flow, shock wave struct., particle recoil effect, num. anal. 7−6251
- generation in supersonic flow, rotating body shape effect 7−43974
- glass, shock wave propagation phenomena 7−51941
- Gruneisen parameter, measurement from shock attenuation in a strongly decaying shock wave 7−21384
- hemisphere and cones in wind tunnels 7−51218
- hereditary medium, nonlinear shock wave, wave operator exact factorisation 7−43739
- holographic interferometry of shock waves initiated by gigawatt CO_2 laser pulse in transparent target 7−38052
- hydrocarbon fuel, combustion products flow in explosive type impulsive setup 7−17792
- hydromagnetic cylindrical shock in a rotating gas 7−57934
- hyperbolic conservation low approx., nonoscillatory shock capturing methods 7−26318
- hyperbolic systems of conservation laws, numerical solution 7−51227
- hypersonic viscous shock layer investig., on rotating bodies 7−20756
- ideal gas flow, shock waves, pot. approx. 7−51226
- ideal gas supersonic flow past blunt bodies with protruding spikes 7−57873
- impulsive pressure meas. of thin metal wire explosion and electric discharge in H_2O 7−44275
- incompressible three-phase flow in porous media, conservation laws 7−51286
- intense incoherent light flashes, optohydraulic effect 7−20760
- interplanetary medium, mag. cloud chamber effects behind flare-generated shock waves 7−4282
- interplanetary shock wave, flare-associated, 3D morphology 7−18343
- interplanetary shocks, energetic particle distrib. 7−34822
- interplanetary shocks preceded by solar filament eruptions 7−47655
- interstellar, H_2 re-formation behind fast shocks on amorphous silicate grains 7−24184
- interstellar gas, chemistry of shocked regions 7−14642
- interstellar matter, shock effects 7−66725
- interstellar MHD shock waves in mol. clouds, theory for oblique mag. fields 7−66454
- interstellar molecular clouds, theoretical models 7−14643
- interstellar molecular J-type shocks as initial value problem 7−60761
- interstellar molecular shocks, S chem. 7−48048
- interstellar neutral gas shell surrounding H II region, dynamical evolution 7−66692
- interstellar shock waves, limits of validity of isothermal approximation 7−60742
- interstellar shock waves and jets in star-forming clouds, implications of H_2 2 μm obs. 7−55760
- invariant system, similarity transform. *(Russian)* 7−43983
- inviscid flow, supersonic to subsonic transition, quasi-conservative lambda formulation 7−11454
- isentropic gas dynamic eqns., simplified Godunov schemes for 2×2 systems of conservation laws 7−51229
- kaolinite particles in aq. suspension, amplification of shock waves 7−43978
- laser-produced plasma blast waves, spectroscopic and interferometric meas. 7−6392
- lifting bodies using the flow behind axisymmetric conical shock waves 7−51215
- liquid metal two-phase mixture with and without mag. field, shock waves 7−5410
- liquid with vapour bubbles, finite duration pulses and shock wave evol. 7−6250
- local interstellar medium, electron density from Voyager heliospheric shock obs. *(Russian)* 7−14634
- long range nonlinear acoustic propagation, geometrical and diffusive effects 7−26068
- longitudinal shock wave reflection from plane rigid boundary 7−1484
- magnetogasdynamic cylindrical shock wave in isothermal gas 7−16270
- magnetotail slow shocks, relation to EM ion cyclotron beam anisotropy instability 7−66400
- materials with internal state variables, shocks and discontinuities, finite linear viscoelasticity 7−6129
- Mira variable stars, Mg II emission flux meas. from shock waves 7−47938
- multipoint total variation diminishing difference schemes, construction conditions 7−26317

shock waves continued
- N waves, evolution and decay, Burgers eqn. anal. 7−43980
- N waves, survey of studies *(Chinese)* 7−57628
- nitromethane, shocked, condensed, ignition, rate determining step 7−54124
- nonequilibrium vibrationally excited gas, shock wave struct. 7−16210
- nonlinear waves of different physicomechanical nature in finite continua 7−18604
- nonlocal conservation law in combustion theory 7−63233
- nuclear matter, relativistic flow, production via oblique shock waves 7−24949
- oblique shock waves and turbulent boundary layer interactions, meas. and model 7−16208
- Orion bright bar and the associated shocks *(Japanese)* 7−4543
- ϵ Per, lawn-sprinkling shock model for nonradial oscills. 7−47849
- plane detonation wave in combustible gas mixture, direct initiation 7−31836
- plane relativistic shock waves, corrugation stability 7−11463
- plasmasheet boundary layer, slow mode shock struct. 7−60487
- PMMA, shock wave propagation phenomena 7−51941
- point-source originating shock waves in heat cond. gas 7−34849
- porous multicomponent media, wave similarity problems 7−43740
- predatory-prey interactions, repulsive dispersal and presence of shock waves 7−37495
- pressure transducer for calibration usage, response character rel. to shock-wave struct. *(Chinese)* 7−48701
- propagation in gas with cosmic rays, instability *(Russian)* 7−40652
- propagation in tube, boundary disturbance form. 7−31838
- prototype physicochemical processes in shock layer during flow past hypersonic wind tunnels 7−63175
- radiation magnetogas dynamics, shock wave formation, weak discontinuity propag. 7−57935
- radiation magnetogasdynamics in flow behind spherical shock, exact similarity solns. 7−57931
- radiative heat fluxes in supersonic flow of inviscid gas over 3D bodies 7−43972
- radiative shocks, dynamical models and line spectra of steady shocks 7−55454
- reacting shock waves, theoretical and num. structure 7−20759
- rods, nonlinear propagation of elasto-plastic waves 7−26200
- self similar cylindrical shock wave in radiating magnetogasdynamics, astrophysical appl. 7−34847
- self-similar flow behind a spherical shock with varying strength in an inhomogeneous self-gravitating medium 7−60516
- semi-detached close binary star, mass transfer and accretion disk model 7−60727
- shock compression database 7−18465
- shock layers in perturbed systems related to steady conservation laws 7−61113
- shock viscosity, steady shock wave profiles, calc. 7−26839
- simulation in 3D of very strong shock waves 7−6247
- single unsteady supersonic jet, interaction with moving obstacle of finite dimens. 7−51255
- solar wind, ion accel. through drift and diffusion at interplanetary shocks 7−47658
- solar wind, loop structure behind travelling shock event, props. 7−60501
- solar wind, near-Earth shock, ions distrib. function dynamics 7−55406
- solar wind, near-Earth shocks, plasma waves characts., BUDVAR complex obs. 7−55407
- solar wind, shock-associated energetic particles, Intershock project EPSW expts. obs. 7−55408
- solar wind, shocks fine struct., BIFRAM plasma spectrometer meas. 7−55405
- solar wind interactions, conf., Toulouse, France (1986 June-July) 7−55873
- solar wind ion acceleration by interplanetary travelling shocks 7−34819
- solar wind shocks, microstructure 7−55410
- solar wind shocks, subcritical and supercritical, mag. field and energetic particle obs. 7−34820
- soluble gas bubbles, dynamics in liq. 7−31866
- spectra, use of signal envelopes to describe bandlimited response 7−31565
- stability in media with arbitrary eqn. of state, quasi 1D anal. and numerical modelling 7−63180
- star interiors, blast waves propag., analytical soln. 7−60517
- steam-water violent condensation shock mechanism 7−57901
- strain rate depend. in steady plastic shock waves 7−26866
- strong shock wave, generated by time-depend. spatially distributed energy input, propag. 7−16209
- strong shock wave propag. in medium with exponentially varying density, similarity soln. 7−14481
- structure, liq. with bubbles, transient heat and mass transfer effect 7−6249
- structure, statistical modelling, weighting schemes *(Russian)* 7−56019
- Sun, active region ejected plasma clouds, energy interconnection with assoc. shock waves 7−4421
- Sun, corona slow shock, upstream wind flow 7−66415
- supernova remnants, colliding, oblique shock refls. rel. to anomalous H I vel. features 7−24175
- supernova shock wave propag. into interstellar medium 7−4537
- supersonic dusty gas flow over a wedge, oblique shock waves 7−31835
- supersonic flow, asymptotic behaviour, determ., num. soln. 7−43976
- supersonic radical flowfield created by ring-type source nozzle, time-depend. 2D viscous anal. 7−31830
- supersonic spatial streamline flow with knock-on shock wave *(Russian)* 7−43977
- supersonic wake past blunt body, heat transfer, and drag 7−51214
- suspensions, gas-droplet, shock wave struct. 7−6252
- Taylor-Maccoll soln., const. density approx. 7−20749
- thermal relaxation at wavefront effect on shock wave evolution 7−43981
- transonic airfoils, Euler eqns., artificial dissipation models 7−51209
- transonic flow, implicit time-marching scheme 7−26310
- transonic flow over aerofoil, shock/boundary-layer interaction 7−6241
- transonic flows, unsteady phenomena, visualization and registration 7−37491
- transonic vortex flow past delta wings, integral eqn., approach 7−31828
- transonic/supersonic diffuser, shock-wave response to small amplitude pressure disturbances *(Japanese)* 7−11462
- turbomachinery flow, supersonic and choked, modified pot. method 7−20750
- vapour-gas-liquid systems, adiabatic compression and sound vel. 7−31873

shock waves continued
viscoelastic cylinder, longitudinal shock, non-stationary problem *(Russian)* 7−63037
viscous profile, conservation laws, nonlinear asymptotic stability 7−35290
viscous shock layer, ionisation of gas modelling 7−11466
wave processes in liquid with gas bubbles, num. investig. 7−6248
weak discontinuity wave, second order quasilinear eqn. 7−56049
weak perturbations, reflection by shock wave front, nonlinear anal. 7−31837
Wolf-Rayet star winds, shock model for X-ray emission 7−55648
Al, Hugoniot meas. to 420 GPa using a two-stage light-gas gun 7−21397
Al particles, ignition, behind detonation and shock waves 7−8287
α-Al_2O_3 powder compacts, shock wave profiles 7−38118
CO_2 hot bands, UV absorpt. spectrum 7−25535
CsI, shock wave overtake meas. 7−21353
H_2-O_2-Ar mixture, reflected-shock flowfield calcs., random choice method appl. 7−20812
^{4}He, superfluid, thermal shock profiles, evolution 7−44934
I_2, supersonic flow study by 3D visualization and laser-induced fluorescence 7−20751
SF_6, pseudostationary oblique shock-wave reflections, interferometric and numerical results 7−51940
UF_6, laser induced breakdown and appl. to flow diagnostics 7−20832
W, shock Hugoniot meas. 7−21398
Xe, equation of state behind strong shock waves, fluid integral eqn. approach 7−20827

shocks, electric *see electric shocks*

short-circuit currents
fusion reactor superconducting magnet system with internal short, MSCAP code appl. 7−15351
metal-polymer-metal sandwich, short-circuit current obs. *(Korean)* 7−12879
SnO_2 liquid junction solar cell sensitisation with conc. dyes 7−3646
solar cell, polycrystalline, grain boundary parameters determ. using EBIC signal derivative 7−8382
solar cell performance testing, outdoor facility 7−54311
solar cell short-circuit current meas. as method for efficiency calc. 7−13872
GaAs solar concentrator cells, perform. under 1 MeV electron irradiation 7−3704
$In_{2-x}Sn_xO_{3-y}$-i-n^+-InP Schottky diode, solar cell props. 7−65474
Ni-Cd cell, electrode kinetics and failure-mode prediction, internal short equiv. resist. estimation 7−54288
Pb acid battery initial short-circuit current prediction and obs. 7−3634
Si dot junction solar cells, fabrication and anal. 7−3708
Si n^+-p-p^+ solar cells, superlinear behaviour of short circuit current 7−23192
Si solar cells, metal insulator n on p, radiation damage 7−3703
Si solar cells, p^+-n-n^+, high efficiency, develop. 7−34047
Si solar cells in concentrators, performance meas. methods 7−54313
Si solar concentrator cells, perform. under 1 MeV electron irradiation 7−3704

short-range order
see also order-disorder transformations
alloys, binary, phase diagrams and short range order, Monte Carlo simulations 7−53704
alloys, binary, short range order, coherent pot. approx. 7−7142
alloys, FCC, binary, with nearest neighbour interactions, ordering 7−21403
alloys containing lattice vacancies, short-range order investig. using Monte Carlo method *(Russian)* 7−51761
alumina, ion-rich β- and β''-phases, superionic props., local and long-range order determ. 7−21519
amorphous alloys, radial distrib. fn., analytical determ. of area below first peak 7−32289
amorphous semiconductors, optical absorpt., tight-binding model 7−45961
binary amorphous alloys, structural models *(Chinese)* 7−37873
binary fluid mixture, compositional order, mol. dynamics study 7−37825
coke, metallurgical, microstruct. analysis and intercalated species 7−28008
fluids, topologically disordered systems Frenkel excitons, electronic absorpt. spectra 7−17287
glassy order in quenched 2D Lennard-Jones systems, Monte Carlo study 7−63494
granular superconductors, 3D, short-range order and phase diagrams 7−22062
HVEM, materials characterisation, critical voltage effect 7−37819
II-VI and III-V semicond. solid solns., short range order and free energy of mixing, EXAFS meas. 7−63573
III-V ternary alloy semiconductors, short-range order 7−44821
imperfect surfaces and adsorbates, short range order and correlations 7−6953
inert gases, liquefied, inherent structure, thermal disruption, mol. dynamics computer simulation 7−26612
liquid, SRO, thermal and mag. props. *(Russian)* 7−32253
lyotropic liq. crysts., spin relax., local order with cylindrical interfaces, translational diffusion, continuous diffusion model 7−64540
metal-H, systems, anelastic props. 7−26856
metallic glasses, short-range order, correlation functions 7−51660
metallic glasses-H_2, prep., struct. and props. 7−26663
metals, neutron scattering studies, conf., Julich, Germany (Oct. 1985) 7−48178
molten salts, microscopic struct. and dynamics, review 7−44348
nonferrous materials, specific heat capacities *(German)* 7−2228
physisorbed atoms on anisotropic rectangular lattice, struct. factor of incommensurate phases 7−52250
trans-polyacetylene: Br, polarised K edge XANES, short range order multiple scatt. calcs. 7−53445
trans-polyacetylene:I, polarised L_1 edge XANES anal., short range order full multiple scatt. calcs. 7−53444
polyelectrolyte solns., spin relax., local order with cylindrical interfaces, translational diffusion, continuous diffusion model 7−64540
random field models with long range exchange, scaling theory, 1/n expansion 7−24553
semiconductor superlattices with periodic, quasiperiodic and random spacings, plasmon spectra 7−21842
solid ortho-para H_2 mixtures, local orientational ordering near site percolation threshold 7−38297
solid solutions, atomic interaction energies, determ. from short-range order coeffs., inverse Monte Carlo methods 7−32653

short-range order continued
solid solutions, atomic interaction energies and short range order coeffs. 7−51675
steel, austenitic, Mn-Al, Al atom short range ordering, Mossbauer studies *(Russian)* 7−16480
surfaces (111) and (110), atomic adsorption of O, inverse photoemission study 7−7783
transition metal alloys, amorphous, short-range order, approx. to coherent locator *(Russian)* 7−58731
transition metal alloys, liquid and amorphous, chemical short-range order, electronic theory 7−44349
Ag-Au-Zn ternary system, liq., thermodynamic functions *(German)* 7−44856
Ag-Mg (15.0 wt.%), disordered alloy, SRO, X-ray diffr. study 7−16490
AgAl concentrated alloys, vacancy activation enthalpies 7−32431
AgAl, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
Al-Ag, decay and short-range ordering *(Russian)* 7−44795
Al-Mn alloys, icosahedral, amorphous and cryst. local struct., EXAFS study 7−63466
Al-Mn surface icosahedral phase form., ion beam mixing and interdiffusion 7−16653
Al_2O_3, film, prep. by pyrolysis of Al isopropylate 7−17448
Ar, rapidly quenched, Voronoi polyhedron distrib. calc., mol. dynamics method 7−26636
As-Se, amorphous, short range structures, EXAFS studies *(Chinese)* 7−37871
Au-Mn (15 at.%), disordered phase, high resolution electron microscopy study 7−63834
Au_3Cu short range order, EXAFS study 7−63555
$Au_{75}Cu_{25}$ and $Au_{70}Cu_{30}$, local order, X-ray diffuse scatt. meas. 7−26972
Bi-Ag, struct. of 10 mole % Ag alloy, liq. and amorphous states 7−6512
Bi-based metallic glasses, thermal relax. processes 7−51653
C, amorphous film, modification by inert gas ion irradiation 7−64018
a-C:H, props., review 7−51630
CO-Ar system phase diagram, critical point determ., X-ray diffr. study *(Russian)* 7−6776
$CaMgSi_2O_6$ - $CaFeSi_2O_6$, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7−59289
Cd single cryst., interatomic distance and thermal motion, K-shell EXAFS, temp. and orientation depend. 7−64814
Cd single crysts. anisotropic thermal effect, first shell distance and thermal motion, EXAFS study 7−63753
$Cd_{1-x}Mn_xSe$, powder, stress effects, amorphisation *(Korean)* 7−27960
Ce-Cu amorphous alloys, mag. and transport props., Ce-derived anomalies 7−52601
$Co_{83.5}Fe_5Si_{7.5}Ge_{1.5}B_{2.5}$, amorphous alloy, struct. changes after γ-irrad. *(Russian)* 7−58336
$Co_{25}Ti_{75}$, amorphous struct., neutron and X-ray diffr. 7−58149
$Co_{0.46}Zn_{0.54}In_2S_4$ layer cpd. mag. props. and ionic distrib., 2D magnetic system models 7−38880
α-Cu-Al, ordered domain charactn. from dissoln. kinetics study 7−22693
Cu-Au, disordered, short-range ordering, X-ray split diffuse intensity maxima separation 7−2222
Cu-Pt (25.7 at.%), transform. from short-range order to $L1_2$ and $L1_{2-s}$ ordered states 7−53726
CuAl, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
$Cu_{15}As_{34}Se_{51}$, glassy semiconductor, tetrahedral bonding 7−32304
CuMn, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
CuTi molten alloys, evidence of chemical short range order 7−21077
$Cu_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7−63486
CuZn brass alloys, local disorder and premartensitic phenomena, EXAFS study 7−64817
CuZn, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
$Cu_{10}Zr_7$, cryst. and amorphous, muon spin resonance studies 7−53196
Fe, BCC, mag. ordering and electronic struct. *(Russian)* 7−33170
Fe-B rapidly quenched cryst. alloys, local atomic environments, spin echo NMR studies 7−7606
Fe-B-based amorphous alloys, struct. evolution during heating *(Russian)* 7−16418
Fe-Co(V) alloys 7−51708
Fe-Cr-Ni alloys, local ordering, neutron irrad. effects, elec. resist. meas. 7−2070
Fe-Ge amorphous and cryst. layers, short range order and valence bands 7−13266
Fe-Ni-B, amorphous, shock loading, inclusions dissolving, domain struct. *(Russian)* 7−63487
Fe-Pt Invar alloys, premartensitic transform., local structural change, EXAFS study 7−63556
Fe_{13} clusters, icosahedral and cubo-octahedral coordination, electronic struct., first-principles method calcs. 7−45132
FeAl, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
$Fe(ClO_4)$, frozen aq. solns., short-range order, Mossbauer obs. 7−45844
$(Fe_{1-x}Co_x)_{77}B_{13}Si_{10}$ amorphous alloys, Mossbauer study 7−7623
$Fe_{82-x}Cr_{18}Ni_x$, single cryst. alloys, short range atomic ordering *(Russian)* 7−63558
x-$FeGa_2S_4$ layer cpd. mag. props. and ionic distrib., 2D magnetic system models 7−38880
$Fe_{40}Ni_{40}P_{14}B_6$ amorphous alloy, relax. struct. transforms., 80 to 300K 7−1890
$Fe_{40}Ni_{40}P_{14}B_6$ metallic glass, heterogeneous struct., EXAFS study 7−27816
Fe_3O_4 Mott-Wigner glass, polaronic order-disorder transition, muon spin rot. meas. 7−44787
Fe_3O_4, small polaron conduction and short-range order 7−7239
GaAs, molten, temp. fluctuation meas., 1125 to 937 K 7−58123
Gd equal magnetisation lines, effective field const., paramag. Curie temp. and magnetocaloric effect 7−7546
Gd-Fe evaporated amorphous alloy films, mag. props. and FMR behaviour studies 7−45825
$Gd_xLa_{65-x}Co_{25}B_{10}$ mixed glasses, mag. props., phase transitions, microstruct. effects 7−64465
$GeCl_4$, liq. struct., X-ray diffr. investig. *(German)* 7−58119
GeO_2 glass, high resolution EXAFS and XANES studies 7−27817
$GeSe_2$ glasses, short and medium range order, Mossbauer studies 7−13069

short-range order continued
  H_2, solid, ortho-para mixture, local order parameters distrib., NMR line shapes, relax. times 7−27052
  ^4He liq., surface electron lifetime obs., short range order effects *(Russian)* 7−6903
  In equal magnetisation lines, effective field const., paramag. Curie temp. and magnetocaloric effect 7−7546
  InAlAs, growth by MBE, alloy clustering, surface quality, role of kinetics and thermodynamics 7−32866
  K adatoms on Cu (001), two-dimensional condensation, LEED obs. 7−12478
  K_2O-P_2O_5-WO_{3-x} mixed valence glasses, local order, EXAFS and X-ray diffusion studies 7−1903
  La-Al, glass, pulsed neutron and X-ray diffraction 7−1912
  La-Si, glass, pulsed neutron and X-ray diffraction 7−1912
  $LaNi_5$, amorphous, short range order 7−37858
  MgO-FeO, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7−59289
  MgO-$LiFeO_2$, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7−59289
  Mn oxides, oxides, Ni- and Co-containing, structural chemistry, EXAFS studies 7−63578
  $MnAl_2S(Se)_4$ layer cpd. mag. props. and ionic distrib., 2D magnetic system models 7−38880
  Mo-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7−64779
  Mo_xNi_{100-x}, x=20, 28, 35, 48, 63, amorphous, struct., short range order, thermal stability 7−21107
  Na_2O-B_2O_3 glass struct., comparison with pyroborax 7−44391
  Na_2O-B_2O_3 glasses, effect of Na_2O addition, thermal expansion, sp. ht. meas. 7−44862
  NbC, vacancy electronic struct., muffin tin Green's function method calcs. 7−2531
  NbC_x, ordering behaviour, superstruct, refl. obs. 7−3267
  Nb_2O_5, anodic amorphous oxide films, short-range order 7−28200
  Ni-Al-Mo, precip. in Ni-base superalloys 7−53745
  Ni-B amorphous and crystalline alloys, vibr. density of states 7−38146
  Ni-base superalloys, creep resist. improvement, role of Re additions, APFIM study 7−22772
  Ni-Ge amorphous and cryst. layers, short range order and valence bands 7−13266
  Ni-P, amorphous electrodeposited alloys, short-range order *(Russian)* 7−32291
  $NiCr_x$, short range order and atomic interactions, neutron studies 7−51707
  Ni_3(FEM) alloys, (M=Nb, V, Ta), atomic short range order, pseudopot. calcs. *(Russian)* 7−44448
  $(Ni_3Fe)_{1-x}Cr_x$ alloys, ordering study, comp. depend., electron diffr. and Mossbauer meas. 7−51690
  $Ni_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7−63486
  $Ni_{63.7}Zr_{36.3}$ amorphous alloy, short-range order and struct. relax. 7−51642
  $Ni_{64}Zr_{36}$, amorphous, short range order, EXAFS 7−44388
  $Ni_{64}Zr_{36}$ amorphous alloy, local struct., EXAFS and neutron diffr. studies 7−64813
  PbO-SiO_2 glass, elastic props. and short- and medium-range structs. *(Japanese)* 7−65077
  Pd-Ag-Fe (1 and 2 at.%), plastically deformed, elec. resist., short range order effects 7−27318
  Pd-Ce-H, electrical resistance meas. 7−32984
  $Pd_{100-x}Ag_x$, plastically deformed, elec. resist., short range order effects 7−27318
  $PdD_{0.8}$, β-phase, interatomic pots. and lattice distortions 7−21372
  PdFe, drawing effects on elec. resist. and mech. props. *(Russian)* 7−17584
  $PdH_{0.64}$ hydride, superlattice ordering, implanted muon study 7−51689
  PdMn, atomic and mag. short range order 7−52941
  Rb liquid, Voronoi polyhedra statistics, changes during rapid quenching, computer simulation 7−32263
  Rb, rapidly quenched, Voronoi polyhedron distrib. calc., mol. dynamics method 7−26636
  Ru-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7−64779
  S_n, liq., chem. reactions, mol. dynamics simulation 7−39862
  Sb-Ge-Zn system, thermodynamic investig. *(German)* 7−53703
  a-Si:H films with columnar morphology, Raman scatt. study 7−64644
  a-Si:H short range order, impurity distrib. effects, EXAFS study 7−64761
  $SiCl_4$, liq. struct., X-ray diffr. investig. *(German)* 7−58119
  Sn-Sb melts, short-range order 7−63438
  $SnCl_4$, liq. struct., X-ray diffr. investig. *(German)* 7−58119
  TaD_x, nonstoichiometric, D atom disorder and diffusion 7−58532
  Ta_2O_5, anodic amorphous oxide films, short-range order 7−28200
  Ti-Cu-Ni-Si amorphous alloys, structural relax. annealing, X-ray diffr. studies 7−6537
  Ti-N system, short-range order 7−63570
  TiO_2 surface defect-struct., photon- and electron-stimulated desorption ion yield studies 7−44974
  $Ti_{1.17}S_2$ crystals, metal-insulator transition investig. 7−7296
  $Ti_{84}S_{16}$ metallic glass, total struct. factors, neutron and X-ray diffr. studies 7−6546
  W polycrystalline surfaces of thermionic cathodes, SEXAFS of absorbed Ba 7−64774
  W-Os polycrystalline surfaces of thermionic cathodes, SEXAFS of absorbed Ba 7−64774
  Zr-based transition metal glasses, local densities of states 7−7086
  Zr-Fe amorphous alloys, chemical short range order, thermal relaxation and ion irradiation effects 7−44385
shot noise *see random noise*
showers, cosmic ray *see cosmic ray showers and bursts*
Shpolskii spectra
  anthrone, triplet-triplet energy transfer to donors in Shpolskii matrices, phosphoresc. 7−57122
  chlorin, ground and excited states normal mode symmetry determ. 7−36588
  9-hydroxyphenalenone-de(di) Shpolskii matrix isolated, H bonding, phosphoresc. 7−19926
  quinoxaline, triplet state, Shpol'skii ODMR spectra, spin-lattice relax. 7−62428
shrinkage
  composite, winding, stress form. in frontal hardening 7−17491
  fibre reinforced composites with internal stresses under control 7−3383
  glass powders, calcia-aluminosilicate, sintering and crystn., kinetic processes 7−37877
  Mo-Ni, activated sintered, sintering behaviour and mech. props. 7−7929
  PET, biaxially oriented, effects of thermal treatment 7−12193
  PET fibres, heat treatment kinetics 7−44407
  polyacrylonitrile fibres, shrinkage, IR spectra investig. 7−59206
  polybutylene terephthalate fibres, heat treatment kinetics 7−44408
  polydimethylsiloxane, refr. index and thermal expansion coeff. variations with temp. 7−39060
  polymers, oriented, thermally stimulated shrinkage forces, induction time 7−13484
  polymers, oriented, thermally stimulated shrinkage forces, induction time 7−17560
  polypropylene, oriented, thermal expansion behaviour 7−6839
  sintering, solid-state, neck shape and limiting grain boundary diffusion/surface diffusion 7−64951
  sintering, viscous under uniaxial load 7−27959
  specimen thickness determination in electron microscopy 7−9928
  steel, austenitic stainless, liq. phase sintering, effect of Si additions 7−53678
  viscoelastic solid growth under frontal hardening conditions, stressed state form. 7−43712
  C fibre reinforced C, multidirectional composites, macroporosity and interface cracks 7−46513
  Cu-Sn-Pb system, struct. form. during sintering 7−64967
  Fe-P-Cu(Ni)(Mo), sintered atomised powder premixes, mech. props. 7−7931
  Fe-Sn mixed powder compacts, activated sintering *(Korean)* 7−3221
  Na_2O-B_2O_3-SiO_2 glass, porous, sintering temp, glass transition temp. *(Japanese)* 7−7954
  SiC, sintering phenomena 7−17504
  ZrO_2 thin films, monoclinic polycryst., sol-gel process, form. and thermal change *(Japanese)* 7−22470
Shubnikov-de Haas effect *see magnetoresistance*
Si-Ge alloys *see Ge-Si alloys*
SIC *see monolithic integrated circuits*
signal acquisition *see signal detection*
signal coding *see encoding*
signal conditioning circuits *see analogue-digital conversion; signal processing*
signal delay lines *see delay lines*
signal detection
  acoustic signal source detection using cross spectra between pairs of sensors distributed in space 7−43608
  ECG signal changes reconfiguration, using delta modulation *(Czech)* 7−60119
  Gaussian-Gaussian mixture, underwater noises modelling, detection 7−43512
  IR detector arrays, directions-of-arrival estimation, eigenstructure approach 7−56334
  microphone arrays, adaptive optimisation under nonlinear constraint 7−37306
  optical fibres, single-mode, mode field radius meas., harmonics detection appl. 7−37163
  optical waveguide loss meas. by scattered radiation detection 7−37143
  prehowling howlback detection method 7−37260
  QRS complex detection under strong noise, real-time, medical appl. 7−47266
signal generators
  see also function generators; noise generators
  AC/DC transfer instruments comparison using digital bridge 7−18835
  arbitrary waveform generator for turbulence experiments, computer-controlled 7−9846
  weather satellite automatic picture transmission, design of grey scale test pattern generator 7−29292
signal processing
  see also acoustic signal processing; bandwidth compression; correlation theory; data compression; filtering and prediction theory; picture processing; signal detection; signal processing equipment; Walsh functions
  acoustics, speech and signal processing, conf., Tokyo, Japan (April '86) 7−35100
  band-limited reflection seismograms, lin. inversion 7−23583
  blood pressure signals, continuous long-term, decomposition into root components 7−34311
  Born vs. Rytov approximations, is the debate over? 7−62593
  brain potentials, performance and measures of performance for estimators 7−23328
  cardiac micropotentials recovery, advanced digital techniques 7−34304
  chest auscultation, reduction of heart sounds from lung sounds by adaptive filtering 7−54685
  classifier-directed signal processing in brain research, EEG and magnetoencephalogram appl. 7−54820
  communications techniques in radio physics and astronomy 7−29411
  conference on bioengineering, New Haven, CT, USA (March 1986) 7−16
  Doppler weather radar, spectral moments recovery from overlaid echoes 7−9210
  ECG, criteria for optimal averaging of cardiac signals 7−23471
  ECG, filtering of vector signals based on the singularvalue decomposition 7−3916
  ECG, linear phase filtering for distortion-free ECGs 7−34310
  ECG, multi-lead, respiratory signals derivation 7−28745
  ECG, noise-dependent QRS delineation in exercise testing 7−34306
  ECG, respiratory information extraction by detect. of elec. axis variation 7−40346
  ECG, ventricular ectopy, level changes in long-term recordings, detect. method 7−28744
  ECG display and QRS detect., Hilbert transform appl. 7−40344
  EEG, epileptic, structural anal., multi-channel Kalman filter algorithm 7−54793
  EEG, noise generated in digitising or analogue recording, reduction method 7−54784
  EEG segmentation algorithms *(Spanish)* 7−8549
  electromagnetics, inverse methods, review 7−42857
  EMG, short time Fourier anal.: fast movements and constant contraction 7−54537
  epileptic electroencephalogram, syntactic analysis 7−34126

signal processing continued
ERASME airborne side-looking C-band radar, data processing and calibration 7—9205
event related pots., enhancement by iterative restoration algorithms 7—54535
evoked potential analysis using crosscorrelation and dynamic time-warping 7—8551
evoked potentials, adaptive filtering 7—59907
fibre optic sensors and their appls., conf., Cannes, France (Nov. 1985) 7—40999
fluorescence decay temp. sensor with optimised signal processing 7—41386
generalized median filters for biological signalprocessing 7—8785
heart rate variability signal processing, diagnostic aid in cardiovascular pathologies 7—54800
ignorance-based signal estimation given multiple noisy realizations 7—47264
impenetrable object tomographic reconstruction 7—62592
incoherent scatter radar probing 7—9211
integrated acousto-optic device modules for communication, signal processing, and computing 7—31526
intramuscular EMG signal estimation from surface EMG signal anal. 7—47035
inverse optics, conf., San Diego, CA, USA (Aug. 1985) 7—60869
inverse scattering, inverse source approach 7—62594
L_1 deconvolution and its application to seismic signal processing 7—34717
laminated materials, flaw detection, signal recognition automation using linear prediction model 7—3561
magnetospheric VLF radio waves spectral estimation, one-bit correlation method 7—9337
mandibular kinesiographic meas., distorted, signal restoration 7—47149
measurement methods, conf., Prague, Czechoslovakia (April 1985) 7—48169
meteorological satellite, radiometers, IR detectors and their calibration 7—23898
multichannel autoregressive spectral estimators, performance 7—40553
Multichannel far infrared interferometer, MIRI, signal processing for electron density meas. 7—25232
myoelectric signal processing effect on muscle force-EMG relation 7—8544
noisy signals, anal. by nonparametric smoothing and differentiation, brain pots, appl. 7—54422
optimal estimation theory in data analysis and signal processing, Kalman filter appl. 7—35500
phase meters, orthogonal with clipped signals, noise error statistical characts. 7—56302
plasma diagnostics, Kalman filter-based signal processor 7—1761
polarisation state control using fibre optic techniques 7—43421
power spectral density, efficient formula for estimating generalized moments, EEG appl. 7—54423
propagation emission tomography 7—61368
quasi-integer-period-sampling, accuracy improvement 7—18734
radio occultation data for Saturn rings diffraction problem elimination 7—34886
radioastronomy at Nobeyama Radio Observatory, Japan, signal processing techniques 7—55470
real time signal processing VIII, conf., San Diego, CA, USA (Aug. 1985) 7—24276
rectangular measuring signals, digital evaluation *(German)* 7—24636
resolution function of CMA systems used for Auger signal measurements 7—30119
SAR data from dynamic ocean surfaces, multi-look processing 7—40606
seismic data, minimum phase properties estimation 7—47368
seismic nonlinear elastic inversion strategy for refl. data 7—29274
seismic primary reflection coefficients, non-Gaussianity, significance for deconvolution 7—34391
seismic vibroseis records, deconvolution processing *(Rumanian)* 7—8862
seismic wavefield extrapolation by linearly transformed wave eqn. 7—28878
seismology, N^{th} root stacking, theory, appl. and examples 7—29273
seismology, optimum gain curve for true amplitude recovery processing *(Japanese)* 7—65944
seismology, three-dimensional Born inversion with an arbitrary reference 7—28879
singular value decomposition, locally quasi-stationary processing 7—47036
snow cover water equivalent determ. from satellite microwave radiometry, algorithm characts. 7—23711
submarine canyons, seismic vel. replacement by wave-eqn. datuming before stack 7—29269
TEXT, digital spectral anal. diagnostic for transport, turbulence and scatt. 7—25233
ultrasonics conference, San Francisco, USA (Oct. 1985) 7—11
uterine electrohysterogram processing for obstetrical monitoring 7—54791
visual evoked potentials, anal. through Wiener filtering applied to a small no. of sweeps 7—40142
VLBI correlators, signal loss due to imperfect fringe rot. 7—47722
water content in liquids, IR spectrochemical anal., standard-signal method and microprocessor technique 7—59809

signal processing, computerised *see computerised signal processing*

signal processing equipment
see also voice equipment
acoustoelectrooptic multichannel spectrum analyzer 7—50714
acoustooptic signal processors, incoherent-light space-integrating 7—50499
circuit for simultaneous measurements of particle sizing interferometer signal characteristics 7—56220
communication, control and sensing appls. of optical fibres *(French)* 7—6009
digital filter for electron instrumentation 7—47034
ECG signal changes reconfiguration, using delta modulation *(Czech)* 7—60119
event sampling by particle-number difference, using high-speed A/D processor 7—10365
field ion micrographs, image processing, video digitiser and frame memory system 7—30122
Gabor filters applied to electronic speckle patterninterferometer images 7—9892
general purpose correlator for introductory student demonstration expts. 7—18537
high temp. crystallisation, flaw form., AE detection, automatic system 7—3557

signal processing equipment continued
implantable multielectrode array with on-chip signal processing, microprobe for biopotentials recording 7—28495
liquid crystal TV, low-cost appl. to white-light optical signal processing 7—31251
multipoint signal averager for repetitive bioelectric signals, microprocessor-based 7—18091
neutral-beam performance analysis using a CAD camera 7—1766
peak amplitude and time detector for narrow pulse signals 7—48903
quasi-elastic light scattering, data acquisition and evaluation 7—56239
secondary ion imaging, with charge-coupled device camera 7—48912
selection system for particles with lifetimes of 1-0.1 psec, in vertex detector 7—10364
SETI, ultranarrowband searches with dedicated signal processing hardware 7—24013
short pulse beam monitor signal processing system for KEK 2.5 GeV linac *(Japanese)* 7—19620
spatial sampler using integrated optic techniques, electrooptic directional couplers 7—31524
threshold signal shaper for detector operating under increased loads 7—10363
US flaw detection, analytical signal convertor 7—31621
GaAs acoustic charge transport device using SAWs, signal processing appl., principles and performance 7—57653
Si liquid crystal spatial light modulator 7—37130

signal sources
see also signal generators
MOSFET chopper amplifier based, brain voltage changes meas. appl. 7—23480

signature analysers *see signal processing equipment*

signature analysis *see signal processing*

silica minerals *see minerals*

silicate glasses *see glass*

silicate minerals *see minerals*

silicon
see also nuclei with ......
(5×5) surface reconstruction, stability against native oxide form. obs. 7—2318
(111) surface structure, lattice gas model anal., DAS structure 7—2309
Si:O, heavily doped, SIMS meas. of O conc. 7—17388
acceptor neutralizing species, low temp. injection mechanisms 7—32482
accumulation layers, quasi-1D transport, strong localisation 7—64359
adsorbed layer on W(110), struct. and composition 7—7013
adsorbed $Mo(CO)_6$, laser induced electronic excitation followed by CO desorption on (111) surface 7—12470
adsorbed on Pt (111), effect on water adsorption and dissociation 7—27134
amorphisation and crystallisation 7—11914
amorphised and rapid thermally annealed, extended defects 7—16660
amorphised films, solid phase epitaxial regrowth, TEM characterisation 7—32883
amorphous, bibliography, 1985 update 7—24331
amorphous, Bragg diffraction of crystalline clusters 7—44374
amorphous, cathodic deposition from organic solvents *(Japanese)* 7—64947
amorphous, density of states, spectral function, calcs. using eqn. of motion method in k-space 7—27236
amorphous, deposition system, Si_2H_6 generation device 7—22501
amorphous, doped, thermal equilibration struct. 7—1887
amorphous, electron and hole concentration modelling 7—64269
amorphous, EPR-active centres, floating bond defects 7—38506
amorphous, generation-recombination rate 7—33032
amorphous, hybrid photovoltaic and thermal solar collector 7—59856
amorphous, ion implanted, 2D model of nucleation and regrowth 7—38408
amorphous, ion implanted, picosecond laser induced crystn. 7—16621
amorphous, IR absorpt., local phonon-induced bond angle distortion model 7—26642
amorphous, IR spectra calcs., static charge effects 7—3040
amorphous, lamellate structure 7—21740
amorphous, large are uniform thin films, production by scanning plasma method *(Japanese)* 7—17449
amorphous, low temp. electron transport near mobility edge 7—38562
amorphous, microelectronics appls., conf., Los Angeles, CA, USA (Jan. 1986) 7—24282
amorphous, obliquely deposited film, elec. and optical props. 7—12529
amorphous, p-i-n solar cells, CVD deposition from Si_2H_6 7—59841
amorphous, p-i-n solar cells, light-induced defects influence on performance 7—17910
amorphous, pulsed laser irrad., time-resolved X-ray absorption studies 7—3115
amorphous, recomb. via dangling bonds, occupation statistics 7—38515
amorphous, SERI Amorphous Silicon Measurements Task Force results 7—54308
amorphous, single-junction and multijunction solar cells, US DOE/SERI research project 7—8392
amorphous, solar cells, conversion efficiency improvement 7—17879
amorphous, technology, review of developments 7—38551
amorphous, tetrahedrally bonded, bond angle disorder 7—32297
amorphous and crystalline, light reflection, optical third-harmonic generation 7—11059
amorphous and single cryst., etching rate, ion backscatt. and channelling meas. 7—28231
amorphous electrochemical degradation of photovoltaic modules 7—17870
amorphous film, density-of-gap-states distrib. field effect meas. analytic determ. 7—52391
amorphous film, Rutherford backscattering, depth resolution, modelling of noise sources 7—53487
amorphous film, small-angle scatt. of electrons in STEM obs. of defects and voids 7—21754
amorphous films, density measurement using quartz oscillators 7—7079
amorphous films, ion implanted device structures, solid phase epitaxy, elec. props. 7—12564
amorphous films, preparation in separated ultra-high vacuum reaction chamber 7—59434
amorphous films, superlattice structure, photo-CVD deposition; solar cell fabrication 7—59450
amorphous films, surface passivation, study by photothermal deflection spectroscopy 7—59689
amorphous foil, time-resolved X-ray absorption during pulsed laser irradiation 7—12128

silicon continued
- amorphous foils, pulsed laser irrad., clusters and plasmas, time resolved X-ray absorpt. meas. 7−64755
- amorphous layer radiation detector development 7−30858
- amorphous layers, liq. phase crystallisation under pulsed heating 7−44773
- amorphous p-i-n solar cells with graded interface 7−23133
- amorphous photoconductor for liquid crystal spatial light modulator 7−43350
- amorphous position sensitive photodetector *(Japanese)* 7−30093
- amorphous protection layer on the surface of V/Si during silicide formation 7−58662
- amorphous pure and H doped films, defects and microvoids, positron annihilation study 7−45086
- amorphous solar cell, light induced degradation, quantitative anal. 7−17911
- amorphous solar cell characteristic improvement for indoor consumer electronics *(Japanese)* 7−65471
- amorphous solar cell modules fabricated with single-chamber load-lock deposition system 7−59860
- amorphous solar cell submodules, integrated type, laser patterning method 7−65470
- amorphous solar cells, dynamic inner collection efficiency 7−39992
- amorphous solar cells, open circuit voltage 7−46935
- amorphous solar cells, vidicon mode characterisation 7−8421
- amorphous solar cells on textured Al substrate, prep. by chemical etching 7−23156
- amorphous solar cells prepared by thermal evap. 7−23140
- amorphous solar cells with spectral response shift, applicability of reference cell method to perform. meas. 7−59858
- amorphous thin film, bulk trap spectroscopy by temp.-modulated space-charge-limited current meas. 7−45338
- amorphous thin film solar modules, excitation intensity effects on photocurrent response 7−40000
- amorphous to crystalline transformation, TEM in situ technique 7−44376
- anisotropic etching with EDP 7−46725
- anodic oxidation in pure water, appl. to MOS structs. 7−39776
- anomalous muonium, vacancy-associated model 7−51758
- anomalous photovoltage films X-ray irradiation effects studies 7−58834
- as-grown float-zone crysts., self-disorder vacancy associates, positron annihilation meas. 7−46232
- atom, g_J factors, many-body calcs. 7−62265
- atom, level energies and oscillator strengths, coupled channel model calcs., energy depend. sensitivity 7−49906
- atom, multiply ionised atom, heavy ion induced X-ray emission, post collision and processes 7−65365
- atomic clusters, in presence of O, Si-Si bond breaking, total energy calcs. 7−50438
- atomic imaging using JEOL 4000 EX TEM 7−32230
- atoms, transition energies, X-ray spectra, Xα theory, X-ray transition energies 7−10422
- Auger electron spectroscopy, sensitivity, contamination levels 7−54245
- Auger emission, ion-induced, review 7−59360
- avalanche photodiode for photon correlation meas., passive quenching 7−41463
- Avogadro constant determ., Si molar volume results 7−14913
- axial magnetic Czochralski growth 7−32343
- band gap determ. method 7−35155
- barrier detectors for charged particle detection *(Czech)* 7−62204
- bent cryst., dislocation motion by double-kink migration, vel. meas. 7−26753
- bent cryst., proton beam deflection 7−44632
- bent oxidised cryst. wafers, X-ray spherical wave diffr., interference phenomena 7−63402
- bicrystals, as-grown and annealed, conductance of grain boundaries 7−64245
- bicrystals, Czochralski growth, tilt boundaries 7−53558
- bicrystals, grain boundaries, electronic states, transient capacitance spectroscopy meas. 7−7173
- bicrystals, grain boundary carrier recombination, chemical origin 7−17039
- bicrystals and thin films, grain boundaries, electronic props. 7−7172
- bicrystals obtained by solid-phase intergrowth, interface region struct., electron microscopy 7−45023
- bifacial solar cell for space solar generators 7−8388
- bifacial solar cells, minority carrier diffusion length and surface recomb. vel. determ. 7−8407
- bistable optical device using guided mode excitation in Si on sapphire 7−57423
- bremsstrahlung isochromat spectra, electron-energy losses 7−22377
- broken dislocation bonds, annealing effects, optical polarisation of nuclear moments study 7−38008
- BSF solar cells, Rose-Weaver meas. technique 7−8423
- bulk free-carrier lifetime, IR absorpt., contactless spatially resolved meas. 7−52650
- buried oxide form. mechanisms by ion implantation 7−44580
- buried oxide structure formed by O ion implantation 7−12099
- carbonaceous films, prod. in situ in Tokamak TEXTOR, depth profiling 7−22893
- carrier transport theory, picosecond processes 7−45342
- cascade branching, Monte Carlo simulation 7−58376
- ceramics, SIMS 7−9919
- channelling radiation spectra of high-energy electrons and positrons 7−27806
- characterisation by a microwave photoconductance technique 7−7281
- charge carrier-lattice interaction, X-ray diffr. study 7−51975
- charge density, compact orbitals, LMTO tight binding representation 7−21806
- charged defect states at grain boundaries 7−44564
- charged particle detector, large-area 7−25326
- chemical sputtering by ions, electrons and photons 7−59355
- chemically assisted ion beam etching using low energy Kaufman source 7−22931
- chemisorbed on Pt, Pt-Si interfacial growth, intermixing, SEXAFS obs. 7−64772
- circular semiconductor sample, edge influence on bulk resist. 7−58811
- cleaved (111) surface, optical props. and atomic struct. 7−58595
- cleaved surface, ethylene adsorption, high resolution EELS study 7−63951
- clusters, TOF mass spectra 7−20084
- coadsorption with C on W (100), Auger spectra studies 7−63954
- cold cathode for high current densities 7−12816

silicon continued
- colloidal, prep., photochem. expts. 7−65332
- colour image sensor, based on wavelength dependence of radiation adsorption 7−4892
- complex permittivity meas. of semiconductors, TE$_{01\delta}$ mode dielectric resonator appl. 7−14976
- complex refractive index meas. during pulsed laser annealing 7−45970
- concentrator cell multifactorial experimental evaluation 7−13867
- concentrator solar cells, 27.5% efficiency 7−23135
- concentrator solar cells, efficiency limits 7−8384
- concentrator solar cells, low resistivity, 25% efficiency 7−23136
- conference on semiconductors, Jevnaker, Norway (June 1986) 7−14705
- contamination, ceramic specimens, for TEM, ion milling, grain boundary glassy phase 7−44327
- crystal, electron microdiffraction patterns, image reconstruction 7−6487
- crystal data for high-press. phases 7−16486
- crystal growth, impurity effect on formation of microdefects 7−32340
- crystal growth, mould shaping, spinning, method 7−53568
- crystal growth, semiconductor industry needs 7−53540
- crystal growth, solid state photovoltaic research status at SERI 7−8389
- crystal growth and epitaxial layer deposition for VLSI devices 7−46299
- crystal growth and solidification, high speed laser heating technique 7−53566
- crystalline, amorphous and H-doped, structural props., EXAFS study 7−64760
- crystalline, ion-implanted and amorphous, light diffraction by transient gratings 7−11034
- crystalline and amorphous, Monte Carlo growth simulation models 7−16470
- crystalline solar cells, conditions for high efficiency 7−23145
- crystalline surface layer at. struct. probed by SHG, (111) surface 7−20324
- crystals, band structure, LMTO calcs. 7−2477
- crystals, low energy Ag$^+$ implantation-induced deep centre depth distrib., DLTS study 7−26820
- crystals, radiation defect stabilisation and annealing kinetics study *(Russian)* 7−44608
- crystals, surface phonon modes and reconstructions, Green's function method calcs. 7−2339
- cubic and hexagonal diamond type, energy differences between structurally different crystals 7−7144
- cubic crysts. electron struct., cluster approx., Xalpha calcs. 7−38445
- curved cryst X-ray optics, inelastic scatt. expts., X-ray spectrometer design parameters 7−16354
- cutting of single crystal, surface damage anisotropy 7−13664
- CVD, adsorption on Si (111) of Si-H system species, rel. to temp., supersaturation, bond strength and press. 7−33583
- CVD, thermal diffusion effects, math. model 7−2410
- CVD in annular tubes, film thickness profiles in mixed convection-diffusion regime 7−27190
- CVD thin film, struct. and elec. props. 7−21730
- CVD thin film backside gettering effectiveness 7−38217
- Czochralski, electron-irradiated, DLTS and photoluminesc. studies 7−7149
- Czochralski grown, electron irrad., thermal donor form. 7−21868
- Czochralski grown, interdependence of contamination and defect formation 7−32467
- Czochralski grown, tensile props., 900-1200°C 7−51922
- Czochralski grown crystals, octahedral crystalline inclusions, TEM obs. 7−16581
- Czochralski growth, large diameter crystals, under horizontal or vertical mag. field 7−32342
- Czochralski growth, relax. in point defects system 7−16468
- Czochralski growth of high quality crysts. 7−53548
- dangling bond defect polarization and Haldane-Anderson model 7−21858
- dangling-bond surface states, orientation depend. *(Chinese)* 7−58844
- DC plasma etching in SF$_6$/O$_2$ mixtures, mass spectrometric transient study 7−8203
- deep centres in semiconductors, book 7−18510
- deep impurity centres, thermophysical studies 7−58765
- deep level carrier capture and emission press. depend. meas., lattice relax. determ. 7−21862
- defect annealing and impurity activation during high-intensity As$^+$ implantation doping 7−58295
- defect diagnostics for submicrometer VLSI, book contrib. 7−44562
- defect free zone, non-destructive microwave reflection decay meas. 7−51755
- defect reactions and atomic diffusion 7−38264
- defect species, scanning optical fibre microscope, laser beam induced current images 7−48846
- defect state generation, Si rapidly annealed with incoherent light 7−52504
- defect states on the surface and in the bulk, H passivation 7−13665
- defects and device processing, achievements and limitations 7−32428
- defects produced by electron and X-ray irradiation, surface effects 7−6687
- dendritic web cryst., solar cells and modules fabrication status 7−8391
- dendritic web ribbon, electrical and struct. props. 7−16922
- dendritic web ribbons, structural defect characterisation 7−12074
- dendritic web Si solar cells 7−40005
- dendritic web solar cells, twin plane effects on minority carrier diffusion length 7−13868
- deposited on Al$_2$O$_3$, strengthening reactions, effect of ion irrad., 7−28160
- deposition from SiH$_4$-Ar-H$_2$ plasma 7−23011
- detector material analysis using back electron beam induced current 7−44319
- detector materials, diagnostic techniques 7−46895
- detector with 2D pad readout, performance 7−30857
- detectors, high UV sensitivity and scintillator readout appls. 7−19666
- devices and materials, conf., Tokyo, Japan (Aug. 1986) 7−48173
- diffused p-n structs, recomb. props. of base region, effect of thermal and radiation defects 7−17089
- diffused-junction solar cells, shunt resist. and soft reverse characts. 7−17863
- diffusing metallic impurities, H implantation effects 7−12370
- diffusion layers with high charge carrier densities, IR radiation refl. 7−13123
- diffusion modelling, point defect interactions 7−32715
- diffusion of ion-implanted impurities, modelling on IBM PC 7−38265
- directional crystallisation, carbon-fabric support 7−13350
- dislocated, charge carrier recomb. processes 7−7264

silicon continued
dislocation density reduction by thermal cyclic annealing 7—12072
dislocation emission from cracks, X-ray topography obs. 7—38004
dislocation loops, generated by ion implantation and furnace annealing, depth profiles, RBS, X-ray diffr., TEM anal. 7—51882
dislocation luminescence lines, polarisation 7—39154
dislocation photoluminescence, thermal quenching effects 7—39155
dislocation transmission through $\Sigma=9$ symm. tilt boundaries, synchrotron X-ray topography, HVEM obs. 7—63646
dislocation transmission through $\Sigma=9$ symm. tilt boundaries, dynamic and crystallographic anal. 7—63647
dislocation-free single crysts., microdefect recomb. activity, electron irrad. and annealing effects, SEM study *(Russian)* 7—21287
dislocations and electron-hole radiative recombination 7—13203
disorder generation by Ar^+ implantation, Rutherford backscatt.-channelling meas. 7—63680
divacancy electronic struct. calc. *(Chinese)* 7—38490
divacancy levels in the band gap 7—12644
DLTS and MCTS spectra, charge-dependent defect traces 7—7161
DLTS spectrum of dislocations introduced by CW CO_2 laser *(Chinese)* 7—32939
dopant and impurity anal. for VLSI, appl. of SIMS 7—33988
dopant diffusion under thermal nitridation conditions 7—32716
dopant profiles by the spreading resistance technique, book contrib. 7—44594
dopant profiles modification due to surface and interface modifications 7—58306
doped layers, IR transmission spectra 7—59208
doped microcrystalline, LPCVD production, anal and solar cell appls. 7—17452
doping superlattices, anomalous mobility enhancement 7—7381
drift chamber for two-dimensional particle detection 7—25324
dry etching, radiation damage 7—54024
electrical conductivity meas., high pressure, in diamond anvil cells at cryogenic temp. 7—56299
electron and ion irradiation induced amorphisation, point defect dispersion and mobility 7—11916
electron beam irradiated at different temps., formation of complexes 7—12153
electron channelling 7—21305
electron correlation, band gaps and quasiparticle energies 7—27278
electron irrad., Mu to Mu^* transition, strain field induced 7—53205
electron irrad., obs. of IR bands during annealing, kinetic study 7—45214
electron planar channelling radiation, temp. depend. 7—46172
electron stimulated oxidation, surface effects, macroscopic continuum model 7—65236
electron-hole liq., ultrasonic attenuation calcs., intraband collision effects 7—12214
electron-hole plasma, second condensed phase 7—27357
electrooptical effects 7—59182
element analysis, neutron activation and capture method 7—17846
energy band gap calc., self-interaction correction to local density approx. 7—45144
energy calcs. using four-centre integrals 7—27227
energy deposited by mesons in 1-μm sites, probability distrib. 7—58312
energy gap, indirect meas. 7—7107
epitaxial film, with current filament radiation temp. coordinate distrib. 7—38650
epitaxial film on Ge, Al-Mg spinel and sapphire substrates, resonance Raman scattering 7—64017
epitaxial films, low temp. growth by very low press. CVD 7—27936
epitaxial growth of $FeSi_2$, effects of thin interposing layers 7—22471
epitaxial growth of transition metal silicide, progress review 7—21766
epitaxial growth using dual heating, slip dislocations and radial temp. gradient 7—38366
epitaxial growth using photochem. vapour deposition at 200°C 7—39431
epitaxial layers, autodoping effects 7—63635
epitaxial layers, free carrier conc., optical interference determ. 7—2745
epitaxial layers, impurity anal. by photoluminescence spectroscopy 7—7057
epitaxial layers, selective, surface morphology 7—32880
epitaxial layers, selectively grown, lattice strain 7—64920
epitaxial layers, ultrahigh-purity, photoluminesc. studies 7—45033
epitaxial layers, VPE growth, charactn. *(Japanese)* 7—63986
epitaxial low temp. growth by hot wall UHV/low press. CVD techniques, surface optimisation 7—3194
epitaxial overgrowth on SiO_2 surface 7—21737
epitaxial rare earth silicide form. by rapid annealing 7—21768
epitaxial silicide formation, initial nucleation processes and effects 7—21767
epitaxial wafers and films, temporal behaviour of modulated optical reflectance 7—53422
etch mechanism modelling, CF_4+O_2 7—39785
etch products in XeF_2, doping and pressure effects 7—33855
etch rates and reaction products study in NF_3-O_2 discharge 7—28218
etched and polished (111) surfaces, LEED spot profile anal. 7—11859
etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7—3493
etching by HF-CrO_3-H_2O solns., selective dissolution studies 7—3530
etching by photochem. machining 7—22909
etching in CF_4 discharge, SiF_2 and CF_2 radicals, laser-induced fluorescence study 7—46727
etching in CF_4 plasma, chemistry, model 7—3544
etching rates in CF_4/O_2 plasmas, effect of photoresist or Al masking 7—65222
etching V-groove structures 7—26031
evaporated film on Ag island film, surface-enhanced Raman scatt. study 7—13165
excimer laser photoablation, spectroscopic characts. of plasma 7—54019
exciton transport, optical time-of-flight investigation 7—64244
excitonic absorpt., MCD spectra, low mag. fields 7—27257
external photoelectric effect, Laue diffr., anomalous X-ray transmission 7—7811
fast ionisation waves due to absorpt. and reemission of luminesc. 7—52627
field ion imaging, Au shank overlayer effects, photoillumination and field-induced image-size effects 7—33534
film, deposition of photolytic or pyrolytic dissoc. of SiH_4 under laser irrad. 7—13388
film, doped, laser deposition for interconnections 7—53632
film deposition by radical jet laser-induced CVD 7—59457

silicon continued
film photoelements with drift field in solar cells, production and investigation 7—34030
film thickness meas. by autocorrelation function 7—41336
films, amorphous-crystalline mixtures, annealing effect on optical props. 7—59273
films, grain size and texture enhancement by seed selection through ion channelling 7—38401
films, laser beam melted, facet formation at solid-melt interface 7—38418
films, laser-induced melting and recrystn., heat transfer algorithm 7—21269
films, low-temperature growth by reactive ion beam deposition 7—59459
films, n-channel inversion layers, piezoresist. effect studies 7—45318
films, phase diagram of laser induced melt morphologies 7—12131
films, plasma-enhanced chemical vapour deposition model anal. 7—27937
films, processed and unprocessed, Raman microscopy of solid surfaces after laser irradiation 7—21264
films, solid epitaxial regrowth, structural and electrical characteristics 7—38403
films, solid phase epitaxial regrowth on epitaxially grown $MgO.Al_2O_3$ 7—38399
films, structural changes due to annealing 7—52346
films on amorphous substrates, prep. by zone melting recrystallisation and surface-energy-driven grain growth 7—38385
films on fused quartz, laser annealing and Raman spectra 7—58708
films on glass substrates, laser recrystallisation 7—38395
films on insulator, lamp zone melting, defect entrainment 7—53642
float zone wafers, interstitial form. during thermal oxidation, effect of HCl 7—39789
fourth-order thermal expansion coeff. fn. 7—44868
gamma-ray effects on micro defects and electrophysical props. 7—16629
gettering, review of phenomenology 7—38215
grain boundary energies, computer calcs. 7—6639
grain boundary photovoltaic effect, scanning laser beam obs. anal. 7—12766
graphite, siliconized, property variation during neutron irrad. 7—36105
group III acceptors, neutral and ionised states, deep dopant description 7—64155
growth by horizontal supported web technique for solar cells 7—17412
growth by SOG method and Stepanov method, stability anal. 7—33602
growth for electronic industry 7—33590
HCP-FCC transition, at 78 GPa and studies to 100 GPa 7—63804
heavily doped, band-gap narrowing 7—7108
heavily doped crystals, behaviour of O and dopants 7—32483
heteroepitaxial growth on ZrO_2-Y_2O_3 substrates 7—21735
heteroepitaxy on CaF_2-Si (111) 7—22497
heteroepitaxy using BaF_2 epitaxial buffer layers 7—12522
hierarchical lattices, phase transition universality sputtered, photoelec. props. 7—35486
high fluence D implantation, trapping and desorption, saturation conc. studies 7—26781
high press. phase, β-Sn-type struct., pseudopot. perturbation calcs. 7—51938
high purity, charge carrier lifetime meas. 7—45351
high temp. drift mobility, determ. 7—52621
homoepitaxial thin film growth by ultrahigh vacuum ion beam sputter deposition 7—22582
homogeneous amorphisation, ion implantation energy depend. study 7—63638
hot hole dispersion laws 7—52629
hot-electron 1/f noise 7—21927
IC microtransducer for air flow and differential pressure sensing 7—61329
IC sensor technology and applications *(German)* 7—24644
IGFET, quantum Hall, resistance meas., using improved Josephson potentiometer 7—18810
IGFET, quantum Hall resistance standard realisation at BIPM 7—18811
image sensors and their appls., conf., Cannes, France (Nov. 1985) 7—24288
impact ionisation coeffs., lucky drift model including soft threshold energy 7—64258
implantation damaged, transient enhanced dopant diffusion 7—44910
implanted layers, short time annealing, light source comparisons 7—21263
impurities, substitutional, lattice distortions and vibr. modes 7—51979
impurity and carrier conc. profiles, electrochem. C-V method *(Chinese)* 7—12105
impurity and defect props., processes and characterisation *(Japanese)* 7—7151
impurity doping by photonuclear reactions 7—16589
impurity gettering, defect-defect interaction mechanisms 7—16585
impurity ionisation, doping conc. and temp. depend. 7—38509
impurity profiles, depth resolution of SIMS 7—54253
indentation dislocation rosettes length, influence of Vickers indenter edge orientation rel. to slip directions 7—58284
ingot and foil casting 7—53711
InP:Si, ion implanted, rapid thermal annealing and solid phase epitaxy 7—21296
interdigital Schottky diode structure with fast UV response 7—24701
interdigitated back contact solar cells development 7—8386
interstitial-based intrinsic gettering process appl. to multilevel defects structs. 7—38048
intrinsic faults, weak beam contrast study 7—16377
intrinsic gettering by butterfly-type defects 7—38047
inversion layer, electrons and phonons in 1D and 2D 7—2734
inversion layer, localisation and interaction in a strong mag. field 7—64343
ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7—17423
ion beam induced recrystn., channelling effect 7—16650
ion beam mixing of Mo film, amorphous layer form. 7—21301
ion bombard., damage accumulation, flux depend., RBS 7—51891
ion bombarded with H ions, refractive index variations in the near-surface region 7—17299
ion implantation, damage profile studies, multilayer model *(Chinese)* 7—6648
ion implantation, H^+, He^+, Ar^+, elastic vibrations 7—12094
ion implantation, interstitial trapping, dopant migration and epitaxial regrowth 7—12103
ion implantation, with Co, Ni, Fe ions struct. and phase modifications 7—12095
ion implantation induced nonequilibrium surface layers, electron emission props. 7—12090

silicon continued
ion implantation-induced amorphous layer, temp. and dose depend. model calcs. 7—16594
ion implanted, amorphous phase transformation during rapid thermal annealing 7—16435
ion implanted, damage profiles, multilayer anal. by optical spectra *(Chinese)* 7—58294
ion implanted, epitaxy by thermal and laser processing, review 7—33706
ion implanted, laser beam melting and resolidification 7—12126
ion implanted, mech. stresses, laser interferometer studies 7—6657
ion implanted surface dopant cross-contamination, enhanced diffusion effects 7—32719
ion implanted with Ar^+, H_2 passivation, polycrystalline phase formation 7—12087
ion-implanted with MeV energy B^+, P^+ and As^+ ions, annealing behaviour 7—51776
ion-induced etching, surface processes 7—59702
ionisation-stimulated annealing of Frenkel pairs under electron or gamma irradiation 7—38061
IR emission from slotted surface of Si:P, EM organ pipe resonant modes 7—44873
islands, selective epitaxial deposition on SiO_2, morphology 7—38402
isoelectronic bound exciton states, spin splitting, photolum. excitation spectra study 7—2493
isoelectronic sequence, allowed 3-3 transitions, Slater parameter optimisation, HF CI calcs. 7—48206
isoelectronic structurally bistable defect configs. study 7—16546
Jahn-Teller vibronic state of the neutral vacancy 7—16705
junction detector, characterisation by automatic system 7—19663
junction emitter solar cell, quantum efficiency improvement 7—3681
junctions very shallow, elec. field anal. 7—21989
Lamb wave velocity meas. in thin plates by acoustic microscopy 7—2332
large unit cell CNDO calculations 7—7106
laser ablation, cluster and plasma formation, time-resolved X-ray monitoring 7—37710
laser annealed surface, Au submonolayer coverage, Kapitza anomaly reentry obs. 7—38318
laser induced defects, rapid and classical thermal processing, annealing kinetics 7—44609
laser irrad., nonequilib. melting and solidification, computational modeling 7—2059
laser irradiated, electron-hole plasma dynamics investigated by time-resolved spectroscopy 7—13276
laser irradiated, surface morphology and phase transitions 7—12121
laser materials processing developments at GEC Hirst Research Centre (UK) 7—53581
laser oxidation., electrophysical parameters of films produced 7—17741
laser-induced CVD for direct writing of Si lines 7—64921
laser-induced etching with Cl_2 7—22915
lattice dynamics, real-space force consts., adiabatic bond-charge model 7—32589
lattice dynamics and electron-phonon interactions, quasi-ion approach calcs. 7—58422
lattice images, screening effect 7—51592
lattice spacing meas., NRLM work relating to precision meas. and fundamental constants 7—14915
layers, electron irradiation-induced defect levels, annealing behaviour, DLTS studies 7—52493
layers damaged by cutting, struct., X-ray diffr. obs. 7—2401
light-enhanced oxidation, hot electron injection, electron population depend. study 7—46720
liquid, electronic props., tight binding-mol. dynamics calcs. 7—16931
liquid crystal spatial light modulator 7—37130
local autoepitaxial layers, packing defect density, depend. on crystallographic orientation of side boundaries 7—58701
LOCOS substrates, nucleation of dislocations at thin film edges 7—51597
low energy ion beam damage, ellipsometric characterisation, two-film optical model 7—27680
low pressure epitaxial growth, appl. to dielec. isolation technology 7—53624
low pressure epitaxy using Si_2H_6 7—53623
low temp. oxidation studies, internal stress 7—33864
low-angle silicon sheet (LASS) material, microstructure exam. 7—21231
low-temp. plasma nitridation process, props. and appls. 7—33867
LPCVD films properties when formed from SiH_4 in vertical flow reactor 7—22563
LPE layer form., depend. on Al_nM chem. reaction, M=refractory metal 7—7043
LPE on patterned substrates, growth and characters 7—22599
magnetic Czochralski growth, at high pulling rates 7—33551
magnetic-field Czochralski-grown neutron transmutation doped, thermal behaviour 7—53574
magnetic-field-applied Czochralski growth *(Chinese)* 7—59401
masked ion-implanted devices for solar cell and optical sensor appls. 7—40006
materials science and technology, conf., Boston, MA, USA (May 1986) 7—29598
materials science issues in IC processing 7—35115
MBE, impurity sticking coeffs., substrate orientation depend. 7—52355
MBE, review 7—33573
MBE cryst. growth, dopant incorporation 7—12559
MBE dopant profiling, electrochemical CV technique 7—12108
MBE films, deep level defects 7—12668
MBE grown, abrupt doping profiles, spreading resist. determ. 7—12110
MBE grown, defect densities 7—12560
MBE grown layers, arbitrary doping profiles 7—12109
MBE growth, conf., Toronto, Ont., Canada (May 1985) 7—9588
MBE growth, Radclean surface cleaning process 7—12557
MBE growth, RHEED intensity oscillations 7—7068
MBE growth, selective diminution in RHEED pattern from (001)-2×1 reconstructed surface 7—7069
MBE growth on CaF_2/Si (111), structural and electrical characteristics 7—45051
MBE growth on Si (100) and (111), interface formation 7—21773
MBE homoepitaxial growth, expt. considerations 7—13369
MBE layers, deep levels, DLTS meas. 7—12667
MBE layers, defect characterisation, luminesc., TEM studies 7—13227
MBE layers, defects 7—21772
MBE layers, spreading resist., etching, bevelling, staining characterisation techniques 7—12891
MBE layers, spreading resist. anal. carrier spilling effects 7—2741

silicon continued
MBE on Si, role of surface reconstruction, LEED, Rutherford backscattering, channelling meas. 7—7034
MBE on Si substrates, stacking fault tetrahedra form.. 7—21769
MBE simultaneous growth on multiple substrates, apparatus 7—7867
melt recrystallisation of Si powder layers for solar cell fabrication 7—17492
melting induced by picosecond laser pulses 7—38166
metal film/Si interface, silicide nucleation, kinetic model 7—63970
metallic glass, one-component, amorphisation and crystallisation *(Russian)* 7—32301
metastable phases, vibr. props. 7—2126
meteorites, Si isotopic composition 7—60609
micro-mechanics, Si-beams rectangular cross-section for atomic force sensing 7—51590
microarea stress study by microprobe Raman spectroscopy 7—63708
microcrystals, amorphous-like Raman signals 7—53349
microdefects, visualisation by X-ray topography 7—1811
microdefects, X-ray absorpt. during Laue diffr. study 7—2009
microdefects in dislocation-free Si single crystals 7—44528
micromechanic techniques for batch processed optical scanner 7—20473
microstrip detector structures with implanted p-n junctions, functional props. 7—42325
microstrip particle detector, low leakage current 7—19667
minority carrier lifetime and resist. mapping, flying-spot scanning method 7—4867
MINP solar cells, electron beam radiation effects 7—13876
MINP solar cells, high efficiency, performance, fabrication, characts. 7—23153
MINP solar cells, I-V characteristics meas. 7—8408
MINP solar cells, radiation damaged, conduction mechanism 7—65463
MIS device diffusion length meas. by spectral response 7—8424
MIS photodiode integrated arrays of photodetectors in spectral instruments 7—56335
MIS solar cells, sputter deposition of barrier metal 7—17866
MIS structs., state density of 2D electrons in transverse mag. field 7—12870
mixed group III and group V ion implantation 7—21243
molecular dynamics, classical two and three-body interatomic potentials 7—16966
monocrystalline, light-induced grating measurements 7—11035
monolithic gas flow sensor with polyimide asthermal insulator 7—6332
monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7—2536
MOS capacitor elec. parameters, effects of process chemical purity 7—33103
MOS capacitor struct., defect profiling, DLTS 7—12652
MOS inversion layers, high field low temp. transport props. *(Chinese)* 7—12862
MOS inversion layers, quantum transport effects 7—52767
MOS inversion layers, scaling relation of cond. in strong mag. fields 7—64352
MOS struct., phonon emission spectroscopy of 2D electron gas 7—27435
MOS structure, space charge layer capacitance, quantisation effects 7—7398
MOS structures, anodically and thermally grown, breakdown field strengths 7—17113
MOS structures, high field stressing, ESR study 7—33091
MOSFETs, weak localisation in isotropic and anisotropic 2D electron gases 7—64172
MOSFETs, weak localisation magnetoresist. in almost quantising mag. fields 7—22024
multi-level SOI recrystallization using a novel seed structure 7—53778
multibeam X-ray diffr., scattering perturbation theory anal. 7—32200
multicrystalline solar cells, fabrication using polyx technology *(French, English)* 7—23142
multilayers, LPE growth, DEM, TEM obs. 7—12565
muonium, anomalous, model as body-centered interstitial muonium, HF calc. 7—45899
n^+-p-p^+ solar cells, superlinear behaviour of short circuit current 7—23192
n^+pp^+ solar cell structs., quasisurface recomb. vel. determ. in contact layers 7—58875
n-n^+ epitaxial layers, recomb. parameters anal. by moving light strip method 7—21930
n-type, complex dielectric fn., carrier interactions, Monte Carlo calcs. 7—33041
n-type, electron heating and intervalley redistribution in strong electric fields 7—27336
n-type, excitons bound to pairs of shallow impurities 7—45169
n-type, gamma-irrad., intrinsic defects, Hall effect and elec. cond. meas. 7—6615
n-type, heavily doped, carrier conc. and activation energy, Lee-McGill model calcs. 7—58819
n-type, piezoresistance associated with bending of the energy relief at the bottom of the conduction band 7—13095
n-type, ultraheavily doped, Rayleigh surface waves, Brillouin scatt. study 7—21605
n-type (100) inversion layers, valley splitting enhancement by lossless edge currents 7—7395
n-type semiconductor/methanol junction device performance improvement 7—17098
neutron doping in RBMK-1000 power reactors 7—38068
neutron irrad. induced IR absorpt. bands 7—46004
neutron irradiated, EPR study on C_2 symmetry defect 7—27602
neutron irradiated, recovery 7—39567
neutron irradiated float zone crysts., triclinic symm. defect, EPR study 7—53134
neutron transmutation doped, optical current deep level transient spectroscopy 7—52525
neutron transmutation doped p-n-p-n structs., fast electron irradiated, minority carrier lifetime variations 7—45352
neutron-irradiated, photoluminescence study of annealing process 7—51833
neutron-irradiated, relax. space-charge-limited current spectroscopy 7—38493
neutron-transmutation doped, spatially resolved carrier lifetime meas. 7—7257
neutron-transmutation-doped, elec. resist. inhomogeneity form. characts. estimation 7—38026
nitridation, Fe-promoted, kinetics 7—59698

silicon continued
  nitridation treatments, review 7—17747
  nondegenerate, minority carrier diffusion length and doping density 7—33031
  normal muonium, location and hyperfine props., Hartree-Fock cluster calcs. 7—52539
  off-centre impurities and defects, local electronic struct. valence-bond theory calcs. 7—2532
  optical phonon spectrum transform. obs. under laser pulse bombardment, CARS study 7—51967
  optical polarisation of nuclear moments in Si with 1D defects 7—7602
  optical props. of isolated dangling bond 7—38507
  optical reflection anisotropy due to surface band bending 7—39062
  ordered Au, Ag, Cu overlayers, surface states, inverse photoemission studies 7—2660
  α Ori, dust shell Si fractional condensation, mass loss rate and grain characts., polarisation anal. 7—34972
  overheating during pulsed laser irradiation 7—12127
  oxidation, catalytic effect of near-noble metal 7—3545
  oxidation, conference, Paris, France (May 1986) 7—60866
  oxidation, dissolved oxygen concentration effects 7—54016
  oxidation, EELS studies 7—3128
  oxidation, growth mechanism of thin oxide films 7—65235
  oxidation, in air, kinetics of film growth on polished plates 7—13666
  oxidation, kinetics of growth of SiO_2 layer, optical props. 7—17740
  oxidation, kinetics of ultrathin SiO_2 growth 7—8204
  oxidation, linear regime analysis, film thickness 7—46729
  oxidation, of single crystal wafer, rapid thermal processing 7—22928
  oxidation, Si/oxide interface struct. 7—65231
  oxidation, stress relax. model 7—65229
  oxidation, stresses and defects 7—65230
  oxidation, surface layer defect formation 7—46733
  oxidation, thermal SiO_2 growth kinetics model 7—8207
  oxidation, transport processes 7—65232
  oxidation, transport processes 7—65233
  oxidation, trap generation by avalanche electron injection, HCl effects 7—3531
  oxidation, UV laser-induced 7—65234
  oxidation 7—65227
  oxidation and epitaxy, limited reaction processing 7—22577
  oxidation in Cl containing ambients, impurity distrib. in resultant SiO_2:Cl films 7—26787
  oxidation kinetics, quantitative model 7—33863
  oxidation kinetics in dry O_2 7—39683
  oxidation models calcs., oxide thickness time depend. and stress effects 7—22916
  oxidation of damaged surfaces, precipitation at stacking faults 7—38313
  oxidation stacking faults, shrinkage during O_2/NF_3 oxidation 7—22913
  oxidative packing defect form. during high temp. annealing 7—44522
  oxide growth, rapid thermal processing 7—22929
  oxide growth by plasma anodisation, current efficiency and temp. depend. 7—39777
  oxide growth by rapid thermal oxidation 7—22922
  oxidised substrates with AlSi-Ti multilayer interconnects 7—21713
  p^+-i-n^+ diodes, gamma irrad., capacitance detected mag. resonance 7—17243
  p^+-n junction, superlinear response in IR spectral region *(Chinese)* 7—52751
  p-amorphous/n-cryst. anisotype heterojunction characts., acceptor doping level depend. 7—7355
  p-i-n diode, spectral information coding by IR photoreceptors, colour vision analogue 7—35593
  p-i-n diodes, potential distribution 7—58817
  p-n structures, induced current pot., temp. depend., impurity levels, SEM 7—17073
  p-type, alpha-particle irrad., defect form. and thermal stability 7—38073
  p-type, electron irradiation induced defects, DLTS study 7—38500
  p-type, gamma-ray irrad., recombination centres, p-n junction meas. 7—37985
  P-type, impurity photocond. type inversion by fundamental absorp. band illumination 7—64287
  p-type, minority carrier transport TOF study 7—45310
  p-type, piezoresistivity investig., nonlinear effects 7—7248
  p-type (100) surface, chemical etching with aq. $K_2Cr_2O_7$, XPS, UPS, LEED and TRMC meas. 7—46719
  p-type conductivity and Hall mobility calcs., impurity scatt., anisotropic-nonparabolic effects 7—12720
  p-type grating solar cells, 2D collection and injection 7—23163
  p-type Schottky barriers, N_2 and Ar ion beam etching effects *(Korean)* 7—12858
  p-type wafer, minority-carrier diffusion length determ., photocurrent generation method 7—38579
  passivated emitter solar cell, efficiency improvement 7—23149
  passivation, thermal growth kinetics of thin SiO_2 films 7—13663
  passivation of dislocations at high H_2 press. 7—39763
  Pendellosung intensity beat meas. with γ-radiation 7—46170
  periodic epitaxial structures, intraband IR absorpt., photocond. meas. 7—52674
  periodic surface microrelief, determ. optical constants of laser-irradiated material 7—63926
  photo-oxidation under ArF excimer laser irradiation in O_2+NF_3 gas mixture 7—13658
  photochemical CVD at 200°C 7—59456
  photochemical etching in NF_3 gas, surface processes 7—59704
  photodetector, IR pyrometer for thermodynamic temp. meas. between 683K and 933K 7—18788
  photodetectors for optical position sensing 7—48691
  photodiode, edge illumination at UV wavelengths to improve quantum efficiency 7—41464
  photodiode, quantum efficiency as absolute radiometric standard 7—14991
  photodiode transfer-standard monochromatic comparator pyrometer 7—14947
  photoelectrochemical and MIS solar cells, surface dislocation loops effect on J-V characts. 7—17862
  photon enhanced oxidation mechanisms 7—54032
  photothermostimulated exoelectron emission 7—22452
  photovoltaic 22.5X linear Fresnel lens concentrator module using Si solar cells 7—17873
  photovoltaic concentrator research progress 7—17903
  photovoltaic power unit for H_2 production from H_2O electrolysis 7—46973
  piezoresistance sensitivity, shear stress effects *(Chinese)* 7—12713

silicon continued
  planar channelled protons, breakthrough angles 7—21308
  plasma, laser prod., electron density sensitive emission line ratios 7—32081
  plasma assisted oxidation below 800°C 7—39783
  plasma etch mode, SF_6+O_2+Ar, kinetic model 7—39784
  plasma etching, by NF_3, kinetic model 7—39786
  plasma etching, in SF_6+O_2 and NF_3+O_2 mixtures, kinetic model 7—39787
  plasma etching, oxide breakdown due to charge accumulation 7—17743
  plasma etching in H glow discharge 7—32168
  plasma etching selectivity using negative DC biasing 7—39769
  plasma etching with tetrafluoromethane and N_2O, role of O_2 in etching 7—3535
  plasma passivated, subsurface H barrier layer obs. after surface adsorption of Al 7—17745
  point contact concentrator-solar cells, characts. 7—3658
  point contact solar cells, modelling and expt. results 7—13869
  point-contact solar cells for high conc. appls., modelling and expt. 7—23150
  polycrystalline, ^{125}Sb, ^{32}P, $^{74(73)}As$ donor elements, diffusion 7—12373
  polycrystalline, as strain gauge material 7—45322
  polycrystalline, chemistry of plasma etching with H_2 and Cl_2 7—54021
  polycrystalline, conf., Erice, Italy (July 1984) 7—4632
  polycrystalline, fabrication and use, overview 7—32879
  polycrystalline, for solar cell appls., photovoltaic props., effect of impurities and defects 7—38639
  polycrystalline, gap state density determ., field-effect conductance anal calcs. 7—21794
  polycrystalline, grain boundary pot. barrier and role of distorted bonds 7—46080
  polycrystalline, grain boundary recomb. vel. eval. from spectral response of solar cells 7—41403
  polycrystalline, H_2 passivation, grain boundaries, EBIC technique 7—26769
  polycrystalline, ion implanted, resistivity modelling *(Korean)* 7—2608
  polycrystalline, photolytic etching in SF_6 atmosphere 7—46732
  polycrystalline cast ingots, bulk free-carrier lifetime, contactless meas. 7—7258
  polycrystalline columnar crystals, acoustic visualisation 7—8242
  polycrystalline CVD film, etch rate free carrier depend., doping level and grain size depend. meas. 7—28219
  polycrystalline film, mobility temp. depend. *(Chinese)* 7—2744
  polycrystalline film SOI structures, recrystn. by laser irradiation 7—32856
  polycrystalline films, laser-recrystallized, grain boundary location using antireflection cap 7—46312
  polycrystalline films, low press. CVD growth and annealing, morphology obs. 7—3187
  polycrystalline films, optical props. 7—7782
  polycrystalline films, undoped, nonlinear I-V characteristics 7—22039
  polycrystalline films on (100) Si substrate, epitaxial alignment using rapid thermal processing 7—38413
  polycrystalline layers, elec. props. and grain boundary carrier dynamics under solar illumination 7—38625
  polycrystalline layers, growth shape and struct. investig. 7—2405
  polycrystalline layers, TEM meas. of grain size 7—32672
  polycrystalline p-type, Al and Cu diffusion effects on electronic properties 7—17038
  polycrystalline ribbons, stress meas., photoelasticity determ. with aid of computer 7—31725
  polycrystalline Si solar cells *(Japanese)* 7—13861
  polycrystalline solar cell p-n junction, carrier lifetime, effective recomb. vel. and diffusion length, EBIC meas. 7—23138
  polycrystalline solar cells, passivation by low-energy H^+ ion implantation 7—23157
  polycrystalline thin film strain resistance model *(German)* 7—64033
  polysilicon, plasma etching in single slice planar reactor *(German)* 7—46736
  polysilicon films, etching in parallel plate plasma reactor, freq. depend. 7—17744
  polysilicon for solar cell appls., DLTS study 7—38512
  polysilicon oxidation, appl. to double polysilicon devices 7—39774
  polysilicon thin films for VLSI, elec. props. 7—38789
  polysilicon-SiO_2, surface texturing effect on SiO_2 cond. and breakdown 7—39773
  polysilicon-SiO_2 interface, enhanced electron injection 7—38755
  polysilicon-SiO_2 interfaces, textured, electronic props. 7—38754
  porous, oxidation, 2D model 7—39791
  porous, W deposition for buried conductor formation 7—3189
  porous amorphous sputtered films, oxidation, IR spectra studies 7—3532
  porous electrodes, photoelectrochem. behaviour 7—3711
  porous films, IR absorpt. study 7—39149
  porous layers on p-substrates, oxide form. rel. to SOI struct. realisation 7—39771
  position sensitive detector, photon counting image acquisition system, performance analysis 7—30088
  position sensitive detector, Tevatron beam tube tests 7—30856
  positive ion yields of impurities in amorphous and crystalline samples 7—17381
  positron diffusion 7—39281
  positron planar channelling radiation energy levels. variational calcs. 7—63696
  powders, prod. from laser-heated silane, cryst. struct. 7—46362
  pre-oxidation treatment, appl. of UV radiation 7—33862
  precipitation induced microdefects, DLTS characts. 7—38511
  preparation, predominance diagrams of Si-C-O system, thermodynamics 7—22645
  pressure sensor diaphragm, displacement and slope analysis, holospeckle-shearing interferometry 7—29972
  proton channelling, energy loss and straggling, inner shell electron collision calcs. 7—63699
  proton-induced displacement damage, energy depend. 7—58355
  pulsed laser melting, time-resolved reflectivity meas. 7—2158
  pure and As-doped single-domain reconstructed (100) surface state dispersion and struct., LEED and photoemission studies 7—38667
  pure and heavily doped, X-ray fluorescence, strength of $K\alpha_{3,4}$ satellites 7—22386
  pyrogenic oxides, carrier trapping and breakdown, rel. to H_2O partial press. 7—64267
  quantised inversion layers, hot 2D electron gas, spectral acoustic phonon emission intensity 7—52452

silicon continued
- quantum Hall resistance, localised and mobile electron states in Si MIS structs. 7—38744
- quantum well controlled conductivity, new donors 7—38491
- quantum well struct., 2D electron gas, transport props. 7—52774
- radial drift chambers for low noise radiation detection 7—42318
- radiation defect thermal ionisation, effect of dislocations on activation energy 7—6680
- radiation-induced deep centres due to fast neutrons *(Czech)* 7—12661
- Raman mode, anharmonic damping and freq. shift 7—27718
- ramp assisted foil casting and photovoltaic appls. 7—16609
- rapid thermal and furnace oxide growth, meas. and modelling studies 7—13677
- rapid thermal annealing of ion implanted layers, role of trapped interstitials 7—17568
- rapid thermal oxidation and nitridation 7—33861
- rapid thermal processing, conf., Boston, MA, USA (Dec. 1985) 7—14713
- reactive ion etching, near-surface disorder, surface residues 7—16846
- reactive ion etching using collimated beam prod. by 10^{-3} Torr magnetron discharge 7—54027
- reactive sputter etching, damage removal methods 7—17742
- recoiling O_2, characterisation by double-crystal X-ray diffraction, TEM, Monte Carlo simulation 7—51807
- recombination activity of dislocations 7—12733
- recombination channels, dislocations interaction with point defects, lumin. study 7—46094
- reconstructed structures of symmetrical (011) tilt grain boundaries 7—51785
- redox reaction product of $Ta+SiO_2$ under shock loading 7—59763
- reduced-pressure low temp. epitaxy, photochem. effects 7—59455
- reflectivity meas. during pulsed laser irradiation 7—12132
- ribbon growth, dislocation dynamics and thermal viscoplastic stresses 7—2017
- ribbons, γ-irradiated, defect form., photoluminesc. investig. 7—46147
- ribbons, dendritic web grown, high temp. mech. behaviour, strain rate and temp. depend. of yield stress 7—65099
- rough surfaces, ellipsometry spectra, Ohlidal-Lukes model anal. *(Chinese)* 7—13109
- SAW generation by optical irradiation 7—63933
- scanning tunnelling microscopy of cleaved semiconductor surfaces 7—21051
- scattering inhomogeneities, two-wavelength probe meas. 7—46063
- Schottky diodes, H_2^+ bombarded, elec. props. 7—38677
- Schottky diodes with dislocations, tunnelling transitions 7—52831
- segregation, at Al-carbon fibre interface 7—65046
- selective epitaxial growth by reduced press. CVD 7—53625
- selectively epitaxial, origin of lattice defects 7—32881
- self-consistent band struct. and total energy, Shaw pot. calcs. 7—32909
- self-consistent Hartree-Fock and screened exchange calcs. 7—12585
- self-diffusion and impurity diffusion, review 7—32713
- self-diffusion without vacancies and interstitials, concerted exchange mechanism 7—26997
- self-doping using Stepanov method, elec. resist. meas. 7—32470
- self-implantation, damage production kinetics 7—21239
- self-implantation-induced temp. depend. amorphisation, TEM and Monte Carlo simulation studies 7—16595
- self-implanted, defects and amorphisation 7—2041
- SEM determ. of surface structure 7—56387
- semi-insulating polycrystalline films, electrical conduction mechanism 7—52869
- semiconductor surfaces, atomic, electronic and vibronic props. 7—2307
- semiconductor-insulator-semiconductor structures, photocurrent amplification 7—64360
- semiconductors, diffusion without vacancies and interstitials, concerted exchange mechanism 7—26997
- sensors, Si-based, deposition methods and appls., review 7—48715
- shallow p-n junctions, reactive ion etching damage, defects and leakage current studies 7—27411
- shallow thermal donor series, electronic struct. 7—7154
- sheet, growth by horizontal supported web technique, solar cell efficiency 7—53567
- SHG, cryst. orientation depend. 7—50640
- Si:B polycrystalline solar cell substrates, B conc. meas. using IR spectroscopy 7—23176
- a-Si:H, structural characterisation, hyperfine interaction, ESR, ENDOR 7—53135
- a-Si:H solar cells stability, role of Si—H bonds studied by Fourier transform infrared spectroscopy 7—13896
- Si II, autoionizing levels and identification of 1400 Å feature in Ap-Si stars 7—40821
- Si MOSFET, resistance laboratory unit determ., using quantum Hall effect 7—18812
- Si-Al Schottky barriers, Ar ion implantation damage, thermal anneal recovery 7—17101
- Si-SiGe strained superlattices on Si substrates, MBE growth, characterisation, appl. for HEMT 7—27218
- Si/SrO/Si heteroepitaxial structure formation by molecular beam epitaxy 7—53600
- single cryst., dislocation line kink mobility and double kink form. kinetics 7—26760
- single cryst., electron axial and planar channelling, gamma-ray emission studies 7—44636
- single cryst., insulating cpd. form. by ion beam synthesis, RBS, SIMS and cross-sectional TEM studies 7—26779
- single cryst., laser-driven shock induced damage study 7—64829
- single cryst., transition metal ion implantation, silicide form., RBS and X-ray diffr. studies 7—16656
- single cryst. temp. distrib. during czochralski growth, computer modelling 7—17414
- single cryst. wafer, charge carrier kinetics, excess microwave cond. meas. 7—38580
- single crystal, reactive ion etching-induced damage, nondestructive thermal wave monitoring 7—28230
- single crystal effects of shape of crystn. front, melting boundary 7—6566
- single crystals, defect struct., high DC elec. fields, X-ray diffr. 7—44530
- single crysts., relativistic positron channelling radiation, spectral density peak splitting studies *(Russian)* 7—21310
- single-particle excitations, dynamic correl. corrections, local density theory 7—45115
- SIPOS, AES and XPS studies *(Chinese)* 7—33511

silicon continued
- SIPOS and polysilicon films for low minority carrier current saturation point contact solar cells 7—8416
- SIPOS-Si heterojunction current flow props. 7—38713
- SIS struct. photoresponse kinetics, current flow mechanism 7—52854
- slow surface state determ. by SAW technique 7—21959
- small particles, Raman depolarisation ratio 7—64652
- soft X-ray spectra, using photon excitation from synchrotron light source 7—30150
- SOI, buried oxide structures, ion implanted, ESR studies 7—59111
- SOI, conf., Boston, MA, USA (Dec. 1985) 7—35101
- SOI, films lamp zone melting recrystallisation, effect of plasma nitrided SiO_2 encapsulent 7—38391
- SOI buried layer form. by high dose implantation, mass transport studies 7—32479
- SOI film, two-beam laser recrystallisation 7—38393
- SOI films, halogen lamp recrystallisation 7—38394
- SOI films, inhomogeneous carrier transport props., influence of temp. 7—33094
- SOI films, lamp zone melting recrystallisation, liquid-solid interface 7—38419
- SOI films, laser recrystallisation, agglomeration, surface roughness and crystal imperfection 7—38389
- SOI films, recrystallisation by obliquely scanned pseudoline electron beam 7—58686
- SOI films, thermal stresses during zone melting recrystallisation, subboundaries, in-plane orientation 7—33554
- SOI films, twin stabilised planar growth 7—38392
- SOI films, zone melting recrystallisation, subboundary structure 7—38388
- SOI films, zone-melting recrystallisation, capping techniques 7—38390
- SOI films scan-melted at low velocities, subboundary misalignment 7—38387
- SOI formation, high dose O^+ ion implantation, lamp annealing 7—32527
- SOI formation by O ion implantation of Si, ordered precipitate structure and coesite formation 7—52065
- SOI heterostructure technology 7—38750
- SOI large area growth, pseudo-line electron beam technique with lateral seeded epitaxy *(Japanese)* 7—7842
- SOI laser recrystallisation, orientation control 7—53777
- SOI lateral solid phase epitaxy, selective P ion implantation 7—52359
- SOI laterally seeded epitaxial films recrystallised by electron beam, subgrain boundaries charactn. 7—53779
- SOI rapid-zone recrystallisation using pulsed Xe arc lamp, elec. and physical props. 7—53776
- SOI struct., implanted buried oxide elec. props., high temp. annealing effects 7—58904
- SOI structure, high-dose O_2^+ implanted, dopant diffusion 7—52139
- SOI structure, O^+ implantation and high temp. annealing 7—44579
- SOI structures, implanted buried oxide, high-temp. annealing 7—6654
- SOI structures, ion beam synthesised, carrier lifetime increase 7—12865
- SOI structures, ion implanted, defect EPR spectra studies 7—27603
- SOI structures, lateral epitaxy formation, melting and resolidification 7—38386
- SOI structures, O_2^+ implanted, oxide precipitates, ordering 7—21449
- SOI structures, polycrystalline Si films, seeding laser recrystn. 7—58706
- SOI structures, thickness determ. using optical interf. method 7—18743
- SOI technology, two-step oxidation technique on MBE film 7—22912
- SOI technology by zone-melting recrystn. on quartz substrates 7—21736
- SOI thin films, props. after laser focused beam processing 7—32497
- SOI wafers, O implantation prep., background doping effects 7—32478
- solar arrays for low Earth orbit space stations, advanced module concept 7—3659
- solar cell, improved determ. of lifetime and surface recomb. vel. by transient methods 7—13870
- solar cell, planar, antireflection coatings effects 7—54303
- solar cell array, 30 kW, for space appls. 7—3660
- solar cell array module, 50 microns thick, space flight ready 7—65491
- solar cell arrays, crystalline Si reliability lessons for thin film modules 7—13910
- solar cell arrays for EURECA space vehicle 7—3661
- solar cell efficiency improvement simulation analysis 7—13865
- solar cell efficiency improvements 7—3654
- solar cell fabrication by sheet casting 7—17868
- solar cell fabrication by Si ribbon casting 7—13907
- solar cell fabrication using laser groove technique, commercial viability 7—59862
- solar cell fabrication using masked ion implantation using SiO_2 7—23165
- solar cell junction form., dopant diffusion process 7—28401
- solar cell materials, nondestructive assessment using electrolyte-semiconductor boundary 7—13886
- solar cell parameters, theoretical temp. depend. 7—23161
- solar cell parameters evaluation method 7—23159
- solar cell perform. under global irradiance, atmospheric parameters effect 7—59850
- solar cell performance, influence of heavy doping 7—23147
- solar cell performance eval. 7—13864
- solar cell photovoltaic, edge-defined film fed growth 7—17413
- solar cell simulation by Monte Carlo modelling 7—8405
- solar cell with Al_2O_3 surface passivation 7—23191
- solar cells, alloyed inversion layer, with n-type substrates and TiO_x antireflection coatings 7—17864
- solar cells, characterisation by electrolyte-semiconductor interphase and SERS investigation 7—13887
- solar cells, comparison with GaAs and InP cells in space 7—65484
- solar cells, crossed-lens photovoltaic concentrator appl. 7—17905
- solar cells, crystalline, metal grid optimisation and emitter tailoring, computer model extension 7—54292
- solar cells, diffused junction single and polycrystal series resist., temp. depend., illum. level effect 7—39991
- solar cells, dot junction, fabrication and anal. 7—3708
- solar cells, eval. of density of grain boundary states 7—34028
- solar cells, front and back polycrystalline Si contacted 7—13908
- solar cells, grain boundary and intragrain recomb., beam induced current characterisation 7—7267
- solar cells, H passivation by ion beams 7—17867
- solar cells, H passivation of dislocations 7—54323
- solar cells, heavily doped emitter and junction regions, EBIC studies 7—34039
- solar cells, heavy doping effects 7—3653
- solar cells, high efficiency, design, process and material considerations 7—23151

silicon continued
  solar cells, high efficiency, identification of key parameters limiting perform. 7—59846
  solar cells, high efficiency 7—23148
  solar cells, insulator-semiconductor interface properties 7—13901
  solar cells, ion implanted and flat plate modules with high efficiency 7—17871
  solar cells, loss reduction by ion implantation, laser radiation, protective coatings *(Dutch)* 7—23134
  solar cells, low recombination p^{+} and n^{+} regions for high performance 7—3655
  solar cells, metal insulator n on p, radiation damage 7—3703
  solar cells, multicrystalline, thermal annealing for fabrication 7—17865
  solar cells, oxidation and spalling of Cu current collecting grid 7—22910
  solar cells, p^{+}-n-n^{+}, high efficiency, develop. 7—34047
  solar cells, passivated, laser processed, 18% efficiency 7—59837
  solar cells, passivation using $ZnS_{0.9}Se_{0.1}$ and GaP semiconductor coatings 7—65479
  solar cells, perform. and temp. dependencies of proton irradiated n-p cells 7—3702
  solar cells, performance anal. 7—65466
  solar cells, polycrystalline, efficiency improvement using plasma treatments 7—13909
  solar cells, polycrystalline, interface state characterization by electric noise meas. 7—13920
  solar cells, polycrystalline, junction formation by light induced diffusion 7—13919
  solar cells, sequential irradiation effects of electrons and protons 7—13877
  solar cells, spinning method for Si sheet mass production 7—13918
  solar cells, terrestrial, production costs and conversion efficiency 7—17869
  solar cells for space appls., efficiency improvements 7—65487
  solar cells for spacecraft power, Advanced Photovoltaic Solar Array Program 7—65489
  solar cells for thermophotovoltaic appls. theoretical efficiency 7—59855
  solar cells high efficiency devices, review 7—3649
  solar cells in concentrators, performance meas. methods 7—54313
  solar cells in high concentration photovoltaic module 7—17874
  solar cells made from monocrystalline, polycrystalline and amorphous Si 7—13903
  solar cells on steel substrates 7—13921
  solar cells systematic design theory using optimisation techniques 7—23146
  solar cells with high efficiency using low resistivity dendritic web Si ribbon 7—3656
  solar cells with internal reflection, fabrication by solution growth on steel substrates 7—3683
  solar concentrator cells, perform. under 1 MeV electron irradiation 7—3704
  solid-phase amorphous to crystalline transformation for shallow junction processing 7—32642
  solid/liquid interface, pulse echo US study of location during solidification and melting 7—52006
  SOS, crystalline quality improvement by ion beam technique 7—16651
  SOS, double solid phase epitaxial regrowth, amorphous layer, self-implantation, ion energy, defect density 7—58691
  SOS, ion beam improved, elec. characts. 7—17114
  SOS, submicron-gap photocond. switching 7—52689
  SOS epitaxial layers, strain meas., using X-ray diffr. 7—44305
  SOS films, pulsed laser beam excitation, femtosecond dynamics 7—13249
  SOS films, regrowth rates of amorphous layers created by self-implantation 7—16661
  space solar cells, damage coeffs. of 1 MeV electron fluences 7—13880
  spectrometer, with Si surface-barrier detector and 6 keV resolution 7—10349
  spherical wave EXAFS, Si K-edge anal. 7—64822
  spherical wave EXAFS and multiple scatt. effects in XANES 7—64742
  spin-dependent recombination and low-freq. ESR studies 7—38577
  sputtering by multiply charged Ar ions 7—33507
  stacking faults, electron and phonon spectra, recursion method 7—32945
  Stepanov reverse method cryst. growth, thermal and capillary conditions 7—33545
  strain in self-implanted Si 7—51918
  strain measurement in convergent beam electron diffraction 7—16562
  strips, grown by Stepanov's reversed method, strength, struct., electrophysical props., effects of thermal conditions during growth, photocell appl. 7—32325
  structural changes produced by one micron picosecond laser pulses, TEM characterisation 7—12133
  structural EXAFS study 7—64762
  structures, 2D localisation and interaction effects 7—52531
  substrate, (001) oriented, with GaAs epitaxial film, structural props. 7—58687
  substrate, (100), bonding coordination number of In adatom synchrotron photoemission studies 7—45071
  substrate, Ag monolayer electronic struct. and binding energy, photoemission studies 7—39359
  substrate, anisotropic dry etching effects on surface props., XPS, ion channelling and Raman scatt. studies 7—28229
  substrate, insulator growth by rapid thermal processing 7—22921
  substrate, low-energy ion beam oxidation, appl. to n-channel MOSFET fabrication 7—3529
  substrate, reaction with amorphous and cryst. Ni-refractory metal alloys 7—21704
  substrate, Ta_2O_5 coated for GaAs/Ge cryst. growth 7—53579
  substrate, thermally grown SiO_2, studies of breakdown and defects 7—33104
  substrate for CVD of W, effects of dopants and cryst. perfection 7—16912
  substrate for thin film InP solar cells 7—59852
  substrate for W CVD, effect of dopants and crystal perfection 7—22576
  substrates, curved for multilayer X-ray reflective lenses 7—41566
  substrates, interaction with thin film amorphous metal alloys 7—21761
  substrates, laser-induced metal and alloy plating, silicide form. 7—39448
  substrates, MBE growth of non-lattice-matched (Ba,Ca)F_2, (Pb,Sn)Se-(Ba,Ca)F_2 and CdTe-(Ba,Ca)F_2 layers 7—27216
  substrates, superlattices, props. *(Dutch)* 7—52755
  substrates for GaAs solar cells fabrication by MOCVD 7—23183
  substrates with epitaxial CaF_2-BaF_2 epitaxial bilayers, characterisation 7—12521
  superconducting high-press. phases, occurrence and props. 7—2646
  superconducting transition temp., press. depend. 7—33121

silicon continued
  superconductivity and electron-phonon interactions 7—12899
  superlattice structs. using MBE *(German)* 7—64317
  surface, 100, in situ anal. of H, C, N and O using direct recoil time-of-flight technique 7—54242
  surface, (001), anomalous diamagnetic effect in highly excited surface subbands 7—64305
  surface, (001), biatomic steps 7—38309
  surface, (001), clean and with adsorbed H, RHEED intensities 7—27123
  surface, (001), order-disorder transition 7—52209
  surface, (001), scanning tunnelling microscopy 7—27072
  surface, (001), step related states, angle resolved photoelectron spectra 7—52716
  surface, (001)-(2×8), clean and Ni contaminated, ordered-defect model 7—21586
  surface, (100)2×1, adsorbed H, surface structure, high resolution, IR spectroscopy 7—13169
  surface, (100)2×1, interaction with O_2 and N_2O 7—63962
  surface, (100), adsorption of H_2O, surface struct., photon stimulated ion desorption SEXAFS determ. 7—64752
  surface, (100), chemisorption of H_2O *(Chinese)* 7—33954
  surface, (100), chemisorption of water, MNDO calcs. 7—63963
  surface, (100), exposed to CO, CO_2, O_2, NO and SO_2, photodesorption 7—52290
  surface, (100), H_2O adsorption, photon stimulated ion desorption surface EXAFS 7—58633
  surface, (100), H desorption, reactivity enhancement by electronic excitation 7—2366
  surface, (100), laser irrad., matrix atomic losses and impurity incorporation 7—2058
  surface, (100), oxidation enhancement by Ce overlayers, $CeSiO_3$ formation 7—28226
  surface, (100), propylene chemisorption, reaction chemistry, active-site manipulation 7—39916
  surface, (100), reaction with propylene, adsorption and desorption kinetic meas. combined with Auger spectroscopy 7—65348
  surface, (100), reconstruction 7—16850
  surface, (100), UV-stimulated interaction with Cl_2, reaction mechanisms for photon-enhanced etching 7—22926
  surface, (100), with chemisorbed H_2, transition from the dihydride to the monohydride phase 7—58631
  surface, (100) 2 × 1, adsorbed alkali metals, anisotropic plasmons *(Japanese)* 7—21967
  surface, (100)-(2×1), adsorption kinetics of propylene, propane and methane, chemical activity of C=C double bond 7—27127
  surface, (111)2×1, electronic surface transitions studied by polarised light 7—2664
  surface, (111)2×1, pseudofunction slab calcs. 7—52727
  surface, (111)7×7, surface structure, X-ray diffr. studies 7—12438
  surface, (111), acetylene adsorpt., rehybridisation, vibr. investig., EELS 7—17816
  surface, (111), adsorbed H, generalised Bethe lattices, chemisorpt. theory 7—7318
  surface, (111), atomic-level surface features studied by an electron-microscopic technique 7—6939
  surface, (111), Br chemisorption, SCF HF cluster calculation 7—52251
  surface, (111), chemisorption of benzene, pyridine and thiophene, surface vibr. studies 7—21615
  surface, (111), clean and Au covered, SEM, LEED and scanning Auger microscopy obs. 7—21056
  surface, (111), disordered adsorption of H, electronic struct. calcs. 7—27377
  surface, (111), H_2 chemisorption, dihydride phases, TDS studies *(Chinese)* 7—38321
  surface, (111), interaction with HCl, 190-720K 7—13817
  surface, (111), MBE, ordered and disordered growth modes 7—12558
  surface, (111), reconstruction, benzene-like ring model 7—16851
  surface, (111), surface reconstructions, X-ray standing-wave study 7—44968
  surface, (111), symmetry and order, SHG 7—15948
  surface, (111), with adsorbed Cs or Na, oxidation 7—54025
  surface, (111), with adsorbed Ga, X-ray photoelectron and Auger electron diffr. 7—27116
  surface, (111), with adsorbed Ge, X-ray standing wave studies 7—58629
  surface, (111), with ordered Cu, Ag and Au overlayers, inverse photoemission spectroscopy 7—59280
  surface, (111)(2×1), obs. of 10 meV Einstein oscillator mode 7—38320
  surface, (111) $\sqrt{3}\times\sqrt{3}$-Sn, angle resolved UPS, rel. to other Si-metal overlayer surfaces 7—3149
  surface, (111) (7×7), geometrical struct. 7—38310
  surface, (111)-2×1, dipole scatt., inelastic electron cross sections 7—3126
  surface, (111)-2×1, surface phonon and surface state excitations, EELS, polarisation depend. 7—2338
  surface, (111)-(7×7), interface formation during W deposition 7—58710
  surface, (III), Cu deposition, Auger electron spectrosc. obs. *(Russian)* 7—27833
  surface, air exposed, air-resolved X-ray photoelectron spectroscopy 7—27863
  surface, Ar^{+} ion impact, LMM and LVV Auger electron emission 7—59320
  surface, atomic and mol. F reactions, XPS studies 7—28350
  surface, cellular structures formation due to interaction with picosecond light pulses 7—44960
  surface, Cs migration and equilibrium in strong elec. field 7—2351
  surface, effect of preoxidation annealing, ion implantation and sputtering on oxide film decomposition 7—63999
  surface, electromigration of Ag, In, Sb, and Sn ultrathin films, scanning AES study 7—63891
  surface, electronic inversion layer, positive magnetoresist. obs. 7—38596
  surface, etching by HCl/H_2 mixtures, low pressure gas composition 7—65221
  surface, interaction with H_2 7—58632
  surface, laser beam melting and recrystallisation 7—12431
  surface, Mossbauer diffraction from rotating single crystal *(Russian)* 7—27071
  surface, O adsorpt., orientation depend., AES and photoelectron spectra 7—52237
  surface, periodic struct. form. by millisecond pulsed laser light 7—44975
  surface, quantum states and atomic struct. 7—32775
  surface, reaction probability with CF_2 radical from tetrafluoromethane plasma 7—23059

silicon continued
surface, reaction with propylene, effect of addition of H 7−54187
surface, residue form. in trifluoromethane discharge environment 7−54020
surface, RIE, Si_3N_4 CVD 7−59691
surface, Si_3N_4 films, IR charactn., optical dispersion induced freq. shifts 7−27709
surface, temp. depend. absorpt. of benzene and pyridine, annealing effects on sorption states 7−2360
surface, thermal cleaning in ultrahigh vacuum 7−13671
surface, thermal oxides, X-ray scattering studies 7−52326
surface, Ti films, heat treatment, $TiSi_2$ form. 7−46530
surface, with oxidised Cr overlayer, $CrSi_2$ formation and reduction of Cr_2O_3 during annealing 7−58660
surface (001), 2 × 1 surface relax. and vibr. excitations 7−6949
surface (001), refinement of buckled-dimer model 7−6948
surface (001)(2×1), surface vibr. excitations 7−16854
surface (001) (2×1), electronic struct., first principles self-consistent calc. 7−12778
surface (001) inversion layers in parallel mag. fields, electronic g-factor 7−12783
surface (100), atomic terraces and steps, refl. electron microscopy obs. 7−52211
surface (100), electron delocalisation in 2D electron gas 7−12779
surface (100), magnetoconductivity of nonequilib. electron-hole pairs associated with surface charge layer 7−38671
surface (100), reactivity, thermal desorption of propylene, defect- and electron-enhanced chemistry 7−21660
surface (100), static mode ion sputtering, bond breaking and atom ionisation 7−13306
surface (100) nitridation kinetics in NH_3 by thermal activation or electron bombard., LEED, AES, and TDS study 7−39770
surface (100) with periodic MOS microstructures, dynamic magnetoconductivity of inversion electrons 7−38743
surface (111)2×1, thiophene adsorpt., annealing-induced mol. fragmentation, surface vibr. spectra, HREELS study 7−27088
surface (111)7×7, total-energy calcs. for Takayanagi model 7−2345
surface (111), adsorbed Ag, geometry and local electron states 7−58626
surface (111), adsorbed Ag, structure, scanning tunnelling microscopy studies 7−58625
surface (111), adsorbed Ag layers, struct. anal. by impact collision ion scatt. spectroscopy 7−6999
surface (111), adsorption of ethylene, vibr. study 7−45012
surface (111), Ag adsorbate geometry determ., X-ray photoelectron diffr. study *(Japanese)* 7−11852
surface (111), Ag adsorbed layer, geometric struct. and density of states, cluster model and charge self-consistent extended Huckel method calcs. 7−21619
surface (111), Ag and Au overlayers, room temp. oxidation behaviour, XPS study 7−13676
surface (111), Ar ion bombardment, RHEED and REM studies 7−32511
surface (111), chemisorption of atomic H, nonempirical cluster-model study 7−38332
surface (111), CO monolayer, electronic props., pseudofunction method calcs. 7−2659
surface (111), convergent beam RHEED studies 7−32764
surface (111), dielectric props., reflection high resolution electron energy loss study, azimuthal depend. 7−33498
surface (111), energy minimisation calc. for dimer-adatom-stacking fault model 7−63940
surface (111), Ge adsorption, $\sqrt{3} \times \sqrt{3}$ adatom models 7−7008
surface (111), H_2 dissoc. chemisorption dynamics 7−54169
surface (111), initial stages of epitaxy of Cu, Ag, Au, UHV microscopy study 7−27210
surface (111), local density of states near ideal vacancies 7−27380
surface (111), metal atom catalysed oxidation, UPS and AES studies 7−46865
surface (111), Pt chemisorption and interface form., EXAFS and X-ray absorpt. resonance spectra studies 7−38336
surface (111), reconstruction study 7−2315
surface (111), Si-Ge and Si-$NiSi_2$, study using an MBE system with automatic ellipsometer, nondestructive anal. 7−7058
surface (111), stability and struct. of 5×5 reconstruction 7−2310
surface (111), struct., LEED data 7−6947
surface (111), structure, temp. depend. polaron shifts 7−7325
surface (111), surface bonding configuration, triangle-dimer stacking fault model 7−6946
surface (111), surface ripples, depend. on laser pulse width 7−12445
surface (111), thermal oxidation, initial stages, AES, LEED and photoelectron spectra studies 7−3543
surface (111), with evaporated Al film, wire bondability 7−21710
surface (111) 2×1, electronic struct., scanning tunnelling microscopy studies 7−38668
surface (111) 7×7, struct. study using scanning tunnelling microscope 7−4919
surface (111) (2×1), π-bonded chain model, vibr. props. 7−16856
surface (111) anal., charge and current corrugation correls. in scanning tunnelling microscopy 7−63410
surface (111) cleaved 2×1 reconstruction, time-resolved VUV photoemission spectroscopy 7−18919
surface (111) in MIS struct., Hall resistivity of 2D electron gas in strong mag. fields 7−7391
surface (111) with As overlayer, removal of surface reconstruction 7−21587
surface (111)-7×7, temp.-depend. surface resistivity, electron energy loss meas. anal. 7−21973
surface barrier detector, annular transmission 7−19661
surface barrier telescope for solar particles, characts. and calibration 7−62217
surface contamination during reactive ion beam etching with Cl_2 7−3539
surface damage induced by low energy ion sputtering *(Chinese)* 7−6693
surface epitaxial growth of Pt-group epitaxial growth on Si (111) 7−21760
surface etching by COF_2, thermal and photochemical promotion 7−33853
surface etching by HCl/H_2 gas mixtures 7−65220
surface laser irradiation, ionic cluster desorption, time-of-flight meas. 7−12138
surface layers, local mechanical stresses relaxation 7−21604
surface layers characterisation after annealing in an RF H plasma 7−58630
surface microstructure on rough surfaces, scanning tunnelling microscopy studies 7−21580

silicon continued
surface nitridation, current status 7−33866
surface passivation, angular dependent X-ray photoelectron spectroscopy 7−27864
surface polishing strain-free and flat to better than $\lambda/20$ 7−11179
surface potential, stabilisation by ion bombardment 7−12782
surface reaction with XeF_2, rel. to etching mechanism 7−17738
surface recomb. vel. determ. using solar cell struct. 7−21938
surface relief, 3D cellular struct. formed by picosec. light pulse irrad. 7−32772
surface roughening by reactive ion etching, mech. 7−65240
surface state after plasma etching in a diode type system 7−6940
surface structural phase identification, use of specular beam in LEED 7−58589
surface structure, optical transitions 7−12439
surface structure, pulsed electron-beam annealing 7−21284
surface structure, UHV scanning tunnelling microscope studies 7−18923
surface studies with a high resolution transmission electron microscope 7−21595
surface study after Ar ion-assisted Cl_2 etching 7−3538
surface study using metal-vacuum-semiconductor structs. 7−38749
surface with adsorbed Ne, H_2, D_2 films, phonon scatt. 7−21609
surface with deposited SiO_2 films, low temp. annealing 7−46526
surface with Rh overlayers, FIM 7−52284
surface-barrier detector as source of slow protons 7−49777
surfaces, (100) and (111), adsorption of K, AES, work function meas. 7−32818
surfaces, (100) and (111), XeF_2 exposure, F coverage, XPS studies 7−2379
surfaces, (111)7×7-Ge and (111)5×5-Ge, angle-resolved photoelectron spectra 7−3150
surfaces, (111) and (100), chemisorption of halogen atoms 7−6979
surfaces, (7×7)-Ge and (5×5)-Ge superstructures, angle-resolved EELS studies 7−21583
surfaces, adsorbed C, annealing behaviour, XPS and AES studies 7−27108
surfaces, conference, Julich, Germany (April 1986) 7−55890
surfaces, direct bonding, silanol group reactions and O diffusion mechanisms 7−21791
surfaces, passivated by H/hydrogen mixtures, surface dielectric layers characterisation 7−17746
surfaces (110), clean and hydrogenated, atomic configuration, LEED studies 7−2314
suspended membrane, base carrier accumulation solar cell, fabrication 7−3664
swirl defects formation 7−51753
tandem junction solar cells, cryst. and polycryst., efficiency advantages 7−39997
tandem solar cells, GaAsP on GaP top with Si bottom, design, fabrication 7−3674
target, ion beam sputtering, heavy particle angular distribs. 7−59343
technology and electronic materials *(Japanese)* 7−22466
temperature depend. of 1/f noise 7−33058
thermal and electronic transport, photothermal deflection spectroscopy 7−32731
thermal donor states 7−7155
thermal donor-related isoelectronic centres, exciton binding, photoluminescence studies 7−21861
thermal donors, alignment by uniaxial stress, EPR and optical studies 7−59227
thermal nitridation in NH_3, atomic transport mechanisms 7−8201
thermal oxidation, cryst. orientation effects 7−3534
thermal oxidation, effects of $GeCl_4$ 7−65238
thermal oxidation, growth of very thin films 7−33850
thermal oxidation, low-temperature 7−39765
thermal oxidation, point defect kinetics modelling 7−13673
thermal oxidation, UV light stimulated 7−59687
thermal oxidation 7−65228
thermal oxidation in dry O_2, 2D anal. *(Japanese)* 7−33859
thermal oxide growth conditions 7−39790
thermodynamic interrelation between amorphous, diamond cubic and liquid states 7−12245
thermodynamic props., data tables and reviews 7−18512
thermoplastic deformation, nondestructive ultrasonic detection 7−12215
thermoreflectance study of heavily doped Si 7−45999
thin crystal with anisotropic distortion of cryst. lattice, X-ray beam Laue diffr. *(Russian)* 7−58101
thin crystals, grinding, surface defect struct., X-ray diffr. *(Russian)* 7−38304
thin film, doped, electron beam evaporation, elec. props. 7−2743
thin film, laser-irradiated melt morphology and order-disorder transitions studies 7−44614
thin film, Raman spectroscopy, characterisation 7−53354
thin film solar cells, high performance considerations 7−23152
thin films, polycrystalline, elec. props. 7−33117
thin sheets, EFG, thermal capillary mechanism for growth limit 7−17407
thin wafers, photoacoustic pulses, optical detect. 7−54050
tilt boundary struct., computer modelling 7−16579
tilt grain boundaries, symmetrical ⟨011⟩, struct. and energies 7−16570
total energy and superconductivity, pseudopotential method 7−32358
trace impurities, defects, Fourier transform photoluminescence analysis 7−53412
transient photoconductivity, characterisation 7−52692
transiently molten layers, dielec. function, picosec. laser pulse reflectivity meas. 7−52488
transition metal dopant complexes photolum. in Si, review 7−45203
transition metal impurities, detect. using rapid thermal annealing 7−2044
transmutation doped, carrier lifetime and hall effect, high temp. processing effects 7−33027
transmutation-doped, carrier recomb. props. at gamma-irrad. defects, transport meas. 7−38575
transverse photovoltaic effect due to intervalley diffusion of electrons under laser excitation conditions 7−38613
trench etching technique, ultrafine, using multi-step processing 7−54030
Triotron sputtering equipment for the production of mixed Ta/Si layers *(German)* 7−33564
tube, growth from shaped seed, struct. development 7−32326
tubular hole distrib. under streaming conditions, scatt. anisotropy effects calcs. 7−58802
twin boundary, $(\bar{2}11)$, rigid body translation 7−21223

silicon continued
twin boundary struct. determ. of twinned bicrystals, convergent-beam electron diffraction study 7–51786
twinning partial dislocations, effective stresses, anal. 7–63630
twinning partial dislocations, velocity 7–63629
ultimate strength of single cryst. Si, surface treatment effect 7–2090
ultrasonic shaping during pulling cryst. growth 7–33541
uniaxially stressed, internal strain parameters, surface effects 7–44980
vacancies, hyperfine interactions, ENDOR and EPR studies 7–63609
vertical junction and planar solar cells, proton radiation damage 7–13885
vibrational correlation functions 7–51966
vibronic band, 1018 meV, W or I, band 7–51977
VLSI substrate, electron-beam decomposition of carbonyls for sub-micron patterns 7–53597
volume capture effect for relativistic electrons, computer simulation 7–12156
VPE using $SiCl_4$-SiH_4-H_2 system *(Chinese)* 7–33578
wafer, anisotropic etching, micropyramid inhibition method *(Japanese)* 7–3541
wafer, laser and energy-beam annealing of mechanical damage, melting and recrystallisation 7–46516
wafer, stacking and technological faults, elec. activities, SEM study *(Russian)* 7–21234
wafer aqueous cleaning, chemical action, book contrib. 7–46737
wafer substrates, oxide removal, transient mass spectrometry, XPS studies 7–13670
wafers, doped by neutron transmutation, minority carrier lifetime, photocond., annealing 7–38785
wafers, etching by NF_3, plasma and reagent pulse induced transients 7–3533
wafers, etching in SF_6 RF discharges, diagnostic meas. 7–28214
wafers, self and ion beam annealing, epitaxial growth and damage layer, TEM study 7–12172
wafers, striation prod. by grazing ion incidence 7–63684
wafers, surface contaminants, identification, depth distrib., SIMS 7–22418
wettability and adhesion with Sn-Si(Sb)(As) melts 7–21576
X-ray electron charge density distrib. 7–26695
X-ray interferometry image of deform. field around dislocation cluster *(Russian)* 7–51575
X-ray structure factor, Pendellosung method meas. 7–32362
Z 7–6705
zone-axis critical voltages in HEED, accidental Bloch wave degeneracies obs. 7–63409
Ag-Si composite targets, sputtering, surface protrusions obs. 7–22475
(Al, Ga)As:Si films, Si migration during MBE growth 7–27171
Al/Pt/Si structures, PtSi formation 7–63972
Al/Si contacts, diffusion at room temp. *(German)* 7–32724
Al/SiO_2/Si_3N_4/Si illuminated struct., nonlinear capacitance props. study 7–38731
Al/SiO_x/Si MIS contacts in inversion layer solar cells 7–3680
Al/TiN/Si contacts for VLSI, analytical electron microscopy 7–58651
Al-As_2S_3-n-Si, I-V characteristics 7–7390
Al-GaAs:Si interfaces, composition depth profile, pulsed laser atom probe study 7–32842
Al-Ge-Si, heterojunction ohmic contacts 7–27432
Al-insulator-Si, optical and elec. charact. of $(Al_2O_3)_{1-c}$-$(AlN)_c$ 7–38766
Al-Si interface, amorphous W-Zr films on diffusion barriers 7–21504
Al-Si:Ar,H, ion implanted ultrahigh Schottky barriers, interfacial traps, DLTS study 7–45489
Al-SiO_2-Si MOS capacitors, optical and thermal cross-section of interface states, photocapacitance meas. 7–38742
Al-SiO_2-Si system, contact pot. difference, effect of processing conditions 7–38746
AlAs:Si films and AlAs:Si-GaAs:Si superlattices, MBE growth and electrical props. 7–22052
AlAs:Si MBE layers, photoluminesc. 7–39160
AlAs/GaAs superlattice mixing induced by Si^+ implantation 7–58649
AlAs/GaAs:Si super-doped structs., short-period superlattice electrical and defect props. *(Japanese)* 7–7353
AlAs-GaAs superlattices, Si ion implantation, dose-dependent mixing 7–12500
AlAs-GaAs superlattice, Si^+implantation, depth dependent mixing 7–27032
AlGaAs laser arrays with Si disordered facet windows, high power operation 7–43140
AlGaAs multiquantum well-buried optical guide lasers, fabrication by Si-induced disordering 7–10995
AlGaAs:Si, MOCVD, impurity induced disordering, quantum well laser fabrication and characts. 7–27934
AlGaAs:Si-GaAs 2D electron gas structure, scatt. mechanisms 7–38718
AlGaAs/GaAs:Si heterostruct., MBE growth on polar surfaces 7–7863
AlGaAs-GaAs superlattices, Si-Be co-doping, compositional disordering suppression, SIMS study 7–16878
AlGaAs-GaAs superlattices, Si ion implantation, intermixing, radiation damage 7–26782
AlGaAs-GaAs-Si, Be superlattices, correlation between Si diffusion and Si-induced disordering 7–38034
AlGaAs-Si mechanically stacked multijunction solar cells, optical effects of thin film adhesives 7–3670
$Al_xGa_{1-x}As$:Si, deep donor centres 7–45217
$Al_xGa_{1-x}As$:Si, LEDs, luminesc. props. *(Korean)* 7–27786
$Al_xGa_{1-x}As$:Si, Si diffusion from sputtered Si film 7–58537
$Al_{0.48}In_{0.52}As$:Si, MBE grown, crystalline and optical props. 7–52322
CaF_2 coated Si waver, influence of metal films on optical scatter and microroughness 7–13242
CaF_2-Si (111) interface, electronic struct. 7–38737
CaF_2-Si(111), tensile strain, interfacial disorder, reordering 7–27163
CdS-Si heterojunctions, struct., elec. and photoelectric props. 7–22001
$CoSi_2$-Si, mesotaxy, single crystal growth of buried $CoSi_2$ layers 7–58671
$CoSi_2$-Si epitaxial heterostructures, growth and characterisation 7–27212
$CoSi_2$-Si heterostructures, epitaxial growth 7–39387
Cr/SiO_2/Si structs., Fowler-Nordheim tunnelling oscills., I-V characts. meas. 7–38745
p-crystalline Si/n-amorphous Si heterojunction, electrostatic pot. barrier distrib. calcs. 7–58881
Fe-Co-Si, atomic and mag. moment mutual ordering *(Russian)* 7–33169
$Fe_{80}C_{20}$-Si compositionally modulated amorphous struct., mag. and diffusional props. study 7–7564
film growth for MOS-VLSI, Ti and Pt silicide form. 7–7870

silicon continued
Ga-As-AlGaAs superlattice, laser induced disordering and Si impurity incorporation 7–45018
GaAlAs:Si, DX centres, nonexponential thermal emission kinetics 7–12640
$Ga_{1-x}Al_xAs$:Si, electrical current induced liq. phase epitaxy 7–27955
GaAs:S,Si epitaxial layers, close space vapour transport growth, photoluminescence and electrical props. 7–21776
GaAs:Si, annealing behaviour of impurities in presence of stress 7–65060
GaAs:Si, dislocation free crystals, microscopic defects, eutectic etching 7–16545
GaAs:Si, dislocations, STEM and CTEM micrographs 7–1825
GaAs:Si, distorted impurity configuration 7–52501
GaAs:Si, electrical props. of p-type layer 7–12722
GaAs:Si, FET structs., rapid optical annealing for improved uniformity 7–16620
GaAs:Si, flow-rate modulation epitaxy, Si planar doping 7–17443
GaAs:Si, ion implanted, amorphisation and epitaxial regrowth, defect depth profiles 7–12088
GaAs:Si, ion implanted, rapidly annealed, damage removal process 7–17043
GaAs:Si, ion implanted, rapid thermal annealing effects 7–21259
GaAs:Si, ion implanted and rapid thermal annealed, activation efficiency, crystal stoichiometry effects 7–51791
GaAs:Si, LEC grown, struct. defects, influence of Si and S doping 7–53550
GaAs:Si, MBE growth, carrier concentration, dislocation effects 7–58682
GaAs:Si, rapid annealing, temp. depend. of damage removal and carrier activation 7–17032
GaAs:Si, semi-insulating, ion implanted, LEC growth, elec. activation efficiency, stoichiometry dependence 7–46298
GaAs:Si, shallow donor neutralisation by atomic H, photoluminescence study 7–22294
GaAs:Si,Be, MBE, dopant interaction 7–52362
GaAs:Si,Ge, local modes, isotopic fine struct., IR spectra 7–38145
GaAs:Si,Se MOCVD epitaxial layer photolum. spectral shift and doping efficiency obs. *(Japanese)* 7–45076
GaAs:Si crysts., impurity and defect props., heat treatment, photolum. studies 7–39163
GaAs:Si heteroepitaxial growth on sapphire, low press. MOCVD three-step method 7–27927
GaAs:Si wafer, failure, dislocation distrib., etching 7–12067
GaAs:Si/$Al_xGa_{1-x}As$ quantum wells, photolum. studies 7–39178
GaAs:Si/AlAs multiquantum well structs., band struct. and photolum. studies 7–12843
GaAs:Si-$Ga_{0.25}Al_{0.75}As$:Si quantum wells, ion implanted, TEM and photolum. studies 7–58865
GaAs:Si^+ wafers, implant at. profiles, planar and residual channelling effects 7–12181
GaAs:Zn,Si, selective double diffusion using sputtered Si masks 7–51805
GaAs/AlGaAs superlattices, Si implanted, compositional disordering, SIMS studies 7–12091
GaAs/Au(Cr) Schottky barriers, hole diffusion length, photon and electron excitation studies 7–2707
GaAs-GaAlAs:Si modulation doped quantum wells, electron mobility, temp. depend. 7–45473
GaAs-Si, nucleation and growth of GaAs 7–45038
a-GaAs-Si (100), epitaxial regrowth by excimer laser annealing, FET fabrication 7–32875
GaAs-Si cells, photovoltaic 7–17903
GaAs-Si heteroepitaxial interface, atomic structure 7–52298
GaAs-Si mechanically stacked multijunction solar cell 7–8402
GaAs-Si p-n heterojunctions, interface charge polarity 7–38686
GaAs-Si thin film solar cells, radiation damage 7–65465
$GaAs_{0.12}P_{0.88}$:N, Te and GaP:N, Si(Te) epitaxial layers, minority carrier lifetimes, surface and interface recombination effects 7–7424
$Ga_{1-x}P_x$-GaP-Si mechanically stacked multijunction solar cells, p-n junction model 7–3668
GaSb:Si single crysts., Czochralski growth, carrier conc. rel. to dopant conc. 7–22462
GaSb:Te(Se)(Si)(Ge) single crysts., Czochralski growth, carrier conc. rel. to dopant conc. 7–22462
GaSb/GaSb:Si (111) autoepitaxial structures, signs of misfit dislocations, X-ray topographic determ. 7–38349
Ge:H-Si:H amorphous superlattices, electrical transport 7–7336
Ge/Si ion cluster beam deposition substrates for MOVCD GaAs solar cells 7–23182
Ge-CaF_2-Si epitaxial structures, growth, structural and electrical props. 7–38356
GeSi-Si strained layer superlattices, growth using limited reaction processing 7–39430
GeSi-Si strained superlattices, order-disorder transitions, obs. 7–27166
GeSi-Si strained-layer superlattices, elastic relax. effects on TEM 7–52378
GeSi-Si superlattice, strain-induced order-disorder transition 7–21437
$Ge_{1-x}Si_x$-GaAs-Si, multispectral high efficiency solar cells, semicond. selection criterion 7–8399
Ge_xSi_{1-x}/Si superlattice, use to improve quality of Si heteroepitaxy on CaF_2-Si 7–22497
Ge_xSi_{1-x}-Si strained layer superlattices, bandgap meas. 7–27408
Ge_xSi_{1-x}-Si strained-layer heterostructure, transport, optical props. and appls. 7–7349
Ge_xSi_{1-x}-Si strained-layer superlattice, zone folding induced quasi-direct gap, optical absorpt. probability 7–27409
Ge_xSi_{1-x}-Si structures, epitaxial growth 7–39387
Hf/Si amorphous multilayer X-ray reflectors, layer imperfections effects 7–25936
Hf-Si multilayers, X-ray optical props. rel. to layer imperfections 7–37097
InGaAs:Si LED, electrical and luminesc. props., ultrasonically-induced changes 7–22350
InP:Fe, Si-implanted and rapid thermal annealed, photoluminesc, study 7–59243
InP:Si, doping using thermal atomic beams in chemical beam epitaxy 7–44584
InP:Si, isothermal anneal techniques, comparison 7–16603
InP:Si, substrate, encapsulated annealing, using SiN encapsulant 7–39779
InP:Si,S,Zn epitaxial films, MOCVD grown, identification of acceptors and donors 7–58688
InSb:Si, heterogeneity study 7–21476
$In_{2-x}Sn_xO_{3-y}SnO_2$-Pt-Si:H solar cells 7–8395

silicon continued
Mo/Si, amorphous multilayers, annealing, diffusion, structural relax. 7—52309
Mo/Si multilayered structs., high resolution electron microscopy studies 7—63968
Mo-Pd-Si, thin film metallisation system, interdiffusion, cpd. formation 7—21538
Mo-Si multilayer mirror, reflectivity and stimulated emission in XUV spectra region 7—37099
MoSi$_2$:As-poly Si struct., redistribution of As by silicidation tempering 7—51812
Nb/a-Si/Nb structures, AC Josephson effect 7—12919
Nb/Si multilayered thin films, supercond. props. *(Japanese)* 7—64405
Nb-a-Si-Nb Josephson junctions, for IR laser radiation response near plasma reson. freq. 7—58958
Nb-Si multilayers, electron beam deposited, characts. 7—27456
Nb-Si*-Nb high quality Josephson end junctions, characts. 7—12920
Ni/Al/Si system, contact structure formation by rapid thermal melting 7—45019
Ni-Si, interphase contact and interaction 7—16880
Ni-Si interface reactions induced by pulsed incoherent light, silicide formation 7—32725
Ni-Si thin film diffusion couples, lateral silicide formation 7—21540
Ni-TiC-Si, TiC as mixing barrier for Ni-Si ion beam mixing 7—44922
Ni-ZnSe-SiO$_2$-Si struct., energy barriers for photocharging of trapping sights in ZnSe layer 7—52844
NiSi$_2$-Si, epitaxial growth of silicide layers by electron beam annealing 7—27213
NiSi$_2$-Si, interface states, barrier height, Fermi level 7—27430
NiSi$_2$-Si, Schottky barrier, interfacial defect states 7—27428
NiSi$_2$-Si, Schottky barrier height, structural characterisation 7—27429
NiSi$_2$-Si, stability of MBE grown thin NiSi$_2$ layers on Si (111) 7—38380
NiSi$_2$-Si (111), Schottky barrier height, rel. to Fermi level positions 7—27427
NiSi$_2$-Si (111) epitaxial interface, strain meas. by MeV ion channelling 7—27157
NiSi$_2$-Si heterostructures, epitaxial growth 7—39387
NiSi$_2$-Si interfaces, convergent beam electron diffr. patterns 7—27156
NiSi$_2$-Si Schottky barrier heights, study by electron beam induced current 7—27381
NiSi$_2$-Si:B(BF$_2$), epitaxial growth of NiSi$_2$, influence of dopant atoms 7—45039
NiSi$_2$-Si(111) interface struct. charactn. by X-ray diffr. *(Japanese)* 7—63399
p-Si:As oxidation in HCl ambient, impurity pile-up, bubble pattern form. and local oxide bowing 7—13675
PLZT/Si spatial light modulators, technology 7—20408
Pd/Si interface composition and silicide form., atom probe FIM study 7—32845
Pd/Si:B,As/Si:B, As ion implant redistribution during Pd$_2$Si formation using rapid thermal annealing 7—16816
Pd-Cr-SiO$_x$-p-Si MIS electrodes for electrochemical solar cells 7—34048
Pd-Si interface, silicide formation, in situ ellipsometric studies 7—21694
Pd-Si thin film growth, Pd$_2$Si formation, TEM study *(Chinese)* 7—7038
PdSi$_2$-Si, interface states, barrier height, Fermi level 7—27430
Pt/SiN/Si structure, nucleation kinetics and spatial distribution of spherulotic PtSi clusters 7—21675
Pt-Si interface, defects in PtSi$_x$ formation 7—21195
Pt-Si interface, PtSi formation and passivation 7—21709
Pt-SiO$_x$-n-Si MIS electrode for electrochemical solar cells 7—34048
PtSi/p-Si thin Schottky diodes, TEM, TED, I-V curve and photoemission characts. 7—12861
PtSi/Si heterogeneous interface struct., defects, and coherency, HRTEM meas. *(Japanese)* 7—7019
RSi$_{2-x}$-Si (R=Sc, Y, Gd, Ho, Tb, Dy, Er, Tm, Yb, Lu), silicide thin films, phase composition, conductance, surface morphology 7—7072
SOI films, halogen lamp recrystallised, minority carrier lifetime studies 7—33101
SOI, zone melting recrystallisation 7—2414
Si : BF$_2$ preamorphised implanted samples, defects and leakage currents abs. 7—38514
Si (111)/Au interfaces, structural and electronic props., annealing effects 7—21679
Si (111)/CaF$_2$, interface and surface phonons, high resolution EELS study 7—38319
Si (111)-CaF$_2$, MBE grown, electronic struct. 7—2725
Si (111)-CaF$_2$, UV irradiation-induced ordered struct., photoelectron spectroscopy study 7—7396
Si, Auger recombination at low carrier densities 7—7328
a-Si based integrated type X-ray sensor *(Japanese)* 7—15456
Si, crystallised thin films, electrical characterisation 7—33116
Si, diffusion length depend. on cooling rates and bulk resistivity 7—7266
Si film, ion impact, inelastic energy loss and electron emission 7—17384
Si, HF passivated, surface chemistry, XPS and ion scatt. spectra 7—33857
a-Si high quality films and superlattice solar cells, prep. method 7—46346
Si I, mpnd and msmp^3 configs., J=3^0 energy level calcs. 7—36451
Si I, msmp^3, mpnd J=3^0 levels, 3-limit 4-channel representations 7—36452
Si II, III and IV line strengths in B-type stars, non-LTE calcs. 7—18406
Si II, interstellar, UV equivalent width data statistics and new oscillator strengths 7—55444
Si II, space resolved distribs. in T-tube 7—20948
Si III, Stark shift of DA white dwarfs modified semiempirical formula 7—55638
Si IV, relative emission-line strengths in Sun 7—47799
Si IV in galactic halo, implications for interstellar gas props. 7—24171
Si IV in local interstellar medium, evidence from IUE obs. of late B-type stars 7—60771
Si metal tunnel-thin insulator-semiconductor structures, effects of high field corners 7—64348
a-Si, metallic state, prep., characts., appl. in devices *(Japanese)* 7—52697
Si, microcrystalline films, carrier lifetime from transient photoconductivity meas. 7—7290
a-Si monolithically interconnected photovoltaic panels, single chamber glow discharge manufacturing process 7—13892
a-Si photovoltaic module performance 7—3684
Si, plasma etching in Ar-tetrafluoromethane glow discharge 7—32170
Si polycrystalline films, sheet resistance, rapid thermal annealing prior to and post As ion implantation 7—12886
a-Si, prep. by low press. CVD, characts. 7—7884

silicon continued
a-Si solar cells, fabrication and characts. 7—13891
a-Si solar cells, fabrication methods using UHV reaction chamber system, high conversion efficiency 7—54293
a-Si solar cells and modules, hot spot durability testing 7—13915
Si substrate, dopant redistrib. during Pd$_2$Si formation 7—21255
Si, twinning partial dislocations, effective stresses, anal. 7—63630
Si V, EUV laser optical pumping scheme in two coupled media using quasi-continuum from rare earth elements 7—20211
Si VIII, N I-like ion, forbidden lines identification in solar EUV spectrum 7—66441
Si XIII and XIV, laser-heated plasma, 2l-3l′ and 2l-4l′ transitions 7—57021
Si^{2+} transversing Fe and Gd foils transient mag. fields 7—10537
Si: transition metals, solubilities, diffusivities and deep levels 7—32465
Si:^{111}Cd, hyperfine interactions, temp. depend., gamma-ray spectra studies 7—64553
Si:Ag, implantation damage regrowth studied via Ag depth profiling 7—22730
Si:Ag-Ag, formation of Schottky junctions by Ag implantation in Si 7—12784
Si:Al, atom and acceptor depth distributions of channelled Al as a function of ion energy and crystal orientation 7—21247
Si:Al, depth profiles, redistrib. of annealed Al implants 7—63640
Si:Al, ion implanted and annealed, Al precipitation, TEM studies 7—21238
Si:Al, Mg transmutation doping by proton irrad. 7—38027
Si:Al films, LPE in a temperature-gradient field 7—64936
Si:Al implanted crysts., amorphous surface regions with crystalline impurity grains, TEM study 7—58579
Si:Al surfaces, SIMS anal. of contaminants 7—33989
Si:Al(In), recrystallisation by pulsed electron beam, impurity profiles 7—16605
Si:Ar, high dose implanted, thermal regrowth, RHEED studies 7—21734
Si:Ar laminated structure formed by Ar ion doping, electroreflectance 7—7676
Si:Ar$^+$, ion implanted thin film, defect form., dose depend. study 7—51793
Si:As, deep level spectra, ion implanted defects, laser annealing 7—21869
Si:As, dopant diffusion, finite element based simulation, quasilinear formulation with remeshing scheme 7—21526
Si:As, high dose implanted, defect density reduction by low temp. oxidation 7—58297
Si:As, highly doped, spinodal decomposition and clustering 7—52063
Si:As, implanted, supersaturated soln., defect struct., TEM obs. 7—58483
Si:As, ion implantation, damage profiles determ. by spectroscopic ellipsometry and stripping *(Chinese)* 7—32468
Si:As, ion implantation-induced defects 7—32433
Si:As, ion implanted, diffusion and defects, transient scanning electron beam annealing 7—38065
Si:As, ion implanted, electronic transport props. 7—7233
Si:As, ion implanted, rapid thermal annealing 7—16615
Si:As, ion implanted, rapid thermal annealing, metastable activation 7—16616
Si:As, ion implanted polycrystalline films, electrical activation by rapid thermal annealing 7—58914
Si:As, laser annealed, Raman scatt. study 7—53325
Si:As, precipitation and cluster form., elec. resist., backscatt. and TEM studies *(Chinese)* 7—12285
Si:As, Rutherford backscattering-particle induced X-ray emission analysis 7—54251
Si:As,In, formation of In-As complexes, perturbed angular correlation technique obs. 7—17254
Si:As,P, double diffused shallow junctions, rapid thermal annealing 7—22006
Si:As,Sb(P,Sb), Sb diffusion 7—44915
Si:As (B)(BF$_2^+$), p-n junction diode, rapid thermal annealing 7—22005
Si:As films, heavily doped, grown by partially ionised MBE, phys. and elec. characts. 7—12561
Si:As films, preannealed and As ion implanted, structural changes during transient pot-annealing 7—16904
Si:As ion implanted, defect structs. generated by buried amorphous layer regrowth 7—38078
Si:As ion implanted films, defects charactn. by AC Hall effect meas. 7—38601
Si:As on sapphire, ion beam recrystallised and laser annealed, elec. props. 7—16649
Si:As polycrystalline films, rapid thermal processing before and after ion implantation, effect on cond. 7—22046
Si:As porous layer, impurity diffusion under incoherent light exposure 7—38258
Si:As substrate, dopant effects on formation kinetics of Pt silicides 7—21697
Si:As surface, TiSi$_2$ formation 7—12551
Si:As$^+$, epitaxial regrowth, CW Ar laser annealing *(Korean)* 7—27197
Si:As$^+$, heavily doped, ion implant deactivation 7—17567
Si:As$^+$(As$_2^+$), ion implanted, phys. props., spreading resist., TEM, Rutherford backscattering, SIMS 7—26775
Si:As(B), ion implant redistribution, diffusion modelling 7—16814
Si:As(B), ion implanted, pulsed laser annealing, optical reflection kinetics 7—58323
Si:As(B)(P), impurities at dislocations and grain boundaries, high-resolution TEM imaging 7—37815
Si:As(P)(B)-SiO$_2$ interface, segregation, transport coeffs. of impurities 7—63880
Si:As(Sb)(Bi), implanted, heavy ion damage, TEM, annealing studies 7—63676
Si:As(Sb)(In), heavily doped, laser induced oxidation 7—13672
Si:Au, deep level position in forbidden gap, charactn. using ionisation Gibbs free energy *(Chinese)* 7—58760
Si:Au, deep levels, multiexponential anal. of deep level transient spectroscopy 7—52524
Si:Au, laser radiation effects on impurity levels 7—12645
Si:Au, Li, Au-Si pair paramagnetic state, EPR studies 7—45817
Si:Au, supersaturated low-temp. substitutional impurities, annealing 7—6665
Si:Au,Fe-SiO$_2$, MOS struct., trap centres 7—7388
Si:Au n-n$^+$ isotype junction, enhanced magnetosensitivity 7—7370
Si:Au. U- and W-shaped impurity diffusion profiles investigation 7—16805
Si:B, amorphisation by ion implantation 7—38080

silicon continued
Si:B, amorphous, solar cell, roll-to-roll mass prod. process 7−17902
Si:B, B ion dose identification, HF C-U meas. 7−6661
Si:B, B-vacancy complex, electronic and atomic struct., ENDOR studies 7−63649
Si:B, BF_2^+ ion implantation and rapid thermal annealing 7−21241
Si:B, carrier lifetime meas., capture and recombination 7−38585
Si:B, cold neutron irradiated, interaction cross sections 7−58349
Si:B, critical supercond. current induced by proximity effect, mag. field depend. 7−22069
Si:B, diffused through narrow windows, doping profiles 7−12113
Si:B, diffusion and activation of implanted B during rapid thermal annealing 7−16643
Si:B, doping by XeCl excimer laser irrad., ultra-shallow junction fabrication 7−58303
Si:B, electron-irradiated, AC hopping conductivity and DLTS 7−44624
Si:B, excimer laser-induced shallow diffusion, junction form. 7−38038
Si:B, F implanted amorphous layers, struct. and elec. props., ESR and Hall effect meas. 7−26634
Si:B, H, hydrogenation of B acceptor during electron injection by Fowler-Nordheim tunnelling 7−45504
Si:B, implant redistribution during high pressure oxidation, SIMS and C-V meas. 7−27020
Si:B, impurity diffusion from BN sources, non-Fickian model 7−27012
Si:B, impurity transport in mag. Czochralski growth, computer simulation 7−58182
Si:B, ion implanted, amorphous layer thickness, SIMS profiling 7−51794
Si:B, ion implanted, B diffusion, rapid thermal annealing 7−58538
Si:B, ion implanted, defect and dopant depth profile studies 7−2045
Si:B, ion implanted, dopant redistrib. during rapid thermal annealing 7−38042
Si:B, ion implanted, strain profile, double cryst. X-ray rocking curve simulation 7−2060
Si:B, ion implanted, transient annealing and residual defect DLTS study *(Chinese)* 7−12642
Si:B, laser microprobe mass analysis, quantitative 7−54250
Si:B, low temp. epitaxial films, nonequilib. doping effects 7−58672
Si:B, MBE grown, coevaporation doping 7−12562
Si:B, mag. props. of the acceptor system 7−27496
Si:B, magnetic Czochralski growth, computer simulation of B transport 7−32344
Si:B, O, heavily doped, O precipitation, diffuse X-ray scatt. studies 7−32669
Si:B, O epitaxial wafers, effect of pre- and postdeposition annealing on O precipitation 7−45060
Si:B, preamorphised, B diffusion during rapid thermal annealing 7−32717
Si:B, SIMS depth profiles in the near-surface region, correction for ion yield transients 7−22430
Si:B, SIMS depth profiles, characterisation and removal of ion yield transients in the near surface region 7−65368
Si:B,C,O, O clustering and thermal donor formation kinetics 7−17566
Si:B,Fe, EBIC and DLTS meas., comparisons 7−7265
Si:B,H(D) Schottky and n^+-p junction diodes, electrical transport of acceptor-compensating defect 7−16823
Si:B,O, thermal donor formation, bending stress effects 7−17563
Si:B,O epitaxial wafers, internal gettering heat treatments and O precipitation 7−45059
Si:B,O(Sb,O), heavily doped Czochralski wafers, O precipitation, 450°C thermal annealing 7−58477
Si:B,P highly doped epitaxial layers, growth by low press. VPE 7−39432
Si:B,P solar cells produced by pulsed excimer laser annealing of ion-implanted junctions 7−8419
Si:B (As) diffusion source, diffusion into single crystal Si 7−32727
Si:B film deposition in Si_2H_6-B_2H_6-He gas system, doping effect 7−27184
Si:B layers, preamorphised and ion implanted, structural and elec. characterisation 7−52347
Si:B MBE layers, shallow states, photoluminescence spectra, doping level depend. 7−13228
Si:B p^+-n-n^+ solar cells fabricated using masked ion implantation, electro-optical characts. 7−23143
Si:B p^+−n shallow junctions obtained by implantation into preamorphised Si, elec. charactn. 7−38703
Si:B p-n^+ junction, injection annealing of radiation defects 7−12161
Si:B plastically deformed crysts., dislocation struct. and elec. activity, annealing effects study 7−37998
Si:B polycrystalline films, rapid thermal processing before and after ion implantation, effect on cond. 7−22046
Si:B-Mo interface, specimen preparation by chemical etching and polishing, for electron studies 7−29989
Si:B-Si polycrystal-single cryst. interface, impurity diffusion across boundary 7−27013
Si:B^+ submicron p-n junctions, ion implanted, dopant distrib., Raman study 7−21252
n-Si:B^+(BF_2^+), ion implanted, rapid thermal annealing, DLTS 7−16619
Si:B^+(BF_2^+), ion implanted, characterisation by IR attenuated total reflection spectroscopy 7−17327
Si:BF_2, ion implanted, diffusion and defects, transient scanning electron beam annealing 7−38065
Si:BF_2^+, ion implanted, solid phase epitaxial growth, cross-sectional TEM study 7−38364
Si:BF_2^+ (001), ion implanted, residual defects, cross-sectional TEM study 7−32471
Si:BF_2^+ p^+-n diodes, BF_2^+-implanted and rapid thermal annealed, junction leakage currents meas. 7−12814
Si:BF_2^+ submicron p-n junctions, ion implanted, dopant distrib., Raman study 7−21252
Si:BF_n^+(PF_n^+), ion implantation damage, backscattering channelling meas. 7−63675
Si:B(Al), hydrogenation and annealing kinetics 7−2527
Si:B(Al)(Ga)(P)(Sb) thermal donor props., impurity effects, DLTS, Hall effect, and admittance spectra meas. 7−21851
Si:B(As)-Ti(Co), silicide formation using rapid thermal processing, defect behaviour 7−32726
Si:B(Au), electron irrad. stimulated impurity diffusion 7−63878
Si:B(BF_2) wafers, activated carrier density profile and scatt. rate meas., nondestructive IR attenuated total refl. technique 7−22207
Si:B(Ga)(As)(Sb) 7−2040
Si:B(P), lateral diffusion, modeling LOCOS effects 7−33865
Si:B(P) solar cell emitter saturation current meas. by contactless photoconductivity decay method 7−13866

silicon continued
a-Si:B(P)(As), implanted ion distrib., lateral spreading, theoretical predictions and computer simulation 7−16604
Si:B(P)(As)(Sb), retarded and enhanced dopant diffusion related to implantation-induced excess vacancies and interstitials 7−63881
Si:Bi, solute trapping by lateral motion of {111} ledges 7−44592
Si:C, carbide form. in Stepanov cryst. growth 7−33544
Si:C, conf., Boston, MA, USA (Dec. 1985) 7−14711
Si:C, Czochralski grown, incorporation and disposition of C 7−32484
Si:C, electron irradiated, photolum. defect spectra, obs. of interstitial C 7−59253
Si:C, impurity concentration determ. by photoluminesc. method 7−46084
Si:C, impurity content determ. IR absorpt.-charged particle activation anal. conversion factor 7−26788
Si:C, photolum. detection of impurities introduced by dry etching processes 7−27748
Si:C, polycrystalline, electrical and structural properties 7−12106
Si:C,N, ion implanted, C surface contamination, AES and XPS studies 7−38312
Si:C,O, heat-treated, photoconductivity relax., α traps 7−52677
Si:C,O, luminescence props. of shallow donor centre 7−17347
Si:C,O, photoluminescence of C-O related complex defects 7−22346
Si:C,O, solubility, segregation, diffusion and precipitation 7−16777
Si:C,O,P, C precipitation after P junction diffusion 7−16779
Si:C,O grown by gas-assisted solidification, impurities determination 7−16586
Si:C,O wafers, C and O contents,, Fourier transform IR spectra studies, book contrib. 7−44596
Si:C,O wafers, defect generation, O precipitation effects *(Chinese)* 7−12058
Si:C crystals, Stepanov method growth, defect structs. 7−32421
Si:C(C,P), C diffusion during annealing and P in-diffusion 7−16812
Si:Co, impurity energy levels, Hall and DLTS meas. 7−52509
Si:Co, minority carrier lifetimes meas. *(Japanese)* 7−52647
Si:Co, supersaturated solid solution, annealing 7−63642
Si:Cr,B, optically-induced spin orientation, EPR study 7−2927
Si:Cu, amorphous, explosive crystn., RBS and time-resolved reflectivity studies 7−21265
Si:Cu, deep level position in forbidden gap, charactn. using ionisation Gibbs free energy *(Chinese)* 7−58760
Si:Cu, ion implantation-amorphised, direct imaging of pulsed laser-induced buried molten layers 7−12130
Si:Cu thin single crystals, decorated dislocations, X-ray Laue diffr. and scatt. studies *(Russian)* 7−58282
Si:D, ion implanted, channelling meas.. 7−16597
a-Si:D,F, D NMR lineshapes and spin-lattice relax. studies 7−45836
a-Si:D,F, plasma deposited, deuteron magnetic resonance 7−27626
a-Si:D(D,H), deuteron mag. resonance, annealing effects 7−33292
Si:Er(Dy)(Yb)(Ho)(Gd), neutron irrad., Hall effect, elec. cond., IR absorpt. spectra 7−51834
Si:F, implanted, dry oxidation kinetics, impurity effects 7−13667
Si:F,H, amorphous, high efficiency solar cells fabrication and props. 7−17901
a-Si:F,H films, glow discharge deposition, B doping efficiency 7−17436
Si:Fe, interstitial Fe, spin delocalisation 7−13059
Si:Fe, interstitial impurity, superhyperfine interaction and spin-lattice relax. 7−53178
Si:Fe, intrinsic gettering, EPR and TEM study 7−38216
Si:Fe, low damage surface anal., sputtered atom resonance ionisation method 7−58584
Si:Fe, silicides obtained by Fe^+ implantation 7−6655
Si:Fe,O, Fe intrinsic gettering, EPR studies 7−16553
Si:Ga, electron irradiated and annealed, photoluminescence spectra 7−13206
Si:Ga, highly cond. shallow junction layer form. by ion implantation 7−38037
Si:Ga epitaxial layers, growth induced planar defects 7−38414
Si:Ga MBE layers, ion implantation doping using liq. metal ion source, carrier conc., spreading resist., SIMS profiles 7−12563
Si:Gd, grown from melt, electrical and optical props., residual impurities 7−63636
Si:Gd,C profiled single cryst., electronic parameters and SiC inclusions 7−32944
Si:Ge, Ge^+ preamorphisation implants, effect on extended defect formation during subsequent solid phase epitaxy 7−16599
Si:Ge, irradiated, photoluminescence spectra 7−13207
Si:Ge,P(B), IR absorpt. band broadening 7−64669
Si:Ge^+, ion implanted and annealed, crystalline to amorphous transformation, TEM study 7−32643
a-Si:H, ^{29}Si and ^{1}H NMR spectra, peak position and line shape 7−2934
a-Si:H, ambipolar drift length meas. using steady-state photocarrier grating technique 7−45390
α-Si:H, amorphous, coherent potential approx., potential well analogy 7−27240
Si:H, amorphous, dendritic web, Czochralski flat plate modules and concentrator module, price comparison 7−17904
Si:H, amorphous, p-i-n solar cells, stability behaviour, impurities and doping residues effect 7−17912
Si:H, amorphous, solar cells, current-induced and light-induced degradation, non-equivalence 7−17908
Si:H, amorphous, transient photoconductivity characterisation 7−52692
Si:H, amorphous film, optical absorption and bandgap rel. to temp. *(Korean)* 7−59228
a-Si:H, amorphous to microcrystalline structure transformation, phase stabilisation 7−63475
a-Si:H, B, P, As, dopant incorporation and doping efficiency 7−44587
a-Si:H, B, P-type, increased elec. cond. studies 7−45337
a-Si:H, B_2H_6(PH_3), localised density of states, electrophotography study 7−32957
Si:H, B(Al)(GA)(In), polishing, acceptor compensation by atomic H 7−33860
a-Si:H, broken bond local environment relax., g-factor, cluster calcs. 7−37876
a-Si:H, bulk, surface state densities, Bethe lattice method, CPA calcs. 7−32898
a-Si:H, C superlattice struct., solar cell performance 7−46945
a-Si:H, carrier trapping and recombination, IR enhancement spectra of photoconductivity 7−33052
a-Si:H, charge transport and relax., luminesc. long-time tail distribs. anal. 7−39185

silicon continued
  a-Si:H, conductivity, fundamental pre-exponential factor, Meyer-Neldel rule 7—7249
  Si:H, conf., Boston, MA, USA (Dec. 1985) 7—14711
  a-Si:H, configurational models and adiabatic potentials of H 7—51632
  a-Si:H, contact resist. meas. technique 7—24658
  α-Si:H, cross-polarisation dynamics, NMR 7—53151
  a-Si:H, deep trapping, transient photocurrent saturation 7—21952
  a-Si:H, defect structure, ab initio theory 7—32298
  a-Si:H, density of states, SCLC meas., effect of injection electrodes 7—64265
  a-Si:H, deposition rates in diode and triode discharges 7—3193
  a-Si:H, distrib. of states study by capacitance-voltage method 7—7089
  a-Si:H, divacancy electron struct., semiempirical CNDO/2 cluster calcs. 7—38495
  a-Si:H, doped, electronic transport 7—21916
  a-Si:H, EXAFS, spherical wave anal. and multiple scatt. effects 7—64740
  a-Si:H, elastic properties 7—21323
  a-Si:H, electron traps, telegraph noise spectroscopy 7—21928
  a-Si:H, electronic density of states, DLTS and capacitance transient spectra anal. 7—45134
  a-Si:H, electronic struct., inadequacy of the conventional view 7—32961
  a-Si:H, electronic struct. modelling with small clusters 7—64057
  a-Si:H, electronic transport 7—33004
  a-Si:H, evaporated samples, post-hydrogenation, characts. 7—59103
  a-Si:H, extended state mobility and tail-state distrib. 7—2617
  a-Si:H, fluctuation induced gap states 7—27242
  a-Si:H, form. by ion flux control under toroidal mag. field *(Japanese)* 7—17446
  a-Si:H, gas-phase and ion-implantation doped, doping efficiencies 7—51790
  a-Si:H, glow discharge deposited, nucleation, substrate temp. effects 7—22504
  a-Si:H, glow discharge deposited, light soaking effects 7—52872
  a-Si:H, glow discharge deposition, surface roughness evolution 7—64933
  a-Si:H, glow discharge prepared, steady-state photoconductivity 7—38632
  a-Si:H, glow discharge thin films, deposition rate, optical props., influence of substrate temp. 7—59460
  a-Si:H, glow-discharge deposition, growth kinetics, radical separation technique 7—22513
  a-Si:H, H clustering, multiple quantum NMR 7—32671
  Si:H, H composition at surfaces and interfaces 7—27083
  a-Si:H, H_2 distrib., exodiffusion spectra 7—27026
  Si:H, impurity clustering, hydride form. on dislocations, TEM study 7—26964
  Si:H, impurity effects on IR absorpt. bands of Si-H centres, irrad. and unirrad. crysts. 7—53379
  a-Si:H, influence of H on defects and instabilities 7—26647
  a-Si:H, intrinsic glow-discharge, elec. noise meas. 7—64297
  Si:H, ion implanted and annealed, H depth distribs. 7—26785
  a-Si:H, laser-assisted CVD growth, optical props. 7—22210
  a-Si:H, light induced degradation at high illum., inverse Staebler-Wronski effect 7—23195
  a-Si:H, light soaked, dangling bond creation 7—12150
  a-Si:H, light-induced dangling bonds, annealing behaviour 7—12119
  a-Si:H, light-induced degradation 7—2047
  a-Si:H, light-induced electron spin resonance 7—33274
  a-Si:H, light-induced metastable dangling bonds, annealing 7—12118
  a-Si:H, localised electronic state, light soaking and current injection 7—16994
  a-Si:H, metastable defect states, capacitance studies 7—45225
  Si:H, microcrystalline, photo-CVD growth 7—13382
  a-Si:H, mobility gap state transitions, transient photocapacitance studies 7—12669
  a-Si:H, NMR props. of ortho-H_2 centres 7—2935
  a-Si:H, neutral dangling bond defect, photocarrier processes 7—32962
  a-Si:H, non-exponential photocurrrent decay, anal. 7—38633
  a-Si:H, optical dispersion relations, determ. 7—33353
  a-Si:H, photo-CVD deposition, initial processes *(Japanese)* 7—7053
  a-Si:H, photocond. response, light soaking effects 7—45396
  a-Si:H, photoconductivity and light-induced changes 7—2640
  a-Si:H, photoconductivity exponent for recombination at dangling bonds 7—33054
  a-Si:H, photocurrent, surface recombination effects 7—33048
  a-Si:H, photoinduced absorpt., ps decay 7—27684
  a-Si:H, photolum. and photoconductivity studies 7—33456
  a- Si:H, photoluminescence, high temp. annealing effects 7—7745
  a-Si:H, photoluminescence, thermal quenching 7—53389
  a-Si:H, picosecond photoinduced absorption and transmission 7—3006
  a-Si:H, picosecond photoinduced absorption decays, interference effects 7—3012
  a-Si:H, plasma deposited NMR, Pake doublet 7—27617
  a-Si:H, plasma enhanced CVD, integrated model 7—39423
  Si:H, polycrystalline, chemistry of grain boundary passivation 7—12375
  Si:H, polycrystalline, grain boundary interactions 7—12117
  Si:H, polycrystalline, plasma hydrogenation, ESR study 7—45819
  a-Si:H, prep. in rotary plasma isolated reactor and props. 7—7891
  a-Si:H, RF glow discharge prod., high deposition rate study 7—7889
  a-Si:H, RF sputtered, dangling bond electron spin-lattice relaxation 7—22141
  a-Si:H, RF sputtered, dangling bond energies, ESR studies 7—45818
  a-Si:H, recomb. at dangling bonds and steady-state photocond. Fermi level depend. calcs. 7—12734
  a-Si:H, SCL currents, step-by-step anal. 7—2623
  Si:H, Si—H IR stretching bands, models, CNDO calc. 7—53314
  a-Si:H, Si—H—Si three centre bonds IR spectra, LCAO-MO-SCF-STO-3G calcs. 7—6741
  a-Si:H, Staebler-Wronski effect and metastable light-induced defect creation kinetics model 7—64284
  Si:H, summary of present state of research 7—16584
  a-Si:H, surface deep hole trap, photocurrent studies 7—45424
  a-Si:H, surface structure, inert gas plasma exposure effects 7—21584
  a-Si:H, thermal-equilib. processes, electronic transport 7—64167
  a-Si:H, triplet exciton recomb., ODMR studies 7—2490
  a-Si:H,B, effective p^+ doping by plasma-assisted B diffusion 7—38036
  a-Si:H,B, RF sputtered films, optical and electrical props. 7—33470
  a-Si:H,B, thin films, thermoelectric power 7—58826
  a-Si:H,B films, hole transport, time-of-flight meas. 7—45320
  a-Si:H,B p-i-n and n-i-p solar cells, doping profile effects 7—46947
  a-Si:H,B/a-Si:H,P doping modulated superlattice, photo-induced excess conductivity 7—17051

silicon continued
  a-Si:H,B(As) RF sputtered coatings, gas-phase doping efficiency 7—63471
  a-Si:H,B(P) films, dopant conc. meas. and depth profiling by means of (p,γ) resonant reactions 7—12555
  a-Si:H,B(P) films, optical props. 7—64720
  a-Si:H,Cl glow discharge films, Raman scatt. 7—39116
  a-Si:H,D, H abstraction from surface, HD formation 7—39914
  a-Si:H,F by thermal CVD, photosensitivity, spin density, conductivity and p-n type 7—17454
  a-Si:H,F films, dark discharge mechanism of surface potential *(Japanese)* 7—17034
  a-Si:H,F films, glow discharge decomposition from Si_2F_6 7—64924
  a-Si:H,F films, H-radical-assisted CVD, hole transport 7—64264
  a-Si:H,F films, initial carrier trapping stages observed by femtosecond spectroscopy 7—27301
  a-Si:H,F films, prep. using H radical assisted CVD *(Japanese)* 7—17430
  a-Si:H,F multijunction solar cells, performance data 7—40011
  a-Si:H,F solar cells, radiation hardness to 1 MeV protons 7—23180
  a-Si:H,F/a-Si,Ge:H,F superlattices, elec. transport studies 7—38716
  a-Si:H,F/a-Si:H,F,Ge multiple junction solar cells on stainless steel substrates 7—13902
  a-Si:H,F/a-$SiGe_x$:H,F multiple layered films for enhancement in photoresponse in near IR spectrum 7—52668
  a-Si:H,F-$Si_{0.4}Ge_{0.6}$:H,F superlattices, carrier scatt., optical absorpt. study 7—38711
  a-Si:H,Ge single junction and tandem solar cells, thin film properties and corollary plasma diagnostics 7—13893
  a-Si:H,N thin films, activated reactive evaporation 7—13355
  a-Si:H,O films, RF sputtered, photoelec. props. 7—38627
  a-Si:H,P, electron lifetime, excitation energy depend. 7—45349
  a-Si:H,P multilayer films, plasma CVD and elec. cond. studies 7—39428
  a-Si:H,P(B) films, ion implanted, photoelectric and optical props. 7—38615
  a-Si:H,P(B) p-i-n solar cells, open-circuit volt., wavelength depend. 7—46948
  a-Si:H (C,H) (O,H) (N,H), annealing of metastable defects 7—3343
  Si:H (100) proton bombarded surface, complex refractive index profile, ellipsometry study 7—22216
  Si:H amorphous, recombination-enhanced defect reactions, reversibility 7—45343
  a-Si:H and a-Si films, electrical conductivity and struct. 7—52866
  a-Si:H and a-Si:H, B films, photoinduced changes in elec. props. 7—38634
  a-Si:H and a-Si:H,P, electron nuclear double resonance expts. 7—2950
  Si:H and near-surface damage of Si caused by H ions, review 7—16813
  Si:H based alloy thin films, optical constants determ., device modelling appl. 7—7666
  a-Si:H based alloys for solar cells, elec. props. and degradation behaviour 7—52642
  a-Si:H biased activated reactive layer evaporation and charactn. 7—59428
  Si:H binary alloys, crystallisation of polysilane 7—21105
  a-Si:H CVD coating, high temp. elec. cond. meas. 7—45336
  a-Si:H CVD films, density of states distrib., I-V characts. meas. 7—45113
  a-Si:H doping modulated films, photocond., carrier separation effects 7—38641
  a-Si:H doping modulated multilayers, light-induced excess conductivity 7—38643
  a-Si:H doping modulated superlattices, light-induced excess cond., deposition effects 7—27410
  a-Si:H doping superlattice interface struct. charactn. 7—58652
  a-Si:H evaporated layer production from RF discharge, growth mechanism and props. 7—64898
  a-Si:H film, photo-assisted plasma CVD 7—33593
  a-Si:H film, photoenhanced deposition and characts. 7—53635
  a-Si:H film prep. by compressed mag. field magnetron sputtering *(Japanese)* 7—46323
  a-Si:H films, annealed, structural changes, PMR studies 7—7596
  a-Si:H films, annealing, compressive stress, H evolution 7—28059
  a-Si:H films, bond angle distortions, substrate temp. effects, Raman study 7—7882
  a-Si:H films, CVD, electrical and optical props. 7—33596
  a-Si:H films, CVD, optical and electronic props. 7—33597
  a-Si:H films, CVD using microwave excited Ar plasma stream 7—64918
  a-Si:H films, carrier transport 7—17023
  a-Si:H films, charge carrier dynamics, influence of preparation conditions 7—33053
  a-Si:H films, columnar morphology, evolution of vibr. spectra 7—64646
  a-Si:H films, contact potential difference, surface photovoltage and conductivity 7—58855
  a-Si:H films, deep levels in the mobility gap 7—12670
  a-Si:H films, density of states and photoconductivity 7—45392
  a-Si:H films, depth profiling of constituents and impurities, elastic proton scatt. 7—45044
  a-Si:H films, discharge and CVD deposition, surface reactions 7—33601
  a-Si:H films, electron irrad., photocond., absorpt. coeff. spectral depend. 7—64279
  a-Si:H films, electronic props., effects of γ-irradiation 7—38584
  a-Si:H films, glow discharge deposited, persistent photoconductivity 7—58835
  a-Si:H films, glow discharge deposition 7—65325
  a-Si:H films, glow-discharge-deposition, initial nucleation and growth 7—63997
  a-Si:H films, growth and photovoltaic appls. 7—64236
  a-Si:H films, growth habit, influence of substrate struct., ellipsometry study 7—45055
  Si:H films, H content meas. 7—12553
  a-Si:H films, high rate deposition and impurity doping effects *(Japanese)* 7—13385
  a-Si:H films, high rate deposition by RF planar magnetron sputtering *(Japanese)* 7—39373
  α-Si:H films, illumination effects on conductivity 7—7291
  Si:H films, ion implant redistribution 7—16921
  a-Si:H films, laser induced CVD using SiH_4 photodecomposition 7—13376
  a-Si:H films, light-induced bond breaking 7—12517
  a-Si:H films, light-induced defects and internal stresses 7—12751
  a-Si:H films, metal-semiconductor contacts, characterisation 7—38724
  a-Si:H films, metastable optically induced ESR, time depend. 7—45800
  a-Si:H films, photo-CVD from SiH_4-H_2 7—39394
  a-Si:H films, photo-enhanced CVD 7—33594
  a-Si:H films, photochemical vapour deposition from SiH_4-H_2 7—64916
  a-Si:H films, photocond. characts. stabilisation *(Japanese)* 7—45393

silicon continued
- a-Si:H films, photoconductivity, thermal quenching obs. 7–52686
- a-Si:H films, plasma CVD, deposition kinetics *(Japanese)* 7–17450
- a-Si:H films, RF glow discharge deposition, optical and electrical props. 7–33598
- a-Si:H films, reactive deposition 7–33592
- a-Si:H films, sputter deposition, optical and ESR props. 7–33565
- a-Si:H films, thermal-equilibrium defect processes 7–26640
- a-Si:H films and p-i-n solar cells, photo-assisted CVD and opto-electronic characterisation 7–33595
- a-Si:H films and solar cells, light induced effects 7–46954
- a-Si:H films deposited by dual ion beam sputtering, characterisation 7–32882
- a-Si:H films deposited in He atmosphere, characts. 7–45056
- a-Si:H films high-rate deposition by RF planar magnetron sputtering *(Japanese)* 7–17419
- a-Si:H films photo-CVD, photoelectric and structural props. 7–7869
- a-Si:H films preparation by CVD 7–17453
- a-Si:H films with columnar morphology, Raman scatt. study 7–64644
- Si:H floating zone single crysts., neutron irrad., isochronal annealing behaviour, positron annihilation studies 7–21288
- a-Si:H heterojunction solar cell modules, fabrication by laser scribing 7–13900
- a-Si:H high efficiency p-i-n solar cells using superlattice p-layers 7–23177
- a-Si:H junction position sensitive photodetector 7–56343
- a-Si:H large area integrated solar cells, fabrication 7–40013
- a-Si:H material and p-i-n cell, light-induced charge 7–17055
- a-Si:H material and solar cells, light induced effects 7–23139
- Si:H microcrystalline films, glow discharge prep., elec. and optical props. 7–7415
- a-Si:H modulation doped multilayers, persistent photocond. studies 7–38642
- a-Si:H modulation doped multilayers, planar and perpendicular cond. meas. 7–38717
- aSi:H multijunctions, charge carrier transport, theoretical anal. 7–38690
- a-Si:H multilayer films, charge transfer doping, cond., photocond. meas. 7–38735
- a-Si:H n^+-i-n^+ struct., freq.-depend. noise studies 7–45484
- a-Si:H p^+-n-i structs., memory switching, transient current instability study 7–52762
- a-Si:H p-i-n solar cells, behaviour after light soaks through p-layer and n-layer 7–8398
- a-Si:H p-i-n solar cells, light induced degradation, effects of impurities and temp. 7–17886
- a-Si:H photo-CVD coatings, characterisation using TFT structure 7–38561
- a-Si:H pin solar cells, open-circuit volt., temp. and light intensity depend. 7–46949
- a-Si:H pin solar cells, photocurrent, transient behaviour 7–46950
- a-Si:H semiconductor-metal system, field effect problems, I-V meas. 7–38728
- a-Si:H short range order, impurity distrib. effects, EXAFS study 7–64761
- aSi:H solar cell characts. change due to long term temp. stresses 7–8393
- a-Si:H solar cell on polymer substrate, roll-to-roll prep. 7–59861
- a-Si:H solar cell prep. by laser-induced CVD of SiH_4 7–7890
- a-Si:H solar cell technology in Japan, recent advances 7–40009
- a-Si:H solar cells, density of states asymmetry effects 7–46946
- a-Si:H solar cells, dynamic equilibrium dangling bond density 7–17878
- a-Si:H solar cells, effect of texturing 7–13857
- a-Si:H solar cells, hydrogenated microvoids and light-induced degradation 7–54294
- a-Si:H solar cells, i-layer stability thickness dependency 7–17880
- a-Si:H solar cells, impurities and metastable centres 7–40010
- a-Si:H solar cells, integrated series connection 7–40015
- a-Si:H solar cells, kinetics of light-induced degradation and thermal annealing 7–17909
- a-Si:H solar cells, leakage currents, electrochem. treatment effects 7–65467
- a-Si:H solar cells, optically induced degradation 7–59848
- a-Si:H solar cells, p-layer doping by plasma assisted B diffusion 7–13898
- a-Si:H solar cells, photo-CVD prep. 7–17885
- a-Si:H solar cells, photoconductivity-open cct. voltage relation 7–8396
- a-Si:H solar cells, radiation damage by 12 MeV protons and annealing 7–13895
- a-Si:H solar cells, turn-off character, wavelength depend. 7–46951
- a-Si:H solar cells, uses of transparent conducting oxides 7–46953
- a-Si:H solar cells deposited from disilane, blue response and efficiency improvement 7–17877
- a-Si:H solar cells eval., quantum efficiency meas. techniques 7–54314
- a-Si:H solar cells on textured glass substrate with SiO_2 film 7–13899
- a-Si:H solar cells prod. by positive-column glow-discharge method 7–8397
- a-Si:H sputtered film, low-temp. optical props. 7–3101
- a-Si:H sputtered films, intrinsic stress, H effects 7–7078
- a-Si:H stable heterojunction solar cells develop., thermal degradation phenomenon 7–65477
- a-Si:H surfaces and interfaces, microstruct., ellipsometry studies 7–38362
- a-Si:H thin film photovoltaic production, safety and industrial engineering 7–13894
- Si:H thin film solar cell technology, design and appls. 7–17872
- a-Si:H thin film solar cells, device properties 7–13897
- Si:H thin film solar cells, transparent module development 7–13911
- a-Si:H thin film solar cells, repeatable meas. system for accelerated stress testing 7–23174
- a-Si:H thin film solar cells, accelerated stress testing using photodiode array 7–28403
- a-Si:H thin film solar cells, light soaking condition effects 7–46956
- a-Si:H thin films, bulk and interface struct., in situ ellipsometry study 7–27200
- a-Si:H thin films, elec. and optical props., thickness depend. 7–46168
- a-Si:H thin films, ohmic and quasi-ohmic contacts 7–38729
- a-Si:H two-junction, two-terminal tandem solar cells, stability and efficiency 7–46957
- a-Si:H ultrathin layers, CW photoluminescence, layer thickness depend. 7–13202
- a-Si:H ultrathin layers, photoluminescence characts., layer thickness depend. in variety of sample configurations 7–46123
- a-Si:H/CdTe heterojunction, X-ray image sensor fabrication 7–41557
- a-Si:H/$CuInS_2$ heterojunctions, photovoltaic behaviour, c-v meas. 7–7340

silicon continued
- a-Si:H/Ge:H superlattice struct., light absorption and photocond. studies 7–38715
- a-Si:H/Pd system, silicide form., struct. and electronic props. 7–38363
- a-Si:H/SiC tandem solar cell, thermal and light-induced degradation 7–46955
- a-Si:H/SiN_x interface, slow states, transient photoconductivity studies 7–38670
- a-Si:H/SiN_x:H (a-SiC:H) double-barrier structs., resonant tunnelling coeffs. 7–45467
- a-Si:H/SiO_x:N,H heterostruct., transport props 7–38768
- a-Si:H/SiO_x/metallic gate struct., capacitance-volt. characts. 7–45515
- a-Si:H/Ti/Al system, solid state reactions, TEM and SAD studies 7–3602
- a-Si:H/a-Ge:H multilayer films, photoconductivity enhancement 7–27443
- n^+-a-Si:H/a-Si:H/a-SiC:H heterostructures, electrophotographic props. 7–45485
- a-Si:H/a-$Si_{0.2}C_{0.8}$:H superstructures, hot electron conduction 7–45453
- a-Si:H/a-$Si_{1-x}C_x$:H solar cells, light trapping on SnO_2:F 7–46952
- a-Si:H/a-$Si_{1-x}C_x$:H superlattices, glow-discharge deposition 7–7879
- a-Si:H/a-Si_3N_4:H superlattices, plasma deposition methods 7–39439
- a-Si:H/a-SiC:H heterojunction, valence-band discontinuity, photocurrent-voltage measurements 7–58868
- a-Si:H/a-SiGe:H multilayers, reactive deposition 7–33592
- a-Si:H/a-SiN_x:H, amorphous multilayer structures, optical props. 7–3014
- a-Si:H/a-SiN_x:H heterostructures, interface formation and microstructural evolution 7–2389
- a-Si:H/a-SiN_x:H interface system, struct. and electronic props. 7–38361
- a-Si:H/a-SiN_x:H interface, deep states and photoluminescence spectra, transistor characts. 7–39186
- a-Si:H/a-SiN_x:H multilayer films, coplanar conductance, voltage-induced anomalies study 7–2729
- a-Si:H/a-SiN_x:H superlattices, interface struct., optical reflectance determ. 7–12497
- a-Si:H/a-SiN_x:H superlattices, interface defects and disorder 7–52306
- a-Si:H/*a*-SiN_x:H superlattice interface struct. charactn. 7–58652
- a-Si:H/a-SiN_x:H superlattice films, prep., struct., and optical props. *(Chinese)* 7–58676
- a-Si:H/a-SiO_2:H superlattice micropores, pyrene molecules adsorption and confinement 7–27112
- a-Si:H/a-$SiO(N)_x$:H multilayer films, interface electroabsorpt. meas. 7–2689
- a-Si:H/c-Si heterojunctions, energy-band discontinuities, internal photoemission studies 7–58869
- a-Si:H/c-Si heterojunctions, reverse current characteristics 7–58887
- a-Si:H/crystalline Si heterojunction, photosensitivity studies 7–38714
- a-Si:H/metal junction, pot. profile determ. 7–2715
- Si:H-$CuInSe_2$ tandem modules, thin film design and fabrication 7–13913
- a-Si:H-$CuInSe_2$ thin film tandem solar cells, energy based perform. and eval. 7–13890
- a-Si:H-Pt Schottky barrier contact, photocurrent excitation nonadditivity effects 7–17099
- Si:H-$Si_{1-x}C_x$:H amorphous super struct., hot electron generation 7–52794
- a-Si:H-Si_3N_4:H double barrier structs., resonant tunnelling 7–52848
- Si:H-SiC:H heterojunction, amorphous solar cell anal. *(Chinese)* 7–34029
- a-Si:H-SiN_x:H, multilayer struct. study using HREM 7–16879
- a-Si:H-SiN_x:H interface, compositional profile, Rutherford backscatt. study 7–13292
- a-Si:H-SiN_x:H layered structures, effect of a-SiN_x:H composition on band bending near interface 7–45510
- a-Si:H-based films, photochemical vapour deposition, review 7–46345
- a-Si:H-based heterojunction stacked solar cells, design and fabrication 7–40012
- a-Si:H(F), mobility edge, density of states and carrier activation energy calcs., random Bethe lattice approach 7–16937
- Si:H(F)-SiGe:H(F) amorphous multilayer struct., fabrication and near IR photoconductivity characts. 7–52797
- Si:H(Sn,H)(C,H), amorphous alloy fabrication and characterisation 7–8389
- Si:He(Ne)(Ar), ground state one-electron energies, SCF MS X_α calcs. 7–44582
- Si:Hg^+, ion implant range distributions, Rutherford backscatt. studies 7–2073
- Si:Hg(Au)(Pt)(Ir)(Os)(Re)(W), self-consistent one-electron states of 5d transition-atom impurities 7–32950
- Si:In, amorphous, low temp. annealing, impurity diffusion, phase separation and crystn. studies 7–16808
- Si:In, ion implanted, laser annealed, channelling contrast microscopy 7–51587
- Si:In, nucleation of internal melt during pulsed laser irradiation 7–12129
- Si:In, substitutional ion implanted dopants, electron and positron channelling studies 7–26778
- Si:In^+, ion implanted, damage prod., incidence angle depend. 7–65242
- Si:Li, ion implanted, impurity redistribution under pulsed laser radiation 7–12098
- Si:Li counterdoped n^+p solar cells, proton-irradiated, DLTS studies 7–8376
- Si:Li detector, TESLA BS 613 TEM for thin films composition determ. *(Czech)* 7–65371
- Si:Mg, photothermal ionisation spectroscopy 7–45374
- Si:Mg(Be) metastable impurity levels, self-consistent local-density total-energy calcs. 7–38503
- Si:Mn, optical props. *(Chinese)* 7–33043
- Si:Mn, temperature-electric instability, elastic compression effect 7–64239
- Si:N, conf., Boston, MA, USA (Dec. 1985) 7–14711
- Si:N, deep level generation and annihilation 7–16612
- Si:N, high dose implanted, swelling, saturation, and sputtering effects 7–16648
- Si:N, host-impurity interactions, transferability of tight-binding parameters 7–58773
- Si:N, N incorporation and behaviour 7–16598
- Si:N, O, impurity complexes as shallow donors, optical absorpt. study 7–39147
- Si:N, oxidation-inhibiting behaviour after N implantation, thermogravimetric anal. 7–59697
- Si:N,O, impurity interactions in optical defects 7–17348
- Si:N_2^+, N_2^+ implantation, local inhibition of oxidation 7–59688
- Si:N^+, dose and dose rate of ion implantation, Si_3N_4 formation 7–32533
- Si:N(O), pseudo Jahn-Teller effect and chemical rebonding 7–16992
- Si:Na MOSFET struct., hopping cond. in 2D impurity band 7–45512
- Si:Na(K), impurity addition by electrolysis 7–44578

silicon continued

- Si:Ne$^+$, ion implantation in elemental solids, range profile, gamma-ray spectra 7−2959
- Si:Ni, deep levels elec. props. study 7−64156
- Si:Ni, diffusion of Ni under action of concentrated luminous flux 7−44913
- Si:Ni, thermal cond., impurity effect 7−44929
- Si:Ni reverse-biased p$^+$nn$^+$ junctions, electron thermal emission rates 7−7169
- Si:O, C, low temp. precipitation, IR and SANS meas. 7−32666
- Si:O, C, precipitation, microstructures, TEM studies 7−32668
- Si:O, C, thermal donor form., $T<800K$ 7−27294
- Si:O, cluster computations related to thermal donors 7−16990
- Si:O, conf., Boston, MA, USA (Dec. 1985) 7−14711
- Si:O, Czochralski cryst. growth, impurity segregation, high axial mag. field effect 7−26960
- Si:O, Czochralski crystals, O precipitates, small-angle neutron scattering 7−58484
- Si:O, Czochralski grown, exigent-accommodation-volume factor associated with O precipitation 7−32670
- Si:O, Czochralski grown, electron irradiated, thermal donor formation 7−44619
- Si:O, Czochralski grown, O-related defects after annealing, IR TEM and resistivity meas. 7−32466
- Si:O, Czochralski-grown wafers, growth striations, X-ray topography study 7−59400
- Si:O, defects created by electron irradiation and subsequent thermal treatments, review 7−16642
- Si:O, dendritic web growth, plastic flow, O effects 7−16471
- Si:O, deposition from SiH_4-N_2O, role of adsorption stages 7−17447
- Si:O, diffusion of O during thermal donor form. 7−38262
- Si:O, diffusivity and diffusion mechanism of O 7−16810
- Si:O, diffusivity and solubility of O review 7−16809
- n-Si:O, donor states of O rel. to heat treatment 7−12647
- Si:O, electron irrad. on varying O content, defect anal. 7−16637
- Si:O, electronic struct. and atomic symmetry of the thermal donor 7−16986
- Si:O, energy levels and capture cross-sections of thermal donors 7−16988
- Si:O, enhanced diffusion at thermal donor formation temp. 7−44911
- Si:O, Fourier transform IR spectroscopy and SIMS calibrations for O conc. meas. 7−16606
- Si:O, γ-irrad., majority carrier mobility meas. 7−27334
- Si:O, IR absorption meas. of interstitial O conc., calibration 7−33401
- Si:O, IR absorption spectra of thermal donors 7−17326
- Si:O, IR spectra of interstitial O 7−17325
- Si:O, influence of growth microdefects on microdefect formation during heat treatment 7−17559
- Si:O, ion implanted, octahedral oxide particle nucleation and growth 7−16776
- Si:O, ion implanted, structure before and after heat-pulse annealing 7−16600
- Si:O, low thermal donor conc. layer formation during annealing 7−17564
- Si:O, low thermal donor conc. layer formation during annealing 7−17565
- Si:O, magnetic resonance of O-related defects 7−17223
- Si:O, microcrystalline precipitates, electron microdiffraction studies 7−16769
- P-Si:O, new donor state, optical, elec. and TEM studies 7−32956
- Si:O, new donors, bound exciton recomb., photolum. study 7−22300
- Si:O, O precipitate siting, shaping, and shrinking, precursor oxide phase roles 7−16772
- Si:O, O precipitation, exigent-accommodation-volume factor 7−16771
- Si:O, O precipitation, numerical models 7−16775
- Si:O, O precipitation ad thermal donors 7−16767
- n$^+$-Si:O, O precipitation and minority carrier generation lifetimes 7−16774
- Si:O, off-centre, impurities, theory 7−21251
- Si:O, optical transition at thermal donors 7−17346
- Si:O, oxide precipitate nucleation, thermal donor formation kinetics 7−32667
- Si:O, P, Sb wafers, O precipitation during simulated CMOS cycles 7−38218
- Si:O, positron annihilation study 7−3105
- Si:O, precipitates, X-ray diffuse scatt. study *(Japanese)* 7−63399
- Si:O, precipitation kinetics, interstitial diffusion 7−44837
- Si:O, precipitation phenomena, growth law for disc precipitates 7−16770
- Si:O, review 7−16583
- Si:O, self-interstitial migration, dislocation loops and elongated Frank dipoles 7−58300
- Si:O, structure and props. of the thermal donor 7−16766
- Si:O, thermal donor binding energies 7−16989
- Si:O, thermal donor formation, kinetics 7−6664
- Si:O, thermal donor impurity density of states, formalism and appl. 7−12655
- Si:O, thermal donors, photothermal ionisation spectroscopy and IR transmission meas. 7−16987
- Si:O, vacancy-enhanced O diffusion 7−16811
- Si:O,B$^+$, ion implanted, reverse annealing 7−16617
- Si:O,C, intrinsic point defects and impurity interactions 7−16611
- Si:O,C, O precipitation, thermal donor generation and annihilation effects 7−16773
- Si:O,C, yield stress, impurities and O precipitate morphology effects 7−16674
- Si:O,C,N, precipitation phenomena, TEM studies 7−16768
- Si:O,N, small particles, elemental and chem. anal., EELS method 7−17379
- Si:O CZ gram, O precipitation enhanced with vacancies 7−32664
- Si:O Czochralski crystals and melts, internal gettering, review 7−32341
- Si:O Czochralski wafers, electron traps resulting from O precipitation 7−21866
- Si:O epitaxial films for hetero-bipolar transistors 7−53599
- Si:O epitaxial wafers, preanneal heat treatment effect on precipitation 7−38219
- Si:O substrate materials, heavily doped, control of O and precipitation behaviour 7−32665
- Si:O/Si interfaces, MBE grown, O trapping effects 7−16881
- Si:O$_1$ thermal donor formation and structure, review 7−17562
- Si:O$_2{}^+$, Si on insulator structs., amorphous and crystalline oxide precipitates 7−13655
- Si:O$_2$B, ab initio MO electronic struct. calcs. 7−38499
- Si:O(N), impurity-dislocation interactions, review 7−16610
- Si:O(O,C), impurity aggregation, SIMS 7−16778

silicon continued

- Si:O(O,H), heat treated, DLTS 7−16991
- Si:P, directional plasma etching, in SF_6+CFCl_3 discharge 7−39788
- Si:P, EPR temp. depend. g-shifts obs. 7−27600
- Si:P, heavily doped, plasma etching with trifluorochloromethane-Ar discharges, modelling of ion bombard. energy distrib. 7−28222
- Si:P, heavily doped, plasma etching with trifluorochloromethane-Ar discharges, modelling of etching rate and directionality 7−28223
- Si:P, heavily implanted, influence of precipitation on P diffusivity 7−6879
- Si:P, interactions and localisation problems, review 7−64178
- Si:P, ion implanted, dynamic annealing, dose rate effects 7−12093
- Si:P, ion implanted defect structs. rel. to implant energy 7−38079
- Si:P, localisation theory 7−64170
- Si:P, MBE grown, coevaporation P doping 7−26773
- Si:P, many-valley semicond., electron intervalley scatt., optical pumping study 7−52608
- Si:P, meas. of heavy doping parameters 7−12855
- Si:P, metallic, nearly-localised electron spin dynamics, EPR linewidth study 7−22110
- Si:P, Ni$^+$, ion implantation and annealing 7−21245
- n-Si:P, nonlinear optics near metal-insulator transition 7−20322
- Si:P, polycrystal. thin film, carrier transport, temp. depend. study 7−22043
- Si:P, polycrystalline, excimer laser photochemical directional etching 7−65226
- Si:P, polycrystalline, high pressure reactive ion etching with HCl 7−28224
- Si:P, polycrystalline films, LPCVD, charactn. 7−53615
- Si:P, pulsed laser annealing, molten phase local nucleation study 7−63655
- Si:P, pulsed laser processing via free carrier absorpt. 7−21273
- Si:P, quenching thermodefect prod. Hall effect, EPR meas. 7−27293
- a-Si:P, selective doping and solid phase epitaxial growth, MOSFET appls. 7−27893
- Si:P, self-consistent multi-ion screening formalism 7−38505
- Si:P, surface conc. manipulation for P diffusion using ambient control 7−6660
- Si:P, transient enhanced dopant diffusion 7−52136
- Si:P, transmutation doped, deform. pot. shear const. determ. 7−38086
- Si:P,B, SiO_2 coated cryst., floating zone growth under microgravity 7−53575
- n-Si:P,C, electron-irradiated and injection-annealed, vacancies, dislocations and C interstitials 7−51815
- Si:P,O,D, donor passivation and reactivation 7−17031
- Si:P,Sb, mixing of P and Sb ions by recoil implantation, sheet resist., annealing temp. depend. 7−21291
- Si:P films, CVD and electrical props. 7−64913
- Si:P heavily doped, plasma etching with trifluorochloromethane-Ar discharges, parametric modelling and impedance anal. 7−28221
- Si:P MOS source/drain structs., 2D P diffusion props. 7−32718
- Si:P polycrystalline films, segregation at grain boundaries, NMR study 7−38953
- Si:P solar cells, effects of P prediffusion on properties 7−3677
- Si:P solar cells, shallow junction formation by light-induced diffusion from spin-on source 7−8418
- Si:P thin films, surface energy-driven grain growth during rapid thermal annealing 7−63994
- Si:P/Ti, enhanced grain growth by silicide form. 7−27142
- Si:P$^+$(PF$_5{}^+$), ion implanted, rapid thermal annealing, solar cell appls. 7−23193
- Si:PF$_n{}^+$ ion implanted, recrystallisation kinetics during fast thermal annealing 7−16618
- Si:P(Al), random and channelled implantation profiles and range parameters of dopants 7−21246
- Si:P(As)/SiO_2 interface, oxidation rates and oxide props., dopant effects determ. 7−12514
- Si:P(As)(P,B)(As,B) films, surface energy driven secondary grain growth 7−22740
- Si:P(B), tail diffusion model 7−16815
- Si:P(B) LPCVD films, amorphous and polycrystalline, struct., elec. resist. meas. 7−52870
- Si:Pd, deep levels electronic struct., Xα-SW study *(Chinese)* 7−58761
- Si:Pd, inelastic relax., neutron irrad, effects 7−44689
- Si:Pt, deep levels and diffusion profiles 7−58767
- Si:S(Se)(Te), chalcogenide pairs, electronic structs., Green's function calc. *(Chinese)* 7−58759
- Si:S(Tl)(Ge)(P)/Pt system, impurity migration during silicide form. 7−6895
- Si:Sb, dry oxidation retarded impurity diffusion, SIMS meas. and numerical simulations 7−27014
- Si:Sb, local lattice relax. around impurity, K-edge EXAFS study 7−64159
- Si:Sb, pot. enhanced doping during MBE growth, elec., optical props., cryst. quality 7−12112
- n-Si:Sb, resistivity at low temp. appl. to bolometers 7−41471
- Si:Sb,As, cryst. aid amorphous, impurity band form., X-ray spectra studies 7−12650
- Si:Sb MBE, electron irrad. effect on doping levels and profiles 7−63660
- Si:Sb MBE film, doped by electron impact ion source, improved doping characts. 7−12101
- Si:Sb MBE layers, doping by secondary implantation 7−12102
- Si:Sb-SiGe modulation doped superlattices, growth and props. 7−7379
- Si:Sb(As)(P)(B) epitaxial films, low temp. deposited by low press. CVD, autodoping 7−27182
- a-Si:Se(Te) thermally evaporated films, photoelectronic props. 7−38640
- Si:Sn, ion implanted, annealing behaviour, channelling and conversion electron Mössbauer spectroscopy 7−13485
- Si:Sn,B, shallow junction formation, preamorphisation by Sn implantation 7−7338
- Si:Ti, deep level transient spectroscopy, transient capacitance data anal. 7−52526
- Si:Ti, electron and hole energy levels, DLTS and DDLTS meas. 7−32941
- Si:Ti, ion implanted, deep level charactn. 7−38513
- Si:Ti(V)(Cr)(Fe)(Zr) polycrystalline solar cells, structural, elec., photovoltaic props., impurity effects 7−39990
- Si:Tl ion implanted layers, defect form. and precipitation, electron microscopy studies 7−12097
- Si:transition metals, anomalous diffusion and gettering 7−2264
- Si:V, impurity self-ENDOR spectrum 7−64545
- Si:W$^+$ layers, implanted and annealed, struct., TEM, electron diffr. studies 7−32858

silicon continued
- Si:Zn, amorphous-crystalline interface, backscattering and channelling study 7−6663
- n-Si/a-CdS heterojunctions, elec. props. 7−64342
- Si/a-SiO_2/ZrO_2-Y_2O_3, SOI system fabrication, charact. 7−22025
- Si/Al, oxidation by microwave excited O_2+N_2 mixture plasma *(Japanese)* 7−65198
- a-Si/Al films, laser-induced phase transitions, time resolved TEM study 7−38056
- p-Si/Al Schottky barriers, Ar^+ implantation damage, oxidation, etching and elec. props. 7−21290
- Si/Au buried interface struct. determ., optical second harmonic generation studies 7−63982
- a-Si/Au thin film bilayers, Si crystallisation study 7−21699
- a-Si/c-Si interface, microcrystallites and orientational proximity effect, HREM image interpretation, comment and reply 7−45028
- Si/$CoSi_2$/Si structs., parallel and perpendicular transport, supercond. props. 7−45518
- Si/Ge amorphous layered system, implanted ion depth distribs. 7−21250
- Si/Ge amorphous multilayer films, interdiffusion, neutron scatt. meas. 7−32722
- Si/$Ge_{1-x}Si_x$ superlattices, conduction band interactions and splitting, envelope-function approx. calcs. 7−64332
- Si/Ge_xSi_{1-x}, convergent beam electron diffraction and imaging of strained-layer superlattices 7−17095
- Si/GeSi strained layer superlattices, electronic and optical props. 7−7359
- Si/metal interfaces, silicide form. kinetics during thermal annealing 7−16897
- Si/Nb, proximity effect, superconducting transition temp. meas. 7−45566
- Si/Ni system, silicide formation, ion beam induced, embedded markers and moving species 7−21298
- Si/$NiSi_2$ heterojunction, interface states, DLTS and hydrogenation studies 7−12777
- Si/$NiSi_2$(111), intrinsic interface states and defect states 7−22011
- Si/oxide interfaces, native and thermal, stoichiometry and interface transition layer, atom probe FIM study 7−32844
- Si/Pt/Si layered marker evolution on ion irrad., computer simulation 7−21302
- Si/PtSi/V/Al Schottky barrier diode metallisation system 7−2666
- Si/PtSi($CrSi_2$) Schottky diodes, surface imperfection induced elec. leakage paths 7−2719
- a-Si/Si (111) interface ordering, X-ray diffr. 7−32848
- Si/$Si_{0.5}Ge_{0.5}$ strained layer superlattices, 2D electron systems 7−7380
- Si/Si_3N_4 interfaces, phase separated structures, Ar^+ ion bombardment effects, ZPS studies 7−22439
- Si/Si_xGe_{1-x} strained layer superlattices, folded phonon dispersion 7−44718
- Si/Si_xGe_{1-x} superlattices, strain induced confined electron states 7−7311
- Si/SiO_2, ion implantation-induced interface states generation and charge trapping study 7−12874
- Si/SiO_2, two-step oxidation of thin gate oxides, trapping characts., hot electron effect study 7−64351
- Si/SiO_2 interface, digital control of avalanche injection method for studying carrier transport 7−64350
- Si/SiO_2 interface, oxide trap capture cross section and tunnelling emission, DLTS study 7−12875
- Si/SiO_2 interface band discontinuities, Cs and H intralayer effects obs. 7−22020
- Si/SiO_2 interface struct., suboxide states, localisation and crystallographic depend., XPS study 7−58653
- Si/SiO_2 system, dielec., elec. and struct. props. 7−7040
- Si/SiO_2 system, two-step oxidation and interface structs. 7−3542
- n-Si/SiO_2/Al struct., inductive admittance meas. 7−17108
- Si/SiO_2/$TiSi_x$(WSi_x) MOS capacitors, radiation-induced interface traps 7−58897
- Si/Ti amorphous superlattices, high resolution photovoltaic position sensing 7−48847
- Si/Ti selectively sputter deposited interface, Auger and Rutherford backscatt. studies 7−21690
- Si-Ag interfaces, micro-quantitative AES anal. using SEM-SAM apparatus 7−27147
- Si-Ag multilayer reflector for EUV 7−20388
- Si-Al, P, defect struct. and dynamics 7−16552
- Si-Al optically excited diaphragms, reson. freq., temp. depend. 7−18971
- Si-Al Schottky barrier diodes, ion implant modification 7−45498
- Si-Al Schottky barrier formation, local electronic struct., EELS study 7−21975
- Si-Al struct., cond., transverse elec. field depend. 7−27417
- Si-Al structures, ion mixing, effect of interfacial oxide 7−21537
- Si-Al_2O_3, SOS struct., UV reflectance meas., ellipsometry study 7−33414
- Si-alkaline earth fluoride structures, heteroepitaxial growth, struct., elec. props. 7−12567
- Si-aqueous electrolyte interfaces, impedance spectra, freq. dispersion 7−27414
- Si-Au interface, atomic bonding 7−58663
- Si-Au-Pt interfaces, PtSi formation, RBS studies 7−58547
- Si-B_2O_3 interaction during Si MBE, Auger spectra study 7−13277
- Si-B^+, Ge^+, preamorphised shallow junctions, end-of-range and mask edge lateral damage 7−38071
- Si-based materials, plasma etching in planar reactor 7−37750
- Si-binary alloy interfacial interactions, Rutherford backscattering spectrometry, TEM 7−12505
- Si-C based MIS struct., interfacial characts. 7−2732
- Si-CaF_2, interface struct., high resolution TEM study 7−2394
- Si-CaF_2, MBE of CaF_2 on Si and overgrowth with Si or Ge, characteris. 7−22495
- Si-CaF_2 interface, strains in MBE grown insulator films, MeV ion channelling meas. 7−7080
- Si-CaF_2 interface, with epitaxially grown insulator, post-growth annealing treatments 7−7074
- Si-CaF_2 interface, with MBE grown insulator, trap states, I-V, C-V meas. 7−7407
- Si-CaF_2 SOI technology by heteroepitaxial growth 7−22022
- Si-CaF_2-Ge heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7−12566
- Si-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7−12566
- Si-CaF_2-Si MOSFET structures, heteroepitaxial growth, struct., elec. props. 7−12567
- Si-CaF_2-Si structure, reduction of Ca and F surface segregation by solid phase epitaxy of Si 7−38357

silicon continued
- Si-$Co_{50}Mo_{50}$-Au, amorphous $Co_{50}Ta_{50}$ alloys as diffusion barriers 7−44923
- Si-$Co_{50}Ta_{50}$-Al, amorphous $Co_{50}Ta_{50}$ alloys as diffusion barriers 7−44923
- Si-$CoSi_2$, solid phase epitaxial growth of $CoSi_2$, nonultrahigh vacuum method 7−45043
- Si-$CoSi_2$ heterostructures, MBE or solid phase epitaxially grown, Schottky barrier heights, DLTS spectra 7−12859
- Si-$CoSi_2$ Schottky barriers, epitaxially grown, supercond. below 1.05K, tunnelling spectra 7−12860
- Si-$CoSi_2$-CaF_2, MBE growth of epitaxial insulator-metal-semicond. struct. 7−22496
- Si-$CoSi_2$-Si, heterostructure transistor, electrical transport props. 7−27442
- Si-$CoSi_2$-Si, transistor current modulation *(French)* 7−58894
- Si-Co(Ni) bilayered films, chem., elec., and struct. charges upon annealing 7−22037
- Si-Co(Pt)(Au), high energy density pulsed ion beam irradiation, study of reacted layers 7−52151
- Si-Cr, lateral growth of $CrSi_2$, role of Si transport 7−38272
- Si-Cu, interface, Auger electron emission *(Russian)* 7−17100
- Si-Cu interface, atomic bonding 7−58663
- Si-Cu interface, surface struct., angle resolved Auger electron emission determ. 7−21672
- Si-Cu-Au layered struct. reflectivity and EXAFS study 7−59292
- Si-electrolyte interface, Fourier transform IR spectroscopy 7−27124
- Si-Fe, ion implanted, channeling/RBS studies 7−2039
- Si-GaAs heteroepitaxial interface, at. resolution HVEM study 7−2392
- Si-$GaAs_{0.7}P_{0.3}$ multijunction solar cell, solid state photovoltaic research status at SERI 7−8389
- Si-GaAsP-GaP solar cell, high efficiency mech. stack, performance meas. 7−8401
- Si-GaF_2-Si epitaxial structures, growth, structural and electrical props. 7−38356
- Si-Ge heterojunction, structural and electronic props. 7−21997
- Si-Ge interface, solid phase epitaxy, intermixing, EXAFS, AES, LEED obs. 7−63973
- a-Si-Ge multilayer films, interdiffusion, modulation wavelength depend. 7−27033
- a-Si-Ge multilayer interfaces, Raman scatt., X-ray diffr. characterisation 7−27167
- Si-Ge multilayered structures, Bi ion implanted, projected range distribs., glancing angle RBS anal. 7−63689
- Si-Ge superlattices, structurally induced optical transitions, electroreflectance spectra 7−59184
- Si-Ge_xSi_{1-x} multilayers, MBE grown, thermally annealed, Ge diffusion, strain relax., ion channelling, backscattering anal. 7−6896
- Si-Ge_xSi_{1-x} strained layer heterojunctions, selectively doped, hole mobilities, temp. depend. 7−7383
- Si-Ge_xSi_{1-x} superlattices, Raman scatt. involving umklapp processes 7−3043
- Si-Ge-Si epitaxial layer structs., particle channelling study, statistical equilib. 7−58386
- Si-GeSi heterostructures, MBE grown, structural props., quality, electron diffr., imaging obs. 7−7036
- Si-InP (110) heterojunction, characterisation 7−33079
- Si-InSb heterojunction, spectral characts. and detection props. 7−38712
- Si-M (M=In, Te, Re, Bi), metal implantation using pulsed electron beam 7−6882
- Si-metal, silicidation reactions, rapid thermal annealing/TEM technique 7−52156
- Si-metal interfacial atomic struct. and cpd. form., FIM studies 7−32846
- Si-metal-Si multilayers, backscattering contribution to Auger line intensity 7−28379
- a-Si-metal-Si structures, rapid thermal sintering and annealing 7−21700
- n-Si-MnO photoanodes, photoelectrochemical and struct. behaviour 7−54329
- Si-Ni interface, silicide formation, backscattering spectrometry and TEM studies 7−21696
- Si-Ni interface, struct., RHEED, Rutherford backscattering spectrometry 7−27143
- Si-$NiSi_2$ epitaxial interface, extended defects, geometrical character 7−6640
- Si-$NiSi_2$ interface struct., X-ray standing-wave analysis 7−58661
- Si-$NiSi_2$(Pd_2Si)(PtSi), interface electronic states *(Chinese)* 7−58845
- Si-O system, solubilities of O in liq. and solid Si 7−26961
- Si-on-fused-SiO_2, cryst. quality improvement by zone melting recrystn. *(Japanese)* 7−33553
- Si-P, dopant redistribution during high pressure oxidation, four-point probe meas. 7−27020
- Si-Pd, Pd_2Si formation, TEM study 7−38267
- Si-Pd_2Si interface, at. struct., TEM obs. 7−63977
- Si-polyethersulphone, amorphous, solar cell development 7−8394
- Si-polymer contact solar cell fabrication 7−23168
- Si-Pt, Pt_2Si formation, TEM study 7−38267
- Si-PtSi, interfacial metallurgical interactions, elec. characts., effect of H 7−52834
- Si-PtSi thin film Schottky diodes, barrier height meas. 7−64308
- Si-pyrex, irreversibility of anodic bonding 7−33910
- Si-Si homoepitaxial interfaces, MBE grown, oxygen trapping 7−32855
- Si-Si interfaces, MBE grown, sputter cleaned, microstructure, electron microscopy obs. 7−12512
- Si-$Si_{0.55}Ge_{0.45}$ modulation doped superlattice, MBE grown, electron mobility enhancement, Hall meas. 7−7382
- Si-$Si_{1-x}Ge_x$ strained layer superlattices, electronic struct. 7−38707
- Si-$Si_{1-x}Sn_x$ strained layer superlattices, electronic struct. 7−38707
- Si-Si_3N_4, nitridation of Si (100) by RF plasma, XPS study 7−33515
- Si-Si_3N_4, SOI, N^+ implanted, microstructural characterisation 7−52300
- Si-Si_3N_4, SOI structs. formed by N^+ implantation EPR of defects 7−33273
- Si-Si_3N_4 and Si-Si_3N_4-SiO_2 SOI structures, laser recrystallisation, effects of different capping layers, characterisation 7−45511
- Si-Si_3N_4 buried nitride SOI structs., N^+ ion implantation, elec. and physical props. 7−33100
- Si-Si_3N_4 SOI structs., formation by N^+ implantation 7−32532
- Si-SiC superlattice structs. prep. by photo-CVD, solar cell appl. 7−54326
- Si-SiGe strained layer superlattices, electric subbands 7−2700
- Si-SiGe strained-layer superlattices, optical and electronic props. 7−53353
- poly-Si-SiO_2, Ar^+ laser recrystallised interface characts., effects of technological parameters *(Chinese)* 7−33092
- Si-SiO_2, buried layer SOI structs., elevated temp. high dose O^+ implantation, effect of annealing 7−32530

silicon continued
Si-SiO_2, buried oxide formation by O^+ implantation, donor creation, enhanced conductivity 7—32529
Si-SiO_2, buried oxide SOI struct., effects of annealing temp. on characts. 7—33099
Si-SiO_2, buried SiO_2 formation, high dose O^+ implantation at room and liquid N_2 temp. 7—32528
Si-SiO_2, E′ centre in thermally grown SiO_2, bias depend. annealing 7—45503
Si-SiO_2, interface props., ellipsometry *(Russian)* 7—17293
Si-SiO_2, interface trap annealing, rapid thermal processing 7—22027
Si-SiO_2, lateral solid phase epitaxial growth, SOI transistors fabrication 7—2399
Si-SiO_2, MBE SOI formation, Auger study 7—32876
Si-SiO_2, MIS struct., temp. stress influence *(Slovak)* 7—7389
Si-SiO_2, new donors effect, interface effect due to internal oxidation 7—33093
Si-SiO_2, oxide breakdown, high field and current stress, thickness depend. 7—59144
Si-SiO_2, SIMOX wafers, epitaxial growth 7—32878
Si-SiO_2, SOI struct., deep O^+ implantation, strain and damage in Si 7—32531
Si-SiO_2, SOI structs. formed by O^+ implantation, EPR of defects 7—33272
Si-SiO_2, Si oxidation kinetics, interface width determ. 7—39764
Si-SiO_2, symmetry forbidden Raman scatt. from (100) oxidised surfaces 7—46002
Si-SiO_2 (111) interface, dangling bonds, dipolar interactions investig. 7—17107
Si-SiO_2 in MOS structs., charge phenomena in thermal films with avalanche injection 7—2727
Si-SiO_2 interface, AES depth profiling during sample rotation 7—27829
Si-SiO_2 interface, chem. transition, density of states calcs. 7—7397
Si-SiO_2 interface, chem. struct., XPS determ., suboxide distrib. and interface state form. 7—38358
Si-SiO_2 interface, computer simulation of high-resolution TEM images 7—44318
Si-SiO_2 interface, ESR signal from P_{b0} centres, anisotropic props. 7—38940
Si-SiO_2 interface, electrically active defects 7—33102
Si-SiO_2 interface, electronic state charactn. 7—38747
Si-SiO_2 interface, insulator props. after exposure to H_2+N_2 and NH_3. 7—59693
Si-SiO_2 interface, MOS capacitance derivative freq. depend., surface state densities and capture cross section 7—45507
Si-SiO_2 interface, microchemistry 7—32850
Si-SiO_2 interface, positive charge generation; rel. to high field electron transport in SiO_2 7—38571
Si-SiO_2 interface, roughening induced during AES depth profiling 7—21685
Si-SiO_2 interface, struct. models 7—58658
Si-SiO_2 interface, study using variable energy positron beam 7—38063
Si-SiO_2 interface, wet oxidised, RF plasma annealing effects 7—54026
Si-SiO_2 interface formation by catalytic oxidation using adsorbed alkali metals 7—54017
Si-SiO_2 interface properties in the 10^{17}-10^{19} cm^{-3} doping range 7—38762
Si-SiO_2 interface roughness, evolution, characterisation 7—32852
Si-SiO_2 interface state density effect on elec. props. of Pt-diffused MOS struct. *(Japanese)* 7—7404
Si-SiO_2 interface struct., ellipsometric charactn., rel. to elec. props. 7—63985
Si-SiO_2 interfaces, microstruct. and electronic props. 7—38359
Si-SiO_2 interfaces, surface roughness and elec. cond. 7—2724
Si-SiO_2 MOS capacitors, defect struct. and interface state generation 7—7399
Si-SiO_2 SOI struct. formed by high dose ion implantation, high resolution TEM study 7—59690
Si-SiO_2 SOI structure, lateral solid phase epitaxial growth, TEM study 7—38369
Si-SiO_2 SOI structures using buried layers of oxidised porous Si 7—13660
Si-SiO_2 struct., interfacial charged centres, low temp. RF plasma treatment 7—2661
Si-SiO_2 structs., low and high temp. oxidised, inversion electron mobility study 7—22019
Si-SiO_2 structures, prod. by recrystallisation, subgrain boundaries, barrier effects 7—52305
Si-SiO_2 system, H_2 diffusion 7—21531
Si-SiO_2 system, interface state generation by nonionizing UV radiation 7—38760
Si-SiO_2:Cs MOS, semicond. flatband voltage depend. on impurity distrib. 7—27433
Si-SiO_2:S, effect of S on the oxide charge 7—7024
Si-$SiO_{2-x}N_{2-x}N_{2x/3}$-Al structures, interface states, DLTS study 7—45513
Si-SiO_2-Ag(Cu)(Au)(Pd)(Ti) MOS structures, diffusion coeff. meas. in elec. fields, solid solubilities 7—2279
Si-SiO_2-Cu(Ni), light induced deposition of metal films on SOI substrates 7—46354
Si-SiO_2-InSb hybrid struct. spectral characts. and detection props. 7—38712
Si-SiO_2-Si layered struct., dose calcs. for X-ray and X-ray irrad. 7—58333
Si-SiO_2-SiO_xN_y-metal system, plasma oxynitride effect on interface charge 7—38761
Si-SiO_x interface density of localised states, C-V and G-V characts. meas. 7—38734
Si-silicide interface, Schottky barrier heights, size effect 7—52837
Si-silicide interfaces, electronic struct. 7—21972
Si-Sm Schottky barriers, elec. and struct. characts., 7—38675
a-Si-SnO_x interface, solid state reaction, XPS study 7—22449
Si-Ta interface, depth profile, Ar^+ ion bombard., Auger electron spectra anal. 7—46261
Si-Ti, native contamination layer effect on interface props. 7—17104
Si-Ti, Schottky barrier heights, 175 to 295K, silicide form. 7—38679
Si-Ti amorphous superlattices, electronic and photoelectronic props. 7—12795
Si-Ti amorphous superlattice films, lateral photoeffect 7—45487
Si-Ti amorphous superlattice films, lateral photovoltage, wavelength dependence 7—45488
Si-Ti interface, laser irradiated, silicide formation 7—45079
Si-Ti interface, nucleation and growth of $TiSi_2$, influence of O_2 7—21541
Si-Ti interface, silicide phase formation 7—21695

silicon continued
Si-Ti thin-film superlattices, structure 7—38350
Si-Ti_xW_{1-x}, Schottky barrier heights, 175 to 295K, silicide form. 7—38679
Si-TiO_2 MIS structures, low temp. CVD of TiO_2 films 7—17105
Si-TiO_2-electrolyte system, charge-transfer processes 7—22007
Si-$TiSi_2$, $TiSi_2$ local epitaxial growth on Si (111), rapid thermal annealing, annealing ambient 7—33856
Si-$TiSi_2$:B(P)(As) interface, impurity diffusion 7—7077
Si-$TiSi_2$-SiO_2-Ti, high temp. reaction between Ti and SiO_2, XPS, sputtering *(Japanese)* 7—7022
Si-Ti($CoSi_2$)-Al contacts, four-terminal resistor structs. for contact resist. determ. from end resist. meas. 7—38730
Si-Ti($TiSi_2$), Schottky barrier height investig. 7—2716
Si-transition metal interfaces, competing initial chemical reactions 7—21693
Si-W, buried conductor formation, low press. CVD W deposition on porous Si 7—32877
Si-W CVD film interaction, annealing, silicide formation 7—2390
Si-W interface, atomic interactions in Si-metal complexes, FIM study 7—21691
Si-W interface, thermal behaviour rel. to silicide form. 7—16822
Si-W interfaces, microstruct. charactn. 7—16882
Si-W system, silicidation reaction suppression up to 1100°C 7—16821
Si-WSi_2, effective elastic consts., surface acoustic wave anal. 7—58597
Si-Yb interfaces, mixed valence of Yb, synchrotron radiation photoemission spectra, metal coverage and annealing temp. depend. 7—32966
Si+Be^+, K-shell X-ray prod. cross section meas. 7—15680
Si^{n+}+He, double- and single-electron capture and loss cross section meas., OBK scaling calcs. 7—42756
Si_2, IR emission band spectrum 7—57062
Si_3, gas, isomers, thermodynamics 7—25350
Si_n (n=10 to 32), clusters, growth and struct., solid-liq. transform., mol. dynamics simulation 7—26682
Si_n^-, semicond. cluster anions, photodetachment and photofragmentation 7—36837
Si_n^+, clusters, mass resolution, photofragmentation and photodetachment spectroscopy 7—15795
Si_n-WF_6 (n=2 to 6), Fourier transform ion cyclotron reson. mass spectrometry 7—31200
SiC microdefect generation, melt-interface mechanism 7—53710
a-SiC:H—a-Si:H, solar cell, fabricated by plasma deposition *(Korean)* 7—33585
SiC:Si, reaction bonded composite, mech. props. and microstruct. anisotropy 7—65146
SiC:Si reaction bonded composite ceramics, interface struct., grain boundaries 7—64995
a-SiC-a-Si:H stable heterojunction solar cell 7—23178
SiC-Si, interface struct. study 7—45021
SiGe-Si structures, MBE growth mode and interface structure 7—52311
a-$Si_{1-x}Ge_x$:H/a-Si:H/Al Schottky barrier form. and characts. 7—12787
Si_xH_y amorphous alloy films, microstructure, XPS study 7—22436
Si_3N_4-SiO_2-Si structs., injector props. 7—38763
SiO_2:Si, SIMS depth profiling 7—13314
SiO_2/Si (111) interface ordering, X-ray diffr. 7—32848
SiO_2-Na_2O-Al_2O_3-ZnO-Fe_3O_4-Si glass system, Fe behaviour at various compositions and reducing conditions 7—1899
SiO_2-Si, quantitative distrib. eval. of P, SIMS 7—54254
SiP, doping by XeCl excimer laser irrad., ultra-shallow junction fabrication 7—58303
$SiSe^+$, photothermal release of carriers, deep levels, capacitance spectroscopy 7—16968
$^{28}Si/^{29}Si/^{30}Si$, in IRC+10216, determ. from obs. of $^{29}SiC_2$ and $^{30}SiC_2$ 7—29474
^{30}Si target preparation using fine W gauze 7—49773
Si(111)-CaF_2, interface form., photoemission study 7—2395
Si(111)(2×1)-Mo interface, early formation stage 7—27150
SnO_2:F-n-Si(poly) solar cells fabricated by CVD, characterisation 7—59859
SnO_2-Si (100), CVD coatings, X-ray studies 7—7886
SnO_2-SiO_x-Si surface barrier solar cells, optimisation of fabrication process 7—23154
Solar cells, SILSO, grain boundary charact., meas./test techniques 7—13858
a-Si solar cells, transparent Ag contacts and ITO antireflection coating 7—65478
$TaSi_2$/polycrystalline Si structures, oxidation, dopant effects 7—39686
$TaSi_2$/Si films, oxidation characts. in steam 7—54031
$TaSi_2$-Si interface, ion implanted, dopant diffusion, SIMS anal. 7—38271
α-Ti:Si, ion implanted, diffusion profiles, annealing behaviour 7—12369
Ti/Si (111) interface, diffusion and silicide form. kinetics, XPS meas. 7—52308
Ti/Si interface, $TiSi_2$ formation by rapid thermal annealing 7—21707
Ti/Si structure, heat treatment in O_2, N_2 or O_2/N_2, Ti silicides, TiO and TiN formation 7—65191
Ti/Si:B,As,Sb interface, dopant redistrib. during silicide form. by rapid thermal processing 7—63641
Ti-Si interface, self-aligned Ti silicide formed by rapid thermalannealing 7—2391
Ti-Si interface, silicide form., Auger and appearance pot. spectra studies 7—45031
Ti-Si MIS Schottky barriers, influence of silicide formation on barrier height 7—45499
Ti-Si:$As^+(P^+)(BF_2^+)$, $TiSi_2$ formation, ion implantation doping and masking oxide film effects 7—21708
V/Si, silicide formation, comparison of SiO_2 and a-Si surface protection layers 7—58662
W/Si multilayered structs., high resolution electron microscopy studies 7—63968
W-Si multilayer structures, Auger depth profiles using a dual ion gun system 7—22429
W-Si multilayers, X-ray optical props. rel. to layer imperfections 7—37097
W-Si system, selective deposition of W films on Si wafers, WSi_2 formation 7—21748
W-Ti-Si interface, WSi_x form. by rapid thermal annealing, growth kinetics, Ti film effects 7—63969
WTi-Si barriers, modification by low energy Ar^+ ions 7—22433
$Y_3Fe_5O_{12}$:Si, band model of photoinduced magnetic effects 7—17214
$Y_3Fe_5O_{12}$:Si, epitaxial film, domain struct. rearrangement, unpolarised light influence 7—45784

silicon continued
- YIG:Si epitaxial films, mag. anisotropy and spin reorientation under unpolarised white light irrad. *(Russian)* 7−33246
- Yb-Si (111) interface mixed valence behaviour, angle-integrated photoemission study 7−13327
- ZnO:Si thin films, RF magnetron sputtered, conductive and transparent props. 7−22476
- ZnO-Cu-SiO_2-Si composite membrane, interdigital transducer generated US Lamb waves 7−11241
- ZnO-Si structures, transverse acoustoelectric effect 7−45398
- ZnO-SiO_2-Si SAW chemosensor for NO_2 gas concentration meas. 7−3621
- ZnSe:Si, single crystal growth, chem. transport method *(Korean)* 7−27880

silicon alloys
- *see also Ge-Si alloys*
- amorphous Si alloy development for photovoltaic power devices 7−34045
- Fe-Si multilayered thin films, stacking structs., magnetostatic coupling and layer boundary interdiffusion 7−7574
- graphite particle dispersed Al-Si alloys, powder extruded, wear characts. *(Japanese)* 7−53909
- Inconel GH39, thermal desorption study *(Chinese)* 7−52295
- metal silicide layers on Si, thermal oxidation 7−65209
- monolithic a-Si solar cells, ultralight modules and appls. 7−3663
- oxidation, conference, Paris, France (May 1986) 7−60866
- $Pd(Fe,Co,Ni)_{0.05\text{-}0.15}Si_{0.17}$ metallic glasses, crystallization kinetics, elec. resist. obs. *(Chinese)* 7−11919
- rare earth $RPdSi_2$ and RRh_2Si_2 (R=Y, La, Lu) ternary compounds, superconductivity 7−12901
- rare earth silicide epitaxial formation by rapid annealing 7−21768
- silicide coatings on Mo alloy, scale resist., influence of Fe and Be additions 7−22875
- silicide formation on Si, epitaxial nature, initial nucleation processes and effect 7−21767
- transition metal disilicide films, MSi_2, (M=Co,Mo,Ta,Ti,W), electrical transport props. 7−58908
- transition metal silicide, epitaxial growth on Si, progress review 7−21766
- Al/V.PtSi/Si Schottky barrier diode metallisation system 7−2666
- Al-Cu-Si, superplastic strain rate sensitivity index 7−3387
- Al-Fe-Si, 1060 alloy, corrosion in p-quinone and acetic acid 7−28170
- Al-Fe-Si, dil., solidification, intermetallic cpd. form. 7−13442
- Al-Fe-Si, quasicrystalline phases and amorphous structure 7−51637
- Al-Fe-Si, TEM geometric projection of crystal struct. 7−16501
- Al-Fe-Si system, intermetallic phases, electron probe microanalysis, X-ray diffr. 7−59491
- Al-Fe-Si-TiO_2, dispersion hardened, strength props., effect of matrix particle size and oxide vol. fraction 7−17544
- Al-Mg-Si, 800 MeV proton irrad., gas accumulation at grain boundaries 7−58361
- Al-Mg-Si, annealed, plastic flow under multiaxial cyclic loading 7−33725
- Al-Mg-Si, cast, mica particle dispersed composites, struct., strength, hardness 7−59574
- Al-Mg-Si, chamber wall, Light Ion Beam Fusion Target Development Facilities, activation studies 7−49732
- Al-Mg-Si, compression test, high speed, microcomputer system, split Hopkinson bar technique 7−13686
- Al-Mg-Si, high-purity, nucleation and growth of precipitates and the bubbles, effect of 600 MeV protons 7−58364
- Al-Mg-Si, response to single and multistage compression 7−53830
- Al-Mg-Si, squarely extruded, texture and mech. props. *(Japanese)* 7−33694
- Al-Mg-Si/TiC composites, implantation modified, friction, surface chemistry 7−46660
- Al-Mn-Cr-Si quasicryst. atomic struct., pulsed neutron scatt. meas. 7−51639
- Al-Mn-Ru-Si icosahedral alloys, EXAFS study 7−39317
- Al-Mn-Si, quasicryst., X-ray diffr., TEM and SEM study 7−12299
- Al-Mn-Si, quasicrystalline phases and amorphous structure 7−51637
- Al-Mn-Si rapidly solidified alloys, quasicrystal form. by electron beam melting 7−26915
- Al-Si, brittle failure rel. to overheating, fractography 7−22796
- Al-Si, chill-cast, heat flow and dendritic arm spacing during solidification 7−53714
- Al-Si, cold worked, damping characts. 7−28064
- Al-Si, dilute alloys, quenched, formation and growth of vacancy type clusters, positron annihilation study 7−39294
- Al-Si, grain refinement, effect of solute content 7−59503
- Al-Si, graphitic, hot extruded powders, sintering, antifriction props. 7−13409
- Al-Si, hot dip aluminizing, alloy layer growth, influence of Si additions 7−3502
- Al-Si, hypereutectic alloys, primary Si particles 7−33649
- Al-Si, low temp. diffusion and trapping of muons 7−45865
- Al-Si, microsegregation, effect of solidification rate 7−46480
- Al-Si, protective coatings, reactive magnetron sputtering, microelectronics appl. 7−33556
- Al-Si, talc particle reinforced composites, prep., wear and mech. props. 7−13408
- Al-Si, wear, comparative investigs. and prep. method role 7−13605
- Al-Si, wettability of SiC 7−58569
- Al-Si (12.7 wt.%), eutectic microstruct., twinning and branching mechanisms 7−17521
- Al-Si (1.14 at.%), supersaturated, anomalous solute conc. fluctuation under elec. current influence 7−13457
- Al-Si alloy high efficiency solar cells 7−3682
- Al-Si dilute alloys, divacancy effect, annihilation radiation Doppler broadening meas. 7−37982
- Al-Si eutectic, Sr-modified, fibrous Si cryst. morphology, TEM study 7−28015
- Al-Si eutectic, unmodified, Al grain struct. 7−65012
- Al-Si eutectic alloy interaction with SiC whisker reinforced Al matrix composites 7−46689
- Al-Si eutectic alloys. partial modification mechanism 7−59498
- Al-Si LM 13 alloy with graphite particles, gravity die cast, dispersed graphite effect on freezing rate 7−59506
- Al-Si melts, sorption degassing, struct. 7−3290
- Al-Si thin film metallisations, Hall-Petch relation 7−2442
- Al-Si/$MoSi_2$ stable contacts to shallow junctions 7−52847
- Al-Si-Cu castings, fatigue strength improvement by shot peening *(Japanese)* 7−8100

silicon alloys continued
- Al-Si-Cu sputtered electrode for VLSI, Cu distributions meas. by RBS 7−2415
- Al-Si-Fe, RR 58, electroslag refined, creep 7−39582
- Al-Si-Mg (7, 0.3 wt.%), strength and ductility, effect of macroporosity 7−3386
- Al-Si-Mn alloys, cryst. and amorphous phases, mag. props. 7−17163
- Al-Si-Mn-Fe,intermetallic phases, TEM obs., extraction replica technique 7−39807
- Al-Si-Pb-Bi, duplex alloys, melt quenching, microstruct. supercond. props. 7−45593
- Al-Si-Sb, directionally solidified eutectics, inter-Si flake spacing rel. to Sb addition 7−53717
- Al-Si-SiC(Si_3N_4), composites, thermal props. *(Japanese)* 7−52164
- Al-Si-SiO_2 sand composites, prep. and mech. props. 7−17500
- Al-Si-X, amorphous ductile, with two separate phases, form. range and props. for X=Mn, Fe, Co or Ni 7−59493
- Al-Si-Zn-Mg-Ti(-Sr) system alloys, mech. props., Sr microalloying effect 7−3377
- Al-Si; graphite particle reinforced composite, solidification, microstruct. 7−28028
- Al-Ti-Si homogeneous alloy films, elec. resist., microstruct., electromigration, comp. effects 7−21765
- Al-Zn-Mg-Mn-Si, rapid solidification, superplasticity 7−53826
- AlMgSi, directional solidification, microstruct. *(German)* 7−46452
- AlMnSi, icosahedral and α-phase structs., EXAFS anal. 7−63554
- AlMnSi, icosahedral struct., EXAFS 7−26701
- AlMnSi, quasicrystalline phases, plasmon electron energy loss spectroscopy and electrical resistivity 7−3123
- $(Al_6Mn)_{1-x}Si_x$, icosahedral phase transform., electron microscope study 7−2187
- AlSi-Ti bilayer structs., effect of Si on reaction kinetics 7−58546
- AlSi-Ti multilayer interconnects on oxidised Si substates, electromigration resistance 7−21713
- AlSi-Ti(Ta) layered films, compound formation and Si behavior 7−21762
- $Al_{80}Si_{20}$ melt spun ribbons, microstructures and superconducting transition temperatures 7−38222
- $AlSi_9Ni$, reactor fuel cladding, corrosion resistance, rupture strength, neutron irradiation effects testing 7−59670
- Au-Si, liq., thermodynamic analysis of conc. fluctuations and homogeneous nucleation, glass form. 7−44852
- Au-Si codeposited films, oxidation, SiO_2 form., alloy comp. depend. 7−13654
- Au-Si eutectic alloy liquid metallic ion source *(Chinese)* 7−33600
- AuSi liquid ion sources, alloy composition 7−35623
- B-Si (18 wt.%), tribological coatings, low temp. sputter deposition 7−46322
- Ce-(Fe,Co)-(B,Si) system alloys, melt spun ribbons, mag. props. *(Japanese)* 7−53052
- Ce-Fe-Si system. electron struct. of ternary intermetallic cpds. *(Russian)* 7−38525
- Ce-Si, amorphous, electronic configuration of Ce 7−7191
- $CeCu_{2-x}Ni_xSi_2$, Kondo-lattice system, resist. anomalies 7−58799
- $CeCu_2Si_2$, heavy fermion superconductors, Fermi surface and cooperative phenomena 7−2771
- $CeCu_2Si_2$ heavy fermion superconductor, magnetic field penetration, muon spin relax. studies 7−45886
- $CeCu_2Si_2$ heavy-fermion superconductors, induced moment mag. form factors 7−12909
- $CeCu_2Si_2$, kondo effect versus crystal field 7−2602
- $CeCu_2Si_2$ Kondo lattice heavy fermion system, quasi-particle-phonon interactions 7−2521
- $CeCu_2Si_2$, lattice gas heavy fermion-boson model anal. of specific heat, entropy and magnetic susceptibility 7−58505
- $CeCu_2Si_2$ nonmagnetic Kondo lattices, coherent regime, Hall effect temp. depend. meas. 7−52582
- $CeCu_2Si_2$, quasiparticle band struct., local-density approx. anal. 7−27250
- $CeCu_2Si_2$, Raman scatt. study of electronic and vibr. excitations 7−33387
- $Ce(Ni_xCu_{1-x})_2Si_2$, mag. susceptibility, scaling behaviour, cryst. field effects 7−45616
- $CeRh_3(Bi_{1-x}Si_x)_2$, 4f shell dehybridisation, Curie temp. and mag. moments 7−45679
- $CeRh_2Si_2$ Neel temp., chem. press. effects, partial substitution depend. meas. 7−59011
- $CeRu_2Si_2$, heavy fermion, magnetism and spin fluctuation effects induced by partial substitution 7−38850
- $CeRu_2Si_2$, heavy-fermion system, magnetoacoustic effects in high mag. fields 7−64506
- $CeSi_2$, electronic structure, spectroscopic and thermodynamic props., impurity Anderson Hamiltonian 7−32900
- $CeSi_x$, galvanomag. and thermoelec. props. 7−38537
- Co-based amorphous alloys, anisotropic electrical magnetoresistivity at 295 K 7−58796
- Co-Fe-Si-B amorphous alloys, struct. evolution during heating *(Russian)* 7−16418
- Co-Fe-V-Si-B metallic glass, Co-rich, temp. and annealing dependences of magnetostriction const. 7−33255
- Co-Mo-Cr-Si, wear resist. alloy development 7−3440
- Co-Si-B, change of elongation, rel. to conditions for hot working 7−3384
- Co-Si-B amorphous alloys, mag. props., annealing effects 7−27513
- $Co_{69}Fe_{4.5}Cr_2Si_{2.5}B_{22}$ metallic glasses, long-time tunnelling heat relaxation meas. 7−38223
- $(Co_{0.85}Fe_{0.06}Ni_{0.08}Nb_{0.01})_{75}Si_{10}B_{15}$ amorphous alloys, structural relax. and crystn., positron annihilation studies 7−37869
- $Co_{57}Fe_5Ni_{10}Si_{11}B_{17}$, metallic glasses, superplastic deform. *(Russian)* 7−39599
- $Co_{58}Fe_5Ni_{10}Si_{11}B_{16}$, metallic glasses, multiplet splitting, XPS study 7−27858
- $Co_{68}Fe_7Ni_{13}Si_7B_5$, amorphous alloy, superplasticity 7−3368
- CoFeSiB inhomogeneous magnetic alloys, anomalous Hall effect−magnetic polarisation correls. 7−7208
- $(Co_{0.95}Fe_{0.05})_{75}Si_{15}B_{10}$ amorphous alloy, mag. saturation 7−45632
- $Co_{70.4}Fe_{4.6}Si_{15}B_{10}$, amorphous alloy, mag. props. rel. to mag. coating 7−22123
- $Co_{71}Fe_4Si_{15}B_{10}$ and $Co_{75}Si_{15}B_{10}$ amorphous alloys, mag. props., stress and annealing depend. 7−33250
- $Co_{85}Fe_5Si_8B_2$ amorphous alloys, annealing, positron annihilation parameters anal. 7−39303
- $Co_{83.5}Fe_5Si_{7.5}Ge_{1.5}B_{2.5}$, amorphous alloy, struct. changes after γ-irrad. *(Russian)* 7−58336

silicon alloys continued
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$, metallic glass, reversible struct. transformation 7—1907
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromag. alloy struct., shock loading effects, mag. struct. anal. 7—2100
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$ amorphous ferromagnet, prep. and struct. 7—22605
$(Co_{0.6}Ni_{0.4})_{78}Si_8B_{14}$, amorphous, itinerant electron charact., current induced reson. mag. field shift obs. 7—27590
$(Co_{1-x}Ni_x)_{75}Si_{15}B_{10}$ amorphous alloys, magnetostriction and other mag. props. 7—45787
CoSi, $CoSi_2$, thin films, study by ultrasoft X-ray spectroscopy *(Russian)* 7—52345
$CoSi_2$ epitaxial layer on Si, X-ray diffr. analysis 7—21047
$CoSi_2$ films, structural analysis by X-ray diffr. in the grazing Bragg-Laue geometry 7—7042
$CoSi_2$, MBE growth of epitaxial insulator-metal-semicond. struct., CaF_2-$CoSi_2$-Si 7—22496
$Co_{70}Si_{30}$, amorphous films, ferromag., induced mag. anisotropy *(Russian)* 7—52974
$Co_{70}Si_{30}$ amorphous films, coercive force rel. to crystallisation *(Russian)* 7—59078
Co_xSi_{1-x} polycrystalline alloys, positron lifetime, Doppler studies 7—33480
$Co_{75}Si_{10}B_{15}$, amorphous powder, static consolidation, mechanical and mag. props. 7—3217
Cr-Si dilute alloys, magnetic phase diagram near tricritical point, neutron diffr. meas. 7—2856
Cr-Si silicide, quantitative Auger anal., correction factors 7—27831
Cr_3Si, A15 cpds., 2D angular correlation of positron annihilation radiation 7—39238
Cr_3Si, Ar^+ ion beam induced surface and subsurface modifications, AES study 7—64846
$Cr_{75}Si_{25}$ thin films, microstruct. and resist., room temp. to 950°C 7—38410
Cu-Al-Si, rel. between phase comp. and electron conc. *(Russian)* 7—53700
Cu-Al-Si bronzes, microstruct., corrosion 7—39697
Cu-Si, elemental Si inclusion form. in sulphide scale 7—17720
Cu-Si, microhardness correction procedures evaluation 7—3550
Cu-Si (6 at.%), secondary grain boundary dislocation nodes at junction of three grains 7—63648
Cu-Si alloys, thermodynamic props. determ. by Knudsen cell mass spectrometry 7—26976
$CuCu_2Si_2$-Mo point contacts, low temp. I-V characts., thermoelec. effects obs. 7—27382
Cu_3Si, oxidation, XPS and Auger spectra 7—22899
$Eu_xCe_{1-x}Cu_2Si_2$ cryst., mixed valence state and Kondo system coexistence *(Russian)* 7—7185
$EuCu_2Si_2$, Eu valency, effect of Cu or Si replacement by other ions 7—58787
$EuCu_2Si_2$, mixed valence system, interconfiguration fluctuation model 7—64188
$EuIr_2Si_2$, Eu intermediate valence 7—7188
$EuPd_2Si_2$, mixed valence system, interconfiguration fluctuation model 7—64188
Fe/$FeZn_{13}$/Fe-Si composite diffusion couples, effect of Si on stability and growth of Fe-Zn phases 7—54011
Fe-Al-Si, Sendust, magnetocrystalline anisotropy 7—33165
Fe-Al-Si system, electronic struct. interatomic bonding, X-ray emission spectra analysis *(Russian)* 7—39320
Fe-B-Si and Fe-B-Si-Cr-Mo-W, finely cryst. and amorphous structs. on surface by laser treatment 7—8175
Fe-C-Si, ferrite nucleation at austenite grain edges, kinetics 7—7991
Fe-C-Si, nucleation of proeutectoid ferrite at austenite grain boundaries 7—8003
Fe-Co-Si-B and Fe-Ni-Si-B glass, liq.-quenched, cooling condition depend. of saturated mag. flux density 7—58991
Fe-Cr-B-Si, amorphous, annealing effects on Curie temp. 7—45675
Fe-Cr-Co-Si, permanent magnet alloys, microstruct., mag. props., Si content effect 7—22117
Fe-Cr-Ni-Al-Si-Mn, oxidation from 700 to 1000°C 7—65207
Fe-Cr-Si-B metallic glass wires, corrosion rel. to crystallinity and comp. 7—46701
Fe-Ni-Si-B glass alloy, liq. quenched, saturated mag. flux density, effect of peening 7—13611
Fe-Ni-Si-B metallic glasses, imperfection struct., positron annihilation studies 7—37885
Fe-Si, coercive field meas. 7—64491
Fe-Si, deform. behaviour, influence of mech. twinning *(German)* 7—17603
Fe-Si, electrical steels, physical metallurgy, conf., New York, USA (Feb. 1985) 7—4626
Fe-Si, electrical steels and alloys, conf., Vladimir, USSR (Dec. 1984) 7—9576
Fe-Si, grain oriented, hot rolling texture, thickness variations 7—8009
Fe-Si, H-induced grain boundary migration 7—21230
Fe-Si, high-Si, alloy elements influence on plasticity and mag. props. 7—8067
Fe-Si, melt quenched, struct. formation 7—13480
Fe-Si, plasticity, influence of thermomechanical parameters 7—13512
Fe-Si, polycrystalline, magnetisation, domain struct. and magnetostriction *(Russian)* 7—59051
Fe-Si, rapidly quenched ribbons, grain growth, mag. props. 7—8017
Fe-Si, structure, texture and mag. props. 7—12995
Fe-Si, thermoelec. rapid inspection, contacts temp. effect 7—2580
α-Fe-Si, Zn vapour induced cracking phenomena *(French)* 7—3394
Fe-Si (2 wt.%), microstruct., mag. props., thermomech. history effect 7—7551
Fe-Si (3 at.%), grain-oriented, fatigue crack growth, direct, real-time obs. *(Japanese)* 7—59615
Fe-Si (3 wt.%), continuously cast slabs, high temp. grain growth during reheating 7—8019
Fe-Si (3 wt.%), denitriding in solid state on heating in vac. 7—8159
Fe-Si (3 wt.%), domain structure and mag. props., influence of plane tension and insulating coatings 7—12991
Fe-Si (3 wt.%), dynamic remagnetisation, structural depend. of losses 7—12994
Fe-Si (3 wt.%), Goss orientation rel. to hot rolling conditions 7—8018
Fe-Si (3 wt.%), grain oriented, desulphurisation kinetics, 899-1171°C 7—8002
Fe-Si (3 wt.%), grain oriented, texture development for regular and high permeability 7—8008
Fe-Si (3 wt.%), hot rolling, austenite formation 7—13481

silicon alloys continued
Fe-Si (3 wt.%), mag. props., influence of elastic-stress state produced by coatings 7—12990
Fe-Si (3 wt.%), mag. props. and domain struct., influence of laser treatment 7—12993
Fe-Si (3 wt.%), mag. texture of surface layers 7—13062
Fe-Si (3 wt.%), microstructure, change in stereological characteristics on secondary recrystallisation 7—13468
Fe-Si (3 wt.%), noncrystalline lamination, Bloch wall bowing anomaly, wall surface pinning 7—33196
Fe-Si (3 wt.%), recrystallisation texture regulation using small deformations 7—13472
Fe-Si (3 wt.%), secondary recrystallisation, sharp ribbed texture formation 7—13469
Fe-Si (3 wt.%), secondary recrystallisation, seed grain formation, influence of elastic anisotropy energy 7—13470
Fe-Si (3 wt.%), secondary recrystallisation grains, subboundaries formation and their influence on mag. domain struct. 7—13471
Fe-Si (3 wt.%), specific magnetic loss meas. at remagnetisation freq. 50 Hz to 200 kHz 7—9850
Fe-Si (3 wt.%) bicrystals, domain struct. and magnetisation 7—12992
Fe-Si (33 at.%), amorphous films, mag. anisotropy, effect of crystn. and deform. *(Russian)* 7—53088
Fe-Si (3.2 wt.%), mag. props., influence of substructural features 7—12996
Fe-Si (3.3 wt.%), grain-oriented, domain refined, core losses 7—33692
Fe-Si (4.5 to 7.5 wt.%), melt-spun, ordered struct. 7—1951
Fe-Si (5.8 at.%) bicrystals, plastic deform., coincident twin boundaries 7—13502
Fe-Si alloy wires, rapidly solidified by in-rotating-water-spinning method, prod. and props. *(Japanese)* 7—22654
Fe-Si amorphous magnetic thin films, sputter deposition methods 7—22483
Fe-Si anisotropic elec. engineering steels, EM losses, thermomechanical treatment effects *(Russian)* 7—59550
Fe-Si cold-rolled nonbrittle powder strip prep., texture and mag. props. 7—46370
Fe-Si electric steel, X-ray texture analysis using TZ-6 texture attachment 7—8214
Fe-Si electrical sheet steel, magnetostriction variations meas., ponderomotive force influence 7—13012
Fe-Si electrical steels, anisotropic cold-rolled, magnetisation characts. 7—12966
Fe-Si powders, grain size, influence of α-γ transform. 7—7992
Fe-Si sheets, grain oriented, orientation of individual grains by means of Kossel patterns *(Japanese)* 7—22716
Fe-Si sheets, grain oriented, generation of secondary nuclei *(Japanese)* 7—22717
Fe-Si single crystals, deformed, dipole drift mechanism of early stages of dislocation pattern 7—38098
Fe-Si-Al, carbide precip. kinetics, core loss 7—8001
Fe-Si-Al, electrical steel sheet, rollability, core losses *(German)* 7—59549
Fe-Si-Al, Sendust films, DC opposite sputtered, mag. and crystallographic characteristics 7—7847
Fe-Si-Al alloy single crystals, mag. props. *(Japanese)* 7—22104
Fe-Si-Al films, magnetoelastic effect and anisotropy fields 7—59071
Fe-Si-Al(Ga)(Al)(Ni)(Co)(Cr)(Mn)(Nb), atomic ordering and mechanical props. 7—11990
Fe-Si-B, amorphous alloys, crystallisation, morphology rel. to sample thickness *(Russian)* 7—37861
Fe-Si-B, normalising, decarburisation, secondary recrystallisation, mag. induction obs. 7—8020
Fe-Si-B, solidification in mag. fields *(Russian)* 7—59508
Fe-Si-B (10, 15 at.%), metallic glass, plastic deform. resist. 7—13521
Fe-Si-B (10, 15 at.%) alloy glass, ion milling rate, cooling condition depend. 7—46690
Fe-Si-B alloy glass, crystn., effect of solid-liq. interfacial energy 7—16437
Fe-Si-B amorphous alloys, hypoeutectic, thermal stability and soft mag. props. 7—11928
Fe-Si-B amorphous alloys, electron momentum distrib. and Fermi energy, Doppler broadening positron annihilation 7—39220
Fe-Si-B mag. film, magnetoelastic wave generation and detection 7—59070
Fe-Si-B metallic glasses, struct. relax. *(Chinese)* 7—65070
Fe-Si-C single cryst., surface segregation and interactions 7—2322
Fe-Si-Cr system, ordering process, thermal expansion studies *(Russian)* 7—1932
Fe-Si-Ni (6.5, 2 wt.%), development of Goss texture, lowering of core loss 7—33693
$Fe_{75}B_{15}Si_{10}$, amorphous alloy powders, rapid quenching water atomisation process 7—46371
$Fe_{78}B_{12}Si_{10}$, amorphous, very small angle neutron scatt. 7—44392
$Fe_{78}B_{13}Si_9$ amorphous and partially crystalline alloy, high resolution TEM studies 7—21127
$Fe_{78}B_{13}Si_9$, amorphous alloys, mag. losses, aging kinetics 7—59056
$Fe_{78}B_{13}Si_9$ amorphous ribbons, ferromag. resonance 7—27606
$Fe_{78}B_{13}Si_9$ glass reinforced Al composite, fabrication by multi-lamina explosive compaction 7—59482
$Fe_{78}B_{13}Si_9$, magnetron sputtered amorphous alloys, thermal, mag. and magnetomechanical props. 7—33249
$Fe_{78}B_{13}Si_9$ metallic glasses, corrosion in H_2SO_4, alloying effect 7—28201
$Fe_{78}B_{13}Si_9$ metallic glasses, retardation of annealing embrittlement by Ce microadditions 7—65118
$Fe_{80}B_{12}Si_8$, amorphous alloy ribbons, processing conditions rel. to mag. prop. changes *(Korean)* 7—7919
$Fe_{80}B_{14}Si_6$ amorphous ribbons, anisotropy of losses 7—45658
$Fe_{80}B_{14}Si_6$ metallic glasses, long-time tunnelling heat relaxation meas. 7—38223
$Fe_{81.5}B_{14.5}Si_4$, amorphous, mag. hyperfine fields under stress, Mossbauer study 7—22166
$Fe_{82}B_{12}Si_6$, amorphous, initial crystallisation 7—44387
$Fe_{83}B_{12}Si_5$ metallic glasses, crystn., magnetisation, scaling, mag. relax. meas. 7—63496
$Fe_{80}B_{14.5}Si_{3.5}C_2$ metallic glass, laser beam irrad., high energy, shear band form. and cracking 7—59606
$Fe_{80}B_{16}Si_2C_2$ metallic glasses, retardation of annealing embrittlement by Ce microadditions 7—65118
$Fe_{81}B_{13.5}Si_{3.5}C_2$ amorphous and cryst. alloy, Si diffusion and segregation 7—6859
$Fe_{81.5}B_{13.5}Si_{3.5}C_2$, amorphous ferromag. alloy, acoustic waves, mag. field induced changes 7—2917

silicon alloys continued
$Fe_{77}B_{16}Si_5Cr_2$ metallic glass, crystallisation, DSC and X-ray diffr. studies 7—11932
$Fe_{81}Be_{13.5}Si_{3.5}C_2$ soft ferromag. metallic glasses, domain wall motion and energy dissipation studies 7—64478
FeCSiP alloys, cast, graphite nodule shape effects, ultrasound vel. meas., comp. depend. 7—3285
$(Fe_{1-x}Co_x)_{77}B_{13}Si_{10}$ amorphous alloys, Mossbauer study 7—7623
$Fe_{67}Co_{18}B_{14}Si$, amorphous mag. alloy, crystallisation, elec. resist., TEM obs. 7—11927
$Fe_{67}Co_{18}B_{14}Si$, metallic glasses, corrosion in H_2SO_4, alloying effect 7—28201
$Fe_5Co_{70-x}Cr_xSi_{10}B_{15}$, x=0, 3, 6, 9, amorphous ferromagnet, 180° domain wall *(Korean)* 7—33198
$Fe_{5.85}Co_{72.15}Mo_2B_{15}Si_5$ amorphous ribbons traversed by DC electric currents excess resistance, collective motion of ferromag. domain walls 7—32989
$(Fe_{1-x}Co_x)_{78}Si_{9.5}B_{12.5}$ amorphous alloys, density of states, XPS studies *(Chinese)* 7—13320
$Fe_{67}Co_{18}SiB_{14}$, mean positron lifetimes after annealing *(Chinese)* 7—27814
$Fe_{70}Cr_5Si_{10}B_{15}$ metallic glass, field electron emission 7—33530
$Fe_{75-x}Cr_xSi_{10}B_{15}$, x=0, 2, 4, 6, amorphous ferromagnet, 180° domain wall *(Korean)* 7—33198
$Fe_{80-x}Cr_x(SiB)_{20}$ amorphous alloy, induced anisotropy, melt spinning effects *(Russian)* 7—59004
$(FeM)_{80}B_{14}Si_6$, M=Mn, Mo, V, glass, magnetoresistance 7—64203
$Fe_{75}Mo_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7—11925
$Fe_xNi_{80-x}B_{18}Si_2$, glassy alloys, variation of mag, inhomogeneity 7—45634
$Fe_{30}Ni_{36}Cr_{12}Mo_2Si_5B_{15}$, amorphous alloy, Curie temp., press. effect 7—52976
$(FeNi)_{78}Mo_4B_{17}Si$ metallic glass, mag. shielding props., composition depend. 7—27558
$Fe_{40}Ni_{38}Mo_4B_{16}Si_2$, ferromag. amorphous ribbons by field quenching technique, mag. anisotropy 7—33164
$Fe_{39}Ni_{39}Mo_2(SiB)_{20}$ metallic glasses, corrosion in H_2SO_4, alloying effect 7—28201
$Fe_{70}Ni_8S_{10}B_{12}$, amorphous and cryst. states., oxidation *(Russian)* 7—53993
$Fe_{0.20}Ni_{0.58}Si_{0.08}B_{0.14}$, amorphous viscoelastic behaviour 7—21348
$(Fe_{0.6}Ni_{0.4})_{82}Si_8B_{10}$ amorphous alloys, structural relax. and crystn., positron annihilation studies 7—37869
$(Fe_{1-x}Ni_x)_{77}Si_{10}B_{13}$, amorphous, structural anal. *(Korean)* 7—26655
$(Fe_{1-x}Ni_x)_{77}Si_{10}B_{13}$, amorphous, effective mag. moment, Curie temp. *(Korean)* 7—27503
$Fe_{10}Ni_{65}Si_{10}B_{15}$ spin glass, amorphous, effect of phase segregation during struct. relax. 7—39517
$Fe_{40}Ni_{40}Si_{16}B_4$ metallic glass, positron trap depth distrib. determ., lifetime and Doppler effect meas. 7—39304
$Fe_{70}Ni_8Si_{10}B_{12}$, amorphous alloys, thermal devitrification kinetics 7—51651
$Fe_{75}Ni_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7—11925
$(Fe_7Ni_{93})_{77}Si_{10}B_{13}$ amorphous spin glass, dynamic mag. susceptibility and critical phenomena *(Russian)* 7—7511
$Fe_{0.44}Ni_{76.87}Si_{7.88}B_{14.56}C_{0.25}$, amorphous filler metal, struct. props. *(Korean)* 7—32292
FeSi, low temp. magnetostriction meas. 7—45790
FeSi oxidised interface system, XPS, XAES and Auger parameter studies 7—7025
$FeSi_2$, epitaxial growth on Si, effects of thin interposing layers 7—22471
$Fe_{1-x}Si_x$ amorphous films, Hall effect and mag. anisotropy 7—2911
Fe_3Si, electronic struct. and X-ray spectra, disorder effects *(Russian)* 7—32903
Fe_3Si, near-stoichiometric high temp. creep and struct. investig. 7—22762
Fe_3Si, transition metal impurities, electronic struct. and site preference 7—12653
$Fe_{67}Si_{33}$ *(Russian)* 7—59078
$Fe_{67}Si_{33}$ amorphous films, ferromag., induced mag. anisotropy *(Russian)* 7—52974
$Fe_{67}Si_{33}$ thin amorphous films, plastic deform. *(Russian)* 7—59585
$Fe_{97}Si_3$, magnetoelastic acoustic emission 7—33257
Fe_xSi_{1-x} amorphous magnetic alloys, d-band occupancy, EELS study 7—64059
FeSiB amorphous alloy, double-layer struct. unit model 7—16423
$Fe_{77}Si_{10}B_{13}$, as-quenched and cold-rolled amorphous alloy, mag. props. 7—33219
$Fe_{78}Si_{10}B_{12}$ amorphous ribbons, X-band ferromag. resonance, transmission of microwaves 7—27607
$Fe_{78}Si_9B_{12}$ amorphous alloys, surface crystallisation and mag. props. 7—51649
$Fe_{78}Si_9B_{13}$, amorphous, tensile strength, elastic stiffness *(Japanese)* 7—3346
$Fe_{78}Si_9B_{13}$ amorphous ribbons, magnetoelastic effects on practical props. 7—33252
$Fe_{90-x}Si_xB_{10}$ amorphous alloys, multistep-micro-crystallisation studies 7—21129
$Fe_{80}Si_xP_{20-x}$ amorphous alloys, struct., mag. and elec. props. *(Korean)* 7—2893
$Fe_{77.5}Si_{7.5}B_{15}$ amorphous wires, Barkhausen and Matteucci effects, influence of tensile and compressive stress 7—33254
$Fe_{0.65}si_{0.35}$ thin films, amorphous and crystalline, magnetisation rotational processes 7—53085
GdCoSi, amorphous film, mag. and magnetoopt. props., thickness depend. 7—33239
Gd_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7—53039
La-Si, glass, pulsed neutron and X-ray diffraction 7—1912
$La_{0.8}Nd_{0.2}Ni_{2.5}Co_{2.4}Si_{0.1}$ electrode, storage capacity investig. 7—33946
LaSi nonmagnetic metallic glasses, negative TCR and electronic struct. studies 7—52562
$Lu_5Co_4Si_{14}$, monoclinic struct. type, rel. to $Sc_5Co_4Si_{10}$ and $La_3Co_2Sn_7$ 7—1944
$Lu_5Ir_4Si_{10}$, superconducting, electronic phase transition and partially gapped Fermi surface 7—12902
MnAlSi and MnAl icosahedral crystals, structure, EXAFS studies 7—11996
$Mn_xFe_{1-x}Si$ solid solns., thermal expansion 7—6835
Mn_3Ni_2Si, rapidly solidified, Friauf-Laves phase related quasicrystal, TEM obs. 7—51706
MnSi, amorphous, concentrated spin glass, ESR study 7—13022
Mo/Al-Si interdiffusion kinetics and contact resistance study for VLSI appls. 7—21714

silicon alloys continued
Mo-Bi-Si thermodiffusion coating on Nb-Mo-Zr alloy, oxidation protection, heat resist. 7—8156
Mo-Si, quantitative Auger anal., correction factors 7—27831
Mo-Si amorphous alloys, cluster formation and percolation 7—27455
$MoSi_2$, amorphous layer form. on ion beam mixing of Mo films on Si 7—21301
Mo_3Si, A15 cpd., phonon dispersion and density of states, inelastic neutron spectra, electron-phonon coupling effects 7—2121
Mo_3Si, neutron irrad., NMR and mag. suscept. studies *(Russian)* 7—13051
$Mo_3(SiRe)$, neutron irrad., supercond. investig. *(Russian)* 7—12926
Nb-Si films, sputtered, superconducting props. 7—17126
Nb-Si films, superconducting fluctuations weak localisation and electron interactions 7—2783
$Nb_{73}Al_{12}Si_{14.5}B_{0.5}$, A-15 superconducting tapes for high mag. fields, fabrication 7—33133
$Nb_3(Ge,Si)$, A15 phase, Si stabilisation, supercond. transition temp., sp. ht. meas. 7—45532
Nb_3Si, superconducting critical temp., review 7—38795
$Nb_{79}Si_{21}$, N^+ implantations, effect on A15 phase formation 7—63480
$Nd_2(Fe_{0.67}Si_{0.33})_{14}B$, reduction of mag. hyperfine fields and Curie temp. on Si substitution, Mossbauer spectra 7—38859
Ni-B-Si alloy liquid metal ion sources, ion formation 7—64878
Ni-B-Si ternary system, liq.-solid equilib. in Ni-rich region *(French)* 7—65004
Ni-Cr-Si thin films, influence of Si on props. 7—22493
Ni-Cr-W-Si-Al-C, heat resistant coatings on Ni alloys 7—3498
Ni-Cu-Si, γ' precip. coarsening, bifurcation theory appl. *(Japanese)* 7—53734
Ni-Si, aged γ/γ' alloys, He^{2+} implantation studies 7—22690
Ni-Si, ductility, influence of rad.-induced segregation 7—53798
Ni-Si, spatial correl. to γ' precipitates 7—46484
Ni-Si alloy, Ni_3Si precipitation during electron and ion irradiation 7—51876
Ni-Si system, phase diagram, thermodynamics 7—46424
Ni-Si-B, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7—3354
Ni-Si-B amorphous alloy films, electrical resistance and activation energy 7—27315
Ni-Si-B amorphous powders, flame-spray quenching process for continuous prod. 7—53679
Ni-Si-B amorphous ribbons, surface charactn. 7—12420
Ni-Si-Mg, high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7—53987
$(Ni\text{-}Pd)_{82}Si_{18}$ amorphous alloys, corrosion behaviour, struct. relax, effects. 7—8166
$Ni_{75}B_{15}Si_{10}$ amorphous alloy, metalloid redistribution, scanning Auger microprobe study 7—32655
$Ni_{75}B_{17}Si_8$, ultrafine fine-grained, prep. from amorphous ribbon, creep deform. 7—22748
$Ni_{75}B_{17}Si_8$, ultrafine grained, creep deformation mechanisms 7—22781
$Ni_{83}Cr_7Fe_3Si_4B_3$, amorphous alloy, crystallisation *(Chinese)* 7—6518
NiCrSiB alloy coatings, sputter deposition, microstruct. variations 7—46351
$Ni_{69.2}Cr_{6.6}Si_{13.7}B_{7.9}Fe_{2.6}$, amorphous alloy, 70 MeV Ni^{+6} ion irrad., surface swelling 7—16646
$(Ni_{1-x}Cu_x)_{77}B_{13}Si_{10}$ pseudobinary metallic glass, low-temp. sp. ht. studies 7—12309
NiSi layer on Si (111), solid phase epitaxial growth from Si/Ni multilayer structure 7—7071
$NiSi_2$/Si heterojunction, interface states, DLTS and hydrogenation studies 7—12777
$NiSi_2$-Si (111) interface struct., X-ray standing-wave analysis 7—58661
$Ni_{77}Si_8B_{15}$, amorphous, tensile strength, elastic stiffness *(Japanese)* 7—3346
$Ni_{78}Si_{10}B_{12}$, metallic glass, shear crack propag. 7—65113
$Ni_{80}Si_{10}B_{10}$, $Ni_{80}Si_5B_{15}$ metallic glass, fracture toughness rel. to prep. and struct. 7—53870
$Pb_{80}Si_{20}$, amorphous, thermal stability, Auger study 7—58577
Pd-Rh-P-Si, surface alloy vitrification by laser treatment 7—21271
Pd-Si, metallic glasses, photoemission investig. *(Slovak)* 7—59369
Pd-Si, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7—3354
Pd-Si alloys, H absorption, structural disorder effects 7—52249
Pd-Si base metallic glasses, viscous flow, comp., thermal stability *(Chinese)* 7—12341
Pd-U-Si, growth of quasicrystalline phase from glassy state 7—58144
Pd-U-Si glassy alloys, glassy-to-icosahedral polymorphous crystn. transform., X-ray and electron diffr. studies 7—6515
Pd-U-Si glassy state, quasicrystalline phase form., X-ray and electron diffr. studies 7—26645
$Pd_{80}\ Si_{20}H_3$, metallic glass, H diffusion, quasielastic neutron scatt. study 7—21534
PdCuSi, amorphous, reversible and irreversible changes in the thermal conductivity 7—45267
$Pd_{77.5}Cu_6Si_{16.5}$ glass, cryst. nucleation and growth kinetics 7—11917
$Pd_{78.5}Cu_6Si_{15.5}$ metallic glass, structural relax., vitrification, sp. ht., DSC obs. *(Russian)* 7—37880
$Pd_{75}Fe_5Si_{20}$ amorphous spin glasses, muon spin relax., temp. depend. meas. 7—45882
$Pd_{82-y}Ni_ySi_{18}$, (y = 10, 20, 32), amorphous alloy, electrical resistance meas. in gaseous H_2 7—32978
PdRhPSi(SiNi), amorphous laser processed surface alloy on cryst. Ni in NaOH soln., anodic characts. 7—28317
PdSi, phase transform. to Pd_2Si, kinetics 7—16795
$Pd_{0.84}Si_{0.16}$ metallic glasses, crystallisation kinetics, elec. resist. obs. *(Chinese)* 7—11919
$Pd_{100-x}Si_x$, (x = 15, 17, 18), amorphous alloy, electrical resistance meas. in gaseous H_2 7—32978
Pd_2Si and PdSi, optical constants measured by a multiple-wavelength ellipsometer 7—27683
Pd_2Si, epitaxial silicide form., initial nucleation processes and effects 7—21767
Pd_2Si polycryst. film on Si, ion sputtering effects, XPS, UPS and scanning tunnelling microscopy studies 7—59357
$Pd_{77}Si_{23}$ metallic glasses, picosecond laser annealing 7—44613
$Pd_{80}Si_{20}$, amorphous, H solubility and diffusion 7—26969
$Pd_{80}Si_{20}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
$Pd_{80}Si_{20}$, metallic glass, crystallisation 7—37882

silicon alloys continued
- $Pd_{81}Si_{19}$, glassy, surface topographies, SEM and scanning tunnelling microscopy studies 7—12436
- $Pd_{81}Si_{19}$ glassy alloy, surface structure, scanning tunnelling microscopy studies 7—18921
- PdSiCo inhomogeneous magnetic alloys, anomalous Hall effect—magnetic polarisation correls. 7—7208
- PdSiCu, amorphous, ultrasonic vel., mechanical props. *(Korean)* 7—26874
- $Pd_{80}Si_{20}H_3$ metallic glass, H diffusion, quasielastic neutron scatt. studies 7—52119
- $Pd_{58.8}U_{20.6}Si_{20.6}$ alloys, glassy to icosahedral quasicrystalline phase transition, elec. and mag. props. 7—37863
- PtSi contact metallurgy by different formation processes 7—21709
- Pt_xSi_{1-x}/n-GaAs contacts, elec. and metallurgical characts. 7—64345
- Pu-Si alloys, formation amorphous or metastable structures 7—16421
- RAl_2Si (R=Pr,Gd,Tb,Dy,Ho,Er,Tm,Lu), electronic struct., X-ray emission bands *(Russian)* 7—45138
- $Sc_6Nc_{18}Si_{11}$, cryst. struct. determ. 7—58205
- a-Si alloy tandem solar cells, spectral response and I-V characts. 7—54315
- a-Si alloy ultralight photovoltaic modules consisting of solar cells, space and terrestrial appls. 7—65485
- Si-Fe BCC alloy, struct. and mag. props., order-disorder transition effects *(Russian)* 7—32346
- Si-$Si_{1-x}Sn_x$ strained layer superlattices, electronic struct. 7—38707
- a-(Si-Ge):H, prep. in rotary plasma isolated reactor and props. 7—7891
- SiFe, grain oriented, Barkhausen noise behaviour, effect of local strain 7—33205
- a-SiSn:Cl,H glow discharge films, elec. and optical props. *(Chinese)* 7—58805
- $Si_{1-x}Sn_x$ amorphous alloy films, low-temperature oxidation *(Japanese)* 7—46699
- a-$Si_{1-x}Sn_x$:H films, electronic structure of divalent defects 7—32960
- Sm-Fe-Co-B-Si melt-spun alloys, mag. props. 7—27553
- Tb-Si amorphous films, spin-glass transition 7—7519
- $TbGe_{1-x}Si_x$, first-order mag. phase transition, neutron diffr., mag. struct. study 7—45673
- Tb_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7—53039
- ThM_2Si_2 (M=Cu, Ru, Os, Ir, Pt), magnetochemistry and crystal chemistry 7—58976
- Ti-Al-Cr-FeSi, AT3 alloy, corrosion resist. and hydrogenation susceptibility in dil. H_2SO_4 soln. 7—17685
- Ti-Al-Mo-Zr-Si alloys, superplastic characts., H alloying effect 7—8049
- Ti-Al-Zr-Mo-Si, creep resistance, silicides obs., effect on mechanical props. and fracture 7—8051
- Ti-Cu-Ni-Si amorphous alloys, structural relax. annealing, X-ray diffr. studies 7—6537
- Ti-Si, oxidation between 550 and 700°C 7—65202
- Ti-Si system, oxidation behaviour, role of N 7—28198
- TiC-Fe-Cr alloyed with Si, high-Cr, sinterability and mech. props. improvement 7—64986
- $Ti_{75}Ni_{20}Si_5$ metallic glasses, corrosion rates in the H_2SO_4 and HCl solns. 7—28199
- $Ti_{84}S_{16}$ metallic glass, total struct. factors, neutron and X-ray diffr. studies 7—6546
- $TiSi_2$ formation on Si by rapid thermal annealing 7—21707
- $TiSi_2$ formation on Si:As 7—12551
- $TiSi_2$ formation or Si, effects of substrate ion implantation and masking oxide films 7—21708
- $TiSi_2$:B(P)(As) films on Si, impurity diffusion 7—7077
- $TiSi_2$:O films, quantitative SIMS analysis, in situ ion implantation of ^{18}O reference level 7—12100
- U-Si compounds, oxidation, XPS studies 7—54007
- U-Si-Fe, β to α phase transform., dilatometry, metallography 7—28036
- UM_2Si_2 (M=Cu, Ru, Os, Ir, Pt), magnetochemistry and crystal chemistry 7—58976
- URu_2SI_2, heavy electron system, competing electronic correlations, press. effect 7—45539
- URu_2Si_2 heavy fermion system, core levels and band struct., electron spectra studies 7—52418
- URu_2Si_2, monocrystalline, thermal expansion and sp.ht. 7—44866
- USi_3, electronic struct. and f hybridisation 7—12600
- USi_3 intermetallics, correlation effects, XPS and bremsstrahlung isochromat spectra 7—21844
- U_3Si, U_3Si_2 powders dispersed in Al matrix, heat of reaction, DTA 7—719
- V-Si films, electrical transport props. 7—33108
- V-Si fine A-15 particles, supercond. transition temp. 7—7435
- V-Si silicide, quantitative Auger anal., correction factors 7—27831
- $(VCr)_3Si$, neutron irrad., supercond. investig. *(Russian)* 7—12926
- $(VMo)_3Si$, neutron irrad., supercond. investig. *(Russian)* 7—12926
- $V_{41}Ni_{36}Si_{23}$, rapidly solidified, quasicrystalline and Frank-Kasper phases, tenfold electron diffr. pattern obs. 7—65022
- V_3Si, A15 compounds, martensitic and supercond. phase transitions 7—58942
- V_3Si, high T_c supercond., Raman spectra studies 7—7699
- V_3Si, muon diffusion and localisation, transverse field muon spin resonance studies 7—53194
- V_3Si solid solns. of Fe, Cr and Co, elec. resist. *(Russian)* 7—45273
- V_3Si, structure factor phase determ. by multiple Bragg diffr. 7—32211
- V_3Si/V_5Si_3 interface, crystallography of matrix-precip. interface and elastic strain field *(French)* 7—65036
- $V_{75}Si_{25}$ amorphous films, crystallisation and elec. props. 7—21102
- W wire reinforced amorphous $Ni_{75}B_{17}Si_8$ matrix composite ribbons, melt spinning prep. 7—46373
- W-Cu pseudoalloy, Si alloying effect on solute redistrib. and ductility characts. 7—53741
- W-Si amorphous thin films, DC sputter deposited, crystn. temp., DTA 7—21720
- W-Ti-Si system, metallisation materials, amorphous phase form. and stability 7—22640
- WSi_x CVD films on Si and Si_3N_4 coated Si, excess Si redistribution upon annealing 7—21723
- $Y_2Fe_{14-x}Si(Cu)B$ alloys, mag. props. 7—45681
- $YbPd_2Si_2$, moderate heavy fermion system, sp. ht. 7—58504

silicon compounds
- *see also quartz; silicon alloys; silicones*
- alkali silicate glasses, internal friction, amplitude depend., cooperative movement parameter near the glass transition temp. 7—2099

silicon compounds continued
- aluminosilicates, at. charges, SCF and semiempirical calcs. 7—2942
- clay suspensions, montmorillonite and kaolinite, viscosities and densities 7—28351
- fibre reinforced Ti-base alloy, development of creep-resisting composites 7—3228
- fluorosilanes, protonated, structs., energetics, ab initio MO calcs. 7—56956
- fused silica, laser-driven shock wave dynamics study 7—44691
- gilsonite, microstructure and mechanical props. 7—44838
- H-D exchange, H desorption 7—28304
- kaolin-mullite, charactn. of spinel phase formed in thermal sequence 7—37937
- MIS struct., electron transport and heating, vacuum emission studies 7—2723
- mullite, Al_2O_3 and ZrO_2 particle reinforced, prep. by reaction sintering, fractographic study 7—22800
- mullite powders, props. and microstruct. of fired bodies *(Japanese)* 7—22626
- mullite-alumina composites, sintering and charactn. 7—3252
- oxide, nitride and element, $L_{23}VV$ valence Auger transitions 7—27828
- oxides, carbides and nitrides, interaction with phosphate binder, prep. of vitreous ceramic materials 7—3260
- oxides, native and thermal films and Si/oxide interfaces, stoichiometry and interface transition layer, atom probe FIM study 7—32844
- oxides adsorbed on Pt (111), effect on water adsorption and dissociation 7—27134
- polysilicon oxide, elec. cond. model 7—45526
- polysilicon-SiO_2, surface texturing effect on SiO_2 cond. and breakdown 7—39773
- polysilicon-SiO_2 interface, enhanced electron injection 7—38755
- polysilicon-SiO_2 interfaces, textured, electronic props. 7—38754
- PVC-SiO_2 powder mixtures, shock consolidation, densification, industrial appls. 7—39473
- Si_3N_4 MONOS structures, negative hopping magnetoresist. meas. 7—64357
- sialon, abrasive polishing problems 7—53939
- sialon, commercial, static fatigue and creep resist. 7—59601
- β'-sialon, composite ceramics, microstruct., hardness, tool appls. 7—65144
- β-sialon, engineering ceramics, prep., fabrication, appls. 7—53683
- sialon, sliding and abrasive wear mechanisms, comparison 7—3463
- sialon, wear resist., comparative study of hard materials 7—3457
- O'-β'-sialon ceramic composites, fabrication 7—64990
- sialon ceramics, processing, Al ion redistrib., crystallisation EDX analysis 7—3237
- silica, fused, optical slides, erosion protection by diamond-like C films 7—46673
- silica, fused, shock-compressed, refractive index, laser interferometric meas. 7—30081
- silica, sol-gel processing, role of catalysts 7—22630
- silica aerogels, photon-fracton crossover, Brillouin scatt. meas. 7—46878
- silica gel, fractal vibr. modes, low freq. Raman scatt. 7—26890
- silica gel surface, variable temp. diffuse reflectance FT IR spectrosc. obs. 7—53294
- silica monolithic gels, autoclave prepared Raman studies 7—8314
- silica optical fibres, defect struct. and drawing-induced absorption, drawing depend. 7—3071
- silica-stabilised ferrite particle dispersions, magnetic recording appls. 7—53057
- silicate minerals, XPS, Fe 2p spectra 7—59372
- silicate minerals and glasses, Fe K-edge EXAFS studies, Fe coordination 7—59287
- silicates, bonding ^{17}O NMR, d-orbitals 7—13055
- silicates, sheet, EFG tensor at Fe sites, room temp. Mossbauer study 7—45851
- siloxane-silica network-like structs., mag. relax. PMR study 7—38960
- SiO_2, optical fibre, stimulated Raman spectra, rel. to fibre length, pump power *(Korean)* 7—31395
- SOI films, inhomogeneous carrier transport props., influence of temp. 7—33094
- SOI films, thermal stresses during zone melting recrystallisation, subboundaries, in-plane orientation 7—33554
- SOI formation, high dose O^+ ion implantation, lamp annealing 7—32527
- SOI struct., implanted buried oxide elec. props., high temp. annealing effects 7—58904
- steel/Cu/Si_3N_4 *(Japanese)* 7—54037
- surface etching by COF_2, thermal and photochemical promotion 7—33853
- synthetic silica glass, X-ray induced absorpt. and luminesc., heat treatment effects study 7—7733
- vitreous silica, two-level tunnelling system-strain coupling const., double well asymm. energy contrib. 7—6538
- wollastonite reinforced polyamide 6, strength props., depend. on humidity and temp. 7—39636
- zeolite, ZSM-5, crystallisation kinetics from organic solvent-water mixture 7—22457
- zeolite theta-1, structural TEM studies 7—16534
- zeolite ZSM-5, hydrothermal synthesis, nucleation and growth 7—33537
- Al_2O_3-SiO_2, surface centres, electronic and energy characts. 7—7323
- Al/a-SiC films, RF sputtered, interfacial struct. and reactions, 573-773K *(Japanese)* 7—53583
- Al/SiO_2/Si_3N_4/Si illuminated struct., nonlinear capacitance props. study 7—38731
- Al/SiO_x/Si MIS contacts in inversion layer solar cells 7—3680
- Al-Si_3N_4-GaAs structs., interface state density profile determ., DLTS spectra interpretation 7—38733
- Al-Si-SiC(Si_3N_4), composites, thermal props. *(Japanese)* 7—52164
- Al-Si-SiO_2 sand composites, prep. and mech. props. 7—17500
- Al-SiO_2 : N interface traps and effective barrier height, nitriding effects obs. 7—38790
- Al-SiO_2-Si MOS capacitors, optical and thermal cross-section of interface states, photocapacitance meas. 7—38742
- Al-SiO_2-Si system, contact pot. difference, effect of processing conditions 7—38746
- AlCuSiC composite, shock response 7—26867
- Al_2O_3-SiC composites, microstruct. and mech. props. *(Japanese)* 7—22821
- Al_2O_3-SiO_2, adsorpt. of aromatics, IR spectra 7—10573
- Al_2O_3-SiO_2, mullite ceramics, sol mixture prep., drying method effect *(Japanese)* 7—7944
- Al_2O_3-SiO_2 as fibrous insulator of solar receiver, temp. meas. using thermocouples 7—59872

silicon compounds continued
Al_2O_3-SiO_3, mullite, prep. by sol-gel method, microstruct. and mech. props. 7−46386
Al_2TiO_5-mullite composites, thermal and mech. props., effect of comp. *(Japanese)* 7−26987
Au-SiO_2-Bi, low temp. hot electron energy relaxation and inelastic collision times in thin metal films 7−27441
Au-SiO_2-Si MIS structures, Au-SiO_2 boundary anal. 7−12867
B_2O_3-SiO_2-M_2O (M = Na, K) glasses, ion implantation effects appl. for radioactive waste disposal 7−32519
$Be_3Al_2(SiO_3)_6$:Cr^{3+}, emerald, spectral energy transfer, fluorescence line narrowing 7−33441
$Be_3Al_2Si_6O_{18}$, beryl, electron-irradiation induced amorphism 7−32505
Ca-SiAlON ceramic system, $A' \rightleftharpoons \beta'$ transition study 7−16738
$CaMgSi_2O_6$ - $CaFeSi_2O_6$, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7−59289
$Ca_{2-x}Nd_xGa_{2+x}Si_{1-x}O_7$, Ga gehlenite, cryst. struct. and optical props. 7−16525
CaO-Al_2O_3-SiO_2 cement, macro-defect-free processing and low freq. dielec. response 7−13081
CaO-SiO_2-CaF_2, structural analysis for fluorosilicate glasses by X-ray photoelectron spectroscopy *(Japanese)* 7−33510
CdO-SiO_2-M_2O (M=Na,K,Li), glasses, thermal expansion, free volume 7−58152
$CeGe_{1-x}Si_x$ nearly ferromag. props., temp. and comp. depend. study 7−7493
CeO_2-SiO films, optical absorption edge and energy gap 7−33471
Co catalyst, O_2 adsorpt. and oxidation of Si at CoSi (100) surfaces 7−46865
$Co_{80}Nb_{10}Ti_{10}$-SiO_2, amorphous multi-layered films, mag. props. rel. to film thickness 7−2912
Cr/SiO_2/Si structs., Fowler-Nordheim tunnelling oscills., I-V characts. meas. 7−38745
$CrSi_x$, EELS studies of Cr-$L_{2,3}$ core levels 7−46258
Cs_2O-Al_2O_3-SiO_2 thermionic cathode as efficient electron source 7−9923
Cu-Si_3N_4, effect of Si_3N_4 on deposition of Cu chemical coatings 7−3207
CuSiF.$6H_2O$ four-sublattice Jahn-Teller crysts., phase transitions, free energy and symm. props. calcs. 7−2544
Fe-SiO_2 compositionally modulated mag. film props. study 7−7566
$Fe_{70}Co_{30}$-SiO_2 compositionally modulated mag. film props. study 7−7566
$Fe_{39}Co_{39}Si_{10}B_{12}$, magnetic induced anisotropy, crossover effect 7−17169
Fe_3O_4-CaO-SiO_2 amorphous oxides, magnetic props. and struct., Mossbauer spectra study 7−7538
Fe_xO:SiO_2, synthetic wustite, elec. cond., doping elements effect *(Korean)* 7−2609
GaAs-Ge-SiO_2, semiconductor MBE layers on Ge islands on insulator, photolum. study 7−33455
GaAs-Si_3N_4 interface, multipolar plasma deposition, high resolution electron microscopy study 7−12499
GaInAs-SiO_2 system, annealing behaviour, SIMS and elec. meas. 7−38270
GeO_2-core/SiO_2-cladding optical fibres, modified CVD deposition and stimulated Raman appl. 7−43378
GeO_2-SiO_2:N optical fibres, N-related absorpt. bands 7−59226
H_3Si-B_2H_5, form., geometry, ab initio calcs. 7−25376
$Ho_5Si_3H_x$, H-D exchange, H desorption 7−28304
InP-SiO_2 interface, electron localisation 7−45514
InP-SiO_2 MISFET, electron tunnelling into oxide traps 7−38764
InSb-SiO_2 MIS structures, photo-CVD fabrication 7−38739
K_2O-Ga_2O_3-SiO_2 glasses, Raman spectra 7−3035
K_2O-Ga_2O_3-SiO_2-Al_2O_3-Fe_2O_3-FeO melts, struct. role of Fe^{3+}, Ga^{3+}, Al^{3+}, Fe redox ratio 7−26635
K_2O-PbO-SiO_2 glasses, chemically nonuniform struct., Rayleigh and Mandelstam-Brillouin scatt. 7−1891
K_2O-PbO-SiO_2 glasses 7−3036
K_2O-SiO_2 glass melts, structure 7−1831
K_2O-SiO_2 glasses, molecular dynamics simulation 7−1901
K_2O-SiO_2-NaCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7−12288
Li_2O-SiO_2 glass, Pt catalysed crystallisation 7−6524
Li_2O-SiO_2 glasses, molecular dynamics simulation 7−1901
Li_2O-SiO_2-NaCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7−12288
Mg-SiO-H_2, nucleation, physical spinodal theory 7−21428
$Mg_2Al_2Si_5O_{18}$, cordierite, electron-irradiation induced amorphism 7−32505
$Mg_2Al_4Si_5O_{18}$ and solid solutions, thermal expansion *(Japanese)* 7−21496
MgO-Al_2O_3-SiO_2, leucosapphire, crystal growth by directional crystn., gas inclusions formation 7−33539
MgO-Al_2O_3-SiO_2-GeO_2 cordierite ceramics, sintering, microstruct., thermal props. 7−52088
MgO-Al_2O_3-SiO_2-ZrO_2, low thermal expansion dec. insulators 7−2237
MgO-SiO_2 high-temperature composites, calcination temp. and mech. strength 7−33651
MgO-SiO_2 melt, struct. study 7−58142
Mn/SiO, thin cermet films, electroformed characts. in dielec. range 7−12892
$Mn_3Si_2Te_6$ ferrimag. semicond., cryst. struct., X-ray diffr. study 7−1977
Mo/Si_3N_4 jointed interface, strain distrib. determ., laser speckle photography *(Japanese)* 7−54037
$20(NaK)_2O$-xGa_2O_3-$(80-x)SiO_2$ glasses, elec. conductivity, mixed alkali effect 7−27001
Na_2O-$3SiO_2$ glass, Tb^{3+} activated, temp. depend. of tunnel lumin. 7−59265
Na_2O-Al_2O_3-SiO_2 glass system, strength and struct. features 7−58150
Na_2O-Al_2O_3-SiO_2-H_2O, zeolite ASM-5, framework site resolution and assignment by X-ray and NMR meas. correl. 7−25541
Na_2O-CaO-Al_2O_3-SiO_2 system, synthesis of glasses by sol-gel process 7−64997
Na_2O-CaO-SiO_2 coating glass for optical fibres, preparation 7−7949
Na_2O-CaO-SiO_2 glass with subthreshold flaws, dynamic fatigue 7−8111
Na_2O-CaO-SiO_2 glasses, IR spectra 7−3036
Na_2O-Fe_2O_3-SiO_2 systems, glass formation and props. 7−2203
Na_2O-FeO-SiO_2 systems, glass formation and props. 7−2203
Na_2O-Ga_2O_3-SiO_2 glasses, Raman spectra 7−3035
Na_2O-K_2O-CaO-SiO_2 glass, mixed alkali effect on chemical durability 7−8145
Na_2O-K_2O-Ga_2O_3-SiO_2 glasses, glass transform temps., mixed alkali effect 7−6793
Na_2O-SiO_2 binder solns., ester curing, equilibria and kinetics, NMR study 7−8311

silicon compounds continued
Na_2O-SiO_2 glass melts, structure 7−1831
Na_2O-SiO_2 glasses, molecular dynamics simulation 7−1901
Na_2O-SiO_2:Tb^{3+} glasses, colour centre formation during UV irradiation 7−2049
Na_2O-SiO_2-$FeCO_3$-Fe_2O_3 glass system, prep., props and struct. 7−1900
Na_2O-SiO_2-KCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7−12288
Na_2O-SiO_2-NaF, structural analysis for fluorosilicate glasses by X-ray photoelectron spectroscopy *(Japanese)* 7−33510
Na_2O-SiO_2-TiO_2 system, struct. of glasses and melts *(Japanese)* 7−21121
Na_2O-Y_2O_3-MO-SiO_2 glass, (M=Mg, Sr, Ca), Na^+ conductivity 7−52134
Na_2O-Y_2O_3-SnO_2-SiO_2 glass, Na^+ conductivity 7−52134
$(Na_2O.2SiO_2)_{1-x}(Fe_2O_3)_x$ glasses, Fe ions, ionic state and coordination geometry 7−63492
$Na_2O.3SiO_2$ glass, Na leaching rates in H_2O and D_2O, comparison 7−63885
$Na_3Ti_{0.75}Si_2P_2O_{12}$, NASICON-based glass and glass ceramics, synthesis and characterisation 7−44908
$Na_3Zr_{2-x}In_xSi_{2-x}P_{1+x}O_{12}$ system, chem. composition, cryst. struct. and ionic cond. *(Chinese)* 7−12006
$Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7−6870
Ni-SiO_2 films, dispersion strengthened, flow stress, temp. depend. *(Russian)* 7−53815
Ni-ZnSe-SiO_2-Si struct., energy barriers for photocharging of trapping sights in ZnSe layer 7−52844
NiFe/SiO_2/CoPt multilayer magnetoresistors sensitivity anal. 7−48786
NiSn-SiC composite coatings, electrodeposition, wear resist., hardness, porosity 7−33613
PbO-SiO_2 glasses, IR spectra 7−3036
PbO-SiO_2 glasses, struct. anal., X-ray diffr. studies 7−6532
PbO-SiO_2 mixtures, thermohomogenised layers, UV photoelectron spectra study 7−59370
PbO-SiO_2-K_2O coloured and colourless glasses, near IR absorpt. temp. depend. study 7−13146
Pd-Cr-SiO_x-p-Si MIS electrodes for electrochemical solar cells 7−34048
Pd-SiC interface, compositional depth profiles and intermixing, atom probe FIM study 7−32843
Pt/SiN/Si structure, nucleation kinetics and spatial distribution of spherulotic PtSi clusters 7−21675
Pt-SiO_2 catalysts, small angle X-ray scatt. anal. 7−16352
Pt-SiO_x-n-Si MIS electrode for electrochemical solar cells 7−34048
PtSi-Si thin film Schottky diodes, barrier height meas. 7−64308
Rh-Re/SiO_2 catalysts, metal dispersion 7−39918
SO_2 removal by injected limestone sorbents, graphite element drop-tube reactor design 7−22978
SOI films, halogen lamp recrystallised, minority carrier lifetime studies 7−33101
Si:As(P)(B)-SiO_2 interface, segregation, transport coeffs. of impurities 7−63880
Si:Au,Fe-SiO_2, MOS struct., trap centres 7−7388
a-Si:H/SiC tandem solar cell, thermal and light-induced degradation 7−46955
a-Si:H/SiO_x/metallic gate struct., capacitance-volt. characts. 7−45515
a-Si:H/a-$Si_{0.2}C_{0.8}$:H superstructures, hot electron conduction 7−45453
a-Si:H/a-$Si_{1-x}C_x$:H superlattices, glow-discharge deposition 7−7879
a-Si:H/a-SiC:H heterojunction, valence-band discontinuity, photocurrent-voltage measurements 7−58868
a-Si:H/a-SiN_x:H heterostructures, interface formation and microstructural evolution 7−2389
a-Si:H/a-SiN_x:H multilayer films, coplanar conductance, voltage-induced anomalies study 7−2729
a-Si:H/a-SiN_x:H superlattices, interface struct., optical reflectance determ. 7−12497
a-Si:H/a-SiN_x:H superlattices, interface defects and disorder 7−52306
a-Si:H/*a*-SiN_x:H superlattice interface struct. charactn. 7−58652
a-Si:H/a-SiO_2:H superlattice micropores, pyrene molecules adsorption and confinement 7−27112
a-Si:H/a-$SiO(N)_x$:H multilayer films, interface electroabsorpt. meas. 7−2689
Si:H-$Si_{1-x}C_x$:H amorphous super struct., hot electron generation 7−52794
a-Si:H-SiN_x:H layered structures, effect of a-SiN_x:H composition on band bending near interface 7−45510
Si:P(As)/SiO_2 interface, oxidation rates and oxide props., dopant effects determ. 7−12514
Si/Si_3N_4 interfaces, phase separated structures, Ar^+ ion bombardment effects, ZPS studies 7−22439
Si/SiO_2, ion implantation-induced interface states generation and charge trapping study 7−12874
Si/SiO_2, two-step oxidation of thin gate oxides, trapping characts., hot electron effect study 7−64351
Si/SiO_2 interface, digital control of avalanche injection method for studying carrier transport 7−64350
Si/SiO_2 interface, oxide trap capture cross section and tunnelling emission, DLTS study 7−12875
Si/SiO_2 interface band discontinuities, Cs and H intralayer effects obs. 7−22020
Si/SiO_2 interface struct., suboxide states, localisation and crystallographic depend., XPS study 7−58653
Si/SiO_2 system, dielec., elec. and struct. props. 7−7040
Si/SiO_2 system, two-step oxidation and interface structs. 7−3542
n-Si/SiO_2/Al struct., inductive admittance meas. 7−17108
Si/SiO_2/$TiSi_x$(WSi_x) MOS capacitors, radiation-induced interface traps 7−58897
Si-Al-O-N Syalon, bonding investig., active Ti additive role, fracture strength and microstruct. 7−39846
Si-Ar:Hg^+, ion implant range distributions, Rutherford backscatt. studies 7−2073
Si-based structural ceramics, high-temp oxidation 7−39681
Si-C-O system, predominance diagrams, thermodynamics of Si and SiC prep. 7−22645
Si-C-W hot shells for thermionic energy converters, CVD deposition 7−27914
Si-N-H glow-discharge films, elec. and optical props., comp. depend. 7−58933
Si-O, film electrophysical parameters, laser oxidation of Si 7−17741
Si-O amorphous films, structure and defects 7−58700
Si-on-fused-SiO_2, cryst. quality improvement by zone melting recrystn. *(Japanese)* 7−33553

silicon compounds continued
Si-Si_3N_4, insulator growth by rapid thermal processing 7−22921
Si-Si_3N_4, nitridation of Si (100) by RF plasma, XPS study 7−33515
Si-Si_3N_4, SOI, N^+ implanted, microstructural characterisation 7−52300
Si-Si_3N_4, SOI structs. formed by N^+ implantation EPR of defects 7−33273
Si-Si_3N_4 and Si-Si_3N_4-SiO_2 SOI structures, laser recrystallisation, effects of different capping layers, characterisation 7−45511
Si-Si_3N_4 buried nitride SOI structs., N^+ ion implantation, elec. and physical props. 7−33100
Si-Si_3N_4 SOI structs., formation by N^+ implantation 7−32532
Si-SiC superlattice structs. prep. by photo-CVD, solar cell appl. 7−54326
Si-SiN_xO_y, insulator growth by rapid thermal processing 7−22921
Si-SiO_2, buried layer SOI structs., elevated temp. high dose O^+ implantation, effect of annealing 7−32530
Si-SiO_2, buried oxide formation by O^+ implantation, donor creation, enhanced conductivity 7−32529
Si-SiO_2, buried oxide SOI struct., effects of annealing temp. on characts. 7−33099
Si-SiO_2, buried SiO_2 formation, high dose O^+ implantation at room and liquid N_2 temp. 7−32528
Si-SiO_2, E′ centre in thermally grown SiO_2, bias depend. annealing 7−45503
Si-SiO_2, insulator growth by rapid thermal processing 7−22921
Si-SiO_2, interface props., ellipsometry *(Russian)* 7−17293
Si-SiO_2, interface trap annealing, rapid thermal processing 7−22027
Si-SiO_2, MBE SOI formation, Auger study 7−32876
Si-SiO_2, MIS struct., temp. stress influence *(Slovak)* 7−7389
Si-SiO_2, new donors effect, interface effect due to internal oxidation 7−33093
Si-SiO_2, oxide breakdown, high field and current stress, thickness depend. 7−59144
Si-SiO_2, SIMOX wafers, epitaxial growth 7−32878
Si-SiO_2, SOI structs. formed by O^+ implantation, EPR of defects 7−33272
Si-SiO_2 (111) interface, dangling bonds, dipolar interactions investig. 7−17107
Si-SiO_2 in MOS structs., charge phenomena in thermal films with avalanche injection 7−2727
Si-SiO_2 interface, AES depth profiling during sample rotation 7−27829
Si-SiO_2 interface, chem. transition, density of states calcs. 7−7397
Si-SiO_2 interface, computer simulation of high-resolution TEM images 7−44318
Si-SiO_2 interface, ESR signal from P_{b0} centres, anisotropic props. 7−38940
Si-SiO_2 interface, electrically active defects 7−33102
Si-SiO_2 interface, microchemistry 7−32850
Si-SiO_2 interface, positive charge generation; rel. to high field electron transport in SiO_2 7−38571
Si-SiO_2 interface, struct. models 7−58658
Si-SiO_2 interface, study using variable energy positron beam 7−38063
Si-SiO_2 interface properties in the 10^{17}-10^{19} cm^{-3} doping range 7−38762
Si-SiO_2 interface relief study using scanning tunnelling microscopy 7−63978
Si-SiO_2 interface roughness, evolution, characterisation 7−32852
Si-SiO_2 interface state density effect on elec. props. of Pt-diffused MOS struct. *(Japanese)* 7−7404
Si-SiO_2 interface struct., ellipsometric charactn., rel. to elec. props. 7−63985
Si-SiO_2 interfaces, microstruct. and electronic props. 7−38359
Si-SiO_2 MOS capacitors, defect struct. and interface state generation 7−7399
Si-SiO_2 SOI struct. formed by high dose ion implantation, high resolution TEM study 7−59690
Si-SiO_2 SOI structure, lateral solid phase epitaxial growth, TEM study 7−38369
Si-SiO_2 SOI structures using buried layers of oxidised porous Si 7−13660
Si-SiO_2 struct., interfacial charged centres, low temp. RF plasma treatment 7−2661
Si-SiO_2 structs., low and high temp. oxidised, inversion electron mobility study 7−22019
Si-SiO_2 system, H_2 diffusion 7−21531
Si-SiO_2 system, interface state generation by nonionizing UV radiation 7−38760
Si-SiO_2:S, effect of S on the oxide charge 7−7024
Si-$SiO_{2-x}N_{2-x}N_{2x/3}$-Al structures, interface states, DLTS study 7−45513
Si-SiO_2-Ag(Cu)(Au)(Pd)(Ti) MOS structures, diffusion coeff. meas. in elec. fields, solid solubilities 7−2279
Si-SiO_2-Cu(Ni), light induced deposition of metal films on SOI substrates 7−46354
Si-SiO_2-InSb hybrid struct. spectral characts. and detection props. 7−38712
Si-SiO_2-Si layered struct., dose calcs. for X-ray and X-ray irrad. 7−58333
Si-SiO_2-SiO_xN_y-metal system, plasma oxynitride effect on interface charge 7−38761
Si-SiO_x interface density of localised states, C-V and G-V characts. meas. 7−38734
Si-Te-As-Ge chalcogenide glass film, electronic processes in strong elec. field 7−45524
a-Si_{1-x} C_x:H films prepared by plasma CVD method, props. *(Japanese)* 7−12543
Si_3 N_4 insulating thin film deposition, remote plasma enhanced low temp. CVD process 7−13389
SiAlON composites, interfacial microstruct. 7−16429
SiAlON-YAG ceramics, Auger electron microscopic quantification of phase comp. 7−22951
SiC, 27R and 33R polytypes, struct. identification by Raman scatt. 7−59205
SiC, 3C and 2H polytypes, energy differences between structurally different crystals 7−7144
SiC, 6H polytype, defect lumin., due to excess C vacancies 7−53391
α-SiC, 6H polytype, Kikuchi map 7−58225
SiC, 6H single crysts., dislocation glide induced plasticity *(Japanese)* 7−21215
SiC (0001) and $(000\bar{1})$ surface segregation, electron spectroscopy 7−21459
SiC (0001) and $(000\bar{1})$ surfaces, oxidation kinetics 7−33854
SiC (0001) surface, slip lines, AES studies 7−44559
SiC (4H) p-n junction, ion implanted, S-type I-V characteristic 7−64320

silicon compounds continued
SiC, CVD, microstruct. around indentation, TEM obs. *(Japanese)* 7−22822
SiC CVD coatings, production at medium deposition temperatures *(German)* 7−27915
β-SiC CVD film growth and props., gas phase comp. depend. simulation and meas. 7−22516
SiC ceramic optical waveguide for CO_2 lasers *(Japanese)* 7−6001
SiC ceramics, engineering, rel. between Rockwell hardness and Vickers hardness *(Japanese)* 7−65140
SiC ceramics, friction and wear measured by a pin-on-disk method *(Japanese)* 7−22850
SiC ceramics, hot pressed, grinding, surface damage, bending strength *(Japanese)* 7−17602
SiC ceramics, joining with Si_3N_4-Y_2O_3-La_2O_3-MgO mixture *(Japanese)* 7−65280
SiC ceramics, reactivity with various additives, uses as effective sintering aids 7−46383
SiC corroded, scanning Auger microscopy study 7−13617
SiC, corrosion pitting by molten salts 7−59695
SiC, covalent cryst., electronic struct., cluster approx. 7−52403
β-SiC crystals, free carrier conc., Raman scattering 7−59197
SiC, cubic, ab initio calc. of ground state props. 7−6751
SiC, cubic, electrically active centres 7−12736
SiC, cubic, epitaxial films, compensation 7−7268
SiC, cubic (3C) polytype, thermal expansion 7−21493
SiC, deformed, microstructural changes, creep mechanisms 7−46591
β-SiC dendrites, CVD, propag. mechanism 7−38423
SiC, engineering ceramics, tensile strength *(Japanese)* 7−53800
3C-SiC, epitaxial growth on Si by low press. CVD 7−3188
β-SiC epitaxial layers, cubic cryst. struct., electron diffr. and microscopy studies 7−27199
SiC, epitaxial layers from soln. in melt 7−22597
β-SiC, epitaxially grown, antiphase boundaries 7−46722
SiC fibre composites, structural EXAFS study 7−64762
SiC fibre reinforced Al, corrosion protection to NaCl soln. exposure 7−3488
SiC fibre reinforced Al alloys, whisker or particulate hybrids, mech. props. 7−13537
SiC fibre reinforced Al, fatigue crack propag., effect of aq. environments 7−17624
SiC fibre reinforced Al alloy matrix composites, fabrication process 7−46377
SiC fibre reinforced Al composite wires, neutron irrad., mech. props., fusion reactor appl. 7−49628
SiC fibre reinforced Al-Mg, thermal residual stress 7−63848
SiC fibre reinforced Li_2O-Al_2O_3-SiO_2 glass ceramics, tensile and flexural strength 7−13520
SiC fibre reinforced Li_2O-Al_2O_3-SiO_2 glass ceramic composite, thermomech. mismatch 7−46538
SiC fibre reinforced metal matrix composites, liq. metal infiltration prep., wetting 7−46372
SiC fibre reinforced SiC, high heat flux, low activation struct. materials 7−49635
β-SiC fibres, chem. and phys. props. *(Russian)* 7−46284
SiC fibres, continuous, synthesis from polycarbosilane 7−22616
SiC fibres, neutron irrad., mech. props., fusion reactor appl. 7−53794
SiC fibres, prep. from polycarbosilane, heat treatment, Raman study 7−65062
SiC fibres, stability, thermomechanical analysis 7−33627
SiC fibres, strength distrib., multi-model Weibull distrib. 7−28081
SiC film, laser deposition for solar cell use 7−53634
a-SiC films, glow discharge deposition from tetramethyldisilane 7−64919
a-SiC films, photo-assisted CVD and opto-electronic characterisation 7−33595
a-SiC films, photochemical vapour deposition, review 7−46345
β- SiC films on substrates, CVD, X-ray topography 7−63998
SiC form. in Si by ion beam synthesis, RBS, SIMS and cross-sectional TEM studies 7−26779
SiC, fusion reactor first wall, thermal shock behavior 7−25189
SiC, fusion reactor first walls, ion debris and X-ray energy deposition and response 7−49639
SiC, grinding, crack branching, crushing mechanism 7−3472
SiC, growth, struct., and elec. props. 7−52354
SiC, high-press. self-combustion sintering from fine mixed powders of Si and C *(Japanese)* 7−3249
SiC, hot pressed, IR optical absorpt. and refl. 7−59167
SiC, hot-pressed, friction and wear 7−59642
SiC, instrumented impact testing, absorbed energy 7−28237
SiC, internal voids, detection by microfocus X-radiography 7−59736
SiC, LPE growth by temp. gradient zone melting. solubilities 7−64934
SiC, LPE growth by temp. gradient zone melting, Tb-Si solvent 7−64935
3C-SiC, MBE growth on Si substrates using multielectron beam heating 7−17425
SiC mirrors, soft X-ray reflection 7−41553
SiC, mixing of metal overlayers, ion beam irrad., rapid thermal annealing, pulsed laser irrad. 7−58330
β-SiC monocryst. thin films, ion implantation and annealing, amorphisation and recrystn. processes study 7−16596
3C-SiC, n- and p-type epitaxial CVD layers, elec. props. temp. depend. studies 7−58917
6H-SiC neutron-radiated crysts., green luminesc., electron-vibrational interaction study *(Russian)* 7−59255
SiC, paramag. muonium centres, hyperfine freqs. 7−52503
SiC particle reinforced Al-Cu-Mg composite, failure mechanism, SEM obs. 7−65132
SiC particles and whiskers, charactn. by Raman spectroscopy 7−21790
β-SiC, plasma etching 7−65223
SiC, polycryst., oxidation 7−28159
α-SiC polycrysts., pulsed laser annealing and ion beam mixing surface modification studies 7−16657
SiC polytype heteroepitaxial growth, and identification by Raman scatt. study 7−63992
SiC polytypes, lattice imaging studies on struct. and disorder 7−37933
SiC, polytypism, confirmation of ANNNI-like model 7−63540
6H-SiC, positron and positronium states, neutron irradiation effects 7−45232
SiC powder, dynamic compaction 7−39452
β-SiC powder, sintering, phase transform. rel. to additives *(Japanese)* 7−17527

silicon compounds continued
SiC powder compacts, formed by cold isostatic pressing, influence of shape and size on homogeneity *(Japanese)* 7—64981
SiC powders, prep. by CVD method using RF-plasma *(Japanese)* 7—3250
SiC powders, surface charactn. and treatment 7—2306
SiC refractory materials, passive oxidation 7—13612
SiC short fibred filamentary crystals., phase comp. and morphology 7—65010
SiC single cryst., electron channelling patterns, lack of centrosymm. effects obs. and calcs. 7—51901
n-SiC single cryst., polar faces, reactive ion-plasma etching studies 7—33858
βSiC single cryst., wet and dry oxidation kinetics and interface characts. 7—13674
α-SiC, single cryst. growth using furnace with NbC heaters 7—27881
SiC, single crysts. and polycrysts., oxidation kinetics in dry O_2 7—39683
SiC, single-particle excitations, dynamic correl. corrections, local density theory 7—45115
SiC, sintered, fracture after Li exposure 7—28103
α-SiC, sintered, hot corrosion by molten salts, strength degradation mechanism 7—33813
SiC, sintered, microstruct. and props., influence of fabrication method *(Japanese)* 7—22622
α-SiC, sintered, non-equilib. surface conditions and microstruct. changes following pulsed laser irrad. and ion beam mixing of Ni overlayers 7—65170
α-SiC, sintered, occurrence and distrib. of B-containing phases 7—39466
SiC, sintering phenomena 7—17504
SiC, sliding and abrasive wear mechanisms, comparison 7—3463
α-SiC, static fatigue limit at elevated temps., thermodynamics 7—17629
SiC, static-fatigue limit of materials containing small flaws 7—39620
SiC, stress intensity factor meas. using notched and surface flaw specimens 7—65251
SiC, structural EXAFS study 7—64762
SiC, submicron grains, far-IR extinction meas. and props., astrophysical appl. 7—47699
α-SiC, thermal expansion of hexagonal polytype, 20-1000°C 7—52089
β-SiC thin films, CVD epitaxial growth on 6H α-SiC substrates 7—22502
β-SiC thin films, TEM obs. of process induced defects 7—58696
SiC transport kinetics during epitaxial layer growth 7—45048
β-SiC, ultrafine powder synthesis in thermal arc plasmas 7—27916
SiC, wear mechanism in dry rolling friction 7—59643
SiC, wear resist., comparative study of hard materials 7—3457
α-SiC, wedgelike sample, self-diffraction, 2D character 7—5858
SiC, wettability by Al and Al-Si 7—58569
SiC whisker or particle reinforced Al composites, deform. thermal expansion, strengthening mechanisms 7—3373
SiC whisker reinforced Si_3N_4, microstruct. and props. 7—22824
SiC whisker reinforced Si_3N_4 ceramics, fracture toughness *(Japanese)* 7—28138
SiC whisker reinforced Al matrix composites, interaction, with eutectic brazing alloys 7—46689
SiC whisker reinforced Al alloy, fabrication and props. 7—53680
SiC whisker reinforced Al, flame spraying fabrication and forging, whisker distrib. and strengths 7—59483
SiC whisker reinforced Al alloy, powder metallurgy, corrosion susceptibility, influence of metallurgical variables 7—65152
B-SiC whiskers, stacking faults *(Japanese)* 7—21235
SiC whiskers, tensile fracture rel. to defects 7—58722
α-SiC:Al,B,O crysts., photolum. and electrolum. studies *(Russian)* 7—22344
β-SiC:Al^+(P^+) epitaxial films, ion implanted, rapid thermal annealing 7—16905
SiC:B^+(Al^+), stoichiometric disturbances due to ion implantation 7—6651
β-SiC:B(N) films, ion implanted, rapid thermal annealing 7—17569
SiC:H, amorphous CVD film, electron optical characterisation 7—52372
a-SiC:H, elec., optical and local structure props. 7—45089
a-SiC:H, RF sputtered, dangling bond electron spin-lattice relaxation 7—22141
a-SiC:H,B, effective p^+ doping by plasma-assisted B diffusion 7—38036
a-SiC:H,B, thin films, thermoelectric power 7—58826
SiC:H,F amorphous films, struct., elec. and optical props. 7—22360
SiC:H (F), amorphous, electronic and structural props. 7—17054
SiC:H amorphous films, glow discharge deposited, photoconductivity, microstructure effects 7—58831
a-SiC:H film prepared by magnetron sputtering, elec. and optical props. *(Japanese)* 7—12887
a-SiC:H films, CVD, electrical and optical props. 7—33596
a-SiC:H glow discharge films, IR vibr. spectra 7—53434
a-SiC:H glow-discharge plasma deposition, photosensitivity, prep. conditions depend. 7—46338
a-SiC:H thin films, glow discharge deposition, energy gap and activation energy 7—46352
a-SiC:H/a-Si:H double-barrier structs., resonant tunnelling coeffs. 7—45467
a-SiC:H/a-Si:H/n^+-a-Si:H heterostruct., electrophotographic props. 7—45485
SiC:H-Si:H heterojunction, amorphous solar cell anal. *(Chinese)* 7—34029
a-SiC:H—a-Si:H, solar cell, fabricated by plasma deposition *(Korean)* 7—33585
a-SiC:H(B), thin film, solar cells fabricated by plasma deposition *(Korean)* 7—33585
21R-SiC:N, shallow donor bound electronic transitions, light scatt. study 7—38494
α-SiC:N, single carrier SCL flow, computer calcs. 7—21925
6H-SiC:P; impurity paramagnetic and elec. props. study 7—53130
SiC:P(N)(B)(Al) thin films, impurity 7—27192
SiC:Si, reaction bonded composite, mech. props. and microstruct. anisotropy 7—65146
SiC:Si reaction bonded composite ceramics, interface struct., grain boundaries 7—64995
SiC:Tc, N, 6H polytype, ESR of $(TiN)^0$ impurity pairs 7—2926
a-SiC-a-Si:H stable heterojunction solar cell 7—23178
SiC-Al composites, heat treatment and neutron irrad. effects on mech. props. 7—65081
SiC-AlN ceramics, elevated temp. creep, role of grain size 7—39584
SiC-B_4C, eutectic composites, microstruct. and mech. props. 7—64991
SiC-based ceramics, sintered and hot isostatically pressed, microanalytical investigation 7—27991
SiC-based materials, high-temp. oxidation 7—65161

silicon compounds continued
SiC-C alloy coated graphite as armour tiles, post-exposure anal. after high heat loadings 7—49632
SiC-Si, interface struct. study 7—45021
SiC-Si3N_4 fibres, prep. by polycarbosilazane precursors pyrolysis 7—27988
SiC-TiN-W composite hot shell for combustion heated thermionic energy converter 7—65509
SiC_2, protonated isomers, struct. and proton affinity, ab initio HF MO calcs. 7—25384
a-$Si_{1-x}C_x$:H films, glow discharge deposition, optical emission spectroscopic diagnostics 7—39412
a-$Si_{1-x}C_x$:H/a-Si:H solar cells, light trapping on SnO_2:F 7—46952
a-$Si_{1-x}C_x$ films, RF spattered, IR absorpt., X-ray diffr., RHEED *(Japanese)* 7—53584
$Si_{1-x}C_x$ thin films, glow discharge deposition and struct. props. 7—64932
a-$Si_{1-x}C_x$:H, B(P) films, valence band localised holes, light-induced ESR spectra studies 7—53110
a-$Si_{1-x}C_x$:H, Si-Kβ spectra, soft X-ray emission spectra *(Japanese)* 7—13268
a-$Si_{1-x}C_x$:H, valence band, UPS studies *(Chinese)* 7—38443
a-$Si_{1-x}C_x$:H,B(P) thin films, H bonding and H content, IR spectra studies *(Chinese)* 7—12524
$Si_{1-x}C_x$:H films, amorphous, bond lengths, comp. depend., EXAFS study 7—64757
a-$Si_{1-x}C_x$:H thin films, struct. investig., electron diffr. studies 7—2430
Si_xC_{1-x} semiconductor alloys, ordering and decomposition 7—6574
Si_xC_{1-x}:H, amorphous, local atomic arrangement, EELS and electron diffraction 7—44378
a-Si_xC_{1-x}:H films, adsorbates influence on conductance, surface state 7—33115
β-SiC(:N) single crystals, CVD grown, elec. props., temp. dependence 7—2740
SiC(100), cubic, grown on Si(100) by CVD, surface morphology 7—46339
SiC(6H) single crystals, plastically deformed, dislocation glide motion 7—63624
SiCl, internal energy distrib., in laser sputtered molecules 7—31097
SiCl, spectral and struct. props., MO calcs. 7—25418
$SiCl_2$ radical, laser-induced fluoresc. investig. 7—31090
$SiCl_2$, UV emission spectrum, vibr. anal. 7—31024
$SiCl_4$ + X^+(X=He,Ne,Ar,H), optical emission spectra rel. to PCVD 7—26531
$SiCl_4$, liq. struct., X-ray diffr. obs. *(German)* 7—58118
$SiCl_4$, liq. struct., X-ray diffr. investig. *(German)* 7—58119
$SiCl_4$, liquid, phase conjugation of microsecond pulses in stimulated Brillouin scatt. of focused beams 7—57467
$SiCl_4$, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7—31145
$SiCl_4$, reactant in RF plasma CVD reactor, flow, temp., conc. fields, num. simulation 7—26501
$SiCl_4$, resons. in X-ray photoabsorption spectra 7—15621
$SiCl_4$-$TiCl_4$, liq. mixtures, neutron diffr., RISM anal. 7—44342
$Si^{35}Cl_2H$, mm wave rot. spectra, centrifugal distortion const. and harmonic force field anal. 7—25496
$SiCl_3H$, quadrupole coupling, rot. microwave obs. 7—62356
SiF chemical laser, feasibility 7—15853
SiF, core-excited Rydberg state, SCF calcs. 7—851
SiF, diatomic molecule sputtering, independent binary collision approx. 7—59350
SiF, spin-orbit coupling consts. calc. using restricted HF wavefunctions 7—56949
SiF_4 + X^+ (X=He,Ne,Ar,H), optical emission spectra rel. to PCVD 7—26531
SiF_4, CO_2 laser irradiation, IT multiphoton absorpt. spectra 7—62474
SiF_4, dimer dissoc., dimer conc., isotope effect, model and bolometer IR spectra anal. 7—19977
SiF_4, double reson. meas., ground state rot. transitions 7—25577
SiF_4, electric-field gradients, NMR shielding tensors, NQR coupling consts. ab initio HF calcs. 7—19693
SiF_4, electron impact dissociative ionis., cross section estimation 7—20066
SiF_4, force fields, ab initio MO calcs. 7—25375
SiF_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7—62476
SiF_4 in Ar soln., IR absorpt. spectra 7—25522
SiF_4, photoexcitation, photoabsorpt. and fluoresc. cross section meas. 7—50224
SiF_4 resons. in X-ray photoabsorption spectra 7—15621
SiF_4, saturation spectrum at P(30) line of 9.4 μm band of CO_2 laser 7—50134
SiF_4, stretching vibr. overtone and combination states, multiphoton processes 7—25488
SiF_4-O_2, microwave discharges, mass spectrometric study 7—32169
a-SiGe:D,F, plasma deposited, deuteron magnetic resonance 7—27626
α-SiGeH, electronic and transport props., coherent potential approx. 7—27241
α-SiH, electronic and transport props., coherent potential approx. 7—27241
SiH, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7—19713
SiH_2, $^1A_1$, $^1B_1$ and $^3B_1$ states equilib. and stretched SiH bonds SCF CI calcs. 7—49944
SiH_2, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7—19713
SiH_2, intracavity laser absorpt. spectra. 7—15616
SiH_2 radicals, singlet-triplet energy separation, SCF CI calcs. 7—19718
SiH_3, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7—19713
SiH_3 radical in Xe matrix, EPR line shape 7—10632
SiH_4, 2p threshold, reson. relax. processes, XPS 7—42684
SiH_4, CO_2 laser irradiation, IT multiphoton absorpt. spectra 7—62474
SiH_4, collisionally-assisted multiphoton dissoc. reaction mechanisms 7—65338
SiH_4, core-excited state, Auger decay 7—42689
SiH_4, dimer dissoc., dimer conc., isotope effect, model and bolometer IR spectra anal. 7—19977
SiH_4, electron impact cross sections, spherical-complex-optical pot., ab initio HF calcs. 7—49904
SiH_4 for plasma CVD of Si:H thin films, deposition kinetics *(Japanese)* 7—17450

silicon compounds continued
- SiH_4, geometric structs., force consts. and vibr. spectra, SCF CI calcs. 7−19713
- SiH_4 glow discharge, ion-molecule reactions and amorphous Si deposition 7−65325
- SiH_4, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7−62476
- SiH_4, ionisation and attachment coeffs. meas. 7−1667
- SiH_4, LPCVD of Si films in vertical flow reactor 7−22563
- SiH_4 mixture low pressure processing plasmas, spectroscopic diagnostics and kinetics 7−37762
- SiH_4, mol. orbitals dynamic polarisation in Auger emission 7−5724
- SiH_4, mol. vibr., rot. energy level struct. calcs. 7−50061
- SiH_4, ν_2 and ν_4 bands, interacting E and F_2 fundamentals, reduced Hamiltonian and invariant parameters 7−25486
- SiH_4, photolytic or pyrolytic dissoc. under laser irrad., Si film deposition 7−13388
- SiH_4, pyrolysis on hydrogenated a-Si surface, reaction mechanism and kinetics 7−13739
- SiH_4 pyrolysis rates, modelling of CVD 7−64911
- SiH_4, RF discharge, electron props., Monte Carlo simulation 7−21036
- SiH_4, radical emission cross sections for plasma diagnostics *(Japanese)* 7−20934
- SiH_4, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7−19880
- SiH_4, Si_2H_6 and SiH_2Cl_2 plasmas, optical emission spectroscopy, mass spectrometry and laser-induced fluorescence 7−37764
- SiH_4^+, Jahn-Teller, struct. and energy distortions ab initio CI calcs., HF calcs. 7−15523
- SiH_4/Si_2H_6 RF discharges, radical fluxes, plasma enhanced CVD 7−26580
- SiH_4-Ar plasma, particle number densities, masses and size distrib. meas. 7−37761
- SiH_4-Ar-H_2 plasma, Si deposition 7−23011
- SiH_4-Ar-N_2, gas mixture, DC discharge plasma creation, spectroscopic meas. 7−20946
- SiH_4-N_2O, deposition of polycrystalline Si:O and SiO_2 7−17447
- SiH_4-NO, IR multiple photon absorpt. and dissoc., electronic excited fragments, luminesc. and reactivity 7−62476
- SiH_4+Ar, energy transfer, simulation 7−15690
- SiH_4+e^+, optical pot. approach 7−30933
- SiH_4+HSiCl, insertion reaction rate const. meas., laser-excited fluoresc. detect. 7−46813
- SiH_4+Hg, SiH_4 decomposition by $Hg(6^3P_1)$ photosensitisation 7−54149
- $SiH_4+Si_2H_6+Ar+H_2$, plasma enhanced CVD of a-Si:H, integrated model 7−39423
- SiH_n, (n=1 to 4), photoion yield and thresholds, photoionisation mass spectra study 7−50242
- Si_2H_4, specific heat extremum behaviour, 2-state isomerism model 7−16058
- Si_2H_4, struct. and stability, ab initio calcs., heat of form. 7−10441
- Si_2H_6 generation device for amorphous Si deposition system 7−22501
- Si_2H_6, ionisation and attachment coeffs. meas. 7−1667
- Si_2H_6, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7−19880
- Si_3H_8, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7−19880
- SiH_2Cl_2+HSiCl, insertion reaction rate const. meas., laser-excited fluoresc. detect. 7−46813
- $SiH_3(D_3)$, ions and radicals, pot. energy curves and electron affinities determ., photoelectron spectra anal. 7−25603
- $SiH_4(D_4)$, gas, electron swarm characteristic energies 7−63388
- $SiH_3D(SiD_3H)$, bending mode triad, anal. model, IR spectra 7−19822
- SiH_aF_b (a+b=4), NMR shielding consts., ab initio coupled HF calcs. 7−42646
- $SiH_4(F_4)(Cl_4)$, X-ray photoabsorption spectra, inner shell resonances 7−62402
- $(SiH_3)_2O$ mol. struct., hydrolysis of Si−O bonds, density functional anal. 7−62272
- Si_2H_6O, polarisation functions, ab initio MO calcs. 7−62263
- SiH_3OH, mol. struct., density functional anal. 7−62272
- SiN film CVD coatings, Al void form. suppression in MOS struct. 7−7406
- SiN films, Auger line, influence of Ar^+ ion bombardment 7−39339
- SiN films, H-free, ion beam sputter deposition 7−13353
- SiN films, plasma CVD deposition and props. *(Japanese)* 7−13381
- SiN, microwave plasma deposition, fabrication and characterisation 7−39421
- a-SiN:H, electrical behaviour 7−2627
- a-SiN:H films, optical absorption const. evaluation by photothermal deflection spectroscopy 7−22361
- a-SiN_x amorphous glow discharge films, gap state distrib., photocurrent phase shift anal. 7−7421
- SiN_x films, phase separated structures, Ar^+ ion bombardment effects, ZPS studies 7−22439
- SiN_x:H,B, microcrystalline, wide-gap, RF glow discharge deposition 7−22503
- SiN_x:H,B microcrystalline films, B doping 7−44586
- a-SiN_x:H CVD film, IR and ^{29}Si NMR studies 7−38952
- a-SiN_x:H dielectric films with low defect density 7−39036
- SiN_x:H films, amorphous, glow discharge deposited, IR absorpt. and Raman scatt. spectra 7−46003
- SiN_x:H films, amorphous, bond lengths, comp. depend., EXAFS study 7−64757
- a-SiN_x:H plasma-enhanced CVD film props. rel. to SiH_4-N_2 gas vol. ratio, RF power and substrate temp. *(Korean)* 7−3201
- a-SiN_x:H/a-Si:H double-barrier structs., resonant tunnelling coeffs. 7−45467
- a-SiN_x:H/a-Si:H interface system, struct. and electronic props. 7−38361
- a-SiN_x:H/a-Si:H interface, deep states and photoluminescence spectra 7−39186
- a-SiN_x:H/a-Si:H superlattice films, prep., struct., and optical props. *(Chinese)* 7−58676
- a-SiN_x:H-Si:H, multilayer struct. study using HREM 7−16879
- SiN_x/Si:H interface, slow states, transient photocond. studies 7−38670
- SiN_x-Si:H amorphous multilayer films, charge transfer doping, cond., photocond. meas. 7−38735
- a-$Si_{1-x}N_x$ films, plasma CVD deposited, as antireflective coatings for solar cells *(Japanese)* 7−23141
- a-$Si_{1-x}N_x$:H,B films, ESR and IR spectra studies 7−7780
- a-$Si_{1-x}N_x$:H films, H_2 evolution 7−17445
- Si_3N_4, amorphous, optical dispersion relations, determ. 7−33353
- Si_3N_4, amorphous, pulsed laser excited photolum. intensity and decay meas. 7−17344

silicon compounds continued
- Si_3N_4, amorphous hopping cond. in high elec. and mag. fields 7−64257
- Si_3N_4 amorphous insulator thin films, defect-enhanced UV etching damage studies 7−26797
- Si_3N_4 antireflection coating, sputter deposition and optical props., laser appls. 7−59421
- Si_3N_4 based composites, design and wear resist. 7−3459
- Si_3N_4 based powder materials with SiC component, comp. effect on mech. props. 7−27998
- Si_3N_4, bending fatigue, room temp. *(Japanese)* 7−13597
- Si_3N_4 CVD film, prep. and props. 7−46337
- Si_3N_4, CVD from Si_2Cl_6-NH_3-H_2 gas mixture 7−22560
- Si_3N_4 CVD layers, etch rate modification by ion bombard. and annealing 7−28217
- Si_3N_4, CVD on Si surface, RIE 7−59691
- Si_3N_4 ceramic, bonding to stainless steel, using Cr and Mn prediffusion *(Japanese)* 7−8147
- Si_3N_4 ceramics, engineering, rel. between Rockwell hardness and Vickers hardness *(Japanese)* 7−65140
- Si_3N_4 ceramics, friction and wear measured by a pin-on-disk method *(Japanese)* 7−22850
- Si_3N_4 ceramics, hot pressed, fatigue test with Knoop indentation, residual stress effects *(Japanese)* 7−17640
- Si_3N_4 ceramics, joining with glass solder in CuO-SiO_2-TiO_2 system 7−22974
- Si_3N_4, crack propagation by double-torsion method *(Japanese)* 7−59614
- Si_3N_4, deposition in $SiCl_4$-H_2-O_2-N_2 system, dimensional effects 7−64910
- Si_3N_4 dielectric in inversion layer solar cells 7−3680
- Si_3N_4, engineering ceramics, prep., fabrication, appls. 7−53683
- Si_3N_4, engineering ceramics, tensile strength *(Japanese)* 7−53800
- Si_3N_4 film CVD, glow-discharge electron beams appl. *(Czech)* 7−56373
- Si_3N_4 film formation on InSb, plasmachemical methods 7−33584
- Si_3N_4 film synthesis by ion-assisted deposition, antireflection coating use 7−37213
- Si_3N_4 films, excimer laser-induced CVD 7−59441
- Si_3N_4, films, IR charactn., optical dispersion induced freq. shifts 7−27709
- Si_3N_4 films, optical props., multilayer interference systems 7−13248
- Si_3N_4 films, photo-ionisation assisted photo-CVD 7−17442
- Si_3N_4 films, plasma deposited, bonds and defects 7−17437
- Si_3N_4 films, plasma-enhanced CVD deposition from $SiH_4/NH_3/N_2$ mixtures 7−39414
- Si_3N_4 films in MIS structs., cond. characts. 7−38793
- Si_3N_4 films on GaAs:Te, annealing-encapsulation props. investigated by nuclear analysis techniques 7−8030
- Si_3N_4 films prep. by ECR plasma CVD, phys. and elec. props. 7−58716
- Si_3N_4 films prep. by plasma anodisation, XPS depth profiling 7−58667
- Si_3N_4 fine particles, aggregate struct. and compacting process *(Japanese)* 7−46393
- Si_3N_4 form. in Si by ion beam synthesis, RBS, SIMS and cross-sectional TEM studies 7−26779
- Si_3N_4, formation by N^+ implantation into Si (100), dose and dose rate 7−32533
- Si_3N_4, fracture toughness measured with short-bar chevron-notched specimens 7−59599
- Si_3N_4, fracture toughness evaluation using chevron-notched specimens *(Japanese)* 7−59613
- Si_3N_4, fretting wear in seawater 7−8124
- Si_3N_4, gas press. sintering, fracture toughness, fibre like struct., additions effect 7−13414
- Si_3N_4, grain boundary phases, EM anal. 7−16569
- Si_3N_4, grinding, crack branching, crushing mechanism 7−3472
- Si_3N_4, high temp. internal friction, rel. to grain boundary diffusion 7−63743
- Si_3N_4, hot isostatic pressing with $BeAl_2O_4$ addition *(Japanese)* 7−27994
- Si_3N_4, hot pressed, elec. cond., microstruct., fusion reactor insulator appl. 7−52619
- Si_3N_4, hot-pressed, friction and wear at 150 to 800°C 7−28142
- Si_3N_4, hot-pressed, friction and wear 7−59642
- Si_3N_4, hot-pressed, tensile strength at room and elevated temp. *(Japanese)* 7−65139
- Si_3N_4, internal voids, detection by microfocus X-radiography 7−59736
- Si_3N_4 LPCVD films, bombardment induced H redistrib. 7−38404
- Si_3N_4 LPCVD optical waveguides on Si substrate 7−20414
- Si_3N_4, laser activated CVD, deposition rate, refractive index 7−33591
- Si_3N_4 layers, electrographic effect 7−46675
- Si_3N_4 localised films on Si substate, laser deposition 7−39418
- Si_3N_4, low temperature photo-CVD, characterisation 7−13377
- Si_3N_4 MIS struct., electron transport and heating, vacuum emission studies 7−2723
- Si_3N_4 MNOS struct., CVD, elec. props., effects of deposition variables 7−52843
- Si_3N_4 MNOS structures, degradation, thermoactivational spectroscopic study 7−12872
- Si_3N_4, mixing of metal overlayers, ion beam irrad., rapid thermal annealing, pulsed laser irrad. 7−58330
- Si_3N_4, nanostruct. defects, high-resolution electron microscopy studies 7−12302
- Si_3N_4, nitridation of Si powder compacts in N_2-H_2 gas mixture *(Japanese)* 7−3247
- α-Si_3N_4, planar defect displacement vector determ. by HREM 7−2444
- Si_3N_4, plasma CVD on steel substrate *(Japanese)* 7−27939
- Si_3N_4 powder, physico chem. characts. before sintering *(Japanese)* 7−64980
- Si_3N_4 powders, high press. not pressing, mech. props., thermal cond. temp. depend. 7−3231
- Si_3N_4 powders, surface charactn. and treatment 7−2306
- Si_3N_4, reaction bonded, thermal cond. *(Japanese)* 7−6902
- Si_3N_4, reaction bonded ceramic, combined RHEED and SEM study 7−16432
- Si_3N_4, reaction-bonded, EPR study 7−13028
- Si_3N_4, SOI formation by ion implantation 7−32526
- Si_3N_4, sintered, fatigue strength under rotary bending 7−65128
- Si_3N_4, sintered, microstruct., mech. props., Pr_6O_{11} additive effect 7−17506
- Si_3N_4, sintering, under rotary bending, mirrorlike region of fractured surface *(Japanese)* 7−3436
- Si_3N_4, sliding and abrasive wear mechanisms, comparison 7−3463
- Si_3N_4, static-fatigue limit of materials containing small flaws 7−39620
- Si_3N_4, structural ceramics, flaw-size distrib. 7−22818
- Si_3N_4, surface flaws effect on strength 7−59638

silicon compounds continued
Si_3N_4, surface structure and chemisorption, XPS, AES and direct recoiling studies 7−32790
Si_3N_4 thin films, electronic conduction 7−58932
Si_3N_4 thin films, growth by microwave-excited plasma 7−59458
Si_3N_4 thin films, reactively sputtered, hopping cond., defect states 7−52620
Si_3N_4 thin films in MNOS structs., charge transport in elec. fields 7−12730
Si_3N_4, US flaw detection, appl. to model-defect test pieces *(Japanese)* 7−59730
Si_3N_4, wear mechanism in dry rolling friction 7−59643
Si_3N_4, wear properties in rolling contact 7−8126
α-Si_3N_4 whiskers, microstruct. investig. by TEM *(Japanese)* 7−21789
Si_3N_4, with MgO addition, phys. and tribological props., effect of hot-pressing time *(Japanese)* 7−65150
Si_3N_4, yield at elevated temps. *(Japanese)* 7−3388
Si_3N_4:AlN, grain boundary phases, EM anal. 7−16569
a-Si_3N_4:H films, plasma enhanced CVD, chemical and mech. props. 7−38420
a-Si_3N_4:H films deposited by plasma enhanced CVD, optical and elec. props. 7−39205
a-Si_3N_4:H/a-Si:H superlattices, plasma deposition methods 7−39439
Si_3N_4:Mg_2O_3, deformed, microstructural changes, creep mechanisms 7−46591
Si_3N_4:Y_2O_3, deformed, microstructural changes, creep mechanisms 7−46591
Si_3N_4:$Y_3Al_5O_{12}$, grain boundary phases, EM anal. 7−16569
Si_3N_4/Al/Invar ceramic/metal joints, rel. between tensile and three-point bending strengths 7−39583
Si_3N_4/ferritic stainless steel, joining with soft metal interlayers, tensile strength 7−28266
Si_3N_4/GaAs buried interface, EXAFS studies in total reflection and dispersive modes 7−64765
Si_3N_4/TbFeCo interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7−12513
Si_3N_4-Al_2O_3-Y_2O_3(CeO_2)(La_2O_3) ceramics, sintered, IR and Raman spectra 7−46000
Si_3N_4-AlN-rare earth oxide systems, subsolidus phase relationships 7−39489
Si_3N_4-amorphous Si double barrier structures, reson. tunnelling 7−52848
Si_3N_4-$Ga_{0.47}In_{0.53}As$ interface, elec. charact. 7−38752
Si_3N_4-SiC composite, sintering, Vickers hardness *(Japanese)* 7−8116
Si_3N_4-SiC film, hybrid material prepared by plasma CVD, microhardness and internal stress 7−13616
Si_3N_4-SiC film, hybridisation by plasma CVD 7−13379
Si_3N_4-SiC reaction sintered ceramics, oxidation effect on strength 7−65163
Si_3N_4-SiO_2 double layer dielec. films, X-ray irrad. effects 7−58332
Si_3N_4-SiO_2-Si structs., injector props. 7−38763
Si_3N_4-Ti, reaction under rapid thermal annealing 7−39334
Si_3N_4-TiC composites, densification, matrix-dispersoid reaction, mech. props. microstruct., impurities effect 7−64994
Si_3N_4-TiC composites, mech. props., wear resist., dispersoid-matrix interaction 7−65145
Si_3N_4-Y_2O_3, hot pressed, fracture, flexural strength, temp. degradation 7−13546
Si_3N_4-Y_2O_3-Al_2O_3, pressureless sintering 7−17503
Si_3N_4-ZrO_2 composites, thermal instability 7−28158
Si_xN_{1-x} amorphous thin films grown by ion beam assisted deposition, IR and ion beam anal. 7−39209
a-Si_xN_{1-x}:H,B films, DC sputtered, photoelectronic and optical props. 7−27361
Si_xN_4 film form. and charact., ion and vapour deposition method 7−13370
Si_xN_y, remote plasma enhanced CVD 7−39425
$Si_xN_yH_z$ films, synchrotron radiation excited CVD, deposition mechanisms and H content 7−52369
$Si_xN_yO_z$ films on GaAs:Te, annealing-encapsulation props. investigated by nuclear analysis techniques 7−8030
SiO deposited on CaF_2, surface separation and vol. absorpt. in photothermal spectroscopy 7−53297
SiO emission from evolved stars 7−47951
SiO films, field enhanced electronic transport 7−45329
SiO films, local field-enhanced electronic conduction, activation energy and Poole-Frenkel const. calcs. 7−38570
SiO maser emission from Ori IRc 2 (in Orion KL) 7−60646
SiO masers in short period Mira and semi-regular variables 7−14580
SiO, oxidation, UV laser-induced 7−65234
SiO sputtered film, Kerr effect enhancement 7−64610
SiO, tensile properties, stress meas. techniques 7−52380
SiO thin dielec. film, deposition on Kodial glass, optical props. 7−7872
SiO/TbFeCo interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7−12513
SiO-H_2, nucleation, physical spinodal theory 7−21428
SiO-K_2O-CaO-MgO-CdO glass melts, evaporation 7−2160
SiO-K_2O-PbO glass melts, evaporation 7−2160
SiO-SnO_2, vac. evaporated films, AC elec. props. 7−45528
SiO_2 : N ultrathin films, carrier conduction, nitriding effects obs. 7−38790
SiO_2, adsorbed butylamine, thermal desorption and IR study 7−39110
SiO_2, adsorpt. of aromatics, IR spectra 7−10573
SiO_2 aerogel, kinetic energy of positronium emitted from surface 7−39310
SiO_2 aggregates, fractal props., light scatt. studies 7−28358
SiO_2, amorphous, annealing and relax. in high-press. phase 7−17329
SiO_2, amorphous, densified, O diffusion kinetics, annealing, gamma-ray effects 7−52127
SiO_2, amorphous, intrinsic defects, theory 7−11936
SiO_2, amorphous, intrinsic defects, semiempirical mol. orbital studies 7−63474
SiO_2, amorphous, neutron diffr. meas., inelastic scatt. corrections 7−11850
SiO_2 amorphous, photoinduced paramagnetic defects 7−13031
SiO_2 amorphous, point defects, review 7−11942
SiO_2, amorphous, thermal, UV irradiation induced compaction and photoetching 7−12146
SiO_2 amorphous film, ionic character, HEED study 7−63468
SiO_2, amorphous layers, cathodoluminescence, kinetic effects 7−13237
SiO_2 amorphous optical fibers, material dispersion study over IR region 7−7663

silicon compounds continued
SiO_2 amorphous substrates, fabrication for TEM studies of ultrathin polycrystalline films 7−35504
SiO_2 and SiO_2-CaO filled poly(acrylic acid) composite, filler chem. influence on T_g behaviour, dynamic mech. spectroscopy 7−59559
SiO_2 and SiO_2-polytetrafluoroethylene mixture, ion beam sputtered protective coating for Kapton solar array blanket 7−3705
SiO_2 based fibre, radiation effects, design tradeoffs for radiation environments 7−1280
SiO_2, behaviour under high elec. field/current stress conditions 7−7254
SiO_2 biological uptake in Amazon River continental shelf 7−34550
SiO_2, CVD, low temp., low press. 7−46335
SiO_2 CVD photox layers, Hg-sensitised, elec. props. 7−64379
SiO_2, chemical sputtering by ions, electrons and photons 7−59355
SiO_2 cluster, multipole expansions 7−62256
SiO_2, cluster approx. of electron struct. 7−12591
SiO_2 coatings on graphite fibres, Mg matrix composites prep., wetting and adhesion 7−46374
SiO_2 colloidal fractal aggregates, hydrodynamic behaviour 7−59797
SiO_2, complex dielec. const. meas. at 245 GHz using double-beam interferometer 7−7632
SiO_2 core Al-coated fibre, high-temp. effects 7−11146
SiO_2 core optical fibres, triple clad, with zero total dispersion at wavelengths of 1.3 and 1.55 μm *(Japanese)* 7−50781
SiO_2, cryst. and amorphous, point defects and electronic props. 7−64082
SiO_2, crystalline, optical activity and Faraday rotation comparison, band gap determ. 7−3017
SiO_2, crystalline struct., simulation based on pot. with many-body term 7−21152
SiO_2 deposition by photo-initiation 7−59454
SiO_2, deposition from SiH_4-N_2O, role of adsorption shapes 7−17447
SiO_2, diffusion of F, consts. and profiles meas. 7−58540
SiO_2, dipole polarisabilities, cohesive energies and press. derivatives of bulk moduli 7−2967
SiO_2, dopant diffusion under thermal nitridation conditions 7−32716
SiO_2, dry etching using image reversal photoresists. *(Japanese)* 7−65199
SiO_2, dry silica, UV induced defect creation, ESR study 7−13032
SiO_2, electron induced dissoc., AES study 7−22392
SiO_2, electron ionisation tracks, cluster anal. 7−58387
a-SiO_2, electron microdiffraction patterns, image reconstruction 7−6487
SiO_2, electronic structure, direct and inverse photoemission and soft X-ray emission spectra *(French)* 7−59374
SiO_2, encapsulant, high temp. annealing of GaAs, surface damage 7−39546
SiO_2, etch rates and reaction products study in NF_3-O_2 discharge 7−28218
SiO_2, etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7−3493
SiO_2, etching rates in CF_4/O_2 plasmas, effect of photoresist or Al masking 7−65222
SiO_2 evaporated and ion assisted deposited coatings, microstruct., electron microscope obs. 7−52335
α-SiO_2, extremal directions of anisotropic diffraction and collinear acoustooptic interaction 7−17304
SiO_2 fibre, V-grooves fabrication using CO_2 laser 7−50783
SiO_2 film CVD, glow-discharge electron beams appl. *(Czech)* 7−56373
SiO_2 film interference system, influence of normal nonhomogeneity of refractive index *(Czech)* 7−64712
SiO_2 film MOSFET, excimer laser beam irradiation and RIE, radiation damage 7−2056
SiO_2 film on Si produced by thermal oxidation 7−65228
SiO_2 film synthesis by ion-assisted deposition, antireflection coating use 7−37213
SiO_2 films, ballistic electron transport 7−45531
SiO_2 films, breakdown lifetime meas., defect density determ. 7−22189
SiO_2 films, effects of nitridation press. on props. 7−33818
SiO_2 films, energy levels of electron traps *(Japanese)* 7−64148
SiO_2 films, hydrogenation during thermal nitridation in NH_3 7−13763
SiO_2 films, IR spectra, plasma treatment effects 7−7693
SiO_2 films, interface states, charge trapping *(Spanish)* 7−17110
SiO_2 films, LPCVD from diacetoxyditertiarybutoxysilane in temp. range 450 to 600°C 7−53622
SiO_2 films, low temp. CVD, dielec. const., dissipation factor 7−59149
SiO_2 films, low-temperature plasma-enhanced CVD deposition 7−33581
SiO_2 films, plasma deposited, diamond abrasion props. 7−13608
SiO_2 films, prod. by low temp. CVD, role of carrier gas in deposition kinetics 7−59452
SiO_2, films, RF sputtered, high intensity electron beam irrad. effects 7−44626
SiO_2 films, thermal growth kinetics 7−13663
SiO_2 films in MOS capacitors, ion implantation induced electron traps 7−38589
SiO_2 films on GaAs:Te, annealing-encapsulation props. investigated by nuclear analysis techniques 7−8030
SiO_2 films on Si, low-temperature annealing, interfacial props. of MOS structures 7−46526
SiO_2 films on Si produced by surface oxidation, stresses and defects 7−65230
SiO_2 films on Si substrates, plasma etching parameter variation effects, response-surface methodology study 7−22854
SiO_2 films thermally grown on Si, decomposition acceleration factors 7−63999
SiO_2 fine powder, 3 photon annihilation yield meas., sum energy analyser appl. 7−42435
SiO_2 form. in Si by ion beam synthesis, RBS, SIMS and cross-sectional TEM studies 7−26779
SiO_2, fused, frequency dependent equation of state 7−51987
SiO_2, fused silica, O_2^+ and Kr^+ irradiated, paramagnetic defects, ESR study 7−53132
SiO_2, gate dielectric films, growth by rapid thermal processing, material and electrical props. 7−16906
SiO_2 gel, adsorpt. of O_2^- photoform., rot. dynamics, ESR obs. 7−25566
SiO_2 gels, adsorpt. of H_2O, viscosity determ. by pulse NMR method 7−7604
SiO_2 gels. prep. using tetraethoxysilane, elastic moduli 7−46537
SiO_2 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7−27734
SiO_2 glass, radiation damage 7−32520
SiO_2 glass, structural EXAFS study 7−64762
SiO_2 glass, surface analysis by laser ionisation 7−13275
SiO_2 glass and cryst., luminescence props. 7−33428

silicon compounds continued
SiO_2 glass:H_2 fibres, IR optical loss 7–11143
SiO_2 glasses, gel-derived, defect studies 7–11944
SiO_2 glasses, prep. by sol-gel technique, dielec. props. 7–45918
SiO_2, glassy and thermal films, cathodoluminescence of intrinsic defects 7–7766
SiO_2, γ-ray induced defect centres, thermal bleaching 7–63659
SiO_2 hard clad silica fibres for data and power transmission 7–50765
SiO_2, high field electron transport, rel. to positive charge generation at Si-SiO_2 interface 7–38571
SiO_2, high percentage in sol-gel procedure for optical fibres production *(Croatian)* 7–20480
SiO_2, hot carrier trapping characts., effect of post-oxidation annealing 7–64268
SiO_2, IR transmitting fibre optics, spectral props. 7–37179
SiO_2 in aqs. solns. of cetylpyridinium bromide and inorganic salts, coagulation, thermodynamic stability 7–8326
SiO_2 in NaCl solns., surface pot., polyoxyethylene soln. influence 7–6968
SiO_2 insulating thin film deposition, remote plasma enhanced low temp. CVD process 7–13389
SiO_2 interfaces, Si-rich, enhanced electron injection 7–12864
V-SiO_2 intrinsic defect electronic struct., optical transitions, cluster-Bethe lattice calcs. 7–2541
SiO_2, ion activated chem. etching, laser interferometer studies 7–6657
SiO_2, ion-activated chem. etching, laser interferometry studies 7–12424
SiO_2, ion-induced etching, surface processes 7–59702
SiO_2, kinetics of growth on Si, optical props. 7–17740
SiO_2, laser activated CVD, deposition rate, refractive index 7–33591
SiO_2, laser evaporation, luminescence of generated plasma 7–63354
SiO_2, laser-induced breakdown, radiation induced defects 7–12147
SiO_2 layers, electrical properties 7–58931
SiO_2 layers, interface trap charge effect on C-V and I-V characts. 7–27437
SiO_2 layers, space charge distrib. meas., electron beam induced conduction method 7–27660
SiO_2 layers, thermally nitrided, charge transport 7–38791
SiO_2 layers obtained by plasmochemical decomposition, optical props. 7–20390
SiO_2 layers on Si, patterning of fine structs. by ion beam exposure and wet chemical etching 7–13656
SiO_2 liq., stretched and compressed, glass transition, ion dynamics simulation 7–16747
SiO_2 low temp.-CVD films, DC dielec. breakdown studies 7–22188
SiO_2 MIS structures, trap generation under charge injection stress 7–7392
SiO_2 MOS structures, electron heating for low fields and thick films 7–2722
SiO_2 mask, Si solar cell fabrication using masked ion implantation 7–23165
SiO_2, mechanically induced sorption of siloxane, two-parameter model 7–16866
SiO_2, microporous thin films, thermochemical nitridation in NH_3 7–46726
SiO_2, minerals, shock induced radiation 7–27694
SiO_2, mixing of metal overlayers, ion beam irrad., rapid thermal annealing, pulsed laser irrad. 7–58330
SiO_2 monomode fibres with F-doped cladding, prep. by MCVD process 7–1289
SiO_2 native oxide, ion and electron bombardment induced surface modifications studies 7–12175
SiO_2, natural oxide on a-Si, structure, HEED study 7–63469
SiO_2, nitridation treatments, review 7–17747
SiO_2 on polysilicon, thermally grown, elec. cond. and breakdown props. 7–45508
SiO_2 on textured glass substrate for a-Si:H solar cells 7–13899
SiO_2 optical waveguides, low-loss planar, fabrication using thermal nitridation and charactn. 7–26032
SiO_2, optoelectronic material, radiation effects 7–26811
SiO_2, plasma assisted vapour deposited and laser fused coatings, corrosion protective props. 7–28208
SiO_2, plasma deposition rates, influence of insulating film 7–3203
SiO_2 plasma etching in narrowly confined plasma of high power density 7–22857
SiO_2, plasma etching selectivity using negative DC biasing 7–39769
SiO_2 plasma nitrided encapsulent for lamp zone melting recrystallisation of SOI films 7–38391
SiO_2, porous, neutron-diffr. study 7–16536
SiO_2, porous catalysts, small angle X-ray scatt. anal. 7–16352
SiO_2, porous silicas, direct energy transfer in restricted geometries as probe of pore morphology 7–59251
SiO_2 powder compacts, densification rel. to sintering atmosphere 7–13417
SiO_2 powder/ceramic fibre composites, packing density model 7–13426
SiO_2 protection layer on the surface of V/Si during silicide formation 7–58662
SiO_2 protective coating on CoCr films 7–28184
SiO_2, pyrogenic, void volume, applied uniaxial pressure *(French)* 7–51631
SiO_2 RF sputtered thin films, atomic defects and stresses, optical and elec props. 7–16898
SiO_2, radial distrib. functions, glassy struct. and bond angles, Monte Carlo method 7–11924
SiO_2, reactive ion etching, in SF_6 plasma 7–39693
SiO_2, reactive ion etching, modelling 7–39785
SiO_2, refractive index changes formed by N^+ implantation 7–25915
SiO_2 refractories, corrosion by molten Mn steel *(Japanese)* 7–65167
SiO_2, Rutherford backscattering, depth resolution, modelling of noise sources 7–53487
SiO_2, SOI formation by ion implantation 7–32526
SiO_2, silica aerogels, SAXS study 7–28355
SiO_2 silica fibre mechanical strength determ. *(French)* 7–11157
SiO_2 silica glasses, doped, radiation-induced defect centres, EPR and optical studies 7–13033
SiO_2, silica shocked optical fibres, spectral transmission characts. 7–31466
SiO_2, silica sol-gel derived coatings, thickness, prep. by dipping 7–27193
SiO_2 sol-gel glass structures, effects of water content of gels, EPR study 7–6526
SiO_2 sol-gel glasses, structure, paramagnetic defect centres 7–11945
SiO_2 solar cell coverglass thermal characts., improvements by thin film coatings 7–13884
SiO_2, sorption of polydimethylsiloxane, chain binding, collective and multiple aggregate processes 7–12474

silicon compounds continued
SiO_2, spherical particles synthesis, thermal behaviour *(Japanese)* 7–7943
SiO_2, sputtering in XeF_2 and Cl_2 atms. 7–53465
SiO_2, stishovite, elasticity and high pressure instabilities 7–66103
SiO_2, stoichiometric and sub-stoichiometric, defect creation, photoablation, pulsed UV irrad. 7–58315
SiO_2 substrates, radiation enhanced adhesion of ZnS thin films 7–32504
SiO_2 supported Pt catalysts, muonium relax rate, rel. to temp. and loading 7–33315
SiO_2 surface, adsorbed trimethylsilyl groups, ^2H NMR spectra investig. 7–2375
SiO_2, surface, muon and muonium interactions 7–53209
SiO_2 surface interaction with CF_3^+ and CH_4^+, mol. sputtering model calcs., AES meas. 7–27854
SiO_2, surface nitridation, current status 7–33866
SiO_2, thermal films, defect formation by high temp. annealing 7–45035
SiO_2 thermal films, nitridation 7–58680
SiO_2, thermal oxidation of Si, effects of $GeCl_4$ 7–65238
SiO_2 thermal oxide films on Si substrate, ramp-voltage-stressed I-V characts. 7–17112
SiO_2, thermal oxide films on Si, X-ray scattering studies 7–52326
SiO_2 thermally grown on Si substrates, breakdown and defects studies 7–33104
SiO_2, thin film growth, on Si, annealing by lamp heating 7–22930
SiO_2 thin films, constant current stressed voltage-time characts., dynamic trapping effects 7–45529
SiO_2 thin films, dielectric breakdown phenomenon, model 7–64567
SiO_2 thin films, growth by microwave-excited plasma 7–59458
SiO_2 thin films, intrinsic bonding defects and impurities, EPR studies 7–13034
SiO_2 thin films, production from glow discharge decomp. of $NO-SiH_4$ mixtures, elec. props. 7–22512
SiO_2 thin films in MOS capacitors, wear-out charactn., processing depend. 7–38756
SiO_2, thin thermal dielectric, breakdown susceptibility, correlation with process dependent charge trapping 7–33333
SiO_2 thin-film multilayer filter designs for hybrid solar energy conversion systems 7–50723
SiO_2, tridymite, form. from colloidal silica, kinetics 7–23053
SiO_2 tunnel-thin dielectrics, breakdown mechanism 7–33098
SiO_2 ultrafine particle filled PMMA, elastic and yield props. 7–3351
SiO_2 ultrathin films, intrinsic breakdown characts. 7–64571
SiO_2 ultrathin films, structure, IR study 7–58674
SiO_2 ultrathin gate oxide films, breakdown props., post-oxidation annealing effects 7–22187
SiO_2, vitreous, aluminium-oxygen hole centre, chemical annealing 7–51646
SiO_2, vitreous, J.C. Phillips model 7–21106
SiO_2, vitreous, low-frequency vibr. modes 7–21378
SiO_2, vitreous, Raman structural correlations 7–63501
SiO_2, vitreous, surface, adsorption and thermal accommodation of Pt single atoms 7–27133
SiO_2, vitreous, surface struct., mol. dynamics simulation studies 7–63497
SiO_2, water-free fused silica, IR-transparency, laser windows, prep. by reactive atmosphere process 7–59202
SiO_2, with adsorbed OH, FTIR characteris. 7–46042
a-SiO_2 with high surface area, local order 7–52201
α-SiO_2, X-ray diffr. whole-powder-pattern fitting without reference to a structural model 7–32214
SiO_2 X-ray fluorescence, strength of $K\alpha_{3,4}$ satellites 7–22386
SiO_2 xerogels, structural changes during low temp. dehydration 7–28366
SiO_2:Au(Bi), ion implanted, projected ranges and range stragglings, RBS anal. 7–63690
SiO_2:B, diffusion investig., H_2 annealing atmosphere effects 7–6876
SiO_2:B(P), thermally grown, diffusion of ion-implanted dopants 7–38041
SiO_2:Cl, ion implanted, Cl ion redistrib., SIMS studies 7–21249
SiO_2:Cl films prod. by Si oxidation in Cl containing ambients, impurity distrib. 7–26787
SiO_2:Cs-Si MOS, semicond. flatband voltage depend. on impurity distrib. 7–27433
SiO_2:F, P fibres, dopant materials behaviour in MCVD process 7–20462
SiO_2:F, vitreous, substitutional impurity, semiempirical calcs. 7–32464
SiO_2:F layers, modified CVD 7–53608
SiO_2:Ge integrated optical waveguides, plasma CVD 7–27941
$SiO_2:GeO_2$ integrated optical waveguides, laser heating effect on opt. props. 7–50792
$SiO_2:GeO_2$ optical fibres reaction of diffused H_2 with defect centres 7–57591
SiO_2:Hg films, Hg-sensitized photo-CVD, X-ray fluorescence anal. 7–17440
SiO_2:N thin films on Si, surface nitridation in low NH_3 press. 7–46721
SiO_2:Na with adsorbed SO_2 and H_2S, FTIR and Raman spectra obs., Na promotion of Claus process 7–46869
SiO_2:Nd^{3+} narrow-linewidth single-mode fibre laser 7–5904
$SiO_2:P_2O_5$ fibres, single-mode, selective stimulated Raman scattering 7–31500
SiO_2:Sb, ion-implanted, diffusion 7–58542
SiO_2:Si, SIMS depth profiling 7–13314
SiO_2:transition metals, fused quartz, impurity sites, X-ray absorption spectroscopy 7–13263
SiO_2:V amorphous films, Rf-sputtered, SCL conduction 7–64380
SiO_2/CoNbTi amorphous layered films, high freq. permeability 7–53078
$SiO_2/P_2O_5-SiO_2$ glass double layer dielec. films, X-ray irrad. effects 7–58332
SiO_2/Si (111) interface ordering, X-ray diffr. 7–32848
SiO_2/SiC interface. elec. characts., MOS conductance technique meas. 7–12873
SiO_2/TbFeCo interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7–12513
SiO_2-Al Schottky detectors, frequency and polarisation-selective 7–41470
$SiO_2-Al_2O_3$, mullite form. from xerogels, X-ray and IR obs. 7–46391
$SiO_2-Al_2O_3$ powders, prep. by spray pyrolysis, sinterability, effect of chem. comp. *(Japanese)* 7–3246
$SiO_2-Al_2O_3$ system, charactn. of spinel phase from xerogels and form. process of mullite 7–39464
$SiO_2-Al_2O_3$ vitreous systems, low temp. sp. ht. and thermodynamic props. study 7–63842
$SiO_2-Al_2O_3-CaCO_3-Na_2CO_3$ glass system, Ar^+ ion beam effects 7–32521
$SiO_2-Al_2O_3-Li_2O-ZnO-TiO_2-ZrO_2-As_2O_3-Cr_2O_3$:Cr, glass ceramic, time resolved spectra 7–63478

silicon compounds continued
- SiO_2-CaO-MgO-Na_2O glass, frequency dependent equation of state 7−51987
- SiO_2-core optical fibre, single-mode, transmission characts. and reliability 7−11145
- SiO_2-Fe granular films, mag. relax., DC SQUID magnetometry, Mossbauer spectra 7−45761
- SiO_2-$Ga_{0.47}In_{0.53}As$ interface, elec. charact. 7−38752
- SiO_2-GeO_2, influence of impurities on loss increase, expt. study 7−43380
- SiO_2-GeO_2 core optical fibres, fabrication by the sol-gel method 7−46404
- SiO_2-GeO_2 film, oxide flow during H_2 treatment, planarization technique 7−2426
- SiO_2-GeO_2 optical fibre surfaces, formation mechanism of H-associated defect centre 7−65158
- SiO_2-GeO_2 system, gels and gel-glasses, struct. study using vibr. spectroscopy 7−44381
- SiO_2-GeO_2:Ho very high-rejection optical fibre filters, design and characts. 7−15974
- SiO_2-GeO_2-P_2O_5, doped silica glass, dopant effect on OH absorpt. 7−27715
- SiO_2-metal, silicidation reactions, rapid thermal annealing/TEM technique 7−52156
- SiO_2-MgO(SrO)(La_2O_3)(Y_2O_3) systems, liq. immiscibility 7−6807
- SiO_2-Na_2O-CaO-Al_2O_3-MgO glasses, heavy ion irradiation, enhanced diffusion, preferential sputtering 7−32523
- SiO_2-Na_2O-CaO-MgO glass, reaction in isotopically labeled water, $D_2{}^{18}O$ 7−26993
- SiO_2-P_2O_5 system, glass-ceramic materials, compaction kinetics using centrifugal forces 7−27999
- SiO_2-poly-Si, Ar^+ laser recrystallised interface characts., effects of technological parameters *(Chinese)* 7−33092
- SiO_2-polyimide interface, locus of failure, XPS study 7−28261
- SiO_2-related materials, cryst. and amorphous, electronic struct. calcs. 7−64081
- SiO_2-rich ceramics, intergrowth relationships between SiO_2 polymorphs, quartz, cristobalite and tridymite 7−13445
- SiO_2-Si, quantitative distrib. eval. of P, SIMS 7−54254
- SiO_2-Si, Si oxidation kinetics, interface width determ., oxide elec. cond. meas. 7−39764
- SiO_2-Si interface, chem. struct., XPS determ., suboxide distrib. and interface state form. 7−38358
- SiO_2-Si interface, electronic state charactn. 7−38747
- SiO_2-Si interface, insulator props. after exposure to H_2+N_2 and NH_3. 7−59693
- SiO_2-Si interface, MOS capacitance derivative freq. depend., surface state densities and capture cross section 7−45507
- SiO_2-Si interface, roughening induced during AES depth profiling 7−21685
- SiO_2-Si interface, wet oxidised, RF plasma annealing effects 7−54026
- SiO_2-Si structures, prod. by recrystallisation, subgrain boundaries, barrier effects 7−52305
- SiO_2-Si_3N_4, multilayer nonabsorbing systems, multiple angle of incidence ellipsometric anal. 7−39203
- SiO_2-Si_3N_4-MgF_2, multilayer nonabsorbing systems, multiple angle of incidence ellipsometric anal. 7−39203
- SiO_2-SiC layer systems, waveguide polaritons 7−7126
- SiO_2-TiO_2 channel waveguides, for low radiation loss branching/combining optical circuit 7−31458
- SiO_2-TiO_2 dielec. multilayer reflector for surface emitting lasers, electron beam evaporation 7−59427
- α-SiO_2-TiO_2 super fine structural insulator, thermal conductivity 7−21555
- SiO_2-TiO_2 vitreous systems, low temp. sp. ht. and thermodynamic props. study 7−63842
- SiO_2-TiO_2 waveguides, light induced desorption, bistability mechanism in integrated optical devices 7−57424
- SiO_2-YX-SiO_2 anisotropic layered systems subject to static deformation, SAW dispersion 7−43495
- SiO_2-ZnO multilayer structures, SAW propag. characts. 7−21601
- SiO_x, amorphous, photoassisted oxidation 7−46662
- SiO_x amorphous insulator thin films, defect-enhanced UV etching damage studies 7−26797
- SiO_x anodic native oxide interfaces on InSb for passivation 7−22917
- SiO_x, corrosion protective coatings on Ni-Cr Inconel alloy 7−39754
- SiO_x, deposition in $SiCl_4$-H_2-O_2-N_2 system, dimensional effects 7−64910
- SiO_x evaporated thin films, struct. study 7−58699
- SiO_x films, vibrational spectra and structure *(Russian)* 7−64709
- SiO_x films deposited by reactive evaporation, characterisation 7−64013
- SiO_x films in MIM struct., thermal voltage memory effect, time depend. 7−45527
- SiO_x optical films, molecular beam fabrication and laser damage props. 7−39389
- SiO_x thin films, obliquely evaporated, cross sectional TEM studies 7−12571
- SiO_x thin films, plasma enhanced CVD deposited, Si chem. states, IR spectra, XPS, AES 7−21721
- SiO_x window on Pb-In-Au alloy films, hillock growth mech. of alloy films 7−16893
- a-SiO_x:H films, local struct. EXAFS study 7−59291
- SiO_x:N,H/a-Si:H heterostruct. transport props. 7−38768
- SiO_x:P films, pure and doped, low press. CVD growth, structural, optical, elec. props. 7−27186
- SiO_x-Si:H amorphous multilayer films, charge transfer doping, cond., photocond. meas. 7−38735
- Si_xO_y, remote plasma enhanced CVD 7−39425
- SiON-GaAs interface, plasma enhanced CVD deposited SiON, NH_3 plasma pretreatment effects 7−7874
- SiO_xN_y films, deposited by plasma-enhanced CVD, charact. 7−2413
- SiO_xN_y films, IR optical props. 7−7777
- SiO_xN_y films, low press. CVD and composition analysis 7−12554
- SiO_xN_y films, PECVD deposited, props. as selective diffusion barrier 7−2440
- SiO_xN_y films, plasma-enhanced CVD growth 7−22514
- SiO_xN_y films, plasma-enhanced CVD deposited, annealing 7−32861
- SiO_xN_y, high press. NH_3-nitrided, elec. characts. 7−39039
- SiO_xN_y MIS struct., electron transport and heating, vacuum emission studies 7−2723
- SiO_xN_y plasma-enhanced CVD films as selective Zn diffusion barriers 7−12539
- SiO_xN_y, plasma-enhanced deposited oxynitride films, IR and UV transmission 7−33474

silicon compounds continued
- SiO_xN_y-Si:H amorphous multilayer films, charge transfer doping, cond., photocond. meas. 7−38735
- Si_2ON_2, impure densification by liquid phase sintering 7−17494
- $Si_xO_yN_z$, plasma enhanced CVD, characterisation 7−39426
- $Si_xO_yN_z$, remote plasma enhanced CVD 7−39425
- SiO_xNy dielectric waveguides, optical props. 7−57535
- SiO_xNy LPCVD layers, phys. and elec. charactn. 7−38792
- $Si_5O(PO_4)_6$, chem. shift meas., solid-state ^{29}Si MAS NMR 7−53163
- SiO_2-TiO_2 solid solutions, phase relationships and spectroscopic features 7−63826
- SiP_2O_7 glass, vibrational spectra of structural units 7−3034
- SiS_2-Li_2S-LiI glass, ionic cond. meas. 7−38251
- Si_xSe_{1-x} glass system, diffr. isosbestic points and structural systematics 7−44390
- Si_xSe_{1-x} glasses, intermediate range order 7−11938
- Si_xSe_{1-x} low dimensional inorganic polymer glasses, cross-linked chain cluster model 7−11937
- $Si_{1-x}Sn_xO_{1+x}$ amorphous thin films, optical and structural studies 7−64714
- a-$Si_{1-x}Te_x$ amorphous alloys, electronic and optical props. 7−7234
- Si_xTe_{100-x} glasses, crystallisation, DSC studies 7−6542
- $Si_xX_{1-x}(X=S,Se)$, chalcogenide glasses, stochastic random network model 7−63493
- $Si_{1-x}(ZnS)_x$:H amorphous films, synthesis and characterisation 7−17420
- $^ASiC_2$ (A=29, 30), detect. in millimetre-wave spectrum of IRC+10216 (CW Leo) 7−29474
- Sialon, static-fatigue limit of materials containing small flaws 7−39620
- SnO_2-SiO_x-Si surface barrier solar cells, optimisation of fabrication process 7−23154
- Ti-SiC interface, compositional depth profiles and intermixing, atom probe FIM study 7−32843
- Ti-SiO_2-$TiSi_2$-Si, high temp. reaction between Ti and SiO_2, XPS, sputtering *(Japanese)* 7−7022
- TiO_2-SiO_2, synthetic, surface struct., XPS, NMR and mass spectra 7−58596
- TiO_2-SiO_2 dielectric multilayer stacks, absorption meas. by photoacoustic technique 7−17331
- TiO_2-SiO_2 multilayer coatings prep. by RF magnetron sputtering, interfacial optical absorpt. 7−1252
- W-K_2O-SiO_2, doped wire, effect of dopants on microstruct. *(Korean)* 7−17547
- W-Si amorphous thin films, interfacial reactions with polycryst. metal overlayers 7−21763
- Y-Si-Al-O-N ceramics, phase relationships 7−65011
- Y-Si-Al-O-N glasses, Si coordination, NMR studies 7−1906
- ZnO-Cu-SiO_2-Si composite membrane, interdigital transducer generated US Lamb waves 7−11241
- ZnO-Na_2O-Al_2O_3-SiO_2, zeolite, partially exchanged, IR and neutron scatt. studies of adsorbed ethene 7−7001
- ZnO-SiO_2-M_2O (M=Li,K,Na), glasses, thermal expansion, free volume 7−58152
- ZnO-SiO_2-Si SAW chemosensor for NO_2 gas concentration meas. 7−3621
- $ZnSiP_2$ cryst., exciton absorpt. spectrum, energy gap and exciton binding energy determ. 7−2500
- $ZnSiP_2$, single crysts., prep. and characterisation 7−2612
- ZrO_2-SiO_2 films, composition and struct., X-ray emission and ESCA studies 7−22385
- ZrO_2-SiO_2 optical films, struct. modification by coevaporation 7−45064

silicon controlled rectifiers *see thyristors*

silicon integrated circuits *see monolithic integrated circuits*

silicon-on-sapphire integrated circuits *see field effect integrated circuits*

silicon reference diodes *see avalanche diodes; Zener diodes*

silicones
- coating developments for opt. fibres 7−25974
- oils, insulating, air bubbles attached to point electrodes 7−37779
- optical fibre protection materials 7−15992
- polydimethylsiloxane, refr. index and thermal expansion coeff. variations with temp. 7−39060

silver
- *see also nuclei with ......*
- Aberystwyth, Wales, metal and acid pollution of river due to metal mine 7−23235
- adsorbate geometry determ. on Si (111), X-ray photoelectron diffr. study *(Japanese)* 7−11852
- adsorbed layer on Si (111), geometric struct. and density of states, cluster model and charge self-consistent extended Huckel method calcs. 7−21619
- adsorbed layer on Si (111), struct. anal. by impact collision ion scatt. spectroscopy 7−6999
- adsorbed monomolecular layer, giant Raman scatt. effect 7−52255
- adsorbed on Si (111), geometry and local electron states 7−58626
- adsorbed on Si (111), structure, scanning tunnelling microscopy studies 7−58625
- adsorbed on W (110), thermal desorption spectroscopy 7−27119
- adsorption of Cl and Cs, adsorbate-substrate bond lengths, coverage depend., SEXAFS 7−63948
- adsorption of pyridine, electrode pot. and Raman line intensities 7−19865
- adsorption on activated C, mathematical model 7−44999
- adsorption on W (110), calcs. based on nonadditive effective binding pot. 7−12483
- AgCl-Ag films, photo-induced gratings due to radiative TE modes 7−22363
- anthanthrone-Ag struct., charge carrier photogeneration *(Japanese)* 7−38610
- atomic beam frequency standard, optically pumped 7−18763
- Auger electron spectra, deconvolution calcs. 7−24728
- Auger electron spectra, main and satellite structures 7−7795
- British Columbia, Canada, Au and Ag mineralization of Early Cretaceous age 7−65997
- chemisorption, of H_2O, on (100) surface, quantum chem. CNDO calcs. *(German)* 7−859
- clusters, photographic role, size effects 7−15788
- clusters, vibrational characteristics, SERS studies 7−22255
- clusters on electrode surface, SHG enhancement by transient resonances 7−20325
- clusters on highly oriented pyrolytic graphite, scanning tunnelling microscopy study 7−12413

silver continued
coated glass-Teflon composite, 3D continuum percolation system, nonuniversal behaviour of conductivity exponent, exptl. obs. 7—38656
coating on brass, corrosion protective props. 7—53950
coating on Fe (110), magnetic hyperfine field, local structure 7—21878
colloid particles, SERS of adsorbed quinoxaline, adsorbate orientations 7—22265
colloids, adsorbed flavins, SERS 7—64626
conduction electrons, gyromag. factor calcs. 7—7099
contacts, transparent, for a-Si solar cells with ITO antireflection coating 7—65478
cylindrical films, magnetoresist. in weakly localised regime 7—7414
dimers and clusters, matrix isolated, guest-host interaction and photochem. transform. 7—15786
discontinuous films, large scale coalescence, post-deposition DC resistance increase 7—45069
discontinuous metallic thin films, on amorphous and crystalline substrates, electron irradiation stimulated coalescence 7—2437
electrode, 4-cyanopyridine adsorpt. and electrochem. reduction, SERS 7—54165
electrode, competitive adsorption of pyridine and monosubstituted pyridine, SERS study 7—22267
electrode, interfacial water surface-enhanced Raman scatt. using alkali halide solns. 7—17311
electrode, SHG as surface probe 7—57463
electrode in $NaClO_4$ soln., capacitance, pH depend. 7—54135
electrodeposit structure rel. to plating from complex electrolytes 7—2406
electrodeposition, electrode impedance, brightening and levelling agents effect 7—33612
electrodes, adsorbed layers of azide, cyanate and thiocyanate, pot. difference IR spectra, coverage depend. orientation 7—22252
electrodes, galvanostatic oxidation, relax. spectrum anal. 7—13788
electrolytic recovery from fixing solutions, modern commercial equipment *(Russian)* 7—35612
electron inelastic scatt. cross-sections 7—5775
electron mean-free-path calculations using a model dielectric function 7—52583
field-assisted ion exchange, dilation of glass 7—11188
film, adsorbed $NH_3(ND_3)(Xe)$, IR laser photodesorption spectroscopy 7—17825
film, CO adsorbed layer, surface enhanced Raman scattering study 7—3037
film, lauric acid adsorpt., reflectivity and laser excited surface plasmon spectroscopy meas. 7—45011
film, loss coeffs. determ. of long-range surface plasmons 7—2650
film, pure transition radiation following electron irrad. *(French)* 7—64708
film bounded by Langmuir-Blodgett films, antisymmetric coupled surface-plasmon-polaritons 7—22364
film on Al and its alloys, surface superconducting appl. in electronic devices *(Spanish)* 7—27483
film on Cu substrate, depth profile shape, AES, influence of crystallographic orientation 7—27205
films, adsorbed SCN ions, SERS 7—32838
films, electroplating in electrochemical cell, scanning tunneling microscopy studies 7—22589
films, ion-induced microcones, TEM obs. 7—58593
films, optical thickness and filling factor determ. 7—39197
films, SERS-active, chem. prep. method 7—53293
films, vapour-quenched, elec. resistivity *(Japanese)* 7—33107
films, with surface adsorbed ethylene, adsorbate-substrate bonding 7—52292
films on Al (111), growth and electronic struct., UPS, LEED and AES studies 7—52350
Frenkel pair production cross sections, calc. fission-fusion neutron spectrum sensitivity 7—51849
glass waveguides, Ag film diffused, diffusion process and optical props. 7—50737
gratings of various groove depths, SHG study 7—57462
groundwater of E Siberia, Au and Ag content of mineral waters 7—28922
heliostat reflectant surfaces optical properties *(Rumanian)* 7—28388
highly ionised atoms injected into PLT and TFTR discharges, spectra 7—19748
hot electron luminescence 7—17337
hydrosol particles, adsorbed indigo dyes, SERS spectra 7—46870
impurity diffusion, with form. of segregation phases at dislocations *(Russian)* 7—52146
initial stages of epitaxy on Si(111), UHV electron microscopy study 7—27210
interfacial surface energy atomistic estimation and adhesion meas. *(Japanese)* 7—58657
ions, energy levels, radiation effects and corrections 7—49960
island film, Si evaporated layer, surface-enhanced Raman scatt. study 7—13165
island films, crystal violet adsorbed layer, surface-enhanced reson. Raman scatt. 7—46022
island films, optical props. in attenuated-total-reflection geometry 7—13243
island films, surface enhanced second harmonic generation 7—1232
island films, surface plasma emission, electron-photon spectra anal. 7—52491
liquid, thermoelectric power calc. 7—12704
metal films, mech. props., relation between different quantities 7—8041
meteorites (irons), ^{107}Ag anomalies, and petrology 7—14545
mirror, absorptance meas. at glancing incidence, photoacoustic calorimetry 7—20380
mirrors, evaluation and modification of protective polymer glazings 7—37094
monolayers, electronic struct. and binding energy, substrate effects, photoemission studies 7—39359
neutron irradiated, thermal stability of cascade defects, annealing expt. 7—51856
normal potentials in liq. NH_3 7—39903
ordered overlayer on Si (111), surface states, inverse photoemission studies 7—2660
overlayer on Si(111), room temp. oxidation behaviour, XPS study 7—13676
overlayer on Si (111), inverse photoemission spectroscopy 7—59280
oxidised granular film, optical absorpt. calcs., Gaussian broadening model 7—27802
particles, adsorbate light scatt., energy transfer induced interfacial optical processes 7—39109

silver continued
particles, electron spin-lattice relax. freezing-in, spin echo obs. 7—2921
particles in Ag-O-Cs photoemitters and Ag aerosols 7—33518
permeability of H in Ag-P^{2}d, Pt, Ag, Au alloys and metals at 2 kbar and high temp. 7—27011
phonon spectra, dynamical pseudopot. shell model calcs. 7—51965
photodiffusion into amorphous chalcogenides, semiconductor heterojunction formation 7—45026
polycrystalline film, recrystallisation under thermal stress *(Russian)* 7—58702
polycrystalline surface, polymerisation reaction, XPS 7—65314
polymer-Ag system, enhanced ATR spectra of polymer surface layers 7—22266
positron annihilation at surface 7—39308
positron trapping by vacancies, high resolution lifetime studies 7—46211
proton and ion irrad., self-interstitial atom interactions with defect clusters, elec. resist. meas. 7—58384
resonant-like reabsorption in AC arc plasma 7—13842
secondary ion emission mass spectra, cluster ion monomolecular decays 7—13300
self-lubricating coatings for extreme temps. 7—3444
SERS, very low freq. mode 7—22264
small particles in amorphous materials, far-IR absorpt. spectra 7—64623
small photolytic clusters on AgBr grain surface, oscill. of photoionisation thresholds 7—36841
soft X-ray filter for plasma diagnostics 7—63353
sol, admolecules interaction, SERS study 7—52254
sol, coadsorbed o-nitrobenzoic acid and pyridine, SERS excitation profiles 7—33373
solid, thermal diffusivity, mirage-effect meas. 7—45271
sound records, colour positive motion-picture films, photographic indices effect *(Russian)* 7—4905
specimen, contact resist. meas., deform., fretting effects 7—9848
sputtered particles, ang. distrib. 7—39335
sputtering yield, weight loss method studies 7—59340
strained samples, Matthiessen's rule, sign of deviations 7—7201
superheating of metal crystals 7—44767
supported particles on C, Al_2O_3 and SiO_2, XPS studies 7—27868
surface, (100), adsorption of Cl, Auger, LEED, XPS, thermal desorption studies 7—58635
surface, (110), adsorbed Br, normal exit XPS studies 7—2380
surface, (110), adsorpt. of pyridine, coverage-depend, phase transition, SHG obs. 7—37029
surface, (110), adsorption of ethylene and ethylene oxide, work function, LEED, UPS, TDS meas. 7—52270
surface, (110), adsorption of ethylene oxide, XPS, TDS, AES, EELS studies 7—33963
surface, (110), adsorption of NO_2 and surface nitrate formation 7—52286
surface, (110), clean and O_2 covered, adsorption and reaction of acetonitrile 7—28344
surface, (110), with coadsorbed NO_2 and Kr, magnetic resonance 7—59113
surface, (110), with physisorbed Kr, adsorption of NO_2, EPR, LEED AES studies 7—53116
surface, (111), adsorbed pyrazine, affinity level, EELS, inverse and direct photoemission spectra studies 7—52724
surface, (111), and polycrystalline substrates, adsorbed pyridine, struct., electron bands, LEED, UPS 7—53506
surface, (111), Frank-Van der Merwe growth of Pd, AES, surface reflectance spectra studies 7—32829
surface, (111), molecular O_2 chemisorpt., XPS studies 7—2374
surface, (111), one-phonon scatt. of He atoms 7—3143
surface, (111), surface-diffusion-induced ageing processes in thin Au films 7—45080
surface, (111), XANES studies of adsorbed ring mols., orientation determ. 7—64769
surface, (221), stepped, adsorpt. of cyclopentene, mol. orientation 7—27099
surface, adsorbed Cl^-, surface enhanced Raman spectrum pot. depend., surface coverage and mutual depolarisation effects 7—7686
surface, adsorbed layers of arachidic acid, form. and struct., IR spectra, optical ellipsometry 7—44992
surface, adsorbed pyridine, IR laser stimulated desorption mol. spectroscopy 7—58614
surface, binding energy of image-potential states 7—64303
surface, chemisorbed state of acetylene, ethylene and ethane 7—52261
surface, CO_2 molecules impact, quantum theory of energy exchange 7—64865
surface, far IR surface plasmon attenuation, overcoating effects 7—22358
surface, laser stimulated desorption during Cl_2 reactions 7—53453
surface, low energy K^+ small angle scatt. 7—53484
surface, O_2 chemisorption, flash desorption spectra *(Chinese)* 7—52294
surface, ordering and phase separation of adsorbed binary mixtures 7—21651
surface, pyridine adsorbed layer; resonance Raman contrib. to SERS in aq. media 7—3055
surface, pyridine sub-monolayer adsorbate, SHG, CW diode laser-Maui surface expt. 7—16874
surface, scanning tunnelling microscopy, tip-surface forces 7—26599
surface, tetraphenylporphine adsorbed films, fluoresc. quenching and interference effects 7—36675
surface (100), (110) and (111), momentum-resolved isochromat spectroscopy 7—27813
surface (110), Br_2 adsorpt. and reaction, UV photoemission study 7—45014
surface (110), He selective adsorpt., bound-state reson. meas., interaction pot. electron density depend. 7—21631
surface (110), ion bombarded, He atom scatt. 7—64863
surface (110), O and O_2 adsorption, dispersion, bonding and precursor state 7—6991
surface (111), adsorbed Cl, weakly ordered and disordered, struct. studies 7—2365
surface (111), NO mol. impact, kinetic energy transfer correl. study 7—22414
surface (111), O_2^+ surface scatt., harpooning transitions, O_2^- formation 7—36805
surface (111), scattering of CO_2 linear triatomic molecules, energy transfer processes 7—22423
surface (111), Tamm surface state 7—58849
surface microstructure on rough surfaces, scanning tunnelling microscopy studies 7—21580

silver continued
- surface plasmons, resonant optical excitation *(Korean)* 7—33059
- surface states, phase shifts, image planes 7—21962
- surface structure, scanning tunnelling microscopy using high-stability vibration insensitive microscope 7—18922
- surfaces, (111) and (100), effective mass of image-potential states 7—64304
- surfaces, corrugated, plasmon surface-polariton reson. studied with pyroelectric calorimeter 7—52440
- target, He^{2+} electron capture and stripping cross sections 7—10753
- thermal equilibrium vacancies, positron lifetime studies 7—44535
- thermal vacancy form., positron lifetime meas., BaF_2 scintillator appl. 7—42434
- thin film form., nucleation and growth processes 7—2419
- thin film growth, in situ study by internal stress meas. 7—16890
- thin films, chemisorption of O, electrical resistivity meas. 7—33110
- thin films, discontinuous, post-deposition resist., ageing studies 7—58909
- thin films, surface sensitivity of fluoresc. EXAFS in refl. conditions 7—64750
- thin films on NaCl, preferred orientations, detection of complete set 7—39542
- thin films resist. increase during O_2 adsorpt., surface roughness effects calcs. 7—45519
- ultradisperse particles in holographic emulsion, photolum. 7—33446
- ultrathin films, elec. cond., size effects *(Russian)* 7—45520
- ultrathin films on Si, electromigration, scanning AES study 7—63891
- wettability against ZrO_2 ceramics 7—52191
- work fn., temp. depend. , anal. 7—52737
- XPS, background removal 7—39355
- Ag, binding energies and elastic constants, one-parameter model pseudo-potential calc. 7—44650
- Ag films, adsorbed layers of 1-butene and 1,3-butadiene, SERS 7—22251
- Ag^+ ion in Na_2O-B_2O_3 glass, UV absorption spectrum 7—7721
- Ag:Ne^+, ion implantation in elemental solids, range profile, gamma-ray spectra 7—2959
- Ag/AgCl electrodes fabricated with IC-compatible technologies, chemical sensor reference appl. 7—8343
- Ag/Cu interface, metastable solid soln. form. by ion mixing 7—12163
- Ag/Fe (001) interface, hyperfine fields 7—58847
- Ag/GaAs(InP) interfaces, interactions, XPS and elec. transport studies 7—7384
- Ag/$Hg_{1-x}Cd_xTe$ interfaces, morphology, Hg bonding effects 7—7021
- Ag/In thin film couples, interface $AgIn_2$ cpd. form. and props., gamma ray spectra 7—21688
- Ag/polymer mirrors, specularity and stability 7—37095
- Ag-Ag_2S, reference electrode, high temp. behaviour in aq. alkaline sulphide solns. 7—39714
- Ag-Ag_4RbI_5-Ag ionic conducting system, elec. current press. and relax. effects, plastic deform. obs. 7—52123
- Ag-AgCl surface system, adsorpt.-enhanced Raman scatt. and optical absorpt. 7—53301
- Ag-AgCl-ZnS photoinduced periodic struct. for planar waveguide study 7—43371
- Ag-AgI-Ag 2D ionic cond. system, fractional dimensionality of Ag dendrites 7—45100
- Ag-Al layered structures, backscattering spectra, anal. by computer program 7—64840
- Ag-Au, thin interface regions, EXAFS studies 7—59285
- Ag-Au bilayers, EXAFS and X-ray reflectivity meas. 7—27821
- Ag-backed polyacrylonitride films, photostabilisation studies 7—37107
- Ag-CdTe (100) interface, photoemission studies, surface struct., growth behaviour, Schottky barrier and surface photovoltage 7—39352
- Ag-chalcogenide contacts, interdiffusion, struct., comp., electron irrad. effects 7—21686
- Ag-D films, implanted, elec. resist. meas., vibr. props. 7—38775
- Ag-ethylene-vinylacetate copolymer metal-polymer contact, pot. barrier electronic props., photocurrent spectra meas. 7—27419
- Ag-GaAs, excimer laser annealed Au(Ag) contacts 7—12857
- Ag-InP Schottky diodes formed on cleaved surfaces 7—58850
- Ag-O solid solutions, annealing, grain boundary segregation of O 7—33679
- Ag-PbTe electrical contacts, photothermal deflection meas. 7—38784
- Ag-polyethylene, adhesion of metal films, effects of Ar^+ bombardment 7—28267
- Ag-Si composite targets, sputtering, surface protrusions obs. 7—22475
- Ag-Si interfaces, micro-quantitative AES anal. using SEM-SAM apparatus 7—27147
- Ag-Teflon composites, temp. depend. far-IR absorpt. of Ag smoke 7—3041
- Ag+Ag, projectile and target K X-ray prod., target thickness fn. anal. 7—30978
- Ag+He^{q+}, L-subshell ionisation, X-ray prod. 7—50303
- Ag+Pb^{q+}, electron capture, K X-ray emission spectra study 7—36524
- Ag_3 clusters isolated in solid Xe matrices, reson. Raman scatt. and photoisomerisation process 7—25696
- $Ag_5{}^{q+}$, electronic struct., Dirac scattered wave study 7—42818
- Ag_n clusters, multiply charged, stability 7—50440
- $(Ag)_n{}^-$ clusters, mass distribs., mass spectra 7—50431
- $Ag_2(Ag_3)$, ground state pot. energy surfaces 7—25441
- ^{110}Ag tracer diffusion in single and polycrystal Al_2O_3, 627-1400°C 7—2270
- Al/Ag layers, surface plasmon dispersion, plasma wave effects, reflectivity meas. 7—58848
- Al-Al_2O_3-Ag MIM structs. biased near breakdown voltage, optical emission 7—52853
- As-S:Ag photodoping, energy expenditure determ. *(Russian)* 7—21261
- As-Se:Ag amorphous films, Ag doping profiles, ellipsometric studies 7—7779
- $As_{1-x}S_x$:Ag film, coordination distance determ., EXAFS study 7—64004
- As_2S_3:Ag, amorphous, charge fluctuation, Ag doping effects 7—7700
- Au-Ag sandwiches, grain boundary electron scatt. *(Russian)* 7—12883
- a-C-Ag thin multilayer struct., vacuum condensation, interface development, sheet cond., thickness 7—21681
- CdI_2-Ag interface, absorpt. and luminesc. spectra studies *(Russian)* 7—59224
- CdS-Ag, size quantisation in CdS layer, surface plasma spectroscopy 7—32936
- CdTe:Ag, segregation coeff., recoil implanted tracer technique 7—21461
- Co/Ag, compositionally modulated layered films, saturation magnetisation and FMR, thickness depend. 7—7565
- Cu mirrors, Ag^+ implanted, laser oxidation and optical props. 7—5971
- Cu/Ag composite discontinuous thin films, aging and field effect studies 7—7413
- Cu-Ag sandwich, sputter etching, microprojections growth 7—22885
- Ge-Se:Ag amorphous films, Ag doping profiles, ellipsometric studies 7—7779
- $Ge_{30}S_{70}$:Ag chalcogenide films, Ag photodoping, optical transmission spectra 7—59231
- InP-Cu(Au)(Ag), interphase contact interaction 7—33087
- $In_{2-x}Sn_xO_{3-y}$/Ag/$In_{2-x}Sn_xO_{3-y}$ magnetron sputtered transparent heat-reflective films, thermal stability study 7—53426
- Li-Al_2O_3-P_2O_5:Ag glasses, Ag^0 centre thermal and photochemical conversion, spectroscopic consequences 7—39906
- NaCl:Ag Frenkel defect recomb., thermally stimulated electron emission obs. 7—64869
- $NaNO_3-KNO_3$:Ag^+, diffusion coeffs. meas. by electrochem. methods 7—52097
- Ni/Ag multilayer thin films, enhanced magnetisation 7—17204
- Ni-Ag multilayer films, magnetisation and FMR studies 7—22147
- Ni-Ag overlayers, pulsed electron beam irradiation, heat flow model 7—38062
- Ni-Ag(001), Au doped, thin films, interphase boundaries, struct. and composition 7—27158
- Pb-Ag supercond.-normal conducting film structures, Andreev scatt. 7—45572
- PbSe:Ag, electron irrad. stimulated impurity diffusion 7—63878
- RbCl:Ag^+, hydrostatic press. depend. of tunnelling splitting 7—64590
- RbCl(Br)(I):Ag^+ crysts., paraelec. centres, elec. dipole moment temp. depend., dielec. meas. 7—38508
- Si:Ag, implantation damage regrowth studied via Ag depth profiling 7—22730
- Si:Ag-Ag, formation of Schottky junctions by Ag implantation in Si 7—12784
- Si-Ag multilayer reflector for EUV 7—20388
- Si-SiO_2-Ag(Cu)(Au)(Pd)(Ti) MOS structures, diffusion coeff. meas. in elec. fields, solid solubilities 7—2279
- T permeation through Au layer plated on stainless steel 7—6852
- Tc-Ag point contacts, current-voltage characts., temp. depend. studies *(Russian)* 7—7335
- TiO_2/Ag/TiO_2 struct., Ag thickness effect on optical transmission *(Rumanian)* 7—17354
- V-Ag proximity coupled supercond. multilayer, penetration depth of mag. field 7—52910
- ZnCdS:Ag/Cd(S,Se):Cu mixed photoconductor system for electrophotography 7—2636
- ZnO/Ag/ZnO magnetron sputtered transparent heat-reflective films, thermal stability study 7—53426
- ZnS:Ag scintillator in detector for fluorescent X-ray adsorption spectroscopy 7—24751
- ZnS-CdS:Ag,Ni,Co phosphors, photolum., energy level model 7—59245
- ZnSe:Ag, cationic substitutional impurities and metal vacancy, microscopic models 7—27296

silver alloys
- Ag-^{111}In, O agglomeration in presence of radiation defects 7—26791
- dilute, EFG, asymmetry parameter calcs. 7—2545
- Ag-Ag, thin film system, phase growth, electron microscope obs. 7—58488
- α-Ag-Al, thermal expansion, X-ray determ. 7—32685
- Ag-Al alloy, superconductor film structs., fabrication and appls. *(Spanish)* 7—27483
- Ag-Al film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7—21705
- Ag-Au, external surface adsorption isotherm 7—6978
- Ag-Au, valence level splitting 7—45139
- Ag-Au-Zn ternary system, liq., thermodynamic functions *(German)* 7—44856
- Ag-based dilute alloys, low temp. elec. resist. 7—52565
- Ag-brass, mixing layer, friction props., ion beam mixing *(Chinese)* 7—51888
- Ag-Cu (12 at.%), supersaturated solid soln., decomp. kinetics, effect of creep *(Russian)* 7—33748
- Ag-Cu (14 at.%), stepped X-ray K absorpt. spectra *(Russian)* 7—39313
- Ag-Cu (15 wt.%), rapidly solidified, microsegregation 7—59524
- Ag-Cu systems, amorphisation induced by ion mixing 7—21300
- Ag-Ge granulated films, Coulomb gap and hopping conduction 7—38774
- Ag-Ge liq. eutectic alloys, elec. resist. and struct., 600 to 900 K *(German)* 7—45334
- Ag-Ge liquid alloy, structural phase transitions, photoemission studies 7—1836
- Ag-Ge-Ga-Al FCC alloys, faulted structure, X-ray diffr. studies 7—58292
- Ag-In, atomic radial distrib. function, close order sorting parameter *(Russian)* 7—58206
- Ag-In (Sn)(Sb)(Ge), liq., activity coeffs. of O 7—3284
- α'-Ag-Mg, annealed, twin like domain boundary, high resolution electron microscopy 7—26763
- Ag-Mg, commensuration and discommensuration characteristics, modulation periods 7—46463
- Ag-Mg (15.0 wt.%), disordered alloy, SRO, X-ray diffr. study 7—16490
- Ag-Mn, nonlinear dynamic suscept. meas. at spin-glass transition 7—45694
- Ag-Mn-Al, beta to zeta reversible transformation, elec. resist. meas. *(Russian)* 7—16728
- Ag-Mn-Sb, dilute metallic spin glasses, response time, temp. depend. study 7—2896
- Ag-Ni systems, amorphisation induced by ion mixing 7—21300
- Ag-Pd, random alloys, residual electrical resistivity, first-principles calc. 7—2569
- Ag-Pd alloys, H_2 permeability at 2 kbar press. and high temp. 7—27011
- Ag-rare earth alloys, press.-induced structural transitions and mag. props. 7—7542
- Ag-Sn, internal oxidation kinetics, influence of oxide particles density 7—13722
- Ag-Sn hypoeutectic alloys, primary phase shape rel-to cooling rate and comp. 7—59509
- Ag-Sn-Te system, ternary, enthalpy of mixing *(German)* 7—21469
- Ag-Tb(Tm) dilute alloys, magnetoelastic coupling coeff., 5d virtual found state effects calcs. 7—53108
- Ag-Zn, corrosion in H_2S, surface analysis, AES, XPS *(Japanese)* 7—53955
- Ag-Zn, dynamics of β' to ζ transform., elec. resist. obs. *(Japanese)* 7—53720

silver alloys continued
Ag-Zn (50 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7—32658
Ag-Zn intermetallic phase, reversible electrode 7—17802
AgAl concentrated alloys, vacancy activation enthalpies 7—32431
AgAl, short-range order-induced equilib. resist. conc. depend. meas. 7—26700
Ag_xAu_{1-x}, Al-K_α XPS intensities 7—27870
AgCd, electronic structure, disordering effects *(Russian)* 7—32901
AgCd, martensite transformation and shape memory effect, resistivity and thermoelectric power meas. 7—53729
AgCu powder, ultrafine, surface segregation of atoms during oxidation 7—54004
AgCu thin epitaxial films, struct. investig. *(Russian)* 7—12528
AgMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7—7525
Ag_xPt_{1-x}, Al-K_α XPS intensities 7—27870
AgSb, impurity-vacancy and impurity-impurity interactions calc. from diffusion enhancement 7—6672
AgSn, impurity-vacancy and impurity-impurity interactions calc. from diffusion enhancement 7—6672
AgSn, solvent and solute diffusion enhancement, effect of non-random solute distrib. around vacancies 7—63868
Al-Ag, anelastic effects due to precip. and dissoln. 7—13487
Al-Ag, decay and short-range ordering *(Russian)* 7—44795
Al-Ag, γ' precip. growth, TEM studies at atomic level 7—46491
Al-Ag, ledge interphase boundaries, growth kinetics, computer modelling 7—65041
Al-Ag, steady-state creep, effect of isochronal ageing 7—17598
Al-Ag (5 wt.%), anelastic effects, quench sensitivity, precip. and dissolution 7—53784
Al-Ag (5.9 at.%), precip., positron study 7—46485
Al-Ag alloys, γ' precipitates, convergent-beam electron diffr. studies, space-group anal. 7—11854
Al-Ag alloys, isothermal ageing, hardness and creep behaviour 7—8068
Al-Ag system, trapping and diffusion mechanism, μSR study 7—45863
Al-Zn-Ag, phase diagram tielines, anomalous SAXS studies 7—53705
Au-Ag-Cu-Pd, cast microstruct, segregation, TEM obs. 7—39495
Au_2Ag intermetallic cpds., charge redistrib., L-edge XANES study 7—64816
Bi-Ag, struct. of 10 mole % Ag alloy, liq. and amorphous states 7—6512
Ca_3Ag_8, giant cells, polyhedral packing 7—11992
$Cd_{97}Ag_3$, Ag density of states, Auger and photoelectron spectra, Clogston-Wolff model calcs. 7—2451
$CeAg_{1-x}In_x$, magnetisation process, strain effects 7—64488
Cu-Ag, surface segregation 7—44829
Cu-Ag alloy thin films, co-deposited, phase form. 7—59492
Cu-Ag alloys, two-phase, models of tensile behaviour from components 7—46570
Cu-Ag-Pb system, thermodynamic optimisation 7—46421
Cu-Ag-Ti brazing alloys with active Ti additive, bonding of Syalon 7—39846
Cu-Ag-Zr, serrated flow, disappearance 7—17588
Cu-Al-Ag (5.4, 5.2 wt.%), ageing, hardness, precip. energy 7—65127
Cu_3Au ordered alloys, twin boundary structure, TEM anal. 7—2027
DyAg, antiferromag. crystalline and ferromag. amorphous alloys, spin dynamics, μSR study 7—45873
ErAg, sp. ht. meas. 0.5 to 21 K 7—52994
Fe-Ag sputtered films, thermal stability, X-ray diffr. and Mossbauer studies 7—58679
Fe-Cu-Ag amorphous alloys produced by vapor quenching 7—7849
$In_{0.95}Ag_{0.045}Ga_{0.005}$, ^{111}Cd quadrupole interaction, temp. dependence, lattice electric field gradients *(Chinese)* 7—7183
$In_{0.95}Ag_{0.045}Ga_{0.005}$ alloy, quadrupole interactions, TDPAC study 7—38521
LaAg, nonmag. cpds., transport props. and electronic struct. 7—2575
LaAg nonmagnetic metallic glasses, negative TCR and electronic struct. studies 7—52562
LuAg, nonmag. cpds., transport props. and electronic struct. 7—2575
Mo-Ag, pseudoalloys, Ni and Co effect on interphase interaction 7—27975
Ni-Ag amorphous thin films, crystallisation and internal constraints *(French)* 7—2433
Ni_xAg_{1-x} amorphous thin film, RF sputtered, real-time crystallization kinetics *(French)* 7—52349
NiGeAuAgAu alloyed ohmic contacts to AlInAs-GaInAs heterostruct., charact. 7—22016
Pb-Sn-Ag solder alloys, phase equilibria 7—46426
Pb-Sn-Ag system, eutectic temp. rel. to Ag content, phase diagram, thermodynamic props. 7—65005
Pd-Ag alloy electrodeposition assisted by laser beam *(German)* 7—39440
Pd-Ag alloy electroplated coating contact and corrosion resistance and wear 7—3509
Pd-Ag gates in MOS structures for use as H sensors 7—65364
Pd-Ag-Fe (1 and 2 at.%), plastically deformed, elec. resist., short range order effects 7—27318
Pd-Ag-Rh, electronic structure, KKR-CPA method 7—64074
Pd-Cu-Ag, ordering and precipitation, field emission microscopy studies *(Russian)* 7—46472
$Pd_{0.8}$ $Ag_{0.2}$-T systems, solubility meas., comparison with $Pd_{0.8}Ag_{0.2}$-D and $Pd_{0.8}Ag_{0.2}$-H systems 7—21474
$Pd_{100-x}Ag_x$, plastically deformed, elec. resist., short range order effects 7—27318
$Pd_{0.9}Ag_{0.1}D_{0.61}$, lattice dynamics and phonon line shapes 7—2120
Se-Te-Au(Ag) liq. mixtures, electronic props. 7—64247
Sn-Ag-Sb thermal fatigue-resistant solder alloys, equilibrium solidification 7—46443
TbAg amorphous alloys, local mag. anisotropy energy estimation 7—7503
TbAg, sp. ht. meas. 0.5 to 21 K 7—52994
W-Ag pseudoalloys, Ni and Co effect on interphase interaction 7—27975
YAg, nonmag. cpds., transport props. and electronic struct. 7—2575
$YbAgCu_4$, strong electronic correlations 7—45194
Zn-Ag dilute alloy single crysts., thermally activated and quantum creep, impurity effects *(Russian)* 7—26755

silver compounds
AgCl-Ag films, photo-induced gratings due to radiative TE modes 7—22363
binary molten mixtures, elec. cond. 7—12340
chalcogenide-type fast-ion conductors, diffuse X-ray scatt. 7—21044
chalcogenides, molten, US vel. investig. 7—38124
halide colour photographic materials *(Japanese)* 7—56358

silver compounds continued
halide materials for hologram mass production 7—25780
halide photochromic glass, colouring and bleaching 7—57497
halides, exciton-phonon processes, book chapter 7—29610
halides, photographic image quality evaluation *(Japanese)* 7—24718
intercalation compounds with InSe and In_2Se_3, prep. 7—54146
photographic materials, Ag-based, importance in colour photography *(Japanese)* 7—56365
poly(ethylene oxide)-KAg_4I_5, room temp. ionic cond. comp. depend. meas. 7—12363
poly(ethylene oxide)-$LiAg_4I_5$, room temp. ionic cond. comp. depend. meas. 7—12363
thiogallate optical filter, narrow-band selective, for two lines 7—43335
$[Ag_6Ge_4P_{12}]Ge(Si)_6$, bonding relationships and electronic struct. calcs. 7—16941
$[Ag_6Sn_4P_{12}]Ge(Si)_6$, bonding relationships and electronic struct. calcs. 7—16941
Ag halide emulsion microcrystals, Maxwell-Wagner effect 7—16800
Ag halide emulsion multiple holographic transmission gratings 7—57267
Ag halides, polycrystalline low loss fibres, plastic deformation mechanism 7—37189
Ag halides photographic plates, relief-phase holograms, copying 7—43013
Ag/AgCl electrodes fabricated with IC-compatible technologies, chemical sensor reference appl. 7—8343
Ag-Ag_2S, reference electrode, high temp. behaviour in aq. alkaline sulphide solns. 7—39714
Ag-Ag_4RbI_5-Ag ionic conducting system, elec. current press. and relax. effects, plastic deform. obs. 7—52123
Ag-AgCl surface system, adsorpt.-enhanced Raman scatt. and optical absorpt. 7—53301
Ag-AgCl-ZnS photoinduced periodic struct. for planar waveguide study 7—43371
Ag-AgI-Ag 2D ionic cond. system, fractional dimensionality of Ag dendrites 7—45100
Ag-As-Se glasses, electrical conductivity studies 7—27369
Ag-O solid solutions, annealing, grain boundary segregation of O 7—33679
Ag_3AsS_3, incommensurate phase, electroacoustic echo obs. 7—45400
Ag_3AsS_3, proustite, crystal, use in performance meas. of IR objective 7—57511
Ag_3AsS_3, proustite, energy band struct. at phase transitions 7—2167
Ag_3AsS_3 proustite crysts., ultrasonic wave absorpt. temp. depend. meas. *(Russian)* 7—44707
Ag_3AsS_3 undoped proustite crystals, photolum. obs. 7—33445
$Ag_{0.15}As_{0.425}Se_{0.425-x}Te_x$ chalcogenide glasses, ionic and electronic cond., comp. depend. study 7—12768
AgBr, desorption of gelatin by means of sodium polystyrene sulphonate 7—15022
AgBr films with optical absorpt., sensitizing dyes effect on ionic cond. 7—26999
AgBr grain surface, Ag clusters, small, photolytic, oscill. of photoionisation thresholds 7—36841
AgBr particles, spectral sensitization, dye decomposition and Ag form., efficiencies *(Japanese)* 7—35610
AgBr thin films and microcrystals, surface pot., ionic cond. data anal. 7—58534
AgBr, vibr. states, rot. transitions, isotope shifts, Dunham pot., microwave spectra anal. 7—42605
AgBr:Rh^{3+}, IR radiative recomb. 7—7748
AgBr/AgCl interface, photocarrier transfer and energy band location studies 7—45433
AgBr-AgI crystals, strain-ageing 7—6627
AgBr-CsBr fibres, growth by Stepanov's method 7—31533
$(AgBr)_9$ clusters, quantum chem. CNDO calcs. of photographic process, latent image growth and structure model 7—28321
$AgBr_{1-x}I_x$ rock-salt solid solns., local struct., X-ray studies 7—63586
$Ag(CO)_n$, (n=1,3) electronic struct. 7—36445
AgCl, adsorbed, Ag cluster SHG enhancement by transient resonances 7—20325
AgCl, adsorption of 3,3′-dimethyl-9-ethylthiacarbocyanine dyes, XPS study 7—33964
AgCl, electronic struct. of intrinsic interstitial defects 7—21852
AgCl films deposited by evaporation and RF sputtering, compositional and morphological anal. 7—16892
AgCl, strain ageing, temp. depend. 7—65065
AgCl:I, impurity centre local electron states 7—45207
AgCl-Ag clusters on Ag electrode surface, optical second harmonic generation, SERS, luminesc. 7—11057
$AgCl_{0.95}Br_{0.05}$, IR transmitting fibres, optical props. 7—37185
$AgClO_4$ influence on lowest triplet state props. of N-vinylcarbazole 7—62435
$AgClO_4$ soln. in acetonitriles, struct. of Ag^{II} and Ag^{O} solvates, EPR and electron spin-echo studies 7—17216
$AgCrS_2$ two dimens. superionic conductor, DC cond. theory 7—16804
$AgCu(AgCu_2)$, ground state pot. energy surfaces 7—25441
$AgGa_{1-x}In_xS_2$, solid solns., conc. depend. of band gap 7—52423
$AgGa_{1-x}In_xSe_2$ thin films, evaporated, photosensitivity and optical props. study *(Korean)* 7—53423
$AgGaS_2$, chalcopyrite, crystal growth, nonlinear IR props. 7—37040
$AgGaS_2$, reflectivity spectra, 1.2 to 25 eV, contrib. of electronic transitions 7—46067
$AgGaSe_2$, broadly tunable infrared parametric oscillator 7—11052
$AgGaSe_2$, chalcopyrite, crystal growth, nonlinear IR props. 7—37040
$AgGaSe_2$, cryst. field and spin-orbit interactions at fundamental gap, reflectivity meas. 7—16997
$AgGaSe_2$ crysts., light scatt. and transparency, annealing expts. 7—3338
$AgGaSe_2$, optical band-pass filter using accidental isotropy and optical activity 7—15966
$AgGaSe_2$, reflectivity spectra, 1.2 to 25 eV, contrib. of electronic transitions 7—46067
$AgGaSe(Te)_2$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7—27252
$AgGaX_2$ (X=S,Se), low temp. reflectivity spectra 7—53366
Ag_2HgI_4, photosensitivity near a superionic phase transition 7—41522
Ag_2HgI_4, thermochromic phase transition, Raman and optical absorption studies 7—7680
$Ag_8HgS_2I_6$, superionic cpd., electrical and mechanical relax. 7—44900
β-AgI, anharmonic thermal vibrs., X-ray diffr. 7—51982
AgI, calibration of ionic conductivity meas. system 7—48777
α-AgI, cation diffusion and dynamic correlation 7—52124

- **silver compounds** continued
  - α-AgI ion-exchange reaction with β''-Al_2O_3-Na_2O, potentiometric study 7—54230
  - α-AgI, ionic motions and neutron inelastic scatt., mol. dynamics studies 7—27004
  - AgI, mol. consts. and millimeter-wave rot. transitions, meas. 7—10555
  - AgI particles, ice nucleation activity 7—26918
  - AgI phase diagram, molecular-dynamics simulation 7—26912
  - AgI, submillimeter cond., permitt. spectra meas. 7—44901
  - AgI, two-phase mixture, effect of dispersoid on elec. transport 7—2621
  - AgI/α-Fe_2O_3 composite electrolytes, phase transition temperatures *(Chinese)* 7—38244
  - AgI-Ag_2MoO_4 glasses, ionic conductors, mechanical and electrical relax. 7—44687
  - AgI-Ag_2MoO_4 glasses, ionic conductivity, effect of structural relax. 7—44903
  - AgI-Ag_2MoO_4 system, conductivity in the liquid and glassy states 7—44881
  - AgI-Ag_2O-B_2O_3 fast ion conducting glasses, struct., XANES studies 7—63483
  - AgI-Ag_2O-B_2O_3 glasses, superionic, crossover freq. between phonon and fracton regimes, scaling behaviour 7—44728
  - AgI-Ag_3AsO_4 superionic conducting glass, cond. and glass form. studies 7—32711
  - AgI-AgBr-CuI system, ice nucleating ability, UV irrad. effect 7—66247
  - AgI-AgCl solid solns., ice nucleation, X-ray diffr. 7—58179
  - AgI-$AgPO_3$ glasses, thermoelec. power 7—6867
  - AgI-CsI(KI)(NaI), binary molten mixtures, elec. cond. 7—12340
  - $AgI_{0.75}$-$KI_{0.25}$ mixture, Soret effect meas. under microgravity 7—21499
  - $Ag_7I_4VO_4$, superionic conductor, thermoelec. power, 25-60°C 7—21517
  - $Ag_{1/2}In_{1/2}PS_3$ lamellar cpd., cryst. struct. refinement studies 7—58235
  - n-$AgInSe_2$/polyiodide junctions, photoelectrochemical activity 7—2704
  - $AgIn_5Se_8$ photoelectrodes, thermodynamic stability in electrolytes 7—54330
  - $AgInTe_2$ polycrystalline thin films, elec. and optical props. study 7—58924
  - $AgMo_2$, (M=Cr, Fe, Co), delafossite-type cpds., mag. props. 7—2879
  - AgN_3, elec. cond. under high press., decomp. by dielec. breakdown 7—27010
  - $AgNO_2$ crystal, room temp. electronic energy band calcs. 7—7113
  - $AgNO_2$ crystals, band structure calc. 7—21807
  - $AgNO_3$, countercurrent diffusion with HCl in cellulose and Nafion films 7—12377
  - $AgNO_3$, electrical resistance effects accompanying high pressure and temperature melting and decomposition 7—16719
  - $AgNO_3$, metastable phase III, ferroelectricity 7—39052
  - $AgNa(NO_2)_2$, low temp. triplet exciton decay, photolum. decay temp. depend. meas. 7—21821
  - $Ag_{0.25}NbSe_2$:Li, Li diffusion and intercalation 7—16806
  - Ag_xNbSe_2 intercalation cpds., crystal structures and staging 7—12023
  - Ag(Ni, S) ternary alloys, surface cosegregation props. 7—52206
  - AgO cathode used in AgO/Zn batteries, decomposition kinetics 7—46827
  - AgO, tetragonal, struct. and mag. props. 7—32399
  - $(AgO_2)_x$ complexes, (x=1,2), bonding and configuration, matrix isolation ESR spectra anal. 7—19905
  - Ag_2O-Al_2O_3 ceramics and single crysts., cond. fluctuations and contact noise meas. 7—58840
  - Ag_2O-Tl_2O-B_2O_3 glasses, physical props. and tandem monovalent ions effect 7—3013
  - $(Ag_2O)_{0.1}(B_2O_3)_{0.9}$ glass network struct., mol. dynamics study 7—6539
  - $(Ag_2O)_x(B_2O_3)_{100-x}$ glasses, microstruct. and electronic cond. studies 7—6534
  - AgOH, metal-OH bonding study 7—52240
  - $Ag_2P_3I_2$, solid electrolyte, prep., props. and cryst. struct. 7—32396
  - $AgPO_3$-based glasses, struct. and elec. props., Raman spectra and ionic cond. meas. 7—6550
  - $Ag_4P_2O_7$, glassy and cryst. states, thermal props., IR spectra 7—44845
  - $Ag_4P_2O_7$, high-press. polymorph, characterisation 7—1991
  - $Ag_2Pb_4Nb_{10}O_{30}$, ferroelectric with tetragonal W-bronze struct., first-order transition 7—39048
  - α-Ag_2S, energy gap, EMF consts. determ. by SALS program *(Japanese)* 7—16943
  - Ag_2S, fractal dimensionalities of ionic trails andisosets in superionic conductors 7—6869
  - Ag_2S, superionic cond., density functional theory 7—32697
  - Ag_2S, superionic conductor, single-particle trajectories and isojets, fractal behaviour 7—26608
  - Ag_2S-Ag_2Se-Ag_2Te, quasi-binary systems, elec. conductivity, thermoEMF 7—21908
  - Ag_2S-Al_2O_3 composites, stoichiometry and homogeneity, interfacial effects 7—6815
  - Ag_3SI-potential forming ions-solution interface, potentials calcs. *(Russian)* 7—27138
  - $Ag_2S(Se)$-$Ag_2Te(Se)$ liq. and glassy semicond., activation energy of carrier thermal generation, elec. meas. 7—17035
  - $Ag_2S(Se)(Te)$-$Cu_2S(Se)(Te)$ liq. and glassy semicond., activation energy of carrier thermal generation, elec. meas. 7—17035
  - Ag_3SbS_3, ferroelectric transition, electric field perturbed NQR 7—17276
  - Ag_3SbS_3, pyragyrite single crystals, electroacoustic echo 7—7293
  - Ag_3SbS_3, pyrargyrite, incommensurate phase, NQR study 7—45837
  - $AgSbTeO_6$, ionic conductivity and powder X-ray diffr. characterisation 7—12362
  - β-Ag_2Se, high temp. phase, band parameters, energy struct. 7—12603
  - Ag_2Se:Sn, solid electrolyte, microscopic disorder, Mossbauer spectroscopy 7—58533
  - $(Ag_6Sn_4P_{12})Ge_6$ cluster cpd., elastic behaviour and vibr. anharmonicity 7—12223
  - Ag_2Te, domain struct. and phase transforms., electron diffr. and microscopy studies 7—58194
  - Ag_2Te-Ag_4SSe, thermoelectrical props. 7—45364
  - Ag_xTi_{23}, stage-2 interaction cpd., order-disorder phase transition 7—12255
  - $Ag_{1/3}TiS_2$, intercalation cpd., transport and mag. props. 7—52572
  - AgTlTe, molten, struct. factors and radial distrib. functions, X-ray diffr. meas. 7—26617
  - $Ag_{0.5}V_{0.5}PS_3$, struct., metal ordering and mag. props. 7—16517
  - AgX (X=Cl,Br), extruded fibres, optical and material props. 7—37184
  - β-Al_2O_3-Na_2O-Ag_2O solid electrolyte, appl. in SO_x sensor 7—326
  - $Cs_2Ag^IAu^{III}X_6$, (X=Cl,Br), valence study by X-ray absorption spectra at Au L_3 edge 7—7791
  - $Cu_xAg_{1-x}InSe_2$, liquid-encapsulated Bridgman-Stockbarger melt growth and props. 7—59403
  - CuTlS(Se)-AgTlS(Se), solid solutions, phase formation 7—7976
- **silver compounds** continued
  - $Eu(Cu_{1-x}Ag_x)Si_2$, substitution effects on mixed valence behaviour, Mossbauer and XANES studies 7—64183
  - KBr-AgBr, binary molten mixtures, elec. cond. 7—12340
  - $NaNO_3$-$AgNO_3$ solid soln., X-ray diffr. investig. 7—6594
  - Na_2O-SiO_2-Ag_2O, $Na^+ \rightleftharpoons Ag^+$ ion-exchanged, elec. conduction 7—27002
  - poly(ethylene oxide)-$RbAg_4I_5$, room temp. ionic cond. comp. depend. meas. 7—12363
  - $RbAg_4I_5$ ionic conductivity meas., electrodeless meas. method 7—48777
  - $RbAg_4I_5$, solid electrolyte, microscopic disorder, Mossbauer spectroscopy 7—58533
  - $RbAg_4I_5$, superionic conductor, diffusional modes calc. *(Russian)* 7—27003
  - $RbAg_4I_5$ superionic crystals, fine struct. of Raman scatt. spectra 7—46005
  - Rb_2AgI_3, energy band struct., fundamental optical absorption 7—7093
- **SIMD computers** *see parallel processing*
- **SIMS** *see secondary ion mass spectra; secondary ion mass spectroscopy*
- **simulation**
  - *see also aerospace simulation; analogue simulation; brain models; digital simulation; flow simulation; hybrid simulation; modelling; physiological models; plasma simulation; semiconductor device models*
  - alloys, dislocation glide during ageing, hardening phase particle interaction modelling *(Russian)* 7—38010
  - benzene, soln., photoelectron emission spectra and simulated spectra 7—5719
  - butylamine, soln., photoelectron emission spectra and simulated spectra 7—5719
  - Czochralski cryst. growth, simulation of jet cooling effects 7—17408
  - drug transport kinetics in membranes, simulation in organized assemblies 7—54511
  - eutrophication process in coastal bay, 3D eco-hydrodynamic model 7—55082
  - ferrocene, soln., photoelectron emission spectra and simulated spectra 7—5719
  - free electron laser EUV, three-dimens. simulation 7—43131
  - gauge theory, fast fermion algorithm 7—61477
  - heat and power system long-term thermodynamic performance 7—3716
  - ingot solidification, temp. field, ZD simulation 7—33650
  - LNG vapour plume, interaction with storage tanks, simulation 7—1593
  - lyotropic mesophase, spinning, director distrib. in mag. field *(French)* 7—51616
  - metal/solid electrolyte interface, elec. simulation 7—52122
  - multiphase interface and interaction problems, probabilistic modelling and simulation 7—52219
  - QCD with fermions, Langevin simulations 7—61570
  - quantum field theory, relaxation and finite volume effects, stochastic numerical simulations 7—61481
  - semicrystalline polymer, loop entanglement in constrained liq. region, asymptotic behaviour 7—26666
  - solar cells, AM 1.5 global and direct solar simulation and secondary reference cell calibration 7—23175
  - solar insolation simulation by compact-source iodide lamps 7—23122
  - solar simulators and I-V meas. methods 7—54310
  - steel, low C, sheets, yielding rel. to prestrain, uniaxial tension 7—46553
  - styrene-n-butyl acrylate emulsion copolymers, microstruct., ^{13}C NMR 7—11958
  - surface water simulation by MacCormack method 7—55119
  - system theory, conf., Knoxville, TN, USA (Apr. 1986) 7—14714
  - WWER-440 basic principle simulator, data presentation 7—25026
  - H_2, solid, dynamic isentropic loading, high press. eqn. of state, computational simulations 7—32747
- **simulation, digital** *see digital simulation*
- **simulation of computers, digital** *see virtual machines*
- **simulators** *see simulation*
- **Sinanoglu's theory** *see atomic structure*
- **sine-Gordon model** *see nonlinear field theory*
- **sinewave generators** *see function generators*
- **single-chip microcomputers** *see microprocessor chips*
- **single phase rectifiers** *see rectifiers*
- **single quantum well structures** *see semiconductor junctions*
- **sinks, heat** *see heat sinks*
- **sintering**
  - *see also densification*
  - bronze BrAZh, elec. discharge sintering of powder from swarf, electrophys. and mech. props., microstruct. 7—27974
  - ceramic composites, liq. phase sintered, hot isostatic pressing 7—64989
  - ceramic composites, sintering, role of shear deform. 7—64988
  - ceramics, green and sintered, elasticity calc. from US velocity meas. 7—2085
  - ceramics, microstruct. charactn. by image anal. 7—3547
  - ceramics, multiphase, sintering 7—64963
  - ceramics, powder prep., sintering and compaction, internal combustion engine appl. 7—3240
  - diamond, powders, dynamically synthesised, polycrystal microstructure formation during sintering 7—22603
  - electrical ceramics, high-alumina, sintered state range widening, temp. depend. of melt apparent viscosity 7—46396
  - ethyl cellulose, sintering, activation energy 7—64998
  - ferrites, synthesis and sintering kinetics and mechanisms 7—13423
  - glass, porous, sintered, pore size distrib. meas., dynamic water expulsion method improvement 7—13678
  - glass powders, calcia-aluminosilicate, sintering and crystn., kinetic processes 7—37877
  - gradient index glass rods prep. by sol-gel index modifying ion interdiffusion process 7—7952
  - grain boundary, unstable spreading of fluid inclusion under normal stress 7—26761
  - hard metal parts, sintered, local alloying 7—27997
  - heredity phenomenon, sinterability characteristics linked with prep. method, pore vol. reduction rate increase in temp. jump 7—53655
  - liquid phase sintering, pore filling, critical grain size for liq. flow 7—46364
  - liquid phase sintering treatments, phase diagrams 7—7911
  - metal particles, sintered, low freq. vibr. modes, Mossbauer study 7—45853
  - MgO-monticellite ceramic, high resoln. TEM and STEM study 7—22738
  - microoptic components formed by local modification of the structure of porous glasses 7—43451
  - microstructural development during intermediate and final-stage sintering 7—64952

sintering continued
Mo-Ni, activated sintered, sintering behaviour and mech. props. 7—7929
mullite, Al_2O_3 and ZrO_2 particle reinforced, prep. by reaction sintering, fractographic study 7—22800
mullite-alumina composites, sintering and charactn. 7—3252
neck shape and limiting grain boundary diffusion/surface diffusion in solid-state sintering 7—64951
particles, ultrafine, consolidation kinetics, influence of interface irregularity *(Russian)* 7—53649
piezoceramic narrow-strip element resonance freq. dispersion diagrams, texture and ionic substitution effects 7—1363
porcelain, sintering kinetics, struct. evolution 7—28004
porosity, influence on characts. of sintered materials 7—7910
powder materials, electric contact sintering method 7—13401
powder plastically worked articles, annealing effect on behaviour in temp. jump and substruct. 7—27961
powder sinterability characteristics linked with manuf. method, mech. processing and heat treatment effects 7—53652
powders, high alloy, prod. by water atomisation 7—53658
powders, temp. jump behaviour, manufacture method and impurities effect 7—13402
pressure sintering, computer simulation using finite element anal. 7—3214
O′-β′-sialon ceramic composites, fabrication 7—64990
silica glass, F-doped, fabrication by sol-gel method 7—43277
sphene glass ceramics, radioactive waste immobilisation, sintering, porosity 7—27984
steel, austenitic stainless, liq. phase sintering, effect of Si additions 7—53678
steel, Cr-Mo, sintered, ageing and steam oxidation, effect of P 7—7930
steel, duplex stainless, sintered, mech. props., corrosion resist. and high temp. oxidation resist. 7—7928
steel, high-speed, powdered, struct. after sintering in presence of liq. phase 7—53677
steel, high-speed, produced from machining waste, liq. phase forming during sintering 7—3226
steel, P/M, produced by hot forming, strength characts., influence of porosity, C content and compacting method 7—53823
steel, Si-Mn, sintered, mech. props. *(German)* 7—22831
steel, stainless, powder compacts, props., influence of sintering conditions *(Korean)* 7—17496
steel-VC composites, cold sintered, mech. props., bonding integrity 7—39471
thermal stress anal. using moving grid 7—53648
thermodynamics, problems in nomenclature and symbols 7—64962
two-particle solid solution sintering, theoretical considerations 7—64961
viscous, under uniaxial load 7—27959
zonal segregation in powder bodies, model analysis 7—27962
Al powders, cold sintering 7—64972
Al-Cu compact, struct. form. during sintering 7—53675
Al-Ni-Fe(-Co) powders, cold sintering 7—64972
Al-Si, graphitic, hot extruded powders, sintering, antifriction props. 7—13409
Al-Si/$MoSi_2$ stable contacts to shallow junctions 7—52847
Al-stainless steel powder compacts, liq. phase sintering 7—7916
Al_2O_3 ceramics, sintering, effect of TiO_2 *(Japanese)* 7—3248
Al_2O_3 fine powders, high purity, props. and sinterability *(Japanese)* 7—22621
Al_2O_3, sintered, erosion and strength degradation 7—17663
Al_2O_3, sintered, X-ray stress meas. *(Japanese)* 7—8169
Al_2O_3-MgO, diphasic xerogels, densification, sintering, isostructural seed, epitaxy 7—27987
Al_2O_3-MgO-TiO_2-Na_2O system, sintering and creep, Na_2O influence, Cable and Reijnen-Readley models *(German, English)* 7—7933
Al_2O_3-SiC composites, microstruct. and mech. props. *(Japanese)* 7—22821
Al_2O_3-SiO_3, mullite, prep. by sol-gel method, microstruct. and mech. props. 7—46386
Al_2O_3-TiN composite, interfacial reaction and mass transport of components during sintering 7—3254
Al_2O_3-TiN powder composites, densification kinetics and struct. form. during sintering under high press. 7—53687
Al_2O_3-TiO_2-$NaO_{1/2}$ system, elec. cond. meas. to detect suspected liq. phase 7—39467
Al_2O_3-ZrO_2 ceramics, densification kinetics 7—27992
Al_2O_3-ZrO_2 composites, high temp. behaviour and microstruct. study with HVEM *(Japanese)* 7—22819
$Al_2(TiO_3)_3$ ceramics, sintering, microstruct., bending strength, additives effect *(Japanese)* 7—17601
Au fine powder, synthesis from metallic aerogels 7—3216
B_xC ceramics, pressureless sintering with polycarbosilane addition 7—46389
BN, cubic, polycryst., influence of sintering conditions on phys. props. 7—22618
c-BN, high press. sintering 7—22615
BN, wurtzitic compacts, sintered, particle size distrib., hardness, phase comp. 7—59603
Ba(Ti, Zr)O_3 powders, hydrothermal prep. 7—64957
$BaTiO_3$ based ceramics for multilayer ceramic capacitors, chemical processing 7—46399
$BaTiO_3$ ceramics, grain struct. and phase anal. *(German)* 7—58496
$BaTiO_3$ ceramics, sintering, liq. phase enhanced discontinuous grain growth control 7—46384
$BaTiO_3$ ceramics, zone sintering, dielec. props. rel. to microstruct. 7—13078
$BaTiO_3$ composites, dielec. and elec. props., rel. to prep. and microstruct. 7—64559
Bi_2S_3-$PbBi_2S_4$ system, chemically twinned phases, X-ray diffr., TEM obs. 7—32462
$Bi_4Ti_3O_{12}$ ceramic fabrication, grain-oriented, by normal sintering, sintering mechanisms *(Japanese)* 7—22619
$CaLa_2S_4$ optical ceramic, powder synthesis 7—37067
β-Ca_2SiO_4, prep. by firing at 950°C 7—3238
$CaZrO_3$, sintering, porosity, mech. props., corrosion resist. 7—39664
CdO-Bi_2O_3, crystallographic state of CdO lattice during sintering with Bi_2O_3 addition 7—37944
CdS/CdTe sintered solar cell photovoltaic props. rel. to CdS film sintering conditions *(Korean)* 7—65476
CdS/CdTe solar cells, effects of CdS film thickness on photovoltaic props. 7—65468
Cd_2SnO_4, sintering synthesis and props. 7—64954
CeO_2:Y^{3+}(Gd^{3+})(La^{3+}), grain boundary effect, elec. meas. 7—38248

sintering continued
Cr_3C_2-Ni-P hard metal, Cr_3C_2 solution in Ni matrix, liq. phase influence 7—53689
Cr_2O_3, pure and MgO doped, sintering kinetics 7—13418
Cu fine powder, synthesis from metallic aerogels 7—3216
Cu powders, sintering, densification, grain growth *(Japanese)* 7—53662
Cu spheres, 2D arrays, rearrangement during sintering 7—46361
Cu-Cr powders, sintering, densification rel. to Cr content 7—13405
Cu-P alloy powder, contact form. during liq. phase sintering 7—7925
Cu-Sn-Pb system, struct. form. during sintering 7—64967
Fe, porous, segregation of impurity elements, alloying elements selection and activated sintering 7—53742
Fe powder, ultrafine, and hot forged specimens, reduction temp. effect on struct. form. and props. 7—53670
Fe powders, sintering, densification, grain growth *(Japanese)* 7—53662
Fe-Co alloys, powder metallurgy produced, mag. props. 7—33211
Fe-Cr-Mo-Mn-C-P, sintered, ageing and steam oxidation, effect of P 7—7930
Fe-Cu, pore form. during sintering, effect on mech. props. 7—64970
Fe-Cu, sintering, form. of Cu pockets in Fe grains 7—7922
Fe-Cu alloy powder, contact form. during liq. phase sintering 7—7925
Fe-Cu-P, sintered, ageing and steam oxidation, effect of P 7—7930
Fe-graphite compacts, sintering, alloying, mech. props. 7—39455
Fe-N mag. moments and bulk prep. by reduction-sintering method with heat treatment 7—7936
Fe-Ni-Al, sintered, ageing, precip. strengthening, tensile strength 7—39536
Fe-P, sintered compacts, struct. and mech. props., effect of P addition 7—7917
Fe-P system, sintering at atm. press. 7—64971
Fe-P-Cu(Ni)(Mo), sintered atomised powder premixes, mech. props. 7—7931
Fe-Sn mixed powder compacts, activated sintering *(Korean)* 7—3221
Fe-VC composites, cold sintered, mech. props., bonding integrity 7—39471
α-Fe_2O_3, reduction-sintering prep., mag. props. 7—59054
(La,Ca)(Co,Mn)O_3, sinterability, phase composition and microstructure 7—33622
$LaCrO_3$-Cr cermets, mech. props., interparticle welding 7—39630
La_2O_3, thermal expansion coeff. below room temp. 7—12332
Li_2SiO_3 pellets, sintering, density, struct., porosity 7—53682
$MgAl_2O_4$ spinel, preparation and IR optical applications 7—37066
MgO compacts, sintering, densification and porosity rel. to $Mg_3(PO_4)_2$ additions 7—17505
MgO, sinterability, microstruct. changes during sintering 7—22624
MgO, sinterability, prep. and charactn. of sample powder 7—22623
MgO-Al_2O_3-SiO_2-GeO_2 cordierite ceramics, sintering, microstruct., thermal props. 7—52088
MgO-CaO, activated sintering, densification, microstruct. *(Chinese)* 7—13410
Mg_2SiO_4, fosterite-based ceramic with BaO addition, synthesis, sintering, struct. and props. 7—46397
Mn-Cu, sintered damping alloy, tempering, & solid soln. breakdown mechanism 7—22692
Mo powder, sintering of porous bodies, rate growth and heredity phenomena 7—53652
Mo-Cu pseudoalloy obtained by sintering of powdered mixtures, chromising investig. 7—54003
Mo-Ni-Co-Sn, liq. phase sintering, grain boundary migration, coherency strain effect 7—22604
Mo-W system, reduction and alloy form. in MoO_3-WO_3-H_2 system 7—7923
Mo-ZrO_2, sintered composites, tetragonal to monoclinic transform. of ZrO_2 *(Japanese)* 7—13450
Mo-ZrO_2, sintered composites, mech. props, microstruct. *(Japanese)* 7—13558
$NaGe_2P_3O_{12}$ glass-ceramic, synthesis, thermal expansion meas. 7—46406
$(Na_{0.5}K_{0.5})NbO_3$, sintering, densification and elec. props., effect of Ba additions 7—46387
Na_2O-B_2O_3-Ga_2O_3-Y_2O_3 glass, porous, leaching and sintering 7—7953
Na_2O-B_2O_3-SiO_2 glass, porous, sintering temp., glass transition temp. *(Japanese)* 7—7954
Na_2O-B_2O_3-SiO_2 glass ceramic, prep., SiO_2 replacement, phase separation, struct. 7—13428
Nb, sintering with transient liquid oxide phases *(German)* 7—27958
Nd-Fe-B system, permanent magnet, mag. props *(Korean)* 7—7554
Nd-Fe-B system, temp. depend. of coercive force, effect of annealing, aging and sintering 7—27560
NdHoDyFeB permanent magnets with zero temp. coeff. of induction 7—53047
Ni powder, heredity phenomenon in sintering, pore vol. reduction rate increase in temp. jump 7—53655
Ni powder plastically worked articles, annealing effect on behaviour in temp. jump and substruct. 7—27961
Ni reinforced Al, matrix crystn. and sintering, role of reinforcing phase 7—33625
Ni reinforced LiF-NaF, matrix crystn. and sintering, role of reinforcing phase 7—33625
Ni-Cd secondary cell performance effect of Cd electrode sinter, cell testing 7—65448
PZT:Nb ceramics, sintering, pair doping, elec. characts. 7—39469
Pb$(Mg_{1/3}Nb_{2/3})O_3$ ceramics for microdisplacement actuators, electrostrictive characts. *(Japanese)* 7—17270
Pb$(Mg_{1/3}Nb_{2/3})O_3$ ceramics, dielec. props. 7—46382
Pd fine powder, synthesis from metallic aerogels 7—3216
Si powder layers, melt recrystallisation for solar cell fabrication 7—17492
a-Si-metal-Si structures, rapid thermal sintering and annealing 7—21700
SiC ceramics, hot pressed, grinding, surface damage, bending strength *(Japanese)* 7—17602
SiC ceramics, reactivity with various additives, uses as effective sintering aids 7—46383
SiC, high-press. self-combustion sintering from fine mixed powders of Si and C *(Japanese)* 7—3249
β-SiC powder, sintering, phase transform. rel. to additives *(Japanese)* 7—17527
SiC, sintered, fracture after Li exposure 7—28103
α-SiC, sintered, hot corrosion by molten salts, strength degradation mechanism 7—33813
SiC, sintered, microstruct. and props., influence of fabrication method *(Japanese)* 7—22622
α-SiC, sintered, occurrence and distrib. of B-containing phases 7—39466
SiC, sintering phenomena 7—17504

sintering continued
- SiC whisker reinforced Al_2O_3, ZrO_2 or glass composites, microwave sintering, microstruct. 7–27995
- SiC-based ceramics, sintered and hot isostatically pressed, microanalytical investigation 7–27991
- Si_3N_4 based powder materials with SiC component, comp. effect on mech. props. 7–27998
- Si_3N_4, gas press. sintering, fracture toughness, fibre like struct., additions effect 7–13414
- Si_3N_4, hot isostatic pressing with $BeAl_2O_4$ addition *(Japanese)* 7–27994
- Si_3N_4, nitridation of Si powder compacts in N_2-H_2 gas mixture *(Japanese)* 7–3247
- Si_3N_4 powder, physico chem. characts. before sintering *(Japanese)* 7–64980
- Si_3N_4 powders, high press. not pressing, mech. props., thermal cond. temp. depend. 7–3231
- Si_3N_4, sintered, fatigue strength under rotary bending 7–65128
- Si_3N_4, sintered, microstruct., mech. props., Pr_6O_{11} additive effect 7–17506
- Si_3N_4 whisker reinforced Al_2O_3 or ZrO_2 composites, microwave sintering, microstruct. 7–27995
- Si_3N_4, with MgO addition, phys. and tribological props., effect of hot-pressing time *(Japanese)* 7–65150
- Si_3N_4-Al_2O_3-Y_2O_3(CeO_2)(La_2O_3) ceramics, sintered, IR and Raman spectra 7–46000
- Si_3N_4-SiC composite, sintering, Vickers hardness *(Japanese)* 7–8116
- Si_3N_4-TiC composites, densification, matrix-dispersoid reaction, mech. props. microstruct., impurities effect 7–64994
- Si_3N_4-Y_2O_3-Al_2O_3, pressureless sintering 7–17503
- SiO_2 powder compacts, densification rel. to sintering atmosphere 7–13417
- SiO_2-Al_2O_3 powders, prep. by spray pyrolysis, sinterability, effect of chem. comp. *(Japanese)* 7–3246
- Si_2ON_2, impure densification by liquid phase sintering 7–17494
- Sm_2(Co, Fe, Cu, Zr)$_{17}$ sintered compact permanent magnet, mag. props., comp. and heat treatment effects *(Korean)* 7–2894
- SrO.5.6Fe_2O_3, doped with kaolin and BaB_2O_4, sintering temp., effect on structural and mag. parameters 7–7543
- $TaVO_5$, thermal expansion coeff. below room temp. 7–12332
- $Ta_{16}W_{18}O_{94}$, thermal expansion coeff. below room temp. 7–12332
- (Ti,Cr)B_2 sintered electrode exposed to liq. Al, degradation, effect of segregated Cr 7–28045
- (Ti,W)C-Ni_3Al, composite prep. by liq. phase sintering, wettability of carbide by molten Ni_3Al, 7–64987
- Ti filters, filters, hydrodynamic compaction and sintering 7–7915
- Ti-Al-Fe, mech. props., investig. as implant material *(German)* 7–46647
- Ti-Al-V (6, 4 wt.%), powder metallurgy, fatigue props. rel. to microstruct. 7–8096
- Ti-Fe powder mixture compacts. sintering behaviour in H atm., TiFe synthesis 7–53672
- Ti-Fe-Mn, sintering, dilatometry, thermographic obs. 7–13404
- Ti-Fe-Mn compacts, vol. changes in sintering, Mn Influence 7–7926
- TiB_2 ceramics, pure and liq. phase sintered, processing and microstruct. development 7–3251
- TiC, ultrafine powder behaviour during annealing and sintering 7–3244
- TiC-Fe-Cr alloyed with Si, high-Cr, sinterability and mech. props. improvement 7–64986
- TiC-Ni-Mo sintered carbides, struct. and physicomech. props. 7–3256
- $Ti_xMo_yC_z$-TiO_2-C black mixture, complex carbide interactions on heat treatment, homogenisation 7–53684
- TiN-Ni heterophase materials, strength rel. to sintering characts. and components conc. 7–53822
- $Ti_{1-x}Nb_xCo_{0.5}N_{0.5}$ solid solns., prod. factors influence on struct. parameters of variable comp. phases 7–7940
- TiNi rapidly solidified alloys, shape memory behaviour 7–22780
- TiO_2 powders, dispersant use, sintering, microstruct. 7–46378
- $TiSi_2$ ultrafine powder prep. and film charactn. 7–64975
- UO_2, oxidative sintering, microstruct. 7–3239
- UO_2-CeO_2, sintering, solid soln. form. 7–3289
- W base heavy metal alloys, mech.-props., porosity, impurity effects 7–17495
- W doped wire, effect of dopants on microstruct. *(Korean)* 7–17547
- W wire, K-doped, non-sag struct. form., model 7–7957
- W-Ni, sintering, liq. phase and solid-state, influence of dislocation density 7–64969
- W-Ni powder compact, activated sintering process, electrical resistance meas. 7–27969
- W-Ni-Cu(Fe)(Cr), sintered heavy alloys, contiguity var. in W spheroids 7–53668
- W-Ni-Fe, sintered, ductility and precip. 7–17589
- W-Re alloys, annealed and sintered, elevated temp. softening, appl. for thermionic energy conversion 7–28077
- WC cemented carbides, sintering, impurities, powder quality 7–3253
- WC, high press. sintering, microstruct. 7–39470
- WC, powder, sintering of porous bodies, rate growth and heredity phenomena 7–53652
- WC-Co, high press, sintering, microstruct. 7–39470
- WC-Co compact, stereological analysis of struct. form. during consolidation of carbide powder 7–53688
- WC-Ni hard metal parts, sintered, local alloying 7–27997
- WC-stainless steel composites, corrosion-resistant optimum prod. conditions 7–65164
- WC-TaC-Co, N contained cemented carbides, sinterability, mech. props. rel. to prep. 7–17507
- Y_2O_3 powders, agglomerate strength distrib., US meas. 7–46379
- ZnO based varistors, sintering, multiparametric anal. 7–64978
- ZnO-Bi_2O_3 system, sintering, role of Bi_2O_3 7–64977
- $ZrC_{0.98}$, sintered polycryst., primary recrystn. process 7–28056
- ZrO_2 ceramics, strength, effect of freeze-drying of $Zr(OH)_2$ 7–13415
- ZrO_2, MgO partially stabilised, SrO sintering aid addition, microstruct. and chem. aspects 7–64983
- ZrO_2, MgO partially stabilised ceramics, thermal treatment, mech. props., microstruct. 7–65067
- ZrO_2, solid electrolytes, effect of admixture cation radius on sintering 7–13398
- ZrO_2, Y_2O_3 partially stabilised, hot isostatic pressing, high temp. mech. props. 7–28082
- ZrO_2, Y_2O_3 partially stabilised, microstruct. after ageing at high temp. 7–65061
- ZrO_2, Y_2O_3 stabilised, amorphous second phase, sintering, grain morphology, fracture roughness, surface degradation 7–46612

sintering continued
- ZrO_2, Y_2O_3 stabilised, phase transform., mech. props., surface struct. rel. to polishing *(Japanese)* 7–53791
- ZrO_2, Y_2O_3-doped, powders, sinterable, chemically coprecipitated in non-aq. medium 7–64982
- ZrO_2-Al_2O_3 composite powder, thermal decomposition prep. for porous ceramics 7–13422
- ZrO_2-Y_2O_3 ceramics, toughened, prep., microstruct., mech. props. 7–3409
- ZrO_2-Y_2O_3-Co_3O_4 materials, Co_3O_4 effect on struct. and phase comp. 7–27990
- ZrO_2-Y_2O_3-TiO_2 ceramics, transport, sintering behaviour 7–13421

sinusoidal generators *see function generators*

SIT *see field effect transistors*

size, particle *see particle size*

size effect
- alkali halides, XANES K-spectra, cryst. pot. and size effects 7–64748
- alloys, disordered, multi-site correlations, at. size effect 7–16347
- amorphous semiconductor superlattices, stochastic carrier transport props. *(Chinese)* 7–12791
- amorphous superlattices, mean free path and size quantisation 7–22003
- CDW conduction, dynamics and finite size effects 7–64221
- disordered conductors, low temp. current spatial fluctuations, size depend. and coherent length 7–17003
- metal particles, quantum size effects 7–7597
- metal wire, analytical expression w.r.t. Cottey mean free path 7–12885
- quantum transport theory for small-geometry structures 7–52640
- quasi-one-dimensional wire, cond., thermopower, effect of lifetime broadening 7–45252
- quenched random media, size effects of electric breakdown 7–2974
- semiconductor films and wires, cond., carrier quasielastic scatt. by acoustic phonons under size quantization conditions 7–38781
- semiconductor size-effect modulation laser, three-terminal, gain-switching characts., fast transient response 7–10936
- semiconductor superlattices, excitons, optical props., size effect *(Japanese)* 7–12621
- semiconductor thin films and wires, hot electrons under quantum size effect conditions 7–38780
- superconducting film, scale effect on transition temp. 7–7432
- thin films, electron diffusion, scattering-act correl. effects 7–32972
- Ag alloys, dil., EFG, asymmetry parameter calcs. 7–2545
- Ag ultrathin films, elec. cond., size effects *(Russian)* 7–45520
- Al clusters, electron energy spectra, size effects 7–7103
- Al film, quantum size effects and dimensionality 7–45521
- Al thin films, elec. cond. quantum size effect, Kubo formalism study 7–22034
- Al thin films, stress relax. mechanisms 7–21784
- AlOOH, stacking fault and size effects on X-ray diffr. line profile calc. 7–2032
- Au alloys, dil., EFG, asymmetry parameter calcs. 7–2545
- Au single crystal films, localisation and size effect 7–17118
- Au thin films, quantum size effect in optical transmission and refl. spectra 7–59275
- Bi films, size quantised, IR spectrum, optical cond., two-band model 7–27803
- Bi, nonlinear size cyclotron resonance, second harmonic generation calcs. *(Russian)* 7–13036
- Bi, ultrathin films, size quantization effect on effective electron mass 7–38778
- BiI_3, layered semiconductor clusters, degenerate four-wave mixing, quantum size effects 7–20358
- $Bi_{1-x}Sb_x$ narrow-gap semicond., intraband breakdown, current-voltage characts., size effect conditions 7–52624
- CdS/polymer composites, degenerate four-wave mixing 7–62795
- CdS-Ag, size quantisation in CdS layer, surface plasma spectroscopy 7–32936
- Cs, oxidation, quantum size effect of conduction electrons 7–13643
- Cu clusters on graphite, Auger spectra, size effect on linewidths 7–53455
- Cu thin films, elec. cond. quantum size effect, Kubo formalism study 7–22034
- Cu, whiskers, derivation from Matthiessen's rule, effect of surface condition 7–45276
- Cu wire, size effect of DC resistance *(Chinese)* 7–12694
- GaAs-AlAs superlattices, 2D excitons, magneto-optical study *(Japanese)* 7–13139
- GaInAsP/InP heterostruct., luminescence polarisation, quantum size effects 7–13210
- GaSb-AlSb multiple quantum well structs., size-induced direct to indirect gap transition 7–7373
- $In_xGa_{1-x}As$-GaAs single-quantum-well heterostructs., pseudomorphic, optical characterisation 7–22303
- InGaAsP-InP heterostruct. laser output characts., quantum size effect active layer thickness variation effects 7–31323
- InSb/Teflon SIS structs., EM magnetoplasma Gaussian beams, propag. and size resonances study 7–58905
- PbTe-EuTe short period superlattices, props., appl. to laser diodes 7–52785
- Rh polycrystalline films, electrical size effects 7–7412
- a-Si:H/a-SiN_x:H superlattice films, prep., struct., and optical props. *(Chinese)* 7–58676
- Si-silicide interface, Schottky barrier heights, size effect 7–52837
- α-Sn, thin film quantization studies using high resolution electron energy loss spectroscopy 7–27448
- W films, amorphous and finely cryst., elec. props. *(Russian)* 7–38776

skin
- annoyance and skin conductance response to natural sounds 7–3838
- capacitive RF hyperthermia, skin toxicity minimisation using saline bolus 7–28640
- cell population kinetic parameters for acute epidermal reactions in man 7–40227
- colour measurement device based on photoelec. colorimeter 7–60136
- cutaneogalvanic reaction parameters, automated recording system 7–40353
- d-amino Acid in irradiated and aged mouse, skin and lens obs. 7–18021
- dermatology appls. of lasers, overview 7–34223
- diagnostics by shadow moire topography, using Sinclair Spectrum computer *(Czech)* 7–14145
- differential cell design for in vivo photoacoustic meas. of skin absorbance 7–47293
- differential response in young and old rats to a combination of X-rays and wet or dry hyperthermia 7–23407

skin continued
  dot matrix characters, perception through skin sensation by elec. stimulation 7—28546
  electrotactile stimulation, human tracking of electrocutaneous signals, training effects 7—14025
  facial skin features, image processing algorithms and photographic techniques 7—23501
  gamma irradiation of previously irrad. mouse skin: early skin reaction and skin shrinkage 7—34198
  heat-induced changes in skin and RIF-1 tumour of mice, quantification by laser Doppler flowmetry 7—65711
  in vivo meas. using dielectric time domain spectroscopy 7—14961
  keratinocytes, cultured, human and mouse, radiosensitivity obs. 7—8656
  living human, thermo spectral anal. by Fourier transform IR spectroscopy 7—54707
  living human body, spectral radiative props. study 7—18013
  man-operator psychophysiological state estimation *(Russian)* 7—8547
  melanin content of human skin, evidence for past climates? 7—66289
  moisture assessment from meas. with a miniature resistance-type dew point sensor 7—3956
  optical radar ranging 7—24640
  psoriasis, hyperthermia treatment, comparison of heat delivery systems 7—14152
  RBE of fast neutrons rel. to dose for normal human skin and connective tissue *(Russian)* 7—47150
  stratum corneum, lipophilic pathway, Fourier transform IR spectroscopy studies 7—54510
  sunscreen penetration into human skin, photoacoustic in vivo study 7—47153
  temperature and nerve conduction velocity, time for warming-up cold extremity 7—3752
  walking horse, technique to quantify skin displacement 7—28787
  ^{60}Co γ-source, accidental irrad. of technician, long-term follow-up: eye, skin and blood effects 7—34195

skin effect
  see also anomalous skin effect
  magnetic coaxial pipe, impedance 7—5815
  metal plates, Doppler-shifted cyclotron resonance and skin effect 7—17224
  metal-insulator-semicond. struct., 2D electron gas, skin effect and nonuniform states obs. 7—64353
  metals, nonlocal cond., microwave radiation transmission 7—13269
  noble metals, near IR surface impedance, Maxwell-Boltzmann eqn. 7—7273
  T-7 tokamak, toroidal current and loop voltage temporal evol., RF-current drive expt. interpretation 7—57983
  thin metal wire, galvanomagnetic effects, effect of shape of cross section 7—17015
  toroidal magnetic material, quasistatic electromag. field, skin effect 7—64276
  weld pool steady fluid flow, 2D model, surface skin effects 7—20730
  wires and loops, inductance, upper and lower bounds 7—42850
  Bi, filamentous single crystals, static skin effect and acoustoelectric instability 7—38644
  Cu, rod, skin depth and complex mag. susceptibility, expt. 7—51
  $(FeNi)_{78}Mo_4B_{17}Si$ metallic glass, mag. shielding props., composition depend. 7—27558
  HgCdTe epitaxial layers, Hall effect and elec. resist. characterisation 7—64375
  W plates with adsorbed layers, transverse magnetoresist. under static skin effect conditions *(Russian)* 7—45369

sky brightness
  artificial night sky illumination 7—3746
  light pollution, mathematical model for predicting night-sky glow 7—9172
  Olber's paradox resolution 7—18346
  Pune, India, daylight illumination studies 7—9118
  solar eclipse sky brightness, contrib. of K-corona scattered light 7—66535

sky surveys *see astronomical catalogues*

Skyrme force *see nuclear forces*

Slater-type orbital calculations *see STO calculations*

sliderules *see calculating apparatus*

sliding contacts, electrical *see electrical contacts*

slip
  see also kink bands; plastic flow
  Al-Zn-Mg-Cu, impact toughness improvement by intermediate thermomech. treatment 7—53907
  alkali metal halides, hardening, effect of dislocation elec. charge 7—51816
  alloys, dislocation glide during ageing, hardening phase particle interaction modelling *(Russian)* 7—38010
  β-brass, strength anomaly, effect of prestrain 7—38094
  β-brass bicrystals, Bauschinger effect, grain boundary contrib. 7—46574
  Cottrell-Stokes law, thermally activated dislocation glide studies 7—2094
  creep, recovery-controlled, dislocation network model 7—2022
  crystalline materials, dislocation glide, tension, hardness effects *(Spanish)* 7—51779
  crystallites, 2D, crack growth, computer modelling 7—43787
  crystals, fractal nature of slip 7—16561
  diamond, strain measurement in convergent beam electron diffraction 7—16562
  diglycine sulphate single crystals, anhydrous, elec. activated dislocation motion 7—12069
  dislocation around crack tip, image forces and pot. energy 7—26758
  dislocation distribution growth by climb and glide over non-planar surfaces 7—16556
  dislocation motion modelling through complex dislocation ensembles in HCP cryst. lattice 7—63612
  dislocation structure, low energy, props. and effects 7—63622
  edge dislocation with included glide plane, interaction with semi-circular cut on straight boundary 7—6670
  fatigue crack initiation under cyclic torsion 7—43799
  fatigued metals, surface roughening by random irreversible slip 7—2313
  FCC bicrystals, computer simulation of non-uniform multiple slip *(Japanese)* 7—51780
  FCC crystal, constrained and unconstrained deform., multiple slip 7—44657
  ferroelastic material, plastic slip 7—12190
  ferromagnetics, multidomain, containing lattice dislocations, dynamics *(Russian)* 7—53144
  glide of twist boundary 7—2031

slip continued
  grain boundary dislocation form. by coincidence tilt boundary bulging 7—38015
  grain boundary sliding by diffusion 7—44560
  grain boundary sources for dislocations, analytical treatment 7—44568
  grain boundary-slip interaction, role in cavity nucleation 7—21219
  grain rotation, FCC {111} traces and Euler angles *(Korean)* 7—6573
  hydroxypropyl guar gels in capillary tubes, slip vels. meas. 7—11550
  intragranular heterogeneity of deformation and crystal rotation 7—53786
  lattice rotation and slip system activity, grain shape effects 7—12075
  local strain hardening and nonuniformity of plastic deformation 7—22751
  materials, anisotropic perfectly plastic, plane strain crack tip stress field 7—38106
  metallic materials, with elliptic inclusions, plastic deform. 7—28067
  metals, fatigued, dislocation patterning, labyrinth structures, rotational effects 7—38009
  metals, FCC, cyclic deform., dipolar wall spacings in dislocation struct. 7—53825
  metals, FCC, quantitative assessment of forest hardening 7—65055
  metals, hexagonal, slip transmission, crystallography 7—2024
  metals, irradiated, creep mechanisms, dislocation climb and slip 7—12194
  metals, irradiated, deformation rate, radiation swelling and creep *(Russian)* 7—44597
  metals, polycrystalline, internal friction temp. spectrum and microplasticity *(Russian)* 7—16684
  microcrack propagation, development of physically based model 7—38109
  mixed dislocations, dynamic annihilation study 7—44548
  nonhardening material, plane strain, axisymmetric extrusion, viscoplastic FEM 7—63009
  nonstationary interaction 3D contact problems for elastic solids with friction, variational method 7—43806
  plastic deformation, slip line field method for load limit *(Chinese)* 7—16071
  polycrystalline aggregate, continuous constraints model for large strain grain deformations 7—32550
  polycrystals, rate-dependent, finite elasto-plastic deformation 7—16671
  polystyrene, compressed, shear bands, macromolecular orientation, small-angle neutron scatt. 7—53821
  PVC compounds, nonplasticised, slip flow 7—6260
  pyroxene, mineral lattice defects and crystalline plasticity, review *(French)* 7—34476
  Schmid factors, anisotropic, in constrained systems 7—58397
  semiconductor crystals, Czochralski, growth, slip dislocation generation 7—22467
  single crystals, anisotropic, crystallographic cracking, effect of cross-slip 7—63735
  steel, austenitic stainless, cold-worked, SCC and hydrogen embrittlement 7—13637
  steel, austenitic stainless, dislocation structure and secondary cyclic hardening at 600°C 7—33783
  steel, austenitic stainless, extrinsic grain boundary dislocations, spreading kinetics 7—44569
  steel, austenitic stainless, high press. deform., twinned struct., TEM obs. *(Russian)* 7—46578
  steel, austenitic stainless, single cryst., SCC and pot. depend. in $MgCl_2$ soln. *(Japanese)* 7—33831
  steel, austenitic stainless, TiN dispersion hardened, creep below transition stress 7—65079
  steel, C, brittle fracture micromechanism in specimens containing intergranular cementite *(Russian)* 7—59621
  steel, C, creep, glide plane stresses, yield point, dislocation theory *(Russian)* 7—59580
  steel, duplex stainless, ferrite-austenite flow localisation during plane strain punch stretching 7—17593
  steel, fatigue threshold, effective, influencing factors 7—46607
  steel, high strength, fatigue crack growth, slip localisation, intergranular fracture 7—28120
  steel, high strength, near threshold fatigue crack growth behaviour, effect of prior austenitic grain size 7—53906
  steel, low C pearlitic, microstruct.-flow stress relationship 7—33739
  steel, metastable, anomalous plasticity, slip, microtwinning and martensitic transformations *(Russian)* 7—8056
  steel, N alloyed, mech. prop.-struct. relationship 7—3316
  steel, Ni-Cr, deform. dislocation struct., fracture 7—33740
  steel, packet martensite deformation, struct. and crystal geometry *(Russian)* 7—3357
  steel, slip processes in intersecting planes, α' martensite form. *(Russian)* 7—33728
  steel, stainless, duplex, austenitic-ferritic, cavitation erosion 7—65149
  stick-slip motion during peeling of a viscoelastic solid *(French)* 7—63005
  superplastic deformation, grain-boundary slip velocity and microstruct. *(Russian)* 7—3362
  symmetric and asymmetric fully plastic crack growth, macromech. anal. 7—51931
  W single crystals, cyclic deform. 7—22773
  AgCl, strain ageing, temp. depend. 7—65065
  Al, acoustic emission during deform. of high-purity single crysts. 7—59588
  Al bicrystals, grain boundary rumpling during sliding 7—2030
  Al, monocrystalline, Harper-Dorn creep, dislocation network theory 7—22749
  Al single crystals, cyclic deform. at low const. plastic strain amplitude 7—65114
  Al, surface damage, dislocation struct., TEM anal. 7—16564
  Al tricrystals, grain boundary sliding, triple point fold form. mechanism 7—65101
  Al two phase alloys, high temp. deformation, microtexture 7—16563
  Al, US deform, modelling of reduced bandwidth distortion to wide-area electron channelling mapping 7—16694
  Al-Cu (2 wt.%) single crystals, rolled, shear band form., ϑ precip. 7—28099
  Al-Li-Cu-Mg quaternary alloy, initiation of voiding at second-phase particles 7—39645
  Al-Li-Cu-Zr, fracture, ageing and comp. depend. 7—22784
  Al-Li-Mn (Cu), precip.-hardened, cyclic stress response and deform. behaviour 7—22791
  Al-Li-Zr rapidly solidified alloy, plastic deform. characts. 7—22777
  Al-Mg (5 wt.%) polycrystals, high temp. deform., microstruct. 7—13501
  Al-Mg alloys, steady-state creep, microstruct. development 7—53817
  Al-Zn-Mg alloy, precipitation hardening, plastic flow instability 7—22757
  Al-Zn-Mg-Cu, notched and unnotched bars, macroscopic shear localisation and fracture 7—46633

slip continued
- Au crystallites, annealing, grain boundary untwisting and untilting, dislocation climb and glide 7—12076
- $BaTiO_3$, perovskite, TEM study of dislocations 7—38003
- Be, superplastic flow, electron microscopy studies *(Russian)* 7—3360
- CaF_2, cryst., defect struct., high temp. *(German)* 7—32449
- $CaTiO_3$, perovskite, TEM study of dislocations 7—38003
- Cd, twin crossing during dynamic loading, dislocation interactions *(Russian)* 7—6629
- CdTe and CdZnTe, single-crystal substrates, struct. characterisation 7—32769
- Co, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7—59575
- Co-Ni-Ti-based alloys, critical shear stress asymmetry during stretching and compression *(Russian)* 7—8054
- CsI single crysts., dislocation internal friction mechanisms study 7—63625
- Cu based alloys, internal friction, Young's modulus, amplitude relationship *(Russian)* 7—65075
- Cu, cyclic stress-strain behavior of single- and ⟨111⟩ multiple-slip-oriented single crystals 7—26845
- Cu, fatigue near surface indentations and pits, deform. 7—46628
- Cu, neutron-irradiated single crysts., plastic deform. and stress inhomogeneity 7—22746
- Cu, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7—59575
- Cu, polycrystalline, multiaxial low cycle fatigue, crack initiation, slip bands, damage mechanics 7—53840
- Cu, single crystals, corrosion fatigue in aq. oxide forming environment 7—33823
- Cu single crystals, corrosion fatigue in aq., oxide-forming environment, electrochem. response 7—65115
- Cu single crystals, fatigue crack size distrib. 7—38101
- Cu single crystals, fatigue crack initiation mechanism, persistent slip band model 7—53869
- Cu, single crysts., with different orientations, strain localisation during high temp. deform. 7—13506
- Cu-Co, age hardened, tensile deform., acoustic emission characts. 7—13536
- Cu-Co (2 at.%), age-hardened, fatigue behaviour 7—33786
- Cu-Co (2 at.%), underaged, fatigue props., comparison of single crysts. and polycrysts. *(German)* 7—46648
- Cu-Fe-Al, cold rolled, γ to α transform. of fine α-Fe precipitates, mag. props. 7—3300
- Cu-GeO_2, dispersion hardened polycrysts., intermediate temp. embrittlement 7—53903
- Cu-Ni alloys, dislocation vel. determ., stress pulse etch pit and slip line cinematography techniques 7—63627
- CuNiSn, high-strength heterophase cryst., deform. mechanism investig. *(Russian)* 7—13509
- Fe, BCC, effective fracture energy assoc. with cleavage crack growth 7—44678
- Fe, creep, glide plane stresses, yield point, dislocation theory *(Russian)* 7—59580
- Fe-Al, B2-ordered alloys, dislocation energies and mobilities 7—58283
- Fe-base ferrite alloys, deform. behaviour, influence of mech. twinning *(German)* 7—17603
- Fe-Si (5.8 at.%) bicrystals, plastic deform., coincident twin boundaries 7—13502
- FeNiCr, strain measurement in convergent beam electron diffraction 7—16562
- GaAs, dislocation core struct. 7—38007
- GaAs, LEC growth configuration, thermal stresses, effect of liq. encapsulation, thermoelastic anal. 7—59414
- GaAs, melt grown, theoretical and expt. fundamentals of decreasing dislocations 7—53547
- GaAs, undoped, thermal activation of plastic deform., 528-813K 7—6710
- Ge ⟨111⟩, dynamical recovery 7—13475
- Ge crystals, high temp. deform., fine slip band struct. *(Russian)* 7—44561
- Ge, dislocation transmission through $\Sigma=9$ symm. tilt boundaries, dynamic and crystallographic anal. 7—63647
- HgSe, plastic deformation 7—21331
- $InAs_xP_{1-x}$, LEC-grown single crystals, growth defects and lattice strains 7—38001
- InP, melt grown, theoretical and expt. fundamentals of decreasing dislocations 7—53547
- InP single crystals, thermal activation of glide 7—21213
- InP:Ga,As,Sb single crysts., LEC growth, isoelectronic doping, dislocation density, X-ray topography 7—33549
- InP:S substrate wafers for LPE growth of laser diode heterostructures, polarised IR and X-ray topographic evaluation 7—32453
- LiF, cryst., defect struct., high-temp. annealing effects *(German)* 7—32448
- Mo, cyclic deformation 7—22719
- Mo, single crystals, rolling, rel. between dynamic recovery and changes in orientation *(Russian)* 7—53759
- Mo-base alloy, welded joint, strain hardening and fracture *(Russian)* 7—53877
- Mo(100), pulsed laser irradiated, use of LEED for surface damage charact. 7—21592
- Nb, pure, tensile deform., brittle fracture, H effect, SEM obs. *(Chinese)* 7—8078
- Nb single crystals, cyclic deform., dislocation behaviour 7—63729
- Nb-Mo-ZrO_2, dispersion hardening mechanism investig. *(Russian)* 7—13462
- Nb-ZrO_2, dispersion hardening mechanism investig. *(Russian)* 7—13462
- NbC_x, ordering processes, slip transition 7—7990
- Ni, dynamically deform., polygonisation, recrystallisation *(Russian)* 7—46504
- Ni, faceted fatigue fractures, occurrence 7—53879
- Ni, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7—59575
- Ni-base superalloy, CMSX-2 creep anisotropy, TEM anal. *(French)* 7—22764
- Ni-base superalloy, single cryst., MAR-M200, with bimodal γ' distrib., low cycle fatigue at 750 and 870°C 7—17627
- Ni_3Al, dislocation bowing and partial separation during in situ straining, TEM obs. 7—63617
- Ni_3Al, dislocation line stability 7—21212
- $Ni_{75}B_{17}Si_8$, ultrafine fine-grained, prep. from amorphous ribbon, creep deform. 7—22748
- $NiSO_4.6H_2O$ crystals, soln., grown, steps on {001} faces, screw dislocations glide 7—58181

slip continued
- PZT, shock-recovery expts. 7—38119
- Pb-Sn (9 wt.%), solid soln. alloy 7—8066
- Pb-Sn solder, deform. props. 7—46590
- Si, Czochralski grown, tensile props., 900-1200°C 7—51922
- Si, dislocation emission from cracks, X-ray topography obs. 7—38004
- Si, dislocation transmission through $\Sigma=9$ symm. tilt boundaries, dynamic and crystallographic anal. 7—63647
- Si, epitaxial growth using dual heating, slip dislocations and radial temp. gradient 7—38366
- Si, indentation dislocation rosettes length, influence of Vickers indenter edge orientation rel. to slip directions 7—58284
- Si ribbons, dendritic web grown, high temp. mech. behaviour, strain rate and temp. depend. of yield stress 7—65099
- Si single cryst., dislocation line kink mobility and double kink form. kinetics 7—26760
- Si, strain measurement in convergent beam electron diffraction 7—16562
- Si, thermoplastic deformation, nondestructive ultrasonic detection 7—12215
- Si:As, deep level spectra, ion implanted defects, laser annealing 7—21869
- SiC, 6H single crysts., dislocation glide induced plasticity *(Japanese)* 7—21215
- SiC (0001) surface, slip lines, AES studies 7—44559
- SiC(6H) single crystals, plastically deformed, dislocation glide motion 7—63624
- Tb, single crysts., plastic strain between 77 and 683 K 7—21327
- Ti alloy, two-phase, microstruct. and failure nature correl. 7—8110
- Ti alloys, microstruct. and slip characts. 7—8050
- Ti alloys, rolling deformation, $\beta \rightarrow \alpha'$ transformations *(Russian)* 7—46454
- Ti polycrystals, $<\bar{1}\bar{1}23>\{10\bar{1}1\}$ slip 7—38011
- Ti sheet, grain orientation distrib. meas. by etch pit method 7—46510
- Ti-Cr, β-eutectoid, deform. behaviour of retained β phase 7—39589
- WC-Co cemented carbides, tensile creep, 800-900°C, grain boundary sliding 7—17585
- ZN single crystals, creep, dislocation struct., high press. effect *(Russian)* 7—59578
- Zn, dislocation motion across two-component forest dislocations and point obstacles *(Russian)* 7—58277
- Zn-Ag dilute alloy single crysts., thermally activated and quantum creep, impurity effects *(Russian)* 7—26755
- Zn-Al, bicrysts. and polycrysts., creep grain boundary strengthening 7—22747
- Zn-Al alloys, transient creep, structural transformation effect 7—22758
- Zn-Au dilute alloy single crysts., thermally activated and quantum creep, impurity effects *(Russian)* 7—26755
- Zr, dislocation substruct. after hydrostatic extrusion *(Chinese)* 7—6626
- α-Zr, low stress creep at intermediate temps. 7—33745

slot antennas *see waveguide antennas*

slot lines *see waveguides*

Small Magellanic Cloud
- A7, supergiant in SMC globular cluster NGC 330, composition anal. 7—34970
- early-type stars in SMC, stellar winds props. from IUE obs. 7—47885
- F to M-type stars, CORAVEL photoelectric radial vels. and comparison with spectrographic radial vels. 7—66738
- globular clusters in SMC, spectral classification of bright stars 7—29412
- NGC 346, young open cluster in SMC, photometry, spectra and radial vels. 7—48002
- Nova 1986, discovery, position and visual magnitude estimates 7—47910
- Nova 1986, discovery, spectra and visual magnitude estimates 7—47901
- Nova 1986, October 1986 magnitude estimates 7—55655
- SMC N2, planetary nebula, mass determ. by speckle interferometry 7—24183
- spectral classification of bright stars in SMC globular clusters, catalogues 7—4354
- star clusters in SMC, catalogue of 213 new clusters 7—47735
- star clusters in SMC, observed radii and structural parameters 7—4564

small polaron conduction
- disordered media, small polaron charge transport model, density-matrix formalism calcs. 7—52612
- hopping regime, thermoelec. power, temp. and coupling strength effects 7—7196
- transient small polaron hopping motion 7—38563
- As-Te-based glasses, small polaron hopping and transport props. 7—21911
- BaO-V_2O_5-Fe_2O_3 semiconducting glasses, elec. props., Mossbauer, EPR and X-ray diffr. studies 7—7236
- Bi_2O_3-V_2O_5-CaO system, vitreous oxide semiconductor, polarisation processes 7—59139
- FeO, wustite, defect agglomeration at high temps., elec. conduction model 7—21197
- Fe_3O_4, small polaron conduction and short-range order 7—7239
- V_2O_5 and $Li_xV_2O_5$, amorphous thin films, electrical conductivity 7—58921
- V_2O_5-P_2O_5-$Bi_2O_3(Sb_2O_3)$ glasses, DC conductivity 7—45316
- $Y_{1-x}M_xCrO_3$, ($M=Mg$, Ca, Sr, Ba), electrical and thermal transport props 7—45319
- $Y_2Ti_2O_7$, small-polaron conduction 7—21915
- $Zn_{1-x}Ge_xFe_2O_4$, ferrites, atomic, mag. and electronic disorder *(French)* 7—44477
- ZnO-V_2O_5 glasses, DC conductivity 7—27327

SMC *see Small Magellanic Cloud*

smectic liquid crystals
- A phase, defect textures, nonlinear model 7—1842
- A phase, hydrodynamics, US meas. 7—1876
- A phase, point-like impurity-dislocation interactions, Peach-Kochler formula calcs. 7—11903
- A-type, focal conic texture, continuum theory 7—1878
- A-type, screw dislocation dynamics 7—21090
- 6-n-alkoxy-3-pyridinecarboxaldehyde derivatives, liquid crystalline phases 7—1847
- 4-4′-alkoxybenzoyloxy-4′-cyanoazobenzenes, monolayer smectic A_1-nematic transition, dielec. studies 7—21085
- (+)-4-n-alkoxyphenyl 4-(2″-methylbutyl)-biphenyl 4″-carboxylates, chiral smectic C phase structures, visible spectral studies 7—1855
- alkylcyanobiphenyl-phenylcyclohexanecarboxylate mesomorphic mixtures, binary phase diagrams, fluoresc. spectral determ. 7—27765
- trans-4″-alkylcyclohexylethyl- and 4″-alkylphenylethyl-4,4′-disubstituted biphenyls, liq. cryst. behaviour 7—11901
- azoxy-4,4′-diundecyl-α-methylcinnamate, smectic-A-smectic-C phase transition, heat-capacity meas. 7—58471

smectic liquid crystals continued
bicyclo(2.2.2)octane esters, mesogenic, transition temps., viscosity, birefr., electro-optical characts. 7—1863
biphenyl ester series, ferroelectric liquid crystals, dielec. props. 7—37843
bistability and domain wall motion in smectic C phases induced by strong electric fields 7—63450
block copolymer macromol. liq. cryst. melt. nematic-smectic-A transition, mean-field approx. calcs. 7—16743
N-(4-butoxybenzylidene)-4′-butylaniline smectic G liq. cryst., orientational order 7—37847
butoxybenzylidene phenylazoaniline, liq. cryst. transitions, density and US vel. studies 7—32266
4′-butoxyphenylester 4-decyloxybenzoic acid, smectic-C phase liq. cryst., zigzag model, X-ray study 7—32646
p-butyl-p′-cyanocyclohexyl-cyclohexane, smectic liq. cryst., phase struct., X-ray diffr. 7—21087
C* twisted phase, induced, helical twisting power 7—58130
C phase, chiral liquid crystals, elastic free energy 7—11900
C-phase twisted textures 7—51626
CE8, liquid crystalline, chiral and racemic, audio frequency dielectric response 7—33318
chiral, drive frequency effect on light transmission 7—21079
chiral smectic C* liq. cryst., electromech. effect 7—2978
chiral smectic C liq. crystals, mol. theory 7—1867
chiral smectic C periodic liquid crystals, light diffraction props. 7—59164
chiral smectic C phase, pitch, tilt and temp. depend. 7—32277
chiral smectic liquid crystal cells, bistability and switching 7—37842
chiral smectic-C liq. cryst., light diffr. props. in external elec. field 7—64604
cholesteryl acetylferulate, liq. cryst. transitions, glass transition and cold crystn., DSC study 7—63814
cholesteryl benzoates, smectic A phase with polar terminal groups, thermal props. studies 7—63459
cholesteryl myristate-cholesteryl benzoate mixtures, cholesteric/smectic A tricritical point, critical pitch exponents 7—38193
comb-like liquid crystalline polymers, highly ordered smectic mesophase, X-ray obs. 7—6507
condis crystal concepts for small mols. 7—37908
cyano derivatives, mesomorphic phases, polymorphism 7—2193
4- cyanobiphenyl and 4-cyanophenyl benzoate derivatives, thermotropic liquid crystalline props. 7—26629
p-decyloxybenzylidene-p′-amino-1-methylpropylcinnamate, smectic-A-chiral-smectic-c transition meas. 7—58472
defects in liquid crystals, structures, energies and interactions, review 7—63441
1,3-di(p-n-alkoxyphenyl) propane-1,3-dione, double melting and mesomorphism 7—38171
di-4′-substituted phenyl-trans-cyclohexane-1,4-dicarboxylates, mesomorphic props., effect of inserting ketone groups in terminal chains 7—21088
4,4′-di-n-alkoxy-2-hydroxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7—1866
4,4′-di-n-alkoxybenzalazines, liq. cryst. props., effect of mol. central core geometry changes 7—1866
diacetylenic liquid crystal polymers, derivatives of 10,12-docosadiyne-1,22-dioic acid 7—1868
dielectric information storage medium appl. 7—51618
dielectric relaxation on the smectic B phase in abinary mixture 7—13089
4-4′-disubstituted phenylbenzoates, mesomorphic props., effect of inserting ketone groups in terminal chains 7—21088
DOBAMBC, ferroelec. chiral smectic C phase, crit. field, temp. depend. 7—26624
DOBAMBC, smectic A-chiral smectic-C phase transition, tilt angle, polaris. and heat capacity 7—44361
DOBAMBC, smectic-A-chiral smectic-C phase transition, mean field model 7—44362
DOBAMBC ferroelec. chiral smectic C liq. cryst., helical pitch free value meas. 7—26632
ester type smectic C* liquid crystal, ferroelectric polarisation props. 7—13100
esters, influence of alkyl chain branching on smectic C formation 7—63452
p-ethyl-p′-cyanocyclohexyl-cyclohexane, smectic liq. cryst., phase struct., X-ray diffr. 7—21087
ferroelectric, helical twist and spontaneous polarisation direction, tilt orientation struct. 7—16401
ferroelectric, helical twist sense and spontaneous polarisation 7—16400
ferroelectric liquid crystal with negative dielec. anisotropy, switching behaviour 7—39084
ferroelectric liquid crystals, distortion free energy density, electrostatic screening 7—37844
ferroelectric liquid crystals, electro-optics 7—39087
ferroelectric liquid crystals, surface stabilised, disclination dynamics, switching process 7—58137
ferroelectric liquid crystals and devices 7—21094
ferroelectric smectic C* liquid crystal, alignment and switching characteristics 7—64589
ferroelectric smectics, alignment technique for displays 7—63454
fluoro-1,1′:4′,1″-terphenyls, lateral, 4,4″-disubstituted, liquid crystalline phases 7—1849
free-standing liquid crystal films, heat capacity and phase transformation study 7—6819
generalised Freedericksz transition, weak anchoring effects 7—32273
hard parallel spherocylinder fluid, smectic order and nematic-smectic transition 7—11905
hard-core models, computer simulation 7—58468
4-(n-heptyloxy)benzylidene-4-(n-heptyl)aniline, surface smectic-I hexatic layers, X-ray obs. 7—63461
N-(p-n-heptyloxybenzylidene) p-n pentylaniline, liq. cryst. transitions, density meas. 7—26821
N(p-n-heptyloxybenzylidene) p-n-pentylaniline, liq. cryst. phase transitions, density, US vel. meas. 7—1874
4-n-heptyloxyphenyl-4′-(4″-cyanobenzoyloxy)benzoate, evidence of continuous evolution of smectic A_2 from smectic A_d 7—63813
HOBACPC, chiral smectic liq. cryst. film, textures 7—44363
induced smectic phases, role of ratio of mol. lengths in binary mixtures 7—11897
layers, material props. modulated and cubic phase form. model 7—58133
lead (II) carboxylates, thermotropic phase transitions, DSC meas. 7—21441
lyotropic liquid crystal, smectic-nematic transition, electron-microscope obs. 7—32648

smectic liquid crystals continued
mixtures of A_1 and A_d phases, nematic gap obs. 7—6792
molecular model for smectic D mesophase 7—51614
nitrobenzyloxy derivatives, mesomorphic phases, polymorphism 7—2193
nuclear spin relaxation due to order director fluctuations in the smectic *A* phase 7—51615
4-n-octyl-4-cyanobiphenyl smectic-A film, struct. probing by optical SHG 7—32281
octylcyanobiphenyl, liq. cryst., elastic consts., permitt., birefr. meas. 7—21314
4-octyloxy-4′-heptyl-α-cyanostilbene, excimer fluorescence *(Russian)* 7—3093
octyloxybenzoyloxycyanostilbene, reentrant transition enthalpies, frustrated spin-gas model 7—63816
octyloxycyanobiphenyl and octylcyanobiphenyl, smectic Ad phases 7—2194
N-(p-n-pentyloxybenzylidene) p-n-butylaniline, phase transitions, mag. susceptibility meas. 7—1873
4-(4-n-pentyloxybenzylideneamino)azobenzene, liq. cryst. transitions 7—63812
phase winding and flow alignment in freely suspended smectic C films 7—26628
polar fluorodibenzoates, with smectic modifications, synthesis, transition temps. 7—32279
polymer liq. cryst., smectic phase, comb-like macromolecule conformation, determ. from neutron scatt. data 7—26623
polymeric liquid crystals, side chain, X-ray diffraction 7—1846
polymers with chiral phases, prep. 7—63453
polypropylene, isotactic, polymorphic forms, FTIR far-IR obs. 7—53339
polysiloxanes, cyano substituted side chain liq. cryst. polymers, X-ray diffr. study 7—1869
n-propyl-4′-n-decyloxybiphenyl-4-carboxylate-n-butyl-4′-n-decyloxybiphenyl-4-carboxylate, smectic-A-hexatic-B-smectic-I point, existence and nature 7—2198
pyridazine derivatives, synthesis and liq. crystalline phases, PMR, NMR and DTA studies 7—63456
pyrimidines, trinuclear, binary smectic systems with and without nematic gap 7—58141
β-sitosteryl benzoates, smectic A phase with polar terminal groups, thermal props. studies 7—63459
sitosteryl chloride-cholesteryl laurate binary mixture, polymorphism 7—12267
smectic A_1 binary mixture, nematic phase creation, phase diagram, transition enthalpy comp. depend. study 7—12269
smectic A thin sample, thermal diffusivity determ., photoacoustic effect appl. 7—44812
smectic A-smectic A transitions, density dielec. and X-ray studies 7—2196
smectic A-smectic C phase transition, molecular statistical anal. 7—58466
smectic-A-smectic-C phase transition, Frank consts. corrections, renormalisation-group method calcs. 7—16742
statistical methods, conf., Oaxtepec, Mexico, Jan. 1986 7—24268
TBBA, smectic-C phase, abnormal ultrasonic damping, anharmonic effects, ang. depend. 7—44697
terminal nonpolar cpd. binary systems, reentrant nematic phases, phase diagrams, X-ray diffr. 7—21442
tobacco mosaic virus in water, freeze-fracture imaging of ordered phases 7—3751
4-n-undecyloxyphenyl-4′-(4″-cyanobenzyloxy)benzoate, evidence of continuous evolution of smectic A_2 from smectic A_d 7—63813
InGaAsP laser amplifiers, recombination, gain and bandwidth characts. 7—57334

smell (physiological) *see chemioception*

smoke
see also air pollution; dust
air quality-degrading substances and conditioning equipment *(German)* 7—40069
atmosphere, protracted climatic effects of massive smoke injection during nuclear war 7—66297
diffusion of Gaussian puffs 7—66257
forward-scattering of light in wood smoke, depend. on electrical conductivity 7—42912
LMFBR, smoke release behaviour of burning liquid Na pools, safety anal. 7—49592
nuclear winter, smoke scavenging by atmospheric ozone 7—9109
nuclear winter studies, effects of uncertainties in smoke source term 7—34668
plumes above large-scale fires, nuclear winter simulations 7—65662
thermally-induced rise of smoke plume, mathematical simulation 7—44016
MgO smoke particles, energy filtered imaging by scanning CTEM technique 7—22404

snap off varactors *see varactors*

Snoek effect
internal friction in solids, review 7—6720
metallic glasses-H_2, mechanical relaxation behavior 7—26859
Fe-base alloys, interstitial impurity-dislocation binding energy *(Russian)* 7—58310
NaCl:Eu^{2+} crysts., mechanical strength, dopant distrib. and γ-irrad. effects study 7—26800
Nb-Ti-O alloy, struct. state obs. by internal friction, oxide precip. *(French)* 7—13494
$TaH_{0.19}$, degenerate excited H states, Jahn-Teller effects calcs. 7—52535
V-H(D), elastic shear consts., temp. depend., effect of H and D 7—63711

Snoek-Koster relaxation *see anelastic relaxation; dislocation damping*

snow
air bubble trapping in polar ice and importance for air pollution monitoring 7—4068
alpine snowfields, influence of longwave radiation on energy balance 7—23727
Antarctic snow, tropospheric and stratospheric sources of nitrates 7—55227
Arctic Ocean, snow melt, sea ice and surface albedo 7—23658
avalanche winters in Norway, synoptic climatology (1855-1985) 7—4172
black aerosol found in winter Atlantic coastal snow storms, NY 7—14318
NW China, snow cover in Qilian Mt. Basin 7—23712
corrosion-related aspects of the chemistry and freq. of occurrence of atmospheric precipitation 7—46664
density and wetness profiles determ. 7—9206
dielectric properties meas. in 3 to 37 GHz range 7—23710
distribution patterns in clearings and adjacent forest 7—66191

snow continued
- Eurasia, snow-ice cover, correlation with rainfall and temp. in E China 7—29238
- Finland, snow cover water equivalent retrieval for satellite microwave radiometry 7—23711
- flakes, solidification, pattern form. in structs. 7—34560
- Greenland snow-ice core, record of air pollution changes 7—18292
- Himalaya mountains, glaciation upper limit and assoc. characts. 7—55090
- Himalayan, snow cover area rel. to summer monsoon onset over Kerala, India 7—9125
- IR meas. of grain size and melting degree 7—23719
- lakes, underwater noise due to rain, hail, and snow 7—50830
- Manchester, England, major snowfalls (since 1880) and assoc. synoptic conditions 7—9147
- melting from barn roof, solar constant meas. 7—48256
- metamorphism, crystal morphology classification scheme 7—18233
- modelling of snow as acoustically porous material 7—55120
- Monte Carlo simulation of snow depth in a forest 7—23773
- multiwire transmission lines and insulating equipment, snow deposition effects *(Japanese)* 7—9142
- New England, USA, snowstorm, frontogenesis and symm. stability, radar characts. 7—47502
- nitrate flux on Ross Ice Shelf, Antarctica, relation to solar cosmic rays 7—55091
- nitrate scavenging by rain and snow, for Long Island, New York, USA 7—40531
- W Oregon, USA, rain-on-snow runoff, effects of clearcutting 7—23788
- remote sensing by microwave radiometry method using classification algorithm 7—23874
- remote sensing of snow cover, effect of shadowing by topography and clouds 7—23883
- remote sensing of snow cover, NOAA-7 satellite imaging method 7—23712
- Rhein-Felsberg basin, Switzerland, snowmelt and runoff remote sensing 7—23875
- rigid frame model of porous media for the acoustic impedance of snow 7—31548
- riming of snowflakes, wind tunnel study of aggregates 7—66229
- riming of snowflakes, wind tunnel study of disks and stellars 7—66228
- Scotland, Eastern Highlands, snow supply during AD 1954 to 1984 period 7—66276
- Central Sierra Nevada, United States Winter storms ice-phase water capture regions identification, use of snow O isotopic comp. 7—4084
- snow/water mixture flow in pipe, snow fraction meas. 7—26348
- strength characteristics determ. for loose snow, appl. of conical indenter instrument 7—9052
- synoptic-scale influences of sea ice and snow cover 7—47498
- Tibet Plateau, floods, droughts and snowstorms in historical times *(Chinese)* 7—18255
- tropical squall line, diagnostic modelling study of stratiform cloud region 7—29136
- United Kingdom, performance of snow forecasts from Meteorological Office fine-mesh model during 1985-6 winter 7—40540
- vapour driven convection over snow-covered surface 7—4089

SNR *see supernova remnants*

SO groups
- *see also O groups*
- classical relativistic particles with internal structure, formalism and applic. to first order internal spaces 7—41592
- dynamical group for ring pot. 7—30211
- extended technicolour model based on $SO(10)^2$, fermion mass spectrum 7—61520
- Fritzsch-Stech quark model in SO(10) 7—61547
- gauge field theory, nonAbelian, Gribov non-single valuedness, harmonic mappings 7—56448
- geometrical gauge approach for electromagnetism and gravitation 7—29851
- IBM, correspondence with fermion dynamical symmetry model 7—49262
- IBM, dynamical symmetries in non-U(6) formalism 7—41918
- induced gauge fields in a nongauged quantum system 7—41153
- Jacobi-matrix method based on SO(2,1) algebra, parabolic coords., Coulomb fns. expansion in parabolic Sturmians 7—56076
- linear frames field as fundamental self-interacting system 7—41180
- local Lorentz symm. breaking and space-time dimens. in gravit. theory 7—24803
- minimal $N=2$ supergravity in superspace 7—56135
- multiplicity-free 6j symbols, algebraic expressions, G_2 isoscalar factors 7—29796
- open bosonic Polyakov string, saddle-point spectrum anal. and chiral anomaly 7—56528
- operator identities related to the SO_3 group 7—61142
- quasi-Riemannian gravit. with local SO(3) invariance and broken Lorentz symm. 7—18670
- SO(10) GUT, neutrino see-saw and mass matrix 7—24815
- SO(10) superstring theory without intermediate scales 7—35365
- SO(10) superunification model, SUSY and $SU(3)_c \times U(1) \times SU(2)_L \times SU(2)_R$ breaking 7—61535
- SO(12) model, quark and lepton masses in six dimensions 7—9740
- SO(2,1) coherent states large-N phase integral approximation for Coulomb-type systems 7—35677
- SO(2,3) S-matrix, strong factor, heavy ion appls., phase shifts 7—30391
- SO(32) superstring theory, infinity cancellation mechanisms 7—35836
- SO(3, 2) representation, special functions 7—35729
- SO(3) Georgi-Glashow model, (SU(2) gauge-Higgs), phase structure 7—30188
- SO(3) group, nontraditional realisation 7—30204
- SO(4) pseudoparticle solutions to the Yang-Mills equation 7—35675
- SO(6, 2) model of SU(3) and its generalisation to SU(n) 7—35730
- $SO(\nu,\nu)$ pure spinors, Dirac eqn. soln. 7—41574
- SO(p,q) Kac-Moody algebra, vertex operator construction, compactified bosonic string 7—30256
- $SO(10) \rightarrow SU(3)_C \times SU(2)_L \times U(1) \times U(1)_\chi$ GUT, bounds on Z masses and couplings from electroweak corrections 7—61527
- spinor propagators in anti-de Sitter space-time 7—35797
- string propagation and affine Lie algebras on group manifolds 7—35814
- superstrings, bosonic gauge interactions, implications at lower energies 7—56126
- supersymmetric string theory, covariant quantization and Ramond-Neveu-Schwarz model 7—35815
- symmetric representations, coupling and recoupling coefficients 7—48425

SO groups continued
- type-I SO(32) superstring theory, proof of one-loop finiteness, response to comment 7—41224
- type-I SO (32) superstring theory, proof of one-loop finiteness, comment 7—41223
- type-I superstring, one-loop gauge anomaly 7—35736
- $U(6) \times U(11)$ α-cluster and collective excitation model, SO(6) dynamical symm. *(Chinese)* 7—24941
- Weyl group rotation subgroups, projective representations using O(l) and SO(l) 7—29680
- zero-energy boundary state of superheavy fermion and SO(10) monopole *(Chinese)* 7—24777

social and behavioural sciences *see behavioural sciences; social sciences*

social and behavioural sciences computing *see behavioural sciences computing*

social aspects of automation
- developing nations, role of computerised cartography 7—40409

social effects of automation *see social aspects of automation*

social sciences
- *see also anthropology; teaching*
- extraterrestrial intelligence and societies 7—35125

societies
- No entries

sociologic effects *see economic and sociologic effects*

sociology *see social sciences*

sockets (electrical) *see electric connectors*

sodar *see sonar*

sodium
- *see also nuclei with ......*
- adatoms on W (110) nuclear quadrupole interactions, NMR study 7—2937
- adsorbed on Ni (001), photoelectron diffraction spectrum calc. and Fourier transform anal. *(Chinese)* 7—13326
- adsorbed on Si (111), effect on surface oxidation 7—54025
- upper atmosphere, Na layer at nighttime, seasonal and nocturnal variations 7—55339
- upper atmosphere, Na layer density changes during twilight 7—29322
- upper atmosphere, Na layer formation from dust particles 7—66372
- atom, 3^2P state, electron impact excitation, differential cross section and alignment parameter meas. 7—20052
- atom, 3P state, photoionization polarization and correlation characteristics, energy dependence 7—5648
- atom, collisionally aided coherent optical emission 7—42561
- atom, D lines, collision-induced fluoresc., Rayleigh components 7—49998
- atom, electron scatt., relativistic effects, Kohn-Sham theory 7—42765
- atom, excited state, collisional repop. upon laser-pumping in H_2-O_2-Ar flame 7—62325
- atom, four-level system, optical pumping effect, Doppler-free laser spectroscopic techniques 7—19783
- atom, hyperfine population relax. in wall collisions 7—62326
- atom, optical piston dynamics using light-induced drift 7—10508
- atom, optically pumped, spin-polarised electron scatt., state selection 7—25663
- atom, photoionisation cross sections, ab initio RRPA calcs. 7—36462
- atom, violet bands, electronic assignments 7—883
- atom adsorpt. on Cu cluster surface, SCF ab initio and Ci calcs. 7—52259
- atom D line broadening and shift by the perturbation *(French)* 7—10501
- atomic beam absolute intensity, reson. fluoresc. obs. 7—36530
- atomic impurity in vibrationally nonequilibrium N_2 jet, excited state population and deactivation 7—42744
- atomic neutral beam, laser technique for collimating and focusing 7—62610
- atoms, degenerate resonant four-wave parametric scatt. of CW emission during optical pumping 7—57033
- atoms, desorption from hot W surface, resonance ionisation study 7—63966
- atoms, elastic positron scatt., integral eqn. approach 7—42762
- atoms, highly excited, as coherent radiations source, superradiative transitions 7—57027
- atoms, nonlinear parametrical EM wave interaction, saturation, stark shift and multipole radiation effects calcs. *(Russian)* 7—19767
- atoms, transient optical bistability fluctuations 7—62756
- atoms beam, degenerate resonant parametric interaction in spatially separated optical fields 7—43220
- atoms in flame, laser-probed resonant Voigt effect, analytical detection sensitivity 7—19764
- atoms in strong field, static Stark effect 7—50007
- atoms laser cooling to temp. of 10^{-6}K 7—10506
- BCC, cohesive energies of solids, soft-core Thomas-Fermi pseudopot. 7—21845
- boiling liquid metal, critical heat flux *(German)* 7—49565
- carrier scattering, photo- and secondary electron emission studies 7—13324
- clusters, at. desorpt. energies determ. 7—15787
- colloid in NaCl, low freq. surface enhanced Raman scatt. from NaCl-Na interface localized fractal vibrational modes 7—59195
- covered GaAs (111), adsorption of O_2 7—63957
- crystals, BCC and FCC, thermophys. props., mol. dynamics calcs. 7—2229
- CW self oscillation, four wave mixing 7—37049
- D_2 line determ. in elec. field 7—10772
- desorption from silicate glasses during X-ray microanalysis 7—23114
- diffusion coeffs. in He, Ne, N_2 and CO_2, fluoresc. detection 7—6346
- dimer, lowest triplet transition, laser-induced fluoresc., IR spectra anal. 7—36627
- dimer, optically pumped excimer laser action, expt. obs. 7—57305
- dimer, photodissoc., atomic fragment Doppler spectroscopy 7—10686
- dimer, stimulated emission based on two-step hybrid reson. 7—42691
- discharge lamps, Na loss reactions, thermochemical calcs. 7—65324
- dwarf stars, Na abundances, implications for Galaxy chemical enrichment 7—4446
- electronic band struct., interatomic distance, role of p-orbitals, EHT tight-binding calcs. 7—32906
- excited atom, quenching and time resolved fluoresc. 7—30983
- films, meas. set-up for laser blow-off process 7—11792
- freely burning arc discharge, self-reversed reson. spectral lines 7—32157
- gas, fluorescence spectra, spontaneous emission, excited state Raman and resonance enhanced three-photon scattering 7—10487

- **sodium** continued
  - gas violet bands, electronic assignments 7-15846
  - induced torque and CDW ground state 7-2838
  - ion, excess electron localisation, QUPID calcs. 7-20029
  - ion, in Ar, velocity distrib. fns., meas. 7-20961
  - ion, scatt. by diatomic gases and spherical mols., energy transfer flight time meas. *(German)* 7-57163
  - ion beam generation, field ionisation of laser-excited Rydberg atoms 7-57186
  - ion formation in vapour containing laser selected Rydberg atoms 7-10462
  - KEK Na coolant, radiochemical surveillance 7-25039
  - large clusters, struct., charge distribution and spin densities, semiempirical study *(French)* 7-26696
  - laser emission studied using heat pipe oven device 7-15882
  - late-type giant stars, abundance anals. rel to departures from LTE in Na and Al 7-60662
  - liquid, one-component classical plasma, struct. factor, self-consistent approach *(Russian)* 7-58110
  - liquid, pseudoclassical approach to electron and ion density correlations 7-6503
  - liquid, thermoacoustic engine, MHD generator 7-65495
  - liquid alkali metals, temp. depend. of mag. susceptibility 7-33152
  - liquid flow in FBR core sub-assemblies 7-767
  - Mercury, Na sputtering from surface rel. to Na atmosphere 7-24037
  - Mercury, nature and variability of Na atmosphere 7-24038
  - mesosphere Na chemistry, applicability of steady-state model 7-9281
  - mesosphere Na layer, lidar obs. 7-34753
  - microclusters, fragmentation channels rel. to magic number studies 7-5811
  - molecule, A$^1\Sigma_u{}^+$ state, long range pot. modulated gain spectra 7-19993
  - molecule, excited state dissociation 7-49952
  - molecule, excited states, pot. energy curves, Pluvinage model 7-62304
  - molecule, photodissoc., Doppler photofragment spectroscopy 7-19972
  - molecule, Stark multiplets in molecular Rydberg states 7-36665
  - molecules, b$^3\Pi_u$ state, lifetimes, laser induced fluoresc. 7-19913
  - muons in metals, valence-electron-only molecular orbital calcs. of Knight shift 7-2961
  - optically excited target, charge exchange with proton beam 7-50342
  - overlayer on PD (100), adsorption of methanol, formaldehyde and formic acid 7-21657
  - overlayers on graphite, electronic struct., initial stages of intercalation 7-53503
  - paramagnetic susceptibility calc. homogeneous electron gas model 7-45196
  - particles, electron spin-lattice relax. freezing-in, spin echo obs. 7-2921
  - particles in N$_2$ flow, size determ. by optical method, radiation loss 7-17837
  - phonon spectra, dynamical pseudopot. shell model calcs. 7-51965
  - β Pic, circumstellar gas cloud, Ca II and Na I obs. anal. 7-24130
  - pionic atom, 2p-1s transition width and energy 7-62544
  - trans-polyacetylene:Na, undoped and doped, momentum depend. dielec. functions, EELS study 7-64144
  - polyparaphenylene: Na, electron and cryst. struct., EELS and electron diffr. studies 7-63514
  - positron annihilation, high-momentum components and core enhancement effects 7-46195
  - positron annihilation in alkali metals 7-39231
  - positron annihilation rate distrib., momentum-depend. enhancement factors 7-39221
  - quartz:Na, electrodiffused, radiation-induced conductivity 7-6691
  - resonant laser interaction produced, collision processes 7-37628
  - Rydberg atoms, quantum optical bistability 7-62760
  - salts, ion-molecule interactions in DMF, IR spectrosc. obs. 7-10584
  - spin polarised beams, production and acceleration 7-49766
  - surface, O$_2$ adsorpt., photoemission and Auger studies 7-17063
  - surface (110), calculated photoemission spectra 7-3151
  - tensile strength under (110) uniaxial stress *(Chinese)* 7-26825
  - thin films, photoelectron emission spectra 7-39347
  - three-level system, collinear nondegenerate four-wave mixing 7-1213
  - total body meas. by neutron activation analysis, in vivo precision 7-65851
  - UV radiation generated by four-wave mixing, linewidth 7-15926
  - vapor in He, light-induced drift without physical adsorption on inner surface of cell 7-44089
  - vapour, bistability in intracavity resonant degenerate four-wave mixing 7-62789
  - vapour, continuous wave second harmonic generation 7-37038
  - vapour, counter-propagating beams, cross-trapping optical bistability 7-57487
  - vapour, CW phase conjugate self oscillation 7-37048
  - vapour, dimer spectral line shape, nonadiabatic effects study 7-36696
  - vapour, forward four-beam mixing, diffraction by dynamic gratings 7-15951
  - vapour, four-beam mixed dynamic gratings, diffraction characts. *(Russian)* 7-57406
  - vapour, laser-excited, anomalous blue shifted emission near D$_1$ transition 7-49996
  - vapour, light-induced current calcs. and meas. 7-44096
  - vapour, nonlinear parametrical wave interactions, Stark shift and multipole radiation effects *(Russian)* 7-30988
  - vapour, resonant four-wave frequency mixing 7-43217
  - vapour, time-delayed four wave mixing 7-10778
  - vapour, two-photon-excited state trilevel echo 7-19808
  - vapour cloud movement by light induced drift 7-15553
  - vapour ionization by laser resonance saturation 7-19791
  - vapour photoionisation pumping via two-electron shakeup 7-20195
  - vapour sensor using Au and Sb intermetallic compounds 7-18774
  - Ward identity with nonlocal interaction, effective electron mass 7-45130
  - work fn., temp. depend. , anal. 7-52737
  - X-ray L$_{2,3}$ emission satellites, one electron contrib. 7-22388
  - CaF$_2$:Na$^+$, EPR of colour centres 7-17222
  - CsI:Na, exoelectron emission, phonon drag, inhomogeneous energy distrib. 7-39366
  - CsI(Na) inorganic scintillators, role of activators 7-33459
  - Ge:Na(K), impurity addition by electrolysis 7-44578
  - Li-LiH-Na systems, solubility of H, press. and temp. depend. 7-21471
  - MgO:Na, ion implanted single crystals, HREM obs. 7-12292
  - N/s 14 kWh/21 kW batteries for electric vehicles, performance testing 7-65438
  - Na plasma, creation by resonant laser interaction study 7-32033
  - Na$^-$ identification, Na/NH$_3$ matrix, absorption and MCD spectra anal. 7-30973
- **sodium** continued
  - Na$^+$, binding to bile salts, NMR investig. 7-54442
  - Na$^+$ bombard. of target atoms, shadow cone form. calc. 7-36731
  - Na$^+$ channels in developing rat skeletal muscle, functional differences between 2 classes 7-3759
  - Na$^+$, interaction with phospholipids, ab initio SCF calcs. 7-59919
  - Na$^+$ ion production, microwave discharge ion source 7-15030
  - Na$^+$, limiting ionic cond. in aq. soln., mol. dynamics simulation 7-44879
  - Na$^+$, solvation struct. in formamide (formamide-H$_2$O), NMR relax. obs. 7-15539
  - Na/β-Na$_2$O-Al$_2$O$_3$/NiCl secondary cell, characterisation 7-65428
  - Na/steel system, NaCrO$_2$, form. threshold O level, LMFBR operation 7-42113
  - Na-He(Ne)(Ar), optical collisions, fine struct. branching cross-sections, nonadiabatic theory 7-959
  - Na-K eutectic mixture in fusion-fission pebble bed blanket, magnetohydraulic flow 7-15366
  - Na-K ion-exchanged glass waveguides, swelling characts. 7-31532
  - Na-K vapour, stimulated radiation via hybrid resonance processes 7-5641
  - Na-S cell reliability models using ceramic degradation mechanisms 7-59831
  - Na-S cells, with Na$_2$O-ZrO$_2$-Al$_2$O$_3$-SiO$_2$ glass electrolytes, ionic cond., glass transition temp. meas. 7-26998
  - Na$^+$-CO$_2$ system, pot. energy surfaces calc. 7-57015
  - Na+Be$^+$, K-shell X-ray prod. cross section meas. 7-15680
  - Na+electronegative molecule, thermal collisions, laser-induced ionis. mechanism 7-62488
  - Na+H$_2$, energy transfer expts., CARS 7-10719
  - Na+H$^+$, excitation cross sections, travelling at. orbital calcs. 7-62505
  - Na+H$^+$ charge transfer collisions, laser radiation influence 7-25646
  - Na+H$^+$(He$^+$) multiple ionisation, charge transfer cross sections 7-15706
  - Na+He, inelastic collisions at thermal energies 7-983
  - Na+He, Penning ionisation, pot. well depth calcs., electron energy spectra anal. 7-62510
  - Na+He^{2+}, charge transfer, excitation processes coupled state impact parameter model 7-62518
  - Na+He(Ne)(Ar)(Kr)(Xe), fine-struct. branching ratios, meas. 7-15676
  - Na+I, ion-pair formation collisions, model simulation of differential cross sections 7-10737
  - Na+Li, ion-pair production, laser excitation effect 7-62502
  - Na+Li$^+$, charge exchange collisions, cross sections calcs., atomic-orbital expansions method 7-36460
  - Na+N$_2$, rot. excitation in exothermic process 7-50311
  - Na+N$_2$O, gas phase kinetics, rate const. determ. 7-28272
  - Na+Na, associative ionis. cross section meas., spin-selected velocity depend. 7-42736
  - Na+Na assoc. ionisation, at. alignment, effect vel. depend. 7-28306
  - Na+Na collisions, Rydberg state forbidden transitions in laser-assisted processes 7-5617
  - Na+Na(Na*), ion pair prod., laser excitation effect 7-62507
  - Na+Na(3p), assoc. ionis., Na$_2{}^+$ form., alignment anal. 7-960
  - Na+Ne$^+$, impact excitation, spin exchange, fluoresc. spectra anal. 7-25450
  - Na+Ne$^+$(Ar$^+$)(Xe$^+$), Rydberg electrons removal, cross section meas. 7-36742
  - Na+O$_3$, gas phase kinetics, rate const. determ. 7-28272
  - Na+Rg optical collisions, (RG = He, Ne, Ar, Kr, Xe), fine struct. branching ratio determ. 7-10704
  - Na+Xe, Na D lines, collisional broadening, fine-struct. mixing, depolarisation 7-62503
  - Na+Xe (Ne), Na D lines, far wings obs. using fluoresc. excitation method 7-62317
  - Na$^+$+Li, charge exchange collisions, cross sections calcs., atomic-orbital expansions method 7-36460
  - Na$^+$+N$_2$(CO)(CO$_2$), dissoc., rot. rainbow effect, time-of-flight spectra 7-54117
  - Na$_2$, B $^1\Pi_u$ state, pot. barrier, semiclassical model calcs. 7-62282
  - Na$_2$, collisional energy transfer, dimer laser action 7-5757
  - Na$_2$ optically pumped molecular beam lasers 7-10916
  - Na$_2{}^+$, rot. angular momentum, alignment, following assoc. ionis. of Na(3p) 7-960
  - Na$_2$+Ar(He)(Ne), state selected rot. transitions, scatt. induced ang. momentum alignment 7-20005
  - Na$_2$+He, angular momentum collisional alignment Born approx. calcs. 7-964
  - Na$_2$+He, collisional depolarisation, fluoresc. spectra anal. 7-19924
  - Na$_2$+He scatt. precession induced fluoresc. modulation 7-19928
  - Na$_3$ cluster, photodissoc., bound-free transitions fluoresc. study 7-23045
  - Na$_3$ excitation spectrum, excited states 7-15770
  - Na$_3$ predissociated states, size selective depletion spectroscopy 7-15666
  - Na$_4$, valence virtual MOs for CI calcs. 7-860
  - Na$_4{}^{3+}$, stability and struct. Xα and ab initio methods, Raman spectra anal. 7-10421
  - Na$_N{}^{2+}$ microparticles, fragmentation, density-functional calc. 7-5810
  - NaI core-excited states, energy levels and lifetimes, HF calcs. 7-867
  - Na$_2$O-SnO$_2$-SiO$_2$:Na$^+$, glass diffusion of cations, 500-800°C 7-12371
  - ^{22}Na, gamma-ray constraint on interstellar abundance rel. to origin of mass 22 nuclei 7-35069
  - ^{23}Na, antiprotonic atom, 4f strong interaction level width 7-31191
  - ^{23}Na beam, polarisation components meas. 7-61875
  - ^{23}Na ions, biexponential relax. detect. using double-quantum filtering 7-25446
  - ^{23}Na NMR in vivo imaging at 1.5 T in humans, methodology 7-14100
  - Na*, fluoresc. meas. 7-33925
  - Na*+N$_2$, quenching, classical trajectory calcs. 7-50300
  - PbTe:Tl, Na, carrier reson. scatt., effect on transport coeffs. 7-38602
  - PbTe:Tl,Na films, superconducting transition 7-38797
  - Si:Na MOSFET struct., hopping cond. in 2D impurity band 7-45512
  - Si:Na(K), impurity addition by electrolysis 7-44578
  - SiO$_2$:Na with adsorbed SO$_2$ and H$_2$S, FTIR and Raman spectra obs., Na promotion of Claus process 7-46869
  - SrF$_2$:Na$^+$, EPR of colour centres 7-17222

- **sodium alloys**
  - Al-Na, thermal surface oxide layers, SIMS characterisation 7-13650
  - Au$_2$Na, NA vapour sensor based on conductivity variation 7-18774
  - Hg-Na, liq., mag. susceptibility, conc. and temp. depend. 7-27492
  - K$_4$Na$_{13}$Ga$_{49.57}$, synthesis and cryst. struct. 7-6584
  - Li-Na liquid alloy, ordering potential, concentration-concentration structure factor 7-32261

sodium alloys continued

- Na-Cs, liq., triplet conc. fluctuations in long wavelength limit 7—63439
- Na-Ga, liq., phase diagram and electrical resistivity 7—21408
- Na-Pb liq. alloy, thermodynamic prop. and transport coeff. 7—64199
- $NaCd_2$, cryst. struct., matrix algebra calcs. 7—63548
- NaIn B32-type Zintl phases, mag. props., exchange enhancement, APW calcs. 7—27504
- Na_3Sb, NA vapour sensor based on conductivity variation 7—18774

sodium compounds

- *see also Rochelle salt; sodium alloys*
- alkali feldspar, hypersolvus, Raman spectroscopic study of order parameter behaviour, displacive transform. and evidence for Na-K site ordering 7—22254
- analcime, hydrothermal cryst. growth, morphology 7—11975
- clay suspensions, montmorillonite and kaolinite, viscosities and densities 7—28351
- cordierite, cryst. struct. refinement and thermal expansion, 100-550K 7—6609
- α-cyclodextrin-NaCl mixture, matrix for room-temp. luminesc. of organic cpds. 7—36666
- dimethylsiloxane-ethylene oxide copolymer containing Na salt, ionic conductivity 7—2255
- intercalation cpd. with graphite: B, Fermi level displacement, diamag. anisotropy and Hall effect meas. 7—16933
- kaersutite, cation distrib. and proton location, neutron diffr. studies 7—63569
- molten salts, chemical resistance of valve packing and sealing materials 7—65586
- montmorillonite, dye intercalated, fluorescence props. 7—22325
- $(Na_2O)_{25}(Li_2O)_{25}(P_2O_5)_{50}$ glass fibres, struct., birefringence, density and thermal shrinkage, drawing parameters depend. 7—6536
- NaCl single cryst., high temp. elasticity meas., rectangular parallelipiped reson. method 7—63714
- $NaNO_2$ aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7—32692
- oxides, $AM_3O_9(M_2O_4)_n$, derived from the rutile structure by chemical twinning, structural evolution and stability 7—16757
- poly(styrenesulphonate)s, enthalpy of dilution, large dielectric constant solvent 7—21483
- salicylate as combined fluoresc./refl. coating for broad band detector *(German)* 7—4891
- soda lime glass detectors, chemical etching characts. 7—30868
- succinate hexahydrate, cryst. struct. investig. 7—12034
- zeolite, ZSM-5, crystallisation kinetics from organic solvent-water mixture 7—22457
- zeolite 13X, hydrophobic, generation by exchange with octadecylammonium ion 7—13809
- zeolite ZSM-5, hydrothermal synthesis, nucleation and growth 7—33537
- ^{22}NaCl, aq. soln., adsorpt. and diffusion at low concs. 7—27106
- $AgNa(NO_2)_2$, low temp. triplet exciton decay, photolum. decay temp. depend. meas. 7—21821
- β''/β-Al_2O_3-$(Na_{0.6}K_{0.4})_2O$, mixed-alkali-mixed phase cpds., acoustic study 7—63749
- β''-Al_2O_3-K_2O-NaO, ionic conductivity, mixed alkali effect 7—52131
- Al_2O_3-MgO-TiO_2-Na_2O system, sintering and creep, Na_2O influence, Cable and Reijnen-Readley models *(German, English)* 7—7933
- Al_2O_3-Na_2O, beta-type ionic cond., mixed alkali effects, percolation model 7—12355
- β-Al_2O_3-Na_2O, cation-conductive ceramics examined by 1 MV HRTEM 7—2258
- β-Al_2O_3-Na_2O, ceramics, electrophoretic deposition 7—13390
- β''-Al_2O_3-Na_2O, ion-exchange reaction with α-AgI, potentiometric study 7—54230
- β-Al_2O_3-Na_2O, solid electrolytes, Debye-Huckel-type relax. processes 7—17800
- β'-Al_2O_3-Na_2O, ZrO_2 toughened solid electrolyte, failure initiation, critical current density, AE obs. 7—38252
- β-Al_2O_3-Na_2O ceramic electrolyte; electrophoretic deposition 7—13411
- B''-Al_2O_3-Na_2O solid electrolytes, degradation in Na-S batteries 7—3466
- β-''Al_2O_3-Na_2O solid electrolyte in alkali metal thermoelec. convertor, ion cond. props. 7—13925
- β''-Al_2O_3-Na_2O:Fe^{3+}, luminesc. thermal effects 7—33444
- β-Al_2O_3-Na_2O-Ag_2O solid electrolyte, appl. in SO_x sensor 7—326
- B''-Al_2O_3-Na_2O-ZrO_2 ceramics, transform toughened, fabrication, mech, props. ionic resist. 7—65143
- Al_2O_3-SiO_2-Fe_2O_3-CaO-MgO-Na_2O-K_2O glass batch melting, interaction between solid, liq. and gas 7—7946
- Al_2O_3-TiO_2-$NaO_{1/2}$ system, elec. cond. meas. to detect suspected liq. phase 7—39467
- Au-Cu alloys, vapour deposition on NaCl single crystals, nucleation and growth 7—39391
- B_2O_3-Na_2O glasses, low temp. thermal cond. meas. 7—38277
- B_2O_3-SiO_2-Li_2O-Na_2O-ZnO glasses, chemical durability 7—8143
- Ba_2NaNb_5-O_{15}, parametric light scattering, nonlinear diffraction 7—37044
- $Ba_2NaNb_5O_{12}$, atom sublattices, selective high resolution electron microscopy 7—6486
- $Ba_2NaNb_5O_{15}$ incommensurate ferroelec. thin films, disinclinations, textures, four-state clock model description 7—257
- $Ba_2NaNb_5O_{15}$, Rayleigh scattering, intensity oscillations 7—7711
- $Ba_2NaNb_5O_{15}$ single crystals, spatio-temporal electrical instabilities 7—52632
- $Ba_2NaNb_5O_{15}$, X-ray irradiated ferroelectrics, radioluminesc. and thermolum. 7—27797
- $Ba(Na_{0.25}Sb_{0.75})O_3$, cubic perovskite, prep. and struct. 7—63589
- $Ba(PO_3)_2$-AlF_3-NaF system, glass form. and props. 7—11929
- $Ba_{2-x}Sr_xK_{1-y}Na_yNb_5O_{15}$, ferroelectric tungsten bronzes, crystal growth and optical appl. 7—39085
- $Ca_5Na_4K_2Si_{12}O_{30}F_4$, chain-silicate canasite glass-ceramic, thermal shock behaviour, effect of crystn. 7—46613
- $(CoF_2)_{0.5}(BaF_2)_{0.2}(NaPO_3)_{0.3}$, AC magnetic susceptibility and acoustic wave attenuation meas. 7—59020
- $Cs_2NaAl_3F_{12}$:$Cr^{3+}(Fe^{3+})$, impurity ion spin Hamiltonian parameters, EPR determ. 7—64523
- $Cs_2Na_{10}(FeO_3)_4$ single cryst. prep. and structural characterisation *(German)* 7—37951
- Cs_2O-SiO_2-Na_2O glasses, Cs^+ ion distribs., energy dispersive X-ray diffr. studies 7—21113
- CuO-V_2O_5-Na_20-P_2O_5 phosphate glasses EPR of Cu^{2+} and Vo^{2+} ions. 7—59107

sodium compounds continued

- FeO_2-CaO-MgO-BaO-Na_2O, wustite solid solns., interdiffusion coeffs., 1073-1473K *(Japanese)* 7—12357
- Fe_2O_3-Na_2O-B_2O_3 glasses, Mossbauer study 7—7619
- $Hg(NH_4)_2Na_2(P_3O_9)_2$, cryst. struct. determ. 7—1956
- $KCl_{1-x}NaCl_x$ solid solns., thermodynamic props. calc. model 7—52086
- $K_2NaH_{1.5}{}^+Fe_{0.5}{}^{3+}F_6$, synthetic Fe^{3+} elpasolite, cryst. struct. 7—51712
- $K_4Na_2TeO_6$, cryst. struct., X-ray diffr., Madelung part of lattice energy *(German)* 7—37941
- K_2O-SiO_2, melt, degree of polymerisation, SiO_4 tetrahedra 7—11921
- K_2O-SiO_2-NaCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7—12288
- Li-Na-K-CO_3/MgO salt/ceramic phase change material for high temp. thermal storage, thermoanalytic investigation 7—65631
- Li_2CO_3-Na_2CO_3-K_2CO_3 molten salt in direct absorption received, optical props. at high temp. 7—40042
- LiF-NaF-KF eutectic melt, Cl^- effect on C electrode anode processes 7—23028
- $Li_2NaK(SO_4)_2$, cryst struct. determ. 7—58212
- $(Li_{1-x}Na_x)_{0.9}Mo_6O_{17}$ anomalous transport props., resist., mag. suscept., sp. ht., struct. and supercond. transition temp. meas. 7—21913
- $(Li_{1-x}Na_x)_{0.9}Mo_6O_{17}$, superconductivity and CDW 7—45541
- $LiNaSO_4$, BCC, rotator phase, solid electrolyte behaviour, thermodynamic props. 7—21139
- $LiNaSO_4$, trigonal, phys. props. 7—13099
- $Li_xNa_yTiS_2$ intercalated dichalcogenides, struct., electrochem. and thermodynamic props. studies 7—21167
- Li_2O-SiO_2-NaCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7—12288
- β-M_2O_3-Na_2O, study of Na^+ motion by quasi-elastic neutron scatt. 7—63875
- $Mg_{0.98}Na_{0.02}Fe_2O_4$, spinel struct., EXAFS and XANES studies, humidity sensor appls. 7—64784
- MgO-Na_2O-B_2O_3 glasses, FIR spectra 7—39123
- $MnNa(H_2PO_3)_3.H_2O$ orthorhombic struct., bond lengths and angles, X-ray diffr. study 7—32372
- $MnNa_3P_3O_{10}.12H_2O$, cryst. struct determ. 7—58210
- NASICON related cpds., cation-conductive ceramics examined by 1 MV HRTEM 7—2258
- $(Na,Rb)_2O$-GeO_2 glasses, mixed alkali effect 7—12367
- Na complex, NaI.diglyme, cryst. struct., bond bridging 7—51724
- Na hydrides, ($NaAlH_4$, NaH, $NaBH_4$) cryst. imperfection obs., TEM 7—32445
- Na^+ salts, salt/water/aprotic solvent mixtures, alkali cation influence, IR spectra anal. 7—19856
- Na/β-Na_2O-Al_2O_3/NiCl secondary cell, characterisation 7—65428
- Na-Y zeolite, Li-exchanged, thermal transform. to Li aluminosilicates, X-ray and NMR studies 7—44794
- $NaAlCl_4$ molten salt for new advanced high energy density battery 7—39981
- $NaAlSi_3O_8$, thermally stimulated lumin., spectral anal. 7—46154
- $Na_2Al_2Si_3O_{10}$, tetranatrolite, cryst. struct., X-ray diffr. studies 7—44481
- $Na_8(AlSiO_4)_6(OH)_2$, cryst struct., powder neutron diffr. study 7—58209
- $Na_6Al_6Si_6O_{24}.2xNaBr$, bromosodalite powders, compaction kinetics 7—3215
- $Na_6(AlSiO_4)_6.nH_2O$, dehydration, struct. collapse or expansion 7—17770
- $Na_8(AlSiO_4)_6.nH_2O$, dehydration, struct. collapse or expansion 7—17770
- $NaBF_4$, orthorhombic, cryst. growth and phys. props. 7—7834
- NaB_2O_3 impurities in $KAl(SO_4)_2$ solns., effect on props. 7—6495
- $Na_2B_4O_2$-NiO, tetraborate glass, optical absorpt. effects of NiO additions and annealing 7—22851
- $Na_2B_4O_7$, pyroborax, model for short range order of Na_2O-B_2O_3 glass 7—44391
- $Na_2B_4O_7$-Pb_3O_4-CuO glasses, elec. props., effect of added CuO 7—2605
- $NaBO_3.4H_2O$, primary nucleation in aq. solns. 7—32336
- $NaBeF_3$, molten, struct., dynamic props., mol. dynamics calcs. 7—37834
- Na_2BeF_4, molten, struct., dynamic props., mol. dynamics calcs. 7—37834
- $NaBi(MoO_4)_2$, elastic and elastooptic props. 7—7672
- $Na_{0.5}Bi_{0.5}TiO_3$, Raman spectra study 7—53303
- NaBr, excited vibr. level, laser induced fluoresc. spectra 7—19914
- NaBr:CN^-, IR vibrational fluoresc. obs. 7—27775
- $NaBrO_3$, X-ray birefringence and forbidden reflections 7—33475
- $NaBrO_3$-$NaClO_3$ solid soln. single crysts., X-ray Debye temps. 7—58428
- NaCN, ab initio coupled HF calcs. of multipole moments and dipole polarisability of CN^- 7—5587
- Na_2CO_3 aq. soln., crystallisation expts. involving inclined plane boundary 7—8942
- Na_2CO_3, incommensurate crystal, Raman and IR spectra 7—17315
- $Na_2CaAl_2Si_4O_{12}.6H_2O$, zeolite, adsorption and desorption of ethylene, TPD study 7—32826
- $Na_2Ca_2Al_6Si_9O_{30}.8H_2O$, mesolite, cryst. struct. X-ray refinement 7—1958
- $Na_4Ca_4(Si_6O_{18})$, cryst. struct. determ. 7—1957
- NaCl, (001), deposited Au, elastic surface wave anomalies near cluster to layer transition 7—21606
- NaCl (001) surface, He atom diffr., interaction potentials for diffraction 7—22425
- NaCl (100), physisorbed methane, EELS spectra 7—13289
- NaCl (100), sand gap photoemission yield spectroscopy 7—22445
- NaCl, (100) cleavage plane, diffusion of Au crystallites 7—21590
- NaCl, Anderson-Gruneisen parameters, temp. variation 7—2137
- NaCl, aq. soln., transport across membrane, hydrated species interactions 7—33968
- NaCl aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7—32692
- NaCl, cation self-diffusion by single vacancy mechanism, reaction coordinate approach calcs. 7—32706
- NaCl, cryst. growth from vap., 2D nucleation 7—16467
- NaCl crystal, surface optical breakdown, exoelectronic emission with laser irradiation, impurity effects 7—59384
- NaCl crystals, electron-coloured, transmission and holographic props. 7—43001
- NaCl, dipole-quadrupole dispersion coefficients, ab initio coupled HF calcs. 7—11986
- NaCl, dislocation motion, flexible and reacting dislocation forest, simulation 7—44544
- NaCl, electron-phonon scatt. in XUV induced electron emission, Monte Carlo simulation 7—27861
- NaCl, equilibrium crystal form 7—16457
- NaCl, excess electron localisation, QUPID calcs. 7—20029
- NaCl filamentary crystals, yield stress and plastic flow 7—51917

sodium compounds continued
NaCl, in KCl-$NiCl_2$-UO_2Cl_2, fusibility, differential thermal anal. study 7−61972
NaCl, intense nanosecond electron beam irrad., periodic damage struct. form. 7−12157
NaCl, laser-induced vibr. predesorption of ethene 7−58615
NaCl, minerals, shock induced radiation 7−27694
NaCl mol. beams, interaction with KCl (100) surfaces, desorption flux meas., SIMS obs. 7−33508
NaCl, muonium to diamagnetic muon conversion, time-differential muon spin reson. meas. 7−13070
NaCl, OH radical desorpt., kinetic and internal energy, determ., fluoresc. detect. 7−8298
NaCl positron annihilation parameters, irrad. effects determ. 7−46224
NaCl, positron annihilation parameters, beta irrad. effects determ. 7−46225
NaCl, positron annihilation at low temps. 7−53441
NaCl, prebreakdown nonlinear energy deposition from intense photon fields 7−51825
NaCl, pure and doped, irrad. defect, thermoluminesc. 7−3098
NaCl, pure and Mg doped, electron range vel.. to heat treatment 7−21283
NaCl, secondary nucleation rate under different stirring conditions 7−44742
NaCl single crystals, temp. distrib. under ultrasonic deform. 7−51916
NaCl soln., salt vel. correl. functions, microscopic interpretation 7−12338
NaCl, solns., electrolysis, alkali conc., filtering diaphragms effects 7−54136
NaCl solution, Cherenkov light meas. for detector appl. 7−62219
NaCl, submicrosecond elastic loading, material relax. phenomena 7−12186
NaCl substrate for Ag thin films, preferred orientations, detection of complete set 7−39542
NaCl, synthetic, microcrystalline powders, spontaneous colloid formation in electrodeless discharge 7−12065
NaCl, thermodynamic props., universal eqn. of state of solids 7−44736
NaCl, thermolum. of colloids centres 7−7772
NaCl, two-photon absorption meas. using synchrotron radiation 7−9906
NaCl, US vibration, 20-300°C block boundaries effect 7−32457
NaCl whisker crystals, strength, depend. on dislocation struct. 7−45101
NaCl, X-ray absorption spectra fine struct. of Na^+, localised orbital calcs. 7−22379
NaCl, X-ray and γ-irrad., F-centre destruction owing to subsequent laser light excitation, luminesc. spectral characts. 7−27772
NaCl:Ag Frenkel defect recomb., thermally stimulated electron emission obs. 7−64869
NaCl:CO_3^{2-} cryst. surface, localised intramol. vibrations, IR transmission spectra study 7−2132
NaCl:Ca, impurity dipoles, aggregation with dislocations under alternating elec. field 7−44598
NaCl:Co, doped and undoped, thermoluminescence and X-ray fluorescence spectra 7−22356
NaCl:Cu, nuclear quadrupole spin-phonon interaction 7−22155
NaCl:Cu, visible absorpt. spectra 7−3073
NaCl:Cu^+, lattice relax. around cuprous ion, EXAFS studies 7−64788
NaCl:Eu single cryst., $EuCl_2$ phase precipitation, fluoresc. and X-ray diffr. studies 7−46108
NaCl:Eu^{2+}, gamma irrad., optical absorpt. spectra, TSC meas. 7−58337
NaCl:Eu^{2+} crystals, γ-irradiated, colourability 7−12062
NaCl:Eu^{2+} crysts., mechanical strength, dopant distrib. and γ-irrad. effects study 7−26800
NaCl:Mg, X-ray irrad., exciton interactions with impurity-vacancy dipoles, absorpt. and luminesc. spectra 7−45162
NaCl:O_2^-, tunable CW laser operation in 1.45 to 2.16 μm range 7−62707
NaCl:OH^-, Cd^{2+} single cryst., gamma irrad., electronic and IR spectra 7−53320
NaCl:Sn^{2+}, impurity localised excitons, form. energy calcs., UV spectra anal. 7−64095
NaCl:Tl, photoionisation of Tl^+, intense excitation in A-absorption band *(Russian)* 7−16554
NaCl:Tl, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7−27601
NaCl:Tl colour centre laser, structural, optical and prod. props. 7−57340
NaCl-induced accelerated oxidation of Cr 7−17715
NaCl-NaBr, electronic dielectric const. and fractional ionic character of chemical bond 7−2966
NaCl-type crystal, Green's fn. calc. in Montrose-Potts model 7−58419
NaCl-type lattices, (100) surface, surface atomic vibr. modes 7−2337
NaCl+K, cross section estimation 7−20004
NaCl+K, reaction complex form., blue shifted emission in visible spectra 7−22981
$NaCl+K \rightarrow Na^*+KCl$, laser-assisted reaction obs. 7−33925
Na_2Cl, microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7−25379
NaCl(Br)(I) aqueous solns., positron trapping model, time-depend. rate const., ang. correl. 7−46222
NaCl(F) 7−46226
$NaClO_3$, nuclear electric quadrupole induction of atomic polarisation 7−33296
$Na_3(Co(CN)_5)$, soln., electronic struct., ESR investig. 7−31081
$Na_xCr(Mn)(Fe)(Co)(Ni)O_2$ electrode materials, electronic and electrochemical props., ion intercalation, electronic model 7−33945
NaCs, laser-induced photodissociation, relative cross section 7−31131
NaF (001), LEED with position-sensitive detection, comparison with positron diffr. 7−26597
NaF ionic crysts., band-gap-energy positron emission, comment 7−45227
NaF, positron annihilation at low temps. 7−53441
NaF, single cryst., positive muon relax. 7−27644
NaF, single cryst., positive muon relax 7−45904
NaF, thermal hopping of μ^+ between FμF centres 7−45903
NaF, X-ray absorption spectra fine struct. of Na^+, localised orbital calcs. 7−22379
NaF:Cu, nuclear quadrupole spin-phonon interaction 7−22155
NaF:F_2^+, F_3^-, intracavity spectrum analyser, long-wavelength IR region 7−48897
NaF:Mg, doped and undoped, electron beam irradiated, thermoluminescence and thermally stimulated conductivity 7−7771
NaF:OH^-, X^+, X=impurities, vibr., radiation effects, IR spectra 7−53321
NaF-AlF_3, cryolite melt, struct., computer simulation *(Chinese)* 7−6494

sodium compounds continued
$NaFeClMoO_4$, synthesis, struct. and low temp. magnetism 7−21172
$NaGdF_4$:Ce, Eu, UV $^5H_3$ and visible ^5D_J luminesc. 7−64676
$NaGe_2P_3O_{12}$ glass-ceramic, synthesis, thermal expansion meas. 7−46406
NaH $A^1\Sigma^+$ state, collision induced transitions *(French)* 7−10726
NaH, ground and excited mol. states, long range pot. curves calcs. 7−19994
NaH, orbital energies, multipole moments and electric field gradients, HF calcs. 7−62270
NaH, thermodynamic characterisation using phase diagrams and electrochemical meas. for H_2 storage 7−54366
NaH, X $^1\Sigma^+$ state, HF quality Slater basis sets 7−19719
$NaH(D)SeO_3$, neutron diffr., DMR investigation 7−21178
$Na(H_2O)_n$ clusters, formation and detection 7−10808
$(Na^+(H_2O)_n)_xMoO_3^{x-}$, composition and struct. 7−16518
Na_2HPO_4, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7−26816
$NaH_3(SeO_3)_2$, low temp. struct. phase transition 7−64580
$Na_{10}(H_2W_{12}O_{42})$, cryst. and mol. struct. studies 7−6596
$Na_4Hf_2Ge_3O_{12}$, ionic conductor, hydrothermal crystallisation and cryst. struct. 7−37935
NaI additives in Hg high-pressure discharge, model and diagnostics 7−1800
NaI cloud seeding, delayed effects 7−66239
NaI crystals, bound excitation X-ray induced luminesc. spectra 7−53400
NaI, Debye-Waller factors of ^{129}I, Mossbauer study 7−2135
NaI, luminescence excitation spectrum of self-localised excitons, phonon structure 7−39153
NaI π^0 and η^0 detector, energy resolutions by Monte Carlo simulations 7−49816
NaI, radiochemical purity, investigation of method *(Chinese)* 7−8340
NaI:Tl,OH^-, NO_3^-, CO_3^{2-} crysts., scintillation props., vibrational spectra, anion impurity effects *(Russian)* 7−22348
NaI-AgI, binary molten mixtures, elec. cond. 7−12340
NaI(Tl) inorganic scintillators, role of activators 7−33459
NaI(Tl) scintillation counter with vacuum photodiode 7−42432
NaK discharge, laser excited, fluoresc. spectrum *(French)* 7−10646
NaK, Stark effect, appl. to plasma local electric field determ. 7−26563
NaK, $X^1\Sigma^+$ and $a^3\Sigma$ states, long range pots. anal. 7−42519
$(Na_{0.5}K_{0.5})NbO_3$, sintering, densification and elec. props., effect of Ba additions 7−46387
$20(NaK)_2O\text{-}xGa_2O_3\text{-}(80-x)SiO_2$ glasses, elec. conductivity, mixed alkali effect 7−27001
$NaLa(MoO_4)_2$ single crystals and ceramic, elec. cond. meas., disordering mechanisms 7−6863
$NaLa(MoO_4)_2$: Nd^{3+}, Raman and IR spectra study 7−46046
$Na_2LaZrP_3O_{12}$ crystals, X-ray powder diffr. data 7−26722
$NaLi^+$, first- and second-order nonadiabatic coupling consts. Born-Oppenheimer corrections, MCSCF calcs. 7−36464
$(Na_{1-x}Li_x)_{0.9}Mo_6O_{17}$, Na substitutional effects on elec. resistivity and transport props. 7−45260
$NaLi_3Si(Ge)(Ti)O_4$ isotypic oxides, cryst. struct. determ. lattice energy calcs. *(German)* 7−37952
$NaLiYb_2F_8$, isotypic cpds., cryst. struct. *(French)* 7−32397
$Na_3M_2(PO_4)_3$, rhombohedral structures, crystallochemistry 7−32377
β''-$Na_{1+x}Mg_xAl_{11-x}O_{17}$ based multivalent β''-aluminas, synthesis 7−33628
$NaMnCl_3$ quasi 2D antiferromagnet, deforming magnetic exciton and light absorpt. characts. 7−53284
$NaMnCrF_6$, SDW state, appl. of neutron white beam Laue diffr. technique 7−11845
$NaMn_2ZrP_3O_{12}$, Nasicon analogues, cryst. data 7−12014
$Na_{0.9}Mo_6O_{19}$ bronze, structs., sliding motion of CDW 7−64129
Na_2MoO_4, on Mo porous electrodes for alkali metal thermoelec. convertor, voltammetric studies 7−28405
$Na_2MoO_4+Ar^+$, ion-induced decomp., metallisation channels, XPS anal. 7−57149
$Na_xMo_2O_4$ intercalation cpd., struct., mag. suscept., X-ray diffr. and electrochemical anal. 7−46842
$NaMoO_3F$, ordered O-F distrib., NMR, Raman spectra, electrostatic energy, site pot. calcs. *(French)* 7−32390
$Na_3MoO_3F_3$, ferroelastic and ferroelectric behaviour 7−44792
$Na_2Mo_6Se_6$, thermal expansion of ternary chalcogenides containing infinite $(Mo_{6/2}Se_{6/2})$ chains 7−16791
beta- NaN_3, elastic moduli, softening, microscopic theory 7−21320
β-NaN_3, microscopic theory of elastic softening 7−16665
NaN_3, trigonal-monoclinic phase transition, Brillouin scatt. studies 7−22275
$NaNO_2$, cryst., piezoelec. strain consts., calcs. 7−53238
$NaNO_2$, crystalline samples, low temp. sp. ht. meas. 7−2225
$NaNO_2$, Fermi level and relative density of states, temp. dependence 7−21795
$NaNO_2$, incommensurate ferroelec., in transverse elec. field, virtual Lifshitz point 7−45947
$NaNO_2$, single cryst. growth by Stepanov's method 7−32329
$NaNO_2$ single crystal, ^{14}N quadrupolar polarization, two-quantum coherence study 7−53173
$NaNO_2$, solid ferroelectric and paraelectric phases, lattice vibrs., Raman and IR spectra anal., mol. dynamics calcs. 7−21373
$NaNO_2$ thin films, ferroelectric and dielectric props. 7−39037
$NaNO_3$, molten salt, thermal diffusivity meas. 7−44877
$NaNO_3$, radiation generation in resonator under stimulated Raman scatt. conditions 7−43222
$NaNO_3$, solutions in aqueous and non-aqueous media, acoustic and physico-chemical props. 7−44694
$NaNO_3$-$AgNO_3$ solid soln., X-ray diffr. investig. 7−6594
$NaNO_3$-$CsNO_3$ system, molten, refractive indices 7−64598
$NaNO_3$-KNO_3 molten salts for solar central receiver appls. 7−65587
$NaNO_3$-KNO_3 molten nitrate salt for high temp. sensible heat storage 7−65632
$NaNO_3-KNO_3$:Ag^+, diffusion coeffs. meas. by electrochem. methods 7−52097
$NaNbO_3$ crystals, antiferroelec. transition, phase boundary kinetics 7−2990
$NaNbO_3$, ilmenite modifications, vibr. spectra 7−22243
$NaNbO_3$ polycrystalline films, prep. by hydrolytic decomp. of metal alkoxide alcoholic solns., SEM obs. 7−7044
$NaNbO_3$-Nb_2O_5-WO_3 system, crystal struct., twinning, fourling and antiphase boundary operations 7−63567
$NaNbO_3+Ar^+$, ion-induced decomp., metallisation channels, XPS anal. 7−57149

sodium compounds continued
$Na_4Nb(PO_4)_3$, struct. evolution by vitreous state formation *(French)* 7−21164
$NaNi_2OH.H_2O.(MoO_4)_2$, H atom location, Rietveld refinement, neutron powder time of flight meas. 7−26707
NaO overlayer on PD (100), adsorption of methanol, formaldehyde and formic acid 7−21657
$NaO+N_2O$, gas phase kinetics, rate const. determ. 7−28272
$NaO+O_2(CO_2)$, assoc. reactions with third body He, N_2 or N_2O, kinetics, atm. appl. 7−59748
$NaO+O_3$, gas phase kinetics, rate const. determ. 7−28272
$Na_2O-11Al_2O_3$, β-alumina, effect of NO_2 sorption on electrical conductivity 7−21511
$Na_2O-3SiO_2$ glass, Tb^{3+} activated, temp. depend. of tunnel lumin. 7−59265
$Na_2O-(MgO, NaO)-GeO_2-H_2O$ system, crystallisation of fibrous (Mg, Ni) germanates 7−2153
$Na_2O-Al_2O_3$, ^1H, ^{27}Al and ^{23}Na NMR studies 7−22148
$\beta-Na_2O-Al_2O_3$, struct. at 5K, ^{23}Na NMR 7−7595
$\beta''-Na_2O-Al_2O_3$, structure at 5K, ^{23}Na NMR 7−7594
$\beta-Na_2O-Al_2O_3$ ionic conductors, mechanical and electrical relax. 7−44687
$\beta-Na_2O-Al_2O_3-CdO:Cr^{3+}$, luminescence spectra 7−33448
$Na_2O-Al_2O_3-GeO_2$ glasses, ionic transport meas., packing density depend. 7−32710
$Na_2O-Al_2O_3-SiO_2$ glasses, elastic props., annealing and Al substitution effects 7−8035
$Na_2O-Al_2O_3-SiO_2$ glass system, strength and struct. features 7−58150
$Na_2O-Al_2O_3-SiO_2:Eu^{3+}$ glass, impurity laser-excited site-selective fluorescence line-narrowing spectra 7−13200
$Na_2O-Al_2O_3-SiO_2-H_2O$, zeolite ASM-5, framework site resolution and assignment by X-ray and NMR meas. correl. 7−25541
$Na_2O-B_2O_3$ glass, UV absorption spectra of Ag^+ ion 7−7721
$Na_2O-B_2O_3$ glass struct., comparison with pyroborax 7−44391
$Na_2O-B_2O_3$ glasses, effect of Na_2O addition, thermal expansion, sp. ht. meas. 7−44862
$Na_2O-B_2O_3$ glasses, thermodynamic props. 7−2211
$Na_2O-B_2O_3-Al_2O_3$ glass struct., NMR and computer simulation 7−1898
$Na_2O-B_2O_3-CuO$ glasses, B ions coordination state studied by X-ray and Raman spectroscopy 7−1892
$Na_2O-B_2O_3-Fe_2O_3$ glass, hyperfine parameter distrib., ^{57}Fe Mossbauer study 7−22170
$Na_2O-B_2O_3-Ga_2O_3-Y_2O_3$ glass, porous, leaching and sintering 7−7953
$Na_2O-B_2O_3-Nd_2O_3$, SiO_2 substituted, leaching of $Na_2O-B_2O_3$, X-ray study of $NdBO_3$ 7−51657
$Na_2O-B_2O_3-SiO_2$, interaction with HNO_3, effect of volumes, radii of channels 7−13613
$Na_2O-B_2O_3-SiO_2$ glass, porous, sintering temp, glass transition temp. *(Japanese)* 7−7954
$Na_2O-B_2O_3-SiO_2$ glass ceramic, prep., SiO_2 replacement, phase separation, struct. 7−13428
$Na_2O-B_2O_3-SiO_2$ glass, Na^+ self-diffusion and elec. cond. studies 7−21515
$Na_2O-B_2O_3-SiO_2$ glass, Na desorption during X-ray microanalysis 7−23114
$Na_2O-B_2O_3-SiO_2$ glass, ion implantation effects, appl. for radioactive waste disposal 7−32519
$Na_2O-B_2O_3-SiO_2$ glasses, liq. immiscibility rel. to trivalent oxide additions 7−39516
$Na_2O-B_2O_3-SiO_2$ ThO_2-rich porous glass ceramic, phase separation *(Afrikaans)* 7−13439
$Na_2O-CaO-Al_2O_3-SiO_2$ glass ceramic system, spherulitic growth, mech. props. 7−46405
$Na_2O-CaO-Al_2O_3-SiO_2$ system, synthesis of glasses by sol-gel process 7−64997
$Na_2O-CaO-Al_2O_3-TiO_2-SiO_2:Eu^{3+}$ glass ceramic, impurity laser-excited site-selective fluorescence line-narrowing spectra 7−13200
$Na_2O-CaO-SiO_2$, high-silica glass, sol-gel prep. method 7−46402
$Na_2O-CaO-SiO_2$ coating glass for optical fibres, preparation 7−7949
$Na_2O-CaO-SiO_2$ glass, indentation strength comparisons 7−3410
$Na_2O-CaO-SiO_2$ glass, grinding, crack branching, crushing mechanism 7−3472
$Na_2O-CaO-SiO_2$ glass, melting using natural fine-powdered quartz 7−7950
$Na_2O-CaO-SiO_2$ glass, hydration, fluid flow effects 7−13758
$Na_2O-CaO-SiO_2$ glass, cracktip blunting kinetics, annealing, corrugated surface 7−46611
$Na_2O-CaO-SiO_2$ glass, dynamic fatigue, indentation flaws, surface treatment 7−46629
$Na_2O-CaO-SiO_2$ glass with subthreshold flaws, dynamic fatigue 7−8111
$Na_2O-CaO-SiO_2$ glasses, IR spectra 7−3036
$Na_2O-CdO-SiO_2$, glasses, thermal expansion, free volume 7−58152
$Na_2O-Fe_2O_3-Al_2O_3-SiO_2$ glasses, Fe^{3+} ESR spectra, valence-coord. state 7−45813
$Na_2O-Fe_2O_3-SiO_2$ systems, glass formation and props. 7−2203
$Na_2O-FeO-SiO_2$ systems, glass formation and props. 7−2203
$Na_2O-Ga_2O_3-SiO_2$ glasses, Raman spectra 7−3035
Na_2O-GeO_2 glasses, ionic transport studies 7−6864
$Na_2O-K_2O-CaO-SiO_2$ glass, mixed alkali effect on chemical durability 7−8145
$Na_2O-K_2O-Ga_2O_3-SiO_2$ glasses, glass transform temps., mixed alkali effect 7−6793
$Na_2O-Li_2O-P_2O_5$ glass fibres, stress optical studies 7−7673
$Na_2O-Nd_2O_3-Al_2O_3$ system, struct. of single cryst. with magnetoplumbite struct. 7−6602
$Na_2O-P_2O_5$ glasses, viscous flow meas. 7−11475
$Na_2O-P_2O_5$ thin films, elec. resist., effect of sorbed water 7−21514
$Na_2O-P_2O_5-PON$, nitrogen phosphate glasses, preparation from PON *(French)* 7−26657
Na_2O-SiO_2, melt, degree of polymerisation, SiO_4 tetrahedra 7−11921
Na_2O-SiO_2 binder solns., ester curing, equilibria and kinetics, NMR study 7−8311
Na_2O-SiO_2 glass, longitudinal electrostriction tensor component 7−2982
Na_2O-SiO_2 glass, relative defect-production efficiency for fission fragments, alpha decay and electron irradiation 7−12167
Na_2O-SiO_2 glass melts, structure 7−1831
Na_2O-SiO_2 glasses, intrinsic and recomb. luminesc. and fundamental absorpt. spectra 7−13195
Na_2O-SiO_2 glasses, molecular dynamics simulation 7−1901
$Na_2O-SiO_2:Eu^{3+}$, laser-induced refractive-index gratings, four-wave-mixing techniques 7−11102

sodium compounds continued
$Na_2O-SiO_2:Tb^{3+}$ glasses, colour centre formation during UV irradiation 7−2049
$Na_2O-SiO_2:Yb^{3+}$ glass struct. model, Monte Carlo method 7−51644
$Na_2O-SiO_2-Ag_2O$, $Na^+ \rightleftharpoons Ag^+$ ion-exchanged, elec. conduction 7−27002
$Na_2O-SiO_2-Al_2O_3$, glass, longitudinal electrostriction tensor component 7−2982
$Na_2O-SiO_2-FeCO_3-Fe_2O_3$ glass system, prep., props and struct. 7−1900
Na_2O-SiO_2-KCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7−12288
Na_2O-SiO_2-NaF, structural analysis for fluorosilicate glasses by X-ray photoelectron spectroscopy *(Japanese)* 7−33510
$Na_2O-SiO_2-TiO_2$ system, struct. of glasses and melts *(Japanese)* 7−21121
$Na_2O-SnO_2-SiO_2$, glass, diffusion of cations, 500-800°C 7−12371
$Na_2O-TeO_2-Cr_2O_3$ glasses, IR absorpt., visible and UV spectra studies 7−27720
$Na_2O-TiO_2-GeO_2$ glasses, refractive index, density 7−59170
$Na_2O-V_2O_5-B_2O_3$ glasses, mixed ionic-electronic conduction 7−12769
$Na_2O-V_2O_5-P_2O_5$, crystallised glass, containing V bronze crysts., elec. cond. 7−21922
$Na_2O-WO_3-B_2O_3$ glass ceramics, containing W bronze, prep. and elec. props. *(Japanese)* 7−3261
$Na_2O-Y_2O_3-MO-SiO_2$ glass, (M=Mg, Sr, Ca), Na^+ conductivity 7−52134
$Na_2O-Y_2O_3-SnO_2-SiO_2$ glass, Na^+ conductivity 7−52134
$Na_2O-ZnO-SiO_2$, glasses, thermal expansion, free volume 7−58152
$Na_2O-ZrO_2-Al_2O_3-SiO_2$ glasses, ionic cond., glass transition temp. meas. 7−26998
NaOD, ^{23}Na critical longitudinal relax. time near antiferroelec. transition 7−17235
NaOD, low temp. phase transform., heat capacity, calorimetric study 7−16785
NaOH and HCl interdiffusion meas. at 25°C in aqs. soln. 7−6841
NaOH, molten, hot N submerged impinging jets study 7−62051
NaOH, molten, wastage simulation with submerged impinging hot N jet 7−62050
NaOH, struct. phase transition to lower symm. phase with increasing temp. 7−44805
$NaOH-NaNO_2$ molten salt thermal energy storage in nuclear power plants 7−65633
$NaOH-NaNO_3$ molten salt thermal energy storage in nuclear power plants 7−65633
$NaOH_2$, ionization potential determ. 7−10808
$Na_2O.2B_2O_3$ glasses, pulse irradiated, optical absorpt. spectra, temp. effects on the decay process *(Japanese)* 7−22281
$Na_2O.3SiO_2:Eu^{3+}$, UV-irradiated glass, formation of colour centres 7−12063
$(Na_2O.2SiO_2)_{1-x}(Fe_2O_3)_x$ glasses, Fe ions, ionic state and coordination geometry 7−63492
$Na_2O.3SiO_2$ glass, Na leaching rates in H_2O and D_2O, comparison 7−63885
$Na_2O.nAl_2O_3$, mullite struct., form. by solid state reaction 7−7937
$Na_3PCr_3O_{13}.3H_2O$, polycrystn., internal vibr., IR and Raman spectra 7−22263
$NaPO_2$, form. enthalpy from $NaPO_3$ mass spectra 7−33952
$NaPO_3$, ionic and mol. composition, mass spectral anal. 7−33952
Na_3PO_4, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7−26816
Na_2PO_3F, polycryst., chem. shielding and dipolar coupling, NMR investig. 7−57089
$NaPO_{2+x}N_y$ glass prep. and props., comp. calcs. 7−7951
$Na_4P_2Se_6$, isomeric forms, $P_2Se_6{}^{4-}$ vibr. spectra, normal coordinate anal. *(German)* 7−22270
$Na_{1.7}P_4W_{14}O_{50}$ struct. refinement, single cryst. X-ray anal. study 7−58233
NaRb molecule, laser induced photodissociation 7−50280
NaSCN, NH_3 soln., IR spectra study 7−46901
NaSCN-crown ether complex, tetrahydrofuran solvent, IR and microwave dielectric spectro anal. 7−31027
NaSCN-poly(ethylene oxide) mixture, ionic conductivity and phase behaviour studies 7−32704
$Na_2SO_4-ZnSO_4$ reactions in CoCrAlY hot corrosion 7−28188
$Na_2S_2O_2$ reactions with $Fe(NO_3)_3$, dispersive mode stopped flow X-ray absorption spectroscopy 7−61416
$Na_2S_2O_7$ for chemical storage of solar energy 7−23228
$NaSbO_3$, phase transforms. and thermal stability, X-ray diffr. and XPS meas. 7−44793
$Na_3Sc_2(PO_4)_3$ cryst. struct., tetrahedra disorder and ion-ion correls. studies 7−26723
Na_2SiO_3, sols, struct. making investigated by turbidity spectrum 7−8322
$NaSn_2F_5$, F^- motion, NMR and electrical conduction 7−52132
$NaTaO_3$, Fourier transformed EXAFS spectra, comparison with $KTaO_3$ 7−64749
$Na_xTa_yW_{1-y}O_3$, NMR study of metal-insulator transition 7−2484
$Na_5TbSi_4O_{12}$, superionic cond., photoluminescence spectra 7−46093
$Na_6(TeW_6O_{24})22H_2O$, crystal struct. investig. 7−12002
$Na_8Ti_{3.5}O_2(OH)_2[SiO_4]_4$, polymorphous modification of natisite, cryst. struct., X-ray diffr. 7−26709
$Na_3Ti_{0.75}Si_2P_2O_{12}$, NASICON-based glass and glass ceramics, synthesis and characterisation 7−44908
$Na_3(U_{1-y}Pu_y)O_4$ formation on breached LMR fuel element, thermal effects 7−30558
$Na_xV_2O_5$ bronze, struct. and valence, XANES studies 7−63579
$Na_2WO_2F_4$, ordered O-F distrib., NMR, Raman spectra, electrostatic energy, site pot. calcs. *(French)* 7−32390
NaXe, spin-rotation coupling, spin relaxation rate 7−25542
NaY zeolite, Au impregnated, positron lifetime spectra 7−17358
$Na_5YSi_4O_{12}$, twinning, crystal struct. 7−21226
$Na_6Zn(SO_4)_4(H_2O)_2$, cryst. struct. determ. 7−1960
$Na_{1+x}Zr_{2-x}In_x\ (PO_4)_3$ solid soln., Na^+ ion motion, NMR study 7−44904
$Na_3Zr_{2-x}In_xSi_{2-x}P_{1+x}O_{12}$ system, chem. composition, cryst. struct. and ionic cond. *(Chinese)* 7−12006
$Na_{1+x}Zr_{2-(x/2)}Mg_{(x/2)}(PO_4)_3$ solid soln., cryst. chemistry and ionic cond. studies 7−32408
$NaZr_2P_3O_{12}$, thermal expansion, structural model 7−44858
$Na_4Zr_2Si_3O_{12}-Y_3Fe_5O_{12}$ composite ceramics, prep., thermal expansion 7−63853
$Na_{1+4y+x}Zr_{2-y-x}Si_xP_{3-x}O_{12-2z}$ nonstoichiometric monoclinic NASICONs, X-ray powder Rietveld refinements 7−12304

sodium compounds continued
$Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7−6870
$Na_3Zr_2Si_2PO_{12}$, rhombohedral structures, crystallochemistry 7−32377
$Na_5[Cu(HIO_6)_2].16H_2O$, room temp. reson. Raman spectrum 7−64638
$Na_6[H_2I_2V_2O_{16}].10H_2O$, cryst. struct. determ. 7−58213
$Na_3[Sm(oxydiacetate)_3]2NaClO_46H_2O$, circularly polarised luminesc. spectra 7−31091
Nb_2O_5-Al_2O_3-B_2O_3-Na_2O-SiO_2, phase separable glass, heat treatment leaching, X-ray diffraction anal. 7−51658
$Nd_xY_{1-x}Al_3(BO_3)_4$, excited emission and self-frequency-doubling effect 7−25821
Ni reinforced LiF-NaF, matrix crystn. and sintering, role of reinforcing phase 7−33625
$NoBi_5(PO_4)_6$ structural and spectroscopic data correl., Raman and IR spectra anal. 7−53348
No_2Cl_2 microclusters, ionisation induced structural transitions, pseudopotential, HF calcs. 7−25379
$NoMBi_2(PO_4)_3$, M=Cd, Pb, Co, Sr, Bo, structural and spectroscopic data correl., Raman and IR spectra anal. 7−53348
$No_2O.nSiO_2$+propylene carbonate, gels form., comp. of phases and rheological props. meas. 7−39875
SiO_2-Al_2O_3-$CaCO_3$-Na_2CO_3 glass system, Ar^+ ion beam effects 7−32521
SiO_2-CaO-MgO-Na_2O glass, frequency dependent equation of state 7−51987
SiO_2-Na_2O-Al_2O_3-ZnO-Fe_3O_4-Si glass system, Fe behaviour at various compositions and reducing conditions 7−1899
SiO_2-Na_2O-CaO-Al_2O_3-MgO glasses, heavy ion irradiation, enhanced diffusion, preferential sputtering 7−32523
SiO_2-Na_2O-CaO-MgO-Al_2O_3-BaO-FeO_3 glass, elec. field stimulated Na depletion 7−6897
SiO_2-Na_2O-CaO-MgO glass, reaction in isotopically labeled water, $D_2{}^{18}O$ 7−26993
WO_3-Na_2O, nucleation and flux growth 7−44430
WO_3-NaF, nucleation and flux growth 7−44430
$Zn_{0.98}Na_{0.02}Fe_2O_4$, spinel struct., EXAFS and XANES studies, humidity sensor appls. 7−64784
ZnO-Na_2O-Al_2O_3-SiO_2, zeolite, partially exchanged, IR and neutron scatt. studies of adsorbed ethene 7−7001
Zr/ZrO_2/Na_2SO_4 soln. electrolytic capacitor, charge storage props. study 7−58930
ZrF_4-BaF_2-GdF_3-AlF_3-NaF-FeF_3, optical fibre glasses, trace amounts of Fe, characterisation 7−2956
ZrF_4-BaF_2-LaF_3-AlF_3-NaF glass, crystal growth and microstruct. 7−1896
ZrF_4-BaF_2-NaF glasses, crystallisation study 7−11933
ZrF_4-BaF_2-NaF-AlF_3 glass, crystn. *(Japanese)* 7−26659
ZrF_4-BaF_2-NaF-AlF_3-LaF_3 glasses, crystallisation study 7−63491
ZrF_4-LaF_3-BaF_2-NaF glasses, EPR of Cu^{2+} ions 7−27593
ZrF_4-PbF_2-AlF_3-LiF-NaF glasses, mixed alkali effect, DC cond. 7−63873
ZrF_4-PbF_2-AlF_3-NaF-KF glasses, mixed alkali effect, DC cond. 7−63873
ZrO_2-GeO_2-NaOH-H_2O system, hydrothermal crystn. investig. 7−2152

sodium potassium tartrate tetrahydrate *see Rochelle salt*

sofar *see sonar*

soft modes
see also displacive transformations; lattice phonons
antiferromagnets, double sublattice, metamagnetic soft mode, spin dynamics, suscept. and thermodynamics 7−59012
chloranil soft mode driven displacive transition, Raman meas. using I cell 7−59204
diamond, radiation damage prod. of 5RL centres, phonons, absorpt. spectra, cathodoluminescence studies 7−33461
diamond crystals, surface phonon modes and reconstructions, Green's function method calcs. 7−2339
displacive surface reconstructions, incommensurate sandwiches 7−52223
electron-phonon system in 1D *(Rumanian)* 7−16960
ferroelectrics, incommensurate phase, impurity-order parameter and -soft modes interactions 7−64584
ferroelectrics, quasi-1-D, soft mode and central peak studies 7−13103
ferromagnetic ferroelectrics, dynamic characteristics, soft modes saturation *(Russian)* 7−27672
incommensurate phases, phasons, dynamic pinning mechanisms 7−45941
isofrequency Raman light scatt. method, determ. of order parameter relax. time in phase transitions 7−39103
IV-VI compounds, vibronic theory of struct. phase transition and tricritical point 7−38187
mechanisms for soft mode formation and dispersion in displacive phase transformations 7−38150
one-dimensional Heisenberg antiferromagnet, soft modes 7−2832
one-dimensional polymer, vibronic interactions, HMO calcs. 7−26878
perovskite-related ABX_4 compounds, phonon-induced displacive transitions, octahedral librations, group anal. 7−12225
quantum paraelectric material with two types of impurity, structural phase transition, CPA calc. 7−44786
quartz, phonon dispersion and mode coupling near incommensurate phase transition 7−58421
Raman light scatt. spectra, central peak near structural phase transitions 7−46008
rare earth cpds., RP_5O_{14}, R=La-Nd, Sm-Tb, ferroelastic transitions, soft modes, Raman spectra *(Chinese)* 7−38177
Rochelle salt, phase transition dynamics 7−21367
Rochelle salt crystals, low temp. relaxational soft made transforms., dielec. spectra meas. 7−17279
structural phase transitions in highly anisotropic systems, dynamics 7−32605
sublattice model, incommensurate phase sandwiched by reentrant commensurate phases 7−51991
tetracyanobenzene-naphthalene (anthracene) complexes, charge-transfer crystals, orientational transitions, mean field approach 7−6783
thiourea, paraelectric phase, mol. dynamics simulation 7−37920
tris-sarcosine calcium chloride, dielectric dispersion 7−2965
V-Hf-Zr-Ta C-15 phase superconducting alloys, phonon props., inelastic neutron scatt. spectra 7−51969
$BaTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7−2539
$BaTiO_3$, ferroelectric solid, microwave absorpt., Curie temp. and ultrasonic attenuation 7−39049
$BaTiO_3$, submillimetre dispersion of permittivity 7−64556
$BaTiO_3$:Mn, Mn oxidation state change near phase transitions 7−16974
$BiVO_4$, ferroelastic, optical soft mode, quantum nature, EPR and Raman spectra study 7−45795

soft modes continued
$Cd_2Nb_2O_7$, soft mode damping in incommensurate phases, anomalous behaviour 7−38149
$CeRu_2Si_2$, heavy-fermion system, magnetoacoustic effects in high mag. fields 7−64506
$CsPbBr_3$ and $CsPbCl_3$, ionic cond. and phase transforms., 30 to 380°C 7−58457
$ErFeO_3$, low temperature phase transition, soft mode 7−38867
Fe-Pd multilayer structs., localised phonon modes 7−46061
GaAs:P, ion implanted and pulse laser annealed, Raman study 7−6653
Ge crystals, surface phonon modes and reconstructions, Green's function method calcs. 7−2339
Ge, structural props., ab initio pseudopotential calcs. 7−44797
$K_3CO(CN)_6$, polytypism and phase transition, lattice dynamical calcs. 7−12262
KD_2PO_4-type ferroelectrics, central peak, deuteration effects 7−64586
K_2OsCl_6, mode softening and phase transition, press. depend., NQR study 7−26896
K_2SeO_4, soft mode damping in incommensurate phases, anomalous behaviour 7−38149
$KTa_{1-x}Nb_xO_3$, lattice dynamics, nonlinear shell model 7−51971
$KTaO_3$, soft mode damping, determ. by submillimeter backward wave spectroscopy 7−45910
K_2ZnCl_4, phase transitions, Raman-scattering study 7−52035
$LaNbO_4$, single crystal, elastic props. 7−51915
$LiNbO_3$, elastic and dielec. props. 7−63715
$LiNbO_3$:Fe^{2+}, anomalous phase transitions, Mossbauer spectroscopy studies 7−2992
$LiTaO_3$, phonon modes, quasielastic light scatt. near T_c, Raman spectra anal. 7−3039
Mo_8O_{23}, low-dimensional conductors, inelastic neutron scatt. study 7−52701
Na_2CO_3, incommensurate crystal, Raman and IR spectra 7−17315
NaN_3, trigonal-monoclinic phase transition, Brillouin scatt. studies 7−22275
$NaNO_2$, solid ferroelectric and paraelectric phases, lattice vibrs., Raman and IR spectra anal., mol. dynamics calcs. 7−21373
$(NbSe_4)_3I$, long-range order formation near the second-order phase transition temp. 7−44802
α-P_4Se_3, cryst., press depend. of Raman spectrum 7−33376
Pb orthovanadates and orthophosphates, diffuse satellites in electron diffr. patterns 7−26595
$Pb_{4.7}Ba_{0.3}Ge_3O_{11}$, rhombohedral, acoustic symmetry and vibr. anharmonicity 7−16695
$Pb_5Ge_3O_{11}$, rhombohedral, acoustic symmetry and vibr. anharmonicity 7−16695
PbSe and other IV-VI cpds., acoustic mode vibr. anharmonicity 7−63751
$PbTiO_3$ based glass ceramics piezoelectricity, pyroelectricity and ferroelectricity 7−7654
$Pd_{0.9}Ag_{0.1}D_{0.61}$, lattice dynamics and phonon line shapes 7−2120
Pt (111), O adsorbate-induced surface-phonon softening 7−58600
Rb_2CdCl_4 cryst., Raman spectra, structural phase transition and soft mode obs. 7−39117
Rb_2ZnBr_4, soft mode damping in incommensurate phases, anomalous behaviour 7−38149
$(Sb_{1-x}Bi_x)NbO_4$ solid solns. and constituent cpds., vibr. spectroscopic study 7−39115
Si crystals, surface phonon modes and reconstructions, Green's function method calcs. 7−2339
α-Sn crystals, surface phonon modes and reconstructions, Green's function method calcs. 7−2339
SnSe(S), second order displacive transition and soft mode behaviour, neutron diffr. study 7−26895
$SrTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7−2539
$SrTiO_3$:Mn, Mn oxidation state change near phase transitions 7−16974
$TlNO_3$, ferroelastic switching, mech. twinning, at. mechanism, symm. anal. 7−2186
UPt_3, heavy-fermion system, magnetoacoustic effects in high mag. fields 7−64506
V_3Ga films, supercond. electron-phonon interaction spatial function, electron tunnelling spectra study 7−45578
W (001), adsorbed H, displacive surface reconstructions, incommensurate sandwiches 7−52223
W (100) with adsorbed H, long and short range fluctuations, lattice dynamical model 7−7002
$YbFeO_3$, spontaneous spin reversal, magnetic reson. soft modes and energy gaps obs. 7−52964
Zr-Fe compounds, electronic, lattice and supercond. props., rel. to amorphous alloys 7−17133

softening (metallurgical)
Cr-Mo, cyclic stress-strain response at elevated temps. 7−39624
metal-carbide composites, implantation modified, friction, surface chemistry 7−46660
metallic superlattice elastic and acoustic props. 7−2086
Nimonic 80, coupled plastic and creep damage at finite deform. *(Japanese)* 7−33736
Nimonic 80A, coupled effect of plastic damage and creep damage at finite deform. 7−46599
solid solution softening effect, kink nucleation on dislocations 7−44662
steel, alloyed structural, struct. rel. to cold deformability, softening heat treatment methods development 7−39556
steel, austenitic stainless, high cycle fatigue props., age hardening 7−13598
steel, austenitic stainless, softening mechanism in hot working 7−3333
steel, Cr-Mo, cyclic softening, creep and fatigue, fusion reactor appls. 7−53757
steel, Cr-Mo, normalised, tempered, neutron irrad., 390-550°C, tensile props. 7−17621
steel, Cr-Mo-V, cyclic creep accel. and retardation at room and elevated temp. 7−39581
steel, Cr-Ni-Co VKS6, struct. and mech. characts., effects of Ni, Co and heat treatment 7−8108
steel, ferrite, low activation, correl. of hot microhardness with elevated temp. tensile props. 7−53797
steel, low C, work hardening, softening and dislocation multiplication 7−3324
steel, Mn, Hadfield, strain hardening, plastic flow 7−28055
steel, V, thermal softening, carbide structural parameters rel. to alloying 7−22728

softening (metallurgical) continued
steels, microalloyed, high strength, phys. metallurgy and appls. 7−65066
Zircalloy, mech. eqns. of state of material irrad. at 573K in deform. in working direction 7−8064
Al alloy, high press. strength, shock wave expts. 7−22782
Al, high press. strength, shock wave expts. 7−22782
Al-Cu-Mg, hot workability, recrystallisation during torsional deform. *(Korean)* 7−46559
Al-Li-Mn (Cu), precip.-hardened, cyclic stress response and deform. behaviour 7−22791
Al-V films, precip. from metastable solid solns. 7−65048
Co-Al (10.9 at.%), cellular prep. from supersaturated solid soln. *(Russian)* 7−65045
Co-Si-B, change of elongation, rel. to conditions for hot working 7−3384
$Co_{75}Si_{10}B_{15}$, amorphous powder, static consolidation, mechanical and mag. props. 7−3217
Cu alloys, neutron damage microstructs. 7−58347
Cu alloys, neutron irrad., 13 dpa, mech. prop. and elec. cond. changes 7−51839
Cu, cyclic stress-strain behavior of single- and ⟨111⟩ multiple-slip-oriented single crystals 7−26845
Cu, dislocation-mechanics-based constitutive relations for material dynamics calcs. 7−63706
Cu, dynamic softening during deform. at high temps. and strain rates 7−33690
Cu-Al bronze, hot deform. and annealing, mechanical props. and softening kinetics 7−17552
Cu-Co (2 at.%), age-hardened, fatigue behaviour 7−33786
Cu-Fe, thermomech. treatment, softening rel. to disperse α-Fe particle, size and orientation 7−28054
Fe, Armco and Vacofer, yielding behaviour, H influence 7−33753
Fe, dislocation-mechanics-based constitutive relations for material dynamics calcs. 7−63706
Fe, pure, plastic softening by H plasma charging 7−59590
α-Fe:H, H induced softening, yield stress reduction 7−39607
Mo-Re (27 wt.%), rolling, reorientation, annealing effect *(Russian)* 7−39598
Pb-Sn solder, deform. props. 7−46590
Ti, heat treated, softening, in situ HVEM obs. 7−17548
W-Re alloys, annealed and sintered, elevated temp. softening, appl. for thermionic energy conversion 7−28077

software (computers) *see computer software*

software development *see software engineering*

software engineering
conf. NoveMesto na Morave, Czechoslovakia (Sept. 1985) 7−18471
transformation of scientific objectives into spacecraft activities 7−66462
USA Water Supply Computerised Information Directory 7−66204

software houses *see computer facilities*

software packages
air pollution, plume rise and dispersion, Salford software model 7−54398
air pollution screening model, development of MICROGAUSS-I 7−54401
Atlas AMP, Map-Master, and Randmap, mapping packages for IBM PCs 7−28815
atom probe data, software package for on-line anal. 7−30128
Auger electron spectroscopy, data processing, extended computer program 7−33983
coastal wave climate categorization, software packages 7−55254
dBase III files for maintenance of undersea features names on IBM compatibles 7−65927
DeLuxePaint package, use for creation of visual stimuli on Commodore Amiga 7−60002
Formula Vision, spreadsheet program for aiding in maths and science formula comprehension 7−35181
human colour-discrimination, Stiles's anal. on Apple II 7−8562
Lotus 1-2-3 on IBM PC, use in regional acid deposition calculations 7−54408
magnetic resonance imaging, computer model to optimize image contrast 7−54690
ML-TEST, FORTRAN subroutine package for implementation of maximum-likelihood method 7−59986
MR imaging systems, clinical software *(Japanese)* 7−15826
nuclear power plant availability improvement by reactor trip prediction software 7−10275
nuclear power plant probabilistic risk assessment microcomputer software 7−10271
nuclear power plant reliability and availability enhancement, generic software package 7−15467
P-T-X phase diagrams calc. using FORTRAN 77 programs PT-SYSTEM, TX-SYSTEM and PX-SYSTEM 7−38161
PCTRAN Plus software for vibration analysis 7−57737
radioactive waste containers store, radiation minimisation 7−10290
Science Toolkit, software, with light and temperature probes, for Apple II 7−35180
software for real-time acoustic remote sensing instrumentation and atmospheric pollution control 7−54403
TK!Silver for students in Fluid Mechanics Laboratory 7−16260
transient wave propagation, new applications of boundary element methods 7−35292

software prototyping *see software engineering; systems analysis*

software reliability
testing strategies and testing environment for reactor safety system software 7−19418

software selection
flow problems, stiff ODE solver software, selection 7−26239

sogicons *see semiconductor devices*

soil
acoustic-to-seismic transfer function for outdoor ground surfaces 7−26070
adsorption of sulphate deposited from atm., implications for dynamics in hydrological systems 7−29102
aggregated soils, microwave diel. models 7−23649
N Amazon Basin, Holocene fires as climatic indicators, dating 7−47531
anion adsorption on oxides, clay minerals and soils 7−54379
Archaean soil formation, expt. weathering of mafic and ultramafic rocks in Archaean atmosphere 7−29021
arid rangeland, New Mexico, Landsat albedo meas. 7−14286
Aurora U deposit, McDermitt Caldera Complex, Oregon, He soil gas survey 7−40441
Bangladesh ship scrapping area on Chittagong coast, pollution study 7−18212

soil continued
bare arable soils in E Shropshire, England, rainfall, runoff and erosion 7−9039
bare soil surface, moisture and energy fluxes, event-based simulation model 7−55107
basalt-bentonite mixtures, waste packing material, diffusion of tritiated water and chloride 7−40057
Benue Valley savanna, Nigeria, soil survey performed by LANDSAT satellite 7−23652
breakdown initiation rel. to gaseous ambient 7−59883
calibration of neutron probe for soil humidity measurement *(French)* 7−47581
clay, anisotropically consolidated, plasticity model for mechanical behaviour 7−14265
cotton crops, irrigation, evapotranspiration, soil moisture etc. 7−29032
decomposed granite soil thickness, spectral reflectance and surface temp. *(Japanese)* 7−40479
desertification in irrigated regions 7−8450
desertification indicators 7−8452
desertification processes responsible for land degradation 7−8449
dielectric profile retrieval, use of iterative optimisation 7−9204
differential bare field drainage properties from airborne microwave observations 7−23915
drainage from uniform soil layer on hillslope simple hydrological model 7−23756
drainage pipes under field, finite-element drainage problem with boundary conditions 7−29119
dryland degradation processes 7−8455
dynamic analysis of saturated porous media, higher order, mixed, and Hermitean finite element procedures 7−14263
dynamic response of saturated porous media, evaluation of u-w and u-π finite element methods 7−14262
electrical conductivity properties of water saturated fine-grained soils *(Japanese)* 7−18178
energy transfer in soils with nonequilibrium phase transition 7−66104
environment monitoring system for multiphase and porous media, modelling 7−59904
erosion, model of dispersion of splash droplets from water drop impact 7−9036
erosion by lahars following Nevado del Ruiz, Colombia, 1985 November 13 eruption 7−34431
erosion by wind, measurement apparatus, book 7−35136
erosion by wind, theory of climatic factor 7−8948
erosion in E Texas, storm flow and sediment losses from site-prepared forestland 7−23768
erosion planning, vectorization of Landsat TM land cover classification data 7−47443
erosion planning in Dane County, Wisconsin 7−47442
errors in FEA of soil masses which incorporate pseudo-elastic soil models 7−3730
S Europe, desertification processes 7−8451
fertilizers on surface, materials transfer and absorpt. in porous medium 7−26341
flood and flash-floods forecasting, generalised stochastic hydrometeorological model formulation 7−66201
tropical forest soils, emission of N_2O, methane, CO_2 to atmosphere 7−40528
freezing problem, moisture migration allowance study 7−55094
frost penetration into water saturated porous medium *(Russian)* 7−47471
fulgurites of Kolyma River, USSR, struct. and location of find *(Russian)* 7−66119
gamma-source backscatter density gauges modelling 7−34716
gas composition analysis use for geochemical exploration for mineral resources 7−40590
geotechnics dictionary 7−55908
gravity drainage, Green-Ampt analysis for falling water table in stratified profile 7−23764
gypsiferous-sodic desert soil, leaching simulation 7−29105
hillslope failure due to groundwater seepage 7−29112
homogeneous soil matrix containing population of macropores, infiltration 7−23743
hydraulic properties determ. from passive microwave data 7−23868
hydrosol, optical characteristics *(Russian)* 7−60283
India, acidity of rainfall affected by basic soil dust in atmosphere 7−29184
India, soil moisture vars. Bhaskara-II brightness temp. map. 7−14321
infiltration from cavities, num. soln. 7−18254
infiltration in a soil column containing a central hole 7−18253
ion transport, effects of heterogeneous adsorption behaviour 7−29104
isothermal phase change models for freezing and thawing soils 7−8456
Johnson Camp, Arizona, Cu-Zn ore bodies determ. from soil and soil gas comp. anal. 7−40591
laboratory samples, redox pot. and O_2 diffusion rate meas. using microcomputer controlled probe 7−8454
Las Vegas Valley, USA, Late Quaternary environmental changes 7−47414
linearised unsteady multidimensional infiltration 7−55108
low-temperature heat storage in unsaturated soils, design study 7−65606
mechanical behaviour of layered soil or rock containing decaying heat source, theory 7−14264
Melville Island, Canada, ground ice conditions 7−66175
methane biological production in soil and sediments, enhanced due to increase atmos. CO_2 levels 7−29152
methane release from rice paddy fields in Italy 7−40073
moist soil drying model, integral methods for partial differential eqn. 7−66187
moisture, thermal IR remote sensing 7−34696
moisture capacity of soils, improved determination methods 7−23891
moisture content, stochastic estimation and forecasting for irrigated fields 7−23732
moisture content remote sensing by 19.1 GHz microwave radiometry 7−34564
moisture meas of bare soils, remote sensing in 100 MHz-1 GHz range 7−55273
New Mexico, USA semiarid sand site, soil water movement and recharge 7−23774
oil-bearing, heat and mass transfer 7−56189
one-dimensional water infiltration in homogeneous soils, combined analytical-numerical approach 7−29082
order-three soil survey, use of Landsat and digital elevation data 7−4233

soil continued
  palaeosol, 2200 Myr old, near Waterval Onder, South Africa, reappraisal 7—29022
  particulate contaminant migration through porous media 7—60301
  peat water-content meter, IR, physical principles 7—55299
  permafrost mapping method for forest areas, Landsat Thematic Mapper method 7—29302
  permafrost of Alaska, temp. profile and evidence for climate change 7—66299
  permafrost zone, soil thawing and freezing, Stefan problem with one spatial var. 7—47469
  phase change models for freezing and thawing soils 7—8457
  photon attenuation, particle size effects 7—21279
  pollutant organic compounds, transport with saturated groundwater flow, theory 7—23240
  pollutant organic compounds transport with saturated groundwater flow, expt. results 7—23241
  polychlorinated aromatic compounds in soil around wood-preserving facilities in Finland 7—54375
  polycyclic aromatic hydrocarbons (PAH), in soil and air in Norway, effect of Al plant 7—54374
  porous, acoustic coupling calcs. 7—26072
  porous multicomponent media, wave similarity problems 7—43740
  Precambrian palaeopedology, conference, Raleigh, North Carolina (June 1985) 7—24275
  early Precambrian palaeosols, evidence from Al$_2$O$_3$-rich rocks of Kaapvaal Craton 7—29020
  Precambrian palaeosols of Dominion and Pongola Groups, Transvaal, chemistry and mineralogy 7—29018
  Precambrian palaeosols on basaltic and granitic parent materials, elemental concs. profiles 7—29019
  Precambrian permafrost horizons, appl. as indicators of palaeoclimate 7—29023
  radiation-induced conductivity meas. 7—59882
  radioactive pollution of soil of field in W Germany, ^{137}spatial variability 7—65655
  radionuclide migration through sandy soil layer 7—8458
  radwaste disposal in shallow tunnels in glacial till or clayey soil, geotechnical considerations 7—42217
  rain splash erosion beneath tropical forest canopy, study of rain throughfall 7—34561
  rainfall-runoff-percolation model using programmable spreadsheet 7—55116
  remote sensing for soil surveys, symposium, Wagerningen, Netherlands (March 1985) *(French English)* 7—18476
  remote sensing techniques for state of crops and soil 7—23651
  salt brine aquifers, Np migration 7—40056
  sand dunes in Mutonga drainage, Mount Kenya, origin and palaeoclimatic-ecological significance 7—18186
  SEFOR test reactor, gamma anal. of soil following decommissioning 7—30726
  segregated ice in freezing soil under negligible overburden press., stable growth 7—60279
  soft soil consolidation model, integral methods for partial differential eqn. 7—66124
  solute dispersion in unsteady flow, velocity-depend. dispersion 7—60300
  solute transport in aquifers and field soils, stochastic convection-dispersion model 7—23729
  solute transport through soil, convection-dispersion eqn. for transfer function model 7—23739
  solute transport through soil, fundamental concepts of transfer function model 7—23737
  solute transport through soil, illustrative appls. of transfer function model 7—23738
  steady infiltration from buried discs and other sources 7—23786
  strain-space plasticity formulation for hardening-softening materials with elastoplastic coupling 7—26164
  structured soils, equilib. and first order kinetic transport models, validity constraints 7—23243
  surface saturation zones prediction in natural catchments, appl. of topographic anal. 7—23770
  testing soil, BASIC program 7—34735
  thermal IR reflection, angular emissivity meas. rel. to remote sensing *(French)* 7—55291
  underground pipe, freezing liquid transport, cooling effect 7—57923
  unsaturated soils, numerical hysteresis model for intermittent studies 7—29096
  unsaturated zone water flow and solute transport, review 7—18236
  E USA, agriculture impact on soil erosion in Chesapeake Bay area 7—23707
  Uttar Pradesh (N India), utility of Landsat imagery in data base for small-scale soil mapping 7—4205
  water and chloride content meas. using neutron counting 7—56291
  water behaviour in soil 7—18235
  water content, calibration of duel-energy gamma radiation system for multiple point meas. 7—23917
  water downward percolation rate for intermittent flood irrigation conditions 7—29110
  water extractor for minimising CO$_2$ degassing and pH errors 7—23916
  water flow in two-dimensions, calc. of variably saturated flow 7—29111
  water infiltration during rainstorm, surface sealing phenomena due to rain 7—9031
  water infiltration from spheroidal cavities 7—60299
  water movement and solute movement 7—23778
  water movement in unsaturated zone under irrigated area, investigation using environmental T content 7—23757
  water resource planning, geographic information systems for encoding soil information 7—47473
  Al aqueous concentrations in natural waters and acid pollution problem 7—28420
  CaCo$_3$ cement (caliche) in Keweenawan sedimentary rocks (~1.1 Gyr), Michigan, implications for climate and sedimentation 7—29024
  ^{137}Cs in air and soil, use to meas. aerosol scavenging rate and vertical profile 7—55188
  ^{40}K in Makhmur Plain soil, N Iraq, α-ray spectroscopical analysis 7—34487
  ^{237}Np and ^{99}Tc, plant uptake under field conditions 7—28729
  ^{210}Pb in air and soil, use to meas. aerosol scavenging rate and vertical profile 7—55188
  Rn concentration, anomalous increases as earthquake precursor 7—8866

soil continued
  Rn concentration variations in active volcanoes and seismic regions 7—54963
  Rn, indoor and soil meas. in Albuquerque, NM, USA 7—28726
  ^{222}Rn conc. dynamics close to ground surface *(Japanese)* 7—59884
  ^{222}Rn transport from soil, role of channels 7—40442
  ^{222}Rn transport through a cool season grass growing on uranium mill wastes 7—28730
  U concentration meas. in soil and rocks by γ-ray spectrometry 7—54373
  U prospecting, soil survey using Rn α-detection 7—55311

solar absorber-convertors
  adaptive control of a solar central receiver: modelling and simulation 7—59877
  air heater combined with building roof, thermal-energy characts. 7—46967
  air heater design for cost-effectiveness 7—3626
  Alice Springs Solar Pond project, technical and economic viability 7—40045
  bisphenol-A-polycarbonates, outdoor lifetime depend. on terrestrial UV irradiance spectrum 7—54357
  built-in type solar water heater performance analysis 7—3719
  cascade connection of collectors for effective energy gain 7—8436
  cascade solar still, modified type for water desalination 7—23219
  cavity type solar receiver with thermodynamic transducer, heat loss investigation 7—54341
  coal gasification using energy from high temp. solar central receivers 7—65592
  coffered solar pond thermal behaviour, expt. 7—65577
  collector coatings with selective optical properties, radiation characts. 7—34068
  collector cover-plate transmissivities determ. from solar simulator 7—65584
  collector performance transient testing using digital filter 7—65582
  collectors, engineering method for heat-transfer coeff. and heat loss calc. 7—54342
  collectors, optimum area value in solar-heating systems 7—46964
  combined solar unit, heat flow balance in working chamber 7—54345
  commercial and industrial water heating by low-cost shallow solar pond system 7—8443
  compound parabolic concentrator collector, solar irradiance calc. using computer program 7—39964
  contaminated optical solar reflectors, simulated synchronous altitude environment effects 7—34040
  convective layers solar ponds, sloping walls, shadow graph technique investigation 7—40046
  cookers using heat-pipe principle 7—13928
  cooling by direct evaporation from sprays 7—37532
  corrugated water-trickle collector, expt. and theoretical study of thermal performance 7—65581
  cycling rate effect on energy collection for bang-bang controllers 7—8438
  differential game control of bilinear solar collector/heat exchanger system 7—65578
  direct absorption receivers, optical props. of high tempt. materials 7—40042
  distillation plants, instrumentation and control devices 7—28410
  domestic water heating installations, performance management 7—8441
  double-glazed solar air heater efficiency calc. 7—8432
  dryer based on convective heat and mass transfer 7—54354
  energy collecting solar ponds, designs and prospects 7—13929
  evacuated tubular collector, nonuniform temp. effect on receiver performance parameter 7—40031
  evacuated tubular collector, thermal efficiency calcs. 7—46969
  facet solar energy concentrator with tracking thermal collector, geometric parameters 7—54265
  fibrous insulator for solar receiver, temp. meas. using thermocouples 7—59872
  fixed spherical reflector tracking absorber solar collector exposed to oblique rays, anal. 7—40037
  flat and tubular vacuum collectors technology 7—54355
  flat solar collector, anal. and design 7—54348
  flat-plate and trough concentrators, transient models comparison 7—65412
  flat-plate collector, dynamic behaviour *(French)* 7—28414
  flat-plate collectors, energetics 7—59870
  flat-plate collectors, optimum operation through exergy optimization 7—54358
  flat-plate solar collector, electronic, heat transfer coeff. digital meter 7—23220
  food and agricultural products drying using solar collector with heat pump 7—54344
  free-piston linear alternator solar Stirling engine concept 7—65539
  geometric mean temp. meas. of solar pond, digital meter design 7—54356
  grain dryer, per performance tests and design 7—23221
  heat pump, solar assisted, control strategy, bilinear model 7—59868
  heterophotoelements and solar concentrator based power generation plants 7—65409
  hot water system in solar heated house, Jordan, thermal load reduction 7—54276
  hot water systems, control strategy and flow rate, comment and reply 7—8435
  hybrid photovoltaic-photothermal solar conversion system with cogeneration 7—54351
  industrial hot water production, roof collector model 7—3718
  industrial waste heat and flat-plate collector solar heat upgrading by reversed absorption heat pump 7—65419
  insolation simulation by compact-source iodide lamps 7—23122
  integrated heat pipe-thermal storage design for a solar receiver, design anal. 7—65626
  kiln dryers for timber and agricultural produce 7—39965
  linear solar concentrators, heat loss factor of evacuated tubular receivers 7—40032
  liquid solar collector using mixed dye solution 7—65579
  matrix solar collector theory simplification 7—54349
  methane reforming reactor for chemical energy transport 7—65589
  milk pasteurization using solar pipe collectors 7—23218
  multi-stage solar collector system, anal. and optimisation 7—8437
  optical anal. of solar absorber in fixed spherical reflector 7—23215
  optical materials for energy efficiency and solar energy conversion, conf., San Diego, CA, USA (Aug. 1985) 7—48159
  optimised solar central receiver systems, thermal loss per unit area of receiver 7—46927

solar absorber-convertors continued
parabolic cylinder solar unit energy module, luminous flux density meas., calorimetric tests 7—54263
parabolic trough collectors, concentrated flux density distrib. calc, using semifinite formulation 7—39966
paraboloidal collectors, distrib. of conc. solar radiation 7—8439
parallel flat-plate solar water collector, transient anal. 7—40038
photovoltaic and thermal collector, theoretical anal. and design 7—54347
photovoltaic system tracking and concentrator collectors, linear and Fresnel optics, cost comparison 7—17853
photovoltaic-thermal solar concentrator receiver system using fin-type absorber, actively cooled, anal. 7—54274
polyethylene, form-stable high density, latent thermal storage unit performance 7—65602
polyethylene, high density, latent thermal storage unit, heat transfer, numerical anal. 7—65603
pond, solar, research and appls., organic Rankine cycle engines compared to diesels 7—46971
pond surface zone temp. rel. to air wet and dry bulb temps. 7—54360
pond thermal performance and utilisability, steady-state eqns. 7—8444
ponds, performance eval. and optimal control *(French)* 7—59869
porous-bed solar air heater, functional aspects 7—28412
pumping gas lasers, spectral transform. of Sun's radiation by black body 7—43066
receiver/reactors for thermochemical transport of solar energy 7—65591
refrigeration system, two stage intermittent, salient parameters eval. 7—40028
refrigeration using NH_3H_2O system in Egypt 7—40041
salt gradient solar pond performance model 7—54359
Saudi Arabia, total radiation on tilted surfaces, comparison of measured and calculated values 7—8378
shadow method for automatic solar tracking 7—8379
single sloped cover solar still performance synthesis and predictions 7—23217
sloped-stepped reservoirs for culturing suspensions of Chlorella using solar energy 7—54343
small scale salt gradient solar ponds, parametric study 7—40035
solar collector, thermal efficiency, flow distribution effects 7—40026
solar district heating plant with rock cavern seasonal thermal storage 7—65609
solar irradiation simulation using Markov processes and Fourier analysis 7—8433
solar pond simulation using upward flow through storage zone 7—65604
solar ponds, concentration profile of salt in gradient zone 7—65583
solar ponds with double diffusive natural convection, nonlinear temp. and salinity profiles 7—8445
solid gas adsorption cooling system, refrigerator and heat pump using natural zeolite 7—65567
solid particle receiver materials, optical props., ang. scatt. and extinction characts. of Norton Masterbeads 7—40043
solid particle receiver materials, optical props., diffuse reflectance of Norton Masterbeads at high temp. 7—40044
solid-adsorption ice maker design 7—65585
space heating, solar-heated house, Jordan 7—54275
space heating of farm buildings, short-term monitoring and computer aided performance 7—28413
Space Station solar dynamic power system, simulation 7—65494
space vehicle appls. of solar dynamic systems using heat engines, overview 7—34070
stainless steel, ferritic, for selective solar absorbers, conversion coating anal. 7—23224
stationary plane solar collectors, optimum orientation determ. *(Slovak)* 7—59871
steel, austenitic stainless, bright annealed, selectively absorbing surface, oxidation prep. 7—8186
still mass transfer rate prediction from condensing surface mass fraction 7—28411
stills, comparison of various designs using performance and tests of water 7—54340
sun angle relationship derivation for design of solar energy system using vector algebra 7—46970
thermal conversion technology for European agriculture, book 7—28415
thermal energy storage in solar house, heat pump coupled to solar collector 7—65619
thermal energy transportation from solar collector field to energy conversion facility 7—65590
thermal storage sizing methodology for solar cooling/power generation systems 7—65617
thermohaline system with mixed layer circulation, gradient layer entrainment 7—65601
thermosiphonic solar water heater, modelling 7—40034
thermosyphonic solar water systems, pipe thermal insulation effects 7—40040
transient anal. of solar collector water heater using sand for heat storage 7—23216
transmission of solar radiation through random medium of water and glass 7—5841
tubular collector, transient anal., tube length effect 7—40029
tubular solar collectors, reflector designs comparison 7—8434
tubular thermal solar absorbers, numerical study and THEK appl. *(French)* 7—54353
Turkey, direct and total solar radiation, monthly and yearly average maps 7—8377
volume heat-trap type, graphite-diethylphthalate suspension, parameters study 7—34069
water cooled solar pumps, dimensioning principles, expt. laboratory study *(Rumanian)* 7—13930
water heater, 2-phase solar, operation and comparison with thermosiphon heater 7—65580
water heater, investig. of thermal-energy characts. by dynamic method 7—46966
water heating system with n-tanks in series, anal. 7—40036
Al-C-O/Al sputtered solar selective absorbing surfaces *(Chinese)* 7—40025
Al_2O_3-Co solar absorber coating, spectrally selective surfaces 7—23223
$CaCl_2$ absorbent for solar refrigeration, binding materials for structural improvement 7—23222
Cu_2S films, chemically sprayed, optical and solar selective props. 7—54350
Cu_2S films, flash-evaporated, optical props. and solar selectivity 7—64719
I laser, solar-pumped, beam profile meas. 7—37006

solar absorber-convertors continued
$NaNO_3$-KNO_3 molten salts, chemical resistance of valve packing and sealing materials 7—65586
$NaNO_3$-KNO_3 molten salts for solar central receiver appls. 7—65587
Ni black selective surface, optical properties 7—40030
Ni-ZnO/ZnS, selective Ni black coating, struct. and optical response 7—58697
a-Si hybrid photovoltaic and thermal solar collector 7—59856
Zn-Al coatings for solar collectors, blackening 7—40033
ZnO multilayers for solar collector coatings 7—3717

solar absorbers *see solar absorber-convertors*

solar activity
see also solar flares; solar prominences; solar-terrestrial relationships; sunspots
10.7 cm flux effect on F_2-layer electron content 7—14408
11-year cycle, relation to solar global oscill. spectrum 7—47798
1980 activity 7—24095
ALPO Solar Section observations for rotations 1745-7 (1984 Feb.-Apr.) 7—18396
ARMA time series model and activity forecasting *(Chinese)* 7—29444
azimuthal aperture synthesis obs. of active region, RATAN-600 meas. in 'south plus periscope' mode 7—60612
Boulder 4201 active region, mag. field obs. *(Chinese)* 7—4396
chromosphere active region loops 7—4418
coronal holes as origin for large-scale heliospheric disturbances 7—23968
coronal loops, Lyman α emission, filtergram anal. 7—24092
coronal mass ejections, mag. cloud chamber effects behind flare-generated shock waves 7—4282
coronal mass ejections assoc. with VHF bursts 7—4425
coronal transients and double current sheet *(Chinese)* 7—66527
coronal transients with forerunners, formation model 7—66538
cycle, effects on geomag. field secular var. 7—14184
cycle activity and solar constant var. 7—34964
cycle length during Miocene period, tree-ring evidence for 7-year cycle 7—9456
cyclic distribution of energetic X-ray flares, evidence from satellite obs. 7—66564
Elatina varve record of solar activity, Hilbert transform anal. 7—47811
equatorial spread-F, effect of mag. activity during high and low solar activity 7—66377
faculae, Fe I lines, shifts and asymmetries 7—66529
faculae, hillock and cloud model 7—55593
features and general characts. rel. to G-types stars 7—24135
flare complex, May 1981, development rel. to global solar mag. field 7—4410
flare complex, May 1981, kinematics of mag. field decrease 7—4411
forecasting anal. *(Chinese)* 7—4395
magnetic activity, topological stability of finite-length mag. flux tubes 7—66556
magnetic field dynamics model 7—34965
magnetic field line topology in active regions 7—24099
magnetic field of active regions *(Chinese)* 7—4344
magnetic structures and convection in Sun, evidence for large-scale circulation *(French)* 7—24094
neutrino short-time variations rel. to solar activity and core oscillations 7—47826
plages, spectral lines in 430 to 670 nm wavelength range with large Stokes V-amplitudes 7—66554
polar faculae, latit. migration during solar activity cycle (1970 to 1978) 7—34966
proton events, ELF propagation variations at mid and high latitudes 7—60471
radio bursts, 810 MHz emission obs. (1971 to 1976) 7—4388
secular cycles of activity and predicted characts. (of cycles 22 and 23) *(Chinese)* 7—4394
sunspot cycle simulation (AD 1800-2000) 7—9454
sunspots and major flares, statistical relationship 7—66536
surges and assoc. radio emission 7—24114
SWF radio bursts, relation to sunspot groups with abnormal mag. structures and rapid vars. *(Chinese)* 7—4390
type III radio bursts, exciting electrons speeds determ. 7—66533
Type III radio bursts, Helios obs. rel. to generation and propag. 7—47801
Ca plages rot. (1967-70) 7—4427

solar atmosphere
see also chromosphere; photosphere; solar corona
active region, RATAN-600 azimuthal aperture synthesis obs. in 'south plus periscope' mode 7—60612
Alfven normal modes in non-uniform plasma, viscous damping 7—57992
Boulder 4201 active region, mag. field obs. *(Chinese)* 7—4396
coronal loops, an explanation for fast downflows 7—29458
current sheets formation in solar atmosphere, effect of photospheric motions on coronal mag. field 7—66539
emerging fluxtube, response to current-driven instability 7—66451
empirical model atmospheres, implications of CO abundance determs. from vibr.-rot. bands 7—55598
energetic particle emission regions, temp. conditions determ. 7—66532
fast sausage waves in mag. slab, solar atm. appl. 7—24102
flare hard X-ray burst, high spectral resolution meas. 7—66543
flare non-LTE calculations for the Hα and Ca II K lines *(Chinese)* 7—29442
flares, collisional heating by nonthermal electrons in tapered mag. loop 7—66557
flares hard X-ray and gamma-ray emission, bremsstrahlung prod. by high-energy protons 7—55594
magnetic fields activity, topological stability of finite-length mag. flux tubes 7—66556
magnetic flux tube vel. and spectral lines 7—34960
magnetohydrostatic equilibria for plasma in gravitational field, theory 7—47819
magnets-acoustic-gravity waves propag. *(Chinese)* 7—4306
MHD waves nonlinear propag., nonperiodic behaviour and energy cascade onset 7—66455
outflows and ejections in the solar transition zone 7—47807
plasma conf., Sukhumi, USSR (May 1986) 7—48174
plasmoids, energy balance 7—66450
quasi-perpendicular magnetosonic shock wave, proton acceleration 7—9455
radiating plasma with current, instability, Joule heating and radiation effect 7—29456
solar temperature, 4 GHz, undergraduate expt. 7—53
time dependent acoustic wave calc. 7—34959

solar atmosphere continued
- turbulence in photosphere, determ. by observation of spectra, ‘crossing’ method 7—47731
- turbulent current sheet energy release rate *(Russian)* 7—24098
- velocity fields, conf., Trieste, Italy (August-September 1982) 7—35118
- H spectrum formation, multilevel transfer calcs., statistical equilib. eqns. 7—47689
- OH radical, Fourier transform spectrometry 7—55482

solar batteries *see solar cells*

solar cell arrays
- *see also solar power*
- 2-D array experiment on board space flyer unit 7—3647
- Advanced Photovoltaic Solar Array Program, Si solar cells for spacecraft power 7—65489
- Arabsat telecom. spacecraft, solar generator and telemetry of orbit performance 7—65488
- biased concentrator cells, plasma interactions 7—59840
- bridge linked solar cell arrays, performance eval. 7—13912
- concentrating photovoltaic arrays, test date anal. 7—17907
- concentrator array field performance meas. 7—54277
- concentrator photovoltaic array field performance characts. for desert environment 7—65415
- DC-AC orthogonal core type convertor, appl. to photovoltaic power system 7—34037
- dendritic web Si solar cells 7—40005
- electrical output for flat plate tracking arrays 7—3690
- electrical performance characterisation, overview 7—54317
- energy generation prediction for residential photovoltaic arrays 7—3686
- EURECA space platform, solar generator power supply *(German)* 7—46942
- flat panel array fields, modularity study and optimisation 7—17896
- flat plate array rating and insolation meas. 7—54318
- flat-plate photovoltaic arrays, thermal characterisation 7—3685
- flat-plate solar cells economic payoff, 1975 to 1985 7—3687
- hot-spot testing and analysis 7—34041
- HV solar array plasma protection techniques 7—3707
- insolation study and off-azimuth photovoltaic performance 7—3689
- integral bypass diode solar cell modules, shadow tolerance 7—59854
- integral bypass diode solar cell modules, thermal perform. 7—59853
- interconnector fatigue simulation testing, satellite appl. 7—13873
- Kapton blankets, protection from attack by low Earth orbital atomic oxygen 7—3705
- loss mechanisms in electrical performance model 7—54319
- performance computer simulation models 7—54320
- photovoltaic array design practices for structure, electrical circuits and power conditioning 7—17881
- photovoltaic array I-V characteristic measurement error 7—3688
- photovoltaic array performance and life-cycle cost simulation 7—17913
- photovoltaic device performance and insolation meas., conf., Vail, CO, USA (June-July 1985) 7—48164
- photovoltaic generator Solarex SX-110, performance prediction using probabilistic approach 7—17859
- photovoltaic module performance in Finland 7—23196
- photovoltaic power supplies for instruments and control equipment, review 7—23137
- photovoltaic power system for car battery manufacturing plant 7—3692
- photovoltaic water pumps, performance, reliability and maintainability 7—13889
- photovoltaics specialists conf., Las Vegas, NV, USA (1985) 7—14
- power improvement by using cooling and light concentration 7—54302
- residential photovoltaic system, prototype performance 7—17875
- roof mounted photovoltaic arrays, building block modules 7—17882
- shadow-following module and sun-tracking control 7—17897
- Si solar cells in high concentration photovoltaic module 7—17874
- spacecraft HV solar cell array glass encapsulation for protection against plasma 7—65490
- spacial solar panels, LF noise as nondestructive inspection test 7—39996
- tracking and nontracking photovoltaic power systems, solar radiation availability and energy cost 7—3691
- Venus radar mapper mission, use of high temp. high intensity solar cell array 7—3706
- vibration and attitude control, reaction wheel actuator 7—28400
- vibration and attitude control using differential sensors 7—28399
- CuInSe$_2$-Si:H, tandem modules, thin film design and fabrication 7—13913
- GaAs point focus concentrating solar cell arrays for spacecraft 7—3662
- GaAs solar array design, weight-efficient rigid panel structure 7—13881
- GaAs solar panel performance of LIPS-II satellite 7—13883
- GaAs solar panels with LPE and metal organic CVD circuits, satellite power 7—65493
- GaAs with Al honeycomb substrate, flat-plate space solar panels interconnector design 7—13879
- Si 7—17871
- a-Si alloy monolithic solar cells, ultralight modules and appls. 7—3663
- a-Si alloy ultralight photovoltaic modules consisting of solar cells, space and terrestrial appls. 7—65485
- a-Si photovoltaic module performance 7—3684
- Si solar arrays for low Earth orbit space stations, advanced module concept 7—3659
- Si solar cell array, 30 kW, for space appls. 7—3660
- Si solar cell array module, 50 microns thick, space flight ready 7—65491
- Si solar cell arrays for EURECA space vehicle 7—3661
- Si solar cells, terrestrial, production costs and conversion efficiency 7—17869

solar cells
- 1D modelling using personal computers 7—8404
- AM 1.5 global and direct solar simulation and secondary reference cell calibration 7—23175
- amorphous, with specified optical, elec. and recomb. props., optimisation model 7—54300
- amorphous alloy cells, quantum efficiency meas. techniques 7—8425
- amorphous semiconductors, conference, Palo Alto, CA, USA (April 1986) 7—29602
- ASTM standards for solar cell and module meas. 7—8410
- calibration, indoor and outdoor methods 7—59843
- calibration and efficiency meas. procedures 7—23160
- calibration expt. on Chinese scientific satellite 7—13874
- cascade solar cells, efficient two-junction monolithic, grown by MOCVD 7—65483
- CdS-CuInSe$_2$ solar cells fabricated by DC magnetron sputtering of Cu$_2$Se and In$_2$Se$_3$ 7—23170

solar cells continued
- chlorophyll photoelectrochemical solar cell, photoresponse, temp. effect 7—54324
- concentrator cells and thin film cells 7—54298
- concentrators, optimised top contact design 7—8385
- contaminated optical solar reflectors, simulated synchronous altitude environment effects 7—34040
- coverglass thermal characts., improvements by thin film coatings 7—13884
- dendritic web Si solar cells 7—40005
- double surface solar cells 7—54301
- efficiency, doping gradient effects 7—8412
- electrical characts. of solar batteries, calc. *(Hungarian)* 7—39989
- EMF-internal resistance model of solar cell 7—48258
- enhanced performance by front surface light scattering 7—8420
- fluorescent solar concentrators, performance evaluation using photometric method 7—59844
- global and direct solar radiation meas. and photovoltaic testing results in Jeddah 7—23144
- high throughput automated fabrication line with ion implantation and halogen lamp annealing 7—8417
- I-V characteristics, curve fitting error criterion 7—8411
- I-V characteristics, parameter recovery, curve fitting error criteria 7—39995
- I-V characts. anal. including generation-recomb. current and diffusion current 7—8381
- II-VI semiconductor films, prep., electronic props., solar cell appl. *(Japanese)* 7—54299
- III-V ternary alloy monolithic three-junction solar cells, computer modelling 7—3672
- insolation study and off-azimuth photovoltaic performance 7—3689
- interdigitated back contact solar cell for high concentrated sunlight, optimisation 7—3657
- irradiance models, data and instrumentation for device performance anal. 7—13905
- large area cells, spectral response meas., microcomputer controlled apparatus 7—3642
- light concentrators for improving output parameters 7—54297
- low bulk resistivity solar cells sensitivity anal. using SPCOLAY computer code 7—8406
- low-cost high-efficiency solar cells, laser-assisted metallisation 7—8415
- LPCVD production, anal and solar cell appls. 7—17452
- luminescent solar concentrators, glass and dye absorption and luminescence obs. *(Finnish)* 7—28390
- magnetic fields 7—13860
- measurement of volt-ampere characts. *(Slovak)* 7—39994
- mechanically stacked multijunction solar cells, optical effects of thin film adhesives 7—3670
- metallisation grids, optimum transparency factor determ. 7—59857
- MEV 1 electric vehicle prototype with additional solar cells *(German)* 7—3644
- microscopic defect structures and equivalent electron fluence concepts 7—23179
- MIS inversion layer solar cells 7—3680
- MIS solar cells, polycryst., barrier height anal. 7—46941
- MIS solar cells, sputter deposition of barrier metal 7—17866
- MIS solar cells on polysilicon substrates 7—40008
- modulus with welded and soldered interconnections, thermal cycling tests 7—23194
- multi-junction photovoltaic cells with vertical p-n junctions 7—34035
- multijunction concentrator solar cells, review 7—3651
- multijunction solar cells with similar doping superlattice structures 7—3675
- multiple-gap solar cells under different irradiation conditions, conversion efficiency 7—8400
- multispectral high efficiency solar cells, semicond. selection criterion 7—8399
- n$^+$-p junction, series resistance depend. on operating current 7—54306
- non-imaging optics in photovoltaic concentration 7—8361
- optical and electrical characts., meas. systems 7—13906
- optical sheets, intensity enhancement by surface texturing 7—46940
- optically induced inversion in the MIS solar cell 7—8380
- organic semiconductors, electrical transport props., electron bombardment method 7—52641
- p-n heterojunction solar cells using thin film organic semiconductors 7—40001
- passivated, high efficiency, optimum surface dopant conc. 7—23190
- performance meas., translation to reference standards 7—54312
- performance testing, outdoor facility 7—54311
- photoacoustic measurements, computer simulation 7—8422
- photoacoustic signal, computer simulation 7—43588
- photovoltaic 22.5X linear Fresnel lens concentrator module using Si solar cells 7—17873
- photovoltaic and thermal collector, theoretical anal. and design 7—54347
- photovoltaic concentrator research progress 7—17903
- photovoltaic converters based on three-layer semiconductor heterostructures 7—46944
- photovoltaic device performance and insolation meas., conf., Vail, CO, USA (June-July 1985) 7—48164
- photovoltaic encapsulant, properties of new SSP system, comparative study 7—13914
- photovoltaic module fabrication and testing for bulk electric power production 7—23169
- photovoltaic research at Solar Energy Research Institute, USA 7—8389
- photovoltaic research based on general semiconductor research 7—3678
- photovoltaic technology assessment 7—46939
- photovoltaic-thermal solar concentrator receiver system using fin-type absorber, actively cooled, anal. 7—54274
- photovoltaics for electric power appls., technology assessment 7—3648
- photovoltaics specialists conf., Las Vegas, NV, USA (1985) 7—14
- polycrystalline, grain boundary parameters determ. using EBIC signal derivative 7—8382
- polycrystalline semiconductor thin film photovoltaic devices 7—40002
- polycrystalline thin film solar cells, high efficiency tandem cell struct. 7—23198
- polysilicon for solar cell appls., DLTS study 7—38512
- programmable simulator of photovoltaic generators 7—28404
- pump powered by asynchronous machine, optimal control *(French)* 7—59839
- recombination and transport parameters, advanced measurement techniques 7—54316
- reliability, design and construction 7—3679

solar cells continued

- reverse recovery experiments, diode geometry effect 7—34038
- review of solar cell appl. of future *(German)* 7—65462
- self-consistent detailed balance treatment 7—13859
- semiconductor device physics, conf., Madras, India (Nov.-Dec. 1985) 7—35102
- semiconductor solar electric station-storage battery-solar stand, testing 7—34033
- serial resistance meas. *(Slovenian)* 7—65473
- short-circuit current meas. as method for efficiency calc. 7—13872
- short-circuit current sensitivity to atmospheric conditions 7—13904
- Si:B polycrystalline solar cell substrates, B conc. meas. using IR spectroscopy 7—23176
- a-Si:H solar cells stability, role of Si—H bonds studied by Fourier transform infrared spectroscopy 7—13896
- simulators and I-V meas. methods 7—54310
- single cell concepts for obtaining >30% photovoltaic conversion efficiency 7—3652
- SIS solar cells on polysilicon substrates 7—40008
- SnO_2 liquid junction solar cell sensitisation with conc. dyes 7—3646
- source term in solar cell theory 7—65469
- Space Station solar dynamic power system, simulation 7—65494
- spectral response determ. by photothermal spectroscopy 7—23173
- status and future trends of solar power utilisation *(Czech)* 7—8360
- substrate charactn. techniques 7—40004
- sun-tracking bifacial photovoltaic panel model 7—3645
- surface junction solar cells, illumination and surface recombination effects on currents, anal. 7—34046
- test facility for high concentration solar cells, water cooled blackbody calorimeter 7—13849
- thermophotovoltaic energy conversion, optimum efficiency of single and multiple bandgap cells 7—23185
- thermophotovoltaic energy conversion, optimum efficiency of single and multiple bandgap cells 7—59847
- thin film and modules, performance testing, overview 7—54309
- thin film solar cell technology, design and appls. 7—17872
- thin film solar cells manufacture, elec. and EM hazards 7—59849
- thin-film photovoltaic cell production, gas, health and safety hazard controls 7—17876
- variable-gap structure, solar cell photon energy efficiency 7—34034
- vehicles utilising solar cells *(German)* 7—3643
- VOLT-A Shuttle expt., space plasma/solar cell interaction charactn. 7—13882
- volt-ampere characts. meas., generator of intense millisecond light pulses design 7—34042
- Al-Si alloy high efficiency solar cells 7—3682
- AlGaAs, MOCVD growth on Ge substrates for high efficiency tandem solar cell appl. 7—3671
- AlGaAs terrestrial solar cells, high-efficiency concepts 7—8390
- AlGaAs:Mg-GaAs:Se concentrator solar cells, 26 percent efficient 7—3699
- AlGaAs/GaAs solar cells, proton irradiated, defect production 7—46936
- AlGaAs/GaAs two-junction monolithic cascade solar cell in lattice-matched system 7—13862
- AlGaAs/GaAs/Ge multijunction solar cell, model for calc. of displacement damage by radiation 7—13878
- AlGaAs/GaAs/InGaAs multijunction solar cell, model for calc. of displacement damage by radiation 7—13878
- AlGaAs/GaInAs two-junction monolithic cascade solar cell in lattice-mismatched system 7—13862
- AlGaAs/GaInAs two-terminal multijunction solar cell spectral response meas. 7—13871
- AlGaAs-GaAs concentrator solar cells with high efficiency, design and fabrication 7—3669
- AlGaAs-GaAs heteroepitaxial wafer for solar cell appls., uniform growth by MOCVD 7—64929
- AlGaAs-GaAs heteroface space solar cells with 21 percent conversion efficiency 7—3694
- AlGaAs-GaAs heteroface solar cells, role of window layer 7—3695
- AlGaAs-GaAs solar cells, MOCVD on GaAs, Ge and Ge-Si substrates 7—3650
- AlGaAs-GaAs solar cells, high efficiency DH cells fabrication using MOCVD 7—3693
- AlGaAs-GaAs solar cells, fabrication on Si substrates 7—46937
- AlGaAs-GaAs solar cell fabrication, elec. characts. and space appl. 7—54307
- AlGaAs-GaAs space solar cells, LPE production and characterisation 7—3666
- $Al_xGa_{1-x}As$ cascade solar cells, OM-VPE growth, in-situ-grown tunnel junction 7—8387
- $Al_xGa_{1-x}As$ p-n junction solar cell radiation-induced defects obs. using DLTS 7—13875
- $Al_xGa_{1-x}As$ solar cells, MOCVD growth and characterisation, review 7—34043
- $Al_xGa_{1-x}As$-GaAs heteroface solar concentrator cells, space and terrestrial appls. 7—65486
- CdS:Gd, Cl film solar cells, gamma radiation effects on photoelectric properties 7—34032
- CdS/CdTe screen-printed thin-film solar cell for indoor consumer electronics *(Japanese)* 7—65472
- CdS/CdTe sintered solar cell photovoltaic props. rel. to CdS film sintering conditions *(Korean)* 7—65476
- CdS/CdTe solar cells, circulation meas. and spectral error reduction 7—13903
- CdS/CdTe solar cells, effects of CdS film thickness on photovoltaic props. 7—65468
- CdS-CdSe-sulphide-polysulphide multiple junction photoelectrochemical cells 7—59863
- CdS-CdTe screen printed solar cell modules, long term reliability tests 7—23158
- CdS-Cu_2S, solar cells, SEM and Auger microanalysis 7—23189
- CdS-$CuGaSe_2$ solar cell fabrication 7—22047
- CdS-$CuInSe_2$ Boeing solar cells, I-V characteristics meas. 7—8408
- CdS-$CuInSe_2$ thin film solar cell, solid state photovoltaic research status at SERI 7—8389
- CdS-$CuInSe_2$ thin-film solar cells, junction formation and O role, EBIC studies 7—17915
- CdS-$CuInSe_3$ backwall solar cells, intrinsic loss mechanisms calc. 7—23187
- CdS-InP solar cells, high efficiency, with thermally evaporated window layers 7—3701

solar cells continued

- nCdS-n-GaAs photoanode, flux anal. of multiple junction solar cells 7—23162
- n-CdSe thin films grown from low purity materials for solar cell appls. 7—65480
- CdSe-CdTe-selenide-polyselenide multiple junction photoelectrochemical cells 7—59863
- CdSe-Cu_2Se heterojunction solar cell, dry formation, electron microscope study 7—17916
- CdSe-polysulfide solar cells, nitrite reduction to ammonia 7—39999
- CdSe(S) thin films, electrophys. props., electron irradiation effects study, solar cell appl. 7—16894
- CdSeTe-polysulfide solar cells, nitrite reduction to ammonia 7—39999
- $CdSe_xTe_{1-x}$ polycrystalline solid solutions in electrochemical solar cells, photosensitivity 7—54296
- CdTe photoelectrochemical solar cells, effects of Ru surface modification 7—40017
- CdTe polycrystalline thin film solar cells 7—17888
- CdTe, Ru surface modified for solar cells XPS obs. 7—23202
- CdTe thin film heterojunction solar cells 7—17914
- CdTe thin film solar cells, efficiency improvement 7—17883
- CdTe thin film solar cells fabricated by evaporation *(Japanese)* 7—34044
- CdTe:P-CdS solar cells, control of open circuit voltage by carrier density variation 7—17887
- CdTe/In_2O_3 solar cells, high efficiency 7—59838
- CdZnS/$CuInSe_2$ solar cells, spray pyrolysis prep. and characts. 7—8374
- CdZnS/$CuInSe_2$ solar cells, transient current studies of junction activity 7—8409
- CdZnS-InP heterojunction solar cell, numerical anal. 7—23155
- Cu-Cu_2O Schottky barrier solar cells, interfacial layer effects investig. using n-V_{oc} diagram 7—54304
- $Cu_{2-x}Cd_xTe$-$Zn_{39.5}Cd_{60.5}Te$:I, heterojunction solar cells, fabrication and characterisation *(Korean)* 7—28402
- $CuGaSe_2$-CdS solar cells, physical properties and photovoltaic potential of $CuGaSe_2$ thin films 7—12889
- $CuGaSe_2$-ZnCdS wide bandgap solar cells for thin film tandem structs. 7—23172
- $CuInS_2$-SnO_x:F sprayed solar cells, photovoltaic props. 7—54322
- $CuInSe_2$ electrodeposited films, photoelectrochem. solar cells fabrication 7—3710
- $CuInSe_2$ epitaxial films deposited on GaAs and CdS, RHEED studies 7—12549
- $CuInSe_2$ large grain (112) oriented thin films grown by RF sputtering, solar cell applications 7—17422
- $CuInSe_2$, pH effects on surface properties 7—23201
- n-$CuInSe_2$ photoelectrochemical cells 7—23199
- $CuInSe_2$ polycrystalline thin film solar cells 7—17888
- $CuInSe_2$ polycrystalline thin film solar cells, donor-acceptor pair luminescence 7—17890
- $CuInSe_2$ thin film growth 7—13368
- $CuInSe_2$ thin film photoelectrochemical cells 7—23200
- $CuInSe_2$/CdS, thin film chalcopyrite solar cells, electroplating prep. 7—17894
- $CuInSe_2$/CdS solar cells, modelling and anal. 7—17893
- $CuInSe_2$/CdS-CdTe/CdS tandem solar cells 7—17891
- p-$CuInSe_2$/n-(Cd,Zn)S polycrystalline solar cells, open circuit voltage 7—17889
- $CuInSe_2$-based photoelectrochem. solar cells, optical and electronic props. studies 7—46958
- $CuInSe_2$-$Cd_{1-x}Zn_xS$ thin-film solar cells, voltage and light bias-dependent spectral response 7—8375
- $CuInSe_2$-CdS heterojunctions deposition, in-line sputtering system 7—64900
- $CuInSe_2$-CdS solar cells and $CuInSe_2$ thin films, charge transport studies 7—12890
- $CuInSe_2$-CdS solar cells, capacitance determ. of interfacial states 7—13916
- $CuInSe_2$-CdZnS solar cell development for space appls. 7—13917
- p-$CuInSe_2$-CdZnS-ZnO solar cells, device anal. 7—23171
- $CuInSe_2$-Si:H, tandem modules, thin film design and fabrication 7—13913
- $CuInSe_2$-ZnCdS thin film polycryst. solar cell efficiency improvement using antireflection coatings 7—23186
- $Cu_{1.8}S$-CdTe thin film polycrystalline solar transducers, photosensitivity spectra 7—34036
- $Cu_{1.8}S$-Se-CdTe thin film polycrystalline solar transducers, photosensitivity spectra 7—34036
- Cu_2S/CdS large-area solar cells, reactive sputtering 7—46943
- Cu_2S-CdS polycrystalline solar cell, freq. dispersion in admittance 7—65464
- Cu_2S-CdS solar cells, all-evaporation processed, characts. 7—8383
- Cu_xS-$Cd_{1-y}Zn_yS$ thin film solar cells perform., depend. on annealing temp. 7—17861
- Cu_xS-CdS, comp. of differing junction types, AES, SIMS determ. 7—23167
- GaAlAs-GaAs heterostructure solar cells, multijunction with bulk graded bandgap/p-n junction 7—3676
- GaAlAs-GaAs MOCVD solar cells on Ge and Ge/Si substrates 7—23182
- GaAs backwall Schottky barrier solar cells, minority carrier current collection, built-in elec. field enhancement limitations 7—54305
- GaAs cells, crossed-lens photovoltaic concentrator appl. 7—17905
- GaAs concentrator cells, design options and constraints 7—3698
- GaAs, elec. parameter mapping by numerical image processing of light beam induced current topography 7—33051
- GaAs epilayers, MOCVD on Si for solar cell appls. 7—27928
- GaAs epitaxial film shallow homojunction solar cells fabrication by Zn solid state diffusion method 7—17860
- GaAs, MOCVD growth on Ge substrates for high efficiency tandem solar cell appl. 7—3671
- GaAs point focus concentrating solar cell arrays for spacecraft 7—3662
- GaAs polycrystalline solar cells, influence of grain boundaries on performance 7—17892
- GaAs polycrystalline solar cell, electron beam generated carriers in presence of grain boundaries 7—64262
- GaAs shallow-homojunction solar cells, junction depth effect on photovoltaic parameters 7—3673
- GaAs single-junction solar cells, concentrator module with 19% efficiency 7—17906
- GaAs solar cell parameters, theoretical temp. depend. 7—23161
- GaAs solar cell with 25.5% efficiency AM0 7—3665
- GaAs solar cells, circulation meas. and spectral error reduction 7—13903

solar cells continued

- GaAs solar cells, depletion layer recombination effects on radiation damage hardness 7—13888
- GaAs solar cells, fracture strength as function of manufacturing process steps 7—3696
- GaAs solar cells, perform. and temp. dependencies of proton irradiated n-p and p-n cells 7—3702
- GaAs solar cells, sequential irradiation effects of electrons and protons 7—13877
- GaAs solar cells, transient current studies of junction activity 7—8409
- GaAs, solar cells fabrication on Si substrates by MOCVD 7—23183
- GaAs solar cells for space appls., potential efficiency 7—65482
- GaAs solar cells for thermophotovoltaic appls. theoretical efficiency 7—59855
- GaAs solar cells with corrugated surface, computer code for performance eval. 7—3667
- GaAs solar cells with varying junction depths, spectral mismatch correction 7—65475
- GaAs solar concentrator cells, perform. under 1 MeV electron irradiation 7—3704
- GaAs space qualified solar cell production by organic metal CVD, performance testing 7—65492
- GaAs superlattice solar cell structure with high efficiency and radiation tolerance 7—8414
- GaAs thin film photovoltaic cells, large-scale manufacture, hazard characterisation of AsH_3 gas and GaAs waste 7—39998
- $GaAs\text{-}Al_xGa_{1-x}As$ solar cell, operation with band-gap gradient in space charge region 7—54295
- GaAs-AlGaAs three-terminal cascade solar cells with selective electrodes 7—23184
- GaAs-GaAs cascade solar cells, OM-VPE growth, in-situ-grown tunnel junction 7—8387
- GaAs-GaSb high efficiency mechanically stacked two-colour solar batteries 7—59851
- GaAs-Si mechanically stacked multijunction solar cell 7—8402
- GaAs-Si thin film solar cells, radiation damage 7—65465
- GaAsP on GaP solar cells in tandem with Si cells, design, fabrication 7—3674
- GaAsP terrestrial solar cells, high-efficiency concepts 7—8390
- $GaAs_{0.7}P_{0.3}\text{-}GaP$ solar cell, high efficiency mech. stack, performance meas. 7—8401
- $GaAs_{0.75}P_{0.25}$ solar cells, high efficiency, grown by one atmosphere MOCVD 7—3697
- GaAsSb terrestrial solar cells, high-efficiency concepts 7—8390
- GaInAs terrestrial solar cells, high-efficiency concepts 7—8390
- $GaInP_2\text{-}GaAs$, current-matched and lattice-matched tandem cell efficiency 7—8403
- $Ga_{1-x}P_x\text{-}GaP\text{-}Si$ mechanically stacked multijunction solar cells, p-n junction model 7—3668
- Ge p-n junction solar cell radiation-induced defects obs. using DLTS 7—13875
- Ge solar cell parameters, theoretical temp. depend. 7—23161
- Ge solar cells for thermophotovoltaic appls. theoretical efficiency 7—59855
- Ge/GaAs multijunction monolithic cascade solar cells with patterned Ge tunnel junctions 7—13863
- Ge-Si solar cells, electron radiation effects 7—34031
- a-Ge-Si:H,F, multijunction solar cells, performance data 7—40011
- a-GeSi:H alloy tandem-type solar cells, conversion efficiency 7—40014
- H_2 generation using solar battery and electrolyser unit, optimisation 7—54361
- H_2 production by solar photovoltaic convertor and electrolyser 7—3721
- H_2 production by TiO_2 thin film electrodes of photoelectrolysis solar cells 7—3725
- H_2 production using photovoltaic solar energy electrolysis, review 7—3726
- HgCeTe thin film solar cells fabrication 7—23188
- $In_{0.2}Ga_{0.8}As\text{-}GaAs$ cascade solar cells, OM-VPE growth, in-situ-grown tunnel junction 7—8387
- In_2O_3:Sn transparent conducting films, electr., optical props., appls. *(Korean)* 7—59842
- InP crystals and solar cells, radiation-induced defects, room-temperature annealing 7—39993
- InP solar cells, potential for use in space radiation environment 7—23181
- InP solar cells, radiation resistant characts. 7—8413
- InP solar cells in space radiation environment, comparison with GaAs and Si cells 7—65484
- InP thin film solar cells on Si substrate, high efficiency and high radiation resistance 7—59852
- InP, undoped and Zn(Cd) doped thin films, prep. and characts., appl. for solar cells 7—17895
- p-InP/Co(Pt) photocathodes for photoelectrochemical solar cells, H_2 evolution from alkaline solns. 7—13922
- $In_{2-x}Sn_xO_{3-y}$ solar cells, state-of-the-art review 7—40007
- $In_{2-x}Sn_xO_{3-y}\text{-}CdTe$ solar cells, spray deposited, elec. and photoelec. props. 7—54321
- $In_{2-x}Sn_xO_{3-y}\text{-i-}n^+\text{-}InP$ Schottky diode, solar cell props. 7—65474
- $In_{2-x}Sn_xO_{3-y}\text{-}InP$, solar cells for space appl. 7—3700
- $In_{2-x}Sn_xO_{3-y}SnO_2\text{-}Pt\text{-}Si{:}H$ solar cells 7—8395
- MoS_xSe_{2-x} solar cells, performance, illumination intensity effects 7—54325
- $Pd\text{-}Cr\text{-}SiO_x\text{-}p\text{-}Si$ MIS electrodes for electrochemical solar cells 7—34048
- $Pt\text{-}SiO_x\text{-}n\text{-}Si$ MIS electrode for electrochemical solar cells 7—34048
- Si 7—17871
- a-Si alloy monolithic solar cells, ultralight modules and appls. 7—3663
- a-Si alloy tandem solar cells, spectral response and I-V characts. 7—54315
- Si, alloyed inversion layer, with n-type substrates and TiO_x antireflection coatings 7—17864
- Si, amorphous, p-i-n solar cells, light-induced defects influence on performance 7—17910
- Si, amorphous, single-junction and multijunction solar cells, US DOE/SERI research project 7—8392
- Si, amorphous thin film solar modules, excitation intensity effects on photocurrent response 7—40000
- Si BSF solar cells, Rose-Weaver meas. technique 7—8423
- Si, bifacial solar cell for space solar generators 7—8388
- Si bifacial solar cells, minority carrier diffusion length and surface recomb. vel. determ. 7—8407
- Si cell simulation by Monte Carlo modelling 7—8405
- Si cells, crossed-lens photovoltaic concentrator appl. 7—17905
- Si concentrator cell multifactorial experimental evaluation 7—13867

solar cells continued

- Si concentrator solar cells, efficiency limits 7—8384
- Si concentrator solar cells, 27.5% efficiency 7—23135
- Si concentrator solar cells, low resistivity, 25% efficiency 7—23136
- Si, crystalline, solar cell arrays, reliability lessons for thin film modules 7—13910
- Si crystalline solar cells, conditions for high efficiency 7—23145
- Si, dendritic web cryst., solar cells and modules fabrication status 7—8391
- Si dendritic web ribbons, structural defect characterisation 7—12074
- Si dendritic web solar cells, twin plane effects on minority carrier diffusion length 7—13868
- Si diffused-junction solar cells, shunt resist. and soft reverse characts. 7—17863
- Si, diffusion length depend. on cooling rates and bulk resistivity 7—7266
- Si, directional crystallisation, carbon-fabric support 7—13350
- Si, dot junction, fabrication and anal. 7—3708
- Si, effects of C concentration on electrical and structural properties 7—12106
- Si film photoelements with drift field in solar cells, production and investigation 7—34030
- Si film solar cells on steel substrates 7—13921
- a-Si films, preparation in separated ultra-high vacuum reaction chamber, solar cell fabrication 7—59434
- a-Si films, superlattice structure, photo-CVD deposition; solar cell fabrication 7—59450
- Si for solar cells, characterisation by electrolyte-semiconductor interphase and SERS investigation 7—13887
- p-Si grating solar cells, 2D collection and injection 7—23163
- Si, growth by horizontal supported web technique 7—17412
- Si, H passivation of dislocations 7—54323
- a-Si high quality films and superlattice solar cells, prep. method 7—46346
- Si high-low junction emitter solar cell, quantum efficiency improvement 7—3681
- a-Si hybrid photovoltaic and thermal solar collector 7—59856
- Si interdigitated back contact solar cells development 7—8386
- Si, low resistivity dendritic web ribbon for high efficiency solar cells 7—3656
- Si MINP solar cells, electron beam radiation effects 7—13876
- Si MINP solar cells, high efficiency, performance, fabrication, characts. 7—23153
- Si MINP solar cells, I-V characteristics meas. 7—8408
- Si MINP solar cells, radiation damaged, conduction mechanism 7—65463
- Si MIS device diffusion length meas. by spectral response 7—8424
- Si masked ion-implanted devices for solar cell and optical sensor appls. 7—40006
- Si materials for solar cells, nondestructive assessment using electrolyte-semiconductor boundary 7—13886
- Si membrane (suspended), base carrier accumulation solar cell, fabrication 7—3664
- Si, monocrystalline, polycrystalline and amorphous solar cells, circulation meas. and spectral error reduction 7—13903
- a-Si monolithically interconnected photovoltaic panels, single chamber glow discharge manufacturing process 7—13892
- Si multicrystalline solar cells, fabrication using polyx technology *(French, English)* 7—23142
- Si $n^+\text{-}p\text{-}p^+$ solar cells, superlinear behaviour of short circuit current 7—23192
- p-Si n^+pp^+ solar cell structs., quasisurface recomb. vel. determ. in contact layers 7—58875
- a-Si p-i-n solar cells, CVD deposition from Si_2H_6 7—59841
- a-Si p-i-n solar cells with graded interface 7—23133
- Si passivated emitter solar cell, efficiency improvement 7—23149
- Si photoelectrochemical and MIS solar cells, surface dislocation loops effect on J-V characts. 7—17862
- a-Si photovoltaic module performance 7—3684
- a-Si photovoltaic modules, electrochemical degradation 7—17870
- Si, planar, antireflection coatings effects 7—54303
- Si point contact concentrator-solar cells, characts. 7—3658
- Si point contact solar cells, modelling and expt. results 7—13869
- Si point-contact solar cells for high conc. appls., modelling and expt. 7—23150
- Si, polycrystalline, for solar cell appls., photovoltaic props., effect of impurities and defects 7—38639
- Si, polycrystalline, grain boundary and intragrain recomb., beam induced current characterisation 7—7267
- Si, polycrystalline, grain boundary recomb. vel. eval. from spectral response of solar cells 7—41403
- Si, polycrystalline solar cells *(Japanese)* 7—13861
- Si polycrystalline solar cell p-n junction, carrier lifetime, effective recomb. vel. and diffusion length, EBIC meas. 7—23138
- Si polycrystalline solar cells, passivation by low-energy H^+ ion implantation 7—23157
- Si powder layers, melt recrystallisation for solar cell fabrication 7—17492
- Si, ramp assisted foil casting and photovoltaic appls. 7—16609
- Si ribbon casting for solar cell fabrication 7—13907
- a-Si, SERI Amorphous Silicon Measurements Task Force results 7—54308
- Si, SIPOS and polysilicon films for low minority carrier current saturation point contact solar cells 7—8416
- Si sheet, growth by horizontal supported web technique, solar cell efficiency 7—53567
- Si solar arrays for low Earth orbit space stations, advanced module concept 7—3659
- Si solar cell, improved determ. of lifetime and surface recomb. vel. by transient methods 7—13870
- a-Si solar cell, light induced degradation, quantitative anal. 7—17911
- Si solar cell array, 30 kW, for space appls. 7—3660
- Si solar cell arrays for EURECA space vehicle 7—3661
- a-Si solar cell characteristics improvement for indoor consumer electronics *(Japanese)* 7—65471
- Si solar cell efficiency improvements 7—3654
- Si solar cell efficiency improvement simulation analysis 7—13865
- Si solar cell fabrication by sheet casting 7—17868
- Si solar cell fabrication using masked ion implantation using SiO 7—23165
- Si, solar cell fabrication using laser groove technique, commercial viability 7—59862
- Si solar cell junction form., dopant diffusion process 7—28401
- a-Si solar cell modules fabricated with single-chamber load-lock deposition system 7—59860
- Si solar cell parameters, theoretical temp. depend. 7—23161

solar cells continued
- Si solar cell parameters evaluation method 7−23159
- Si solar cell perform. under global irradiance, atmospheric parameters effect 7−59850
- Si solar cell performance, influence of heavy doping 7−23147
- Si solar cell performance eval. 7−13864
- Si solar cell photovoltaics, edge-defined film fed growth 7−17413
- a-Si solar cell submodules, integrated type, laser patterning method 7−65470
- Si solar cell with Al_2O_3 surface passivation 7−23191
- a-Si solar cells, conversion efficiency improvement 7−17879
- Si solar cells, crystalline, metal grid optimisation and emitter tailoring, computer model extension 7−54292
- Si solar cells, diffused junction single and polycrystal series resist., temp. depend., illum. level effect 7−39991
- a-Si solar cells, dynamic inner collection efficiency 7−39992
- Si solar cells, eval. of density of grain boundary states 7−34028
- a-Si solar cells, fabrication and characts. 7−13891
- a-Si solar cells, fabrication methods using UHV reaction chamber system, high conversion efficiency 7−54293
- Si, solar cells, front and back polycrystalline Si contacted 7−13908
- Si solar cells, H passivation by ion beams 7−17867
- Si solar cells, heavily doped emitter and junction regions, EBIC studies 7−34039
- Si solar cells, heavy doping effects 7−3653
- Si solar cells, high efficiency devices, review 7−3649
- Si solar cells, high efficiency 7−23148
- Si solar cells, high efficiency, design, process and material considerations 7−23151
- Si solar cells, high efficiency, identification of key parameters limiting perform. 7−59846
- a-Si solar cells, insulator-semiconductor interface properties 7−13901
- Si solar cells, low recombination p^+ and n^+ regions for high performance 7−3655
- Si solar cells, metal insulator n on p, radiation damage 7−3703
- Si solar cells, multicrystalline, thermal annealing for fabrication 7−17865
- a-Si solar cells, open circuit voltage 7−46935
- Si solar cells, oxidation and spalling of Cu current collecting grid 7−22910
- Si solar cells, p^+-n-n^+, high efficiency, develop. 7−34047
- Si solar cells, passivated, laser processed, 18% efficiency 7−59837
- Si solar cells, passivation using $ZnS_{0.9}Se_{0.1}$ and GaP semiconductor coatings 7−65479
- Si solar cells, perform. and temp. dependencies of proton irradiated n-p cells 7−3702
- Si solar cells, performance anal. 7−65466
- Si solar cells, plasma CVD deposited a-$Si_{1-x}N_x$ antireflective coatings *(Japanese)* 7−23141
- Si solar cells, polycrystalline, efficiency improvement using plasma treatments 7−13909
- Si solar cells, polycrystalline, junction formation by light induced diffusion 7−13919
- Si solar cells, polycrystalline, interface state characterization by electric noise meas. 7−13920
- Si solar cells, sequential irradiation effects of electrons and protons 7−13877
- Si solar cells, spinning method for Si sheet mass production 7−13918
- Si solar cells, terrestrial, production costs and conversion efficiency 7−17869
- a-Si solar cells, vidicon mode characterisation 7−8421
- a-Si solar cells and modules, hot spot durability testing 7−13915
- Si solar cells for space appls., efficiency improvements 7−65487
- Si solar cells for thermophotovoltaic appls. theoretical efficiency 7−59855
- Si solar cells in concentrators, performance meas. methods 7−54313
- a-Si solar cells on textured Al substrate, prep. by chemical etching 7−23156
- a-Si solar cells prepared by thermal evap. 7−23140
- Si solar cells systematic design theory using optimisation techniques 7−23146
- Si solar cells with internal reflection, fabrication by solution growth on steel substrates 7−3683
- a-Si solar cells with spectral response shift, applicability of reference cell method to perform. meas. 7−59858
- Si solar concentrator cells, perform. under 1 MeV electron irradiation 7−3704
- Si solar-cells, loss reduction by ion implantation, laser radiation, protective coatings *(Dutch)* 7−23134
- Si space solar cells, damage coeffs. of 1 MeV electron fluences 7−13880
- Si strips, grown by Stepanov's reversed method, strength, struct., electrophysical props., effects of thermal conditions during growth, photocell appl. 7−32325
- Si surface recomb. vel. determ. using solar cell struct. 7−21938
- Si tandem junction solar cells, cryst. and polycryst., efficiency advantages 7−39997
- a-Si technology, review of developments 7−38551
- Si thin film solar cells, high performance considerations 7−23152
- Si type, SILSO, grain boundary charact., meas./test techniques 7−13858
- Si vertical junction and planar solar cells, proton radiation damage 7−13885
- Si:B, amorphous, solar cell, roll-to-roll mass prod. process 7−17902
- Si:B,P solar cells produced by pulsed excimer laser annealing of ion-implanted junctions 7−8419
- Si:B p^+-n-n^+ solar cells fabricated using masked ion implantation, electro-optical characts. 7−23143
- Si:B(P) solar cell emitter saturation current meas. by contactless photoconductivity decay method 7−13866
- Si:F,H, amorphous, high efficiency solar cells fabrication and props. 7−17901
- Si:H, amorphous, p-i-n solar cells, stability behaviour, impurities and doping residues effect 7−17912
- Si:H, amorphous, solar cells, current-induced and light-induced degradation, non-equivalence 7−17908
- a-Si:H, C superlattice struct., solar cell performance 7−46945
- a-Si:H, contact resist. meas. technique 7−24658
- a-Si:H, light induced degradation at high illum., inverse Staebler-Wronski effect 7−23195
- a-Si:H, localised electronic state, light soaking and current injection 7−16994
- Si:H, polycrystalline, chemistry of grain boundary passivation 7−12375
- Si:H, polycrystalline, grain boundary interactions 7−12117
- a-Si:H, prep. in rotary plasma isolated reactor and props. 7−7891

solar cells continued
- a-Si:H,B p-i-n and n-i-p solar cells, doping profile effects 7−46947
- a-Si:H,F multijunction solar cells, performance data 7−40011
- a-Si:H,F solar cells, radiation hardness to 1 MeV protons 7−23180
- a-Si:H,F/a-Si:H,F,Ge multiple junction solar cells on stainless steel substrates 7−13902
- a-Si:H,Ge single junction and tandem solar cells, thin film properties and corollary plasma diagnostics 7−13893
- a-Si:H,P(B) p-i-n solar cells, open-circuit volt., wavelength depend. 7−46948
- Si:H based alloy thin films, optical constants determ., device modelling appl. 7−7666
- a-Si:H based alloys for solar cells, elec. props. and degradation behaviour 7−52642
- a-Si:H films, growth and photovoltaic appls. 7−64236
- a-Si:H films and p-i-n solar cells, photo-assisted CVD and opto-electronic characterisation 7−33595
- a-Si:H films and solar cells, light induced effects 7−46954
- a-Si:H heterojunction solar cell modules, fabrication by laser scribing 7−13900
- a-Si:H high efficiency p-i-n solar cells using superlattice p-layers 7−23177
- a-Si:H large area integrated solar cells, fabrication 7−40013
- a-Si:H material and p-i-n cell, light-induced charge 7−17055
- a-Si:H material and solar cells, light induced effects 7−23139
- a-Si:H p-i-n solar cells, behaviour after light soaks through p-layer and n-layer 7−8398
- a-Si:H p-i-n solar cells, light induced degradation, effects of impurities and temp. 7−17886
- a-Si:H pin solar cells, open-circuit volt., temp. and light intensity depend. 7−46949
- a-Si:H pin solar cells, photocurrent, transient behaviour 7−46950
- aSi:H solar cell characts. change due to long term temp. stresses 7−8393
- a-Si:H solar cell on polymer substrate, roll-to-roll prep. 7−59861
- a-Si:H solar cell prep. by laser-induced CVD of SiH_4 7−7890
- a-Si:H solar cell technology in Japan, recent advances 7−40009
- a-Si:H solar cells, dynamic equilibrium dangling bond density 7−17878
- a-Si:H solar cells, effect of texturing 7−13857
- a-Si:H solar cells, hydrogenated microvoids and light-induced degradation 7−54294
- a-Si:H solar cells, i-layer stability thickness dependency 7−17880
- a-Si:H solar cells, impurities and metastable centres 7−40010
- a-Si:H solar cells, integrated series connection 7−40015
- a-Si:H solar cells, kinetics of light-induced degradation and thermal annealing 7−17909
- a-Si:H solar cells, leakage currents, electrochem. treatment effects 7−65467
- a-Si:H solar cells, optically induced degradation 7−59848
- a-Si:H solar cells, p-layer doping by plasma assisted B diffusion 7−13898
- a-Si:H solar cells, photo-CVD prep. 7−17885
- a-Si:H solar cells, photoconductivity-open cct. voltage relation 7−8396
- a-Si:H solar cells, radiation damage by 12 MeV protons and annealing 7−13895
- a-Si:H solar cells, turn-off character, wavelength depend. 7−46951
- a-Si:H solar cells, uses of transparent conducting oxides 7−46953
- a-Si:H solar cells deposited from disilane, blue response and efficiency improvement 7−17877
- a-Si:H solar cells eval., quantum efficiency meas. techniques 7−54314
- a-Si:H solar cells on textured glass substrate with SiO_2 film 7−13899
- a-Si:H solar cells prod. by positive-column glow-discharge method 7−8397
- a-Si:H stable heterojunction solar cells develop., thermal degradation phenomenon 7−65477
- a-Si:H thin film photovoltaic production, safety and industrial engineering 7−13894
- a-Si:H thin film solar cells, device properties 7−13897
- Si:H thin film solar cells, transparent module development 7−13911
- a-Si:H thin film solar cells, repeatable meas. system for accelerated stress testing 7−23174
- a-Si:H thin film solar cells, accelerated stress testing using photodiode array 7−28403
- a-Si:H thin film solar cells, light soaking condition effects 7−46956
- a-Si:H two-junction, two-terminal tandem solar cells, stability and efficiency 7−46957
- a-Si:H/SiC tandem solar cell, thermal and light-induced degradation 7−46955
- a-Si:H/a-$Si_{1-x}C_x$:H solar cells, light trapping on SnO_2:F 7−46952
- a-Si:H-$CuInSe_2$ thin film tandem solar cells, energy based perform. and eval. 7−13890
- a-Si:H-based films, photochemical vapour deposition, review 7−46345
- a-Si:H-based heterojunction stacked solar cells, design and fabrication 7−40012
- Si:H(F)-SiGe:H(F) amorphous multilayer struct., fabrication and near IR photoconductivity characts. 7−52797
- Si:Li counterdoped n^+p solar cells, proton-irradiated, DLTS studies 7−8376
- Si:P, meas. of heavy doping parameters 7−12855
- Si:P solar cells, effects of P prediffusion on properties 7−3677
- Si:P solar cells, shallow junction formation by light-induced diffusion from spin-on source 7−8418
- Si:$P^+(PF_5{}^+)$, ion implanted, rapid thermal annealing, solar cell appls. 7−23193
- Si:Ti(V)(Cr)(Fe)(Zr) polycrystalline solar cells, structural, elec., photovoltaic props., impurity effects 7−39990
- Si-$GaAs_{0.7}P_{0.3}$ multijunction solar cell, solid state photovoltaic research status at SERI 7−8389
- Si-GaAsP-GaP solar cell, high efficiency mech. stack, performance meas. 7−8401
- Si-polyethersulphone, amorphous, solar cell development 7−8394
- Si-polymer contact solar cell fabrication 7−23168
- a-(Si-Ge):H, prep. in rotary plasma isolated reactor and props. 7−7891
- SiC film, laser deposition for solar cell use 7−53634
- SiC:H-Si:H heterojunction, amorphous solar cell anal. *(Chinese)* 7−34029
- a-SiC:H−a-Si:H, fabricated by plasma deposition *(Korean)* 7−33585
- a-SiC-a-Si:H stable heterojunction solar cell 7−23178
- SiGe:F,H, amorphous, high efficiency solar cells fabrication and props. 7−17901
- a-SiGe:F solar cells, chemical basis for high efficiency 7−17884
- SiGe:H, amorphous, electronic and structural props. 7−17054
- SiGe:H, amorphous, p-i-n solar cells, stability behaviour, impurities and doping residues effect 7−17912

solar cells continued
SiGe:H, amorphous, solar cell efficiency improvement using graded bandgap layer at i/n interface 7−54327
a-SiGe:H,F alloys for solar cells, prep. by DC and RF discharge deposition 7−17900
a-SiGe:H,F solar cells, radiation hardness to 1 MeV protons 7−23180
a-SiGe:H alloys for solar cells, electronic and optical props. 7−17899
a-SiGe:H solar cells preparation by photo-CVD 7−17885
a-SiGe:H thin films for solar cells, electrical and structural properties relationship 7−17898
a-SiN_x:H plasma-enhanced CVD film props. rel. to SiH_4-N_2 gas vol. ratio, RF power and substrate temp. *(Korean)* 7−3201
SnO_2 films for solar cells, struct., elec., and optical props. 7−40003
SnO_2:F-n-Si(poly) solar cells fabricated by CVD, characterisation 7−59859
In-SnO_2-n-$CdGeP_2$:In heterojunction, elec. and photoelec. props. 7−45478
SnO_2-SiO_x-Si surface barrier solar cells, optimisation of fabrication process 7−23154
$SnS_2(Se_2)$, polytypes, electronic behaviour, rel. to energy conversion 7−38447
a-Si solar cells, transparent Ag contacts and ITO antireflection coating 7−65478
$Zn_xCd_{1-x}Te$ thin film heterojunction solar cells 7−17914
ZnO thin film preparation by spray pyrolysis for photoelectrochemical solar cells 7−23166
ZnSeTe wide bandgap solar cells for thin film tandem structs. 7−23172
ZnTe-ZnCdS wide bandgap solar cells for thin film tandem structs. 7−23172
solar chromosphere *see chromosphere*
solar collectors *see solar absorber-convertors*
solar composition
$^{12}C/^{13}C$ ratio in solar photosphere, determ. from CO vibr.-rot. bands 7−55598
Kr abundance determ. from anal. of s-process branching at ^{79}Se 7−23990
$^{16}O/^{18}O$ ratio in solar photosphere, determ. from CO vibr.-rot. bands 7−55598
solar constant *see solar radiation*
solar corona
530.3 nm emission line, parameters during solar eclipse (1981 July 31) 7−29448
arcade structures, study of resistive ballooning modes in line-tied coronal fields 7−47822
brilliance during 1981 July 31 total eclipse *(French)* 7−40790
computed magnetic fields (1976 to 1985) 7−4428
condensations, formation requirements 7−24113
coronal loops, an explanation for fast downflows 7−29458
current sheets formation in solar atmosphere, effect of photospheric motions on coronal mag. field 7−66539
emerging magnetic flux, radio and EUV data anal. 7−24118
emission line profiles, relation to coronal expansion law 7−29450
EUV spectra, identification of forbidden lines of N I like ions Si VIII, S X and Ar XII 7−66441
coronal explosions, X-ray observations during flares 7−47823
F-corona, interferometric obs. of radial vel. field between 3 and 7 solar radii 7−66535
filaments, assoc. coronal cavities struct. from high-resolution microwave obs. 7−24091
flare X-ray and γ-ray time profiles, effects of particles coronal trapping 7−24106
flare-generated shock waves, mag. cloud chamber effects rel. to He-enriched plasma cloud 7−4282
flares, collisional heating by nonthermal electrons in tapered mag. loop 7−66557
flares, delayed acceleration process, radio and X-ray obs. anal. 7−24107
heating, chromosphere and corona, fast magnetosonic surface wave dissipation 7−31969
hole development relation to flare complex and global solar mag. field 7−4410
holes as origin for large-scale heliospheric disturbances 7−23968
ideal MHD stability of line-tied coronal magnetohydrostatic equilib. 7−23999
inner corona, spectral obs. during 1973 June 30 total eclipse 7−24117
limb flare, 1982 January 22, X-ray imaging 7−66559
loop shapes in corona and eruption of coronal transients 7−47821
loops, Lyman α emission, filtergram anal. 7−24092
loops, quasi-steady mass flows model 7−47808
magnetic energy cascade as heating mechanism 7−60618
magnetic field configuration, partially open magnetosphere models 7−55443
magnetic field determ. from O IV 103.2 nm line polarisation 7−34958
magnetic fields, struct. and stability determ. via dynamic relaxation technique 7−55592
magnetic fields activity, topological stability of finite-length mag. flux tubes 7−66556
magnetic fields MHD stability, photospheric line tying conditions 7−24103
magnetic flux tubes, appl. of spectral theory and to ideal MHD eqns. 7−34854
magnetic flux tubes, role in cosmic ray heavy ion accel. 7−34962
mass ejection associated with eruptive prominence, 18 Aug. 1980 event 7−24096
mass ejections assoc. with VHF bursts 7−4425
metre-wave microbursts, Clark Lake obs. and lower limit to type III burst brightness temps. 7−66561
minor ions, Coulomb friction and Alfven waves effects 7−60623
multilayered X-ray rocket-borne telescope for solar corona studies 7−40700
nearly half circular plasma arch confined by mag. field *(Chinese)* 7−66526
observations from ship, use of special telescope mounting *(French)* 7−40696
oscillations, hard X-ray burst obs. *(Chinese)* 7−18393
post flare loops obs. at 1980 February 16 total eclipse 7−4424
preflare energy build-up in filament cct., three-dimensional model 7−66558
quiescent prominences, static current-sheet models 7−66540
quiet transition region mag. struct. 7−4417
shock waves propagation from active region ejected plasma clouds 7−4421
slow shock, upstream wind flow 7−66415
solar corona continued
solar wind formation mechanism 7−34967
streamer disruption by eruptive prominence, 18 Aug. 1980 event 7−24096
structure determ. during eclipses *(French)* 7−40789
transient events with forerunners, formation model 7−66538
transients and double current sheet *(Chinese)* 7−66527
transition region, EUV spectroheliograms and time-varying sources 7−24104
type I burst, 1983 July 31, obs. of strange recurring intensity-time pattern 7−66560
type III burst sources, 169 MHz obs. rel. to width of electron beam injection region 7−66562
wave energy transmission into corona 7−24102
white-light corona, polarisation theory for hydrostatic density distrib. 7−47797
white-light photometry during 1980 February 16 eclipse, appl. to density, temp. and expansion vel. determ. 7−29449
X-ray bright points outflows, implications of Ca II K-line shifts in He I 1083 nm dark points 7−66555
H I Lyman-alpha line profiles in polar region, anal. of 1979 meas. 7−47809
solar corpuscular radiation *see solar wind*
solar corpuscular streams *see solar wind*
solar cosmic ray particles
see also solar cosmic ray photons
acceleration by collisionless interplanetary shocks 7−34822
axions, ultralow background search 7−55393
cold dark matter, ultralow background solar search 7−55393
Compton-Getting effect, frame transformation of spherical-harmonic coefficients of differential particle intensity 7−18337
cosmions in solar neutrino. problem, particle physics models 7−55457
electrons due to type III radiobursts, trajectory determ. by radio method 7−47649
flare cosmic ray emissions, mag. field model rel. to flare development 7−29453
flare electrons exciting type III radio bursts, electron speeds determ. 7−66533
flare high-energy protons, bremsstrahlung production of hard X-ray and gamma-ray emission 7−55594
flare particle fluxes, relation to nitrate flux on Ross Ice Shelf, Antarctica 7−55091
flare particles, element abundances rel. to temp. of energetic particle emission regions 7−66532
flare particles 7−35124
flare proton events prediction 7−47812
flare radio bursts, γ-ray lines and proton fluxes correl. 7−4402
flare track densities in interplanetary dust particles, relation to asteroidal or cometary source for zodiacal dust cloud 7−55531
focusing anisotropy 7−9343
heavy ion acceleration, role of mag. flux tubes 7−34962
Kamioka solar neutrino search 7−40694
liquid Ar solar neutrino detector, spectrum from direction of Sun, oscillation effects 7−18340
Mikheyev-Smirnov-Wolfenstein solar ν_e regeneration in the Earth 7−40661
Moon, solar cosmic ray inert gases in regolith minerals 7−14507
neutrino correlation with reactor expts. 7−41689
neutrino detection, workshop, Tsukuba-gun, Japan (August 1986) 7−48193
neutrino energy spectra calcs. from supersymmetric relics 7−34814
neutrino flux and energy spectra from Sun, feasibility of $^{81}Br(\nu,e^-)^{81}Kr$ expt. 7−14498
neutrino oscillations, matter effects 7−29372
neutrino problem, implications of $^7Be(p,\gamma)^8B$ cross section 7−66452
neutrino problem, MSW mechanism of neutrino oscillations 7−41675
neutrino short-time variations rel. to solar activity and core oscillations 7−47826
neutrinos, oscillations, effect of transmission through the Earth 7−41677
pitch angle distributions of energetic particles, appl. to determ. of local scatt. props of interplanetary medium 7−55392
proton flares forecasting, appl. of fuzzy clustering theory to short-term forecasts *(Chinese)* 7−4389
relativistic protons, interplanetary propag. anal. 7−66405
resonant-solar-neutrino-oscillation experiments, electron-neutrino survival probability 7−29459
solar ^8B neutrinos, oscillations, possible expt. using D_2O detector 7−40656
solar neutrino problem, ν_e-ν_τ oscillations, predictions in SO(10) model 7−61525
solar neutrinos, high energy and cold dark matter 7−34817
solar neutrinos and solar evolution, overview 7−55600
superstring-induced time modulation of solar ν flux 7−35824
$\nu_e \to \nu_\mu$+majoron, Sun-Earth decay problem, triplet majoron model anal. 7−61673
D_2O Cherenkov detector for solar neutrinos 7−40695
Si surface barrier telescope for solar particles, characts. and calibration 7−62217
solar cosmic ray photons
flare gamma-rays, linear polarisations as indicators of particle directions 7−66563
X-ray burst stereo observations, thick-target interpretation 7−47651
X-ray bursts from flare electrons, intensity rel. to mag. field strength 7−47650
solar disturbances *see solar activity*
solar eclipses
1958 April 19, SVC sources, spectra obs. 7−14554
1968 September 22, SVC sources, spectra obs. 7−14554
1973 June 30 total eclipse, inner corona spectral obs. 7−24117
1980 February 16, density, temp. and expansion vel. of solar corona 7−29449
1980 February 16, radio waves absorpt. obs. in ionosphere 7−29361
1980 February 16, SVC sources, spectra obs. 7−14554
1980 February 16, total eclipse, post flare loops obs. 7−4424
1981 July 31, corona brilliance and weak prominences evol. *(French)* 7−40790
1981 July 31, interferometric obs. of F-corona radial vel. field between 3 and 7 solar radii 7−66535
1981 July 31, parameters of coronal emission line at 530.3 nm 7−29448
1981 July 31, submillimetre limb brightness profile obs. rel. to chromosphere modelling 7−55590

solar eclipses continued
1984 November 22-23rd, telescope mount for shipborne obs. *(French)* 7—40696
1991 July 11; details for American and Hawaii sites *(French)* 7—40674
contacts obs. *(French)* 7—40791
corona, structure determ. during eclipses *(French)* 7—40789
Papua New Guinea, 1983 June 11 total eclipse, effect on mag. field *(Chinese)* 7—55346
trajectories (for 1986 to 2000 AD) *(French)* 7—40673

solar-electric power stations *see solar power stations*

solar energy concentrators
array field performance meas. 7—54277
benzoxazinone derivative dye for fluorescent solar concentrator appls. 7—54278
cell concentrators, optimised top contact design 7—8385
compound parabolic concentrator collector, solar irradiance calc. using computer program 7—39964
cylindrical, optical anal. 7—59829
cylindrical solar concentrator based on elastic-deformed reflecting sheet, angular errors 7—46921
electric solar power plant for small community 7—65413
evacuated tubular collector, nonuniform temp. effect on receiver performance parameter 7—40031
facet solar energy concentrator with tracking thermal collector, geometric parameters 7—54265
film reflector, multifocus, shape of seams and pieces after deformation 7—54266
flat-plate and trough concentrators, transient models comparison 7—65412
fluorescent solar concentrators, performance evaluation using photometric method 7—59844
focal spot analyser based on CCTV 7—54264
focusing heliostats in solar electric station, angular and linear aberrations 7—54268
heliostat field, crossover effect on automatic control system 7—54267
heliostat percentage useful area, shadowing/blocking in solar central receiver system 7—23124
heliostat reflectant surfaces optical properties *(Rumanian)* 7—28388
heliostat reflected sunlight, flux density analytic function 7—8362
heliostat solar reflectors and concentrators with stretched-membrane 7—8363
heterophotoelements and solar concentrator based power generation plants 7—65409
holographic solar concentrator, feasibility and basic principles 7—46919
holographic solar concentrators, critical review 7—54272
holographic solar concentrators development 7—50517
HV solar array plasma protection techniques 7—3707
hybrid quantum/thermal solar concentration systems using spectral selectivity 7—39967
interdigitated back contact solar cell for high concentrated sunlight, optimisation 7—3657
linear solar concentrators, heat loss factor of evacuated tubular receivers 7—40032
luminescent solar concentrator *(Japanese)* 7—23123
luminescent solar concentrators, glass and dye absorption and luminescence obs. *(Finnish)* 7—28390
mirror, glass, replicated, appl. to large segmented opt. systems 7—37088
multiheliostat solar furnace, anal. of subsystems structure 7—46920
non-imaging optics in photovoltaic concentration 7—8361
nonimaging concentrators with fully illuminated flat receivers, analytic soln. 7—8364
optical anal. of solar absorber in fixed spherical reflector 7—23215
optical materials for energy efficiency and solar energy conversion, conf., San Diego, CA, USA (Aug. 1985) 7—48159
optimised solar central receiver systems, thermal loss per unit area of receiver 7—46927
oven type solar cooker using spiral solar energy concentrator 7—65410
parabolic cylinder solar unit energy module, luminous flux density meas., calorimetric tests 7—54263
parabolic dish concentrator with 24 kW Stirling engine power conversion unit 7—17849
parabolic trough collectors, concentrated flux density distrib. calc, using semifinite formulation 7—39966
parabolic troughs, comprehensive optical anal., universal error parameters derivation 7—65411
paraboloidal collectors, distrib. of conc. solar radiation 7—8439
photovoltaic 22.5X linear Fresnel lens concentrator module using Si solar cells 7—17873
photovoltaic and thermal concentrator system with linear Fresnel lens at DFW airport, performance 7—17852
photovoltaic array field performance characts. for desert environment 7—65415
photovoltaic arrays, test date anal. 7—17907
photovoltaic concentrator research progress 7—17903
photovoltaic system tracking and concentrator collectors, linear and Fresnel optics, cost comparison 7—17853
photovoltaic-thermal solar concentrator receiver system using fin-type absorber, actively cooled, anal. 7—54274
polygon concentrator with discontinuous optical surface, photovoltaic power system appl. 7—17850
primary paraboloid/secondary hyperboloid tandem solar concentrator, cost advantages 7—46924
Ringbom-Stirling engine design, solar operated 7—65544
seasonally adjusted, geometrical optical performance evaluation 7—46918
Si solar cells in high concentration photovoltaic module 7—17874
solar cells, single cell concepts for obtaining >30% photovoltaic conversion efficiency 7—3652
Space Station solar dynamic power system, simulation 7—65494
sun-tracking concentration dish/Stirling engine solar electric system 7—65566
test facility for high concentration solar cells, water cooled blackbody calorimeter 7—13849
thermal dish appls., sensible and thermochemical energy transport systems, economics 7—65414
thermal energy storage for organic Rankine cycle solar dynamic space power systems 7—65625
thin film solar cells and concentrator cells 7—54298
toroidal compound parabolic concentrator for photovoltaic static concentration 7—17851
water lifting unit with external heat supply engines 7—33995
AlGaAs:Mg-GaAs:Se concentrator solar cells, 26 percent efficient 7—3699

solar energy concentrators continued
AlGaAs-GaAs concentrator solar cells with high efficiency, design and fabrication 7—3669
$Al_xGa_{1-x}As$-GaAs heteroface solar concentrator cells, space and terrestrial appls. 7—65486
GaAs cells, crossed-lens photovoltaic concentrator appl. 7—17905
GaAs concentrator cells, design options and constraints 7—3698
GaAs point focus concentrating solar cell arrays for spacecraft 7—3662
GaAs single-junction solar cells, concentrator module with 19% efficiency 7—17906
GaAs solar concentrator cells, perform. under 1 MeV electron irradiation 7—3704
Si cells, crossed-lens photovoltaic concentrator appl. 7—17905
Si concentrator cell multifactorial experimental evaluation 7—13867
Si concentrator solar cells, efficiency limits 7—8384
Si interdigitated back contact solar cells development 7—8386
Si point contact concentrator-solar cells, characts. 7—3658
Si solar cells in concentrators, performance meas. methods 7—54313
Si solar concentrator cells, perform. under 1 MeV electron irradiation 7—3704
Si:H, amorphous, dendritic web, Czochralski flat plate modules and concentrator module, price comparison 7—17904

solar energy conversion
see also solar absorber-convertors; solar cells
air heating systems, analytic model for performance prediction 7—59875
air solar systems at low temperature 7—33999
balloon, hot air, flight duration, surface characts. effects 7—50906
brilliant cresyl blue-iminodiacetic acid system, in photogalvanic cell, solar energy photochem. conversion 7—39907
chemical storage of solar energy, kinetics of H_2SO_4 and NH_3 reactions 7—40048
closed type adsorption cooling system utilising solar heat, simultaneous transport of heat and adsorbate 7—8440
deep-basin solar stills, nocturnal distillation factors 7—3715
energy cooling units thermodynamic parameters optimisation using gas turbine transducers 7—34066
energy harvest efficiency of energy crop, photosynthetic energy storage rate 7—46962
evacuated window glazings for energy efficient buildings 7—54352
floor space heating system using air flow rockbeds 7—59874
free-piston linear alternator solar Stirling engine concept 7—65539
greenhouse solar system, transient response of latent heat storage 7—23227
heat and power system long-term thermodynamic performance 7—3716
heating of fluid in semi-transparent plate, transient anal. 7—40039
heating system CAD, flow diagram of design 7—46965
heating units, paint coat thickness effects on radiation characts. 7—46968
heating units for wine materials heat-processing 7—34067
holographic solar concentrators, critical review 7—54272
holographic solar concentrators development 7—50517
large-scale heat accumulation at low temp. for domestic, industrial and farm heating *(Portuguese)* 7—13931
licorice root drying using solar energy 7—33997
liquid optical filter anal. for hybrid solar energy conversion 7—50724
low-cost solar-energy stimulated absorption refrigerator for vaccine storage 7—65576
natural gas processing using solar energy 7—54346
optical materials for energy efficiency and solar energy conversion, conf., San Diego, CA, USA (Aug. 1985) 7—48159
passive solar test cell air infiltration models and SF_6 tracer gas meas. 7—3628
phase-change material storage design for passive solar heating 7—8447
photovoltaic energy conversion technology and solar radiation research, overview 7—55217
Raman spectroscopy, role in study of energy sources, literature review since 1977 7—59827
Ringbom-Stirling engine design, solar operated 7—65544
sol-gel thin films used in solar energy appls. 7—37106
solar active cooling systems, comparison using fuzzy decision analysis package 7—59876
Solar Process Heat System supplanting induction-heated boilers 7—8366
solar-hydrogen project, dimensions, costs and timing *(German)* 7—46938
suspended flat-plate solar air heater, transient anal. 7—40027
technology breakout in energy conversion, conf., San Diego, CA, USA (Aug. 1986) 7—60875
thermal energy storage, phase change materials testing, space appls. 7—65627
thermal energy storage for space solar power system, phase change materials compatibility 7—65628
thermal energy transportation from solar collector field to energy conversion facility 7—65590
thermochemical conversion by steam reforming of methane 7—8426
thermochemical energy transport for a large heat utility 7—65638
thin-film multilayer filter designs for hybrid solar energy conversion systems 7—50723
transport of solar thermal energy by steam reforming of methane 7—65637
water heaters with variable volume storage, energy balance eqns. 7—59873
water heating system design criteria for schools 7—8442
Yb ceramic emitter for thermovoltaic energy conversion 7—65481
CO_2 liq. finite sink for atmospheric heat engine 7—40022
CdSe thin films, electrodeposited from $SeSO_3^{2-}$ soln., comp. performance, polarography, RBS, cyclic voltammetry, power meas. 7—2411
H_2 generation using solar battery and electrolyser unit, optimisation 7—54361
H_2 production, S-I_2 cycle versus water vapour electrolysis 7—65651
H_2 production by photoelectrolysis of water and sunlight energy source 7—3723
H_2 production efficiency from light energy conversion by photosynthetic bacterium Rhodobacter sphaeroides 8703 7—65644
H_2 production using photovoltaic solar energy electrolysis, review 7—3726
H_2 technology, water electrolysis *(German)* 7—65642
H_2SO_4, kinetics of heterogeneous reactions for chemical storage of energy 7—23229
$In_{2-x}Sn_xO_{3-y}$-WO_3-MgF_2-Au, electrochromic coatings for solar windows 7—53621
$K_2S_2O_7$ for chemical storage of solar energy 7—23228
Li_xWO_3-$LiClO_4$-Nb_2O_5 electrochromic cells, electrochromic window development, materials and devices 7—50664

solar energy conversion continued
- NH$_3$, kinetics of heterogeneous reactions for chemical storage of energy 7−23229
- NH$_4$Cl aq. soln. finite sink for atmospheric heat engine 7−40022
- NH$_4$NO$_3$ aq. soln. finite sink for atmospheric heat engine 7−40022
- Na$_2$S$_2$O$_7$ for chemical storage of solar energy 7−23228

solar energy power stations *see solar power stations*

solar evolution
- *see also solar nebula*
- solar neutrinos and solar evolution, overview 7−55600
- unorthodox evolutionary models, implications of ^{12}C/^{13}C and ^{16}O/^{18}O ratios in photosphere 7−55598

solar flares
- 1980 June 27, high spectral resolution meas. of hard X-ray burst 7−66543
- 1980 June 29, spatial and temporal characts. of energy release from X-ray and radio imaging obs. 7−24090
- 1981 April 4, hard X-ray and γ-ray emissions 7−29457
- 1981 May 13, MF burst, Prognoz-8 obs. 7−66545
- 1981 May 13 microwave bursts, thermal mechanism *(Chinese)* 7−4392
- 1981 May flare complex, development rel. to global solar mag. field 7−4410
- 1981 May flare complex, kinematics of mag. field decrease 7−4411
- 1981 October 12, three-parallel-ribbon long-decay flare, Hα and X-ray obs. 7−55595
- 1982 January 22, X-ray imaging of solar limb flare 7−66559
- 1982 June 3, characterisation of radio pulsation event by low-dimensional chaotic attractor 7−66552
- 1983 July 31, Hα flares rel. to strange recurring type I burst pattern 7−66560
- associated filament eruptions, types 7−24108
- chromosphere, 1982 December 2 flare, semi-empirical time-varying models *(Chinese)* 7−66528
- chromosphere, H non-thermal excitation and ionisation 7−34843
- chromosphere flare eruption, 1985 September 12, prominence spectrograph obs. and interpretation *(French)* 7−60617
- collisional heating by nonthermal electrons in tapered mag. loop, analytic formula 7−66557
- coronal explosions, X-ray observations during flares 7−47823
- cosmic ray flares, typical development 7−29453
- cosmic ray heavy ion acceleration, role of mag. flux tubes 7−34962
- delayed acceleration process, radio and X-ray obs. anal. 7−24107
- electric field determ. from flare spectra obs. 7−24105
- energetic particle emission regions, temp. conditions determ. 7−66532
- energetic X-ray flares, evidence for cyclic distribs. 7−66564
- energy release, laboratory simulation 7−24000
- events causing interplanetary shocks, comparison with filament eruptions causing shocks 7−47655
- far-UV spectra, comparison with flare star AT Mic 7−47937
- Fourier transform telescope for subarcsecond imaging of solar flare X-rays and γ-rays 7−40706
- gamma-rays at 4.43 MeV and 6.13 MeV, linear polarisations as indicators of particle directions 7−66563
- hard X-ray bursts and coronal oscillations *(Chinese)* 7−18393
- high-energy proton bremsstrahlung, contrib. to hard X-ray and gamma-ray emission 7−55594
- impulsive phase, explosive coalescence of magnetic islands 7−60528
- influences on Earth ionosphere electron content *(Chinese)* 7−18394
- interplanetary shock wave, flare-associated, 3D morphology 7−18343
- ionosphere of Earth, solar flare induced changes in total electron content *(Chinese)* 7−4251
- loops in line dipole geometry, temp., flux distrib. 7−9452
- magnetic fields activity, topological stability of finite-length mag. flux tubes 7−66556
- magnetic neutral lines twisting 7−29455
- microwave emitting electrons energy determ. from microwave and X-ray emission data anal. 7−4419
- microwave millisecond spike bursts, mechanism 7−9370
- neutral sheet fast oscillations and particle acceleration 7−47824
- non-LTE calculations for Hα and Ca II K lines *(Chinese)* 7−29442
- onset, role of protons 7−24120
- post flare loops obs. at 1980 February 16 total eclipse 7−4424
- preflare energy build-up in filament cct., three-dimensional model 7−66558
- production rate for active regions 7−4422
- proton events prediction 7−47812
- proton flares forecasting, appl. of fuzzy clustering theory to short-term forecasts *(Chinese)* 7−4389
- quasi-perpendicular magnetosonic shock wave, proton acceleration 7−9455
- radio bursts, 810 MHz emission obs. (1971 to 1976) 7−4388
- radio bursts, γ-ray lines and proton fluxes correl. 7−4402
- radio emission, anomalous scattering on plasmons 7−29446
- shock waves generation, mag. cloud chamber effects rel. to He-enriched plasma cloud 7−4282
- solar cycles 20 and 21, statistical relationship between sunspots and major flares 7−66536
- sunspot group, June 1963, flare occurrence rel. to mag. field development 7−29451
- SWF flares, relation to sunspot groups with abnormal mag. structures and rapid vars. *(Chinese)* 7−4390
- thermal phase, microwave/X-ray diagnostic 7−4420
- topologically non-equilib. MHD system 7−24119
- two-ribbon flare, spectra and chromosphere dynamics *(Chinese)* 7−29443
- type I radio emission sources *(Chinese)* 7−4397
- VHF and UHF emission 7−4400
- X-ray and γ-ray time profiles, particle propag. effects 7−24106
- X-ray burst stereo observations, thick-target interpretation 7−47651

solar furnaces *see furnaces*

solar interior
- 5-min oscillations, quasi-periodic departures in low-degree spectrum 7−18392
- ^{71}Ga solar-neutrino experiment, possible existence of internal solar-energy sink 7−66547
- convection in rotating hemispherical shell with radial gravity, Spacelab simulation expts. 7−55450
- convection zone, nonlinear convection of compressible fluid in rot. spherical shell 7−9459
- convection zone-radiative interior interface, dynamo theory 7−60526
- convective zone kink-unstable mag. flux tubes, nonlinear time evol. 7−14476

solar interior continued
- convective zone outer layer, spectral lines pressure shift diagnostic study 7−40793
- core oscillations (g-mode), rel. to neutrino flux short-time variations 7−47826
- core struct. and 5 minute oscills., high-Z Fe-like core model 7−47814
- core struct. and 5 minute solar oscills., high-Z core model 7−47815
- cosmions in solar neutrino. problem, particle physics models 7−55457
- Coulomb dissociation as a source of information onradiative capture processes of astrophysical interest 7−14485
- dynamo theory, role of fluctuations 7−60512
- dynamo-generated flows 7−14550
- features and general characts. rel. to G-types stars 7−24135
- internal rotation components radial dependence 7−47806
- low-degree gravity modes, asymptotic props. and solar struct. 7−4399
- magnetic field 7−66546
- magnetic fields turbulent transport 7−60511
- magnetic structures and convection in Sun, evidence for large-scale circulation *(French)* 7−24094
- Mikheyev-Smirnov-Wolfenstein solar ν_e regeneration in the Earth 7−40661
- models testing, implications of H-R diagram position of Hyades eclipsing binary star (HD 27130) 7−66665
- neutrino detection, workshop, Tsukuba-gun, Japan (August 1986) 7−48193
- neutrino flux and energy spectra from Sun, feasibility of ^{81}Br(ν,e$^-$)^{81}Kr expt. 7−14498
- neutrino flux meas. using Sudbury D$_2$O neutrino detector 7−56914
- neutrino problem, ν_e-ν_τ oscillation prediction in SO (10) model 7−61525
- neutrino problem, effects of cosmions in solar interior and globular cluster stars 7−55436
- neutrino problem, implications of ^{7}Be(p, γ)^{8}B cross section 7−66452
- neutrino problem, implications of binding energies of Q-nuclei 7−55445
- oscillations, obs. from Antarctica *(French)* 7−9453
- oscillations of solar interior, influence of internal magnetic field 7−18397
- plasma interchange instabilities driven by magnetic buoyancy, for solar interior 7−66456
- r-mode props. 7−4414
- resonant ν oscillations, nonadiabatic level crossing 7−5031
- resonant-solar-neutrino-oscillation experiments, electron-neutrino survival probability 7−29459
- rotation as function of depth and latit., integral formula from solar oscills. freqs. inversion 7−55599
- solar neutrino problem as a probe for nuclear astrophysics 7−60536
- solar neutrinos and solar evolution, overview 7−55600
- solar-neutrino problem, self-contained soln. 7−18398
- solar-neutrino problem, three-neutrino oscillations 7−18399
- superstring-induced time modulation of solar ν flux 7−35824
- weakly interacting massive particles, possible presence in Sun 7−24246
- WIMPs, annihilation in solar core, limits from deep underground detectors 7−23998
- ν_e, adiabatic conversion via Mikheyev-Smirnov-Wolfenstein mechanism 7−5030
- Ga solar neutrino detector, ^{8}B neutrino captive rate effective interaction depend. 7−56913
- ^{A}Ga(ν,e), A=69,71, capture rates, solar and galactic neutrino detection 7−56670
- Ga(ν,e) solar neutrino detector, implications for neutrino oscill. and solar models 7−56912
- H plasmas, ionised Fe atom miscibility under solar interior conditions 7−14555

solar magnetic fields *see solar magnetism*

solar magnetism
- active prominence (1978 June 13) dynamics 7−4405
- active regions, magnetic field dynamics model 7−34965
- active regions field determ. *(Chinese)* 7−4344
- atmosphere, fast sausage waves in mag. slab 7−24102
- background magnetic field distrib., relation to geomag. activity 7−18400
- bipolar active regions and VHF type III burst asymmetry 7−4423
- bipolar magnetic regions and photosphere magnetic field during 1976 to 1984 AD 7−47817
- Boulder 4201 active region, mag. field obs. *(Chinese)* 7−4396
- chromosphere active region loops 7−4418
- chromosphere field and Hβ line form. *(Chinese)* 7−29441
- circular polarisation spectra, effects of finite spectral resolution on Stoke V profile 7−47803
- convection zone-radiative interior interface, dynamo theory 7−60526
- convective circulation in solar interior, relation to surface mag. structs *(French)* 7−24094
- convective zone kink-unstable mag. flux tubes, nonlinear time evol 7−14476
- corona, 3D model of preflare energy build-up in filament cct. 7−66558
- corona, computer mag. fields (1976 to 1985) 7−4428
- corona, emerging magnetic flux, radio and EUV data anal. 7−24118
- corona, field determ. from O IV 103.2 nm line polarisation 7−34958
- corona, mag. cloud chamber effects behind flare-generated shock wave 7−4282
- corona, magnetic energy cascade as heating mechanism 7−60618
- corona, nearly half circular plasma arch confined by mag. field *(Chinese* 7−66526
- corona, plasma mag. field configuration illumination rel. to strange recurring type I burst pattern 7−66560
- corona mag. field topology rel. to current sheets form. 7−66539
- corona magnetic fields MHD stability, photospheric line tying condition 7−24103
- coronal magnetic field, partially open magnetosphere models 7−55443
- coronal magnetic fields, struct. and stability determ. via dynamic relaxation technique 7−55592
- coronal magnetic flux tubes, appl. of spectral theory and to ideal MHD eqns. 7−34854
- coronal magnetic flux tubes, role in cosmic ray heavy ion accel. 7−34962
- coronal transients and double current sheet *(Chinese)* 7−66527
- coronal transients with forerunners, coronal currents interaction wit growing mag. field 7−66538
- cosmic ray flares, mag. topology model 7−29453
- current sheets, effects of longitudinal mag. field 7−4403
- dynamo theory, role of fluctuations 7−60512
- dynamo-generated flows 7−14550
- emerging fluxtube, response to current-driven instability 7−66451
- faculae, flux tube upflows rel. to hillock and cloud model 7−55593

solar magnetism continued
field line topology in active regions 7—24099
flare complex, May 1981, kinematics of mag. field decrease 7—4411
flare energy release, laboratory simulation 7—24000
flare impulsive phase, explosive coalescence of magnetic islands 7—60528
flare loops in line dipole geometry, temp., flux distrib. 7—9452
flare process in topologically non-equilib. MHD system 7—24119
flare proton events and mag. field characts. 7—47812
flares, collisional heating by nonthermal electrons in tapered mag. loop 7—66557
flares, mag. structs. interaction rel. to spatial and temporal characts. of energy release 7—24090
flares and magnetic neutral lines twisting 7—29455
flux tube diagnostics using Fe I 1564.854 nm line 7—66531
flux tube vel. 7—34960
fluxtube models, numerical magnetostatic solns. 7—47804
fluxtubes diagnostics, use of Stokes profiles 7—60613
force free mag. fields in spherical coordinate, solar photosphere *(German)* 7—14549
force-free field model with discontinuous surface *(Chinese)* 7—29445
galactic cosmic rays in atmosphere, north-south asymmetry, solar mag. field effects 7—66409
general aspects (book) 7—48216
global solar magnetic field, relaxation to form of May 1981 flare complex 7—4410
Hale 17901, 17906, mag. fields, rel. to long-decay soft X-ray flare (1981 October 12) 7—55595
heating of corona and chromosphere 7—31969
high-latitude magnetic fields, relation to latit. migration of polar faculae (1970 to 1978) 7—34966
ideal MHD stability of line-tied coronal magnetohydrostatic equilib. 7—23999
IMF B_z component at 1 AU rel. to solar flare region magnetic field 7—55404
internal field 7—66546
limb flare, 1982 January 22, mag. neutral line location rel. to hard X-ray image 7—66559
magnetohydrostatic equilibria for plasma in gravitational field, theory 7—47819
magnets-acoustic-gravity waves propag. *(Chinese)* 7—4306
oscillations of solar interior, influence of internal magnetic field 7—18397
photosphere, fields generation and var. 7—24109
photosphere, fields semi-regularities 7—24101
photosphere, magnetic field obs, atlas (1976 to 1985) 7—4428
photosphere magnetic field during 1976 to 1984 AD 7—47817
polar field polarity reversal 7—60621
quiescent filament, Hα and C IV vel., and mag. fields 7—14551
quiescent prominences, static current-sheet models 7—66540
quiet transition region mag. struct. 7—4417
scale heights and S-component sources 7—4422
space probes for solar wind and magnetic field structure examination 7—47663
spectral lines in 430 to 670 nm wavelength range with large Stokes V-amplitudes outside sunspots, catalogue 7—66554
Stable Solar analyzer for solar oscillations obs. 7—9375
sunspot group, June 1963, mag. field and photospheric development 7—29451
sunspot groups, abnormal mag. structures and rapid vars. rel. to SWF flares *(Chinese)* 7—4390
sunspot groups, mag. fields rel. to vars. of solar const. (1978-9 and 1981) 7—4409
sunspot groups magnetic structures, appl. of fuzzy clustering theory to short-term forecasts of proton flares *(Chinese)* 7—4389
sunspot nests, manifestation of sequences in mag. activity 7—24100
sunspots, compressive waves propag. through fibril mag. fields 7—66541
sunspots associated with major flares, spot type and max. mag. field strength 7—66536
topological stability of finite-length mag. flux tubes, theory 7—66556
turbulent transport 7—60511
twisted mag. loops, dynamics 7—4311
umbral dots *(Chinese)* 7—18395
vector magnetic field measurement, principle of Solar Magnetic Field Telescope *(Chinese)* 7—4330
Fe I, 532.419 nm line form. depth in photosphere mag. field *(Chinese)* 7—66525

solar nebula
American Astronomical Society, 18th annual meeting of Division for Planetary Sciences, conf., Paris, France (November 1986) 7—24255
chemical and physical processes inferred from meteorite refractory trace element chemistry 7—9440
differentially rotating self-gravitating gas cloud, stability of isothermal configurations 7—40679
Earth accumulation and initial state, dynamical model 7—34367
Earth-Moon system origin 7—47740
enstatite chondrites formation, implications of comps. of EH3, EH4,5 and EL6 chondrites 7—34950
formation and evol. characts. 7—55722
giant planets, accretion and evol., effects of solid cores 7—24026
giant planets, formation era, planetesimal dissolution in envelopes 7—24027
giant planets, protosatellite accretion disks, global characts. 7—34914
interplanetary gas clouds, effect on evolution of planetary rot. axes inclinations 7—9388
isotope abundance anomalies and the early solar system 7—47739
low-mass nebula in laminar phase, particles settling and growth 7—24025
meteorites, nebular-controlled bulk chem. and planetary metamorphic effects 7—55582
planetary satellite precursor disks, density waves 7—34862
planetesimals collision and ureilites form. 7—66522
planets formation in gaseous nebula and gas-free state, theory for 1 solar mass star 7—55497
pre-planetary disk, radiation press. effects 7—14506
solid materials formation in preplanetary nebula, relation to chondrites composition 7—24024
tidal interaction with protoplanets, self-consistent nonlinear interaction 7—47737
^{53}Mn, evidence of existence in solar nebula 7—34891

solar noise *see noise; solar radiofrequency radiation*

solar origin *see solar evolution*

solar ponds *see energy storage; solar absorber-convertors*

solar power
see also solar energy concentrators
500 kW solar energy generating facility for H_2 production by electrolysis *(German)* 7—28417
aquifer seasonal thermal energy storage 7—65610
beam radiation received by tilted surfaces, atmospheric effects 7—23125
convective loop air thermocirculation *(Italian)* 7—20729
cookers using heat-pipe principle 7—13928
desalination system, solar powered, selection for supply of water in remote arid zones 7—54339
energy resources eval. in Jordan 7—54261
fruit-dryer-greenhouse, test results 7—33998
greenhouse, temperature-humidity regime in inclined thermal-storage channels 7—54269
greenhouse insulation using double glazing and thermal curtains 7—46925
greenhouse light enhancement using Venetian blind reflecting assemblies 7—46926
greenhouse soil, effect of plant cover on heat accumulation 7—46923
greenhouses, design and orientation optimisation, thermal storage 7—54271
heat and power system long-term thermodynamic performance 7—3716
insolation study and off-azimuth photovoltaic performance 7—3689
multiheliostat solar furnace, anal. of subsystems structure 7—46920
Raman spectroscopy, role in study of energy sources, literature review since 1977 7—59827
shed greenhouses, modular construction, shadow effects, analytical relationships 7—33996
shed greenhouses, storage of heat by forced air circulation 7—54270
space heating of occupied houses, solar and electric heating contributions, regression model 7—28389
terminological system for solar engineering 7—29648
window glass for solar energy devices spectral absorptivity 7—43275
$Ba(OH)_2.8H_2O$ latent heat storage unit, power range 2-6 kW, 25 kWh 7—8446
NH_3 and HNO_3 solar production system, conceptual design 7—65588

solar power satellites
symmetric satellite with viscoelastic antenna in circular orbit, evolution of spin about mass centre 7—34828

solar power stations
see also photovoltaic power systems; solar power satellites
2-D solar cell array, experiment on board space flyer unit 7—3647
combined solar-fuel power plant with Stirling engine, heat exchange in radiation pipe 7—46922
electric solar power plant for small community 7—65413
focusing heliostats in solar electric station, angular and linear aberrations 7—54268
heliostat field, crossover effect on automatic control system 7—54267
heterophotoelements and solar concentrator based power generation plants 7—65409
photovoltaic, solar plant, automatic data acquisition system 7—54273
status and future trends of solar power utilisation *(Czech)* 7—8360
Si solar cell arrays for EURECA space vehicle 7—3661

solar prominences
active prominence (1978 June 13) dynamics 7—4405
arch eruptive prominence (1982 December 20), numerical modelling *(Chinese)* 7—4393
coronal loops, an explanation for fast downflows 7—29458
coronal mass ejection associated with eruptive prominence, 18 Aug. 1980 event 7—24096
disappearing filaments and geomag. activity 7—4277
emission lines analysis, appl. of complete linearisation method *(Chinese)* 7—4391
eruptive prominence assoc. with chromospheric flare, 1985 September 12, evolution and dynamics *(French)* 7—60617
eruptive prominences at several solar radii, physical conditions 7—4426
filament electric circuit, 3D model of preflare energy build-up 7—66558
filament eruptions producing interplanetary shocks 7—47655
filaments structure, determ. from high-resolution microwave obs. 7—24091
flare loop prominence, motion of prominence matter *(Chinese)* 7—4413
flare-associated filament eruptions, types 7—24108
loops formation *(Chinese)* 7—66527
microwave millisecond spike bursts, mechanism 7—9370
oscillations in Hα and C IV lines 7—60614
polar prominences anal. and mag. field characts. 7—60621
prominence eruption 7—47821
prominence of 18 Aug. 1980 associated with coronal mass ejection 7—24097
quiescent filament, Hα and C IV vel., centre-limb anal. 7—14551
quiescent prominence, density and temp., EHF brightness temp. obs. 7—4407
quiescent prominences, static current-sheet models 7—66540
small-scale energy release observed on limb, He I D3 lines characts. 7—24113
structure and activation based on radio and optical obs. 7—29447
weak prominences evolution during 1981 July 31 total eclipse *(French)* 7—40790
H Balmer, Paschen and Brackett spectral line intensities 7—47820

solar pulsations *see stellar pulsations*

solar radiation
see also solar radiofrequency radiation; solar spectra
^{71}Ga solar-neutrino experiment, possible existence of internal solar-energy sink 7—66547
characteristics and influence on Earth *(Italian)* 7—60622
chromosphere flare eruption, 1985 September 12, prominence spectrograph obs. and interpretation *(French)* 7—60617
corona, white-light photometry during 1980 February 16 eclipse rel. to density, temp. and expansion vel. 7—29449
corona brilliance during 1981 July 31 total eclipse *(French)* 7—40790
coronal loops, Lyman α emission, filtergram anal. 7—24092
cosmic ray flares, time behaviour of EM emissions 7—29453
extraterrestrial solar radiation on inclined surfaces, FORTRAN program 7—55138
facular, brightness contrasts in hillock and cloud model 7—55593
filaments, Hα and He I struct. compared with high-resolution microwave obs. 7—24091

solar radiation continued
flare gamma-rays, linear polarisations as indicators of particle directions 7—66563
flare hard X-ray burst, high spectral resolution meas. 7—66543
flare loops in line dipole geometry, temp., flux distrib. 7—9452
flare radio bursts, γ-ray lines and proton fluxes correl. 7—4402
flare thermal phase, microwave/X-ray diagnostic 7—4420
flare X-ray bursts, evidence for cyclic distrib. 7—66564
flares, microwave emitting electrons energy determ. from microwave and X-ray emission data anal. 7—4419
flares, X-ray and γ-ray time profiles, particle propag. effects 7—24106
flares, X-ray and radio imaging obs. rel. to spatial and temporal characts. of energy release 7—24090
flares far-UV spectra, comparison with flare star AT Mic 7—47937
flares hard X-ray and gamma-ray emission, bremsstrahlung prod. by high-energy protons 7—55594
hard X-ray bursts and coronal oscillations *(Chinese)* 7—18393
intensity oscillations, ground-based photometric obs. 7—60615
limb flare, 1982 January 22, X-ray imaging 7—66559
luminosity changes in AD 1980 to 1985 period, satellite observations 7—66548
measurement from snow melting from barn roof 7—48256
photosphere, brightness fluctuations statistics rel. to granulation struct. 7—66550
photosphere granulation, intensity fluctuations at meso-granulation scale 7—47800
polar faculae, latit. migration during solar activity cycle (1970 to 1978) 7—34966
pre-planetary disk, radiation press. effects 7—14506
resonant ν oscillations, nonadiabatic level crossing 7—5031
solar constant, exptl. meas. by Spacelab 1 radiometer 7—66549
solar constant, meas. by Earth Radiation Budget Experiment (ERBE) (1984 October 25 to 26) 7—9067
solar constant var. throughout solar cycle 7—34964
submillimetre limb brightness profile, appl. to chromospheric modelling 7—55590
three-parallel-ribbon long-decay flare, 1981 October 12, Hα and X-ray obs. 7—55595
variation of solar constant during 1978-9 and 1981, Nimbus-7 and SMM meas. 7—4409
white-light corona, polarisation theory for hydrostatic density distrib. 7—47797
X-ray burst stereo observations, thick-target interpretation 7—47651
X-ray bursts, fast time structures, inverse Compton interpretation 7—4401
X-ray bursts from flare electrons, intensity rel. to mag. field strength 7—47650
X-ray emission, measurements, relation to British X-ray astronomy 7—24019
ν_e, adiabatic conversion via Mikheyev-Smirnov-Wolfenstein mechanism 7—5030

solar radio emission *see solar radiofrequency radiation*

solar radiobursts *see solar radiofrequency radiation*

solar radiofrequency radiation
10.7 cm flux effect on F_2-layer electron content 7—14408
10.7 cm radiation var., correl. with terrestrial middle atm. var. 7—66369
18-cm emission, exptl. 'zoned relay' obs. at RATAN-600 radio telescope 7—60822
810 MHz emission, obs (1971 to 1976) 7—4388
1981 May 13 microwave bursts, thermal mechanism *(Chinese)* 7—4392
2800 MHz intensity, relation to vars. of solar const. (1978-9 and 1981) 7—4409
azimuthal aperture synthesis, RATAN-600 obs. of Sun in 'south plus periscope' mode 7—60612
broad-band solar radio bursts of spike type, origin and VHF obs. 7—4404
corona, emerging magnetic flux, radio and EUV data anal. 7—24118
cosmic ray flares, time behaviour of EM emissions 7—29453
decimetric pulsation event, characterisation by low-dimensional chaotic attractor 7—66552
electron-cyclotron maser instability as a source of plasma radiation 7—66449
fast time structures in microwave bursts, inverse Compton interpretation 7—4401
filaments, high-resolution microwave obs. 7—24091
flare bursts, statistical relationship with sunspots 7—66536
flare radio bursts, γ-ray lines and proton fluxes correl. 7—4402
flare thermal phase, microwave/X-ray diagnostic 7—4420
flare VHF and UHF emission 7—4400
flares, delayed acceleration process, radio and X-ray obs. anal. 7—24107
flares, radio emission, anomalous scattering on plasmons 7—29446
flares, X-ray and radio imaging obs. rel. to spatial and temporal characts. of energy release 7—24090
flares responsible for microwave millisecond spike emission 7—47824
metre-wave emission, effects of atmospheric gravity waves on source positions and vels. 7—4253
metre-wave microbursts, Clark Lake obs. and lower limit to type III burst brightness temps. 7—66561
metric type III burst asymmetry relative to simplebipolar active region 7—4423
MF burst from flare of 1981 May 13, Prognoz-8 obs. 7—66545
microwave millisecond spike bursts, mechanism 7—9370
Prognoz-10 obs. 7—55378
quiescent prominence, density and temp., EHF brightness temp. obs. 7—4407
S-component sources, RATAN-600 obs. 7—4422
surges and assoc. radio emission 7—24114
SVC sources, spectra obs. 7—14554
SWF radio bursts, relation to sunspot groups with abnormal mag. structures and rapid vars. *(Chinese)* 7—4390
type I burst, 1983 July 31, obs. of strange recurring intensity-time pattern 7—66560
type I emission, proper motion and flare activity *(Chinese)* 7—4397
type III burst sources, 169 MHz obs. rel. to width of electron beam injection region 7—66562
type III radio bursts, exciting electrons speeds determ. 7—66533
Type III radio bursts, Helios obs. rel. to generation and propag. 7—47801
type IV bursts due to active region ejected plasma clouds 7—4421
type V continuum bursts, electron-cyclotron maser instability 7—47805
VHF bursts assoc. with coronal mass ejections 7—4425

solar radiowaves *see solar radiofrequency radiation*

solar rotation
differential rotation, effects of nonlinear convection of compressible fluid in rot. spherical shell 7—9459
differential rotation, relation to background mag. field distrib. and geomag. activity 7—18400
differential rotation, relation to mag. structs. and convection in Sun *(French)* 7—24094
dynamo problem and mag. fields turbulent transport 7—60511
dynamo theory, role of fluctuations 7—60512
internal rotation as function of depth and latit. integral formula from solar oscills. freqs. inversion 7—55599
internal rotation components radial dependence 7—47806
period changes and observing methods 7—55589
polar flattening, dynamical estimate rel. to influence on planetary orbits 7—29452
sidereal rotation axis rel. to synodic rotation axis 7—47825
Ca plages rot. (1967-70) 7—4427

solar spectra
see also solar activity; solar radiation
active regions mag. *(Chinese)* 7—4344
chromosphere, 1982 December 2 flare, semi-empirical time-varying models *(Chinese)* 7—66528
chromosphere limb spectra, Fe II emission curve of growth 7—24116
circular polarisation spectra, effects of finite spectral resolution on Stokes V profile 7—47803
convective zone outer layer, spectral lines pressure shift diagnostic study 7—40793
corona, emission line profiles vel. to coronal expansion law 7—29450
corona, parameters of 530.3 nm emission line during solar eclipse (1981 July 31) 7—29448
coronal H I Lyman-alpha line profiles in polar region, anal. of 1979 meas. 7—47809
Doppler measurements, spatial smearing errors rel. to limb effect and large-scale vel. fields 7—66551
EUV He I emission lines, curve-of-growth measurement technique 7—9373
EUV spectra, identification of forbidden lines of N I like ions Si VIII, S X and Ar XII 7—66441
facula models and CN lines 7—24112
faculae, emission line brightness contrasts in hillock and cloud model 7—55593
features and general characts. rel. to G-types stars 7—24135
filaments, oscillations in Hα and C IV lines 7—60614
flare radio bursts, γ-ray lines and proton fluxes correl. 7—4402
flares, delayed acceleration process, radio and X-ray obs. anal. 7—24107
flares, elec. fields determ. 7—24105
flares, non-LTE calculations for the Hα and Ca II K lines *(Chinese)* 7—29442
flares far-UV spectra, comparison with flare star AT Mic 7—47937
Fraunhofer lines, strong lines for wings and weak lines centres, from. depths in photosphere 7—4406
gamma-rays at 4.43 MeV and 6.13 MeV, linear polarisations as indicators of particle directions 7—66563
granulation detection 7—60572
inner corona, spectral obs. during 1973 June 30 total eclipse 7—24117
integrated spectrum, daily power spectra of vel. meas. rel. to global oscill. spectrum 7—47798
IR emission lines near 12 microns, non-LTE study 7—66534
IR spectrum, identification of terrestrial ethane 7—55124
lines in 430 to 670 nm wavelength range with large Stokes V-amplitudes outside sunspots, catalogue 7—66554
magnetic flux tube vel. and spectral lines 7—34960
magnetic fluxtubes diagnostics, use of Stokes profiles 7—60613
post flare loops obs. at 1980 February 16 total eclipse 7—4424
prominences, emission lines analysis, appl. of complete linearisation method *(Chinese)* 7—4391
prominences, H Balmer, Paschen and Brackett spectral line intensities 7—47820
radio SVC sources, spectra obs. 7—14554
small-scale energy release observed on limb, He I D3 lines characts. 7—24113
spatially resolved regions, IUE and Skylab spectra 7—47827
spicules, continuous spectral obs. 7—24115
sunspots, semiempirical modelling 7—4408
sunspots, simultaneous meas. of umbral oscills. in photosphere, chromosphere and transition region 7—66542
synthetic spectra for 255 to 320 nm 7—55673
transition region spectra, cool loops flow model for fast downflows 7—66537
two-ribbon flare, spectra and chromosphere dynamics *(Chinese)* 7—29443
UV rocket-borne study of outflows and ejections in the solar transition zone 7—47807
weak CN lines in solar spectrum, reliability of identifications in 413.9 to 421.5 nm region 7—4412
X-ray spectra multi-temp. anal. methods 7—24020
AlO, B-X system vibr. bands in sunspot spectra 7—60525
C I 538 nm, appl. as temp. diagnostics for photospheric inhomogeneities 7—66553
CN spectrum, oscillator strengths and dissociation energies 7—4327
CO vibration-rotation bands, appl. to determ. of $^{12}C/^{13}C$ and $^{16}O/^{18}O$ ratios in solar photosphere 7—55598
Ca II K-line shifts in He I 1083 nm dark points, implications for chromospheric vel. field 7—66555
Fe I, 532.419 nm line form. depth in photosphere mag. field *(Chinese)* 7—66525
Fe I 1564.854 nm line diagnostics of magnetic flux tubes 7—66531
Fe I line profiles, diagnostics for propagating waves in solar photosphere 7—55591
Fe I lines in facular areas, shifts and asymmetries 7—66529
Fe I photospheric lines, 5-min oscills. in wings and bisectors 7—66530
Fe II 396.94 nm solar line in Ca II H and K wings 7—4398
Fe III forbidden emission lines, identification in UV spectrum 7—47813
H spectra, visible and IR lines in photospheric models 7—29454
H spectrum formation, multilevel transfer calcs., statistical equilib. eqns 7—47689
Hβ line form. in chromosphere magnetic field *(Chinese)* 7—29441
Mg I 518.4 nm, interferometric obs. of F-corona radial vel. field between 3 and 7 solar radii 7—66535

solar spectra continued
- Mn I lines, appl. as temp. diagnostics for photospheric inhomogeneities 7−66553
- Na-like ions, relative emission-line strengths for Al III and Si IV 7−47799
- Ne V, theoretical emission line ratios and solar obs. 7−886
- Ne VII, transitions between n=2 and n=3 levels 7−19747
- O VI 103.2 nm line polarisation use for coronal mag. field determ. 7−34958

solar stills *see distillation; solar absorber-convertors*

solar system
- *see also celestial mechanics; planets; solar nebula; Sun*
- astrometry, CDS Scientific Council Meeting, Bordeaux, France (May 1985) 7−4618
- barycentre and solar motion rel. to solar-terrestrial phenomena 7−40726
- comet clouds, existence and dynamics 7−4372
- comets, total mass in outer and inner Oort clouds 7−24077
- comets and origin of solar system, book 7−24330
- companion star, period stability and lifetime from dynamic anal. of wide binaries in solar neighbourhood 7−66663
- distance formula for planetary and satellite systems, generalised formula 7−47741
- distance from galactic centre 7−4554
- Dynamical Astronomy Division, 17th regular meeting, Santa Barbara, California (April 1986) 7−29571
- dynamics, implications of relativistic gravitation theory *(Russian)* 7−60533
- Earth-Moon system, origin 7−23509
- formation, Earth accumulation and initial state 7−34367
- formation, evolution of planetary rot. axes inclinations 7−9388
- formation, nonlinear tidal interaction between protoplanets and primordial solar nebula 7−47737
- giant planets-terrestrial planets boundary origin 7−14506
- meteoric material distribution modelling, phase density distrib. function determ. 7−66518
- Oort cloud, effect of galactic perturbations on long-period cometary orbits 7−34935
- Oort cloud, struct. characters. 7−34944
- Oort cloud comets injection to inner Solar System by galactic tidal fields 7−47738
- origin, comps. of enstatite chondrites and implications for form. 7−34950
- origin, perturbed nebula model rel. to exponential distance laws for satellite systems *(French)* 7−34911
- origin of small bodies, explosion of Asteron 7−29417
- outer boundary, limiting retrograde orbit set by hypothetical companion star 7−34890
- planetary accretion, implications of shock-induced volatile loss from Murchison carbonaceous chondrite 7−34949
- planets formation around stars, theory for 1 solar mass star 7−55497
- solid materials formation in preplanetary nebula, relation to chondrites composition 7−24024
- Sun's motion around barycentre, correl. with global seismic activity 7−18127
- tidal radius, boundary set by Galaxy according to King Innanen formula 7−4357
- Titus-Bode relation, planet formation, min-action field theory 7−60581

solar-terrestrial relationships
- air pressure var., evidence for solar cycle in data 7−14339
- atmosphere - solar energy var. coupling via thunderstorm anvil clouds *(Chinese)* 7−29121
- atmosphere nitrate flux on Ross Ice Shelf, Antarctica, relation to solar cosmic rays 7−55091
- middle atmosphere thermal structures, vars. in Eastern and Western Hemispheres over solar cycle 7−66375
- atmosphere zonal circulation, corpuscular-tropospheric effect of solar wind streams 7−47475
- aurora borealis and aurora australis, relation to solar wind-magnetosphere interaction *(French)* 7−60439
- Elatina varve record of solar activity, Hilbert transform anal. 7−47811
- equatorial spread-F, effect of mag. activity during high and low solar activity 7−66377
- European geomagnetic observatories annual means, solar effects 7−14184
- F_2-layer, ionisation response to solar 10.7 cm flux 7−14408
- F_2-layer critical freq., chronogram anal., 1973 to 1983, rel. to sunspot cycle 7−23848
- flare effects, evidence for cyclic distrib. of energetic X-ray flares 7−66564
- general characteristics *(Italian)* 7−60622
- geomagnetic activity, connection between characteristic parameters of solar and geomag. 11-year cycles 7−18114
- geomagnetic activity, longit. distrib. of C9-index rel. to solar mag. field distrib. 7−18400
- geomagnetic activity and disappearing solar filaments 7−4277
- geomagnetic activity prediction on 1 to 10 year time scale, review 7−23956
- geomagnetic pulsations at low latits., connection with solar wind parameters 7−55371
- geomagnetic variations, due to influence of Sun on Earth's liquid core 7−34382
- ionosphere, plasma concentration vars. in main ionospheric trough during mag. storm (1978 December 18 to 19) 7−34780
- ionosphere, radio waves absorpt. during solar eclipse 7−29361
- ionosphere cusp longitudinal currents, characts. as function of interplanetary mag. field orientation 7−4261
- ionosphere electron and ion temperatures, relation to solar 10.7 cm flux 7−9314
- ionosphere electron content, solar flare effects *(Chinese)* 7−18394
- ionosphere long-distance 40 kHz signals propag., effects of sunspot number on sunrise fading 7−55360
- ionosphere of Earth, solar flare induced changes in total electron content *(Chinese)* 7−4251
- ionospheric MF radioabsorption rel. to solar activity cycle 7−34767
- magnetosheath energetic electron fluxes, relation to interplanetary mag. field sector struct. 7−4273
- mesosphere, temperature struct. changes due to solar cycle, at 44 to 77°E 7−34756
- micropulsations, generation and propag. mechanisms of low-latit. mag. pulsations 7−55370
- middle atmosphere var. due to solar activity oscills. (of period 27 and 13 days) 7−66369

solar-terrestrial relationships continued
- seismic activity, correl. with Sun's motion around solar system barycentre 7−18127
- solar motion about solar system barycentre rel. to solar-terrestrial phenomena 7−40726
- stratosphere, quasiperiodic perturbations due to solar activity, 3D simulation 7−66371
- temperature variations over Volgograd, search for solar cycle relationship 7−47599
- tree-ring widths rel. to solar activity, evidence for 7-year solar cycle during Miocene period 7−9456
- West Bengal, India, rainfall correl. with sunspot activity 7−9130
- whistler dispersion, semi-annual and annual vars. rel. to sunspot number 7−14410
- O_3 in stratosphere above Antarctica, conc. changes correl. to temperature and circulation 7−55142
- O_3 minimum in Antarctic during springtime, photochem. model and 11-year solar cycle 7−29149

solar visible radiation *see sunlight*

solar wind
- 1982 July 13 interplanetary shock causing magnetopause compression 7−47643
- Alfvenic fluctuations propagation direction determ., systematic errors 7−47659
- AMPTE artificial comet, study of plasma waves and elec. field 7−9355
- AMPTE artificial comet release, solar wind−Ba ions collisionless coupling 7−60483
- AMPTE Ba^+ ion cloud release expt., just outside magnetosphere 7−23966
- AMPTE Li ion cloud release experiment, shocklike electrostatic noise emissions 7−9357
- bow shock location controlled by IMF, and ion pickup 7−23964
- bowshock, upstream particle injection event of magnetospheric origin 7−60477
- characteristics and influence on Earth *(Italian)* 7−60622
- characteristics at 1 AU rel. to Hale sector boundaries 7−47661
- chromosphere outflows, implications of Ca II K-line shifts in He I 1083 nm dark points 7−66555
- collisional relaxation of solar wind velocity distribs, Fokker-Planck theory 7−34818
- P/Comet Giacobini-Zinner, linearly polarized magnetic fluctuations 7−55565
- P/Comet Giacobini-Zinner, plasma wave turbulence in strong coupling region 7−9430
- P/Comet Giacobini-Zinner, plasma waves in shock interaction region 7−23965
- P/Comet Giacobini-Zinner, solar wind flow past comet 7−9426
- P/Comet Giacobini-Zinner (1984e), ion comp. and upstream solar wind obs. 7−60604
- P/Comet Halley (1982i), bow shock position and struct. during Vega encounters 7−9423
- P/Comet Halley (1982i), coma mag. field characts., Vega obs. *(Russian)* 7−4381
- P/Comet Halley (1982i), dust tail interaction with solar wind sector boundaries 7−66416
- P/ Comet Halley (1982i), hydromagnetic waves near O^+ or H_2O^+ ion cyclotron freq. 7−9419
- P/Comet Halley (1982i), ICE plasma wave measurements in ion pick-up region 7−9427
- P/Comet Halley (1982i), ion dynamics and distrib., Suisei spacecraft observations 7−9420
- P/Comet Halley (1982i), ion tail disturbance, 31 Dec. 1985 event 7−9418
- P/Comet Halley (1982i), pre-perihelion tail characts. and solar wind effects 7−24068
- P/Comet Halley (1982i), tail phenomena and solar wind interactions 7−18373
- P/Comet Halley (1982i), upstream cometary pick-up ion observations 7−9428
- P/ Comet Halley (1982i) interaction, cometary ion obs. at and within cometopause region 7−14530
- P/ Comet Halley (1982i) interaction, plasma and neutral gas meas. from Vega 1 and 2 spacecraft 7−14523
- P/Comet Halley (1982i) interaction, radio source scintillation obs. through cometary tail 7−66516
- P/ Comet Halley (1982i) interaction, results of Vega spacecraft meas. 7−14522
- comet ion acceleration processes, due to solar wind interaction 7−34945
- comet plasma tail acceleration mechanism, theory 7−9425
- comet plasma-solar wind interaction, laboratory simulation expt. 7−9434
- comet-solar wind interaction, MHD simulation model 7−24078
- cometary ions, Vega-1 obs. of energetic particles near P/Comet Halley (1982i) *(Russian)* 7−14535
- comets, dust tail interaction with solar wind sector boundaries 7−66416
- comets, ionopause instability, consequences of collisions and compressibility 7−9437
- comets, ions interacting with solar wind, evol. 7−60600
- comets ionised tail rays creation 7−47789
- compound stream formation, effects on solar energetic particles and galactic cosmic rays 7−47656
- coronal expansion, influence on shape of emission line profiles 7−29450
- coronal expansion, ray diameters and vels. rel. to coronal temp. and density meas. 7−29449
- coronal formation mechanism for solar wind 7−34967
- coronal mass ejection associated with eruptive prominence, 18 Aug. 1980 event 7−24096
- corotating interaction region determ. method, using solar wind velocity data 7−55402
- corotating shock configurations in out heliosphere 7−9352
- corotating shocks with upstream waves 7−60502
- corotating variations of heliospheric quantities, solar cycle 20 evolutions *(Chinese)* 7−4283
- cosmic ray aspects 7−35124
- cosmic ray modulation by high-speed streams (Forbush decrease) 7−9345
- cosmic rays transport parameters, implications of diurnal anisotropy long-term vars. 7−66408
- double-peaked proton distribution functions, stability anal. 7−47660
- Earth bow shock, electrostatic potential jump determ. from solar wind ion components meas. 7−34821
- Earth magnetosheath, MHD turbulence obs. 7−34786

solar wind continued
- electric fields, E_y-vars. rel. to ionospheric plasma concentration vars. in main ionospheric trough 7−34780
- electron precipitation influenced by solar wind, intense polar rain obs. 7−29356
- electrons due to type III radiobursts, trajectory determ. by radio method 7−47649
- energetic H^+ and He fluxes associated with interplanetary shocks 7−23967
- energetic particles, effects on comet surfaces 7−40691
- energetic particles, intensity profiles, effects of solar wind compound stream 7−47656
- energy parameters rel. to Earth magnetosphere 7−40651
- flare proton events prediction 7−47812
- flare-generated shock waves, mag. cloud chamber effects rel. to He-enriched plasma cloud 7−4282
- flow direction variations, implications for ISEE-3 plasma meas. of distant magnetotail struct. 7−29366
- flow upstream of coronal slow shock 7−66415
- P/Giacobini-Zinner, ion tail struct. and interaction with solar wind 7−40778
- P/Halley (1982i), highlights of Japanese spacecraft observations 7−9417
- heliosphere gas, heating and frictional drag due to solar wind 7−14471
- heliosphere magnetic fields 7−4428
- high-latitude ionosphere, elec. fields and pot. patterns for different interplanetary conditions 7−14421
- high-speed streams, contrib. to cometary icy bodies fragmentation and brightness outbursts 7−47768
- high-speed streams, corpuscular-tropospheric effect on atmosphere zonal circulation 7−47475
- high-speed streams role in link between disappearing solar filaments and geomag. activity 7−4277
- ices erosion by ion bombardment, meas. on thin ice films 7−26814
- IMF B_z component at 1 AU rel. to solar flare region magnetic field 7−55404
- interaction with cometary atmospheres, model 7−29373
- interaction with P/Comet Giacobini-Zinner (1984e), ICE energetic ion obs. 7−40763
- interactions, conf., Toulouse, France (1986 June-July) 7−55873
- interactions, review *(Russian)* 7−40663
- interplanetary shocks, energetic particle distrib. 7−34822
- interplanetary shocks preceded by solar filament eruptions 7−47655
- interstellar neutral H, three-fluid model for interaction with solar wind 7−9354
- ion acceleration by interplanetary travelling shocks 7−34819
- ion acceleration through drift and diffusion at interplanetary shocks 7−47658
- ion composition meas. using Prognoz-10 BIFRAM instrumentation 7−55409
- Jupiter, HF and MF emission rel. to solar wind plasma and mag. field characts. 7−4362
- Jupiter, magnetosphere IMF control and convection 7−29422
- large-scale heliospheric disturbances, coronal holes as sources 7−23968
- loop structure behind travelling shock event, props. 7−60501
- lunar highland breccias 60018, 67435 and 67455, single-stage exposure histories 7−55501
- magnetic clouds influence on cosmic ray intensity var. 7−23959
- magnetic field, effect on plasma sheet 7−14419
- magnetic field, merging with geomag. field 7−47633
- magnetic field and plasma effects on winter north polar currents 7−60450
- magnetic field anisotropy, effect on cosmic ray var. *(Japanese)* 7−40658
- magnetic field annihilation region and assoc. galactic cosmic rays intensity enhancement 7−23960
- magnetic field B_z component, effect on ionospheric polar plasma convection and auroral emissions 7−34777
- magnetic field characts. (book) 7−48216
- magnetic field directional discontinuities (0.46 to 1.0 AU) 7−9351
- magnetic field orientation, relation to longit. elec. currents in ionosphere cusp region 7−4261
- magnetic field sector structure, relation to magnetosheath energetic electron fluxes during geomag. disturbances 7−4273
- magnetic field-magnetosphere interaction, implications for 1972 August 4 mag. storm 7−29364
- magnetosheath of Earth, C, N and O ion abundances measured by AMPTE/CCE 7−9318
- magnetosphere, relation to aurora borealis and aurora australis *(French)* 7−60439
- magnetosphere coupling, role of *(Chinese)* 7−55368
- magnetosphere foreshock, energetic O^+ burst during upstream particle event 7−60476
- magnetosphere interaction, contrib. of solar wind to low-latit. geomag. pulsations 7−55371
- magnetosphere interaction, effect of IMF By-component on north-south asymmetry of geomag. activity 7−9336
- magnetosphere interaction, generation and propag. mechanisms of low-latit. mag. pulsations 7−55370
- magnetosphere interaction, implications of magnetopause microscopic stress nonequilib. 7−34785
- magnetosphere interaction, interplanetary magnetic field effects on plasma entry 7−29370
- magnetosphere interaction, limits on energy transfer through dayside merging 7−47636
- magnetosphere interaction, Primdahl-Spangslev hypotheses definitive test 7−14420
- magnetosphere of Earth, conf., Prague, Czechoslovakia (Aug. 1985) 7−60860
- magnetosphere of Earth, generation of elec. field responsible for cross-cap flow 7−60494
- magnetosphere of Earth, interaction with solar wind during southward IMF 7−9332
- magnetosphere of Earth, solar wind particle entry and magnetopause field-twisting flux tubes 7−9319
- magnetosphere substorm expansion triggering by IMF directional discontinuities 7−34808
- magnetospheric stormtime field variations rel. to solar wind parameters 7−14415
- magnetotail reconnection, effect of external elec. field 7−9323
- March 1979 solar wind conditions, interplanetary scintillation observations 7−23963
- Mercury magnetosphere, electron bursts observed by Mariner 10 spacecraft 7−9393

solar wind continued
- Mercury magnetosphere, Jupiter as source of electron bursts 7−9391
- Mercury surface interaction, ion sputtering of Na rel. to Na atmosphere 7−24037
- merged interaction regions, coalescence between 6.2 and 9.5 AU 7−47657
- MHD turbulence and density fluctuation in interplanetary and interstellar space 7−60529
- minor ions ejection from corona, effects of Coulomb friction and Alfven waves 7−60623
- multisensor analysis of solar wind data, modulated grid Faraday cup plasma instruments testing 7−23972
- near-Earth shock, ions distrib. function dynamics 7−55406
- near-Earth shocks, microstructure 7−55410
- near-Earth shocks, plasma waves characts., BUDVAR complex obs. 7−55407
- nonrelativistic particles propagation, generalised Compton-Getting transformation 7−34810
- particle interaction with Alfven solitons, contrib. to proton heating 7−66418
- perturbation on foreshock 7−9322
- planetary body interactions, collisionless plasma expansion study 7−31950
- plasma conditions and Pc 3-4 energy densities 7−60493
- plasma conf., Sukhumi, USSR (May 1986) 7−48174
- plasma diagnostics 7−14510
- plasma flow and P/Comet Halley (1982i) ion tail bending 7−40767
- plasma wave events assoc. with type III radio bursts, ISEE-3 obs. rel. to electron speeds determ. 7−66533
- plasma waves at P/Comet Halley (1982i), Sakigake obs. 7−40769
- Prognoz-10, algorithms for satellite crossing times of solar wind shocks determ. 7−55417
- proton collisions with interstellar neutral atoms (H and He) inside heliosphere, elastic cross sections 7−47654
- quasi-parallel interplanetary shocks, mag. field structs. 7−9353
- radio emissions at low-freq. in interplanetary space, long-period dynamic spectrograms 7−66417
- shock-associated energetic particles, Intershock project EPSW expts. obs. 7−55408
- shocks, subcritical and supercritical, mag. field and energetic particle obs. 7−34820
- shocks fine struct., BIFRAM plasma spectrometer meas. 7−55405
- space probes for solar wind and magnetic field structure examination 7−47663
- tangential discontinuities of solar wind and Kelvin-Helmholtz instability 7−55403
- tangential discontinuity in rel. field, relation to tail discontinuity in Periodic Comet Halley (1982i) *(Russian)* 7−55570
- three-dimensional heliospheric current sheet struct., solar cycle variations 7−55401
- type III burst sources, 169 MHz obs. rel. to width of electron beam injection region 7−66562
- Type III radio bursts, Helios obs. rel. to generation and propag. 7−47801
- Ulysser spacecraft mission for exploration of high solar latitude solar wind 7−55472
- velocity and density at Uranus 7−9414
- velocity at (and preceding) solar minimum, since 1500 AD 7−9356
- velocity fields, conf., Trieste, Italy (August-September 1982) 7−35118
- velocity variations around Hale type sector boundaries 7−47662
- velocity waves in solar wind, relation to cometary flares 7−4371
- Venus, ionotail, solar wind induced mag. field characts. 7−60590
- Venus, magnetosheath, origin of large-amplitude mag. fluctuations 7−34901

soldering
- laser welding, machining and materials processing, conf., San Francisco, USA (Nov. 1985) 7−9597
- optical component reliability, effects of solder creep 7−15997
- solders, rapid solidification cast vs. die attach soft type 7−39500
- Bi-Sb, adhesion, elec. phenomena, effect of additions of Bi and Sn in solder 7−12399
- Cu/Pb-Sn solder interfacial reactions, Cu_3Sn intermetallic formation 7−44924
- Pb-Sn solder, deform. props. 7−46590
- Pb-Sn-Ag solder alloys, phase equilibria 7−46426
- Si_3N_4 ceramics, joining with glass solder in CuO-SiO_2-TiO_2 system 7−22974
- Sn-Ag-Sb thermal fatigue-resistant solder alloys, equilibrium solidification 7−46443

solenoids
- *see also coils; electromagnets*
- focusing of multiply charged energetic ions using solenoidal B and radial E lenses 7−56899
- precision solenoid diameter measurement, systematic error anal. *(Japanese)* 7−18740
- precision solenoid dimensional meas. error anal., expt. verification *(Japanese)* 7−18741
- proton gyromagnetic ratio expt. at ETL 7−14917
- proton gyromagnetic ratio in H_2O determ., by low field method 7−14916
- NbTi-Cu Al stabilised superconducting detector magnet technology for high energy accelerators, review 7−49779

solid effect
- amino group containing mols., double quadrupole reson., solid effect 7−59123

solid electrolytes *see superionic conducting materials*

solid helium
- dynamic broadening of the roughening transition 7−27051
- high density props., exponential-six pot. 7−32742
- spin-wave region reson. freq., magnon corrections calcs. 7−52185
- ^4H, elastic props., and density up to 20 GPa 7−32733
- ^3He, anomalous low-temp. susceptibility at high molar vol. 7−38296
- ^3He, BCC solid, nuclear magnetism, molar volume depend. 7−58565
- ^3He, solid, ground-state energy calculated by a lowest-order constrained-variation method 7−32743
- ^3He, solid, quantum tunnelling in dil. instanton limit, Monte Carlo calcs. 7−21567
- ^3He, solid BCC and HCP phases, high-temp. series expansions with multiple-exchange Hamiltonian 7−58564
- ^3He, solid-liquid melting pressure magnetisation curve 7−63900
- ^3He, spin-polarised, general model for steady-state melting 7−52184
- ^4He crystals, dendritic growth obs. 7−44948
- ^4He dendritic growth, spatio-temporal coherence and chaos, conf. Los Alamos, USA, Jan. 1986 7−48158

solid helium continued
^{4}He, solid, ground-state energy calculated by a lowest-order constrained-variation method 7−32743
^{4}He solid-liquid interface, acoustic wave transmission, second sound effects 7−21568
^{4}He superfluid-solid He interface, macroscopic surface oscillations, second sound and kinetic phenomenon, hydrodynamic approx. calcs. 7−32745

solid hydrogen
see also quantum solids
compressibility and pressure, LOCV calc. 7−52182
cryogenic, high press. eqn. of state, laser interferometric meas. method 7−30027
curved interface, quasi-2D quantum electron states 7−17066
$\mathrm{D_2}$, solid, cubic phase, orientational ordering, NMR 7−38294
ground state energy in LOCV method 7−52181
molecular, dynamic isentropic loading, high press. eqn. of state, computational simulations 7−32747
molecular solid, charged particle irradiation, secondary electron emission 7−21569
muon depolarisation and relax. rate 7−52183
NMR line shapes, low temp. nuclear polarisation effects anal. 7−38295
orientationally ordered, spectral inhomogeneity of nuclear spin-lattice relax. 7−38292
ortho-para mixture, local order parameters distrib., NMR line shapes, relax. times 7−27052
ortho-para mixtures, local orientational ordering near site percolation threshold 7−38297
ortho-para mixtures, nonexponential relax. of nucl. magnetisation, NMR absorption spectrum 7−27053
pipe gun for H pellet injection 7−19427
secondary electron emission 7−7797
surface localised electrons, photoresonances 7−63901
$\mathrm{D_2}$, HCP solid, orientational ordering, NMR 7−38293
p-$\mathrm{H_2}$, solid, obs. of fourth vibr. overtone transition of mol. $\mathrm{H_2}$ 7−12392

solid lasers
see also colour centre lasers; gamma-ray lasers; Raman lasers; semiconductor junction lasers
activated ionic crystals, review 7−36971
broad-band solid-state lasers, conc. of emission spectrum in near IR 7−43114
coatings for multiwavelength solid state lasers, laser beam testing expts. 7−57522
coherent short wave radiation from a solid state freeelectron laser 7−1151
conference, laser science advances, Dallas, TX, USA (Nov. 1985) 7−9573
$\mathrm{Cr^{3+}{:}K_2NaScF_6}$ laser material, tunable, crystal growth and spectroscopy 7−13347
double-pass amplifier with phase conjugate mirror, different frequencies counterpropagating waves amplification 7−50598
emitting dye active medium, lasing props. 7−43119
feedback-stabilised actively mode-locked laser, computer simulation 7−25831
fibre lasers, superfluorescent, anal. 7−31329
fibre new designs and fabrication techniques, sensors and laser action 7−50744
free electron laser, possibility of obtaining coherent short wave radiation 7−20237
GEKKO XII high power Nd:glass laser, harmonic conversion 7−50571
heat transfer and thermoelasticity effects, alternating direction implicit method 7−50567
high strength laser material development 7−10961
IR laser developments with tunable crystals and diodes 7−15887
laser material, spectroscopic props. 7−10957
lithium rare earth tetraphosphates, $\mathrm{LiRP_4O_{12}}$, flux cryst. growth 7−13345
materials for lasers, review *(French)* 7−25830
noncentrosymmetric laser crystals, struct. and props. study review 7−62709
passive mode locking, stationary ultrashort pulse theory 7−43175
passive modulation laser of resonator Q-factor *(Russian)* 7−43172
phosphate glass laser, L.P. 17.62, Q-switched and free lasing modes *(Rumanian)* 7−15875
phosphate glasses for lasers, moisture proofing *(Chinese)* 7−5899
picosecond semiconductor lasers for characterizing high-speed image shutters 7−20466
Raman laser, fibre, synchronously pumped, anal. 7−15873
ring and linear lasers with electro-optic Q-switching, numerical modelling 7−36999
ring laser with active mode locking, amplitude characts. 7−62739
ruby, fabrication, output characts. *(Korean)* 7−31332
ruby, technology developments, higher performance standards 7−50585
ruby laser, Q-switched, pulse stretching for bubble chamber holography 7−43169
ruby laser, single mode Q-switched, phase conjugation of laser beam 7−25904
ruby laser, ultrashort pulse generation by passive mode locking 7−1205
ruby laser lethargy obs. in optical region 7−5895
ruby laser material, nonradiative relaxation, picosecond time resolved studies 7−10956
ruby laser oscillator, novel design 7−15895
ruby laser pulse compression and amplification, stimulated Brillouin scatt. in acetone *(Chinese)* 7−57455
ruby laser pulses, 1.6 ns, generation by passive Q-switching 7−25854
ruby lasers using low-magnification unstable resonators 7−36997
ruby pulse lasers, short period loss modulation anal. *(Russian)* 7−50527
ruby single mode Q-switched laser development, phase conjugation of laser beams 7−25903
sensitized media, lasing efficiency, excitation summation influence 7−25828
single-mode pulse compression with amplification 7−31518
spatial shaping of solid-state laser pulses, cavity resonator design criteria *(Polish)* 7−31363
synchronized ruby/$\mathrm{N_2}$ laser system for plasma prod. and diagnostics 7−31356
thermal processing of materials using $\mathrm{CO_2}$ and solid state lasers *(Rumanian)* 7−16624
$\mathrm{Ti^{3+}}$:sapphire laser material, scattering centre formation mechanism 7−10960
waveguides, planar active, light amplification characts. 7−20230
Ce doped fluoride elpasolites, 5d-4f spectra, impact of ion-host interactions 7−39143

solid lasers continued
$\mathrm{Ce^{3+}}$ in dielectric crystal, 5d-4f spectra, phenomenological cryst. field model 7−39148
$\mathrm{Co{:}MgF_2}$ laser, mode locking and Q-switching by loss-modulation freq detuning 7−62711
$\mathrm{Cr,Nd{:}GdScGa_5O_{12}}$ laser Q switching for optimising use of stored energy 7−25851
$\mathrm{Cr,Nd{:}GdScGa_5O_{12}}$ laser rods losses and efficiency meas. 7−43106
$\mathrm{Cr,Nd{:}LaMgAl_{11}O_{19}}$ laser material, optical props. 7−10958
$\mathrm{Cr^{3+},Er^{3+}{:}(Y,Sc)_3Ga_5O_{12}}$, spectral, luminesc. and lasing props., Stark sublevel lifetimes 7−25827
$\mathrm{Cr, Tm{:}GdScGa_5O_{12}}$ laser, dual freq. study 7−43117
$\mathrm{Cr{:}ScBO_3}$ laser, tunable over 785 to 892 nm 7−15872
$\mathrm{Cr^{3+}{:}\ BeA1_2O_4}$, alexandrite, laser material, nonradiative relaxation, picosecond time resolved studies 7−10956
$\mathrm{Cr^{3+}{:}AlTaO_4}$ tunable IR laser crystals, fluorescent spectra 7−43110
$\mathrm{Cr^{3+}{:}BeAl_2O_1}$, solid laser material, active ion distributions 7−57342
$\mathrm{Cr^{3+}{:}BeAl_2O_4}$, alexandrite, nonradiative transition dynamics 7−1102
$\mathrm{Cr^{3+}{:}BeAl_2O_4}$, alexandrite, lasers using low-magnification unstable resonators 7−36997
$\mathrm{Cr^{3+}{:}BeAl_2O_4}$, alexandrite, excited, absorpt. spectra, 220-900 nm 7−46075
$\mathrm{Cr^{3+}{:}BeAl_2O_4}$ crystals, growth and laser performance 7−15870
$\mathrm{Cr^{3+}{:}BeAl_2O_4}$ laser, tunable, characts. *(Chinese)* 7−5902
$\mathrm{Cr^{3+}{:}BeAl_2O_4}$ tunable laser output pulse kinetics, spectral condensation characts. 7−50570
$\mathrm{Cr^{3+}{:}Gd_3Sc_2AL_3O_{12}}$ laser, flash-lamp pumped 7−15902
$\mathrm{Cr^{3+}{:}Gd_3Sc_xGa_{5-x}O_{12}}$ garnet, laser spectral analyser 7−31362
$\mathrm{Cr^{3+}{:}KAl(MoO_4)_2}$ tunable IR laser crystals, fluorescent spectra 7−43110
$\mathrm{Cr^{3+}{:}KZnF_3}$ tunable laser with nonselective pumping 7−43113
$\mathrm{Cr^{3+}{:}SrA1F_5}$ laser emission tunable from 825 to 1010 nm 7−10964
$\mathrm{Cr^{3+}AlNbO_4}$ tunable IR laser crystals, fluorescent spectra 7−43110
$\mathrm{Cr^{3+}Al_2(WO_4)_3}$ tunable IR laser crystals, fluorescent spectra 7−43110
$\mathrm{Er{:}BaYb_2F\$F_8}$ active medium optimisation, lasing parameters at 1.96 μm 7−31330
Er:YAG laser, quasistationary generation, cross-relax. mechanisms 7−57339
$\mathrm{Er^{3+}{:}CaF_2}$ IR laser, Q-switched, CW operation 7−43107
$\mathrm{Er^{3+}{:}CaF_2}$ IR lasers, upconversion pumping 7−43111
$\mathrm{Er^{3+}}$:glass, lasing props. 7−43109
GdGG laser material, characts. of polishing cpds. 7−37212
$\mathrm{Gd_{2.813}Tm_{0.17}Ho_{0.017}Sc_yCr_{0.05}Ga_{4.95}O_{12}}$, laser active medium operating in 2 μm range 7−50568
Ge, hot hole FIR laser action investig. 7−57341
Ho,Cr,Tm:YAG laser spectroscopic pumping scheme for 2 μm band 7−36968
Ho:YAG laser, 2.1 μm, GaAlAs laser diode array pumped 7−1182
$\mathrm{KNd_xGd_{1\text{-}x}P_4O_{12}}$, isolated ion pair interaction, fluoresc. quenching study 7−46117
LiF, $\mathrm{F_3{}^{+}\text{-}F_2}$ mixed centres, laser oscillations at room temp. 7−7714
Nb:YAG picosec. laser pulse characterisation by self diffraction 7−10965
Nd,Ce:YAG, single crysts., luminesc. and laser props. 7−10967
$\mathrm{Nd,Cr{:}(Gd,Sc)_3Ga_5O_{12}}$, spectroscopic, optical and thermo-mechanical props. and laser performance 7−10963
Nd doped Z 7−62713
Nd IR laser, wide-aperture freq. multipliers based on $\mathrm{KH_2PO_4}$, $\mathrm{KD_2PO_4}$ 7−57469
Nd laser beam coherence props. control with plasma filter 7−1209
$\mathrm{Nd^{3+}}$, $\mathrm{Sm^{2+}}$: $\mathrm{CaF_2}$ lasers, $\mathrm{Sm^{2+}}$ sensitisation 7−10962
$\mathrm{Nd^{3+}}$, $\mathrm{Sm^{3+}{:}CaF_2}$ laser material energy transfer efficiency 7−7734
Nd: glass, technology developments, higher performance standards 7−50585
Nd: glass laser, moving slab, design 7−15901
Nd: glass rod amplifiers for high-brightness lasers, parameters 7−62708
Nd: YAG laser as plasma source of soft X-rays 7−20909
Nd:glass 30 Hz moving-slab laser, 40 W average power 7−31345
Nd:glass fibre laser, spectral characts. 7−36967
Nd:glass free running laser radiation, phase conjugation characts. *(Russian)* 7−57481
Nd:glass laser, CW, diode pumping 7−43118
Nd:glass laser, double-pulse, use in holographic interferometry 7−15829
Nd:glass laser, passively Q-switched, output-parameter control 7−1104
Nd:glass laser amplifying system, pulse profile by saturable filters 7−43184
Nd:glass laser system, appl. of diffraction grating to increase tuning range 7−5916
Nd:glass lasers, pumping by double discharge Xe lamp 7−11002
$\mathrm{Nd{:}La_2Be_2O_5}$ laser rods with greatly reduced thermal lensing 7−10959
$\mathrm{Nd{:}LiYF_4}$, two-step excitation and fluoresc. at 587.4 nm under CW pumping 7−25824
$\mathrm{Nd{:}Ln_2(A1O_3)_6}$ laser CW tunable in 1.05 to 1.08 μm region 7−10985
Nd:phosphate glass, colliding pulse mode locking study 7−20286
Nd:phosphate glass laser, dual slab, zigzag, high average power 7−20264
Nd:phosphate glass laser rods, thermal effects 7−50566
Nd:YAG, $\mathrm{CO_2}$ dual wavelength laser system for surgery 7−47198
Nd:YAG, coatings for multiwavelength solid state lasers, laser beam testing expts. 7−57522
Nd:YAG, colliding pulse mode locking study 7−20286
Nd:YAG, contactless spatially resolved meas. of bulk free-carrier lifetime in Si 7−52650
Nd:YAG, regenerative amplification of temporarily compressed picosecond pulses at 2 kHz 7−43108
Nd:YAG, single crysts., luminesc. and laser props. 7−10967
Nd:YAG, technology developments, higher performance standards 7−50585
Nd:YAG CW laser, high power 1.34 μm, oscillation eigenmode 7−43112
Nd:YAG CW mode locked laser, simultaneous amplification and compression 7−10966
Nd:YAG fibre lasers, superfluorescent, anal. 7−31329
Nd:YAG frequency doubled laser, pump beam temporal struct. effects in Raman amplifier 7−20343
Nd:YAG frequency-doubled mode locked laser, synchronous pumping of femtosec. dye laser 7−31346
Nd:YAG injection-seeded laser, polarisation feedback stabilisation, spectroscopy appls. 7−57338
Nd:YAG laser, 1.06 μm $\mathrm{Cs_2}$ reference for freq. stabilisation 7−57403
Nd:YAG laser, actively mode locked Q-switched as stimulated Raman source at 1.54 μm 7−20350
Nd:YAG laser, CW mode-locked, modulator freq. detuning effects 7−62712

solid lasers continued
  Nd:YAG laser, deep levels in GaAs, scanning optical fibre microscope 7-48846
  Nd:YAG laser, diode-pumped intracavity doubled, large amplitude fluctuations due to longitudinal mode coupling 7-5894
  Nd:YAG laser, energy characts., effect of γ-irrad. of ceramic reflectors 7-50575
  Nd:YAG laser, mode locked, with intracavity phase conjugate mirror 7-50606
  Nd:YAG laser, mode-locked, CW, design 7-43164
  Nd:YAG laser, multidisciplinary use 7-47199
  Nd:YAG laser, passively mode-locked using half-symmetric unstable resonator 7-20282
  Nd:YAG laser, pulse periodic emitting variable duration pulses 7-43148
  Nd:YAG laser, Q-switching by PTM method *(Korean)* 7-25853
  Nd:YAG laser, SHG in four-layer waveguide struct. using 2-methyl-4-nitroaniline in high index top layer *(Japanese)* 7-43240
  Nd:YAG laser, soft X-ray production for Li$^+$ pumping 7-20196
  Nd:YAG laser, synchronously operated streak camera appl. 7-18903
  Nd:YAG laser at 1.06 μm, high average power, design and charactn. 7-20265
  Nd:YAG laser materials processing, plume generation and influence on processing phenomena 7-12148
  Nd:YAG laser pulse compression in optical fibre 7-50643
  Nd:YAG laser pulse narrowing by spectral windowing of self-phase modulated picosecond pulses 7-5928
  Nd:YAG laser resonator, phase-conjugate using stimulated Brillouin scattering 7-43165
  Nd:YAG laser rods, losses and efficiency meas. 7-43106
  Nd:YAG laser UV Raman spectrometer, H_2 Raman-shifted output, wavelengths down to 184 nm 7-41481
  Nd:YAG laser unstable resonator output coupler based on Fabry-Perot interferometer 7-43166
  Nd:YAG lasers, flashlamp pumped, spike-mode oscillations 7-57384
  Nd:YAG lasers, injection-seeded, fast resonance-detection technique for single-frequency operation 7-36969
  Nd:YAG miniature oscillator, freq. doubled, laser diode pumped 7-15876
  Nd:YAG mode locked laser, timing fluctuations reduction by electronic feedback 7-31371
  Nd:YAG rod, spatial hole burning suppression in polarisation coupled resonators 7-11074
  Nd:YAP CW laser, 1.3414 μm high power output 7-36970
  Nd:$YAlO_3$ laser, CW, tuning characts. of 1079.5 and 1084.5 nm lines 7-15871
  Nd:YGG waveguide laser amplifiers for fibre-optic communication 7-31359
  Nd:$YLiF_4$ laser, ultrashort pulse active/passive mode-locking 7-62741
  Nd^{3+}:β''-Al_2O_3, solid state laser host, optical props. 7-57343
  Nd^{3+}:silica fibre laser, tunable CW at 0.900 to 0.945 and 1.070 to 1.135 μm 7-36983
  Nd^{3+}:YAG laser, reproducible generation of ultrashort pulses 7-11016
  Nd^{3+}:YAG laser passively mode-locked by saturable absorpt. filter, ultrashort pulse generation 7-31368
  Nd^{3+}:YAG laser radiation generation, influence of unstable defects 7-1103
  Nd-glass laser, slow mechanical Q-switching, σ parameter effects *(Rumanian)* 7-15915
  $Nd_xY_{1-x}Al_3(BO_3)_4$, excited emission and self-frequency-doubling effect 7-25821
  Nd; glass high power VULCAN laser, beat-waves meas. in Z-pinch plasma 7-11702
  Ni^{2+}:$BeAl_2O_4$, chrysoberyl, laser induced fluoresc. and decay lifetime 7-46135
  Ni^{2+}:$MgAl_2O_4$, Czochralski growth, stimulated emission tuning range 1.2 to 1.4 μm 7-59406
  P_2O_5 doped fibre Raman laser, OTDR for single-mode fibre appl. 7-31517
  Pr:$LaCl_3$ photon avalanche laser at 4.9 μm 7-15869
  Pr^{3+}:BaY_2F_8, stimulated emission spectra, laser action excitation 7-27745
  Pr^{3+}:LaF_3 laser action, relax., photon echo technique 7-20229
  Ti^{3+}:Al_2O_3, solid laser material, active ion distributions 7-57342
  Ti^{3+}:Al_2O_3 coherently pumped laser, output characts. 7-31331
  Ti^{3+}:Al_2O_3 laser, excitation methods, use in intracavity spectroscopy 7-43190
  Ti^{3+}:$BeAl_2O_4$ chrysoberyl crystal tunable laser, 0.7 to 0.9 μm 7-25826
  YAG laser, Q-switched, microscopic inclusions location in optical components 7-31544
  YAG laser beam profile meas., by thermographic technique 7-31377
  YAG, lasing crystals, cryst. growth by Czochralski technique *(Japanese)* 7-53572
  YAl_2O_3 laser with controlled resonator Q factor, ultrashort radiation pulse generation 7-43115
  ZnCdSe, electron beam pumped, cathodolum., gain and stimulated emission 7-64701
  ZnSe cryst., low press. melt growth technique, photolum., laser appl. 7-33548

solid-liquid transformations
  see also crystallisation; freezing; melting; solidification
  biological coal beneficiation micro-organisms 7-65387
  elastic and viscoelastic bodies, state of stress and strain during phase transitions 7-29961
  hard parallel spherocylinder fluid, smectic order and nematic-smectic transition 7-11905
  hard spheres, fluid-to-solid phase transition, scaled particle theory study 7-32617
  Lennard-Jones fluid, transport coeffs., mol. dynamics 7-12336
  mass transport along surfaces, computer modelling, book contrib. 7-27082
  metallic binary alloy solid solns. with retrograde solidus, decomposition 7-21457
  natural convection, book 7-60909
  quasicrystal, two-dimensional, thermodynamic props., molecular dynamics anal. 7-21482
  semiconducting binary alloy solid solns. with retrograde solidus, decomposition 7-21457
  viscoelastic ageing solid, build-up with solid-liq. transition 7-43711
  Ag-Ge liquid alloy, structural phase transitions, photoemission studies 7-1836

solid-liquid transformations continued
  Ag_2S-Ag_2Se-Ag_2Te, quasi-binary systems, elec. conductivity, thermoEMF 7-21908
  C_8K type graphite intercalation cpds., mol. dynamics study of model system 7-63430
  $Cu_{0.96}Fe_{0.04}SiF_6.6H_2O$ Jahn-Teller cryst., glass transition, calorimetry and Mossbauer studies *(Russian)* 7-26952
  Ga growth into supercooled melt, faceted solid-liq. interface kinetics, kinetic roughening 7-58172
  Ga, solid and liquid, high press. phase transitions, EMF pulse study *(Russian)* 7-2166
  Ge liquid, structural phase transitions, photoemission studies 7-1836
  Hg, solid and liquid, high press. phase transitions, EMF pulse study *(Russian)* 7-2166
  KCl, dielec. permittivity imaginary part divergence of melting point 7-45915
  MgF_2-MF_2 mixtures, (M=Ca,Sr,Ba), films, prep., physicochemical and optical props. 7-3178
  $Ni_{40}Pd_{40}P_{20}$ alloy glass, solid-liq. interfacial energy 7-2208
  Si_n (n=10 to 32), clusters, growth and struct., solid-liq. transform., mol. dynamics simulation 7-26682
  $Si_{50}Ge_{50}$, model alloy system, liquid-solid interface dynamics, rapid solidification 7-6761
  Yb-Sb-Te ternary system, phase diagram investigs. 7-2174

solid mechanics *see mechanics*

solid phase epitaxy *see epitaxial growth*

solid solubility
  alloys, rapid solidification technology, review 7-39493
  glasses, thermodynamics, miscibility and phase separation 7-63498
  III-V semiconductor, ternary solid soln., miscibility gap in phase diagram 7-52057
  metal-carbide composites, implantation modified, friction, surface chemistry 7-46660
  metallic glasses-H_2, prep., struct. and props. 7-26663
  naphthalene solubilities in supercritical CO_2 near upper critical end point, NMR 7-12293
  poly 2,6-dimethyl-1,4-phenylene oxide and poly styrene-co-p-fluorostyrene blends, miscibility, press. depend. 7-17533
  polydimethyl siloxane based polyurethane, phase segregation degree quantitative determ. 7-3307
  quartz, H_2 diffusional uptake and hydrolytic weakening 7-40469
  steel, 4340, positron annihilation parameter and H behaviour, effects of tempering temps. 7-46205
  steel, austenitic stainless, mechanical properties, H effects *(Russian)* 7-46603
  steel, boride layer growth kinetics, influence of non-equilib. defect conc. 7-22874
  steel, Cr-Mo, ferritic, effective H permeability 7-44918
  steel, HSLA, H-induced crack propag., method to evaluate crit. H conc. 7-65116
  steel, solubility of S in presence of Mn and Si 7-39524
  steel, stainless, ferrite, high-Cr, solubility of Ti and Nb carbides, temp. depend. of internal friction obs. 7-53740
  VF_2-TrFE random copolymers, Curie point meas., thermal and processing history depend. 7-33341
  Al-Cu compact, struct. form. during sintering 7-53675
  Al-Li, quenched, ageing, light ion irrad., δ'phase form. and particle growth 7-26807
  Al-Mn, rapid solidification, extended solid soln. and eutectic growth 7-33647
  Al-R (R=Gd, Ho, Er, Y) alloys, intermediate phase metastable extensions, DSC and X-ray diffr. studies 7-21413
  Al-Si-Pb-Bi, duplex alloys, melt quenching, microstruct. supercond. props. 7-45593
  Al-V films, precip. from metastable solid solns. 7-65048
  Al_2O_3 ceramics, sintering, effect of TiO_2 *(Japanese)* 7-3248
  Al_2O_3-TiO_2, mech. props. and microstruct., influence of TiO_2 additions. *(Japanese)* 7-22706
  $Ca_{1-x}Ba_xF_2$ epitaxial layer growth and struct., electron microscopy studies 7-27174
  $CaCO_3$-$MnCO_3$ mixed cryst., metastable formation range and morphology 7-26910
  CeO_2-CaO, ceria-calcia ceramics, ionic cond., effect of microstruct. 7-38250
  Co-Al, precipitation product dissolution *(Russian)* 7-58479
  Co-Al solid solutions, porous decay, temp. conc. existence limits *(Russian)* 7-33680
  Co-Cr-N, surgical implant alloy, mech. props., microstruct. rel. to N addition 7-60125
  Co-Cr-Re system, phase equilib., struct., microstructural, X-ray phase and durometric analyses 7-17513
  Co-Sb system, α-solid soln., interdiffusion *(Japanese)* 7-6861
  CoO-MnO system, thermodynamic props., phase diagram, miscibility gap 7-53706
  Co_3Ti, alloying behaviour, phase equilib. 7-7968
  Cr_3C_2-Ni-P hard metal, Cr_3C_2 solution in Ni matrix, liq. phase influence 7-53689
  Cu-based alloys, rapid solidified and ion implanted, struct. studies 7-21130
  Cu-Fe (0.6 to 2.2 at.%), solid solns., decomp. processes, effect of O_2 *(Russian)* 7-33681
  $CuGaSe_{2(1-x)}Te_{2x}$ solid solns., prep. and characteris. 7-21169
  Dy-Re-Fe(CO)(Ni), intermetallide-based solid solns., phase equilib. and mag. props. 7-22639
  Fe, solubility of Nd, positron annihilation study 7-46208
  Fe-Au(Sb)(Cu), dilute alloys, electron irradiated, vacancy-solute interaction, positron lifetime, muon spin rotation studies 7-39288
  Fe-B, B solubility in Fe 7-7971
  Fe-Cr-Al, C solubility, influence of Ti and Nb, high-temp. oxidation resist. 7-22876
  Fe-Cr-Re system, interaction of intermediate phases, phase equilibria 7-17514
  Fe-Mo (14.5 wt.%), ageing, discontinuous dislocational transform., coercivity obs. 7-3305
  Fe-N alloys, phase state and precipitation, plastic deformation effects *(Russian)* 7-46551
  Fe-Pd-S system, phase equilib. 7-3272
  Fe-Si (3 wt.%), grain oriented, desulphurisation kinetics, 899-1171°C 7-8002
  Fe-Ti-C system, austenite-nonstoichiometric precip. equilib. 7-3303

solid solubility continued
$Fe_{5-x}Ni_xC_2$, prep. and characterisation 7−17490
Fe_2SiO_4-Zn_2SiO_4, limited solid soln., cation ordering 7−51709
$GaAs_{1-x}P_x$:N epitaxial layers, N conc. determ. 7−63989
Gd-Mg system, phase equilib. study 7−26935
GeTe:Cd(In)(Sb), solution mechanism of impurities, effect of heat treatment 7−21455
H_2, absorption in disordered solids, model 7−26970
$HgCr_2Se_4$, stoichiometry and phys. props. investig. 7−2218
$In_{1-x}Ga_xAs_yP_{1-y}$ cpd. semicond. alloys, lattice and band struct. props., review *(Japanese)* 7−7109
n-InP:Zn, Zn diffusion 7−63882
La-Mg system, phase equilib. study 7−26935
Li_2SO_4-Li_2CO_3 system, phase diagram and elec. cond. meas. 7−32612
Na_2O-Fe_2O_3-SiO_2 systems, glass formation and props. 7−2203
Na_2O-FeO-SiO_2 systems, glass formation and props. 7−2203
Nb and alloys, O solubility 7−21451
Nb, effective H permeability 7−44918
Nb-C alloy, thermotransport of C 7−46479
Nb-H system, thermal wave propag. props. meas. 7−2572
$Nd_2(Y_2)(Fe_{1-x}Al_x)_{14}B$, intrinsic and permanent mag. props. *(Chinese)* 7−13003
Ni-Ag overlayers, pulsed electron beam irradiation, heat flow model 7−38062
Ni-Al-Fe system, phase equilibria in the Ni-rich region 7−39487
Ni-B-C-based alloys, γ' phase, prolonged ageing effects *(Russian)* 7−59551
Ni-Co based refractory alloys, γ'-phase strengthening rel. to comp 7−46496
Ni-Cr, carburisation, kinetics, diffusion and precipitation *(German)* 7−8194
Ni-Cu, heterodiffusion, effect of γ-rad. *(Russian)* 7−44617
Ni-Cu-Si, γ' precip. coarsening, bifurcation theory appl. *(Japanese)* 7−53734
Ni-Ti-H, α/β miscibility gaps, X-ray diffr. study 7−13430
Ni-V-H, α/β miscibility gaps, X-ray diffr. study 7−13430
NiO-CuO solid solutions, tweed microstruct., investig. using TEM 7−44756
NiO-CuO solid solutions, evidence for long-range cation order, TEM investig. 7−44757
$Pb_{1-x}Cr_xTe$, prep. and electrical props. 7−12721
$Pb(Mg_{1/3}Nb_{2/3})O_3$-$Pb(Zn_{1/3}Nb_{2/3})O_3$, ferroelec. powder, prep., solid solubility, Curie point *(Japanese)* 7−7945
Pd-Te system, phase diagram study 7−26934
Pd_3Mn, H-induced order-disorder transition 7−46460
Sc, single crystal surface characterization, RBS/channeling, SEM and LAMMA anal. 7−12425
Si: transition metals, solubilities, diffusivities and deep levels 7−32465
Si:As, highly doped, spinodal decomposition and clustering 7−52063
Si:C,O, solubility, segregation, diffusion and precipitation 7−16777
Si:Fe, intrinsic gettering, EPR and TEM study 7−38216
Si:O, diffusivity and solubility of O review 7−16809
Si:O,C, intrinsic point defects and impurity interactions 7−16611
Si:Sn, ion implanted, annealing behaviour, channelling and conversion electron Mössbauer spectroscopy 7−13485
Si-O system, solubilities of O in liq. and solid Si 7−26961
Si-SiO_2-Ag(Cu)(Au)(Pd)(Ti) MOS structures, diffusion coeff. meas. in elec. fields, solid solubilities 7−2279
Si_3N_4-AlN-rare earth oxide systems, subsolidus phase relationships 7−39489
SiO_2-TiO_2 solid solutions, phase relationships and spectroscopic features 7−63826
SnTe:Cd(In)(Sb), solution mechanism of impurities, effect of heat treatment 7−21455
Ta-H system, thermal wave propag. props. meas. 7−2572
$(Ti,Mo)O_2$ solid solution, activity-comp. relationship, 1350 to 1600K 7−28019
β-Ti alloys, metastable, effective H permeability 7−44918
α-Ti:Si, ion implanted, diffusion profiles, annealing behaviour 7−12369
α-Ti-Fe system, Fe solubility, 360 to 580°C, Mossbauer studies 7−32656
TiC-TaC-WC system, γ-α-solubility line, 1723K, thermochemical estimation 7−39526
TiCu-H_2, thermal stability of hydrides 7−26664
β-V-B, rhombohedral phase, struct. and solid solubility, X-ray single cryst. diffr. study 7−1948
V-C alloy, thermotransport of C 7−46479
WC-Co sintered carbides, X-ray diffr. obs. of microstruct. after hardening, optimum heat treatment cycle 7−65063
Zr-H_2 system, phase equilib. 7−21412
Zr-Mn-H system, equilibrium props. 7−16756
ZrO_2-TiO_2, solubility of TiO_2 in ZrO_2 7−39490
Zr_2Pd-H_2, thermal stability of hydrides 7−26664
Zr_3Rh-H_2, thermal stability of hydrides 7−26664

solid solution hardening
brass, polycrystalline α-phase, low temp. solid-solution hardening, yield stress anal. 7−3321
deformation curve, relationship between σ_0 and Hall-Petch parameters *(Russian)* 7−38092
steel, Cr, heat-resisting, mech. props., effect of W *(Japanese)* 7−17617
steel, Cr-Ni high-temp. type, N and heat treatment effect on struct. and mech. props. 7−33688
steel, N alloyed, mech. prop.-struct. relationship 7−3316
steel, Nb-V microalloyed, controlled rolled, yield strength rel. to microstruct. *(Chinese)* 7−13503
steel, stainless, austenitic-pearlitic, N effect on phase comp. and props. 7−53754
Al-Zr-V, rapid solidification, age hardening, solid soln. form. *(Korean)* 7−46475
Co-Al-Fe(Ni), B2, slow plastic flow props. between 1100 and 1400 K 7−46565
(CuAu)-Co single crystals, under- and over-aged, additivity of precip. and solid soln. hardening 7−65051
Fe-Ni-C alloys, martensitic transform., effect of soln. strengthening of austenite 7−53728
GaAs:In, LEC growth, annealing, solid soln. hardening, dislocation density, elec. props. 7−17404
$Ga_{1-x}In_xAs$, high-temperature hardness 7−44675
Mg-Zn rapidly solidified alloys, mech. props. 7−22711
Mo-TiC eutectic composites, yield strength in temp. range 285 to 2270 K 7−53831

solid solution hardening continued
Mo-V(Nb)(Ti)(Zr), solid soln. hardening, alloying element effects, Vickers hardness meas. *(Korean)* 7−3319
Ni base superalloys, techniques for required props. prod. *(Turkish)* 7−59657
Ni binary alloys, solid soln. hardening, flow stress, Young's modulus 7−13465
Ni-Al-La, defect form., disordering, strengthening effect of La addition 7−22708
Ni-Co based refractory alloys, γ'-phase strengthening rel. to comp 7−46496
Ni_3Al, solid soln. hardening with ternary additions, Young's modulus 7−13464
Ni_3Al-Be, ductility, strength, grain boundary segregation, solid soln. strengthening, Be addition effect 7−39608
(Ti,Mo)C, solid solution hardening of TiC by Mo 7−46498

solid solutions
solid solutions such as Au-Cu are indexed under alloys of the named elements i.e. 'gold alloys' and 'copper alloys' in this example
see also alloys; solid solubility
alkali halide mixed crystals, electronic dielectric const. and fractional ionic character of chemical bond 7−2966
alkali halide solid solns., thermodynamic props. calc. model 7−52086
alkaline earth orthovanadates, solid solns., defect struct. and electrochem. changes of O 7−32787
alloys, FCC and BCC lattice structs., H diffusion models 7−21532
atomic interaction energies, determ. from short-range order coeffs., inverse Monte Carlo methods 7−32653
atomic interaction energies and short range order coeffs. 7−51675
biominerals, form. and stability, thermodynamics of ionic solid solns. 7−17936
decomposition, isomorphous, cluster distrib., time-dependent evolution of function *(Russian)* 7−52061
dielectric constant calcs. 7−59136
ferroelectric piezomaterials, thermal stability of the resonance freq. 7−64579
$Ge_{1-x}Si_x$:Cu, supersaturated solid solution, decomposition 7−32654
Group VB metal-H solid solutions, thermodynamic props., Monte Carlo calcs. 7−21487
II-VI and III-V semicond. solid solns., short range order and free energy of mixing, EXAFS meas. 7−63573
II-VI semiconductor solid solutions, luminescence, exciton localisation 7−33429
II-VI semiconductors, refractive index dispersion and two-mode refl. spectra behaviour calc. model *(Russian)* 7−45971
II-VI solid solutions with wurtzite structure 7−32348
interstitial solid solutions, ordering, stress-induced interactions 7−39508
light scatt. spectrum, linewidths from sum rules 7−46028
metal-H systems, bonding, statistical thermodynamic aspects 7−21472
metallic binary alloy solid solns. with retrograde solidus, decomposition 7−21457
metallic superlattice elastic and acoustic props. 7−2086
metals, hot oxidation, solute-elastic effect in interstitial solid solns. *(French)* 7−58478
multicomponent solid solutions, atomic distribution functions, Ising model 7−44753
non-uniform, elec. resist. *(Russian)* 7−32968
ordering types, rel. between symm. and combinatorial methods 7−6790
pentachlorophenol-hexachlorobenzene, solid soln., H-bonding and phase transitions 7−17310
phase equilibrium across coherent interface 7−38152
polydisperse colloidal crystals, stability anal. 7−8315
precipitate growth under irradiation, theory 7−12296
pyrene-biphenyl mixed crysts., local heating, phonon modes and Dicke optical superradiance *(Russian)* 7−13178
semiconducting binary alloy solid solns. with retrograde solidus, decomposition 7−21457
semiconductor solid solutions, electron struct., X-ray and XPS spectra studies 7−12605
semiconductor-alloy phase diagram, first-principles self-consistent local-density total-energy calcs. 7−44751
softening effect, kink nucleation on dislocations 7−44662
surface composition, multilayer adsorption 7−6938
bis(tetramethylammonium) bromochlorocuprate single cryst. solid solns., phase diagram study 7−26944
$(TMTSF)_2(ClO_4)_{1-x}(ReO_4)_x$, organic conductors, competition between structural instabilities 7−51740
two-component, joint diffusion 7−58520
void nucleation, in ternary solid soln. of vacancies, interstitial atoms and gas, self-consistent model 7−44525
Ag-O solid solutions, annealing, grain boundary segregation of O 7−33679
Ag-Pd, random alloys, residual electrical resistivity, first-principles calc. 7−2569
AgAl, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
$AgBr_{1-x}I_x$ rock-salt solid solns., local struct., X-ray studies 7−63586
$AgGa_{1-x}In_xS_2$, solid solns., conc. depend. of band gap 7−52423
AgI-AgCl solid solns., ice nucleation, X-ray diffr. 7−58179
Ag(Ni, S) ternary alloys, surface cosegregation props. 7−52206
Ag_2S-Ag_2Se-Ag_2Te, quasi-binary systems, elec. conductivity, thermoEMF 7−21908
Al, lattice sparing of interstitial solid solns. of B and C, deform. interaction, pseudopotential method *(Russian)* 7−58271
Al-Ni binary system., solid soln. types study by positron annihilation 7−46207
Al_2O_3-La_2O_3-NiO(CuO), phase transformations and solid soln. form. 7−2176
Au-Ge-GaAs, interfacial reactions, struct. after annealing 7−27154
BaF_2-based solid solns., ionic conductors with fluorite struct., thermal conductivity study 7−38275
$BaFe_2S_4$ and $Ba_{13}(Fe_2S_4)_{12}$, vernier struct. series, high resolution electron microscope study 7−6603
$Ba_{1-x}La_xF_{2+x}$ solid solutions, thermally stimulated depolarisation currents 7−53226
BaO-La_2O_3-Nd_2O_3-Al_2O_3 systems, synthesis, characterisation and spectroscopic investigations of mixed hexa-aluminates 7−63827
$Ba(Pb, Bi)O_3$ superconducting ceramics, surface resistance 7−38829
$Ba_{0.03}Sr_{0.97}TiO_3$, single crystal, electronic transport behaviour 7−33011

solid solutions continued
$Ba_{1-x}Sr_xTiO_3$ system, ferroelectric, weakly broadened phase transition 7−45944
$Ba_{1-x}U_xF_{2+x}$ solid solutions, thermally stimulated depolarisation currents 7−53226
$BeAl_2O_4$-$MgAl_2O_4$ pseudo-binary system, phase relations *(Japanese)* 7−16721
Bi_2O_3-ZrO_2-Y_2O_3 system, O ion conduction 7−44905
$Bi_{12}Si_xGe_{1-x}O_{20}$ solid solutions, IR spectra 7−7691
Bi_2Te_3-based solid solns., $CdCl_2$ doped, thermal conductivity studies 7−45363
Bi_2Te_3-Bi_2Se_3-Sb_2Te_3 system, solid solns., layered cpd. formation 7−21454
Bi_2Te_3-derived solid solns., carrier density, depend. of anisotropy parameter 7−7226
$Bi_{2-2x}Y_{2x}O_3$ solid soln., reversible cubic-hexagonal transform. obs. 7−32639
CO-Ar system phase diagram, critical point determ., X-ray diffr. study *(Russian)* 7−6776
CaF_2-based solid solns., ionic conductors with fluorite struct., thermal conductivity study 7−38275
$CaMgSi_2O_6$ - $CaFeSi_2O_6$, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7−59289
$CaMnGe_2O_6$-$Ca_{0.5}Mn_{0.5}SiO_3$ cross section of $CaSiO_3$-$MnSiO_3$-$MnGeO_3$-$CaGeO_3$ system 7−2213
$Ca_8Y_2(PO_4)_6(OH)_{2-x}O_x$, synthesis, struct., dielec. props., AC elec. cond., IR spectra 7−3235
$CdCr_2(Se_xS_{1-x})_4$ spinel, mag. prop. anomalies 7−64453
Ce (001), H_2 adsorption, initial stages of hydride form., UPS, LEED and EELS studies 7−21629
$Ce_{1-x}Bi_xO_xF_{3-2x}$ solid solns., O substitution, influence on struct. and elec. props. *(French)* 7−12019
$Ce_xLa_{1-x}Al_3$ solid solns., magnetic and thermoelectric props. 7−7212
Co-Ga binary system, β-phase solid soln., positron annihilation studies 7−46185
Co-Sb system, α-solid soln., interdiffusion *(Japanese)* 7−6861
CoO-MnO system, thermodynamic props., phase diagram, miscibility gap 7−53706
$Co_xZn_{1-x}In_2S_4$ solid soln. layer cpd., site coordination and short range magnetic order, XPS anal. 7−26724
$CrNbO_4$-VO_2-MoO_2 system, rutile phases, prep. and props. 7−6806
CrTe-CrSe system, mag. phase diagram 7−22105
CsCl-CsBr solid solutions, lattice parameter meas. by X-ray diffraction 7−58249
$Cs_xRb_{1-x}UO_2(NO_3)_3$, solid soln., spectral luminesc. 7−13224
Cu-Ga, random alloys, residual electrical resistivity, first-principles calc. 7−2569
Cu-Ge, random alloys, residual electrical resistivity, first-principles calc. 7−2569
Cu-Zn, random alloys, residual electrical resistivity, first-principles calc. 7−2569
CuAl, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
$CuAl_xGa_{1-x}Se_2$, chem. transport reactions, growth and morphology 7−7830
CuBr-Cu_2S solid solns., fast Cu ion transport 7−52121
$CuGa_{1-x}In_xS_2$, solid solns., conc. depend. of band gap 7−52423
CuMn, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
CuZn, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
Dy_2O_3-CaO solid solutions, dipole complexes, dielectric relax. 7−53231
DySe-USe system, mag. props. of solid solns. 7−22121
$Eu_{1-x}Sr_xS$ solid soln., X-ray absorpt. spectra d-f exchange interactions effects study, comp. depend. 7−3114
Fe-N binary solid solns., interstitial atom ordering, Mossbauer study 7−38974
Fe-Ni-B system, distrib. equilib. in two-phase fields 7−22641
Fe-Pt-N austenites, thermodynamics 7−63844
Fe-X, X=Al, Si, Nb, Ti, Zr, coercive field measurements 7−64491
FeAl, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
$Fe_xMn_{1-x}S$, high temp. metal-nonmetal transition 7−7117
FeO_2-CaO-MgO-BaO-Na_2O, wustite solid solns., interdiffusion coeffs., 1073-1473K *(Japanese)* 7−12357
Fe_3O_4-$ZnFe_2O_4$ system, thermodynamic props., EMF obs., X-ray diffr. 7−22646
$Fe_2V_{4-x}Mo_xO_{13}$ type phases, Mossbauer spectra 7−38969
$Ga_{1-x}Al_xAs$ solid soln. epitaxial layer composition, Raman determ. 7−64628
GaAs:Al, surface layer, degree of disordering, effect of dopant 7−63929
GaAs-$Al_xGa_{1-x}As$, heterojunction form. anal. 7−39436
GaAs-AlAs, solid soln., temp.- and current-controlled LPE, theoretical model 7−39447
$GaAs_{1-y}P_y$, epitaxial structs., radiative characts., deep centres effects 7−45220
$GaAs_{1-y}P_y$ solid solns., indirect band gap temp. depend., electrolum. spectra studies 7−38448
$Ga_{1-x}In_xAs$, solid soln. strengthening, mech. props. 7−32452
$Ga_xIn_{1-x}P_yAs_{1-y}$, solid solns., thermodynamic stability 7−21453
Ga_2S_3-MnS phase diagrams, metastable phases, thermal and structural features 7−38165
GaS_xSe_{1-x} crystals, phase transitions under press., exciton-phonon interaction 7−44785
GaSb single crystals, intrinsic point defects and microdefects, TEM studies 7−44529
Ga_2Te_3-In_2Se_3 solid solns., cryst. struct., X-ray powder diffr. studies 7−16526
Ge-Si alloys, piezoresistance under uniaxial elastic deform. *(Russian)* 7−58813
GeTe-$GeSe_2$, polythermal section of Ge-Te-Se, effects of deviations from stoichiometry 7−7977
GeTe-PbSe, phase transformations, cation-anion substitution, electrophysical props. 7−7978
HfO_2-R_2O_3, R=Sc, Y, Nd, Gd, Tb, Er, Yb, solid solution single crystal growth 7−7838
$Hg_kPb_{1-k}Se(Te)$, quasiternary system, quasibinary phase diagrams 7−38172
HgS-Ga_2S_3, phase diagram, incongruently melting compounds 7−13436
HgTe-based solid solns., low temp. electron mobility, resonance scatt. 7−38558
HgTe-EuTe system, interactivity 7−6801

solid solutions continued
$In_{1-x}Ga_xP$ solid solns., indirect band gap temp. depend., electrolum. spectra studies 7−38448
$In_{1-x}Li_{3x}VO_4$ solid solutions, characterisation, ionic conductivity *(French)* 7−44833
$In_xMo_6Se_{8-y}$, insertion cpd., synthesis and props. 7−32407
InP_xAs_{1-x} solid solutions, temp. depend. of lattice constants and thermal expansion coeffs. 7−21165
InSb:Tl, physicochemical behaviour of Tl 7−21452
$(KBr)_{1-x}(KCN)_x$ mixed crystals, random strains and struct. 7−32405
KCl-En solid soln. crysts., thermal and radiation induced decay, impurity aggregation study *(Russian)* 7−2216
$KCl_{1-x}Bi_x$:Li mixed crysts., F_A centre absorpt. and emission spectra studies 7−12064
$KPbLaF_6$ solid soln. twinned cryst. struct., lattice parameters and point group, X-ray diffr. studies *(French)* 7−58231
$K_2Pb_4Nb_{10}O_{30}$-$K_6Li_4Nb_{10}O_{30}$ solid soln., density and struct. studies 7−1973
$La_{1-x}Ca_xCr_{1-y}Ni_yO_3$, production and elec. parameters 7−33007
$LaMgAl_{11}O_{19}$-$LaMgGa_{11}O_{19}$-$LaMgFe_{11}O_{19}$ system, solid solns, 7−39491
$Li_{5+x}Ga_{1-x}Mg(Zn)_xO_4$, solid solns., ionic cond. comp. depend. meas. 7−12366
$Li_{2+x}(Li_xMg_{1-x}Sn_3)O_8$, ramsdellite type cpds., ionic conductivity and cryst. chemistry 7−32708
$Li_2Mg_{1-x}Fe_{2x}Sn_{3-x}O_8$, ramsdellite type cpds., ionic conductivity and cryst. chemistry 7−32708
$LiMnFe_2O_4$ ferrite, solid solution form. in contact diffusion pairs 7−2273
$Li_xMo_6Se_{8-y}I_y$, Li electrochemical insertion, struct. studies 7−37947
$LiNb_3O_8$-TiO_2 system, rutile structure solid-solution phase, Ti diffusion into $LiNbO_3$ 7−44473
Li_2O-Nb_2O_5-$(TiO_2)_2$ system, vicinity of $LiNbO_3$, solid solns., crystal chemical and ferroelectric props. 7−6805
Li_2O-Ta_2O_5-$(SnO_2)_2$ system, vicinity of $LiTaO_3$, solid solns., crystal chemical and ferroelectric props. 7−6805
$Li_{5-2x}Zn_xGaO_4$, solid solns., ionic cond. comp. depend. meas. 7−12366
$Li_{2-4x}Zr_{1+x}(PO_4)_2$ solid solns., ionic cond. meas. 7−44906
α-LuD_x single crystals, anisotropic ordering, resistivity and heat capacity studies 7−21894
$Mg_2Al_4Si_5O_{18}$ and solid solutions, thermal expansion *(Japanese)* 7−21496
$Mg_xCd_{1-x}Se$ single cryst. solid solns., local centres parameters determ. *(Russian)* 7−32953
MgO-FeO, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7−59289
MgO-$LiFeO_2$, solid solns. short range order parameters, determ. from EXAFS pair distrib. fns. 7−59289
$Mg_2Si_2O_6$-$CaMgSi_2O_6$ system, solid solutions, dilatometry and elec. conductivity meas. 7−2175
Mn-Ni-P, equilib. phase diagram at 1070K, X-ray anal. 7−46429
$MnAs_{1-x}P_x$, paramag. diffuse scatt. studies, neutron diffr. method 7−52933
$Mn_xFe_{1-x}Si$ solid solns., thermal expansion 7−6835
$Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7−6784
N_2-O_2 solid soln., thermal expansion anomaly 7−6838
$NaNO_3$-$AgNO_3$ solid soln., X-ray diffr. investig. 7−6594
$Na_{1+x}Zr_{2-x}In_x(PO_4)_3$ solid soln., Na^+ ion motion, NMR study 7−44904
$Na_3Zr_{2-x}In_xSi_{2-x}P_{1+x}O_{12}$ system, chem. composition, cryst. struct. and ionic cond. *(Chinese)* 7−12006
$Na_{1+x}Zr_{2-(x/2)}Mg_{(x/2)}(PO_4)_3$ solid soln., cryst. chemistry and ionic cond. studies 7−32408
Nb-H system, thermal wave propag. props. meas. 7−2572
Nb_xMb_{1-x} alloys and elemental metals, 2D angular correlation spectra studies, band struct. 7−39235
Ni-Mo, random alloys, residual electrical resistivity, first-principles calc. 7−2569
Ni-Ti(Ta)(Cr), amorphous and cryst. reaction with Si studied by RBS and TEM 7−21704
$(Ni_{1-x}Cu_x)_5$ Zr alloys, cryst. struct. study *(French)* 7−26698
PZT solid solutions, p-t-x diagram 7−64581
Pb-Sn-G solid solns., elec. transport props. and defect form. studies *(French)* 7−33017
$Pb_xCd_{1-x}F_2$, phonon spectra, superionic props. 7−6735
$PbNb_2O_6$-$BiTiMO_6$ (M=Nb, Sb), solid soln. ceramics, piezoelec. const. studies 7−2980
$Pb(S_{1-x}Te_x)$, quasibinary, phase diagram and miscibility gap calcs. 7−16764
$Pb_{1-x}Sn_xS$ films, phase composition, fast-electron diffr. 7−63990
$Pb_{1-x}Sn_xTe$ solid solns., intrinsic defect donor states characts. Hall effect temp. depend. meas. 7−58762
$Pb_{1-x}Sn_xTe_{1-y}Se_y$ solid soln. single crysts., density, comp., lattice const. and galvanomag. props. *(Russian)* 7−44500
PbTe-Gd_2Te_3 system, solid solns., synthesis and props. 7−21458
PbTe-$MnTe_2$ system, phase diagram, conductivity and thermoelectromotive force 7−63824
PbTe-Tb_2Te_3, solid solns., physicochemical anal. 7−21456
$Pb(Zn_{1/3}Nb_{2/3})O_3$-$PbTiO_3$, perovskite ceramic powder, prep. dielec. and piezoelec. props. 7−46380
Pd-B-H dilute solutions, statistical mechanics 7−21669
Pd-C solid solution, X-ray diffr. study 7−21383
Pd-Ce-H, electrical resistance meas. 7−32984
PdH_x films, critical solution temperature, thickness dependence 7−32864
PrO_x-$DyO_{1.5}(YO_{1.5})$ solid solutions, phase diagrams and variable valency 7−33642
$(Pu, R)O_2$, (R=Nd, Y), reactor fuels, thermal conductivity 7−19352
Ru complex, $Ru(bpy)_3^{2+}$, rigid solutions, luminescence, magnetic circular polarisation 7−64685
$(Sb_{1-x}Bi_x)NbO_4$, vibr. spectroscopic study 7−39115
Si:Au, supersaturated low-temp. substitutional impurities, annealing 7−6665
Si:Co, supersaturated solid solution, annealing 7−63642
Si:Tl ion implanted layers, defect form. and precipitation, electron microscopy studies 7−12097
Si-Ge:O, single crystal, thermodonors rel. to solubility of O 7−12648
$Sm_{1-x}Eu_xS(Se)$ solid solns., X-ray absorpt. spectra d-f exchange interactions effects study, comp. depend. 7−3114
Sn-Sb-Te, complex formation, conc. depend. of lattice parameter 7−44472
SnTe-CdS, phase diagram, in $SnTe+CdS \rightleftharpoons SnS+CdTe$ ternary reciprocal system 7−13438
SnTe-InSe, quasibinary section of Sn-In-Te-Se, physicochemical props. 7−7979

solid solutions continued
  $Sr_{0.2}Hf_{0.8}O_{1.8}$ solid soln., enthalpy of form. 7−3600
  $Sr_{0.69}La_{0.31}F_{2.31}$, nonstoichiometric phase, atomic struct. 7−21175
  $SrNd_2S_4$-Nd_2S_3 solid solns., vacancy disorder charactn., Raman spectra study 7−58270
  Ta-H system, thermal wave propag. props. meas. 7−2572
  Ta_2O_5-Fe-Fe_2O_3 system, equilibria at 1200°C 7−12301
  Te-Se, whisker crystals, growth and elec. props. 7−12578
  $(Ti,M)O_2$ (M=V, Nb, Ta) rutile solid solns., charge transfer and ligand fields, XANES studies 7−64782
  TiC-TaC-WC system, γ-α-solubility line, 1723K, thermochemical estimation 7−39526
  $Ti_xCo_{1+x}Fe_{2-2x}O_4$ spinel solid soln., mag. props., Mossbauer effect study 7−12685
  $TlBi_{1-x}Sb_xVI_2$ solid solns., band spectrum double inversion to semimetallic state 7−38452
  $(U, R)O_2$, (R=Nd, Sm, Eu, Gd, Y), reactor fuels, thermal conductivity 7−19352
  UC-UN solid soln., vapour press. meas., chem. activity and heat of mixing eval. 7−12290
  $U_{1-x}Gd_xO_2$ solid soln., microcharacterisation by ESR, XPS and mag. susceptibility meas. 7−12957
  $U_{1-x}Np_xO_2$, x=0.25, 0.75, magnetic structure, neutron diffraction study 7−58978
  UO_2-CeO_2, sintering, solid soln. form. 7−3289
  UO_2-Gd_2O_3, structural chemistry, lattice parameters, O/U thermal conductivity meas. 7−21180
  UO_2-$La(OH)_3$, radionuclide coprecipitation solid solution formation 7−5475
  UO_2-PuO_2 solid soln. form. simulation 7−3289
  $(UPuR)O_2$, (R=Nd, Eu), reactor fuels, thermal conductivity 7−19352
  V-N system, phase equilib., crystallography, thermodynamic props. 7−28011
  V-Si-N system at reduced N press., phase relations at 1273K, absence of supercond. 7−17518
  $V_{3-x}Mo_xS_4$, struct. and phase relations, comp. depend., X-ray powder diffr. study 7−1978
  VO solid solution, vaporisation study by mass spectrometric method, fusion reactor material 7−52027
  Y_2O_3-TiO_2 system, fluorite type solid soln. crystallisation 7−1882
  $Y_{3-x}Yb_xA_5O_{12}$, thermal conductivity, temp. and composition dependences 7−38274
  $Zn_xCd_{1-x}S$ thin films, struct. and electrical props. 7−64372
  $Zn_{1-x}Cd_xSb$ solid soln., cryst. growth, characterisation and appls., review 7−26685
  $Zn_3(P_xAs_{1-x})_2$ solid solutions, interatomic interaction, mag. susceptibility 7−52932
  ZnS:Cu, solid solution, electroluminescent phosphor, compositional inhomogeneities 7−6800
  ZrO_2, solid electrolytes, effect of admixture cation radius on sintering 7−13398
  ZrO_2-Y_2O_3 solid solutions, vibrational spectra 7−6738
solid-state microwave circuits
  see also Gunn oscillators
  230-GHz receiver for CO J=2-1 line studies 7−29397
  MM-wave radiometer, 145 GHz, receiver design using superconducting mixer, radiotelescope appl. *(German)* 7−24007
  UKIRT mm dual-polarisation receiver 7−34880
solid-state microwave devices
  see also IMPATT diodes
  ferrite thin film Z 7−22129
  ideal bolometer, background power effect on performance 7−56344
  n-i heterojunction, time depend. tunnelling and coherent Zener oscills. 7−17087
  picosecond electro-optic sampling 7−53278
  receiver, W-band microwave, for electron temperature meas. in Tokamak TJ-1 7−44241
  semiconductor photon drag broadband detector for pulsed high-power MM-wave radiation 7−56337
  submm radiometer, characts., astron. appl. 7−60552
  superconductor-insulator-superconductor mixers integrated with slot antennas, imaging array 7−60556
  n-GaAs/$Al_xGa_{1-x}As$ multilayer heterostructs., nonlinear high-freq. effects during vertical transport 7−2694
  YIG double-layered films, thermal detection of FMR, microwave freq. appls. 7−45766
  YIG film, nonuniformly magnetised, group delay characts. of magnetostatic forward vol. waves 7−45764
solid-state phase transformations
  see also ageing; decomposition; ferroelastic transitions; ferroelectric transitions; glass transition (polymers); high-pressure solid-state phase transformations; martensitic transformations; order-disorder transformations; polymorphic transformations; precipitation; segregation; spinodal decomposition
  p-acetoxybenzoic acid, tetramer, topotactic transitions 7−12264
  adlayer photostimulated phase transitions on semicond. surface, reson. conditions calcs. *(Russian)* 7−45016
  adsorbed layers, grazing incidence X-ray scatt. 7−26592
  ammonium hexafluorometallates, phase transitions 7−6787
  bainite reaction 7−3297
  bearing type, austenite transform. kinetics and internal stresses in bainitic hardening 7−39563
  β-$(BEDT$-$TTF)_2I_3$ organic conductor, high resolution thermal expansion meas. 7−26986
  bicyclohexyl, conformers, phase transform. vib., IR and Raman spectra 7−33393
  bimetallic film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7−21705
  α-$(BPDT$-$TTF)(Ni(dmit)_2)_2$, struct. phase transition accompanied by change of electronic struct. 7−52704
  Bragg diffr. at structural phase transitions, molecular dynamics study 7−32635
  calcium cadmium acetate hexahydrate single crysts., first order phase transition, thermal expansion meas. 7−26985
  dl-camphene, methyl reorientation, high press. NMR study 7−27609
  capron, relax. and phase transitions, spectrosc. investig. *(Russian)* 7−63811
  P-carborane, plastic cryst. phases, mol. notions 7−63528
  chalcogenide glasses, nonequilibrium phonons and photostruct. transforms., energy transfer characts. 7−6742
solid-state phase transformations continued
  composite electroceramics, book contrib. 7−27645
  continuous, driven by eight-component order parameter Hamiltonian densities and renormalisation-group theory 7−51993
  correlated random field effects in the quantum displacive limit, critical props. 7−63767
  crystal with dislocations, first-order phase transitions 7−38178
  $Cu_xMo_6S_8$, shape memory effect and rhombohedral-triclinic transition *(Russian)* 7−8058
  di-4′-substituted phenyl-trans-cyclohexane-1,4-dicarboxylates, mesomorphic props., effect of inserting ketone groups in terminal chains 7−21088
  dichalcogenides, low-dimens., as secondary cathodic materials, book contrib. 7−28394
  2,6-dichloroacetanilide, X-ray diffr. and NQR study, struct. and bond props. 7−12041
  2,4-dimethylaniline, freq. assignments, IR and Raman spectra 7−22261
  dynamics of structural phase transitions in highly anisotropic systems 7−32605
  elastoplastic bodies, Landau phase transitions, order parameter fluctuation effects calcs. 7−44739
  electronic structure change in solids, high press. effect 7−44788
  ethylenediammonium hexachlorometallates, struct., H bonds and phase transitions 7−16535
  FCC (110) surface, cooperative premelting effects, molecular dynamics simulation 7−16852
  ferrocene, azaferrocene and ruthenocene, struct. phase transitions and mol. dynamics. ^1H NMR 7−13053
  Fischer-Tropsch waxes, cell parameters, temp. dependence 7−12043
  four-sublattice Jahn-Teller crysts., phase transitions, free energy and symm. props. calcs. 7−2544
  frozen metastable state decay, spherical phase transition centre growth 7−16715
  fusion reactor structural materials, irradiation, He effects control 7−51845
  graphite, adsorbed Kr, 2-D system with competing interactions, phase transitions 7−6791
  graphite intercalation cpd., stage transformation, stochastic model 7−21433
  graphite-$AlCl_3$ intercalation cpd., phases and phase transform., X-ray crystallography *(French)* 7−44783
  graphite-K intercalation cpd., high-stage struct., temp. depend., X-ray diffr. study 7−63592
  graphite-K intercalation cpd., KC_{24}, kinetically-hindered low-temp. staging transition, P-T phase diagram, resist. anomaly meas. 7−6786
  Hastelloy alloys, C-4, C-22 and C-276, welding metallurgy 7−46448
  2,4-hexadiyne-1,6-diol-bis (p-toluene sulphonate), phase transitions, piezomodulated reflection spectroscopy 7−27691
  hexamethylbenzene, phase transition, calorimetric obs. *(Japanese)* 7−16733
  hot deformation, simulated, determ. of CCT diagrams by thermal anal. 7−59557
  ice:RbOH, phase transition, dielec. studies 7−53220
  ice I, pre-melting second-order transform., isothermal compressibility and expansivity meas. 7−32631
  imperfect crystal, structural phase transition, elastic breakdown 7−2165
  imperfect crystals, generation of second harmonic near struct. phase transitions 7−2168
  incomplete explosive crystn., linear stability anal. 7−1885
  interacting multilevel systems with single order parameter, thermodynamical model, state eqn. 7−6756
  interstitial alloy vol. and phase diagram, order-order transition, conc. depend. calcs. *(Russian)* 7−32640
  interstitial alloys, order-order transitions *(Russian)* 7−39502
  ionic solids, stabilisation of CsCl versus NaCl struct., ab initio pseudopotential calcs. 7−58199
  Ising model with roughening transition at low temps. 7−2144
  isofrequency Raman light scatt. method, determ. of order parameter relax. time in phase transitions 7−39103
  N-isopropylcarbazole, phase transition, elastic props. 7−38087
  IV-VI compounds, vibronic theory of struct. phase transition and tricritical point 7−38187
  laser-stimulated phase transition kinetics, theory 7−6775
  $LiKSO_4$:NH_3 single crysts., low temp. phase transitions, EPR study 7−27599
  lithium n-heptanoate, heat capacities and thermodynamic props. 7−52072
  lithium n-pentanoate, heat capacities and thermodynamic props. 7−52072
  long-period superstructure formation, microscopic model 7−51994
  magnetic phases, transitions between structures 7−2855
  mean-field theory of structural phase transitions in the $A'A''BX_4$-type compounds 7−16734
  metallic glasses, magnetic relaxation and struct. transformations 7−27557
  metals, adiabatic shear bands, struct., review 7−32549
  metals, phase transitions, ion-induced secondary particle emission 7−39341
  2-methyl-2-propanol, solid, mol. dynamics and phase transitions, NMR study 7−36649
  methylammonium iodide, phase transitions, calorimetric and dilatometric studies 7−12261
  methylammonium mercury chloride, ^{35}Cl NQR study of low temp. phase transition 7−22160
  model Hamiltonian, continued fraction technique 7−44789
  multimethylammonium perchlorates, ClO_4^- ion motion, ^{35}Cl NMR 7−59114
  naphthalene-tetracyanobenzene complex, mol. motions, neutron scatt. obs. 7−44709
  neutron white beam Laue diffr. technique, rel. to struct. phase transitions 7−11845
  nonmetallic crysts., radiation-induced struct. changes, mechanisms and criteria 7−63651
  organic crystals, chem. transformations, phase transition effects *(Russian)* 7−28309
  organic mol. cpds., pre-melting second-order transform., isothermal compressibility and expansivity meas. 7−32631
  paramagnets, tetragonal, magnetoelastic excitations and struct. phase transitions 7−27489
  pearlite-austenite interface, SEM obs. 7−39505
  pearlite-martensite interface, SEM obs. 7−39505
  Peierls structural phase transition in 2D conductors, mag. breakdown 7−12588
  pentachlorophenol-hexachlorobenzene, solid soln., H-bonding and phase transitions 7−17310

solid-state phase transformations continued
phenanthrene, positronium and phase transition 7−36829
Pirogov-Sinai theory, first-order phase transitions and perturbation theory 7−58440
plastic deformation and thermodynamic hysteresis 7−16714
polybutylene terephthalate fibres, phase transitions, surface characterisation, spectrosc. methods 7−63505
polycrystalline bilayers, Ni single crystal amorphisation 7−63463
polyethylene, branched, phase transforms. obs., positron lifetime meas. 7−46231
polyethylene, oriented, struct. transform. resulting from ionising radiation *(Russian)* 7−26947
pyridine, adsorbed on Ag (110), coverage-depend, phase transition, SHG obs. 7−37029
pyroxenes, synthetic, exsolution and phase transforms., X-ray and TEM obs. 7−16725
quantum paraelectric material with two types of impurity, structural phase transition, CPA calc. 7−44786
quartz, imperfect crystal, structural phase transition, elastic breakdown 7−2165
quartz, optical rotatory power, light depolarisation in α-, β- and incommensurate phases 7−7667
quartz, stress induced, incommensurate 3q-1q transition 7−63794
quartz particles, α-β inversion, structural damage effects, micro DTA study 7−2185
Raman light scatt. spectra, central peak near structural phase transitions 7−46008
roughening of solid surfaces 7−52203
semiconductors, insulators and metals, structural, electronic and vibr. props., pseudopotential calcs. 7−16484
shock-induced solid-solid phase transformations, nonequilib. mol. dynamics calcs. 7−17646
single cryst., isothermal phase transformation, linear analytical theory 7−44790
solid cyanoadamantane, phenomenological approach to phase transitions 7−32636
sp-bonded nonmetal solids, cryst. stability and structural transition press., total-energy minimisation, tight-binding calcs. 7−2190
space group band representations, appl. to theory of phase transitions and point defects 7−1927
statistical physics and field theory conf., Groningen, Netherlands, Aug. 1985 7−55899
steel, austenite nuclei growth *(Russian)* 7−59515
steel, austenitic stainless, rapidly solidified, microstruct. characterisation 7−22672
steel, austenitic stainless, rolled, characts. of $\alpha \rightarrow \gamma$ transform. in different texture components. *(Russian)* 7−59516
steel, C, directional solidification, δ/γ transform., P and Mn solute distrib. in dendrites 7−65020
steel, constructional, struct. and props. after high-temp thermomech. isothermal working 7−46522
steel, Cr, austenitisation, recrystallisation, pearlite transform. rel. to hot deform. 7−28033
steel, Cr-Mn(V), bainite transform. kinetics, austenitising and working conditions effect 7−22674
steel, Cr-Mo, friction pair, surface layer structural modifications *(Russian)* 7−39678
steel, dual phase, continuous cooling, transform. processes and products 7−28034
steel, duplex stainless, manual metal arc weld metals, microstruct. and phase transform. 7−59526
steel, eutectoid, 1.3 wt.% Cr, specimen prep. technique influence on analytical TEM obs. of partitioning 7−22950
steel, hardening process modelling, stresses effect on struct. transform 7−39555
steel, high speed, peritectic transform., decomp., carbide precip. Nb alloying effect *(German, English)* 7−22677
steel, hot rolled microalloyed, protoeutectoid ferrite transform. kinetics, microstruct. modelling 7−17526
steel, HSLA, submerged arc welds, acicular ferrite nucleation by inclusion phases 7−17525
steel, low alloy, hot forming, transform. behaviour, struct. *(German)* 7−59518
steel, low alloy, structural transformations during continuous cooling and isotherms 7−22636
steel, low C, structurally free cementite form. rel. to Cr and Mn addition 7−22675
steel, low-alloy, bainitic transform., kinetics and mechanism 7−13447
steel, Mo-base high speed, carbide chem. composition, electron microscopy studies 7−22671
steel, Ni, bainite transform. kinetics, influence of grain size 7−65030
steel, Ni, reverse austenite transform., Mossbauer study *(Chinese)* 7−65028
steel, Ni-Cr-Mo, phase transform., structural inheritance, dislocations effect *(Russian)* 7−39503
steel, pearlite-austenite transformation during heating, kinetics problems 7−33633
steel, plain C, eutectoid, continuous cooling austenite-to-pearlite transform. kinetics, prediction using isothermal data 7−17524
steel, quenching stresses interaction with structural transforms. 7−22727
steel, Si-Mn-Mo, austenitising, bainite transform., lump-like composite struct., mech. props. *(Chinese)* 7−13477
steel, stainless, austenitic, low-activation, constitution, struct. and mech. props. 7−42195
steel, stainless, dual phase, phase transform. obs. using thermomag. analysis 7−53696
steel, stainless, films, sputter deposited, vacuum annealing-induced solute depletion 7−64012
steel, structural, austenite form. during rapid continuous heating *(Russian)* 7−33702
steel, superhardenability treated, transform kinetics 7−39535
steel, tool, W-Cr-V, phase transition temps., possible influence *(German)* 7−59517
steel XC 80, pearlitic transformation in continuous cooling calc., thermal stresses contrib. *(French)* 7−46410
steels, microalloyed, high strength, phys. metallurgy and appls. 7−65066
steels, transformation, improved calc. 7−28009
structural phase transition model, nonergodic behaviour, localisation 7−51990
structural phase transitions, total condensate of normal vibrs., group theory anal. *(Russian)* 7−44740

solid-state phase transformations continued
sulpholan, phase transitions and positronium formation and lifetime 7−36828
superconducting elastic crystals, constitutive theory 7−26826
surface (001), surface reconstruction phase transition, energetics 7−52231
TCNQ salt, DMM-TCNQ, evidence for spin-Peierls nature of low temp., ESR study 7−22132
TEM, atomic mechanisms, in situ technique 7−44376
tetraethyl ammonium MX_4 compounds (M=Co,Zn,Mn;X=Cl,Br), structural phase transitions 7−44801
tetramethylammonium hexachloroplatinate, crystal struct. and theoretical symmetry analysis of phase transition sequence 7−51739
thermal calibration of low temp. Invar sample cell for FTIR spectroscopy, covalent solid phase changes use 7−41507
thin film pulsed heating, thermal and plasma models 7−26946
thin-film layering transitions, quenched disorder effects 7−27195
transition metal compounds, layered, structural phase transitions, book 7−41021
transition metal layered compounds, CDW phase transitions, Landau theory 7−44809
transition metal layered compounds, structural phase transitions, microscopic theory 7−44807
transition metals, BCC, atomic stability of (100) face, quenched molecular dynamics approach 7−6932
transitional metal layered compounds, structures phase transitions, lattice fluctuations, microscopic theory 7−44808
TTF-chloranil, neutral-ionic transition, phenomenological theory 7−26939
zinc phthalocyanine thin films, electrical, structural and gas sensing props. 7−38787
Zircaloy-2, phase transition temp., resist. obs. 7−59512
Ag-Mn-Al, beta to zeta reversible transformation, elec. resist. meas. *(Russian)* 7−16728
Ag_3AsS_3, proustite, energy band struct. at phase transitions 7−2167
$AgI/\alpha\text{-}Fe_2O_3$ composite electrolytes, phase transition temperatures *(Chinese)* 7−38244
Al-Ag, decay and short-range ordering *(Russian)* 7−44795
Al-Cr(Mn)(Fe) amorphous films, quasicrystalline transformation by ion irradiation 7−2071
Al-Fe-Si, quasicrystalline phases and amorphous structure 7−51637
Al-Li base system, solid-state phase transform. 7−46456
Al-Mn quasicrystalline and metastable phases, phase form. and thermal stability 7−26644
Al-Mn-Si, quasicrystalline phases and amorphous structure 7−51637
Al-V alloys, phase transitions between amorphous, quasicrystalline and crystalline phases 7−63807
$(Al_6Mn)_{1-x}Si_x$, icosahedral phase transform., electron microscope study 7−2187
Al_2O_3, spinel growth, interface struct. investig. 7−16566
Al_2O_3-La_2O_3-NiO(CuO), phase transformations and solid soln. form. 7−2176
Al_2O_3-TiO_2 composite powders, prep., transform. temp. 7−27985
As_2O_5, structural phase transition, Raman scatt. 7−6785
As_2S_3, glassy photodeformation 7−44654
Au (110), surface struct., low energy ion backscattering determ. 7−52205
$BaFe_{12}O_{19}$ hexaferrite, cryst. struct. formation and transformations 7−44489
$BaMnF_4$, incommensurate modulated phase, struct. study 7−1993
$BaMn_{1-x}Ta(Zn)_xO_3$ phase struct. and transforms., high resolution electron microscopy obs. 7−58237
$Ba(NO_2)_2.{}^1/_2H_2O$, cryst., phase transition at 211K, DTA and dielec. meas. 7−32633
$BaPb_{1-x}Bi_xO_3$, supercond., struct. and elec. props. 7−58247
$BaTiO_3$, hexagonal, optical props. around 222K struct. phase transition 7−27685
$BaTiO_3$:Mn, Mn oxidation state change near phase transitions 7−16974
$BaTiO_3$:Nd, ceramics, diffuse phase transform 7−16731
$BaVS_3$, low temp. phase transitions, powder neutron diffr. 7−38181
Be, technical grade, size instability during low temp. thermal cycling *(Russian)* 7−33699
$Bi_{2-2x}Y_{2x}O_3$ solid soln., reversible cubic-hexagonal transform. obs. 7−32639
$C_{28}Br_2$ intercalation cpd., 2-D system with competing interactions, phase transitions 7−6791
CO-H system, magnetisation study 7−38901
Ca-SiAlON ceramic system, $A' \rightleftharpoons \beta'$ transition study 7−16738
$Ca_3Mn_2Ge_3O_{12}$ single domain crysts., birefringence and spontaneous phase transitions 7−17303
$CaSO_4$, gypsum, thermal breakdown and crack form. 7−2178
Ca_2SiO_4, β to α' to β transition, modulated struct. 7−16724
$Cd(ClO_4)_2.6H_2O$, low-temperature phase transitions characterisation by Fourier transform IR spectroscopy 7−52046
$CdIn_2(Ga_2)S_4$ single crysts., phase transforms., photoluminesc. studies 7−2171
$Cd_{1-z}Mn_zTe_{1-y}Se_y$, magnetic suscept. and ESR meas., temp. depend. study 7−45636
CdP_2, crystal structures and microphases, devil's staircase 7−11982
$CeAl_2$, electronic struct. determ. 7−52417
Co, internal friction and linear expansion coeff. in phase transition region 7−44857
$CoSiF_6.6H_2O$, phase transitions detected by positron lifetime meas. 7−38191
Cr-Os-Ta-La system, anomalous elastic and thermal props. in region of phase transform. *(Russian)* 7−53783
$CsCaCl_3$, cubic to tetragonal phase transition, space group determ., X-ray studies 7−16736
$CsCuCl_3$, dynamic Jahn-Teller effects, mag. susceptibility study 7−45613
$CsDSO_4$, cryst. struct. and III→II phase transition 7−44484
$Cs_3Fe(SO_4)_3$, columnar cpds., vibr. spectra and phase transitions 7−17314
$CsH(D)SO_4$ 7−63925
$CsH(D)SO_4$ struct. and phase transitions, X-ray diffr. studies 7−2170
$CsMCl_3$ (M=Cu, Cr), hexagonal Jahn-Teller crysts., struct. phase transitions, face-sharing coupling, ground-state configuration 7−2180
$CsMCl_3$ (M=Cu, Cr), hexagonal Jahn-Teller crystals, struct. phase transitions, mean-field approx. 7−2181
$CsPbBr_3$ and $CsPbCl_3$, ionic cond. and phase transforms., 30 to 380°C 7−58457
$Cs_xTi_{2-x/4}O_4$ phase struct. and stability, composition depend., X-ray studies 7−58229
Cu, surface roughening transition, He beam diffr. study 7−52202
Cu-Fe, implanted solid solns., Mossbauer study on thermal dynamics of Fe atoms 7−45855

solid-state phase transformations continued
$Cu_{1-x}Ni_xCr_2O_4$, heat capacity anomalies, cooperative Jahn-Teller effect 7—6823
$Cu_{1.85}S$, digenite, single crystal, structural transitions 7—12259
Cu_xS, stoichiometry and phase transitions, Cu^{2+} EPR studies 7—17219
$Cu_{2-x}Se$, electrical resistivity, temp. and carrier density dependences 7—38556
$Cu_{2-x}Se$, struct. phase transition, X-ray diffr. studies 7—2179
$Dy(As_xV_{1-x})O_4$, random-field effects on Ising Jahn-Teller phase transition 7—58461
Eu-In-Te systems, phase equilib. investigs. 7—2173
Fe, cast, metastable austenite form. rel. to initial treatment and struct. 7—46455
Fe, ferromagnetic sp. ht. meas. by pulse-heating technique 7—7513
Fe-Au, solute segregation, grain boundary structural transform. 7—22687
Fe-C, ferrite nucleation at austenite grain edges, kinetics 7—7991
Fe-C-Mn(Ni)(Co)(Si), ferrite nucleation at austenite grain edges, kinetics 7—7991
Fe-C-Mn(Ni)(Co)(Si)(Mo), nucleation of proeutectoid ferrite at austenite grain boundaries 7—8003
Fe-Co-B films, phase transition, microstruct. 7—33568
Fe-Ni, electron irrad., low temp. phase transitions *(Russian)* 7—51832
Fe-Ni thin films, α to γ transform, redistrib. of atoms in submicrostruct. *(Russian)* 7—53722
Fe-Ni-C and Fe-C, bainite reaction kinetics, austenitising temp. effect 7—13453
Fe-Ni-Cr, high-purity, irrad., void swelling and nucl.-induced phase transforms. 7—58340
Fe-O system, struct. transitions, cryst. struct. formation 7—58459
Fe-Si, grain oriented, hot rolling texture, thickness variations 7—8009
Fe-Si powders, grain size, influence of α-γ transform. 7—7992
Fe-Sm amorphous alloys, crystn. behavior, DTA, magnetisation and X-ray diffr. meas. 7—44372
$Fe_{43}Cr_{25}Ni_{20}B_{12}$ glass, devitrification, mag. meas. and X-ray diffr. studies 7—21128
$FeH_3(PO_4)_2.2.5H_2O$, pyrite-phosphate mixtures, X-ray phase and electron microscopic studies 7—33652
$(FeMg)_2SiO_4$, spinel growth, interface struct. investig. 7—16566
γ-Fe_2O_3:H, H content, DTA, mag. anal. and Mossbauer studies *(Chinese)* 7—12104
Fe_2SiO_4, spinels, cryst. struct. as function of temp. and heating duration 7—16522
$(GaSb)_{1-x}(Ge_2)_x$ metastable thin film alloys, struct. phase transitions, ion-channelling studies 7—58462
Ge:Si, ion-implanted amorphous surface layers, EXAFS 7—27823
GeTe, slight nonstoichiometry and high free carrier density, phase diagram study *(Russian)* 7—2191
^4He, solid, dynamic broadening of the roughening transition 7—27051
Hg_2Cl_2, imperfect crystal, structural phase transition, elastic breakdown 7—2165
K halide crystals, phase transitions and relative stability 7—26932
$(KBr)_{1-x}(KCN)_x$ mixed crystals, random strains and struct. 7—32405
$K_2Cd_2(SO_4)_3$:Sm, doped and undoped, thermoluminescence 7—39191
KD_2PO_4, impulsive stimulated Brillouin scattering near structural phase transition 7—13126
$KDy(MoO_4)_2$, elastic characts. near structural phase transition, sound vel. meas. *(Russian)* 7—26872
KF.xHF (x=2.5, 3), homologous anions, crystal struct. anal. 7—26711
$K(H_{1-x}D_x)_2PO_4$ imperfect crystal, structural phase transition, elastic breakdown 7—2165
$K_2Mn_2(MoO_4)_3$, synthesis and cryst. struct. determ. 7—44482
$K_{1-x}Rb_xAlF_4$, shear structural phase transition, temp. behavior 7—63809
$KSbO_3$, phase transforms. and thermal stability, X-ray diffr. and XPS meas. 7—44793
K_2SeO_4, β to α' to β transition, modulated struct. 7—16724
K_2SeO_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7—51956
$KTaO_3$:Li, quadrupole ferroelastic phase 7—6778
$KTaO_3$:Li, time depend. phase transform., neutron diffr. meas. 7—44799
K_2TiF_6, ion motions and cond., NMR relax. time meas. 7—38246
K_2ZnCl_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7—51956
La_2CuO_4, thermal cond. meas. in semiconducting and metallic phases 7—16830
$LiKSO_4$ crysts., low temp. phase transitions, Raman spectra and dielec. const. meas. 7—26943
$LiKSO_4$, domain structures and phase transitions, SO_4^- EPR study 7—38937
$LiKSO_4$, high temp. phase transitions, IR spectra study 7—7698
$LiKSO_4$, low temp. phase transitions, kinetics and symm. changes 7—2164
$LiKSO_4$, phase transitions, domain form., optical birefr. meas. 7—3019
$LiKSO_4$, phase transition, low temp. Brillouin studies 7—44806
$Li_xMo_6Se_8$ intercalation cpd., entropy and struct. transition, lattice gas model 7—6832
$Li_xMo_6Se_8$ intercalation cpd., entropy, electrochem. cell calorimetry studies 7—6833
$LiNaSO_4$, BCC, rotator phase, solid electrolyte behaviour, thermodynamic props. 7—21139
$Li_2SO_4.H_2O$, supercooled melts, cryst. and mol. struct., thermal stability 7—21170
$LiZr_2(PO_4)_3$ superionic conductor, Li^+ motion, NMR study, phase transition obs. 7—32709
Mg_2NiH_4, struct., thermal and elec. props., rel. to covalent bonding 7—21184
Mg_2NiH_x, structural transition, DSC obs. 7—59510
MgO-SiO_2 high-temperature composites, calcination temp. and mech. strength 7—33651
$Mg_2Si_2O_6$-$CaMgSi_2O_6$ system, solid solutions, dilatometry and elec. conductivity meas. 7—2175
Mn-Al-C ferromag. alloys, phase, transformations. and struct. defects, positron annihilation study 7—46461
Mn-Al-C system, mag. and struct. transform. *(Russian)* 7—59014
MnAs, crystal struct. and mag. props. 7—6592
MnAs, paramagnetic-ferromagnetic transition, nucleation model calcs. 7—52992
$MnAs_{0.9}P_{0.1}$, struct. and mag. props. 7—12948
$Mn_{0.63}Cr_{0.37}As$, thermal, mag. and struct. props. of transitions, thermodynamics, 10 to 350 K 7—64463
$MnHg_{1-x}Au_x$, cubic to orthorhombic transition and mag. suscept. meas. 7—52037
$Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7—6784

solid-state phase transformations continued
Mn_2O_4, electrolytic preparation, phase transitions and ion exchange 7—33921
Mo-Nb-Zr-C, nitrided single crysts., effect of NbN ε to δ phase transition 7—28052
Mo_8O_{23}, low-dimensional conductors, inelastic neutron scatt. study 7—52701
ND_4SCN, phase transitions, spin lattice relax. study 7—33286
NH_3, pre-melting second-order transform., isothermal compressibility and expansivity meas. 7—32631
NH_3CdF_3, heat capacities determ. in temp. range 5 to 350K 7—44842
$(NH_4)_3H(SO_4)_2:Cu^{2+}$ single crysts., EPR study 7—53118
NH_4MgF_3, heat capacities determ. in temp. range 5 to 350K 7—44842
$(NH_4)_2NaFeF_6$, low-temperature phase transitions characterisation by Fourier transform IR spectroscopy 7—52046
$(NH_4)_2Pb(Cu(NO_2)_6)$ struct. phase transform., ESR study 7—13026
$(NH_4)_2SeO_4.2NH_4HSeO_4$, single cryst., superionic phase transition at 378 K 7—52125
$(NH_4)_3VO_2F_4$, cryst. struct., struct. of $VO_2F_4^{3-}$ ion 7—32400
NH_4ZnF_3, heat capacity, thermodynamic functions 7—52071
Na-Y zeolite, Li-exchanged, thermal transform. to Li aluminosilicates, X-ray and NMR studies 7—44794
$NaH_3(SeO_3)_2$, low temp. struct. phase transition 7—64580
beta- NaN_3, elastic moduli, softening, microscopic theory 7—21320
NaN_3, trigonal-monoclinic phase transition, Brillouin scatt. studies 7—22275
$NaSbO_3$, phase transforms. and thermal stability, X-ray diffr. and XPS meas. 7—44793
$Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7—6870
NbH_x, coherent phase transition, neutron radiography study 7—32629
NbH_x, spinodal decomposition, neutron radiography studies 7—58489
$(NbSe_4)_3I$, quasi-1D cpd., metal-insulator transitions 7—45408
$Nb_3Sn_{1-x}Sb_x$ A15 pseudobinary alloy, structural transitions and related anomalies 7—38182
$Nb_{1-y}V(Mo)_yH_x$ random field system, disorder-disorder phase transition, cluster variation calcs. 7—63803
Ne:Ar(Kr)(Xe), solid, local phase transition near impurity center 7—26945
Ni complex, $Ni(NH_3)_6Cl_2$, NH_3 reorientation rel. to phase transition, quasielastic neutron scatt. method 7—32316
Ni, surface roughening transition, He beam diffr. study 7—52202
Ni-Al alloy phase transforms. during ion beam mixing, electron diffr. and microscopy studies 7—16655
Ni-Au (110), Au-enriched by surface segregation, LEED 7—27080
Ni-Cr alloys, phase transformations, C, B, Nb alloying effects *(Russian)* 7—7989
Ni-Te, vapour deposited thin films, annealing behaviour 7—3345
Ni-Ti, Nitinol, thermodynamics 7—58506
NiAs-type compounds, electronic band struct., magnetism and structural phase transitions *(Japanese)* 7—21815
$Ni_xCd_{1-x}Mn_2O_4$ spinels, cation distrib., structural transitions and Jahn-Teller distortion 7—58227
Ni_4Mo-Cr, isothermal annealing, structural changes 7—46462
NiO, spinel growth, interface struct. investig. 7—16566
Ni_2SiO_4, spinels, cryst. struct. as function of temp. and heating duration 7—16522
NiTi, electronic phase diagram for B2-R transition 7—52388
O_2 monolayers, struct. and mag. order, thermodynamic behaviour 7—52242
$PbBi_4Te_7$, synthesis and physicochemical props. 7—13349
$PbMg_{1/3}Nb_{2/3}O_3$, cryst. struct., electrocaloric effect, diffuse phase transition 7—22194
$Pb_3P_{2x}V_{2-2x}O_8$ mixed system, substitution defects, first order transition spreading 7—58458
PbS-Bi_2S_3, chemically twinned phases, transformation to Galena struct. 7—12078
$PbTe_{1-x}S_x$, free carrier scatt. near a phase transition 7—38557
$Pb_3(VO_4)_2$, β-γ transition, intermediate modulated struct. 7—2183
$Pb(Zn_{1/3}Nb_{2/3})O_3$-$PbTiO_3$, perovskite ceramic powder, prep. dielec. and piezoelec. props. 7—46380
Pd monolayers on Ta(110), morphology and struct. phase transitions 7—38374
Pd-H system, phase form., process *(Russian)* 7—33640
Rb halide crystals, phase transitions and relative stability 7—26932
RbCN, cryst., phase transition and glass transition 7—12260
Rb_2CdCl_4 cryst., Raman spectra, structural phase transition and soft mode obs. 7—39117
$RbCdF_3$, struct. phase transition, ENDOR study 7—33298
$RbCdF_3:Cr^{3+}$, tetragonal phase, ENDOR study 7—2952
$Rb_2Cd_2(SO_4)_3:Mn^{2+}$, langbeinite, reversible phase transitions, EPR studies 7—63810
$RbCuCl_3$ single crysts., mag. suscept. meas., exchange interactions, magnetic and crystallographic transitions studies 7—52950
$RbFeF_4$ layer cpd., structural phase transitions studies 7—26942
Rb_2KFeF_6, structural phase transition, Raman scatt. and group-theoretical studies 7—52045
Rb_2KMF_6, (M=Al, Cr, Fe, Y, Br), structural phase transitions 7—52044
Rb_2KYFe_6, structural phase transition, Raman scatt. and group-theoretical studies 7—52045
$RbLiMoO_4$, phase transitions, optical polarisation obs. 7—16732
$RbMCl_3$, (M=Cu, Cr), hexagonal Jahn-Teller crysts., struct. phase transitions, face-sharing coupling, ground-state configuration 7—2180
$RbMCl_3$ (M=Cu, Cr), hexagonal Jahn-Teller crystals, struct. phase transitions, mean-field approx. 7—2181
$Rb_x(NH_4)_{1-x}AlF_4$, ESR study of orientational order with Fe^{3+} probe 7—53119
$RbNO_3$ cryst., AC cond. near first-order phase transition points 7—21948
Rb_2ZnCl_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7—51956
Ru-Ir bicrystal superlattice, stacking struct. and superconductivity 7—2432
Sb_2S_3, nonstoichiometric forms in $PbSb_2S_4$-Sb_2S_3 region of Pb-Sb-S phase diagram 7—6812
SiO_2-rich ceramics, intergrowth relationships between SiO_2 polymorphs, quartz, cristobalite and tridymite 7—13445
Sr_2SiO_4, β to α' to β transformation, electron microscope study 7—16723
Sr_2SiO_4, β to α' to β transition, modulated struct. 7—16724
$SrTiO_3$, 100 K phase transition charact. by high-resolution γ-ray diffractometry 7—52040
$SrTiO_3$, surface D_{4h} hypothesis, X-ray diffr. study 7—2182

solid-state phase transformations continued
- $SrTiO_3$:Mn, Mn oxidation state change near phase transitions 7—16974
- Ta-H system, elec. resist., phase transition *(Russian)* 7—46458
- Ti alloys, rolling deformation, $\beta \rightarrow \alpha'$ transformations *(Russian)* 7—46454
- Ti epitaxial films, electron beam bombardment, oxidation, structural and phase transforms. 7—21746
- Ti polycrystalline films, electron beam bombardment, recrystallisation, oxidation and phase transforms. 7—21746
- Ti-Al-Mo-Fe, struct. changes during phase transitions *(Russian)* 7—53721
- Ti-Co (3.2 at.%), grain boundary allotriomorphs, nucleation, growth and transform. kinetics 7—28035
- Ti-Cr, β-eutectoid, deform. behaviour of retained β phase 7—39589
- Ti-Cr (6.6 at.%), grain boundary allotriomorphs, nucleation, growth and transform. kinetics 7—28035
- Ti-Mo, omega transition anal. 7—16737
- Ti-Si interface, nucleation and growth of $TiSi_2$, influence of O_2 7—21541
- Ti-V(Mo)(Nb)(Fe), metastable β-phase alloys, mech. twinning TEM obs. 7—6633
- TiH_x struct. and phase transitions, X-ray diffr. anal. 7—52034
- TiNi-X, X=Fe, Ge, Re or Ni, struct. transitions in premartensitic range *(Russian)* 7—39504
- TiO_2 films, phase transitions, Raman spectra 7—12556
- TiO_2 films, pulse laser irradiated, Raman studies of phase transformations 7—12569
- TiO_2-SnO_2 system outside coherent spinodal, phase transform. kinetics, role of aliovalent dopants 7—46432
- TiS_2, highly stoichiometric, compositional and struct. studies 7—2224
- $Ti_{1-y}V_yH_x$, FCC-FCT transition, positron annihilation obs. 7—32641
- Tl, positron lifetimes, temp. depend. 7—39253
- $Tl_3Fe(SO_4)_3$, columnar cpds., vibr. spectra and phase transitions 7—17314
- $TlGaSe_2$ crystals, exciton spectrum, phase transitions 7—7124
- $TlIn_{0.95}Ga_{0.05}S_2$, crystals, vibr. spectra in vicinity of phase transitions 7—17321
- $TlInS_2$, crystals, vibr. spectra in vicinity of phase transitions 7—17321
- β-$TlInS_2$, Urbach rule and phase transitions 7—46009
- $Tl_3In(SO_4)_3$, columnar cpds., vibr. spectra and phase transitions 7—17314
- $TlIn(S_{0.8}Se_{0.2})_2$, crystals, vibr. spectra in vicinity of phase transitions 7—17321
- $Tm_3Fe_5O_{12}$, double phase transition, EXAFS studies 7—63799
- U, vacancy formation and phase transformations, positron annihilation studies 7—39248
- U-Ga dilute alloys, microstructure study 7—16780
- U-Ti dilute alloys, phase transformations 7—16730
- V-Ru-Os, B2 alloys, correlation between superconductivity and structural transitions 7—52881
- V_2Zr:H solns., phase transitions rel. to H conc. *(Russian)* 7—59513
- W (001) clean surface, reconstruction transition, effect of surface steps and adsorbate-induced perturbations 7—6935
- W_xSi_y reactively sputtered films, metastable phase form. 7—52340
- Xe monolayers on graphite, low temp. phase diagram, striped helical Potts model calcs. 7—38327
- Zn complexes, zinc(II)-bis-histidine:Cu, Jahn-Teller effect induced phase transition, ESR detect. 7—53122
- Zn-Al alloys, transient creep, structural transformation effect 7—22758
- ZnP_2, crystal structures and microphases, devil's staircase 7—11982
- $ZnTiF_6$:Cu^{2+}.$6H_2O$, Jahn-Teller effect and phase transitions, powder EPR study 7—13023
- Zr, internal friction and linear expansion coeff. in phase transition region 7—44857
- $Zr_{75}Fe_{25}$, hydrogenised, positron lifetime and Mossbauer study 7—46198
- ZrO_2 films, pulse laser irradiated, Raman studies of phase transformations 7—12569
- ZrO_2-Al_2O_3 composite powder, thermal decomposition prep. for porous ceramics 7—13422
- ZrO_2-TiO_2 system, low-temp. phase relationships 7—46431
- ZrO_2-Y_2O_3 partially stabilized, Al_2O_3 effect on retaining tetragonal particles, matrix toughening 7—59485
- ZrO_2-Y_2O_3 system, microstruct. resulting from diffusionless cubic to tetragonal phase transform. 7—39501

solid-state plasma
- *see also helicons; plasmons*
- autosoliton formation kinetics, stable heated plasma of intrinsic semiconductor 7—38607
- cohesion of solids under very high electronic excitation 7—51696
- Coulomb plasmas, strongly correlated, dynamical behaviour, nonlinear-response theory 7—27284
- Coulombic systems, interacting, thermodynamic functions and self-energy 7—16963
- $Cu_6PS_5Br(Cl)$, superionic cryst., refractive indices, optical-refractometric correlation *(Russian)* 7—3016
- electron plasma, pure, strong mag. field states 7—45185
- electron plasma, two-dimensional, dynamic polarizability calcs. 7—32929
- electron-positron correlation pot., two-density depend. 7—46194
- magnetised plasma, neutron excitation of Landau and collective modes 7—7134
- metal surface with periodic profile, SHG, surface plasma waves 7—62776
- narrow band gap semicond., with symm. electron and hole spectra, pinch effect 7—17047
- p-doped semiconds., dielec. functions, band-gap narrowing anal. 7—52482
- photosensitive semiconductor, parametric instability due to a travelling illumination intensity grating 7—38614
- picosecond light pulses scattered by optically induced gratings in semiconductors, frequency shift and spectral changes 7—1024
- piezoelectric material, with strain depend. dielec. const., modulational instability of laser beam 7—27677
- semiconductor electron-hole plasma, noise spectrum calcs. near slow recomb. wave excitation threshold 7—38649
- semiconductor microcrystallites, laser-excited, absorption blue shift 7—33409
- semiconductor superlattice, bulk and surface plasma modes, band dispersion 7—33085
- semiconductor with transverse gradient of admixture conductivity, electron-vacancy plasma drift in electric and magnetic fields 7—27355
- semiconductors, highly doped and excited, electron-phonon mobility variation with carrier density 7—64249
- semiconductors, intrinsic, solid-state plasma, local impact ionisation regions form. 7—52663
- semiconductors, magnetoplasma gauss beam damping 7—58828
- semiconductors, narrow gap, spontaneous oscills. under plasma resonance conditions 7—38605

solid-state plasma continued
- semiconductors, Rayleigh wave excitation during optical pulse absorption 7—38314
- short semicond. structs., photoexcited electron-hole plasma instability, numerical simulation 7—45367
- short-range potential, charged particle produced, dynamic screening effect 7—45371
- SOS films, pulsed laser beam excitation, femtosecond dynamics 7—13249
- stationary electron hole, Langmuir wave 7—12748
- thin film pulsed heating, thermal and plasma models 7—26946
- two-component plasmas, strongly degenerate, thermodynamics 7—16962
- Al, IR spectrum, intraband and interband processes 7—22256
- Au film, optical props. 7—17296
- Bi, solid-state plasma, microwave harmonics, parametric excitation of hypersound 7—38609
- Bi_2Te_3 doped crystals, energy formation of antisite defects 7—21204
- CdSe, photogenerated high density electron-hole plasma, energy relax., rapid expansion 7—33039
- CdSe, stimulated photolum. 7—27776
- CdSe, strongly excited, electron-phonon interaction screening, luminesc. meas. 7—38606
- $Ga_{0.60}Al_{0.40}As$, electron-hole plasma diffusion, spatially resolved gain and luminesce. spectra 7—12747
- GaAs, electron-hole plasma diffusion, spatially resolved gain and luminesc. spectra 7—12747
- GaAs, electron-hole plasma dynamics under subpicosecond optical excitation, optical absorption saturation 7—27356
- GaAs films, dense electron-hole plasmas, picosecond dynamics, acoustic phonon generation 7—45373
- n-GaAs films, electron-hole plasma stratification and blue luminesc. near static domain 7—52666
- GaAs, optical nonlinearities, freq. depend. 7—25867
- GaAs surfaces, picosecond laser interactions, time-resolved optical studies 7—12134
- GaAs-(AlGa)As heterostructure, modulation-doped, valence band mixing, and optical emission 7—7344
- GaAs-$Al_xGa_{1-x}As$, multiple quantum well structs., expansion of electron-hole plasma, time-resolved Raman studies 7—22258
- GaAs-GaAlAs multiple quantum well structs., band-gap renormalisation 7—58888
- GaN, electron-hole plasma generation 7—27358
- GaP, coherent optical phonon generation and decay 7—33040
- GaSe, evidence of exciton-plasma transition in emission spectra 7—59249
- GaSe, spontaneous and stimulated photoluminescence studies 7—22315
- Ge, electron-hole plasma transport 7—7272
- Ge, laser irradiated, electron-hole plasma dynamics investigated by time-resolved spectroscopy 7—13276
- Ge semiconductor plasma, laser produced, ultrafast switching simulation 7—11020
- p-Ge, threshold switching and microwave-induced spontaneous emission in static magnetic field 7—52707
- Ge:Zn, large electron-hole drop, Alfven wave dimensional reson., impurity scatt. effects 7—16950
- In-Ga-As-P films highly excited, ps band filling 7—43261
- InGaAsP films, dense electron-hole plasmas, picosecond dynamics, acoustic phonon generation 7—45373
- InSb, coherent spontaneous oscills. under transverse breakdown conditions, high frequencies 7—17046
- InSb, density of excited electron-hole plasma 7—38608
- InSb, solid-state electron plasma magnetised, circular antenna directivity diagram 7—45372
- n-InSb, solid-state plasma, stimulated Raman scatt. of extraordinary mode 7—31398
- InSb, transient grating formation under two-photon excitation 7—11037
- InSb/Teflon SIS structs., EM magnetoplasma Gaussian beams, propag. and size resonances study 7—58905
- Mn and its cpds., X-ray satellites, zero-point plasma oscillations 7—17367
- Na overlayer on Al, two step pot. model, nonlocal corrections to Fresnel optics calc. 7—64716
- Sb_2Te_3 doped crystals, energy formation of antisite defects 7—21204
- n-Si, complex dielectric fn., carrier interactions, Monte Carlo calcs. 7—33041
- n-Si, electron heating and intervalley redistribution in strong electric fields 7—27336
- Si, electron-hole plasma, second condensed phase 7—27357
- Si, fast ionisation waves due to absorpt. and reemission of luminesc. 7—52627
- Si, laser irradiated, electron-hole plasma dynamics investigated by time-resolved spectroscopy 7—13276

solid-state rectifiers
- *see also thyristors*
- photoconductor-liq. crystal rectifier, liq. crystal dielectric anisotropy, low-freq. inversion effect 7—45395

solid structure
- *see also crystal structure; long-range order; noncrystalline state structure; short-range order*
- clustering in solids, time-resolved multiple-quantum NMR investig. 7—59115
- fibre-reinforced composites, bounds on properties 7—7301
- fibre-reinforced composites, effective properties, effects of polydispersity n fibre diameter 7—6702
- materials design using a hierarchy of structural models 7—16350
- surface topography, electric breakdown effects obs. using nematic liquid crystals 7—18744
- Al-Li-Cu, T_2 phase, icosahedral struct. 7—16425
- C and graphite., strength and struct., conf., Liverpool, England (Sept. 1985) 7—24257
- $(Ti_{1-x}V_x)_2Ni$, orientation relationship between the icosahedral and crystalline phases 7—16477

solid theory
- No entries

solid-vapour transformations
- *see also sublimation*
- carbon tetraiodide, crystal synthesis, appl. to gas-solid transitions in multi-photon processes 7—46831
- condensation, solid-state, heat transfer and cryodeposit props. 7—63789
- hard spheres, fluid-to-solid phase transition, scaled particle theory study 7—32617
- HCL, condensation on charged CO_2 walls, Stockmayer model calcs. 7—63784

solid-vapour transformations continued
nuclear waste glass vapourisation study 7−6774
Mg-SiO-H_2, nucleation, physical spinodal theory 7−21428
SiO-H_2, nucleation, physical spinodal theory 7−21428

solidification
see also directional solidification; segregation
7−46438
alloy, solidification, differential thermal anal., modelling *(French)* 7−65024
alloy melts, undercooled, dendritic growth, effect of growth rate dependent partition coeff. 7−65015
alloys, morphological analysis of eutectic structures 7−7987
alloys, rapidly solidified, conf., Boston, MA, USA (Dec. 1985) 7−18496
alloys, undercooled, rapid dendrite growth 7−65014
binary systems, stochastic theory of solidification 7−12238
brass, two-phase, Al-B Masteralloy addition, B redistrib. during solidification, grain refining effect 7−22664
cellular growth structures, rapid solidification, compositional profiling 7−46453
column crystallisation, thermal countercurrent process *(German)* 7−52002
convection/diffusion phase change, enthalpy formulation anal. 7−51118
crystal growth, interfacial, surface angles at three phase line, melt solidification conditions, thermodynamic analysis 7−27889
dimethyl sulphoxide, dendritic solidification and surface-press.-induced wetting transition in narrow gaps 7−27223
eutectic solidification, fiber coarsening 7−59499
eutectics, solidification, lamellar spacing, influence of convection 7−17522
FEM for study of solidification processes with natural convection 7−14758
fluorite-related phases of R_3TaO_7, solidification points 7−12241
gelatin-water system mixed crystal formation and glassy solidification 7−16717
hard sphere fluid, extended-mode coupling theory, shear viscosity near solidification 7−11875
Hastelloy alloys, C-4, C-22 and C-276, welding metallurgy 7−46448
IN 100, rheocasting and vacuum are double electrode remelting, solidification struct. 7−39497
ingot solidification, temp. field, ZD simulation 7−33650
inverse problems in solidification and cooling processes, casting 7−58442
laser surface treatment, recent developments 7−21274
laser-induced phase transformations in semiconductor and metal surfaces, nonlinear optical diagnostics 7−2061
laser-irradiated materials, nonequilib. melting and solidification, computational modeling 7−2059
latent heat storage unit with finned tube, heat transfer characts. 7−43647
latent heat storage unit with finned tube, solidification, heat transfer characts. 7−43648
liquid metal turbulent jet, mixing and solidification in co-flowing stream 7−51250
metal clusters, phase investig. 7−15772
metal foil prep. by melt overflow rapid solidification 7−22609
metal solidification, effect of high intensity US 7−62888
metal-ceramic particle composites, cast, solidification, struct. and props. 7−7932
metallic mould/casting thermal response characts., transient temp. field anal. 7−65019
needle crysts., 2D, nonlocal solidification problem, asymptotic expansion 7−63778
numerical finite difference model for steady state cellular array growth 7−21787
one-dimensional solidification, charact. dimensionless time 7−63781
oxide systems, phase transition determ. using solar heating 7−22662
planar flow casting machine for rapid solidification processing 7−3213
planar interface, cellular and dendritic struct. transitions during rapid solidification 7−22666
polymer melts, rate-controlled solidification, zone model 7−1917
powder metallurgy, modern science and technology 7−7921
rapid, theory of eutectic growth 7−65016
rapid solidification, oscillatory morphological instabilities, role of diffusion in the solid. 7−12235
rapid solidification prep., compaction and processing techniques 7−22612
rapid solidification technology, review 7−39493
rapidly solidified alloys, developments and engng. design implications, review 7−27967
rare earth-iron-boron permanent magnet materials, prep. and props., book contrib. 7−27981
Saffman-Taylor finger, sidebranching in interfacial dynamics, white noise effect 7−21627
shear flow influence on phase transition 7−32620
snowflakes, solidification, pattern form. in structs. 7−34560
solders, rapid solidification cast vs. die attach soft type 7−39500
solid/liquid interface, pulse echo US study of location during solidification and melting 7−52006
steel, austenitic stainless, quenching from liq. state, cooling rate calc. 7−22726
steel, austenitic stainless, rapidly solidified, microstruct. characterisation 7−22672
steel, high Si, rapid solidification in double roller method 7−22665
steel, low alloy, arc weld deposits, austenite grain struct. 7−39494
steel, Mo-base high speed, carbide chem. composition, electron microscopy studies 7−22671
steel, rapid solidification, fusion reactor appl. 7−49657
steel, stainless, martensitic, cooling rate and heat treatment effect on chem. microinhomogeneity 7−3294
steel, stainless, pulsed and continuous laser welded, solidification behaviour and microstruct. characts. 7−13444
steel, tool, high speed, splat quenched, microstruct. variations 7−46439
steel powders, obtained by rotating electrode process, study of props. and cooling rate 7−17498
stirred solidification, Taylor vortices influence on morphology 7−22657
undercooled melt, finite element simulation of planar instabilities during solidification 7−63774
unidirectional solidification under microgravity, particles and bubbles behaviour *(German)* 7−44772
York, England (Jul. 1986) 7−48142
Ag-Cu (15 wt.%), rapidly solidified, microsegregation 7−59524
Ag-Sn hypoeutectic alloys, primary phase shape rel-to cooling rate and comp. 7−59509
$Ag_2S(Se)$-$Ag_2Te(Se)$ liq. and glassy semicond., activation energy of carrier thermal generation, elec. meas. 7−17035

solidification continued
$Ag_2S(Se)(Te)$-$Cu_2S(Se)(Te)$ liq. and glassy semicond., activation energy of carrier thermal generation, elec. meas. 7−17035
Al alloy, binary, alloying capacity for solid soln. obtained by casting under press. 7−53716
Al alloys, crystal structure and microstructure, metallography studies 7−58204
Al alloys, liquid dynamic compaction, microstruct. and precipitation, TEM study 7−59529
Al alloys, rapidly solidified, pitting corrosion 7−17678
Al alloys, solidification, continuous and interrupted, development of microstruct. and homogenisation *(German)* 7−53719
Al alloys, wear, comparative investigs. and prep. method role 7−13605
Al alloys containing Li, rapid solidification, bibliography 7−41029
Al, grain refinement by horizontal circular vibration 7−22650
Al thin films, pulsed laser melting, transient elec. resist. and reflectance meas. 7−12141
Al-Co, melt spinning, microstruct., precip., microhardness *(Korean)* 7−46444
Al-Cu, solidification, microsegregation in coarsened dendritic microstruct. 7−28048
Al-Cu (3.76 wt.%), rheocast, partially homogenised, ageing response, microhardness 7−46499
Al-Cu (4.5 wt.%), laser treated, surface solidification with moving heat source 7−22648
Al-Cu-Mg, cast composite, mica particle distrib. 7−46375
Al-Fe, rapidly cooled, $Al_{13}Fe_4$ tenfold twins, TEM obs. 7−63631
Al-Fe-Mg, solidified from liq. phase, struct. *(Russian)* 7−39498
Al-Fe-Mn powder, rapidly solidified, microstruct. 7−46445
Al-Fe-R, R=Ce, Er, Nd or Gd, rapidly solidified microstruct. 7−59502
Al-Fe-Si, dil., solidification, intermetallic cpd. form. 7−13442
Al-Ge (12 at.%), alloy ribbons, prep. by centrifuge melt spinning, effect of process variables on characts. 7−46366
Al-Li-Be alloys, arc-melted, microstruct. evaluation 7−22655
Al-Li-Be alloys, rapidly solidified, microstruct. eval. 7−22656
Al-Li-Cu-Mg-Zr powder alloy, superplastic, high modulus and hardness 7−53816
Al-Li-Zn (Cu) icosahedral quasicrysts., solid state reaction and rapid solidification prep. comparison 7−37864
Al-Mg-Zn(Cu) icosahedral quasicrysts., solid state reaction and rapid solidification prep. comparison 7−37864
Al-Mg-mica particle composites, prep. and props. 7−22613
Al-Mn, Al-rich alloy, rapidly solidified, crystn. of quasicryst. icosahedral phase 7−63472
Al-Mn, rapid solidification, extended solid soln. and eutectic growth 7−33647
Al-Mn, rapidly solidified, decagonal phase morphology 7−39499
Al-Mn (14 at.%), solidification, icosahedral and T-phase form. temp. rel. to cooling rates 7−53718
Al-Mn (15 wt.%), melt spun ribbons, icosahedral struct., decomp. rel. to annealing 7−28030
Al-Mn system, G-phase form. and stability range 7−22663
Al-Mn system, quasicryst form., metallurgy 7−3295
Al-Mn-Zr (7,1 wt.%), rapidly solidified, quasicrystalline phase precip. 7−3310
Al-Mn(-Si) rapidly solidified alloys, quasicrystal form. by electron beam melting 7−26915
Al-Mo, rapid solidification processed, diffusion-induced dislocation migration 7−65047
Al-Mo (11 at.%), rapidly solidified, equilib. phase development 7−46436
Al-Pd, rapidly solidified, decagonal phase morphology 7−39499
Al-Si, chill-cast, heat flow and dendritic arm spacing during solidification 7−53714
Al-Si, grain refinement, effect of solute content 7−59503
Al-Si, hypereutectic alloys, primary Si particles 7−33649
Al-Si eutectic, unmodified, Al grain struct. 7−65012
Al-Si eutectic alloys. partial modification mechanism 7−59498
Al-Si LM 13 alloy with graphite particles, gravity die cast, dispersed graphite effect on freezing rate 7−59506
Al-Si; graphite particle reinforced composite, solidification, microstruct. 7−28028
Al-Si(Cu), microsegregation, effect of solidification rate 7−46480
Al-Ti, rapid solidification processed/mechanically alloyed, high temp. deform. 7−65100
Al-Ti-Gd, rapidly solidified ribbons, aged, ternary phase precipitate identification 7−3311
Al-Zn-Mg-Cu-Ni-Zr, modified 7075, prod. by liq. dynamic compaction, struct. and props. 7−46437
Al-Zn-Mg-Mn-Si, rapid solidification, superplasticity 7−53826
Al-Zr-V, rapid solidification, age hardening, solid soln. form. *(Korean)* 7−46475
Al_2O_3, particle shape of plasma sprayed oxides, SEM obs. 7−2403
Al_2O_3-ZrO_2, rapid solidification, alumina dendrite morphology 7−21424
Au-Ag-Cu-Pd, cast microstruct, segregation, TEM obs. 7−39495
$BeAl_2O_4$-$MgAl_2O_4$ pseudo-binary system, phase relations *(Japanese)* 7−16721
Bi, solidification of undercooled liquid, nucleation, pressure effects 7−38169
Bi thin films $(11\bar{1})$, melt growth, in-situ obs. by TEM 7−53573
CaO, solidification point, reinvestig. by digital pyrometry 7−38168
Cd-Sb melts, crystallisation and structural state, phase equilib. diagrams 7−46441
Co-TaC, rapid quenching, microstruct. 7−65023
Cu alloys, rapid solidification, fusion reactor appl. 7−49657
Cu, dispersion hardened, melting and solidification in microgravity environment 7−22659
Cu-B, cast struct., segregation, conc. undercooling 7−3291
Cu-based alloys, rapid solidified and ion implanted, struct. studies 7−21130
Cu-Ce, cast struct., segregation, conc. undercooling 7−3291
Cu-Zn, embrittlement in solidification process 7−3435
Cu-Zn-Al shape memory alloys, rapidly solidified, microstruct. and props. *(Chinese)* 7−8043
Cu-Zr (0.5 wt.%), high strength, high cond., prod. by rapid solidification technology 7−28029
Fe alloys, solidification in mag. fields *(Russian)* 7−59508
Fe cast, Cr-type, duplex nature of eutectic carbides 7−13440
Fe crystals, growth shape, effect of melt undercooling *(Russian)* 7−46308
Fe, nodular, ferritising action of increased Mg content on struct. 7−3292
Fe-C base ternary and multicomponent alloys, eutectic temp. and comp., theoretical calc. 7−59504

solidification continued
Fe-C-based alloys, high C, rapidly solidified, mech. props. 7−22673
Fe-Cr-Mn-Ni-C system, phase relationships at solidification temps. 7−28014
Fe-Cr-Ni-C system, phase relationships at solidification temps. 7−7969
Fe-Ni-Al-C (22, 8, 2.4 wt.%), rapidly quenched, metastable modulated struct., analytical STEM study 7−46450
Fe-Pd-S system, phase equilib. 7−3272
Fe-Si, rapidly quenched ribbons, grain growth, mag. props. 7−8017
Fe-Si (3 wt.%), continuously cast slabs, high temp. grain growth during reheating 7−8019
Fe-Si alloy wires, rapidly solidified by in-rotating-water-spinning method, prod. and props. *(Japanese)* 7−22654
$Fe-TiB_2$ eutectic system, microhardness, modulus of elasticity *(Russian)* 7−39648
$Fe_{1-x}Ni_x$ bulk melts, containerless undercooling, solidification 7−26916
GaAs, laser-induced melting and nonlinear optical studies 7−12432
Ge droplets, undercooled, microstruct. 7−65013
Ge, thermodynamic interrelation between amorphous, diamond cubic and liquid states 7−12245
K_2O-SiO_2-NaCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7−12288
Li_2O-SiO_2-NaCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7−12288
Mg alloys rapid solidification prep., status and potential 7−22611
Mg-Zn rapidly solidified alloys, mech. props. 7−22711
$MgAl_2O_4$, particle shape of plasma sprayed oxides, SEM obs. 7−2403
Mn allotropic phases nucleation during laser annealing, melting, solidification and regrowth 7−12143
Mn_3Ni_2Si, rapidly solidified, Friauf-Laves phase related quasicrystal, TEM obs. 7−51706
Na_2O-SiO_2-KCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7−12288
Nb-Ge alloys, processed in inert gas in 100 m drop tube 7−7986
Ne film on Ag, triple-point wetting 7−32760
Ni reinforced Al, matrix crystn. and sintering, role of reinforcing phase 7−33625
Ni reinforced LiF-NaF, matrix crystn. and sintering, role of reinforcing phase 7−33625
Ni-Al (20 wt.%) alloy, planar flow cast, cooling rates and microstruct. 7−59505
Ni-Al-Cr, melt spun ribbons, microstruct., mech. props., Cr conc. effect 7−28031
Ni-B-Si ternary system, liq.-solid equilib. in Ni-rich region *(French)* 7−65004
Ni-base alloy 718, cast, weld heat-affected zone liquation morphology 7−53715
Ni-base superalloy, cast, high Al-Ti, eutectic form. and σ-phase control *(Chinese)* 7−7983
Ni-base superalloy, IN-100, rheocast, processing-struct. charactn. 7−46449
Ni-base superalloy powders, Ar atomised, dendritic struct. 7−46451
Ni-base superalloys, cast, solidification behaviour w.r.t. Hf additions *(Chinese)* 7−7984
Ni-base superalloys and intermetallics, rapidly solidified, mech. props. 7−22839
Ni-Sn highly undercooled droplets, rapidly solidified, microstruct. studies 7−22670
Ni-Ti-Nb, shape memory alloy, cast microstruct. 7−7988
Ni_3Al, rapidly solidified, B segregation to grain boundaries, atom probe FIM 7−22688
Ni_3Al, rapidly solidified, C segregation to grain boundaries 7−46483
Ni_3Al-B, elevated temp. ductility, effect of testing environment 7−39614
$Ni_{30}B_{54}C_{16}$, B-rich amorphous alloy prep. by rapid quenching, crystn., hardness and elec. resist. 7−13441
$Ni_{70}Cr_7Fe_3Si_8B_{12}$ ribbon, rapidly quenched from melt, struct. inhomogeneity and crystallised metastable phase *(Chinese)* 7−63477
Pb-Bi system, peritectic crystallisation, cooling rate effect 7−46440
Pb-Sb, grain refinement, effect of solute content 7−59503
Sb liquid droplets, undercooling and crystallisation 7−39496
Sb-Sn alloy, maximum microsegregation from peritectic phase systems 7−12286
Sb-Zn 7−46441
Si, crystal growth and solidification, high speed laser heating technique 7−53566
Si, ion implanted, laser beam melting and resolidification 7−12126
Si, SiC microdefect generation, melt-interface mechanism 7−53710
Si, structural changes produced by one micron picosecond laser pulses, TEM characterisation 7−12133
Si surface relief, 3D cellular struct. formed by picosec. light pulse irrad. 7−32772
Si, thermodynamic interrelation between amorphous, diamond cubic and liquid states 7−12245
Si:C, polycrystalline, electrical and structural properties 7−12106
Sn, crystal growth and Stefan problem, stochastic theory comparison 7−21415
Sn-Ag-Sb thermal fatigue-resistant solder alloys, equilibrium solidification 7−46443
Ti-Al-Nb, rapidly solidified, microstructural studies 7−22668
Ti_3Al, struct., phase comp. rel. to crystallisation rate and heat treatment 7−46442
Ti_3Al-Zr, rapidly solidified, microstructural studies 7−22668
U, texture anisotropy, as-cast and heat treated 7−46518
V-W single crystal alloys, directionally solidified, growth structs. 7−3159
$V_{41}Ni_{36}Si_{23}$, rapidly solidified, quasicrystalline and Frank-Kasper phases, tenfold electron diffr. pattern obs. 7−65022
Zr-ZrRu-ZrIr partial system, phase diagram and crystn. 7−22642

solids
Generalities only; for specific aspects see appropriate headings
see also crystals; quantum solids; solid hydrogen; solid structure; solid theory
No entries

solions *see transducers*

solitons
1+1 dimensional scalar field theory, effective interaction treatment within the Gaussian approx. 7−41614
1D electron-phonon systems, quarter-filled, solitons 7−45179
1D system, bound states of two soliton-type quasi-particles *(Russian)* 7−2502

solitons continued
1D weak localisation, effects of forward scatt. and incommensurate lattice 7−45202
σ-models, two-dimensional, N=4, existence of solitons 7−61462
$\phi^3+\phi^4$ field, quantum fluctuations around soliton at finite temp. 7−41593
ϕ^4 theory, nonexistence of small-amplitude breather solns. 7−61126
ϕ^6 field theory, existence of quantum solitons in 1+1 dimensions 7−56443
acoustic soliton tank topologically dispersive design 7−26067
acoustoelectromagnetic, motion control 7−39082
Alfven solitons in solar wind, particle interactions rel. to proton heating 7−66418
amplitude bistability in ring resonator 7−43197
anisotropic Heisenberg chain, Monte Carlo study of crossover behaviour and solitons 7−7532
antiferromagnet, uniaxial, two-dimens. mag. vortices, dynamical props. 7−53005
antiferromagnetic chain, soliton dynamics 7−52998
antiferromagnetic chains, solitons as dyon analogs 7−2798
arterial pulse as a soliton, nonlinear differential eqn. 7−60023
asymmetric scalar field theory, soliton soln. 7−9940
autosoliton formation kinetics, stable heated plasma of intrinsic semiconductor 7−38607
axially symmetric higher-dimensional gravity, Belinsky-Zakharov N-soliton transforms. 7−41207
axially symmetric higher-dimensional gravity, Neugebauer-Kramer transforms. 7−41206
baroclinic solitary waves with radial symm. 7−57863
beat-wave equations, relativistic solitary-wave solutions 7−20885
Benjamin-Ono eqns., interacting soliton solns. 7−24433
Bloch walls, solitons and particles, an analogy in sine-Gordon framework 7−35289
Boltzmann eqn., exact bisolitonic solns. for discrete models *(French)* 7−56188
bound quark-meson system, RPA calcs., solitons, chiral model of nucleon 7−18989
Brans-Dicke-Jordan gravitation theory, stationary axially symmetric exterior solns. in 5D 7−35368
capillary waves on deep water, soliton solutions 7−43942
Caudrey-Dodd-Gibbon-Sawada-Kotera eqn., solitons and discrete eigenfunctions 7−35232
CDW, incommensurate, kink lattice structure and midgap band 7−45187
CDW system, electronic cond. in presence of ϕ solitons 7−27322
chiral liq. cryst. systems, blue phases, solitons 7−21097
chiral soliton model, baryons as rotating excitations 7−5066
chiral soliton models, axial vector coupling constant and quark confinement 7−24835
cholesteric liq. crystals, solitons, D NMR spectra 7−21096
classical compressible Heisenberg chain, soliton canonical transform. calcs. 7−17192
classical Toda lattice, sine-Gordon thermodynamics, Bethe-ansatz eqn. anal. 7−61272
closed mol. chains, collective excited states, nodal and nodeless solns. *(Russian)* 7−42517
colloidal suspensions, solitary wave model anal. of sedimentation 7−57911
colour-dielectric model, numerical solns. 7−469
compactified bosonic string and topological solitons 7−49036
complex sine-Gordon theory, one-soliton solns., virial approach 7−30195
compressible anisotropic classical Heisenberg chain, spin dynamic eqns., soliton solns. 7−2804
cosmological Einstein-Rosen metrics, generalised soliton solns. 7−41166
coupled Toda lattice, soliton propag., equivalent nonlinear LC circuit study 7−29920
CP^{N-1} model, deconfinement by minimally coupled massless fermions 7−56516
damped driven Lennard-Jones chain, interacting solitary waves 7−41094
DC driven damped Josephson junctions, fluxon collisions, radiative losses, perturbation calcs. 7−12915
degenerate systems, finiteness of soliton mass 7−56444
demonstration of behaviour using nonlinear electrical transmission line 7−55932
diffusion in one-dimensional continuum ϕ^4 theory 7−41113
dimethylammonium manganese chloride, 1D antiferromagnet, nuclear spin-lattice relax., effect of nonlinear excitations 7−59122
Dirac equation, existence of soliton solutions 7−24765
discreteness effects in the theory of Davydov's solitons *(Russian)* 7−14792
dissipative systems, stationary soliton soln. investig. 7−51034
DNA, soliton excitations, dynamical theory 7−47001
double sine Gordon solitary wave, collision with weak potential well 7−100
double-sine-Gordon chain, internal dynamics calcs., nonlinear effects 7−35456
driven sine-Gordon chain, wave propagation, long-time behaviour 7−27140
dynamical problems, conf., Kyoto, Japan, (Aug. 1984) 7−19
dynamics of finite 1D H-bonded system 7−2112
effective Lagrangians for the chiral quark phase and the Skyrmion parameters 7−19069
electric discharges, spiral solitons and filamentation 7−44298
electron-lattice coupled quarter filled band systems, 1D, solitons 7−45181
envelope solitons of electromagnetic waves in a magnetized plasma 7−44176
evolution equations, nonlinear, multisoliton solns. 7−48377
fermion fields in the soliton background of Kaluza-Klein theories 7−41202
ferroelectric liquid crystals, solitary waves, mol. reorientation dynamics 7−21092
ferromagnetic antisymmetric exchange chain, sine-Gordon soliton stability 7−38889
ferromagnetic chain, soliton dynamics 7−52999
ferromagnetic thin film, precession soliton, nonlinear integro-differential eqn. soln. 7−64500
ferromagnets, one-dimensional easy plane, quantum Monte Carlo and transfer-matrix calcs. 7−7468
ferromagnets, solitons in arbitrary anisotropy systems *(Russian)* 7−45682
fibres, GRIN, nonlinear inhomogeneous, solitons transmission 7−20463
finite ferromagnetic slab, nonlinear spin ware dynamics and surface magnetostatic wave dispersion, averaged Lagrangian method *(Russian)* 7−17181
finite-temperature soliton problem, nonlinear density-matrix approach 7−24435

solitons continued
fluid analogue of soliton formalism, statistical anal. 7—14789
fluxon-antifluxon collision in a Josephson transmission line 7—2790
fractionally charged states in quarter-filled electron-phonon systems 7—52446
Friedberg-Lee soliton bag model with iterative one-gluon exchange, hadron static props. 7—49090
fully nonlinear ion acoustic waves in a magnetoplasma, electron drift effects 7—37665
galactic disks, solitary vortices theory 7—14657
geophysical fluid dynamics, solitary wave solns. for magma ascent by porous flow 7—8928
Great Red Spot, Rossby autosoliton and stationary physical model of Jupiter's atmosphere 7—40750
hedgehog baryon state, soliton bag model with scalar mesons 7—18990
hedgehog chiral soliton bags, spin-isospin projection using collective coordinates, nucleons 7—19074
hedgehog Skyrme solitons in vector-meson extended Skyrme model 7—9965
Heisenberg spin model classical version, spin waves and soliton solns. 7—2886
α-helical proteins, dynamical struct., vibron solitons description 7—47002
hybrid soliton model of dense nuclear matter 7—5181
hydrodynamics of a topologically nontrivial metric 7—29835
incommensurate one-dimensional CDW systems, localised electronic state form. due to phase and single particle excitations 7—21834
incommensurate structures, soliton line formation, kinetics 7—38157
incompressible inviscid fluid, curved vortex filament, N-soliton soln. 7—51177
induced mean flow accompanying a water-wave packet 7—37478
infinite slab, critical local disturbance of temp. field necessary for ignition, reactant consumption effects 7—33932
inhomogeneous cosmological model, generalized vacuum soliton soln. of Einstein's eqns. 7—9715
interacting scalar field theories, entropy and symmetry breaking induced by charge density 7—41663
inverse scattering methods and quantum field theory limit 7—9682
ion acoustic soliton, two-dimens. evolution 7—26428
ion acoustic soliton propag. in nonideal plasmas 7—26417
ion-acoustic soliton, 2-dimens. evolution 7—37682
ion-acoustic soliton reflection from planar boundary 7—44152
ionising solitary waves of elec. field, propag. along dielec. surface 7—21025
Josephson annular junctions, soliton dynamics 7—2784
Josephson junctions with microinhomogeneities attracting solitons, crit. currents 7—64406
Josephson tunnel junctions, microwave-soliton or microwave-antisoliton interaction 7—33130
Jupiter, Great Red Spot, simulation *(Russian)* 7—47695
K-balls in chiral lagrangian 7—35692
KdV equation, N-soliton solution, decomposition 7—35293
Kerr defocusing medium, dark soliton 7—43265
kink solitons, activated generation, quantum theory 7—41123
kink-bag system in (1+1) dimens., breathing motion, inertia of confined vacuum 7—19070
Langmuir solitons theory 7—1671
laser, numerical model 7—43051
laser, theory *(Japanese)* 7—20180
laser stabilisation, feedback from pulse-shaping fibre 7—50602
lattice models, spatio-temporal coherence and chaos, conf. Los Alamos, USA, Jan. 1986 7—48158
Lax pairs for higher order eqns. of soliton hierarchies 7—29765
linear macromolecules, quantum theory of quasi-particle motion, thermal vibrs. 7—52461
low energy meson action from QCD, extended Skyrme model, anomaly terms 7—5052
lower hybrid drift solitons, stability 7—63273
magnetic soliton relax. and lifetime calcs. 7—38876
magnetised plasma, double layers and multidimensional solitons 7—51446
metal/electrolyte interface electrodynamics, surface soliton form. 7—21958
metastable vacuum decay, presence of soliton localized soft fermionic and bosonic modes 7—4986
mixed-stack cpds., electronic states, soliton structs. 7—52451
model independent exchange current determ. in e^- scatt. and baryons as topological solitons 7—35743
modulational instability of ion-acoustic soliton in a microcomponent plasma 7—26427
molecular chain, electron transfer kinetic coeff., supersonic Davydov soliton mechanism 7—10751
molecular chains, solitary excitations, intramol. vibrs. anharmonicity 7—44712
molecular chains, strong EM field driven, with optical type vibr. spectra, nonlinear waves and bistability 7—25865
molecular polymer chain, exciton-lattice interactions, bisoliton creation, continuum approx. calcs. 7—2499
N=2 supergravity solitons, exact superpartners 7—35382
narrow trough, solitary waves excited by two frequency modes *(Chinese)* 7—57862
nonintegrable solitary and cnoidal waves from sine waves 7—4697
nonlinear cross waves, Benjamin-Feir instability 7—51198
nonlinear integrable system, wave emission and absorption 7—9679
nonlinear lattice with long-range interaction, wave propag. *(Russian)* 7—109
nonlinear media, propagation of TM modes 7—20110
nonlinear optical waveguide, soliton propagation with dissipation and damping 7—62828
nonlinear Schrodinger equation, phenomenological quantisation scheme 7—18634
nonlinear Schrodinger equation with an external field, soliton studies 7—41121
nonlinear wave equations, semi-discrete, asymmetric discrete envelope soliton solns. 7—61124
nonpropagating hydrodynamic soliton, expt. discovery 7—11445
nuclear soliton scatt. in 1D, $\psi^4-\psi^6$ theory 7—49271
nucleon-black hole interaction, Skyrme model anal. 7—9504
one-dimensional CDW states, self-similar band structure and electron-phonon coupling 7—21833
one-dimensional classical anisotropic Heisenberg ferromagnet, numerical study 7—12933

solitons continued
one-dimensional electron-phonon Peierls condensate, amplitude solitons 7—52449
one-dimensional electron-phonon system, CDW structure 7—52444
one-dimensional mol. chain, electron transfer kinetic coeff., donors and acceptors perturbative influence, Davydov solitons 7—27266
one-dimensional Peierls system, Eilenberger equation studies 7—64040
one-dimensional quantum systems, spatial structures and dynamic excitations, self-consistent theory 7—44755
optical fibre soliton self-frequency shift 7—31501
optical fibre soliton self-frequency shift 7—31502
optical fibres, multisoliton pulse interaction, FM influence 7—43390
optical selection rules of the soliton lattice 7—13113
optical switching between bistable soliton states of highly nonlinear Schrodinger equation 7—43202
p=2 lock-in phase transition in surface reconstruction, theory 7—32628
Peierls instabilities, soliton lattice in the relative phase of two coupled charge-density waves 7—21816
perturbed nonlinear Schrodinger eqn., spatio-temporal coherence and chaos, conf. Los Alamos, USA, Jan. 1986 7—48158
perturbed nonlinear Schrodinger equation, solitons as invariant tori 7—41154
phase slip centre as a dynamic amplitude soliton 7—52465
piecewise linear map, mode locking, exact treatment 7—35420
planar magnetic materials with biquadratic exchange, nonlinear magnetisation waves 7—17165
plasma, drift solitons, theory 7—44158
plasma, electroacoustic solitary wave in rarefied nonisothermalplasma 7—11645
plasma, phase space density holes, equilib. state of fast charged particles bunch 7—31974
plasma, relativistic, solitons of rounding EM waves, kinetic eqns. 7—11695
plasma cylinder solitary surface waves eqns. 7—26410
plasma electron acoustic waves, nonlinear propag., higher-order terms effect 7—44136
polyacetylene:I_3^-, semicond. soliton lattice-metal phase transition, photomodulation spectra studies 7—21819
trans-polyacetylene:I, electron spin-lattice relax. and phase memory time, spin echo studies 7—64512
polyacetylene:I, photoexcitation spectra 7—64657
polyacetylene, alkaline metal doped, ab initio SCF MO calc. of electronic struct. 7—64048
trans-polyacetylene, charged-soliton dynamics 7—45176
polyacetylene, detection of soliton shape modes 7—38469
trans-polyacetylene, diffusive motion of solitons 7—64106
polyacetylene, dynamical cond. of soliton lattice and polaron lattice, continuum model 7—45174
polyacetylene, dynamical phonon conductivity, determ. 7—64111
polyacetylene, electrons and phonons, semi-continuum model 7—64112
trans-polyacetylene, fast transient picosecond photocond., hot soliton excitations 7—64293
polyacetylene, ground, excited, polaronic, solitonic and impurity states calcs., doping effects 7—45131
trans-polyacetylene, IR activity of phonons around a soliton 7—64107
polyacetylene, localised modes of soliton, IR absorpt. 7—64108
polyacetylene, muon spin resonance studies 7—53202
trans-polyacetylene, neutral soliton diffusion, EPR, PMR meas. 7—64513
trans-polyacetylene, neutral soliton pair production, breaking of charge conjugation symmetry 7—64110
trans-polyacetylene, optical absorpt. due to soliton lattice 7—64109
trans-polyacetylene, phonon dynamical conductivity around charged soliton 7—6740
trans-polyacetylene, phonons around solitons and polarons, IR activities 7—64118
trans-polyacetylene, photogenerated exciton-breather state 7—21823
trans-polyacetylene, photoproduction of neutral soliton pairs 7—27265
trans-polyacetylene, pristine, neutral soliton dynamics, anisotropic ESR T_1 and line width 7—7585
trans-polyacetylene, random soliton distrib., localisation and density of states calcs., renormalised virtual cryst. method 7—52453
polyacetylene, self-consistent calc. of solitons 7—64105
polyacetylene, semiconducting polymer, fast response nonlinear optical props. 7—1241
trans-polyacetylene, soliton diffusion, memory-function formalism 7—7128
trans-polyacetylene, soliton diffusion and acoustic phonon scatt. calcs. 7—45177
trans-polyacetylene, soliton dynamics, effects of randomly fluctuating forces and energy dissipation 7—32923
polyacetylene, soliton width-relaxation effects 7—21828
trans-polyacetylene, soliton-lattice to polaron-lattice transition 7—64117
polyacetylene, solitons, electronic props., local space approx. 7—52506
trans-polyacetylene, solitons, phys. characts., dynamical corrections 7—27267
polyacetylene, solitons and IR-active localised vibrational states, Su-Schrieffer-Heeger model calcs. 7—2134
trans-polyacetylene, triplet solitonic excitations, optical gap 7—2496
trans-polyacetylene, with broken symm., reson. Raman scatt., photoinduced absorpt. spectra 7—64656
polyacetylene films, oxygen-exposed, IR transmission spectra 7—13181
polydihalogenoacetylene, band alternation and soliton excitations, Huckel model anal. 7—5601
polydihalogenoacetylene, bond alternation and solitons 7—63511
polymers, conducting, nonlinear optical processes 7—62781
polymers, conjugated, optical spectra and Coulomb interactions 7—64596
polythiophene, semiconducting polymer, fast response nonlinear optical props. 7—1241
polyyne infinite chain, solitons, polarons and phonon spectrum calcs. 7—12626
polyynes, strongly coupled Peierls insulators, soliton, polaron and photoexcitation props. 7—64114
propagation in a randomly inhomogeneous active medium, Korteweg-de Vries eqn. 7—61128
QCD flux tubes and glueballs, soliton interactions in gauge theories 7—5051
quantum Brownian motion in 1D sine-Gordon model, numerical simulation 7—24768
quantum commutating operators rel. to soliton eqns., field theoretical construction 7—56405
quantum field theory, progress, book 7—9602
quantum Gel'fand-Levitan-Marchenko solns. for sine-Gordon model in soliton sector 7—35718

solitons continued
quantum many-body systems, Monte Carlo studies of dynamical response 7−14862
quantum symmetries from quantum phases, fermions from bosons, a Z_2 anomaly and Galilean invariance 7−48970
quasi-1D conductors, Peierls state, mechanisms of nonlinear conductivity, electrodynamics *(Russian)* 7−32997
quasi-1D mol. systems, polaron struct., interchain electron hopping effects calfs. 7−16959
quasi-1D ordered system, kink-type solitons, phonon relax. calcs. *(Russian)* 7−27262
quasi-1D superconductors, effect of impurities 7−45548
real 0^3+0^4 field in (1+1) dimens. at finite temp., soliton solns. 7−9944
reflection and propagation of ion acoustic solitons 7−26426
refraction and reflection of large amplitude ion acoustic wave 7−26425
Roper resonance and πN phase shift in the Skyrme model with defect 7−18988
S^2 nonlinear σ-model with Abelian gauge field, string-like solns. 7−61437
Schrodinger equation, nonlinear, interacting soliton equations, inverse method 7−48433
Schrodinger equation, nonlinear, perturbation-induced radiative losses in soliton collisions 7−24453
Schrodinger equation, nonlinear, rational multisoliton solns. 7−48404
Schrodinger equation, nonlinear, robust bistable solitons 7−41145
self-trapping on a dimer, discrete nonlinear Schrodinger eqn., time-depend. solns. 7−18721
shine-Gordon equation, 2D, soln. using inverse spectral transform method, existence of solitons 7−61118
sine-Gordon *S*-matrix, heuristic derivation Landau singularities due to soliton loop diagrams 7−35727
sine-Gordon model, exact Bethe-ansatz thermodynamics, long string effects 7−35393
sine-Gordon model with dissipation, quantum statistical mechanics 7−48575
sine-Gordon soliton, damped, mobility, finite temp. correction 7−48378
sine-Gordon soliton, mass in the Hartree approx., quantum corrections, coupling const. 7−4972
sine-Gordon soliton, pinned to impurity, chaotic motion 7−103
sine-Gordon solitons in external fields 7−61263
sine-Gordon solitons trapped in confining potentials, relativistic dynamics 7−32922
sine-Gordon solitons under double coherent pulse excitation dynamics 7−37018
sine-Gordon system, kink-antikink pair production rate, equilib. statistical mechanical anal. 7−35394
sine-Gordon thermodynamics using Bethe ansatz, classical limit 7−41319
sine-Hilbert eqn., multi-soliton solns. 7−41112
sine-lattice eqn., nearly integrable soliton props. of kink solns. 7−392
singular nonlinear Schrodinger eqns. with polynomial nonlinearities, special spins. 7−29799
Skyrme model for baryons, SU(2) and SU(3) solns. 7−30197
Skyrmion equation of motion, semiclassical, rotating soliton solns. 7−61466
skyrmions in flat space and curved space 7−30190
smoke ring vortex motion, exact soln. to localized induction approx. eqn. 7−6225
solitary rotational water waves, Lyapunov stability, oceanic appl. 7−63164
soliton bag model, one-gluon exchange, self-consistent anal. 7−49095
soliton stability in plasmas and hydrodynamics, review 7−105
solutions with time depend. velocities 7−29768
spatially-forced thermal convection, resonance and phase solitons 7−51138
spin system, ferromagnetic, 1D driven damped, solitary waves, stationary motion 7−59028
spin-Peierls systems, incommensurate phase, analogy with electronic Peierls problem 7−53003
stationary configurations of point vortices and other logarithmic objects in two dimensions 7−57858
stationary potential waves of finite amplitude 7−51186
statistical mechanics, collective coordinate approach, non-canonical method 7−18690
statistical mechanics of soliton systems, collective coordinate anal. 7−195
stimulated Raman scatt., solitons, spontaneous generation from quantum noise 7−43237
stimulated Raman scattering, comment on soliton obs. 7−15943
stochastic Korteweg-de Vries hierarchy, soliton eqns. 7−29766
stratified stream flow over obstacle, formation of two-soliton internal wave 7−51264
string theory on nonsimply-connected group manifolds, soliton structure 7−5077
structural phase transitions in highly anisotropic systems, dynamics 7−32605
SU(2)×SU(2) algebraic description of the skyrmion, SU(4) quark model recovery 7−56440
SU(2) Skyrme Lagrangian, collective-coordinate quantization and new mass term 7−56439
superlattices, gap solitons and nonlinear optical response 7−43204
superlattices, surface acoustic soliton, anal. 7−63938
supersymmetric quantum mechanics and inverse scatt., KdV eqn. solns. 7−35742
surface acoustic solitons, attenuation due to surface roughness 7−21599
surface-polariton solitons 7−45171
SUSY solitons, 1+1 dimensional, saturation of quantum Bogomolny bound 7−15076
three-wave acoustooptic interaction 7−39081
Toda lattice, thermodynamics as classical limit of two-component Bethe ansatz scheme 7−41304
Toda lattice with mass interface, soliton scatt., equivalent nonlinear LC circuit study 7−29919
topological bags, projections and chiral vac. effects 7−491
transverse modulations, long-wave limit, nonlinear theory calcs. 7−14791
TTF-BDT (Au), spin-Peierls phase diagram, high temp. sp. ht. and suscept. meas. 7−59026
TTF-chloranil mixed-stack change transfer crystal, domain wall dynamics 7−52702
turbulence, transport by negative eddy viscosity 7−14790
ultrafast phenomena conf., Snowmass, CO, USA (June 1986) 7−24
vacuum Einstein eqns., solitonic approach to self-gravitating disks and rings 7−48473
variable coefficient KdV equations, auto-Backlund transform; Lax pairs, Painleve prop. 7−29770

solitons continued
voltage-current characts., long Josephson junction with periodic inhomogeneities 7−58960
water, waves, maximum growth rate 7−43956
water molecular chains, orientation defects motion, kink soliton solution mechanism *(Russian)* 7−32260
whistler nonneutral envelope solitons, charge separation effects 7−37692
Whitham stationary waves and their dispersion relation 7−41110
XY model, 2D, phase diagram 7−4774
zero gap semiconductors near inversion point, solitons 7−64100
Au (100), reconstruction, glue model 7−32777
CdS, acoustoelectronic system, solitons obs. 7−45401
$CsNiF_3$, easy-plane ferromag. chain, quantum sp. ht. 7−7522
Cu complex, $(C_6H_{11}NH_3)CuBr_3$, easy-plane ferromag. chain, quantum sp. ht. 7−7522
^2H, magnetic form factor, topological exchange current contrib. 7−35941
^3He superfluid, transformations of topological defects, mag. field changes *(Russian)* 7−52172
^3He, superfluid A and B phases, order parameter dynamics, spin and orbital dynamics 7−44943
^3He-A, spin-temp. discontinuity propagation and soliton form. calcs. *(Russian)* 7−6908
Mo surface, struct. phase transitions 7−2327
$NbSe_3$, CDW conduction and periodic current noise 7−21896
PbTe-type narrow gap semicond., with antiphase boundary, physical realisation of parity anomaly 7−38432
Pt complex, $(H_3O)_{0.33}Li_{0.8}(Pt(C_4N_2S_2)_2)1.67\ H_2O$, synthetic conductor, spin-carrying defects 7−44524
Pt complexes, halogen-bridged mixed-valence, soliton model 7−64184
TaS_3, CDW conduction and periodic current noise 7−21896
TaS_3, quasi-1D conductor, solitons 7−45179
W surface, struct. phase transitions 7−2327

sols
see also colloids; sedimentation
alkylbenzenesulphonates microdisperse organosols, struct., small-angle X-ray diffr. investig. 7−39925
alkylsalicylates microdisperse organosols, struct., small-angle X-ray diffr. investig. 7−39925
composites, porous and dense, prep. from sol-gel 7−65002
glass-making, review 7−3259
plastisols, multicomponent, form., thermodynamics *(Russian)* 7−65359
scleroglucan solns., low temp. sol-gel transition, rheological behaviour, optical rot. 7−51018
shear flow, aggregative equilibr. 7−6291
silica, sol-gel processing, role of catalysts 7−22630
Silica aerogels, ethyl versus methyl sol-gel comparison, polar nephelometry studies 7−8312
tetramethoxysilicon, light scatt., below sol-gel transition 7−46058
transition metal oxides, sol-gel process synthesis, electronic and ionic props. 7−33618
Ag admolecules interaction, SERS study 7−52254
Ag hydrosol particles, adsorbed indigo dyes, SERS spectra 7−46870
Al_2O_3-Li_2O sol-gel technique for $LiAlO_2$ felt prep., phase transitions in gels 7−22601
Al_2O_3-SiO_3, mullite, prep. by sol-gel method, microstruct. and mech. props. 7−46386
$Al(OH)_3$ sols, gelation, pH, temp., ageing time 7−46875
B_2O_3-SiO_2 glass, borosiloxane bond formation, sol-gel process, spectroscopic study 7−59117
FeOOH sols, crystallisation, Mossbauer study 7−38970
$Li_2O.2SiO_2$ sol-gel glass, prep. and devitrification behaviour 7−58158
Na_2O-CaO-Al_2O_3-SiO_2 system, synthesis of glasses by sol-gel process 7−64997
Na_2O-CaO-SiO_2, high-silica glass, sol-gel prep. method 7−46402
Na_2SiO_3, sols, struct. making investigated by turbidity spectrum 7−8322
SiO_2, silica sol-gel derived coatings, thickness, prep. by dipping 7−27193
SiO_2 sol-gel glass structures, effects of water content of gels, EPR study 7−6526
ThO_2-UO_3 sol preparation for gelation into microspheres in CCl_4-NH_3 media 7−19370
Y_2O_3-Al_2O_3 system, prepared by sol-gel process, IR vibr. spectra study 7−33384

solubility
see also phase equilibrium; solid solubility; solutions
aniline, substituted, polymerisation and characterisation 7−33929
anthraquinone dyes, α-substituted, order parameters in nematic liq. cryst. 7−36633
binary system components, estimating intersolubility 7−44819
block copolymer-homopolymer system, phase separation, statistical theory 7−38213
borosilicate glass ATM-2, Am-doped, Am concentration in solutions 7−32659
borosilicate glasses, solubility tests for HLW immobilisation 7−30705
enhanced tension and solubility of solute in soln. 7−21066
glass forming systems, immiscibility 7−2214
halocarbons, solubility, interaction with human serum albumin, NMR and microcalorimetric obs. *(French)* 7−65701
hydroxypropyl cellulose solutions in N,N-dimethylacetamide and in dimethylsulphoxide, viscometric behaviour 7−32258
immiscible melts, separation under reduced gravity *(German)* 7−22972
Laves phases, and struct. rel. cpds., interstitial site occupancy of H atoms 7−16549
Lennard-Jones mixtures, gas solubility Henry coeffs. determ., WCA-LL-GH perturbation theory calcs. 7−6799
microscopic inhomogeneities in liquid semiconductingsystems containing miscibility gaps 7−1829
mixtures with supercritical gases, vapour-liq. equilib. calcs., excess Gibbs energy method 7−6768
nitrilebutadiene rubber, diffusion coeffs. of salt soln. and distilled water, solubility meas. 7−2269
nonelectrolyte solutions, supersaturation, estimation from solubility data 7−16755
organic neutral molecules, solubilisation in AOT inverse micelles in n-heptane, distrib. eval., fluoresc. quenching data 7−54191
polyisoprene-poly(isoprene-g-styrene) copolymer, phase separation study 7−38211
polyoxy-(allyl)phenylene electrochemically prepared film, elec. props., permittivity and solubility 7−27665
polystyrene, atatic, uniaxially drawn, CO_2 sorption 7−32812

solubility continued
polystyrene/styrene-methyl methacrylate random copolymer blend, DSC obs. of miscibility 7−12291
PVC-polycaprolactone interface, diffusion, temp. and time depend. 7−32723
PWR, solubility of simulated primary circuit corrosion products 7−19401
pyrene solubility in binary solvent systems, meas. and NIBS model calcs. 7−63829
quartz, solubility of water, thermodynamic model 7−16758
radioactive waste disposal, actinide solubility in the near-field 7−5473
solubility and diffusion in polyaryl ether ether ketone 7−44917
steel, stainless, molten, solubility of N_2 7−3304
styrene-isoprene block copolymers, mol. architecture effect, phase separation 7−38212
tetramethyl bisphenol A polycarbonate-styrenic polymer systems, phase props. 7−38209
tetramethyl bisphenol-A polycarbonate-aliphatic polyester blends, phase props. 7−38210
trifluoromethanesulphonic acid electrolyte in fuel cells, O solubility, diffusion coeff., reduction rate, adsorption on Pt surface 7−28395
water-2-propanol-nitromethane, US vel. at miscibility point 7−21355
Al, molten, soln. kinetics of stainless steel 7−16753
Al-Si, grain refinement, effect of solute content 7−59503
Am, nuclear waste, leaching by salt solns. 7−36272
Am, solubility, influence for nuclear waste repositories 7−36271
B_2O_3-PbO-Al_2O_3 glasses, phase separation, dynamical scaling 7−1908
$BaPb_{1-x}Bi_xO_3$, supercond. crysts., hydrothermal synthesis and props. 7−53532
$BaSO_4$ powder, solubility in water containing strong acidic ion exchange resin 7−21468
Bi-Ag, struct. of 10 mole % Ag alloy, liq. and amorphous states 7−6512
Bi-Zn liquid alloys with miscibility gaps, struct. 7−51611
$CaCO_3$, calcite, hydrothermal cryst. of growth and solubility in nitrate solns. 7−53533
$CaCO_3$-$CaSO_4.2H_2O$-NaCl-CO_2-H_2O, solubility in 4-phase systems, thermodynamics 7−2210
$Ca(OH)_22Zn(OH)_22H_2O$, chem. comp., solubility in KOH, thermodynamic props., reaction equilib. const. 7−26962
$CaSO_4$, solubilities calcs. 7−9625
Co, liq., O solubility 7−12284
Co-base alloys, N and H solubility, equivalent influence of alloying elements 7−59495
CoO-NiO system, immiscibility 7−38202
Cu β-diketonate mesophases, miscibility and discogenic props. 7−63455
Fe and alloys, molten, N solubility, statistical thermodynamics 7−52060
Fe-base alloys, N and H solubility, equivalent influence of alloying elements 7−59495
Fe-Co-Mo alloys, liq., H solubility meas. and estimates *(German)* 7−58487
Fe-Cr, liquid alloy, N activity coeff., soln. model for nonmetallic solutes 7−65043
Fe-Mn, FCC alloys, H-induced martensitic transform. *(Japanese)* 7−33655
Fe-Mn-Ni system, melting diagram 7−3278
Fe-Ni, liquid alloy, N activity coeff., soln. model for nonmetallic solutes 7−65043
Fe-Ni-Al-Co system, miscibility gap, phase decomp. in Alnico mag. alloys 7−17537
GaAs-Bi, distrib. coeff. of Bi, crystn. from molten solns. 7−46428
H, solubility in Li-LiH-Na systems, press. and temp. depend. 7−21471
H_2, solubility in Fe under high press. rel. to Earth evolution 7−8887
H_3PO_4 electrolyte in fuel cells, O solubility, diffusion coeff., reduction rate, adsorption on Pt surface 7−28395
InGaAsP layers, LPE on GaAs, immiscibility region, lattice matching 7−59465
InGaPAs, LPE growth on GaAs, immiscibility effects 7−39442
$KTiOPO_4$, solubility in KF aq. soln., high temp. and press., hygrothermal growth 7−58482
$NaBO_3.4H_2O$, primary nucleation in aq. solns. 7−32336
Na_2O-B_2O_3-SiO_2 glasses, liq. immiscibility rel. to trivalent oxide additions 7−39516
Ni, liq., O solubility 7−12284
Ni-base alloys, N and H solubility, equivalent influence of alloying elements 7−59495
Np, solubility, influence for nuclear waste repositories 7−36271
O_2, solubility in organic liqs., diffusion coeff. determ. *(German)* 7−52101
Pb-Sb, grain refinement, effect of solute content 7−59503
$Pb(S_{1-x}Te_x)$, quasibinary, phase diagram and miscibility gap calcs. 7−16764
Pd-PET membranes, H diffusivity and solubility, meas. by nonequilib. stripping potentiostatic method 7−6809
Pd-T system, solubility meas., comparison with Pd-D and PdH systems 7−21474
$Pd_{0.8}$ $Ag_{0.2}$-T systems, solubility meas., comparison with $Pd_{0.8}Ag_{0.2}$-D and $Pd_{0.8}Ag_{0.2}$-H systems 7−21474
Pd_7CeH_x, H solubility in ordered/disordered Pd alloys 7−21473
Pd_3MH_x (M=Fe, Mn), H solubility in ordered/disordered Pd alloys 7−21473
$Pd_{80}Si_{20}$, amorphous, H solubility and diffusion 7−26969
Pu, nuclear waste, leaching by salt solns. 7−36272
Pu, solubility, influence for nuclear waste repositories 7−36271
SAW device, coating responses, rel. to solubility and chem. struct., pattern recognition 7−54162
Sb-Sb_2Se_3-SbI_3 system, phase diagrams investig. 7−2212
Si-Ge:O, single crystal, thermodonors rel. to solubility of O 7−12648
SiC, LPE growth by temp. gradient zone melting, solubilities 7−64934
SiO_2-MgO(SrO)(La_2O_3)(Y_2O_3) systems, liq. immiscibility 7−6807
Sn-Pb system, metastable quasi-eutectic struct., existence range 7−3275
Sn-R binary systems (R=La, Nd, Gd, Er, Lu), phase diagrams and equilib. 7−7961
$SrCe_{0.95}Yb_{0.05}O_{3-\delta}$ proton conductor, D solubility, SIMS study 7−12298
Tc-C system, phase diagram and components activity 7−7962
Th_3N_4 and ThN, prep. and oxidation behaviour 7−22600
U, solubility, influence for nuclear waste repositories 7−36271
UO_2, parametric studies in groundwater 7−25253
UO_2-$La(OH)_3$, radionuclide coprecipitation solid solution formation 7−5475
YIG solubility in PbO-B_2O_3 flux validity of anionic model 7−52062
Y_2O_3-Al_2O_3-B_2O_3 system, glass formation, props. and struct. 7−2205
Zn, molten, soln. kinetics of steel 7−16752
ZnO, solubility product const. determ. 7−13790

solubility continued
ZrO_2-Y_2O_3-CeO_2, phase relations, solubilities, 1100-1600°C 7−46435
ZrO_2-Y_2O_3-Nd_2O_3, phase relations, solubilities, 1100-1600°C 7−46435

solute clustering *see segregation*

solution annealing
Alnico 5, Fe-Co-Ni-Al-Cu, microstruct. and mag. props., effects of heat treatment *(Korean)* 7−8138
Nimonic 86, carburised, heat treatment, creep behaviour rel. to carbide precip. *(Korean)* 7−46560
steel, austenitic stainless, high cycle fatigue props., age hardening 7−13598
steel, austenitic stainless, microstructure rel. to cathodic H charging 7−28039
steel, austenitic stainless, surface phase transform. rel. to H charging and ageing 7−17530
steel, low C, H diffusion and trapping by TiC precipitates *(Chinese)* 7−7998
Cu-Al-Ni-Ti-Zr, shape memory alloy, grain refinement, fracture mode, Ti and Zr additions effect 7−3301
Ni-Fe-Cr, age hardenable, SCC in PWR coolant water, heat treatment and Zr additions effect 7−39708
Ni_2Cr, order-disorder transform. kinetics, P content effect 7−13446
W-Ni-Fe system, matrix and interfacial precip. 7−46478

solution energy *see heat of solution*

solutions
see also critical mixtures; Debye-Huckel theory; heat of solution; liquids; polymer solutions; solid solutions; solvation
actinide ions in aq. soln., thermodynamic props., oxidation states, coordination number and struct., review 7−12322
alkali halide solns. in water-acetamide mixtures, partial molal vol. meas. 7−58389
alkali metal chlorate ion pairs, coord. structs., FT IR matrix isolation spectra 7−62367
alkali silicates, aq. solns., longit. ^{29}Si nucl. mag. relax. 7−33285
amides, aqueous solutions, intermolecular interaction investigations using ultrasound 7−38121
amino acid/ZZ 7−12210
p-aminotriphenylmethane dyes, in organic solvents, surface activity, He(I) photoelectron spectra 7−2300
anthracene in benzene, fluorescence spectral shifts, laser-driven shock compression 7−27781
anthracene solute alignment in uniaxial liq. cryst. solvents, Saupe ordering matrix calcs. 7−11902
aqueous, 2D J-resolved PMR, elimination of H_2O reson. 7−48820
aqueous, PMR, H_2O reson. elimination by spin-spin relax. 7−50176
aqueous solutions, activation energy for viscous flow, temp. depend 7−6846
ATP-$CdCl_2(Cd(ClO_4)_2)$, aq. solns., ^{13}C and ^{113}Cd spin-lattice relax. 7−28465
benzene, in liq. isopentane soln., quantum tunnelling of muonium reactions 7−50414
benzo(a)pyrene 7,8-diol 9,10-epoxides, solvolytic props., 6-fluoro substituent effects 7−62409
benzonitrile-hexane, binary solns., pseudospinodal curve, nonlinear dielec. effect 7−53212
borate esters, in aq. solns. and wine, ^{11}B NMR 7−934
caesium pentadecafluorooctanoate-water discoid micelle solns., order-disorder transitions, X-ray scatt., elec. cond., NMR meas. 7−26949
carbohydrates, aq. ethanolic solns., ultrasonic velocity determ. 7−31595
carboxylic acid/ZZ 7−12210
2-chloro-2-methylpropane, solvolysis in aqueous alcoholic solvents, US effects 7−50898
2,5-di(4-biphenylil)-oxazol fluorescence decay, difference method of deconvolution 7−25599
DNA aq. soln., resonant microwave absorpt. model 7−23310
DNA-salt solutions, thermodynamic coeffs., Monte Carlo calcs. 7−54443
dye molecules in solutions, cascading of relaxation over higher excited singlet levels 7−36679
dye solutions, concentration depolarization in fluorescence concentration quenching 7−36681
dye solutions for transient polarisation holography, photoinduced anisotropy 7−11085
electrolyte, solutions, viscosity, dielec. function theory 7−44883
electrolyte solution, elec. cond., ionic trace effects, mobility determ. 7−21497
electrolyte solution surfaces, hydrodynamic instabilities caused by elec. forces. 7−51322
electrolyte solutions, ionic transport, space-charge density, Nernst-Planck and Poisson eqn. calcs. 7−26989
emission spectroscopic analysis, matrix composition effects 7−54240
excess pressures for aqueous solutions 7−63843
f' problem, Mossbauer effect investig. 7−64548
gas-bubble nucleation in supersaturated solns. during electrolysis, electrode surface effects 7−54139
gradient index glass rods prep. by sol-gel index modifying ion interdiffusion process 7−7952
guaiacol-glycerine critical solutions, viscosity meas. 7−6850
interfacial monolayer between surfactants, rheological anal. of the Marangoni effect. 7−38233
ionic solute separation, conf., Smolenice, Czechoslovakia (Sept. 1985) 7−60863
l-threonine, in methanol-water mixtures, viscosity B-coeffs. 7−12343
lanthanide ions in aq. soln., thermodynamic props., oxidation states, coordination number and struct., review 7−12322
lyotropic nematic mesophase with benzenesulphonate solute, induced diamag. anisotropy sign reversal, PMR 7−21089
mannitol, aq. solns., solvation investig. *(French)* 7−65299
melittin soln., US props. det. 7−21357
metal-salt solutions, miscibility gap, perturbation theory 7−38205
micellar solutions, equilib. thermodynamic props. and phase separation theory 7−46876
muon-containing species in organic liqs., delayed form., spin reson. obs. 7−50416
$NaNO_2$ aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7−32692
2-(1-naphthyl)-4-phenyl-oxazol fluorescence decay, difference method of deconvolution 7−25599
NEAA-NMAA-H_2O ternary liq. solutions, US and volumetric investigations 7−38122

solutions continued
- Nile blue, oxazine dye, luminesc. and H^+ phototransfer in solns. 7—13762
- nitrobenzene-hexane, binary solns., pseudospinodal curve, nonlinear dielec. effect 7—53212
- nitroxyl radicals, in aq. glycerol soln., superslow rotation investig. 7—62422
- nonideal systems, dynamic light scatt. and mutual diffusion 7—50485
- nonpolar solutes, in water, thermodynamic props., hydrophobic hydration shells struct. 7—12317
- osmosis, solvent tension theory and thermodynamics 7—21063
- peptide/ZZ 7—12210
- phenol, aq. soln., liq.-vap. interface, second harmonic light phase, relation to mol. orientation 7—27057
- phospholipid bilayers, solvent-mediated interaction, nonlocal electrostatic theory of hydration force 7—17958
- polar molecules in v. dil. solns., dispersion curve separation, Debye contribs. 7—51603
- polymethacrylic acid, solns., hydration and conform. obs. 7—5802
- reference buffer solutions in solvent mixtures with water, standard pH values 7—17799
- regular solution boundary, concentration profile, molecular interaction model 7—63832
- Rhodamine B, aqueous soln., difference spectrophotometry 7—25527
- scintillator dye solutions, excited state absorpt. measurements 7—42516
- semiflexible chains, solution, statistical mechanics, path integral formulation 7—41232
- L-serine, in methanol-water mixtures, viscosity B-coeffs. 7—12343
- sodium p-n octylbenzenesulphonate, aq. solns., micelle form., acoustic and rheological props. 7—13823
- solubility and enhanced tension of solute in soln. 7—21066
- sorbitol, aq. solns., solvation investig. *(French)* 7—65299
- ternary heterogeneous solutions, conc. triangle, press. and temp. effects *(Russian)* 7—26908
- thermodynamic description 7—44853
- $AgClO_4$ soln. in acetonitriles, struct. of Ag^{II} and Ag^{O} solvates, EPR and electron spin-echo studies 7—17216
- $AlNH_4(SO_4)_2$ multicharged electrolyte soln. in water-tert butyl alcohol, viscosity and density studies 7—52104
- CO_2-Ne soln. thermodynamic props. near CO_2 vaporisation crit. point 7—12316
- $Cr(CO)_5$(methanol), form. by photodissoc. of $Cr(CO)_6$, time-resolved spectrosc. 7—62399
- CsCl aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7—32692
- $ErCl_3$-$GaCl_3$-$SOCl_2$ system, solution viscosity 7—21500
- Eu complexes, in soln., spectral line width, temp. depend. 7—31025
- Eu^{3+} in soln., $^5D_0$-$^7F_0$ luminesc. line shift and broadening, temp. depend. meas. *(Russian)* 7—17345
- $Fe(ClO_4)$, frozen aq. solns., short-range order, Mossbauer obs. 7—45844
- HCl, soln., elec. surface pot. change with conc. and surface age *(Russian)* 7—27063
- $KAl(SO_4)_2$ multicharged electrolyte soln. in water-tert butyl alcohol, viscosity and density studies 7—52104
- KH_2PO_4 solution, elec. cond., temp. and conc. depend., 10 to 70°C 7—2242
- KNO_3, solutions in aqueous and non-aqueous media, acoustic and physico-chemical props. 7—44694
- K_2O-SiO_2-NaCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7—12288
- Li ion pairs in tetrahydrofuran, indicator scale rel. to C acidity 7—51602
- $LiCl.3H_2O$, soln., struct., mol. dynamics simulation 7—58127
- Li_2O-SiO_2-NaCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7—12288
- Mn-NH_4 solutions, electrolysis, pH rise at cathode 7—33937
- NH_4F in dioxane-methanol mixtures, assoc. constant. from cond. meas. 7—33939
- N_2O, in liq. SF_6, rot. self-correl. functions, mol. dynamics simulation 7—44343
- $Na_8(AlSiO_4)_6.nH_2O$, dehydration, struct. collapse or expansion 7—17770
- NaCl aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7—32692
- NaCl, solns., electrolysis, alkali conc., filtering diaphragms effects 7—54136
- $NaNO_3$ solutions in aqueous and non-aqueous media, acoustic and physico-chemical props. 7—44694
- Na_2O-SiO_2 binder solns., ester curing, equilibria and kinetics, NMR study 7—8311
- Na_2O-SiO_2-KCl melts, alkali cation dissociation determ., solidification temp., elec. cond. and cryoscopic meas. 7—12288
- O_2, soln., time-resolved chemiluminesc. 7—8289
- Sm^{3+} complexes, samarium (III) 4,7,13,16,21-pentaoxa-1,10-diazabicyclo-8,8,5-tricosane cryptand, luminesc. 7—13191
- Tb^{3+} complexes, terbium (III) 4,7,13,16,21-pentaoxa-1,10-diazabicyclo-8,8,5-tricosane cryptand, luminesc. 7—13191

solvated electrons
- absorption spectra, temp. effects 7—58752
- hydrocarbons, saturated, liq., optically detected ESR of solvated electrons 7—25560
- H_2O dimer, transition from trapped to solvated electrons, ab initio calcs. 7—19700
- KCl, solvated electron melt, polaron theory 7—45173

solvated protons *see hydroxonium ion*

solvation
- *see also hydroxonium ion; solvated electrons*
- acid-base equilibr. in soln., thermodynamic props., SCF theory 7—54156
- alkali halides, aq. solns., ion hydration, dielec. props., microwave spectrosc. obs. *(French)* 7—54111
- alkaline earth halides, aq. solns., ion hydration, dielec. props., microwave spectrosc. obs. *(French)* 7—54111
- (n-l) alkane-butanone-polydimethylsiloxane solns., total and preferential sorption coeffs. 7—6499
- aqueous soln., free energies of hydration, ionisation pots., electron affinities 7—65292
- atmospheric ions 7—29230
- Born equation electrostatic solvation energies, off-centre mol. charge distrib. corrections 7—33916
- charged solid-liq., interfaces, dipolar hard spheres, density functional theory study 7—63414

solvation continued
- 2-chloro-2-methylpropane, solvolysis in aqueous alcoholic solvents, US effects 7—50898
- chloromethane+Cl^-, substitution reaction, mol. dynamics, pot. energy surface, frozen solvent theory calcs. 7—54109
- conference on natural and man-made ions in atm., London, England (October 1985) 7—24304
- 1,2-diol solns. with water or electrolytes, dielectric props. 7—13080
- electrolytes, unassociated, ionic activities, hydration model 7—54081
- D-glucopyranose, struct. stereochemistry, solvation props. PCILO calcs. 7—15518
- glycine, zwitterion, electronic excitation spectrum, aq. solvation effects, CI calcs. 7—50160
- group IVA atoms, photochemistry, electronic struct., matrix isolation spectra 7—3580
- hydrophobic effects in soln. chem., integral eqn., Monte Carlo study 7—59751
- 4-hydroxybiphenyl, cryst. packing rel. to mol. geometry and thermal motion 7—26736
- inert gases, hydrophobic hydration, free energy, mol. dynamics study 7—46821
- LDS-750 dye, solvation dynamics in polar aprotic and alcohol solvents, subpicosecond resolution meas. 7—49961
- lysophosphatidyl ethanolamine, energetics, hydration struct., ab initio pots. 7—65300
- mannitol, aq. solns., solvation investig. *(French)* 7—65299
- metal ions in liquid NH_3, normal pots. 7—39903
- methyl fluoride clusters, photodissoc., photoionisation efficiency curves, appearance pots. 7—50435
- methyldiazohydroxide, dissoc., ab initio calcs., rel. to carcinogenesis 7—56962
- molecules, macroscopic solvation, electron distrib. ab initio INDO SCF calcs. 7—54099
- 2-naphtholate, H^+recomb. and H^+ induced quenching, temp. depend. 7—57135
- nonpolar solutes, in water, thermodynamic props., hydrophobic hydration shells struct. 7—12317
- nuclear waste/natural glasses, aqueous corrosion, comparative hydration rates in liquid/vapour environments 7—8141
- octamethylcyclotetrasiloxane, nonpolar liq. thin film, solvation and phase separation of water 7—44958
- organic molecules in conformationally inhomogeneous solvents, solvation effect on UV and fluoresc. spectra 7—50234
- phenothiazine derivative-methylviologen systems, charge separation yield 7—28323
- polyalanine fragment, solvent struct. hydration, Monte Carlo simulation 7—23299
- polyol, in soln., US vel., density and viscosity meas. 7—32693
- pyridine-water complexes, intermolecular pot. functions 7—62480
- quadrupole solvation energy calcs. atomic charges 7—13751
- single ions, transfer between two solvent, free energy 7—17785
- sorbitol, aq. solns., solvation investig. *(French)* 7—65299
- spectral-active cpds., freq. shift in UV-visible spectra 7—19955
- tetraphenyl-tetrahydropophyrins and related mols. triplet-triplet absorpt., visible spectra 7—31061
- thiopyrylocyanine dyes, in polymer matrix, hypsochromic shift, solvation, IR spectra 7—42611
- water-in-oil emulsions, adsorbed-solvated layers, optical obs. 7—59798
- water-methanol mixed clusters, H-bonded networks, stability, thermochemistry 7—62559
- XPS, UPS, work function meas. 7—12485
- zeolites, ion selectivity, appl. to chabazite 7—63874
- $(CaO)_3SiO_2$ solid solns., hydration investig. 7—3583
- Cl^-+chloromethane, substitution reaction, solvent effects nonadiabatic solvation, frozen solvent model study 7—54110
- Co complex, CO(II)-5′ IMP, struct., hydration. mag. suscept. and Mossbauer emission obs. 7—36660
- Fe^{2+}, aq. solvation, Monte Carlo simulation 7—54154
- HF, macroscopic solvation, electron distrib. ab initio INDO SCF calcs. 7—54099
- I^-, solvation struct. in formamide (formamide-H_2O), NMR relax. obs. 7—15539
- Li first row compounds, solvation energies calc. 7—8269
- $MoO_4{}^{2-}$ in aq. soln. struct., X-ray scatt. meas. 7—39883
- Na^+, solvation struct. in formamide (formamide-H_2O), NMR relax. obs. 7—15539
- $Na_6(AlSiO_4)_6.nH_2O$, dehydration, struct. collapse or expansion 7—17770
- Na_2O-CaO-SiO_2 glass, hydration, fluid flow effects 7—13758
- α-$RuCl_3$, intercalation reactions, electron/ion transfer and exchange reactions 7—46837
- $WO_4{}^{2-}$, in aq. soln. struct., X-ray scatt. meas. 7—39883
- α-ZrP-propylamine, intercalation cpd., amine loading, protonic cond., admittance meas. 7—44909

solvent effects
- 1,1-electrolyte, solns., apparent molar vol. calc. 7—32538
- acetone-benzophenone mixture, benzene solvent, dielectric relax. study 7—64563
- acetonitrile-d_3, ^2H and ^{14}N spin-lattice relaxation rates, solvent effects 7—19897
- acetylcarnitine, in D_2O, conform., Karplus equation and mol., mechanics calcs. 7—31076
- 1- acetylcyclohexene, rot. barrier, conform. stability, MINDO/3 and MNDO calcs., UV spectra anal., CNDO calcs. 7—25405
- acid-base equilibr. in soln., thermodynamic props., SCF theory 7—54156
- albumin solution, struct. determ. by FTIR 7—54471
- alkali metal cations, half-wave pots., solvent effects 7—23029
- alkali metal poly(styrenesulphonate)s, enthalpy of dilution, large dielectric constant solvent 7—21483
- n-alkanes, conformations, solvent effects, IR spectrosc. obs. 7—5673
- alkyl nitrides, conformational kinetics calcs., gas and liquid phases, MR spectra 7—19896
- alkyl nitrites gas and liquid phases, syn-anti conformer equilib., MR chem. shift study 7—19895
- allene, liq., ν_3 mode, vibr. dephasing, Raman spectra anal. 7—42621
- -amino-5,6,7,8,-tetrahydronaphthalene, depletion of singlet and triplet states due to external heavy-atom perturbation 7—57121
- aromatic aldehydes in cyclohexane solvent, internal mobility study, far-IR and microwave Fourier transform spectra anal. 7—64631
- aromatic thiones, thermally activated delayed fluoresc., solvent effects, visible spectra anal. 7—31106

solvent effects continued
ascorbic acid radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7—33918
atomic van der Waal's radii, electron density and solvent effects study 7—62300
1-azabicyclo[2.2.2]octane, binary solvent system, solute-solvent interactions, ^{13}C and ^{14}N spin-lattice relax. study 7—31069
azacoumarin dyes, fluorinated, laser dye stability, lifetimes, fluoresc. 7—59237
azobenzene and derivatives, reson. Raman spectra in solid state and aq. soln., solvent effects study 7—64643
benzenes monosubstituted, H-bonded complexes with fluoroalkanol and fluoroalkyl ethers, ^{1}H NMR study 7—42651
benzil, fluoresc. and phosphoresc., spectra, O effects 7—50233
benzonitrile, FTIR and Raman obs. on dynamic and interaction processes 7—53344
substituted benzoylaminopropionic acid esters, conformational equilib., IR spectra, steric effects 7—57066
9,9′-bianthryl, n-hexane soln., excited states, dipole moments, transient dielectric loss results 7—13088
biomacromolecules, aq. solns., 2D NOE spectra, solvent effects 7—36656
bis(4-aminophenyl)sulphone, twisted intramol. charge transfer and solvent dynamics, time resolved fluoresc. spectra 7—50232
1,4-bis(β-pyrazinyl-2-vinyl)-benzene, solns. and solid state, irrad. and solvent effects, visible fluoresc. anal. 7—36674
9,9-bis(acridizinium-yl), fluoresc. quenching, solvent depend. *(German)* 7—940
p-bromoacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
carnitine, in D$_2$O, conform., Karplus equation and mol., mechanics calcs. 7—31076
chloranil-mesitylene(benzene), charge transfer complexes, thermodynamic and spectrophotometric study 7—33950
chloranil-pyrene charge transfer complex, solvent effects, visible spectra study 7—42636
5-chloro-2-hydroxypyridine, tautomerism, IR and UV spectra 7—31047
p-chloroacetanilide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
2-chlorobutane, solns., glass transition, conformational equilib., IR spectra 7—31044
chlorocyclohexane, solns., glass transition, conformational equilib., IR spectra 7—31044
chloroform-d, ^{3}H spin-lattice relaxation rates, solvent effects 7—19897
chloromethane+Cl^{-}, substitution reaction, mol. dynamics, pot. energy surface, frozen solvent theory calcs. 7—54109
2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7—46018
chlorophyll derivatives, in organic solvent matrix, vibrationally resolved fluoresc. spectra 7—57120
chlorophyll forms, vib. state and struct. anal., Raman spectra 7—19867
crown ether-NaSCN complex, tetrahydrofuran solvent, IR and microwave dielectric spectro anal. 7—31027
cyclen mols. in water, Monte Carlo simulation, pot. function, ab initio calcs. 7—21071
cyclobutenediylic dyes, electron transfer rate consts. and fluoresc. lifetime determ. 7—25587
DEFT with 2D pulse sequence, solvent reson. suppression or differentiation 7—48798
1,3-di(1-pyrenyl)propane, intramolecular excimer formation, viscosity dependence, anal. study 7—19729
dialkyl sulphides, heptane and acetonitrile solns., electronic struct., UV absorpt. spectra 7—5695
4,4′-diaminophenyl sulphone, intramol. charge transfer state, H-bonded cluster importance, fluoresc. and IR spectra 7—50213
3,5-diarylaminobenzene derivatives, absorpt. and fluoresc. spectra, steric effects 7—36590
dibucaine, H bonding nature and vibr. structure, birefringence emission spectra anal. 7—19935
dichloroacetic acid complex with substituted pyridines, solvent effects, IR and ^{1}H NMR spectra anal. 7—62365
trans-1,2-dichlorocyclohexane, solns., glass transition, conformational equilib., IR spectra 7—31044
1,1-dichloroethylene, vibr. spectrum, solvent effect *(German)* 7—915
1,1-dichloroethylene, vibr. spectrum, solvent effects *(German)* 7—916
5,6-dihydrobenzo(c)xanthylium salts, synthesis, struct. and spectral props. 7—57050
6b,8a-dihydrocyclobut(a)acenaphthylene, photoisomerisation, solvent and irradiation parameter effects, visible and UV spectra study. 7—33947
dimedone Schiff bases, stretching vibr., IR spectra, solvent effects 7—57057
dimethyl tin diacetate, solid-state and soln. struct., ^{2}H and ^{3}C NMR spectra study 7—25431
dimethyl tin diacetate hydrolyzate, solid-state and soln. struct., ^{2}H and ^{3}C NMR spectra study 7—25431
N,N-dimethylacetamide, vibr. relax. and noncoincidence effect, Raman spectra anal. 7—46048
4-(N,N-dimethylamino)benzonitrile, solvated, charge- transfer state form., structural demand, fluoresc. 7—15637
4-N,N-dimethylaminobenzonitrile, cyclohexane (1,5-dioxane) solns., excited states, dipole moments, transient dielectric loss results 7—13088
dimethyldioctadecylammonium bromine, charge-transfer-to-solvent transition, far-UV absorpt. spectra 7—57081
dimethyldioctadecylammonium chlorine, charge-transfer-to-solvent transition, far-UV absorpt. spectra 7—57081
dimethyldioctadecylammonium iodide, charge-transfer-to-solvent transition, far-UV absorpt. spectra 7—57081
DPPC bilayers, aqueous assemblies, high press. IR studies 7—54501
electric dipole moment, mol. excited state, solvatochromic shift meas. 7—42512
erythrosine, fluoresc. and kinetic characts., solvatochromy and solvatofluorochromy anal. 7—57127
ethyl 2-bromopropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7—49931
ethyl 2-chloropropionate, mol. orbital study, Raman and IR spectra anal., CNDO calcs. 7—49931
N-ethyl-p-chlorobenzamide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7—25432
fluorenecarboxylic acids, and esters, solvent and pH effects, absorpt. and fluoresc. spectra anal. 7—50237
fluorescent dyes in nematic liquid crystals, spectral props. 7—935

solvent effects continued
globoside, oligosaccharide headgroup, soln. conform. study, ^{1}H NMR spectral methods anal., pot. energy calcs. 7—25361
D-glucopyranose, struct. stereochemistry, solvation props. PCILO calcs. 7—15518
hydrazyl radicals, muonium substituted hyperfine coupling constants 7—42793
4′-hydroxy-1-methylstilbazolium, solvatochromism, spectra study, solvatochromic comparison method anal. 7—25519
imidazole, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7—25526
in ethylene-glycol (ethylene glycol-water), primary medium effects 7—12313
[IN-(2-l] furylidene)-β(z-furyl)serine methyl ester, diastereomeric forms, tautomeric equilib., solvent effects ^{1}H and ^{13}C NMR spectra 7—19893
LDS-750 dye, solvation dynamics in polar aprotic and alcohol solvents, subpicosecond resolution meas. 7—49961
liquid membranes, macrocycle-mediated cation transport, halocarbon solvent effects 7—13813
magnesium poly(styrenesulphonate)s, enthalpy of dilution, large dielectric constant solvent 7—21483
malonic acid, in dioxane, dipole moment, solvent effect eval. 7—25399
merocyanine dyes, J aggregate form. in mixed monolayers, visible spectra and surface pressure-area isotherms anal. 7—31059
methyl halides, nucleophilic substitution reactions, quantum-mechanical model, HMO calcs. 7—36482
1-methyl-2,4,6-triphenylpyridinium iodide, charge transfer complex, UV absorpt. spectra 7—36640
methyldichlorophosphine, struct., and orientation in mixed nematic liq. crystals, NMR spectra anal. 7—53165
micellar and microemulsion globules solvent induced attractions 7—54195
mixtures, dilute behaviour near crit. pt. of solvent 7—26979
model pot. for H bond, medium effect 7—15533
molecular dynamics of the A+BC reaction in rare gas solution 7—28273
monosubstituted ammonium compounds, ^{1}H NMR chemical shifts of solvent water 7—36648
multiparameter model, effects on quantum yields *(German)* 7—871
Nile blue, oxazine dye, luminesc. and H^{+} phototransfer in solns. 7—13762
nitrobenzenes para-substituted, solvated anion radicals reaction kinetics in liq. NH$_3$, ESR spectra anal. 7—19907
nitrophenol-trialkylamine ionic complexes, spectral characts. 7—15596
1S,4R-norcamphor, circular dichroism, solvent effects and vibronic coupling perturbations calc. 7—42658
nuclear quadrupole coupling consts., solvent effects *(French)* 7—25558
octahalobistrimethylacetorhenium, press. tuning IR spectral shifts 7—22242
organic molecules in conformationally inhomogeneous solvents, solvation effect on UV and fluoresc. spectra 7—50234
organic vapours, thermally induced nucleation 7—23051
pentanol isomers, n-heptane solvent, mol. assoc., optical Kerr effect study 7—62429
(perylene-Ag^{+})* exciplex fluoresc., solvent influence 7—57113
phenothiazine derivative-methylviologen systems, charge separation yield 7—28323
α-phenyl-N-tert-butyl nitrone+O$_2$, solvent effect and temp. depend., luminesc. kinetics meas. 7—54130
phosphates, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
phosphites, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7—25544
phthalimides, electronic spectra, dipole moments, polarizabilities and Onsager radii, solvent effect 7—31064
polar compound in alcoholic solvents, time depend. fluoresc. shift, solute-solvent interaction 7—62436
poly(2-vinylpyridine), protonated, dil. soln. with trifluoroacetic acid, excimer emission, fluoresc. anal. 7—31196
poly(4-vinylpyridine), protonated, dil. soln. with trifluoroacetic acid, excimer emission, fluoresc. anal. 7—31196
poly-L-lysine, deuterated, Fourier transform vibr. circular dichroism in amide I bands 7—54475
poly-p-decylstyrene solns., optical and hydrodynamic investig. *(Russian)* 7—13167
polyacrylonitrile fibres, shrinkage, IR spectra investig. 7—59206
polyatomic ions in soln., rot., Hubbard-Onsager-Felderhof's dielectric friction theory 7—17281
polycapramide, solns., viscosity props. and phase stability *(Russian)* 7—21074
polymers, dye molecule doped, pressure-induced optical shifts and compressibilities 7—25606
polystyrene, cycloalkane and n-alkane solns., phase behaviour, cloud point curves 7—52030
polystyrene, linear atactic, solns., chain size determ., rel. to solvent quality 7—11884
polystyrene, photodegradation, spectral differences, solvent effects 7—6675
polystyrene-based lattices, dil. suspensions, ordered struct., charge density and size effects 7—26615
polystyrene-based lattices, dil. suspensions, ordered struct. 7—26614
o-positronium, quenching and form. in xylene soln. containing nitrodiphenyls 7—50406
o-positronium, quenching reactions, solvent dielec. const. role 7—54077
positronium complex formation, quenching rate const. meas., solvent effects 7—62545
o-positronium diffusion controlled quenching reactions, influence of solvent dielec. constant 7—39852
positronium formation and hydrated positron reactions in solns. of Cl^{-}, Br^{-} and I^{-} 7—17809
propylene carbonate-1,2-dimethoxyethane mixtures in electrolyte solns., dielectric props. 7—33322
protein in aqueous solution, FTIR spectra, automatic water subtraction procedure 7—54836
protein structure determination by FTIR 7—54471
protein structure-spectra correlations, nonaqueous solvent effects using FTIR and ATR flow cell 7—54472
proteins and lipids, FTIR spectra, water subtraction procedure 7—54834
purines, tautomeric equilib., gas phase and aq. soln., HF calcs., MNDO calcs. 7—25403
(10-(3-pyrenyl)decyl)dimethylmonochlorosilane, chemically bonded to silica surfaces, solvent effects on config., excimer decay profiles 7—22329
pyrimidines, tautomeric equilib., gas phase and aq. soln., HF calcs., MNDO calcs. 7—25403
pyrozine, triplet lifetime, temp dependence, visible and IR phosphorescence spectra 7—22328

solvent effects continued
rhodamine 6 G, polar soln., electron-excitation energy migration, fluoresc. 7−42674
rhodamine B, mol. forms, internal conversion mechanism, solvent effects 7−10650
rhodamine dyes, polar and nonpolar solvent mixtures, aggregation, luminesc. meas. 7−7758
rigid molecule, orientation in nematic liq. cryst., NMR study 7−62414
salt/water/aprotic solvent mixtures, alkali cation influence, IR spectra anal. 7−19856
scintillator dye solutions, excited state absorpt. measurements 7−42516
single ions, transfer between two solvent, free energy 7−17785
sodium nitrophenolates-crown ethers, proton transfer complexes, spectral characts. 7−15596
solns., viscosity props. and phase stability *(Russian)* 7−21074
spectral-active cpds., freq. shift in UV-visible spectra 7−19955
stilbene, free rotation transient, fluorescence anisotropy 7−15639
trans-stilbene-fumaronitrile ion pair, back-electron transfer, solvent effects 7−39873
succinimide, substituted amide with halogen atom as second polar group, dipole moment direction anal. 7−25432
tetra-n-butylammoniumoctahalorhenium, press. tuning IR spectral shifts 7−22242
2,6,N,N-tetramethylcyanoaniline, charge transfer states, solvent effects, fluoresc. 7−31111
tetramethylsilane, ^{13}C NMR chemical shifts, solvent effects 7−50198
1,2,4,6-tetraphenylpyridinium perchlorate, charge transfer complex, UV absorpt. spectra 7−36640
thiophene, benzene solvent, dielectric relax. study 7−64563
thiophene-benzophenone mixture, benzene solvent, dielectric relax. study 7−64563
thiophosphates, ^{17}O, ^{31}P, ^{1}H and ^{13}C NMR spectra study 7−25544
transition dipole-solvent interaction in photoionization 7−50270
vinyl alcohol, aq. soln., ketonization, ab initio STO-3G calcs. 7−22988
vitamin B_1, in H_2O, 2D solvent suppressed COSY NMR spectra, pulse shaping 7−57086
Br^-, in ethylene-glycol (ethylene glycol-water), primary medium effects 7−12313
Cd_2GeAs_4 semiconducting glass electrolytic dissolution in HCl and water 7−12289
Cl^-+chloromethane, substitution reaction, solvent effects nonadiabatic solvation, frozen solvent model study 7−54110
Co complexes, bis(dimethylglyoximato)cobalt(II), frozen soln., EPR and ENDOR investig. 7−57097
Cu complexes, dibromotetrapyrazole copper, polycryst. and soln., ESR study 7−38928
Cu complexes, dichlorobispyrazole copper, polycryst. and soln., ESR study 7−38928
Cu complexes, diperchlorotetrapyrazole copper, polycryst. and soln., ESR study 7−38928
Cu^{2+}, detection in Nafion membranes, H_2O solvent and Zn^{2+} ratio effects, ESR spectra anal. 7−33268
H_2O-DMSO-1,4-dioxan, chem. shift, NMR spectroscopy 7−25559
HPO_3 radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7−33918
^{4}He, three atoms interacting through intermol. pot., Efimov state 7−5738
K ion adsorption on Bi, in alcohol solvents 7−52238
$K_4Mo_2Cl_8$, press. tuning IR spectral shifts 7−22242
Li^+, in water, Stokes radius, Hubbard-Onsager's dielectric friction theory 7−33347
$LiCl(H_2O)$, ion pairs, struct. and stability, H^+ transfer reaction path, SCF-CNDO/2 calcs. 7−25400
$LiClO_4$, solns., chem. shift, NMR 7−57085
$LiF(H_2O)$, ion pairs, struct. and stability, H^+ transfer reaction path, SCF-CNDO/2 calcs. 7−25400
Mo complex, Mo phthalocyanine, struct., IR spectra, powder and liq. soln. EPR spectra study 7−64509
$(NH_4)_4Mo_2Br_8$, press. tuning IR spectral shifts 7−22242
Nd^{3+} complex with amino acids, visible absorpt. spectra 7−31057
O_2, solubility in organic liqs., diffusion coeff. determ. *(German)* 7−52101
OH+cytosine, ab initio SCF MO calcs. 7−8478
Ru complex, outer sphere electron transfer, solvent relax. dynamics effect 7−65290
Ru complex, $Ru(bpy)_3^{2+}$, rigid solutions, luminescence, magnetic circular polarisation 7−64685
SO_3 radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7−33918
Zn-neutralised ionomers, conc. solns. in nonpolar solvent, viscoelastic behaviour 7−51609

somatosensory phenomena, mechanical *see mechanoception*

somatosensory phenomena, thermal *see biothermics*

sonar
see also bioacoustics; navigation; underwater sound
150 kHz sonars for Doppler acoustic velocity profiling in the Arctic 7−9265
acoustic remote sensing of atmosphere and oceans, symposium, Paris (October 1985) 7−48133
ARIES (automatically recording inverted echo sounder), appl. to bubble clouds meas. 7−8991
bat acoustic signal analysis 7−18001
bat sonar perception systems 7−47131
bat-like sonar signals, sensitivity of Doppler tolerance 7−47130
bathymetric mapping in USA economic zone, sonar digital swath method 7−66360
bathymetric sounding, with bathyscan precision swath sounder 7−66362
bats, sonar evaluation in natural environment 7−18002
beamformer, sampled phase-delay, high resolution 7−31606
buried target location studies 7−11229
Coastal Ocean Dynamics Experiment, shipboard Doppler current profiling 7−9260
coherent images, interpretation and simulation of clutter textures 7−37242
Delaware Bay acoustic Doppler profiler intercomparison expt. 7−9263
Doppler profile current meter 7−9264
GLORIA, processing techniques for digital sonar images 7−4220
HF acoustic propagation, range dependent ocean channel transition 7−47465
hydrothermal plumes at seafloor spreading centres, acoustic imaging 7−6032

sonar continued
ocean research and underwater exploration vehicles, SAR, NAUTILE, SAGA and ELIT systems 7−9201
oceanographic acoustic Doppler current profiler, intercomparison with conventional instruments and tidal flow model 7−9266
oceanographic acoustic Doppler current profiling, form volunteer commercial ship 7−9261
oceanographic current meas., Conf., Airlie, VA, USA (Jan. 1986) 7−4633
oceanographic current meters standardisation problems and solutions 7−9272
oceanographic current profiler, using pulse-to-pulse coherent Doppler technique 7−9268
oceanographic current profiling system design and calibration, HF volumetric backscattering 7−9270
oceanographic mid-ocean acoustic current profiling from submergedbuoys 7−9269
oceanographic surface current meas., CODAR intercomparison, Delaware Bay (1984) 7−9254
parametric sonar use for oceanographic research 7−29298
pipistrelle bat, detection of normal and reversed replicas of its sonar pulses 7−3804
polyvinylidene fluoride sheet evaluation for large sonar arrays 7−2986
radiowave propagation and acoustic sounding developments 7−34607
resolution in sonar systems—a review 7−26101
seabed topography meas. by multibeam sonar using complex fast Fourier transform 7−66327
shipboard Doppler current profiler data merging with LORAN-C data, absolute current estimation 7−9267
short-base acoustic ranging systems, source location accuracy, receivers comparison 7−43511
side scan sonar records, use of image processing 7−66368
signal processing, likelihood ratio calcs. 7−6054
spatial light modulator, electron beam addressed, radar and sonar processing 7−25955
switched-beam planar arrays suitable for high-resolutionacoustic sounders 7−9209
system simulation design technique *(Chinese)* 7−11219
system simulation design technique *(Chinese)* 7−20495
target responses and echo formation process *(French)* 7−43464
time varied gain functions for pulsed sonars 7−20496
transmission and directivity characteristics of beam emitted by sonar dome of a boat *(French)* 7−43510
underwater sound source localisation, appl. of acoustic amplitude ranging techniques 7−66161
Us rangefinders with various types of cct., error estimation of standard channel 7−62930
wave theoretical approach to acoustic currentprofiling 7−4821

sonic boom *see shock waves*

sonic propagation *see acoustic wave propagation*

sonoluminescence
spectral interpretations and mechanisms 7−50899

Soret effect *see thermal diffusion in liquids*

sorption
see also adsorption; chemisorption; desorption; surface diffusion
aerosol mixtures, ion formation from neutral molecule surface absorption 7−11580
alkali cellulose, composition, reacting struct. fractions concept 7−11959
(n-l) alkane-butanone-polydimethylsiloxane solns., total and preferential sorption coeffs. 7−6499
concrete, sorption of fission products 7−5471
dichloromethane, sorpt. and diffusion on polypropylene films, isotactic, struct., quenching temp. effect 7−11950
disordered solids, hydrogen absorption, model 7−26970
dry sorbent injection technologies for SO_2 and simultaneous NO_x control 7−65667
epoxide networks, crosslinked, sorption and diffusion of chloroform vapours *(Russian)* 7−27021
ethylene-propylene-diene elastomer, sorption and swelling in water and humid media *(Russian)* 7−27139
ethylene-propylene-diene rubber, H_2O sorption and diffusion in presence of vulcanisation accelerators *(Russian)* 7−8300
falling films, surface temp. meas., rel. to gas and vapour sorption 7−56263
Fickian diffusion, uptake curves 7−17821
fissured rocks, U, Th and lanthanides transport 7−5479
gas absorption from single gas bubbles 7−6273
graphite, ultrafine, heats of combustion, ESR meas., depend. on exposure to air 7−33266
graphite-K intercalation cpd., C_8K, positron annihilation spectra, effect of H absorption 7−39270
halides, lamellar, incipient triple points in physisorbed inert gas films 7−16722
hard metal parts, sintered, local alloying 7−27997
ILW conditioned in cement and bitumen, actinide mobilisation 7−5472
inert gas atoms, physisorbed, induced dipole moment 7−52243
ion-stimulated sorption, nonequilib. composition and struct. film growth technology 7−22585
Kevlar fibre surface, diffuse reflectance FTIR spectroscopy, fibre accessibility and water absorption 7−46040
metallic glasses-H_2, prep., struct. and props. 7−26663
nonequilibrium dynamics, soln. uniqueness for inverse problems 7−58647
nylon-6,6, fatigue crack propag., temp. and absorbed water effect 7−39662
organic surfactants, on electrode surface, polarographic maxima of the third kind 7−13838
PET films, crystallisation induced by integral sorption of organic vapours 7−12473
polyaryl ether ether ketone, solubility and diffusion of water 7−44917
polyetheretherketone, penetrant durability rel. to processing and struct. 7−65168
polyethylene, dilation by sorption of CO_2 7−12469
polyethylene film, low density, diffusion and sorption of liquids, IR ATR spectrosc. obs. *(German)* 7−53302
polymer membranes, sorption meas. using quartz cryst. microbalance 7−54171
polymers, gaseous uptake at high pressure, meas. technique 7−41348
polymers, glassy, non-Fickian sorption, effect of mol. size 7−38324
polystyrene, atatic, uniaxially drawn, CO_2 sorption 7−32812
radionuclide sorption on natural materials 7−62087

sorption continued
- rock matrix, sorption and diffusion of radionuclides 7–5478
- sand aquifer, natural gradient expt. on solute transport, organic solutes sorption, effect on mobility 7–66199
- sorption-diffusion equations, singularly perturbed boundary-value problem, soln. asymptotics *(Russian)* 7–61297
- thermopiezic analysis, gas absorption and desorption studies on milligram samples 7–16861
- transient dilation of bubbles and drops, theoretical basis for dynamic interfacial meas. 7–32757
- water, sorption investigated using photoacoustic effect 7–54163
- Ag_2S-Al_2O_3 composites, stoichiometry and homogeneity, interfacial effects 7–6815
- Am pseudocolloids, formation and transport in aqueous systems 7–5476
- $CeNi_{5-x}Fe_x$, mag. and cryst. props., effect of H absorpt. 7–33168
- $CeNi_{5-x}Mn_x$, mag. and cryst. props., effect of H absorpt. 7–33168
- Cu (100), physisorbed H_2 quadrupolar mol. rot. damping due to electron-hole pair excitation 7–23064
- Cu-Ti alloys, amorphous and crystalline, H absorption 7–2369
- GaAs (111), of O, surface struct., AES anal. 7–53457
- Gd-Co, amorphous, influence of hydrogenation or mag. props. 7–2899
- Gd-Co, amorphous and crystalline, hydrogenation, pressure-composition isotherm 7–3606
- H, sorption on $Ni_{4.15}Fe_{0.85}R$-Al matrix (R = Mischmetal), nonequilib. parameter 7–32836
- H_2, absorption in metal hydride systems, kinetics 7–33966
- H_2 isotope sorption and recovery by nonevaporable getter with chem. compressor material 7–48760
- H_2, sorption on Pd, rate investig. 7–32834
- H_2 thermal absorption or desorption studies, microcomputer controlled apparatus 7–21668
- $LaNi_5$, anisotropic H migration, deposition potentials, hardness, brittleness meas. 7–6873
- α-$LaNi_5$-H, multiply cycled, inelastic neutron scatt. 7–32835
- $LaNi_5$-H_2 system, γ-phase hydride, in situ X-ray diffractometry study 7–26712
- LiF, of bromomethane, laser photofragmentation and photodesorpt. 7–50275
- Mg solvated in organic matrices, H absorption studies 7–34073
- Mg-Cu solvated in organic matrices, H absorption studies 7–34073
- MgH_2-$LaH_{2.8}$ hydrides, H diffusion coeff., NMR studies 7–32705
- Mo, TiC coated, H absorption under glow discharge fusion reactor appl. 7–52244
- NH_3, absorpt. into water in packed tower, mass transfer coeffs. meas 7–266
- Na_2O-P_2O_5 thin films, elec. resist., effect of sorbed water 7–21514
- Nb, polycrystalline, deformation under H absorption 7–46549
- Pd (110) with impurity S coverage, kinetics of H absorption 7–6995
- Pd-B-H dilute solutions, statistical mechanics 7–21669
- Pd-H system, H conc. determ. in absorbing metallic thin films 7–23117
- Pd-H_2, Pd-based ternary system, hydrogen absorption, model 7–26970
- Pd-Si alloys, H absorption, structural disorder effects 7–52249
- PdH_x films, H absorption, press.-composition isotherm studies 7–52248
- PdH_x, H-induced lattice expansion and effective H-H interaction 7–52247
- SiO_2, of polydimethylsiloxane, chain binding, collective and multiple aggregate processes 7–12474
- SiO_2, of siloxane, mechanically induced, two-parameter model 7–16866
- $TiCr_{2-x}Fe_x$ alloys, H absorption and storage investig. 7–32832
- TiFe, H absorpt., Mossbauer obs. 7–27642
- Ti_4Fe_2O, H absorpt., Mossbauer obs. 7–27642
- U^{6+}, migration behaviour in tuff 7–5480
- U-V (0.2 wt.%), hydriding reaction kinetics *(French)* 7–23062
- V, polycrystalline, deformation under H absorption 7–46549
- WC-Ni hard metal parts, sintered, local alloying 7–27997
- Zr, α and β phases, differential heat of H absorption, isoperibol calorimetry studies 7–6967
- $ZrMnFe_x$ system, H storage material, effect of hyperstoichiometric Fe 7–45000
- $ZrSiO_4$, burned, humidity sensor with H_3PO_4, sensitivity rel. to acidic groups 7–9838

SOS integrated circuits *see field effect integrated circuits*

sound *see acoustic waves; acoustics*

sound amplification *see acoustic wave amplification*

sound boards (computer peripherals) *see acoustic generators; electronic music*

sound broadcasting *see radio broadcasting*

sound field *see acoustic field*

sound generators *see acoustic generators*

sound intensity *see acoustic intensity*

sound measurement *see acoustic variables measurement*

sound propagation *see acoustic wave propagation*

sound ranging *see sonar*

sound reproduction
- *see also audio acoustics; audio recording; pick-ups*
- No entries

sound waves *see acoustic waves*

source region electromagnetic pulse *see electromagnetic pulse*

space charge
- *see also limited space charge accumulation; space-charge-limited conduction; space-charge limited devices*
- artificial satellites, electric charge build-up in magnetospheric environment, secondary electron yields 7–55415
- corona discharge, unipolar space charge flow 7–26567
- cylindrical solid-state diode with thermal free carriers, single injection current 7–17111
- dielectric between spherical electrodes, I-V characts. model calcs. 7–38771
- dielectric breakdown of solid dielecs., review of Japanese research 7–45931
- dielectric film, electron irrad., space-charge buildup, atomic number effect 7–33330
- dielectric liquids, elec. cond. and dielec. breakdown 7–45932
- dielectric material, radiation diagnostics of electric potentials, sensitivity and resolution 7–8233
- discharge inception voltage from free cond. particles in air 7–51544
- dispersive trap-controlled carrier transport, surface pot. decay, space charge effects, finite difference calcs. 7–38588

space charge continued
- double impulse tests of long airgaps, pre-existing space charge effects 7–20977
- double injection charge transport in dielectrics 7–33334
- double sheath near electron sources, space charge effects 7–31995
- electrolyte solutions, ionic transport, space-charge density, Nernst-Planck and Poisson eqn. calcs. 7–26989
- electron beam, relativistic, propagation at sub-Torr pressures 7–42262
- formation at plasma-wall boundary, similarity anal. 7–20899
- gas discharge, cathode fall, optogalvanic diagnostics 7–32187
- HV stressed dielectric liquids, space charge effects 7–53235
- ion beam deposition on floating substrates in three grid microetch system 7–7896
- ion beam deposition on insulating substrate, space charge effects 7–7895
- ion beams, intense, propagation across plasma-filled magnetic cusp 7–42261
- ionosphere, Langmuir probe measurements in sheath of highly charged body 7–37744
- laminar space-charge flow form., relativistic theory 7–51040
- linear proton accelerator, filtering of transverse phase space 7–10313
- magnetised plasma waveguide relativistic electron beam interaction, space charge effect 7–1709
- metal-polymer-metal sandwich, short-circuit current obs. *(Korean)* 7–12879
- metallic ground points beneath thunderstorm, calc. of space charge due to corona discharge *(Chinese)* 7–29222
- MIS structures, nonequilibrium surface potential relax. under constant charge conditions 7–38732
- nonlinear space-charge and transverse mag. waves with longitudinal wiggler, stimulated Raman scatt. 7–44182
- organic semiconductors, electrical transport props., electron bombardment method 7–52641
- p-n junction, boundary conditions at high injection level in space charge region 7–17091
- p-n junction, generation-recombination noise in space-charge region, collective and corpuscular approaches 7–64298
- polyester fibre-epoxy resin insulator, prebreakdown space charge injection meas. 7–39017
- polyethylene, space charge form., needle-plane arrangement, partial discharge and TSC meas. 7–39008
- polyethylene lightly doped films, breakdown strength meas., injected space charge effects study 7–39019
- polyethylene/ionomer blends, insulating material, aging characteristics 7–39025
- polymer film capacitors, radiation-induced space charge 7–45516
- polyolefin insulating materials, bow-tie and vented-tree formation 7–39033
- polypropylene, space charge form., needle-plane arrangement, partial discharge and TSC meas. 7–39008
- polyvinyl alcohol-polyvinyl acetate blends, TSDC, effect of blending 7–13084
- resonant tunnelling current, self-consistent anal. 7–38685
- rod-plane gap, space-charge behaviour evaluation using Pockels' cells 7–20980
- Schottky p-type polycryst. junction 7–7331
- semiconducting materials, cryst., and device appls., book 7–60894
- semiconductor, carrier transport in built-in and external fields 7–52634
- semiconductor, surface recombination vel. calc. 7–38587
- semiconductor, surface space charge layer, electronic self-energy calc. *(Korean)* 7–27373
- semiconductor-electrolyte interface, equivalent circuit model, Mott-Schottky data dispersion 7–22008
- semiconductors, slow current relax. and assoc. effects 7–52671
- semiconductors, space charge stratification, transient processes 7–64313
- solenoidal magnetic lens, space-charge correction of spherical aberration 7–5825
- solids, prebreakdown and dielec. breakdown, fractal model anal. 7–2973
- space charge effect on electron angular distribution after multiphoton ionisation 7–15568
- thin short-circuited dielec. films, dispersive charge transport, space charge dynamics calcs. 7–39038
- transient decay of space-charge currents, description using integro-differential eqns. 7–7643
- vacuum breakdown in pulsed-power plasma expts., diode perveance 7–32184
- β-radioactive dielectrics, space electric charge distrib. in surface layer 7–33326
- AgBr thin films and microcrystals, surface pot., ionic cond. data anal. 7–58534
- $Al_xGa_{1-x}As$-GaAs heterostructures, 2D electron space charge layers, plasmon and magnetoplasmon excitation 7–38696
- Bi_2O_3 thin films, traps, TSC meas. *(Japanese)* 7–7423
- Fe electrodes, passivated, capacitance under simulated erosion-corrosion conditions 7–3514
- GaAs junction, temp. meas. using capacitance change of space-charge region 7–48742
- GaAs, p-n junction, scanning tunneling potentiometry study 7–45439
- GaAs p-n junction, space charge region, electrooptic effect investig. 7–52756
- GaAs sawtooth doping superlattices, prep., LED and laser appls. 7–7372
- GaAs, secondary electron emission, effect of illum. in space charge region 7–17374
- GaAs, space-charge layer effective mass in parallel mag. field 7–2469
- GaAs-$Al_xGa_{1-x}As$ solar cell, operation with band-gap gradient in space charge region 7–54295
- H^+ beam, space charge compensation by pregenerated plasma 7–44200
- $Hg_{0.8}Cd_{0.2}Te$, low temp. hot electron energy relax. time in extreme quantum limit mag. fields 7–33035
- InAs MIS structures space charge accumulation 7–33097
- InP room temp. band edge photolum. intensity interpretation 7–27762
- KCl:Zn, elec. cond., dielec. loss meas., before and after X-irrad. 7–33324
- Li electrodes, semicond. passivating film, impedance meas. 7–33111
- $Li_2B_4O_7$-WO_3 glasses, dielec. behaviour, space charge effects 7–45917
- LiF, electric breakdown due to injected electron beam. 7–64837
- LiF, quenched, dielectric props., effect of high AC field and X-ray irradiation 7–38985
- $LiNbO_3$, effect of pyroelectric and applied electric field 7–39043
- $LiNbO_3$:Fe cryst., Raman spectra, photo-induced refractive index change effects 7–53300
- Pb_3O_4 thin film, electronic props., electrochem. technique characterisation 7–7416

space charge continued
a-Se, residual potential, dark discharge 7—27360
a-Se:Te films, space-charge depletion studies of deep states 7—59148
Si (001), anomalous diamagnetic effect in highly excited surface subbands 7—64305
Si, amorphous film, density-of-gap-states distrib. field effect meas. analytic determ. 7—52391
Si, dislocated, charge carrier recomb. processes 7—7264
a-Si films, preparation in separated ultra-high vacuum reaction chamber 7—59434
Si MOS structure, space charge layer capacitance, quantisation effects 7—7398
Si SIS struct. photoresponse kinetics, current flow mechanism 7—52854
a-Si:H modulation doped multilayers, planar and perpendicular cond. meas. 7—38717
a-Si:H pin solar cells, photocurrent, transient behaviour 7—46950
a-Si:H-SiN_x:H, multilayer struct. study using HREM 7—16879
Si_3N_4 films in MIS structs., cond. characts. 7—38793
SiO_2 layers, space charge distrib. meas., electron beam induced conduction method 7—27660
SnO_2-n-Sb_2S_3-Al structures, polarization current relaxation and space charge 7—33090
TaS_3, quasi-1D conductor, submicron transverse dimensions, jumps between metastable resistance states 7—38547
Xe, multiphoton ionisation spectrum, space charge elimination pulse polarisation effects 7—15567
Zn passive electrodes, space charge effects 7—28315
$Zn_{0.25}Cd_{0.75}Se$ mixed crysts., electron and hole deep level traps 7—16980

space-charge-limited conduction
see also limited space charge accumulation
copper phthalocyanine evaporated thin films, mobility and trap concentration 7—2746
disordered dielectrics, electret relax., persistent polarisation decay and injected charge cond. calcs. 7—39003
plasma diode, planar vacuum type effect of current rise time on maximum current 7—44270
polyethylene, electron beam charged, space charge decay currents 7—27338
polyethylene films with Si incorporation, localized gap states, space-charge-limited current 7—52530
polyethylene thin films, high-field elec. cond. studies 7—64378
polypropylene evaporated films, SCL currents 7—21924
semiconductor, SCL current with nonlinear velocity-field relationship, I-V characts. 7—33020
semiconductor thin films, bulk trap spectroscopy by temp.-modulated space-charge-limited current meas. 7—45338
spherical double sheath, SCL current flow 7—20902
$CdIn_2Se_4$, energy spectra of local centres *(Russian)* 7—64150
$Ga_{1-x}Al_xAs$ MIS and SIS structures, prep. by metallorganic chem. hydride method, electrophysical props. 7—22018
Ge:H-Si:H amorphous superlattices, electrical transport 7—7336
InP $n^+n^-n^+$ struct., space-charge limited magnetoconductivity 7—45472
K halides, injection of charge carriers from a point contact 7—6868
Li_2-WO_3-Nb_2O_5 sputtered amorphous films, electrochromic props. study 7—22221
Pt-$CdInGaS_4$-In surface-barrier structs., photovoltaic effect and SCL currents 7—52687
Si, neutron-irradiated, relax. space-charge-limited current spectroscopy 7—38493
a-Si:H, density of states, SCLC meas., effect of injection electrodes 7—64265
a-Si:H, SCL currents, step-by-step anal. 7—2623
a-Si:H based alloys for solar cells, elec. props. and degradation behaviour 7—52642
a-Si:H biased activated reactive layer evaporation and charactn. 7—59428
n^+-a-Si:H/a-Si:H/a-SiC:H heterostructures, electrophotographic props. 7—45485
α-SiC:N, single carrier SCL flow, computer calcs. 7—21925
SiO_2:V amorphous films, Rf-sputtered, SCL conduction 7—64380
Ta-Ta_2O_5-electrolyte system, conduction processes 7—38725

space-charge limited devices
see also limited space charge accumulation
LaB_6 space-charge-limited electron gun analysis 7—56380

space-charge limited solid state diodes *see space-charge limited devices*

space-charge limited solid state triodes *see space-charge limited devices*

space communication links
see also satellite links; space vehicles; telemetering
Japanese scientific satellites and space probes, design and communication aspects *(Japanese)* 7—47665
Magellan mission to Venus, data transmission to Earth 7—55468
Voyager Uranus mission, in-flight engineering changes, navigational and communication problems 7—55430
Voyager-2 at Uranus, engineering aspects 7—55424

space groups
see also crystal atomic structure; crystal symmetry
algebraic classification of crystallographic groups, appl. for construction of Fedorov groups on a computer 7—58188
band representations, appl. to theory of phase transitions and point defects 7—1927
cholesterol p-n-hexyloxybenzoate mesophase precursor cryst. struct., X-ray study 7—63597
crystal symmetry and supersymmetry 7—51684
dense sphere packings w.r.t. coordination number and symm. equivalence 7—58187
diffraction intensities from cylindrically curved crystallites with layer disorders 7—1810
icosahedral crystals from cuts in six-dimensionalspace 7—1929
icosahedral structures and tiling, geometry and crystallography 7—1930
Patterson vectors, intermolecular, structure determ. using IMPAS computer program 7—11824
reciprocal space, Euclidean normaliser implications 7—26687
tetrahedral structure survey 7—6571
para-tolylmercury chloride, cryst. struct., X-ray diffr. study 7—63596
translation functions, full-symmetry, effects of misorientation 7—11980
X-ray intensity statistics, symmetry and ideal distributions 7—58184
$Ag_{1/2}In_{1/2}PS_3$ lamellar cpd., cryst. struct. refinement studies 7—58235
Al-Ag alloys, γ' precipitates, convergent-beam electron diffr. studies, space-group anal. 7—11854
As_2Te_3, metastable state, rhombohedral struct. study *(French)* 7—44496

space groups continued
$CsCaCl_3$, cubic to tetragonal phase transition, space group determ., X-ray studies 7—16736
$Cu_2Cl(OH)_3$, atacamite, struct. refinement, X-ray diffr. study 7—32371
$CuSeO_3$ struct. determ. and refinement, X-ray diffr. study 7—32373
$Cu(SeO_2OH)_2$, synthesis and cryst. struct. 7—2004
$KPbLaF_6$ solid soln. twinned cryst. struct., lattice parameters and point group, X-ray diffr. studies *(French)* 7—58231
K_2SbPO_6, solid-state reaction prep. and cryst. struct. determ., X-ray diffr. study 7—1980
$KTiOAsO_4$, struct. and nonlinear optical props. studies *(French)* 7—37948
$La_2Mo_2O_7$, quasi-2D single cryst. struct. and electronic props. studies 7—58238
$Li_{0.9}Mo_6O_{17}$ purple bronze, cryst. struct. determ. 7—58239
$LiZnF_3$ prep. and X-ray and NMR structural study 7—37953
$Mn(H_2PO_4)_2.2H_2O$, cryst. struct., Patterson synthesis 7—2001
$MnNa(H_2PO_3)_3.H_2O$ orthorhombic struct., bond lengths and angles, X-ray diffr. study 7—32372
$Mn_3Si_2Te_6$ ferrimag. semicond., cryst. struct., X-ray diffr. study 7—1977
$NaLi_3Si(Ge)(Ti)O_4$ isotypic oxides, cryst. struct. determ. lattice energy calcs. *(German)* 7—37952
$Nd_2Fe_{23}B_3$, struct., Curie temp., X-ray diffraction anal. 7—11994
$Pb_3P_4O_{13}$, chemical prep., crystallographic study *(French)* 7—6589
Pb_3UO_6 struct. refinement, neutron powder diffr. study 7—32370
Rb_2KFeF_6, structural phase transition, Raman scatt. and group-theoretical studies 7—52045
Rb_2KYFe_6, structural phase transition, Raman scatt. and group-theoretical studies 7—52045
$Sr_6Nb_{34}O_{91}$ single cryst., bronze-type struct., X-ray diffr. study *(German)* 7—37949
Tc_2P_3 twinned cryst., space group and lattice constant, X-ray diffr. determ. 7—1979
α-$ThSi_2$, struct. type, geometrical characteristics 7—2003
β-V-B, rhombohedral phase, struct. and solid solubility, X-ray single cryst. diffr. study 7—1948
$ZnIn_2Se_4$, crystal struct. 7—2002
$ZnSeO_3$ struct. determ. and refinement, X-ray diffr. study 7—32373

space heating
air conditioner/heat pump, new concept 7—65526
air solar systems at low temperature 7—33999
aquifer seasonal thermal energy storage 7—65610
central, room and package terminal heat pump installation performance 7—23214
crawl space assisted heat pump performance 7—65515
double-glazed solar air heater efficiency calc. 7—8432
evacuated window glazings for energy efficient buildings 7—54352
floor space heating system using air flow rockbeds 7—59874
gas boilers, seasonal efficiency simulation and energy quality 7—65593
greenhouse insulation using double glazing and thermal curtains 7—46925
greenhouse light enhancement using Venetian blind reflecting assemblies 7—46926
greenhouse soil, effect of plant cover on heat accumulation 7—46923
greenhouse solar system, transient response of latent heat storage 7—23227
large-scale heat accumulation at low temp. for domestic, industrial and farm heating *(Portuguese)* 7—13931
pulse combustion, characts., appls., and research needs 7—65594
shed greenhouses, modular construction, shadow effects, analytical relationships 7—33996
Solar air heater combined with building roof, thermal-energy characts. 7—46967
solar and electric heating contributions to space heating of occupied houses, regression model 7—28389
solar collectors, optimum area value in solar-heating systems 7—46964
solar convective loop air thermocirculation *(Italian)* 7—20729
solar fruit-dryer-greenhouse, test results 7—33998
solar greenhouse, temperature-humidity regime in inclined thermal-storage channels 7—54269
solar greenhouses, design and orientation optimisation, thermal storage 7—54271
solar heated house, Jordan, thermal load reduction 7—54276
solar heating system CAD, flow diagram of design 7—46965
solar shed greenhouses, storage of heat by forced air circulation 7—54270
solar-heated farm buildings, short-term monitoring and computer aided performance 7—28413
solar-heated house, Jordan 7—54275

space research
see also artificial satellites; astronomy and astrophysics; space vehicles
acoustic-based containerless technology appls. 7—11245
advanced image processing and planetological appl., conference, Vulcano, Italy (September 1985) 7—24270
aerospace technology, conference, Washington, DC, USA (Sept. 1986) 7—48171
aggregation of red cells expt. results,, Space Shuttle Discovery appl. 7—3924
Australia telescope project, space-related services spinoffs 7—4338
British X-ray astronomy, review 7—24019
case for Mars II, conference, Boulder, Colorado (July 1984) 7—24300
colonization, AIP conference, Geneva, NY, USA (October 1985) 7—4614
P/ Comet Halley, (1982i), energetic particles obs. by Giotto spacecraft 7—14529
P/ Comet Halley, (1982i), in situ photopolarimetric meas. of dust and gas in coma 7—14527
P/ Comet Halley, (1982i), optimum orbit determ. via ground-based astrometry and Vega spacecraft obs. 7—14525
P/ Comet Halley, (1982i) results of Giotto radio science expt. 7—14528
P/ Comet Halley (1982i), cometary ion obs. at and within cometopause region 7—14530
P/ Comet Halley (1982i), gas phenomena 7—14531
P/ Comet Halley (1982i), near IR obs. from Vega-2 spacecraft 7—14520
P/Comet Halley (1982i), obs. of nucleus and jets by Vega missions 7—9438
P/ Comet Halley (1982i), plasma and neutral gas meas. from Vega 1 and 2 spacecraft 7—14523
P/ Comet Halley (1982i), solar wind interaction meas. by Vega spacecraft 7—14522
P/ Comet Halley (1982i), Vega three-channel spectroscopy in visible and near-UV ranges 7—14519
P/ Comet Halley (1982i), Vega-1 meas. of secondary electron currents induced by impacts 7—14521

space research continued
P/ Comet Halley (1982i), wave and plasma meas. on Vega-1 and Vega-2 spacecraft 7—14524
conference on space exploitation and utilisation, Honolulu, HI, USA (1985 December) 7—24297
cosmic ray observations, generalised Compton-Getting transformation for nonrelativistic particles 7—34810
cosmic ray research, toroidal coil configurations 7—40699
cosmos, space education, conf., Copenhagen, Denmark (Aug. 1986) 7—48182
cryogenic optical systems and instruments, conference, Los Angeles, California, (January 1986) 7—24283
dynamical system parameters estimation from obs. appl. of local polynomials 7—34887
engineering, conf., Sydney, Australia (March 1986) 7—26
EURECA platform, reusable multi-mission carrier *(German)* 7—47666
Ganymede, tectonic framework of grooved terrain 7—24050
Ganymede, terrain types and local-style stratigraphy of grooved terrain 7—55525
geological research, role of developments in space science *(Russian)* 7—60254
International Cometary Explorer (ICE) project 7—40665
interstellar space flight, 36th International Astronautical Congress, Stockholm, Sweden (October 1985) 7—2
ionosphere, near-field radiation from pulsed electron beams in space 7—66391
ISEE-3 Geotail Mission, mag. field meas. 7—29369
ISEE-3 Geotail Mission, suprathermal ion and electron results 7—29368
Japan, satellites and space science 7—60507
local interstellar medium processes from UV space astronomy, symposium, Toulouse, France (June-July 1986) 7—48132
magnetosphere, ISEE-3 energetic ion results (EPAS) in deep geomag. tail 7—29367
magnetosphere, struct. and dynamics of distant magnetotail from ISEE-3 plasma meas. 7—29366
Mars, linear volcanic features of Alba Patera identified as probable spatter ridges 7—55516
Mars, obs. of sedimentary deposits in northern lowland plains 7—55517
Martian lava flows, small surface features anal. and comparison with terrestrial analogues 7—55518
Martian limb hazes, vertical struct. from scattered light profiles 7—55513
Martian valleys morphology, comparison with Hawaiian valleys and evidence for groundwater sapping 7—55095
meteorological satellite data access in Australia, requirements and technical infrastructure 7—4293
peaceful space and global problems for mankind, 36th IFA congress, Stockholm, Sweden (October 1985) 7—18466
planetary radarclinometry, mathematical theory and algorithm 7—34372
plasma, response function of modulated grid Faraday cup plasma instruments 7—23972
remote sensing, multipurpose space experiment for land studies 7—66336
satellite launches during 1984, annual schedule *(French)* 7—14474
satellite VLBI, appl. of orbits with periodic flights around Moon 7—34833
Saturn, evidence for additional small satellites from Voyager imaging obs. 7—24055
Saturn, evidence for tenuous outer ring material from Voyager 2 photopolarimeter expt. 7—24056
Saturn ring system, bending waves anal. using Voyager radio occultation data 7—55527
Solar Max samples, erosion studies 7—46743
solar Type III radio bursts, Helios obs. rel. to generation and propag. 7—47801
solar wind, space probes for plasma and mag. field meas. 7—47663
space commercialisation, conference, Washington, DC, USA (October 1985) 7—24264
Space Telescope Imaging Spectrograph, preliminary performance goals 7—60550
Trapped Ions in Space expt., linear energy transfer spectra in low Earth orbit 7—60479
Vega missions, a priori position prediction error of P/Halley from terrestrial and space-probe meas. 7—4370
Vega project, three-channel spectrophotometer for P/Comet Halley investigation 7—14472
Venus, geological and morphological description of Ishtar Terra 7—66486
Venus, geological and morphological description of Lakshmi Planum 7—66485
Venus, gravity studies of Aphrodite Terra 7—34899
Venus, rock comp. at Vega 2 landing site 7—55510
Venus, struct. of Maxwell Montes and Thessera Fortuna from Venera 15 and 16 radar images 7—9394
Venus atmosphere, water vapour profile from Vega 1 and 2 expts. 7—55511
Venus ionosphere, electron and ion concs. and ionisation sources 7—34902
Venus Radar Mapper, implications of Gestalt formation in stereoradargrammetry 7—9379
weight and weightlessness *(French)* 7—9358

space science *see space research*

space-time configurations
see also differential geometry; general relativity
4D Riemann tensor, algebraic invariants 7—157
5D space-time-mass gravity in a vacuum, cosmological soln. 7—60842
$\lambda\theta^4$ triviality issue in a Robertson-Walker spacetime 7—30160
$\lambda\phi^4$ theory triviality problem in time-dependent space-time 7—18998
AC-driven damped 1D sine-Gordon system, phase-pulling and space-time complexity 7—48440
antisymmetric string actions for free bosonic string on external flat space 7—35825
arbitrary dispersive media, operational concepts and transformation laws of space-time coordinates 7—61176
astrophysical jets, spacetime curvature defocusing rel. to jet decollimation 7—60522
asymptotically flat space-times with no conformal Killing fields 7—48469
Bianchi types of a three-parameter group of curvature collineations 7—24497
Bianchi-type I space times, appl. of Einstein equations with fourth-order derivative terms 7—48111
bimetric gravitational theory, harmonic maps, field eqn. solns. and spherical gravitational waves 7—35361
black hole accretion MHD, entropy accretion rate for Kerr space-time 7—14599

space-time configurations continued
black holes, Hawking radiation and quantum mechanical description, gravit. interaction 7—56106
bosonic string reparametrizations and the geometry of path space 7—35832
bubble dynamics in the expanding Universe 7—24244
causality conditions, distinguishing props. 7—61179
centrally symmetric space-time, Schwarzschild's formula 7—47687
charged collapsar, cross-section for test particles capture 7—4320
classical space-times, vorticity-preserving motions 7—18595
closed-time-path functional formalism in curved spacetime, cosmological back-reaction problems 7—41215
colliding planar shells of matter, gravitational effect, Einstein's eqns. solns. 7—150
compact space-times and the no-return theorem 7—24496
compactification in higher dimensions, stability criteria and tensor field monopole configurations 7—189
conformal field theory, analytic fields on Riemannian surfaces 7—24788
conformal invariant field theory, Green's functions and Feynman rules on $S^3 \times S^1$ hypertorus 7—41597
conformal Killing vectors in Robertson-Walker spacetimes 7—156
conformal motions, charged matter and one-parameter group 7—24488
conformal motions, charged matter and one-parameter group 7—24489
conformally invariant scalar field, anisotropy damping and particle prod. at finite temp. 7—56132
cosmic censorship hypothesis in cosmological space-times 7—48470
cosmic strings, damping of motion by dynamical friction 7—56101
cosmic strings, orbifold compactifications 7—35363
cosmic strings, role in galaxy formation 7—48117
cosmic strings, superheavy, superconducting, from superstring models 7—60847
cosmology, isotropic flat space model in Jordan-Brans-Dicke theory 7—4601
cosmology, solns, of Kaluza-Klein gravitational theory for spatially flat metric 7—9363
covariant heterotic strings, supergauge field theory 7—35834
covariant quantum field theory of gravitation, scaling limit and space-time metric 7—56134
covariant superstring, space-time supersymmetry 7—24511
curvature and closed trapped surfaces in 4-dimensional space-times 7—56093
curvature and rotation effects on pulse arrival times from fast pulsars 7—60700
curvature and torsion from matter, Lorentz gauge symm. 7—41208
curved space-time cosmologies, S-matrix approach to interacting quantum field theory 7—47675
curved spaces, dynamics 7—35359
cylindrical waves in general relativity 7—48482
derivative expansion for the one-loop effective actionswith internal symmetry 7—4976
dimensional reduction via dimensional shadowing 7—35752
double-null coordinates for the Vaidya metric 7—35352
Einstein's field eqns., vacuum solns. with flat 3-dimens. hypersurfaces 7—4728
Einstein action, 3+1 Regge calculus with conserved momentum and Hamiltonian constraints 7—48465
Einstein eqns., vacuum solns. for conformal Killing field and cosmological constant 7—41172
Einstein equations, black hole solns. in asymptotically flat space-times 7—24486
Einstein-Born-Infeld theory, duality rotations and type-D solns. 7—47683
Einstein-Cartan theory, matter field torsion and conservation laws 7—41195
Einstein-Maxwell space-time, asymptopia of quasi-local mass and momentum 7—29841
Einstein-Rosen metrics generated by the inverse scattering transform 7—24494
Einstein-Weyl space-times with geodesic and shear free neutrino rays 7—61169
electrodynamics of gravitation, intrinsic impedance of space-time 7—56133
electrostatic self-force in Reissner-Nordstrom spacetime 7—35350
elementary particle stability, catastrophe theory on the space-time manifold 7—24808
energy-density fluctuations in de Sitter space 7—18668
Ernst coordinates 7—4747
Euclidean Einstein metrics, complex manifold, triaxial vacuum metric 7—48475
everywhere invariant spaces of metrics and isometries 7—24492
extended manifolds of general relativity, tachyon prod. 7—35348
Fermi field theory, irreducible fields fulfilling canonical anticommutation relations 7—4947
five-dimensional projective field theory, linear problem 7—47681
fourth dimension, energy conversion eqn. 7—24487
free bosonic string, worldsheet reparametrizations and Tomonaga-Schwinger-Dirac formalism 7—35837
Friedmann universe and compact internal spaces in 4+N gravity theories 7—9733
functional determinant of massless fermions in nonAbelian gauge pot., perturbative derivation 7—30169
functional measure for lattice gravity 7—14846
G-invariant Kaluza-Klein scheme on M×G/H leading to N(H)/H gauge group 7—166
galaxy formation by cosmic strings 7—9543
gauge theories, geometrical props. of the orbit space 7—18972
gauge theory of gravit. in higher dimensional space-time and dimens. reduction 7—56127
general relativistic self-similar perfect fluid; singularities in self-similar spacetimes 7—29826
general relativity, conservation laws in spacetimes with boundary 7—29829
general relativity, electrically charge solns. in (2+1) dimens. space-time 7—9713
general relativity, generalised harmonic gauge conditions as field eqns. for lapse and shift 7—47678
generalised cosmic strings, quasi-regular singularities 7—41190
generalized covariant field theory of electrodynamics, flat space-time limit 7—41694
geometrical unified theory of connection fields and frame fields 7—56121
geopotential field, Newtonian potential term alteration rel. to satellite relativistic eqns. of motion 7—34826

space-time configurations continued
gravitation singularities and space-time foliations in general relativity 7—48489
gravitation theory taking vacuum into account 7—35347
gravitational field energy, covariant definition in state space-time 7—18643
gravitational fields in Finsler space, structural features 7—48490
gravitomagnetic pole and mass quantisation, comment 7—182
gravitometric pole and mass quantisation, comment 7—181
Green's function in curved space-time, Hadamard construction *(German)* 7—66444
Hadamard and minimal renormalisations of scalar field in curved space-time 7—48511
Hamiltonian dynamics of higher-order gravit. theories 7—48502
heat conduction, space-time behaviour, thermo field dynamics methods 7—11251
heterotic string in superspace 7—10048
heterotic string theory, toroidal compactification 7—30223
higher-dimensional black holes in compactified space-times 7—47970
homogeneous cosmos of Weyssenhoff fluid in Einstein-Cartan space 7—48480
homogeneous Kaluza Klein cosmologies, group theoretical classification 7—48491
hyperkahler manifolds and nonlinear supermultiplets 7—56403
induced causality in astrophysics, alternatives to general relativity 7—47676
infinitesimal holonomy groups of Einstein-Maxwell space-times 7—56111
inflation and bubbles in general relativity 7—35351
interacting closed bosonic strings, covariant formulation with compactified dimensions 7—35769
interacting field theory in 2D, Sugawara-Sommerfield construction 7—48986
Kaluza-Klein cosmologies, surfaces of discontinuity in 5-D 7—41197
Kaluza-Klein model in 5D, quantum fluctuations and residual length 7—48507
Kaluza-Klein theories, scalar fields and dynamical torsion 7—4746
Kaluza-Klein theory, barrier penetration and initial values 7—29842
Kaluza-Klein theory, $M^4\times S^1$ model, gauge-dependence of self-consistent dimensional reduction 7—29844
Kaluza-Klein theory, quantum cosmological approach and 'no boundary' condition 7—41191
Kaluza-Klein theory in 11D, compactifications with SU(3)×SU(2)×U(1) symmetry 7—29840
Kaluza-Klein vacuum with supersymmetric extra space, Planck mass problem 7—56123
Kasner spacetime, exact solns. for electromagnetic, neutrino and gravit. fields 7—41173
Kerr black hole, null geodesics in stationary Ernst-Wild space-time 7—61170
Kerr black hole metrics, colinear, superposition, space-time structure *(Chinese)* 7—40861
Kerr spacetime, polar orbits, geodetic effect 7—14836
Kerr-Newman black hole in mag. field, surface geometry 7—56103
Kerr-Newman charged black holes, bosonic instability anal. *(Russian)* 7—55702
Kerr-Newman metric, charged boson bound states *(Chinese)* 7—9729
Lagrangian density of gravit. field, gauge principle and Riemannian geometry 7—61201
Lagrangian relativistic theory in 2D space-time, connection with Hamiltonian description 7—35722
large number hypothesis, Bekenstein-Hawking entropy and Weizsackers ur theory 7—14686
linear perturbations of gauge fields 7—9942
Liouville equation, mass generation and bosonization in curved space 7—35374
local Euclidean gravity coupled to σ-model, harmonic maps and submersion 7—14843
local scalar fields, canonical quantisation over quantum space-time 7—48942
Lorentz covariant string theories in D=10 and D=18 7—19038
Lyra's manifold, vacuum Friedmann cosmological models 7—35074
massive scalar field in the static space-time of a cosmic string 7—41217
massless scalar field with gravity, Einstein's field eqns. in 3D space-time 7—41209
Maxwell's eqns., soln. in curved space-time, Green's function adiabatic expansions 7—41183
Maxwell's equations in curved space-time 7—9725
McVittie metric, physical props. of nonquadratic solns. 7—48472
McVittie metrics, noninteracting solns. for perfect fluid spheres 7—24504
metric space-time as renormalisation group eqn. fixed point on fractal structs. 7—48505
metric spaces, proof of Onsager lemma 7—41076
multiple black holes in asymptotically Euclidean static vacuum space-time, nonexistence 7—66652
multipole moment formation in vacuum region for nonasymptotically flat systems 7—48478
N=1 supergravity, SL(2,C) gauge theory 7—24529
N=1 supergravity, torsion term in Einstein-Cartan action 7—14850
N=2, d=2 supergeometry and superconformal transformations 7—41654
naked singularity space-time having strong curvature 7—29819
new superspace, structure 7—61500
non-Euclideanism in general relativity and cosmology, mathematical formalism 7—34851
nonequilibrium dissipative system, spontaneous symm. breaking and Nambu-Goldstone mode 7—35739
nucleus as a source in Kerr-Newman geometry 7—48476
null vectors, spinors, and strings 7—35253
O(N) symmetric model, effective pot. in static homogeneous spacetimes 7—18673
orbifolds, conformal field theory, appl. to twisted string scattering 7—49106
passive gravitational mass and inertial mass inequality of extended body 7—9372
Penrose's quasi-local mass 7—29828
Peres space-time, relativistic string 7—35354
perfect fluid, and vacuum metrics with flat 3-dimens. hypersurfaces 7—4727
perfect fluid space-time, topology 7—56091
Petrov type D and type III space-times, conformally invariant scalar wave eqn., Maxwell's eqns. and Weyl's neutrino eqn. 7—24499

space-time configurations continued
phase-space formalism for quantized fields in complex space-time 7—61420
photon propagators and renormalised stress tensors in curved space-time 7—4730
plane-fronted gravit. waves, isometry groups 7—24501
Plebanski metric perturbations in general relativity, fermion field perturbations 7—18645
Plebanski metric perturbations in general relativity, grav. perturbations eqns. 7—18644
Poincare gauge theory, diffeomorphisms, transformation laws and space-time symm. 7—4951
positive energy proof for weakly asymptotically flat space-times 7—29821
primordial inflation with broken symm. gravit. theory, quasi-de Sitter space-time 7—14840
Proca field in a spacetime with curvature and torsion 7—29850
pseudo-Newtonian potentials 7—158
quantum mechanics, objective stochastic formulation 7—18635
quantum space-time, classical particle dynamics 7—24525
quantum theory on surface of a regular tetrahedron 7—48417
quantum vacuum definition for spin 1/2 fields in Robertson-Walker metrics 7—48510
quasi-Einsteinian manifolds, geometric and algebraic characts. 7—48474
R^4 space-time with a non-R^3 Cauchy surface 7—41167
radio signal delay in relativity theory of gravitation 7—4732
reactive scattering by large systems, space-time correl. fn. representation 7—28281
relativistic and non-relativistic classical field theory onfive-dimensional spacetime 7—154
relativistic space-time with 7 isometries, geodesic eqns. 7—35353
relativistic space-times, appl. to general upper limits to age of Universe 7—4603
relativistic string in curved space-time, prolongation structure anal. 7—56122
relativistic wave mechanics of spinless particles in a curved space-time 7—18646
renormalisation in curved space-time and nonminimal gravit. coupling 7—35665
right-conformally equivalent hyperheavenly spaces, Einstein eqn. solns. 7—41169
Rindler space curvilinear electrodynamics 7—29849
Robertson's test theory, space-time struct. and dynamics 7—29752
Robertson-Walker metric, affine collineation 7—4729
Robinson-Trautman pure radiation solns., asymptotic behaviour 7—9719
rocket borne clock expt., kinematical and gravitational anal. 7—29833
rotation in cosmological solutions to metric gravity theories, comments 7—40970
Schwarzschild black hole, Ernst space-time representation, particle trajectory stability 7—55701
Schwarzschild black hole, geodesic motion in globally regular space-time 7—47968
Schwarzschild metric, general Eulerian formulation of comoving-frame radiative transfer equation 7—55441
self-dual Yang-Mills fields, sites and googly twistor spaces, vacuum anal. 7—18977
self-dual Yang-Mills fields, sites and googly twistor spaces with Yang-Mills fields present 7—18978
self-similar perfect fluid space-times in general relativity 7—41168
semi-off-shell string amplitudes, local operator expansion 7—41759
sine-Gordon equation, covariant generalization on Minkowski space-time 7—61097
SL(2,C) gauge theory, N=1 supergravity and torsion 7—24761
spatially homogeneous and anisotropic expandingUniverse of Bianchi type-V 7—9558
spinor and algebraic spinor structures, parallel spinor fields on space-time manifold 7—29834
spinor particles in gravit. field, relativistic quantum theory 7—35717
spinor two-point functions in maximally symmetricspaces 7—430
static space-times, collision-free gases 7—18649
stationary axisymmetric vacuum, conformal potential 7—47682
Stephani-Krasinski solution, anal. of viability as model of universe 7—66800
stochastic particle systems, equilibrium fluctuations and space-time correlations 7—48586
strictly positive mass theorem for isolated gravit. system 7—56110
string interactions on orbifolds 7—30225
string theories, compactifications and θ-structures 7—18659
string theory, Dirac operator determinants, anomaly cancellation and torsion 7—35813
string theory, lower critical dimens. and curved backgrounds 7—41763
string theory and space-time topology 7—35838
structure of space-time, relation to quantum mechanics 7—47679
SU_2 lattice gauge theory, strong-coupling anal. of space-time critical dimensionality 7—56430
submanifolds with finite type Gauss map 7—24400
supergravity, d=10, stable compactification 7—189
superstring models, compactified, down-quark mixing 7—5022
superstrings, problems for (2,0) compactifications 7—5023
supersymmetric σ-models on Ricci-flat Kahler manifolds, finiteness 7—15057
supersymmetric nonlinear σ-models, construction and geometry of graded supermanifolds 7—61448
supersymmetric string dynamics, conformal field theory on a super-Riemann surface 7—41761
topological structure of Universe, observational consequences of 'small universe' 7—60844
tunnelling without barriers in curved space-time 7—41196
universe creation, obstacle to false vacuum formation in the laboratory 7—56112
vacuum Einstein eqn. solns., cylindrical waves and cosmic strings of Petrov type D 7—48477
vacuum expectation values of the energy-momentum tensor in two dimensions 7—41210
vacuum polarization in curved backgrounds deduced from Hadamard kernels 7—48503
vacuum space-times that admit no maximal slice 7—9717
Vaidya spacetimes, shell-focusing singularity strengths 7—56097
world line in curved background metric, canonical formalism 7—18667
Yang-Mills gravitational theory, geometrical content 7—56130
Yang-Mills theory with noncompact symm. and arbitrary local gauge group 7—41580

space vehicle power plants
- Advanced Photovoltaic Solar Array Program, Si solar cells for spacecraft power 7−65489
- Arabsat telecom. spacecraft, solar generator and telemetry of orbit performance 7−65488
- batteries for space appls., proceeding of NASA/Goddard workshop, Greenbelt, MD, USA (Nov. 1985) 7−29578
- EURECA space platform, solar generator power supply *(German)* 7−46942
- HV solar array plasma protection techniques 7−3707
- HV solar cell array glass encapsulation for protection against plasma 7−65490
- Kapton solar array blankets, protection from attack by low Earth orbital atomic oxygen 7−3705
- large segmented optical systems, applic. of replicated glass mirrors 7−37088
- optimisation of power supply and temp. control system 7−4290
- secondary storage batteries, computerised management system for space vehicle appls. 7−34021
- solar cell array, 2-D, experiment on board space flyer unit 7−3647
- solar cell calibration expt. on Chinese scientific satellite 7−13874
- solar cell coverglass thermal characts., improvements by thin film coatings 7−13884
- solar cell interconnector fatigue simulation testing, satellite appl. 7−13873
- solar dynamic systems using heat engines for space vehicle appls., overview 7−34070
- Space Station solar dynamic power system, simulation 7−65494
- spacecraft batteries, testing facilities at the European Space Battery Test Centre 7−55412
- STAR-C thermionic advanced nuclear reactor space power system 7−65505
- Stirling free-piston space-power module at NASA Lewis Research Center 7−65532
- technology breakout in energy conversion, conf., San Diego, CA, USA (Aug. 1986) 7−60875
- thermal energy storage for organic Rankine cycle solar dynamic space power systems 7−65625
- thermal energy storage for space solar power system, phase change materials compatibility 7−65628
- ultrahigh-temperature thermionic conversion in space nuclear power, material considerations 7−65506
- Venus radar mapper mission, use of high temp. high intensity solar cell array 7−3706
- VOLT-A Shuttle expt., space plasma/solar cell interaction charactn. 7−13882
- AlGaAs-GaAs heteroface space solar cells with 21 percent conversion efficiency 7−3694
- $Al_xGa_{1-x}As$-GaAs heteroface solar concentrator cells, space and terrestrial appls. 7−65486
- CdZnS-$CuInSe_2$ solar cell development for space appls. 7−13917
- Cs and Ba Knudsen ultrahigh-temperature thermionic energy conversion for space nuclear power 7−65507
- GaAs point focus concentrating solar cell arrays for spacecraft 7−3662
- GaAs solar array design, weight-efficient rigid panel structure 7−13881
- GaAs solar cells for space appls., potential efficiency 7−65482
- GaAs solar panel performance of LIPS-II satellite 7−13883
- GaAs solar panels with LPE and metal organic CVD circuits, satellite power 7−65493
- GaAs space qualified solar cell production by organic metal CVD, performance testing 7−65492
- GaAs with Al honeycomb substrate, flat-plate space solar panels interconnector design 7−13879
- InP solar cells in space radiation environment, comparison with GaAs and Si cells 7−65484
- Ni-Cd advanced aerospace cell design 7−34014
- Ni-Cd aerospace cells, 34 Ah, voltage-temperature charge verification testing 7−34019
- Ni-Cd aerospace cells, flood starved design 7−34015
- Ni-Cd aerospace cells, low Earth orbit life cycle characterisation testing 7−34020
- Ni-Cd aerospace cells, separator qualification testing 7−34013
- Ni-Cd aerospace cells, study of long term storage effects 7−34018
- Ni-Cd cell containing Pellon 2536 separator, life testing, satellite appl. 7−65446
- Ni-Cd cell separator with Pellon 2536, space qualification program 7−65445
- Ni-Cd cells, General Electric 50 Ah, qualification testing of separator and positive plate processing 7−34012
- Ni-Cd cells for spacecraft, self-discharge characts. at elevated temperatures 7−34016
- Ni-Cd geosynchronous orbit satellite batteries, life prediction 7−65447
- Ni-Cd lightweight space battery, reliability and life testing 7−65449
- Ni-H_2 aerospace batteries, low Earth orbit test program 7−34025
- Ni-H_2 aerospace cells for low Earth orbit appls., research technology advances 7−34022
- Ni-H_2 batteries, 40 Ah, bipolar, for space appls., parametric testing 7−34027
- Ni-H_2 cell for space appls., 4.5 inch IPV development program 7−34026
- Ni-H_2 cells, lightweight, direct radiating, for space appls. 7−34023
- Ni-H_2 cells technology for RADARSAT spacecraft appls., test program 7−34024
- Ni-H_2 secondary cells for low-Earth-orbit satellites, reliability and life testing 7−65451
- a-Si alloy ultralight photovoltaic modules consisting of solar cells, space and terrestrial appls. 7−65485
- Si, bifacial solar cell for space solar generators 7−8388
- Si solar arrays for low Earth orbit space stations, advanced module concept 7−3659
- Si solar cell array, 30 kW, for space appls. 7−3660
- Si solar cell array module, 50 microns thick, space flight ready 7−65491
- Si solar cell arrays for EURECA space vehicle 7−3661
- Si solar cells for space appls., efficiency improvements 7−65487

space vehicles
- *see also artificial satellites; rockets; space vehicle power plants*
- aerodynamics of spacecraft in the ionosphere, collisionless plasma expansion study 7−31950
- aerospace technology, conference, Washington, DC, USA (Sept. 1986) 7−48171
- atmospheric gliding entry, heating, scaling relations 7−51200
- Cassini mission, conf., Vulcano, Italy (September 1985) 7−29597

space vehicles continued
- Cassini mission, Titan encounter dynamics 7−40671
- Cassini mission for Saturn 7−40754
- Cassini mission to Saturn, near-IR satellite and ring objectives 7−40755
- Cassini mission to Saturn systen, trajectory possibilities 7−40668
- Cassini mission to Titan, contrib. to problems soln. 7−40757
- P/Comet Halley, dust impacts and detectors on space probes 7−34946
- P/Comet Halley, spacecraft exploration missions and results 7−55573
- P/Comet Halley (1982i), spacecraft encounters and international cooperation 7−55427
- comet nucleus sample return mission, conf., Canterbury, England (July 1986) 7−48180
- cometary probes, COSPAR symposium 12, Toulouse, France (1986 June-July) 7−35080
- conference on space exploitation and utilisation, Honolulu, HI, USA (1985 December) 7−24297
- dust impact on insulators, ion emission, energy deposition and desorption studies 7−29374
- dynamical system parameters estimation from obs. appl. of local polynomials 7−34887
- EURECA platform, reusable multi-mission carrier *(German)* 7−47666
- European COLUMBUS programme, contrib. to US space station 7−66421
- Galileo planetary exploration mission 7−55428
- Giotto, Doppler and ranging results from radio science expt. 7−14528
- Giotto, energetic particles obs. in environment of Periodic Comet Halley (1982i) 7−14529
- Giotto camera, vibration effects in flat mirror, analysis and reduction 7−18355
- Giotto encounter with Periodic Comet Halley (1982i) 7−24082
- Giotto Radio Science Experiment at Parkes 7−55571
- Giotto spacecraft, charging effects in cometary environment of P/Halley (1982i) 7−14473
- GIOTTO spacecraft high gain antenna mechanical design and development 7−23974
- ICE, energetic ion obs. at P/Comet Giacobini-Zinner (1984e) 7−40763
- inertial navigation algorithms, for high life-to-drag vehicle during atmospheric entry 7−4289
- International Cometary Explorer (ICE) project 7−40665
- interstellar probes, propulsion by laser beams 7−18344
- interstellar space flight, 36th International Astronautical Congress, Stockholm, Sweden (October 1985) 7−2
- ISEE-3, generalised Compton-Getting transformation for nonrelativistic particles 7−34810
- Japanese Experiment Module contrib. to international space station programme 7−66423
- Japanese scientific satellites and space probes, design and communication aspects *(Japanese)* 7−47665
- Kevlar 49-285 style fabric for space structures use, thermoelastic behaviour 7−37329
- large inflatable parabolic reflectors 7−34870
- large segmented optical systems, applic. of replicated glass mirrors 7−37088
- Magellan, Venus mission, SAR instrumentation 7−55468
- Magellan mission to Venus, radar-carrying spacecraft design 7−55429
- Magellan mission to Venus 7−60504
- Magellan SAR, system test and calibration 7−48681
- Magellan SAR system 7−55469
- Mars Observer, atmosphere remote sensing using IR pressure modulation and filter radiometry 7−47747
- mars to Earth optical communication link for the proposed Mars Sample return mission roving vehicle 7−34835
- NASA Lewis Research Center, technology for spacecraft improvement 7−66428
- Newton's law of gravity modified, celestial mechanical consequences 7−9661
- optimisation of power supply and temp. control system of space vehicle, static determinate formulation 7−4290
- Phobos mission (for 1988-89) *(French)* 7−66419
- planetary spacecraft automation development trends 7−55426
- ram glows, surface-catalysed reactions role 7−14401
- reentry, sensitivity to thermosphere wave-assoc. density disturbances 7−55342
- Robus, telescope carrying platform based on Rosat experience *(German)* 7−47667
- Sakigake, P/Comet Halley (1982i) encounter, project overview 7−40666
- Sakigake and Suisei Japanese Halley's Comet explorers, attitude and orbit control system 7−55568
- Sakigake obs. of solar wind plasma flow and P/Comet Halley (1982i) ion tail bending 7−40767
- Salyut-6/Kosmos 1267 and Salyut-7/Kosmos-1443 orbital complexes, generalised gravit. orientation regime 7−34832
- Shuttle glow, chemilum. processes 7−47602
- Shuttle Orbiter leeside surface IR imagery, during atmospheric entry, comprehensive analysis 7−29378
- Space Shuttle, perturbations on plasma meas. made by plasma diagnostics package 7−47625
- Space Shuttle, plasma parameters meas. in vicinity of spacecraft 7−29360
- Space Shuttle, use for ionospheric electron beam expts. 7−55354
- Space Shuttle glow, hand-held Michelson interferometer design and sensitivity 7−55421
- Space Shuttle glow optical emissions during mission STS 41-G 7−34834
- space station, toroidal coil configurations for large-acceptance space spectrometer expt. 7−40699
- Suisei, P/Comet Halley (1982i) encounter, project overview 7−40666
- Titan Probe mission, design characts. 7−40669
- Titan Probe within Cassini mission, trajectory 7−40670
- Ulysser spacecraft mission for exploration of high solar latitude solar wind 7−55472
- US space station payload accommodation 7−66422
- Vega 1 and 2, water vapour profile determ. in Venus atmosphere 7−55511
- Vega 2 lander, Venus rock comp. determ. on Aphrodite Terra 7−55510
- Vega missions, obs. of nucleus and jets of Periodic Comet Halley (1982i) 7−9438
- Vega project, three-channel spectrophotometer for P/Comet Halley investigation 7−14472
- VEGA space probes, TV real-time software *(Hungarian)* 7−29379
- Vega-1 and 2 at Periodic Comet Halley (1982i), instrumentation and results *(Russian)* 7−4373
- Vesta mission to Venus, comet and asteroids for 1990s 7−40667

space vehicles continued
Voyager 2, Neptune encounter plans 7−29375
Voyager Uranus mission, in-flight engineering changes, navigational and communication problems 7−55430
Voyager-2 at Uranus, engineering aspects 7−55424
$In_{2-x}Sn_xO_{3-y}$ sputter deposited, elec. cond., oxidation resistant coatings for spacecraft applic. 7−22866
spacecraft *see space vehicles*
spallation (nuclear) *see nuclear spallation*
spark chambers
see also position sensitive particle detectors
coordinate-sensitive gas discharge detectors, fibre optic readout system 7−30852
microchannel plate X-ray detectors, dark noise sources 7−62218
spark counters
No entries
spark erosion machining *see spark machining*
spark-gap voltmeters *see voltmeters*
spark gaps
arc-generated flow phenomena in high-power repetitively-pulsed gas-flow spark gaps 7−32192
double impulse tests of long airgaps, engineering problems 7−20974
double impulse tests of long airgaps, leader decay and reactivation 7−20975
double impulse tests of long airgaps, pre-existing space charge effects 7−20977
double impulse tests of long airgaps, voltage front perturbation effects 7−20976
field distortion triggered spark-gap, field enhancement calcs. 7−63384
ignition voltage of spark gaps in technically important gases *(Czech)* 7−32144
laser-triggered electrical breakdown of gases, unconventional geometries 7−44095
Marx bank, low jitter, for cold cathode electron beam sources *(Chinese)* 7−4912
n-hexane, DC-induced prebreakdown events 7−32147
pulsed gas-flow spark gaps 7−6475
pulsed power supplies, IEEE conf., Arlington, VA, USA (1985) 7−35110
Rimfire 6 MV laser triggered SF_6 filled switch for PBFA II 7−30746
rod-plane gap, corona, breakdown and humidity effects 7−20979
rod-plane gap, space-charge behaviour evaluation using Pockels' cells 7−20980
stainless steel electrode surface damage anal. in high energy spark gaps 7−33991
trigatron-triggered breakdown initiated by streamers, streak photographic studies 7−32191
O_2 magnetic switches, formative time lags, extension of Davidson's theory 7−51547
SF_6 and air, impulse breakdown voltage for nonuniform field gaps with different wavefronts 7−51546
SF_6 filled spark gap, high-power discharge, electrode erosion and breakdown voltage study 7−44300
spark machining
steel, electrospark alloying with carbides, electron nature of interaction, phase comp. 7−8182
sparks
see also electric breakdown; lightning
air, atmospheric, optical breakdown during axicon laser focusing 7−44288
air, laser plasma, secondary spark-over under microsecond pulses 7−11665
air, spark propagation at surface of charged dielectric, expt. 7−58077
air, spark propagation at surface of charged dielectric, theory 7−58078
conference on natural and man-made ions in atm., London, England (October 1985) 7−24304
discharge anodic oxidation layers and composites, appl. fields 7−65189
epoxy spacers exposed to sparks and SF_6 arcing byproducts, surface characterisation 7−39692
gasdynamic effects during the late stages of a laser spark 7−16345
high voltage spark discharges, light scatt. diagnostics 7−20971
methane-air mixture, minimum ignition energy, spark discharge characteristics 7−39896
sliding, schlieren method investig. 7−32158
streamer develop. mechanism in nonuniform electric fields *(Russian)* 7−44276
sparticles
complex supersymmetry and the supersymmetric skyrmion 7−56458
Cyg X-3, cosmic glueballinos source, discussion 7−48105
gaugino mass contributions in low-energy limit of superstrings 7−24812
goldstino in spontaneously broken SUSY field theory 7−41657
ino-dominated Universe, radiation fluctuations, role of baryonic density 7−55858
kasner-type cosmological solutions in $N=1$ supergravity, gravitino ghost field 7−41221
left-right squark flavour mixing, effect on CP violation, minimal low energy supergravity anal. 7−35737
$N=1$ supergravity, $SU(3)\times Su(2)\times U(1)$ models, superparticle and t-quark masses 7−41228
solar neutrinos, high energy and cold dark matter, production from supersymmetric particles 7−34817
squark and gluino mass limits from CERN $p\bar{p}$ collider 7−56464
squark mass matrix constraints from CP-violation 7−24805
squark mixing angles in supergravity theories, gluino flavour changing in SU(5) 7−56136
superstring models on Calabi-Yau manifolds, gauginos and Higgs particles 7−61514
$\tilde{e}\to e\tilde{\gamma}$, single electron search expt., sparticle mass limits 7−49142
$\tilde{e}$ mass limits in sparticle production expt. 7−49142
$\tilde{e}^+\tilde{e}^-\to\gamma X$, identification of missing neutrals using long. pol., ν, $\tilde{\nu}$, $\tilde{\gamma}$ and $\tilde{H}^0$ 7−49127
$e^+e^-\to$neutralinos, CP violation effect, SUSY electroweak model anal. 7−10065
$e^+e^-0\to X$, sparticle pair prod. with polarized beams 7−61493
$\tilde{\gamma}$ mass limits in sparticle production expt. 7−49142
ν^c contributions to $e^+e^-\to\gamma+$nothing, superstring calcs. 7−30263
$\tilde{\nu}e\to$gaugino$+X$, poss. μ prod. from Cyg X-3 7−23962
$\tilde{p}p\to$ gluinos, squarks, search at Tevatron collider energies 7−24921
$p\bar{p}\to H^+H^-$, SUSY Higgs production, SUSY standard model calcs. 7−61763
$\tilde{W}$ decays, $\tilde{W}$, $\tilde{Z}$ mass limits, SUSY signals 7−61682
sparticles continued
$\tilde{W}$ mass limits from $\tilde{W}$, $\tilde{Z}$ decays, SUSY signal 7−61682
$Wg\to\tilde{U}\tilde{D}^*$, heavy squark production, cross section calcs. in effective W approximation 7−61771
$\tilde{Z}$, mass limits from $\tilde{W}$, $\tilde{Z}$ decays, SUSY signal 7−61682
$\tilde{Z}$ decays, $\tilde{W}$, $\tilde{Z}$ mass limits, SUSY signals 7−61682
$Z\to\tilde{h}\tilde{h}h$, Higgs boson signature 7−61678
Z_E contributions to $e^+e^-\to\gamma+$nothing, superstring calcs. 7−30263
spatial filters
acoustic signals, holographic matched filtering, membrane modulator appl. 7−43541
binary phase coding of spatial-frequency filters 7−37112
correlation filter, spatial-temporal, for in-plane distortion invariance 7−50717
correlator tracking nonlinearity 7−57249
debris flows, noncontact speed sensors 7−40615
diffractive diffusers for display applications 7−5977
digital optical adder based on spatial filtering 7−11099
high resolution spatial filter, for optical three-dimensional displacement meter 7−41343
holographic correlator, signal parameters, medium nonlinearity and filter spatial limitations effect 7−50514
Hough transform optical implementation by matrix of holograms 7−42940
image differentiation using an optical filter *(Japanese)* 7−5843
image processing, optical median filtering using threshold decomposition 7−43331
image replication with spatial filters 7−5976
isotropic Hilbert transform by anisotropic spatial filtering 7−42939
logic based on polarisation state 7−43330
moire signal spatial filtering and anal. *(Chinese)* 7−10876
multiple matched filter design for character recognition 7−50718
optical correlation design, wavelength-angle multiplexing appl. 7−25939
optical correlation filters, phase-only and binary phase-only, for threshold detectors 7−43329
optical-correlation filter synthesis by iterative technique 7−5848
pattern recognition, minimum-variance synthetic discriminant functions 7−25716
pattern recognition using Fresnel holographic filter and extended source 7−62633
phase conjugation, polychromatic, image formation 7−43246
photopolymer for matched spatial filtering, hologram grating recording 7−57527
programmable spatial filtering function using CCD technology *(Japanese)* 7−25715
pupil-function design for bipolar incoherent spatial filtering 7−31254
rotation invariant composite filters 7−25942
SAR imagery, geometric filter for reducing speckle 7−50719
strain gauge, laser speckle, using spatial filtering detector 7−43821
synthetic discriminant function filters, computer-generated and phase-only 7−20392
target recognition, filter with limited rotation invariance 7−10872
$LiNbO_3$, uniaxial crystal anisotropic acousto-optic interactions 7−3021
spatial orientation control *see attitude control*
spatial variables control
see also attitude control; level control; position control; thickness control; volume control
space vehicles, inertial navigation algorithms, for high life-to-drag vehicle during atmospheric entry 7−4289
spatial variables measurement
see also angular measurement; area measurement; curvature measurement; diameter measurement; displacement measurement; distance measurement; height measurement; length measurement; level measurement; particle size measurement; position measurement; surface topography measurement; thermal expansion measurement; thickness measurement; volume measurement
3D co-ordinate meas. by optical triangulation *(German)* 7−61313
amputee's stump, shape measuring probe-type system for prosthetics CAD 7−34349
automatic holographic particulate meas., fundamental study *(Japanese)* 7−18745
glass, porous, sintered, pore size distrib. meas., dynamic water expulsion method improvement 7−13678
human chest measurement during respiration, using structured light 7−40326
nanometer-range precision meas., environmental effects *(Japanese)* 7−48689
optical fringe projection for study of deformations and projection 7−41438
optoelectronic transmitted-light meas. system *(German)* 7−61314
phase sensitive scanning optical microscope, interferometer-based design with submicron resolution 7−24698
precision solenoid dimensional meas. error anal., expt. verification *(Japanese)* 7−18741
prosthetics and orthotics, shape sensing by CAD/CAM techniques for fitting 7−34348
prosthetics fitting, optical noncontact 3D body measurement 7−34350
proton gyromagnetic ratio expt. at ETL 7−14917
semi-automatic device for corrosion pit depth and position meas. 7−54035
semiconductor thin layers, orientation determ. using Raman scatt. light 7−61320
ship-board echo location system accuracy and system for East-Scheldt storm barrier construction 7−47558
surface inclination meas. by speckle photography 7−4884
surface testing by microscope-TV-computer system 7−14922
techniques for spatial data display 7−54404
twin-wave laser interferometer for remote meas., accuracy increasing methods 7−343
speakers *see loudspeakers*
special purpose computers
random magnetic materials, numerical simulations with a special purpose computer 7−17182
SUMMER VME trigger processor 7−19592
special relativity
see also Lorentz transformation
Boltzmann gas, semi-relativistic, fitting formulae for eqn. of state 7−40685
brachistochrone, relativistic, anal. using Bernoulli's method 7−56032
causal violations and tachyons *(French)* 7−9664
classical tachyons and possible applications, review 7−4679

special relativity continued
- clock synchronisation procedures in ether theories and special relativity 7-89
- diagrammatic method for Lorentz contraction, time dilation, velocity addition and Doppler effect 7-35276
- effective potential, special relativistic and quasi-Newtonian interpretation 7-90
- Einstein's inertia-energy relationship, deduction using isotropic light signal 7-55931
- electron motion, relativistic, in superposed standing wave/magnetic field 7-5865
- EPR paradox, relativistic formulation 7-61146
- EPR paradox, special relativity and quantum measurement 7-14798
- fast beam laser spectroscopy tests 7-9666
- foundations of relativity *(German)* 7-4681
- fourth dimension 7-9663
- Hamilton-Jacobi equation, maximal symmetry group, relativistic particle in flat spacetime 7-18592
- hyper-relativistic quantum systems 7-48418
- interferometric ether-drift experiment nullified by resynchronization of observer's clocks 7-35275
- latitude dependence of time on Earths surface 7-4680
- Lorentz time transformation, rel. to special relativity and Lorentz-type theory 7-48354
- mass tensor, geometric interpretation in Minkowski space, noncovariant eqns. of motion. 7-48240
- massless particles with energy, production and rocket motion 7-29749
- Michelson-Morley result, a Voigt-Doppler effect in absolute space-time 7-29751
- nonequilibrium thermodynamics, tensorial local equilib. axiom and evolution operator 7-14901
- one-way light speed, independence of the isotropy convention 7-48356
- photoelasticity and classical mechanics, link, Lorentz group 7-11366
- quantum field theory, structure concepts 7-9979
- relativistic acoustic Doppler effect in the opticallimit 7-55
- relativistic objects, event horizons and intertransitions, systematics *(Russian)* 7-159
- revised Robertson's test theory of special rel., supergroups and superspace 7-48355
- rocket borne clock expt., kinematical and gravitational anal. 7-29833
- sine-Gordon equation, covariant generalization on Minkowski space-time 7-61097
- tachyons, causality, superluminal frames and transformations 7-9665
- thermal ambience relative to accelerated frame, heuristic viewpoint 7-29750
- ultraviolet catastrophe, relativistic explanation of black body radiation *(French)* 7-35273

specific gravity *see density*

specific gravity measurement *see density measurement*

specific heat
- *see also Debye temperature; Gruneisen coefficient; specific heat of gases; specific heat of liquids; specific heat of solids*
- adsorbed molecules, hindered rotations, energy levels and thermodynamic props. 7-27130
- apparatus cooldown using He or N cooling systems, mass flow requirements calc. 7-56281
- background fluctuations and Wegner corrections 7-281
- Blume-Capel model, effective field theory 7-33134
- commissioning trials on large-scale thermal conductance apparatus 7-14940
- computerised instruments interfaces standardisation, for low-temp. meas. 7-4857
- critical behaviour finite cutoff and higher transient effects 7-282
- DC-AC hot-wire procedure for determiningthermophysical properties under pressure 7-9830
- dual-slope method for specific heat measurements 7-14937
- graphite, multilayer melting transition of adsorbed methane 7-6992
- homogeneous spinodal phase, stability boundaries, thermodynamic functions homogeneity *(Russian)* 7-41325
- hydrostatic pressure dependence obs. for hard materials and crystals thermal props. 7-306
- Ising disordered systems, thermodynamic props., renormalisation group calcs. 7-56185
- Ising model, 3D thermodynamic functions at $T>T_c$ *(Ukrainian)* 7-9781
- Ising triangular lattice, 2×1 and 2×2 structures, phase transitions 7-63765
- Lebwohl-Lasher lattice model, inhomogeneous, Monte Carlo simulation 7-61261
- massive Schwarzschild black hole, entropy in stable thermal equilib. 7-24502
- microcomputer data-acquisition and control system for thermal variables meas. 7-4841
- planar XY-model on a 2D random lattice, numerical simulation 7-24594
- polyethylene, struct. change by ionising irradiation, DSC investig. *(Russian)* 7-21138
- polyethylene oxide-water system, high molecular, calorimetric obs. *(Russian)* 7-12325
- random clusters, interacting spins, thermodynamic properties 7-59029
- rod, long, plastic wave propag., strain and temp. distrib. *(Japanese)* 7-31678
- soliton systems, statistical mechanics, collective coordinate approach, non-canonical method 7-18690
- spin van der Waals model, critical region *(Korean)* 7-27537
- SU(2) lattice gauge theory with mixed action, Z(2) monopoles and specific heat 7-48962
- temperature-driven first-order transitions, finite-size effects, Potts model, Monte Carlo calcs. 7-258
- thermophysical laboratory database formation, using pulse heat method 7-4828
- universal critical amplitude ratio estimation from ε expansion 7-41320
- ^{3}He films, gapless superfluidity, diffuse boundary scatt. effects 7-44939
- ^{4}He, adsorbed on Vycor, superfluid transition, constrained randomness, Harris criterion 7-44935
- NO, sp. ht. extremum behaviour, electronic contrib., one low lying excited state model 7-16058
- Si_2H_4, sp. ht. extremum behaviour, 2-state isomerism model 7-16058

specific heat at constant pressure *see specific heat*

specific heat at constant volume *see specific heat*

specific heat of gases
- air isentropic charge eqns. 7-31919

specific heat of gases continued
- 1-alkanols, vapour press. and thermal data simultaneous correls. 7-6767
- alkyne isomer groups, chemical thermodynamic props. data 7-60901
- difluorodichloromethane, mol. consts., force field study, thermodynamics props. 7-19814
- isochoric heat capacity at the critical point under reduced gravity *(German)* 7-21478
- organic O O contrary comps. in C_1 to C_4 range, ideal gas thermodynamic props. 7-60904
- refrigerant R22, isentropic change in exponents 7-20831
- second virial coeffs., semi-theoretical correl., temp. depend. Lennard-Jones pot. calcs. 7-6749
- weak molecular complexes, isomerism, molar heat capacity at const. press. investig. 7-28305
- Ar gas crit. behaviour, modified hypernetted chain eqns., nonuniversal quantities 7-44090

specific heat of liquids
- alkali metals, condensed phase, thermodynamic props. study 7-32684
- azoxy-4,4'-diundecyl-α-methylcinnamate, smectic-A-smectic-C phase transition, heat-capacity meas. 7-58471
- benzene, acoustic and thermodynamic props., press. and temp. depend. 7-63745
- binary critical mixtures, universality 7-44758
- carbon tetrafluoride adsorbed on graphite, nonwetting growth and cluster formation 7-2359
- complex adiabatic compressibility and adiabatic pressure-induced temp. variation meas. 7-21316
- cyclohexane, acoustic and thermodynamic props., press. and temp. depend. 7-63745
- p-decyloxybenzylidene-p'-amino-1-methylpropylcinnamate, smectic-A-chiral-smectic-c transition meas. 7-58472
- dense liq. departures from Joule's law near freezing w.r.t. vacancy props. of hot crysts. 7-63840
- 1,2-dichloroethane-n-alkane or -2,2,4-trimethylpentane liq. mixtures, excess enthalpy meas. and calcs. 7-6827
- 3,3-dimethylbutan-1-ol-n-hexane mixtures, excess molar enthalpy, heat capacity and molar vol. 7-44850
- DOBAMBC, smectic A-chiral smectic-C phase transition, tilt angle, polaris. and heat capacity 7-44361
- 1:1 electrolytes, high-temp. thermodynamic props. 7-21481
- 1:1 electrolytes, specific heat and density meas. 7-6816
- free-standing liquid crystal films, heat capacity and phase transformation study 7-6819
- glycerol, specific heat near glass transition 7-2207
- heat capacity at the glass transition 7-63817
- isochoric heat capacity at the critical point under reduced gravity *(German)* 7-21478
- metals, capillary wave dispersion relation modifications due to electric charge, surface Green fn. matching method 7-21575
- methane monolayer on graphite, thermodynamic study 7-16863
- octyloxybenzoyloxycyanostilbene, reentrant transition enthalpies, frustrated spin-gas model 7-63816
- octyloxycyanobiphenyl and octylcyanobiphenyl, smectic Ad phases 7-2194
- polystyrene, heat capacity 7-44844
- n-propyl-4'-n-decyloxybiphenyl-4-carboxylate-n-butyl-4'-n-decyloxybiphenyl-4-carboxylate, smectic-A-hexatic-B-smectic-I point, existence and nature 7-2198
- propylene glycol, specific heat near glass transition 7-2207
- smectic-A-smectic-C phase transition, Frank consts. corrections, renormalisation-group method calcs. 7-16742
- thermal expansion and heat capacity at high pressure 7-6818
- toluene liq. thermal cond. and sp. ht. meas., AC heated wire method 7-16824
- AgI phase diagram, molecular-dynamics simulation 7-26912
- CO_2 liq. finite sink for atmospheric heat engine 7-40022
- CO_2 saturated liq., sp. ht. meas. 7-16783
- Ca^{2+}+D-ribose (D-arabinose), enthalpies, sp. heat and molal vols. at 25°C 7-8253
- Cd-Bi(Sb), thermodynamic functions are modelled by chemical-physical theory, Gibbs energy 7-52051
- $(GeSe_2)_{70}(GeTe)_{15}(Sb_2Te_3)_{15}$, glass transition, thermodynamic and thermokinetic characts. 7-26953
- H_2O-$CO_2(H_2S)(NH_3)(H_2SO_4)(H_3PO_4)(ZnCl_2)$ $(CuCl_2)$, thermodynamic meas., bibliography of data sources 7-52070
- ^{3}He-^{4}He dil. mixtures, specific heat measurements with second-sound Helmholz resonator 7-21566
- ^{4}He superfluid, specific heat measurements with second-sound Helmholz resonator 7-21566
- $Hg_{1-x}Cd_xTe$, pseudobinary melts, heat capacity, enthalpy of melting, thermal cond. 7-21477
- K-Pb liquid alloys, excess stability, entropy 7-26975
- Li-Pb, sp. ht. calc. from expt. density and temp depend. press. data 7-63839
- NH_3-N_2(methane), excess molar enthalpy and heat capacity 7-44825
- NH_4Cl aq. soln. finite sink for atmospheric heat engine 7-40022
- NH_4NO_3 aq. soln. finite sink for atmospheric heat engine 7-40022
- UO_2, solid and liq., exptl. derivations of sp.ht. 7-6817
- Zn-Sb, thermodynamic functions are modelled by chemical-physical theory, Gibbs energy 7-52051

specific heat of solids
- *see also Schottky anomaly*
- actinide metals, solid state and thermodynamic props., f-electron bonding and struct., review 7-12321
- actinides bulk magnetic and transport props. 7-12953
- adiabatic pressure variation method 7-2230
- alkali halide mixed crystals, phys. props., review 7-37943
- alkali metals, condensed phase, thermodynamic props. study 7-32684
- alloys, order-disorder phenomena, Ising model calcs. allowing for atomic vibrations 7-21400
- ammonium hexafluorometallates, phase transitions 7-6787
- amorphous, media, heat capacity theory *(Russian)* 7-52074
- amorphous materials, heat capacity of two-level systems, kinetic theory *(Russian)* 7-58502
- amorphous metallic alloys, liquid-quenched, mesophase thermodynamic stability calcs. 7-6831
- Anderson lattice, low temp. sp. ht., functional integral approach, boson representation 7-16788
- Anderson model, Bethe ansatz soln., cryst. field and spin-orbit coupling effects 7-2449

specific heat of solids continued
automated system for managing measurements on the UNTOthermophysical systems 7—4847
automatic meas. of thermophysical props. of metals, 600 to 4000K range 7—4843
β-(BEDT-TTF)$_2$AuI$_2$, bulk supercond., sp. ht. anomaly meas. 7—27466
(BEDT-TTF)$_2$X organic superconductors, sp. ht. meas. 7—45561
benzonitriles, substituted, thermodynamic functions 7—52082
biphenyl, cryst. mol. motions, thermodynamic studies *(Japanese)* 7—38151
bone, compact, thermophys. props. 7—17952
α-brass, Mossbauer spectroscopy 7—59125
cavity method for flash measurement of specificheat 7—4836
chalcogenide glasses, nonequilibrium phonons and photostruct. transforms., energy transfer characts. 7—6742
classical spin chains, dil., effects of mag. field on thermodynamics 7—38840
coal, thermal charactn., piezoelectric photoacoustic microscopy 7—44643
cooldown mass flow requirements for He or N cooling systems 7—56281
critical exponents, LEED meas., Monte Carlo data anal. 7—6824
cryocrystal:O$_2$, thermodynamic props., impurity mol. exchange interaction effects calcs. *(Russian)* 7—12308
cyclosilanes, plastic and condis crysts., thermal anal. 7—37910
d-wave superconductors, sp. ht., thermal cond., US absorpt. 7—64400
degenerate Kondo lattice, magnetic instability and sp. ht. calcs. 7—58977
dilute mag. alloy system, external mag. field, thermodynamic props. anomalies 7—45666
disordered interacting electron systems, effective Landau theory, sp. ht. behavior 7—32958
disordered systems, activated processes, logarithmic scaling and 1/f noise power spectrum 7—61248
ethylene adsorbed on graphite, layering and layer-critical-point transitions 7—12471
exponents far from T$_c$, specific heat appl. to hierarchical structures 7—33175
ferroelectrics, relaxation, dielectric and thermal props. at low temps. 7—13102
ferromagnets, one-dimensional easy plane, quantum Monte Carlo and transfer-matrix calcs. 7—7468
fibreglass-filled rubber-modified phenolic resin, sp. ht. and thermomech. expansion meas., thermal decomp. 7—6822
glass, hydrostatic pressure dependence obs. 7—306
glass, low temp. sp. ht. calcs. 7—44846
glass transition, internal energy effects 7—16744
granular superconductors, phase-locking transition, phase-number representation 7—38803
graphite-FeCl$_3$ intercalation cpd., spin-lattice relax. time meas., AC suscept. bridge techniques 7—13054
Group VB metal-H solid solutions, thermodynamic props., Monte Carlo calcs. 7—21487
heavy electron superconductors, normal impurity effects, excitation spectrum 7—27462
heavy Fermi liquids and narrow band metals, characteristic temps. 7—45689
heavy fermion metals, supercond. upper crit. field, temp. depend. 7—45587
Heisenberg spin glass, sp. ht., strong spin dynamics effects 7—64476
hexenylammonium copper tribromide, easy-plane ferromagnetic chains, sp. ht. and spin Hamiltonians, quantum statistics calcs. 7—64469
hierarchical low-temperature behaviour of one-dimensional incommensurate structures 7—29914
high-melting, heat capacity anal. 7—63754
hydrated inorganic salts found in concrete, thermal energy storage appls. 7—17922
Indian upper mantle rocks, pressure-temp. studies for Gruneisen coeff. and specific heat 7—55267
Ising model, 2D with layered quenched bond randomness, free energy and specific heat calcs. 7—7531
lithium n-heptanoate, heat capacities and thermodynamic props. 7—52072
lithium n-pentanoate, heat capacities and thermodynamic props. 7—52072
magneto-optical thin films, under laser irradiation, thermal anal. 7—45995
manganese formate, Mn(HCOO)$_2$.2H$_2$O, magnetic transitions, compression and mag. dilution effects 7—52986
melanin, sp. ht. below 3K 7—3754
metal particles, quantum size effects 7—7597
metals, electronic sp. ht., finite conduction electron lifetime correction calcs. 7—16784
methane, adsorpt. on graphite, multilayer growth mode 7—32795
methane adsorbed on graphite, heat capacity calcs., quantum cell model 7—52076
methane monolayer on graphite, thermodynamic study 7—16863
mixed valent compounds, electronic properties, theory 7—21880
molecular glasses, β-processes anal. 7—20074
nonferrous materials, specific heat capacities *(German)* 7—2228
nonmagnetic metallic glasses, negative TCR and electronic struct. studies 7—52562
one-dimensional conductors, electron-phonon backscatt. and phonon dynamics calcs. 7—38468
periodic Anderson Hamiltonian, paramagnetic ground state 7—2809
phonon density of states, determ. from sp. ht. 7—26884
planar spin chains, mag. field depend. of specific heat 7—45707
polymers, thermodegradation kinetics, softening effect *(Russian)* 7—46844
polystyrene, glass transition, enthalpy relax. kinetics *(Russian)* 7—6797
polystyrene, p-substituted and crosslinked, heat capacity 7—44844
porous media, moist, thermal props. at temps. below 0°C 7—4834
PVC-polyvinyl butyral (phenolformaldehyde resin), thermophys. props. *(Russian)* 7—27040
pyrene-biphenyl mixed crysts., local heating, phonon modes and Dicke optical superradiance *(Russian)* 7—13178
quasi-one-dimensional conductors, quantised density wave ordering induced by mag. field 7—45702
quasi-one-dimensional system, simulation of CDW transition, sp. ht. determ. 7—32928
quasicrystals, two-dimensional, acoustic phonon spectrum of Penrose tilings 7—26892
p-quaterphenyl, cryst. mol. motions, thermodynamic studies *(Japanese)* 7—38151
rare earth metals, thermophysical props. studied using mol. laser radiation 7—58555
rare-gas solids, phonons, close to melting 7—63757
refractory materials specific heat, resistivity and integral emissivity meas., automatic system 7—4842

specific heat of solids continued
rock thermophysical characts. determ., automatic meas. system 7—9219
semiconductors, intermediate valence, theory 7—38526
semiconductors, quasi-1D, bipolaron-impurity complexes 7—45180
solids, thermophysical props., predictions 7—44841
steel, thermal conductivity profile, inverse determ. from thermal wave surface data 7—46751
strong-coupling superconductors, specific heat difference functional derivative 7—38815
styrene copolymers, glass transition, enthalpy relax. kinetics *(Russian)* 7—6797
superconductors, topological transitions, quasi-particle states density and sp. ht. temp. depend. calcs. *(Russian)* 7—7439
p-terphenyl, cryst. mol. motions, thermodynamic studies *(Japanese)* 7—38151
TGS, crystalline samples, low temp. sp. ht. meas. 7—2225
thermophysical characteristics meas., error due to heat capacity of heater 7—56256
(TMTSF)$_2$X Bechgaard salts, field-induced phase transitions 7—45409
transition metals, lattice dynamics 7—51972
triphenylchloromethane-o-terphenyl, sp. ht. capacity and glass transition temp. meas., thermodynamic config. anal. 7—21446
TTF-BDT (Au), spin-Peierls phase diagram, high temp. sp. ht. and suscept. meas. 7—59026
two dimensional electron gas, thermodynamic props., interaction and disorder effects, HF approx. calcs. 7—2516
uniaxial systems with strong dipolar interaction, nonasymptotic crit. behaviour 7—64467
N-vinyl carbazole-alkyl methacrylate random copolymers, thermodynamic props. *(Russian)* 7—26982
AgI phase diagram, molecular-dynamics simulation 7—26912
Ag$_4$P$_2$O$_7$, glassy and cryst. states, thermal props., IR spectra 7—44845
Al, phonon density of states from heat capacity temp. depend., inverse problem 7—6736
Al-Si-SiC(Si$_3$N$_4$), composites, thermal props. *(Japanese)* 7—52164
Al$_{80}$Mn$_{20}$, quasicrystalline icosahedral phase, sp. ht., mag. props. 7—52955
Ar adsorbed films, surface melting and roughening 7—38342
(As$_2$Se$_3$)$_{1-x}$Tl$_x$, elec. and thermal transport props., effect of Tl addition 7—38200
Au (110) (1×2), sp. ht. anomaly for order-disorder transition, LEED study 7—12310
Au, metal and clusters, dynamical props., EXAFS studies 7—64805
B, meas. using ^{4}He cryostats 7—35526
B$_2$O$_3$ glass, thermal expansion, sp. ht. meas. 7—44862
BaTiO$_3$, crystalline samples, low temp. sp. ht. meas. 7—2225
BaTiO$_3$, Nd$_2$O$_3$-modified, defect struct. and dielec. props 7—37968
BaTiO$_3$, polycryst., glasslike behaviour at very low temp. 7—27647
Bi-Pb, superconducting transition temp., effect of plastic deform. 7—52879
Bi-Tl, superconducting transition temp., effect of plastic deform. 7—52879
Bi$_{12}$GeO$_{20}$, pure and doped crystals phys. props. 7—7283
Bi$_{12}$SiO$_{20}$, pure and doped crystals phys. props. 7—7283
Ca, phonon density of states from heat capacity temp. depend., inverse problem 7—6736
Cd$_{1-x}$Mn$_x$Se, dil. mag. semicond., including long-range interactions, mag. props. anal. 7—7497
Cd$_{1-x}$Mn$_x$Te, dil. mag. semicond., including long-range interactions, mag. props. anal. 7—7497
Ce mixed valence cpds., many body theory for spectroscopies 7—64790
CeAl$_3$, heavy fermion system, fluctuating bands 7—58736
CeAl$_3$, quasiparticle band struct., local-density approx. anal. 7—27250
CeCu$_2$Si$_2$, lattice gas heavy fermion-boson model anal. of specific heat, entropy and magnetic susceptibility 7—58505
CeCu$_2$Si$_2$, quasiparticle band struct., local-density approx. anal. 7—27250
CeH$_{2.7}$ heavy electron system, muon spin rot., Knight shift and relax. studies 7—45885
CeMRu$_2$Si$_2$ (M=La,Y), high energy EXAFS and XPS studies 7—64801
CePb$_3$ heavy fermion material, magnetism and superconductivity 7—52880
CePd$_3$B$_{0.6}$ heavy fermion cpd., thermal and mag. anomalous cryst. field effects 7—45239
CePd$_3$Si, heavy fermion cpd., thermal and mag. anomalous cryst. field effects 7—45239
Co-Y alloys, low temp. sp. ht. study, crystalline and amorphous phases 7—52995
Co$_{69}$Fe$_{4.5}$Cr$_2$Si$_{2.5}$B$_{22}$ metallic glasses, long-time tunnelling heat relaxation meas. 7—38223
CoO, heat capacity in vicinity of strong fluctuations, nonpower-law behaviour 7—2865
Cr-BN amorphous films, supercond. transition temp. 7—27454
Cr-Fe (28.5 at.%) superparamag. particles formed during solid soln. decomp., mag., transitions *(Russian)* 7—33220
Cr-Ru, BCC alloys, supercond. and mag. props. 7—7443
CrVO$_4$, magnetic phase transitions, mag. suscept. and sp. ht. meas. 7—2842
Cs BCC single cryst., lattice dynamics, coherent inelastic neutron scatt. study 7—21376
CsI, Hugoniot overtake sound-rel. meas. 7—44705
CsI, shock wave overtake meas. 7—21353
CsNiF$_3$, easy-plane ferromag. chain, quantum sp. ht. 7—7522
CsNiF$_3$, easy-plane ferromagnetic chains, sp. ht. and spin Hamiltonians, quantum statistics calcs. 7—64469
Cu complex, (C$_6$H$_{11}$NH$_3$)CuBr$_3$, easy-plane ferromag. chain, quantum sp. ht. 7—7522
Cu, specific heat meas. below 1K 7—16789
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7—12698
Cu$_{1-x}$Al$_x$, α-phase, specific heat 7—12312
Cu$_2$HgI$_4$, order-disorder transition, differential scanning calorimetry, high-press. phase diagrams 7—58463
Cu$_2$MnAl, Heusler alloy, heat and press. processed, changes in phys. props. during heating *(Russian)* 7—59645
Cu$_{1-x}$Ni$_x$Cr$_2$O$_4$, heat capacity anomalies, cooperative Jahn-Teller effect 7—6823
o-D$_2$ monolayers, physisorbed on graphite specific heat studies 7—52271
DyAl$_2$ single crysts., low temp. heat capacity meas. in mag. field, mean field approx. calcs. 7—27530
ErAg, sp. ht. meas. 0.5 to 21 K 7—52994
ErAl$_2$ single crysts., low temp. heat capacity meas. in mag. field, mean field approx. calcs. 7—27530
Eu$_x$Sr$_{1-x}$S mag. sp. ht., field and temp. depend., numerical simulation 7—2883

specific heat of solids continued
Fe, ferromagnetic sp. ht. meas. by pulse-heating technique 7−7513
Fe thermodynamic props., data tables and reviews 7−18512
Fe-Ni system, phase equilibria, mag. contrib. to thermodynamic functions, below 1200K 7−7965
$Fe_{80}B_{14}Si_6$ metallic glasses, long-time tunnelling heat relaxation meas. 7−38223
$Fe_{1-x}Co_xCl_2$, random-field and competing-anisotropy effects, sp. ht. study 7−2872
FeMnAl, low temperature specific heat *(Chinese)* 7−12306
$Fe_xMn_{1-x}S$, high temp. metal-nonmetal transition 7−7117
$Fe_xNi_{85-x}Mn_{15}$, low temp. sp. ht. near ferromag.-antiferromag. transition *(Russian)* 7−7512
$FeSb_2O_4$, thermodynamics studies, 10 to 300K 7−2231
$FeVO_4$, magnetic phase transitions, mag. suscept. and sp. ht. meas. 7−2842
Fe_xZr_{100-x} amorphous alloys, Kohlrausch thermal relax., sp. ht. meas. 7−59027
GaAs-GaAlAs superlattices, density of states of Landau levels, sp. ht., magnetisation meas. 7−52823
$Gd_3(Ga_{1-x}Fe_x)_5O_{12}$ and $GD_3[Al_3(Ga_{1-x}Fe_x)_2]O_{12}$, mag. solid soln. systems for regenerator materials 7−59015
$Ge_{20}Te_{80}$ glasses, heat capacity, relax. and thermodynamic kinetics during annealing 7−44843
^4He, adsorbed on graphite order-disorder transition, sp. ht. anal. 7−58563
Hf-Os, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
n-$Hg_{0.8}Cd_{0.2}Te$, condensed electron system, heat capacity, comment 7−58503
$HgCr_2Se_4$, ferromag. semiconductor, sp. ht. 7−45684
$Hg_{1-x}Mn_xSe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
$Hg_{1-x}Mn_xTe$, dil. mag. semicond., including long-range interactions, mag. props. anal. 7−7497
$(KBr)_{1-x}(KCN)_x$ mixed single crysts., low temp. thermal props. meas., amorphous solids model 7−52075
$KCl:Li^+$, impurity interactions, sp. ht. and thermal expansion, pair density of state calcs. 7−63852
$K_{0.3}MoO_3$, excess low-temp. sp. ht., CDW state 7−12311
$KZnF_3$, heat capacity, thermodynamic functions 7−52071
Kr clathrate hydrates, sp. heat, compositions and heat of dissoc. in range 85 to 270K, calorimetric determ. 7−26974
LaB_6, lattice dynamics studied by ion channelling, La in Einstein model, sp. ht. anomalies 7−44710
$(Li_{1-x}M_x)_{0.9}Mo_6O_{17}$, (M=K,Na), superconductivity and CDW 7−45541
$Li_{0.9}(Mo_{1-x}W_x)_6O_{17}$, superconductivity and CDW 7−45541
$(Li_{1-x}Na(K)_x)_{0.9}Mo_6O_{17}$ anomalous transport props., resist., mag. suscept., sp. ht., struct. and supercond. transition temp. meas. 7−21913
$LiNbO_3$:Fe, and undoped crystals, decay of γ-centres 7−7658
$LiNb(Ta)O_3$, crystalline samples, low temp. sp. ht. meas. 7−2225
$Lu_xCu_{0.37}Y_{0.63-x}$ metallic glasses, low temp. sp. ht. 7−64462
α-LuD_x single crystals, anisotropic ordering, resistivity and heat capacity studies 7−21894
$Lu_5Ir_4Si_{10}$, superconducting, electronic phase transition and partially gapped Fermi surface 7−12902
MgO, thermal cond. and heat capacity obs., hydrostatic pressure dependence 7−306
$MgO-Al_2O_3-SiO_2-GeO_2$ cordierite ceramics, sintering, microstruct., thermal props. 7−52088
$Mg_{70}Zn_{30}$ and $(Mg_{70}Zn_{30})_{95}Pb_5$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7−38148
$Mn_{0.794}Cr_{0.206}$ alloy, sigma phase, heat capacities 7−52073
$Mn_{0.63}Cr_{0.37}As$, thermal, mag. and struct. props. of transitions, thermodynamics, 10 to 350 K 7−64463
$Mn_{0.5}Zn_{0.5}F_2$, sp. ht. meas. in random fields 7−33178
Mo, high-temp. sp. ht. meas. and eqn. 7−6821
ND_4ReO_4, heat capacity anal. 7−26984
NH_3CdF_3, heat capacities determ. in temp. range 5 to 350K 7−44842
β-NH_4LiSO_4, elastic stiffness constants, ultrasonic pulse echo overlap meas. 7−12188
NH_4MgF_3, heat capacities determ. in temp. range 5 to 350K 7−44842
NH_4ZnF_3, heat capacity, thermodynamic functions 7−52071
$NaNO_2$, crystalline samples, low temp. sp. ht. meas. 7−2225
$Na_2O-B_2O_3$ glasses, effect of Na_2O addition, thermal expansion, sp. ht. meas. 7−44862
NaOD, low temp. phase transform., heat capacity, calorimetric study 7−16785
$Na_3Zr_{2-x}In_xSi_{2-x}P_{1+x}O_{12}$ system, chem. composition, cryst. struct. and ionic cond. *(Chinese)* 7−12006
Nb, BCC, thermodynamic props. 7−6828
Nb-Sn liq.-infiltrated superconducting composite wire, T_c and sp. ht. meas. studies 7−45560
NbC_{1-x}, thermodynamic props., 1200-2500 K 7−44849
$Nb_3(Ge,Si)$, A15 phase, Si stabilisation, supercond. transition temp., sp. ht. meas. 7−45532
$NbO_xH_y(D_y)$, H tunnelling, isotope and temp. depend. 7−27474
$NbSe_2H_x$, heat capacity, Debye temp., electron-phonon coupling, electronic contrib. meas. *(Russian)* 7−6820
$(NbSe_4)_3I$, phase transition props. 7−44803
$(NbSe_4)_3I$, quasi-1D, sp. ht., phason and low-energy excitation contribs. 7−21479
Nb_3Sn superconductor, sp. ht. meas. in mag. fields up to 19 T 7−17134
$Nd_2Fe_{14}B$, elastic props. between 120 to 300K 7−27529
Ni-Al-Cr based alloy plasma-sprayed thermal barrier coatings, sp. ht. and thermal cond. meas. and 2D computer simulation 7−7076
Ni-base superalloys, mag. clusters, calorimetrically determined 7−12977
Ni-H system, band structure calcs. 7−45140
Ni-Ti, Nitinol, thermodynamics 7−58506
$(Ni_{1-x}Cu_x)_{77}B_{13}Si_{10}$ pseudobinary metallic glass, low-temp. sp. ht. studies 7−12309
$(Ni_{1-x}Cu_x)_{80}P_{20}$ pseudobinary metallic glass, low-temp. sp. ht. studies 7−12309
$Ni_3(Fe_{1-x}Mn_x)$ magnetic alloys, impurities, ordering 7−51995
$NiSb_2O_4$, thermodynamics studies, 10 to 300K 7−2231
$Ni_{100-x}Zr_x$ metallic glasses, low temp. sp. ht. study, density of states and Debye temp. determ. 7−2226
Pb, phonon density of states from heat capacity temp. depend., inverse problem 7−6736
$PbBi_4Te_7$, synthesis and physicochemical props. 7−13349
$PbO-SiO_2$ glass, elastic props. and short- and medium-range structs. *(Japanese)* 7−65077

specific heat of solids continued
Pd, dynamic spin susceptibility, contrib. to low temp. sp. ht. 7−33143
$Pd_{78.5}Cu_6Si_{15.5}$ metallic glass, structural relax., vitrification, sp. ht., DSC obs. *(Russian)* 7−37880
Pd_3Fe, electronic struct. 7−52415
PrH_{2+x}, (x=0-0.5), low temp. specific heat meas. 7−32681
PuSb, heat capacity meas. 7−12975
Si, thermodynamic props., data tables and reviews 7−18512
SiO_2, vitreous, low-frequency vibr. modes 7−21378
$SiO_2-Al_2O_3$, glassy system, thermal capacity, thermodynamic props. 7−12307
$SiO_2-Al_2O_3$ vitreous systems, low temp. sp. ht. and thermodynamic props. study 7−63842
SiO_2-TiO_2, glassy system, thermal capacity, thermodynamic props. 7−12307
SiO_2-TiO_2 vitreous systems, low temp. sp. ht. and thermodynamic props. study 7−63842
Sn, superconducting transition temp., effect of plastic deform. 7−52879
Ta, high-temp. sp. ht. meas. and eqn. 7−6821
TaC_{1-x}, thermodynamic props., 1200-2500 K 7−44849
$(TaSe_4)_2I$, quasi-1D, sp. ht., phason and low-energy excitation contribs. 7−21479
TbAg, sp. ht. meas. 0.5 to 21 K 7−52994
$TbAl_2$ single crysts., low temp. heat capacity meas. in mag. field, mean field approx. calcs. 7−27530
$(Tb_{1-x}Y_x)Co_2$ ferrimagnetic alloy, sp. ht., Curie temp. and density of states comp. depend. meas. 7−7514
Th, phonon density of states from heat capacity temp. depend., inverse problem 7−6736
$ThBe_{13}$, high temp. sp. ht. meas. *(French)* 7−16786
ThNX (X=Se, Te), heat capacity, neutron diffr. and crystal field models 7−12976
Ti-Fe, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
$Ti_{50}Ni_{47}Fe_3$, intermetallic cpd., martensitic transform. at high press. *(Russian)* 7−59520
$TlFeS_2$, low temp. sp. ht. *(Russian)* 7−32678
$TmAl_2$ polycrysts., low temp. heat capacity meas. in mag. field, mean field approx. calcs. 7−27530
$TmCu_2$, magnetic phase transitions, suscept., sp. ht., elec. resist. and magnetisation meas. 7−2857
$TmNi_2$, singlet ground-state cpd., induced-moment ferromagnetic ordering meas. 7−38866
U alloys, heavy-electron ground state, chemical comp. effects, low temp. sp. ht. and superconductivity 7−63841
U alloys, UTX (T=Ru,Co,Ni; X=Al,Ga,Sn), nonferromagnetic, high-field and low-temp. mag. props. 7−45696
UAl(Ga)(Sn)Ni(Co)(Ru) ternary alloys, magnetic behaviour, elec. resist. and sp. ht. meas., 5f electron effects 7−12999
UBe_{13} and UB_4, high temp. sp. ht. meas. *(French)* 7−16786
UBe_{13}, heavy fermion cpd., lattice dynamics, EXAFS study 7−64792
UBe_{13}, lattice gas heavy fermion-boson model anal. of specific heat, entropy and magnetic susceptibility 7−58505
UBe_{13}, $U_{0.97}Th_{0.03}Be_{13}$ and $UBe_{12.94}Cu_{0.06}$, low temp. high mag. field study 7−12911
UNX (X=Se, Te), heat capacity, neutron diffr. and crystal field models 7−12976
UO_2, heat capacity, enthalpy, critical review 7−16787
UO_2, solid and liq., exptl. derivations of sp.ht. 7−6817
UPd_2Sn, heavy electron behaviour, elec. resist., mag. susceptibility, sp. ht. meas. 7−32679
UPt_3, doped, strain-dependent mag. anomalies 7−12978
UPt_3 Kondo lattice, low-temp. sp. ht., suscept. and resist. meas., press. depend. anal. 7−7220
UPt_3, superconductivity, one-component Fermi liquid theory 7−22066
URu_3 (Rh_3) (Pd_3) (Ir_3) (Pt_3), hybridisation, electronic struct. and props. 7−45136
URu_2SI_2, heavy electron system, competing electronic correlations, press. effect 7−45539
URu_2Si_2, monocrystalline, thermal expansion and sp.ht. 7−44866
$U_{1-x}Th_xPt_3$, Fermi surface instability modification by Th substitution in UPt_3 7−2766
$U_{1-x}Th_xRe_2$, polymorphic transform., supercond. crit. temp., low temp. sp. ht. meas. 7−17125
V, dynamic spin susceptibility, contrib. to low temp. sp. ht. 7−33143
VC_{1-x}, thermodynamic props., 1200-2500 K 7−44849
$VO_{2\pm X}$, thermophysical props., influence of nonstoichiometry 7−44839
W, BCC, thermodynamic props. 7−6828
W, high-temp. sp. ht. meas. and eqn. 7−6821
Xe clathrate hydrates, sp. heat, compositions and heat of dissoc. in range 85 to 270K, calorimetric determ. 7−26974
Y, pressure-induced superconductivity, band struct. and sp. ht. press. depend. calcs. 7−7431
YAl nonmagnetic metallic glasses, negative TCR and electronic struct. studies 7−52562
$Y_{1-x}Dy_x$ dilute alloys, spin density wave antiferromagnetism 7−52947
$Y_2Fe_{14}B$, electronic struct. and mag. props. recursion method calcs. 7−2452
YIG:H, sp. ht. and annealing behaviour, conversion-electron Mossbauer spectroscopy study 7−17253
$YbAgCu_4$, strong electronic correlations 7−45194
$YbAuCu_4$, strong electronic correlations 7−45194
$Yb_xIn_{1-x}Cu_2$, Yb valence transition 7−45245
$YbPdCu_4$, strong electronic correlations 7−45194
$YbPd_2Si_2$, moderate heavy fermion system, sp. ht. 7−58504
Zn, Mossbauer spectroscopy 7−59125
Zr-Co, electronic struct., supercond. and magnetism 7−64398
Zr-Fe compounds, electronic, lattice and supercond. props., rel. to amorphous alloys 7−17133
Zr-Ru, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
$Zr_{1-x}Cu_x$ amorphous sputtered alloys, low energy excitations, sp. ht. meas., structural relax. effects 7−11913
$ZrO_2-Y_2O_3$ plasma-sprayed thermal barrier coatings, sp. ht. and thermal cond. meas. and 2D computer simulation 7−7076
$Zr_{75}Rh_{25}$ and $(Zr_{75}Rh_{25})_{93}Be_7$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7−38148
ZrS_2, thermodynamic props., 298 to 1600K 7−28022

specific volume *see density*

specimen preparation
- *see also biological specimen preparation; metallography; replica techniques*
- 2D blunt body sampling, mathematical theory, flow calcs. 7—31867
- alloys, surface-modified, cross-section precip. extraction replica technique 7—54042
- alumina, grain boundary glassy phase, ion milling of TEM specimens 7—44327
- anvil cell, high press., development for microscopy/IR spectroscopy 7—54224
- biological specimen etching, ion beam sputtering appl. 7—7850
- biological tissue low-temp. embedding, for electron microscopy 7—23496
- ceramics, ion implantation and near surface microstructures, analytical electron microscopy 7—37816
- ceramics, ion milling of TEM specimens, grain boundary glassy phase 7—44327
- corrosion test procedure problems 7—8215
- epoxy polymers, compact tension specimen casting, fatigue crack growth rate testing 7—13681
- field emitter remolding, microprocessor controlled 7—29987
- field ion microscope specimen preparation technique, combined TEM/FIM examination 7—29988
- field ion microscope specimens, sharpening and polishing method 7—29986
- FTIR analysis, sample handling methods 7—46899
- heat sensitive materials, C coating for heat damage prevention 7—22864
- high surface area solids, prep., apparatus for TPD 7—32826
- laboratory robot for analytical samples preparation 7—29990
- manipulator for Auger angular dependence studies 7—35626
- metallic materials, ion implantation and near surface microstructures, analytical electron microscopy 7—37816
- polyacrylonitrile film, electro-polymerisation for organic reference specimen 7—24639
- semiconductor, TEM specimen preparation using I^+ ion milling 7—18941
- semiconductors, ion implantation and near surface microstructures, analytical electron microscopy 7—37816
- shock tube powder dispersal unit 7—56241
- spectroscopy methods for analytical use 7—54226
- steel, austenitic stainless, residual stress meas. SEM/ASTM round robin study 7—13680
- steel, eutectoid, 1.3 wt.% Cr, specimen prep. technique influence on analytical TEM obs. of partitioning 7—22950
- superalloys, topologically close packed phases, domain struct. *(Chinese)* 7—11989
- TEM, concave grinding units for specimen prep. 7—39805
- TEM, technique for high resolution studies on model supported metal catalysts 7—369
- ultrahigh vacuum sample stub for heating and cooling with integral thermocouple 7—61346
- Al-Cu-Mg, 2024, TEM specimen prep. parallel and perpendicular to machined surfaces 7—39808
- Al-In, monotectic alloy, section prep., micromilling, polishing *(German, English)* 7—22937
- Al-Pb, monotectic alloy, section prep., micromilling, polishing *(German, English)* 7—22937
- B thin film preparation, ion beam sputtering appl. 7—7850
- C stable isotopes meas. at nanomole level, using static mass spectrometer 7—17842
- Co-Cr thin films prepared by fracture, microtome and ion-beam thinning methods, microstructure obs. 7—2427
- Fe-C, ferrite and cementite refl., polishing conditions effect *(German, English)* 7—22938
- GaAs-AlAs superlattice struct., lithographic fabrication of TEM cross-sections 7—370
- Ra and actinide samples for α-spectroscopy by electrodeposition *(Spanish)* 7—49782
- Si:B-Mo interface, specimen preparation by chemical etching and polishing, for electron studies 7—29989
- SiO_2 amorphous substrates, fabrication for TEM studies of ultrathin polycrystalline films 7—35504
- Zn-Pb, monotectic alloy, section prep., micromilling, polishing *(German, English)* 7—22937
- Zr-Nb (2.5 wt.%) H and D profiling at surface, effect of surface prep. 7—59668

speckle
- 2D hybrid stress analysis, laser speckle photography, image processing techniques 7—31712
- astronomical instrumentation and techniques, conf., Tucson, AZ, USA (March 1986) 7—48162
- astronomical IR speckle interferometry 7—55488
- astronomical speckle imaging by filtered weighted-shift-and-add technique 7—47726
- astronomical speckle interferometric data, weighted shift-and-add analysis 7—55485
- astronomical speckle interferometry, cross-spectrum techniques appl. 7—55492
- astronomical speckle interferometry, image reconstruction by speckle masking, speckle spectroscopy, multiple-mirror interferometry 7—55484
- binary star μ Cas resolved at 850 nm using speckle technique 7—14570
- blurred images in speckle noise, digital restoration by two-step procedure 7—15821
- Cauchy/Schwarz inequality, constraint in power spectrum/autocorrelation anal. and image reconstruction 7—42996
- ceramic/metal jointed interface, strain distrib. determ., laser speckle photography *(Japanese)* 7—54037
- classical speckle patterns, statistical props. 7—42926
- clipping of speckle intensity correlation 7—42929
- coherence measurement of quasi-monochromatic thermal light using double-exposure specklegrams 7—18870
- conference San Diego, CA, USA (Aug. 1985) 7—40997
- crack stress intensity factor determ. 7—43816
- 511 Davida, speckle interferometry and photometry rel. to dimensions, rot. pole and albedo 7—24045
- decentering, speckle interference display 7—43301
- dentin, human and supporting bone, elastic modulus meas. by laser speckle photography 7—34183
- diagnostic ultrasound, speckle texture detection and classification 7—47183

speckle continued
- differential speckle imaging with the cophased Multiple Mirror Telescope 7—55490
- diffuse object, scattered light props. and appl. to roughness meas. 7—20140
- diffusely scatt. objects, dynamic deform. meas. by holographic moire and speckle interferometry 7—46764
- diffusely scattering objects image contrast, prod. by thick-layer transmission phase holograms 7—36921
- diffuser transmission functions and far-zone speckle patterns 7—42932
- displacement meas. from double-exposure laser photographs, fringe visibility 7—41442
- displacement meas. using laser-speckle interferometry and stimulated US stress waves 7—24624
- displacement measurement, speckle modulation methods *(Korean)* 7—29965
- Doppler imaging radars, response characts. determ. using speckle 7—55322
- Doppler US signals, CW, statistical props. and speckle, simulation model 7—43538
- edge detection in uncorrelated speckle 7—42984
- elastomer, viscoelasticity meas. by electronic speckle pattern interferometry 7—33877
- electronic speckle pattern and holographic interferometry compared *(German)* 7—9890
- electronic speckle pattern interferometer images, appl. of Gabor filters 7—9892
- electronic speckle pattern interferometry, basic principles, configs., industrial appls. 7—35588
- electronic speckle pattern interferometry, technique and advantages *(German)* 7—61371
- ellipsometric method for speckle polarisation analysis 7—42938
- EM theory, speckle of 2D random rough surface 7—42928
- engineering meas., conf., Cannes, France (Dec. 1985) 7—29586
- fibre optic line sensor, speckle disturbance detection of fibre distortion 7—31514
- Fresnel diffraction at random phase screen inverse problem parameterisation, thermoplastic medium 'frost' deform. anal. *(Russian)* 7—50494
- fringe compensation in speckle interferometry, NDT appl. 7—18864
- fringe contrast improvement in speckle photography, speckle reduction using vibr. optical fibre 7—9889
- fringe pattern plotting, computer algorithms, speckle analysis 7—50496
- GRIN, speckle and modal noise techniques for coupling 7—20427
- holographic NDT, conf., Los Angeles, CA, USA (Jan. 1986) 7—35090
- holospecklegram orthogonal polarisation props. 7—24695
- image reconstruction, weighted shift-and-add technique, statistical analysis 7—55489
- image-shearing interferometry, NDT appl. 7—30075
- information content of images degraded by speckle noise 7—50508
- interference fringe intensity fluctuations 7—50497
- interferometer, imaging, in space, image reconstruction by speckle masking 7—31258
- interferometer based remote electro-optic displacement sensor 7—48838
- interferometer for thermal expansion meas. 7—48840
- interferometry, phase-averaging method modification 7—41447
- interferometry, phase-shifting speckle-pattern, appl. to vibration meas. 7—35576
- inverse filtering of degraded space telescope images using speckle interferogram 7—55487
- IR background speckle noise from adaptive flexible mirror in astronomical telescope 7—55467
- laser radiation, diffusely scattered, spatial coherence and its meas. 7—20134
- laser speckle, aperture integrated, clipped correlation functions 7—36879
- lens testing method based on boiling phenomenon of laser speckle 7—43319
- liquid mixtures, refractive index meas. using speckle based fibre optic sensor 7—11124
- matched filtering for speckle location identification 7—55483
- medical ultrasound, imaging, speckle artifact removal 7—65823
- medical US, speckle reduction via spatial compounding 7—28627
- metals, elastoplastic problems, numerical methods, double exposure speckle photography 7—57714
- metrology techniques, displacement and strain meas. 7—42936
- microrough surfaces, speckle pattern, correlation function influence 7—36883
- multimode fibre exit phase changes, mech. and thermal effects, theoretical estimates 7—20460
- objective white light speckle method and incoherent data extraction *(Chinese)* 7—48833
- optical system centering by speckle interferometry *(French)* 7—37215
- optically heterogeneous materials, light scatt., struct. aspects of dichromatic laser speckle patterns 7—31248
- optically phase-locked electronic speckle pattern interferometer 7—56326
- partially developed speckle pattern in far field, 2nd order statistics 7—42920
- phase contrast approach to small-N speckle 7—42930
- phase grating detection, speckle correl., optical inverse scatt. 7—50495
- phase measurements with image holography 7—25782
- phase retrieval from a dichromatic analysis of speckles 7—31261
- phase-shifting speckle interferometry 7—48839
- photography, diffraction halo effect 7—35574
- photography fringes, 2D digital processing, angular determ. accuracy 7—41441
- planetary nebulae, angular diameters from speckle interferometry 7—60756
- plates, butt-welded, residual deform. meas., white light speckle technique 7—17749
- polymer films, light scattering, struct. aspects of dichromatic laser speckle patterns 7—42931
- random media, wave propagation, intensity fluctuations 7—20142
- random rough surface characterisation from speckle intensity meas. 7—42933
- Rayleigh-Benard convection, laser speckle velocimetry 7—31902
- real-time moire holography 7—24696
- reduction in laser microscope images using rotating optical fibre 7—1038
- refractive index fields, spatially extended, speckle photography 7—41431
- residual stress meas. by speckle multiple image shearing camera 7—31720
- retinal blood flow visualisation and meas. by laser speckle photography 7—47212

speckle continued
rough surface profile, two wavelength speckle interferometry, statistical props. 7−48837
sandwich holospeckle interferometry for 3D displacement determination 7−50519
SAR imagery, geometric filter for reducing speckle 7−50719
scatter-plate interferometry, improvement by scatter-plate rotation *(Korean)* 7−24691
shift-and-add imaging 7−55486
skull, dry, initial tooth and bone displacements, optical laser techniques meas. 7−65796
spatial filtering in spectrometry using coherently excited optical fibre *(German)* 7−43393
spatial movement of laser speckles, statistical optics 7−42937
speckle detection based fibre line sensor 7−31514
speckle-shearing interferometry, compensation for rigid and deformational displacements 7−48841
statistical properties of the speckle phase in image and diffraction fields 7−42934
statistical theory, Fourier optics 7−42927
stereograms for 3D display 7−20146
stimulated Brillouin and thermal scatt. of Nd μs pulses 7−62777
strain gauge, laser speckle, using spatial filtering detector 7−43821
stress analysis combining speckle metrology with finite element modelling 7−43820
surface, 3D displacement meas. by white light speckle photography 7−29973
surface contouring by electronic speckle pattern interferometry 7−29971
surface deformation measurement by light speckle using optical fibre bundle 7−30078
surface inclination meas. by speckle photography 7−4884
surfaces of small roughness, strong scatt. 7−42935
ultrasound image texture via generalised Rician statistics, tissue signatures 7−47184
US B-scans, speckle reduction using weighted averaging in spatial compounding 7−43539
velocity field visualisation by single exposure holospeckle interferometry 7−50518
velocity measurement using speckle photography and speckle interferometry 7−14999
vibratory structures, stroboscopic laser speckle interferometry 7−30074
wave fields, partial determinism 7−57240
white light speckle, digital image correlation, image distortion effects 7−42997
$LiNbO_3$:Fe, speckle size depend. on laser beam size via photo-induced light scattering 7−5840
Si pressure sensor diaphragm, displacement and slope analysis, holospeckle-shearing interferometry 7−29972

spectacles *see lenses; sensory aids*

spectra
see also alpha-particle spectra; astronomical spectra; atmospheric spectra; atomic spectra; beam-foil spectra; beta-ray spectra; Brillouin spectra; cosmic ray energy spectra; electron spectra; energy level crossing; gamma-ray spectra; light scattering; luminescence; mass spectra; matrix isolation spectra; microwave spectra; molecular spectra; multiphoton spectra; neutron spectra; nonradiative transitions; optical double resonance; optical hole burning; optogalvanic spectra; oscillator strengths; photoacoustic spectra; proton spectra; quantum beat spectra; Raman spectra; spectra of inorganic liquids and solutions; spectra of organic molecules and substances; spectra of solids; spectral line breadth; spectral line shift; spectrochemical analysis; Stark effect; stimulated scattering; time of flight spectra; time resolved spectra; transition moments; tunnelling spectra; two-dimensional spectra; X-ray spectra
fluids, topologically disordered systems Frenkel excitons, electronic absorpt. spectra 7−17287
liquid films, power reflectivity spectra 7−22208

spectra of diatomic inorganic molecules
see also infrared spectra of diatomic inorganic molecules; radiofrequency and microwave spectra of diatomic inorganic molecules; Raman spectra of diatomic inorganic molecules
$^{14}CO^+$, rot.-vibr. anal., UV spectra 7−19821
alkali dimers, diffuse $1^3\Pi_g$-$x^3\Sigma_u^+$ bands, recombination in discharge plasma 7−19828
alkaline earth, cpds. laser and Fourier transform spectroscopy 7−19872
laser and Fourier transform spectroscopy 7−19872
metals, chemisorbed CO, affinity levels, energy and composition 7−59780
molecule, GO_u^+ state vibr. anal., visible and UV fluoresc. spectra study 7−19933
O_2^+ in dayside ionosphere, vibrational distrib. 7−55363
Ag dimers and clusters, matrix isolated, guest-host interaction and photochem. transform. 7−15786
AlO, B-X system vibr. bands in sunspot spectra 7−60525
ArCl, formation in Cl_2 doped Ar, excited states anal., mol. fluoresc. study 7−19946
$(ArH)^{+*}$, short-range pot. curves, Lyman-α line blue wing *(French)* 7−10463
$ArXe^+$, DC discharge in supersonic jet, UV-visible emission spectra anal. 7−19874
B_2, ground state, excited vibr. levels struct., visible spectra anal. 7−50156
BCl, 0-0 vibr. band, rot. constants, visible spectra anal. 7−50157
^{11}BI, $a^3\Pi(0^+,1)\rightarrow X^1\Sigma^+$ system, rot. anal. UV obs. 7−62397
BO, photolysis products, UV electronic absorpt. spectra 7−23041
BS, photolysis products, UV electronic absorpt. spectra 7−23041
C_2 spectra in comets, synthetic Swan band profiles of $^{12}C^{12}C$ and $^{12}C^{13}C$ 7−60532
CN, in solar spectrum, oscillator strengths and dissociation energies 7−4327
CO, 4.7 μm band, vibr. temp. determ., registration region 7−10550
CO, $A^1\Pi$-$X^1\Sigma^+$ system, UV obs. 7−62396
CO gas, K-shell EXAFS studied by EELS 7−62403
CO, isotopic species, $B^1\Sigma^+$-$X^1\Sigma^+$ transition, vacuum UV obs. 7−62401
CO, vibr. energy exchange rates, IR and UV emission 7−966
CO_2, 4.3 μm band, vibr. temp. determ., registration region 7−10550
CS, $^3\Sigma^+$-$a^3\Pi$ band system, reson. enhanced multiphoton ionis. detect. 7−5663
CaCl, ultraviolet $C^2\Pi$-$X^2\Sigma$ band system, rot. anal. 7−50168
CdD, $B^2\Sigma$-$X^2\Sigma^+$ system study, near-UV spectra anal. 7−50164
Cl_2, dopant in Ar, ArCl and Cl_2 formation and excited states anal., mol. fluoresc. study 7−19946
Cl_2, spectral moments, dissoc. band 7−36695

spectra of diatomic inorganic molecules continued
Cl_2, X state, polynomial and near-dissoc. representations for spectral data 7−5714
CrO, $^5\Pi$(int)$-{}^5\Pi$(int) transition, rot. line strengths 7−50050
$GeCl_4$ + X^+(X=He,Ne,Ar,H), optical emission spectra rel. to PCVD 7−26531
GeF_4 + X^+(X=He,Ne,Ar,H), optical emission spectra rel. to PCVD 7−26531
$GeH^+(GeD^+)$ in He afterglow, $a^3\Pi_{0+,1}-X^1\Sigma^+$ visible band system 7−50152
H_2, a $^3\Sigma_g^+$-$b^3\Sigma_u^+$ system, dipole moments and transition probabilities 7−917
H_2, photodissociation of doubly excited states, Lyman-α fluoresc. spectra anal. 7−19945
H_2^+, emission and absorpt. processes *(French)* 7−10552
HBr, VUV photoabsorpt. and fluoresc. spectra 7−19927
HCl, gas, vibr.-rot. spectrum anal. 7−29635
HeH(D) visible emission spectra obs. and rovibrational energy-level calcs. 7−42633
HgBr $B^2\Sigma_{1/2}^+\leftarrow X^2\Sigma_{1/2}^+$ band excitation in UV 7−19877
HgBr, excited state, charge transfer absorpt. spectrum 7−5761
HgI, UV spectra, rot. struct., vibr. parameters 7−50163
I_2, absorpt. spectrum meas. by single-mode tunable pulsed ring dye laser 7−11006
I_2, $F(0_u^+)$ ion-pair state anal., OODR and fluoresc. excitation spectrum 7−19931
I_2 hyperfine spectra at 629 nm *(Chinese)* 7−5689
I_2, visible spectroscopy using dye laser light source 7−20275
I_2, X state, polynomial and near-dissoc. representations for spectral data 7−5714
IBr, ion-pair states, spectral anal. 7−19873
IBr^+, A^2Pi-X^2Pi electronic emission spectrum 7−25528
ICl, visible spectroscopy using dye laser light source 7−20275
INI, spectra and struct., AO^+ state, rot. and vibr. consts. 7−50081
InBr, isotope shift, rot. anal., UV spectra 7−19876
InBr, rot. anal., use of isotopic effects 7−15587
InCl molecule, $C^1\Pi$-$X^1\Sigma^+$ system, emission spectrum and dissociation energy 7−5694
K_2 spectroscopy using superheating in heat-pipe oven 7−6070
$^6Li_2$, $2^1\Sigma_g^+$ state, isotope effect, Fourier transform spectroscopy 7−5660
N_2, Hopfield series, autoionisation 7−10408
NF, $(b^1\Sigma^+, a^1\Delta)\rightarrow X^3\Sigma^-$ radiative decay processes 7−42522
NF, $b^1\Sigma^+$-$X^3\Sigma^-$ system, line assignments, transition moments, visible Fourier-transform spectra anal. *(French)* 7−50153
NH, Fourier transform spectroscopy of $c^1\Pi$-$a^1\Delta$ transition 7−5786
NH fragment from NH_3-electron impact absolute emission cross sections 7−5776
NO, fundamental band, heterodyne freq. meas. 7−5664
NO, high resolution laser threshold photoelectron spectroscopy 7−10669
Na_2, $A^1\Sigma_u^+$ state, long range pot. modulated gain spectra 7−19993
Na_2 UV radiation generated by four-wave mixing, linewidth 7−15926
Na_2 violet bands, electronic assignments 7−15846
O_2, $A^3\Sigma_u^+$-$X^3\Sigma_g^-$ system, mol. consts., near UV spectra 7−5691
O_2 $A'^3\Delta_u$-$X^3\Sigma_g^-$ system, mol. const., near UV spectra 7−5692
O_2 absorption line parameters rel. to DIAL monitoring of atmosphere 7−47534
O_2, $B^3\Sigma_u^-$ state, Schumann-Runge bands 7−5659
O_2, $C^1\Sigma_u^-$-$X^3\Sigma_g^-$ system, mol. consts., near-UV spectra 7−5690
O_2 glow discharge, IR band sequence at 0.1 Torr, obs. 7−37784
O_2 molecular rotational band obs. with Fabry-Perot interferometer 7−47546
O_2, photoabsorpt. cross section, Herzberg continuum, UV obs. 7−36639
O_2, potential energy curve, photodissociation and adsorp. spectra 7−5624
O_2, UV absorpt. cross-sections, 195-241 nm, Herzberg continuum 7−34675
O_2, UV molecular absorption continua and radiative lifetimes UV molecular absorption continua and radiative lifetimes 7−15620
O_2-Ar afterglow, rotationally-resolved bands obs. at 373 to 474 nm 7−29326
O_3, UV absolute absorpt. cross sections, atm. appl. 7−50161
OH photoproduct, momentum distrib. Doppler and polarisation spectra 7−13795
PbO, D1-$X^1\Sigma^+$ system, band intensities distrib. 7−50082
SO radical, $A^3\Pi_1$-$X^3\Sigma^-$ transition, 0-0 band spectrum, rot.-vibr. levels, rot. consts. 7−10542
SO^+, $A^2\Pi_i$-$X^2\Pi_r$ band system, obs. in rot. cold supersonic expansion 7−62391
ScO, electric dipole moment calcs., laser fluoresc. excitation spectroscopy 7−19930
SiCl, spectral and struct. props., MO calcs. 7−25418
$SiCl_4$ + X^+(X=He,Ne,Ar,H), optical emission spectra rel. to PCVD 7−26531
SiF_4 + X^+ (X=He,Ne,Ar,H), optical emission spectra rel. to PCVD 7−26531
SnH^+ (SnD^+), $a^3\Pi_{0(+),1}-X^1\Sigma^+$ visible emission spectra 7−5688
$^{130}Te_2$, transitions in Balmer β-line region, interferometric freq. meas. 7−15618
TlF, predissoc., tunneling, UV spectra 7−57141
WO, vibr. consts. determ. 7−15586
ZnD, $B^2\Sigma^+$ state, spectrosc., rot. anal. 7−5665

spectra of inorganic liquids and solutions
see also Raman spectra of inorganic liquids and solutions
actinides in hosts, optical absorption spectra 7−27730
alcohols in glassy media, dielectric and IR spectral study 7−2968
alkali halides, aq. solns., ion hydration, dielec. props., microwave spectrosc. obs. *(French)* 7−54111
alkaline earth halides, aq. solns., ion hydration, dielec. props., microwave spectrosc. obs. *(French)* 7−54111
ferrofluid, near mm wavelength studies of refr. indices by dispersive Fourier transform spectra 7−53289
liquids, IR and anisotropic Raman band profiles theory, mol. interactions 7−31040
rare earth naphthenate complexes, extract phase, FTIR and subtraction spectra 7−50142
water, liq., FTIR spectra, fine struct., molar absorptivities of vibr. modes 7−53343
CS_2, dynamically compressed liq., UV-visible spectrum, effects of temperature 7−22284
CS_2 liquid, time-resolved IR spectral photography of shock-induced chemistry 7−27727

spectra of inorganic liquids and solutions continued
CS_2, shocked liquid, absorpt. spectra 7—27743
Ir complex, $(NEt_4)_4(Ir(CO)_2 4,4',5,5'$-tetracyano-2,2′-biimidazole) mixed valence cpd., anisotropic conductor precursors identified by intermolecular charge transfer 7—7190
$MnCl_2(MnBr_2)$, liq. solns. and cryst. hydrates, luminesc. quenching mechanism 7—53399
N_2, liq., compressed, far IR absorpt. spectrum, density effects and rel. diffusion 7—39112
NaSCN, NH_3 soln., IR spectra study 7—46901
$Pr(NO_3)_3.6H_2O$ mixed with organic complexes, optical spectra, energy level struct.-band intensities 7—22253
Pt complexes, triphenylphosphine complexes, vibr., IR and Raman spectra 7—33397
S, liq., index of refr., refl. and extinction coeff. 0.4 to 2.0 μm, temp. depend. 7—3009
$Se_{1-x}Tl_x$, liq. semicond., Se-rich, optical absorpt. edge 7—22213
SiO_2, fused, optical constants, ATR determ. 7—27681

spectra of inorganic molecules
see also spectra of diatomic inorganic molecules; spectra of polyatomic inorganic molecules
No entries

spectra of inorganic solids
see also impurity and defect absorption spectra of inorganic solids; infrared spectra of inorganic solids; luminescence of inorganic solids; radiofrequency spectra of inorganic solids; Raman spectra of inorganic solids; visible and ultraviolet spectra of inorganic solids
actinides in hosts, optical absorption spectra 7—27730
alkali doped inert gas solids, matrix-bound systems, dipolar excitonic insulator transitions, mean field theory 7—45163
ore minerals, preliminary diagnostics, use of refl. spectra as part of automated system 7—29264
rare earth metals and intermetallics, Cryst. pot. model for description of cryst. elec. field effects 7—45599
small metal particles, optical props., struct. dependences 7—17284
small metallic spheres, effect of diffuse surface scatt. on electromag. props. 7—3042
$BaPb_{1-x}Bi_xO_3$, superconductivity and metal-semicond. transition 7—58940
C, extinction spectra of submicron grains in UV-visible range 7—35023
CdS, A-exciton, normal-incidence exciton transmission and refl. spectra 7—39058
Cr and Cr-compounds, Auger and absorpt. spectra involving $M_{2,3}$ levels, atomic effects 7—59311
Fe (III) surface, K precovered, promotion of surface reactions with N_2 7—13807
Fe_2SiO_4, fayalite, electron density and polarised absorption spectra 7—22280
GaAs, n-type, proton irradiated, effects of annealing on optical properties 7—28155
GaSe, subpicosecond relax., nonlinear susceptibility 7—43198
$(Gd,Sc)_3Ga_5O_{12}Nd,Cr$, spectroscopic, optical and thermo-mechanical props. and laser performance 7—10963
Ge (111) cleaved surface, optical props. and atomic struct. 7—58595
ScPd, inter-band optical cond., microscopical calc. *(Russian)* 7—59166
Si (111) cleaved surface, optical props. and atomic struct. 7—58595

spectra of organic molecules and substances
see also infrared spectra of organic molecules and substances; luminescence of organic solids; radiofrequency and microwave spectra of organic molecules and substances; Raman spectra of organic molecules and substances; Shpolskii spectra
9-acetoxy-10-phenylanthracene derivatives, excited state absorpt. spectra 7—36591
acidic and basic sites on surface, electronic absorpt. spectrosc. appls. calcs. 7—36473
acridine, radical anion in stretched polyethylene films, polarised absorpt. spectra 7—50083
alcohols, saturated, OH stretching band integrated intensity, rel. to struct. 7—62343
alkoxy radicals, electronic struct., rot. resolved spectra 7—62352
alkyl cpds., vibr., high resol. spectra, effective Hamiltonians 7—31010
p-aminoazobenzene, electronic absorpt. spectra, quantum chem. calcs. 7—36473
anthracene, ps/jet studies of intramol. vibr. energy redistrib. in large mols. 7—42599
anthracene, radical anion in stretched polyethylene films, polarised absorpt. spectra 7—50083
aromatic molecules, planar, electronic transition energies and oscill. strengths calcs. 7—19706
bacteriochlorophyll a radical cations, hyperfine interactions with ^{15}N nuclei, calcs. for ENDOR and EPR methods 7—15594
benzene, $^1B_{1u}$ state, photoionis., mass and photoelectron spectra 7—42681
benzene, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7—64769
benzene, high resolution laser threshold photoelectron spectroscopy 7—10669
benzene gas, K-shell EXAFS studied by EELS 7—62403
benzene saturated vapour concentration, spectrosc. determ. 7—52013
2,2′-bipyridine radical ions, absorpt. spectra, counter ion effects 7—49934
n-butane, molecular spectroscopy by incoherent neutron scatt. 7—62350
carbon tetrafluoride gas, K-shell EXAFS studied by EELS 7—62403
chlorin, ground and excited states normal mode symmetry determ. 7—36588
chlorin, photoisomer, in n-octane, emission anisotropy 7—57052
chlorobenzenes, temporary anion states, electron transmission spectroscopy 7—42597
cyclohexane gas, K-shell EXAFS studied by EELS 7—62403
deoxy myoglobin, spectral broadening simulations 7—5799
2,4-di(2-pyrenyl)pentane, meso and racemic diastereoisomers, absorpt. and fluoresc. spectra 7—62434
diacetylene and dideuterodiacetylene cations, $A^2\Pi_u$-$X^2\Pi_g$ transition, rot. assignment 7—31016
3,5-diarylaminobenzene derivatives, absorpt. and fluoresc. spectra, steric effects 7—36590
1,4-diazabicyclo[2.2.2]octane, soln., electronic state assignment, MCD spectra 7—50210
5,6-dihydrobenzo(c)xanthylium salts, synthesis, struct. and spectral props. 7—57050
p-dimethylthiobenzene, thio group stabilising effect, symmetry depend., electron transmission spectrum 7—42598
dyes, laser operation in near UV range 7—5881

spectra of organic molecules and substances continued
electrical and laser absorpt. spectroscopic simultaneous meas. on bilayer lipid membranes 7—13972
glyoxal, S_1-S_0 transition, two-photon spectra 7—62471
hematoxylin+$ZrOCl_2$, reaction, spectrophotometric obs. 7—39885
hexafluorobenzene gas, K-shell EXAFS studied by EELS 7—62403
metalloporphyrin polystyrene covalent complex, electron transfer reaction 7—39879
metapyridinophanes, electronic struct. and transitions classification 7—10430
methane, ν_2 and ν_4 bands, interacting E and F_2 fundamentals, reduced Hamiltonian and invariant parameters 7—25486
methanol, two-colour multiphoton excitation by CO_2 and HF lasers 7—42716
methemoglobins, whole-blood, millimolar absorpt. parameter spectra, 660-1000 nm 7—40101
3-methoxybenzanthrone in soln., picosecond spectroscopy of intermolecular proton phototransfer 7—54150
2-methylpyrazine singlet-triplet transitions in supersonic jet, multiphoton ionis. detect. 7—948
1-methyluracil, isotopic derivatives vibr. spectra, ab initio Hartree-Fock SCF calcs. 7—15589
naphthalene radical ions, absorpt. spectra, counter ion effects 7—49934
organic cpds., optically allowed and forbidden $\pi\pi^*$ transitions, spectral luminesc. props. 7—31108
α-perylene, crysts., excitons, hydrostatic press. effects 7—52430
phenazine, radical anion in stretched polyethylene films, polarised absorpt. spectra 7—50083
polyatomic molecules, vibr. spectra, automated interpretation 7—10549
polydiacetylene solutions, semidilute, rod-coil transition, aggregation 7—15752
polymers, continuous relaxation time spectra, graphoanalytic and computer calcs. *(Russian)* 7—63519
porphyrin-quinone complexes, porphyrin triplet states, ESR and optical investig. 7—25571
DL-(4,4-$^2H_2$) proline, solid state, ring dynamics, crystal struct. and temp. dependence, ^2H NMR study 7—26602
DL-(4,4-$^2H_2$)proline hydrochloride, solid state, ring dynamics, crystal struct. and temp. dependence, ^2H NMR study 7—26602
protochlorophyll, molecule in glassy matrix, inhomogeneous distrib. function and homogeneous spectra 7—50084
pseudo-isocyanine dye, concentrated soln., electron excitation transfer 7—27739
pyrazine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7—64769
pyrazine, singlet-triplet transitions in supersonic jet, multiphoton ionis. detect. 7—948
pyridine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7—64769
quinoxaline, triplet state, Shpol'skii ODMR spectra, spin-lattice relax. 7—62428
rhodamine B in submono-, mono- and multilayer systems, fluoresc. decays and spectral props. 7—19938
scintillator dye solutions, excited state absorpt. measurements 7—42516
t-stilbene, ps/jet studies of intramol. vibr. energy redistrib. in large mols. 7—42599
tetraalkylammonium iodides, exciton absorpt. spectra 7—59165
tetraalkylphosphonium iodides, exciton absorpt. spectra 7—59165
tetramethylsilane, resons. in X-ray photoabsorption spectra 7—15621
s-tetrazine, photochem. hole burning, Doppler-free saturation spectrosc. 7—36589
s-triazine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7—64769
trifluoroidomethane, spectral moments, dissoc. band 7—36695
vinylene carbonate, struct. and vibr. spectra, ab initio CNDO/2 and INDO calcs. 7—49930
^1H- and ^{13}C-NMR chemical shifts, elucidation of structures 7—50181
^1H- and ^{13}C-NMR spectra analysis, structure elucidation, computer assisted 7—50182
SiH_4, ν_2 and ν_4 bands, interacting E and F_2 fundamentals, reduced Hamiltonian and invariant parameters 7—25486

spectra of polyatomic inorganic molecules
see also infrared spectra of polyatomic inorganic molecules; radiofrequency and microwave spectra of polyatomic inorganic molecules; Raman spectra of polyatomic inorganic molecules
droplets, laser-induced explosion, spatially resolved spectra 7—42632
group IVA atoms, photochemistry, electronic struct., matrix isolation spectra 7—3580
hydrides, excitation influence on electronic spectra struct. 7—56969
metal cluster ions, stored, spectroscopy in Penning trap 7—15779
polyatomic molecules, vibr. spectra, automated interpretation 7—10549
Ag dimers and clusters, matrix isolated, guest-host interaction and photochem. transform. 7—15786
$(AgO_2)_x$ complexes, $(x=1,2)$, bonding and configuration, matrix isolation ESR spectra anal. 7—19905
$Au(O_2)$ complexes, bonding and configuration, matrix isolation ESR spectra anal. 7—19905
BS_2, photolysis products, UV electronic absorpt. spectra 7—23041
C $RbCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7—15605
C_5, C_7, C_9, UV and visible spectra rel. to origin of diffuse interstellar bands 7—48020
CO_2, 4.3 μm band microwindows, temp. and freq. depend., line coupling 7—36580
CO_2 gas, K-shell EXAFS studied by EELS 7—62403
CO_2, high intensity absorpt., mod. rot. effect, lasing transitions 7—62473
CO_2 hot bands, UV absorpt. spectrum 7—25535
CS, singlet and triplet excitations, selective control, coherent multicolor laser spectroscopy 7—42629
CS_2, photofragmentation dynamics using coherent VUV for product detect. 7—19976
$ClBS^+$, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7—50158
$ClCN^+$, gas phase $\tilde{B}^2\Pi \leftarrow \tilde{X}^2\Pi$ laser excitation spectrum 7—25529
$Co(CO)_3NO$, photofragmentation dynamics using coherent VUV for product detect. 7—19976
Cr $(NH_3)_6$ ligands, trigonally distorted, $^4A_{2g}$-^2E_g, $^2T_{1g}$ spectra and ligand field calcs. 7—57077
CrO_2Cl_2 vibronic anal., CCl_4 and $SnCl_4$ matrices, emission and excitation spectra, MODOR spectra 7—15542

spectra of polyatomic inorganic molecules continued
  $CsCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7−15605
  Cu(I) complexes, UV absorpt. and reson. Raman spectra 7−10593
  Cu(II)-alkyl persulphide complex prod., mol. and electronic struct. 7−15590
  $(CuO_2)_x$ complexes, (x=1,2), bonding and configuration, matrix isolation ESR spectra anal. 7−19905
  $D^{12}CP$, $\nu_1+\nu_2$ vibr.-rot. band, Fermi reson. in (100,002) diad 7−5662
  D_2Se, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7−25537
  D_2Se, Rydberg series identification, VUV spectra anal. 7−25538
  D_2Te, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7−25537
  D_2Te, Rydberg states, high resol. VUV spectra 7−50173
  Eu complexes, in soln., spectral line width, temp. depend. 7−31025
  F_2+CS_2, reaction, mol. electronic emission spectrum 7−3577
  FBS^+, electron impact prod., $\tilde{A}^2\Sigma^+$ to $\tilde{X}^2\Pi_i$ emission spectrum 7−50158
  $Fe(CO)_5$, photofragmentation dynamics using coherent VUV for product detect. 7−19976
  GeH_4, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7−19880
  HCN, overtone transitions, self-broadening and intensity, photoacoustic spectra rot. relax. 7−20016
  HF weakly bound dimers complexes, bending force consts., internal dynamics 7−31011
  HO_2+HO_2, rate constant, flash photolysis and UV spectral study 7−54075
  HO_2+methyldioxy radical, rate constant, flash photolysis and UV spectral study 7−54075
  H_2O absorption line parameters rel. to DIAL monitoring of atmosphere 7−47535
  H_2O_2, photodissoc., fluoresc., VUV spectra 7−57140
  HOCl, gaseous, UV absorpt. spectrum, rel. to atm. modelling 7−25534
  H_2Se, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7−25537
  H_2Se, photoionisation and autoionisation, UV spectra 7−10524
  H_2Se, Rydberg series identification, VUV spectra anal. 7−25538
  H_2Te, E, band, rot. contour analysis and predissoc. mechanisms, VUV spectra anal. 7−25537
  H_2Te, Rydberg states, high resol. VUV spectra 7−50173
  InF_2-PbF_2-BaF_2-SrF_2-YF_3-AlF_3-UO_2F_2, luminesc., lifetime meas. 7−27750
  K+NaCl reaction complex form., blue shifted emission in visible spectra 7−22981
  $KrCrO_3Cl$, CrO_3Cl^- vibronic anal., phosphorescence and Raman spectra 7−15605
  NH_3, excited vibr. state, rot.-inversion levels, collisional relax., visible obs. 7−62392
  NH_3, solvated electron, visible absorption. spectrum short-wavelength wing 7−42631
  $NH_3(ND_3)$ band intensity and symmetry effect on absorpt. spectrum 7−57049
  NO_2, excited state rot.-vibr. anal., supersonic jet fluoresc. excitation spectra 7−19919
  NO_3, visible and UV absorpt. spectra, temp. depend. 7−10608
  NO_3^-, in $UO_2(NO_3)_2$, vibr. spectrosc. investig. 7−10548
  N_2O^+, $A^2\Sigma^+$-$^2\Phi$ transition obs., visible spectra 7−62389
  Na_3 excitation spectrum, excited states 7−15770
  Nd^{3+} complex with amino acids, visible absorpt. spectra 7−31057
  OCS, jet-cooled, $^1\Sigma^+\rightarrow{}^1\Pi$ transition, spectrosc-investig. 7−62400
  OCS, rot.-vibr. anal., dipole moments, Stark spectra. 7−19910
  OF_2, ν_1 and $2\nu_2$ Fermi diad, diode laser spectroscopy, band const. and force consts. 7−25487
  OF_2, ν_3 band, diode laser spectrosc. 7−57051
  PO_2, radiative lifetime and laser induced UV fluoresc. spectrum 7−42638
  Pr^{3+} complexes, soln., visible and UV electronic absorpt. spectra 7−36634
  Pt complex, mixed-valence binuclear, near UV spectra 7−62398
  $Pt_2(P_2O_5H_2)_4{}^{4-}$, electronic struct., bonding and spectra SCF EHT calcs. 7−42489
  Rh complex, Rh_2(1,3-diisocyanopropane)$_4{}^{2+}$, lowest excited states, absorption spectra anal., 7−25532
  Rh complex, Rh_2(2,5-dimethyl-2,5-diisocyanohexane)$_4{}^{2+}$, lowest excited states, absorption spectra anal., 7−25532
  Ru complex, $Ru(bpy)_3{}^{2+}$, charge transfer states assignments, MCD and CD spectra anal. 7−31056
  S_2N_2, excited states, ab initio CI calcs. 7−42491
  SO_2, C^1B_2 electronic state, unequal bond lengths, two state vibronic model 7−25531
  SO_2, near UV absorpt. cross-sections 7−50165
  SO_2, super-excited molecule, quantum defect theory ionisation channels 7−30962
  $S_2{}^{16}O$, equilib. struct., diode laser spectrosc. obs. 7−5661
  $S_2{}^{18}O$, equilib. struct., diode laser spectrosc. obs. 7−5661
  $SiCl_2$, UV emission spectrum, vibr. anal. 7−31024
  $SiCl_4$, resons. in X-ray photoabsorption spectra 7−15621
  SiF_4 resons. in X-ray photoabsorption spectra 7−15621
  SiF_4, stretching vibr. overtone and combination states, multiphoton processes 7−25488
  SiH_2, intracavity laser absorpt. spectra. 7−15616
  SiH_4, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7−19880
  Si_2H_6, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7−19880
  Si_3H_8, Rydberg transitions, fluoresc. and VUV absorpt. spectra 7−19880
  Sn complex, Sn (IV) meso-tetraphenylporphyrins spectrosc. cis-influences 7−50159
  $SnCl_4$, vac. UV spectra, interpretation 7−50171
  $TiCl_4$, photoelectron and absorpt. spectra, MO calcs. 7−36636
  $UO_2(NO_3)_2$, NO_3^- group investig. by vibr. spectrosc. 7−10548
  VCl_4, photoelectron and absorpt. spectra, MO calcs. 7−36636

spectra of solids
  see also impurity and defect absorption spectra of solids; luminescence of solids; Shpolskii spectra; spectra of inorganic solids; spectra of organic molecules and substances
  amorphous semiconductors, optical absorpt., tight-binding model 7−45961
  cubic bodies, combinatorial spectra, sensitive splitting under stress 7−13125
  dielectric crystal, absorption spectrum Frenkel exciton-optical phonon interaction 7−63752
  dielectric particle morphology dependent resonances 7−20127
  dimensionality, fractional calculus anal. 7−45958
  exciton absorption effects of spatial dispersion and damping 7−45164

spectra of solids continued
  E-glass fibre composite interfaces, surface studies using diffuse reflectance and photoacoustic FTIR spectra 7−46044
  inhomogeneous films, optical props., model *(French)* 7−59278
  metal surface, adsorbate optical absorption spectra 7−27741
  molecular systems, disordered, influence of noise on density of states and absorption 7−16949
  multi-photon transitions in solids, dressed bands approach 7−22327
  polymer-metal composite thin films, plasma deposition, optical props. 7−27947
  polymers, conjugated, optical spectra and Coulomb interactions 7−64596
  semiconducting plane-parallel slabs, normal-incidence exciton transmission and refl. spectra 7−39058
  unitary transformations in solid state physics, book 7−24310
  vibrational spectra, fully automated microcomputer calc. 7−56238
  Ag-Teflon composites, temp. depend. far-IR absorpt. of Ag smoke 7−3041

spectral analysers
  see also spectral analysis; wave analysers
  acousto-optic Bragg diffraction by deep bulk acoustic waves, appl. in optic spectrum analyzer 7−20584
  acousto-optical interferometer using Kosters prisms for RF direction of arrival meas. 7−41445
  acoustoelectrooptic multichannel spectrum analyzer 7−50714
  Fabry-Perot fibre optic sensor and its appls. 7−43424
  Fresnel lenses, proton exchanged, in $LiNbO_3$:Ti waveguides, integrated optic RF spectrum analyser 7−31522
  intelligent multichannel analyzer for themeasurement of gamma spectra 7−5533
  light guide measurement instruments *(German)* 7−62851
  optical data processed Fourier transform spectrometer 7−24707
  optical waveguide, tapered slab type, spectrum anal. using mode cutoff effect 7−37158
  plasma diagnostics with spectroscopic apparatus, multipoint optical multichannel analyser-based 7−58061
  radio astronomy, wideband very fast FFT spectrum analyzer 7−47710
  thermomechanical response of solids to low-frequency dynamic loads, meas. using spectral anal. of noisy signals 7−43814
  unified standard for RF signal shape and spectrum parameter meas., design 7−48773
  $Gd_3Sc_xGa_{5-x}O_{12}$:Cr^{3+} garnet, laser spectral analyser 7−31362
  MgF_2 polarisation analyser, high transmission for Lyman-α radiation 7−57526

spectral analysis
  see also spectral analysers
  1 to 20 MHz lightning radiation fields, amplitude spectra meas. 7−40549
  acoustic wave propagation modelling in inhomogeneous media, pseudo-spectral Chebyshev scheme 7−41115
  acoustical communication in animals, digital signal processing 7−50854
  acoustical reflection coefficients determ. for dispersive systems, cepstral methods 7−43543
  acute myocardial infarction, spectral anal. of heart rate fluctuations in evaluation of autonomous control 7−34313
  angular spectrum propag. using max. entropy spectral estimation method 7−8669
  astronomical speckle interferometry, cross-spectrum techniques appl. 7−55492
  atmospheric EM wave propagation, estimation of partitioned set of parameters 7−40554
  atmospheric Fourier transform spectral analysis of far IR emission 7−14379
  atrial and venous press. waves spectral anal.: methods and results 7−65795
  automated analysis of two-dimensional NMR spectra of mixtures by pattern recognition 7−24635
  black-body radiation densities estimation 7−4890
  bone, fracture healing, assessment by spectral anal. 7−8730
  brain event-related potentials, principal components anal., spectral methods 7−47031
  cardiac tissue imaged with US sector scanning, spectral anal. method 7−34214
  Cauchy/Schwarz inequality, constraint in power spectrum/autocorrelation anal. and image reconstruction 7−42996
  coherent anti-Stokes Raman spectral profiles, analytical expressions 7−48854
  complex cepstral anal. appl. in seismic data processing *(Rumanian)* 7−9244
  composite plate, spectral analysis of natural grid features for surface analysis 7−63096
  correlation transform spectroscopy 7−48871
  cylindrical-wave spectrum anal., multiple bodies scattering 7−42855
  diffraction tomography in reconstructing marginal spatialfrequency spectra for wave fields 7−3867
  diode-laser spectroscopy, signal recording and averaging 7−41503
  dye laser, tunable, CW, Ar^+ laser-pumped, spectral props. 7−1096
  Earth free oscillations spectra, anomalous splitting rel. to inner core anisotropy 7−66025
  ECG, anal. of heart rate variability 7−3906
  ECG, power spectral anal. of heart rate variability in sudden cardiac death 7−54788
  echelle spectroscopy, scattered light background correction method 7−34874
  EEG power spectral density rel. to sleep duration 7−13986
  EEG power spectrum anal. of head-injured patients, computer assessment of neurological status 7−34128
  EELS complex spectra, separation of charact. signals 7−18945
  EELS data analysis, digital filters use and limitations 7−18944
  electrogastrographic signals, running spectrum anal. as an aid in representation and interpretation 7−65868
  envelope EMG spectral analysis in the studies ofphysiological and pathological tremor 7−3897
  EPR spectrometer, automated, for structural anal. of disordered solids 7−58109
  finite function spatial spectrum in 2D case, relation of components 7−50503
  fluid cylinder, inverse scattering problem for sound waves 7−1295
  fluid cylinder with denser fluid inside, acoustic wave scattering 7−1294
  fluid cylinder with denser fluid loading, acoustic wave scattering 7−1293
  Fourier domain processing, mathematics of spectral treatment 7−48870
  Fourier transform IR spectroscopy, today and tomorrow 7−48876

spectral analysis continued
  FTIR photoacoustic spectra, phase analysis 7—48878
  FTIR spectroscopy, quantitative, ADC errors 7—48877
  heart rate and arterial blood press. variability signals, auto-spectral and cross-spectral anal. 7—47270
  heart rate variability signal processing, diagnostic aid in cardiovascular pathologies 7—54800
  hippocampal EEG, centre of spectral mass as meas. of EEG ontogeny, rat obs. 7—8553
  induced thermal lens, spatial Fourier spectrum anal., for studying thermal conductivity and diffusivity 7—12379
  infant EEG, spectral anal. rel. to behavioural outcome at age 5 7—3769
  interference pattern analysis, clinical uses, effect of load, dynamic studies 7—8740
  IR spectroscopy, math. representation, resolution and role of model in anal. 7—48875
  IR spectroscopy, Ottawa, Ont., Canada (June 1985) 7—48160
  isolated vowels and stop consonants discrimination, onset spectrum features extraction 7—43565
  isooctane, in organic cpds. background mixture, IR spectra anal., max. difference method 7—46911
  linear combination of spectral responses of n detectors determ. 7—35499
  magnetospheric VLF radio waves spectral estimation, one-bit correlation method 7—9337
  maximum entropy spectral analysis, effects of linear trend and mean value 7—29305
  membrane noise, spectral anal., variances 7—13971
  moire signal spatial filtering and anal. *(Chinese)* 7—10876
  Mossbauer spectra area meas., use of internal standard 7—36426
  Mossbauer spectra meas. with high count rate 7—36425
  multichannel autoregressive spectral estimators, performance 7—40553
  multidimensional spectral anal., ionospheric mode structs. decomposition 7—40641
  muscle fibre conduction velocity calc. from EMG power spectra analysis 7—8546
  myocardium, normothermic and hypothermic, meas. and spectral anal. of fibrillation 7—28494
  narrow band spectrum analysis method for geophysical data 7—66356
  NGC 4051, Seyfert galaxy, power spectrum of low-freq divergent X-ray variability 7—66763
  NGC 5506 Seyfert galaxy, power spectrum of fractal X-ray time variability and spectral invariance 7—66764
  ocean wave spectra, transformation into SAR image spectra 7—66341
  oceanographic data analysis, least-squares method as filter and related power in spectrometry 7—40575
  optical image deblurring by spectrum analysis *(Korean)* 7—57256
  optical pulses, time-dependent spectral analysis, resolution limits 7—42955
  phase-sensitive spectral analysis by maximum entropy extrapolation 7—48809
  positron lifetime spectra anal., Fourier transform method 7—39282
  prosthetic heart valves, Ionescu-Shiley, freq. anal. of closing sounds 7—28770
  pulse height spectra, ADC histogram effects, improved fitting formula 7—62237
  quasi-elastic light scattering, data acquisition and evaluation 7—56239
  real-time analysis of Doppler waveforms 7—62918
  rotating vortex patch stability, spectral anal. and variational methods 7—16184
  sea level oscillations at Trieste and Cagliari, spectral anal. of medium and short period oscills. 7—40484
  seismic data time-spectral analysis in structural formational anal. 7—23850
  seismic microtremors in San Fernando Valley, California, spectral anal. rel. to site effects 7—54898
  SETI, time and space acousto-optic folded spectrum processing 7—26080
  shear dispersion in parallel flow, computational method 7—16152
  solar global oscillation spectrum, determ. from daily power spectra of vel. meas. 7—47798
  solar radio pulsation event, characterisation by low-dimensional chaotic attractor 7—66552
  sonic logging, 2D spectrum anal. 7—4203
  sonic logging, 2D spectrum anal. 7—55332
  speaker-independent isolated word recognition based on emphasized spectral dynamics 7—43556
  speech spectrum analysis using coherent optics *(Chinese)* 7—20510
  spinal muscular atrophy patients, tremor power spectra, statistical anal. 7—8529
  stellar speckle images power spectrum meas. rel. to ang. dias. and limb darkening determ. 7—47720
  storm surges in Victoria Harbour, Hong Kong 7—4038
  structural vibration parameter identification, freq. domain techniques 7—11333
  superresolving deconvolution by nonnegative leastsquares method *(Japanese)* 7—10875
  thin films, thickness and refractive index simultaneous measurement by spectral analysis *(Japanese)* 7—24688
  Thomson scattering meas., photoelectron statistics effects 7—11800
  time-delay-domain and pseudorandom-noise photoacoustic and photothermal wave processes 7—41479
  turbulent 2-phase flow, spectral analysis of wall-pressure fluctuations 7—43881
  ultrasonic NDT, autoregressive spectral analysis *(French)* 7—20509
  US cardiac Doppler diagnosis, book 7—29
  Voigt type convolutions appls. 7—56350
  waveform complexity, Fourier transform formulated, theory and expt. 7—37266
  wind wave spectra in N Adriatic Sea, parameterisation 7—40487
  $Al_xGa_{1-x}As$ bandgap determ. by Schottky barrier spectral response meas. 7—2667
  CO_2 laser spectrum monitoring and displaying instrument 7—5935

spectral filters *see optical filters*

spectral line breadth
  see also atomic spectral line breadth; chemical shift; Davydov splitting; Doppler effect; EPR line breadth; molecular spectral line breadth; NMR line breadth; Stark effect; Zeeman effect
  A to F-type shell stars, profiles of Hα and near-IR spectral lines 7—9497
  A-type stars, synthetic line profiles for higher terms of H I Balmer and Paschen series 7—60639
  adsorbates on metals, struct. of inverse photoemission spectra, model Hamiltonian study 7—33478

spectral line breadth continued
  adsorption on SiO_2 supported Fe microcrystals, positron annihilation studies 7—39311
  alkali feldspar, hypersolvus, Raman spectroscopic study of order parameter behaviour, displacive transform. and evidence for Na-K site ordering 7—22254
  atomic multiphoton autoionisation by smooth laser pulses 7—15577
  ϵ Aur, eclipsing binary system, Hα and Na I line profiles during 1982-4 eclipse 7—4519
  austenitic stainless steel, defects study by positron annihilation 7—39296
  Be-type stars of later types, profiles of Hα and near-IR spectral lines 7—9497
  3,3-bis(nitratomethyl)oxetane, solid and soln., IR lineshape 7—3047
  bromomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
  α Cam, O-type supergiant, Hα line profile obs. rel. to atmospheric expansion 7—60638
  Cas A, appl. of H I lines broad wings obs. to tenuous gas expansion vel. determ. 7—66691
  cataclysmic variable stars, inclination and orbital phase dependent resonance line profile calcs. for stellar winds 7—60692
  complex spectral contour, resolution into symm. bands 7—56351
  constant energy synchronous luminescence spectrometry, parameter selection, optimisation 7—15006
  cubic lattices, diffusing atoms, Mossbauer spectrum studies 7—64552
  defects caused by implanted He atoms, study by monoenergetic positron beam 7—39293
  dense plasma, H Lα line Stark-broadened profile meas. 7—20935
  DFB laser spectral linewidth meas. using fibre-optic gyroscope 7—1279
  DFB lasers, phase tunable type, 1.5 μm operation, FM and spectral characts. study 7—43171
  dibromomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
  β-9,10-dichloroanthracene, triplet excitons, zero field DF ODMR 7—27631
  dichloromethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
  diffuse interstellar bands, theoretical profiles and constraints on dust grain hypothesis 7—55762
  Doppler widths, temp. and rel. gradient effects 7—18351
  double-channel planar BH multimode laser, 1.55 μm fibre grating external cavity, single-mode behaviour 7—15908
  dwarf galaxies, 21-cm line widths rel. to luminosity classification extension 7—60794
  early type stars in SMC, UV P Cyg profiles rel. to stellar wind props. 7—47885
  electron gas, 2D, cyclotron resonance linewidth due to alloy scatt. 7—27399
  Fabry-Perot interferometry for spectral line profiles determ. 7—41446
  fluorescein dye in ionic gel near phase transition, fluorescence obs. 7—13190
  fluorescence line shape anal. for free-to-bound transitions 7—46097
  Fourier transform IR photothermal beam deflection spectroscopy of complex gas/solid systems 7—41497
  FTIR photoacoustic spectra, resolution enhancement by Fourier self-deconvolution 7—48881
  galaxies active nuclei, distrib. function description of cloud props. 7—29535
  glasses, optical impurities dephasing 7—53376
  hollow cathode lamp, LSP-1, emission lines intensities and contours 7—48863
  hot anti-Stokes luminesc., picosecond spectroscopy 7—22336
  hot O-type stars, improved non-LTE Balmer line profiles 7—55603
  intercalation cpd. with AsF_6, Raman scatt., coupled electron-phonon excitation 7—46045
  interstellar 220 nm feature, line profile and half width 7—48018
  intracavity laser absorption spectroscopy lineshapes 7—18883
  iodomethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
  laser diode, external-cavity, stabilisation of spectral linewidth and oscill. freq. using fibre-optic ring resonators *(Japanese)* 7—5921
  laser weak picosecond pulse in glass, induced spectral broadening by intense picosecond pulse 7—31370
  lasers, anisotropic, natural linewidth 7—43047
  macroscopic variable, tunnelling spectroscopy 7—45435
  magnetic resonance spectra, correl. functions, freq.-depend. asymptotic behaviour anal. 7—17215
  mechanism analysis of spectral line broadening *(French)* 7—5630
  mixed crystals, light scatt. spectrum, linewidths from sum rules 7—46028
  MQW DFB laser, theoretical anal. 7—20223
  neutral gases and plasmas, comparison *(French)* 7—11703
  NGC 4151, Seyfert 1 galaxy, obs. of new outflowing absorpt. component in Mg II line profile 7—55834
  OB-type stars, C IV line profiles and IR excesses rel. to C IV ionisation fraction 7—47884
  overlapped bands resolution by Fourier method 7—48885
  peak-separation algorithm for personal computer, appl. to visible emission and IR absorpt. spectra *(Japanese)* 7—31015
  ϵ Per, extended line wings obs. rel. to lawn-sprinkling shock model 7—47849
  planetary nebulae central stars, UV line profiles anal. rel. to stellar winds props. 7—47879
  plasma diagnostics with spectroscopic apparatus, multipoint optical multichannel analyser-based 7—58061
  plasma-broadened Hα line, theory of two-photon polarisation spectroscopy 7—20936
  polar fluids, FIR power absorpt., maximum freq. decrease with temp. 7—53319
  trans-polyacetylene, highly oriented polarised Raman scatt. 7—7685
  trans-polyacetylene, reson. Raman scatt. from amplitude modes, temp. effects 7—64654
  Q1100+772, Q2201+315, intermediate-redshift quasars, line profiles from high signal-to-noise UV spectra 7—55850
  QSOs, emission line profiles from Keplerian cloud ensembles 7—4586
  radiation absorpt., high-power, generalised nonlinear master eqns. with finite correlation time. 7—25863
  rhodamine 6G dye laser, 580 nm, small line width, cavity arrangement 7—62728
  ring laser, homogeneously broadened, optical bistability and instabilities due to mode-mode competition 7—62735
  semiconductor laser, linewidth caused by spontaneous emission, comparison of mode-locked and single-mode operation 7—20224
  semiconductor laser linewidth determination from self-heterodyne meas, with subcoherence delay times 7—20300
  semiconductor laser linewidth reduction for spectroscopic source 7—10924

spectral line breadth continued
- semiconductor laser natural linewidth 7—57318
- semiconductor lasers, quantum well and quantum wire structs., dynamic and spectral props. 7—5892
- semiconductor superlattices, layered electron gas plasmons, Raman scatt., Green's functions calcs. 7—17313
- semiconductors, defects, electroreflectance characterisation 7—64606
- Seyfert 1 galaxies, emission line profiles and profile ratios 7—55818
- solar corona, anal. of H I Lyman-alpha line profiles in polar region (April 1979) 7—47809
- solar corona, emission line profiles vel. to coronal expansion law 7—29450
- spherical stellar systems, line profiles for completely analytical family of anisotropic Plummer models 7—55741
- stark broadening calcs., joint probability distrib. 7—37746
- stellar expanding atmospheres, line profiles for transitions from excited levels 7—24123
- sub-surface defects, study by variable energy positrons 7—39286
- tetracene in ethanol glass, appl. of hole-burning spectroscopy as a tool to eliminate inhomogeneous broadening 7—46104
- trichloromethane liq., mol. vibr., Raman spectra, temp. effects 7—64640
- two-line spectrum, meas. by photon correl. and multichannel anal. techniques 7—24705
- Voigt type convolutions appls. 7—56350
- X-ray fluorescence spectra, profile anal. 7—23071
- XPS and AES depth profiling by lineshape anal. 7—28380
- Al, X-ray $L_{2,3}$ emission satellites, one electron contrib. 7—22388
- AlGaAs-GaAs DFB-TJS external-cavity laser with optical phase control loop, spectral linewidth 7—20222
- Al_2O_3Cr,Ga, ruby, Cr-Ga complexes, luminesc. study 7—22320
- $Al_2Si_2O_5(OH)_4$, kaolinite, FTIR photoacoustic spectra 7—48881
- $Ba_3LaNb_3:Nd^{3+}(Eu^{3+})$ single crystals, spectral-luminesc. props. 7—39169
- $Be_3Al_2(SiO_3)_6:Cr^{3+}$, emerald, spectral energy transfer, fluorescence line narrowing 7—33441
- Bi, nonlinear cyclotron resonance, lineshape and mechanisms 7—32897
- $Bi_xLu_yY_{3-x-y}Fe_5O_{12}$, ferrimagnetic garnets characterisation for MSW optical diffr. 7—13040
- CO_2 homogeneously broadened ring laser, optical bistability and instabilities due to mode-mode competition 7—62735
- CO_2 laser TE, tunable using near grazing incidence grating, performance 7—43052
- $Ca(PO_3)_2:Du_{0.7}{}^{3+}$ glass, highly doped, fluorescence spectral width of $^5D_0$-$^7F_0$ transition 7—13189
- $(Ca_2Y)Sn_2Fe_3O_{12}$, ion distrib., Mossbauer spectra anal. 7—33306
- $CeCu_2Si_2$, Raman scatt. study of electronic and vibr. excitations 7—33387
- CuCl microcrystals, excitons, size quantisation effects, luminesc. spectra anal. 7—53409
- CuZnAl alloys, β-phase, defects study by positron annihilation 7—39297
- $Cu_{57}Zr_{43}$, glass metals, temp. depend. of positron trapping effect 7—39292
- Eu^{3+} in soln., $^5D_0$-$^7F_0$ luminesc. line shift and broadening, temp. depend. meas. *(Russian)* 7—17345
- $Eu_2(MoO_4)_3$, nonresonant energy transfer between two different Eu^{3+} ion sites 7—46125
- EuS, mag. ordered and paramag. phases, Raman scatt. 7—22246
- $Fe_{80}B_{20}$, glass metals, temp. depend. of positron trapping effect 7—39292
- $Fe_2O_{3-\epsilon}$, hematite, O activity depend., high temp. Mossbauer spectra 7—38978
- $Fe_{3-\delta}O_4$, magnetite, O activity depend., Mossbauer spectra 7—38977
- ^{57}Fe, Mossbauer effect, inhomogeneous magnetic hyperfine line broadening, nonlinear RF spectra 7—45858
- GaAlAs injection lasers, single-frequency, linewidth investig. 7—25819
- $Ga_{0.8}Al_{0.2}As$-GaAs-$Ga_{0.8}Al_{0.2}As$ quantum well structs., electroreflectance spectra, model 7—33365
- $Ga_{1-x}Al_xAs$, disorder effects of Raman scatt. 7—7704
- GaAs:C, impurity content meas., IR absorpt., room temp. meas. 7—22289
- GaAs:Sn, photolum. spectra, line shape anal., conduction band to deep acceptor transition 7—46098
- GaAs/Al quantum wells, MBE growth, photoluminescence and absorption linewidth studies 7—7749
- GaAs-AlAs $Al_xGa_{1-x}As$-AlAs, multi quantum well structs., picosecond spectra. 2D excitons 7—13215
- $GaAs_{1-x}Sb_x$, alloy disorder broadening of defect energy levels 7—52516
- $Ga_{47}In_{53}As$, photoluminescence line shape of excitons 7—3087
- GaInAsP DFB lasers, 1.3 μm, single-mode, realisation and characts. *(German)* 7—57357
- n-$Ga_xIn_{1-x}P$, light scatt. by free carriers 7—17328
- GaSe, evidence of exciton-plasma transition in emission spectra 7—59249
- $GdCo_2$, ^{155}Gd 105.3 KeV transition, Mossbauer effect study 7—38971
- $Gd_2(MoO_4)_3:Eu^{3+}$, nonresonant energy transfer between two different Eu^{3+} ion sites 7—46125
- H_2-octaethylporphin in polystyrene, photochemical hole, transmission spectrum, temp. broadening *(Russian)* 7—15617
- $In_{0.53}Ga_{0.47}As$-InP layers, photolum. and laser emission 7—7739
- $In_xGa_{1-x}As$-$In_yAl_{1-y}As$ heterojunction, cyclotron resonance linewidth due to alloy scatt. 7—27399
- InGaAsP-InP DFB lasers with monolithic external cavity, spectral characts. for 1.3 μm 7—20281
- InGaAsP-InP DFB laser monolithically integrated with tunable external cavity, linewidth and FM characts. 7—57316
- n-InP, light scatt. by free carriers 7—17328
- KBr films, high temp. phonon anharmonicity, IR spectra study 7—33469
- $KCl:Tl^+$-type phosphors, Jahn-Teller-induced A-absorption and A-emission bands 7—53398
- $Li_{1-x}Zn_xFe_2O_4$, outside spin wave manifold effective linewidth values, effect of dimensional reson. 7—53146
- $Mg_{1-x}Mn_xFe_2O_4$, outside spin wave manifold effective linewidth values, effect of dimensional reson. 7—53146
- $NO_2{}^-$ molecular luminescence centre in nitrites and nitrates, struct. and electron-phonon interaction 7—3088
- N_2O, mol. solid, lattice vibr., IR active modes *(Japanese)* 7—6731
- Na, X-ray $L_{2,3}$ emission satellites, one electron contrib. 7—22388
- NaCl, thermolum. of colloids centres 7—7772
- β-Na_2O-Al_2O_3-$CdO:Cr^{3+}$, luminescence spectra 7—33448
- Pd clusters in C matrix, electronic and struct. studies by EXAFS and XANES 7—17363
- $PdH_{0.74}$ single cryst., local H arrangement around muons, μSR studies 7—51788
- Pt-Pb bimetallic systems, Fermi level density of states, XPS studies 7—46278
- Pt-Sn bimetallic systems, Fermi level density of states, XPS studies 7—46278

spectral line breadth continued
- $RbCu_4Cl_3I_2$, luminesc. band profile, localised carrier tunnel recomb. effects calcs. 7—3075
- Si, Raman mode, anharmonic damping and freq. shift 7—27718
- Si:Ge,P(B), IR absorpt. band broadening 7—64669
- Si-SiO_2 interface, study using variable energy positron beam 7—38063
- $SiO_2:Yb^{3+}$ glass, energy transfer among impurity ions, time resolved fluoresc. line narrowing meas. 7—46124
- SnTe, Mossbauer spectra and microhardness, stoichiometry deviation effects, vacancy conc. and distrib. 7—26973
- $SrNd_2S_4$-Nd_2S_3 solid solns., vacancy disorder charactn., Raman spectra study 7—58270
- $YAG:Mn^{4+}$, luminesc. and fluoresc. line narrowing studies 7—46105
- YIG, ferrimagnetic garnets characterisation for MSW optical diffr. 7—13040
- YIG films, ferromag. resonance absorpt., influence of exchange interaction, weak surface pinning 7—2931
- YIG films, H_2 annealed, Mossbauer study 7—45847
- YIG powder, FMR line shape, test of independent powder particle model 7—64533
- Zn_3P_2 valence band struct., XPS and Auger lineshape studies 7—45150
- ZnSe, cryst., spectral broadening about second harmonic generated by laser pulse 7—43236
- Zr_2PolD_{2-9}, metallic glass, deuteron mag. resonance study 7—22159

spectral line profiles *see spectral line breadth*

spectral line shift
- *see also chemical shift; isomer shift; isotope shifts; Lamb shift; radiative shifts; red shift; Stark effect; Zeeman effect*
- N- acetylaspartate complexes with lanthanide cations, struct., ^{13}C NMR and PMR *(French)* 7—19883
- adenine series adsorbed on aqueous Ag sol, SERS study 7—17947
- adsorbates on metals, struct. of inverse photoemission spectra, model Hamiltonian study 7—33478
- alcohol dehydrogenase, liver, Cu substituted, ligand and coenzyme effects, resonance Raman spectra 7—62548
- alkali metal atoms(ions), reson. line electron-impact broadening 7—20058
- anthracenes, substituted, transient singlet spectra in soln. and in stretched polyethylene, 530-650 nm 7—42630
- atomic spectrum in intense multimode radiation field, generalised quasienergy states 7—36535
- atomic-level shifts in a squeezed vacuum 7—43032
- atoms, two-photon two-level interactions, ionisation and cascade decay effects 7—15574
- atoms and ions, Stark width and shift regularities 7—36539
- benzene, CARS, shock-compression induced frequency shifts 7—22272
- benzene-d_1 1_{01}-0_{00} rot. transition, Stark shift, microwave FT spectrosc. 7—57110
- 2-chloro-4-methylquinoline, vibr., IR and UV-visible spectra 7—19838
- diatomic polar mol. plasma, quasimonochromatic electric field influence on spectral line shift 7—37757
- diatomic polar molecules, radiation spectrum, plasma elec. field effects 7—19956
- trans-trans-1,4-distyrylbenzene associates, solns., fluoresc., stokes shift 7—42676
- dye molecules adsorbed on silicate matrix, UV electronic spectra 7—42639
- dyes, mol. sublattice form., linear Stark effect study 7—57108
- electric dipole moment, mol. excited state, solvatochromic shift meas. 7—42512
- electron bound states in dense plasma, spectral displacement *(French)* 7—11605
- ethane and derivatives, vibr. Raman stokes spectrum 7—57072
- fluorescein dye in ionic gel near phase transition, fluorescence obs. 7—13190
- Fourier transform ion cyclotron reson. spectra, residual spatial mag. field gradient effects 7—42550
- graphite intercalation compound with H_2SO_4, optical study of K-point π-band dispersion 7—17317
- inert gas dense plasmas, temp. and density profiles, Stark linewidth and shift 7—37752
- interparticle correlations in dense high-temp. plasmas, polaris. shifts of spectral lines 7—1737
- iodomethane high-n Rydberg states, absorpt. density effects 7—50167
- ions, lines electron impact shifts, modified semiempirical approach 7—892
- lipid A, free, multibilayer, phase transition behaviour, FTIR, endotoxic principle of gram-negative bacteria outer barrier 7—54500
- low-temp. plasma, low freq. electric field parameters, mol. fluoresc. diagnostics 7—37756
- magnetically dilute spin systems, mag. reson. freq. shift at low temps. 7—45793
- mercaptopyrimidines, substituted, vibr. IR, Raman and UV spectra 7—31043
- neutral atoms, Stark broadening parameter estimation 7—10490
- p-nitrobenzylideneanilines, UV-visible spectra, steric effects 7—57078
- nitromethane, CARS, shock-compression induced frequency shifts 7—22272
- NMR shifts meas., resonance line shape effect determ. 7—30056
- optical glass filter manufacturing, spectral characts. 7—5961
- polyacetylene:I, photoexcitation spectra 7—64657
- polyacetylene, cond., fast FTIR and IR intensity spectra, struct. and electronic props. 7—53335
- trans-polyacetylene, reson. Raman scatt. from amplitude modes, temp. effects 7—64654
- post collision interaction, Auger line shift 7—50040
- protoporphyrin-IX, effect of vinyl groups on meson. Raman spectra 7—15610
- PS-3.5 spheromak, flow field study by C impurity spectral line shifts 7—26403
- ruby, luminescent R-line emission, pressure calibration to shock wave eqn. of state of Au and Cu 7—18802
- semiconductor microcrystallites, laser-excited, absorption blue shift 7—33409
- solar Ca II K-line shifts in He I 1083 nm dark points, implications for chromospheric vel. field 7—66555
- solar convective zone outer layer, spectral lines pressure shift diagnostic study 7—40793
- spectral-active cpds., freq. shift in UV-visible spectra 7—19955
- thiopyrylocyanine dyes, in polymer matrix, hypsochromic shift, solvation, IR spectra 7—42611
- tryptophan, jet-cooled, excited state conformers and intramol. exciplex form., dispersed fluoresc. 7—36671

spectral line shift continued
tunnelling spectroscopy of a macroscopic variable 7−45435
two-level atomic lattice models, spontaneous emission and light scatt. 7−50018
two-photon multiwave mixing Doppler broadening effects 7−15578
vanadocene, electronic struct. and ^{13}C and ^{1}H NMR temp. shifts 7−62412
Ag_2HgI_4, thermochromic phase transition, Raman and optical absorption studies 7−7680
Al, hot dense plasma, at. props. and transition probabilities 7−57032
Ar II, multiplet and supermultiplet Stark broadening 7−10491
Ar, spectral line press. broadening and shift 7−42553
$Ar+CO_2(N_2)$, vacuum UV lines, Stark broadening 7−891
$Ar+Sr^+(Ca^+)(Mg^+)$, reson. line broadening and shift rates, pot. calc. 7−15683
CO_2 laser, active medium vibr. relax., decay rate, phase absorpt. method 7−43058
CO_2 laser, line centre stabilised, frequency shift 7−15839
Ca^+, 4p-3d triplet, broadening by He 7−62323
$Cd_{1-x}Mn_xTe$, photoluminescence position and lifetime 7−13205
CdSe, stimulated photolum. 7−27776
Co thin films, nucl. spin echo, effect of nonresonance pulsed mag. field 7−45839
Cu complexes, with porphyrin, effect of vinyl groups on meson. Raman spectra 7−15610
Cu II complexes, interligand interaction, spectrosc. props. *(Japanese)* 7−57093
Eu^{3+} in soln., $^5D_0$-$^7F_0$ luminesc. line shift and broadening, temp. depend. meas. *(Russian)* 7−17345
GaAs quantum wells, optical Stark effect on excitons 7−31384
GaAs:Si,Se MOCVD epitaxial layer photolum. spectral shift and doping efficiency obs. *(Japanese)* 7−45076
GaAs-GaAlAs heterostructure, LPE grown, interface photoluminescence spectra 7−53390
GaSe, evidence of exciton-plasma transition in emission spectra 7−59249
$GdBO_3$, luminesc. of Sb^{3+} 7−33442
H, ionised gas-laser interaction, dynamic Stark effect *(French)* 7−6395
H, lines in arc plasma, shift meas. 7−11709
H plasma, α line shift and profile 7−44243
H_2 collisional effect on broadening and shift coeff. in vibr.-rot. spectra 7−15584
H_2, rotational Raman linewidths and line shifts, temp. and density depend. 7−924
HCN, overtone transitions, self-broadening and intensity, photoacoustic spectra rot. relax. 7−20016
He, ionised gas-laser interaction, dynamic Stark effect *(French)* 7−6395
$He+Ca^+(Mg^+)$, pot. curves reson. line broadening and shift parameters 7−50302
$He+Sr^+(Ca^+)(Mg^+)$, reson. line broadening and shift rates, pot. calc. 7−15683
Hg, Stark broadening, line shift and width 7−50010
K+K(Rb), Doppler free two-photon spectra, freq. shift, line broadenings 7−57155
K+NaCl reaction complex form., blue shifted emission in visible spectra 7−22981
$KAlSi_3O_8:Fe^{3+}$, orthoclase, absorpt. and luminesc. spectra 7−53383
KI, H^+, Ar^+ and electron impact, line shifts and widths, Stark broadening study *(French)* 7−10500
$LaBO_3$, luminesc. of Sb^{3+} 7−33442
$LuBO_3$, luminesc. of Sb^{3+} 7−33442
MgH_2, collisional redistrib. profiles meas. 7−42525
MgHe, collisional redistrib. profiles meas. 7−42525
N_2, rotational Raman linewidths and line shifts, temp. and density depend. 7−924
Na, D line broadening and shift by the perturbation *(French)* 7−10501
$NaLa(MoO_4)_2$: Nd^{3+}, Raman and IR spectra study 7−46046
Ne II, Stark parameters meas. 7−36538
Ne impurity immersed in liq. metallic H, polarisation effects on core levels 7−64158
P halide complexes, single halide anions, Raman shift investig. 7−19869
Pd (111), chemisorption of NO, photoemission study using synchrotron radiation 7−22446
Pd clusters in C matrix, electronic and struct. studies by EXAFS and XANES 7−17363
Rb+Rb(K), Doppler free two-photon spectra, freq. shift, line broadenings 7−57155
$ScBO_3$, luminesc. of Sb^{3+} 7−33442
Si, Raman mode, anharmonic damping and freq. shift 7−27718
SiF_4, saturation spectrum at P(30) line of 9.4 μm band of CO_2 laser 7−50134
$TiCl_3$, α and δ forms, vibr. anal., IR spectra study 7−46049
Tl, Stark broadening, line shift and width 7−50010
Tl+inert gas, $6P_{1/2}$-$7P_{1/2,\ 3/2}$ two-photon line broadening and shift 7−49983
UF_6, diode laser absorption at room temp. around 16 μm 7−25521
YBO_3, luminesc. of Sb^{3+} 7−33442
$Zn_{1-x}Mn_xTe$, photoluminescence position and lifetime 7−13205

spectral linewidths *see spectral line breadth*

spectral methods of temperature measurement
see also pyrometers
atmospheric temperature meas. by molecular rotational band obs. with Fabry-perot interferometer 7−47546
broadband pyrometer calibration, bandwidth effective emissivities of nonisothermal blackbody furnace 7−56271
cryothermometer using molecular luminesc. 7−48740
diatomic molecules, rot. Raman line intensities, temp. determ. 7−35516
fibre optic pyrometric sensor for high-temp. meas. 7−41393
flame diagnosis by laser Raman spectroscopy, 3D distrib. of temp. and conc. *(Chinese)* 7−59804
imaging of temp. fields in air using laser-induced fluoresc. of O_2 7−41384
laser-heated materials, temp. distrib. meas. method 7−9837
lidar technique appl. to laboratory meas. of atmospheric temp. and backscatter ratio 7−9238
microwave discharge, spatial profiles and time evolution of gas parameters 7−21015
mobile CARS instrument for combustion and plasma diagnostics 7−44238
NMR, variable temp., solid state, CP/MAS, rel. to temp. meas. and control 7−48793
plasma, in Tokamak, temp. meas. 7−60922

spectral methods of temperature measurement continued
plasma treatments, surface temperature monitoring by pyrometric method 7−18779
propagation emission tomography 7−61368
radiation thermometry, exponent factor in extended relation of radiance *(Japanese)* 7−41473
Raman ratio thermometry for temp. distrib. meas. in optical fibre 7−25985
Raman temp. sensor, based on signal backscattering from multimode fibre 7−41387
rapid thermal processors, effect of thin dielectric films on accuracy 7−18789
self referenced fibre optic glass absorption thermometer 7−41388
spectroreflectometry, relative, intensity functions effects 7−9836
standard radiation thermometer, design, construction and performance 7−30016
$Al_2O_3:Cr^{3+}$, surface temp. meas., fluoresc. appl. 7−19947
I_2 laser-induced fluoresc. appl. to temp. meas. in compressible flow 7−41383
$LaF_3:Dy^{3+}(Ho^{3+})(Er^{3+})$, surface temp. meas., fluoresc. appl. 7−19947
N_2 multiplex CARS temperature meas. precision using single-mode and multimode pump lasers 7−41376
W lamp, temperature and pressure profiles, high-resolution CARS measurements 7−41377
ZrF_4 glass fibre, IR temperature measurements, 60 to 150 °C 7−56262

spectrochemical analysis
see also atomic absorption spectroscopy; atomic emission spectroscopy; X-ray fluorescence analysis
2-GHz frequency-domain fluorometer 7−23091
absorption, emission and interference spectrometry, comparison *(French)* 7−41501
Aerosol-OT, stabilised microemulsion, X-ray scatt. data, fractal anal. 7−54190
AES, instrumentation, data reduction, depth profiles 7−22390
AES, sputter depth profiling, factor anal., appl. to elemental detect. limits 7−23081
AES and scanning Auger microscopy, effects of peak to background ratios 7−23111
aluminium oxinate-gallium oxinate mixture, fluoresc. spectra, isodifferential derivative synchronous fluorimetric anal. 7−54231
amino acids, derivatives, trace anal. using laser fluoresc. detector 7−39943
anvil cell, high press., development for microscopy/IR spectroscopy 7−54224
atmospheric trace element detection by differential absorption spectroscopy *(German)* 7−46991
atmospheric trace gas measurements using matrix isolation−FTIR spectroscopy 7−55316
Auger electron spectroscopy, data processing, extended computer program 7−33983
bacteria, pathogenic, ultrarapid differentiation and identification using FTIR techniques 7−54835
benzene, shock decomposition products detection by chemiluminescence 7−23023
book, laser optoacoustic spectroscopy 7−55904
butane radical, absorpt. cross section and reaction rate consts. meas. using molecular modulation spectrometry 7−22997
calcium monocyclopentadienide, prod. in gas-phase reaction, laser spectroscopic obs. 7−17775
carbons, IR exam. with photothermal beam deflection spectroscopy 7−46010
chemical moieties at surfaces, IR diode laser spectroscopy 7−41512
chemiluminescence based F_2 detector, excimer laser monitor appl. 7−20216
chromatography detection and identification using SPECORD-M40 UV-VIS spectrophotometer 7−8332
coal, kaolinite quantitative determination by infrared spectroscopy *(Rumanian)* 7−17847
coal, thermal props., scanning photoacoustic microscopy 7−23089
combustion diagnostics by pulsed photothermal and photoacoustic deflection spectroscopy 7−23016
conference, Oconomowoc, WI, USA (April-May 1985) 7−18468
conversion layers on Al, struct., TEM, LAMMA, AES, XPS, SIMS, ion scatt. spectra 7−23094
core level spectroscopy, dynamics 7−41485
correlation transform spectroscopy 7−48871
crystal orientation effects in X-ray and Auger electron microanalysis 7−23109
DC arc, atomic space-time distrib. 7−20993
diffraction gratings, plane, for analytical instruments 7−5984
diffusive reflectance IR spectra, absorbing matrices effects 7−17831
diode-array spectrometer for visible and near-IR absorption 7−41488
DNA injury in continuous long term low-dose irrad., fluorometric obs. in rats, mice and men *(Russian)* 7−54506
electrical contact surface, two-dimens. FTIR mapping 7−48882
electroactive species, Fourier transform IR reflectron absorpt. spectra 7−23093
electrodes, Fourier transform IR techniques, in-situ spectroelectrochemistry 7−54144
ethyl radical, absorpt. cross section and reaction rate consts. meas. using molecular modulation spectrometry 7−22997
fibre optic chemical measurements in industry *(French)* 7−46894
flame diagnosis by laser Raman spectroscopy, 3D distrib. of temp. and conc. *(Chinese)* 7−59804
flow discharge optical spectrmetry, quantitative surface anal. 7−28373
fluorimeter parameters, estimation technique 7−41489
fluorimetry, scanning optical microscopy appl. *(French)* 7−41459
fluorometer, fibre-optic, freq.-scanned, for subnanosec. lifetime determ. 7−48851
Fourier domain data technique for struct. elucidation 7−54222
Fourier transform IR spectroscopy for industrial materials characterisation 7−48868
free-burning, powder anal, multielement spectrographic method 7−8345
FTIR mapping, two-dimens., of curved surfaces 7−48882
FTIR photoacoustic spectra, phase analysis 7−48878
FTIR photoacoustic spectroscopy use in depth profiling expts. 7−48880
FTIR spectroscopy, quantitative, ADC errors 7−48877
fuel sprays, exciplex-based diagnostics 7−23077
gas chromatograms, reconstruction from GC/IR spectrometry data 7−17832

spectrochemical analysis continued
- gas chromatograph./FTIR system, optimal design 7−48891
- gas laser with high reliability, anal. methods *(German)* 7−20188
- gas stream, photoionisation method for at. and mol. concs. determ. 7−39937
- gentle surface analysis by laser ionisation using intense UV laser light 7−23078
- E-glass fibre composite interfaces, surface studies using diffuse reflectance and photoacoustic FTIR spectra 7−46044
- high voltage spark discharges, light scatt. diagnostics 7−20971
- high-temperature corrosion film characterization using Raman microscopy 7−46772
- hydrocarbon systems, gas and liq. phase, in situ modelling using FTIR at high press. 7−54221
- ICAP-AES analysis, qualitative and semiquantitative, using computer-controlled monochromator 7−30096
- III-V semiconductor-metal interface, reaction and interdiffusion, review 7−21544
- incompatible polymers mixtures, surface layer of films investig. 7−37888
- inductivity coupled plasma, emitted lines, widths and shapes 7−54232
- IR and laser spectroscopic charactn. of Al defects in cultured quartz 7−59234
- IR diode laser spectrometry for trace moisture in gases determ. 7−8330
- IR emission accessory for surface analysis, ellipsoidal mirror 7−54225
- IR film thickness gauging, optical interference suppression 7−33472
- IR Fourier transform spectroscopy for investigating elementary processes in gas-solid interaction 7−33986
- IR gas-filter correlation spectrometer for methanol gas conc. meas. 7−59817
- IR quantitative analysis, Fourier domain, processing vector representations 7−35599
- IR spectra evaluation, expert systems for chemical analysis *(French)* 7−54227
- IR spectroscopy, Ottawa, Ont., Canada (June 1985) 7−48160
- IR spectroscopy appl. of semiconductor radiation detectors and diode lasers 7−15865
- isooctane, in organic cpds. background mixture, IR spectra anal., max. difference method 7−46911
- isotopically selective laser measurements, resonance ionisation mass spectrometry and photon burst anal. 7−54213
- Kevlar fibre surface, diffuse reflectance FTIR spectroscopy, fibre accessibility and water absorption 7−46040
- laser spectroscopy, principles and appls. *(Slovak)* 7−24706
- laser-induced fluorescence spectroscopy, excitation anisotropy 7−28367
- liquid samples, inverse Raman spectra, exptl. conditions 7−61385
- liquids, mixing, conc. meas. by fluoresc. technique 7−65366
- metal clusters, dispersed in polymeric matrices, synthesis and props. 7−17370
- metal surfaces, quantitative analysis using XPS or AES, data reduction techniques 7−28371
- metalorganics, high purity, analysis by inductively coupled plasma emission spectroscopy 7−23083
- metals, emission spectrochemical anal. using glow discharge, appl. to in-depth anal. *(Japanese)* 7−63886
- 3-methoxybenzanthrone in soln., picosecond spectroscopy of intermolecular proton phototransfer 7−54150
- micro-emission FTIR accessories, performance 7−48845
- microsample analysis using IR dual-mode microscope 7−48844
- microwave spectrometer employing Gunn oscillator, locked to rotational spectral line 7−15008
- mixtures, spectrosc. analysis, computerised, using orthonormalised reference spectra 7−35605
- MM-wave cavity spectrometer for gas mixture anal., 26.5-40 GHz, design and operation 7−13836
- mobile CARS instrument for combustion and plasma diagnostics 7−44238
- molecular gases, absorpt. spectra, elec. modulation method 7−10553
- monochromator of luminesc. photometer, spectral resolution capability, comparison with Fluoricord fluorimeter 7−37121
- multispectral scanning Auger imaging technique 7−23110
- near-IR reflectance analysis, calibration methods 7−29963
- nitride coatings on high-speed steel substrates, characterisation by Auger electron spectroscopy and X-ray photoelectron spectroscopy 7−53982
- oil, spectrochem. anal. using plasma torch *(French)* 7−35602
- oil traces in turbid water monitoring, using online IR analyser 7−34091
- optical surface contaminants identification, using electron spectroscopy and SEM techniques 7−4935
- orcein dye treatment, fluoresc. reactions and applics. 7−60140
- organic films, on inorganic substrates, FT IR reflection spectrosc. 7−39097
- organic molecules at surfaces, Fourier transform IR studies 7−54220
- oxide layer on chemically polished and etched InP (111), ion scatt. spectra, AES, ESCA 7−22925
- peat water-content meter, IR, physical principles 7−55299
- perylene red film coated on Ge, ATR and refl.-absorpt. IR spectroscopic analysis 7−41510
- phthalocyanine thin films, gas-surface reactions, elec. cond. meas., ESCA 7−52262
- plasma, conc. determ., absorpt. method using Fabry-Perot interferometer 7−11790
- plasma collector probes, surface layer analysis 7−58053
- PMMA film on glassy C, IR external refl. spectroscopy obs. 7−41509
- poly(vinyl acetate) film on Cu, FTIR surface EM wave spectroscopy, Otto config. 7−46162
- poly-N$^{\varepsilon}$-trifluoroacetyl-L-lysine-polysarcosine diblock copolymers, ESCA of surfaces 7−21588
- polymer blend films, Fourier transform IR/ATR spectroscopy studies 7−53333
- polymer film on metal substrate, FTIR surface EM wave spectroscopy, Otto config. 7−46162
- polymer flashover potential, surface anal. using ESCA 7−33990
- polymers Raman spectra charactn. 7−53296
- potassium saccharinate, single cryst., elemental anal. IR spectra 7−22235
- powders, anal. using glow discharge source, at. transport phenomena 7−30097
- protein in aqueous solution, FTIR spectra, automatic water subtraction procedure 7−54836
- proteins and lipids, FTIR spectra, water subtraction procedure 7−54834
- ^{239}Pu, determ. using crystallophosphor photoluminesc. 7−33981
- reactive intermediates determination by matrix isolation FTIR spectroscopy 7−54417

spectrochemical analysis continued
- reflection-absorbance FT IR spectra of chromatograph effluent, continuous recording 7−15016
- rhodamine 6G, hydrodynamically focused flow, laser induced fluoresc. detection 7−59811
- rotational CARS generation through multiple four-colour interaction 7−50632
- sample handling methods for FTIR analysis 7−46899
- SCRIBE interferometer atmospheric emission spectra 7−55319
- selective spectral line modulation, sample modulation appls. 7−61382
- semiconductor materials characterisation, electron, ion, X-ray and optical probe methods 7−27203
- signal averaging computer system for Perkin-Elmer 577 infrared spectrophotometer 7−48865
- sodium saccharinate single cryst., elemental anal. IR spectra 7−22235
- solution microvolumes, high-freq. inductively coupled plasma discharge, emission spectral anal. 7−46909
- solutions, emission spectroscopic analysis, matrix composition effects 7−54240
- spectrofluorimeter, laser pulse, LIS-201, automated ultrashort-time, for UV and visible regions 7−4896
- spectroscopy methods review 7−54226
- stainless steel electrode surface damage anal. in high energy spark gaps 7−33991
- steel, stainless, surface corrosion products after exposure to liq. alkali metals, glow discharge optical spectroscopy, SIMS anal. 7−22896
- steel spectra layer-by-layer anal., using glow discharge 7−54241
- stratospheric far-IR emission analysis, synthetic spectra and FTIR meas. comparison 7−55315
- strontium monocyclopentadienide, prod. in gas-phase reaction, laser spectroscopic obs. 7−17775
- surface adsorbed species, FTIR and Raman studies, Claus process 7−46869
- surface analysis by laser induced thermal waves *(German)* 7−8334
- surface analysis in far IR, triple modulation FTIR spectrometry 7−54223
- surface analysis using XPS and electrochemistry 7−28370
- surface ATR and reflection-absorption IR spectroscopic analysis of thin films 7−41510
- surface EM wave FTIR spectroscopy of very thin films 7−41506
- surface FTIR-ATR spectroscopy, lower limit of thickness of measurable surface layer 7−41508
- surface IR external reflection spectroscopy of thin films on glassy C electrodes 7−41509
- surfaces and adsorption complexes, FTIR characteris. 7−46042
- synchronous excitation spectrofluorometry, scatt. background elimination 7−54203
- three-laser CARS meas. of two species 7−46897
- transient atomic concentrations, spatial mapping using acousto-optic deflection 7−39931
- transition metal nitrides and carbides, hard wear-resistant coatings, microstructural and microchemical characterisation 7−52328
- two-tone optical heterodyne spectroscopy with tunable Pb salt diode laser 7−30102
- UV and visible spectroscopy for plasma diagnostics 7−32102
- violacein, thin layer chromatography and FTIR analysis 7−54469
- water content in liquids, IR spectrochemical anal., standard-signal method and microprocessor technique 7−59809
- YAG:rare earth crystals, impurity content, absorpt., spectrophotometric obs. 7−13843
- Ag, resonant-like reabsorption in AC arc plasma 7−13842
- $Ar+NH_3$, dissoc. excitation, nascent vibr. and rot. distribs. 7−46824
- Au layer on GaP, emission spectrochemical anal. using glow discharge, appl. to in-depth anal. *(Japanese)* 7−63886
- AuZn layer on GaP, emission spectrochemical anal. using glow discharge, appl. to in-depth anal. *(Japanese)* 7−63886
- BN MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7−22023
- C MIS structures, form. by reactive pulse plasma method, on Si or SiO_2 substrates, phys. props., annealing effects 7−22023
- CN^-, oxidation at Pt electrode, polarisation modulation IRRAS 7−17836
- CO in combustion flows, two-photon digital imaging using planar laser-induced fluorescence 7−46896
- CO_2 conc. profiles of axisymmetric combustion gas flow, IR spectra, temp. profile meas. 7−3591
- $^{13}CO_2/^{12}CO_2$, abundance meas. by nondispersive IR heterodyne ratiometry 7−15731
- Ca, near-trace-element concs. in organic matrix, electron energy loss anal. 7−46903
- CdS, oxidised, SIMS/XPS characterisation 7−39934
- Cs_3Sb surface film, detection on multialkali photocathodes 7−46912
- Cu, anodic oxidation in KOH soln., in situ spectroelectrochemical anal. 7−28192
- Cu II complexes, charactn., electronic and ESR parameters 7−2925
- Cu, resonant-like reabsorption in AC arc plasma 7−13842
- Cu^{2+}, detection in Nafion membranes, H_2O solvent and Zn^{2+} ratio effects, ESR spectra anal. 7−33268
- Cu-Ni interface, emission spectrochemical anal. using glow discharge, appl. to in-depth anal. *(Japanese)* 7−63886
- Cu_xS-CdS solar cells, comp. of differing junction types, AES, SIMS determ. 7−23167
- Fe, passivated, comp., electron backscattering Mossbauer spectra, XPS studies 7−28193
- Fe-Cr, thin oxide film form., XPS study 7−22898
- Fe-Ni, thin oxide film form., XPS study 7−22898
- GaAs (100), oxidation 7−59703
- GaAs films on amorphous insulating substrates, laser recrystallisation 7−38397
- GaAs, VPE growth, reaction mechanisms 7−58693
- Gd oxychlorides, phase equilib., X-ray diffr. and spectro-luminesc. anal. 7−46143
- HNO_3, ag. soln., Raman spectra 7−39125
- He:H, isotope composition, spectrosc. determ. 7−50395
- $Hg_{1-x}Cd_xTe$ MBE layers, plasma oxidation, oxide growth, comp. and surface struct. 7−54018
- I_2 cells for laser stabilisation, preparation and anal. 7−62718
- I_2, detect. in atmospheric, differential reson. technique 7−40552
- Mo (100), chemically modified by adsorption of B, C, O, CO, surface atom oxidation states, ESCA meas. 7−28333
- $MoSe_3S$ cathode for secondary Li batteries, prep. and characterisation 7−64948
- N_2, isotope abundance ratio determ., mol. emission spectrometry 7−17835

spectrochemical analysis continued
  NaSCN, NH$_3$ soln., IR spectra study 7—46901
  Ni-Mo (6 at.%), oxidation, ESCA study 7—22897
  ^{237}Np, determ. using crystallophosphor photoluminesc. 7—33981
  O DC discharge, O, O$_2$($^1\Delta$) and O$_3$ conc. meas. 7—20957
  SO$_2$ analyzer, fibre optic 7—23090
  Si (III) surface, Cu deposition, Auger electron spectrosc. obs. *(Russian)* 7—27833
  Si, plasma etching with tetrafluoromethane and N$_2$O, role of O$_2$ in etching 7—3535
  Si surfaces, passivated by H/hydrogen mixtures, surface dielectric layers characterisation 7—17746
  Si wafer substrates, oxide removal, transient mass spectrometry, XPS studies 7—13670
  Si:C, impurity concentration determ. by photoluminesc. method 7—46084
  Si:H films, H content meas. 7—12553
  a-Si:H films, plasma CVD, deposition kinetics *(Japanese)* 7—17450
  Si:O, Fourier transform IR spectroscopy and SIMS calibrations for O conc. meas. 7—16606
  SiC short fibred filamentary crystals., phase comp. and morphology 7—65010
  SiO$_2$ xerogels, structural changes during low temp. dehydration 7—28366
  SiO$_2$-Si interface, roughening induced during AES depth profiling 7—21685
  SiO$_x$N$_y$ LPCVD layers, phys. and elec. charactn. 7—38792
  TiN compound layer prepared by ion implantation, XPS and FTIR obs., depth profile analysis of ion etched samples 7—59373
  U concentration determ. in natural water, comparison with fission track method 7—54217
  W selective low press. CVD growth on Ti, TiSi$_2$ and PtNiSi, surface reactions, struct. 7—27183
  Y oxychlorides, phase equilib., X-ray diffr. and spectro-luminesc. anal. 7—46143
  YO, radiation, spatial emission distrib., inductively coupled plasma 7—8351
  Zn, detection and study by laser-enhanced ions. spectrometry 7—54202
  ZnSe-ZnS electroluminescent MIS structures, MOCVD growth and charactn., ESCA 7—59443

spectrography *see spectroscopy*

spectrometer components and accessories
  see also mass spectrometer components and accessories
  absorption cell for high-sensitivity spectrometry of liquid samples 7—61388
  AC magnet, 3-field, for extended range Zeeman AAS 7—30098
  anamorphotic Doppler-matched condensing system, improved light collection from fast atomic beams 7—15739
  anvil cell, high press., development for microscopy/IR spectroscopy 7—54224
  auxiliary dispersing element for crossed-dispersion spectrograph 7—41484
  burner, flashback-resistant, for combustion diagnostics and anal. spectrometry 7—35598
  composite RF pulses, num. design for NMR spectroscopy appl. 7—24676
  continuously variable phase shift anal. for NMR 7—24666
  cylindrical rotor system for solid-state NMR in controlled atmosphere 7—24669
  Czerny-Turner monochromator: astigmatism in the classical and in the crossed beam dispositions 7—20396
  DC magnetic field stabiliser based on NMR *(Slovak)* 7—24662
  dielectric sample resonator design for EPR spectroscopy enhanced sensitivity 7—9856
  diffraction gratings, plane, for analytical instruments 7—5984
  diffuse reflectance IR accessories, crit. eval. 7—24714
  diffuse reflectance IR spectroscopy accessories, optimisation 7—61380
  double cylindrical mirror analyser for electron impact threshold spectrometer 7—24735
  double monochromator, prism-grating, apparatus function 7—20395
  echelle spectrograph, camera lens system design 7—55475
  ENDOR electron spin echo resonator, variable temp., for single-crystal studies 7—30059
  ESR spectrometer sensitivity enhancement, using dielectric resonator 7—9865
  grating calibration facilities for Extreme Ultraviolet Explorer 7—24712
  high temperature pulsed nozzle for supersonic jet spectrometry, gas chromatographic appls. 7—15005
  high-temperature, alkali-rare-gas optical cell 7—41416
  highly reflecting diffusers, middle-IR region, develop. status study 7—57615
  hollow cathode lamp, LSP-1, emission lines intensities and contours 7—48863
  indirect detection experiments, computer-controlled attenuator 7—24679
  IR emission accessory for surface analysis, ellipsoidal mirror 7—54225
  IR vidicon as image sensor in near-IR Fourier transform spectrometer 7—48889
  low-noise preamplifier design for NMR 7—61364
  MAS rotor insert, for liquids, gels and air-sensitive solids, sealing 7—48817
  metal cluster ions, stored, spectroscopy in Penning trap 7—15779
  microwave spectrometer, electromagnet power system improvement using dual control 7—30057
  modulated sample introduction system for ICP atomic emission spectrometry 7—61384
  monochromator, computer-controlled, for qualitative and semiquantitative ICAP-AES anal. 7—30096
  monochromator of luminesc. photometer, spectral resolution capability, comparison with Fluoricord fluorimeter 7—37121
  monochromator wavelength automatic setting 7—37120
  Mossbauer spectroscopy, hydrostatic pressure effect on the minimum temperature of a helium-3 cryostat 7—18970
  NMR field cycling device using GTOs and MOSFETs 7—35546
  NMR preamplifier protection at UHF 7—9866
  PDP-8 on-line computer for missing mass spectrometer data handling 7—9824
  photoelectron spectroscopy, angle definition using channel arrays 7—35638
  pipetting device, microvolume, for atomic absorpt. spectrometry 7—4900
  pulse generator, microcomputer controlled, for electron spin-echo spectrometer 7—35551
  pulse pair filter, pure-phase 2D NMR spectroscopy 7—24681
  pulsed supersonic nozzle beam source, CS$_2$ photodissociation appl. 7—15665
  quadrature coil for NMR imaging 7—14087

spectrometer components and accessories continued
  Raman spectroscopy, interferometric observation, photomultiplier and avalanche diode detectors appls. 7—61379
  reflection measurements, additional device, spectrophotometer SPECORD 7—9876
  resolution function of CMA systems used for Auger signal measurements 7—30119
  Reticon 1024SF linear arrays and stripline microchannel plates, subnanosecond spectroscopy appl. 7—24708
  retroreflective array in spectroscopic instrumentation, optical props. 7—56348
  rotor, ultrahigh spinning rates, for multinuclear CP/MAS NMR of solids 7—48805
  sample cell, Invar, low temp., for FTIR spectroscopy, thermal calibration 7—41507
  sample transfer accessory for thin-layer chromatography/Fourier transform infrared spectrometry 7—30101
  scanning spectrometer design and props. 7—56353
  specular reflectance accessory for VU-VIS spectrophotometer, thickness meas. appl. 7—29964
  surface coil for in vivo ^{1}H NMR, pulse sequences 7—14166
  Ag films, SERS-active, chem. prep. method 7—53293
  D$_2$-Ar spectrophotometric lamp, construction and material influence 7—41422
  N$_2$ TEA-TE laser, high power, spectrosc. appls. 7—36954
  W ribbon furnace for electrothermal at. absorpt. spectrometry. temp. meas. 7—30017

spectrometers
  see also interference spectrometers; magnetic resonance spectrometers; mass spectrometers; microwave spectrometers; particle spectrometers; radiofrequency spectrometers; X-ray spectrometers
  absorption, emission and interference spectrometry, comparison *(French)* 7—41501
  astronomical instrumentation and techniques, conf., Tucson, AZ, USA (March 1986) 7—48162
  atomic emission spectroscopy, instrument design, spectral characts. 7—35601
  computer-controlled two-dye-laser heterodyne spectrometer of high precision 7—15012
  crossed-dispersion spectrograph, auxiliary dispersing element calcs. 7—41484
  DIII-D tokamak, grating spectrometer for electron cyclotron emission meas. 7—11741
  diode-array spectrometer for visible and near-IR absorption 7—41488
  dye laser spectrometer with ultra-high-resolution, using passive reference resonator 7—18889
  echelle spectrographs, scattered light background correction method 7—34874
  echelle/CCD spectrograph for obs. of point sources and extended objects at high dispersion 7—66474
  ellipsometric, IR reflection absorption, design and performance 7—41494
  faint object spectroscopy instrumentation 7—55493
  fluorescence spectrometer, frequency-domain, for picosecond rotational-correlation times determ. 7—56347
  fluorescence spectrometer for a single electrodynamicallylevitated microparticle 7—9905
  fluorimeter parameters, estimation technique 7—41489
  fluorometer, fibre-optic, freq.-scanned, for subnanosec. lifetime determ. 7—48851
  FT IR spectroscopic system, high press., with cell for catalytic reactions obs. 7—35606
  GIBS hybrid spectrometer, computerised control system design 7—4832
  grating spectrometer with imaging photon detector, for auroral and airglow obs. 7—34722
  Hadamard transform spectrometer, long-path absorption meas. *(Japanese)* 7—9903
  Hadamard transform spectroscopy, instrumentation and mathematical details 7—56352
  high-resolution submillimetre heterodyne spectrometer for atm. and astron. appl. 7—353
  ICP Fourier transform spectrometer, signal to noise ratio characts. 7—35600
  integrating sphere spectrometer for high-temperature materials characterization 7—35604
  IR, for surface EM waves, computerised control system 7—41511
  IR gas-filter correlation spectrometer for methanol gas conc. meas. 7—59817
  laser pulse spectrofluorimeter, LIS-201, automated ultrashort-time, for UV and visible regions 7—4896
  Lyman UV astronomy mission, instrumentation and objectives 7—66430
  Lyman UV astronomy mission and instrumentation 7—66429
  magnetic field induced circularly polarised luminescence spectrometer 7—22313
  microcomputer-based optical-displacement spectrometer, for kinetics of transparent fluids obs. 7—4894
  multichannel high-speed spectrometer having intermediate analog memory schematic 7—18884
  muon spin resonance spectrometer, 500 MHz 7—49844
  optical time-resolved multichannel Raman spectrometer, appl. to transient photomerocyanines 7—15010
  picosecond absorption spectrometer time resolution enhancement by laser radiation pulse duration selection 7—61387
  plasma diagnostics with spectroscopic apparatus, multipoint optical multichannel analyser-based 7—58061
  positron lifetime meas. methods and apparatus 7—39218
  pulse radiolysis equipment, setup for simultaneous multiwavelength kinetic spectroscopy 7—56349
  quasielastic light scattering microscope spectrometer 7—41478
  scanning spectrometer design and props. 7—56353
  slitless intensified readout gated spectrometer 7—4940
  small-size wide-aperture spectrograph using holographic grating 7—41483
  spaceborne remote sensing systems (book) 7—41027
  spectrograph of 1-m Yale telescope at Cerro Tololo, stability 7—24016
  spectrometer, high-resolution, using spherically curved quartz crystals, design 7—4895
  SPRED VUV spectrograph, synchrotron radiation calibration 7—24711
  TPD apparatus for high surface area solids 7—32826
  UV normal incidence concave diffraction grating spectrometer for telescope, calibration 7—29400
  UV Raman spectrometer, H$_2$ Raman-shifted YAG laser system 7—41481

ectrometers continued
variable geometry photofragment spectrometer 7—15007
visible spectrometer, highly sensitive, for molecular absorption studies 7—352
VUV laser source for high-resolution spectroscopy, dye laser freq. mixing in Mg 7—24709
VUV spectrometer-detector system calibration using synchrotron radiation 7—24710

ectrophotometers
see also spectrophotometry
alignment of optical systems of spectral equipment, testing scheme 7—50795
computer-controlled reflection and transmission meas. of semiconductor thin films 7—4902
computerised IR spectroradiometer, capabilities and appls. 7—30063
developments and appls. *(Japanese)* 7—337
diffraction gratings, plane, for analytical instruments 7—5984
Fourier transform IR spectrophotometer, rotary scanning, props. and performance 7—48893
monochromator of luminesc. photometer, spectral resolution capability, comparison with Fluoricord fluorimeter 7—37121
pipetting device, microvolume, for atomic absorpt. spectrometry 7—4900
polarisation spectrophotometer for meas. of polarised emission and excitation spectra 7—56318
PU8700 UV/vis scanning spectrophotometer 7—4880
reflection measurements, additional device, spectrophotometer SPECORD 7—9876
scattered light amplitude meas. 7—35567
signal averaging computer system for Perkin-Elmer 577 infrared spectrophotometer 7—48865
single-beam, automatic, for small optical density meas. 7—30062
SPECORD M40 UV-VIS, computer-aided data acquisition and processing by software cassettes 7—4898
SPECORD-M40 UV-VIS, use for detection and identification in high-performance liq. chromatography 7—8332
SPECORD-M40 UV-VIS, USSR standards committee tested 7—4899
transient absorption, high sensitivity high resolution, development 7—18853

ectrophotometry
see also colorimetry; spectrophotometers
arteriovenous O_2 difference, spectrophotometric meas., role of light scatt. 7—3942
astronomical, automatic spectrogram reading on SAO AS USSR photometric complex 7—66472
attenuated total reflection spectrophotometry, calibration 7—24715
Danaines golden pupae, natural broad-band interference reflector microspectrophotometry 7—54676
decomposed granite soil thickness, spectral reflectance and surface temp. *(Japanese)* 7—40479
developments and appls. *(Japanese)* 7—337
donor-acceptor complexes, equilib. const., extinction coeff., spectrophotometric data evaluation 7—33951
FTIR spectroscopy, quantitative, ADC errors 7—48877
glass, absorption and reflection coeffs. meas. with SF-26 spectrophotometer 7—41424
hematoxylin + $ZrOCl_2$, reaction, spectrophotometric obs. 7—39885
highly reflecting diffusers, middle-IR region, develop. status study 7—57615
IR spectroradiometry, using IBM PC 7—18859
laser losses and efficiency meas. 7—43106
microstructure, visible-near UV spectroellipsometry and spectrophotometry studies 7—46758
peat water-content meter, IR, physical principles 7—55299
scanning camera with line CCD sensor for use in schools *(Slovak)* 7—29646
translucent materials, diode array spectrophotometric obs. 7—61386
D_2-Ar spectrophotometric lamp, construction and material influence 7—41422
Fe, passivation and spontaneous dissolution in presence of O_2 7—22872
Pb-acid battery, study of positive plates by photoacoustic spectrophotometry 7—54283

ectroscopes *see spectrometers*

ectroscopic light sources
atomic emission sources for solution spectrochemistry 7—15004
colour centre leasers for molecular velocity modulation laser spectroscopy 7—48867
dye DFB picosecond freq.-tunable laser source for time-resolved meas. 7—50584
FIR spectroscopy by synchrotron radiation at UVSOR facility 7—41498
Fourier transform VUV spectrometer, design and performance 7—41490
FTIR/time resolved spectrometry, rapid scan, for gas phase systems, IR source development 7—48879
glow discharge source for anal. of powders, at. transport phenomena 7—30097
imploding thin-films plasma source, for atomic spectrometry, prod., characterisation 7—48850
irradiance standards, NBS SURF and W UV, comparison 7—11086
laser spectroscopy, conf., Maui, HI, USA, June 1985 7—9586
multiwavenumber linearized diode laser spectra by overlapping frequency scans 7—41492
plasma torch, for spectrochem. anal. of oil *(French)* 7—35602
pulsed discharges through capillary in inert gas, XUV emission spectra 7—44292
rhodamine 6G-ethylene glycol, soln., dye laser light source for visible spectroscopy 7—20275
semiconductor laser linewidth reduction for spectroscopic source 7—10924
spectroradiometer for testing radiation sources at 2 to 15 μm 7—18891
VUV laser applications to molecular physics *(French)* 7—5949
VUV laser source for high-resolution spectroscopy, dye laser freq. mixing in Mg 7—24709
VUV radiation, coherent, tunable, generated by nonlinear optical frequency conversion in gases 7—20353
VUV-soft X-ray beamline for spectroscopy and calibration 7—18966
XUV radiation generated by resonant third- and fifth-order frequency conversion 7—20327
Ba vapour IR source for subpicosecond spectral photography 7—41502
D_2-Ar spectrophotometric lamp, construction and material influence 7—41422
He plasma, heating with H^+ beam, spectrosc. appls. 7—48864

spectroscopic light sources continued
Hg vapour VUV-XUV source appl. to studying laser induced fluorescence 7—19916
Nd:YAG injection-seeded laser, polarisation feedback stabilisation, spectroscopy appls. 7—57338
Pb salt tunable diode laser for two-tone optical heterodyne spectroscopy 7—30102
Ti^{3+}:Al_2O_3 laser, excitation methods, use in intracavity spectroscopy 7—43190

spectroscopy
see also beam-foil spectroscopy; computerised spectroscopy; electron spectroscopy; Fourier transform spectroscopy; interference spectroscopy; magnetic resonance spectroscopy; mass spectroscopy; matrix isolation spectroscopy; microwave spectroscopy; modulation spectroscopy; optical double resonance; optogalvanic spectroscopy; photoacoustic spectroscopy; photon correlation spectroscopy; photothermal spectroscopy; point contact spectroscopy; quantum beat spectroscopy; radiofrequency spectroscopy; Raman spectroscopy; spectroscopy computing; time resolved spectroscopy; tunnelling spectroscopy; two-dimensional spectroscopy; two-photon spectroscopy; X-ray spectroscopy
Abel inversion with high accuracy in optics/spectroscopy problems 7—35603
absorbing crystals, wave propagation, polaris. and rel. 7—10852
Alentsev-Fock method, statistical anal. 7—36583
analytical spectroscopy methods review 7—54226
angular scan-attenuated total reflection spectra, instantaneous obs. 7—4901
astronomical, automatic spectrogram reading on SAO AS USSR photometric complex 7—66472
astronomical, optimal extraction of single-object spectra from obs. with two-dimensional detectors 7—47729
astronomical spectra reduction, summary of available programs 7—4350
astronomical spectroscopy, data decomposition into sum of nonlinear functions 7—4347
astronomical spectroscopy, deconvolution method for one-dimensional imaging 7—4348
capacitance spectroscopy, diagnostic technique for Si detector material 7—46895
coherent time domain far-infrared spectroscopy 7—15017
coincidence laser spectroscopy, ultrasensitive technique for fast ionic or atomic beams 7—30100
collinear laser-fast-beam spectroscopy, collisional ionisation detection scheme 7—18882
collision kernels and transport coeffs. 7—36725
constant energy synchronous luminescence spectrometry, parameter selection, optimisation 7—15006
core level spectroscopy, dynamics 7—41485
correlation transform spectroscopy 7—48871
diamond anvil cell for IR spectroscopy of gas and liquid phases 7—56300
diode-laser spectroscopy, signal recording and averaging 7—41503
dye laser radiation, frequency conversion and surface spectroscopy appl. 7—15931
electrically conductive laser waveguide for in-situ spectroscopic study of rotating electrochem. electrode 7—5994
electron stored in Penning trap appl. to ion spectroscopy 7—10834
electronic device for position-sensitive detectors in VUV spectroscopy 7—56356
Far Infrared Submillimetre Space Telescope mission 7—34866
Far Ultraviolet Spectroscopic Explorer telescope technology 7—29398
FIR science and technology, conf., Quebec, Canada (June 1986) 7—35095
FIR spectroscopy by synchrotron radiation at UVSOR facility 7—41498
flames, cross-beam polarisation spectroscopy with pulsed dye laser 7—13771
fluorescence correlation spectroscopy, theory of sample translation 7—60132
four-wave mixing techniques for studying orientational relaxation, comparison 7—10779
free radicals colour centre laser spectroscopy 7—18890
glow discharge sputtering for at. spectroscopy appls. 7—10647
Hadamard transform spectroscopy, book 7—55913
Hadamard transform spectroscopy, instrumentation and mathematical details 7—56352
high sensitivity spectroscopic techniques, review 7—56354
intracavity laser absorption spectroscopy lineshapes 7—18883
intracavity laser spectroscopy sensitivity enhancement, use of saturable filter 7—62794
IR laser spectroscopy, jet-cooled, for polyatomic molecules 7—41495
IR reflectance spectrometry, diffuse and specular components 7—41493
IR spectroscopy appl. of semiconductor radiation detectors and diode lasers 7—15865
IR spectroscopy of liquids, electric field effects, transparent capacitor spectroscopic cell 7—35607
IR-diode laser spectroscopy in OMVPE in-situ, real-time diagnostics 7—22537
kinetic spectroscopy using a color center laser 7—15013
laser, principles and appls. *(Slovak)* 7—24706
laser applications in chemistry, conf., Quebec City, Canada (June 1986) 7—41000
laser noise reduction with power stabilizers 7—5900
laser science advances, conf., Dallas, TX, USA (Nov. 1985) 7—9573
laser spectroscopy, conf., Maui, HI, USA, June 1985 7—9586
laser-induced processes in spectroscopy, isotope separation, and photochemistry, review 7—36554
liquid films, power reflection, variable angle 7—53424
molecular beam, high resolution overtone spectroscopy 7—42600
muon spin rotation spectroscopy, compliment to ESR spectroscopy for free radical studies 7—42787
nonlinear polarisation spectroscopy, normal waves, light-induced anisotropy 7—48858
nonstationary active spectroscopy, laser pulse incoherence effect 7—48857
optical absorption, intracavity laser spectroscopy meas., sensitivity calcs. 7—31336
optical Bloch eqn., perturbation soln., saturated spectroscopy, relaxation terms *(Chinese)* 7—4893
optical spectroscopy, names, symbols, definitions and units 7—48208
photofading and drift-induced errors, minimisation by spectrum scanning strategy 7—48852
quantum electronics, conf., San Francisco, CA, USA (June 1986) 7—48147
rank annihilation with incomplete information 7—30152

spectroscopy continued
semiconductor processing and fabrication techniques, laser diagnostic methods 7—22500
shearing spectroscopy, high angular resolution 7—47717
special relativity, fast beam laser spectroscopy tests 7—9666
spectral measurement for wavelength regions 400 nm to 750 nm and 700 nm to 2500 nm *(Japanese)* 7—351
stopped-flow, first-order rate consts. and dead time determs. 7—48853
supersonic jet spectrometry with pulsed nozzle, gas chromatographic appls. 7—15005
supersonic jet spectroscopy, mol. dynamics of gases, book 7—55913
surface-enhanced spectroscopy appl. to change of optical props. of microenvironment of small scattering object 7—18852
temporal-spatial radiation functional meas. 7—30060
tetracene in ethanol glass, appl. of hole-burning spectroscopy as a tool to eliminate inhomogeneous broadening 7—46104
three-dimensional IR spectroscopy technique applied to polymers 7—46041
tunable far infrared spectroscopy using metal-insulator-metal diode 7—15018
ultracoherent transient spectroscopy using phase and amplitude modulated laser pulses 7—18880
UV radiation meas. *(Japanese)* 7—338
very high resolution Doppler-free spectroscopy in a hollow-cathode discharge 7—15014
Voigt type convolutions appls. 7—56350
XUV interferential mirrors and appl. to plasma radiation studies 7—25927
KCl:Li F_A(II) colour centre lasers appl. to intracavity laser spectroscopy 7—43189
NaF:F_2^+, F_3^-, intracavity spectrum analyser, long-wavelength IR region 7—48897
Ti^{3+}:Al_2O_3 laser, excitation methods, use in intracavity spectroscopy 7—43190
spectroscopy applications of computers *see computerised spectroscopy*
spectroscopy computing
see also computerised spectroscopy
acridine, dye mol. aggregations, high-resolution NMR, variational data processing methods 7—42647
advanced laboratory data analysis systems 7—18767
atomic emission spectral analysis, computer calcs. 7—46910
Auger electron spectroscopy, data processing, extended computer program 7—33983
Auger spectrum automatic recognition, software package 7—24733
chlorotrimethyl-1,2-bis(methylthio)ethane platinum (IV), multisite exchanging system, 2D NMR exchange spectroscopy 7—25554
composite RF pulses, num. design for NMR spectroscopy appl. 7—24676
computer-aided data acquisition and processing by softwarecassettes for the SPECORD-M40 7—4898
cyclopentanone, IR spectral band fit optimisation 7—62360
EELS in a 400 kV transmission electron microscope 7—35644
EELS spectrometer, magnetic shielding CAD 7—48923
Fourier domain data technique for struct. elucidation 7—54222
Fourier transform IR spectrometer, research grade, Digilab FTS 60, design and performance 7—48892
Fourier transform IR spectroscopy, spectral searching 7—48874
FTIR photoacoustic spectra, phase analysis 7—48878
FTIR spectroscopy, quantitative, ADC errors 7—48877
iodotrimethyl-1,2-bis(methylthio)ethane platinum (IV), multisite exchanging system, 2D NMR exchange spectroscopy 7—25554
metal surfaces, quantitative analysis using XPS or AES, data reduction techniques 7—28371
NMR multipulse experiments, BOWMAN simulation program 7—35552
nonlinear UV-visible spectroscopy for analysing higher electron excitation states of org. mols. 7—4897
numerical treatment of models arising in NMR spectroscopy 7—14928
ore minerals, preliminary diagnostics, use of refl. spectra as part of automated system 7—29264
peak-separation algorithm for personal computer, appl. to visible emission and IR absorpt. spectra *(Japanese)* 7—31015
photoelectron spectrometer interfacing to microcomputer for data acquisition and processing 7—48919
PIXE, accurate anal. using INK computer program 7—54216
plasma-broadened Hα line, theory of two-photon polarisation spectroscopy 7—20936
polymers, continuous relaxation time spectra, graphoanalytic and computer calcs. *(Russian)* 7—63519
protein in aqueous solution, FTIR spectra, automatic water subtraction procedure 7—54836
quinones, electron-transfer reactions, kinetic ESR spectra, computer simulation 7—25568
RBS spectra from multielement samples, automatic iterative fitting 7—22428
spectral line parameters database 7—50017
spectrofluorimeter, laser pulse, LIS-201, automated ultrashort-time, for UV and visible regions 7—4896
thermal desorption expt., microcomputer-controlled mass spectroscopy 7—3619
time-resolved IR spectroscopy system, data acquisition and processing 7—48884
two-line spectrum, meas. by photon correl. and multichannel anal. techniques 7—24705
UNIX based computer workstation for spectroscopic data manipulation 7—48859
vibrational spectra, fully automated microcomputer calc. 7—56238
vitamins, electron-transfer reactions, kinetic ESR spectra, computer simulation 7—25568
ESR spectra, computer anal., proton coupling constant extraction method 7—48812
Fe-Ni alloy, X-ray fluoresc. determ. using NRLXRF programme 7—59800
GaAs, IR tomography and transmission images, numerical processing 7—32236
^{1}H- and ^{13}C-NMR spectra analysis, structure elucidation, computer assisted 7—50182
Sn-Te-I system, X-ray spectral microanalysis 7—54210
spectrum *see spectra*
spectrum analysers *see spectral analysers*
speech
see also hearing
acoustic traveling waves in the vocal tract 7—62921
speech continued
acoustics, speech and signal processing, conf., Tokyo, Japan (April '86) 7—35100
articulatory movement characteristics of labial consonant productions by children and adults 7—47119
complementarity in linguistic observation, description and explanation 7—54616
consonant-vowel-consonant sequences production, effect of speaking rate on jaw and lip movements *(Japanese)* 7—34165
cross-modality matching of auditory and lingual vibrotactile sensations, magnitude estimation instrumentation 7—14028
electroglottographic observations of young stutterers'fluency 7—8602
event-related potentials to speech sounds and tones, habituation 7—34155
hearing thresholds as predictors of speech prod. performance 7—54614
jaw opening for vowels in vowel sequence words, effects of tempo and context 7—47148
kinematics, effects of white noise masking and low pass filtering 7—47125
language, biology and evolution 7—47121
lingual articulation, effect of palate shape, electro-palatography appl. 7—3802
lips, upper and lower, movements during speech 7—8601
third-octave bands, relative loudness 7—54606
tracheoesophageal puncture rel. to speech prod. characts. 7—47124
vocal fold oscillation simulation using lumped mass-springs 7—60020
vocal fold vibration and speech signal, simultaneous high speed digital recording 7—47129
vocal fold vibratory motion, contact area, and electroglottograms. 7—47118
vocal tract shapes, power spectra, Doppler degradation, bat and dolphin waveforms 7—8604
X-ray microbeam method for articulatory dynamics analysis 7—3801

speech analysis and processing
2-channel technique for improved classification 7—6058
acoustic measurement of pathological voice qualities for medical purposes 7—37285
acoustic noise reduction by two dimensional spectral smoothing and spectral amplitude transformation 7—37246
anticipatory labial coarticulation in adults and children, acoustic analyses and perceptual data 7—62924
ARMA anal., vocal-tract model area estimation 7—37295
articulatory motion estimation from speech wave 7—3803
auditory nerve level, speech analysis/synthesis 7—43557
auditory representation of symmetrical CVC syllables 7—37270
coarticulation models of syllabic nuclei, multi-speaker validation 7—43564
communication technology for the disabled and its commercial appls. 7—8598
computer model of peripheral auditory processing incorporating phase-locking, suppression and adaptation effects 7—37269
continuous speech signals, automatic segmentation, new statistical approach 7—11221
declination of fundamental freqs. 7—50855
declination theory, discussion 7—50856
devices for speech and hearing people diagnosis and education 7—37280
digital signal processing in studies of animal acoustical communication, including human speech 7—50854
Dutch two-obstruent sequences, voicing perception, voice and noise parameters effect 7—37273
EGG, articulatory function assessment, handicapped aid 7—40136
French nasal vowels, anal., synthesis and perception 7—37292
German syllable initial and final consonant clusters struct., articulatory features 7—37272
glottal explosive of Ryukyuan dialect of Japanese, acoustic analysis *(Japanese)* 7—11226
glottal opening and flow, measurement of effects on glottal impedance 7—47128
glottal source waveform models, proposal and evaluation 7—37293
high resolution freq. anal. of nasal consonants 7—57642
Hmong, measures of phonation type 7—62922
human vocal tract, real time modelling using multiple DSPs 7—54617
impaired speech perception of Japanese monosyllables 7—14023
infant fricative and trill vocalizations, acoustic analyses 7—62923
integrated voice analyzer for acoustic evaluation of pathological voice 7—40236
intonation patterns synthesis in fluent British English 7—11227
isolated vowels and stop consonants discrimination, onset spectrum features extraction 7—43565
knowledge engineering appls. *(Japanese)* 7—20511
Korean stop consonants, aerodynamic study 7—50858
lateral inhibition, 8 channel cochlear implant, subject testing evaluation 7—37275
learning English basic sounds through syllabic utterances 7—57641
microcomputer based system for acoustic analysis of voice characteristics 7—37286
multi-pulse excited linear prediction (MPELP) coding system for noisy speech 7—11224
noisy speech anal. using speech and electroglottal signals 7—28545
nonstationary analysis model 7—47127
normalized noise energy as an acoustic measure to evaluate pathologic voice 7—43548
PARCOR coeffs. for vowel recognition 7—11223
pathological voice acoustic anal., adaptive comb filtering method 7—37283
pathological voice analysis and its appl. to laryngeal pathology 7—1323
pathological voices, phonological degeneration, multidimensional anal. 7—37284
perception of front vowels: the role of harmonics in the first formant region 7—65776
peripheral auditory system, computational model, speech recognition research appl. 7—43555
peripheral auditory transduction model using phase vocoder with modified channel signals 7—47116
prehowling howlback detection method 7—37260
product-moment correlation appls. 7—50857
profoundly deaf persons' hearing aid with bandwidth-compression-limited amplification 7—34161
prosodic features of speech, changes, environmental factors 7—37271
radio and TV announcers Japanese, intonation rules and acoustic characts. 7—43563
real utterance, digital model for radiation part *(Japanese)* 7—43551
sentence intonation in textural context 7—31586

peech analysis and processing continued
singer's high formant associated with different larynx position in styles of singing 7−50860
sound processing for cochlear implant 7−37276
speaker identification, acoustic speech feature parameters effects *(Japanese)* 7−1321
speaker-independent isolated word recognition based on emphasized spectral dynamics 7−43556
spectrum analysis using coherent optics *(Chinese)* 7−20510
speech amplitude statistics and the gamma density function as a theoretical approximation 7−43549
speech analysis and synthesis methods developed atECL in NTT−from LPC to LSP 7−1325
stop-glide distinction: acoustic analysis and perceptual effect of variation in syllable amplitude envelope for initial /b/ and /w/ 7−31585
stutterers and nonstutterers, acoustic measures of fluency in 2 speech contexts 7−8600
superior lateral pharyngeal wall movements in speech 7−8599
symmetrized dot patterns for visual characterization of speech waveforms 7−6062
tone language intonation model 7−6061
training systems for handicapped children using vocal tract lateral shapes 7−37279
visual characterization of speech spectrograms 7−43566
vocal tract source-filter model 7−37294
vocal tract wall, meas. and anal. of speech sound radiation 7−43553
vowel formant contour modelling in CVC context 7−50859
vowel identification, inherent spectral change role modelling 7−47086
vowel normalization by frequency warped spectralmatching 7−1328
vowel target prediction mechanism in speech perception, modelling *(Japanese)* 7−43552
wearable pocket-sized processor for digital hearing aid and hearing prostheses 7−37277

speech compression *see bandwidth compression*

speech intelligibility
see also hearing
acoustic measurement of pathological voice qualities for medical purposes 7−37285
binaural integration of acoustical cues 7−14019
classroom speech intelligibility studies 7−6052
clear and conversational speech, acoustic characts. appl. to speaking clearly for the hard of hearing 7−47122
FIR digital filter, hearing impaired subjects, speech discrimination assessment 7−37274
hearing aid design, speech intelligibility improvement with disturbed temporal resolution *(German, English)* 7−60120
hearing aid frequency response damping, effects on speech clarity and preferred listening level 7−8763
hearing aids, noise cancellation 7−40175
hearing aids, prescription technique comparison using computerised filter adjustment for aid simulation 7−34163
hearing temporal resolution, expedient meas. method for speech intelligibility *(German, English)* 7−60017
masking source direction effects *(French)* 7−3796
muff-type hearing protectors, effects on speech intelligibility in noise 7−40172
peripheral auditory transduction model using phase vocoder with modified channel signals 7−47116
predictors of speech intelligibility in rooms 7−6051
profoundly deaf persons' hearing aid with bandwidth-compression-limited amplification 7−34161
REDMASK noise reduction filtering for the hearing-impaired 7−34162
speaker-independent isolated word recognition based on emphasized spectral dynamics 7−43556
training devices for profoundly deaf children 7−37278
verbal communication in noise 7−6057

peech processing *see speech analysis and processing*

peech recognition
American English, word-final unstressed syllables recognition 7−43570
American English nasal consonants, detection and recognition 7−43569
APHODEX, acoustic-phonetic decoding expert system 7−37289
automatic labeling system using speaker-dependent phonetic unit references 7−43573
automatic text alignment for speech systemevaluation 7−6060
categorical perception of syllable boundaries 7−47083
Chorimac cochlear prosthesis, discrimination of elementary phonemes *(French)* 7−47288
coarticulation models of syllabic nuclei, multi-speaker validation 7−43564
cochlear model appl. 7−43554
consonant recognition by young and elderly subjects with normal hearing 7−47095
consonant recognition in quiet and in noise with aging among normal hearing listeners 7−47094
continuous speech recognition, vowel coarticulation compensation 7−43574
European languages vocabulary, phonetic props. 7−43568
glottal source waveform models, proposal and evaluation 7−37293
hearing-impaired and normal-hearing listeners, appl. of articulation index and speech transmission index 7−47123
high resolution freq. anal. of nasal consonants 7−57642
individuality features in speech waves 7−1324
isolated vowels and stop consonants discrimination, onset spectrum features extraction 7−43565
Japanese stop consonant recognition using local spectral peaks 7−50861
Japanese text input by speech based on Japanesecharacter readings 7−11225
knowledge-based acoustic-phonetic processing techniques 7−37290
layered neural network model applied to the auditory system 7−54581
listening computer development 7−50862
memory-intensive recognition for word articulation training 7−37281
myoelectric signals of neck and head, speech information 7−34164
peripheral auditory system, computational model, speech recognition research appl. 7−43555
phoneme classification using Markov models 7−43567
phonemes, using time-spectrum pattern 7−1327
phonetic analysis of multi-level data information 7−37291
phonetic labeling methodology for speech recognition research 7−43572
phonetically based semivowel recognition system 7−43571
physically disabled assistive devices, speech control 7−37282
pitch perception model 7−40174

speech recognition continued
Rasti method of acoustics meas. *(Swedish)* 7−1333
recognition of speech under stress and in noise 7−37287
room acoustics effects *(German)* 7−1322
speaker identification, acoustic speech feature parameters effects *(Japanese)* 7−1321
speaker-independent isolated word recognition based on emphasized spectral dynamics 7−43556
systolic architectures for connected speech recognition 7−6059
visual characterization of speech spectrograms 7−43566
vocal synthesis and voice recognition, developments *(Italian)* 7−60123
vowel recognition, influence of acoustic reflex 7−8603
vowel target prediction mechanism in speech perception, modelling *(Japanese)* 7−43552
word recognition using multisensor speech input in high ambient noise 7−37288

speech synthesis
ARMA anal., vocal-tract model area estimation 7−37295
auditory nerve level, speech analysis/synthesis 7−43557
Chinese text-to-speech system, acoustic parameters and phonological rules 7−43562
communication technology for the disabled and its commercial appls. 7−8598
composite phoneme units for the speech synthesis ofJapanese 7−1326
computer model of peripheral auditory processing incorporating phase-locking, suppression and adaptation effects 7−37269
diphone segmentation for Italian speech 7−1320
electronic aids for hearing impaired, visible voice or speech transmission, assessment 7−40173
French nasal vowels, anal., synthesis and perception 7−37292
glottal source waveform models, proposal and evaluation 7−37293
human processing of machine speech, role of psychology 7−23371
integrated communication aids for the blind 7−40367
intonation patterns synthesis in fluent British English 7−11227
introduction, making computers talk, book 7−4646
laryngectomees, speech prosthesis system using mouth-opening detector and electro-palatograph *(Japanese)* 7−47289
modified-superposition speech synthesizer, appl. 7−43560
nonlinear articulatory speech synthesizer using both time- and frequency-domain elements 7−43558
radio and TV announcers Japanese, intonation rules and acoustic characts. 7−43563
real utterance, digital model for radiation part *(Japanese)* 7−43551
speaker identification, acoustic speech feature parameters effects *(Japanese)* 7−1321
speech analysis and synthesis methods developed atECL in NTT−from LPC to LSP 7−1325
time-varying formant synthesizer, dynamically controlled excitation source 7−43559
training devices for profoundly deaf children 7−37278
training systems for handicapped children using vocal tract lateral shapes 7−37279
vocal synthesis and voice recognition, developments *(Italian)* 7−60123
vocal tract area estimation from ARMA analysis *(Japanese)* 7−43550
vocal tract models 7−43561

speech transmission *see voice communication*

speed *see velocity*

speed control *see velocity control*

speed indicating instruments *see velocity measurement*

speed measurement *see velocity measurement*

spelter *see zinc*

spherical aberration *see aberrations*

spheroidizing
steel, alloyed structural, struct. rel. to cold deformability, softening heat treatment methods development 7−39556
steel, Cr, coarsening behaviour of complex carbide particles, role of Si *(Korean)* 7−8000
steel, hypoeutectoid, accelerated spheroidisation by decomp. of supercooled austenite 7−3337
steel, stainless, austenitic, low-activation, constitution, struct. and mech. props. 7−42195

spicules *see chromosphere*

spin
see also elementary particle spin and parity; nuclear spin and parity
Josephson effect for dynamic mag. susceptibility and ESR measurements 7−12917

spin arrangements *see magnetic structure*

spin decoupling (NMR) *see double nuclear magnetic resonance*

spin density waves
3d- and 4f- metals, periodic spin structs., critical props. calcs. *(Russian)* 7−59031
antiferromagnetic metals and alloys, 4f-local moments, SDW instability 7−58970
Bechgaard salts, thermodynamics of field-induced SDW states 7−7520
degenerate Kondo lattice, magnetic instability and sp. ht. calcs. 7−58977
dense Kondo heavy fermion systems, Cooper pairs attractive interactions freq. depend. 7−58951
electronic struct. of density wave systems effect of mag. fields 7−52467
β-(ET)$_2$X organic superconductors, ambient press., point contact tunnelling studies 7−44517
Hubbard model, 3-D, d-wave pairing near a spin-density-wave instability 7−45608
low-dimensional conductors, field-induced density-wave phases, quantised Hall effect calcs. 7−45296
magnetic excitations in SDW systems 7−38853
metals, positron annihilation studies, review 7−46180
one-dimensional SDW, field model 7−64470
quasi-one-dimensional conductors, anisotropic SDW and triplet supercond. state properties 7−45706
quasi-one-dimensional conductors, quantised density wave ordering induced by mag. field 7−45702
quasi-one-dimensional density-wave systems, electronic struct., high mag. field effects 7−58754
quasi-one-dimensional electron systems, phase transitions, theory 7−52408
tetramethyltetraselenafulvalene salts, organic superconductors, antiferromag. anisotropy, SDW amplitude, nesting vector 7−22146
(TMTSF)$_2$ AsF$_6$(SbF$_6$), SDW semicond. phase, for-IR conductivity 7−45969

spin density waves continued
$(TMTSF)_2\ PF_6$ field induced quantum oscillations, Hall effect studies 7—45280
$(TMTSF)_2AsF_6$ and $(TMTSF)_2SbF_6$, SDW state, far IR spectra 7—33388
$(TMTSF)_2ClO_4$, Bechgaard salts, thermodynamics of field-induced SDW states 7—7520
$(TMTSF)_2ClO_4$, field-induced SDW states in high mag. fields 7—45698
$(TMTSF)_2ClO_4$, mag. field induced phases, phase diagram studies 7—45752
$(TMTSF)_2ClO_4$, organic supercond., field-induced SDW state, oscillatory magnetoresist. 7—27464
$(TMTSF)_2ClO_4$, SDW state, ^{77}Se NMR spin echo studies 7—45700
$(TMTSF)_2ClO_4$, superconducting and spin-density-wave transition temperatures, effect of anion ordering 7—2761
$(TMTSF)_2ClO_4$, transverse spin susceptibility and nuclear spin-lattice relax. rate of field-induced spin-density waves 7—45611
$(TMTSF)_2PF_6$, Hall effect study of field-induced stabilities at 10.5 kbar 7—7214
$(TMTSF)_2PF_6$, SDW characts., ^1H NMR anal. 7—45699
$(TMTSF)_2PF_6$, unified phase diagram, magnetotransport data anal. 7—45410
$(TMTSF)_2PF_6(ClO_4)$, nesting vector, SDW amplitude and anisotropy 7—45125
$(TMTSF)_2X$ Bechgaard salts, cascade of field-induced SDW transitions 7—45704
$(TMTSF)_2X$ Bechgaard salts, mag. field induced SDW phases 7—45703
$(TMTSF)_2X$ quasi-1D conductors, SDW transition temperature, superconductivity 7—45705
$(TMTSF)_2X$ salts, quasi-1D, cascade of field-induced SDW phases 7—45701
Cr alloys, charge and spin density waves *(Russian)* 7—2514
Cr, zero field muon spin rotation study 7—45871
Cr-Ge dilute alloys, elec. resist. temp. and press. depend. studies 7—32980
Cr-Mo dilute alloys, magnetoelasticity, antiferromagnetism disappearance effects 7—45789
Cr-Si dilute alloys, magnetic phase diagram near tricritical point, neutron diffr. meas. 7—2856
$(Cr_{1-x}Al_x)_{95}Mo_5$, antiferromagnetism disappearance, comp. depend., elec. resist. and sound rel. meas. 7—2843
$NaMnCrF_6$, SDW state, appl. of neutron white beam Laue diffr. technique 7—11845
tetramethyltetrathiafulvalene salts, organic superconductors, antiferromag. anisotropy, SDW amplitude, nesting vector 7—22146
URu_2SI_2, heavy electron system, competing electronic correlations, press. effect 7—45539
$U_{1-x}Th_xPt_3$, Fermi surface instability modification by Th substitution in UPt_3 7—2766
$Y_{1-x}Dy_x$ dilute alloys, spin density wave antiferromagnetism 7—52947

spin disorder resistivity
β-$(BEDT\text{-}TTF)_2I_3$, molecular motion, proton spin-lattice relax. meas. *(Russian)* 7—17236
dirty metal strong correlation systems, metal-insulator transition 7—64088
$Fe_{85\text{-}x}Cr_xB_{15}(Ni_xB_{15})$ metallic glasses, mag. and elec. props. 7—13002
$(Fe_{1-x}W_x)_{84.5}B_{15.5}$ amorphous alloys, elec. and mag. props. *(Chinese)* 7—12969
TmH_2, spin-disorder resistivity and cryst. field effects 7—17021

spin dynamics
see also spin density waves; spin disorder resistivity
1D Ising ferromagnet, multi-spin flip critical dynamics 7—38888
A_xB_{1-x} BCC alloys, low temp. props., spin fluctuations, alloying effects 7—52402
Anderson Kondo lattices, heavy-fermion superconductivity 7—2775
antiferromagnetic semiconductor, bound magnetic polarons, spin dynamics 7—7502
antiferromagnets, dislocation-generated domain walls at spin-reorientation phase transitions *(Russian)* 7—53023
antiferromagnets, double sublattice, metamagnetic soft mode, spin dynamics, suscept. and thermodynamics 7—59012
Arrott plots of magnetic systems with strong spinfluctuations 7—12972
$(BEDTTTF)_2AuCl_2$, antiferromag. ground state, AFMR meas. 7—27608
$(BEDTTTF)_2ICl_2$, antiferromag. ground state, AFMR meas. 7—27608
β-bis(ethylenedithiolo)tetrathiofulvalene iodide, organic superconductor, ^2H spin-lattice relax., temp. depend. study 7—53171
classical spin clusters, integrability criteria and analytic struct. of invariants 7—45720
disordered mag. materials, competing anisotropy, micromagnetism approx. *(Russian)* 7—33163
dynamic spin response function near Kosterlitz-Thouless transition, theory 7—32604
electron and electron-hole liquids, self-energy calculations, effective interactions 7—38473
ethyl ammonium tetrachlorocuprate, antiferromagnet, domain-wall spin reorientation study 7—53026
Fermi-liquid systems, self-energy calculations, effective interactions 7—35395
ferromagnet-antiferromagnet superlattice struct., mag. props. 7—2831
ferromagnetic ferroelectrics, dynamic characteristics, soft modes saturation *(Russian)* 7—27672
frustrated spin clusters, dynamical susceptibility anal. 7—7526
heavy fermion superconductors, spin-fluctuation-mediated even-parity pairing 7—38812
Heisenberg ferromagnet, anisotropic, thermodynamic props., Monte Carlo Method calcs. 7—38894
Heisenberg ferromagnetic chain, bound states, correl. functions 7—64474
Heisenberg spin glass, sp. ht., strong spin dynamics effects 7—64476
Ising model Glauber spin dynamics on fractal lattices, numerical simulation 7—64472
Ising spin dynamics on 2 D fractal lattice, Monte Carlo study 7—2874
itinerant electron ferromagnetism, mag. susceptibility, Curie-Weiss law 7—27501
itinerant ferromagnets, electron and magnon spectra, spin fluctuation effects, dynamical suscepts. calcs. *(Russian)* 7—12960
liquids, nuclear upon dynamics concepts 7—12980
metals, ferromagnetic, spin fluctuations above T_c *(Japanese)* 7—22113
muon polarisation function and spin dynamics 7—53188
muon spin resonance, conference, Uppsala, Sweden (June 1986) 7—48141
nearly antiferromagnetic itinerant fermion systems, possible superconductivity 7—38802
neutron scatt. studies of spin dynamics above the Curie temp. 7—45685

spin dynamics continued
nuclear spin diffusion induced by paramag. impurities in magic angle conditions 7—27619
polyethylene, struct., spin dynamics, NMR study 7—59124
polymers spin diffusion effects on NMR spin-lattice relax. 7—27623
polypropylene, spin diffusion effects on NMR spin-lattice relax. 7—27623
positive muon diffusion, spin dynamics, strong collision model corrections 7—52107
Potts models, crit. dynamics at percolation threshold 7—29917
quasi-one-dimensional conductors, anisotropic SDW and triplet supercond. state properties 7—45706
random magnets, basic concepts, review 7—7485
random magnets, spin relax., spin glasses and reentrant alloys 7—33265
rare earth alloys, $R_2Fe_{14}B$, R=La-Nd, Sm, Gd-Tm, Lu and Y, ^{57}Fe Mossbauer spectra 7—64551
rare earth nuclei in solids, selective intensified spin diffusion, NMR spectra *(Russian)* 7—17232
rare earth-Al alloys, RAl_2, paramagnetic fluctuations, muon spin rotation studies 7—12941
rare-earth magnets, spin reorientation phase transitions, fluctuation effects, critical behaviour *(Russian)* 7—52990
s-f model with antiferromag. s-f exchange 7—45653
semiconductors, n-doped insulating phase, ESR line shape studies 7—22134
transition metal impurities in host metals, magnetic nature, superconductivity studies, review 7—7437
weakly itinerant ferromagnetic systems, magnetoelastic anomalies due to spin fluctuations 7—53106
$BaMnF_4$, 2D Heisenberg magnet, spin dynamics and EPR linewidth 7—38932
$BaZn_{1.1}Co_{0.9}Fe_{16}O_{27}$ hexaferrite, competing anisotropies, first order magnetisation processes and spin transitions obs. 7—38856
$Ca_5F(PO_4)_5$, struct., spin dynamics, NMR study 7—59124
$Cd_{1-x}Mn_xTe$, muon spin precession freq. shift and relax. meas. 7—45881
Ce compounds, heavy-fermion state in the Anderson lattice 7—7476
Ce, electronic struct. and superconducting transition temp. calcs. *(Chinese)* 7—27244
$CeAl_3$, heavy fermion system, fluctuating bands 7—58736
CeAs, antiferromag., anisotropic exchange and spin dynamics, neutron study 7—33147
$CeGe_{1-x}Si_x$ nearly ferromag. props., temp. and comp. depend. study 7—7493
$CeNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7—22154
$CePb_3$, possible superconductivity in nearly antiferromagnetic itinerant fermion systems 7—38802
$CeRu_2Si_2$, heavy fermion, magnetism and spin fluctuation effects induced by partial substitution 7—38850
CeSb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7—33147
Cr (100), electronic struct. and surface magnetism at finite temps. 7—12776
Cr surface magnetism, effect of adsorbed O 7—58973
Cr-BN amorphous films, supercond. transition temp. 7—27454
$Cs_2FeCl_5.H_2O$, antiferromagnet, mag. phase diagram, spin wave excitations, Mossbauer spectra 7—45676
$CsMnCl_3.2H_2O$,1D Heisenberg magnet, spin dynamics and EPR linewidth 7—38932
$CsNiF_3$, dynamical critical slowing down, spin fluctuation relax. time, mag. suscept. meas. 7—38897
DyAg, antiferromag. crystalline and ferromag. amorphous alloys, spin dynamics, μSR study 7—45873
Dy_xCo_{1-x} thin films, ferrimagnetic reson. in region of spin-reorientation transitions 7—45824
$DyLiFeO_3$, orthoferrite, mag. props. 7—2824
DyM_2 (M=Al, Ni), paramag. fluctuations, μSR study 7—45878
$Er_2Fe_{14}B$ alloys, magnetic anisotropy and spin reorientations 7—38855
$ErFeO_3$, low temperature phase transition, soft mode 7—38867
$EuNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7—22154
EuTe, bound magnetic polarons, spin dynamics 7—7502
Fe, BCC, mag. ordering and electronic struct. *(Russian)* 7—33170
Fe surface magnetism, effect of adsorbed O 7—58973
Fe, surface magnetism 7—27528
Fe-La amorphous alloys, high-field susceptibility and Curie temp. 7—58989
$Fe_{81}B_{19}$ amorphous alloy, thermally activated time fluctuations of nucl. spin orientation 7—7622
$FeBO_3$, antiferromagnet, parametric excitation of magnons with a decay spectrum 7—52966
$Fe_{1-x}Co_xCl_2$, Fe^{2+} localised excitation and spin orientation, ESR studies 7—64524
$Fe_{80\text{-}x}Cr_xB_{20}$ metallic glasses, electron transport props., disorder and mag. effects 7—52563
$Fe_{65}Ni_{35}$, Invar, paramagnetic spin fluctuations 7—52937
$(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, ferromagnetism onset, magnetovolume effect study 7—2845
α-Fe_2O_3 crystals, mag. phase transition, Mossbauer study 7—45850
Gd, μSR studies, Knight shifts and relax. above Curie temp. 7—45877
Gd, spin-polarised Auger electron spectroscopy 7—33489
Gd-Co films, amorphous, spontaneous spin-reorientation transition *(Russian)* 7—45763
$Gd_2Fe_{14}B$ alloys, magnetic anisotropy and spin reorientations 7—38855
$GdFeO_3$ orthoferrite crysts., RF mag. props. and frozen rare earth sublattice 7—17225
$Gd_3Fe_5O_{12}$ garnet, spin-reorientation phase transition, NMR obs. 7—38861
GdM_2 (M=Al, Ni), paramag. fluctuations, μSR study 7—45878
^3He, superfluid A and B phases, order parameter dynamics, spin and orbital dynamics 7—44943
$Ho_2Fe_{14}B$ alloys, magnetic anisotropy and spin reorientations 7—38855
$Ho_2Fe_{14}B$ spin reorientation, NQR meas. 7—52960
$Ho_{1-x}Y_xCo_3$, orientational phase transitions and elec. resist. *(Russian)* 7—7506
K_2CuF_4, 2D ferromagnet, polarised neutron studies of forbidden magnons 7—45693
MnF_2 and site-diluted $(Mn_{0.5}Zn_{0.5})F_2$, μ^+SR studies above and below Neel temp. 7—45875
$MnPS_3$, layered cpd., mag. props. 7—52951
MnTe, electronic struct. in magnetically ordered and disordered phases, tight-binding calcs. 7—45145
$MnTiO_3$, quasi-2D antiferromag., spin dynamics 7—52987

spin dynamics continued
- $Mn_{0.61}Zn_{0.35}Fe_{2.04}O_4$ single cryst., low temp. acoustic props. anomalies, spin-reorientation transitions 7−51957
- $(Nd,Tb)_{16.7}Fe_{75.5}B_{7.8}$, magnetisation meas., spin reorientation temp. 7−17161
- $Nd_2Co_{14}B$, spin arrangements, 4.2-1100K 7−22094
- $NdDyFe_{14}B$ spin orientation and preferential 4f site occupation, powder neutron diffr. study 7−22100
- $Nd_2Fe_{14}B$ alloys, magnetic anisotropy and spin reorientations 7−38855
- $Nd_2Fe_{14}B$, EFG tensor for interpretation of Mossbauer effect meas. near spin reorientation temp. 7−38968
- $Nd_2Fe_{14}B$ untextured polycrysts., magnetic hyperfine fields, Mossbauer spectra anal. 7−12682
- $Nd_{2-x}R_xFe_{12}Co_2B$, mag. characts. 7−45670
- Ni surface magnetism, effect of adsorbed O 7−58973
- $PdFe_xMn_y$, reentrant alloy, ferromagnetism investig. 7−2860
- Pd_2MnSn, cubic ferromagnet, high temp. spin dynamics 7−2881
- $Pr_2Co_{14}B$, spin arrangements, 4.2-1100K 7−22094
- $PrNi_5$, paramag.-ferromag. phase transition, external mag. field, spin ordering model 7−52988
- $Pr_{2-x}R_xFe_{12}Co_2B$, (R=Dy, Tb), mag. characts. 7−45670
- Si:P, metallic, nearly-localised electron spin dynamics, EPR linewidth study 7−22110
- $Tb_2Co_{14}B$, spin arrangements, 4.2-1100K 7−22094
- $Tb_{0.3}Dy_{0.5}Er_{0.2}Fe_2$, spin reorientation, Mossbauer study 7−13068
- $TiBe_2$, spin-fluctuation material, magnetoresistivity 7−45278
- U alloys, high press. magnetic and superconducting props., review 7−12952
- U compounds, heavy-fermion state in the Anderson lattice 7−7476
- UAl_2, μSR meas. 7−45874
- UAl_2, spin-fluctuation material, magnetoresistivity 7−45278
- UBe_{13} coherent Kondo state, upper critical field calcs. 7−2793
- UPt_3, possible superconductivity in nearly antiferromagnetic itinerant fermion systems 7−38802
- USb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7−33147
- $Y(Dy)(Er)_{2-x}Th_xFe_{14}B$ alloys, mag. props., comp. depend. study 7−7492
- $Y_2Fe(Co)_{14}B$ alloys, magnetic anisotropy and spin reorientations 7−38855
- YIG:Si epitaxial films, mag. anisotropy and spin reorientation under unpolarised white light irrad. *(Russian)* 7−33246
- $YLiFeO_3$, orthoferrite, mag. props. 7−2824
- $YbFeO_3$, spontaneous spin reversal, magnetic reson. soft modes and energy gaps obs. 7−52964
- $YbNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7−22154

pin echo (EPR)
- 4-bromo-4′-chlorobenzophenone, orientationally disordered, triplet state, electron spin echo dephasing studies 7−38963
- 1-bromo-4-chloronaphthalene, orientationally disordered, triplet state, electron spin echo dephasing studies 7−38963
- chlorophyll a, oxidised, ESE modulation 7−62416
- disordered systems, ESEEM and ENDOR spectra, model calcs. 7−53176
- ENDOR electron spin echo resonator, variable temp., for single-crystal studies 7−30059
- $(fluoranthenyl)_2AsF_6$, metal-semiconductor transition, anisotropic diffusion and electron spin relaxation 7−52598
- hydrocarbons, saturated, liq., optically detected ESR of solvated electrons 7−25560
- nitroxyl radicals, in aq. glycerol soln., superslow rotation investig. 7−62422
- trans-polyacetylene:I, electron spin-lattice relax. and phase memory time, spin echo studies 7−64512
- spectral calc., Fokker-Planck forms, Lanczos algorithm, conjugate gradient method 7−53111
- spectrometer, using microcomputer controlled pulse generator 7−35551
- structural applications of the electron spin echo method 7−13018
- Ag particles, electron spin-lattice relax. freezing-in, spin echo obs. 7−2921
- $AgClO_4$ soln. in acetonitriles, struct. of Ag^{II} and Ag^{O} solvates, EPR and electron spin-echo studies 7−17216
- $(AgO_2)_x$ complexes, (x=1,2), bonding and configuration, matrix isolation ESR spectra anal. 7−19905
- $Au(O_2)$ complexes, bonding and configuration, matrix isolation ESR spectra anal. 7−19905
- $(CuO_2)_x$ complexes, (x=1,2), bonding and configuration, matrix isolation ESR spectra anal. 7−19905
- K particles, electron spin-lattice relax. freezing-in, spin echo obs. 7−2921
- Li particles, electron spin-lattice relax. freezing-in, spin echo obs. 7−2921
- Mg particles, electron spin-lattice relax. freezing-in, spin echo obs. 7−2921
- Na particles, electron spin-lattice relax. freezing-in, spin echo obs. 7−2921
- $PbTiO_3:Cr^{5+}$, ceramic, EPR, ENDOR, ESE investigs. 7−13020
- SiO_2 quartz glass, γ-irradiated, phase relax. of E′ centres, spin echo study 7−38938

pin echo (NMR)
- acetone-d_6-apocholic acid inclusion cpd., guest dynamics rel. to host lattice symm. 7−26677
- acetone-d_6-deoxycholic acid inclusion cpd., guest dynamics rel. to host lattice symm. 7−26677
- n-butyl lithium, ^{7}Li multiexponential relaxation, multiple-quantum coherence transfer study 7−38956
- ellipsoidal molecules, pure liq. phase, transport props., PMR obs. 7−38228
- ferrite powders, RF echoes investig. *(Russian)* 7−22162
- ferromagnetic microscopically inhomogeneous systems, NMR echo decay, moment description 7−2949
- Fourier imaging appls. using modified Carr-Purcell-Meiboom-Gill sequence 7−28646
- inhomogeneously broadened mag. media, NMR single-pulse echo *(Russian)* 7−33297
- liquid-glass transition, neutron spin-echo study of dynamic correlations 7−44817
- 3D microscopy, signal to noise ratio, limited-angle excitation 7−54826
- molecular diffusion, FT pulsed gradient spin echo investig. 7−22161
- poly bis 2,2,2-trifluoroethoxy phosphazene, mol. motion, cryst.-mesophase transition, PMR spin echo obs. 7−17242
- polyethylene, struct., spin dynamics, NMR study 7−59124
- polyvinyl acetate, slow motions in solid, ^{13}C spin-echo spectrosc. 7−27628
- porous medium, fractal networks, anomalous diffusion, NMR field gradient expt., spin-echo amplitude 7−27627

spin echo (NMR) continued
- quadrupole echo NMR, chem. exchange effects during RF pulses 7−13058
- rare earth alloys, RMn_2, R=heavy rare earth, mag. state, spin echo NMR spectra 7−27629
- $(TMTSF)_2ClO_4$, NMR study of molecular motion, anion ordering 7−53175
- $(TMTSF)_2ClO_4$, SDW state, ^{77}Se NMR spin echo studies 7−45700
- Ag_3SbS_3, pyrargyrite, incommensurate phase, NQR study 7−45837
- Al-Mn quasicrystals, nonuniform local magnetism, NMR spin echo studies 7−22090
- ^{13}C NMR spectral line broadening, lanthanide paramagnetic systems, magnetic suscept. anisotropy effects 7−27624
- $Ca_5F(PO_4)_5$, struct., spin dynamics, NMR study 7−59124
- Co, powder and thin film samples, nuclear spin-lattice relax. studies 7−38955
- Co thin films, nucl. spin echo, effect of nonresonance pulsed mag. field 7−45839
- Co-B amorphous alloys, ^{59}Co hyperfine field distrib., NMR spin echo studies 7−53174
- D quadrupole echo NMR spectroscopy, artifact suppression 7−48799
- Fe-B rapidly quenched cryst. alloys, local atomic environments, spin echo NMR studies 7−7606
- Fe-Co alloys, powder and thin film samples, nuclear spin-lattice relax. studies 7−38955
- $Nd_2Co_{14}B$, NMR study 7−64544
- Ti, HCP, ^{47}Ti and ^{49}Ti NMR studies, spin-echo profiles 7−7599
- $Y_2Co_{14}R$, NMR study 7−64544
- YIG, γ-irradiated, amplification effects and nuclear relax. in domain walls 7−7603

spin flop phase *see antiferromagnetic properties of substances; antiferromagnetism*

spin fluctuations *see spin dynamics*

spin glasses
- *see also mictomagnetism*
- anisotropy-induced Heisenberg-Ising crossover 7−38890
- BCC ordered alloy, high temp. mag. states *(Russian)* 7−64466
- book on spin glasses and other frustrated systems 7−60889
- chaotic spin-glass phase, description in terms of T=0 fixed point 7−45716
- classical models, elementary solutions 7−27538
- critical fractal cluster model, relax. behaviour 7−45692
- disordered granular superconductor near percolation, phase transitions 7−17140
- disordered spin systems, effective susceptibility exponent, nonmonotonic temp. depend. 7−64461
- disordered systems, ferromagnetism, Arrott-plot criterion 7−7521
- disordered systems, slow cooling, residual energies 7−22111
- effective decrease of long-range interactions 7−59036
- FCC binary alloys, phase diagrams, frustration effects 7−22114
- $(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, magnetic phase diagram studies 7−2844
- finite coordination number, mean field theory 7−45695
- frustrated spin clusters, dynamical susceptibility anal. 7−7526
- frustration in amorphous magnetic systems 7−59037
- generalised random energy model, partition functions, magnetic props. and q(x) function calcs. 7−17177
- Heisenberg model, rotational symmetry breaking 7−53022
- Heisenberg spin glass, 3D short-range, computer simulation 7−33190
- Heisenberg spin glass, sp. ht., strong spin dynamics effects 7−64476
- hierarchical lattice spin glass model, Parisi overlap function 7−12984
- Hopfield model near saturation, mean field theory 7−52989
- Ising model, 2D with layered quenched bond randomness, free energy and specific heat calcs. 7−7531
- Ising model, paramagnet-spin glass transition in transverse field 7−53017
- Ising model, spin-glass transition, domain wall scaling, energy and free energy distribs. calcs. 7−38891
- Ising model, zero temp. internal magnetic field distrib. calcs. *(Russian)* 7−27533
- Ising model relax., numerical calcs. 7−56175
- Ising models, invariant geometry 7−45711
- Ising random-bond model, three-dimensional, phase diagram and crit. props. 7−45715
- Ising spin glass, finite dimensional, internal field distn. fns., internal energy calcs. 7−12985
- Ising spin glass, phase diagram and replica momenta, n-colour Ashkin-Teller model 7−59039
- Ising spin glass, replica symmetric solns. in tree approx. 7−53007
- Ising spin glass, short-range, ultrametricity and zero modes 7−22115
- Ising spin glass, stability, replica symm., toy model 7−27534
- Ising spin glass, three-dimensional, entropy and free energy, Monte Carlo simulation 7−17184
- Ising spin glass on a Bethe lattice of infinite coordination, symmetry breaking 7−45712
- Ising spin glasses, absence of phase transitions and cluster props. 7−59038
- Kauffman's model, multivalley structure, analogy with spin glasses 7−24571
- material analysis, computer-based, conf., Boston, MA, USA (Dec. 1985) 7−14709
- mean field spin-glass models with random sites 7−38874
- metallic alloys, spin-glass temperature, conc. depend. 7−45691
- mixed phase transition for hierarchical Ising spin glass model 7−38886
- Monte Carlo simulation 7−45713
- muon spin resonance, conference, Uppsala, Sweden (June 1986) 7−48141
- naive mean field equations 7−33184
- nearest neighbour Ising spin glass, low temp. phase, heuristic theory 7−33186
- neural network with Monte Carlo dynamics 7−23292
- nonergodicity and nonlinear phenomena 7−33182
- numerical simulations with a special purpose computer 7−17182
- paramagnetic zero-field susceptibility, modified power law study 7−45612
- quadrupolar glass model with arbitrary distribution of the coupling constants 7−59042
- quantum transverse Ising spin-glass model, mean field approx. 7−22116
- random band Ising model on Bethe lattice 7−38885
- random magnets, spin relax., spin glasses and reentrant alloys 7−33265
- random spin systems 7−53006
- review, recent developments, characteristic props. and related phenomena 7−59030

spin glasses continued
Sherrington-Kirkpatrick spin-glass model, random energy and generalised random energy models 7—59017
slowly cooled spin glass, dynamic mean-field theory 7—2854
spin glasses, recent expts., review 7—45686
statistical physics and field theory conf., Groningen, Netherlands, Aug. 1985 7—55899
superalgebras and random spherical model 7—53008
transition metal-metalloid spin glasses, amorphous, EPR linewidth, theory 7—45805
transitions, field effects 7—33176
ultrametric structures, introduction and appls. 7—48332
XY spin glass, replica mean field theory of isotropic glass phase 7—2862
zero field muon spin relax. 7—53193
Ag-Mn, nonlinear dynamic suscept. meas. at spin-glass transition 7—45694
Ag-Mn-Sb, dilute metallic spin glasses, response time, temp. depend. study 7—2896
AgMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7—7525
Al-Mn alloy icosahedral quasicryst., mag. and elec. props. studies 7—2858
$Al_{80}Mn_{20}$, quasicrystalline icosahedral phase, sp. ht., mag. props. 7—52955
Au-Fe, mag. hyperfine field, temp. and composition depend. 7—45243
AuCr, competing antiferromagnet, mag. phase diagram 7—59023
AuCr spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7—53019
AuFe re-entrant spin glass, magnetoresist. and AC susceptibility studies 7—7518
$BaTi_{2-x}Sn_xFe_4O_{11}$, crystal structures and mag. props. 7—12024
$CdIn_{0.3}Cr_{1.7}S_4$ spin glass, equilibrium mag. fluctuations 7—64452
CdMn, XY-type spin glass, uniaxially anisotropic, successive transitions 7—17188
$Cd_{0.6}Mn_{0.4}Te$, spin-freezing process, time-depend. of thermoremanent magnetization 7—2863
$Cd_{1-x}Mn_xTe$, crit. dynamics, AC susceptibility meas. 7—33181
$Cd_{1-z}Mn_zTe_{1-y}Se_y$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7—7501
$Cd_xZn_yMn_xTe(Se)$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7—7501
Co-Y alloys, low temp. sp. ht. study, crystalline and amorphous phases 7—52995
$(CoF_2)_{0.5}(BaF_2)_{0.2}(NaPO_3)_{0.3}$, AC magnetic susceptibility and acoustic wave attenuation meas. 7—59020
$Cr_{1-x}Mn_xGe$, cryst. and amorphous, mag. characts., substitution effects 7—59009
$CsNiFeF_6$ spin glass, equilibrium mag. fluctuations 7—64452
Cu-Mn, dilute metallic spin glasses, response time, temp. depend. study 7—2896
Cu-Mn, metallic spin glasses, local-field rotational correlation length, AC susceptibility 7—17179
Cu-Mn, remanent magnetization, field dependence 7—59018
Cu-Mn spin glass, intrinsic remanent magnetisation and anisotropy energy, temp. depend. 7—45690
$Cu_{100-x}Fe_x$ alloys rapidly quenched, spin glass state 7—12979
CuMn and CuMnAu alloys, homogeneous and inhomogeneous spin freezing, μSR studies 7—45687
CuMn spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7—53019
CuMnAu spin glasses, crit. behaviour, Dzyaloshinsky-Moriya interactions 7—7525
$CuMn_{0.05}Ni_{0.03}$, spin glass, long-time low temp. relaxation 7—38870
$Cu_{94.6}Tb_{5.4}$ sputtered alloy, spin glass like behaviour 7—53001
a-DyNi, critical props. and universality class of disordered systems 7—2884
Eu-Yb, high press. mag. and elec. props. studies 7—7541
EuSe, mag. phases, press., alloying effects, NMR and mag. studies 7—2847
$Eu_{0.4}Sr_{0.6}S$ spin glass, activated dynamic scaling relation for susceptibility 7—38878
$Eu_xSr_{1-x}S$ mag. sp. ht., field and temp. depend., numerical simulation 7—2883
$Eu_xSr_{1-x}Te$, dilute antiferromag., phase diagram, spin glass props. *(German)* 7—12981
Fe ferromagnetic particles in Al_2O_3 thin films, mag. props., comparison with spin glasses 7—7557
Fe-Cr-Ni, low temp. mag. susceptibility and mag. transitions *(Russian)* 7—45628
Fe-La amorphous alloys, high-field susceptibility and Curie temp. 7—58989
Fe-Zr, amorphous, high-field magnetisation hysteresis, spin glass clusters 7—2898
$Fe_{70.4}$ $Al_{29.6}$, reentrant spin glass, field induced modulated spin structure 7—38882
$(Fe_{0.8}Ga_{0.2})_2TiO_5$ spin glass, remanent magnetization reduction, Heisenberg and Ising comparison 7—53019
$(Fe_{0.15}Ni_{0.85})_{75}$ $P_{16}B_6Al_3$, static scaling in an amorphous metallic spin glass 7—38871
$(Fe_{65}Ni_{35})_{1-x}$ $(Fe_{84}Mn_{16})_x$ alloys, low field magnetisation and Mossbauer effect studies 7—33311
$(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, ferromagnetism onset, magnetovolume effect study 7—2845
FeNiCr disordered FCC alloys, paramagnetic-antiferromagnetic-spin glass reentrant transition obs. 7—17175
FeNiCr spin glass, Edwards-Anderson order parameter temp. depend. meas. *(Russian)* 7—2866
$FeNiCr_{0.20}$, spin glass, phase transition, mag. suscept. study 7—53004
$Fe_cNi_{0.8-c}Cr_{0.2}$ spin glasses, critical dynamics 7—45683
FeNiCr(Mn) spin glasses, nonlinear mag. suscept. study 7—52991
$FeNiMn_{0.15}$, spin glass, phase transition, mag. suscept. study 7—53004
$Fe_xNi_{85-x}Mn_{15}$, low temp. sp. ht. near ferromag.-antiferromag. transition *(Russian)* 7—7512
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, amorphous spin glasses, relaxation 7—53000
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, magnetic susceptibility appl. of dynamic scaling 7—59019
$(Fe_{0.15}Ni_{0.85})_{75}P_{16}B_6Al_3$, metallic spin glass, time decay of saturated remanent magnetisation 7—59058
$Fe_{10}Ni_{65}Si_{10}B_{15}$ spin glass, amorphous, effect of phase segregation during struct. relax. 7—39517
$(Fe_7Ni_{93})_{77}Si_{10}B_{13}$ amorphous spin glass, dynamic mag. susceptibility and critical phenomena *(Russian)* 7—7511

spin glasses continued
$Fe_{2-x}Ti_{1+x}O_5$, pseudo-brookite, anisotropic spin-glass transition, transverse spin ordering, μSR study 7—45688
Fe_xZrSe_2, intercalated layered cpd., thermopower and low DC field magnetisation study 7—17199
$Gd_xLa_{65-x}Co_{25}B_{10}$ mixed glasses, mag. props., phase transitions, microstruct. effects 7—64465
$Hg_{1-x}Mn_xTe$, semimag. semicond., magneto-optical study of spin freezing 7—7678
$K_2Cu_xMn_{1-x}F_4$, quasi-two-dimensional mixed ferromagnetic-antiferromag. system, mag. phase transitions, intermediate spin glass phase 7—27525
$Li_{0.5}Ga_xFe_{2.5-x}O_4$, dilute ferrimagnetics, cluster spin glass state 7—38884
Mn-Ga, amorphous film, prep. by ionised cluster beam deposition 7—3205
Mn_{1-x} Zn_xO, stabilised, spin-glass transition, susceptibility obs. 7—7515
$Mn_3Al_2Si_3O_{12}$ spin glass, dynamic and static scaling exponents 7—38879
$Mn^{2+}Mn_6{}^{3+}SiO_{12}$:Fe(Ca)(Al), antiferromagnetism and spin glass order, mag. meas. 7—27518
MnSi, amorphous, concentrated spin glass, ESR study 7—13022
Ni-Mn disordered alloys, ferro-spin-glass domain model calcs. 7—59025
Ni-Mn disordered alloys, magnetic phase diagram near multicritical point 7—59024
$NiMn_{0.27}$, spin glass, phase transition, mag. suscept. study 7—53004
$Ni_{78}Mn_{22}$ reentrant alloy, struct. sensitive mag. props. 7—7496
Pd-Ag-Fe (1 and 2 at.%), plastically deformed, elec. resist., short range order effects 7—27318
$PdFe_xMn_y$, reentrant alloy, ferromagnetism investig. 7—2860
$Pd_{75}Fe_5Si(P)_{20}$ amorphous spin glasses, muon spin relax., temp. depend. meas. 7—45882
PdMn, atomic and mag. short range order 7—52941
$Pt_3Mn_xFe_{1-x}$, mag. state near critical composition *(Russian)* 7—17170
$Rb_2Mn_{1-x}Cr_xCl_4$, reentrant spin glass state, quasi-2D XY system, Cl^{35} NMR spectra study 7—27613
$Sn_{1-x}Mn_xTe$, degenerate ferro-spin-glass, transport props. and spin disorder 7—45330
Tb-Si amorphous films, spin-glass transition 7—7519
a-$Tb_{64}Fe_{20}Ga_{16}$, mag. phase transition behaviour in random anisotropy system 7—2864
$(Tb_{1-x}Y_x)Co_2$ ferrimagnetic alloy, sp. ht., Curie temp. and density of states comp. depend. meas. 7—7514
Y-Fe sputtered amorphous films, mag. props. 7—53083
$Y(Mn_{1-x}Al_x)_2$, spin glass behaviour 7—52996
$Y_2Mo_2O_7$, spin glass like behaviour 7—7524
$Zn_{0.5}Co_{0.5}FeCrO_4$, cluster spin glass, spin freezing 7—27531
ZnMn, Ising-type spin glass, uniaxially anisotropic, successive transitions 7—17188

spin Hamiltonians
anisotropic, one-sublattice, re-entrant phases 7—38873
bonding parameters and EPR correlations, evidence for lattice relax. 7—45801
classical spin clusters, integrability criteria and analytic struct. of invariants 7—45720
ferromagnets, non-Heisenberg systems, random phase approx. and Green's function anal. *(Russian)* 7—45597
ferromagnets, one-dimensional easy plane, quantum Monte Carlo and transfer-matrix calcs. 7—7468
hexenylammonium copper tribromide, easy-plane ferromagnetic chains, sp. ht. and spin Hamiltonians, quantum statistics calcs. 7—64469
III-V semiconductors, localised electron states of substantial transition metal impurities, review 7—27295
inverse Brillouin functions, continued fraction approx. 7—64423
Ising ferromagnet ground state magnetic struct., antiferromag. impurity effects *(Russian)* 7—22086
$LiKSO_4:NH_3$ single crysts., low temp. phase transitions, EPR study 7—27599
magnetic energy bands, effective hamiltonians 7—2805
one-dimensional periodic Anderson Hamiltonian, effect of disordered conc. nonmagnetic impurities 7—27517
one-dimensional spin-1-bilinear-biquadratic exchange Hamiltonian, crossover effects 7—7464
periodic Anderson Hamiltonian, paramagnetic ground state 7—2809
plastocyanin, paramag. Cu^{2+} containing, spectroscopic and computer simulation study 7—8494
powdered and amorphous systems, mag. resonance lineshapes 7—2922
quasi-one-dimensional systems, spin-Peierls transition 7—59047
transition metal dimers, antiferromagnetic coupling, ligand spin polarisation, broken symmetry UHF calcs. 7—22084
$BaTiO_3:Mn^{4+}$, EPR spectra, spin-Hamiltonian consts. 7—45812
$BiVO_4:Gd^{3+}(Mn^{3+})$, ESR spectra, temp. depend. 7—22137
$Ca_3Ga_2Ge_3O_{12}:Cr^{3+}$ garnet, ESR and ultrasonically modulated ESR studies 7—22139
$CaMoO_4$, cryst., photo-excited triplet state, EPR 7—13027
CdS(Se)(Te):Mn, impurity EPR spin Hamiltonian parameter correl. calcs. 7—27597
$Cs_2NaAl_3F_{12}:Cr^{3+}(Fe^{3+})$, impurity ion spin Hamiltonian parameters, EPR determ. 7—64523
$CsNiF_3$, easy-plane ferromagnetic chains, sp. ht. and spin Hamiltonians, quantum statistics calcs. 7—64469
$DyCl_3.6H_2O$, quantum mechanical ground state 7—38839
^{57}Fe Mossbauer spectra for Kramers doublets 7—36658
IO_2 radical in $KClO_4$ crysts., ESR study 7—22143
$KCl:Sn^+$, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
KCl:Tl, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
$KCl:Tl^{2+}$, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
$LaF_3:Pr^{3+}$, spin Hamiltonian spectroscopy, spin-spin cross relax. by optical pumping 7—22228
$LiCl:Fe^{3+}$, X-ray irrad., EPR spin Hamiltonian parameters 7—45808
$LiNbO_3:Cr^{3+}$ (Fe^{3+}) (Mn^{2+}), EPR of axial and low-symmetry paramagnetic centres 7—38925
$LiNbO_3$:Ni(Cu), γ-irradiated, ESR spectra of impurity centres 7—17218
NaCl:Tl, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
$RbCdF_3:Cr^{3+}$, tetragonal phase, ENDOR study 7—2952
$Rb_2Cd_2(SO_4)_3:Mn^{2+}$, langbeinite, reversible phase transitions, EPR studies 7—63810
a-Si:H, NMR props. of ortho-H_2 centres 7—2935
Si:V, impurity self-ENDOR spectrum 7—64545
$Zn(BF_4)_26H_2O:Mn^{2+}$, EPR study 7—64520

pin Hamiltonians continued
- ZnS(Se)(Te):Mn, impurity EPR spin Hamiltonian parameter correl. calcs. 7−27597
- ZrF_4-LaF_3-BaF_2-NaF glasses, EPR of Cu^{2+} ions 7−27593

pin-lattice relaxation
- *see also electron spin-lattice relaxation; nuclear spin-lattice relaxation*
- astrocytic gliomas, ^{1}H NMR relax. times rel. to malignancy grade and tissue necrosis 7−18042
- gallbladder bile, normal canine, alterations in NMR relax. during fasting 7−18004
- graphite-$FeCl_3$ intercalation cpd., spin-lattice relax. time meas., AC suscept. bridge techniques 7−13054
- haemorrhagic lesions, NMR imaging, evolution of intrinsic relax. parameters from time of onset of symptoms 7−54696
- medical NMR, high-speed techniques for estimating T1 and T2 images 7−23429
- medical NMR, longit. relaxation time meas. with nonuniform tilt angles 7−23425
- medical NMR imager and spectrometer operating at similar freqs., relax. parameters comparison 7−18047
- medical NMR imaging, pulse sequence for simultaneous determ. of T_1 and T_2 7−40245
- methyl group motion, rotation barrier and spin-lattice relax. time meas. 7−50291
- myocardial proton spin-lattice relaxation time in vitro: effect of elapsed time after excision 7−47136
- NMR images, multiple-delay-multiple-echo, improved determ. of spin density, T_1 and T_2 from a 3-parameter fit 7−34218
- NMR images, relax. times meas., accuracy and precision 7−60066
- proton relaxation times in mouse liver, heart and kidney, temporal fluctuations 7−47005
- quinoxaline, triplet state, Shpol'skii ODMR spectra, spin-lattice relax. 7−62428
- skeletal muscle, NMR relax. times, dependence on fibre type and diet, rabbit obs. 7−18003
- $Cd_{0.8}Mn_{0.2}Te$, dil. mag. semicond., low temp. mag. spectroscopy 7−64477
- Mn-DNA binding modes, nuclear mag. relax. dispersion results 7−23271
- Si:Fe, interstitial impurity, superhyperfine interaction and spin-lattice relax. 7−53178

pin-orbit interactions
- actinide metals, solid state and thermodynamic props., f-electron bonding and struct., review 7−12321
- alkali hydride, ground and excited mol. states, long range pot. curves calcs. 7−19994
- alkali metal atoms, core-polarisation effects, oscillator strength calcs. 7−25454
- Anderson model, Bethe ansatz soln., cryst. field and spin-orbit coupling effects 7−2449
- Anderson model, dynamic susceptibility, freq. depend., $1/N_f$ expansion studies 7−2816
- atom, spin-dependent interactions, $l^N l'$ configs., matrix elements identities 7−42515
- atoms and ions, H to Ne, relativistic Gaussian basis sets 7−36468
- bis arene sandwiches, $C_5R_5FeC_6R_6$ where k=H or CH_3, and $(C_6(CH_3)_6)_2Fe^+$, hyperfine and mag. props. 7−12680
- bromoiodomethane, electronic state-selective photodissoc. 7−65337
- chlorophyll and derivatives, spin state in zero field, phosphoresc. emission 7−57124
- clean and adsorbate surfaces, nonmagnetic, elastic spin-polarised LEED studies, book contrib. 7−32233
- conduction-electron spin-flip under mag. breakthrough conditions, model 7−38438
- crystals, toroidal ordering and impurity scattering 7−38838
- cubic systems, superconducting p-ware pair states, collective excitations, spin-orbit interaction and cryst. field effect 7−7440
- emerald, Cr^{3+} absorption spectrum, spin-orbit interaction effects 7−13182
- heavy electron superconductors, p-wave pairing consequences 7−2772
- heavy fermion superconductivity, tight binding picture and Cooper pairs 7−2776
- hot nuclei, semiclassical calcs. using Hartree-Fock and Thomas-Fermi approx. 7−61826
- iron porphyrin complexes, mag. moment susceptibility, Mossbauer study 7−22168
- IV-VI compounds, vibronic theory of struct. phase transition and tricritical point 7−38187
- jj coupling scheme, energy levels 7−9628
- major shell and spin-orbit splitting in relativistic nucl. struct. theory 7−41894
- many-body problems of proton-neutron interaction, HF theory 7−30350
- metal particles, quantum size effects 7−7597
- metallic films, weakly localised regime, interaction effects 7−64173
- metallic glasses, weak localisation, magnetoresistance meas. 7−52574
- metallic thin films, electron scatt. times, magnetoresist. studies 7−64369
- nonmagnetic metals and adsorbates, spin-resolved photoemission, book contrib. 7−33521
- p-type semiconds., magnetoresistance, two-band model calcs. 7−27349
- phenazine derivatives, partly hydrogenated radicals, hyperfine const., EPR *(French)* 7−31079
- polyacetylene, alkali metal doped, role of spin-orbit coupling in EPR spectra 7−64527
- ruby, Cr^{3+} absorption spectrum, spin-orbit interaction effects 7−13182
- semiconductor heterojunctions, self-consistent density functional calcs. 7−17097
- semiconductors, complex neutral defects, bound hole states, mag. props. 7−64157
- semiconductors, spin waves, direct Coulomb interaction accompanied by spin-flip 7−7180
- spin-orbit interaction and crystal field effects 7−38806
- spin-spin coupling consts., ab initio diamagnetic spin-orbital contrib. 7−927
- superconductors with heavy fermions, Josephson effect 7−33131
- tetraethylammonium chlorofluoroosmates, charge transfer transitions, UV-visible spectra 7−22283
- tetramethyltetraselenafulvalene salts, organic superconductors, antiferromag. anisotropy, SDW amplitude, nesting vector 7−22146
- transition metal dithiolates and diselenolates, molecular and electronic structs. 7−52397
- transition metal fluorides, mixed, Raman scatt. by localised and magnon modes 7−46027
- xanthene dyes, triplet-state conc. quenching, fluoresc. study 7−42679

spin-orbit interactions continued
- (d,d) on spinless nuclei, elastic high energy scatt., polarisation effects, multiple diffr. scatt. theory calcs. *(Russian)* 7−56686
- $Ag_5{}^{q+}$, electronic struct., Dirac scattered wave study 7−42818
- $AgGaSe_2$, cryst. field and spin-orbit interactions at fundamental gap, reflectivity meas. 7−16997
- $AgGaSe(Te)_2$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7−27252
- Al thin films, spin-orbit scatt., localisation and superconductive tunnelling studies 7−45242
- Ar, spin-orbit splitting, determ. from ab initio pseudopotential 7−2547
- Ar^++Ar, absolute spin-orbit state excitation cross sections, fine-struct. 7−42730
- Au-Pd thin films and wires, localisation and electron-electron interaction effects, magnetoresist. meas. 7−52863
- $Ba+Cl_2(Br_2)(N_2O)(NO_2)$ (carbon tetrachloride) 7−13781
- $Br_2{}^+$, excited state spin-orbit interaction 7−49962
- CaF_2:^{57}Fe, Mossbauer absorption and emission expts., relax. and after-effect study 7−27635
- $CaMoO_4$, cryst., photo-excited triplet state, EPR 7−13027
- $Cd_xHg_{1-x}Te$, band gap collapse, effects of Hg 5d electrons 7−64075
- n-$Cd_{1-x}Mn_xSe$, electric-dipole-induced spin resonance 7−27592
- CdTe, acceptor higher excited states calcs. 7−52511
- Ce impurity system, degenerate Anderson model, Bethe-ansatz soln. 7−2559
- Ce, photoelectron and bremsstrahlung isochromat spectra 7−7817
- Cl atom conc. meas. in plasma etching reactor 7−37760
- $Cl_2{}^+$, excited state spin-orbit interaction 7−49962
- Cs outer-core emission spectra, many-body effects and spin-orbit partner behaviour obs. 7−53436
- $CuGaSe(S)_2$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7−27252
- $CuGaSnSe_4$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7−27252
- CuInSe thin films, flash evaporation prep. and characterisation 7−7893
- $Cu_6Si_6O_{18}.6H_2O$, Dioptase crysts., Cu^{2+} EPR and optical absorpt. spectra studies 7−53120
- ^{148}Dy, giant Gamow-Teller excitations populated in β^+ decay 7−49364
- $ErRh_4B_4$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7−22077
- ^{150}Er, giant Gamow-Teller excitations populated in β^+ decay 7−49364
- $F_2{}^+$, excited state spin-orbit interaction 7−49962
- GaAs surface, H_2S adsorption, orientation and temp. depend. 7−58634
- Ge I, odd parity energy levels, precise spectroscopic assignments 7−846
- Ge, spin-orbit splitting, determ. from ab initio pseudopotential 7−2547
- Ge surface, H_2S adsorption, orientation and temp. depend. 7−58634
- HgO, core levels and valence band electronic struct. spin-orbit splitting, XPS and UPS studies 7−13330
- $HoMo_6S_8$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7−22077
- InP, acceptor higher excited states calcs. 7−52511
- InSb conduction band spin splitting, spin reson. interaction obs., LMTO and k.p perturbation calcs. 7−12676
- InSb, conduction electrons g-factor anisotropy, spin-orbit splitting calcs., comment 7−38441
- ^{A}Ir, A=182,184, doubly decoupled struct. study 7−5145
- K, outer-core emission spectra, many-body effects and spin-orbit partner behaviour obs. 7−53436
- K, Rydberg state, avoided crossings in elec. field using blackbody radiation 7−15558
- K^-, electron affinity and photodetachment cross sections, ab initio multichannel calcs. 7−36463
- KBr, F centre spin mixing parameters in optical pumping cycle 7−7181
- KCl:Tl^+-type phosphors, Jahn-Teller-induced A-absorption and A-emission bands 7−53398
- KI, F centre spin mixing parameters in optical pumping cycle 7−7181
- K_2SO_4-$ZnSO_4$:Pr^{3+}, impurity ion spectroscopic parameter determ. 7−7719
- K_2ZnF_4:Cu^{2+} crystal, possible ligand spin-orbit coupling in CuF_4F_2 clusters 7−38520
- Kr, spin-orbit splitting, determ. from ab initio pseudopotential 7−2547
- $Kr^+ + H_2(D_2)$(HD), spin-orbit state and isotope effects, pot. energy curve, cross sections meas. 7−39859
- Li like ion plasma, population inversion collisional-radiative model 7−25463
- Li(α,α), exchange processes and spin-orbit pot. effects 7−30437
- Mg quasi-two-dimensional films, electron localisation and interaction effects 7−7411
- Mg-Fe dilute thin film, mag. screening and Kondo-type behaviour 7−12944
- Mg-Ga liquid alloys, Hall effect, meas. 7−32991
- MgO:Cr, Cr^{3+} absorption spectrum, spin-orbit interaction effects 7−13182
- Mo/Ni heterostructures, upper critical field, anisotropy studies 7−27479
- NCl, $b^1\Sigma^+$ and $a^1\Delta$ state, radiative lifetimes 7−50259
- NS, spin-orbit coupling consts. calc. using restricted HF wavefunctions 7−56949
- $Na+Ne^+$, impact excitation, spin exchange, fluoresc. spectra anal. 7−25450
- NaXe, spin-rotation coupling, spin relaxation rate 7−25542
- Nb-Si films, superconducting fluctuations weak localisation and electron interactions 7−2783
- $NdCl_3$ complexes in alcohols, absorpt. spectra study 7−33408
- Ne, atom, dielectric satellite lines of X resonance line, calcs. 7−5621
- $O_2{}^+$, $^4\Pi_u$ state, spin-forbidden radiative decay, photodissoc. study 7−50274
- PbTe, narrow gap semiconductors, Knight shift 7−53166
- Pd V, fifth spectrum anal. 7−42532
- Pd-Fe(Ni) dilute alloys, Fermi surface exchange splitting, de Haas-van Alphen effect studies 7−52405
- Pt (111), spin polarised photoemission, relativistic energy bands obs. by vector anal., parity- and spin-mixing 7−7820
- Rb, outer-core emission spectra, many-body effects and spin-orbit partner behaviour obs. 7−53436
- $Rb_2Mg(SO_4)_26H_2O$:CO^{2+} optical absorption spectrum 7−13180
- $SC^+ + H_2$ endothermic reaction ab initio pot. energy surfaces 7−13746
- Si:Fe, interstitial impurity, superhyperfine interaction and spin-lattice relax. 7−53178
- Si-Ge heterojunction, structural and electronic props. 7−21997
- SiF, spin-orbit coupling consts. calc. using restricted HF wavefunctions 7−56949

spin-orbit interactions continued
- ^{120}Sn(^{7}Li, ^{7}Li′), analyzing power and spin-orbit interaction, coupled channels formalism 7−61908
- tetramethyltetrathiafulvalene salts, organic superconductors, antiferromag. anisotropy, SDW amplitude, nesting vector 7−22146
- Ti$_{1-x}$V$_x$ quench condensed thin films, supercond. crit. field and fluctuation cond. meas. 7−64415
- ^{A}Ti, A=46, 48, spin-orbit contribs. to collective M1 transitions 7−56637
- UPt$_3$, heavy fermion supercond., Cooper pair states, atomic representation 7−45550
- UPt$_3$ heavy-fermion superconductors, induced moment mag. form factors 7−12909
- U$_{1-x}$Th$_x$Be$_{13}$ heavy fermion superconds., muon Knight shift and zero-field relax. meas. 7−45887
- Xe, spin-orbit splitting, determ. from ab initio pseudopotential 7−2547
- Yb impurity system, degenerate Anderson model, Bethe-ansatz soln. 7−2559
- ^{152}Yb, giant Gamow-Teller excitations populated in β^+ decay 7−49364
- ZnO:Co(Ni)(Cu), impurity electron states, optical spectroscopy 7−46127
- ZnS:Cr^{2+}, Cr excitation spectrum interpretation 7−58775
- ZnS:Cu^{2+}, multimode Jahn-Teller effect in the luminescence spectrum 7−12675
- ZnSe:Mn, ^{4}E states, spin-orbit interactions and dynamical Jahn-Teller effect 7−21875
- ZnSiP$_2$ cryst., exciton absorpt. spectrum, energy gap and exciton binding energy determ. 7−2500
- ZnTe, acceptor higher excited states calcs. 7−52511

spin-phonon interactions
- *see also spin-lattice relaxation*
- classical compressible Heisenberg chain, soliton canonical transform. calcs. 7−17192
- compressible anisotropic classical Heisenberg chain, spin dynamic eqns., soliton solns. 7−2804
- crystals, acoustic props., defect effects *(Russian)* 7−26069
- magnetically concentrated crysts., NMR lineshape theory 7−33288
- semiconductors with zinc-blende structure, electron spin relax. in a quantising mag. field 7−45822
- TTF-BDT (Au), spin-Peierls phase diagram, high temp. sp. ht. and suscept. meas. 7−59026
- Ca$_3$Ga$_2$Ge$_3$O$_{12}$:Cr^{3+} garnet, ESR and ultrasonically modulated ESR studies 7−22139
- CsI, cryst., γ-irrad., acoustic nucl. reson. *(Russian)* 7−22152
- FeCl$_2$ metamagnet, spin-lattice coupling and tricritical behaviour 7−2849
- NaCl:Cu, nuclear quadrupole spin-phonon interaction 7−22155
- NaF:Cu, nuclear quadrupole spin-phonon interaction 7−22155

spin polarised atomic hydrogen
- adsorbed on He, sticking coeff. and 2D superfluidity 7−6912
- cooling in mag. field minima 7−38298
- electron- and nuclear-spin polarised, in liq. He covered cells 7−32748
- enhanced capillary flow and vanishing sticking probabilities on liquid He surface 7−27054
- inverse predissociation at low temps. 7−21571
- magnetically trapped, evaporative cooling investig. 7−6914
- relaxation and recomb. processes 7−44949
- thermal accommodation on saturated superfluid ^{4}He film 7−38299
- three-body recombination 7−32749
- D, doubly spin-polarized, observation by ESR 7−6915
- D, spin polarised, nonequilib. props. within Fermi liquid theory 7−6913
- D, spin-polarized, ground state props. 7−27055

spin polarised electron emission
- alkali-metal atoms, photoionisation cross sections, ab initio RRPA calcs. 7−36462
- ferromagnets, electronic struct. determ. by spin- and angle-resolved photoemission, book contrib. 7−33522
- ferromagnets, spin polarised secondary electron emission, book contrib. 7−33495
- magnetic meas. at surfaces, high resolution, with spin polarised electrons 7−3119
- magnetic semiconductors, spin polarised photoemission by optical spin orientation, book contrib. 7−33520
- magnetic surfaces, polarised electron probes 7−33264
- nonmagnetic metals and adsorbates, spin-resolved photoemission, book contrib. 7−33521
- polarised electrons in surface physics, book 7−29607
- scanning electron microscopes, spin polarised operation, spatial resolution for mag. domain studies 7−56376
- solid surfaces, chemistry and physics, book 7−60891
- solid surfaces, ferromagnetic and nonmagnetic, spin-dependent electron scatt., photoemission and inverse photoemission calcs., book contrib. 7−33493
- surface (110), spin-polarised angle-resolved photoemission study 7−53505
- surface magnetism, spin-polarised electron diffr. and photoemission 7−59380
- surfaces (100) and (110), Stoner excitation spectrum, spin-polarised electron energy loss spectroscopy 7−53463
- Fe ferromagnets, spin-resolved photoemission and bremsstrahlung calcs. and data anal., book contrib. 7−33523
- Fe, magnetic surfaces, spin polarised Auger electrons 7−53456
- Fe, pulsed laser irradiated, spin-polarised photoemission 7−39360
- Gd, spin-polarised Auger electron spectroscopy 7−33489
- Kr, adsorbate, excited states assignment 7−52725
- Ni ferromagnets, spin-resolved photoemission and bremsstrahlung calcs. and data anal., book contrib. 7−33523
- Ni, magnetic surfaces, spin polarised Auger electrons 7−53456
- Pt (110), hybridisation of electronic bands, spin-polarised UV photoemission spectra 7−45421
- Pt (111), spin polarised photoemission, relativistic energy bands obs. by vector anal., parity- and spin-mixing 7−7820
- Xe, adsorbate, excited states assignment 7−52725

spin polarised electron phenomena *see electron spin polarisation*

spin reorientation *see spin dynamics*

spin-spin nuclear coupling in molecules *see molecular nuclear coupling*

spin-spin relaxation
- 4-n-alkylbicyclo (2,2,2)-octan-1-carboxylic acids, spin-spin relax. 7−59121
- antiferromagnets with easy-axis, nuclear spin relax. 7−17233
- aqueous solutions, PMR, H$_2$O reson. elimination by spin-spin relax. 7−50176
- astrocytic gliomas, ^{1}H NMR relax. times rel. to malignancy grade and tissue necrosis 7−18042
- biological samples, NMR relax. time anal. 7−13961

spin-spin relaxation continued
- brain oedema, infarction and tumours, significance of proton relax. time meas. 7−18049
- brain tissue, healthy and diseased, T2 estimates, comparison using various NMR pulse sequences 7−14091
- o-carborane, B quadrupole coupling, NMR study 7−5704
- DEFT with 2D pulse sequence, solvent reson. suppression or differentiation 7−48798
- dichloromethylbenzene-do(d$_1$)(d$_6$), internal rot., ^{13}C spin-lattice relax. times and NOE factors 7−50189
- dipole-dipole interaction, coherent averaging pulse sequences 7−7605
- DMSO-water mixture, spin relax. ^{17}O and ^{2}H NMR study 7−38961
- electron relaxation studies, review 7−22158
- ethylene, nuclear spin-spin coupling constants evaluated using manybody methods 7−5705
- ferromagnetic microscopically inhomogeneous systems, NMR echo decay, moment description 7−2949
- (fluoranthenyl)$_2$AsF$_6$, metal-semiconductor transition, anisotropic diffusion and electron spin relaxation 7−52598
- gallbladder bile, normal canine, alterations in NMR relax. during fasting 7−18004
- haemorrhagic lesions, NMR imaging, evolution of intrinsic relax. parameters from time of onset of symptoms 7−54696
- lecithin, aq. soln., bilayer liposomes, radiation damage PMR relax. time determ. 7−34200
- lyotropic liq. crysts., spin relax., local order with cylindrical interfaces, translational diffusion, continuous diffusion model 7−64540
- magnetically concentrated crysts., NMR lineshape theory 7−33288
- Mansfield-Ware-4 multipulse sequence, nucl. spin relax. in solids 7−7600
- medical NMR, high-speed techniques for estimating T1 and T2 images 7−23429
- medical NMR imager and spectrometer operating at similar freqs., relax. parameters comparison 7−18047
- medical NMR imaging, pulse sequence for simultaneous determ. of T$_1$ and T$_2$ 7−40245
- medical T$_2$ NMR images, multi-exponential anal. 7−18046
- multi-echo NMR imaging, quantitative estimation of T2 7−3859
- NMR Fourier imaging appls. using modified Carr-Purcell-Meiboom-Gill sequence 7−28646
- NMR images, multiple-delay-multiple-echo, improved determ. of spin density, T$_1$ and T$_2$ from a 3-parameter fit 7−34218
- NMR images, relax. times meas., accuracy and precision 7−60066
- nuclear spin relaxation, dipolar and chem. shift anisotropy contribs., interference terms appls. 7−50191
- oxalate (2,2′-bipyridine) iron polymer, slow paramag. relax., Mossbauer spectra 7−27638
- poly-ε-caprolactone, crystallisation from melt, real-time pulse NMR meas. 7−27621
- poly-cis-isoprene, highly entangled, spin-spin relax. time, NMR meas. and model calcs. 7−33291
- trans-polyacetylene, neutral soliton diffusion, EPR, PMR meas. 7−64513
- polyelectrolyte solns., spin relax., local order with cylindrical interfaces, translational diffusion, continuous diffusion model 7−64540
- polyethylene-d$_4$, NMR quadrupole spectra, orientation motional correl. times, T$_2$ meas. 7−45834
- polymers, nonequilibrium phenomena, real-time NMR measurement system 7−2944
- polystyrene, highly entangled, spin-spin relax. time, NMR meas. and model calcs. 7−33291
- proton relaxation times in mouse liver, heart and kidney, temporal fluctuations 7−47005
- Roman crystalline lens, cataract development, water state, NMR spin echo obs. 7−8557
- ruby, intraline spin-spin relax. meas. in ^{4}A$_2$ ground state 7−2945
- siloxane-silica network-like structs., mag. relax. PMR study 7−38960
- single quantum J resolved spectra, zero-quantum coherences 7−9859
- skeletal muscle, NMR relax. times, dependence on fibre type and diet, rabbit obs. 7−18003
- sodium salicylate, in viscoelastic micelles, PMR, spin-spin splitting and relax. effects 7−53150
- tetahedral group reorientation in solids, deuteron spin-spin and spin-lattice relax. 7−22157
- tissue T$_2$ transverse relax. rate, effect of interpulse delay 7−18005
- tumour models, expt., ^{1}H-NMR relax. times and water compartmentalisation 7−17950
- Cs, optically pumped, spin-relax. rates 7−36557
- CuSO$_4$.5D$_2$O, indirect nucl. spin-spin interaction above chain crit. field 7−2948
- CuSO$_4$.5H$_2$O, indirect nucl. spin-spin interaction above chain crit. field 7−2948
- HD, nuclear spin-spin coupling constants evaluated using manybody methods 7−5705
- HF, nuclear spin-spin coupling constants evaluated using manybody methods 7−5705
- KH$_2$AsO$_4$, paraelectric, cluster distrib., ^{75}As spin-spin and spin-latt. relax. 7−2947
- LaF$_3$:Pr^{3+}, spin Hamiltonian spectroscopy, spin-spin cross relax. by optical pumping 7−22228
- LiZr$_2$(PO$_4$)$_3$ superionic conductor, Li$^+$ motion, NMR study, phase transition obs. 7−32709
- (Mg,Fe)SiO$_3$, hypersthene, Mossbauer spectra of Fe^{2+}, electronic spin relax. 7−33307
- Na$_x$Ta$_y$W$_{1-y}$O$_3$, NMR study of metal-insulator transition 7−2484
- Nb, diffusion and trapping of H(T), NMR obs. 7−27616
- β-PdH$_x$, spin polarisation torsional spectroscopy 7−33280
- Pr^{3+}:LaF$_3$, spin-spin reservoir cross-relax. via optical pumping 7−15652
- SrF$_2$:Tm^{2+}, optically detected low-field ESR, cross-relaxation effects 7−33301
- Y$_9$Co$_7$ mag. supercond., ^{59}Co NMR and nuclear relax. studies 7−64401
- ZnCO$_3$:Fe^{2+}, mixed spin relax. processes 7−64522

spin systems
- *see also magnetic properties of substances; magnetism*
- 1D magnetic materials, quantum Monte Carlo versus exptl. results for *xxz* chains. 7−64427
- accelerated hybrid stochastic algorithm for critical slowing down problem 7−2859
- Anderson model, periodic, ground state props. 7−58972
- antiferromagnet, magnon dynamic and kinematic interactions 7−64447
- asymptotic phase diagrams for lattice spin systems 7−14880
- atomic micro-clusters, electronic struct., ab initio studies 7−31203

spin systems continued
- Bethe-Ansatz solutions under complex conjugation 7—7463
- Blume-Capel model, effective field theory 7—33134
- classical spin systems on irregular lattices, infinite coordination limit 7—18713
- correlation inequalities of FKG type for statistical mechanics of spin systems 7—14870
- cubic lattices, regular and optimal subdivisions into sublattices 7—16456
- D_2, solid, cubic phase, orientational ordering, NMR 7—38294
- dipolar crystals with two mag. ions per unit cell, quantum-mechanical states 7—45607
- disordered, pair approx. to describe mag. props. 7—45655
- disordered spin systems, effective susceptibility exponent, nonmonotonic temp. depend. 7—64461
- ferromagnetic, 1D driven damped, solitary waves, stationary motion 7—59028
- ferromagnetic fluid, phase transition and magnetisation lower bound 7—17174
- ferromagnetic Heisenberg spin chain, compressible, static π-kink 7—53020
- Ising lattice models, iterative method of soln. in mag. field 7—45600
- Ising model with general spin S, ground state props. 7—58968
- lattice spin system, microscopic anisotropy influence on phase boundary macroscopic behaviour 7—18730
- magnetic systems, Monte Carlo simulations, digital dynamics and chaotic behaviour 7—22083
- magnetically dilute spin systems, mag. reson. freq. shift at low temps. 7—45793
- metals, strongly correlated, containing heavy fermions, thermodynamic and transport parameters 7—38458
- Migdal-Kadanoff renormalisation, appl. to Potts model 7—24600
- paramagnetic systems with restricted spectral diffusion, LF absorpt., dipole reservoir role 7—58975
- phase diagram and decay of spin-spin correlations 7—24565
- phonon-phonon interaction via paramag. centres 7—44719
- photosynthetic membranes suspended in cryoprotective glycerol-H_2O mixture, proton relax. time meas. 7—34170
- Pirogov-Sinai, theory, low temp. continuous spin Gibbs states on a lattice 7—59035
- quantum, 1D, vectorized coding for Monte Carlo simulation 7—45606
- quantum, variance reduction method for Monte Carlo simulations 7—45605
- quantum chaos, nature 7—18698
- quantum spin chain with three-spin interaction, conformal invariance and phase transition 7—202
- quantum spin chains of arbitrary spin quantum number, phase diagrams and correlation exponents 7—33191
- quantum statistical mechanics in coherent state representation 7—9755
- quantum XYZ models, critical props. in 2D 7—29933
- quasi-1D mag. systems, impurity low lying states *(Russian)* 7—52975
- random clusters, interacting spins, thermodynamic properties 7—59029
- random field models with long range exchange, scaling theory, 1/n expansion 7—24553
- spin-1 model on honeycomb lattice in mag. field, solvable case 7—249
- spin-boson systems, dilute-blip and Born approx. equivalence 7—29875
- statistical physics and field theory conf., Groningen, Netherlands, Aug. 1985 7—55899
- three-spin box product interaction, mag. transition 7—17180
- van der Waals model, specific heat *(Korean)* 7—27537
- Z(N) symmetric quantum spin models, conservation laws and exact ground state energies 7—27487
- $Al_{0.26}Ga_{0.74}As$, instability of electron-nuclear spin system in strong mag. field, luminesc. study 7—7729
- NaF, single cryst., positive muon relax, simple spin system 7—45904
- $PrNi_5$, paramag.-ferromag. phase transition, external mag. field, spin ordering model 7—52988

pin tickling (NMR) *see double nuclear magnetic resonance*

pin wave resonance *see ferromagnetic resonance*

pin waves
- *see also magnetostatic waves; magnons*
- acoustic wave-parametric spin wave coupled oscills. instability, freq. and damping rate calcs. 7—17213
- anisotropic magnetic multilayers, magnetostatic surface spin wave spectra calcs. 7—45762
- antiferromagnetic, X-Y model, triangular lattice in mag. field, phase diagram, spin wave free energy calcs. 7—17178
- antiferromagnetic films, dipole-exchange spin-wave modes 7—45771
- antiferromagnetic superconductor, spin wave spectrum 7—38852
- antiferromagnetic superconductors, anomalous behaviour 7—58964
- Boltzmann gases, spin waves and quantum collective phenomena 7—48546
- bond-diluted Heisenberg antiferromagnet, spin damping near percolation threshold 7—17194
- bond-diluted Heisenberg ferromagnets, spin wave damping near percolation threshold, Green's function calcs. 7—17193
- classical anisotropic Heisenberg ferromagnet, dynamical props., stereographic representation 7—2882
- conducting antiferromagnets, collective excitations *(Russian)* 7—58998
- dynamic spin response function near Kosterlitz-Thouless transition, theory 7—32604
- electroweak signals in circuits, chiral anomaly induced spin waves as QED probes 7—460
- ferrimagnetic sphere spin waves, derivation 7—52956
- ferrite film structure, layered, anisotropic, dipole exchange spin waves 7—64494
- ferroelectric antiferromagnet, resonance interaction of spin waves with polarisation waves 7—7579
- ferromagnet, biaxial, spin wave excitation with moving domain wall 7—45650
- ferromagnet, spin wave excitation by acoustic fields, non-uniformly distrib. dislocations *(Russian)* 7—45646
- ferromagnet-antiferromagnet superlattice struct., mag. props. 7—2831
- ferromagnetic film, with mixed exchange boundary conditions, theory of dipole-exchange spin wave spectrum 7—45644
- ferromagnetic multilayers, propagating spin waves 7—52959
- ferromagnetic semicond., donor state, thermally induced abrupt shrinking 7—52510
- ferromagnetic semiconds., Cherenkov spin wave amplification calcs. 7—52957
- ferromagnetic uniaxial thin films, spin wave spectrum, nearest-neighbour and next-nearest-neighbour exchange couplings 7—53089

spin waves continued
- ferromagnets, electron and nuclear spin wave attenuation coeffs., scatt. by two-level systems *(Russian)* 7—27508
- films, surface spin wave excitation and detection by asymmetric coplanar transducers 7—64501
- finite ferromagnetic slab, nonlinear spin ware dynamics and surface magnetostatic wave dispersion, averaged Lagrangian method *(Russian)* 7—17181
- fractional quantum Hall effect of a multicomponent fermion system, collective excitations 7—21835
- generalised planar model, chiral and algebraic order, new phase transition scenario, Monte Carlo simulations 7—38877
- Heisenberg ferromagnet, diagram technique for Green functions 7—17150
- Heisenberg spin glasses, rotational symmetry breaking 7—53022
- Heisenberg spin model classical version, spin waves and soliton solns. 7—2886
- hexagonal Belorizky model, magnetoelastic interactions 7—53109
- intersubband *s-d* exchange absorption of spinwaves in ferromagnetic conductors 7—7499
- itinerant ferromagnets, electron and magnon spectra, spin fluctuation effects, dynamical suscepts. calcs. *(Russian)* 7—12960
- magnetic bubbles, translational motion, exchange relax. effects *(Russian)* 7—17206
- magnetic semiconductors, anisotropic, narrow-band, elementary excitations 7—59001
- metallic superlattices, long wavelength bulk and surface spin waves 7—2835
- monochromatic spin wave, stability under parallel pumping conditions 7—45641
- organic crystals, neutral-ionic transition, Monte Carlo simulation of modified Hubbard model 7—2554
- parametric excitation, freq. drift 7—33160
- parametric spin wave systems in antiferromagnets 7—33159
- planar spin chains, mag. field depend. of specific heat 7—45707
- semiconductors, spin waves, direct Coulomb interaction accompanied by spin-flip 7—7180
- superlattices, Heisenberg magnetism study *(Chinese)* 7—27485
- surface wave, magnetostatic, excitation by coplanar transducer 7—22102
- tetrachlorobis(ethylammonium)copper(II), antiferromag. spin wave freqs., parallel pumping 7—58997
- thin films, magnetic waves, transmission line model 7—2908
- thin films, surface spin waves, tight-binding and Coulomb parameter effects 7—27572
- tight-binding itinerant ferromagnet, spin wave anal. 7—2833
- transition metal thin films, ferromagnetic, surface spin waves, multiband model 7—2834
- uniaxial ferromagnets, magnetic moment kinetics, magnetic anisotropy, spin wave decay and dispersion calcs. *(Russian)* 7—17166
- uniaxial ferromagnets, spin wave damping at orientational phase transition 7—52963
- $BaMnF_4$, magnon polaritons, wave propagation in mag. systems with spontaneous electric polarisation 7—12961
- CeAs, antiferromag., anisotropic exchange and spin dynamics, neutron study 7—33147
- CeSb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7—33147
- Co and its alloys, spin wave excitations and magnetisation temp. depend. 7—45642
- Co single cryst., NMR freq. temp. depend. anomaly, spin-wave stiffness const. determ. 7—53154
- Co-Mg coevaporated films, prep. and mag. props. 7—53082
- Co-Y amorphous alloys, high-field susceptibility, spin wave stiffness const. 7—33150
- Co-Y amorphous alloys, mag. props. 7—58990
- $Cs_2FeCl_5.H_2O$, antiferromagnet, mag. phase diagram, spin wave excitations, Mossbauer spectra 7—45676
- $CsVCl_3$, one-dimens. Heisenberg antiferromag., mag. excitations, neutron scatt. study 7—7482
- Fe and its alloys, spin wave excitations and magnetisation temp. depend. 7—45642
- Fe ultra thin films, Brillouin scatt. 7—27728
- Fe-Au-Fe double layers, exchange coupling 7—27510
- Fe-Cr-Fe double layers, exchange coupling 7—27510
- Fe-Pd multilayer structures, collective spin waves 7—46060
- Fe-W, multilayer structures, collective spin waves 7—46060
- Fe_{50} Ni_{22} Cr_{10} P_{18} and Fe_{48} Ni_{34} P_{18} metallic glasses, spin waves, study by polarised neutron scatt. 7—12962
- FeB amorphous magnetic thin films, spin wave mode linewidth meas. 7—45826
- Gd-Co-Mo amorphous magnetic thin films, spin wave mode linewidth meas. 7—45826
- He^3, solid, spin-wave region reson. freq., magnon corrections calcs. 7—52185
- ^3He, superfluid A phase, vortex phenomena in narrow gaps, surface spin waves probe 7—58562
- ^3He-A, spin-temp. discontinuity propagation and soliton form. calcs. *(Russian)* 7—6908
- ^3He-B, spin hydrodynamics, slow modes 7—44944
- $K_2Co_xFe_{1-x}F_4$, oblique antiferromag. phase, spin waves, inelastic neutron scatt. study 7—64443
- $Li_{1-x}Zn_xFe_2O_4$, outside spin wave manifold effective linewidth values, effect of dimensional reson. 7—53146
- $Mg_{1-x}Mn_xFe_2O_4$, outside spin wave manifold effective linewidth values, effect of dimensional reson. 7—53146
- MnF_2 films, antiferromagnetic, dipole-exchange spin-wave modes 7—45771
- MnP, spin-waves, neutron inelastic scatt. study 7—64444
- $(Mn_{0.5}Zn_{0.5})F_2$ diluted antiferromag. spin-wave-quasilocalised excitation crossover 7—22101
- Ni and its alloys, spin wave excitations and magnetisation temp. depend. 7—45642
- Ni single cryst. films, quasi-localised spin-wave modes obs. 7—2830
- β-O_2 solid, rhombohedral Heisenberg antiferromag., neutron scatt. 7—7480
- Pd_3Fe disordered allow, low-energy spin-wave excitations, Heisenberg model calcs. 7—2829
- Sm-Co amorphous thin films, low temp. mag. props. *(Chinese)* 7—38910
- Sm-Fe amorphous thin films, low temp. mag. props. *(Chinese)* 7—38910
- $UBr(Cl)(I)_3$, magnetic transitions, antiferromag. order and cryst. field splitting, neutron scatt. study 7—12974

spin waves continued
- USb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7−33147
- $Y_3Fe_{5-x}Ga_xO_{12}$ epitaxial film, high freq. threshold props. studies *(Russian)* 7−45775
- YIG, charact. of chaotic states of parallel-pumped magnons 7−52961
- YIG LPE films, mag. mode fine struct. *(Chinese)* 7−13007
- YIG single crysts., FMR linewidth, parametrically excited spin wave effects 7−2828

spinodal decomposition
- alloys, electron irrad. induced transforms. 7−2065
- Alnico 5, Fe-Co-Ni-Al-Cu, microstruct. and mag. props., effects of heat treatment *(Korean)* 7−8138
- binary liquid mixture, late-stage phase separation and hydrodynamic flow, light scatt. meas. 7−58486
- binary polymer liquids, 2-dimens. films, spinodal decomp. 7−38208
- ceramics, electron irrad. induced transforms. 7−2065
- diffusion limited, corrections to late-stage behaviour, Lifshitz-Slyozov scaling and Monte Carlo simulations 7−38206
- epitaxial overlayers, structural transitions 7−27194
- ferromagnetic materials, defect and microstructural analyses using TEM 7−37817
- immiscible fluid mixture in shear flow, phase separation, spinodal decomposition under shear 7−21464
- initial stages, continuous quenching procedure effects 7−26968
- liquids, entropy changes and fluctuations near tensile instability 7−6830
- magnetic ageing of spinodal systems, nonlinear theory 7−3344
- nonlinear effects 7−39479
- polyelectrolytes, highly asymmetrical, spinodal curve 7−21466
- polymer blends and copolymers, dynamics, RPA calcs. 7−37836
- polymer solutions, spinodal separation kinetics *(Russian)* 7−16392
- polystyrene-poly(vinyl methyl ether), binary mixtures, spinodal decomposition 7−44822
- polystyrene-polyvinyl methyl ether, crit. mixture, late stage spinodal decomposition 7−26955
- polystyrene/poly(vinylmethylether), spinodal decomposition, thermal fluctuation 7−21460
- quenched phases, computationally efficient modelling of ordering 7−63769
- steel, cast duplex stainless, spinodal reaction and G-phase precipitation, FIM atom probe anal. 7−33670
- steel, stainless, microstruct., aging effects, atom probe FIM, optical and analytic electron microscopy studies 7−33700
- $Al_{0.48}In_{0.52}As$:Si, MBE grown, crystalline and optical props. 7−52322
- Cu-Ni-Cr, spinodal decomp., X-ray diffr. and TEM study 7−22732
- Fe-Co-Ni-Al-Cu metallic alloy ordering and spinodal decomposition, atom probe FIM study 7−33676
- Fe-Cr-Co solid soln., uniaxial tensile stress in spinodal decomp. effect on coercive force, thermomag. treatment effects 7−7555
- Fe-Cr-Co-Si-Ti, permanent mag. alloy, ductile, effect of heat treatment on mag. props. *(Korean)* 7−8137
- FeAlNiCoCu permanent magnetic material, phase decomposition kinetics, atom probe FIM study 7−33669
- $In_{1-x}Ga_xAs$, MOCVD, optical and elec. props. rel. to growth temp. 7−53613
- InGaAsP layers, LPE on GaAs, immiscibility region, lattice matching 7−59465
- InGaAsP, spinodally decomposed, elastic relax. effects on TEM 7−52378
- Mn-Cu, sintered damping alloy, tempering, & solid soln. breakdown mechanism 7−22692
- NbD_x, microscopic density fluctuations of deuterium, Huang diffuse X-ray and neutron scatt. anal. 7−2215
- NbH_x, spinodal decomposition, neutron radiography studies 7−58489
- Ni-Ti metallic alloy ordering and spinodal decomposition, atom probe FIM study 7−33676
- $PrCo_5$, microstructure and coercivity, effect of annealing, 650-850°C 7−38905
- Si:As, highly doped, spinodal decomposition and clustering 7−52063
- ZrO_2, Y_2O_3 partially stabilised, phase diagram, microstruct. *(Japanese)* 7−53707

spinor groups *see group theory*

spinors *see vectors*

spirality *see elementary particle theory*

spirometry *see pneumodynamics*

splat cooling
- rapidly solidified alloys, developments and engng. design implications 7−27967
- steel, tool, high speed, splat quenched, microstruct. variations 7−46439
- Co-TaC, rapid quenching, microstruct. 7−65023
- Ni-Al (20 wt.%) alloy, planar flow cast, cooling rates and microstruct. 7−59505
- Pb-Sn α-phase alloys, cold-worked and splat-cooled, X-ray diffraction line anal. 7−46502
- Zr-Ni metallic glasses, crystn. 7−21111

splines (mathematics)
- *see also curve fitting; function approximation; interpolation*
- Abel inversion with high accuracy in optics/spectroscopy problems 7−35603
- cubic B-splines in least-squares smooth fitting for irregularly spaced data 7−47555
- differential equations, use of spline nodes for approximate soln. 7−35219
- functions, recovery in noisy network data by local splines *(Russian)* 7−61059
- geomagnetic main field anal. at core-mantle boundary, spherical harmonics compared with harmonic splines 7−65935
- geomagnetic secular variation, 1903-82, spine representation of temporal change 7−14185
- ophthalmic lens design using spline surfaces 7−54813
- rational complex planar splines, mapping props. for interpolants from polynomial functions 7−29716
- sea bed contour map construction from random data, spline method 7−34726
- sea bed contour map construction from random data, spline method 7−34728
- thin flat-walled structures, buckling, spline finite strip method 7−1459
- time varying digital filter, ventricular blood pressure meas. appl. 7−47268
- trigonometric splines, derivation of formulae 7−29692
- vibration analysis of flat shells by using B spline functions 7−50969

splines (mathematics) continued
- X-ray fluoresc., energy dispersive, 2-variable cumulative distrib. functions, cubic spline representation 7−23073
- Zeiss Gradal HS progressive addition lens, designs using splines, max. wearing comfort 7−50712

sponges *see porous materials*

sponginess *see porosity*

spontaneous emission, amplified *see superradiance*

spontaneous fission
- ^{260}104, bimodal symmetric fission observed in the heaviest elements 7−25012
- ^{264}108, decay and synthesis expts. 7−49347
- conf., Smolenice, Czechoslovakia, June 1985 7−41005
- even-even nuclei with Z=104-110, theoretical spontaneous fission and α-decay half-lives 7−49485
- heavy cluster spontaneous emission rates, odd-even staggering 7−49269
- spontaneous heavy ion emission from nuclei, half lives, SSNTD use 7−19213
- superheavy elements, nuclear properties and laboratory synthesis, review 7−61904
- superheavy nuclei, spontaneous fission studies using multiple neutron emission 7−42093
- ^{221}Fr, thermodynamic method of calculating yields of light nuclei in spontaneous decay 7−42091
- ^{241}Am spontaneous fission, search for ^{34}Si from decay events 7−30459
- ^{242m}Am, spontaneous-fission half-life meas., α-spectra, fission fragment spectra 7−61927
- ^{252}Cf fission, accidental-coincidence corrections 7−49858
- ^{252}Cf, neutron spectra from spontaneous fission 7−42088
- ^{252}Cf, nucl. fission channels, Strutinsky-type calcs. 7−49484
- ^{252}Cf, spontaneous fission, prompt fission neutron spectrum tail 7−30457
- ^{252}Cf, spontaneous fission prompt neutron spectra 7−5297
- ^{252}Cf(SF), neutron emission behaviour in light charged particle accompanied fission *(Chinese)* 7−5299
- ^{252}Cf(SF), noise equivalent source for freq. domain meas. 7−42135
- ^{252}Cf(sf), neutron emission, double-diff. probability 7−42098
- ^{252}Cf(sf), neutron spectrum description in generalised Madland-Nix model 7−36062
- ^{252}Cf(sf) neutron spectrum, meas. and theoretical calc., review 7−42096
- ^{242}Cm, spontaneous-fission half-life meas., α-spectra, fission fragment spectra 7−61927
- ^{A}Fm, A=257-259, anomalous spontaneous fission props. 7−36064
- ^{258}Fm, bimodal symmetric fission observed in the heaviest elements 7−25012
- ^{258}Fm, decay properties 7−25011
- ^{258}Fm, Z, A and half-life meas. 7−19159
- ^{A}Md, A=259,260, bimodal symmetric fission observed in the heavies elements 7−25012
- ^{A}Md^{m,g}, A=258,259 decay properties 7−25011
- ^{257}Md, anomalous spontaneous fission props. 7−36064
- Pu-containing fuel, models for estimation of spontaneous decay rate 7−15249
- ^{A}Pu(sf), A=238, 240, 242 7−42099
- ^{A}Ra, A=221-224, 226 thermodynamic method of calculating yields o light nuclei in spontaneous decay 7−42091

spontaneous magnetisation
- amorphous ferromagnetism, microscopic frozen spins model calcs. *(Russian)* 7−52945
- Ising model, 2D half-plane with layered exchange interactions and alternate surface magnetic fields 7−2836
- Ising model, dipolar, critical relax. at marginal dimension 7−52925
- large-*N* spontaneous magnetisation in zero dimensions 7−59022
- spherical model, fluctuation effects and phase transitions 7−33192
- superlattices, Heisenberg magnetism study *(Chinese)* 7−27485
- Fe epitaxial films, mag. size effects 7−59081
- Fe, mag. props., of different phases, modelling using Monte Carlo metho *(Russian)* 7−58992
- Fe-Co-based ternary alloys, atomic and mag. moment mutual ordering *(Russian)* 7−33169
- Fe-Cu-Ni, FCC ternary alloys, mag. props. 7−22852
- $Ni_{78}Mn_{22}$ reentrant alloy, struct. sensitive mag. props. 7−7496
- $Sc(CO_{1-x}Al_x)_2$, pseudobinary system, weak itinerant ferromagnetism 7−2825
- YIG powder, FMR line shape, test of independent powder particle mode 7−64533

spontaneous symmetry breaking
- $(\lambda\phi)_{3+1}{}^4$, gaussian effective potential, nontrivial positive λ_B soln. 7−409
- ϕ^4 field theory in (1+1) dimens., post-Gaussian approx. approaching th critical region 7−41615
- *CP* nonconservation at the unification scale, three-generation phase-invariant measure 7−19029
- *N* quantum approach to symmetry breaking 7−35708
- Abelian composite vector boson model, spontaneous symmetry breakin 7−41754
- Abelian gauge theories, systematic search in n-dimens. Minkowski spac 7−4973
- Bianchi type-II space-time, curvature effects on asymptotic freedom an finite-temp. effects 7−35694
- biological matter, electromagnetic interactions and spontaneous symmetr breaking 7−8473
- book, supersymmetry, superfields, supergravity 7−14724
- bound state problem for quarks and leptons, spontaneous symm. breakin 7−35709
- chiral fermion propagation on 2D fractal structs. 7−48981
- chiral field theory, low momentum penguin loop contribs. and $\Delta I=1/$ rule 7−41647
- composite Nambu-Goldstone superfield, dynamical aspects of minima realisation 7−4999
- cosmic axion string decays, constraint on Peccei-Quinn symm. breakin scale 7−24517
- cosmology, monopole abundance from first order GUT phase transition o early Universe 7−9572
- Coulomb-like gauge for massive gauge fields, SU(2) model appl. 7−4957
- CP-violating models without strong CP problem, cosmological baryo prod. 7−49037
- d=11 supergravity, S^7 truncation consistency 7−41222
- de Sitter symm., spontaneous breaking by radiative effects 7−35373
- dilation, specialconformal and superconformal symmetries at finite tempe-rature, tree level symmetry breaking 7−56465

spontaneous symmetry breaking continued
- dimensional reduction of gauge theories yielding unified models spontaneously broken to $SU_3 \times SU_2 \times U_1$ 7−35773
- E_6 electroweak models with two extra Z bosons, phenomenology 7−41682
- effective coupling constant, finite temp., one-loop approximation calcs. 7−41577
- Einstein-Maxwell-σ theory, 6D, spontaneous breaking of global and local symmetries 7−35369
- electroweak form factors of the Skyrmion 7−415
- electroweak model in strong external EM fields, possible appearance of Goldstone boson 7−56477
- electroweak symmetry breaking, phenomenology of colour exotic fermions 7−10009
- elementary scalar particle existence, U(1) Higgs model and scalar electrodynamics 7−10017
- elliptic equations, semilin., positive solns., symmetry-breaking 7−35210
- Eotvos anomaly, U(1) symm. breakdown interpretation 7−18682
- exact 2D Q-ball configurations near kink phase 7−404
- feeble intermediate-range forces from higher dimens., Kaluza-Klein theories 7−48497
- fermion, mass calcs. from abelian generation group symm. breaking 7−61636
- fermion guides, chiral symmetry spontaneous breakdown in QCD, pseudoscalar correl. functions 7−41727
- fermion mass determination, Weinberg model 7−49021
- fermion mass upper limits in model analysis 7−19006
- gap equation models for chiral symm. breaking in QCD 7−35738
- gauge theory, dimensional reduction, spontaneous symm. breaking and absence of chiral fermions 7−41594
- gauged SUSY σ-model in 4D, visualisation by Killing pots. 7−4988
- geometrical method of symmetry breaking, anal. using fibre bundles, electroweak model predictions 7−30209
- global supersymmetry, partially broken, implications for superstrings 7−15077
- globally supersymmetric preon models with gauged colour-flavour symm. 7−19079
- goldstino in spontaneously broken SUSY field theory 7−41657
- heavy quark dynamical mass, electroweak symmetric breaking, extended technicolour sector simplification 7−24837
- Higgs bosons in softly broken two-doublet supersymmetry model 7−35731
- hot QCD, nonAbelian Debye screening, singlet pot. and gauge symm. breaking 7−49075
- hypercolour, flavour changing neutral currents, chiral hierarchies 7−465
- hyperon beta-decay, Kobayashi-Maskawa angles and SU(3) breaking 7−41788
- inflationary cosmology in supergravity framework, supersymmetry and electroweak breaking 7−48514
- instantons and the U(1) anomaly in QCD, review 7−5048
- interacting scalar field theories, entropy and symmetry breaking induced by charge density 7−41663
- Kaluza-Klein and 11D supergravity, algebraic methods for spontaneous compactification 7−29847
- Kaluza-Klein theory with elementary gauge fields, symm. breaking mechanism 7−41192
- large-N QED$_3$, dynamical mass generation 7−19061
- lattice gauge theory, global symmetry restoration in high temperature Higgs theories 7−61423
- lattice QCD, chiral symm. breaking in strong coupling limit 7−56514
- lattice QCD sum rules and spontaneous chiral symm. breaking, Monte Carlo simulation 7−61603
- Lie groups, gauge-invariant Lagrangians, construction technique 7−35707
- light Higgs scalar boson searches, prospect for next generation e^+e^- collider 7−24807
- Liouville theory, geometry and symm. breaking 7−9981
- local baryon gauge invariance and Eotvos expt. 7−4959
- local Lorentz symm. breaking and space-time dimens. in gravit. theory 7−24803
- localized states, symm. breaking and semiclassical behaviour 7−35339
- low energy meson physics in the superconducting quark model 7−35811
- massive gauge superfields, N=2 in harmonic superspace 7−4958
- massive Schwinger model with Wilson fermions, chiral condensate calcs. 7−61541
- massless SUSY QCD, vacuum stability, instanton-anti-instanton contrib. to vacuum energy 7−41725
- N=1 supergravity, lepton number nonconservation 7−191
- N=1 supergravity, SU(3)×Su(2)×U(1) models, superparticle and t-quark masses 7−41228
- N=2 super Yang-Mills theory with finite vacuum energy 7−24789
- N=2 supergravity model with a light graviphoton 7−41227
- N=2 supersymmetry with tensor matter, classical potential, impossibility of SUSY breaking under certain metric conditions 7−61210
- neutrinoless double-beta decay in supersymmetric theories, R-parity violation 7−35765
- no-go theorem of supersymmetry breaking 7−19026
- non-particle-like Goldstone modes in the spontaneous breakdown of symmetry 7−41660
- nonAbelian family symm., origin of fermion masses and mixing angles 7−19041
- nonequilibrium dissipative system, spontaneous symm. breaking and Nambu-Goldstone mode 7−35739
- nonleptonic K decays in broken SU(3)×SU(3) 7−49134
- nonsymmetric Jordan-Thiry theory, spontaneous symmetry breaking and Higgs' mechanism 7−15086
- O_N invariant self-interacting theory, Gaussian quantisation and symmetry breaking, Goldstone theorem 7−24775
- O(N)×O(N) supersymmetric model, flat directions and spontaneous breaking of scale invariance 7−9993
- O(N) symmetric model, effective pot. in static homogeneous spacetimes 7−18673
- one-loop operator matrix elements in the Unruh vacuum 7−14845
- optical experiments for electroweak theory, atomic mirror symmetry breaking, Z^0 exchanges 7−61534
- parity invariance, strong and electromagnetic interactions 7−9995
- partial supersymmetry breaking in $N=4$ supergravity 7−4752
- particles in the early universe, conference, Thessaloniki, Greece (June 1985) 7−9596
- phase transition in a supersymmetric theory 7−5000
- photoproduction processes, quark model with charm and colour 7−41737
- polymer macromols., dil. solns., spontaneous symmetry breaking, replica method 7−15758
- primordial inflation with broken symm. gravit. theory 7−14840

spontaneous symmetry breaking continued
- pseudoclassical spin 1/2 particle models, classical trajectory and spin precessions 7−18997
- pseudoscalar meson charge radii from QCD sum rules, SU(3) breaking 7−10033
- QCD$_2$, chiral symmetry breakup and gluon condensate 7−41731
- QCD, chiral perturbation theory and effective lagrangians 7−49055
- QCD, quark condensates in spontaneous chiral SU(2)×SU(2) symm. breaking 7−471
- QCD, scalar confinement implications for chiral symmetry breaking 7−61550
- QCD in 2D, chiral symm. breaking and condensate calcs. 7−49073
- QCD sum rules for exotic $\bar{q}qG$ states 7−41733
- QCD-like theories, stability of chiral symm. breaking solns. 7−49076
- QED, threshold effects in spontaneously broken theories, gauge and scheme depend. 7−5041
- quantum field theory, structure concepts 7−9979
- quark mass matrix under S_N symmetry 7−61510
- quark-gluon plasma, perturbative and nonperturbative theory, review 7−56510
- quasi-Riemannian gravit. with local SO(3) invariance and broken Lorentz symm. 7−18670
- quaternion fields, spontaneous symmetry breaking and the Higgs mechanism 7−56460
- random lattice, doubling problem and chiral symm. breaking 7−394
- real 0^3+0^4 field in (1+1) dimens. at finite temp., soliton solns. 7−9944
- rotating cosmic string surrounded by grav. radiation, Einstein eqns. solns. 7−18464
- rotationally invariant quantum systems, ground state and spontaneous symm. breaking 7−61139
- scalar field theories, fermions and Gaussian effective pot. 7−35699
- Schwarzschild black holes, nucleation of vacuum phase transitions, Euclidean action 7−56102
- $SO(10) \rightarrow SU(2)_L \times SU(2)_R \times SU(4)_C$, $SU(2)_L \times SU(2)_R \times SU(3)_C \times U(1)_{B-L} \times D$ unified models, Higgs potential calcs. 7−454
- SO(10) superunification model, SUSY and $SU(3)_c \times U(1) \times SU(2)_L \times SU(2)_R$ breaking 7−61535
- SO(18), fermion families, symmetry breaking scheme, neutrino masses 7−452
- solids, thermo field dynamics calcs. 7−9986
- special embeddings, symmetry breaking scheme anal. 7−30232
- spinning cosmic strings and quantization of energy 7−170
- SQCD with $N_{colour} < N_{flavour}$, symmetry breakings 7−49085
- standard six-quark model with hierarchical symmetry breaking, quark mixing, mass generation 7−5065
- strict QCD inequality and mechanisms for chiral symmetry breaking, instantons role 7−30241
- $SU_C(4)$, gauge symmetry and supersymmetry breaking 7−15083
- $SU_L(3) \times SU_R(3) \times SU_C(3) \rightarrow zz$ 7−49038
- $SU_W(4) \times SU_C(4) \rightarrow zz$ 7−49038
- $SU(2)_{global} x U(1)_{local}$ gauge-Higgs model, phase props., chiral symmetry breaking 7−398
- SU(2)×SU(2) asymmetric linear σ model, symm. restoration at finite temp. 7−41650
- SU(2)×U(1) breaking, dynamical, doubly charged pseudo-Goldstone bosons 7−41659
- SU(2) lattice gauge theory, spontaneously broken, chiral symmetry realization 7−9958
- SU(5) supergravity models, low energy properties 7−24531
- superconducting cosmic strings, cosmological effects 7−24518
- superconducting cosmic strings, induced ang. momentum 7−9566
- supergravity, minimal N=1, radiative electroweak symmetry breaking and SU(5) parameter running 7−14849
- supergravity, N=2 no-scale model, supersymmetry breaking 7−29853
- supergravity, superstring inspired, intermediate scale symmetry breaking 7−35379
- supergravity model, exact potential minimization and SU(2)×U(1) breaking 7−18679
- supergravity SU(2)×U(1) tree-level breaking 7−56138
- supermembrane in 6D SUSY gauge theory, spontaneous breaking of D=4 N=2 global supersymmetry 7−30212
- superpropagators for broken supersymmetric abelian gauge theories 7−19023
- superstring low energy theory, spontaneous breakdown of E_6 7−9736
- superstring models with intermediate scale breaking, inflation as cure for cosmological problems 7−56113
- superstring theory, classical symmetries in the low-energy limit 7−24804
- superstrings, energy splitting of gauge field vacua 7−35842
- superstrings, gaugino mass contributions in low-energy limits 7−24812
- superstrings, problems for (2,0) compactifications 7−5023
- supersymmetric GUT scale, no-scale models and gravitino mass 7−18665
- supersymmetric model with E_6 gauge group and matter 27-plet, valley construction 7−41667
- supersymmetric quantum mechanics in 3D curved space 7−4715
- SUSY degeneracy, soft breaking by trilinear soft terms 7−15081
- SUSY theories, two-dimensional, SUSY breaking to next-to-leading order in 1/N expansion 7−5002
- T, CP, and CPT transformations in the presence of vacuum degeneracy 7−35741
- technicolour theories, chiral hierarchies, perturbation and breaking 7−41728
- twisting toroidally compactified heterotic strings with enlarged symmetry groups 7−35822
- U(1) lattice gauge theory, 3D, meson mass calcs. in quenched approx. 7−15068
- U(1) problem on a lattice, massless π^0 and massive η 7−48996
- U(1) varied-modular Higgs model, phase struct. simulation 7−18973
- Universe, large-scale structure, cosmic strings 7−14688
- vacuum decay rate at zero temp. in gauge theories 7−30168
- vortices and electrically charged vortices in non-Abelian gauge theories 7−41607
- Witten index at finite temperature 7−35733
- Z(2) Higgs model, nonlocal fields, gauge symmetry breaking and confinement problem 7−56473
- $e^+e^- \rightarrow X$, asymmetries from E_6 GUTs 7−448
- $K_L{}^0 \rightarrow \gamma\gamma$, chiral perturbation theory corrections to SU(3) terms 7−15160
- π, quark confinement theory, Nambu-Goldstone scalars and symm. restoration 7−35808

- **spontaneous symmetry breaking** continued
  - π-η mass difference in lattice QCD, U(1) problem, strong coupling expansion 7—41810
  - $\psi \rightarrow \eta\gamma(\eta'\gamma)$, gluonium content in phenomenological model with SU(3) breaking 7—19108
- **spooling** *see winding (process)*
- **sporadic-E layer**
  - enhancements rel. to local geomagnetic k-index in Far East *(Chinese)* 7—18330
  - irregularities effect on VHF aperture synthesis observations, in astronomy *(Chinese)* 7—66471
  - low-latitude E_s-layer, and modified wind shear theory of formation 7—34783
  - MF sky waves, measured and predicted field strengths comparison in Japan 7—23932
  - occurrence over Balkan Peninsula during 1973, obs. from three stations 7—66383
  - VHF-FM broadcast Es propagated signal polarisation obs. 7—60468
- **sports** *see entertainment*
- **spray coating techniques**
  - *see also flame spraying; plasma arc spraying; powder spraying*
  - hot sprayed coatings on flat surface, thermal conditions of form. 7—27896
  - surface engineering for corrosion protection 7—3478
  - thickness meas. and control during thermal spraying 7—61315
  - CdS photoconductive thin films, optimum spray pyrolysis preparation conditions 7—17418
  - CdZnS/CuInSe_2 solar cells, spray pyrolysis prep. and characts. 7—8374
  - CoO_x-FeO_x selective coatings, spray pyrolysis for high temp. appls. 7—5974
  - $CuBiS_2$ thin films, spray pyrolytic deposition, elec. and optical props. 7—7894
  - ZnO thin film preparation by spray pyrolysis for photoelectrochemical solar cells 7—23166
- **spray coatings**
  - *see also electrostatic coatings; flame sprayed coatings; plasma arc sprayed coatings; powder sprayed coatings*
  - liquid droplet spraying, adhesion to substrate 7—3165
  - Bi_2CdS_4 thin film photoelectrodes, electrochemical photovoltaic cell appls. 7—17918
  - CdS films, formation by spray pyrolysis, characterisation of intermediate complexes 7—39372
  - CdS films, spray deposited, laser annealing, struct., carrier mobility 7—58318
  - CdS:In-SnO_2 (glass), spray pyrolysed, photoelectrochemical studies 7—52830
  - $Cd_{0.8}Zn_{0.2}S$ films, solution-sprayed, photocurrent decay times 7—45525
  - $Co_xIn_2S_{3+x}$ thin films, spray pyrolysis deposited, structural and optical props. 7—22468
  - $CuInS_2$/a-Si:H heterojunctions, photovoltaic behaviour, c-v meas. 7—7340
  - $CuInS_2$-SnO_x:F sprayed solar cells, photovoltaic props. 7—54322
  - Cu_2S films, chemically sprayed, optical and solar selective props. 7—54350
  - $Fe_{76}Nd_{16}B_8$ plasma sprayed permanent magnets, characts. 7—45754
  - FeS_2 pyrite films, chemically deposited, interband transitions 7—13246
  - β-In_2S_3 thin films, spray pyrolysis grown, optical energy gaps 7—33467
  - $In_{2-x}Sn_xO_{3-y}$-CdTe solar cells, spray deposited, elec. and photoelec. props. 7—54321
  - SnO_2:Cl coatings, electrical and optical props. 7—58925
  - SnO_2:Sb spray deposited coatings, comp., elec. props. thermal treatments, AES study 7—22393
  - TiC plasma sprayed coatings, microstruct., composition 7—16902
  - WO_3 electrochromic films on SnO_2:F, spray deposition and props. 7—3204
- **sprays**
  - *see also aerosols; drops; jets*
  - dense particle fields, laser diffraction meas. correction for multiple scatt. 7—1212
  - drop size distrib. function analysis *(Chinese)* 7—11517
  - fuel spray ignition by hot surface 7—51337
  - fuel sprays, exciplex-based diagnostics 7—23077
  - liquid-liquid spray column, heat transfer model 7—1567
  - methanol particle sizing with phase Doppler spray analyser 7—29969
  - multipinhole-plate US nebuliser, vibrating system influence 7—35503
  - particle siting with phase Doppler spray analyser, nonspherical drops effect 7—29969
  - particle sizing and spray analysis, conf., San Diego, USA (Aug. 1985) 7—29583
  - particle sizing techniques, laser interferometric, performance comparison 7—30071
  - two-phase flow, concentration and droplet size distrib., simultaneous and instantaneous meas. 7—37535
- **spreading** *see wetting*
- **spreadsheet programs**
  - atmosphere sulphur deposition, spreadsheet-based model 7—54397
  - Formula Vision, spreadsheet program for aiding in maths and science formula comprehension 7—35181
  - Lotus 1-2-3 on IBM PC, use in regional acid deposition calculations 7—54408
  - numerical problems soln. 7—24341
  - plasma renin assay calculation using Lotus 1-2-3 7—11585
  - rainfall-runoff-percolation model using programmable spreadsheet 7—55116
- SPS *see solar power satellites*
- **spurions** *see elementary particles*
- **sputter deposited coatings** *see sputtered coatings*
- **sputter deposition**
  - angular distrib. of sputtered particles, effect of target environment, AES study 7—64028
  - cermets, tandem deposition of small metal particle composites 7—33629
  - chamber for deposition of thin films by cathode sputtering 7—33562
  - confined ion beam cylinder technique 7—53586
  - crystal growth, ion/surface interactions, photo-induced reactions, review 7—53609
  - diamond crystallisation, conf., Warsaw, Poland (June 1985) 7—18469
  - electron-induced X-ray emission for chemical composition anal. 7—3166
  - epitaxial thin film growth by ion beam sputtering deposition technique 7—64030
  - II-VI semiconductor films, prep., electronic props., solar cell appl. *(Japanese)* 7—54299
- **sputter deposition** continued
  - ion beam modification of materials, conf., Catania, Italy (9-13 June 1986) 7—60865
  - ion source using hollow cathode discharge for thin film formation 7—41536
  - ionic impact processing machines develop. *(Japanese)* 7—53637
  - low-energy ion beam generation from broad-beam ion sources, appl. to sputtering *(German)* 7—41537
  - magnetron sputtering apparatus, construction and performance 7—59420
  - magnetron sputtering cathode, CAD using finite-element program 7—46316
  - metal nitride films, prep., props., microelectronics appls. 7—33557
  - metal-metal superlattices, prep. by sputtering, struct. charact. 7—3172
  - metal-semiconductor junctions, formation, structural and electrical props. 7—38727
  - microstructure of sputter deposited coatings, IC appls. 7—52338
  - MIS solar cells, sputter deposition of barrier metal 7—17866
  - multilayer monochromators and supermirrors, X-ray and neutron, controlled sputter deposition 7—33563
  - multilayer structures, sputter depth profile calibration 7—39382
  - nitride and carbide thin films, high-rate reactive sputtering processes and props. study *(Polish)* 7—33559
  - opposed-targets sputtering, RF and DC discharge characteristics 7—7846
  - opposed-targets sputtering system, unbalanced potential discharge characteristics 7—63393
  - planar magnetron sputtering, discharge characts., mag. field effect *(Japanese)* 7—13620
  - polymeric films, prep. on solid surfaces in vacuum, use of laser radiation 7—7862
  - post magnetron sputter and reactive sputter coating on contoured substrates 7—53588
  - protective coatings, reactive magnetron sputtering, microelectronics appl. 7—33556
  - reactive sputtering, quartz cryst. microbalance meas. of reactive gas 7—53589
  - reactive sputtering, system stability, hysteresis effect 7—3168
  - review of recent advances 7—39377
  - semiconductor film deposition using low energy ion beam from single grid Kaufman type ion source *(Japanese)* 7—62156
  - stainless steel films, amorphous and amorphous-crystalline with refractory metal additions, magnetron sputtering 7—39380
  - superconductor film deposition using low energy ion beam from single grid Kaufman type ion source *(Japanese)* 7—62156
  - thin layers, laser sputtering, struct-form., Monte Carlo modelling 7—27901
  - transparent conductive coatings for display industry use 7—50663
  - AgCl films deposited by evaporation and RF sputtering, compositional and morphological anal. 7—16892
  - Al, magnetron sputtering, target profile changes 7—7853
  - Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7—31424
  - AlN corrosion protective coating for TbFe magneto-optical media 7—53953
  - AlN, film, RF reactive sputtering, effects of N content 7—39383
  - Al_2O_3, ion beam sputtered protective coating for Kapton solar array blanket 7—3705
  - $BaFe_{12}O_{19}$ films, RF diode sputtering prep. and mag. props. *(Japanese)* 7—7852
  - BiIG films, selected-area sputter epitaxy 7—7845
  - C films, diamond like, prep. and props. 7—22472
  - C^- negative-ion-beam deposition system, mass-separated 7—3170
  - C-W multilayers, sputtered, ellipsometry monitoring, X-ray refl., XPS 7—39376
  - C-W ultrathin layered stacks, sputtering techniques, in situ ellipsometry control system 7—1292
  - $CdIn_2O_4$ thin films, DC reactive sputtered, elec. and optical props. 7—38788
  - Cd_2SnO_4 transparent thin film electrodes prepared by DC reactive sputtering from Cd-Sn alloy targets 7—22477
  - CdTe, cathode sputtering process statistical modelling, optical layer deposition 7—39375
  - Co-Cr, continuously sputtered films, crystallographic orientation and mag, props. 7—27176
  - Co-Cr films, continuous fabrication by sputtering, substrate degassing effects 7—27904
  - Co-Cr films, deposition by exposed pole magnetron sputtering 7—27903
  - Co-Cr films, sputter deposition and characterisation 7—27178
  - Co-Cr films, sputter deposition, microstructure and its growth mechanism 7—27179
  - Co-Cr films, sputter deposited, effects of additive gases on mag. props. 7—27575
  - Co-Cr films for perpendicular mag. recording media, deposition in facing targets sputtering system 7—64899
  - Co-Cr magnetic thin films, facing targets sputter deposition, microstruct. model 7—27905
  - Co-Cr perpendicular recording media, props., effect of impurity gases 7—59069
  - Co-Cr thin films, DC magnetron sputtered, mag. props., effect of substrate and deposition rate 7—59067
  - Co-Cr thin films for mag. recording, by facing targets sputtering, C-axis orientation 7—59418
  - Co-Ta amorphous magnetic thin films, sputter deposition methods 7—22483
  - Co-Zr amorphous films, low energy ion beam sputtering, mag. props. 7—53081
  - Co-Zr amorphous magnetic thin films, sputter deposition methods 7—22483
  - CoCr double-layered film, sputter deposition 7—27177
  - CoCr films, sputter deposition, mag. characteristics of initial deposition layer 7—27574
  - CoFeMoB amorphous thin films, prep. and high-freq. impedance studies 7—53585
  - CoNbZr films, deposition by DC opposing-target sputtering method 7—13352
  - CrC coatings on high speed steel, deposition process and mechanical props. 7—64011
  - Cu film deposition, sputtering method using Ar gas flow *(Japanese)* 7—22479
  - Cu films, sputter deposition using hollow cathode discharge ion source 7—41536

utter deposition continued
Cu films, sputter deposition, effect of ion bombardment of growing film 7—64009
Cu, plasma nitriding, sputtering and redeposition of cathode material 7—39752
Cu thin film, surface electromag. waves damping, deposition technique study 7—59274
Cu/PdNi, single cryst. multilayers, sputter deposition 7—53582
Cu-Sn alloy coatings, magnetron sputtered, crystal orientation 7—39381
Cu-Zr, compositionally modulated amorphous films, sputter deposition prep. 7—22482
$CuInS_2$ films, RF sputtering, struct. and elec. props. 7—3169
$CuInSe_2$ large grain (112) oriented thin films grown by RF sputtering, solar cell applications 7—17422
$CuInSe_2$-CdS heterojunctions deposition, in-line sputtering system 7—64900
Cu_2S/CdS large-area solar cells, reactive sputtering 7—46943
Er-Cu (Ni) metallic glass form. by near-isothermal cold rolling 7—22610
Fe-Cu-Ag amorphous alloys produced by vapor quenching 7—7849
Fe-Mn-Al, plasma nitriding, sputtering and redeposition of cathode material 7—39752
Fe-Si amorphous magnetic thin films, sputter deposition methods 7—22483
Fe-Si-Al, Sendust films, DC opposite sputtered, mag. and crystallographic characteristics 7—7847
Fe-Ti compositionally modulated amorphous films, sputter deposition prep. 7—22482
γ-Fe_2O_3 reactive RF sputter deposition, struct., elec. and mag. props. studies 7—17421
GaAs, polycrystalline thin films, RF sputter deposition on silica substrates, light transmission props. 7—46320
Ge, cathode sputtering process statistical modelling, optical layer deposition 7—39375
Ge ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7—17423
a-GeSi:H, deposition kinetics and structural control 7—45087
$In_{2-x}Sn_xO_{3-y}$ films, reactive RF magnetron sputtering prep., elec. and optical props. 7—46324
$In_{2-x}Sn_xO_{3-y}$ thin films, RF reactive sputtering prep., elec. and optical props. 7—39378
$In_{2-x}Sn_xO_{3-y}$-InP, solar cells for space appl. 7—3700
Mo/V quasiperiodic multilayers, growth and superconductivity 7—12927
Nb films and coatings, sputter deposition method 7—27902
Nb-Ge films, formation of high T_c A15 phase 7—58948
Nb-Ti compositionally modulated films, struct. study 7—7056
NbN_xC_y superconducting thin films, dual ion-beam sputter deposition 7—2758
Ni finite films, sputtered, struct. and compositional studies 7—64024
Ni-Fe film, ion beam sputter deposition, ion bombardment effect on preferred orientation 7—64010
NiCrSiB alloy coatings, sputter deposition, microstruct. variations 7—46351
Pd films, sputter deposition, effect of ion bombardment of growing film 7—64009
Pt films, sputter deposition, effect of ion bombardment of growing film 7—64009
Pu-Fe(Ta)(Si) alloys, formation amorphous or metastable structures 7—16421
RuO_2 films, sputter deposition using hollow cathode discharge ion source 7—41536
Si homoepitaxial thin film growth by ultrahigh vacuum ion beam sputter deposition 7—22582
Si ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7—17423
a-Si:H film prep. by compressed mag. field magnetron sputtering *(Japanese)* 7—46323
a-Si:H films, high rate deposition by RF planar magnetron sputtering *(Japanese)* 7—39373
a-Si:H films, sputter deposition, optical and ESR props. 7—33565
a-Si:H films deposited by dual ion beam sputtering, characterisation 7—32882
a-Si:H films high-rate deposition by RF planar magnetron sputtering *(Japanese)* 7—17419
SiN films, H-free, ion beam sputter deposition 7—13353
Si_3N_4 antireflection coating, sputter deposition and optical props., laser appls. 7—59421
SiO_2 and SiO_2-polytetrafluoroethylene mixture, ion beam sputtered protective coating for Kapton solar array blanket 7—3705
SiO_x optical films, molecular beam fabrication and laser damage props. 7—39389
$Si_{1-x}(ZnS)_x$:H amorphous films, synthesis and characterisation 7—17420
Ta_2O_5 films for MOS DRAMs using ultra-high purity Ta sputtering target 7—59423
(Ti,Al)N layers on high speed steel, morphology and props., deposition temp. and sputtering atmosphere depend. 7—53975
Ti, plasma nitriding, sputtering and redeposition of cathode material 7—39752
Ti-Ni, crystalline to amorphous transitions, struct. anal. 7—44375
TiAlN coatings, sputter ion plating, struct. and protective props. 7—53976
TiC coatings on high speed steel, deposition process and mechanical props. 7—64011
TiC thin films, reactive magnetron sputtering 7—39379
TiC/Fe multicomponent films on steel, sputter deposition and characteris. *(Japanese)* 7—3167
TiN (100) epitaxial film sputtering, defect density, ion irrad. effects, TEM study 7—58684
TiN coatings, N partial pressure effects on composition, spectral reflectance and colour 7—53420
TiN coatings, sputter ion plated, process, engineering appls. 7—46321
TiN coatings on steel substrates, growth, struct., props. 7—33799
TiN film deposition by reactive sputtering, hardness and optical props. 7—22481
TiN planar magnetron sputtering, thin coating deposition on high speed steel substrate, TEM and atom probe FIM studies 7—33561
TiN, reactive sputtering, rel. to plasma enhanced CVD 7—39427
TiO_x, thin film, reactive sputtering deposition, using RF triode sputtering source 7—59424
W/C multilayer films, thermal stability, X-ray diffr. studies 7—27169
WC coatings on high speed steel, deposition process and mechanical props. 7—64011

sputter deposition continued
WC thin films, RF reactive magnetron sputtering and hardness meas. 7—7844
ZnO films, DC sputtered, structure changes during growth 7—7848
ZnO:Al films, RF reactive sputter deposition, struct., elec. and optical props. *(Japanese)* 7—27900
ZnO:Si thin films, RF magnetron sputtered, conductive and transparent props. 7—22476

sputter etching
Aharonov-Bohm magnetoconductance oscills. study using nm-scale lithography 7—52836
alumina, UV laser sputter etching effects, laser-induced fluoresc. and interferometry studies 7—26798
biological materials, ion beam etching using saddle field source, SEM studies 7—28797
diagnostics of plasma systems using mass spectrometry 7—32101
dielectric underlayer film, sputter etching treatment before TbCo film deposition 7—45767
dry etching of semiconductor materials 7—33819
dry etching using image reversal photoresists. *(Japanese)* 7—65199
external meas. on plasma etch chamber, interpretation 7—26518
III-V semiconds., ion beam damage-induced masking for photoelectrochem. etching 7—44628
III-V semiconductors, ionic reactive etching *(French)* 7—46735
laser-assisted etching of electronic materials 7—28162
metals, etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7—3493
morphology evolution w.r.t. angle of incidence variation 7—59649
MOSFET, excimer laser beam irradiation and RIE, radiation damage 7—2056
multimicroelectrode fabrication by Si dry etching *(Japanese)* 7—23504
optical diagnostic studies in plasmas and plasma processing, review 7—37758
phthalocyanine thin films, gas-surface reactions, elec. cond. meas., ESCA 7—52262
planar magnetron sputtering, discharge characts., mag. field effect *(Japanese)* 7—13620
plasma and RIE etching 7—33821
plasma etching reactors, energy distrib. of ions 7—37759
plasma processing, conf., Palo Alto, CA, USA (April 1986) 7—35109
plasma processing, SF_5, SF_2 and SOF reactions with O_2 and $O(^3P)$ 7—3586
plasma properties in plasma etchers 7—33820
plastic surfaces, wettability control by plasma treatment, etching effects 7—53927
polyimide film, etching and surface modification in plasmas, XPS, SEM and contact angle meas. 7—28166
polyimide film, etching and surface modification in SF_6-O_2 discharge 7—22858
polyimide films, microwave plasma etching, anisotropy rel. to ion energy 7—53936
polyimide thin films, plasma-assisted etching, ion bombardment effects, quartz cryst. microbalance studies 7—28211
polysilicon, plasma etching in single slice planar reactor *(German)* 7—46736
polysilicon films, etching in parallel plate plasma reactor, freq. depend. 7—17744
radiation-stimulated diffusion during ion etching 7—38261
rare gas ion-enhanced etching 7—22918
reactive ion beam etching and associated systems 7—33822
reactive ion etching, AES, photoluminescence, SEM obs. 7—65241
reactive-ion etching, advances in technology 7—39690
RF discharges, characterisation by electrode self-bias voltage 7—21020
RF plasma parameters and the use of Langmuir probes 7—32100
RIE, etch mechanisms, modelling 7—39785
SAW devices, frequency trimming 7—20531
semiconductor, TEM specimen preparation using I^+ ion milling 7—18941
semiconductor processing and fabrication techniques, laser diagnostic methods 7—22500
steel, stainless, nitrized, ion milling 7—59660
surface topography evolution during reactive etching and codeposition 7—58587
tetrafluoromethane-O_2 discharge, plasma etching, chem. processes 7—3475
tetrafluoromethane/O_2 plasma etching reactor, CF and CF_2 radicals, laser induced fluorescence detection 7—58068
yield measurements using glow discharge ion gun 7—13303
Al, solutions for ‘pump damaging’ etch and CVD processes 7—35528
$Al_{0.3}Ga_{0.7}As$, thermal and ion-assisted reactions with Cl_2 7—28349
Al_2O_3 coatings, ion beam and chemically etched, comparison 7—22868
Bi film, etching by methyl radicals in discharges 7—3507
CdTe, D plasma etching, surface comp. 7—46730
Cl atom conc. meas. in plasma etching reactor 7—37760
Cl_2, plasma etching reactor, atomic Cl conc. and gas temp., laser spectroscopic meas. 7—58069
Co-Cr thin films, sputter etching and annealing, FMR study 7—59112
Cr carbonaceous films, prod. in situ in Tokamak TEXTOR, depth profiling 7—22893
Cu thin film, surface electromag. waves damping, deposition technique study 7—59274
Cu wires, thin, sputter-induced cones 7—51881
Cu-Ag sandwich, sputter etching, microprojections growth 7—22885
CuCl nanosec. laser etching, time-of-flight study 7—39687
Fe-Si-B (10, 15 at.%) alloy glass, ion milling rate, cooling condition depend. 7—46690
GaAs, dry etching, radiation damage 7—54024
GaAs, etching in Ar-tetrachloromethane RF discharge 7—32167
GaAs, excimer laser projection etching 7—13662
GaAs MESFETs, reactive ion etching, DC characteristics *(Japanese)* 7—59701
GaAs, maskless ion beam assisted etching 7—22923
GaAs, plasma etching damage, Raman scatt. study 7—54023
GaAs, plasma etching in H glow discharge 7—32168
GaAs, surface potential barrier in ion-etched (100) surface, electronvoltaic effect 7—7819
GaAs/$Al_xGa_{1-x}As$ RIE using CCl_2F_2, selectivity 7—22920
GaAs-AlAs superlattice struct., lithographic fabrication of TEM cross-sections 7—370
GaAs-AlGaAs short cavity multiquantum well lasers, dry etching, threshold current and single mode operation 7—20253
GaAs(100), thermal and ion-assisted reactions with Cl_2 7—3537

sputter etching continued
- In film, etching by methyl radicals in discharges 7—3507
- InGaAs, reactive ion etching 7—65241
- InP dry etching at room temp. 7—28227
- InP, ion enhanced chem. etching in Cl_2, thermal pulse model 7—54029
- InP, maskless ion beam assisted etching 7—22923
- InP, reactive ion etching, AES, photoluminescence, SEM obs. 7—65241
- InP, submicron gratings, reactive ion beam etching and deformation-free LPE overgrowth 7—13659
- InP substrate vapour phase etching, surface morphology, temp. depend. study 7—28220
- InP surfaces, sputter etched, optoelectronic and structural props. 7—13661
- Mo, etching, new method 7—39749
- Mo, TiC coated, H absorption under glow discharge fusion reactor appl. 7—52244
- Ni carbonaceous films, prod. in situ in Tokamak TEXTOR, depth profiling 7—22893
- O_2-Ar etching plasmas, spatially resolved detection of O atoms by two-photon laser-induced fluorescence 7—20917
- Pb film, etching by methyl radicals in discharges 7—3507
- Sb film, etching by methyl radicals in discharges 7—3507
- p-Si (100), chemical etching with aq. $K_2Cr_2O_7$, XPS, UPS, LEED and TRMC meas. 7—46719
- Si, amorphous and single cryst., etching rate, ion backscatt. and channelling meas. 7—28231
- Si carbonaceous films, prod. in situ in Tokamak TEXTOR, depth profiling 7—22893
- Si, chemical sputtering by ions, electrons and photons 7—59355
- Si, dry etching, radiation damage 7—54024
- Si, etch mechanism modelling, CF_4+O_2 7—39785
- Si, etch rate, NF_3 plasma, kinetic model 7—39786
- Si, etch rates and reaction products study in NF_3-O_2 discharge 7—28218
- Si, etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7—3493
- Si, etching in CF_4 discharge, SiF_2 and CF_2 radicals, laser-induced fluorescence study 7—46727
- Si, etching in CF_4 plasma, chemistry, model 7—3544
- Si, etching rates in CF_4/O_2 plasmas, effect of photoresist or Al masking 7—65222
- Si, in SF_6+O_2 and NF_3+O_2 mixtures, kinetic model 7—39787
- Si, ion-induced etching, surface processes 7—59702
- Si, kinetic model, SF_6+O_2+Ar in plasma etch mode 7—39784
- Si, laser-induced etching with Cl_2 7—22915
- Si, MBE growth, Radclean surface cleaning process 7—12557
- Si, plasma etching, oxide breakdown due to charge accumulation 7—17743
- Si, plasma etching in Ar-tetrafluoromethane glow discharge 7—32170
- Si, plasma etching in H glow discharge 7—32168
- Si, plasma etching selectivity using negative DC biasing 7—39769
- Si, plasma etching with tetrafluoromethane and N_2O, role of O_2 in etching 7—3535
- Si, polycrystalline, chemistry of plasma etching with H_2 and Cl_2 7—54021
- Si polycrystalline CVD film, etch rate free carrier depend., doping level and grain size depend. meas. 7—28219
- Si, reactive ion etching using collimated beam prod. by 10^{-3} Torr magnetron discharge 7—54027
- Si, reactive sputter etching, damage removal methods 7—17742
- p-Si Schottky barriers, N_2 and Ar ion beam etching effects *(Korean)* 7—12858
- Si shallow p-n junctions, reactive ion etching damage, defects and leakage current studies 7—27411
- Si single crystal, reactive ion etching-induced damage, nondestructive thermal wave monitoring 7—28230
- Si solar cells, polycrystalline, efficiency improvement using plasma treatments 7—13909
- Si substrate, anisotropic dry etching effects on surface props., XPS, ion channelling and Raman scatt. studies 7—28229
- Si surface, atomic and mol. F reactions, XPS studies 7—28350
- Si surface, RIE, Si_3N_4 CVD 7—59691
- Si surface, residue form. in trifluoromethane discharge environment 7—54020
- Si surface barrier detector, annular transmission, fabrication and characts. 7—19661
- Si, surface contamination during reactive ion beam etching with Cl_2 7—3539
- Si, surface etching by COF_2, thermal and photochemical promotion 7—33853
- Si, surface reaction with XeF_2, rel. to etching mechanism 7—17738
- Si surface roughening by reactive ion etching, mech. 7—65240
- Si surface state after plasma etching in a diode type system 7—6940
- Si surface study after Ar ion-assisted Cl_2etching 7—3538
- Si, trench etching technique, ultrafine, using multi-step processing 7—54030
- Si wafer substrates, oxide removal, transient mass spectrometry, XPS studies 7—13670
- Si wafers, etching by NF_3, plasma and reagent pulse induced transients 7—3533
- Si wafers, etching in SF_6 RF discharges, diagnostic meas. 7—28214
- Si:C, impurity concentration determ. by photoluminesc. method 7—46084
- Si:C, photolum. detection of impurities introduced by dry etching processes 7—27748
- *a*-Si:H doping superlattice interface struct. charactn. 7—58652
- a-Si:H/*a*-SiN_x:H superlattice interface struct. charactn. 7—58652
- Si:In^+, ion implanted, damage prod., incidence angle depend. 7—65242
- Si:P, directional plasma etching, in SF_6+CFCl_3 discharge 7—39788
- Si:P, heavily doped, plasma etching with trifluorochloromethane-Ar discharges, modelling of ion bombard. energy distrib. 7—28222
- Si:P, heavily doped, plasma etching with trifluorochloromethane-Ar discharges, modelling of etching rate and directionality 7—28223
- Si:P, polycrystalline, excimer laser photochemical directional etching 7—65226
- Si:P, polycrystalline, high pressure reactive ion etching with HCl 7—28224
- Si:P heavily doped, plasma etching with trifluorochloromethane-Ar discharges, parametric modelling and impedance anal. 7—28221
- p-Si/Al Schottky barriers, Ar^+ implantation damage, oxidation, etching and elec. props. 7—21290
- Si/Ti selectively sputter deposited interface, Auger and Rutherford backscatt. studies 7—21690
- Si-based materials, plasma etching in planar reactor 7—37750

sputter etching continued
- SiC (0001) and (000$\bar{1}$) surface segregation, electron spectroscopy 7—21459
- *β*-SiC, plasma etching 7—65223
- n-SiC single cryst., polar faces, reactive ion-plasma etching studies 7—33858
- Si_3N_4 CVD layers, etch rate modification by ion bombard. and annealing 7—28217
- SiO_2, etch rates and reaction products study in NF_3-O_2 discharge 7—28218
- SiO_2, etching by carbon tetrafluoride ion beams, mechanism, mass spectra obs. 7—3493
- SiO_2, etching rates in CF_4/O_2 plasmas, effect of photoresist or Al masking 7—65222
- SiO_2 films on Si substrates, plasma etching parameter variation effects, response-surface methodology study 7—22854
- SiO_2, ion-activated chem. etching, laser interferometry studies 7—12424
- SiO_2, ion-induced etching, surface processes 7—59702
- SiO_2 plasma etching in narrowly confined plasma of high power density 7—22857
- SiO_2, plasma etching selectivity using negative DC biasing 7—39769
- SiO_2, reactive ion etching, in SF_6 plasma 7—39693
- SiO_2, reactive ion etching, modelling 7—39785
- SiO_2, surface etching by COF_2, thermal and photochemical promotion 7—33853
- SiO_2 surface interaction with CF_3^+ and CH_4^+, mol. sputtering model calcs., AES meas. 7—27854
- Sn film, etching by methyl radicals in discharges 7—3507
- TiN compound layer prepared by ion implantation, XPS and FTIR obs., depth profile analysis of ion etched samples 7—59373
- W films, ion beam enhanced etching with XeF_2 7—53942
- W, microwave plasma etching, side wall protection technique using chopping method 7—59686
- W, polycryst. foils and single crysts., chemical etching, ion bombardment effects, AES study 7—28212
- W, surface reaction with XeF_2, rel. to etching mechanism 7—17738
- W thin films, plasma-assisted etching, ion bombardment effects, quartz cryst. microbalance studies 7—28211
- Zn film, etching by methyl radicals in discharges 7—3507

sputtered coatings
- 7X GaAs, sputtered films, optical props., effective medium models *(Chinese)* 7—7774
- alloy thin films, co-deposited, phase form. 7—59492
- amorphous multilayer X-ray reflectors, layer imperfections effects 7—25936
- CdS-$CuInSe_2$ solar cells fabricated by DC magnetron sputtering of Cu_2Se and In_2Se_3 7—23170
- Corning glass films, RF magnetron sputtered, optical props. 7—57552
- cylindrical magnetron sputtering systems for wire coatings 7—46348
- diamond crystallisation, conf., Warsaw, Poland (June 1985) 7—18469
- Fe-Si multilayered thin films, stacking structs., magnetostatic coupling and layer boundary interdiffusion 7—7574
- hierarchical lattices, phase transition universality sputtered, photoelec. props. 7—35486
- highly reflecting diffusers, middle-IR region, develop. status study 7—57615
- magnetic thin film, ion beam irrad., struct. studies 7—22588
- magnetron sputtered ion plating on A3 steel *(Chinese)* 7—22473
- metal nitride films, prep., props., microelectronics appls. 7—33557
- metallic films, post magnetron sputter and reactive sputter coating on contoured substrates 7—53588
- metallic multilayers, sputter deposited, superconducting props. *(Japanese)* 7—12906
- MgO films, prep. by RF sputtering, orientation and microstruct. *(Japanese)* 7—22480
- microstructure of sputter deposited coatings, IC appls. 7—52338
- multilayer structures, convex surfaces for soft X-ray diffr., plasma spectra appl. 7—37100
- nitride and carbide thin films, high-rate reactive sputtering processes and props. study *(Polish)* 7—33559
- nitride coatings on high-speed steel substrates, characterisation by Auger electron spectroscopy and X-ray photoelectron spectroscopy 7—53982
- optical protective coatings, post magnetron sputter and reactive sputter coating 7—53588
- oxide films, RF sputtered, high intensity electron beam irrad. effects 7—44626
- Permalloy thin films heads, RF sputtered, mag. props. 7—33235
- protective coatings, reactive magnetron sputtering, microelectronics appl. 7—33556
- steel, stainless, films, sputter deposited, vacuum annealing-induced solute depletion 7—64012
- structural, mechanical and tribological props. and applications 7—53935
- surface modifications and coatings, conf., Toronto, Ont., Canada (Oct. 1985) 7—41004
- thermionic props. obs., chamber for deposition of thin films by cathode sputtering 7—33562
- thin layers, laser sputtering, struct-form., Monte Carlo modelling 7—27901
- transition metal film-Al_2O_3 interfaces, thermal reaction, backscattering spectra, X-ray diffr. studies 7—52304
- transition metal silicide layers, electron microscope exam. *(German)* 7—45081
- transparent conductive coatings for display industry use 7—50663
- Al sputtered thin films, struct. props. 7—21758
- Al/a-SiC films, RF sputtered, interfacial struct. and reactions, 573-773K *(Japanese)* 7—53583
- Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7—31424
- Al/NbN/Al sputtered thin film system, tunnelling characts., comment 7—45575
- Al-based sputtered hard compound films, struct. and props. 7—46318
- Al-C-O/Al sputtered solar selective absorbing surfaces *(Chinese)* 7—40025
- Al-Mo multilayered films, struct., elec. props. 7—58863
- Al-N, characterisation, X-ray photoelectron loss spectroscopy 7—59382
- Al-Nb amorphous films, elec. props. and charactn. *(Japanese)* 7—32977
- Al-Ni multilayered films, struct., elec. props. 7—58863
- Al-O, characterisation, X-ray photoelectron loss spectroscopy 7—59382
- Al-polyacrylic acid interface, reactivity, comp., XPS 7—28334
- Al-polyethylene interface, reactivity, comp., XPS 7—28334

sputtered coatings continued

- Al-Si/Ti/Al-Si VLSI metallisation, electromigration and microstruct. props. 7—21550
- Al-Si-Cu sputtered electrode for VLSI, Cu distributions meas. by RBS 7—2415
- Al-Ti-based homogeneous alloy films, elec. resist., microstruct., electromigration, comp. effects 7—21765
- Al-V films, precip. from metastable solid solns. 7—65048
- $Al_xGa_{1-x}As$:Si, Si diffusion from sputtered Si film 7—58537
- AlN sputtered film, Kerr effect enhancement 7—64610
- AlN, undoped and control doped films, luminesc. studies 7—27790
- AlN_x nonstoichiometric sputtered films, electron localisation, transport props. 7—58929
- Al_2O_3 coatings, ion beam and chemically etched, comparison 7—22868
- Al_2O_3 film-stainless steel adhesion, improvement using surface precipitates *(Japanese)* 7—22880
- Al_2O_3 films, optical props., stoichiometry depend. 7—53421
- Al_2O_3, ion beam sputtered protective coating for Kapton solar array blanket 7—3705
- Al_2O_3 thin films, electron emission characts., continuous dynode appl. 7—17376
- Al_2O_3-Fe particle dispersed system, cosputtered films, EXAFS study 7—64810
- As_2Se_3:Ni films, electronic struct. and transport props. 7—12595
- Au, optical and elec. props., influence of surface scatt. of electrons 7—52858
- Au thin films, quantum size effect in optical transmission and refl. spectra 7—59275
- Au-polychlorotrifluoroethylene composite films, optical response in visible region, effective medium approach 7—53433
- Au-polymer composite thin films, elec. behaviour 7—52856
- B thin film preparation, ion beam sputtering appl. 7—7850
- B-Si (18 wt.%), tribological coatings, low temp. sputter deposition 7—46322
- $BaSrNb_2O_6$, ferroelectric thin films, pyroelec. props 7—59154
- Be, sputter deposited using confined ion beam cylinder technique, morphology, TEM 7—53586
- C amorphous films for InP MIS structs., ion-beam sputtering and plasma deposition 7—7400
- C diamond-like films, stresses, energy depend. 7—45097
- C diamondlike films, sputtering, appls. 7—39374
- C films, CKα spectra and interatomic bonding *(Russian)* 7—58705
- a-C films, crystallisation, influence of residual stresses and density fluctuations 7—21750
- C films, diamond like, prep. and props. 7—22472
- C films, diamond-like, empirical categorization and naming 7—16919
- C films, transparent, sputter- and plasma-deposition 7—22474
- C sputtered films, ion ehancement, struct. prop. relationships studies 7—52332
- C-Sn composite sputtered films, ion ehancement, struct. prop. relationships studies 7—52332
- C-Ti composite sputtered films, ion ehancement, struct. prop. relationships studies 7—52332
- C-W multilayers, sputtered, ellipsometry monitoring, X-ray refl., XPS 7—39376
- $CdGeAs_2$:Ni amorphous films, elec. cond., low temp. impurity breakdown, high field effects 7—52625
- $CdIn_2O_4$ RF sputtered films, transparent heat mirror characts., elec. and optical meas. 7—39199
- Cd_2SnO_4 transparent thin film electrodes prepared by DC reactive sputtering from Cd-Sn alloy targets 7—22477
- p-CdTe RF sputtered thin films, resistivity, forbidden gap, optical and X-ray diffr. spectra studies 7—21747
- Co alloy, thin film disks, DC magnetron sputtered, anisotropy induced signal waveform modulation 7—33229
- Co-Cr films, mag. parameters, Brillouin light scattering study 7—53357
- Co-Cr sputtered films, microstructural inhomogeneity, mag. props. 7—45768
- Co-Cr sputtered films, segregated microstructure, TEM studies 7—12538
- Co-Cr thin films, mag. props. and microstructure 7—27514
- Co-Cr-Fe sputtered films, dilute, Mossbauer effect 7—22167
- Co-Gd-Tb-based thin films, properties and stability for magneto-optic recording 7—53075
- Co-Pt thin films, sputtered, TEM study 7—21757
- Co-Pt-M (M=Cs,Mo,W,V,Nb,Ta,Ti,Zr,Ge), thin film media for high density recording *(Japanese)* 7—7567
- Co-Ti(Pt) sputtered films, mag. props., O impurity effects 7—33238
- Co-Zr(Ti) amorphous films, induced anisotropy, relax. process 7—53080
- $Co_{100-x}B_x$ amorphous sputtered thin films, magnetic anisotropy origins 7—27583
- CoCr corrosion-resistant alloy films, mag. props. and longitudinal recording performance 7—33226
- CoCr films, corrosion in H_2SO_4 7—33824
- CoCr films, magnetisation reversal mechanisms 7—59068
- CoCr films, texture formation, appl. for perpendicular mag. recording 7—39539
- CoCr magnetic thin films, magnetron co-sputtered, microstructure 7—33558
- CoCr RF sputtered magnetic films, Cr segregation, STEM study 7—44827
- CoCr sputtered films, struct. and mag. props., role of atomic mobility during film growth 7—33224
- CoCr sputtered perpendicular recording media, with columnar microstruct., reversal mech. 7—7552
- CoCr thin films, microstructure and corrosion resistance, effect of SiO_2 protective film 7—28184
- CoCr thin films on metallic underlayers, mag. characts. 7—27573
- CoCrAlY, sputter ion plated coatings for gas turbines 7—53971
- CoCrTa corrosion-resistant alloy films, mag. props. and longitudinal recording performance 7—33226
- CoCrTa sputtered films, microstruct. and mag. props. studies 7—12575
- $Co_{74}Fe_6B_{20}$ amorphous sputtered thin films, magnetic anisotropy origins 7—27583
- CoFeCr sputtered films, struct. and mag. props. 7—27175
- CoN_x thin films, magnetic props. 7—13008
- CoN_x thin films, sputter-synthesized, crystal structure 7—52313
- CoNbTi/SiO_2 amorphous layered films, high freq. permeability 7—53078
- $Co_{80}Nb_{10}Ti_{10}$-SiO_2, amorphous multi-layered films, mag. props. rel. to film thickness 7—2912
- CoNi sputtered films on Cr and polyimide, mag. props., relation to struct. 7—33228

sputtered coatings continued

- CoNiCr-Cr sputtered thin films, film struct., mag. props. 7—33227
- CoO_x sputtered thin, annealing effects on mag. props. and structure, Co-CoO layer separation 7—27180
- Co_3O_4 sputtered films, optical props. 7—46167
- CoPtTi thin films, magnetic and microstructural props. 7—33230
- CoTi soft ferromagnetic thin films, structure-related induced anisotropy 7—45663
- Cr films, thin polycrystalline sputtered, oxidation by CW CO_2 laser irradiation 7—13642
- Cr-BN amorphous films, supercond. transition temp. 7—27454
- CrC_x, coatings, tribological props., comp. depend. studies 7—53914
- Cu epitaxial film struct. and surface purity on MgO single cryst. substrates 7—16896
- Cu/PdNi, single cryst. multilayers, sputter deposition 7—53582
- $CuInSe_2$ coatings, sputter deposition 7—39377
- $CuInSe_2$ large grain (112) oriented thin films grown by RF sputtering, solar cell applications 7—17422
- Cu_xS-CdS solar cells, comp. of differing junction types, AES, SIMS determ. 7—23167
- $Cu_{94.6}Tb_{5.4}$ sputtered alloy, spin glass like behaviour 7—53001
- DyIG:Ga,Bi, RF sputtered films for magneto-optical memory, mag. props. 7—64613
- Fe sputtered films, mag. perpendicular anisotropy, Mossbauer studies 7—59076
- Fe thin films, sputter deposited at oblique incidence, microstruct. and mag. props. *(Japanese)* 7—33560
- Fe-Ag sputtered films, thermal stability, X-ray diffr. and Mossbauer studies 7—58679
- Fe-Al metastable alloy sputtered film, mag. props., comp. depend., X-ray diffr. and Mossbauer meas. 7—7559
- Fe-Co-Mn(V) films, ion beam sputtered, soft mag. props. 7—33237
- Fe-Cu metastable alloy sputtered films, mag. props., X-ray diffr. and Mossbauer meas. 7—7560
- Fe-Cu sputtered films, thermal stability, X-ray diffr. and Mossbauer studies 7—58679
- Fe-Si-B mag. film, magnetoelastic wave generation and detection 7—59070
- Fe-SiO_2 compositionally modulated mag. film props. study 7—7566
- Fe-Te amorphous thin films, RF sputtered, struct. and elec. meas. 7—12534
- Fe-Te sputtered films, CsCl-type ordering and amorphisation 7—64021
- Fe-Te sputtered films, metastable phases 7—38370
- Fe-Zn alloys, sputtered, X-ray diffr., magnetisation and Mossbauer studies 7—59075
- $(Fe-B)_{85}Nd_{15}$ amorphous films, soft mag. props. 7—53077
- $Fe_{70}Co_{30}$-SiO_2 compositionally modulated mag. film props. study 7—7566
- γ-Fe_2O_3 sputtered thin films, CoCr-doped, stress-induced perpendicular mag. anisotropy 7—33232
- γ-Fe_2O_3 thin films, mag. props. 7—33233
- Fe_2O_3:Co sputtered films, X-ray diffraction anal. 7—58675
- Fe_3O_4 films, mag. anisotropy and magneto-optical props. 7—2910
- $Fe_{1-x}Si_x$ amorphous films, Hall effect and mag. anisotropy 7—2911
- $Fe_{0.458}Sn_{0.088}O_{0.454}$ film, mag. props., appl. in perpendicular mag. recording 7—59005
- GaAs:H amorphous sputtered films, AC cond. studies 7—21947
- GaN, undoped and control doped films, luminesc. studies 7—27790
- Gd-Co compositionally modulated mag. film props. study 7—7566
- Gd-Fe sputtered amorphous films, structural relax., positron lifetime meas. 7—37870
- Gd-Tb-Co-Fe sputtered amorphous films, Kerr magneto-optical effect, anisotropy dispersion effects 7—38913
- Ge sputtered ⟨100⟩ textured film, TEM grain growth obs. 7—45040
- GeN_x:H, amorphous, reactively sputtered, optical and electronic props. 7—58830
- $Ge_{1-x}Sn_x$ amorphous films, structural changes on annealing 7—16422
- HfN, sputtered coatings, wear and friction 7—33800
- HfN(C) reactively sputtered wear resistant coatings, struct., hardness and adhesion props. study 7—52330
- $Hg_{1-x}Cd_xTe$, sputtered and cleaved surfaces, deposition of In and Al reactive metals, UPS study 7—33513
- $Hg_{1-x}Cd_xTe$ surfaces, sputtered and cleaved, deposition of unreactive Au, UPS study 7—33514
- $IN_{2-x}Sn_xO_{3-y}$ elec. cond., oxidation resistant coatings for spacecraft applic. 7—22866
- In_2O_3:Sn, sputtered films prep. and optical props. 7—53587
- InP films on oxidised Si substrate, laser recrystallisation 7—38398
- InSb metalorganic magnetron sputtered films, structural and compositional characts. 7—21725
- $In_{2-x}Sn_xO_{3-y}/Ag/In_{2-x}Sn_xO_{3-y}$ magnetron sputtered transparent heat-reflective films, thermal stability study 7—53426
- Li_2-WO_3-Nb_2O_5 sputtered amorphous films, electrochromic props. study 7—22221
- $LiNbO_3$ films, sputter deposition, refractive index 7—7851
- MgO sputtered coatings on metal substrates, adhesion and structural props. 7—52337
- $Mn_{1-y}Fe_y$ sputtered films, mag. props. 7—38915
- Mo/Ni superlattice, sputtered, struct. anal. 7—45030
- Mo/Si, amorphous multilayers, annealing, diffusion, structural relax. 7—52309
- Mo-BN sputtered films, anisotropic lattice strain and grain orientation 7—12516
- Mo-Ni thin films, struct., composition and homogeneity 7—2436
- MoN B1 phase sputtered films, mag. susceptibility and defect struct. 7—53087
- MoN_x sputtered coatings, tribological props. in contact with Cu 7—53911
- MoS_2 films, RF magnetron sputtered, elec. and optical props. 7—2747
- MoS_x sputtered films, tribological props., ion beam mixing effects 7—3441
- Nb films and coatings, sputter deposition method 7—27902
- Nb/Cu Fibonacci 1D quasiperiodic superlattice struct., X-ray diffr. meas. 7—52307
- Nb-Pb and Nb-Sn film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7—21705
- Nb-Si films, sputtered, superconducting props. 7—17126
- Nb-Ti multilayered thin films, superconducting and struct. 7—64384
- Nb-Ti-O ceramic coatings, synthesis by reactive ion plating and sputter deposition, struct., electrophysical props. 7—64031
- $Nb_3Al(Ge)/Pb$ magnetron sputtered Josephson tunnel junction props., film deposition conditions dependence 7—58955
- $Nb_{100-x}B_x$ alloy films, sputtered, elec. cond., hardness, amorphous and crystal struct. 7—13354

sputtered coatings continued
NbN composites, fusion reactor magnet appls., sputter deposition, critical props. 7—49627
NbN, sputtered films, transverse TEM study 7—21731
NbN(C) sputtered films on Nb substrates, surface props. 7—64833
$NbSi_2$ sputtered films, rapid thermal annealing 7—21739
Nd-Fe-Co, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7—64496
$Nd_2Fe_{14}B$ sputtered films, perpendicular anisotropy 7—53073
Ni/Cr alternating layers, ion beam mixing 7—21303
Ni-B amorphous films, ion implanted and sputtered, elec. props. 7—22032
Ni-Cr films, sputter deposition and ion beam mixing, microstruct. 7—44630
Ni-Fe films, ion beam sputtered, magnetoresistance props. 7—22033
Ni-Ti films, sputter deposition and ion beam mixing, microstruct. 7—44630
Ni_xAg_{1-x} amorphous thin film, RF sputtered, real-time crystallization kinetics *(French)* 7—52349
NiCrAlTi, sputter ion plated coatings for gas turbines 7—53971
$NiFe_2O_4$ sputtered films, struct., comp., AES study 7—22478
$NiFe_2O_4$-MgO sputtered films, struct., comp., AES study 7—22478
NiO_x electrochromic hydrated coatings for energy efficient windows 7—45986
NiTi sputtered films on glass substrates, interfacial reaction, Auger study 7—22395
a-P, sputtered, response to intense ion bombardment 7—27447
Pb/NbN/Pb sputtered thin film system, tunnelling characts., reply to comment 7—45576
$Pb_{1-x}Cd_xSe$ films, laser deposition 7—59422
$Pb_{1-x}LA_xTi_{1-(x/4)}O_3$ sputtered film struct., dielec., and pyroelec. props. studies 7—21724
$Pb_{1-x}La_xTi_{1-x/4}O_3$ thin film pyroelectric infrared sensors 7—56338
PbO-SiO_2 glass sputtered antireflection coatings on semiconductor laser facets 7—15964
PbO-SiO_2 mixtures, thermohomogenised layers, UV photoelectron spectra study 7—59370
Pr-Fe, amorphous films, perpendicular magnetic, mag. and magneto-optical props. 7—64496
Pt, sputtered film, microstruct., thickness effect studied by X-ray diffr. method 7—21756
Pt, sputtered films on ZrO_2 substrates, agglomeration and electrical conduction props. 7—52859
PtSi-Si, interfacial metallurgical interactions, elec. characts., effect of H 7—52834
Rh epitaxial film struct. and surface purity on clean and Cu-covered MgO single cryst. substrates 7—16896
Si, amorphous, small-angle scatt. of electrons in STEM obs. of defects and voids 7—21754
Si films on fused quartz, laser annealing and Raman spectra 7—58708
Si porous amorphous sputtered films, oxidation, IR spectra studies 7—3532
a-Si:H, electron traps, telegraph noise spectroscopy 7—21928
a-Si:H, RF sputtered, dangling bond electron spin-lattice relaxation 7—22141
a-Si:H, RF sputtered, dangling bond energies, ESR studies 7—45818
a-Si:H,B, RF sputtered films, optical and electrical props. 7—33470
a-Si:H,B(As) RF sputtered coatings, gas-phase doping efficiency 7—63471
a-Si:H,O films, RF sputtered, photoelec. props. 7—38627
a-Si:H sputtered film, low-temp. optical props. 7—3101
a-Si:H sputtered films, intrinsic stress, H effects 7—7078
a-Si:H thin films, elec. and optical props., thickness depend. 7—46168
a-Si:H/$CuInS_2$ heterojunctions, photovoltaic behaviour, c-v meas. 7—7340
Si/Ti selectively sputter deposited interface, Auger and Rutherford backscatt. studies 7—21690
Si-O amorphous films, structure and defects 7—58700
a-SiC:H, RF sputtered, dangling bond electron spin-lattice relaxation 7—22141
a-SiC:H film prepared by magnetron sputtering, elec. and optical props. *(Japanese)* 7—12887
a-$Si_{1-x}C_x$ films, RF spattered, IR absorpt., X-ray diffr., RHEED *(Japanese)* 7—53584
a-SiGe:H films, NMR, ESR and IR studies 7—45833
$Si_{1-x}Ge_x$ films, optical band gap, photocond. props. 7—52672
Si_xH_y amorphous alloy films, microstructure, XPS study 7—22436
Si_3N_4, films, IR charactn., optical dispersion induced freq. shifts 7—27709
Si_3N_4 thin films, reactively sputtered, hopping cond., defect states 7—52620
Si_3N_4/GaAs buried interface, EXAFS studies in total reflection and dispersive modes 7—64765
Si_3N_4-Ti, reaction under rapid thermal annealing 7—39334
a-Si_xN_{1-x}:H,B films, DC sputtered, photoelectronic and optical props. 7—27361
SiO sputtered film, Kerr effect enhancement 7—64610
SiO_2 and SiO_2-polytetrafluoroethylene mixture, ion beam sputtered protective coating for Kapton solar array blanket 7—3705
SiO_2 film interference system, influence of normal nonhomogeneity of refractive index *(Czech)* 7—64712
SiO_2 RF sputtered thin films, atomic defects and stresses, optical and elec props. 7—16898
SiO_2:V amorphous films, Rf-sputtered, SCL conduction 7—64380
SiO_x films, vibrational spectra and structure *(Russian)* 7—64709
SiO_xN_y films, IR optical props. 7—7777
Sn films, sputtered onto polypropylene sheet, orientation rel. to deposition rate 7—45061
Ta-Nb multilayered films, critical field studies 7—64416
Ta_xCu_{1-x} amorphous thin-film diffusion barriers on GaAs, thermal and structural stabilities 7—52321
Ta_2O_5 crystalline films, sputter deposited, phys. and elec. props. 7—2412
$TaSi_2$/Si films, oxidation characts. in steam 7—54031
TbCo, amorphous sputtered films, mag. props., film struct., comp., internal stress meas. *(Japanese)* 7—7570
TbCo sputtered films, compositionally modulated, mag. props. 7—64495
TbCo sputtered films, mag. and magneto-optic props., stability 7—53076
TbCo sputtered films, stability of mag. and magneto-optical props. *(Japanese)* 7—33241
TbFe films, micron-size laser-written mag. domains, Lorentz microscopy 7—2913
TbFeCo amorphous film sputtered onto polycarbonate substrate, depth profile, XPS 7—65362
TbFeCo/dielectric interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7—12513

sputtered coatings continued
TbFeCo-based amorphous films, magneto-optical recording appls. 7—53074
Te-based thin films, crystn. rate, thermal stability, erasable optical recording appl. 7—37069
Ti, reactively sputtered coatings, oxidation, XPS and contact resistance meas. 7—53934
Ti-based sputtered hard compound films, struct. and props. 7—46318
Ti-N-Permalloy ferromag. multilayers, prep. and props. 7—64497
Ti-TiN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Zr-ZrN 7—38726
TiB_2, tribological coatings, low temp. sputter deposition 7—46322
$Ti_{1-x}B_x$ films deposited onto Mo by co-sputtering, D retention 7—51870
TiC sputtered films, influence of ion bombardment 7—3171
TiC/Fe multicomponent films on steel, sputter deposition and characteris. *(Japanese)* 7—3167
TiC_x coatings, tribological props., comp. depend. studies 7—53914
TiC_x, reactively sputtered film, characterisation by TEM 7—45092
TiN coatings, internal stress and adherence 7—52374
TiN coatings, N partial pressure effects on composition, spectral reflectance and colour 7—53420
TiN coatings, sputter ion plated, process, engineering appls. 7—46321
TiN coatings on steel substrates, growth, struct., props. 7—33799
TiN film deposition by reactive sputtering, hardness and optical props. 7—22481
TiN films as diffusion barriers in high temp. metallisation *(Japanese)* 7—46319
TiN magnetron sputtered films, electrochemically measured porosity 7—46317
TiN reactively RF sputtered coatings, structural defects and porosity, electrochem. polarisation meas. 7—52333
TiN, sputtered coatings, wear and friction 7—33800
TiN sputtered films, mech. props., substrate ion beam pretreatment effects 7—22484
TiN-coated high-speed steel cutting tools, coating quality and surface finish., tool metallurgy and design 7—53979
TiN-Fe sputtered binary coatings on steel substrates *(Japanese)* 7—59419
TiN_x, reactively sputtered coatings, oxidation, XPS and contact resistance meas. 7—53934
TiN_x sputter-deposited thin films, AES, XPS and RBS studies 7—52327
TiN_x sputtered films on sapphire, elec. and optical props., depend. on substrate temp. 7—39192
TiN(C) 7—52330
TiN(C) hard reactively sputtered and evaporated coatings, composition and microstruct. studies 7—52331
TiN(C) sputtered films on Nb substrates, surface props. 7—64833
TiN_xO_{1-x}-$TiSi_x$, bilayer, formation by rapid thermal anneal in N_2 7—21547
TiO_2 film interference system, influence of normal nonhomogeneity of refractive index *(Czech)* 7—64712
TiO_2 films, pulse laser irradiated, Raman studies of phase transformations 7—12569
TiO_2 sputtered thin film electrodes with low donor densities, photoelectrochemical behaviour 7—27359
TiO_2-SiO_2 multilayer coatings prep. by RF magnetron sputtering, interfacial optical absorpt. 7—1252
V/Ni multilayered superlattice, microstruct., X-ray and neutron diffr. 7—32849
VO_2:W(Nb) for optical switching films 7—39198
W films, magnetron sputtering prep., elec. and mech. props. 7—16913
W films on GaAs substrates, electrical resistivity after high temp. annealing 7—64366
W films prep. by various deposition methods, effects on elec. resist. 7—52860
W, impurity effects on elec. props. 7—52862
W reactively sputtered films, elec. resist., microstructure, effects of N or O partial press. 7—52861
W/C multilayer films for X-ray reflectors, thermal stability 7—32871
W-C coatings on stainless steel, sputter deposited, mechanical props., effect of interlayers 7—53983
W-Si, sputter deposition on Si (100), rapid thermal annealing 7—21548
W-Si amorphous thin films, DC sputter deposited, crystn. temp., DTA 7—21720
WC thin films, RF reactive magnetron sputtering and hardness meas. 7—7844
WC_x coatings, tribological props., comp. depend. studies 7—53914
WO_3-Nb_2O_5 sputtered amorphous films, electrochromic props. study 7—22221
WSi_x films, sputter deposited from cold pressed, vacuum sintered composite target, annealing, comp., resist. meas. 7—21719
W_xSi_y reactively sputtered films, metastable phase form. 7—52340
Y-Fe sputtered amorphous films, mag. props. 7—53083
YIG:Ga, Bi, RF sputtered films for magneto-optical memory, mag. props. 7—64613
ZnO films on Si substrates, layer acoustic mode propagation, electroelastic effect 7—44978
ZnO piezoelectric thin films, layer struct., RHEED and X-ray diffr. studies 7—16888
ZnO/Ag/ZnO magnetron sputtered transparent heat-reflective films, thermal stability study 7—53426
ZnS:TbF_x, sputtered thin films, electrolum. and photolum. 7—7727
ZnSe-$In_{2-x}Sn_xO_{3-y}$ junctions, microstruct. optical props., influence of deposition method 7—21689
Zr-ZrN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Ti-TiN 7—38726
ZrC_x, reactively sputtered films, optical props. 7—39202
ZrC_xN_x, reactively sputtered films, optical props. 7—39202
ZrN reactively sputtered films, elec. charactn. rel. to submicron gate electrode appls. 7—38777
ZrN, sputtered coatings, wear and friction 7—33800
ZrN_x, reactively sputtered films, optical props. 7—39202
ZrN(C) hard reactively sputtered and evaporated coatings, composition and microstruct. studies 7—52331
ZrN(C) reactively sputtered wear resistant coatings, struct., hardness and adhesion props. study 7—52330
ZrO_2, Al_2O_3 stabilised thin films 7—45062
ZrO_2 films, pulse laser irradiated, Raman studies of phase transformations 7—12569
ZrO_2-Y_2O_3, tribological coatings, low temp. sputter deposition 7—46322
ZrO_2-Y_2O_3 films, epitaxial growth on sapphire substrates by reactive sputtering, appl. for SOI substrates 7—27217

sputtered layers *see sputtered coatings*

sputtering
see also sputter deposition; sputter etching
AES, sputter depth profiling, factor anal., appl. to elemental detect. limits 7—23081
AES and ISS, sputter depth profile analysis, hybrid electron-ion gun and CMA spectrometer 7—39941
alkali chlorides, particle bombardment-induced secondary photon emission 7—59264
alkali halides, electron- and ion-induced sputtering, atomic excitation 7—59348
alkali phosphates, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7—26816
alloys, ion bombardment-induced segregation and redistribution 7—58381
alloys, preferential sputtering, segregation, mixing and diffusion 7—59337
alloys and isotopic mixtures, preferential sputtering, isotope enrichment 7—59328
amorphous targets, sputtered particles, angular distrib. 7—59342
arachidic acid Langmuir-Blodgett films, SIMS depth profiling 7—59356
ASDEX Tokamak, ohmic and auxiliary heating, impurity prod. 7—63293
astrophysical applications in outer solar system 7—40691
atom velocity distrib., expt. methods 7—59332
Auger depth profiling, interface resolution 7—54246
Auger elemental depth profiling, preferential sputtering 7—54247
binary compounds, H ion bombarded, secondary ion emission *(Russian)* 7—59321
α-brass, sputtering yield meas. with 3D stylus surface mapping system 7—27850
charge state of material sputtered by fissionfragments from ultradisperse gold targets 7—7802
chemical sputtering of carbon in tokamak discharge 7—51537
collision cascades, linear, variance calc. 7—63686
collisional aspects of preferential sputtering using Monte Carlo method 7—53464
collisional sputtering theory 7—64847
collisional sputtering yield, corrections 7—59330
P/comet Giacobini-Zinner (1984e), sputtering rel. to origin of metal ions in cometary coma 7—9415
conference, Spitz an der Donau, Austria (June 1986) 7—55880
discharge plasma ion energy determ. with azimuthal electron drift, intensive cathode sputtering regime 7—1732
electron microscopy, high resolution, ion beam sputtering characts. 7—4930
electronic desorption and sputtering by energetic ions, incident angle depend. 7—53479
elemental analysis of materials using sputter initiated resonance ionisation spectroscopy 7—13845
elemental targets, reactive sputtering, surface interactions 7—22431
energy cost to sputter an atom from a surface in keV ion bombardment processes 7—64862
energy distribs., Monte Carlo program calcs. 7—59324
eroding surface profile during ion sputtering, Huygens' construction study 7—27842
film characterisation and microanalysis, sputtering, AES and XPS destructive depth profiling methods 7—53454
fusion devices, plasma interactive components, neutron damage, sputter erosion 7—49623
fusion devices, sputtering yields and plasma contamination 7—56843
fusion reactor first wall, implantation-driven permeation characts. 7—49640
gentle surface analysis by laser ionisation using intense UV laser light 7—23078
graphite, fusion reactor, surface erosion by D_2^+ irrad., struct. 7—51869
graphite, pyrolitic, sputtering with O ions at various target temps. 7—49633
ice films, Kr^+ bombardment, ion cluster desorption, TOF mass spectra study, astrophysical implications 7—26815
ice thin films, ion irradiation erosion effects meas., astrophysical discussion 7—26814
insulators, fast heavy ion impact-induced secondary ion emission studies 7—27845
insulators, radiation effects, conf., Guildford, England (July 1985) 7—29590
ion beam modification of materials, conf., Catania, Italy (9-13 June 1986) 7—60865
ion bombardment, collision cascade momentum distrib., sputtering yield and atomic mixing, geometrical treatment 7—27846
ion gun based on Bayard-Alpert pressure gauge 7—18917
ion irradiation of solids, collision cascades, ionization, spikes and energytransfer 7—12170
ion sputtering, high depth resolution problem 7—27849
ionic compounds, secondary ion emission, bond breaking model 7—59344
laser-induced fluorescence studies 7—59333
low temp. solids, low energy atom and ion bombardment, sputtering and radiation damage mechanisms study 7—27844
Mercury surface layer, Na sputtering rel. to Na atmosphere 7—24037
metal cluster ions, sputtered, unimol. decomposition and collision-induced fragmentation 7—15778
metal surface, sputtered atoms, ionisation probability studies 7—20068
metal surfaces, deformed, imaging using ion bombardment 7—39342
metals, emission spectrochemical anal. using glow discharge, appl. to in-depth anal. *(Japanese)* 7—63886
metals, H ion implants, trapping coefficients 7—6884
metals, ion bombarded, continuous spectrum optical emission 7—13295
metals, phase transitions, ion-induced secondary particle emission 7—39341
metals, sputtering by ion bombardment, excited states of sputtered atoms 7—7807
molecule sputtering, atom- and ion-induced, collision mechanisms 7—59349
Monte Carlo program, TCIS code and appl. *(Chinese)* 7—53469
multilayer structures, Auger depth profiles using a dual ion gun system 7—22429
multilayer structures, sputter depth profile calibration 7—39382
multilayers, sputter depth profiling, influence of individual layer thickness on depth resolution 7—59367
optical radiation continuous spectrum emitted by at. particle secondary emission products, two-photon form. mechanism 7—42713
oxide layer on chemically polished and etched InP (111), ion scatt. spectra, AES, ESCA 7—22925

sputtering continued
oxides, sputtering by inter gas ions, depletion layer study, Sigmund's sputtering theory 7—46262
planar magnetron sputtering, discharge characts., mag. field effect *(Japanese)* 7—13620
planetary satellite surfaces, interaction with fast protons 7—40692
plasma, surface ion sputtering, rel. to angle to mag. field lines 7—63303
plasma-wall interaction in fusion devices, conf. Princeton, NJ, USA (May 1986) 7—60861
polycrystalline surfaces, sputtered atom energy distribs. 7—22407
polymer-metal composite thin films, plasma deposition, optical props. 7—27947
quartz crystal microbalance, use for surface anal. in combination with surface sensitive spectroscopies 7—27076
radiation effects in glasses 7—32518
secondary ion emission, electron exchange mechanism theory 7—13293
secondary ion energy distrib., surface chem. anal. 7—53486
semiconductor microelectronic structures, depth profiling by SIMS and AES 7—26790
silicides, quantitative Auger anal., correction factors 7—27831
slow collisional, surface binding energy 7—59329
solid and liquid matrices, sputtered mols., kinetic and internal energy distribs. 7—59351
solids, sputtering and atomic collisions, computer simulations 7—59323
steel, austenitic, bombarded with Ar ions, ageing temp. effects on structure, microhardness and sputtering 7—65120
steel, austenitic, Cr-Mn, thermal and mech. props., fusion reactor appl. 7—53795
steel, austenitic stainless, materials erosion and redeposition studies at PISCES facility, net erosion under redeposition 7—49637
superheavy atoms, fractional charges, optical searches 7—10782
surface binding energy, role in sputtering yield meas. 7—59361
surface layer modification at solid walls in high temp. plasma expts. 7—63343
surface preparation effects 7—45037
surface topography, sputter induced, computer simulation 7—64867
surface topography evolution during reactive etching and codeposition 7—58587
temperature of cooling cylindrical rod with insulated core, num. results 7—31631
thin films, orientation by ion bombardment during deposition 7—45053
thin overlayers, quantitative AES depth profiling studies 7—7796
Triotron sputtering equipment for the production of mixed Ta/Si layers *(German)* 7—33564
velocity-distribution functions of sputtered atomscaused by insufficiently developed collision-cascades 7—7804
yield measurements using glow discharge ion gun 7—13303
Ag sputtered particles, ang. distrib. 7—39335
Ag, sputtering yield, weight loss method studies 7—59340
Ag-Si composite targets, sputtering, surface protrusions obs. 7—22475
Al (110), Ar ion damage production, mol. dynamics simulation 7—58378
Al (110), Ar^+ sputtered, vacancy-type defect distribs., variable energy positrons study, mol. dynamics simulations 7—12429
Al (110), Ar-induced Auger electron emission, Doppler broadening 7—59345
Al (110), sputtered defect profile, variable-energy positron beam meas. 7—38077
Al foils, alumina form. by O_2^+ implantation, sheet resistance and XPS meas. 7—26780
Al polycrystalline target, sputtering by 40 keV Ar^+ ions, computer simulation 7—64848
Al surface, clean and oxidised, secondary ion emission. 7—64851
$Al_xGa_{1-x}As$ surface, protection by As and GaAs ultrathin layers, AES sputter depth profiles 7—54022
AlMgSc first wall materials, sputtering and radiation induced segregation 7—38072
Al_2O_3:C,S CVD layers, C and S distrib., SIMS anal. 7—6668
Ar, solid, electronic sputtering by keV H ions 7—59353
Ar, solid, energy transfer during ion bombard. 7—64842
Ar, solid, sputtering mechanism by keV ions 7—59354
Ar^+, target sputtering, surface analysis, glow discharge optical spectroscopy *(French)* 7—20998
Au film, $(H_2O)_nH^+$ energetic cluster impact, transmission electron microscopy 7—13304
Au-Cu alloys, surface composition, sequential ion scatt. spectroscopy-Auger electron spectroscopy meas. 7—22394
Au-Cu sputtered alloys, segregation, surface compositional changes 7—58585
Au-Pd, preferential sputtering and surface segregation 7—59339
B thin film preparation, ion beam sputtering appl. 7—7850
BaF_2 (111), laser sputtering, layer-dependent 7—13274
BaF_2 (111) surface, laser-induced sputtering, wavelength dependence 7—13273
Be, fusion machine wall material erosion and impurity prod. 7—62074
C, cathode, chem. sputtering in H_2 and O_2 plasmas 7—32171
C diamondlike films, deposition with C^+ and hydrocarbon ion beams, mechanical props., comparison 7—59417
C films, diamond-like, intrinsic stress, depend. on deposition parameters 7—58721
C, fusion machine wall material erosion and impurity prod. 7—62074
C thin films, sputtering yields for O and Ne ions 7—59341
C thin surface layers on steel substrates, anticorrosion props., ion bombardment effects study 7—27202
a-C:H films, plasma deposited, optical props. 7—27799
CS_2, Ar^+ ion irrad., S_2 sputtered mol. props. 7—936
CS_2, sputtering by Ar^+, S_2 rotational, vibrational and translational energy distribs. 7—993
CaF_2, optical damage, laser mass spectrometric study 7—58319
p-CdTe, single crystal and thin film, chemical etching study 7—46724
Co single crystal foils, α- and β-phase, ion transmission and sputtering 7—59322
$CoSi_2$, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7—2263
Cr compounds, sputtering of Cr atoms, laser-induced fluorescence spectra studies 7—59334
Cr target with physisorbed SF_6, coverage effect on sputtering behaviour 7—64845
Cr/Cu multilayer structs., scanning Auger microprobe depth profiling, sputtering effects 7—58659
Cr/Ni interface broadening and topography of Auger sputtered profiles 7—53485

sputtering continued
Cr-Ni multilayer thin films structures, AES depth profiling during sample rotation 7—27829
$CrSi_2$,Ar^+ ion beam induced surface and subsurface modifications, AES study 7—64846
Cr_3Si, Ar^+ ion beam induced surface and subsurface modifications, AES study 7—64846
Cu (111), neutral cluster anisotropic emission 7—59352
Cu compounds, sputtered atom excitation, optical spectra studies 7—59347
Cu deposited 7—65361
Cu, ion irrad., sputtering and lattice damage, cryst. orientation effect 7—64843
Cu liquid targets, sputtering, mol. dynamics studies 7—3130
Cu, materials erosion and redeposition studies at PISCES facility, net erosion under redeposition 7—49637
Cu, photon emission from sputtered atoms, temp. effects 7—13312
Cu polycrystalline target, sputtering by 40 keV Ar^+ ions, computer simulation 7—64848
Cu single crystal, glancing angle ion sputtering, angular depend. 7—13296
Cu, sputtering yield, weight loss method studies 7—59340
Cu, sputtering yield meas. with 3D stylus surface mapping system 7—27850
Cu surface, Cu atom sticking and penetration, computer simulation studies 7—59326
Cu surface, ion irrad., sputtering and lattice damage, cascade simulation 7—59327
Cu surface, low energy O^+ ion bombardment, atom and mol. ejection 7—59325
Cu surface, sputtered neutral atoms, energy distribs. 7—59336
Cu surface, sputtering and surface topography evolution 7—58586
Cu-Zn, preferential sputtering, AES and SIMS studies 7—53467
Cu_2, glow discharge sputtering, laser-excited fluoresc. 7—10647
$ErSi_2$, behaviour under ion bombard. and O exposure, AES, EELS 7—33506
Fe compounds, sputtered atom excitation, optical spectra studies 7—59347
Fe, I-line excitation processes, investig. 7—19775
Fe thin films, stress development during oxidation 7—45096
Fe-based amorphous alloys, O_2 adsorption, ion bombardment effects 7—21637
Fe-based metallic glasses, secondary ion emission and sputtering 7—3137
Fe-graphite structures, ion induced mixing, sputtering yield, fluoresc., RBS depth profile meas. 7—64844
$Fe_{78}B_{13}Si_9$, magnetron sputtered amorphous alloys, thermal, mag. and magnetomechanical props. 7—33249
$Fe_{82}B_{12}Si_6$, amorphous, initial crystallisation 7—44387
FeCrNiWMo alloys, sputtering effects on props 7—36240
$Fe_{0.74}Tb_{0.26}$, amorphous, oxidation 7—65192
Ga liquid surface, In monolayer, sputtering, computer simulation studies 7—17387
GaAs, sputtered, comp. depth profiles, AES, XPS, inverse Laplace transforms 7—22390
GaAs:Cs, impurity ion beam effects, SIMS depth profiling 7—22419
GaAs-AlGaAs superlattice, surface and interface optical phonons, EELS studies 7—6955
GaInAsP-InP etched mirror laser, passivation with angled sputtering 7—57358
$Ge_{50}Te_{50}$, Auger elemental depth profiling, preferential sputtering 7—54247
HgCdTe anodic oxide surface analysis by laser ionisation 7—13275
Ho surface, ion sputtering, emission spectra studies 7—64853
In sputtered excited neutral atoms vel. distrib. meas. and deexcitation model calcs. 7—875
InP (100), prep. by P deposition and annealing, surface reconstruction, LEED, EELS studies 7—38311
InP, ion enhanced chem. etching in Cl_2, thermal pulse model 7—54029
InP-Au interface, Fermi level pinning, growth characts., photoemission spectra 7—22009
KCl cryst., multiply charged ion bombardment, sputtering 7—13297
Kr, solid, electronic sputtering by keV H ions 7—59353
Kr, solid, sputtering mechanism by keV ions 7—59354
Kr_2, diatomic molecule sputtering, independent binary collision approx. 7—59350
LiF surfaces, preferential sputtering, XPS and direct recoil spectrometry study 7—22422
Li_2O-Al_2O_3-SiO_2 glass, sputtering, SIMS depth profiling 7—13314
MgO:C, single crystals, solute C and C segregation, SIMS study 7—16759
Mo, sticking coeffs. of O_2 and N_2, meas. by cathode sputtering 7—12476
MoS_2, intercalated with Fe, Ni and Pd, AES, sputtering studies 7—63867
MoS_2-Co catalyst-promotor interaction, UPS, XPS, LEED studies *(Chinese)* 7—39913
MoS_2(0001), Ar^+-sputtered, adsorption props., LEED, AES, EELS, and work function studies 7—52275
NO_2 amorphous insulator, Ar^+ sputtering, ang. distrib. and energy spectra study 7—27848
Na_2O-CaO-SiO_2 glass, hydration, fluid flow effects 7—13758
Nb film microstruct., nonnormal incidence ion bombardment effects 7—12174
Nb, oxidised, sputtered atoms and monoxide mols., energy distribs. 7—59335
Nb, sputtering, SIMS depth profiling 7—13314
Nb surface, sputtered neutral atoms, energy distribs. 7—59336
Ne, solid films, erosion by keV electrons 7—3124
Ni, D permeation rel. to surface impurities and Ar sputtering 7—52141
Ni, ion irradiation-induced implant diffusion and segregation, synergistic effects, kinetic model calcs. 7—16658
Ni polycrystalline target, sputtering by 40 keV Ar^+ ions, computer simulation 7—64848
Ni surface, monolayer Au atoms, partial sputtering cross sections 7—59331
Ni/Cr multilayer films, AES sputter profiling, depth resolution 7—59358
Ni-Cr multilayers, interface resolution in Auger depth profiles 7—27830
Ni-Cu-Pd ternary system, state-state composition determ. from binary system under sputtering 7—22421
NiSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7—2263
Pb_2, glow discharge sputtering, laser-excited fluoresc. 7—10647
$Pb_{97.4}Sn_{2.6}$ alloy surface, sputtering related phenomena *(Chinese)* 7—59316
Pd_2Si polycryst. film on Si, ion sputtering effects, XPS, UPS and scanning tunnelling microscopy studies 7—59357

sputtering continued
Pd_2Si, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7—2263
Pt-Ni alloys, surface segregation, ISS study 7—52208
PtSi, thin films, self-diffusion of Si, study using radioactive ^{31}Si tracers 7—2263
Rh (111), clean and with adsorbed O, ion bombarded, desorbed atoms distributions 7—22420
S, Ar^+ ion irrad., S_2 sputtered mol. props. 7—936
S, sputtering by Ar^+, S_2 rotational, vibrational and translational energy distribs. 7—993
S thin films, MeV He^+ beam erosion, temp. depend. yield meas. 7—27847
S thin layers, sputter erosion by 1.0 MeV He^+, induced X-ray emission meas. 7—64860
$Se_{50}Te_{50}$, Auger elemental depth profiling, preferential sputtering 7—54247
Si (100), static mode ion sputtering, bond breaking and atom ionisation 7—13306
Si single crysts., insulating cpd. form. by ion beam synthesis, RBS, SIMS and cross-sectional TEM studies 7—26779
Si, sputtering by multiply charged Ar ions 7—33507
Si surface, effect of preoxidation annealing, ion implantation and sputtering on oxide film decomposition 7—63999
Si surface, residue form. in trifluoromethane discharge environment 7—54020
Si, surface damage induced by low energy ion sputtering *(Chinese)* 7—6693
Si surface layers characterisation after annealing in an RF H plasma 7—58630
Si target, ion beam sputtering, heavy particle angular distribs. 7—59343
Si:Fe, low damage surface anal., sputtered atom resonance ionisation method 7—58584
Si:N, high dose implanted, swelling, saturation, and sputtering effects 7—16648
Si:P, Ni^+, ion implantation and annealing 7—21245
Si/Si_3N_4 interfaces, phase separated structures, Ar^+ ion bombardment effects, ZPS studies 7—22439
Si-Si interfaces, MBE grown, sputter cleaned, microstructure, electron microscopy obs. 7—12512
Si-SiO_2 interface, AES depth profiling during sample rotation 7—27829
a-Si-SnO_x interface, solid state reaction, XPS study 7—22449
Si-Ta interface, depth profile, Ar^+ ion bombard., Auger electron spectra anal. 7—46261
SiF, diatomic molecule sputtering, independent binary collision approx. 7—59350
SiN_x films, phase separated structures, Ar^+ ion bombardment effects, ZPS studies 7—22439
Si_3N_4 films, optical props., multilayer interference systems 7—13248
SiO_2, chemical sputtering by ions, electrons and photons 7—59355
SiO_2 glass, surface analysis by laser ionisation 7—13275
SiO_2, sputtering in XeF_2 and Cl_2 atms. 7—53465
SiO_2-Na_2O-CaO-Al_2O_3-MgO glasses, heavy ion irradiation, enhanced diffusion, preferential sputtering 7—32523
SiO_2-Si interface, roughening induced during AES depth profiling 7—21685
Ta films, $(H_2O)_nH^+$ energetic cluster impact, transmission electron microscopy 7—13304
Ta, oxidised, sputtered atoms and monoxide mols., energy distribs. 7—59335
Ta-Cu, ion irradiated, Cu_3 cluster formation, atomic mixing and demixing *(Chinese)* 7—53468
Ta_2O_5, preferential sputtering, collisional processes 7—59338
TbCo, amorphous sputtered films, mag. props., film struct., comp., internal stress meas. *(Japanese)* 7—7570
$(Te_{90}Ge_5In_5)_{100-x}O$, Auger elemental depth profiling, preferential sputtering 7—54247
Ti-SiO_2-$TiSi_2$-Si, high temp. reaction between Ti and SiO_2, XPS, sputtering *(Japanese)* 7—7022
V, sticking coeffs. of O_2 and N_2, meas. by cathode sputtering 7—12476
V surface, clean and oxidised, secondary ion emission 7—64850
V surface, sputtered neutral atoms, energy distribs. 7—59336
VSi_2, sputter yield, computer simulation technique 7—33505
W, sticking coeffs. of O_2 and N_2, meas. by cathode sputtering 7—12476
Xe, solid, sputtering mechanism by keV ions 7—59354
Y_2O_3-ZrO_2:Fe, high dose ion implanted, profile shapes and electronic cond. 7—32472

SQUIDs *see superconducting junction devices*

SREMP *see electromagnetic pulse*

stabilisation *see stability*

stabilisers *see controllers*

stability
see also flow instability; frequency stability; Lyapunov methods; mechanical stability; plasma instability
bilayers, hole-mediated stability and permeability 7—8507
chaos in classical dynamics, deterministic representation with appl. to turbulence 7—61091
demonstration, using overhanging pile of heavy objects 7—48255
feedback-stabilised actively mode-locked laser, computer simulation 7—25831
fixed-bed reactor, robust multivariable control system design 7—54256
floating liquid zones expt. on Spacelab D1 mission 7—22971
hollow spheres with internal heat generation and variable thermal conductivity, thermal stability anal. 7—57677
Landau slabs with linearly varying thermal conductivity, thermal stability anal. 7—57676
liquid soln.-solid grain system, stability of steady states, diffusion effect 7—32622
logistic equation with recruitment delays, stability and nonoscillation 7—55990
lungs, elastic stability and surface tension 7—54662
measurement errors distribution laws stability, under normal. meas. conditions 7—4803
muscles, electrically stimulated, effect of muscle nonlinearities on control 7—8644
particle motion in field of two rotating mag. dipoles, equilib. points stability 7—34839
photon counting imaging microchannel plate detectors calibration, for EUV astronomy 7—29404

stability continued
planetary systems with spheroidal star, stability of resonant orbits 7−47670
protein stability and struct., rel. to specific contacts, harmonic system perturbation theory 7−59924
radio links with multibeam signal propagation, generalised stability function 7−23824
scattering problems, time matching problems instabilities 7−62588
solar cells, thin film and modules, performance testing, overview 7−54309
Space Infrared Telescope Facility, Space Shuttle-based, active image stabilization 7−9377
spheromak shift instability, critical field index for passive coil stabilisation 7−44230
superconductor stability, forced cooling by coolant stream 7−33126
thermalhydraulic aspects of natural circulation loop 7−10195
thermoelectrode materials certification practices 7−304
total stability for elastic-plastic systems *(German)* 7−6115
tropospheric waveguide, modal equation, roots instability 7−60368
two triaxial rigid body problems, existence and stability of equilib. points 7−34840
V-function geometry and Liapunov stability theory 7−55989
Zerodur glass ceramic, long-term dimensional stability as consequence of diffusion *(German)* 7−63488
a-Si:H p^+-n-i structs., memory switching, transient current instability study 7−52762

stability of numerical methods *see convergence of numerical methods*

stacking faults
alloys, martensitic transformations, long-period 1-D struct. form. 7−13451
alloys, ordered, $L2_0$ and $L1_2$, grain boundary structs., twist boundaries, geometrical models 7−63628
alloys, ordered $L1_2$ superstruct., lattice state near stacking faults *(Russian)* 7−6642
alloys with periodic antiphase boundary struct., dislocation motion 7−63620
deterministic fractal defect structs., hard disk close packings round rhomboidal seeds 7−2033
dislocation emission from cracks in crysts. or along cryst interfaces 7−37992
electron susceptibility and long-range forces in stacking fault system *(Russian)* 7−38021
FCC crystals, overlapping and intrinsic faults, electron microscope images 7−12084
FCC pure metals, neutron irradiated, thermal stability of cascade defects, annealing expt. 7−51856
films grown from a partly ionised molecular beam, computer simulation of structure 7−7060
fusion reactor materials, neutron irrad., defect struct. 7−51844
graphite, resistivity at high temp. calc., anisotropy, temp. depend. 7−52556
metals, FCC, creep power law breakdown, stacking fault energy effect 7−39609
pure metals, vacancy cluster stability energy calcs., cluster size depend., elastic continuum expressions 7−51762
quartz, Brazil twin and stacking fault boundaries, X-ray dynamical diffr. contrast images 7−26768
semiconductors, defects, electroreflectance characterisation 7−64606
sphalerite single crystals, plastic behaviour between 473 and 873K, dislocation structure, TEM anal. 7−2093
steel, austenitic stainless, FCC lattice, stacking fault energy calcs. *(Russian)* 7−12081
steel, Mn, Hadfield, strain hardening, plastic flow 7−28055
steel, N alloyed, mech. prop.-struct. relationship 7−3316
steel, slip processes in intersecting planes, α' martensite form. *(Russian)* 7−33728
steel, stainless, transition class, deform. method effect on microstruct. 7−3299
surfaces, crystal lattice termination, reflection electron microscopy studies 7−12437
X-ray diffr. contrast images, computer simulation developments 7−1809
Ag-Ge-Ga-Al FCC alloys, faulted structure, X-ray diffr. studies 7−58292
β-AgI, anharmonic thermal vibrs., X-ray diffr. 7−51982
AlGaAs-GaAs superlattices, Se (Si)(Mg)(Be) ion implantation, intermixing, residual damage 7−26782
AlH_3, cryst. imperfection obs., TEM 7−32445
AlOOH, stacking fault and size effects on X-ray diffr. line profile calc. 7−2032
Au, cascade damage under heavy ion irrad. at high temp., in situ obs. 7−58368
Au, defect development from displacement cascade damage in low temp. neutron irradiation 7−51851
BN, wurtzite-like, deformation and high-press. phase transitions 7−44804
Co-Ni-Ti-based alloys, critical shear stress asymmetry during stretching and compression *(Russian)* 7−8054
Cr-base alloys, high-alloy, plasticity, effect of twinning *(Russian)* 7−46582
Cu, damage correlation of high energy neutron and ion irradiation, subcascades 7−51860
Cu, defect development from displacement cascade damage in low temp. neutron irradiation 7−51851
Cu:O(He) vacancy cluster stability calcs., void form., O and the impurity effects 7−51763
Cu-Al bronze, hot deform. and annealing, mechanical props. and softening kinetics 7−17552
Cu-Al-Co(Mn)(Fe)(Ni), stacking fault energy determ. *(Russian)* 7−12082
Cu-Cr multilayers, laser alloying 7−45025
Cu-Ge-Ga-Al FCC alloys, faulted structure, X-ray diffr. studies 7−58292
Cu-Zn-Al, thermoelastic, two way memory effect, dislocation form. model 7−22741
Fe-Al-Mn, fatigue crack growth 7−65130
Fe-Cr-Ni, austenitic, electron irrad., conversion of stacking fault tetrahedra to voids 7−58342
Fe-Cr-Ni, hardening at low temp. *(Russian)* 7−39554
Fe-Mn-Al-Cr system, rel. between $\gamma \rightarrow \varepsilon$ transform. temp. and comp. of metastable austenite region *(Chinese)* 7−7993
GaAs crystals, selective etching and photoetching of CrO_3-HF aq. solns. 7−32442
GaAs faulted dislocation dipoles, electron diffr. and high-resolution TEM studies 7−44551
GaAs films, initial stages of MBE growth on Si (100) 7−63995

stacking faults continued
GaAs molecular beam epitaxial layers, defect density reduction by thermal annealing, TEM study 7−45041
GaAs:Si, ion implanted, amorphisation and epitaxial regrowth, defect depth profiles 7−12088
GaP films, MBE growth on Si(211), defects obs. 7−58695
GaSe, photoexcited localised excitons thermalisation, stacking disorder effects, photolum. study 7−27770
GaSe, single cryst. growth by I_2 vap. transport 7−17399
Ge, (111) surface structure, lattice gas model anal., DAS structure 7−2309
Ge-Si, alloy, MBE on Si substrates, stacking fault tetrahedra form. 7−21769
Ge-Si(111) interface, geometrical struct. 7−38310
$Hg_{1-x}Cd_x(Mn_x)Te/CdTe$ superlattices, twin faults, X-ray obs. 7−45036
Kr, defect props. in condensed two-dimensional lattice 7−2018
Kr monolayer adsorbed on graphite surface, dislocation interactions 7−2357
Li hydrides, ($LiAlH_4$, LiH, $LiBH_4$), cryst. imperfection obs., TEM 7−32445
Li, stacking faults, X-ray and neutron diffr. patterns 7−16580
MgH_2, cryst. imperfection obs., TEM 7−32445
Mg_2NiH_4, twinning at unit cell level, low temp. phase, electron microscopy study 7−26762
Na hydrides, ($NaAlH_4$, NaH, $NaBH_4$) cryst. imperfection obs., TEM 7−32445
NbS_3, stacking disorder 7−44573
Ni base superalloys, hot deformed, matrix dislocations, weak beam electron microscopy obs. *(French)* 7−21210
Ni defect development from displacement cascade damage in low temp. neutron irradiation 7−51851
Ni_4Mo-Cr, isothermal annealing, structural changes 7−46462
Pb-Sn (9 wt.%), solid soln. alloy 7−8066
$Rb_{0.023}WO_3$, crystal growth and struct., SEM and TEM anal. 7−46288
Ru-Ir bicrystal superlattices, X-ray and transport studies 7−27159
Si (111), surface bonding configuration, triangle-dimer stacking fault model 7−6946
Si, (111) surface structure, lattice gas model anal., DAS structure 7−2309
Si (111)7×7 surface, total-energy calcs. for Takayanagi model 7−2345
Si, amorphous to crystalline transformation, TEM in situ technique 7−44376
Si dislocation-free single crysts., microdefect recomb. activity, electron irrad. and annealing effects, SEM study *(Russian)* 7−21287
Si films, solid phase epitaxial regrowth on epitaxially grown $MgO.Al_2O_3$ 7−38399
Si, MBE grown, defect densities 7−12560
Si MBE layers, defects 7−21772
Si, MBE on Si substrates, stacking fault tetrahedra form. 7−21769
Si, nitridation treatments, review 7−17747
Si, oxidation, stresses and defects 7−65230
Si, oxidation of damaged surfaces, precipitation at stacking faults 7−38313
Si, oxidation stacking faults, shrinkage during O_2/NF_3 oxidation 7−22913
Si, selectively epitaxial, origin of lattice defects 7−32881
Si wafer, stacking and technological faults, elec. activities, SEM study *(Russian)* 7−21234
Si, with stacking faults, electron and phonon spectra, recursion method 7−32945
Si:As, implanted, supersaturated soln., defect struct., TEM obs. 7−58483
Si:Au. U- and W-shaped impurity diffusion profiles investigation 7−16805
Si:O, C, precipitation, microstructures, TEM studies 7−32668
Si:O, Czochralski grown, O-related defects after annealing, IR TEM and resistivity meas. 7−32466
Si:O CZ gram, O precipitation enhanced with vacancies 7−32664
Si:Ti(V)(Cr)(Fe)(Zr) polycrystalline solar cells, structural, elec., photovoltaic props., impurity effects 7−39990
Si-Si homoepitaxial interfaces, MBE grown, oxygen trapping 7−32855
SiC, CVD, microstruct. around indentation, TEM obs. *(Japanese)* 7−22822
SiC, sintered, microstruct. and props., influence of fabrication method *(Japanese)* 7−22622
B-SiC whiskers, stacking faults *(Japanese)* 7−21235
SiO_2, nitridation treatments, review 7−17747
Si(111) (7×7), geometrical struct. 7−38310
Si(111), energy minimisation calc. for dimer-adatom-stacking fault model 7−63940
TaC, high temp. hardness, stacking faults, hardening rel. to C diffusion 7−3369
TiN, deformation-induced stacking faults, synthesis by vibratory milling 7−44572
VN, deformation-induced stacking faults, synthesis by vibratory milling 7−44572
WC, high press. sintering, microstruct. 7−39470
WC-Co, high press, sintering, microstruct. 7−39470
WSi_2 amorphous films, crystallisation, stacking faults and resistivity 7−21759
Xe, defect props. in condensed two-dimensional lattice 7−2018
Xe monolayer on graphite, dislocation interactions 7−2357
ZnS, epitaxial film, TEM and photoelectron study 7−53408
$ZrS_3(Se_3)$, stacking disorder 7−44573

Staebler-Wronski effect
a-Si, lamellate structure 7−21740
a-Si:H, light induced degradation at high illum., inverse Staebler-Wronski effect 7−23195
a-Si:H, light soaked, dangling bond creation 7−12150
a-Si:H, localised electronic state, light soaking and current injection 7−16994
a-Si:H, Staebler-Wronski effect and metastable light-induced defect creation kinetics model 7−64284
a-Si:H,F by thermal CVD, photosensitivity, spin density, conductivity and p-n type 7−17454
a-Si:H and a-Si:H, B films, photoinduced changes in elec. props. 7−38634
a-Si:H films, light-induced defects and internal stresses 7−12751
a-Si:H films, photoconductivity, thermal quenching obs. 7−52686

Staebler-Wronski effect continued
a-Si:H material and solar cells, light induced effects 7—23139
a-Si:H multilayer films, charge transfer doping, cond., photocond. meas. 7—38735

staff *see personnel*

stagnation flow
atmospheric gliding entry, heating, scaling relations 7—51200
axisymmetric wakes, stagnation point flow study 7—51152
buoyant vapour bubble modelling growth and collapse, rigid boundary, stagnation flow 7—16220
counter-rotating vortex pair induced flow at wall 7—31810
Euler eqn., wavy wall solns. 7—51210
finite element formulation 7—37423
flame, premixed, struct. and extinction limit, Lewis no. effects *(Chinese)* 7—11559
flexible cylinder array, fluidelastic in stability in cross-flow 7—16089
methane-air laminar counterflow diffusion flames, struct., CARS meas. 7—57939
natural convection on downward-facing heated plate, average Nusselt number 7—31791
premixed laminar flames in stagnation point flow, calculation of extinction limits 7—59762
semielliptical afterbody near-wake, turbulence intensities 7—51150
stagnant zone, form. at different Bernoulli numbers, nonlin. num. soln. 7—51241
supersonic wake past blunt body, heat transfer, and drag 7—51214
transonic Ludwieg tubes, stagnation state, starting process study 7—37489
vectorised finite element codes for compressible flows 7—37488

stainless steel
see also austenitic stainless steel
304 stainless steel, electrochemical tests for sensitization detection 7—33894
304L stainless steel, electrochemical tests for sensitization detection 7—33894
austenitic-ferritic, weld metal deposits, final microstruct. form., role of thermal contraction stresses assoc. with inclusions 7—59738
bearing appls., Ti and C ion implantation, enhanced lubricated sliding wear resistance 7—53916
bearing type, quenching temp. rel. to microstruct. and fracture surface morphology 7—8015
bimetallic plate, cold-clad, diffusion processes in preboundary zone 7—46708
bonding to metallised Si_3N_4 ceramic *(Japanese)* 7—8147
cast duplex, spinodal reaction and G-phase precipitation, FIM atom probe anal. 7—33670
chemical compatibility with Li based oxide ceramic fusion breeders 7—49646
clad fuel rod, failure behaviour 7—61965
cold rolled sheet, struct. form. during recrystn., optimum heat treatment schedule 7—3340
corrosion, high temp., by oxidising gases *(Korean)* 7—8161
corrosion behaviour in formic acid *(German)* 7—3526
corrosion by Pu in PUREX reprocessing environment 7—25096
corrosion films, effect of Zn incorporation 7—39732
corrosion in Na loop system, downstream effects 7—3504
corrosion resistance, Al and Si alloying effects *(French)* 7—17711
crack growth in BWR piping, meas. techniques 7—39839
cryogenic structural material, low-temp. strength under action of elec. current pulses 7—22814
depth profiling, gentle surface analysis by laser ionisation using intense UV laser light 7—23078
deuteron irrad., multiple fracture planes, bubble growth 7—58372
dual-phase, α-particle irradiated, mech. props. and microstruct. 7—51872
ductility rel. to cold working 7—22759
duplex, α-particle irradiated, mech. props. and microstruct. 7—51872
duplex, austenitic-ferritic, cavitation erosion 7—65149
duplex, corrosion imaged and welded conditions, microstruct. effect 7—39698
duplex, decomp. of deformed ferrite, TEM obs. 7—28091
duplex, electrochem. test for intergranular corrosion susceptibility 7—39794
duplex, ferrite-austenite flow localisation during plane strain punch stretching 7—17593
duplex, manual metal arc weld metals, microstruct. and phase transform. 7—59526
duplex, sintered, mech. props., corrosion resist. and high temp. oxidation resist. 7—7928
electron beam heating, vaporisation and melting meas. 7—26929
energy spectra calcs. for 14 MeV n streaming through stainless steel ducts 7—714
erosion by sharp alumina particles 7—3453
erosion rate 7—3464
erosion-corrosion combined behaviour at elevated temp. 7—3517
FCC, zone-axis critical voltages in HEED, accidental Bloch wave degeneracies obs. 7—63409
FCC structure, multiple grain-boundary contacts *(Russian)* 7—12079
ferrite, high-Cr, solubility of Ti and Nb carbides, temp. depend. of internal friction obs. 7—53740
ferritic, 11 MeV proton irrad. behaviour 7—58369
ferritic, annealed hot-rolled plates, texture heterogeneous, correl. with plastic deform. struct. *(French)* 7—13483
ferritic, cavity form., effect of electron/He dual beam irrad. 7—58341
ferritic, corrosion in flowing Li environment, temp. and purity depend. 7—53961
ferritic, corrosion in flowing Pb-Li environment 7—53959
ferritic, corrosion resist. in H_2SO_4 soln., alloying effects 7—28172
ferritic, crack growth behavior, appl. of H embrittlement models 7—53850
ferritic, for selective solar absorbers, conversion coating anal. 7—23224
ferritic, He-doped, microstruct. evolution following 14 MeV Ni ion irrad. 7—58363
ferritic, ion-nitrided, struct. and props. 7—22884
ferritic, irrad., grain boundary segregation, STEM microanalysis 7—22701
ferritic-martensitic, high-Cr, fast reactor irrad., phosphide phases 7—22700
ferritic-martensitic, O-alloyed friction structures, under conditions of thermal action, stability *(Russian)* 7—59673
ferritic-martensitic, warm forming *(Polish)* 7—13507
ferromag., mag. hysteresis loops, effects of grain size, hardness and stress 7—64482

stainless steel continued
films, amorphous and amorphous-crystalline with refractory metal additions, magnetron sputtering 7—39380
films, sputter deposited, vacuum annealing-induced solute depletio 7—64012
fine-grained, Zr effect on struct. and phase comp. 7—39525
fretting props. in vac. environment, oxidative and adhesive wear, SUS30 steel 7—8122
fusion-fission hybrid reactor, pebble bed blanket material, magnetohydraulic flow 7—15366
hard coatings formed by Ti implantation on 304 stainless steel, XPS study 7—3154
heavy section, fracture studies, welds, neutron irradiation, crack arrest 7—13587
high-temperature corrosion film characterization using Raman microscopy 7—46772
HT-9, tritium permeation props. 7—38239
ion implanted with N, fretting wear resist. 7—13636
ion irrad., positron annihilation studies 7—46219
ion irradiated, X-ray microanalysis, of equilibrium and nonequilibrium segregation 7—46488
ion nitriding, influence on hardness layer of 15-5 PH stainless steel 7—3515
ion trapping of D^+, mechanisms 7—64857
laser alloyed, processing of metals for improved corrosion resist., surface modification program 7—65200
laser alloying with Au(Mo), Rutherford backscattering and channelling studies 7—28206
laser welded, pulsed and continuous, solidification behaviour and microstruct. characts. 7—13444
LWR, corrosion product release, radiation build-up effects 7—10225
LWR, pressure vessel materials, environmental sensitive cracking *(German)* 7—10214
LWR piping systems, LBB feasibility eval., fracture criteria 7—61968
machining of stainless steels, failure mechanisms of ceramics and coated carbides 7—3432
martensitic, amplitude depend. damping rel. to annealing and tempering *(German)* 7—13498
martensitic, brittle failure rel. to overheating, fractography 7—22796
martensitic, cooling rate and heat treatment effect on chem. microinhomogeneity 7—3294
martensitic, ion-nitrided, struct. and props. 7—22884
martensitic, laser surface melted, residual stresses 7—3506
martensitic, low-activation, for first wall and blanket structures, development prospects 7—42194
martensitic, oxidation and descaling behaviour, influence of annealing *(Japanese)* 7—59665
martensitic, precipitation hardened, impact toughness rel. to Mo content, AES obs. 7—39666
mechanical alloying, development of strong alloys 7—39534
microelectrodes, pitting dissolution in NaCl solns., nitrate passivation 7—39703
microstruct., aging effects, atom probe FIM, optical and analytic electron microscopy studies 7—33700
molten, solubility of N_2 7—3304
NET, first wall protection 7—49622
neutron damage USA-Japan studies 7—56834
neutron irradiated, defect clusters, positron annihilation lifetime meas. 7—51853
neutron irradiated, microstruct. and swelling, Si and N impurity effects *(Russian)* 7—2217
neutron irradiation effects on mech. props., damage and yield stress 7—51865
nonlinear hardening materials, constitutive model of cyclic plasticity 7—6113
nuclear fuel pin cladding, C distrib., SIMS study 7—19360
oxide growth mechanisms and corrosion rate for types 405 and 409 7—13649
passivation, role of Cr 7—46686
passivation in NaCl solution, ESCA study 7—65171
passive films, photoelectrochemical charactn. 7—28171
passivity, bipolar model 7—46687
passivity rel. to comp. and microstruct. 7—39711
photoelectric response to monochromatic light 7—17048
pipe, detection of configuration of surface fatigue crack by DC pot. drop method *(Japanese)* 7—59726
pitting corrosion behaviour in NaCl solns. under heat transfer conditions *(Japanese)* 7—33832
plate, thermoviscoelastic stress analysis 7—2092
polarisation behaviour and admittance response in NaCl soln. *(Japanese)* 7—22871
powder compacts, props., influence of sintering conditions *(Korean)* 7—17496
pressure vessel steel, stress relief cracking, reactor safety 7—8117
radionuclide deposition on Ni and stainless steel from Na fusion reactor coolant 7—62060
reactor pipe integrity prediction using R6 procedures 7—49542
repair welds, neutron irradiation embrittlement 7—5328
screw cracks in reformer tube of HK40 alloy *(Chinese)* 7—3412
sheets, rolled, US SH wave vel., ang. depend. 7—38126
shock impact, numerical simulation of sample recovery fixture 7—38120
simulated LMFBR fuel pin, FCCI and I-assisted mass transfer 7—49537
solution kinetics in molten Al 7—16753
stainless steel electrode surface damage anal. in high energy spark gaps 7—33991
stainless steel-Sb, X-ray microanalysis, of equilibrium and nonequilibrium segregation 7—46488
stress-strain curves, approx. functions 7—59591
structural, STEM-EDS X-ray microanalysis of grain boundary segregation 7—22702
substrates, mechanical props. of W-C coatings, effect of interlayers 7—53983
substrates with Ti(C,N) films, residual stress 7—52373
superalloy, fracture toughness, tensile props., T and ^{3}He effect 7—46616
surface, CO and SO_2 adsorpt., kinetics and laser-stimulated surface oxidation 7—63958
surface analysis by laser ionisation, review 7—52213
surface corrosion products after exposure to liq. alkali metals, glow discharge optical spectroscopy, SIMS anal. 7—22896
surface deuterium recombination 7—62063

stainless steel continued
- surface morphological changes induced by narrow beam bombardment 7−51868
- surface oxide films, spectral polarised directional emissivity meas., stratified media theory interpretation 7−17291
- surface segregation and grain boundary precipitation during heating, atom probe study 7−33672
- thermal cond. meas. 7−32983
- thin plate two-dimensional diffusivity tensor meas. by thermal pattern analysis 7−2285
- Tokamak de Varennes, disruption-induced currents in stainless steel vacuum vessel 7−15352
- type 304, elec. resist. and magnetisation 7−45268
- type 304, exposure to high temp. OWL-1 loop water, corrosion layer characterization 7−8167
- Type 304 IGSCC, BWR plant life extension, materials aspects 7−53995
- unlubricated 316, friction and sliding wear in air at room temp., 0.5 to 90 N load range 7−3451
- wire, electroplastic drawing, struct. and physicomech. studies *(Russian)* 7−8057
- Cr type, chem. microinhomogeneity of solid solns. effect on brittleness 7−3422
- Cr-Ni type, force characts. of powder compaction process 7−7912
- $(Cr_xFe_y)_{23}C_6$ compact specimens, corrosion-electrochem. and phys. props., w.r.t. comp. 7−54000
- Fe, cast, couple, galvanic corrosion NaCl soln., boundary element prediction *(Japanese)* 7−13635
- H degradation by disc. press. test 7−53855
- Mo, ferritic, welding, heat affected zones, microstruct., thermal history 7−53769
- Mo, microstructure rel. to heat treatment 7−53770
- Na/steel system, $NaCrO_2$, form. threshold O level, LMFBR operation 7−42113
- Ni-Cr A286, crack initiation and propag. characts. under high-temp. fatigue 7−22834
- Ni-Cr A286, high-temp. fatigue strength characts. 7−22835
- Ni-Cr precision alloy, spread of local overloads in microstruct. of aged and nonaged specimens 7−8061
- Pb-stainless steel particle mixture, mixing model with particles of different elec. resist. *(Japanese)* 7−44831
- Si_3N_4/ferritic stainless steel, joining with soft metal interlayers, tensile strength 7−28266
- Ti and Ti-Nb modified 316, electron radiation damage in fusion reactor materials, voids 7−2064
- TiN coatings, sputtering, struct., props. 7−33799
- V properties and uses in engineering alloys, review 7−39456
- WC-stainless steel composites, corrosion-resistant optimum prod. conditions 7−65164

standard cells *see cellular arrays*

standard microphones *see microphones*

standard voltage generators *see signal generators*

standardisation
- anthropometry/biomechanics standardisation 7−54665
- APDC acidic deposition meas. standardisation 7−23265
- environmental standard reference materials, determ. of sampling constants 7−34748
- environmental standard reference materials, instrumental neutron activation anal. results 7−34747
- environmental standard reference materials, role of neutron activation anal. in certification 7−34746
- industrial test methods for single-mode fibres and cables 7−37164
- lens design and fabrication, standardisation of radii of curvature 7−31413
- optical fibre cable connection and loss meas. methods *(Japanese)* 7−43435
- optical single-mode fibre meas. and standardisation 7−43409
- solar radiometry instrumentation, calibration techniques, and standards 7−55326
- water meter error components 7−57949
- X-ray examinations standardisation, engng. basis 7−28663
- He-Ne laser, standardisation for metrological purposes 7−5909

standards
- *see also CAMAC; constants; measurement standards; television standards; units (measurement)*
- ASTM standards for solar cell and module meas. 7−8410
- biomedical electronic instruments safety and testing Electrotechnical Testing Institute practices *(Czech)* 7−18090
- biomedical equipment, safety, DHSS view 7−54796
- biomedical equipment electrical safety, conf., London, (Jan. 1987) 7−48195
- biomedical equipment safety testing 7−54798
- colour vision standards within the transport industry, origins 7−23350
- computerised instruments interfaces standardisation, for low-temp. meas. 7−4857
- contrast rendering factors as alternatives to E/L ratios 7−11088
- dosimetry, standard for unit of absorbed dose in water 7−60091
- electrical shock, safety criteria, conf., Toronto, Ontario, Canada (Sept. 1983) 7−18500
- electrically powered biomedical equipment, safety standards 7−54795
- fibre optic technology, military service aspects 7−50774
- fluidic resistance ccts with compressible flow throughput *(German)* 7−51205
- half-cylindrical illuminance parameter for lighting design 7−11087
- ICRP Reference Man, distrib. of intracellular alkali metals 7−65861
- IEEE standard difinitions of primary ferroelectric terms 7−39045
- irradiance standards, NBS SURF and W UV, comparison 7−11086
- laser frequency standards, review 7−36977
- nuclear class 1 pressure boundary components, requalification status 7−56812
- orifice flowmeter, flow coeff. meas. for large diameter pipe 7−37590
- Planck's constant frequency independence, microwave test using laser frequency standards 7−43024
- radioactivity in building materials used in the Netherlands, proposed standard 7−34287
- solar cell performance meas., translation to reference standards 7−54312
- solar radiometry instrumentation, calibration techniques, and standards 7−55326
- solar simulators and I-V meas. methods 7−54310

standards continued
- Xe lamp spectral distribution as standard white light source *(Japanese)* 7−1244
- ^3H in drinking water, background information for development of a standard 7−60101

standby generators
- emergency diesel generator reliability at US nuclear power plants 7−42183

standby power supply *see emergency power supply*

star formation
- in active dwarf galaxies, rates and efficiency 7−55806
- in active galaxies, spectra of nuclear H II regions 7−4566
- associated cosmic rays accel. 7−55390
- B335, Bok globule, obs. of cyanoacetylene emission assoc. with far-IR source 7−18448
- B5, interstellar dark cloud, large dust grains growth rel. to star form. 7−9529
- Barnard 62, Bok globule, optical and IR evidence for star form. 7−9527
- bipolar molecular flows, CO line form. in accelerated outflows 7−48042
- bipolar sources formation in dense mol. clouds, isotropic wind collimation models 7−24182
- Canis Major star formation region, emission-line stars survey 7−18360
- in central galaxies in southern clusters, optical spectra rel. to evidence for star form. 7−55821
- classical Cepheids, birthplaces rel. to local chemical inhomogeneities in galactic disk 7−34997
- clusters of galaxies, core self-regulated cooling flows and low-mass star form. 7−66741
- cyanoacetylene, vibr. excited, detect. in star form. regions 7−48063
- in dense interstellar dust clouds, Jena workshop, Georgenthal, DDR (March 1986) 7−40981
- density wave triggering, limitations 7−60789
- differentially rotating self-gravitating gas cloud, stability of isothermal configurations 7−40679
- dust emission from star-forming regions, spectral study 7−48029
- dust emission spectra from star-forming regions 7−24180
- in dwarf galaxies, implications of H I synthesis obs. of two Virgo cluster galaxies 7−4560
- in dwarf irregular galaxies, star form. rates rel. to ^{12}CO emission 7−35033
- in early-type galaxies, H I content versus star form. and ionised gas 7−29528
- elliptical galaxies, self-regulated cooling flows and low-mass star form. 7−66741
- ESO 428-G14, new Seyfert 2 galaxy, evidence for star form. burst 7−9538
- in faint galaxies as probe of distant Universe 7−4610
- G24.6+0.0 (Scutum ring), star form. model for ring of H II regions assoc. with CO and H I shells 7−18447
- G34.3+0.2, compact H II region, NH_3 obs. of warm molecular core 7−24173
- in galactic nuclei, appl. of 3.28 μm feature for detect. of star form. 7−9533
- in galactic nuclei, spectroscopic obs. for complete sample of galaxies 7−40921
- in galactic spiral arms, star form. rel. to energetics of vel. active regions 7−24220
- in galaxies, contrib. of nonstationary central black hole to star form. bursts 7−60795
- in galaxies, H II regions and star form. rel. to Hubble type 7−48084
- in galaxies, role in evolution 7−48087
- in galaxies of Coma/A 1367 Supercluster, star form. rel. to radio props. in different density environments 7−29547
- galaxy spiral density waves rel. to massive star formation 7−60696
- in giant molecular clouds, star form. model 7−29525
- high-mass stars formation, role of cloud-cloud collisions 7−55610
- in DNGC 6357, H II region, IR obs. rel. to star form. 7−48009
- interacting and isolated galaxies, star formation efficiency rel. to molecular content 7−55812
- in interacting protogalaxies, burnt-out galaxies and clusters rel. to quasar pairs 7−35051
- interstellar bipolar outflows, nature of collimating mechanism 7−40816
- in interstellar molecular clouds, implications of clouds density struct. from HC_3N J=4-3 line obs. *(Russian)* 7−55777
- in interstellar molecular clouds, implications of submillimeter spectral lines obs. in very dense regions 7−66711
- interstellar molecular clouds, torsionally-excited methanol obs. in hot cloud cores 7−48005
- interstellar molecular clouds fragmentation, implications of mass-radius-vel. dispersion relations 7−55753
- interstellar UV extinctions towards OB associations and star-forming regions, IUE obs. 7−55786
- IRAS 16293−2422, NRAO 245 GHz obs. of protostellar cloud 7−14561
- IRAS galaxies, sub-millimetre obs. rel. to massive star form. rate 7−9532
- IRAS galaxies of very high lumin., ages and star form. characts 7−66767
- IRAS low-temp. unidentified print sources, ^{13}CO and ^{12}CO obs. 7−48006
- isolated T Tau stars, form. from very small interstellar clouds with almost no residuals 7−47869
- Jeans collapse in a turbulent medium 7−60752
- jets from young stars, CCD obs. 7−55617
- L1551 IRS 5, IR polarimetry of nearby refl. nebula 7−24186
- in late-type galaxies, star formation rates determ. *(German)* 7−24207
- LkHα 101, VLA obs. of H II region and small-scale struct. in nearby H I 7−48038
- in LMC, implications of H_2O masers obs. for star form. rate 7−14661
- in LMC halo, implications for star form. history of intermediate-age LMC cluster (E2) 7−40883
- Local Group Sb and Sbc galaxies, physical and star form. props., H I obs. 7−60809
- Lupus dark clouds complex, CO obs. rel. to low-mass stars form. 7−29523
- M16, star-forming complex, obs. of giant stellar wind shell assoc. with H II region 7−18446
- M51, M100, nuclear star form. rings assoc. with stellar ovals 7−4568
- in Magellanic H I bridge 7−35049
- Markarian 231, Seyfert 1 galaxy, starburst model rel. to morphology and nuclear spectroscopy 7−48067
- in Markarian 231, Seyfert galaxy/QSO, CO (J=1-0) emission obs. and optical imaging rel. to starburst model 7−66757

star formation continued
Markarian 306, double nucleus galaxy, spectroscopic obs. rel. to star form. burst 7—24199
in Markarian 490, high ionisation starburst galaxy, spectroscopic and imaging obs. 7—4574
massive stars formation bursts in blue irregular galaxies, age from IUE obs. 7—48088
massive stars of formation rate in M31, determ. from obs. of OB associations 7—40926
merger hypothesis for galaxy form. 7—55795
methanol, torsionally excited, in hot mol. cloud cores, centimetre-wave lines obs. 7—48005
molecular cloud fragmentation, IMF and star formation efficiency 7—48030
molecular clouds in outer Galaxy, massive stars form. 7—66709
in molecular disks, review of theoretical models 7—9465
in NGC 1275, Seyfert galaxy, submm continuum characts. 7—48099
NGC 1333 (HH12), star-forming cloud, obs. of shocked H$_2$ and interstellar jets 7—55760
NGC 2024, H II region, formaldehyde absorpt. obs. rel. to star form. 7—48041
NGC 2071 star-forming cloud, obs. of shocked H$_2$ and supersonic jets 7—55760
NGC 2798, interacting galaxy, evidence from UV spectroscopy from starburst in galactic nucleus 7—55830
NGC 3256, galaxy, evidence from UV spectroscopy from starburst in galactic nucleus 7—55830
NGC 4214, 4449, blue irregular galaxies, H II regions kinematics rel. to star form. bursts 7—40925
NGC 55, magellanic-type galaxy, radio continuum obs. rel. to star form. 7—9539
NGC 7469, type 1 Seyfert galaxy, emission lines mapping rel. to circumnuclear starburst 7—29536
NS3, NS12, possible bipolar nebulae, optical polarisation study 7—48047
Orion Molecular Cloud 2, obs. of IR refl. nebulae assoc. with star form. 7—55765
Orion-KL region, maps of high-vel. CO outflow 7—29522
Perseus globules, star form. characts. 7—35021
planets formation around stars, theory for 1 solar mass star 7—55497
Population II stars, 'dirty' primordial Population III stars model 7—29470
primordial star formation and galaxy form., triggering by evolution of large-scale density perturbations 7—66794
primordial stars formation, clouds fragmentation and pre-main-sequence evolution 7—47999
protostar formation, quantized field theory 7—60581
protostar formation regions, submm astronomy with FIRST 7—47890
rotating intermediate-mass stars, pre-main-sequence evolution and main-sequence position 7—14558
S235B region, mol. line obs. of young stellar object 7—24188
self-regulated star formation and the evolution of stellar systems 7—47828
solar neighborhood, past star formation rate and IMF 7—47829
solar-type protostars in nearby mol. cloud cores, IRAS candidates 7—47853
in spiral galaxies, far-IR lumin. and CO line obs. anal. 7—4563
in spiral galaxies, triggers and chem. evol. 7—40936
in starburst galaxies spectroscopic study of supergiant H II regions 7—24222
submm sources, characts. 7—48059
Taurus T-associations, photometric study of flare stars 7—24136
unipolar bubbles in star-forming regions 7—55770
Ursa Major I(S) group galaxies, ^{12}CO and far-IR obs. rel. to star form. 7—29548
W3(OH), hot NH$_3$ obs. towards H$_2$O masers near W3(OH) 7—9525
W51 IRS 2, star-forming region, NH$_3$ maser and thermal emission obs. 7—66702

star phase rectifiers *see rectifiers*

Stark broadening *see Stark effect*

Stark effect
see also atomic spectra; molecular spectra
alkali atoms in strong field, static Stark effect 7—50007
alkali metal atoms(ions), reson. line electron-impact broadening 7—20058
analytical microwave spectrometer employing a Gunn oscillator locked to the rotational absorption line 7—15008
Ar, gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7—62320
asymmetric top mols., microwave spectra, electric dipole moment determ. 7—25495
asymmetry of Stark-broadened Lyman lines fromlaser-produced plasmas 7—11776
asymptotic completeness for new class of Stark effect Hamiltonians 7—14801
atomic ions, dielectronic recombination in elec. fields, quantum defect theory 7—62527
atomic spectrum in intense multimode radiation field, generalised quasienergy states 7—36535
atoms, quantum optics absorber theory 7—1046
atoms, two-photon two-level interactions, ionisation and cascade decay effects 7—15574
atoms and ions, Stark width and shift regularities 7—36539
Autler-Townes doublet, transient suppression under resonant driving field 7—10495
bacterial photosynthetic reaction centres, Stark effect 7—28482
benzene-d$_1$ 1_{01}-0_{00} rot. transition, Stark shift, microwave FT spectrosc. 7—57110
bicyclo[1.1.1]pentanone, struct. and microwave spectrum 7—50094
t-butyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7—36601
cascade transition spectrum correlations during perturbation by strong monochromatic field 7—50006
centrosymmetric molecules in amorphous media, Stark effect by hole burning and inner elec. fields 7—25581
chlorin, in polyvinyl butyral matrix, spectral hole burning and Stark effect 7—62792
chloromethane-d$_3$, subMM laser Stark spectrum at $\lambda=337$ μm 7—57107
conference, Orleans, France (Sept. 1985) 7—4616
crystal spectral lines in external elec. field, Stark splitting local centre reorientation 7—27308
cyclobutylcarboxylic acid fluoride, microwave, IR and Raman spectra, Stark effect, conform. 7—25492

Stark effect continued
cyclopropyl silane, excited torsional state, microwave spectrum, stark spectroscopy, ODR 7—50092
dense plasma, H Lα line Stark-broadened profile meas. 7—20935
dielectronic recombination, electric field enhancement over Rydberg spectrum 7—5618
trans-difluoroethylene ozonide, struct. dipole moment, ab initio HF calcs., microwave spectra 7—10557
dyes, mol. sublattice form., linear Stark effect study 7—57108
electric field strength, detect. by dynamic Stark effect 7—21001
escape factors for Stark-broadened line profiles 7—11777
fluoromethane, mol. beam, laser Stark spectra, two-zone Ramsey fringes obs. 7—42663
fluoromethane, Rabi oscillations, Ramsey fringes, using CO$_2$ laser spectroscopy 7—10590
formic acid, ν_3 band, sub-Doppler laser-stack and Fourier transform spectroscopy 7—62430
harmonically bound electron, blackbody radiation effects, energy level shifts temp. depend. 7—10496
hot laser-produced plasmas, Stark-broadened Lyman line asymmetry 7—63356
inert gas dense plasmas, temp. and density profiles, Stark linewidth and shift 7—37752
ionic cpds., struct., ionisation pot., stark shift 7—15634
ions, lines electron impact shifts, modified semiempirical approach 7—892
joint probability distribution for Stark-broadening calculations 7—37746
laser double resonance studies of rotational relaxationin a supersonic molecular beam 7—10554
Lyman-alpha profiles, ion dynamics effects, computer simulated study 7—10470
methanol, C$-$O stretching band, transition dipole moment, laser Stark spectroscopy 7—57106
methyl silane, torsional dipole consts., rot.-vibr. anal., microwave and IR spectra 7—19829
methyliodosilane, and deuterated species, dipole moments, quadrupole coupling consts., microwave spectra 7—19830
modulated semicond. structs., conf., Kyoto, Japan (Sept. 1985) 7—4630
neutral atoms, Stark broadening parameter estimation 7—10490
octaethylporphyrin, in polyvinyl butyral matrix, spectral hole burning and Stark effect 7—62792
oscillator strength meas., linear and nonlinear optical methods, review 7—893
pentamethylene oxide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7—19833
pentamethylene sulphide, Low freq. skeletal ring modes, vibr. anal., microwave spectra 7—19833
phenyl isocyanide, microwave ground state spectra and ^{14}N quadrupole coupling, Stark effect 7—36601
plasma, low freq. instability detect, in theta pinch through H-like atom satellites 7—37683
plasma-broadened Hα line, theory of two-photon polarisation spectroscopy 7—20936
rare earth trifluorides:Nd^{3+}, absorption and luminescence spectra, Stark sublevels 7—3077
Rydberg atom circular, stability in vanishing elec. field. 7—49966
Rydberg atom in gas discharge, optogalvanic diagnostics 7—32187
Rydberg atoms, Stark effect, electron-ion resonance scatt., WKB calcs. and multichannel quantum-defect theory 7—15546
Rydberg series, electron scatt., Stark broadening reson. struct. 7—50009
semiconductor quantum wells, optical modulators and bistable devices using self-electro-optic effect 7—5990
semiconductors, coherently driven exciton system, collective excitations and the dynamical stark effect 7—32919
semiconductors, dynamic Stark effect in interacting electron-hole systems, light-enhanced excitons 7—33366
semiconductors, impure, Poole-Frenkel effect and donor ionisation pot. 7—21926
stars, atm. ion lines stark broadening 7—60515
stellar plasma, ion line Stark broadening 7—55615
stimulated Raman scattering, pulsed, Stark effect 7—1223
two-level one and two atoms, reson. fluoresc., nonlinear and stimulated effects 7—25448
two-photon multiwave mixing Doppler broadening effects 7—15578
Ar, high-pressure plasma, elec. and optical props. 7—26552
Ar II, dense plasma, spectral line study 7—36552
Ar II, multiplet and supermultiplet Stark broadening 7—10491
Ar+CO$_2$(N$_2$), vacuum UV lines, Stark broadening 7—891
Ba, three-level system, dynamic Stark effect 7—42548
BaY$_2$F$_8$:Pr^{3+}, stimulated emission spectra, laser action excitation 7—27745
BaYb$_2$F$_8$:Er(Tm), energy levels Stark struct., crystn. field interactions 7—58782
^{138}Ba, dynamic Stark effect in three level system 7—10498
C III, Z-pinched plasma, Stark broadening of spectral lines 7—36537
C^{5+}, plasma, Balmer line Stark broadened profiles 7—26513
CO and K coadsorbed on Ni (111), adsorbates electrostatic interaction, IR reflection-absorption spectra, TPD, LEED obs. 7—32824
CO$_2$ laser pumping source for CH$_2$F$_2$ laser, Stark cell stabilisation 7—43134
CaO-TiO$_2$-SiO$_2$:Eu^{3+} sphere ceramic, impurity laser-excited site-selective fluorescence line-narrowing spectra 7—13200
Cl I, arc plasma, Stark broadening of spectral lines study 7—36536
Cl$^-$, adsorbed on Ag, surface enhanced Raman spectrum pot. depend., surface coverage and mutual depolarisation effects 7—7686
Cs, parity violation, crossed beam interference technique 7—10497
Cs, scalar Stark polarizability for 6s→7s transition 7—62322
Cu (100), field induced vibr. freq. shifts of chemisorbed CO and CN 7—45991
Dy$_2$(SO$_4$)$_3$.8H$_2$O, magnetic and hyperfine props., cryst. field effects calcs. 7—27305
Er$_2$(SO$_4$)$_3$.8H$_2$O, magnetic and hyperfine props., cryst. field effects calcs. 7—27305
Ga I and II, stellar line Stark broadening 7—55690
GaAs quantum wells, optical Stark effect on excitons 7—31384
GaAs/Al$_x$Ga$_{1-x}$As quantum wells, excitonic transitions, photocurrent spectra studies 7—7816
GaAs/AlAs quantum wells, photoexcited transport 7—2674
GaAs-AlGaAs quantum wells, Stark shifts for heavy- and light-hole levels, well size depend. 7—12794
GaAs-GaAlAs quantum wells, nonlinear optics and electro-optics 7—52809

Stark effect continued
$Ga_{0.47}In_{0.53}As/Al_{0.7}In_{0.3}As$ superlattices, electronic struct., strain-induced elec. field effects 7−7358
p-Ge, far IR multiphoton absorption 7−27723
Ge I, line profiles, Stark widths meas. 7−10489
H excited states, photoionisation in strong elec. fields 7−10526
H, ionised gas-laser interaction, dynamic Stark effect *(French)* 7−6395
H ions, Stark-broadening effect, simulation technique applied to models for Lyman α line 7−15721
H, Lyman-α line Stark struct. using VUV laser system 7−62321
H plasma, α line shift and profile 7−44243
H plasma, Balmer-α line Stark broadening, simulation 7−11697
H plasma, collisions, Stark broadening calcs. 7−10493
H plasma, computer simulated binary collision hypotheses, Stark broadening 7−10492
H plasma diagnostics using ion impact Stark broadening 7−51517
H radio recombination line broadening in plasma 7−29390
H, Stark effect and field ionis. 7−5628
H, Stark effect in strong field 7−50008
H, Stark ionisation multichannel reson. quantisation 7−50005
H-like ion plasma, laser interaction, X-ray line emission self absorpt. and escape factors 7−37689
H_2^+, electric polarizabilities, perturbation study 7−36664
H_2^+, excited states, non-Born-Oppenheimer electric polarisabilities 7−42662
H(D), T-tube plasma, β-line central dip, ion dynamic effects anal. 7−36542
He beam hyperfine struct. evolution and tensor polarisability determ. in elec. field. 7−57028
He I plasma, Stark parameters meas. of 447.15 nm line electron density determ. 7−36540
He I plasma, Stark parameters meas. of 492.2 nm line, electron density determ. 7−36541
He II, Stark broadening calcs. 7−10494
He, ionised gas-laser interaction, dynamic Stark effect *(French)* 7−6395
He plasma, spectral line Stark broadening for theta-pinch turbulent plasma parameter meas. 7−44255
He-like ions, plasma, laser interaction, X-ray line emission self absorpt. and escape factors 7−37689
Hg, Stark broadening, line shift and width 7−50010
I, four-photon ionisation, three-photon resons., AC Stark broadening 7−57036
ICl, visible spectroscopy using dye laser light source 7−20275
InGaAs-InAlAs multiple quantum wells, long wavelength optical modulation, electro-optical effects 7−7677
InGaAsP/InP multiple quantum well waveguide phase modulator 7−57531
K, Rydberg state, avoided crossings in elec. field using blackbody radiation 7−15558
K, Rydberg states, microwave multiphoton transitions obs. 7−25474
$KHo(MoO_4)_2$, Ho^{3+} ground state, low temp. sp. ht., Stark components 7−44840
KI, H^+, Ar^+ and electron impact, line shifts and widths, Stark broadening study *(French)* 7−10500
Kr, gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7−62320
$LaF_3:Nd^{3+}$, energy value calc. of Stark sublevels *(Chinese)* 7−38519
$LaMgAl_{11}O_{19}:Nd(Eu)$, single cryst., phys. chem. and spectrosc. props. 7−13185
Li beam, mag. field meas., Zeeman and motional-Stark effect 7−19766
Li, high-freq. Stark effect, laser-induced fluoresc. anal. 7−36529
$LiYbF_4:Er(Tm)$, energy levels Stark struct., crystn. field interactions 7−58782
Lu_2Si_xOy: Nd^{3+}, spontaneous and stimulated emission 7−39171
N II pulsed arc, Stark broadened lines 7−36534
N_2-HF, IR spectrum and vibr. predissoc. 7−50106
NH_3, mol. beam laser Stark spectroscopy, ν_2 band, transition dipole moment meas. 7−50209
Na atoms, nonlinear parametrical EM wave interaction, saturation, stark shift and multipole radiation effects calcs. *(Russian)* 7−19767
Na D_2 line determ. in elec. field 7−10772
Na vapour, nonlinear parametrical wave interactions, Stark shift and multipole radiation effects *(Russian)* 7−30988
Na_2, Stark multiplets in molecular Rydberg states 7−36665
NaK, Stark effect, appl. to plasma local electric field determ. 7−26563
Na_2O-Al_2O_3-$SiO_2:Eu^{3+}$ glass, impurity laser-excited site-selective fluorescence line-narrowing spectra 7−13200
Na_2O-CaO-Al_2O_3-TiO_2-$SiO_2:Eu^{3+}$ glass ceramic, impurity laser-excited site-selective fluorescence line-narrowing spectra 7−13200
$Nd_3Ga_5O_{12}$ garnet, cryst. field studies of excited states 7−33407
Ne, gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7−62320
Ne II, Stark parameters meas. 7−36538
Ne, plasma, Stark broadening and shift parameters, visible spectra anal. 7−62310
OCS, rot.-vibr. anal., electronic ground state, MW, IR and Raman spectra 7−19820
OCS, rot.-vibr. anal., dipole moments, Stark spectra. 7−19910
PH_3, accidental IR double reson. transition obs., electric field standards appl. 7−10644
$PbWO_4:Nd^{3+}(Pr^{3+})$, optical spectra 7−39146
$Pr_2(SO_4)_3.8H_2O$, magnetic and hyperfine props., cryst. field effects calcs. 7−27305
ScO, electric dipole moment calcs., laser fluoresc. excitation spectroscopy 7−19930
$Sc_2Si_xO_y:Nd^{3+}$, spontaneous and stimulated emission 7−39171
Si III, Stark shift of DA white dwarfs modified semiempirical formula 7−55638
α-$ThBr_4$:U, Stark energy level determ. of $^3H_4$ ground state of U^{4+} 7−27696
Tl, Stark broadening, line shift and width 7−50010
$TlGaSe_2(S_2):Nd^{3+}$, photoluminescence spectrum *(Russian)* 7−64682
Xe, gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7−62320
Xe, laser-induced third-harmonic generation in forbidden regions, Stark effect in three-photon level 7−37039
XeCl excimer laser, discharge-pumped, electron density, Hβ line Stark broadening meas. 7−5873
$(Y,Sc)_3Ga_5O_{12}:Cr^{3+},Er^{3+}$, spectral, luminesc. and lasing props., Stark sublevel lifetimes 7−25827
$Y_2O_2S:Pr^{3+}$, luminescence spectra 7−7730

Stark effect continued
$Y_2Si_xOy:Nd^{3+}$, spontaneous and stimulated emission 7−39171
Yb, $^3P_1$-$^1S_0$ transition, oscillator strength, lifetime, coherent optical techniques and fluoresc. spectra 7−42542
$ZrSiO_4$: rare earths, luminescence-spectra props., hydrothermal synthesis methods 7−64683

stars
see also stellar ......
see also dwarf stars; giant stars; magnetic stars; multiple stars; neutron stars; Sun; variable stars; Wolf-Rayet stars
A and F-type dwarf stars in C0318+484 (α Per cluster), space vels. 7−4531
A to F-type shell stars, Hα and near-IR spectra 7−9497
A-type stars, CNO abundances from IR lines 7−9472
A-type stars, synthetic line profiles for higher terms of H I Balmer and Paschen series 7−60639
absolute azimuth determ. with transit circle, use of polarissima method 7−4346
active nuclei variability, gravit. lens hypothesis, microlensing effects 7−55791
angular momentum relationships, self-similar scaling eqns. 7−14683
astrometric standard stars, UBV photometry 7−4433
automated 2D classification, use of Vilnius system multicolour photometry 7−29410
B0 to B9-type spectroscopic binaries, search for Hα emission 7−35005
B2 and A2 main-sequence stars, C and N abundances from IUE obs. 7−47889
B9-A2 stars in young open clusters, spectroscopic determ. of stellar metallicity 7−66565
late B-type stars, nearby, evidence for interstellar or circumstellar C IV and Si IV from IUE obs. 7−60771
B-type stars in open clusters and associations, atmospheric He abundances from optical spectra *(Russian)* 7−55626
Becklin-Neugebauer object, in OMC-1, IR polarisation obs. rel. to H_2 refl. nebula 7−14633
blue stragglers, UV spectral characts. 7−55634
blue stragglers in open cluster M67, spatial distrib. 7−40872
λ Boo stars, mass loss rates and abundance anomalies 7−60677
Byurakan second spectral sky survey in UMa field 7−4352
central star of planetary nebula NGC 6543, mass loss 7−40804
central stars of planetary nebulae, evolution study 7−40801
α CMa (Sirius), historical colour records as evidence for white-dwarf thermonuclear runaway 7−34977
α CMi (Procyon), rare-earth elements abundances 7−24128
40 Cnc, Praesepe blue straggler, UV spectrum and comparison with Vega 7−47882
λ Cnc occultation by Moon, 1986 November 22 graze event obs. 7−55431
cometary nebulae, thin jets, pinch effect mechanism and spectral characts. 7−29473
computerised image detection system for Kiso Schmidt plates, appl. to Orion Association 7−55477
Conference on nebulae and abundances, Austin, TX, USA (April 1986) 7−35096
Crab Nebula and related SNRs, conf., Fairfax, USA (October 1984) 7−60887
dark globules surrounding stars 7−4536
DDDM-1, C-poor halo planetary nebula, central star, effective temp. determ. 7−60766
E region stars, secondary standards for Stromgren photometry 7−55739
early-type stars, spectral energy distribs. from 0.15 to 4.8 μm 7−29466
early-type stars assoc. with Sharpless H II regions at l~190°, eight-colour photometry 7−55604
early-type stars in northern open clusters NGC 7039 and NGC 7063, Stromgren and Hβ photometry 7−66687
early-type stars in SMC, stellar winds props. from IUE obs. 7−47885
exciting stars of very low excitation compact nebulae in LMC, UV and optical spectra 7−47883
F-type main sequence stars, IUE obs. and B−V colours 7−47868
faint blue stars at high galactic latits., UV and visual spectra 7−47878
field horizontal-branch stars, CNO abundances from IR lines 7−9472
fundamental catalogue corrections using artificial satellite obs. 7−29415
G-type stars with IR excesses, IRAS survey 7−66575
galactic bulge, star counts, colour distrib. and colour lumin. arrays 7−14651
gravitational micro-lensing by stars in galaxies, astrophysical appls. 7−9364
halo population in solar neighbourhood, luminosity function 7−60657
halo stars, radial velocities, magnitude and spectral types 7−40809
HD 109995, field horizontal branch A-type star, CNO comp., UV spectral obs. 7−47862
HD 119921 (A0 V), interstellar UV absorpt. lines obs. 7−48057
Hd 144941, H-deficient star, UV spectroscopy rel. to energy distrib. and stellar wind 7−47887
HD 17081 (π Cet), spectrum synthesis of UV Ga II and Ga III lines compared with IUE obs. 7−47943
HD 217061, B-type star as illuminating star to Sh2-155 refl. nebula 7−66723
HD 91824, O7 star in Carina region, stellar wind model for surrounding H I bubble 7−60760
Herbig-Haro object 2 condensations, observational parameters correlation 7−24192
Herbig-Haro objects, thin jets 7−29473
HH 6, H_2O maser emission detect. 7−4539
high-mass stars formation, role of cloud-cloud collisions 7−55610
Hipparcos mission *(French)* 7−47669
horizontal-branch stars, cosmion effects on HB lifetime rel. to solar neutrino problem 7−55436
hot horizontal-branch stars in globular cluster NGC 6397, optical spectroscopy 7−47859
hot O-type stars, improved non-LTE Balmer line profiles 7−55603
hot subdwarfs, Montreal-Cambridge survey of southern subluminous blue stars 7−14568
HR 8107, new bright Be star, Hα and UBV obs. 7−24152
image refraction in atm., use for press. and temp. vertical profiles retrieval *(Russian)* 7−29277
interferometry, real-time fringe contrast meas. 7−29402
interstellar extinction anal. 7−35022
IRS 16 NW+object A in Sgr A* direction, interpretation 7−40959
IUE and UV astronomy, conf., London, England (July 1986) 7−41012

stars continued
late-type stars, accuracy of coude radial rel. obs. at Calar Alto Observatory 7−29409
lunar occultations (AD 186-567) use for Earth rot. characts. determ. *(Chinese)* 7−3963
M31, halo and disk populations from two-colour photometry 7−4569
main-sequence stars, two-body tidal capture theory 7−4500
main-sequence stars in detached close binary systems, gravity darkening of highly distorted stars 7−4505
massive star content of blue irregular galaxies, determ. from IUE obs. 7−48088
massive stars, evolution calcs. using non-local convection theory 7−29460
metal-poor late-type stars, O/Fe ratio from spectra 7−40803
N44C1, LMC H II region, exciting start characts. 7−40892
nearby stars with possible planetary systems, catalogue 7−66480
new possible variable stars, discoveries from photometric monitoring 7−4485
NGC 6210, 6826 and 6543, planetary nebulae, nuclei mass loss rates 7−66694
nonrotating supermassive stars, evolution 7−66567
O-type main sequence stars, N III line strengths from non-LTE model atmospheres 7−47846
O-type stars in SMC young open cluster NGC 346, photometry, spectra and radial vels. 7−48002
OB stars exciting H II regions, implications for stellar associations and mol. clouds 7−40887
OB-type stars, C IV ionisation fraction from UV line profiles and IR excesses 7−47884
OB-type stars, equivalent widths of interstellar 217 nm band 7−66479
OB-type stars, obs. of interstellar diffuse absorpt. band at 443 nm 7−24187
OB-type stars, radiation-driven wind theory for mass loss 7−47841
OB-type stars in galaxy NGC 2403, temp. and mass limits from chemical comp. gradients 7−40940
observational physics and astrophysics, book 7−55916
open clusters, RS CVn stars and blue stragglers 7−60741
ζ Oph, interstellar C$_2$ (3,0) Phillips band detect. 7−48043
ρ Oph, interstellar C II 232.5 nm line obs. rel. to interstellar C abundance determ. 7−9531
Paris Observatory APP 1985 meas. and time and latitude *(French)* 7−60509
21 Peg, A-type star, UV doubly excited Fe II lines obs. 7−66585
ϵ Per, lawn-sprinkling shock model for nonradial oscills. 7−47849
β Pic, circumstellar shell characts., UV lines anal. 7−66590
pion stars, characts. and obs. manifestations 7−40794
planetary nebulae central stars, stellar winds props. from IUE obs. 7−47879
planetary nebulae central stars, terminal vels. of stellar winds from IUE obs. 7−47880
planetary nebulae central stars, visual magnitudes and Zanstra temps., visible CCD obs. 7−66589
planetary nebulae central stars, Zanstra temp. method 7−60653
planetary nebulae nuclei, hydrostatic evolutionary sequences 7−66572
planetary nebulae nuclei, observational constraints on origin and evolution from IUE data 7−47888
Pleiades cluster, VBLUW photometric survey 7−4529
polytropic stars, error-removing techniques for higher-order perturbation theories for rotating stars 7−14559
Population II stars, 'dirty' primordial Population III stars model 7−29470
Population II stars, effective temp., surface gravity and metallicity 7−47863
Population III, heating of dust and radiative spectrum *(Chinese)* 7−66680
Population III stars, evidence in isotropic background radiation 7−47998
population III stars formation, triggering by evolution of large-scale density perturbations 7−66794
population in M83, near-IR photometry characts. 7−60802
population synthesis, use of grid of star cluster props. 7−29518
populations in clusters 7−24169
populations in compact blue dwarf galaxies 7−48078
Potsdam PZT star catalogue, comparison with four NPZT catalogues 7−4355
proper motion stars in field SE of 45 Oph, photometric study and catalogue 7−60577
proper-motion stars, UBV photometry and radial vels. 7−47844
radiating system of two coupled strings, normal modes, stars 7−18656
ROB 162, sdO star in globular cluster NGC 6397, NLTE-analysis 7−40805
rotating intermediate-mass stars, pre-main-sequence evolution and main-sequence position 7−14558
2S 0918−549, X-ray binary, optical counterpart visible photometric obs. 7−60714
SAO 125375, predicted occultation by Comet Wilson (19861) (1986 October 28) 7−18389
SAO 185428, occultation by asteroid 336 Lacadiera 7−66494
?β^1 Sco, interstellar C II 232.5 nm line obs. rel. to interstellar C abundance determ. 7−9531
SMC globular clusters stars, spectral classification 7−29412
SMC N2, planetary nebula, central star, stellar parameters determ. from speckle obs. 7−24183
solar neighbourhood stars, IUE meas. 7−66727
South Galactic Pole field, star counts and colour indices 7−4573
spectrophotometric standard stars, appl. to determ. of theoretical uvbyβ indices 7−9458
strange stars, matter characts. 7−61829
subdwarf stars, kinematics of 1125 high-proper-motion stars rel. to collapse of Galaxy 7−47843
subdwarfs, space densities from KPD survey for Galactic plane UV-excess objects 7−9383
super metal rich stars, Mg isotopic characts. determ. from MgH spectral obs. 7−60645
Tokyo Astronomical Obs., Time and Latitude Bulletins (April to June 1986) 7−23977
Tokyo Astronomical Obs., Time and Latitude Bulletins (July-September 1986) 7−55433
upper-main-sequence stars, effect of rot. on convective core size 7−29468
USNO Halley watch astrometric catalogue 7−34888
UV Ga stars, spectral characts. 7−60665
UV standard stars for calibration of Hubble Space Telescope, progress report 7−60735
uvby standard stars, four-colour obs. of primary and secondary standards 7−9462

stars continued
Vega-like stars from IRAS point-source catalogue, IR photometry 7−4456
Vela Star Cloud, foreground reddening struct., photometry obs. 7−35015
VRI photoelectric sequence towards South Galactic Pole, meas. 7−40880
Yale Bright Star Catalogue, duplicity search, ICCD speckle obs 7−47973
YM 29, planetary nebula central star, search for stellar wind *(Russian,* 7−40812
zodiacal stars, Chinese names (in 4th-6th centuries) *(Chinese)* 7−24347

starters *see starting*

starting
see also actuators; exciters; ignition
semiconductor lasers, power control *(German)* 7−50578

startup *see starting*

state estimation
dynamical state estimation method based on the nonlinear mixed stochastic model in room acoustics 7−37248
linear struct. vibration model with nonGaussian noisy power obs. 7−37243
man-operator psychophysiological state estimation *(Russian)* 7−8547
passive underwater tracking with nonlinear feedback, convergence anal. 7−31557
photovoltaic pump powered by asynchronous machine, optimal control *(French)* 7−59839
solar cell arrays, vibration and attitude control using differential sensors 7−28399
Stefan systems, stochastic two-phase, state and free boundary estimations 7−62956

state of the art studies *see reviews*

state-space methods
elastic beam on elastic base, optimal design 7−4690

static (atmospherics) *see atmospherics*

static electricity *see electrostatics*

static electrification
see also triboelectricity
aircraft, static charging by collisions with ice crystals 7−55212
antistatic materials, charge dissipation measurement 7−56304
biological effects on human body *(German)* 7−54671
photothermoplastic material, electrostatic sensitisation pot. and parameters of scorotron 7−38683
polymers, friction, electrophysical phenomena 7−17654

static induction transistors *see field effect transistors*

statics
see also hydrostatics
shells, cylindrical, thick-walled, nonlinear cross section, stress state anal. 7−62993

stations, power *see power stations*

statistical analysis
see also demography; measurement errors; probability; random processes; statistical theory of nuclear reactions and scattering
absolute determ. of light intensity from photocurrent statistics 7−36930
air pollution, one and two-parameter statistical distribs. for pollutant concs. modelling 7−40067
air pollution, statistical study of pollutant concs. via generalised gamma distrib. 7−34090
airborne geophysical data, statistical multivariate anal. 7−34715
astrolabe observations *(French)* 7−66473
astrometry, statistical model for Tautenburg Schmidt plates 7−66432
astronomical object optical image, atmosphere and spatial spectrum distortion 7−57255
asymptotic sufficiency for some partial observations of a diffusion process 7−56014
atmospheric interference pulses in VLF band, statistical props. of time intervals 7−34659
autoradiography, paired compartments comparison, probability models and null hypothesis testing 7−40255
autoregressive EEG modelling, best AR model order 7−54539
bias of poisson distributed data decomposition 7−48339
biological tissues temp. profiles reconstruction, statistical-regularisation method 7−59939
brittle materials fatigue data 7−17636
BWR, power distribution minimum variance estimation 7−5369
cathode sputtering process statistical modelling, optical layer deposition 7−39375
ceramics, engineering performance prediction, fracture mechanics 7−3416
chemometric analysis of multisensor arrays 7−8344
coherent-mode propagation in spatially band-limited wave fields 7−31243
cokriging: multivariable analysis in petroleum exploration 7−40578
composite materials, fatigue life and residual strength, lognormal distribution model 7−17616
concentrating photovoltaic arrays, test date anal. 7−17907
continuous mixed cultures, steady states and bifurcation anal., multiplicity and local stability 7−13949
continuous speech signals, automatic segmentation, new statistical approach 7−11221
crosstalk meas. on high birefringence fibres 7−57566
DNA content of cells, distrib. modelling problem 7−47303
Doppler US signals, CW, statistical props. and speckle, simulation model 7−43538
earthquakes, analysis of damage to buildings by OR techniques 7−60169
earthquakes, spatial distrib. before and after large earthquakes 7−23580
electron microscope autoradiography, quantitative, multiple linear regression analysis application 7−60141
energy acoustic system, functional method of parameter estimation 7−37236
epidemiological evaluation of radiation risk usingpopulations exposed at high doses 7−8687
fatigue cracks, statistical analysis of growth data 7−16115
fibre reinforced composites, brittle, Weibull statistical distrib. of strength 7−3429
fibre reinforced composites, mechanical properties, statistical and deterministic approach comparison 7−11287
fission reactor fuel rod steady state thermal behaviour, uncertainty analysis, probabilistic response surface method 7−729
flow, multi-point vector measurement by pulsed laser velocimetry with image compression 7−37610
Gaussian-Gaussian mixture, underwater noises modelling, detection 7−43512

statistical analysis continued
- geodetic deformation nets, distance and distance ratio meas. sensitivity *(German)* 7—23520
- geostatistical analysis of gas potential in Devonian shales of West Virginia 7—40586
- heart rate variability signal processing, diagnostic aid in cardiovascular pathologies 7—54800
- HF sky wave paths, maximum usable frequencies, sounder updates for statistical model predictions 7—40638
- human body centre of gravity, statistical analysis of fluctuations in upright posture *(Japanese)* 7—14036
- image reconstruction, weighted shift-and-add technique 7—55489
- laser speckle spatial movement, statistical optics 7—42937
- light backscattering, statistical soln. 7—50486
- light scattering from turbulent medium, I-K distrib. for random optical fields 7—34674
- locally optimal rank-based tests for multivariate randomness 7—56015
- long-range prediction, GMDH approach, weather forecasting appl. 7—18270
- marine paths, correlation props. of signals in 10 cm band with angular diversity reception 7—23823
- measurement errors distribution laws stability, under normal meas. conditions 7—4803
- Mekometer distance meas., statistical correction methods *(German)* 7—23519
- metal-ceramic composite, dynamic fracture toughness *(Japanese)* 7—13559
- metals, bubble nucleation and growth under neutron and proton irrad., nonequilib. statistics 7—51848
- meteorological data, statistical interpolation by means of successive corrections 7—47519
- microanalysis, of C and carbides in steels, statistical method of brief countings *(French)* 7—46888
- multichannel autoregressive spectral estimators, performance 7—40553
- multicompartment analysis of trace clearance, cerebral blood flow measurement 7—18010
- multidimensional statistical analysis, appl. to multichannel seismic wave recording systems 7—47345
- myoelectric signals of neck and head, speech information 7—34164
- natural background noise, characts. 7—56313
- new-particle searches, statistical analysis 7—61784
- nuclear fuel plants, statistical sampling for holdup measurement 7—30584
- nuclear medicine images, digital restoration by two-step procedure 7—14121
- nuclear physics data, linear correlation coeffs., significance levels 7—49851
- oceanographic acoustic Doppler profiles, surface wave kinetic energy influence 7—9274
- oligosaccharides, conformal statistics 7—13958
- one-dimensional disordered system, elec. resist., statistical props. 7—27310
- optical fibres, strength and fatigue, Weibull probability function 7—62842
- optical glasses bending strength meas. 7—50665
- optical single mode fibre splicing techniques, statistical anal., splice loss per fibre-span meas. 7—43416
- PET films, discontinuous levels of strength, determ. method *(Russian)* 7—13700
- photographic device, resolution estimate 7—50505
- polarization diversity radar interpretation 7—66232
- polydienes, sequence distribs., Bernoullian process analysis, non-steady state kinetic method 7—17787
- polydienes, sequence distribs., statistical treatment 7—16442
- polyisobutylene, glass transition, mol. wt., Gibbs-Dimarzio statistical mech. theory 7—44815
- polymers, dielectric dispersions, complex plane, anal. methods 7—22176
- powder quality assessment method for Fe powder 7—53671
- pseudo-random number generation, Chebyshev mixing, statistical tests 7—29732
- radiation epidemiology, individual and collective dose estimation method for subthreshold detection 7—28704
- radio-meteor systems for time-scale synchronisation, accuracy criteria 7—41350
- radioastronomical data, optimum nonlinear filtering method 7—47721
- radioastronomical images, very large array phase data modelling by Box-Jenkins method 7—14504
- random geostrophic modes and first-guess errors, spatial statistics 7—4162
- refractory brick in rotary kiln burning zones, failure mode anal. 7—28140
- regression design on unit sphere in Hilbert space with limited resources 7—29736
- respiratory impedance data fitted models, statistical measures of parameter estimates 7—28550
- rough surface profile, two wavelength speckle interferometry, statistical props. 7—48837
- sampling planar objects, generalised associated point methods 7—56018
- SEM crack distributions on plane sections, correction of window size distortion 7—59711
- shock waves, structure, statistical modelling, weighting schemes *(Russian)* 7—56019
- sound scattering of water surface covered by oil layers 7—43462
- speckle classical model, statistical props. 7—42926
- speckle phase in image and diffr. fields, statistical props. 7—42934
- speckle statistical theory, Fourier optics 7—42927
- speckle texture in diagnostic ultrasound, detection and classification 7—47183
- spinal muscular atrophy patients, tremor power spectra, statistical anal. 7—8529
- standards metrology, statistical analysis based on classical variance 7—18736
- steel, mild, statistical analysis of cleavage fracture ahead ofsharp cracks and rounded notches 7—13540
- steels, C, Cr, Cr-Mo, fatigue, statistical anal. of pooled S-N data 7—65136
- stochastic processes characts. accuracy improvement, redundant channel data utilisation 7—4802
- stratigraphically constrained cluster analysis, FORTRAN 77 program 7—66114
- stream gauge data adjustment for urbanization effects 7—34567
- strong uniform consistency of random kernel-type density estimates 7—48554
- surface tension measurements, optimisation algorithm 7—14929
- tumour incidence, logistic estimate of the final incidence of lateradiation effects 7—8653
- turbulence models, statistical refinement 7—1537

statistical analysis continued
- two probabilistic evaluation methods for single and double wall type sound insulation systems with arbitrary random noise excitation 7—50849
- ultrasound image texture via generalised Rician statistics, tissue signatures 7—47184
- US B-scans, speckle reduction using weighted averaging in spatial compounding 7—43539
- visual double stars, obs. by 'old generation' observers, errors statistical anal. 7—14602
- water quality, distributional parameters estimation for censored trace level data 7—23237
- water quality, distributional parameters estimation for censored trace level data 7—23238
- Weibull parameters for wind speed distribs. for 5 locations in India 7—46916
- Weibull plots, modulus of rapture, probability estimators 7—39639
- Weibull statistics of wind speed over the ocean 7—66236
- welded joint, cracks reflecting characts. and stat. parameters of irregularities 7—8232
- zooplankton population analysis, multiple microprocessor system using image processing 7—18103
- $\bar{p}p$ multiplicity distributions, unsuitability of modified negative binomial distrib. 7—61751
- Al-Sn, bearing alloys, run-in kinetics, friction, contact resist., AE signals 7—17655
- Al_2O_3 discs, thermal shock reliability, Weibull parameters, bending and fracture testing 7—3408
- Al_2O_3 fibres, strength distrib., multi-model Weibull distrib. 7—28081
- C fibres, tensile strength distrib., statistical model, electrodeposited coating effect 7—39585
- Si, oxidation, linear regime analysis, film thickness 7—46729
- SiC fibres, neutron irrad., mech. props., fusion reactor appl. 7—53794
- SiC fibres, strength distrib., multi-model Weibull distrib. 7—28081
- SiO_2 silica fibre mechanical strength determ. *(French)* 7—11157
- ZrO_2, Y_2O_3 partially stabilised, thermal shock behaviour *(Japanese)* 7—8115

statistical distributions *see statistical analysis; statistics*

statistical mechanics
- *see also classical theories of fluid structure; lattice theory and statistics; Liouville equation; liquid theory; master equation; quantum statistical mechanics; renormalisation*
- anharmonic chain, numerical ensemble study of approach to equilibrium 7—41236
- anharmonic oscillators, dynamical behaviour 7—9707
- automorphisms of algebraic varieties and Yang-Baxter equations 7—35425
- binary mol. mixtures, statistical mechanical local composition theory, mol. size and energy difference effects 7—32248
- bipartitioning of random graphs of fixed extensive valence, statistical mechanics methods 7—48523
- Bogolyubov generating functional method, transformation analog to collective variables 7—29870
- Bogolyubov generating functional method and analogue of transform. to collective variable in grand canonical ensemble 7—41230
- central-limit theorems on groups 7—41233
- chain of anharmonically coupled oscillators, broken ergodicity 7—61087
- chaos, ergodic theory 7—62657
- classical and quantum optics, unification using statistical ensemble theory 7—10900
- classical and statistical thermodynamics 7—29958
- classical limits and critical properties 7—48457
- colloids, liquid and kinetic theory, statistical methods, conf., Oaxtepec, Mexico, Jan. 1986 7—24268
- complex temperature plane zeros, scaling theory and multicritical mean-field models 7—56202
- conference, critical phenomena and phase transitions, Brasov, Rumania, (1983) 7—48187
- conformal bootstrap in two dimensions 7—48529
- continuum equations of balance 7—29862
- continuum models with no phase transitions 7—41317
- cooperative phenomena, statistical mechanical theory, fluctuations, coherent anomalies and scaling exponents 7—48658
- correlation inequalities of FKG type for statistical mechanics of spin systems 7—14870
- Coulomb gas, dipole phase in 2D, analyticity and correlations decay 7—193
- Coulomb system, positive and negative charged rods, exact results 7—29866
- critical behaviour and random walk representations 7—48532
- critical phenomena in 3 dimensions 7—48526
- critical points and intermediate phases on wedges of Z^d 7—14874
- Cvitanovic-Feigenbaum eqn., complete soln. classes 7—14893
- dilute gas, geometric expansion of boundary free energy 7—48518
- dipolar fluid, effective pair pot. for orientational correls. in elec. field 7—37826
- dipolar fluids, density functional theory, orientational correls. in linear chains 7—37827
- dissipative systems, transient chaotic distributions 7—4769
- distant Jauch-type hybrid macrostates, separability 7—61218
- distinguishability or indistinguishability in classical and quantum statistics 7—41244
- dynamic ensemble theory tested for classical 1D oscillators 7—29868
- dynamical systems and statistical mechanics 7—48527
- dynamical systems and statistical physics conf., Koszeg, Hungary, Aug.-Sept. 1984 7—48194
- elastic moduli of classical system, wall theorem 7—29867
- entropy evolution as a guide for replacing the Liouville equation 7—29869
- equations of state and constitutive equations 7—21389
- equilibrium equations for the class of continuous systems with positive-definite two-body interaction 7—56140
- equipartition times among translational and vibr. degrees of freedom, exponential law 7—61213
- ethane dilute gas thermophysical props. correl. and extrapolation, SSR-MPA pot. model calcs. 7—16294
- exactly solvable IRF models 7—194
- gas dynamics, first order conserved densities 7—51365
- graph partitioning and statistical mechanics, Monte Carlo simulation 7—48522
- H-stability and weak collapse 7—14856
- hadronic systems eqn. of state, S-matrix statistical mechanics formulation, many-particle process effects *(Russian)* 7—41772

statistical mechanics continued
- hard hypercube gas, parallel, ordering 7−9747
- hard sphere diameter, temp. depend. 7−16382
- hard square lattice gas, branch point singularity location, discrepancy in position 7−48612
- hard-sphere model correlation functions, generalisation of Bogolyubov-Ruelle theorem 7−35389
- heavy gas atoms, particle behaviour simulation 7−9749
- Hopfield model, memory and learning props., numerical simulation 7−61215
- Hopfield model near saturation, mean field theory 7−52989
- ideal gas, classical statistical mechs. study 7−11578
- interaction round a face model, free energy expression 7−196
- interface wandering in pure and impure and bulk phases 7−32791
- interfacial profile in external field, ϵ-expansion calcs. 7−197
- invariant perception and statistical mechanics 7−59912
- inviscid barotropic flow over topography, nonlin. stability and statistical mechanics 7−57806
- irreversible processes and Onsager relations 7−29865
- Ising model on Bethe lattice, statistical mechanics calcs. 7−2877
- isoenthalpic-isobaric ensemble, fluctuation formulae 7−279
- isolated system, H-theorem and entropy production 7−41237
- light charged particles, equilibrium behaviour 7−9750
- linear transport eqns. in a random medium, projection operator methods 7−61287
- liquids, ternary correlations 7−6493
- loop gas model, square lattice, critical behaviour 7−216
- magnetic material props., Schrodinger representation 7−4702
- Markov chain algorithms for canonical ensemble simulation 7−48520
- mathematical properties of statistical mechanics and dynamics 7−48203
- mean-field equations for the matching and the travelling salesman problems 7−24546
- measure-valued critical branching Brownian motion, ergodic theory, local occupation time 7−9777
- mechanical analogy of the renormalisation group in the large-n limit 7−18686
- metal-H systems, bonding, statistical thermodynamic aspects 7−21472
- micellar aggregates, packing of semi-flexible chains, statistical thermodynamics approach 7−28357
- molecular fluids, mixing, statistical mech., Kirkwood-Buff soln. theory 7−58480
- monatomic systems, liq. and dilute gas, thermodynamics and transport props., MSK pot. calcs. 7−6826
- Monte Carlo simulations, autocorrels. and subservices average 7−41234
- nonequilibrium ensemble dynamics 7−61214
- nonequilibrium open systems, time-dependent projection operator framework 7−198
- nonequilibrium processes, computer simulation 7−18688
- noninteracting fermions in random potential, invalidity of replica trick 7−18687
- nonlinear transport equations from statistical mechanics 7−48647
- one component plasma, triple correlations in freezing transition 7−63773
- one-dimensional systems, hard core repulsion in multicomponent gases 7−48525
- oscillator-bath decay, exact long-time behaviour 7−41235
- particles adsorbed on spherical surface, statistical thermodynamics, canonical ensemble 7−41231
- partition function, analytic props. for statistical mechanical models, Potts model anal. 7−24578
- phase space and continuum statistics 7−18606
- point particles, elastic collisions, hyperbolicity and Moller-morphism 7−48531
- polyenes, optical props., configuration depend. 7−10673
- polymethylene chains, pretransitional states, disordering mechanisms 7−57196
- predator-prey populations with diffusion, persistence in models 7−9748
- propagation of molecular chaos theorem, hierarchies 7−56047
- random cellular networks, struct. and evolution 7−48625
- reactor core coolant channels, coherent blockages, statistical thermodynamics, percolation anal. 7−36194
- Renyi entropies, incompleteness 7−14857
- rigid sphere and disks glassy packing, critical exponent 7−61246
- semi-infinite 1D system of point particles, Bernoulli flow and thermodynamics 7−48530
- semiflexible chains, solution, statistical mechanics, path integral formulation 7−41232
- sequential dynamics for master eqns., Kohlrausch relaxation 7−199
- short-time nonstationary character of correlation functions in classical equilibrium ensembles 7−35390
- Siegel radius, improved KAM estimates 7−48524
- sine-Gordon thermodynamics using Bethe ansatz, classical limit 7−41319
- sinh-Gordon equation, quantum and classical statistical mechanics 7−24535
- small systems, virial expansion calcs. 7−29863
- soliton formalism, fluid analogue, statistical anal. 7−14789
- soliton systems, statistical mechanics, collective coordinate anal. 7−195
- spin models, accelerated hybrid stochastic algorithm for critical slowing down problem 7−2859
- star-triangle and inversion relations in statistical mechanics 7−48528
- stochastic particle acceleration and statisticalclosures 7−9763
- theory and appls. 7−29864
- thermal equilibrium, statistics and thermodynamics 7−9806
- thermodynamic equivalence in statistical mechanics, approximating Hamiltonian method 7−18685
- transport theory conf., Montecatini Terme, Italy, June 1985 7−60874
- transputer array simulation 7−48519
- travelling salesman problem, numerical simulation 7−24547
- travelling salesman problem, statistical mechanics 7−29925
- tree formula for cluster expansions with general multibody interactions 7−428
- viscoelastic fluids, flow phenomena, statistical study 7−31845
- N_2 dilute gas thermophysical props. correl. and extrapolation, SSR-MPA pot. model calcs. 7−16294
- O_2 dilute gas thermophysical props. correl. and extrapolation, SSR-MPA pot. model calcs. 7−16294
- Pd-B-H dilute solutions, statistical mechanics 7−21669

statistical methods *see statistical analysis*

statistical models
- atom, charged particles, heavy, inelastic scatt., quasiclassical statistical model 7−15728

statistical models continued
- fire balls stochastic decay, limiting fragmentation hypothesis *(Chinese)* 7−49103
- hadron spectrum, stochastic approach, link with quarkonium model 7−49121
- high energy hadron-nucleus interactions, grey particle energy and angular spectra 7−5246
- moment sum rule and meson spectroscopy in statistical model 7−15132
- nucleus-nucleus collisions, $c\bar{c}$ mass shift predictions, hydrodynamical model anal. 7−19077
- semiclassical theory of interacting subsystems, quantum and statistical props. 7−41587
- ultra-relativistic hadronic collisions, pion interferometry in inside-outside cascade model 7−24908
- unequal nuclei collisions at high energy, rapidity distribs. and hydrodynamic model 7−9350
- $e^+e^-\rightarrow X$, Bose-Einstein correlations, string model predictions and Monte Carlo calcs. 7−24898
- Λ_c^+, semi-leptonic branching ratio calcs., statistical model anal. 7−15148
- Λ_c^+ hadronic decay, statistical model anal. 7−15148
- μp deep inelastic interactions, 280 GeV, Bose-Einstein correlations for pions 7−5102
- $\bar{p}p$ nondiffractive processes, stochastic nature, multiplicity depend. of rapidity distribs. 7−35912
- $\bar{p}p\rightarrow X$, multiplicity distrib., clusters 7−30295
- $\bar{p}p\rightarrow X$, rapidity and angular distribs. of clusters, Giovannini-Van Hove model 7−49188

statistical tests *see statistical analysis*

statistical theory *see statistical analysis*

statistical theory of nuclear reactions and scattering
- alpha spectra intensity, exciton model of precompound emission 7−24963
- anomalon search in heavy ion reactions using SSNTDs 7−19276
- baryon recoil and the fragmentation regions in ultrarelativistic nuclear collisions 7−5294
- baryon rich quark-gluon plasma produced in rel. heavy ion collisions, decay 7−5175
- Bayesian approach to the analysis of scatteringdata 7−617
- bubble formation in hot nuclei induced by statistical fluctuations 7−49274
- chaotic motion in nuclei, statistical props., shell model 7−30402
- collective flow of nuclear matter 7−5217
- collective flow of pions produced in nucleus-nucleuscollisions 7−5218
- collective vibrations, phase space description using Vlasov eqn. plus quantum corrections 7−30306
- compound heavy ion reactions, stat. ang. distribs., applicability of classical descript. 7−19296
- compound nuclear reactions, total number of stages and Fermi energy 7−15217
- compound nucleus formation, fast fission phenomena and deep inelastic reactions 7−19227
- compound nucleus reactions, time reversal symmetry breaking 7−30404
- compound nucleus scattering, max. entropy method 7−618
- compound nucleus temperature, validity of determ. using fragment excitation data, statistical mechanics anal. 7−5255
- compound-nucleus reactions, isospin breaking 7−5212
- conf., Copper Mountain, Colorado, USA (Feb. 1986) 7−4634
- conf., Smolenice, Czechoslovakia, June 1985 7−41005
- conference on nuclear scatt. data eval. methods, Berlin, Germany (June 1985) 7−21
- critical energy deposition in nuclei, evaporation and percolation model, multifragmentation energy 7−19230
- cross section fluctuations in direct reactions, statistical anal. 7−41965
- deep inelastic, heavy ion reactions and fast fission, transport equation 7−19229
- deep inelastic reactions and fast fission phenomena, statistical fluctuations and quantal diffractive effects 7−19228
- deformed nuclei, evaporative emission calcs. 7−5152
- dilepton emission and the QCD phase transition inultrarelativistic nuclear collisions 7−5219
- entropy in high energy heavy ion collisions 7−5215
- evaporation residues, limiting angular momenta in heavy ion fusion reactions 7−36050
- event generator model, collective flow in central Ca+Ca and Nb+Nb collisions 7−5214
- exciton model, correspondence of random walk and Markovian master eqns. 7−41969
- exciton model, relaxation time 7−56663
- exciton model and multistep compound reactions 7−41956
- giant multipole resonance decay, collective and statistical doorways 7−19222
- Hartree-Fock approach for thermal nuclei 7−36044
- heavy ion collisions, anisotropic hydrodynamics analysis, cross sections 7−25005
- heavy ion collisions, anisotropic hydrodynamics and isotropization of momentum 7−42053
- heavy ion collisions, backward flow of mesonic fluid at ultra-high energy 7−19295
- heavy ion collisions, bremsstrahlung in the incoherent limit, simplified fireball model 7−61907
- heavy ion collisions, isotopically resolved intermediate-mass fragment emission, thermodynamic quantities 7−30444
- heavy ion collisions, nonspectator nucleons, increase due to energy and baryon stopping 7−42067
- heavy ion collisions, relativistic hydrodynamics, entropy, π prod., quark-gluon plasma, review 7−615
- heavy ion induced fusion-fission systematics, effect of compound nucleus spin distribution 7−704
- heavy ion induced reactions, model description of neutron emission 7−42071
- heavy ion optical potential analyses, stat. regularisation method appl. 7−620
- heavy ion reaction duration meas. using e^+ and e^- spectra and product distribs., review 7−42044
- heavy ion reactions, fusion process in Landau-Vlasov dynamics 7−25002
- heavy ion relativistic collisions, anomalously short mean free paths, parameter-free theoretical anal. 7−25004
- heavy ion-reactions, correspondence of random walk and Markovian master eqns. 7−41969
- heavy-ion collisions, orbiting and fusion processes, statistical model anal. 7−5278

statistical theory of nuclear reactions and scattering continued
- high energy hadron-nucleus interactions, grey particle energy and angular spectra 7—5246
- microcanonical simulation of nuclear disassembly 7—5292
- multifragmentation, cluster size distrib. in percolation model 7—19226
- multistep compound reactions, statistical, particle-hole state densities 7—41970
- multistep compound reactions with renormalised exciton state densities 7—30403
- neutron diffraction experiment planning and eval. based on stat. consideration 7—619
- new approach to statistical nuclear reaction theory 7—41968
- optical potentials, inversion method and statistical regularisation procedure 7—609
- particle decay of resonant state generated by direct reaction 7—49366
- particle emission from static nucleus, energy depend. of source sizes in nuclear interferometry 7—36039
- percolation description of nuclear fragmentation 7—5216
- pre-equilibrium processes, state of art, review 7—5213
- precompound reactions, statistical theory of multistep compound process 7—19225
- preequilibrium reaction theory 7—35990
- projectile fragmentation, Monte Carlo simulations of anomalon expts. 7—614
- quark-gluon plasma undergoing a phase transition, rel. hydrodynamic eqns. 7—19184
- scaling violation in central region of pseudo-rapidity distrib. 7—10134
- screened non-resonant nucl. reaction rates, astrophysical appl. 7—34848
- statistical regularisation in nuclear scatt. data eval., review 7—616
- strange quark matter, radioactive decay modes, Fermi gas model 7—41928
- unequal nuclei collisions at high energy, rapidity distribs. and hydrodynamic model 7—9350
- (α,X), statistical theory of cascade and evaporation reactions, review 7—42039
- (e,e), inverse problem for data eval., max. entropy method 7—618
- (n,X), parity effects at low energy, Hauser-Feshbach model 7—30426
- (n,xnγ), 14 MeV, neutron-gamma coincident calculations within the pre-equilibrium model 7—42024
- (p,X), energy spectra of fragments in statistical multifragmentation model 7—61878
- (p,X), fragmentation reactions, site-percolation approach for mass and isotropic distribs. 7—49407
- (p,X), intranuclear cascade model, energy loss and emission patterns 7—61879
- ^{28}Si(^{16}O,^{16}O), stochastic regularisation appl. to phase shift anal. 7—709
- Ag(Ar,X), 1.5 GeV/N, central collisions, kinematics and hydrodynamic effects 7—49447
- Ag(^{56}Fe,X), 1.7 GeV/N, anomalon search using plastic SSNTDs 7—19275
- ^{27}Al(^{40}Ar,X), energy spectra and ang. distrib. meas., statistical model comparison 7—42062
- ^{27}Al(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7—42057
- ^{27}Al(n,α)^{24}Na, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7—10155
- ^{27}Al(n,p)^{27}Mg, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7—10155
- Al(p,X), light nucleus prod., coalescence model comparison 7—5237
- ^{197}Au(n,γ), cross section calcs., spectrum fitting method 7—30425
- ^{197}Au(n,n$'\gamma$), cross section calcs., spectrum fitting method 7—30425
- ^{142}Ba, $2_1{}^+$ state g-factor, hydrodynamic model and IBA-2 anals. 7—30332
- Be(p,X), light nucleus prod., coalescence model comparison 7—5237
- ^{12}C levels, spectroscopic strength, ^{3}He cluster struct., Hauser-Feshbach anal. of ^{9}Be(^{6}Li,t) 7—35965
- ^{12}C(^{84}Kr,X), prod. and decay of highly excited systems, sequential decay model comparison 7—42057
- ^{A}Ca(^{16}O,X), 69.3-87.3 MeV, A=40, 44 fission-like yields, fusion-fission reaction mech. 7—36038
- ^{A}Ca(^{16}O,X), A=40,44, nuclear clustering effects in colliding N=Z and N$\neq$Z nuclei 7—49468
- ^{40}Ca(^{23}Na,X), 260, 287 MeV, complete and uncomplete fusion-evap. residue cross-sections, limiting ang. momenta effects 7—30462
- ^{40}Ca(^{28}Si,X), 298, 327 MeV, complete and uncomplete fusion-evap. residue cross-sections, limiting ang. momenta effects 7—30462
- ^{40}Ca(α,α), 104 MeV, comparison of model independ. optical pot. anals. 7—699
- ^{A}Cf(n,X), A=250, 251, neutron nuclear data evaluation 7—56681
- ^{252}Cf(sf) neutron spectrum, meas. and theoretical calc., review 7—42096
- Cm(Th,X), narrow positron peak observation 7—49470
- Cr(n,X), parity effects at low energy, Hauser-Feshbach model 7—30426
- ^{63}Cu(p,γ), direct-semidirect capture in the giant dipole resonance region 7—49417
- ^{63}Cu(p,γ)^{64}Zn, 6.5-11 MeV, capture cross section meas., excitation fn. anal. using CN/DSD models 7—10153
- Cu(p,X), light nucleus prod., coalescence model comparison 7—5237
- ^{A}Dy(n,n$'$), A=160, 162, 164, 0.4-4 MeV, cross section meas. statistical Hauser-Feschbach model, comparisons 7—42013
- ^{54}Fe(^{28}Si,X), angular-momentum limitations in the high-spin gamma-decay of medium-mass evaporation residues 7—10170
- ^{54}Fe(n,X), few MeV range, total, scatt., and γ-prod. cross sections, reactor appl. 7—41993
- ^{56}Fe, gamma-ray competition in the continuum, thermodynamic model anal. 7—41939
- ^{158}Gd(^{40}Ar,X), 44 MeV/N, γ-rays from peripheral and central collisions, fragment stat. decay 7—61917
- ^{165}Ho(^{14}N,X), 35 MeV/N, neutron-fragment coincidence meas. 7—36037
- ^{165}Ho(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
- ^{115}In(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
- ^{41}K(p,p$'$), 6 MeV, low-lying levels, EM props. and spin values, mixing ratios, lifetimes 7—19171
- ^{24}Mg(d,d$'$), 10-15 MeV, comp.-nucleus effects 7—36014
- ^{24}Mg(π^+, N), 200 MeV, single nucleon removal, γ-rays, diff. cross sections, PWIA, intranuclear cascade 7—30455
- ^{92}Mo(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
- ^{14}N(^{28}Si,X), forward-angle yield, equilibration in orbiting reactions 7—5270
- ^{92}Nb(^{27}Al,X), 8-40 MeV/u, intermediate mass fragment emission 7—5290

statistical theory of nuclear reactions and scattering continued
- ^{93}Nb(^{12}C,X), 8-40 MeV/u, intermediate mass fragment emission 7—5290
- ^{93}Nb(^{9}Be,X), 8-40 MeV/u, intermediate mass fragment emission 7—5290
- ^{93}Nb(e,X), spallation cross section meas. using activation methods 7—30412
- ^{93}Nb(γ,X), spallation cross section meas. using activation methods 7—30412
- ^{144}Nd(^{16}O,γ)^{160}Er, E_{lab}=76-105 MeV, ^{160}Er statistical decay, giant dipole resonance effects, statistical model comparisons 7—10173
- ^{20}Ne(p,X), multiplicity of γ-rays and π^0, intranuclear cascade model comparison 7—42010
- Ni (^{14}N,X), 35 MeV/N, neutron-fragment coincidence meas. 7—36037
- ^{64}Ni(^{12}C,X), light particle energy spectrum anal. *(Chinese)* 7—24999
- ^{16}O(^{7}Li,xγ), 4-10 MeV, complete fusion in Coulomb threshold region, total cross section 7—19314
- ^{A}Os(n,γ), A=186-8, resonance parameters and optical model pot. for stellar nucleosynthesis 7—5244
- ^{208}Pb(e,e$'$), isoscalar quadrupole giant resonance, electron spectra statistical anal. 7—49380
- Pb(p,X), spallation, sensitivity studies of n multiplicity spectrum 7—30416
- ^{A}Pu(n,n$'$), A=240,242,244 collective band scheme and statistical S-matrix formalism 7—61874
- ^{183}Re, subshell fragmentation, quasiparticle-phonon nuclear model 7—41967
- ^{34}S(γ,np), cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7—41971
- ^{34}S(γ,p), cross section meas., particle-hole calcs. and giant dipole resonance statistical decay 7—41971
- ^{28}Si(n,p)^{28}Al, E=13.4-14.83 MeV, cross sections. excitation fns., Hauser-Feshbach model comp. 7—10155
- ^{144}Sm(^{12}C,X), ^{156}Er production, evaporation residue cross sections and average neutron multiplicities, stat. anal. 7—30445
- Ta(p,X), light nucleus prod., coalescence model comparison 7—5237
- ^{159}Tb(^{19}F,X), 181 MeV, particle-bound excited state yields 7—5269
- Th(Th,X), narrow positron peak observation 7—49470
- ^{232}Th (^{40}Ar,X), 240 MeV, cross section for evaporative α-particles, α-yield 7—36042
- Ti(n,X), X=p, np, 2n, threshold-20 MeV, cross sections, hybrid and Hauser-Feshbach anals. 7—61870
- U(Th,X), narrow positron peak observation 7—49470
- ^{51}V(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
- ^{A}W,A=183,185,187 subshell fragmentation, quasiparticle-phonon nuclear model 7—41967
- ^{124}Xe(p,X)^{123}I, statistical calcs. for radioiodine prod. optimization 7—54744
- ^{89}Y(n,n$'\gamma$), level struct. study, statistical determ. of spins and parities 7—30344
- ^{89}Y(n,n), 4-10 MeV, diff. cross sections, search for Fermi surface anomaly 7—36010
- ^{176}Yb(n,nα), cross section meas. and Hauser-Feshbach comparison 7—10144
- ^{92}Zr(^{64}Ni,X), ^{156}Er production, evaporation residue cross sections and average neutron multiplicities, stat. anal. 7—30445

statistical thermodynamics *see statistical mechanics*

statistics
- *see also decision theory; error statistics; game theory; Monte Carlo methods; probability; queueing theory; time series*
- asymptotic covariance matrix of sample correlation coefficients under general conditions 7—24360
- characteristic roots ratios, appls. to principle component or ridge regression 7—24363
- commensalistic cultures grown in continuous stirred tank reactor, static and dynamic behaviour 7—13973
- earthquakes of N China, appl. of order cluster methods to seismogenic process anal. *(Chinese)* 7—34384
- galaxies luminosity profiles, statistical study using spheroid-disk composite models 7—55817
- geographers and Earth scientists statistics book 7—35138
- hermitian and nonnegativity preserving subspaces of complex square matrices 7—24362
- horizontal gas-liq. two-phase flow, flow pattern identification using differential pressure fluctuations 7—37534
- hydrology, statistical inference of spatial random function 7—23779
- interstellar UV extinction curves towards OB associations, statistical anal. of IUE obs. 7—55785
- moment inequalities via optimal design theory 7—24404
- multivariate Meixner classes of invariant distributions of random matrices 7—24361
- orthogonality in multiway classifications 7—24403
- parameter identification in noise, statistical evaluation 7—62912
- periodic optical signals, charactn. using 3rd order statistical functions 7—50504
- predator-prey eqns., global anal. 7—14757
- quasars space distribution, luminosity-volume test rel. to local hypothesis 7—35064
- random signal statistics, appl. to optimum nonlinear filtering of radioastronomical data 7—47721
- residential noise, extraordinary statistical samples *(Japanese)* 7—20500
- sampling planar objects, generalised associated point methods 7—56018
- satellites, electron-irradiated dielectric discharges, statistical behaviour 7—55423
- seismology, statistical characts. of global activity of large earthquakes *(Chinese)* 7—34386
- solar and electric heating contributions to space heating of occupied houses, regression model 7—28389
- solar granulation structure, granules size distrib. from high. resolution images 7—66550
- speckle pattern, partially developed, in far field, 2nd order statistics 7—42920
- star and minus orderings, relationship for matrices 7—24359
- star partial ordering for matrices, rank subtractivity 7—24358
- sunspots and major flares, statistical relationship 7—66536
- unbiased estimators based on incomplete sufficient statistics *(Japanese)* 7—35258
- vector continuous local martingales, stochastic linear regression appl. 7—9656

steady-state theory *see cosmology*

steam
- condensation in pool water, press. oscill. threshold 7—26334
- dropwise condensation, heat transfer study, falling drops effect 7—43890

steam continued
- high density steam, initiation of electrical discharge 7−15324
- liquid water local percentage, thermodynamic meas. 7−50931
- steam-water dispersed flow heat transfer in vertical round tube, post-dryout regime *(Chinese)* 7−11419
- steam-water jets, confined two phase, analytical entrainment model *(Chinese)* 7−1596
- steam-water mixtures, thermodynamic equilibrium during loss from reactor 7−49577
- steam-water two-phase flow, disturbance wave study 7−44022
- steam-water violent condensation shock mechanism 7−57901
- thermal cond., viscosity and density data 7−60898
- thermodynamic properties, computer calc. algorithm 7−51374
- H_2 production by impingement of steam jet on high temp. ZrO_2 surface 7−54362

steam boilers *see boilers*

steam generators *see boilers*

steam plants
- *see also boilers; condensers (steam plant)*
- nuclear power station with single loop, saturated steam characts. over variable part of load curve *(Russian)* 7−25103

steam power stations
- gas duct bends, noise reduction calc. *(Russian)* 7−26078

steam turbine - gas turbine power stations *see combined cycle power stations*

steam turbines
- *see also turbogenerators*
- condenser leakage detectors *(Czech)* 7−61988
- impulse steam turbine nozzles, angles and speed coeffs. relationships, blade efficiency 7−20773
- thermogrammetry and thermal engineering conf., Budapest, Hungary (April 1987) *(Hungarian)* 7−56258
- Ti in power generation industry 7−46283
- Ti-Al-V (6, 4 wt.%) plates, rolling, heat treatment, microstruct., mech. props., turbine blade appl. 7−17644

steel
- *see also alloy steel; austenitic steel; carbon steel; martensitic steel; stainless steel; tool steel*
- 1.43 MeV γ-ray penetration of shields, benchmark data 7−5487
- abrasion resistance after heat treatment 7−17697
- adhesive wear of boride and nitride layers 7−3465
- analytical electron microscopy, developments and trends 7−22949
- beams, H-shaped, hysteretic and low cycle characts. under static and dynamic loadings *(Japanese)* 7−31694
- boride layer growth kinetics, influence of non-equilib. defect conc. 7−22874
- boride layers, obtained by laser irrad., wear 7−28150
- boronising, IR Fourier transform spectroscopy for investigating elementary processes in gas-solid interaction 7−33986
- brittle fracture induced photon emission *(Russian)* 7−33465
- BWR steel, CITROX decontamination solvent, corrosive effects 7−10232
- carbonitriding, catalytic, thermogravimetric anal. of effect of rare earth addition *(Chinese)* 7−8153
- case-hardened, C profile, automatic quantitative meas. 7−17728
- cathodic protection by galvanic coating alloys, electrochemical criterion 7−65187
- cathodic protection mechanism 7−39718
- characteristic radiation emission mean values, X-ray spectrometric material anal. *(Czech)* 7−8328
- Co determ. by X-ray fluoresc. anal. 7−23075
- coating with Cr-graphite powder mixtures under shock wave loading 7−8183
- cold rolled, Ni activated phosphating, corrosion resist., durability, strength 7−28187
- cold rolled sheets, XPS characterisation of chemisorbed C containing compounds *(French)* 7−44965
- cold-deformed, microcrack development *(Russian)* 7−39652
- cold-rolled, corrosion investig. by thermal-wave microscopy 7−28169
- cold-rolled, small surface crack propag. 7−65142
- composition-treatment-structure property correlation, computer software development 7−3329
- cooldown mass flow requirements for He or N cooling systems 7−56281
- corrosion in systems containing elementary S, H_2S and Cl^-, sulphurated fatty-acid derivatives as inhibitors *(German)* 7−22901
- corrosion monitoring by AE 7−22956
- corrosion of SiO_2 refractories by molten Mn steel *(Japanese)* 7−65167
- crack stability in shock loading 7−53871
- cyclic corrosion crack resistance, basic diagrams, electrochemical conditions at crack tip 7−51926
- cyclic fracture toughness, evaluated by use of concept of specific fracture work 7−28129
- cyclic local stress-strain and fatigue crack initiation life *(Chinese)* 7−46593
- cylinders, thick-walled, stress intensity factors for large arrays of radial cracks 7−26207
- deep drawing, recrystn. texture development, investig. by ODF anal. 7−13466
- deformation steel, model taking into account inhomogeneous microscopic behaviour *(French)* 7−63725
- diffusion bonding, precip. of Fe carbides in ferrite 7−39521
- dispersoid, H embrittlement, mechanical props. 7−33795
- dispersoid, mech. props. rel. to presence of H 7−8113
- dual-phase, Bauschinger effect and coercivity, effect of ageing *(Chinese)* 7−8045
- dual-phase, strength differential effect 7−46547
- ductile, static crack resist. determ., specimen geom., and loading type selection 7−22947
- ductile crack initiation and void vol. fraction, investig. based on Gurson's yield criterion *(Japanese)* 7−58402
- dynamic yield strength determ., embedded manganin gauges, flyer plate impact technique 7−33871
- dynamically overloaded cold profiled cylindrical compression springs calc. using Spectrum 48 k *(Croatian)* 7−22705
- electron probe analysis, automatic, of C in case-hardened parts, software *(French)* 7−46889
- fatigue, microstruct. changes, thermometric assessment *(German)* 7−17641
- fatigue life prediction accuracy for various loading spectra, improvement by use of correction factors 7−22788
- ferrite-pearlite, fractographic characts. of fatigue crack development 7−46643

steel continued
- ferrite-pearlite, viscous-brittle transition model *(Russian)* 7−3401
- ferrite-pearlite and pearlite-free, microfracture resistance *(Russian)* 7−33765
- ferritic, a/2 ⟨111⟩ dislocation loop formation 7−16565
- ferritic, fracture behaviour after warm prestressing, effects of sub-crit. crack growth 7−46601
- ferritic, reactor material, neutron irrad., positron annihilation studies 7−46215
- ferritic, yielding and fracture in transition region of quasistatic to dynamic loading 7−13581
- ferromagnetic, magnetic state inspection, elastic stresses in trans-Rayleigh region 7−3558
- fibre reinforced concrete, shear test specimen geometry 7−46738
- fibre reinforced Cu composites, extruded, struct. and fractography 7−13595
- filaments, fatigue failure signs 7−46642
- fission reactor, simulated void-box-capsule charpy impact test results 7−10231
- flat plate steel conductor impedance to earth fault currents 7−62582
- fracture toughness, size effect, Irwin β_{Ic} adjustment 7−43780
- fracture toughness of specimens with mixed microstruct., prediction using conc. model 7−13570
- fracture toughness prediction from Charpy impact test results *(Japanese)* 7−59611
- friction and wear characteristics of asbopolymer material 7−28153
- fusion reactor creep fracture by grain boundary cavitation, modelling, irrad., creep fracture by grain boundary cavitation, modelling 7−53859
- galvanised sheet, surface treatment prior to painting, effects on surface comp. and corrosion resist. *(French)* 7−46703
- growth under impact tension 7−28105
- hardening coatings; on steel 45, electroerosion alloying 7−17722
- hardening process modelling, stresses effect on struct. transform. 7−39555
- heat treatment, combined, surface layer props. *(Russian)* 7−39742
- high strength, control-rolled in two-phase region, ductile unstable failure *(Japanese)* 7−53865
- high strength, defect enhanced diffusion process and hydrogen delayed fracture 7−39673
- high strength, fatigue crack growth, slip localisation, intergranular fracture 7−28120
- high strength, strength meas., anal. of elastic-plastic ball indentation method 7−63088
- high tensile, ΔKth testing method for plastic zone size at fatigue crack tip 7−17748
- high tensile steel electroplating, H_2 embrittlement fracture prevention *(German)* 7−33767
- HSLA, Ti and Nb additions effect on coarse grained heat affected zone 7−16765
- implantation layers, in 9Cr18, GCr15 steels, N^+ implantation *(Chinese)* 7−53996
- interface oxide growth in Magnox and AGR plant, assessment methods 7−59678
- ion beam implantation, pulsed mixed Ti^+ and N^+ ion beams *(Chinese)* 7−51800
- ion implantation and thermal oxidation treatments for wear reduction 7−3481
- ion plating with Cu and Fe-Cr coatings, deposition conditions effect on coating struct. 7−39748
- laser alloying with W base facing powder, SiO_2 and B_4C additions effect 7−8171
- low alloy, oxides on fracture surfaces, failure anal. examination 7−13586
- low alloy ferritic, strain induced corrosion cracking prevention for BWR piping 7−13641
- LWR, pressure vessel materials, environmental sensitive cracking *(German)* 7−10214
- LWR heavy section steel technology, crack arrest studies overview, reactor pressure vessels 7−53885
- LWR piping fracture mechanics database 7−53892
- LWR pressure vessel surveillance using solid state track recorder neutron dosimetry 7−36199
- magnetic hysteresis loops, effects of grain size, hardness and stress in Ni-Cr-Mn steel 7−64482
- martensitic transformation, residual stresses establishment 7−33657
- metallurgy, computer-assisted image anal. systems 7−3546
- microanalysis, of C and carbides, statistical method of brief countings *(French)* 7−46888
- microstrain distribution under simple and complex loading 7−28096
- microstructural monitoring by laser-ultrasonic attenuation and forward scattering 7−33889
- nitrided layers, surface strength and hardness prediction 7−3495
- nondestructive inspection of case hardened parts using resistivity 7−39842
- notched specimens, cyclic deform., thermoelastic effect *(German)* 7−33746
- nuclear containment building, buckling, expt. and anal. programme 7−53818
- nuclear power station, steel component surface treatment, detonation-deposition method *(Russian)* 7−39736
- pearlite spacings, meas. of spread 7−39804
- pearlite-austenite interface, SEM obs. 7−39505
- pearlite-austenite transformation during heating, kinetics problems 7−33633
- pearlite-martensite interface, SEM obs. 7−39505
- pearlitic, radiation embrittlement effects of P and Cu impurities 7−49535
- plates, 2D crack meas. using elec. pot. CT method *(Japanese)* 7−59727
- plates covered with plastic film, thermoelastic props. meas. 7−33713
- polymer coated, NaCl soln. exposure, interface reactions, impedance spectra 7−3489
- powder metallurgy materials produced by hot forming, strength characts., influencing factors 7−53823
- powders, obtained by rotating electrode process, study of props. and cooling rate 7−17498
- pressure vessel, neutron irrad., defect microstruct., SANS and TEM studies 7−58351
- pressure vessel, small angle neutron scatt. technique studies 7−59735
- pressure vessel with surface fatigue cracks, leak-before-break failures analysis 7−65141
- quenching, effect of martempering on thermal stress and strain 7−46532
- quenching, elec. field enhancement 7−46517
- quenching stresses interaction with structural transforms. 7−22727
- radioactive waste canisters, localised corrosion, mathematical model 7−46709

steel continued
- rapid solidification, fusion reactor appl. 7—49657
- reactor pressure vessel, neutron irrad. effect on mechanical and physical props. *(German)* 7—19358
- reinforcement, hot-rolled, strength characts. eval. using mag. method 7—39824
- rolled sheet, distorted form effect on inspection results by shadow method 7—39815
- rotor type, deformed, microcrack dimens. rel. to acoustic emission parameters and struct. 7—65258
- rubber-steel, adhesive bond strength quality assurance using acousto-US technique 7—33881
- secondary hardening, alloy carbide precipitation, FIM atom probe studies 7—33671
- sheet, disc-shaped lamination development under tension and hydrogen impregnation 7—17695
- sheet, PET and PVC coated, corrosion resist. and adhesion strength *(Japanese)* 7—8165
- sheet, press formability and anisotropic yield, Bassani-type criteria 7—28068
- shield for NMR imaging, fabrication and performance 7—47274
- shielding slabs, penetration of 2.75 MeV γ-rays 7—30712
- SNR-300 LMFBR, design, erection and testing of steel containment 7—25024
- spectra layer-by-layer anal., using glow discharge 7—54241
- spectral emissivity, 2-13 µm, 700-900K 7—44872
- stage II fatigue crack growth behaviour of granular bainitic microstructures 7—28134
- steel-VC composites, cold sintered, mech. props., bonding integrity 7—39471
- steel/Cu/Si_3N_4 *(Japanese)* 7—54037
- strengthening of parts and semifinished products in thelast stage of heat treatment 7—8024
- structural, δ_i and J_i values, effect of a/W ratio 7—57753
- structural, cleavage fracture toughness predictions 7—13544
- structural, fracture toughness, rapid austenitisation, effect of conditions *(Russian)* 7—39651
- structural heredity in heat cycling 7—33703
- structure, biaxially-loaded connections, fracture condition *(Japanese)* 7—58403
- surface, implanted with N ions, physicochem. characteris., wear resist. *(French)* 7—28209
- surface, N^+ implantation, migration effect during wear *(Chinese)* 7—53998
- surface analysis by charged particle activation 7—46893
- surface at moderate heating temps., relationship between emissivity and exoemissive props. 7—43641
- surface characterization, EPMA, XPS, GDOS anal. 7—17372
- surface conversion, phosphate coatings, corrosion protection during welding 7—8198
- surface crack growth with regular and random loading processes 7—43785
- surface modification, boronisation, pack method 7—46718
- surface oxidation through laser beam treatment, oxide film struct. and wettability 7—8158
- surface treated, iron nitrides decomposition 7—17736
- surfaces, heat hardening with scanning laser beam 7—13634
- surfaces, lubricated flat, oil supply effect on fretting wear 7—8123
- tempered, coercivity and Barkhausen noise power spectrum, stress depend. meas. 7—7548
- tensile flow stress beyond necking, determ. at very high strain rate 7—63726
- thermal conductivity profile, inverse determ. from thermal wave surface data 7—46751
- thermochemical treatment of steel in an electrolyticplasma 7—3500
- thin-walled sections under combined bending and torsion, nonlinear theory 7—57698
- transformation, improved calc. 7—28009
- tubes, eddy current testing using electromagnet technique 7—39826
- tubes,energy dissipation charаcts. 7—63034
- U8 steel, mechanoluminesc. spectra 7—46155
- wear-mechanism maps 7—22842
- weldment defects, quantification techniques by US normal beam testing 7—16044
- wire rope, defect detection., Hall effect mag probe 7—33885
- Al killed, tensile testing, deform. heating 7—65105
- Al magnetron sputtered ion plating *(Chinese)* 7—22473
- Al powder-steel composite coatings, prod. by compacting electrophoretic and electrostatic deposits protective props. 7—3491
- Al-killed, flow behaviour after tensile prestraining and strain ageing 7—17595
- C diffusion in compound welds having intermediate layer 7—44887
- C fibre reinforced plastic/steel double-lap joints, stress anal. and failure props. 7—33769
- C-Mn ferritic pearlitic, coercivity and Barkhausen noise power spectrum, stress depend. meas. 7—7548
- Cd-Zn electroplated, extrusion, deform. force rel. to comp. and struct. 7—3367
- Cr-CrO_x/Zn multilayer electrogalvanised coating, XPS analysis 7—22890
- Fe-Cr-C steels, martensite and bainite transforms. *(Russian)* 7—13448
- H anomalous diffusion, nonlinear partial differential eqns., C^2 solns. 7—58525
- NdFe-steel hybrid permanent magnet wiggler development for SPEAR ring 7—42250
- VC precipitates in steel, radiation damage influence 7—16638
- Zn phosphated, corrosion resist., cyclic voltammetry, SEM obs. 7—65181
- Zn-Al coated, corrosion behaviour, effect of matrix struct. *(Japanese)* 7—33826
- ZrO_2 (partially stabilised)/steel system, solid state bonding with Ti interlayer 7—28264

steel industry
- community noise control program at Raritan RiverSteel Company 7—8470
- V properties and uses in engineering alloys, review 7—39456

steel manufacture
- radioactive contamination of manufactured products 7—28721
- surface flaw detection for hot steel slabs, eddy current method *(Japanese)* 7—53771

stellar atmospheres
- *see also solar atmosphere*
- 2D flows, numerical calcs. using nebencharacteristics method 7—14478

stellar atmospheres continued
- A-type stars, synthetic line profiles for higher terms of H I Balmer and Paschen series 7—60639
- accretion disk coronae, mag. loops struct. and stability 7—4431
- accretion flows onto massive protostars, temp. struct. 7—29471
- active-chromosphere stars, UBV photometry of ten southern objects 7—40830
- λ And, two-component coronal model for EXOSAT obs. 7—40800
- δ And (K3 III), hybrid K-type giant star, IUE obs. of UV spectrum 7—55623
- anomalous Zeeman effect and its influence on the line absorption and dispersion coefficients 7—60513
- Ap stars, search for chromospheric Mg II emission 7—47932
- Ap-stars, atmospheric parameters rel. to evolution 7—55642
- 31 Aql, possible pole-on binary system, spectroscopic gravity determ. method 7—4434
- RY Aqr, low-mass semi-detached eclipsing binary, intrinsic var. due to spotted atm. 7—60713
- FF Aqr, RS CVn star, G-type giant star surface and atm. struct., IUE obs. 7—55730
- X Ari, RR Lyr star, distance determ. via Baade-Wesselink method, photosphere vel. gradient effects 7—66604
- UX Ari, RS CVn star, autumn 1981 photoelectric obs. of starspot activity 7—9513
- θ As, chromospheric variability of semi-regular M7 giant star 7—66616
- θ-Aur, B9p star, chem. elements surface distrib. 7—66603
- ϵ Aur, eclipsing binary system, atmospheric origin for Hα emission vars. 7—4519
- B9-A2 stars in young open clusters, atmospheric parameters rel. to stellar metallicity determ. 7—66565
- B-type stars in open clusters and associations, effective temps., surface gravities and He abundances *(Russian)* 7—55626
- late B-type supergiants, comparison of models with obs. for discrete absorpt. components in mass-losing stars 7—47886
- Be stars, C IV and Si IV UV lines synthesis rel. to superionisation and large mass outflows 7—55653
- Be stars, temporal polarization vap., stochastic models 7—40825
- close binary stars, gravity darkening of distorted main-sequence components in detached systems 7—4505
- α Boo, ang. diameter and effective temp. meas. 7—14563
- CK Boo, W UMa star, photoelectric obs. rel. to starspot cycle length 7—40870
- Bp-stars, atmospheric parameters rel. to evolution 7—55642
- bright giants, rotation and macroturbulence 7—47847
- brown dwarf stars, evolution and IR spectra 7—29472
- α Cam, O-type supergiant, Hα line profile obs. rel. to atmospheric expansion 7—60638
- υ Car, close visual binary star, spectroscopic evidence for expanding atmosphere 7—24164
- OY Car, SU UMa-type dwarf nova, IUE evidence for extended corona during superoutburst 7—55689
- γ Cas, Be star, IRAS spectra comparison with models 7—4488
- ρ Cas, yellow supergiant, atm. radial pulsations, spectral obs. 7—40813
- α Cen binary system, non-resonance Ca I lines obs. rel. to model atmospheres 7—4444
- 2 Cen M-type giant star, IUE spectral characts. 7—55674
- RS Cep, Algol type semidetached star with Be star component, system characts. 7—47972
- CQ Cep, eclipsing Wolf-Rayet star, atmosphere extent from spectrophotometric studies 7—66618
- chromospheric Mg II emission lines, influence of interstellar Mg II absorpt. 7—47840
- close binary systems, monochromatic refl. effect and temp. distribs. on distorted surfaces 7—18439
- YZ CMi, flare star, atmospheric absorpt. effects on flare optical and X-ray emission 7—24151
- Cn1-1, planetary nebula, central star lumin., effective temp. and HR diagram position 7—35019
- FK Com stars, outer atm. characts., UV spectral obs. 7—47936
- conference, Dublin, Ireland (September 1985) 7—24261
- contact binary star with one component having two surface spots, light curve 7—29512
- convection in planetary atmospheres and stars, zero-gravity expts. 7—29393
- cool dwarf stars, chromosphere emission, rot. modulation, IUE spectra obs. 7—55629
- cool giant and supergiant stars, atm. characts., EUV emission anal. 7—47871
- cool stars, chromospheres and UV characts. 7—47838
- cool stars, radiative fluxes measuring activity, evidence for two chromospheric components 7—60626
- corona in late-type stars, low-g model for dividing line in H-R diagram 7—66569
- coronal magnetic fields, struct. and stability determ. via dynamic relaxation technique 7—55592
- R CrB stars, explosive phenomena rel. to dust form. and brightness decreases 7—24137
- RS CVn stars, photometry and spot models rel. to rot. modulation and flares 7—4467
- RS CVn stars, rot.- chromospheric activity relations 7—47993
- RS CVn stars, X-ray emission and coronal activities 7—66671
- ξ Cyg, K-type supergiant, atmospheric props. and Fe/H ratio from spectroscopic anal. 7—14573
- DA stars, effective temps., UV spectral obs. 7—55633
- DA white dwarfs, Si III Stark shift, modified semiempirical formula 7—55638
- Doppler widths, temp. and rel. gradient effects 7—18351
- BY Dra stars, photometry and spot models rel. to rot. modulation and flares 7—4467
- early A-type stars, C abundances 7—40815
- ϵ Eri, chromospheric activity and rot., implications for age determ. 7—66579
- F to M-type dwarf stars, activity-rot. relationship from Mg II h and k flux 7—55624
- F-type main sequence stars, transition region and chromospheric emission 7—47868
- F-type subdwarfs used as spectrophotometric standards, temps., gravities and comps. from photometric anal. 7—47851
- TZ For, eclipsing Capella-like system observed with IEU, chromospheric and transition-region emission-line fluxes 7—47996
- G-type stars, general characts. 7—24135

stellar atmospheres continued
  YY Gem, BY Dra star, components atm. activity, IUE and Hβ spectra anal. 7—55677
  giant stars in metal-rich globular clusters, temps. and metal abundances from Washington photometry 7—9523
  giants, IR spectra, detection of 12 μm Mg I and OH absorption lines 7—24132
  GK-type supergiant stars, expanding chromospheres models from Hα line profiles anal. 7—9470
  granulation detection 7—60572
  granulation velocities meas. in F-type stars 7—4454
  gravity determination for pole-on binary systems, appl. to 31 Aql 7—4434
  β Gru, late type giant star, outer atm. struct. and UV spectra 7—34974
  HD 45166 (qWR+B8 V), vars. in qWR photospheric UV spectrum 7—47945
  HD 82558, chromospherically active single BY Dra star 7—34986
  g Her, SRb star, outer atm., IUE spectral characts. 7—55674
  hot O-type stars, improved non-LTE Balmer line profiles 7—55603
  HR 5999, Herbig Ae star, chromospheric-transition region structure, IUE obs. 7—55631
  ion lines Stark broadening 7—60515
  IRC +10420, post AGB star, mass-loss region, circumstellar environment and atm. characts. 7—66583
  K-type pre-main-sequence star, with weak chromospheric emission, detection of 6 cm radio emission 7—14569
  K-type stars, orange giants and dwarfs, chromospheric Ca II K-line emission props. 7—4457
  L726-8A, flare star, narrow-band radio flares, mechanisms anal. and UHF obs. 7—60679
  AR Lac, RS CVn star, atm. active regions and lines rot. modulation, IUE obs. 7—55728
  HK Lac, RS CVn star, starspots distrib. from long-term light vars. obs. 7—60724
  EV Lac, UV Cet star, radiation from different atm. layers 7—47933
  late-type contact binaries, chromospheric-coronal activity, UV obs. of Mg II lines 7—47994
  late-type giant stars, abundance anals. rel to departures from LTE in Na and Al 7—60662
  late-type giant stars, outer atmospheres struct. from IUE spectra 7—47872
  late-type main sequence stars, chromospheric emission 7—47839
  late-type main sequence stars, chromospheric emission lumin-rot. period relationship 7—24129
  late-type supergiant eclipsing binaries, chromospheric ionisation and opacity, UV, spectra 7—40869
  AD Leo, flares star, narrow-band radio flares, mechanisms anal. and UHF obs. 7—60679
  AD Leo, UV Cet star, giant flare, atm. characts. 7—55676
  line formation, influence of vel. fields 7—4436
  line formation in expanding atmospheres, theory for lines from excited levels 7—24123
  LMC B-type supergiants, energy distrib. and model atm. 7—55635
  10 and 11 LMi, standard stars, photometric var. due to active regions rot. 7—4489
  long-period variable stars, pulsation study, mass and effective temps. depend. 7—60682
  M-type dwarf stars, photometry and spectra rel. to chromospheric activity, kinematics, and metallicities 7—9466
  magnetic stars, Stokes I and V line profiles rel. to vars. in temp. and density struct. 7—29484
  magnetohydrostatic equilibria for plasma in gravitational field, theory 7—47819
  maser, electron cyclotron instability, kinetic and temp. restrictions 7—14484
  mass-losing stars, UV spectra due to ejected gas parcels from atm. region 7—47833
  metal-poor field subdwarfs, age and temp. characts. 7—47865
  AT Mic, flare star, far-UV flare spectra rel. to photospheric heating by UV lines 7—47937
  molecular astrophysics, NATO conf., Bad Windsheim, Germany (1984 July) 7—9589
  molecular dissociation functions for di- and tri-atomic molecules 7—24002
  multilayer atmosphere, diffuse refl. 7—4308
  multilevel transfer calcs., statistical equilib. eqns. 7—47689
  neutron stars and pulsars, polar cap plasma flow 7—37654
  NGC 6210, 6826 and 6543, planetary nebulae, nuclei mass loss rates 7—66694
  O-type main-sequence stars, non-LTE model atmospheres rel. to N III line strengths 7—47846
  OB-type stars, C IV ionisation fraction from UV line profiles and IR excesses 7—47884
  VV Ori, eclipsing binary star, secondary temp. 7—35004
  BN Ori, Herbig Fe star, chromospheric-transition region structure, IUE obs. 7—55631
  β Ori, IUE and Hα obs. rel. to models for discrete absorpt. components in spectral lines 7—47886
  α Ori, Mg II emission lines flux modulation rel. to atmospheric disturbances 7—47877
  4=o^1 Ori, MS star, white dwarf companion detect. and characts., UV spectra anal. 7—55681
  α Ori, outer atm. and circumstellar material characts., far-IR spectral obs. 7—60690
  α Ori, photospheric scatt. model for optical polarisation 7—47852
  α Ori (Betelgeuse), image restoration via the shift-and-add algorithm 7—40719
  oscillation of stellar atmospheres, response of isothermal atmosphere with nonlinear waves 7—4439
  partially open magnetospheres with and without magnetodisks, analytical models 7—55443
  II Peg, RS CVn binary, photometric study rel. to surface active regions 7—4513
  II Peg, RS CVn star, large amplitude spot var. 7—47984
  57 Peg, semiregular variable, evidence for expanding chromosphere and envelope 7—55664
  AG Peg, symbiotic star, spectrophotometric obs. rel. to red giant component heating by hot star *(Russian)* 7—55669
  ϵ Per, lawn-sprinkling shock model for nonradial oscills. 7—47849
  ρ Per, SRb star, outer atm., IUE spectral characts. 7—55674
  PHL 346, model atmosphere analysis of faint early-type halo star 7—66574
  photospheric granulation, line asymmetries 7—60627
  photospheric plasmas, time-dependent radiative transfer, analytical methods 7—55451
  planetary nebulae central stars, visual magnitudes and Zanstra temps., visible CCD obs. 7—66589
  planetary nebulae central stars, Zanstra temp. method 7—60653
  plasma, ion line Stark broadening 7—55615
  Population II Cepheids, short-period photospheric vel. curves of period-doubling limiting pulsation 7—4477
  Population II stars, effective temp., surface gravity and metallicity 7—47863
  pulsar magnetospheres, pair creation rel. to return-current mode changes and normal-null transitions 7—14598
  pulsars, plasma trapping in magnetospheres 7—66645
  pulsating stars, effects of temp. var. on mode identification from line profile vars. 7—55613
  R-type stars, model atm. and struct. 7—60674
  radiative convection in stratified atmosphere, anelastic eqns. soln. 7—29389
  radiative transfer, soln. of time-dependent transfer eqn. by F_n-method 7—14480
  radiative transfer, statistical description of radiation fields on basis of invariance principle 7—23986
  radiative transfer in plane-parallel medium with space-depend. albedo, Fourier transform soln. 7—34850
  radiative-transfer problems with reflective boundary conditions; modified spherical-harmonic method 7—34853
  rapidly-rotating single late-type giants, chromospheric activity 7—47864
  red giants in open cluster M67, chromospheric UV emission obs. 7—47876
  ROB 162, sdO star in globular cluster NGC 6397, NLTE-analysis 7—40805
  self similar cylindrical shock wave in radiating magnetogasdynamics 7—34847
  semi-infinite inhomogeneous atm., radiation refl. for case of general laws of incoherent scatt. 7—4310
  Sirius B, temp., radius, and rot. vel. 7—40814
  spotted stars, colour and lumin. modelling 7—14576
  supergiant stars in Magellanic Clouds, CO, 2.3 μm band synthesis and band strengths interpretation 7—66577
  supernovae, type Ia, model atmospheres rel. to C deflagration models and max. light spectra 7—40854
  V471 Tau, evidence for large-scale structs. in atmosphere of active K-dwarf component 7—47874
  α Tau, late type giant star, outer atm. struct. and UV spectra 7—34974
  V711 Tau, RS CVn star, 1981 October 3 flare, origin, IUE obs. 7—55729
  V711 Tau, RS CVn system, long-term vars. of chromospheric, transition-region and starspot activity 7—47995
  RY Tau, T Tau star, atm. activity 7—55632
  T Tau stars, photospheric active regions rel. to light vars. 7—47858
  theoretical uvbyβ indices, determ. for grids of stellar atmospheres 7—9458
  thermal-convective instability of composite plasma, effect of Hall currents 7—4437
  thermosolutal-convective instability finite Larmor radius and Hall current effects 7—18401
  thermosolutal-convective instability in stellar atmosphere, effect of rot. and mag. field 7—14557
  AQ Tuc, contact binary systems, photometric evidence for convective atmosphere 7—47988
  turbulent compressible convection in deep atmosphere, validity of numerical approach 7—47690
  XY UMa, RS CVn star, photometric characts., contrib. of star spots 7—47976
  Vega, Fe comp. and atm. microturbulence characts. 7—4445
  Vel X-1 (4U 0900−403), X-ray probing of circumstellar matter during eclipse phase 7—55726
  velocity fields, conf., Trieste, Italy (August-September 1982) 7—35118
  very low mass stars, lumin. and effective temps. 7—60648
  WC stars, C and O abundances rel. to electron densities and mass loss rates 7—29480
  white dwarfs, evolution of surface comps. and spectral types 7—9474
  white dwarfs, magnetic line blanketing 7—34975
  white dwarfs with chemically stratified atmospheres, model atmospheres and synthetic spectra 7—4447
  Wolf-Rayet stars, no-LTE model atmospheres rel. to mass loss rates 7—9475
  Wolf-Rayet stars, review 7—40849
  Wolf-Rayet stars, temp. characts. 7—66624
  X-ray bursters, compact star atm., radiation spectrum *(Russian)* 7—40879
  X-ray bursters, model atmospheres rel. to Comptonisation effects on radiation spectra *(Russian)* 7—55724
  C stars, colour temps. determ., spectrophotometric obs. 7—4461
  C stars, line blanketing in model atm. 7—24141
  D, synthesis in stellar atm. in binary systems with accretion disks *(Russian)* 7—24218
  γ Dra, K-type giant, atmospheric props. and Fe/H ratio from spectroscopic anal. 7—14573
  He I 1083 nm chromospheric line, obs. in bright late-type stars 7—55612
  He I laser action in stellar envelopes, theory 7—4438
  He-rich white dwarfs, dredge-up process calcs. rel. to C pollution in stellar atmospheres 7—47850

stellar binaries *see binary stars*

stellar clusters and associations
  see also globular star clusters
  ages, colloquium, Rome (April 1986) 7—55879
  anomalous He-line stars in clusters and associations, observational data review 7—66595
  B-type stars in open clusters and associations, atmospheric He abundances from optical spectra *(Russian)* 7—55626
  C0318+484 (α Per cluster), internal kinematics of A and F-type dwarf stars 7—4531
  Canis Major star formation region, emission-line stars survey 7—18360
  Car II dust scattering and η Car Balmer profiles 7—24153
  Car OB1 association, obs. of H I bubble around O7 star (HD 91824) 7—60760
  Cep OB2, dark globules radial systems 7—4536
  Cep OB2 association, CO obs. of radial systems of dark globules 7—24172
  Cep OB2 association, supernova shock wave rel. to anomalous dust towards open cluster (Trumpler 37) 7—48010

stellar clusters and associations continued
Cepheus OB 2 association, study of variable emission line stars 7−47916
Chamaeleon T-association, extinction, distance, and membership from photometry and spectroscopy 7−60763
chemically peculiar stars in clusters and associations, rotation velocities, characts. and depend. on evol. 7−4475
Coma Berenices cluster, spectroscopic obs. of peculiar stars 7−66593
Coma star cluster, study of Archer variable stars 7−18417
Cyg OB2-association, line profile vars. in star no.8A rel. to mass loss problems 7−47944
diffuse interstellar lines in stellar aggregates, effects of stellar radiation density 7−48021
dynamics, stability of multi-component gravit. systems described by Boltzmann eqn. 7−4525
E2, LMC hale cluster, deep CCD photometry and colour-magnitude diagram 7−66685
ESO 121-SC03, CCD BV photometry of remote cluster in LMC 7−55745
grid of properties, use for population synthesis 7−29518
HD 97950, central object of giant H II region NGC 3603, speckle masking obs. 7−29502
Hyades, H-R diagram position of solar-type binary star as test of solar models 7−66665
Hyades stars, positions and 60 mm obs. 7−4535
IC 2391, young open cluster, photoelectric search for CP2 stars 7−29486
IC 2944 aggregate as apparent conc. of stars, multicolour photometry 7−14617
interstellar Na I line strength versus reddening relation, influence on stellar population synthesis 7−9526
ionising clusters in compact blue dwarf galaxies 7−48078
late-type main sequence stars, chromospheric emission 7−47839
LH 39, OB association in LMC, spectroscopic obs. rel. to age and initial mass of Wolf-Rayet member 7−66684
Lupus T-association, CO obs. of related dark clouds complex 7−29523
M11 and M67, open clusters, late-type stars precise radial vel. 7−35017
in M31, cluster candidates in 3°×3° field 7−66478
M35, open cluster, internal motion anal. 7−55744
M39, open cluster, spectroscopic obs. of peculiar stars 7−66593
M67, Li abundance from Li I 670.7 nm line obs. 7−55746
M67, old open cluster, chromospheric Mg II emission obs. in red giant stars 7−47876
M67, old open cluster, dwarf stars Li abundance 7−55743
M67, spatial distrib. of spectroscopic binaries and blue stragglers in open cluster 7−40872
molecular clouds assoc. with stellar associations 7−40887
Mon R1, starlight polarization 7−4528
NGC 1039, NGC 7092, open clusters, photoelectric search and spectroscopy for CP2 stars 7−18407
NGC 129, red stars near open clusters, B, V observations and variability 7−9484
NGC 1664, red stars near open clusters, B, V observations and variability 7−9484
NGC 1960, open cluster characts. determ. 7−4532
NGC 2071 star-forming cloud, obs. of shocked H_2 and supersonic jets 7−55760
NGC 2420 field, stellar populations distrib. and RGU three-colour photometry 7−60783
NGC 2451, young open cluster, photoelectric search for CP2 stars 7−29486
NGC 2516, open cluster, foreground dust distrib. 7−35043
NGC 2539, open cluster, membership, distance and evolutionary characts., UBV obs. 7−29521
NGC 3293, mode identification for β Cep stars 7−24150
NGC 346, young open cluster in SMC, photometry, spectra and radial vels. 7−48002
NGC 6611, very young open cluster, stellar proper motions and membership 7−40882
NGC 6649, galactic cluster containing Cepheid variable V367 Sct, CCD photometry 7−55747
NGC 6819, red stars near open clusters, B, V observations and variability 7−9484
NGC 7039, NGC 7063, northern open clusters, Stromgren and Hβ photometry of early-type stars 7−66687
NGC 752, open cluster, spectroscopic binary BD+37°444 orbital characts. 7−66677
O6 to A3 supergiants in clusters, M_v-W(Hγ) calibration 7−47860
OB 110 and 112 in M33 galaxy, photometric characts. 7−40927
OB associations, statistical anal. of interstellar UV extinction curves 7−55785
OB associations, stellar mass spectrum and expanding H I supershells 7−4527
OB associations and star-forming regions, interstellar UV extinction from IUE obs. 7−55786
OB associations in M31, photometry and spectra rel. to massive stars props. 7−40926
OB-associations, sequential supernova explosions rel. to interstellar superbubbles evolution 7−55778
OB-associations in external galaxies, UV obs. in M31, M33, M81, M101, NGC 2403, and Zwicky galaxies 7−29529
open clusters, age distrib. and total lifetimes 7−14618
open clusters, blue stragglers, UV spectral characts. 7−55634
open clusters, characts. and star populations 7−24169
open clusters, CN-strong stars, origin due to binary coalescence 7−66601
open clusters, dynamical evolution of N-body clusters 7−55748
open clusters, photographic relative proper motions of member stars *(Chinese)* 7−4526
open clusters, RS CVn stars and blue stragglers 7−60741
open clusters, stellar activity, Mg II obs. *(Spanish)* 7−55742
Ori OB1 association, 140-nm spectrophotometric census of Orion Belt region rel. to Si stars identification 7−47950
Orion Association, star distrib. 7−55477
α Per cluster, spectroscopic obs. of peculiar stars 7−66593
Per OB2 association, membership, distance and age rel. to props. of peculiar stars 7−66592
Pleiades, distance and photometric luminosity calibrations 7−9521
Pleiades, interstellar dust grains IRAS obs. 7−48003
Pleiades, VBLUW obs. of G and K dwarfs 7−66686
Pleiades cluster, VBLUW photometric survey 7−4529
Pleiades moving group, membership and evolutionary status of Ab Dor and PZ Tel 7−24133

stellar clusters and associations continued
Praesepe, UV spectra of blue straggler 40 Cnc compared with Vega 7−47882
Praesepe bright stars, MK classification determ. 7−4534
R136a, group of 8 massive stars within Tarantula Nebula 7−55749
self-regulated star formation and the evolution of stellar systems 7−47828
Sgr OB1, relationship to Trifid reflection nebulae 7−35024
Sharpless 252, H II region, CCD obs. of assoc. star cluster 7−55604
SMC star clusters, catalogue of 213 new clusters 7−47735
SMC star clusters, observed radii and structural parameters 7−4564
Stock 17, young open cluster, photoelectric UBV photometry 7−4533
Taurus T-associations, photometric study of flare stars 7−24136
Trapezium cluster in Orion Nebula, photometry and spectroscopy 7−66688
Trumpler 37, open cluster, IUE extinction curves rel. to anomalous interstellar dust 7−48010
Vela Star Cloud, foreground reddening and photometric obs. 7−35015
S Vul cluster (C 1947+272), UBV photometry rel. to reddening, distance and age 7−14620
Vul OB1 association, photometry of B-type stars and relationship with S Vul 7−14620
Vul OB1 complex, possible membership of large dark globule (Lynds 810) 7−24178
young open clusters, spectroscopic determ. of stellar metallicity 7−66565

stellar composition
see also solar composition
A7, supergiant in SMC globular cluster NGC 330, composition anal. 7−34970
A-type stars, CNO abundances from IR lines 7−9472
AGB and post-AGB stars, heavy element synthesis 7−47856
Am stars, Li abundance, reson. doublet obs. 7−60669
anomalous Cepheids in Sculptor dwarf galaxy, metal abundances and origins 7−4571
α Ari, K-type giant star, spectral lines identifications and heliocentric radial vel. 7−14574
asymptotic giant branch (1.0-3.0 $M_\odot$), evol. depend. on mass on comp. 7−60650
asymptotic giant branch stars, intermediate-mass, effects of connective overshooting on He and N abundances 7−40797
SX and TT Aur , eclipsing binaries, chemical comps. and evolutionary status from photometry and spectra 7−60731
B2 and A2 main-sequence stars, C and N abundances from IUE obs. 7−47889
B9-A2 stars in young open clusters, spectroscopic determ. of stellar metallicity 7−66565
B-type stars in open clusters and associations, atmospheric He abundances from optical spectra *(Russian)* 7−55626
close binary mass anomalies, due to metallicity and evolution and not to observational errors 7−40877
λ Boo stars, mass loss rates and abundance anomalies 7−60677
α Cas, K-type giant star, spectral lines identifications and heliocentric radial vel. 7−14574
α Cen binary system, non-resonance Ca I lines obs. rel. to metal abundances 7−4444
Cepheid variables, metallicity determ. from photoelectric radial vel. spectrometer meas. 7−9500
o Cet, Tc abundance in Mira 7−47899
classical Cepheids, [Fe/H] and birthplaces rel. to local chemical inhomogeneities in galactic disk 7−34997
classical novae, comp. evolution through complete cycle 7−29493
α CMi (Procyon), rare-earth elements abundances 7−24128
40 Cnc, Praesepe blue straggler, metal overabundances compared with Vega 7−47882
contact binary stars, equilib. solns. and stability, comp. effects. 7−60716
cool CP stars, search for Be, IUE spectral obs. 7−47930
CP stars, correl. of Si and Eu abundances with depth of 520 nm continuum depression 7−60664
RS CVn stars, Li I line strengths in σ Gem, α Aur, HR 6469, and 93 Leo 7−18437
ξ Cyg, K-type supergiant, atmospheric props. and Fe/H ratio from spectroscopic anal. 7−14573
V1016 Cyg, symbiotic star, circumstellar dust grains comp. from photometric obs. 7−47897
χ Cyg, Tc abundance in Mira variable 7−47899
δ Del stars, Li abundance, reson. doublet obs. 7−60669
double degenerate C-O dwarfs, effect of metallicity on Type I supernova rate 7−24155
BV and BW Dra, contact binaries, combined photometric and spectroscopic solns. 7−14603
dwarf stars, Na abundances, implications for Galaxy chemical enrichment 7−4446
E2, intermediate-age LMC cluster, colour-magnitude diagram rel. to age and metallicity 7−40883
E3, star-poor globular cluster, metallicity determ. from deep CCD photometry 7−66685
early A-type stars, meridional mixing and C abundances 7−40815
ε Eri, composition implications for age determ. 7−66579
F-type stars, Li and Be-deficient main sequence stars, depletion mechanism and spectral obs. 7−14564
F-type subdwarfs used as spectrophotometric standards, temps., gravities and comps. from photometric anal. 7−47851
faint blue stars at high galactic latits., He/H ratios from UV and visual spectra 7−47878
field horizontal-branch stars, CNO abundances from IR lines 7−9472
G 64−12, population II dwarf, ^{7}Li abundance of metal-poor star 7−60642
galaxies effect of metallicity on optical and IR colour-luminosity relations 7−24213
giant stars in globular clusters NGC 6171 and NGC 6723, DDO photometry and metallicities 7−9522
giant stars in metal-rich globular clusters, Washington system photometry and metallicities 7−9523
globular cluster system of M87, metallicity determ. from spectroscopic obs. 7−48001
globular clusters, effects of mass segregation on mass function-metallicity correl. 7−40884
globular clusters, metal abundances rel. to main sequence mass functions 7−66586
HD 101065 (Przybylski's star), element identifications from line coincidence statistics of UV spectra 7−55684

stellar composition continued
- HD 109995, field horizontal branch A-type star, CNO comp., UV spectral obs. 7—47862
- HD 17081 (π Cet), spectrum synthesis of UV Ga II and Ga III lines compared with IUE obs. 7—47943
- HD 25823, Si star, spectrum synthesis of UV Ga II and Ga III lines compared with IUE obs. 7—47943
- HD 46703, Population II supergiant, N and S overabundances 7—66578
- high-mass loss rate stars, projected FIRST obs. 7—47842
- hot horizontal-branch stars in globular cluster NGC 6397, optical spectroscopy 7—47859
- HR 6559, A7 IV star, abundance determ. 7—60647
- Hyades He/H ratio, implications of H-R diagram position of eclipsing binary star (HD 27130) 7—66665
- IC 4499, globular cluster, double-mode RR Lyr stars, metallicity 7—14616
- implicit evolution code, appl. to main sequence 7—55601
- IRC+10216, $^{29}SiC_2$ and $^{30}SiC_2$ detect. in millimetre-wave spectrum 7—29474
- IRC+10420, detection of HCN in circumstellar shell of peculiar O-rich evolved supergiant 7—9464
- IRC +10420, post AGB star, mass-loss region, circumstellar environment and atm. characts. 7—66583
- K-type giant stars of galactic disk, metallicity variance 7—60640
- late-type dwarf stars, synthetic spectra rel. to accuracy of chemical comp. determ. 7—66566
- late-type giant stars, abundance anals. rel to departures from LTE in Na and Al 7—60662
- late-type Population I dwarf stars, Li abundances and $^7Li/^6Li$ ratios 7—14562
- η Leo, F0 IV star, abundance determ. 7—60647
- EH Lib, dwarf Cepheid, metallicity determ. from uvby β photometry 7—4492
- LMC globular clusters, age determ., metallicity-age relation and AGB stars luminosity function 7—4561
- luminous red giant stars, circumstellar dust and gas prop. rel to C/O ratio 7—55609
- RR Lyr type stars, delta-S method for metal abundance determ. 7—66476
- M67, old open cluster, dwarf stars Li abundance 7—55743
- massive high-luminosity stars, stellar wind comp. during presupernova evolution 7—29461
- metal abundance of metal-rich globular clusters, metallicity scale 7—40881
- metal-poor late-type stars, O/Fe ratio from spectra 7—40803
- metallicity of young open clusters, spectroscopic determ. 7—66565
- MS-type stars, comp. peculiarities due to mass transfer 7—47935
- NGC 6752, globular cluster, He/H ratio from photographic photometry of giant, asymptotic, and horizontal branches 7—29520
- Nova Vul 1984 No.1 (PW Vul) slow nova, abundances, visible and IR obs. 7—40850
- novae, UV studies by IUE satellite 7—47940
- V451 Oph, eclipsing binary star, initial comp. and age from absolute dimensions 7—29503
- 4=o^1 Ori, MS star, comp. characts. 7—55681
- pentynylidyne radical (C_5H), detect. of $^2\Pi_{3/2}$ state (in IRC+102.16) 7—23988
- Population I, evol., remnant white dwarf min. mass and chem. stratification 7—60634
- Population II giant stars, C isotopic ratios determ. 7—60654
- Population II giants, Washington photometry, abundance calibrations 7—9471
- Population II red giants, empirical colour-metallicity relations 7—55616
- Population II stars, effective temp., surface gravity and metallicity 7—47863
- Population II stars, metal abundances in 'dirty' Population III model 7—29470
- red giants, metallicity function 7—4451
- S and MS stars, chem. comp. determ. 7—60681
- Sculptor dwarf galaxy, metal abundances and origins of anomalous Cepheids 7—4571
- 16 Ser, binary Ba star, heavy element abundances 7—60680
- subdwarf stars, metallicity and kinematics of 1125 high-proper-motion stars 7—47843
- supergiant stars in Magellanic Clouds, metal abundance deficiencies from CO 2.3 μm band synthesis 7—66577
- supernovae, type Ib, spectra rel. to supernebulae and nucleosynthesis 7—40854
- thermosolutal-convective instability in stellar atmosphere, effect of rot. and mag. field 7—14557
- Type II supernovae, nucleosynthesis and isotopic anomalies 7—47959
- Vega, Fe comp. and atm. microturbulence characts. 7—4445
- Vel X-1/HD 77581 system, circumstellar Fe/H ratio from X-ray energy spectra 7—24168
- o Vir, Ba star, heavy element abundance 7—60680
- WC stars, influence of C and O abundances on mass-loss determ. from radio meas. 7—29480
- white dwarfs, evolution of surface comps. and spectral types 7—9474
- white dwarfs, spectroscopic obs. of cool degenerate star condidates 7—4450
- white dwarfs 7—14575
- Wolf-Rayet subtypes, origin and characts. 7—55639
- Al III line strengths in early type stars, non-LTE calcs. 7—18405
- CN-strong stars, origin due to binary coalescence 7—66601
- CNO abundances evol. 7—40934
- γ Dra, K-type giant, atmospheric props. and Fe/H ratio from spectroscopic anal. 7—14573
- He-rich white dwarfs, dredge-up process calcs. rel. to C pollution in stellar atmospheres 7—47850
- Li abundance of metal-poor halo dwarfs with extreme high-velocity 7—60641
- Li-rich supergiant stars HR 7008 and HD 174104, CNO abundances 7—4453
- SO_2 and SO in circumstellar envelopes, millimetre-wave obs. 7—4429
- Si II, III and IV line strengths in B-type stars, non-LTE calcs. 7—18406

stellar dimensions
- angular diameters and limb darkening meas., potential accuracy of speckle interferometric obs. 7—47720
- V1343 Aql (=SS 433), extended radio struct. obs. with European VLBI Network 7—29478

stellar dimensions continued
- RY Aqr, low-mass semi-detached eclipsing binary, orbital characts. dimensions and masses 7—60713
- CX Aqr, semi-detached binary system, radial vels. and light curve anal 7—47990
- R Aqr jet, obs. at UV and radio wavelengths 7—55686
- SX and TT Aur, eclipsing binaries, masses and radii from photometri and spectroscopic obs. 7—60731
- barotropic stars, configuration change due to meridional circulatio 7—29464
- BD+37°444, double-lined binary in open cluster NGC 752, rot. and radi meas. 7—66677
- α Boo, ang. diameter and effective temp. meas. 7—14563
- V368 Cas, Algol-type binary, masses and radii from photometric studie 7—35009
- γ Cas, Be star, ang. dia. of circumstellar envelope from Hα interferometr 7—4466
- V373 Cas, early-type eclipsing binary, spectroscopic orbit and physica dimensions 7—55706
- V375 Cas, semi-detached eclipsing binary, components radii, photometri obs. *(Chinese)* 7—4504
- RS Cep, Algol type semidetached star with Be star component, syste characts. 7—47972
- U Cep, classical Algol binary system, photometry rel. to accretion structs. 7—4512
- AH Cep, early-type eclipsing binary star, masses and radii determ 7—47987
- CQ Cep, eclipsing Wolf-Rayet star, atmosphere extent from spectrophotometric studies 7—66618
- μ Cep, red supergiant star, circumstellar envelope dimensions from Na I image 7—4442
- β Cep stars in NGC 3293, masses, radii and temps. rel. to pulsation mode identification 7—24150
- Cepheid variables, radii and masses from surface-brightness method 7—9492
- chemically peculiar stars, effective temps. and radii rel. to surface mag. fields characts. 7—66594
- circumstellar dust shells around late-type stars, inner and outer radii rel. to IRAS obs. 7—9461
- α CMa (Sirius), angular diameter from amplitude interferometr 7—40811
- CP stars with known rot. periods, statistics of radii, rot. vels., and rot axes inclinations 7—60663
- R CrB, dimensions and mass of fossil circumstellar shell from IRAS obs. 7—55649
- T CrB, recurrent nova, XUV source dimensions from UV obs. (1978 t 1986) 7—47941
- RV Crv, near-contact binary system, radial vels. and light curves anal 7—47989
- RS CVn stars, radii and rot. vels. rel. to synchronous rot. *(Chinese* 7—4503
- 16 Cyg A and B, solar analogue candidates, absolute magnitudes rel. t age, masses and radii 7—24162
- Cyg X-1 primary component, linear polarization from tidal distortions 7—29508
- double stars, lunar occultations, photoelectric observations, final list 7—35003
- BV and BW Dra, contact binaries, combined photometric and spectroscopic solns. 7—14603
- o^1 Eri, δ Sct star, min. radius determ. from nonradial oscills. anal. 7—47923
- giant star with degenerate He core in close binary, white dwarf form. model radius characts. 7—60633
- HD 149779, B-type eclipsing binary, radii from light curve anal. 7—24161
- SW Lac, W UMa star, photoelectric light curves and elements 7—60718
- Lanning 10 (V363 Aur), eclipsing cataclysmic binary, secondary radius 7—66602
- late-type dwarf stars, radii determ. from IRAS 12 μm fluxes 7—60644
- late-type giant stars, geometrical dimensions of outer atmospheres from IUE spectra 7—47872
- EH Lib, dwarf Cepheid, mass and radius from photometry and spectra 7—4492
- LMC B-type supergiants, radii and masses determ. 7—55635
- V473 Lyr (=HR 7308), unique Cepheid variable, mean radius from photometric and radial rel. survey 7—29482
- minimum energy density-size relationship 7—29469
- MXB 1730—335, X-ray burster, accretion disc behaviour and neutron sta size 7—60709
- V451 Oph, eclipsing binary star, absolute dimensions from uvby ligh curves 7—29503
- RZ Oph, long-period eclipsing binary, masses and radii from photometr and radial vels. 7—29504
- RS Oph, recurrent nova, mass and radius limits from optical obs. i quiescence 7—24139
- RS Oph, recurrent nova, radio flare dimensions from mag. flux reconnection model 7—60695
- VV Ori, eclipsing binary star, mass, lumin. and radii 7—35004
- ι Ori, orbital elements determ. rel. to stellar dimensions and tidall induced mass loss 7—55738
- BO Peg, eclipsing binary, radii characts. 7—66678
- IP Peg, eclipsing dwarf nova, dimensions of white dwarf and accretio disk from high-speed photometry 7—14595
- AG Per, eclipsing binary star, light curves anal. rel. to geometrical an photometric parameters 7—66658
- RT Scl, near-contact binary system, radial vels. and light curve anal 7—47988
- U Sge, classical Algol binary system, photometry rel. to accretion structs 7—4512
- Sirius B, temp., radius, and rot. vel. 7—40814
- strange stars, mass-radius relation and surface characts. 7—29495
- Sun, 1984 meas. of oblateness variability 7—60620
- symbiotic stars cool components, nature 7—40820
- V471 Tau, evidence for large-scale structs. in atmosphere of active K dwarf component 7—47874
- T Tau, rot. period meas. rel to radius and inclination angle 7—55620
- Y Tau (C6,4), 1982 January 8, effective temp. from occultation ang diameter 7—47927
- T Tau stars, photometric rot. periods rel. to radii 7—47858
- AQ Tuc, contact binary system, radial vels. and light curve ana 7—47988

stellar dimensions continued
4U 1820−30, neutron star size in X-ray burster 7−60703
W UMa stars, geometrical and physical elements for four objects 7−35006
Wolf-Rayet stars, review 7−40849
X-ray bursters, neutron star characts. 7−60725
OH-IR stars, circumstellar shells dimensions from H $_2$O maser emission obs. 7−24140

stellar dynamics
angular vel. for general steady states 7−60531
anisotropic Plummer models, completely analytical family 7−55741
binary star collisions in globular clusters, head-on collision probabilities 7−60739
black holes in galactic nuclei, effects of motion on galactic struct. 7−60795
elliptical galaxies, circumgalactic shells morphology rel. to dark matter 7−66748
elliptical galaxies, orbital characts. of dynamical models 7−35046
elliptical galaxies, phase space density 7−55795
galactic bars, dynamical models, truncated perfect elliptical disk 7−60786
galactic warped disks, haloes and gravity 7−66744
galaxies in rich southern clusters, redshifts and stellar vel. dispersions 7−60819
galaxy satellite orbits decay by dynamical friction, 3D modelling 7−60801
globular clusters, effects of mass segregation on main-sequence luminosity functions 7−40884
globular clusters dynamical modelling 7−14613
globular star clusters, post-collapse evolution, N-body statistical stellar dynamics model 7−40885
halo stars, radial velocities, magnitude and spectral types 7−40809
hard binary, scatt. of third body, approx. 7−48000
irrotational and zero angular momentum ellipsoids inthe Dirichlet problem 7−4557
isotropic stellar systems, linear oscills., non-radial modes 7−35014
kinematics of stellar ovals in interiors of M51 and M100, relation to star form. rings 7−4568
molecular clouds and stellar kinematics 7−48025
N-body open clusters, dynamical evolution 7−55748
NGC 3923, shell galaxy, shell system struct. rel. to alternatives to dark matter hypothesis 7−66749
orbital motion of stellar system around attracting force centre 7−24231
radial periodic orbits instability for galactic potentials 7−66681
relativistic collapse of cluster to black hole 7−66682
resonant orbits in quasispherical galaxy, numerical comparison for 1/1 resonance 7−55740
spherical galaxies, dynamics of head-on collisions 7−48072
spherical stellar systems, instability 7−66683
spiral density waves in galaxies, effects of cloud collisional damping 7−66755
stability of multi-component gravit. systems described by Boltzmann eqn. 7−4525
three-body systems, break-up, effects of total ang. momentum 7−35010
tidal capture models, cross-sections for binary form- and stellar merger 7−29519
triaxiality and pressure anisotropy induced by tidal interactions between galaxies 7−40942
wide binary stars, theoretical implications of observational data 7−66664
wide binary stars in solar neighbourhood, dynamical fate 7−66663

stellar envelopes *see circumstellar shells*

stellar evolution
see also solar evolution; star formation
ages of stellar systems, colloquium, Rome (April 1986) 7−55879
CY Agr, SX Phe star, period changes determ. from light maxima anal. 7−29481
Algol-type stars, evolution assuming ang. momentum loss via mag. winds 7−40864
anomalous Cepheids in Sculptor dwarf galaxy, pulsation masses rel to evolutionary status 7−4571
Ap-stars, atmospheric parameters rel. to evolution 7−55642
asymptotic giant branch (1.0-3.0 M$_\odot$), evol. depend. on mass on comp. 7−60650
asymptotic giant branch stars, intermediate-mass, effects of connective overshooting on He and N abundances 7−40797
asymptotic giant branch stars, mass loss determ. 7−24127
SX and TT Aur , eclipsing binaries, chemical comps. and evolutionary status from photometry and spectra 7−60731
Becklin-Neugebauer objects, evolution and structure 7−48028
close binary mass anomalies, due to metallicity and evolution and not to observational errors 7−40877
binary systems with evolved primary components, relation to props. of main-sequence binaries 7−29505
Bp-stars, atmospheric parameters rel. to evolution 7−55642
BR 18, Wolf-Rayet star in LMC association LH 39, age and initial mass determ. 7−66684
brown dwarf stars, evolution and IR spectra 7−29472
V373 Cas, early-type eclipsing binary, spectral types and physical parameters from spectroscopic obs. 7−55706
cataclysmic binaries, evolution rel. to mass spectrum of white dwarfs 7−29476
cataclysmic binary stars, space densities and evol. 7−60672
central stars of planetary nebulae, evolution study 7−40801
AH Cep, early-type eclipsing binary star, masses and radii rel. to main-sequence evolution 7−47987
CW Cep. early-type eclipsing binary, evolutionary models rel. to internal struct. and apsidal motion 7−60729
δ Cet, β Cep star, appl. of new method for freq. vars. detect. 7−29477
chemically peculiar stars in clusters and associations, rotation velocities, characts. and depend. on evol. 7−4475
classical Cepheids, ages and galactic orbits rel. to local chemical inhomogeneities in galactic disk 7−34997
classical novae, model evolution through complete cycle 7−29493
close binary stars, low-mass, evolution with orbital ang. momentum losses 7−24121
α CMa B (Sirius B), white-dwarf thermonuclear runaway rel. to historical colour records 7−34977
Cn1-1, planetary nebula, central star lumin., effective temp. and HR diagram position 7−35019
coalescence of two white dwarfs in close binary systems *(Japanese)* 7−4508
collapsing stellar cores, entropy generation and deleptonization 7−55691

stellar evolution continued
CP stars, mag. fields evol. 7−47920
Y Cyg, early-type eclipsing binary evolutionary models, rel. to internal struct. and apsidal motion 7−60729
CH Cyg, possible end of shell spectrum phase and transition to real symbiotic star (1983-4), spectral characts. 7−4487
16 Cyg A and B, solar analogue candidates, absolute magnitudes rel. to age, masses and radii 7−24162
DDDM-1, C-poor halo planetary nebula, progenitor mass rel. to C deficiency 7−60766
degenerate dwarfs produced by interacting binaries, number-mass distrib. 7−60652
AB Dor (HD 36705), active chromosphere star, evolutionary status from space vel. 7−24133
double degenerate C-O dwarfs, evolution rel. to type I supernova rates in solar neighbourhood 7−24155
BV and BW Dra, contact binaries, combined photometric and spectroscopic solns. 7−14603
E2, intermediate-age LMC cluster, colour-magnitude diagram rel. to age and metallicity 7−40883
E2, LMC hale cluster, distance modulus and age from deep CCD photometry 7−66685
E3, metal-rich globular cluster, evolutionary implications of deep CCD photometry 7−66685
ϵ Eri, age discrepancies for several methods, oscill. constraints 7−66579
faint blue stars at high galactic latits., evolutionary status and masses 7−47878
formation model for first stars *(French)* 7−14560
galaxies, chemical evolution 7−48083
giant star with degenerate He core in close binary, evol. and processes 7−60633
globular cluster stars, age characts. 7−47865
globular cluster stars, evolutionary constraints on age of Universe 7−55869
globular clusters, form. age rel. to zero-value cosmological const. 7−24250
HD 50896, WR star, evolutionary status 7−55663
HD 62910 (WN6-C4), evolutionary implications of high-resolution IUE obs. 7−47946
Her X-1, evolutionary history, low-mass and high-mass models 7−35000
Herbig-Haro objects exciting stars, evolutionary characts. determ. from spectral and lumin. meas. 7−40898
horizontal-branch stars, cosmion effects on HB lifetime rel. to solar neutrino problem 7−55436
hot H-deficient binaries as Type Ib supernovae progenitors 7−24154
HR 8752 (=V509 Cas), G-type hypergiant, historical light curve (1840 to 1979) 7−24134
implicit evolution code, appl. to main sequence 7−55601
interacting binary stars, IUE obs. rel. to evolution and models 7−47997
LH 39, OB association in LMC, spectroscopic obs. rel. to age and initial mass of Wolf-Rayet member 7−66684
LMC globular clusters, age determ., metallicity-age relation and AGB stars luminosity function 7−4561
low-mass stars, activity-related characts. of convective envelopes during post-main-sequence, evolution 7−4440
low-mass stars, rot. vel. evol. 7−66570
low-mass X-ray binaries, evolution rel. to soft X-ray transients 7−55707
M15 (=NGC 7078), globular cluster, stellar evolution and pulsation theory 7−60736
M4 (=NGC 6121), globular cluster, stellar evolution and pulsation theory 7−60736
magnetic stars, meridional circular rel. to mag. axes inclination in unsteady oblique-rotator model 7−55607
massive close binaries evolution with mass loss and overshooting, mass transfer in very massive system 7−29465
massive high-luminosity stars, pair creation supernova in massive Wolf-Rayet star 7−29462
massive high-luminosity stars, presupernova evolution 7−29461
massive star evolution, late stages and nucleosynthesis 7−47834
massive stars, evolution calcs. using non-local convection theory 7−29460
massive stars in blue irregular galaxies, age of star form. burst from IUE obs. 7−48088
mild Ba stars, precursors mass determ. 7−60680
models for low and intermediate mass stars with convective overshooting 7−29467
neutron star birth, theory of Kelvin-Helmholtz phase 7−40858
neutron stars, transformation into strange stars 7−29495
NGC 1960, open cluster characts. determ. 7−4532
NGC 2539, open cluster, membership, distance and evolutionary characts., UBV obs. 7−29521
NGC 6752, globular cluster, age from photographic photometry of giant, asymptotic, and horizontal branches 7−29520
nonrotating supermassive stars, evolution 7−66567
novae, classical, preoutburst history, rapid accretion and hibernation 7−60673
novae, evolution model taking mass and momentum loss into account 7−60672
nucleosynthesis duration determ. 7−49393
open cluster stars, evolution and mass loss rel. to dynamical evolution of N-body clusters 7−55748
open clusters, age distrib. and total lifetimes 7−14618
open clusters, RS CVn stars and blue stragglers 7−60741
V451 Oph, eclipsing binary star, absolute dimensions and evolutionary models 7−29503
BN Ori, Herbig Fe star, mass and age determ. 7−55631
AG Per, early-type eclipsing binary, evolutionary models rel. to internal struct. and apsidal motion 7−60729
Per OB2 association, membership, distance and age rel. to props. of peculiar stars 7−66592
planetary nebula central stars, evolutionary characts. 7−60653
planetary nebulae formation, transition stage between red giants and white dwarfs *(German)* 7−55776
planetary nebulae nuclei, hydrostatic evolutionary sequences 7−66572
planetary nebulae nuclei, observational constraints on origin and evolution from IUE data 7−47888
Population I, evol., remnant white dwarf min. mass and chem. stratification 7−60634
Population I pulsating stars, period-age-colour relations 7−40831
Population I pulsating stars, period-evolutionary mass(-colour) relations 7−47898
precataclysmic binary stars, evol. and orbital characts. 7−34981

stellar evolution continued
primordial stars, form. and pre-main-sequence evolution 7−47999
PSR 1937+214, 1.5 ms pulsar, evolution in precursor binary system 7−29499
pulsars, evolution of two classes 7−60697
pulsars, model 7−66643
pulsars, origin in binary systems 7−47963
pulsars 7−55695
rapidly-rotating single late-type giants, evolutionary status and emission fluxes 7−47864
rotating intermediate-mass stars, pre-main-sequence evolution and main-sequence position 7−14558
s-process nucleosynthesis, implications of stellar β-decay rate of ^{79}Se 7−49344
self-regulated star formation and the evolution of stellar systems 7−47828
SMC N2, planetary nebula, central star, mass and evolutionary age determ. 7−24183
solar neighbourhood low-luminosity M-type dwarfs, lumin. function turnover, evolutionary considerations 7−48079
Stock 17, young open cluster, age determ. from UBV photometry 7−4533
supernova explosion in 100 M$_\odot$ star 7−47961
supernovae, degenerate C-O cores, final evolution, numerical studies 7−66626
supernovae, Type I, evolution from double-degenerate C-O dwarfs rel. to supernova rate in solar neighbourhood 7−24155
supernovae origin (book) 7−60914
T Tau stars, rot. vels. obs. rel. to spin-up during contraction 7−4443
PZ Tel (HD 174429), active chromosphere star, evolutionary status from space vel. 7−24133
Trapezium cluster in Orion Nebula, photometry and spectroscopy 7−66688
4U 1820−30, period from X-ray obs., mass-transfer rate 7−18433
upper-main-sequence stars, rotating, convective core size and luminosity rel. to main-sequence lifetime 7−29468
Vela Star Cloud, age characts. 7−35015
very-low mass stars, evolution characts. and processes 7−60648
S Vul cluster (C 1947+272), UBV photometry rel. to reddening, distance and age 7−14620
weakly interacting massive particles and evolution enhancement 7−24246
white dwarf star collapse in binary star systems, to form neutron stars 7−60704
white dwarf stars, formation and evolution 7−9474
white dwarfs 7−14575
Wolf-Rayet stars, review 7−40849
Wolf-Rayet subtypes, origin and characts. 7−55639
Ba stars, age characts. 7−60680
CN-strong stars, origin due to binary coalescence 7−66601
He stars, evolution of single and binary stars of 2.5 M$_\odot$ up to Ne ignition 7−4430
He stars in mass range 2.0 to 4.0 M$_\odot$, evolution rel. to neutron star form. 7−24122
^{3}He production by stars and expulsion to interstellar space 7−60840
OH-IR stars near galactic centre, luminosities and progenitor characts. 7−14584

stellar formation *see star formation*

stellar interiors *see stellar internal processes*

stellar internal processes
see also solar interior; stellar evolution
accreting He white dwarfs, NCO reaction and He flashes 7−66573
AGB and post-AGB stars, heavy element synthesis 7−47856
AGB and post-AGB stars of low mass, neutron synthesis 7−47855
Am stars, Li abundance, variations, envelope processes 7−60669
asymptotic giant branch (1.0-3.0 M$_\odot$), evol. depend. on mass on comp. 7−60650
asymptotic giant branch stars, intermediate-mass, effects of connective overshooting on He and N abundances 7−40797
axion emission rates in nonrelativistic degenerate regime 7−55458
binary stars as sources of iron and s-process isotopes 7−47835
blast waves propag., analytical soln. 7−60517
brown dwarf stars, evolution and IR spectra 7−29472
CW Cep, early-type eclipsing binary star, internal struct. const. from apsidal motion 7−60729
classical novae, model evolution through complete cycle 7−29493
α CMa B (Sirius B), white-dwarf thermonuclear runaway rel. to historical colour records 7−34977
conf., Erice, Italy (April 1986) 7−41001
convection, consistent approximation of viscous terms for subsonic flows 7−34845
convection in planetary atmospheres and stars, zero-gravity expts. 7−29393
convection in rotating hemispherical shell with radial gravity, Spacelab simulation expts. 7−55450
convection zone-radiative interior interface, dynamo theory 7−60526
convective boundaries and evol. modelling 7−55601
convective turbulence with rot. and mag. fields, mixing length theory 7−29388
core collapse, electron capture effects 7−55614
Coulomb dissociation as a source of information onradiative capture processes of astrophysical interest 7−14485
RS CVn stars, rot.-activity relations, dynamo and convection zone characts. 7−47993
Y Cyg, early type eclipsing binary star, internal struct. const. from apsidal motion 7−60729
DDDM-1, C-poor halo planetary nebula, progenitor mass rel. to C deficiency 7−60766
δ Del stars, Li abundance, variations, envelope processes 7−60669
diffusion numerical simulation in chemically peculiar stars 7−34968
early A-type stars, meridional mixing and C abundances 7−40815
evolutionary models for low and intermediate mass stars with convective overshooting 7−29467
evolving low-mass stars, activity-related characts. of convective envelopes 7−4440
explosive ^{4}He burning, kinetics at constant temp. and density 7−4315
F-type stars, Li and Be-deficient main sequence stars, depletion mechanism and spectral obs. 7−14564
G-type stars, general characts. 7−24135
giant star with degenerate He core in close binary, evol. and processes 7−60633
GX 17+2, thermonuclear flash model for X-ray bursts 7−14607
light nuclide origin from various processes 7−47836

stellar internal processes continued
low-frequency oscillations of uniformly rotating stars, freqs. of gravity modes and rot. modes 7−60635
massive close binaries evolution with mass loss and overshooting, mass transfer in very massive system 7−29465
massive high-luminosity stars, presupernova evolution 7−29461
massive star evolution, late stages and nucleosynthesis 7−47834
massive stars, evolution calcs. using non-local convection theory 7−29460
meridional circulation in rotating stars, effects of axisymmetric mag. field in early-type stars 7−55606
meridional circulation in rotating stars, unsteady oblique-rotator model 7−55607
meridional flow in self-gravitating body, mechanical flow in barotropic star with const. ang. momentum 7−29464
neutron stars, cooling problem, collective excitations in nucleonic matter 7−66650
neutron stars, core phase transformations, equilib. configurations in general relativity 7−60705
neutron stars, formation, neutrino signature of collapse 7−55699
neutron stars, magnetic moments of stars with different eqns. of state 7−40857
neutron stars, neutrino lumin., implications of collective effects of nucleon medium 7−47967
neutron stars, vortex creep and internal temperature, effect on pulsars timing 7−60699
nonlinear compressible convection penetrating into stable layers and producing internal gravity waves 7−60631
nonlinear convection of compressible fluid in rot. spherical shell, theory 7−9459
nonrotating supermassive stars, evolution 7−66567
nuclear reactions in stars, review 7−60535
AG Per, early-type eclipsing binary star, internal struct. const. from apsidal motion 7−60729
photodisintegration, relevance to nucleosynthesis in stars 7−49378
plasma neutrino energy loss rate in stellar interiors, axial-vector contrib. 7−55608
Population I, evol., remnant white dwarf min. mass and chem. stratification 7−60634
Population II Cepheid variables, freq. resons. in stellar models 7−24138
Population II giant stars, mixing and C isotopic abundances 7−60654
primordial and stellar nucleosynthesis, nuclear reactions, laboratory analyses 7−47696
r-process, role of delayed neutrons in element production 7−60534
red giants, ^{18}O(^{3}He,d)^{19}F, sub threshold resonance 7−698
reviews of particle and nuclear physics, book 7−55907
rotating upper-main-sequence stars, size of convective cores 7−29468
S and MS stars, He burning and s-process 7−60681
s-process nucleosynthesis, implications of stellar β-decay rate of ^{79}Se 7−49344
s-process nucleosynthesis, neutron capture cross section meas. rel. to branching at ^{79}Se 7−23990
s-process of stellar nucleosynthesis 7−47837
SN 1054, ^{22}Ne nucleosynthesis and mass from element abundances in Crab Nebula 7−40904
strange stars, matter characts. 7−61829
supernovae, degenerate C-O cores, final evolution, numerical studies 7−66626
supernovae, energy content of blast wave 7−34856
supernovae, motion of cylindrical-symmetrical relativistic shock wave in presence of axial mag. field 7−4322
supernovae, type Ia, model atmospheres rel. to C deflagration models and max. light spectra 7−40854
supernovae, type Ib, spectra rel. to supernebulae and nucleosynthesis 7−40854
temperature characts. 7−24125
thermonuclear reaction rates, determ. from (p,n) reactions (on targets with A=92 to 122) 7−34859
turbulent compressible convection in deep atmosphere, validity of numerical approach 7−47690
Type I supernovae, partially incinerated white dwarf models *(Chinese)* 7−4494
Type II supernovae, nucleosynthesis and isotopic anomalies 7−47959
very-low mass stars, evolution characts. and processes 7−60648
weakly interacting massive particles and stellar evolution enhancement 7−24246
white dwarf stars, formation and evolution 7−9474
WIMPs, annihilation in solar core, limits from deep underground detectors 7−23998
Wolf-Rayet stars, ^{26}Al prod. rel. to galactic yield and gamma-ray line emissivity 7−47830
Wolf-Rayet subtypes, origin and characts. 7−55639
X-ray bursters, neutron star characts. 7−60725
(e^{-},axion), stellar axion production mechanism 7−24974
^{27}Al(^{3}He,d)^{28}Si, proton threshold states in ^{28}Si*, astrophysical significance 7−19267
^{27}Al(α,t)^{28}Si, proton threshold states in ^{28}Si*, astrophysical significance 7−19267
H burning, implications of binding energies of Q-nuclei 7−55445
^{1}H(p,e$^{+}\nu$)^{2}H, stellar process, energy generation rates 7−10139
^{2}H(α,γ) ^{6}Li stellar reaction rate, influence of ^{2}H and ^{6}Li quadrupole moments 7−24126
He stars, evolution of single and binary stars of 2.5 M$_\odot$ up to Ne ignition 7−4430
He stars in mass range 2.0 to 4.0 M$_\odot$, evolution to core Ne ignition 7−24122
He-rich white dwarfs, dredge-up process calcs. rel. to C pollution in stellar atmospheres 7−47850
^{85}Kr, neutron capture and β-decay, s-process abundances 7−55461
^{A}Na(p,γ)$^{A+1}$Mg, A=21,22 reaction rate under hydrogen burning conditions 7−30429
^{23}Na(p, α)^{20}Ne, below 500 keV, resonance energies, J$^{\pi}$, stellar reaction *(Korean)* 7−30423
^{16}O(α,γ)^{20}Ne, resonant reaction rates, stellar appl. 7−695
^{189}Os(n,γ) cross section, characts. and implications for stellar nucleosynthesis duration 7−49393
^{151}Sm, neutron capture and β-decay, s-process abundances 7−55461
^{A}Sr(n,γ), A=86,87 capture cross-section at stellar temps. 7−55462

stellar light curves *see stellar photometry*

stellar magnetism
see also solar magnetism
accretion disk coronae, mag. loops struct. and stability 7−4431
accretion disks, model of hydromagnetic turbulence in differentially rotating disks 7−18354
Algol-type stars, evolution assuming ang. momentum loss via mag. winds 7−40864
anomalous He line stars, observational data review 7−66595
anomalous Zeeman effect, moments and expansion coeffs. 7−66443
UX Ari, RS CVn star, field determ. 7−66662
Be stars, appl. of rot. mag. radiation-driven wind model 7−60676
binary systems, magnetodynamic jets form. through accretion of rotating magnetised mass 7−55460
cataclysmic variable stars, ang. momentum transport in accretion disks magnetospheres 7−47918
chemically peculiar stars, surface mag. fields characts. 7−66594
convection zone-radiative interior interface, dynamo theory 7−60526
convective turbulence with rot. and mag. fields, mixing length theory 7−29388
coronae, cool mag. loops model for dividing line in H-R diagram 7−66569
coronal magnetic fields, struct. and stability determ. via dynamic relaxation technique 7−55592
CP stars, extreme mag. field correl. with depth of 520 nm continuum depression 7−60664
CP stars, mag. fields evol. 7−47920
E 2003+225, AM Her star, mass transfer and mag. field characts., spectrophotometric obs. 7−60722
early-type stars, effects of axisymmetric mag. field on meridional circulation in rotating stars 7−55606
evolving low-mass stars, dynamo-related characts, of convective envelopes 7−4440
F to M-type dwarf stars, activity-rot. relationship from Mg II h and k flux 7−55624
general aspects (book) 7−48216
HD 193793, Wolf-Rayet star, surface mag. field determ. from nonthermal emission obs. 7−55640
Her X-1, companion-star beam steering of high-energy particles by dipole mag. field 7−14611
homogeneous uniformly rot. McLaurin spheroid in mag. field, equilib. and stability 7−47686
HR 3831 (HD 83368), rapidly oscillating Ap star, contrib. of rot. and mag. field to l=1 dipole oscill. 7−47919
interior, blast waves propag., analytical soln., mag. field effects 7−60517
HK Lac, RS CVn star, starspots distrib. from long-term light vars. obs. 7−60724
late-type main sequence stars, mag. activity and atm. characts. 7−24129
late-type rotating stars with convective envelopes, magnetic field maintenance in radiative core 7−40795
magnetic braking in cool dwarfs 7−34973
magnetic stars, spectropolarimetry rel. to diagnostic contents of Stokes I and V line profiles 7−29484
neutron stars, disk-magnetosphere boundary struct. rel. to free precession in quasi-periodic oscillators 7−55713
neutron stars, magnetic moments of stars with different eqns. of state 7−40857
neutron stars, one-quantum annihilation of polarised electron-positron pairs in strong mag. fields 7−47674
O-type stars as finite disks, appl. of rot. mag. radiation-driven wind model 7−60676
V2051 Oph, possible low-field polar, high-speed photometric obs. 7−60694
RS Oph, recurrent nova, mag. flux reconnection model for radio flare 7−60695
partially open magnetospheres with and without magnetodisks, analytical models 7−55443
pre-main-sequence stars, bipolar jets prod by turbulent Alfven waves 7−60523
PSR 1937+214, 1.5 ms pulsar, spin-up and mag. field characts. 7−29499
pulsar magnetic field and lumin. modelling 7−4496
pulsar magnetospheres, pair creation rel. to return-current mode changes and normal-null transitions 7−14598
pulsar magnetospheres, polar gap potential drop rel. to radio luminosities 7−55694
pulsars, mag. field-period and mag-field-transverse vel. correlations, effects of lumin. laws 7−40855
pulsars, mag. moment—formation momentum impulse relationship 7−60698
pulsars, plasma trapping in magnetospheres 7−66645
pulsars, protons and electrons accel. in EM field of rot. orthogonal mag. dipole 7−9339
pulsars, pulse characts. rel. to rot. and mag. field *(Russian)* 7−24158
supernovae, motion of cylindrical-symmetrical relativistic shock wave in presence of axial mag. field 7−4322
thermosolutal-convective instability in stellar atmosphere, effect of rot. and mag. field 7−14557
toroidal fields, Namikawa-Matsushita antidynamo theorem extension 7−18352
4U 1626−67, X-ray pulsar, neutron star mag. field from anisotropic X-ray transfer theory 7−55727
AN UMa, AM Her star, light curve var. due to accretion flow channelling by white dwarf mag. field 7−60720
unsteady oblique-rotator model, effect of large-scale mag. field on meridional circulation 7−55607
white dwarfs, magnetic line blanketing 7−34975
white dwarfs 7−14575
young stars, accretion-driven jets modelling, role of mag. fields and accretion disks 7−60643
He peculiar stars, IUE obs. of magnetically controlled stellar winds 7−47949

stellar mass
CY Aqr, SX Phe star, mass determ. from period changes anal. 7−29481
anomalous Cepheids in Sculptor dwarf galaxy, pulsation masses rel to evolutionary status 7−4571
RY Aqr, low-mass semi-detached eclipsing binary, orbital characts., dimensions and masses 7−60713
CX Aqr, semi-detached binary system, radial vels. and light curve anal. 7−47990

stellar mass continued
asymptotic giant branch (1.0-3.0 $M_{\odot}$), evol. depend. on mass on comp. 7−60650
asymptotic giant branch stars, corrective overshooting, rel. to masses of type I PN progenitors 7−40797
SX and TT Aur, eclipsing binaries, masses and radii from photometric and spectroscopic obs. 7−60731
IM Aur, eclipsing binary star, third-body mass function from light-time effect 7−34999
BD+13°3683, cool subdwarf, spectroscopic orbit and companion mass 7−40806
BD+37°444, double-lined binary in open cluster NGC 752, orbital elements and mass characts. determ. 7−66677
close binary mass anomalies, due to metallicity and evolution and not to observational errors 7−40877
binary stars, mass ratios distrib. 7−55721
BR 18, Wolf-Rayet star in LMC association LH 39, age and initial mass determ. 7−66684
V368 Cas, Algol-type binary, masses and radii from photometric studies 7−35009
V373 Cas, early-type eclipsing binary, spectral types and physical parameters from spectroscopic obs. 7−55706
μ Cas, halo binary resolved at 850 nm wavelength, component masses 7−14570
V523 Cas, W UMa star, light curve soln. and derived mass ratios uniqueness 7−40868
cataclysmic binaries, observational selection for massive white dwarfs in magnitude-limited sample 7−29479
in central galaxies of southern clusters, initial mass function of ongoing star form. 7−55821
RS Cep, Algol type semidetached star with Be star component, system characts. 7−47972
DH Cep, BV light curves of massive close binary 7−18436
AH Cep, early-type eclipsing binary star, masses and radii determ. 7−47987
β Cep stars in NGC 3293, masses, radii and temps. rel. to pulsation mode identification 7−24150
Cepheid variables, radii and masses from surface-brightness methods 7−9492
5 Cet, ellipsoidal variable star, rot. vel. and mass ratio determ. 7−40878
R CrB, dimensions and mass of fossil circumstellar shell from IRAS obs. 7−55649
RV Crv, near-contact binary system, radial vels. and light curves anal. 7−47989
SU Cyg, classical Cepheid, possible triple system, components masses and motion, IUE spectral characts. 7−55683
16 Cyg A and B, solar analogue candidates, absolute magnitudes rel. to age, masses and radii 7−24162
DA white dwarfs, Si III Stark shift, modified semiempirical formula 7−55638
DDDM-1, C-poor halo planetary nebula, progenitor mass rel. to C deficiency 7−60766
degenerate dwarfs produced by interacting binaries, number-mass distrib. 7−60652
BV and BW Dra, contact binaries, combined photometric and spectroscopic solns. 7−14603
evolution of massive stars, 8-25 $M_{\odot}$, late stages and nucleosynthesis 7−47834
faint blue stars at high galactic latits., evolutionary status and masses 7−47878
globular cluster main sequences, mass functions determ. from CCD photometry and stellar models 7−66586
globular cluster main-sequence mass functions, effects of mass segregation 7−40884
GX 339−4, compact component nature, spectral obs. 7−47974
HD 161796, 89 Her star, pulsation mass and lumin. 7−47921
HD 17198A, spectroscopic binary, orbital characts. and mass ratio, radial vel. anal. 7−55723
UU Her, mass pulsation and lumin. 7−47921
Her X-1, evolutionary history, low-mass and high-mass models 7−35000
HR 6902, composite-spectrum star, spectral types, orbital elements and mass ratio determ. 7−66674
IC 4499, globular cluster, double-mode RR Lyr stars, pulsation characts. and masses, photometric obs. 7−14616
initial mass function, relation to star form. in giant molecular clouds 7−29525
IRAS 1912+172P09, new binary planetary nebula, mass of hot subdwarf progenitor 7−48046
IRAS sources in mol. clouds 7−35066
SW Lac, W UMa star, photoelectric light curves and elements 7−60718
Lanning 10 (V363 Aur), eclipsing cataclysmic binary, component masses and spectrophotometric obs. 7−66602
EH Lib, dwarf Cepheid, mass and radius from photometry and spectra 7−4492
LMC B-type supergiants, radii and masses determ. 7−55635
long-period variable stars, pulsation study, mass and effective temps. depend. 7−60682
M35, open cluster, mass segregation 7−55744
massive protostars, temp. struct. in accretion flows rel. to upper mass limit 7−29471
mild Ba stars, precursors mass determ. 7−60680
N44C1, LMC H II region, exciting start characts. 7−40892
neutron stars, effects of hyperons and nuclear compressibility 7−49277
neutron stars, neutrino emission flux depend. on star mass 7−47967
neutron stars with solid internal shell, limiting mass in general relativity 7−47966
NS 105−67, massive double-lined O-type binary in LMC, masses from spectroscopic obs. 7−55711
nuclear compression modulus, lower limit from neutron star masses 7−592
OB associations, stellar mass spectrum and expanding H I supershells 7−4527
OB stars in M31, mass estimates from colour-magnitude diagrams 7−40926
V451 Oph, eclipsing binary star, absolute dimensions from uvby light curves 7−29503
RZ Oph, long-period eclipsing binary, masses and radii from photometry and radial vels. 7−29504
RS Oph, recurrent nova, mass and radius limits from optical obs. in quiescence 7−24139
VV Ori, eclipsing binary star, mass, lumin. and radii 7−35004

stellar mass continued
BN Ori, Herbig Fe star, mass and age determ. 7—55631
ι Ori, spectroscopic binary star, masses and radii from optical obs. 7—55738
IP Peg, eclipsing dwarf nova, system parameters from high-speed photometry 7—14595
AD Phe, W UMa star, mass ratio and mass transfer rate from decreasing orbital period 7—4501
planetary nebulae central stars, mass determ. from terminal vels. of stellar winds 7—47880
planetary nebulae in LMC and SMC, central stars masses from IUE survey 7—48055
planetary nebulae nuclei, effective temps., luminosities and masses from IUE data 7—47888
Population I, evol., remnant white dwarf min. mass and chem. stratification 7—60634
Population I pulsating stars, period-evolutionary mass(-colour) relations 7—47898
precataclysmic binary stars, evol. and orbital characts. 7—34981
PSR 1855+09, white dwarf companion star of binary millisecond pulsar 7—29500
R136a, group of 8 massive stars within Tarantula Nebula 7—55749
rapidly rotating compact stars, mass var. within general relativity *(Chinese)* 7—4305
RT Scl, near-contact binary system, radial vels. and light curve anal. 7—47988
Sculptor dwarf galaxy, initial mass function 7—14654
RS Sgr, Algol-type system, mass characts. 7—66679
υ Sgr, H-deficient star, mass loss and mass characts., UV spectra anal. 7—14579
SMC N2, planetary nebula, central star, mass and evolutionary age determ. 7—24183
SN 1054, ^{22}Ne nucleosynthesis and mass from element abundances in Crab Nebula 7—40904
solar neighborhood, past star formation rate and IMF 7—47829
strange stars, mass-radius relation and surface characts. 7—29495
supergiant variable stars to blue side of Cepheid instability strip, pulsation characts. 7—47928
symbiotic stars cool components, nature 7—40820
AQ Tuc, contact binary system, radial vels. and light curve anal. 7—47988
upper mass limit in spiral galaxy NGC 2403, determ. from chemical comp. gradient 7—40940
very low mass stars, minimum mass for thermal equilib. 7—60648
visual binaries, angular momentum-mass relation and mass ratio distrib. 7—18432
visual binary stars, mass ratios from photographic astrometry 7—4296
visual double stars, absolute magnitudes and masses from orbital elements *(French)* 7—18430
visual double stars, dynamical parallaxes and masses for twenty-one pairs 7—18431
white dwarf form. and mass determ. 7—60633
white dwarfs, mass distrib. rel. to mass loss during asymptotic giant branch stage 7—24127
white dwarfs in cataclysmic binaries, mass spectrum determ. 7—29476
wide binary radio pulsar systems, white dwarf masses determ. 7—60733
Wolf-Rayet stars, review 7—40849
Wolf-Rayet subtypes, origin and characts. 7—55639
X-ray bursters, neutron star characts. 7—60725
He stars, evolution in 2.0 to 4.0 M$_\odot$ range rel. to lower mass limit for neutron star form. 7—24122
OH-IR stars near galactic centre, luminosities and progenitor characts. 7—14584

stellar models
γ-ray transient model for 1979 March 5 event 7—24239
AGB and post-AGB stars of low mass, neutron synthesis 7—47855
Z And, choice of system model 7—29491
λ And, two-component coronal model for EXOSAT obs. 7—40800
V1343 Aql (SS 433), model of expanding sources in jets 7—60519
V1343 Aql (SS 433) 7—14590
asymptotic giant branch (1.0-3.0 M$_\odot$), evol. depend. on mass on comp. 7—60650
late B-type supergiants, comparison of models with obs. for discrete absorpt. components in mass-losing stars 7—47886
Be stars, appl. of rot. mag. radiation-driven wind model 7—60676
Be stars, temporal polarization vap., stochastic models 7—40825
γ Cas, Be star, IRAS spectra comparison with models 7—4488
cataclysmic binaries, accretion disk boundary layer, 2D numerical models 7—60667
α Cen binary system, non-resonance Ca I lines obs. rel. to model atmospheres 7—4444
CQ Cep, eclipsing Wolf-Rayet star, wind-dominated Roche surface model from spectrophotometric studies 7—66618
o Cet stars, circumstellar shell vel. fields, two-fluid model *(Chinese)* 7—66591
circumstellar dust shells around late type stars, models for IRAS obs. 7—9461
classical novae, model evolution through complete cycle 7—29493
collapsing stellar cores, entropy generation and deleptonization 7—55691
composite models, adiabatic oscills. periods, rot. and tidal effects 7—60630
contact binary stars, equilib. solns. and stability 7—60716
differentially rotating perfect fluid stars, stability 7—40796
double degenerate C-O dwarfs, evolution rel. to type I supernova rates in solar neighbourhood 7—24155
evolutionary models for low and intermediate mass stars with convective overshooting 7—29467
fourth-order Henyey method 7—66469
Geminga, hour-mass binary model and 59 s periodicity 7—55855
giant star with degenerate He core in close binary, evol. and processes 7—60633
GK-type supergiant stars, expanding chromospheres models from Hα line profiles anal. 7—9470
globular cluster main sequence stars, models and CCD photometry rel. to stellar mass functions 7—66586
HBV 475 (V1329 Cyg), symbiotic star, UV variability modelling 7—34983
HD 161796, 89 Her star, pulsation mass and lumin. 7—47921
HD 164270, variable WC9 star, model of close binary with precessing disk 7—47925
HD 27130, Hyades solar-type star, H-R diagram position rel. to solar models testing 7—66665
UU Her, mass pulsation and lumin. 7—47921
AM Her stars, asymmetric light curves model 7—55709
Her X-1, 35 day cycle, clock mechanism characts. 7—60711
Her X-1, γ-ray emission mechanism 7—47975
Her X-1, evolutionary history, low-mass and high-mass models 7—35000
homogeneous uniformly rot. McLaurin spheroid in mag. field, equilib. and stability 7—47686
implicit evolution code, appl. to main sequence 7—55601
interacting binary stars, IUE obs. rel. to evolution and models 7—47997
LMC B-type supergiants, energy distrib. and model atm. 7—55635
long-period variable stars, linear pulsation survey 7—60682
luminous accretion disk systems, models 7—66623
magnetic braking in cool dwarfs 7—34973
main-sequence, unsteady nonlinear Eddington-Vogt-Sweet circulation 7—18403
novae, classical, preoutburst history, rapid accretion and hibernation 7—60673
novae, evolution model taking mass and momentum loss into account 7—60672
O-type main-sequence stars, non-LTE model atmospheres rel. to N III line strengths 7—47846
O-type stars as finite disks, appl. of rot. mag. radiation-driven wind model 7—60676
RZ Oph, long-period eclipsing binary, new model from photometric and radial rel. study 7—29504
V2051 Oph, possible low-field polar, synchronously-rotating white dwarf model 7—60694
α Ori, outer atm. and circumstellar material characts., far-IR spectral obs. 7—60690
α Ori, scatt. model for optical polarisation 7—47852
FU Ori stars, rot. evidence for disk accretion model 7—66581
FU Ori stars, wind characts. modelling, spectral lines anal. 7—66580
partially open magnetospheres with and without magnetodisks, analytical models 7—55443
pion stars, characts. and obs. manifestations 7—40794
polytropic models, cross-sections for tidal capture binary form. and stellar merger 7—29519
Population II Cepheid variables, freq. resons. in stellar models 7—24138
Population II Cepheids, short-period, period-doubling as limit to pulsation 7—4477
Population II stars, model atm. 7—47863
PSR 1937+214, 1.5 ms pulsar, evolution in precursor binary system 7—29499
pulsars, evol. 7—66643
pulsars, magnetic field and lumin. modelling 7—4496
pulsars, model of radio spectra and pulse profiles 7—29496
R-type stars, model atm. and struct. 7—60674
radiatively driven winds, models with finite disk correction and rot. 7—60632
red giants undergoing mass loss, expanding shells IR continuum radiation modelling 7—66582
rotating polytropic stars, implementation of perturbation theory up to third order 7—66568
semi-detached close binary star, mass transfer and accretion disk model 7—60727
CV Ser, WC8 star, wind modelling, C III UV and visible spectra anal. 7—66625
spotted stars, colour and lumin. modelling 7—14576
Sun, implications for solar models of Hyades eclipsing binary star (HD 27130) 7—66665
supernovae, blast wave energy content in model with continuous density distrib. 7—34856
supernovae, observational constraints to theoretical models of Type I events 7—24157
supernovae, type Ia, model atmospheres rel. to C deflagration models and max. light spectra 7—40854
tidally-interacting stars, models rel. to two-body tidal capture of main sequence stars and white dwarfs 7—4500
transient X-ray source model involving neutron star accretion disk 7—29513
Type I supernovae, partially incinerated white dwarf models *(Chinese)* 7—4494
Type II supernovae, nucleosynthesis and isotopic anomalies 7—47959
4U 1636—53, persistent X-ray flux, spectral characts. 7—60712
W UMa stars, models with dissipative heating for light curves anal. 7—55705
unsteady oblique-rotator model, effect of large-scale mag. field on meridional circulation 7—55607
white dwarfs, magnetic line blanketing 7—34975
white dwarfs with chemically stratified atmospheres, model atmospheres and synthetic spectra 7—4447
wind production and star formation in molecular disks 7—9465
WN stars, trapped non-radial oscillation modes in H-burning shell 7—40824
Wolf-Rayet stars, no-LTE model atmospheres rel. to mass loss rates 7—9475
X-ray bursters, model atmospheres rel. to Comptonisation effects on radiation spectra *(Russian)* 7—55724
X-ray bursters, neutron star characts. 7—60725
X-ray pulsars, two-photon emission 7—40867
young stars, accretion-driven jets modelling 7—60643
C stars, line blanketing in model atm. 7—24141
C stars, self-consistent models for dust-driven stellar winds 7—55641

stellar motion
A and F-type dwarf stars in C0318+484 (α Per cluster), space vels. 7—4531
Algol-type stars, evolution assuming ang. momentum loss via mag. winds 7—40864
angular momentum relationships, self-similar scaling eqns. 7—14683
TT Aql, classical Cepheid, radial vel. curve 7—4470
RY Aqr, low-mass semi-detached eclipsing binary, orbital characts., dimensions and masses 7—60713
CX Aqr, semi-detached binary system, radial vels. and light curve anal. 7—47990
V1343 Aquilae (SS 433), Doppler-shifted X-ray line emission obs. 7—9493

stellar motion continued
α Ari, K-type giant star, spectral lines identifications and heliocentric radial vel. 7−14574
IM Aur, Algol-type eclipsing binary, UV spectrum and radial vels. 7−4509
SX and TT Aur, eclipsing binaries, radial vel. and photometric obs. 7−60731
IM Aur, eclipsing binary star, light-time effect obs. 7−34999
SS Aur, U Gem star, spectroscopic orbit 7−14581
BD+13°3683, cool subdwarf, spectroscopic orbit and companion mass 7−40806
BD+37°444, double-lined binary in open cluster NGC 752, orbital elements and mass characts. determ. 7−66677
binary stars, general relativistic eqns. of motion for extended bodies 7−4510
C0318+484 (α Per cluster), internal kinematics of A and F-type dwarf stars 7−4531
Y Tau, C star, effective temp. and radial vel. meas. 7−47927
υ Car, close visual binary star, spectral and radial vel. study 7−24164
EM Car, radial vel. study of massive O-type eclipsing system 7−9518
V373 Cas, early-type eclipsing binary, spectroscopic orbit and physical dimensions 7−55706
XX Cas, eclipsing binary, period anal. 7−40876
α Cas, K-type giant star, spectral lines identifications and heliocentric radial vel. 7−14574
cataclysmic variable stars, ang. momentum transport in accretion disks magnetospheres 7−47918
ω Cen, globular cluster, rot., vel. dispersion, and mass determ. 7−9520
DH Cep, BV light curves of massive close binary 7−18436
CW Cep, early-type eclipsing binary star, apsidal motion determ. from min. light times 7−60729
AH Cep, early-type eclipsing binary star, photometric and spectroscopic study 7−47987
CQ Cep, eclipsing Wolf-Rayet star, radial vel. curves and orbital solns. 7−66618
Cepheid variables, radial vels. and BVRI photometry rel. to radii and masses 7−9492
δ Cet, β Cep star, appl. of new method for freq. vars. detect. 7−29477
δ Cet, β CMa star, correlated vars. in photometric and radial vel. amplitudes 7−4468
classical Cepheids, ages and galactic orbits rel. to local chemical inhomogeneities in galactic disk 7−34997
close binary stars, low-mass, evolution with orbital ang. momentum losses 7−24121
common proper motion stars in the AGK 3 catalogue, list 7−29413
coude radial velocity obs. at Calar Alto Observatory, zero-point and accuracy 7−29409
RV Crv, near-contact binary system, radial vels. and light curves anal. 7−47989
?20 CVn, δ Sct star, radial vel. vars. obs. 7−9496
SU Cyg, classical Cepheid, possible triple system, components masses and motion, IUE spectral characts. 7−55683
Y Cyg, early-type eclipsing binary star, apsidal motion determ. from min. light times 7−60729
V444 Cyg, eclipsing Wolf-Rayet binary star, Doppler tomography of stellar wind from IUE obs. 7−47947
CH Cyg, symbiotic star, radial vels. from spectroscopic obs. (April to November 1985) 7−18419
16 Cyg A and B, solar analogue candidates, orbital motion rel. to absolute magnitude limits 7−24162
AB Dor (HD 36705), active chromosphere star, evolutionary status from space vel. 7−24133
AA Dor (LB 3459), sdOB-type eclipsing binary ephemeris from primary minima obs. 7−24167
dwarf novae, orbital periods from ellipsoidal vars. in CW Mon, X Leo, IP Peg, and AF Cam 7−4471
Dynamical Astronomy Division, 17th regular meeting, Santa Barbara, California (April 1986) 7−29571
dynamics, relaxation and dynamical friction in non-integrable stellar systems 7−4524
eclipsing binaries, Cancer to Corona Borealis, photometric obs. and revised elements (1972 to 1984) 7−4517
eclipsing binary stars, min. light epochs and light elements for 27 objects 7−4522
o^1 Eri, δ Sct star, nonradial oscills. props. from radial vel. study 7−47923
BZ Eri, eclipsing binary star, orbital period from UBV photometric study 7−14605
40 Eri A, proper motion meas. rel. to gravit. lens effect on background star 7−47861
evolving low-mass stars, activity-related characts. of convective envelopes 7−4440
YY Gem, By Dra star, atm. activity depend. on orbital and rot. phases 7−55677
giant stars in globular clusters, radial velocity meas. technique 7−40718
globular clusters dynamics, effects of two-body tidal capture of main sequence stars and white dwarfs 7−4500
globular star clusters, giant star radial velocity obs. 7−40886
GX 339−4, vel. var. and accretion disk evidence 7−47974
halo stars, radial velocities, magnitude and spectral types 7−40809
HBV 475 (1329 Cyg), symbiotic star, orbital characts. 7−34983
HD 1383, massive double-lined spectroscopic binary star, spectroscopic orbits determ. 7−4523
HD 149162 system, orbit and props. from radical vels. and photometry 7−47978
HD 149779, B-type eclipsing binary, orbital period from light curve anal. 7−24161
HD 17198A, spectroscopic binary, orbital characts. and mass ratio, radial vel. anal. 7−55723
HD 199178, FK Com star, rot. and radial vel., spectral characts. 7−14583
HD 55510, double-lined spectroscopic binary, orbital elements from photoelectric radial vels. 7−4518
HD 62910 (WN6-C4), wind terminal velocity from high-resolution IUE obs. 7−47946
HZ Her (=Her X-1), N V radial vels. rel. to line emission site 7−55736
Her X-1, runaway vel. characts. 7−35000
HR 6902, composite-spectrum star, spectral types, orbital elements and mass ratio determ. 7−66674
late-type dwarfs, radial vel. meas. rel. to binary nature 7−9516
X Leo, U Gem star, spectroscopic orbit 7−14581

stellar motion continued
LHS 1070, new nearby faint red star, spectral type and radial vel. 7−4455
EH Lib, dwarf Cepheid, mean radial vel., and total vel. range 7−4492
β Lyr, radial vels. of possible lines of secondary spectrum 7−55714
V473 Lyr (=HR 7308), unique Cepheid variable, simultaneous photometric and radial rel. survey 7−29482
RR Lyr stars in Baade Window, radial vels. for 17 stars 7−55666
M11 and M67, open clusters, late-type stars precise radial vel. 7−35017
M22, globular cluster, stellar proper motions, membership, and photometry 7−4530
M35, open cluster, internal motion anal. 7−55744
M-type dwarf stars, photometry and spectra rel. to chromospheric activity, kinematics, and metallicities 7−9466
M-type stars in SAO catalogue, kinematic props. rel. to luminosity classes 7−4435
RU Mon, physical parameters from 85-year study 7−55710
NGC 346, young open cluster in SMC, photometry, spectra and radial vels. 7−48002
NGC 6611, very young open cluster, stellar proper motions and membership 7−40882
novae, classical, evol. model, effect of binary semimajor axes var. 7−60673
NS 105−67, massive double-lined O-type binary in LMC, radial vels. from spectroscopic obs. 7−55711
O-F8 stars at SGP, radial vels. 7−60659
old long-period variable stars in LMC, vel. dispersion determ. 7−55605
open clusters, photographic relative proper motions of member stars *(Chinese)* 7−4526
open clusters, RS CVn stars and blue stragglers 7−60741
Y Oph, classical Cepheid, radial vel. curve 7−4470
V451 Oph, eclipsing binary star, absolute dimensions from uvby light curves 7−29503
RZ Oph, long-period eclipsing binary, photometric and radial vel. study 7−29504
RS Oph (Nova 1985), radial vels. of coronal lines in post-maximum spectrum 7−9499
ι Ori, orbital elements determ. rel. to stellar dimensions and tidally induced mass loss 7−55738
IZ Per, eclipsing binary, new period determ. and period trend from light min. times 7−66657
AG Per, eclipsing binary star, light curves anal. rel. to apsidal motion 7−66658
AG Per early-type eclipsing binary star, apsidal motion determ. from min. light times 7−60729
Per OB2 association, proper motions and radical vels. rel. to membership, distance and age 7−66592
AD Phe, W UMa star, photoelectric light minima obs. rel. to decreasing orbital period 7−4501
PHL 227, UX UMa star, orbital period determ from periodic radial rel. vars. 7−55668
photoelectric radial velocities measurement, appl. to pulsation anal. of Cepheid variables 7−9500
Population II Cepheid variables 7−24138
Population II Cepheids, short-period photospheric vel. curves of period-doubling limiting pulsation 7−4477
precataclysmic binary stars, evol. and orbital characts. 7−34981
proper motion criterion in selection of stars for parallax and mean absolute magnitudes estimation 7−60625
proper motion stars in field SE of 45 Oph, photometric study and catalogue 7−60577
proper motion stars in field SE of 45 Oph 7−60577
proper motions determination, astrometric model for Tautenburg Schmidt plates 7−66432
proper-motion stars, UBV photometry and radial vels. 7−47844
PSR 1913+16, binary pulsar, proper motion determ. from periastron times 7−55696
pulsars, space velocities and rot. characts., interstellar scintillation meas. 7−60698
BV Pup, dwarf nova, orbital period determ. from optical light curve modulation 7−47922
RT Scl, near-contact binary system, radial vels. and light curve anal. 7−47988
Sculptor dwarf galaxy, giant stars radial vel. anal. 7−14654
EG Ser, eclipsing binary, spectroscopic orbits 7−66676
RS Sgr, Algol-type system, orbital characts. 7−66679
V503 Sgr (=G154−12), variability and proper motion of star 7−47831
SMC F to M-type stars, CORAVEL photoelectric radial vels. and comparison with spectrographic radial vels. 7−66738
South Galactic Cap, stellar populations, density functions, and luminosity distribs. 7−47832
South Galactic Cap stars, astrometry, trigonometric parallaxes, proper motions and photometry 7−47734
spectroscopic binary stars, vel. amplitude vars. rel. to freq. of triple and multiple systems 7−55708
stochastic stellar orbits in galaxies, Melnikov's method in $n \geq 3$ dimensions 7−9519
subdwarf stars, kinematics of 1125 high-proper-motion stars rel. to collapse of Galaxy 7−47843
PZ Tel (HD 174429), active chromosphere star, evolutionary status from space vel. 7−24133
three-body problem, generalized photogravitational restricted problem 7−29385
three-body systems, break-up, effects of total ang. momentum 7−35010
trigonometric parallaxes, Yerkes observatory 40-inch refractor meas. 7−14556
AQ Tuc, contact binary system, radial vels. and light curve anal. 7−47988
47 Tuc, globular clusters, rot., vel. dispersion, and mass determ. 7−9520
4U 1820−30, evidence for 685-s orbital period from SAS-3 obs. 7−9511
4U 1820−30, in globular cluster NGC 6624, 685-s orbital period discovery from X-ray light curve 7−66666
4U 2129+12, M15 X-ray source, X-ray modulation period from HEAO A-1 obs. 7−29515
DN UMa, eclipsing binary, spectroscopic orbits 7−66676
RR UMi, semiregular variable in binary system, revised spectroscopic orbit 7−4520
Van Biesbroeck 8, interferometric binary star, constraints on dynamics from IR speckle obs. 7−66587
Vel X-1, neutron star orbit and rot. characts. 7−66659
vertex deviation of young stars 7−24226

stellar motion continued
SS Vir, annual proper motion of Mird variable 7−40845
visual binary stars, orbital elements for 20 systems 7−4507
visual double stars, orbital elements for six pairs *(French)* 7−18430
visual double stars, orbital elements for twenty-one pairs 7−18431
VM No.1 in field of galaxy DDO 155, cool subdwarf radial vel. anal. 7−66588
T Vul, classical Cepheid, radial vel. curve 7−4470
QQ Vul, long-period AM Her star, period determ. using new minima from old plates 7−66672
wide binary radio pulsar systems, orbital characts. and white dwarf masses determ. 7−60733
X1735−444 (V926 Sco), optical/X-ray burster, orbital period from CCE photometry 7−9515
HD 96342, spectroscopic binary orbit from photoelectric radial vels. 7−24166
He star, orbital dimensions of post-supernova binary system from evolutionary model 7−4430
OH-IR stars, radial vels. of H_2O maser emission 7−24140
OH-IR stars identified with IRAS sources, OH circumstellar masers obs. 7−34978
SiO maser sources, maser emission wavelength rel. to stellar radial vel. 7−4449

stellar multicolour photometry *see stellar photometry*

stellar origin *see star formation*

stellar photometry
see also stellar radiation; stellar spectra
A0535+26/HDE 245770, X-ray/Be transient system, X-ray, UV and optical monitoring 7−55734
AC 211, photometric and spectroscopic periods of X-ray binary in M15 core 7−29514
active-chromosphere stars, UBV photometry of ten southern objects 7−40830
CY Agr, SX Phe star, period changes determ. from light maxima anal. 7−29481
CN And, light curve anal., use of Wilson-Devinney method 7−14501
V1343 Aql (SS 433), no optical variability on time scale of 10^{-6} to 10 s 7−66596
RY Aqr, low-mass semi-detached eclipsing binary, photometric obs. 7−60713
CX Aqr, semi-detached binary system, radial vels. and light curve anal. 7−47990
Fo Aqr (H2215−086), intermediate polar, visual and IR polarimetry rel. to origin of pulsations 7−47985
X Ari, RR Lyr star, distance determ. via Baade-Wesselink method, photometric and spectral obs. 7−66604
UX Ari, RS CVn star, autumn 1981 photoelectric obs. of starspot activity 7−9513
astrometric standard stars, UBV photometry 7−4433
atmosphere extinction measurements at McDonald Observatory, UBV results (1960 to 1980) 7−47541
SS Aur, dwarf nova, energy distrib. and var., UBVRI obs. 7−40817
SX and TT Aur, eclipsing binaries, simultaneous differential photometry with St. Andrews twin photometric telescope 7−60731
IM Aur, eclipsing binary star, new light minima rel. to light-time effect 7−34999
automated 2D classification, use of Vilnius system multicolour photometry 7−29410
B5, interstellar dark cloud, stellar polarisation meas. rel. to large dust grains 7−9529
BD+1°4381, extreme H-deficient star, Stromgren photometry 7−66620
BD+40°0060, one component detected as RR Lyr star, UBV obs. 7−66617
BD−9°4395, H deficient star, light var. 7−4491
Be stars, photometric variability of six objects from photoelectric RI obs. (1982 to 1983) 7−34996
Be stars, spectral energy distrib. 7−60671
close binary stars, gravity darkening of distorted main-sequence components in detached systems 7−4505
Bok globules, characts. determ. from background giants IR obs. 7−35027
YZ Boo, δ Sct star., period var, UBV obs 7−55662
TY Boo, BV photoelectric light curves 7−18435
CK Boo, W UMa star, photoelectric obs. rel. to light curve vars. 7−40870
44=i Boo (ADS 9494B), BV photoelectric photometry of W UMa system 7−55718
bright stars with solar-type UBV-colours 7−40802
UU Cam, BV photometry of short-period variable 7−18408
η Car, dust shell internal struct. from six-channel 8 to 13 micron mapping 7−55650
Carina dwarf galaxy, photometric obs. of RR Lyr stars 7−4570
V368 Cas, Algol-type binary, UBVR photometric studies 7−35009
XX Cas, eclipsing binary, period anal. 7−40876
β Cas, probable δ Sct star, photometric obs. 7−55659
V375 Cas, semi-detached eclipsing binary, components radii, photometric obs. *(Chinese)* 7−4504
HT Cas, U Gem star, mean cycle length determ. 7−66598
V523 Cas, W UMa star, light curve soln. and derived mass ratios uniqueness 7−40868
V509 Cas (HR 8752), UBV photometry of hypergiant 7−4452
cataclysmic variable stars, linear and circular polarisation obs. 7−9491
cataclysmic variable stars, photoelectric photometry of six objects 7−40828
V346 Cen, eccentric orbit eclipsing binary light curves from four-colour photometry 7−29507
ω Cen, globular cluster, search for double-mode RR Lyr stars 7−4469
VW Cep, 1984-5 photoelectric times of minima 7−4514
RS Cep, Algol type semidetached star with Be star component, system characts. 7−47972
DH Cep, BV light curves of massive close binary 7−18436
U Cep, classical Algol binary system, photometry rel. to accretion structs. 7−4512
BE Cep, contact binary star with components in poor thermal contact, light curves anal. 7−4521
CW Cep, early-type eclipsing binary star, apsidal motion determ. from min. light times 7−60729
AH Cep, early-type eclipsing binary star, photometric and spectroscopic study 7−47987
CQ Cep, eclipsing Wolf-Rayet star, spectrophotometric and spectroscopic studies 7−66618

stellar photometry continued
U Cep, photometric asymmetry of disturbed eclipses 7−47991
V Cep, variability anal. 7−9469
β Cep stars in NGC 3293, pulsation modes identification from photometric obs. 7−24150
Cepheid variables, radii and masses from surface-brightness methods 7−9492
Cepheids, classical, companion stars characts. determ. 7−55665
Cepheids, light curves, Fourier decomp. parameters 7−40826
s-Cepheids, light curves and pulsation characts. 7−34982
Cepheids in Magellanic Clouds, IR photometry rel. to Cepheids intrinsic props. and Clouds spatial struct. 7−14592
δ Cet, β CMa star, photometric obs. 7−4468
Z Cha, eclipsing dwarf nova, white dwarf luminosity from eclipse photometry 7−4458
YZ Cha, VRI photoelectric obs. of Algol-type system 7−40874
Chamaeleon T-association, extinction, distance, and membership from photometry and spectroscopy 7−60763
YZ CMi, flare star, photoelectric monitoring and flare characts. (1980 to 1984) 7−4493
YZ CMi, flare star, simultaneous X-ray and optical monitoring 7−24151
AC Cnc, UBVR obs. of eclipsing cataclysmic binary 7−29489
UZ Com, RR Lyr star, periodicity 7−9487
contact binary star with one component having two surface spots, light curve 7−29512
CP2 stars in open clusters, photoelectric search (in IC 2391 and NGC 2451) 7−29486
CP2 stars in open clusters NGC 1039 and NGC 7092, photoelectric search and spectroscopy 7−18407
CP stars, statistics of 520 nm continuum depression depth 7−60664
CP stars with known rot. periods, effective temps. and luminosities rel. to radii, rot. vels., and axial inclinations 7−60663
T CrB, recurrent nova, UBV photometry rel. to short-term light vars. 7−55660
R CrB, UBV obs. 7−55661
θ CrB, UBV photometry, no eclipse in 1984-6 period 7−66610
R CrB stars, IRAS obs. of cool circumstellar dust 7−9495
RV Crv, near-contact binary system, radial vels. and light curves anal. 7−47989
RS CVn stars, photometry and spot models rel. to rot. modulation and flares 7−4467
60 Cyg, Be star and suspected eclipsing binary stars, UBV obs. 7−4484
V1057 Cyg, circumstellar dust nature and existence, photometric anal. 7−4463
SS Cyg, dwarf nova, UV behaviour in quiescence and in outburst 7−55688
Y Cyg, early-type eclipsing binary star, apsidal motion determ. from min. light times 7−60729
CG Cyg, eclipsing RS CVn star, photometry obs. 7−47896
CH Cyg, eclipsing symbiotic star, brightness var. and radio outburst characts. *(Russian)* 7−40847
CH Cyg, eclipsing symbiotic star, photometry, spectra and radio flux characts. *(Russian)* 7−40846
CH Cyg, spectral and photometric characts. 7−4486
V1016 Cyg, spectrophotometric obs. of symbiotic star (1980-5) 7−4464
CH Cyg, symbiotic star, broad-band multicolour photometry 7−47926
V1016 Cyg, symbiotic star, photometric obs. rel. to dust shell form. (summer 1983) 7−47897
CH Cyg, symbiotic star, photometry and spectroscopy (April to November 1985) 7−18419
V1329 Cyg, UBVRJHK photometry (1980-3) 7−29492
AB Dor (HD 36705), 8.4 GHz and photometric obs. of active radio star 7−55628
AA Dor (LB 3459), sdOB-type eclipsing binary ephemeris from primary minima obs. 7−24167
double stars, lunar occultations, photoelectric observations, final list 7−35003
BV and BW Dra, contact binaries, combined photometric and spectroscopic solns. 7−14603
BY Dra stars, photometry and spot models rel. to rot. modulation and flares 7−4467
BY Dra stars among Pleiades G and K dwarfs, periods and light curves from VBLUW obs. 7−66686
dwarf K and M stars, BVRI photometry program 7−14571
dwarf novae, IR photometry rel. to ellipsoidal vars. in CW Mon, X Leo, IP Peg, and AF Cam 7−4471
E2, intermediate-age LMC cluster, colour-magnitude diagram rel. to age and metallicity 7−40883
E2, LMC hale cluster, deep CCD photometry and colour-magnitude diagram 7−66685
E3, metal-rich globular cluster, deep CCD photometry and colour-magnitude diagram 7−66685
E 2003+225, AM Her star, mass transfer and mag. field characts., spectrophotometric obs. 7−60722
E region stars, secondary standards for Stromgren photometry 7−55739
early-type stars, spectral energy distribs. from 0.15 to 4.8 μm 7−29466
early-type stars assoc. with Sharpless H II regions at l∼190°, eight-colour photometry 7−55604
eclipsing binaries, Cancer to Corona Borealis, photometric obs. and revised elements (1972 to 1984) 7−4517
eclipsing binary stars, min. light epochs and light elements for 27 objects 7−4522
emission-line stars in Canis Major star formation region, spectroscopic and photometric survey 7−18360
λ Eri, Be star, photometric variability 7−4490
BZ Eri, eclipsing binary star, UBV photometric study 7−14605
ESO 121-SC03, CCD BV photometry of remote cluster in LMC 7−55745
extinction, ordinary and volcanically induced vars. (1972-85) 7−14374
F-type main sequence stars, IUE obs. and B−V colours 7−47868
F-type subdwarfs used as spectrophotometric standards, photometric anal. 7−47851
flare stars in Taurus region, UBV photometric study 7−24136
G5 to M-type stars at South Galactic Pole, density distribs. from spectroscopic and photometric surveys 7−4448
G and K type dwarf stars, large and kinematically unbiased samples 7−14572
G and K-type dwarf stars in Pleiades, VBLUW photometry 7−66686
galactic bulge, star counts, colour distrib. and colour lumin. arrays 7−14651

stellar photometry continued
- gamma-ray burst source 1979 March 25b (1810+31), position and magnitudes of possible optical counterpart 7−35068
- gamma-ray light curves analysis, appl. of kernel density estimators 7−47718
- GD 66, pulsating white dwarf, phase-space reconstruction and dimension computation 7−29463
- U Gem, dwarf nova, evidence for prolonged quiescence and large-amplitude flickering from early obs. 7−66621
- giant stars in globular clusters NGC 6171 and NGC 6723, DDO photometry and metallicities 7−9522
- giant stars in metal-rich globular clusters, Washington system photometry and metallicities 7−9523
- Gliese 490A, BY Dra star, periodic var. 7−14582
- globular cluster main sequences, CCD photometry rel. to stellar mass functions 7−66586
- globular cluster stars, effective temp.-colour relationship 7−47865
- globular clusters, colour-magnitude diagrams, bibliography 7−60917
- Gum Nebula region T Tau stars, visible and IR characts. 7−55750
- H 0534−581, DQ Her star, identification, X-ray and visible obs. 7−60837
- 1H 0542−407, DQ Her star, identification, X-ray and visible obs. 7−60837
- halo stars, radial velocities, magnitude and spectral types 7−40809
- HD 101158, δ Sct star, photometry obs. freq. anal. 7−34989
- HD 126859, low-amplitude multiperiodic 8 Sct star, photometric obs. 7−29483
- HD 149162 system, orbit and props. from radical vels. and photometry 7−47978
- HD 149779, B-type eclipsing binary uvby photometry and light curve anal. 7−24161
- HD 152391, HD 154417, Ca II emission solar-type stars, Stromgren uvby-Hβ photometry 7−55622
- HD 152408, Of star, absolute UV flux determ. 7−60685
- HD 164270, variable WC9 star, model of close binary with precessing disk 7−47925
- HD 1826, single-lined spectroscopic binary, photometric variability detect. 7−40871
- HD 191765, Wolf-Rayet star, UBV photometry (1984 to 1986) 7−66615
- HD 50896, WR star, spectrophotometry and binary nature 7−55663
- HD 82558, chromospherically active single BY Dra star 7−34986
- HD 96008, close binary or pulsating star, nature uncertainty, photometric obs. 7−60715
- HD 97950, central object of giant H II region NGC 3603, speckle masking obs. 7−29502
- HDE 310376, novalike variable, differential photometry 7−66622
- He 2-104, He 2-106, symbiotic stars, spectrophotometric obs. of emission lines 7−9477
- AM Her, 1985 light curve and colour indices characts. 7−66670
- u Her, eclipsing spectroscopic binary BV photometry 7−14606
- HZ Her, WBVR photometry during X-ray active period (1982-4) 7−29509
- AM Her stars, IR photometry of secondary star in two systems 7−9514
- DQ Her stars and other cataclysmic variables, polarisation obs. 7−9491
- Herbig Ae/Be stars, envelopes characts. 7−4473
- Herbig-Haro objects and related stars, optical spectrophotometry 7−14630
- HH 1-23 exciting star, nature of IR emission from JHKL photometry 7−60661
- HR 3527, new eclipsing binary star, photometric obs. 7−47854
- HR 3562, HR 3600, short period B-type variables, photometric obs. and identification as ellipsoidal variables 7−47854
- HR 3831 (HD 83368), rapidly oscillating Ap star, anal. of l=1 dipole oscill. 7−47919
- HR 8107, new bright Be star, Hα and UBV obs. 7−24152
- HR 8752 (=V509 Cas), G-type hypergiant, historical light curve (1840 to 1979) 7−24134
- VW Hyi, SU UMa star, outbursts recurrent behaviour 7−60688
- IC 2391, young open cluster, photoelectric search for CP2 stars 7−29486
- IC 2944 aggregate as apparent conc. of stars, multicolour photometry 7−14617
- IC 4499, globular cluster, double-mode RR Lyr stars photometric obs. 7−14616
- interstellar very broad-band extinction structure, obs. by combined uvby and UBV photometry 7−48019
- IR sources in H II region NGC 6357, IR photometry rel. to star form. 7−48009
- IRAS 00193−4033, 22231−4529, O-rich unidentified IRAS sources, optical and IR obs. 7−55853
- IRAS 1912+172P09, new binary planetary nebula, spectroscopy and JHKL photometry 7−48046
- IRAS Circular No.9 sources, OH/IR star candidates, IR photometry 7−66786
- IRAS sources assoc. with mol. outflows, far-IR luminosities 7−55766
- Johnson U passband characts. 7−4349
- Joint European Amateur Photometer (JEAP) 7−47712
- L1551 IRS 5, obs. of extended far-IR emission assoc. with mass outflow from young star 7−66715
- EV Lac, Bulgarian flare obs. (1986 Aug.) 7−55658
- EV Lac, eclipsing UV Cet star, photometric obs. of flares 7−66614
- EV Lac, flare star, photoelectric monitoring and flare characts. (1980 to 1984) 7−4493
- SW Lac, period change in W UMa system, UBV photometry 7−55720
- HK Lac, RS CVn star, long-term light vars. obs. rel to starspots distrib. 7−60724
- SW Lac, W UMa star, photoelectric light curves and elements 7−60718
- Lanning 10 (V363 Aur), eclipsing cataclysmic binary, component masses and spectrophotometric obs. 7−66602
- AD Leo, flare star, periodic var. 7−14582
- AD Leo, flare star, photoelectric monitoring and flare characts. (1980 to 1984) 7−4493
- T Leo, new SU UMa star, superhumps characts. from photometric obs. (1987 January 24 to 27) 7−66605
- AD Leo, UV Cet star, flare activity anal. 7−29487
- AD Leo, UV Cet star, giant flare UV and visible obs. 7−55676
- LHS 288, LHS 1070, new nearby faint red stars, parallaxes and photometry 7−4455
- EH Lib, dwarf Cepheid, physical parameters from photometry and spectra 7−4492
- LMC X-3, UV obs. and V, JHK photometry 7−55715

stellar photometry continued
- LMC X-3, X-ray binary containing black hole, for-UV obs. by IUE 7−55733
- ST LMi, AM Her star, B-photometry and light curve anal. 7−55717
- 10 and 11 LMi, standard stars, photometric var. due to active regions rot. 7−4489
- LS IV−1°2, extreme H-deficient star, Stromgren photometry 7−66620
- luminous red giant stars, circumstellar dust and gas props. from IRAS and mol. obs. 7−55609
- RU Lup, RW Aur star, multifrequency obs. 7−47866
- Lynds 810, large dark globule, photometry and star counts rel. to distance and membership of Vul OB1 complex 7−24178
- V473 Lyr (=HR 7308), unique Cepheid variable, simultaneous photometric and radial rel. survey 7−29482
- RR Lyr stars, absolute magnitudes and photometry 7−40833
- RR Lyr stars, double-mode, in ω Cen, photometric search 7−4469
- RR Lyr stars, light curves, Fourier decomp. parameters 7−40826
- RR Lyr stars in Carina dwarf galaxy, light curves and periods 7−4570
- RR Lyr stars in LMC, B and V magnitudes 7−47924
- RR Lyrae star, distant, in Draco, magnitudes, finding chart, and light curve 7−9498
- M22, globular cluster, stellar proper motions, membership, and photometry 7−4530
- M31, halo and disk populations from two-colour photometry 7−4569
- M62, globular cluster, colour-magnitude diagram characts. 7−60737
- M92, globular cluster, main sequence colour-magnitude diagram 7−66689
- M-type dwarf stars, photometry and spectra rel. to chromospheric activity, kinematics, and metallicities 7−9466
- main sequence A and B-type stars, IR photometry 7−34976
- massive stars in M31, photometry and spectra in OB associations 7−40926
- McCuskey stars near galactic anticentre, BV photometry 7−66571
- MG 4 and 5, WR stars in LMC near 30 Dor, spectrophotometry 7−60691
- AU Mic, BY Dra star, optical photometry and IUE spectra of flares 7−47939
- AT Mic, dMe star, UV and visible obs. 7−47934
- Mira variables, Balmer emission and visual magnitude obs. rel. to Mg II emission from shock waves 7−47938
- RU Mon, physical parameters from 85-year study 7−55710
- V651 Mon in planetary nebula NGC 2346, light curve 7−4516
- new possible variable stars, discoveries from photometric monitoring 7−4485
- NGC 1960, open cluster characts. determ. 7−4532
- NGC 2420 field, stellar populations distrib. and RGU three-colour photometry 7−60783
- NGC 2451, young open cluster, photoelectric search for CP2 stars 7−29486
- NGC 2539, open cluster, membership, distance and evolutionary characts., UBV obs. 7−29521
- NGC 346, young open cluster in SMC, photometry, spectra and radial vels. 7−48002
- NGC 4833, globular cluster, red giants IR photometry 7−60740
- NGC 6388, globular cluster, RR Lyr stars photometry obs. 7−35016
- NGC 6401, globular cluster, variable stars light curves 7−14615
- NGC 6649, galactic cluster containing Cepheid variable V367 Sct, CCD photometry 7−55747
- NGC 6752, globular cluster, photographic photometry of giant, asymptotic, and horizontal branches 7−29520
- NGC 7039, NGC 7063, northern open clusters, Stromgren and Hβ photometry of early-type stars 7−66687
- NGC 7492, globular cluster, CCD photometric obs. 7−60738
- normal stars, IRAS far-IR and visible colours 7−60628
- Nova And 1986, discovery, approximate position, magnitudes and spectrum (1986 December 4 to 8) 7−40841
- Nova And 1986, photometric and spectral obs. 7−47912
- Nova And 1986, visual magnitude estimates (1986 December 10 to 14) 7−47907
- Nova And 1986, visual magnitude estimates (1986 December 16 to 1987 January 12) 7−47914
- Nova Cen 1986, BV photometry and visual magnitude estimates (1986 Nov.-Dec.) 7−40837
- Nova Cen 1986, discovery, position, magnitudes, photometry, prenova identifications 7−24146
- Nova Cen 1986, IR photometry and visual magnitude estimates (1986 December 30 to 1987 January 13) 7−47913
- Nova Cen 1986, spectra, photometry, and magnitudes (1987 Jan.-Feb.) 7−66606
- Nova Cen 1986, visual magnitude estimates (1987 February 21 to 22) 7−66607
- Nova Cyg 1986, discovery, magnitudes, spectrum, and finding chart 7−18418
- Nova Cyg 1986, IR and visible obs. (1986 August to September) 7−9481
- Nova Cyg 1986, two-colour photometric study (July to October 1986) 7−66611
- Nova Cyg 1986, UBV obs. (1986 October) 7−18413
- Nova Cyg 1986, UBV photoelectric photometry (1986 Dec.-1987 Feb.) 7−66609
- Nova Cyg 1986, UBV photometry and visual magnitude estimates (1986 November) and December 7−47902
- Nova Cyg 1986, visual magnitude estimates (1986 October 17 and 23) 7−24145
- Nova Lac 1986, discovery (1986 November 22), position and visual magnitude 7−34990
- Nova Oph 1938, optical candidate (in M14) 7−60678
- Nova Vul 1984 No.1, photometry and spectral obs. *(Russian)* 7−40848
- Nova Vul 1984 No.1 (PW Vul) slow nova, abundances, visible and IR obs. 7−40850
- Nova Vul 1984 No.2, visual magnitude estimates (1986 September 10 to November 21) 7−40842
- NSV 12040, W UMa star, first ephemeris from photoelectric and visual obs. 7−66669
- NSV 863, 917, 919, suspected variable stars in Fornax, photometric obs. 7−24149
- OB 110 and 112 associations in M33 galaxy, photometric characts. 7−40927
- occultation candidate stars for Uranus's rings (1985-90) and Saturn's rings (1986-91), VI photometry 7−24124
- V451 Oph, eclipsing binary star, absolute dimensions from uvby light curves 7−29503
- V2051 Oph, IR and optical photometry of eclipsing dwarf nova 7−55670

stellar photometry continued
RZ Oph, long-period eclipsing binary, photometric and radial vel. study 7−29504
V2051 Oph, possible low-field polar, high-speed photometric obs. 7−60694
RS Oph, recurrent nova, optical spectrum and photometry in quiescence 7−24139
V2051 Oph, structure and variability of cataclysmic binary 7−18423
V566 Oph, UV light curve of A-type W UMa binary 7−40862
V346 Ori, antiflare star, circumstellar dust characts., light curve anal. 7−4441
α Ori, dust shell UBV polarisation meas. 7−34971
VV Ori, eclipsing binary star, UBV obs. 7−35004
TZ Ori, flaring Orion variable, photometric characts. 7−40818
α Ori, long-term UV spectroscopy and optical photometry (1984 to 1986) 7−47877
V351 Ori, Orion population star, quasi-periodic microvariability 7−40798
YY Ori, photoelectric UBV photometry (1979-84) 7−55618
Orion Belt region, 140 nm spectrophotometric census rel. to Si stars identification 7−47950
Orion Nebula region flare stars, survey 7−14591
Orion population stars, photometric vars., 1984/5 season 7−40950
AT Peg, BV photoelectric photometry and light elements 7−66673
BO Peg, eclipsing binary, BV photometric and spectral obs. 7−66678
IP Peg, eclipsing dwarf nova, system parameters from high-speed photometry 7−14595
IP Peg, near-IR spectroscopy and photometry 7−66619
II Peg, RS CVn binary, photometric study (1980 to 1985) 7−4513
II Peg, RS CVn star, 1986 JK photometry and light curves 7−4515
II Peg, RS CVn star, large amplitude spot var. 7−47984
57 Peg, semiregular variable, photometric and spectral characts. 7−55664
DY Peg, SX Phe star, pulsation characts., period anal. 7−14578
AG Peg, symbiotic star, spectrophotometric obs. *(Russian)* 7−55669
EZ Peg, UBV photometry of RS CVn star 7−9517
RY Per, asynchronously rotating Algol binary study 7−35002
IZ Per, eclipsing binary, new period determ. and period trend from light min. times 7−66657
AG Per, eclipsing binary star, light curves anal. rel. to apsidal motion 7−66658
GK Per, outburst obs. (1986 Nov.-Dec.) 7−40836
GK Per (Nova 1901), IUE spectra and visual magnitude estimates (November to December 1986) 7−47905
AG Per early-type eclipsing binary star, apsidal motion determ. from min. light times 7−60729
Per OB2 association, BV photometry rel. to membership, distance and age 7−66592
AD Phe, W UMa star, photoelectric light minima obs. rel. to decreasing orbital period 7−4501
SX Phe stars of high amplitude, light curves Fourier decomposition 7−34980
PHL 227, UX UMa star, coherent rapid oscills. obs. 7−55668
photoelectric photometry for amateurs 7−47725
photographic and photoelectric RI photometric systems 7−66475
Pleiades cluster, VBLUW photometric survey 7−4529
Population I pulsating stars, period-age-colour relations 7−40831
Population I pulsating stars, period-evolutionary mass(-colour) relations 7−47898
Population II giants, Washington photometry, abundance calibrations 7−9471
Population II red giants, empirical colour-metallicity relations 7−55616
pre-main-sequence stars in Bok globule Barnard 62, optical and IR obs. 7−9527
proper motion stars in field SE of 45 Oph, photometric study and catalogue 7−60577
proper-motion stars, UBV photometry and radial vels. 7−47844
pulsating stars, Fourier coeffs. determ. from light curves decomposition 7−55602
BV Pup, dwarf nova, X-ray, UV and optical obs. 7−47922
CF Pup, new ephemeris and V light curve 7−55719
red supergiants in M31, lumin. characts., BV obs. 7−60785
2S 0918−549, X-ray binary, optical counterpart visible photometric obs. 7−60714
Sanduleak−69°202 as SN 1987A progenitor, photometric characts. and spectral type 7−66629
Sanduleak −69°202, SN 1987A progenitor in LMC, RI photometry 7−66640
RT Scl, near-contact binary system, radial vels. and light curve anal. 7−47988
Sco X-1, reddening and distance 7−60708
TT Sct, RR Lyr star, period adjustment 7−9489
δ Sct stars of high amplitude, light curves Fourier decomposition 7−34980
AA Ser, Cepheid, period anal. 7−9490
CV Ser, WC8 star, wind modelling, C III UV and visible spectra anal. 7−66625
Sex A, dwarf irregular galaxy, brighter stars visible photometric obs. 7−60808
U Sge, asynchronously rotating Algol binary study 7−35002
U Sge, classical Algol binary system, photometry rel. to accretion structs. 7−4512
FG Sge, photometric search for rapid oscills. 7−4476
υ-Sgr, H-deficient binary star, evidence for pulsation from UBV light curves 7−14608
LR Sgr, Mira variable, photometric obs. rel. to identity with reported possible nova 7−4479
V1176 Sgr, RR Lyr star, period changes 7−9488
V4046 Sgr, T Tau star, UV and visible obs. 7−47869
short-period type II Cepheid field stars, light curve and pulsation characts. 7−60675
SMC star clusters, B-magnitudes of brightest stars 7−47735
SN 1985F in NGC 4618, light curve characts. *(Russian)* 7−24156
SN 1985F in NGC 4618, optical light curve 7−40851
SN 1986G in NGC 5128, upper limits on pre-discovery magnitudes, and visual magnitude estimates 7−9501
SN 1986J, in NGC 891, radio supernova, upper limits on B-magnitude from Schmidt plate obs. 7−18429
SN 1986K, in anonymous galaxy in Cetus, discovery, precise position, and magnitude estimate 7−9502
SN 1986L, in NGC 1559, spectroscopic obs. and visual magnitude estimates (1986 October 9 to 12) 7−18428
SN 1986L in NGC 1559, UBV and visual magnitude estimates 7−40852

stellar photometry continued
SN 1986L in NGC 1559, visual magnitude estimates (1986 November 1 to December 11) 7−47953
SN 1986O in NGC 2227, discovery, approximate position, and magnitude estimate 7−47958
SN 1987A, in LMC, discovery, precise position, possible progenitor, photometry, and spectrum 7−66628
SN 1987A in LMC, photometric and spectral obs. (1987 February 24-26) 7−66632
SN 1987A in LMC, photometric and spectral obs. and evidence for companion to progenitor 7−66630
SN 1987A in LMC, photometry and spectral characts. (1987 February) 7−66640
SN 1987A in LMC, progenitor position, photometry, and polarization 7−66631
SN 1987A in LMC, Type II SN, astrometry, spectral and photometric obs. and progenitor characts. 7−66629
SN 1987A in LMC, UV light and spectrum vars. and visual magnitude estimates 7−66642
solar analogues along path of P/Comet Halley (1982i) 7−9416
solar-type protostars in nearby mol. cloud cores, IRAS candidates 7−47853
South Galactic Cap, stellar populations, density functions, and luminosity distribs. 7−47832
South Galactic Cap stars, astrometry, trigonometric parallaxes, proper motions and photometry 7−47734
South Galactic Pole field, star counts and colour indices 7−4573
spotted stars, colour and lumin. modelling 7−14576
Stock 17, young open cluster, photoelectric UBV photometry 7−4533
supernovae of Type I, UBVRK colours and systematic flux dilution 7−66627
symbiotic stars, spectrophotometric obs. 7−4474
symbiotic stars (book) 7−35122
symbiotic stars cool components, nature 7−40820
RY Tau, photometric var. of T Tau star (1984/5) 7−40950
V471 Tau, photometry and UV spectra rel. to large-scale structs. in atmosphere of active K-dwarf component 7−47874
SU Tau, R CrB star, visual magnitude estimates during decline (1986 October 26 to November 3) 7−29494
T Tau, rot. period and inclination angle from photometric obs. 7−55620
T Tau stars, photometric rot. periods determ. and anal. 7−4443
theoretical uvbyβ indices, determ. for grids of stellar atmospheres 7−9458
time-resolved photometry using a CCD 7−9381
Trapezium cluster in Orion Nebula, photometry and spectroscopy 7−66688
Trumpler 37, open cluster, IUE extinction curves rel. to anomalous interstellar dust 7−48010
AQ Tuc, contact binary system, radial vels. and light curve anal. 7−47988
two-colour plots, interstellar extinction curve anal. 7−14645
Type I supernovae, partially incinerated white dwarf models *(Chinese)* 7−4494
AN UMa, AM Her star, light curve var. due to accretion flow channelling by white dwarf mag. field 7−60720
CH UMa, dwarf nova, visual magnitude estimates rel. to rapid flickering during outburst 7−66608
XY UMa, RS CVn star, photometric characts., contrib. of star spots 7−47976
W UMa stars, light curves anal. for four objects 7−35006
W UMa stars, models with dissipative heating for light curves anal. 7−55705
Ursa Minor dwarf galaxy, star proper motions and bright-star photometry 7−14653
UV standard stars for calibration of Hubble Space Telescope, progress report 7−60735
UV-excess objects in Galactic plane, KPD survey for white dwarfs and subdwarfs 7−9383
uvbyβ study of solar neighbourhood, extinction distrib. 7−18443
uvby standard stars, four-colour obs. of primary and secondary standards 7−9462
variable star digitally synthesised light curve lecture demonstrations 7−18520
variable stars, photometric data appl. to phase-space reconstruction and dimension computation 7−29463
variable stars in South Galactic Cap, photographic survey 7−14593
variables, photoelectric photometry of bright stars 7−9479
Vega-like stars from IRAS point-source catalogue, IR photometry 7−4456
Vela Star Cloud, foreground reddening struct., photometry obs. 7−35015
73 Vir, Stromgren photometry of new δ Sct variable 7−40822
α Vir (Spica), uvby photometry 7−40823
VRI photoelectric sequence towards South Galactic Pole, meas. 7−40880
BW Vul, β Cep star, coordinated photoelectric photometry from thirteen observatories 7−29485
QQ Vul, long-period AM Her star, period determ. using new minima from old plates 7−66672
S Vul cluster (C 1947+272), UBV photometry rel. to reddening, distance and age 7−14620
Vul OB1 association, photometry of B-type stars and relationship with S Vul 7−14620
W3 molecular cloud complex direction, colour excesses rel. to dust clouds distrib. 7−48004
white dwarf in wide binaries, physical props., from multichannel spectrophotometry 7−14566
white dwarfs in wide binaries, double degenerates and composite spectra 7−14567
Wilson-Devinney method for light curves anal., soln.-convergence characts. 7−14501
Wolf-Rayet stars, energy distrib. and intrinsic colours 7−66624
Wolf-Rayet stars, photometric variability of complete northern sample 7−14585
X1735−444 (V926 Sco), optical/X-ray burster, orbital period from CCE photometry 7−9515
X-ray binary pulsars, short-period temporal studies with IUE 7−55494
C stars, colour temps. determ., spectrophotometric obs. 7−4461
C stars, mol. absorpt. bands spectrophotometry 7−40819
OH-IR stars, detect. from IRAS far-IR colours 7−34978
OH-IR stars, IRAS obs. rel. to determ. of absolute luminosities and mass loss rates 7−29475
OH-IR stars near galactic centre, luminosities and progenitor characts. 7−14584

stellar positions *see astrometry*

stellar pulsations
- CY Agr, SX Phe star, period changes determ. from light maxima anal. 7−29481
- TT Aql, classical Cepheid, radial vel. curve 7−4470
- X Ari, RR Lyr star, radial vel. anal. 7−66604
- YZ Boo, δ Sct star., period var, UBV obs 7−55662
- β Cas, probable δ Sct star pulsation characts. 7−55659
- ρ Cas, yellow supergiant, atm. radial pulsations, spectral obs. 7−40813
- β Cep stars in NGC 3293, pulsation modes identification from photometric obs. 7−24150
- Cepheid variables, appl. of photoelectric radial vel. spectrometers to pulsation anal. 7−9500
- Cepheid variables, period-radius relation from surface-brightness method 7−9492
- Cepheid variables in Magellanic Clouds, P-L, P-C and P-L-C relations from IR photometry 7−14592
- s-Cepheids, light curves and pulsation characts. 7−34982
- δ Cet, β Cep star, appl. of new method for freq. vars. detect. 7−29477
- δ Cet, β CMa star, correlated vars. in photometric and radial vel. amplitudes 7−4468
- UZ Com, RR Lyr star, periodicity 7−9487
- composite models, adiabatic oscills. periods, rot. and tidal effects 7−60630
- R CrB, fadings, possible correl. with pulsation characts. 7−47895
- ?20 CVn, δ Sct star, radial vel. vars. obs. 7−9496
- SU Cyg, binary Cepheid, lumin. determ. from IUE spectra 7−55682
- o^1 Eri, δ Sct star, nonradial oscills. props. from radial vel. study 7−47923
- ε Eri, age discrepancies from several methods, oscill. constraints 7−66579
- Fourier coefficients of pulsating stars, determ. from light curves decomposition 7−55602
- g-modes of nonradially pulsating relativistic stars, slow-motion formalism 7−9463
- GD 66, pulsating white dwarf, phase-space reconstruction and dimension computation 7−29463
- HD 101158, δ Sct star, photometry obs. freq. anal. 7−34989
- HD 126859, low-amplitude multiperiodic 8 Sct star, photometric obs. 7−29483
- HD 161796, 89 Her star, pulsation mass and lumin. 7−47921
- UU Her, mass pulsation and lumin. 7−47921
- HR 3831 (HD 83368), rapidly oscillating Ap star, anal. of l=1 dipole oscill. 7−47919
- IC 4499, globular cluster, double-mode RR Lyr stars, pulsation characts. and masses, photometric obs. 7−14616
- EH Lib, dwarf Cepheid, improved period and total vel. range 7−4492
- long-period variable stars, linear pulsation survey 7−60682
- low-frequency oscillations of uniformly rotating stars, freqs. of gravity modes and rot. modes 7−60635
- V473 Lyr (=HR 7308), unique Cepheid variable, pulsation made from photometric and radial rel. survey 7−29482
- RR Lyr stars, double-mode, in ω Cen, photometric search 7−4469
- RR Lyr stars in Carina dwarf galaxy, light curves and periods 7−4570
- RR Lyrae star, distant, in Draco, magnitudes, finding chart, and light curve 7−9498
- mode identification from line profile vars., effects of temp. var. and toroidal modes 7−55613
- NSV 863, 917, 919, suspected variable stars in Fornax, photometric obs. 7−24149
- Y Oph, classical Cepheid, radial vel. curve 7−4470
- oscillation of stellar atmospheres, response of isothermal atmosphere with nonlinear waves 7−4439
- DY Peg, SX Phe star, pulsation characts., period anal. 7−14578
- ε Per, lawn-sprinkling shock model for nonradial oscills. 7−47849
- SX Phe stars of high amplitude, light curves Fourier decomposition 7−34980
- polytropic models, cross-sections for tidal capture binary form. and stellar merger 7−29519
- Population I pulsating stars, period-age-colour relations 7−40831
- Population I pulsating stars, period-evolutionary mass(-colour) relations 7−47898
- Population II Cepheid variables, effects of freq. resons. on light and vel. curves 7−24138
- Population II Cepheids, short-period, period-doubling as limit to pulsation 7−4477
- TT Sct, RR Lyr star, period adjustment 7−9489
- δ Sct stars of high amplitude, light curves Fourier decomposition 7−34980
- AA Ser, Cepheid, period anal. 7−9490
- FG Sge, photometric search for rapid oscills. 7−4476
- υ-Sgr, H-deficient binary star, evidence for pulsation from UBV light curves 7−14608
- V1176 Sgr, RR Lyr star, period changes 7−9488
- short-period type II Cepheid field stars, light curve and pulsation characts. 7−60675
- solar 5-min oscillations, quasi-periodic departures in low-degree spectrum 7−18392
- solar 5-minute oscillations, contrib. to photospheric intensity fluctuations at meso-granulation scale 7−47800
- solar low-degree gravity modes, asymptotic props. 7−4399
- solar oscillations, evidence in ground based photometric obs. 7−60615
- solar oscillations, Fe I line diagnostics for propagating waves in solar photosphere 7−55591
- solar oscillations, obs. from Antarctica *(French)* 7−9453
- solar oscillations, obs. using Stable Solar Analyzer instrument 7−9375
- solar oscillations and sunspot activity 7−55597
- solar oscillations frequencies, integral formula for solar rot. as function of depth and latit. 7−55599
- solar oscillators, excitation and damping 7−40792
- solar p-mode oscillations, compressive waves propag. through fibril mag. fields 7−66541
- solar r-mode props. 7−4414
- Sun, global oscill. spectrum from daily power spectra of vel. meas. 7−47798
- Sun, global oscillations rel. to Earth rotation nonuniformities 7−28809
- Sun, helioseismology rel. to internal mag. structs. and convection *(French)* 7−24094
- Sun, obs. of low-l high-n p-mode spectrum 7−47802
- Sun, p-mode interaction, with sunspot, observations 7−60619
- supergiant variable stars to blue side of Cepheid instability strip, pulsation characts. 7−47928

stellar pulsations continued
- tidally-interacting stars, oscills. excitation rel to two-body tidal capture 7−4500
- variable stars dynamics, phase-space reconstruction and dimension computation 7−29463
- variable stars in South Galactic Cap, periods and light curves from photographic survey 7−14593
- BW Vul, β Cep star, coordinated photoelectric photometry from thirteen observatories 7−29485
- T Vul, classical Cepheid, radial vel. curve 7−4470
- white dwarfs 7−14575
- WN stars, trapped non-radial oscillation modes in H-burning shell 7−40824
- X-ray bursters, neutron star characts. 7−60725

stellar radiation
- *see also solar radiation; stellar photometry*
- 7−47832
- γ-ray transient model for 1979 March 5 event 7−24239
- A0535+26, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7−55712
- A 0535+26 (HDE 245770), Astron obs. in 2-25 keV range (1986 Oct.-Nov.) 7−47979
- active stars, search for 843 MHz emission 7−55671
- δ And (K3 III), primordial dust shell model for IR excess 7−55623
- Ap and Bp stars in Per OB2 association, effective temps. from spectroscopic obs. 7−66592
- Ap stars in α Per, M39 and Coma Berenices clusters, effective temps. from spectroscopic obs. 7−66593
- V1343 Aql (SS 433), Fe K X-ray line obs. 7−14594
- V1343 Aql (SS 433), quiescent and and active flaring periods obs. at 408 MHz 7−9478
- Aql X-1, persistent X-ray emission and bursts obs. by Einstein 7−66661
- FO Aqr (H2215−086), intermediate polar, origin of visual and IR pulsations from polarimetric obs. 7−47985
- X Ari, RR Lyr star, absolute magnitude determ. 7−66604
- asymptotic giant branch stars, effects of mass loss on luminosity function 7−24127
- SS Aur, dwarf nova, energy distrib. and var., UBVRI obs. 7−40817
- B 361 Bok globule region, stars spectral and lumin. characts. 7−48052
- Be stars, temporal polarization vap., stochastic models 7−40825
- close binary stars, gravity darkening of distorted main-sequence components in detached systems 7−4505
- black hole horizon radiation, generalization to fermion fields 7−4499
- TY Boo, BV photoelectric light curves 7−18435
- brown dwarf stars, evolution and IR spectra 7−29472
- OY Car, SU UMa-type dwarf nova, IUE obs. in superoutburst 7−55689
- γ Cas, Be star, interferometric meas. of circumstellar envelope in Hα line 7−4466
- V373 Cas, early-type eclipsing binary, spectral types and physical parameters from spectroscopic obs. 7−55706
- Cas γ-1 (=4U 0115+63), transient gamma-ray source, obs. of 3.6-s pulses at TeV energies 7−60838
- cataclysmic binaries, accretion disk inclination and limb darkening rel. to mass spectrum of white dwarfs 7−29476
- cataclysmic variable stars, linear and circular polarisation obs. 7−9491
- cataclysmic variables, effect of scatt. cloud on hot spots flickering 7−55667
- V822 Cen (Cen X-4), 1987 Jan. fade to pre-outburst brightness 7−66668
- VW Cep, 1984-5 photoelectric times of minima 7−4514
- μ Cep, red supergiant star, image of circumstellar envelope in Na I 589.0 nm line 7−4442
- 2CG 006−00 (=PSR 1802−23), COS B source, pulsed very high energy gamma ray emission obs. 7−66788
- chemically peculiar stars, effective temps. and radii rel. to surface mag. fields characts. 7−66594
- circumstellar dust shells around late type stars, models for IRAS obs. 7−9461
- classical nova model, luminosity evolution through complete cycle 7−29493
- classical novae detected in the IRAS survey 7−40829
- close binary stars, orbital ang. momentum losses by gravit. waves rel. to evolution 7−24121
- close binary systems, monochromatic refl. effect and temp. distribs. on distorted surfaces 7−18439
- α CMa B (Sirius B), white-dwarf thermonuclear runaway rel. to historical colour records 7−34977
- YZ CMi, flare star, photoelectric monitoring and flare characts. (1980 to 1984) 7−4493
- YZ CMi, flare star, simultaneous X-ray and optical monitoring 7−24151
- Cn1-1, planetary nebula, central star lumin., effective temp. and HR diagram position 7−35019
- colours, step-focus photographic technique 7−14505
- cool stars, radiative fluxes measuring activity, evidence for two chromospheric components 7−60626
- R CrB, IRAS detect. and study of fossil circumstellar shell 7−55649
- T CrB, recurrent nova, UV obs. by IUE (1978 to 1986) 7−47941
- R CrB stars, explosive phenomena rel. to dust form. and brightness decreases 7−24137
- RS CVn stars, rot.- chromospheric activity relations 7−47993
- SU Cyg, binary Cepheid, lumin. determ. from IUE spectra 7−55682
- EY Cyg, dwarf nova, visual magnitude (1986 August-September) 7−4480
- CH Cyg, eclipsing symbiotic star, mass transfer and radio outburst characts. *(Russian)* 7−40847
- 55 Cyg, linear polarimetric obs. of Be star 7−18420
- CH Cyg, symbiotic star, spectral energy distrib. from broad-band multicolour photometry 7−47926
- EY Cyg, visual magnitude estimates (1986 September) 7−9480
- 16 Cyg A and B, solar analogue candidates, absolute magnitudes and luminosity-related parameters 7−24162
- Cyg X-1, time variability rel. to mag. loops timescales in accretion disk coronae 7−4431
- Cyg X-1 and related sources, model for bimodal spectral behaviour 7−9510
- Cyg X-1 primary component, linear polarization from tidal distortions 7−29508
- Cyg X-3, EAS, composition anal., distribs. functions 7−14461
- Cyg X-3, evidence for free precession of neutron star from obs. of 12.59 ms γ-ray pulse period 7−66649
- Cyg X-3, high energy muon detection 7−14612
- Cyg X-3, obs. of very-high-energy gamma rays 7−60916

stellar radiation continued
Cyg X-3, observational props. X-ray scattering halo effects 7—47977
Cyg X-3, outbursts observed at 1.3 and 3.3 mm wavelengths 7—35011
DDDM-1, C-poor halo planetary nebula, central star, effective temp. determ. 7—60766
AB Dor (HD 36705), 8.4 GHz and photometric obs. of active radio star 7—55628
BV and BW Dra, contact binaries, combined photometric and spectroscopic solns. 7—14603
early-type stars, spectral energy distribs. from 0.15 to 4.8 μm 7—29466
F to M-type dwarf stars, activity-rot. relationship from Mg II h and k flux 7—55624
TZ For, eclipsing Capella-like system observed with IEU, UV emission-line fluxes meas. 7—47996
gamma-ray burst sources, one-quantum annihilation of polarised electron-positron pairs in strong mag. fields 7—47674
gamma-ray bursts, positron annihilation 7—40859
gamma-ray emission from accretion onto a rotating black hole 7—55700
gamma-ray light curves analysis, appl. of kernel density estimators 7—47718
U Gem, dwarf nova, evidence for prolonged quiescence and large-amplitude flickering from early obs. 7—66621
globular cluster main sequences, luminosity functions from CCD photometry and stellar models 7—66586
gravitational radiation from nonradially pulsating relativistic stars, contrib. to g-modes damping 7—9463
gravitational wave radiation, enhanced emission from perturbed wide binary stars 7—60730
GX 17+2, time-dependent spectral anal. of X-ray bursts 7—14607
GX 1+4, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7—55712
H0253+193, hard X-ray source in nearest mol. cloud (Lynds 1457), identification as probable T Tau star 7—66789
halo population in solar neighbourhood, luminosity function 7—60657
Hd 144941, H-deficient star, UV spectroscopy rel. to energy distrib. and stellar wind 7—47887
HD 161796, 89 Her star, pulsation mass and lumin. 7—47921
HD 27130, Hyades solar-type star, H-R diagram position rel. to solar models testing 7—66665
HD 45166 (qWR+B8 V), ionising EUV flux vars. rel. to gross UV spectral variability 7—47945
AH Her, dwarf nova, components fluxes 7—60668
UU Her, mass pulsation and lumin. 7—47921
HZ Her (=Her X-1), line emission site determ. from UV spectroscopy 7—55736
AM Her stars, asymmetric light curves model 7—55709
DQ Her stars and other cataclysmic variables, polarisation obs. 7—9491
Her X-1, γ-ray emission mechanism 7—47975
Her X-1, companion-star beam steering of high-energy particles rel. to gamma-ray emission 7—14611
Herbig-Haro objects exciting stars, evolutionary characts. determ. from spectral and lumin. meas. 7—40898
HH 1-23 exciting star, nature of IR emission from JHKL photometry 7—60661
HR 5999, Herbig Ae star, surface flux 7—55631
HV 12714, eclipsing and possible LMC membership, spectral obs. binary star, lumin. 7—47981
interstellar bubbles creation; photoionisation contrib. to structure and evolution is multiphase interstellar medium 7—60764
IRAS sources assoc. with mol. outflows, far-IR luminosities 7—55766
IRC+10216, brightness distrib. at various wavelengths, radiative transfer in shell 7—60520
K-type pre-main-sequence stars, detection of 6 cm radio emission 7—14569
L726-8A, flare star, narrow-band radio flares, mechanisms anal. and UHF obs. 7—60679
L 1551 bipolar flow, extended IR radiation 7—40890
EV Lac, Bulgarian flare obs. (1986 Aug.) 7—55658
EV Lac, flare star, photoelectric monitoring and flare characts. (1980 to 1984) 7—4493
SW Lac, W UMa star, photoelectric light curves and elements 7—60718
late M-type giants and supergiants, dust condensation and stellar UV radiation 7—14565
late-type contact binaries, chromospheric-coronal activity, UV obs. of Mg II lines 7—47994
late-type main sequence stars, chromospheric emission lumin-rot. period relationship 7—24129
AD Leo, flare star, photoelectric monitoring and flare characts. (1980 to 1984) 7—4493
AD Leo, flares star, narrow-band radio flares, mechanisms anal. and UHF obs. 7—60679
T Leo, new SU UMa star, superhumps characts. from photometric obs. (1987 January 24 to 27) 7—66605
AD Leo, UV Cet star, giant flare UV and visible obs. 7—55676
Liller's nova-like object in Centaurus, patrol/atlas magnitudes 7—18415
limb darkening and angular diameters meas., potential accuracy of speckle interferometric obs. 7—47720
LMC B-type supergiants, energy distrib. and model atm. 7—55635
LMC globular clusters, age determ., metallicity-age relation and AGB stars luminosity function 7—4561
ST LMi, polarimetry of AM Her-type system 7—18438
long-period variable stars, pulsation study, lumin. depend. 7—60682
V358 Lyr, fast nova or WZ Sge star, 1965 light curve 7—66613
RR Lyr stars, absolute magnitudes and photometry 7—40833
RR Lyr stars in globular clusters, Fourier analysis of light curves 7—66599
M-type stars in SAO catalogue, luminosity classes 7—4435
magnetic stars, spectropolarimetry rel. to diagnostic contents of Stokes I and V line profiles 7—29484
maser, electron cyclotron instability, kinetic and temp. restrictions 7—14484
massive early-type stars in nearly galaxies, effective temps. and bolometric magnitudes from IUE obs 7—47881
massive protostars, temp. struct. in accretion flows rel. to emergent IR radiation field 7—29471
mean absolute magnitude estimation from trigonometric parallaxes 7—60624
mean absolute magnitudes for stars selected according to proper motion criterion 7—60625
AT Mic, flare star, flare far-UV spectra compared with solar flares 7—47937

stellar radiation continued
AT Mic, UV Cet star, quiescent emission at 843 MHz 7—34998
Mira variable stars, Mg II emission flux meas. from shock waves 7—47938
VY Mon, light polarization 7—4528
Mon R1, starlight polarization 7—4528
neutron stars, accreting, free precession in quasi-periodic oscillators 7—55713
NGC 1960, open cluster characts. determ. 7—4532
NGC 4833, globular cluster red giants lumin. 7—60740
normal stars, IRAS far-IR and visible colours 7—60628
Nova Cen 1986, BV photometry and visual magnitude estimates (1986 Nov.-Dec.) 7—40837
Nova Cen 1986, discovery, position, magnitudes, photometry, prenova identifications 7—24146
Nova Cen 1986, spectra, photometry, and magnitudes (1987 Jan.-Feb.) 7—66606
Nova Cen 1986, visual magnitude estimates (1986 December) 7—47904
Nova Her 1987, Hα emission, position, and magnitude estimates (1987 Jan.-Feb.) 7—55657
novae, UV studies by IUE satellite 7—47940
Novae And 1986, chart, magnitude sequence, magnitudes (1986 Dec. 8-10) 7—55645
NSV 6708, magnitude range, finder chart, and position 7—18416
O6 to A3 supergiants, M_v-W(Hγ) calibration 7—47860
OB 110 and 112 assoc. in M33 galaxy, lumin. function 7—40927
OB supergiant stars, visible and IR continuum spectropolarimetric obs. 7—47845
OB-type stars, C IV line profiles and IR excesses rel. to C IV ionisation fraction 7—47884
OB-type stars, radiation-driven wind theory for mass loss from hot luminous stars 7—47841
OB-type stars in galaxy NGC 2403, temp. and mass limits from chemical comp. gradients 7—40940
RS Oph, recurrent nova, radio obs. rel. to conditions in nova remnant 7—60695
V566 Oph, UV light curve of A-type W UMa binary 7—40862
RS Oph (Nova 1985), fluxes from coronal emission lines in post-maximum spectrum 7—9499
ζ Oph direction, interstellar reddening by diffuse clouds 7—48035
optical flashers, nature and characts. 7—47929
VV Ori, eclipsing binary star, mass, lumin. and radii 7—35004
BN Ori, Herbig Fe star lumin. characts. 7—55631
4=o^1 Ori, MS star, white dwarf companion detect. and characts., UV spectra anal. 7—55681
α Ori, scatt. model for optical polarisation 7—47852
Ori IRc 2, SiO maser emission from expanding shell 7—60646
AG Peg, symbiotic star, effective temp. and bolometric luminosity of hot component *(Russian)* 7—55669
GK Per, 1986 November obs. of minor outburst 7—24147
Perseus optical flashes 7—40835
planetary nebulae nuclei, effective temps., luminosities and masses from IUE data 7—47888
plasma neutrino energy loss rate in stellar interiors, axial-vector contrib. 7—55608
Pleiades early-type stars distance and photometric luminosity calibrations 7—9521
polarization and beaming of accretion disk radiation 7—47688
polarization standards, position angle wavelength dependence 7—9473
Population II Cepheid variables, effects of freq. resons. on light and vel. curves 7—24138
Population II red giants, intrinsic colours rel. to absolute visual magnitude 7—55616
Population II stars, spectral energy distribution 7—47863
Population III protostars, effective temp. of shock radiation 7—47999
TX Psc, C star, UV spectral characts. 7—55675
PSR 0531+21 (Crab pulsar), obs. of very-high-energy gamma rays 7—60916
PSR 0809+74, 1237+25, 1919+21, subpulse drift cross correl. anal. 7—66644
PSR 0809+74, average pulse profile and dispersion measure from decametric wavelength obs. *(Russian)* 7—55697
pulsar luminosity function 7—29497
pulsar magnetic field and lumin. modelling 7—4496
pulsar micropulses, dual-freq. correlation study in VHF 7—29498
pulsars, Faraday rotation meas. on 163 objects 7—66648
pulsars, frequency dependence of dispersion measure and extra dispersion time delay of pulses *(Russian)* 7—24158
pulsars, mag. field-period and mag-field-transverse vel. correlations, effects of lumin. laws 7—40855
pulsars, model of radio spectra and pulse profiles 7—29496
pulsars, pulsed $\bar{\nu}_3$ flux anal. 7—36019
pulsars, radio luminosities rel. to B/P^2 parameter 7—55694
pulsars radio emission, refractive and diffractive scatt. in interstellar medium 7—55759
pulses, pulse shape profiles, freq. depend. 7—60701
T Pyx, UV continuum and spectra 7—34992
radio burst mechanism, fully relativistic electron maser 7—4317
radio pulsars, pair creation rel. to return-current mode changes and normal-null transitions 7—14598
red giant stars, lumin. evol. towards planetary nebulae stage 7—60651
red giants undergoing mass loss, expanding shells IR continuum radiation modelling 7—66582
red supergiants in M31, lumin. characts., BV obs. 7—60785
Sco X-1, UV continuum vars. obs. 7—55735
Sex A, dwarf irregular galaxy, brighter stars absolute magnitudes 7—60808
RU Sex as probable RR Lyr star, visual obs. 7—47917
W Sgr, binary Cepheid, lumin. determ. from IUE spectra 7—55682
SMC N2, planetary nebula, central star, effective temp. and luminosity 7—24183
SN 1985F in NGC 4618, light curve characts. *(Russian)* 7—24156
SN 1986 M in NGC 7499, prediscovery and 1986 Dec. magnitudes 7—47952
SN 1986L in NGC 1559, precise position and magnitudes 7—18427
SN 1987A in LMC, IUE obs. of UV spectra and light curve 7—66638
SN 1987A in LMC, neutrino signal obs. (1987 February 23) 7—66637
SN 1987A in LMC, progenitor position, photometry, and polarization 7—66631
soft X-ray transients, relaxation to evolution of low-mass X-ray binaries 7—55707

stellar radiation continued
- solar neighbourhood low-luminosity M-type dwarfs, lumin. function turnover, evolutionary considerations 7−48079
- spotted stars, colour and lumin. modelling 7−14576
- stellar aggregates, effect of radiation density on strengths of diffuse interstellar lines 7−48021
- strange stars, X-ray emissivity of exposed quarks surface 7−29495
- subdwarfs, absolute magnitudes from KPD survey for Galactic plane UV-excess objects 7−9383
- supernovae, IR emission from heated interstellar grains 7−48007
- supernovae of Type I, colours and systematic flux dilution 7−66627
- symbiotic stars, hot star radiation model for nebular emission 7−55687
- symbiotic stars, IRAS observations and energy fluxes 7−34984
- V711 Tan (HR 1099), radio emission from starspots on RS CVn binary 7−55725
- Y Tau, C star, effective temp. from occultation and spectroscopic obs. 7−47927
- V711 Tau, RS CVn system, UV emission-line fluxes rel. to chromospheric and starspot activity vars. 7−47995
- SU Tau, visual magnitude estimates (1986 November) 7−40840
- SU Tau, visual magnitude estimates of R CrB star (1986 Nov.) 7−24148
- T Tau stars, characts. of light vars. 7−47858
- T Tau stars, circular polarisation due to grains 7−40810
- T Tau stars, radio variability and structure 7−40807
- theoretical uvbyβ indices, determ. for grids of stellar atmospheres 7−9458
- 4 U 162−67 X-ray pulse profile rel. to anisotropic X-ray transfer in strongly magnetised plasma 7−55727
- 4U 1700−37, X-ray flux time var. and wind characts. 7−66655
- 4U 1700−37 (HD 153919), EXOSAT search for X-ray periodicities 7−14610
- 4U 1820−30, confirmation of 685-s period from SAS-3 obs. 7−9511
- 4U 1820−30, in globular cluster NGC 6624, 685-s orbital period discovery from X-ray light curve 7−66666
- 4U 1820−30, period from X-ray obs., mass-transfer rate 7−18433
- 4U 2129+12, M15 X-ray source, X-ray modulation period from HEAO A-1 obs. 7−29515
- CH UMa, dwarf nova, visual magnitude estimates rel. to rapid flickering during outburst 7−66608
- CH UMa, visual magnitude estimates (1986 Oct.-Nov.) 7−40838
- SU UMa, visual magnitudes during supermaximum (1986 October) 7−18410
- SU UMa stars, similarities to recurrent Population II X-ray transients 7−14604
- upper-main-sequence stars, rotating, convective cores size and luminosities 7−29468
- Vel X-1 (4U 0900−403), X-ray probing of circumstellar matter during eclipse phase 7−55726
- Vel X-1/HD 77581 system, circumstellar matter characts. from X-ray energy spectra 7−24168
- very low mass stars, lumin. and effective temps. 7−60648
- visual double stars, absolute magnitudes and masses from orbital elements *(French)* 7−18430
- PW Vul, visual magnitude estimates (1986 May-November) 7−40839
- WC stars, influence of C and O abundances on mass-loss determ. from radio meas. 7−29480
- white dwarfs, cyclotron emission from accretion columns 7−60660
- white dwarfs with chemically stratified atmospheres, model atmospheres and synthetic spectra 7−4447
- Wolf-Rayet stars, energy distrib. and intrinsic colours 7−66624
- Wolf-Rayet stars, new evidence at X-ray and gamma-ray freqs,. for non-thermal phenomena 7−55640
- Wolf-Rayet stars, radio emission rel. to mass loss rates 7−9475
- Wolf-Rayet stars, X-ray emission obs. 7−55648
- X1735−444, low-mass X-ray burst source, X-ray and optical variability obs. 7−24165
- X-ray binaries, QPO power spectra as signatures of ang. position and radial vel. of boundary layer clumps 7−47986
- X-ray binary systems, mechanism for ultra-high-energy gamma-ray emission 7−47971
- X-ray burst sources, influence of Comptonisation on radiation spectra *(Russian)* 7−55724
- X-ray burster, angular distrib. and polarization 7−4506
- X-ray bursters, compact star atm., radiation spectrum *(Russian)* 7−40879
- X-ray pulsars, two-photon emission 7−40867
- X-ray source in M15, EXOSAT obs. 7−60732
- X-ray sources in ω Cen, soft X-ray obs. with EXOSAT 7−29506
- X-ray sources in galactic bulge and globular clusters, radio obs. 7−29511
- X-ray transient, recurrent, of Population II, similarities to SU UMa cataclysmic variables 7−14604
- C stars, coupled hydrodynamic-radiative transfer models for dust-driven stellar winds 7−55641
- He I laser action in stellar envelopes, theory 7−4438
- OH-IR stars, H_2O maser emission obs. 7−24140
- OH-IR stars, IRAS obs. rel. to determ. of absolute luminosities and mass loss rates 7−29475
- OH-IR stars identified with IRAS sources, OH circumstellar masers obs. 7−34978
- OH-IR stars near galactic centre, luminosities and progenitor characts. 7−14584
- FU Ori, eruptive pre-main sequence star, Mg II emission-line flux from IUE obs. 7−47875
- SiO maser sources, monitoring obs. at 7 mm wavelength (1977 to 1979) 7−4449

stellar rotation
- *see also solar rotation*
- A0535+26, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7−55712
- accreting compact stars, ang. momentum accretion from inhomogeneous medium 7−9460
- accretion disks, differential rot. rel. to mag. loops in accretion disk coronae 7−4431
- accretion disks, magnetodynamic jets form. through accretion of rotating magnetised mass 7−55460
- accretion disks, model of hydromagnetic turbulence in differentially rotating disks 7−18354
- anomalous He line stars, observational data review 7−66595
- Ap and Bp stars in Per OB2 association, rot. vels. from spectroscopic obs. 7−66592

stellar rotation continued
- Ap stars in α Per, M39 and Coma Berenices clusters, rot. vels. from spectroscopic obs. 7−66593
- AB Aur, Herbig Ae star, wind rot. modulation, C IV and Mg II UV obs. 7−47870
- BD+37°444, double-lined binary in open cluster NGC 752, rot. and radii meas. 7−66677
- Be stars, appl. of rot. mag. radiation-driven wind model 7−60676
- Be stars, rot. determ. method *(Chinese)* 7−66467
- Be stars, rot. vels. rel. to strength and edge vel. of UV superionised lines 7−55652
- Be stars, shell characts., rot. and spectral obs. *(Chinese)* 7−4459
- Be stars, wind characts. rel to rot. vel. 7−55685
- binary systems, eccentric orbit, effect of rot. vel. on mass transfer 7−14609
- bright giants, rotation and macroturbulence 7−47847
- V373 Cas, early-type eclipsing binary, spectral types and physical parameters from spectroscopic obs. 7−55706
- Cas γ-1 (=4U 0115+63), transient gamma-ray source, obs. of 3.6-s pulses at TeV energies 7−60838
- cataclysmic binaries, accretion disk boundary layer, 2D numerical models, effects of variable stellar rotation 7−60667
- cataclysmic variable stars, ang. momentum transport in accretion disks magnetospheres 7−47918
- β Cep stars in NGC 3293, evidence for rot. splitting of nonradial pulsation modes 7−24150
- 5 Cet, ellipsoidal variable star, rot. vel. and mass ratio determ. 7−40878
- chemically peculiar stars, rot. axes inclinations rel. to surface mag. fields characts. 7−66594
- chemically peculiar stars in clusters and associations, rotation velocities, characts. and depend. on evol. 7−4475
- FK Com stars, outer atm. characts., UV spectral obs. 7−47936
- composite models, adiabatic oscills. periods, rot. and tidal effects 7−60630
- convective turbulence with rot. and mag. fields, mixing length theory 7−29388
- cool dwarf stars, chromosphere emission, rot. modulation, IUE spectra obs. 7−55629
- CP stars with known rot. periods, statistics of radii, rot. vels., and rot. axes inclinations 7−60663
- RS CVn stars, photometry and spot models rel. to rot. modulation and flares 7−4467
- RS CVn stars, rot. characts., spectral obs. *(Chinese)* 7−66654
- RS CVn stars, rot. vel., spectral obs. 7−60710
- RS CVn stars, rot. vels. meas. *(Chinese)* 7−4503
- RS CVn stars, rot.- chromospheric activity relations 7−47993
- Cyg X-3, evidence for free precession of neutron star from obs. of 12.59 ms γ-ray pulse period 7−66649
- differential rotation, effects of nonlinear convection of compressible fluid in rot. spherical shell 7−9459
- differentially rotating perfect fluid stars, stability 7−40796
- AB Dor, fast H_α variations on a rapidly rotating spotted star 7−55627
- BY Dra stars, photometry and spot models rel. to rot. modulation and flares 7−4467
- BY Dra stars among Pleiades G and K dwarfs, periods and light curves from VBLUW obs. 7−66686
- early A-type stars, rot. effects on C abundance 7−40815
- early-type star, core-envelope boundary layer in slow rotation 7−18404
- o^1 Eri, δ Sct star, rot. period from nonradial oscills. anal. 7−47923
- ε Eri, chromospheric activity and rot., implications for age determ. 7−66579
- F to M-type dwarf stars, activity-rot. relationship from Mg II h and k flux 7−55624
- F-types stars, granulation velocities meas. and 'rot effect' 7−4454
- YY Gem, By Dra star, atm. activity depend. on orbital and rot. phases 7−55677
- GX 1+4, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7−55712
- HD 152391, HD 154417, Ca II emission solar-type stars, uvby-Hβ photometry rel. to rot. periods 7−55622
- HD 164270, variable WC9 star, model of close binary with precessing disk 7−47925
- HD 191765, Wolf-Rayet star, precessing neutron star companion model for light vars. 7−66615
- HD 199178, FK Com star, rot. and radial vel., spectral characts. 7−14583
- homogeneous uniformly rot. McLaurin spheroid in mag. field, equilib. and stability 7−47686
- horizontal-branch stars in ω Cen, rot. vels. rel. to absence of double-mode RR Lyr stars 7−4469
- hot horizontal-branch stars in globular cluster NGC 6397, rot. vels. from Hδ profiles 7−47859
- HR 3831 (HD 83368), rapidly oscillating Ap star, contrib. of rot. and mag. field to $l=1$ dipole oscill. 7−47919
- intermediate-mass-stars, effects of rot. on main sequence position 7−14558
- AR Lac, RS CVn star, atm. active regions and lines rot. modulation, IUE obs. 7−55728
- HK Lac, RS CVn star, corotating latit. determ. from starspots locations anal. 7−60724
- EV Lac, UV Cet star, UV radiation rot. modulation 7−47933
- late-type main sequence stars, chromospheric emission lumin-rot. period relationship 7−24129
- late-type stars with convective envelopes, magnetic field maintenance in radiative core 7−40795
- 10 and 11 LMi, standard stars, photometric var. due to active regions rot. 7−4489
- low-mass stars, rot. vel. evol. 7−66570
- M-type dwarf stars, rot. vels. rel. to chromospheric activity 7−9466
- meridional circulation in rotating stars, effects of axisymmetric mag. field in early-type stars 7−55606
- meridional circulation in rotating stars, unsteady oblique-rotator model 7−55607
- meridional flow in self-gravitating body, mechanical flow in barotropic star with const. ang. momentum 7−29464
- neutron stars, accreting, free precession in quasi-periodic oscillators 7−55713
- neutron stars, envelopes thermal struct., effects of rapid rot. 7−47965
- O-type stars as finite disks, appl. of rot. mag. radiation-driven wind model 7−60676
- open clusters, RS CVn stars and blue stragglers 7−60741

stellar rotation continued
V2051 Oph, possible low-field polar, synchronously-rotating white dwarf model 7−60694
FU Ori stars, rot. evidence for disk accretion model 7−66581
II Peg, RS CVn binary, photometric study rel. to differential rot. 7−4513
RY Per, asynchronously rotating Algol binary study 7−35002
polytropic stars, error-removing techniques for higher-order perturbation theories for rotating stars 7−14559
polytropic stars, implementation of perturbation theory up to third order 7−66568
Praesepe bright stars, rot. and spectral characts. 7−4534
PSR 1937+214, 1.5 ms pulsar, spin-up and mag. field characts. 7−29499
pulsars, B/P^2 parameter rel. to radio luminosities 7−55694
pulsars, mag. field-period and mag-field-transverse vel. correlations, effects of lumin. laws 7−40855
pulsars, pair creation rel. to critical rot. period for normal-null transitions 7−14598
pulsars, pulse characts. rel. to rot. and mag. field *(Russian)* 7−24158
pulsars, space velocities and rot. characts., interstellar scintillation meas. 7−60698
pulsars, theory, discovery, and astronomical impact 7−47964
pulsars, timing noise, implications of vortex creep and internal temperature 7−60699
pulsating early-type stars, effects of uniform rot. on low-freq. oscills. 7−60635
pulsating stars, effects of temp. var. and rot. vel. on mode identification from line profile vars. 7−55613
radiatively driven winds, models with finite disk correction and rot. 7−60632
rapidly rotating compact stars, equilib. configurations and gravit. effects *(Chinese)* 7−4305
rapidly-rotating single late-type giants, evolutionary status and emission fluxes 7−47864
U Sge, asynchronously rotating Algol binary study 7−35002
Sirius B, temp., radius, and rot. vel. 7−40814
structures of rapidly rotating stars, determ via versatile two-dimensional method 7−9457
T Tau, rot. period and inclination angle from photometric obs. 7−55620
T Tau stars, photometric rot. periods rel. to radii 7−47858
T Tau stars, rot. vels. obs. and anal. 7−4443
thermosolutal-convective instability in stellar atmosphere, effect of rot. and mag. field 7−14557
4U 1626−67, X-ray pulsar, pulse period and spin-up rate from Tenma obs. 7−55727
4U 1700−37 (HD 153919), EXOSAT search for X-ray periodicities 7−14610
unsteady nonlinear Eddington-Vogt-Sweet circulation 7−18403
upper-main-sequence stars, effect of rot. on convective core size 7−29468
Vel X-1, neutron star orbit and rot. characts. 7−66659
He peculiar stars, C IV lines periodic vars. rel. to rot. periods and magnetically controlled winds 7−47949

stellar size *see stellar dimensions*

stellar spectra
see also solar spectra; stellar photometry
-0 7−18409
A0535+26/HDE 245770, X-ray/Be transient system, X-ray, UV and optical monitoring 7−55734
A7, supergiant in SMC globular cluster NGC 330, composition anal. 7−34970
A to F-type shell stars, Hα and near-IR spectra 7−9497
A-type stars, synthetic line profiles for higher terms of H I Balmer and Paschen series 7−60639
A-type supergiants, wind characts., IUE obs. anal. 7−55636
AC 211, photometric and spectroscopic periods of X-ray binary in M15 core 7−29514
AC 211, X-ray binary system in globular cluster M15, emission-line spectrum obs. 7−14596
Am stars, Li abundance, reson. doublet obs. 7−60669
λ And, RS CVn star, simultaneous IUE and VLA obs. 7−47931
δ And (K3 III), IRAS source with unusual UV spectrum, IUE obs. 7−55623
anomalous Cepheids in Sculptor dwarf galaxy, metal abundances and origins 7−4571
anomalous He line stars, observational data review 7−66595
anomalous Zeeman effect, moments and expansion coeffs. 7−66443
anomalous Zeeman effect and its influence on the line absorption and dispersion coefficients 7−60513
Anon 0052−07, SN 1986K spectral obs. 7−4495
Ap and Bp stars, stellar line Stark broadening 7−55690
Ap and Bp stars in Per OB2 association, spectroscopic obs. 7−66592
Ap stars, search for chromospheric Mg II emission 7−47932
Ap stars in α Per, M39 and Coma Berenices clusters, spectroscopic obs. 7−66593
γ Aql, hybrid chromosphere star, wind characts. and line form. region characts. 7−55630
31 Aql, possible pole-on binary system, spectroscopic gravity determ. method 7−4434
V1343 Aql(=SS 433), stationary lines variable struct. 7−60689
V1302 Aql. (IRC+10420), supergiant OH-IR star, new emission features obs. 7−48101
V1343 Aql (ss 433), emission lines, absolute intensity variability 7−29488
V1343 Aql (SS 433), Fe K X-ray line obs. 7−14594
R Aqr, IUE obs. rel. to UV variability and mass expulsion 7−55651
FF Aqr, RS CVn star, G-type giant star surface and atm. struct., IUE obs. 7−55730
CX Aqr, semi-detached binary system, spectral types and $BVRI_c$ photometry 7−47990
R Aqr jet, obs. at UV and radio wavelengths 7−55686
V1343 Aquilae (SS 433), Doppler-shifted X-ray line emission obs. 7−9493
UX Ari, Hα line obs. of double-lined eclipsing RS CVn system 7−40873
α Ari, K-type giant star, spectral lines identifications and heliocentric radial vel. 7−14574
X Ari, RR Lyr star, distance determ. via Baade-Wesselink method, photometric and spectral obs. 7−66604
atmospheres, ion lines Stark broadening 7−60515
atmospheric vel. fields, conf., Trieste, Italy (August-September 1982) 7−35118
IM Aur, Algol-type eclipsing binary, UV spectrum 7−4509
θ-Aur, B9p star, chem. elements surface distrib. 7−66603

stellar spectra continued
SX and TT Aur, eclipsing binaries, radial vel. and photometric obs. 7−60731
ε Aur, eclipsing binary system, high-resolution spectroscopy during 1982-4 eclipse 7−4519
AB Aur, Herbig Ae star, wind rot. modulation, C IV and Mg II UV obs. 7−47870
SS Aur, U Gem star, spectroscopic orbit 7−14581
ζ Aur type detached binary systems, IUE obs. rel. to accretion shocks 7−55732
B2 and A2 main-sequence stars, C and N abundances from IUE obs. 7−47889
B9-A2 stars in young open clusters, spectroscopic determ. of stellar metallicity 7−66565
B 361 Bok globule region, stars spectral and lumin. characts. 7−48052
late B-type stars, nearby, evidence for interstellar or circumstellar C IV and Si IV from IUE obs. 7−60771
B-type stars in open clusters and associations, atmospheric He abundances from optical spectra *(Russian)* 7−55626
late B-type supergiants, comparison of models with obs. for discrete absorpt. components in mass-losing stars 7−47886
BD+13°3683, cool subdwarf, spectroscopic orbit and companion mass 7−40806
BD+37°444, double-lined binary in open cluster NGC 752, orbital elements and mass characts. determ. 7−66677
Be stars, C IV and Si IV UV lines synthesis rel. to superionisation and large mass outflows 7−55653
Be stars, C IV reson. lines and IUE obs. 7−55678
Be stars, evidence for aspect depend. winds, UV spectra anal. 7−55685
Be stars, Hα profiles atlas and shell struct. 7−14577
Be stars, shell characts., rot. and spectral obs. *(Chinese)* 7−4459
Be stars, spectral energy distrib. 7−60671
Be stars, UV superionised lines obs. in stars of different spectral types 7−55652
Be-type stars of later types, Hα and near-IR spectra 7−9497
blue stragglers, UV spectral characts. 7−55634
α Boo, IUE high-dispersion echelle spectrograms of K1-giant 7−60656
bright giants, rotation and macroturbulence 7−47847
α Cam, O-type supergiant, Hα line profile obs. rel. to atmospheric expansion 7−60638
η Car, Balmer profiles, Car II dust scattering 7−24153
υ Car, close visual binary star, spectral and radial vel. study 7−24164
η Car, grain size and geometrical effects in dust shell rel. to 8-13 μm feature 7−9494
EM Car, radial vel. study of massive O-type eclipsing system 7−9518
OY Car, SU UMa-type dwarf nova, IUE obs. in superoutburst 7−55689
η Car, UV spectrum obs. 7−47942
γ Cas, Be star, interferometric meas. of circumstellar envelope in Hα line 7−4466
γ Cas, Be star, IRAS spectra comparison with models 7−4488
V373 Cas, early-type eclipsing binary, spectral types and physical parameters from spectroscopic obs. 7−55706
α Cas, K-type giant star, spectral lines identifications and heliocentric radial vel. 7−14574
γ Cas, X-ray spectrum, Tenma obs., white dwarf companion 7−24163
ρ Cas, yellow supergiant, atm. radial pulsations, spectral obs. 7−40813
cataclysmic variable stars, inclination and orbital phase dependent resonance line profile calcs. for stellar winds 7−60692
V834 Cen (E 1405−451), phase-resolved spectroscopy of AM Her star 7−66675
α Cen binary system, non-resonance Ca I lines obs. in optical spectrum 7−4444
2 Cen M-type giant star, IUE spectral characts. 7−55674
RS Cep, Algol type semidetached star with Be star component, IUE obs. 7−47972
AH Cep, early-type eclipsing binary star, photometric and spectroscopic study 7−47987
XZ Cep, eclipsing binary, spectral characts. 7−4511
CQ Cep, eclipsing Wolf-Rayet star, spectrophotometric and spectroscopic studies 7−66618
μ Cep, red supergiant star, image of circumstellar envelope in Na I 589.0 nm line 7−4442
Cepheid variables, synthetic spectra rel. to appl. of photoelectric radial vel. spectrometers to pulsation anal. 7−9500
5 Cet, ellipsoidal variable star, rot. vel. and mass ratio determ. 7−40878
ο Cet, Tc abundance in Mira 7−47899
Chamaeleon T-association, extinction, distance, and membership from photometry and spectroscopy 7−60763
chemically peculiar stars in clusters and associations, rotation velocities, characts. and depend. on evol. 7−4475
chromospheric Mg II emission lines, influence of interstellar Mg II absorpt. 7−47840
circumstellar shells, diagnostic IR signatures of refractory grain processing in circumstellar shells 7−55611
classical novae detected in the IRAS survey 7−40829
EZ CMa (HD 50896), UV spectrum and interstellar environment 7−18422
α CMa (Sirius), IUE search for PN ejecta rel. to white-dwarf thermonuclear runaway 7−34977
YZ CMi, dwarf M flare star, simultaneous IUE and VLA obs. 7−47931
α CMi (Procyon), rare-earth elements abundances 7−24128
40 Cnc, Praesepe blue straggler, UV spectrum and comparison with Vega 7−47882
FK Com stars, outer atm. characts., UV spectral obs. 7−47936
cool CP stars, search for Be, IUE spectral obs. 7−47930
cool dwarf stars, chromosphere emission, rot. modulation, IUE spectra obs. 7−55629
cool giant and supergiant stars, atm. characts., EUV emission anal. 7−47871
cool stars, chromospheres and UV characts. 7−47838
CP2 stars in open clusters NGC 1039 and NGC 7092, photoelectric search and spectroscopy 7−18407
CP stars, statistics of 520 nm continuum depression depth 7−60664
CP stars with known rot. periods, effective temps. and luminosities rel. to radii, rot. vels., and axial inclinations 7−60663
V693 CrA (Nova CrA 1981), IUE echelle spectrum analysis 7−34985
θ CrB, 1980-5 UV var., evidence for variability patterns and ionisation depend. 7−40827
θ CrB, Be star, wind vel. var., UV spectral obs. 7−66597
T CrB, recurrent nova, UV obs. by IUE (1978 to 1986) 7−47941

stellar spectra continued
RV Crv, near-contact binary system, spectral types and BVRI$_c$ photometry 7−47989
RS CVn binaries, Ca II H and K emission line analysis 7−40865
RS CVn regular-period binaries, Mg II h and k line emission 7−40866
RS CVn stars, Hα and Li I obs. of σ Gem, α Aur, HR 6469, and 93 Leo 7−18437
RS CVn stars, Hα emission and X-ray characts. *(Chinese)* 7−29501
RS CVn stars, rot. characts., spectral obs. *(Chinese)* 7−66654
RS CVn stars, rot. vel., spectral obs. 7−60710
SU Cyg, binary Cepheid, lumin. determ. from IUE spectra 7−55682
SU Cyg, classical Cepheid, possible triple system, components masses and motion, IUE spectral characts. 7−55683
SS Cyg, dwarf nova, UV behaviour in quiescence and in outburst 7−55688
CH Cyg, eclipsing symbiotic star, photometry, spectra and radio flux characts. *(Russian)* 7−40846
V444 Cyg, eclipsing Wolf-Rayet binary star, Doppler tomography of stellar wind from IUE obs. 7−47947
ξ Cyg, K-type supergiant, atmospheric props. and Fe/H ratio from spectroscopic anal. 7−14573
CH Cyg, possible end of shell spectrum phase and transition to real symbiotic star (1983-4), spectral characts. 7−4487
CH Cyg, spectral and photometric characts. 7−4486
P Cyg, spectral lines, multicomponent structure 7−4465
V1016 Cyg, spectrophotometric obs. of symbiotic star (1980-5) 7−4464
CH Cyg, symbiotic star, photometry and spectroscopy (April to November 1985) 7−18419
χ Cyg, Tc abundance in Mira variable 7−47899
Cyg OB2 no.8A, UV and Balmer line profile vars. rel. to mass loss problems 7−47944
Cyg X-2, spectral variability, circumstellar structure 7−66660
Cyg X-3, observational props. X-ray scattering halo effects 7−47977
DA stars, effective temps., UV spectral obs. 7−55633
DA white dwarfs, Si III Stark shift, modified semiempirical formula 7−55638
δ Del stars, Li abundance, reson. doublet obs. 7−60669
diffuse bands in reddened OB stars, molecular origins 7−66697
Doppler widths, temp. and rel. gradient effects 7−18351
AB Dor, fast H$_\alpha$ variations on a rapidly rotating spotted star 7−55627
BV and BW Dra, contact binaries, combined photometric and spectroscopic solns. 7−14603
dwarf star content of elliptical and lenticular galaxies, near-IR spectra 7−60792
dwarf stars, Na abundances, implications for Galaxy chemical enrichment 7−4446
E 2003+225, AM Her star, mass transfer and mag. field characts., spectrophotometric obs. 7−60722
early A-type stars, meridional mixing and C abundances 7−40815
early-type stars assoc. with Sharpless H I regions, MK spectral types from eight-colour photometry 7−55604
early-type stars in SMC, stellar winds props. from IUE obs. 7−47885
echelle/CCD spectrograph obs. at high dispersion 7−66474
emission-line stars in Canis Major star formation region, spectroscopic and photometric survey 7−18360
o^1 Eri, δ Sct star, nonradial oscills. props. from radial vel. study 7−47923
ϵ Eri, spectral characts. 7−55629
evolved stars, circumstellar shells, FIRST obs. possibilities 7−47891
evolved stars, circumstellar shells, molecular abundances and processes, submm astronomy 7−47892
evolved stars, SiO emission 7−47951
exciting stars of very low excitation compact nebulae in LMC, UV and optical spectra 7−47883
F to M-type dwarf stars, activity-rot. relationship from Mg II h and k flux 7−55624
F-type main sequence stars, IUE obs. and B−V colours 7−47868
F-type stars, activity levels from UV and visible spectra 7−47848
F-type stars, Li and Be-deficient main sequence stars, depletion mechanism and spectral obs. 7−14564
F-types stars, granulation velocities meas. and 'rot effect' 7−4454
faint blue stars at high galactic latits., UV and visual spectra 7−47878
TZ For, eclipsing Capella-like system observed with IEU, UV emission-line fluxes meas. 7−47996
G5 to M-type stars at South Galactic Pole, density distribs. from spectroscopic and photometric surveys 7−4448
G 64−12, population II dwarf, ^{7}Li abundance of metal-poor star 7−60642
G-type stars, general characts. 7−24135
YY Gem, BY Dra star, components atm. activity, IUE and Hβ spectra anal. 7−55677
σ Gem, X-ray spectrum of RS CVn type binary 7−60728
giants, IR spectra, detection of 12 μm Mg I and OH absorption lines 7−24132
GK-type supergiants, Hα line profiles anal. rel. to expanding chromospheres models 7−9470
Gliese 268, M dwarf double-lined binary, Digicon obs. 7−40875
granulation detection 7−60572
gravity determination for pole-on binary systems, appl. to 31 Aql 7−4434
β Gru, late type giant star, outer atm. struct. and UV spectra 7−34974
Gum Nebula region T Tau stars, visible and IR characts. 7−55750
GX 17+2, intensity and spectral vars. of X-ray bursts rel. to thermonuclear flash model 7−14607
GX 339−4, compact component nature, spectral obs. 7−47974
H 0534−581, DQ Her star, identification, X-ray and visible obs. 7−60837
1H 0542−407, DQ Her star, identification, X-ray and visible obs. 7−60837
halo stars, Li abundances of metal deficient halo dwarfs 7−60641
HBV 475 (V1329 Cyg), symbiotic star, UV spectra variability 7−34983
HD 101065 (Przybylski's star), element identifications from line coincidence statistics of UV spectra 7−55684
HD 109995, field horizontal branch A-type star, CNO comp., UV spectral obs. 7−47862
HD 119921 (A0 V), interstellar UV absorpt. lines obs. 7−48057
HD 1383, massive double-lined spectroscopic binary star, spectroscopic orbits determ. 7−4523
Hd 144941, H-deficient star, UV spectroscopy rel. to energy distrib. and stellar wind 7−47887
HD 149779, B-type eclipsing binary, spectral types from uvby photometry 7−24161
HD 152408, Of star, absolute UV flux determ. 7−60685
HD 153919 (=4U 1700−37), massive X-ray binary star, orbital variability in stellar wind ionisation from IUE obs. 7−55737
HD 17081 (π Cet), spectrum synthesis of UV Ga II and Ga III lines compared with IUE obs. 7−47943
HD 17198A, spectroscopic binary, orbital characts. and mass ratio, radial vel. anal. 7−55723
HD 193077, WN6 star, narrow absorption components in UV spectra 7−55680
HD 199178, FK Com star, rot. and radial vel., spectral characts. 7−14583
HD 25823, Si star, spectrum synthesis of UV Ga II and Ga III lines compared with IUE obs. 7−47943
HD 34452, 5200 feature vars. in hot Si star 7−18421
HD 45166 (qWR+B8 V), obs. of gross UV spectral variability 7−47945
HD 46703, Population II supergiant, N and S overabundances 7−66578
HD 50896, WR star, spectrophotometry and binary nature 7−55663
HD 62910 (WN6-C4), high-resolution IEU obs. 7−47946
HD 82558, chromospherically active single BY Dra star 7−34986
HD 93131, WN7 star, wind characts. and UV spectra 7−55679
HD 96548, WN8 star, UV line profiles 7−55679
He 2-104, He 2-106, symbiotic stars, spectrophotometric obs. of emission lines 7−9477
AH Her, dwarf nova, primary and secondary spectral obs. 7−60668
g Her, SRb star, outer atm., IUE spectral characts. 7−55674
HZ Her (=Her X-1), line emission site determ. from UV spectroscopy 7−55736
BL Her stars, spectral obs. 7−66476
AM Her stars, spectrophotometric detect. of secondary in three systems 7−9514
Herbig Ae/Be stars, envelopes characts. 7−4473
Herbig-Haro objects and related stars, optical spectrophotometry 7−14630
Herbig-Haro objects near Cep A star-formation region 7−35026
high-luminosity non-coronal stars, Fe II emission line profiles 7−47867
high-mass loss rate stars, projected FIRST obs. 7−47842
hot horizontal-branch stars in globular cluster NGC 6397, optical spectroscopy 7−47859
hot O-type stars, improved non-LTE Balmer line profiles 7−55603
HR 5999, Herbig Ae star, chromospheric-transition region structure, IUE obs. 7−55631
HR 6559, A7 IV star, abundance determ. 7−60647
HR 6902, composite-spectrum star, spectral types, orbital elements and mass ratio determ. 7−66674
HR 8107, new bright Be star, Hα and UBV obs. 7−24152
HR 8752 (=V509 Cas), G-type hypergiant, spectral type vars. (1950 to 1979) 7−24134
HV 12714, eclipsing and possible LMC membership, spectral obs. binary star, lumin. 7−47981
image processing by FFT, appls. and problems *(French)* 7−14499
interstellar Na I line strength versus reddening relation, influence on stellar population synthesis 7−9526
IR lines in field horizontal-branch and A-type stars, CNO abundances 7−9472
IRAS 00193−4033, 22231−4529, O-rich unidentified IRAS sources, optical and IR obs. 7−55853
IRAS 1912+172P09, new binary planetary nebula, spectroscopy and JHKL photometry 7−48046
IRC+10216, ^{29}SiC$_2$ and ^{30}SiC$_2$ detect. in millimetre-wave spectrum 7−29474
IRC +10420, post AGB star, mass-loss region, circumstellar environment and atm. characts. 7−66583
IUE and UV astronomy, conf., London, England (July 1986) 7−41012
K and early M-type giants, IUE spectra of subclass with abnormally high wind expansion vels. 7−47873
K-type giant stars of galactic disk, metallicity variance 7−60640
K-type stars, orange giants and dwarfs, spectral classification criteria 7−4457
AR Lac, RS CVn star, atm. active regions and lines rot. modulation, IUE obs. 7−55728
EV Lac, UV Cet star, mass expulsion episode, obs. characts. 7−55672
EV Lac, UV Cet star, UV radiation rot. modulation 7−47933
Lanning 10 (V363 Aur), eclipsing cataclysmic binary, component masses and spectrophotometric obs. 7−66602
late-type contact binaries, chromospheric-coronal activity, UV obs. of Mg II lines 7−47994
late-type dwarf stars, synthetic spectra rel. to accuracy of chemical comp. determ. 7−66566
late-type dwarfs, radial vel. meas. rel. to binary nature 7−9516
late-type giant stars, abundance anals. rel to departures from LTE in Na and Al 7−60662
late-type giant stars, outer atmospheres struct. from IUE spectra 7−47872
late-type main sequence stars, chromospheric emission 7−47839
late-type Population I dwarf stars, Li abundances and ^{7}Li/^{6}Li ratios 7−14562
late-type stars, line list for coude radial vel. means. 7−29409
late-type supergiant eclipsing binaries, chromospheric ionisation and opacity, UV, spectra 7−40869
AD Leo, dwarf M flare star, simultaneous IUE and VLA obs. 7−47931
η Leo, F0 IV star, abundance determ. 7−60647
X Leo, U Gem star, spectroscopic orbit 7−14581
AD Leo, UV Cet star, giant flare UV and visible obs. 7−55676
LH 39, OB association in LMC, spectroscopic obs. rel. to age and initial mass of Wolf-Rayet member 7−66684
LHS 1070, new nearby faint red star, spectral type and radial vel. 7−4455
EH Lib, dwarf Cepheid, physical parameters from photometry and spectra 7−4492
line formation, influence of vel. fields 7−4436
LMC X-3, UV obs. and V, JHK photometry 7−55715
LMC X-3, X-ray binary containing black hole, for-UV obs. by IUE 7−55733
luminous accretion disk systems, IUE-Voyager observations 7−66623
luminous red giant stars, circumstellar dust and gas props. from IRAS and mol. obs. 7−55609
RU Lup, RW Aur star, multifrequency obs. 7−47866
R Lyr, no Tc lines detected in Mira variable 7−47899
β Lyr, search for secondary spectrum 7−55714
β Lyr, UV spectrum, P Cyg lines anal. 7−55731
RR Lyr stars, spectral obs. 7−66476

stellar spectra continued
RR Lyr stars in ω Cen and Baade's Window, spectroscopy 7—34979
M11 and M67, open clusters, late-type stars precise radial vel. 7—35017
M67, old open cluster, dwarf stars Li abundance 7—55743
M8 E, IR spectrum obs. rel. to evidence for circumstellar CO 7—48040
M-type dwarf stars, photometry and spectra rel. to chromospheric activity, kinematics, and metallicities 7—9466
M-type giants and supergiants, shell and mass loss characts., CO obs. 7—60649
M-type stars in SAO catalogue, luminosity classes 7—4435
magnetic stars, spectropolarimetry rel. to diagnostic contents of Stokes I and V line profiles 7—29484
mass-losing stars, UV spectra due to ejected gas parcels from atm. region 7—47833
massive early-type stars in nearly galaxies (M31 and M33), IUE and optical obs. 7—47881
massive protostars, temp. struct. in accretion flows rel. to IR spectral features 7—29471
massive stars in M31, photometry and spectra in OB associations 7—40926
metal-poor late-type stars, O/Fe ratio from spectra 7—40803
metal-rich globular clusters, metal abundance, metallicity scale 7—40881
MG 4 and 5, WR stars in LMC near 30 Dor, spectrophotometry 7—60691
AU Mic, BY Dra star, IUE spectra of fluxes 7—47939
AT Mic, dMe star, UV and visible obs. 7—47934
AT Mic, flare star, flare far-UV spectra compared with solar flares 7—47937
Mira variable stars, Mg II emission flux meas. from shock waves 7—47938
Mira variables of short period, search for OH and SiO maser lines 7—14580
RU Mon, physical parameters from 85-year study 7—55710
MS-type stars, search for white dwarf companions, UV spectral obs. 7—47935
multilevel transfer calcs., statistical equilib. eqns. 7—47689
MWC 349, velocity-resolved IR spectroscopy 7—60683
nearby stars, SETI and laser signals search 7—34889
NGC 2024 - IRS 2, H I Brα and γ line studies of wind 7—40799
NGC 346, young open cluster in SMC, photometry, spectra and radial vels. 7—48002
NGC 6210, 6826 and 6543, planetary nebulae, nuclei mass loss rates 7—66694
NGC 6543, mass loss from central star of planetary nebula, UV spectra 7—40804
nonmagnetised low-mass X-ray binary stars, X-ray spectra from accretion disk 7—60719
Nova And 1986, discovery, approximate position, magnitudes and spectrum (1986 December 4 to 8) 7—40841
Nova And 1986, photometric and spectral obs. 7—47912
Nova And 1986, spectral features (1986 December) 7—47909
Nova And 1986, visual magnitude estimates (1986 December 10) 7—47907
Nova Cen 1986, spectra, photometry, and magnitudes (1987 Jan.-Feb.) 7—66606
Nova Cen 1986, spectral observations 7—55654
Nova Cyg 1986, discovery, magnitudes, spectrum, and finding chart 7—18418
Nova Her 1987, Hα emission, position, and magnitude estimates (1987 Jan.-Feb.) 7—55657
Nova Vul 1984 No.1, photometry and spectral obs. *(Russian)* 7—40848
Nova Vul 1984 No.1 (PW Vul) slow nova, abundances, visible and IR obs. 7—40850
novae, UV studies by IUE satellite 7—47940
NS 105—67, massive double-lined O-type binary in LMC, spectroscopic obs. 7—55711
O3-B8 type supergiants, stellar wind UV profiles and optical spectral types 7—55637
O6 to A3 supergiants, M_v-W(Hγ) calibration 7—47860
O-F8 stars at SGP, radial vels. 7—60659
O-type main sequence stars, N III line strengths from non-LTE model atmospheres 7—47846
OB mass-losing stars, displaced narrow absorpt. components due to corotating interaction regions 7—4432
OB supergiant stars, visible and IR continuum spectropolarimetric obs. 7—47845
OB-type stars, C IV line profiles and IR excesses rel. to C IV ionisation fraction 7—47884
OB-type stars, equivalent widths of interstellar 217 nm band 7—66479
OB-type stars, obs. of interstellar diffuse absorpt. band at 443 nm 7—24187
open clusters, RS CVn stars and blue stragglers 7—60741
open clusters, stellar activity, Mg II obs. *(Spanish)* 7—55742
Y Oph, classical Cepheid, IUE obs. rel. to early-type companion star 7—4470
ζ Oph, interstellar C_2 (3,0) Phillips band detect. 7—48043
ρ Oph, interstellar C II 232.5 nm line obs. rel. to interstellar C abundance determ. 7—9531
RS Oph, recurrent nova, optical spectrum and photometry in quiescence 7—24139
RS Oph (Nova 1985), coronal lines obs. in post-maximum spectrum 7—9499
BN Ori, Herbig Fe star, chromospheric-transition region structure, IUE obs. 7—55631
β Ori, IUE and Hα obs. rel. to models for discrete absorpt. components in spectral lines 7—47886
α Ori, long-term spectroscopic monitoring by IUE 7—47877
4=o^1 Ori, MS star, white dwarf companion detect. and characts., UV spectra anal. 7—55681
ι Ori, orbital elements determ. rel. to stellar dimensions and tidally induced mass loss 7—55738
α Ori, outer atm. and circumstellar material characts., far-IR spectral obs. 7—60690
64 Ori (HR 2130), B-type triple system 7—35001
FU Ori stars, evidence for disk accretion IR spectral obs. 7—66581
FU Ori stars, wind characts. modelling, spectral lines anal. 7—66580
Orion Belt region, 140 nm spectrophotometric census rel. to Si stars identification 7—47950
Orion population stars, photometric vars., 1984/5 coordinated spectroscopy 7—40950

stellar spectra continued
peculiar emission-line supergiants, IUE and optical obs. of Henize-Carlson sample 7—47948
21 Peg, A-type star, UV doubly excited Fe II lines obs. 7—66585
BO Peg, eclipsing binary, BV photometric and spectral obs. 7—66678
IP Peg, near-IR spectroscopy and photometry 7—66619
57 Peg, semiregular variable, photometric and spectral characts. 7—55664
AG Peg, symbiotic star, spectrophotometric obs. *(Russian)* 7—55669
pentynylidyne radical (C_5H), detect. of $^2\Pi_{3/2}$ state (in IRC+102.16) 7—23988
RY Per, asynchronously rotating Algol binary study 7—35002
ϵ Per, extended line wings obs. rel. to lawn-sprinkling shock model 7—47849
GK Per, outburst obs. (1986 Nov.-Dec.) 7—40836
ρ Per, SRb star, outer atm., IUE spectral characts. 7—55674
GK Per (Nova 1901), IUE spectra and visual magnitude estimates (November to December 1986) 7—47905
PHL 227, UX UMa star, orbital period determ from periodic radial rel. vars. 7—55668
PHL 346, model atmosphere analysis of faint early-type halo star 7—66574
photospheric granulation, line asymmetries 7—60627
β Pic, circumstellar gas cloud, Ca II and Na I obs. anal. 7—24130
β Pic, circumstellar shell characts., UV lines anal. 7—66590
planetary nebulae central stars, stellar winds props. from IUE obs. 7—47879
planetary nebulae central stars, terminal vels. of stellar winds from IUE obs. 7—47880
planetary nebulae nuclei, observational constraints on origin and evolution from IUE data 7—47888
plasma, ion line Stark broadening 7—55615
Population II giant stars, C isotopic ratios determ. 7—60654
Praesepe bright stars, MK classification determ. 7—4534
pre-main sequence, CO band heads emission 7—66584
pre-main-sequence stars in Bok globule Barnard 62, optical and IR obs. 7—9527
TX Psc, C star, UV spectral characts. 7—55675
TX Psc, UV emission var. in cool C star, IUE obs. 7—60684
pulsars, model of radio spectra and pulse profiles 7—29496
pulsating stars, effects of temp. var. on mode identification from line profile vars. 7—55613
BV Pup, dwarf nova, X-ray, UV and optical obs. 7—47922
T Pyx, UV continuum and spectra 7—34992
R-type stars, line blanketing in model atm. 7—60674
rapidly-rotating single late-type giants, evolutionary status and emission fluxes 7—47864
red giants in open cluster M67, chromospheric UV emission obs. 7—47876
ROB 162, sdO star in globular cluster NGC 6397, NLTE-analysis 7—40805
S and MS stars, chem. comp. determ. 7—60681
Sanduleak—69°202 as SN 1987A progenitor, photometric characts. and spectral type 7—66629
RT Scl, near-contact binary system, radial vels. and light curve anal. 7—47988
?β^1 Sco, interstellar C II 232.5 nm line obs. rel. to interstellar C abundance determ. 7—9531
Sculptor dwarf galaxy, giant stars radial vel. anal. 7—14654
Sculptor dwarf galaxy, metal abundances and origins of anomalous Cepheids 7—4571
semi-regular variables of short period, search for OH and SiO maser lines 7—14580
16 Ser, binary Ba star, heavy element abundances 7—60680
EG Ser, eclipsing binary, spectroscopic orbits 7—66676
CV Ser, WC8 star, wind modelling, C III UV and visible spectra anal. 7—66625
U Sge, asynchronously rotating Algol binary study 7—35002
RS Sgr, Algol-type system, fainter component lines 7—66679
W Sgr, binary Cepheid, lumin. determ. from IUE spectra 7—55682
υ Sgr, H-deficient star, mass loss and mass characts., UV spectra anal. 7—14579
N4046 Sgr, T Tau star, UV and visible obs. anal. 7—47869
SMC, Nova 1986, discovery, spectra and visual magnitude estimates 7—47901
SMC globular clusters stars, spectral classification 7—29412
SMC globular clusters stars, spectral classification of bright stars 7—4354
SN 1985F in NGC 4618, optical light curve and spectrum 7—40851
SN 1986E, SN 1986I, type II supernovae, spectroscopic obs. 7—47956
SN 1986J in NGC 891, spectrum and radio detections 7—9503
SN 1986L, in NGC 1559, spectroscopic obs. and visual magnitude estimates (1986 October 9 to 12) 7—18428
SN 1986M in NGC 7499, spectroscopic identification as type Ib supernova 7—47956
SN 1986N, type Ia supernova in NGC 1667, spectroscopic obs. and precise positions 7—47956
SN 1986O in NGC 2227, spectra of Type Ia object 7—55692
SN 1987A, in LMC, discovery, precise position, possible progenitor, photometry, and spectrum 7—66628
SN 1987A in LMC, IUE obs. of UV spectra and light curve 7—66638
SN 1987A in LMC, photometric and spectral obs. (1987 February 24-26) 7—66632
SN 1987A in LMC, photometric and spectral obs. and evidence for companion to progenitor 7—66630
SN 1987A in LMC, photometry and spectral characts. (1987 February) 7—66640
SN 1987A in LMC, spectral evolution (1987 Feb. 25-Mar. 1) 7—66641
SN 1987A in LMC, Type II SN, astrometry, spectral and photometric obs. and progenitor characts. 7—66629
SN 1987A in LMC, UV light and spectrum vars. (1987 February 25 to March 2) 7—66642
SN 1987A in LMC, vel. systems of interstellar absorpt. lines 7—66637
SN 1987B in NGC 5850, Type II SN, spectral characts. 7—66639
solar neighbourhood stars, IUE meas. 7—66727
solar-type stars, IUE and Skylab spectra 7—47827
spectroscopic binary stars of spectral types B0 to B9, search for Hα emission 7—35005
standard stars revised MK spectral types for G0 and later 7—9467
super metal rich stars, Mg isotopic characts. determ. from MgH spectral obs. 7—60645
supercritical winds, Comptonisation and spectral evol. 7—55437

stellar spectra continued

- supergiant stars in Magellanic Clouds, CO, 2.3 μm band synthesis and band strengths interpretation 7−66577
- supernovae, type Ia, model atmospheres rel. to C deflagration models and max. light spectra 7−40854
- supernovae, type Ib, spectra rel. to supernebulae and nucleosynthesis 7−40854
- symbiotic stars, nebular emission location from IUE obs. of HBV 475 (V1329 Cyg) 7−55687
- symbiotic stars, spectrophotometric obs. 7−4474
- symbiotic stars (book) 7−35122
- Y Tau, C star, effective temp. from occultation and spectroscopic obs. 7−47927
- α Tau, late type giant star, outer atm. struct. and UV spectra 7−34974
- V471 Tau, photometry and UV spectra rel. to large-scale structs. in atmosphere of active K-dwarf component 7−47874
- V711 Tau, RS CVn star, 1981 October 3 flare, origin, IUE obs. 7−55729
- V711 Tau, RS CVn system, UV emission-line fluxes rel. to chromospheric and starspot activity vars. 7−47995
- RY Tau, T Tau star, UV and visible variability 7−55632
- V711 Tau (HR 1099), Hα line obs. of bright RS CVn system 7−40873
- T Tau stars, rot. vels. obs. and anal. 7−4443
- T Tau stars, thin jets, pinch effect mechanism and spectral characts. 7−29473
- Trapezium cluster in Orion Nebula, photometry and spectroscopy 7−66688
- α Tri, hybrid chromosphere star, wind characts. and line form. region characts. 7−55630
- AQ Tuc, contact binary system, radial vels. and light curve anal. 7−47988
- 4U 1636−53, persistent X-ray flux, spectral characts. 7−60712
- 4U 1907+09, X-ray binary pulsar, high-resolution spectrum of peculiar optical counterpart 7−18440
- DN UMa, eclipsing binary, spectroscopic orbits 7−66676
- DM UMa (BD+61°1211), Hα line obs. of single-lined RS CVn system 7−40873
- UV classification of peculiar stars, results from IUE low-dispersion spectra reference atlas 7−60636
- UV Ga stars, spectral characts. 7−60665
- UV-excess objects in Galactic plane, KPD survey for white dwarfs and subdwarfs 7−9383
- variable stars in globular cluster NGC 6637, spectroscopic identification as Mira variable 7−47906
- Vega, Fe comp. and atm. microturbulence characts. 7−4445
- FY Vel (=HD 72754), satellite line system spectra of eclipsing binary 7−47983
- Vel X-1 (4U 0900−403), X-ray probing of circumstellar matter during eclipse phase 7−55726
- Vel X-1/HD 77581 system, circumstellar matter characts. from X-ray energy spectra 7−24168
- *o* Vir, Ba star, heavy element abundance 7−60680
- VM No.1 in field of galaxy DDO 155, cool subdwarf radial vel. anal. 7−66588
- 22 Vul, ζ Aur star, mass loss and wind props., IUE obs. 7−14601
- PU Vul, peculiar symbiotic star, binary characts. and spectral obs. *(Chinese)* 7−4460
- LV Vul (Nova Vul 1968 No.1), post-max. spectral evolution 7−29490
- W3 molecular cloud complex direction, spectral types rel. to dust clouds distrib. 7−48004
- WD 1225−09, spectral type and classification 7−55625
- white dwarf in wide binaries, physical props., from multichannel spectrophotometry 7−14566
- white dwarfs, evolution of surface comps. and spectral types 7−9474
- white dwarfs, magnetic line blanketing 7−34975
- white dwarfs, spectroscopic obs. of cool degenerate star condidates 7−4450
- white dwarfs in wide binaries, double degenerates and composite spectra 7−14567
- white dwarfs with chemically stratified atmospheres, model atmospheres and synthetic spectra 7−4447
- Wolf-Rayet stars, energy distrib. and intrinsic colours 7−66624
- Wolf-Rayet stars, review 7−40849
- X1735−444, low-mass X-ray burst source, Fe line emission obs. at 6.8 keV 7−24165
- X-ray binary pulsars, short-period temporal studies with IUE 7−55494
- X-ray binary stars, cyclotron line formation in a hot plasma including Compton cooling 7−60514
- X-ray binary systems, relation between annihilation line and ultra-high-energy gamma-ray emission 7−47971
- X-ray bursters, neutron star characts. 7−60725
- X-ray pulsars, two-photon emission 7−40867
- X-ray source in M15, EXOSAT obs. 7−60732
- Z 7−24123
- Al III line strengths in early type stars, non-LTE calcs. 7−18405
- C stars, colour temps. determ., spectrophotometric obs. 7−4461
- C stars, line blanketing in model atm. 7−24141
- C stars, mol. absorpt. bands spectrophotometry 7−40819
- C stars with circumstellar silicate dust, spectral characts. 7−40834
- CH stars, synthetic spectra for 255 to 320 nm 7−55673
- γ Dra, K-type giant, atmospheric props. and Fe/H ratio from spectroscopic anal. 7−14573
- H I Lyman alpha profiles, correction for interstellar absorpt. and geocoronal emission 7−60637
- He I 1083 nm chromospheric line, obs. in bright late-type stars 7−55612
- He I laser action in stellar envelopes, theory 7−4438
- He peculiar stars, IUE obs. of magnetically controlled stellar winds 7−47949
- Li I 670.7 nm line in stars in M67, Li abundance 7−55746
- Li-rich supergiant stars HR 7008 and HD 174104, CNO abundances 7−4453
- OH-IR stars, H_2O maser emission obs. 7−24140
- OH-IR stars identified with IRAS sources, OH circumstellar masers obs. 7−34978
- FU Ori, eruptive pre-main sequence star, IUE obs. 7−47875
- SO_2 and SO in circumstellar envelopes, millimetre-wave obs. 7−4429
- Si II, autoionizing levels and identification of 1400 Å feature in Ap-Si stars 7−40821
- Si II, III and IV line strengths in B-type stars, non-LTE calcs. 7−18406
- SiO maser sources, monitoring obs. at 7 mm wavelength (1977 to 1979) 7−4449

stellar spectrophotometry *see stellar photometry; stellar spectra*

stellar structure

- *see also solar interior*
- FF Aqr, RS CVn star, G-type giant star surface and atm. struct., IUE obs. 7−55730
- BE Cep, contact binary star with components in poor thermal contact, light curves anal. 7−4521
- CW Cep, early-type eclipsing binary star, internal struct. const. from apsidal motion 7−60729
- composite models, adiabatic oscills. periods, rot. and tidal effects 7−60630
- contact binary stars, equilib. solns. and stability 7−60716
- Y Cyg, early type eclipsing binary star, internal struct. const. from apsidal motion 7−60729
- differentially rotating perfect fluid stars, stability 7−40796
- early-type star, core-envelope boundary layer in slow rotation 7−18404
- evolving low-mass stars, activity-related characts. of convective envelopes 7−4440
- fourth-order Henyey method 7−66469
- G-type stars, general characts. 7−24135
- gravitational potential determ. for axisymmetric mass distrib., hydrodynamic test results 7−66446
- β Gru, late type giant star, outer atm. struct. and UV spectra 7−34974
- homogeneous uniformly rot. McLaurin spheroid in mag. field, equilib. and stability 7−47686
- Lane-Emden equation in N-dimensional space, approx. analytical solns. 7−60629
- Lane-Emden functions, 7-digital tables 7−18402
- macroscopic intermediate range forces, influence on stellar struct. 7−56119
- massive high-luminosity stars, presupernova evolution 7−29461
- massive stars, evolution calcs. using non-local convection theory 7−29460
- meridional flow in self-gravitating body, mechanical flow in barotropic star with const. ang. momentum 7−29464
- neutron star stability, nuclear matter equation of state anal. 7−35969
- neutron stars, envelopes thermal struct., effects of rapid rot. 7−47965
- neutron stars, strange matter structure, detection possibilities 7−36019
- RZ Oph, long-period eclipsing binary, new model from photometric and radial rel. study 7−29504
- AG Per, early-type eclipsing binary star, internal struct. const. from apsidal motion 7−60729
- polytropic configurations within homogeneous background matter, equilibria and instabilities 7−4316
- polytropic stars, error-removing techniques for higher-order perturbation theories for rotating stars 7−14559
- Population I, evol., remnant white dwarf min. mass and chem. stratification 7−60634
- R-type stars, model atm. and struct. 7−60674
- rapidly rotating compact stars, equilib. configurations and gravit. effects *(Chinese)* 7−4305
- rapidly rotating stars, struct. determ via versatile two-dimensional method 7−9457
- rotating intermediate-mass stars, pre-main-sequence evolution and main-sequence position 7−14558
- rotating polytropic stars, implementation of perturbation theory up to third order 7−66568
- rotating upper-main-sequence stars, size of convective cores 7−29468
- strange stars, global props. and surface characts. 7−29495
- supernovae, energy content of blast wave 7−34856
- α Tau, late type giant star, outer atm. struct. and UV spectra 7−34974
- He stars, evolution of single and binary stars of 2.5 $M_\odot$ up to Ne ignition 7−4430
- He stars in mass range 2.0 to 4.0 $M_\odot$, internal struct. rel. to evolution 7−24122

stellar variables *see variable stars*

stellar winds

- A-type supergiants, wind characts., IUE obs. anal. 7−55636
- accretion from inhomogeneous medium, general case and observational consequences 7−9460
- Algol-type stars, evolution assuming ang. momentum loss via mag. winds 7−40864
- δ And (K3 III), hybrid K-type giant star, IUE obs. of UV spectrum 7−55623
- γ Aql, hybrid chromosphere star, wind characts. and line form. region characts. 7−55630
- V1343 Aql (SS 433), evidence for relativistic beaming from VLBI obs. 7−9476
- V1343 Aql (SS 433), jet funnel vertex angle from absence of high-speed light vars. 7−66596
- R Aqr, UV variability and mass expulsion from IUE obs. 7−55651
- R Aqr jet, obs. at UV and radio wavelengths 7−55686
- V1343 Aquilae (SS 433), Doppler-shifted X-ray line emission assoc. with high-speed jets 7−9493
- asymptotic giant branch stars, mass loss determ. 7−24127
- AB Aur, Herbig Ae star, wind rot. modulation, C IV and Mg II UV obs. 7−47870
- ζ Aur type detached binary systems, UV evidence for accretion shocks in stellar winds 7−55732
- B 335, compact bipolar outflow source, EHF obs. 7−47893
- late B-type supergiants, comparison of models with obs. for discrete absorpt. components in mass-losing stars 7−47886
- Be stars, appl. of rot. mag. radiation-driven wind model 7−60676
- Be stars, C IV and Si IV UV lines synthesis rel. to superionisation and large mass outflows 7−55653
- Be stars, edge vels. of UV superionised lines in stars of different spectral types 7−55652
- Be stars, evidence for aspect depend. winds, UV spectra anal. 7−55685
- biconical stellar winds, relation to biannular radio struct. of supernova remnants 7−55752
- bipolar jets, prod by turbulent Alfven waves 7−60523
- bipolar molecular flows, CO line form. in accelerated outflows 7−48042
- black holes, adiabatic jets from funnels of thick disks 7−34844
- λ Boo stars, mass loss rates and abundance anomalies 7−60677
- α Cam, O-type supergiant, Hα line profile obs. rel to stellar wind accel. 7−60638
- η Car, inhomogeneous asymmetric wind model for UV spectrum 7−47942
- γ Cas, Be star, interferometric meas. of circumstellar envelope in Hα line 7−4466
- catalysmic variable stars winds, inclination and orbital phase dependent resonance line profile calcs. 7−60692

stellar winds continued
- CQ Cep, eclipsing Wolf-Rayet star, wind-dominated Roche surface model from spectrophotometric studies 7−66618
- μ Cep, red supergiant star, stellar wind model from Na I image of circumstellar envelope 7−4442
- o Cet stars, circumstellar shell vel. fields, role of dust and mass loss *(Chinese)* 7−66591
- close binary stars evolution, effects of orbital ang. momentum loss by mag. stellar wind 7−24121
- collimated outflows in interstellar mol. clouds, model for Herbig-Haro objects (HH 7-11) 7−55775
- cometary nebulae, thin jets, pinch effect mechanism and spectral characts. 7−29473
- Comptonisation in supercritical winds, spectral evol. 7−55437
- conference, Dublin, Ireland (September 1985) 7−24261
- θ CrB, Be star, wind vel. var., UV spectral obs. 7−66597
- R CrB, H-rich envelope ejection model from IRAS obs. of fossil shell 7−55649
- CRL 618, proto-planetary nebula, H_2 S(1) line profile, wind and dust effects 7−35031
- V444 Cyg, eclipsing Wolf-Rayet binary star, Doppler tomography of stellar wind from IUE obs. 7−47947
- Cyg OB2 no.8A, UV and Balmer line profile vars. rel. to mass loss problems 7−47944
- V645 Cyg-Duck Nebula complex, characts. and obs. 7−60655
- early-type stars in SMC, stellar winds props. from IUE obs. 7−47885
- exciting stars of very low excitation compact nebulae in LMC, UV spectra rel. to mass loss 7−47883
- GK-type supergiants, mass loss rates from expanding chromospheres models 7−9470
- HBV 475 (V1329 Cyg), symbiotic star, cool star wind; illumination by hot star 7−34983
- Hd 144941, H-deficient star, UV spectroscopy rel. to energy distrib. and stellar wind 7−47887
- HD 153919 (=4U 1700−37), massive X-ray binary star, orbital variability in stellar wind ionisation from IUE obs. 7−55737
- HD 45166 (qWR+B8 V), vars. in UV P Cyg and emission-line profiles 7−47945
- HD 50896, WR star, wind effects in spectra 7−55663
- HD 62910 (WN6-C4), wind terminal velocity from high-resolution IUE obs. 7−47946
- HD 91824, O7 star in Carina region, stellar wind model for surrounding H I bubble 7−60760
- HD 93131, WN7 star, wind characts. and UV spectra 7−55679
- Herbig-Haro objects, thin jets 7−29473
- high-mass loss rate stars, projected FIRST obs. 7−47842
- interacting binary stars, mass loss rates rel. to evolution 7−47997
- interstellar bubbles, wind driven, soft X-ray spectra 7−4545
- interstellar bubbles creation, structure and evolution is multiphase interstellar medium 7−60764
- IRc 1 in M17, bipolar outflow source and nebulosity, spectral characts. 7−60748
- IRC +10420, post AGB star, mass-loss region, circumstellar environment and atm. characts. 7−66583
- jets formation in accreting binary systems, dynamics of rotating magnetised mass accretion 7−55460
- jets from star-forming clouds, implications of shocked interstellar H_2 obs. 7−55760
- jets from young stars, CCD obs. 7−55617
- K and early M-type giants, evidence for subclass with abnormally high wind expansion vels. 7−47873
- L1551 IRS 5, obs. of extended far-IR emission assoc. with mass outflow from young star 7−66715
- L1551 IRS 5, stellar wind cavity model for IR polarisation of nearby refl. nebula 7−24186
- EV Lac, UV Cet star, mass expulsion episode, obs. characts. 7−55672
- late M-type giants and supergiants, dust condensation and stellar UV radiation 7−14565
- late-type giant stars, stellar winds struct. from IUE spectra 7−47872
- LDN 1551, bipolar nebula IR emission characts. 7−48061
- LDN 1551-IRS 5, bipolar outflow source, EHF obs. 7−47893
- line formation in expanding atmospheres, theory for lines from excited levels 7−24123
- β Lyr, mass loss characts. 7−55731
- M16, star-forming complex, obs. of giant stellar wind shell assoc. with H II region 7−18446
- M8 E, stellar wind model for circumstellar CO absorpt. in IR spectrum 7−48040
- M-type giants and supergiants, shell and mass loss characts., CO obs. 7−60649
- Magellanic H I bridge, 160 pc shell feature characts., stellar wind or SNR origin 7−35049
- magnetic braking in cool dwarfs 7−34973
- mas loss from hot luminous stars, radiation-driven wind theory 7−47841
- mass loss rates in Shapley-Ames elliptical galaxies, determ. from IRAS obs. 7−66758
- mass-losing stars, UV spectra due to ejected gas parcels from atm. region 7−47833
- massive close binaries evolution with mass loss and overshooting, mass transfer in very massive system 7−29465
- massive early-type stars in nearly galaxies (M31 and M33), wind vels. from IUE obs. 7−47881
- massive high-luminosity stars, stellar wind comp. during presupernova evolution 7−29461
- molecular outflow sources, NH_3 obs. anal. 7−66576
- molecular outflows assoc. with IR sources, far-IR luminosities rel. to radiation-driven flows model 7−55766
- NGC 2024 - IRS 2, H I Brα and γ line studies of wind 7−40799
- NGC 2071, refl. nebula, nearby bipolar flow source NH_3 obs. 7−24181
- NGC 6210, 6826 and 6543, planetary nebulae, nuclei mass loss rates 7−66694
- NGC 7293 (Helix Nebula), outer filament high radial vel. 7−60767
- O3-B8 type supergiants, stellar wind UV profiles and optical spectral types 7−55637
- O-type stars as finite disks, appl. of rot. mag. radiation-driven wind model 7−60676
- O-type stars in NGC 6357, stellar wind-mol. cloud interaction rel. to star form. 7−48009
- OB mass-losing stars, displaced narrow absorpt. components due to corotating interaction regions 7−4432
- OB supergiant stars, polarisation characts., wind model 7−47845

stellar winds continued
- OB-type stars, C IV ionisation fraction and mass loss rate from UV line profiles and IR excesses 7−47884
- open cluster stars, evolution and mass loss rel. to dynamical evolution of N-body clusters 7−55748
- RS Oph, recurrent nova, radio obs. rel. to conditions in nova remnant 7−60695
- RS Oph (Nova 1985), coronal lines obs. in post-maximum spectrum 7−9499
- α Ori, dust shell Si fractional condensation, mass loss rate and grain characts., polarisation anal. 7−34972
- β Ori, IUE and Hα obs. rel. to models for discrete absorpt. components in spectral lines 7−47886
- α Ori, Mg II emission lines flux modulation rel. to atmospheric disturbances 7−47877
- ι Ori, orbital elements determ. rel. to stellar dimensions and tidally induced mass loss 7−55738
- α Ori, outer atm. and circumstellar material characts., far-IR spectral obs. 7−60690
- FU Ori stars, wind characts. modelling, spectral lines anal. 7−66580
- compact planetary nebulae, wind-shell model for radio continuum spectra 7−55751
- planetary nebulae central stars, stellar winds props. from IUE obs. 7−47879
- planetary nebulae central stars, terminal vels. of stellar winds from IUE obs. 7−47880
- planetary nebulae nuclei, constraints on mass loss and evolution from IUE data 7−47888
- pre-main-sequence stars, bipolar sources formation in dense mol. clouds 7−24182
- pre-main-sequence stars, collimating mechanism for bipolar outflows 7−40816
- production and star formation in molecular disks 7−9465
- radiatively driven winds, models with finite disk correction and rot. 7−60632
- red giants, mass loss characts. and subsequent planetary nebula nature 7−60651
- red giants undergoing mass loss, expanding shells IR continuum radiation modelling 7−66582
- rocket effect on gravitating mass-losing object, axisymmetric hydrodynamic theory 7−23995
- S140 IRS 1, CO obs. of assoc. bipolar outflow 7−66710
- S235B, young stellar object, mol. line obs. rel. to bipolar outflow 7−24188
- CV Ser, WC8 star, wind modelling, C III UV and visible spectra anal. 7−66625
- υ Sgr, H-deficient star, mass loss and mass characts., UV spectra anal. 7−14579
- VX Sgr, VLBI obs. of SiO masers rel. to physical conditions in circumstellar envelope 7−55619
- supercritical winds, Comptonisation dynamics and obs. diagnostics 7−55438
- symbiotic stars, nebular emission location from IUE obs. of HBV 475 (V1329 Cyg) 7−55687
- RY Tau, T Tau star, wind var. 7−55632
- T Tau stars, thin jets, pinch effect mechanism and spectral characts. 7−29473
- α Tri, hybrid chromosphere star, wind characts. and line form. region characts. 7−55630
- 4U 1700−37, X-ray flux time var. and wind characts. 7−66655
- unipolar bubbles in star-forming regions 7−55770
- Vel X-1/HD 77581 system, circumstellar matter characts. from X-ray energy spectra 7−24168
- velocity fields, conf., Trieste, Italy (August-September 1982) 7−35118
- 22 Vul, ζ Aur star, mass loss and wind props., IUE obs. 7−14601
- WC stars, influence of C and O abundances on mass-loss determ. from radio meas. 7−29480
- Wolf-Rayet stars, mass loss rates determ. from non-LTE model atmospheres 7−9475
- Wolf-Rayet stars, new evidence at X-ray and gamma-ray freqs,. for non-thermal phenomena 7−55640
- Wolf-Rayet stars, review 7−40849
- Wolf-Rayet stars, shock waves in stellar wind rel. to X-ray emission 7−55648
- Wolf-Rayet stars in H II galaxies, contrib. to He abundance and dY/dZ meas. 7−40937
- Wolf-Rayet subtypes, origin and characts. 7−55639
- YM 29, planetary nebula central star, search for stellar wind *(Russian)* 7−40812
- young stars, accretion-driven jets modelling 7−60643
- Ba stars, search for radioemission from wind 7−47894
- C stars, self-consistent models for dust-driven stellar winds 7−55641
- in H II regions, contrib. to internal motions 7−40902
- He I laser action in stellar envelopes, theory 7−4438
- He peculiar stars, IUE obs. of magnetically controlled stellar winds 7−47949
- OH-IR stars, IRAS obs. rel. to determ. of absolute luminosities and mass loss rates 7−29475
- FU Ori, eruptive pre-main sequence star, IUE obs. rel. to wind and extended envelope 7−47875

stellarators
- Advanced Toroidal Facility, design and construction 7−15359
- ATF neutral beam injection system, description of basic parameters 7−19518
- ATF torsatron at ORNL, facility design and preparation 7−25226
- conductor design limitations for modular coils 7−19453
- conference, Schliersee, Germany (April 1986) 7−4629
- electrostatic potential development, particle in cell model in stellarator 7−31940
- fusion reactor concept, axisymmetric tandem mirror and heliac stellarator aspects 7−5407
- heavy ion beam probe diagnostic systems forstellarators 7−1753
- heavy ion beam probing at ATF and Heliotron-E 7−26520
- helical tori, finite aspect ratio, stellarator approx. formulae 7−6444
- Heliotron E, diamagnetism and beta in beam heated currentless plasmas 7−32005
- Heliotron E, stability calcs. for $m=1/n=1$ mode using 3D MHD equilibrium and stability code 7−31958
- ICRH induced particle losses in stellarators 7−16326

- **stellarators** continued
  - interchangeable module stellarator, mag. field struct., electron beam meas. 7—44216
  - MHD equilibria with islands and stochastic regions, 3D calcs. 7—51415
  - modular coils, field distribution, stresses and strains 7—20968
  - neoclassical transport in stellarators 7—58047
  - plasma, MHD equilibrium and stability anal. 7—51502
  - plasma transport coefficients for nonsymmetric toroidalconfinement systems 7—11678
  - ripple transport, electric rotation effect calcs. 7—31938
  - system with helical axis and longitudinal mass flow, resistive ballooning modes 7—51492
  - toroidal helical systems, magnetohydrodynamic equilib. and stability 7—63264
  - Wendelstein VII-A stellarator, ECRH study 7—6434
- **STEM** *see scanning-transmission electron microscopy*
- **step motors** *see stepping motors*
- **step-recovery diodes** *see charge storage diodes*
- **step response**
  - *see also transient response*
  - thickness-mode piezoelectric transducer constants, automatic meas. and calibration system 7—1369
- **Stepanov method** *see crystal growth from melt*
- **stepped motors** *see stepping motors*
- **stepping motors**
  - acoustic noise reduction method 7—16031
  - spectrometer, IR, for surface EM waves, computerised control system 7—41511
- **stereoisomerism** *see isomerism*
- **stereopsis** *see visual perception*
- **stereoscopy** *see vision*
- **stiffness constants** *see elastic constants*
- **stimulated Brillouin scattering**
  - aberrations, thermally induced and coherent phasing of beams, stimulated Brillouin scatt. 7—37045
  - absorbing liquids, stimulated thermal and Brillouin scatt. mirroring 7—43229
  - acetone, laser pulse compression and amplification by stimulated Brillouin scattering *(Chinese)* 7—57455
  - Alfven wave stimulated Brillouin scatt. in low-density plasmas in ionospheric conditions 7—44146
  - alkanes, isomers study, depolarised Rayleigh-Brillouin scatt. investig. 7—62386
  - amplifier, semiconductor laser pumped with electronically controlled bandwidth, characts. 7—57460
  - beam combination by stimulated Brillouin scattering, phase conjugation 7—20348
  - cavity-structured targets, stimulated Brillouin scatt. suppression obs. 7—43238
  - double stimulated Brillouin scattering in a nonuniformlaser plasma 7—6396
  - dye lasers, multimode CW, dynamical instabilities, stimulated Brillouin scatt. 7—50552
  - dynamical instabilities, stimulated Brillouin scatt. 7—50552
  - fibre, wavefront reversal quality depend. on in-coupling conditions 7—37167
  - fibre optic logic elements 7—57564
  - four-wave mixing, transient Brillouin-enhanced, high-efficiency scattering 7—11066
  - gain, depend. on pump laser mode structure 7—20354
  - n-hexane, phase conjugation efficiency, focal length depend. *(Korean)* 7—31400
  - laser interferometer based on phase conjugation by stimulated Brillouin scattering 7—41450
  - laser mode structure, effect on scattering 7—20330
  - laser radiation, stimulated Brillouin scattering and phase conjugation 7—43234
  - layer-periodic materials, stimulated Brillouin scatt. threshold, light and sound attenuation calcs. 7—3060
  - liquids, nonlinear response in acoustic resonance region, determ. by four-wave mixing 7—43216
  - narrowband tunable optical filter for channel selectionin densely packed WDM systems 7—11174
  - nonlinear three-wave stimulated Brillouin scatt., implications for optical fibres 7—37036
  - phase conjugation, theory 7—50650
  - phase conjugation efficiency, focal length depend. *(Korean)* 7—31400
  - plasma, convection amplification of wave beams in nonuniform plasma during stimulated Brillouin scatt. 7—63286
  - plasma, satellite double stimulated Brillouin scattering 7—51453
  - plasma, whistler wave stimulated Brillouin scatt. off kinetic Alfven waves 7—51440
  - plasma Raman scatt. simulation by stimulated Brillouin scatt. 7—1702
  - plasma-laser interactions, stimulated Brillouin scatt. spectra *(Chinese)* 7—58016
  - polariton waves, study near threshold for stimulated Mandelstam-Brillouin scatt. 7—52442
  - pulse narrowing by backward stimulated Brillouin scattering 7—15936
  - single-mode fibre multiple-wave generation due to four-wave mixing 7—50755
  - tetrachloromethane, picosecond pulse generation 7—37031
  - time resolved second harmonic emission from laser produced plasmas, cut off, retardation characts. 7—37695
  - wavefront reversal by stimulated Brillouin scattering in laser plasma, numerical simulation 7—62784
  - waveguide, single-mode, stimulated Brillouin scattering, influence of sound diffraction 7—1225
  - weak space-inhomogeneous fields, phase conjugation and amplification 7—57478
  - Ar fibre laser, stimulated Brillouin scattering, single-mode and multimode pumped, spontaneous mode locking 7—1079
  - CS_2, phase conjugation efficiency, focal length depend. *(Korean)* 7—31400
  - HF laser radiation stimulated Brillouin scattering in Xe, high reflectivity 7—15938
  - KD_2PO_4, impulsive stimulated Brillouin scattering near structural phase transition 7—13126
  - KrF laser produced plasma, stimulated Brillouin scatt. 7—32032
  - Nd:glass laser, stimulated Brillouin and thermal scatt. of μs pulses in fluids 7—62777
- **stimulated Brillouin scattering** continued
  - Nd:YAG laser resonator, phase-conjugate using stimulated Brillouin scattering 7—43165
  - $SiCl_4$, liquid, phase conjugation of microsecond pulses in stimulated Brillouin scatt. of focused beams 7—57467
- **stimulated combination scattering** *see stimulated Raman scattering*
- **stimulated dielectric relaxation currents** *see thermally stimulated currents*
- **stimulated emission**
  - *see also laser theory; lasers; population inversion*
  - acetylene vibr. excited, chaos and dynamics on 0.5 to 300 ps time scale, Fourier transform spectra 7—42634
  - atoms, classical stimulated emission freq. depend. susceptibility 7—57402
  - diacetylene cation, fluorescing electronic state, stimulated emission pumping spectra 7—31119
  - p-difluorobenzene, S_0 vibr. levels, vibr. relax. rates, level depend. 7—31150
  - dressed-atoms, stimulated pair transition in strong light fields 7—62327
  - four-level velocity-selective atomic model, nonstationary effects, time-dependent anal. 7—36555
  - free-electron laser, modulated axial mag. field system 7—10974
  - glyoxal, rotationally resolved stimulated emission pumping spectra 7—50268
  - glyoxal, vibr. and rot. consts. meas., stimulated emission polarisation spectroscopy 7—57136
  - hot-hole cyclotron resonance maser with negative effective hole masses 7—15838
  - inert gas halide cryogenic solns., UV excitation and stimulated emission 7—10645
  - luminescence, conference, Rovno, USSR (Nov. 1984) 7—24263
  - 4-methylumbelliferone-fluorescein laser dye mixture, stimulated emission, conc. depend. 7—1098
  - nonlinear problem of incoherent anisotropic scatt., soln. 7—4309
  - perylene in microcryst. n-heptane, selectively laser excited in phonon sideband, stimulated emission 7—33415
  - Rydberg-Bremsstralung maser emission, anal. 7—15836
  - soft X-ray emission in a confined plasma column 7—11603
  - trans-stilbene, ground state, torsional motion, two-colour stimulated emission spectroscopy 7—50322
  - two-level atom density matrix eqns., frictional force and hysteretic effects in a standing light wave field 7—42563
  - two-level one and two atoms, reson. fluoresc., nonlinear and stimulated effects 7—25448
  - X-ray laser development, stimulated emission enhancement in confined plasma column at PPPL 7—25793
  - $Al_xGa_{1-x}As$:Mg/GaAs:Se quantum well heterostruct., photopumped laser operation 7—25818
  - Ba^+, laser excited resonance fluorescence, obs. of quantum jumps 7—10512
  - $Ba_3LaNb_3:Nd^{3+}(Eu^{3+})$ single crystals, spectral-luminesc. props. 7—39169
  - $BaY_2F_8:Pr^{3+}$, stimulated emission spectra, laser action excitation 7—27745
  - $Ca_3Ga_4O_9:Nd^{3+}$, luminescence and absorption spectra and stimulated emission 7—7732
  - $Ca_3(NbGa)_2Ga_3O_{12}:Nd^{3+}$, Nd^{3+} ions, two channels of stimulated emission 7—22285
  - $Ca_{2-x}Nd_xGa_{2+x}Si_{1-x}O_7$, Ga gehlenite, cryst. struct. and optical props. 7—16525
  - CdSe, stimulated photolum. 7—27776
  - Cs atomic beam, cooling using laser 7—10897
  - Cs, vapour, two-photon reson. four-wave mixing and multiphoton ionis. in heat pipe oven 7—901
  - Er cpds., concentrated crystals, interionic interaction, stimulated emission 7—27744
  - GaSe, spontaneous and stimulated photoluminescence studies 7—22315
  - p-Ge, hot hole intersubband transitions, stimulated emission and gain, quantum oscills. 7—1052
  - Ge, p-type, stimulated submillimetre emission props. 7—46074
  - p-Ge, solid-state radiation source for submillimeter and far IR waves 7—37079
  - H_2, two-photon excitation and stimulated emission in VUV 7—10690
  - Ho cpds., concentrated crystals, interionic interaction, stimulated emission 7—27744
  - $In_xGa_{1-x}As$ pseudomorphic quantum well lasers, carrier collection and stimulated emission 7—10928
  - K vapour, stimulated emission via unequal frequency two-step hybrid resonance 7—10516
  - K vapour, stimulated radiation via hybrid resonance processes 7—5641
  - $K(Y, R)W_2O_8:Er^{3+}$ (R=Gd, Er, Lu) single crystals, stimulated emission spectra 7—7716
  - $La_3Ga_{5.5}Ta_{0.5}O_{14}:Nd^{3+}$, luminescence and absorption spectra and low-threshold stimulated emission 7—7731
  - $LiLuF_4 = Pr^{3+} (Nd^{3+}) (Ho^{3+}) (Er^{3+})$, stimulated emission spectroscopy 7—13179
  - $Lu_3Al_5O_{12}:Cr^{3+},Fm^{3+},Ho^{3+}$; 2 μm stimulated emission of Ho^{3+} ions, spectral composition and kinetics 7—46073
  - Lu_2Si_xOy: Nd^{3+}, spontaneous and stimulated emission 7—39171
  - Mo-Si multilayer mirror, reflectivity and stimulated emission in XUV spectra region 7—37099
  - Na-K vapour, stimulated radiation via hybrid resonance processes 7—5641
  - Na_2, stimulated emission based on two-step hybrid reson. 7—42691
  - Nd cpds., concentrated crystals, interionic interaction, stimulated emission 7—27744
  - $Ni^{2+}:MgAl_2O_4$, Czochralski growth, stimulated emission tuning range 1.2 to 1.4 μm 7—59406
  - Pr cpds., concentrated crystals, interionic interaction, stimulated emission 7—27744
  - $Sc_2Si_xO_y;Nd^{3+}$, spontaneous and stimulated emission 7—39171
  - SrF_2-$2YF_3$-$Er^{3+}(Ho^{3+})$, interionic interaction, occupation kinetics, stimulated emission 7—46072
  - Xe, multiphoton ionisation, final state redistribution, electron energy spectra anal. 7—25468
  - $(Y, R)_3$ $Al_5O_{12}:Er^{3+}$ (R=Er, Lu) single crystals, stimulated emission spectra 7—7716
  - $Y_3Al_5O_{12}:Tm^{3+},Cr^{3+},Ho^{3+}$, 2 μm stimulated emission of Ho^{3+} ions, spectral composition and kinetics 7—46073
  - $Y_2Si_xOy:Nd^{3+}$, spontaneous and stimulated emission 7—39171
  - ZnCdSe, electron beam pumped, cathodolum., gain and stimulated emission 7—64701

stimulated Mandelstam-Brillouin scattering *see stimulated Brillouin scattering*

stimulated Raman scattering
see also coherent antiStokes Raman scattering
alkali metal atoms, collision induced amplified emission 7—10513
anti-Stokes scatt., in single mode fibre lightguide 7—25890
asymmetry of scatt. indicatrix 7—11060
beam cleanup with stimulated Raman scattering in the intensity-averaging regime 7—20340
benzene, and mixtures, fine line struct., parametric nature 7—43230
benzene, ionization-Raman double-resonance spectroscopy 7—10604
benzene, stimulated Raman measurements, time-resolved 7—15928
benzene liq., stimulated Raman gain meas., vibr. energy transfer, thermal lens detection 7—62772
bromobenzene and mixtures, fine line struct., parametric nature 7—43230
conversion efficiency, effects of focusing parameters *(Chinese)* 7—5951
diamond, stimulated Raman measurements, time-resolved 7—15928
diffractive Raman scattering in focused geometry, coupled pump and Stokes differential eqns. 7—20339
droplets, laser-induced explosion, spatially resolved spectra 7—42632
drops, micron-size, nonlin. optical processes 7—11063
dye laser radiation, frequency conversion and surface spectroscopy appl. 7—15931
fibre optic logic elements 7—57564
fibres, effects of pulse walkoff on stimulated Raman scattering 7—20423
fibres, single mode, picosec. stimulated Raman generation, pump pulse fragmentation and fragment compression 7—50635
fibres, stimulated Raman scattering and self-phase modulation numerical study 7—20429
fine line struct., parametric nature 7—43230
forward Stokes quenching by phase matching 7—5950
four-photon polarisation Raman spectroscopy for remote detection of hydrocarbons in water 7—46992
free electron laser action based on stimulated Raman scatt., radiation output and meas. *(Chinese)* 7—57345
frequency conversion by stimulated Raman scattering in selective optical delay line 7—25889
frequency conversion using crossed broadband pump beams and bisecting Stokes 7—20331
gas, Raman processes with several resonant levels andvariable wave polarization 7—1230
gases, compressed, stimulated Raman scattering conversion of radiation from an electric-discharge XeCl laser 7—50639
gases, low-pressure, in light guides, as high-power forward Raman amplifiers 7—20337
interference phenomena in time-resolved stimulated Ramanmeasurements 7—5955
laser beam clean-up using Raman amplifier 7—15930
laser beam combining by forward-stimulated Raman scattering 7—15939
laser plasma, stimulated Raman scatt. Thomson scatt., electron spectroscopy and IR diagnostics 7—37745
laser pulse narrowing by spectral windowing of self-phase modulated picosecond pulses 7—5928
laser radiation frequency conversion by stimulated Raman scattering in H_2 7—43226
laser-produced plasma, Raman scattered light obs. 7—26398
light amplification due to nonlinear interaction of counterpropagating waves in a single-mode optical fiber 7—50646
liquid, Raman susceptibility in mid IR 7—15932
logical invertor, stimulated Raman scatt. in optical fibre 7—57466
methane, XeF laser pumped, high-efficiency first-Stokes generation 7—20347
methane, XeF laser pumped, Stokes generation, beam parameters 7—20346
methane high-power forward Raman amplifiers employing low-press. gases in light guides 7—20344
multimode Stokes conversion efficiency and output wavefront, off-reson. Raman interactions effect 7—20333
multiple equivalent incoherent multiaxial-mode laser beams, Raman scatt. eqns. soln. 7—20338
nitrobenzene and mixtures, fine line struct., parametric nature 7—43230
nonmonochromatic optical radiation, stimulated scattering 7—62770
off-resonant enhancement investig. 7—50148
optical analog signal amplification by backward Raman scattering 7—37042
optical fibre soliton self-frequency shift 7—31501
optical fibre soliton self-frequency shift 7—31502
optical fibre stimulated Raman scattering, distortion-free transmission design 7—11054
oscillator strength meas., linear and nonlinear optical methods, review 7—893
parametric conversion under two-photon resonance conditions 7—62773
phase correlation in a Raman amplifier, pump beam temporal struct. effects 7—20343
phase-pulling effects in forward Raman scattering 7—20334
plasma, laser-produced, obs. of forward Raman scattering 7—11712
plasma Raman scatt. simulation by stimulated Brillouin scatt. 7—1702
plasma stimulated Raman backscatter instability threshold intensity 7—44247
plasma waves in laser fusion plasmas, review 7—26405
pre-formed plasmas, emission and stimulated Raman scatt. from thin foil, spectra anal. 7—20937
pre-gaussian light, stimulated Raman scatt. 7—57473
pump depletion and phonon transiency, role in stimulated Raman amplification 7—15935
α-quartz hyper-Raman tensor nonsymmetry studied by two-frequency excitation 7—15942
Raman oscillator, synchronously pumped, picosecond Stokes pulse generation 7—15933
Raman-resonance medium, unsteady-state 4-photon parametric interaction of time-spaced waves 7—43241
resonant Raman excitation profile measurements by stepped double scanning *(Russian)* 7—22269
rhodamine 590 droplet, micrometer size, high intensity laser interaction 7—43210
selective vibrational pumping of a molecular beam by stimulated Raman process 7—10679
single mode fibres, nonlinearities and their appls. *(French)* 7—26017
SiO_2, optical fibre, stimulated Raman spectra, rel. to fibre length, pump power *(Korean)* 7—31395

stimulated Raman scattering continued
soliton observation in stimulated Raman scattering, comment 7—15943
solitons, spontaneous generation from quantum noise 7—43237
stark effect in pulsed stimulated Raman scattering 7—1223
Stokes beams coherence props. for incoherent broadband pumps 7—20335
tetrachloromethane microspheres, morphology depend. resonances with stimulated processes 7—25878
toluene, and mixtures, fine line struct., parametric nature 7—43230
toluene liq., stimulated Raman gain meas., vibr. energy transfer, thermal lens detection 7—62772
transient refractive-index changes in stimulated Raman scattering 7—20332
two-level atoms, waveguide effects in superfluorescence and stimulated Raman scatt. 7—15832
underdense coronal plasma, laser interaction physics 7—26432
wave-particle interactions and energetic tail formation in the electron distribution 7—26433
xylene and mixtures, fine line struct., parametric nature 7—43230
As, fluoresc., SRS eval. as excitation source 7—30981
Ba vapour IR source for subpicosecond spectral photography 7—41502
$Ba(NO_3)_2$, radiation generation in resonator under stimulated Raman scatt. conditions 7—43222
CS_2 stimulated Raman measurements, time-resolved 7—15928
$CaCO_3$ crystal, formation of picosecond pulses by stimulated Raman backscattering 7—1226
$CaCO_3$, radiation generation in resonator under stimulated Raman scatt. conditions 7—43222
Cs, IR stimulated Raman scatt. 7—30972
Cs vapour, generation of tunable IR ultrashort light pulses by nonlinear frequency conversion 7—1227
Cs, vapour, two-photon reson. four-wave mixing and multiphoton ionis. in heat pipe oven 7—901
D_2 parametric Raman gain suppression 7—43232
D_2 stimulated rotational Raman scattering for high power emission at 11 to 14 μm 7—15941
GaAs, stimulated Raman gain spectroscopy, below bandgap studies 7—22231
GeO_2-core/SiO_2-cladding optical fibres, modified CVD deposition and stimulated Raman appl. 7—43378
H_2, amplifiers, efficient high-gain, beam cleanup and low-distortion amplification 7—20341
H_2, compressed stimulated Raman scatt., excitation by XeCl low divergence laser 7—57468
H_2 high-power forward Raman amplifiers employing low-press. gases in light guides 7—20344
H_2 parametric Raman gain suppression 7—43232
H_2 Raman amplifier, Stokes phase preservation 7—20342
H_2, Raman beam combination of two-line XeF laser sources 7—20336
H_2 Raman conversion, high efficiency and brightness via capillary waveguide amplifier 7—15944
p-H_2, Raman conversion from far-wave mixing of CO_2 laser 7—25877
H_2 Raman generator, stimulated Stokes emission spatial mode structure 7—15937
H_2 Raman generators, spatial mode struct. of stimulated Stokes emission 7—20345
H_2, rotational Raman linewidths and line shifts, temp. and density depend. 7—924
H_2, stimulated Raman scatt., Ar_2 excimer laser tunable intense radiation generation 7—20328
H_2, stimulated Raman scatt., N_2 laser frequency conversion 7—57452
H_2 stimulated Raman scattering around 126 nm 7—20326
H_2, two-photon excitation and stimulated emission in VUV 7—10690
H_2-Ar mixture, frequency conversion by stimulated Raman scattering 7—43233
n-InSb, solid-state plasma, stimulated Raman scatt. of extraordinary mode 7—31398
K atoms in He-K discharge afterglow, multiple Raman scattering from XUV generation 7—20349
$LiIO_3$, noncollinear stimulated Raman scatt. by polaritons 7—43221
N_2, rotational Raman linewidths and line shifts, temp. and density depend. 7—924
Na, fluorescence spectra, spontaneous emission, excited state Raman and resonance enhanced three-photon scattering 7—10487
$NaNO_3$, radiation generation in resonator under stimulated Raman scatt. conditions 7—43222
Nd:YAG laser, actively mode locked Q-switched as stimulated Raman source at 1.54 μm 7—20350
Nd:YAG laser pulse compression in optical fibre 7—50643
O_2 compressed, intracavity Raman scattering characts. 7—37032
Rb, IR stimulated Raman scatt. 7—30972
Se, fluoresc., SRS eval. as excitation source 7—30981
SiO_2:P_2O_5 fibres, single-mode, selective stimulated Raman scattering 7—31500
$TbVO_4$ coherent vibr. and electronic excitation, time resolved spectra 7—22230
Te, fluoresc., SRS eval. as excitation source 7—30981
Zn, fluoresc., SRS eval. as excitation source 7—30981

stimulated Rayleigh scattering *see Rayleigh scattering; stimulated scattering*

stimulated scattering
see also stimulated Brillouin scattering; stimulated Raman scattering
absorbing liquids, stimulated thermal and Brillouin scatt. mirroring 7—43229
acetone, induced absorption and stimulated scattering of focused radiation 7—62780
DFB laser, stimulated scattering, nonstationary mechanism 7—5867
Free-electron laser amplifiers, stimulated head-on scatt., self-modulation study 7—43132
laser electron acceleration in stimulated Compton scatt. 7—50645
laser unstable resonators, anal. of stimulated scattering process 7—43225
liquid crystal mesophases, orientational optical nonlinearity, review 7—1880
nonmonochromatic radiation, stimulated scattering theory 7—43218
optical switching using stimulated Rayleigh scattering 7—25895
pump-conjugate beam generation, stimulated Rayleigh scatt. of opposed light waves 7—43253
wave front transformation peculiarities on stimulated reson. scatt. 7—50651
$BaTiO_3$, forward- and backward-stimulated photorefractive scatt. 7—57461

stimulated scattering continued
- H_2-F_2-HF gaseous mixture, light initiated chain reaction, stimulated light scatt. study 7—62778
- SF_6, IR radiation degenerate multiphoton parametric scatt. by vibr.-rot. transitions 7—25883

Stirling engines *see heat engines*

STO calculations
- 3d transition metal atoms and ions, approx. atomic orbitals, basis set reduction, maximum overlap method, mol. and solid state calc. appls. 7—840
- acrolein, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7—56983
- alkali metal hydrides, X $^1\Sigma^+$ state, HF quality Slater basis sets 7—19719
- aluminosilicates, at. charges, SCF and semiempirical calcs. 7—2942
- benzophenone, STO 3G MO struct. and internal rot. pot., minimal basis set calc. 7—30928
- bicyclic compounds, valence force field and vibr. wavenumber calcs., IR and Raman data comparison 7—50079
- bipyridine, dications and cation radicals, conformational struct. ab initio calc. 7—15497
- 1,1'- bipyrrole, rot. isomerism, mol. conformation, electronic struct. ab initio STO calcs. 7—15478
- cyanoacetylene, at. polar tensors, similarity transference procedure 7—10399
- ethene, multicentre integrals, Slater fn. translation transform. calcs. 7—10417
- fluoroacetones, protonated, intramol. H bonding, STO-3G MO calcs. 7—49878
- Gaussian expansions of STO for periodic table sixth row 7—42473
- hydroxyethylene, cycloaddition intermediate, semiempirical MINDO/3 SCF and CI calcs. 7—56983
- methane, elastic electron scatt., multiple scattering method cross section calcs., anal. of method 7—25370
- methane, multicentre integrals, Slater fn. translation transform. calcs. 7—10417
- 2-methyl oxetan, vibr. circular dichroism spectra, expt. and theoretical results 7—50208
- N-methylacetamide-formamide, varying H bond geometry, N-H bond vibr. properties, ab initio calcs. 7—10407
- molecular nucl. mag. shielding consts. ab initio wave function calcs. 7—5594
- organic compounds., electronic density, transferability of atomic descriptions, mol. pot. calcs., HF STO calcs. 7—25355
- oscillator strengths, transition energies and probabilities, CI STO calcs. 7—25423
- overlap integrals calc. using recursion formulae 7—62246
- photoionisation, relativistic Cooper minima for ground-state atoms, independent-particle approx. calcs. 7—62275
- photoionisation of ions, ionic and point-Coulomb relativistic Cooper minima, independent particle approx. calcs. 7—62276
- recurrence relations for the expansion of Slater-type orbitals about displaced centers 7—25339
- simple metals Auger energy, Slater transition state calcs., metallic and atomic states, jellium model 7—38475
- 1,2,4,5-tetramethylenebenzene, geometry optimisation, ab initio CI calcs. 7—15524
- thioanisole and its derivatives, long range spin-spin coupling consts., NMR and mass spectra 7—19886
- trichloromethyl radical, struct. and electronic states, ab initio UHF SWX_α calcs. 7—30949
- vinyl alcohol, aq. soln., ketonization, ab initio STO-3G calcs. 7—22988
- VX model compound, reactive props., electrostatic pot. calcs. 7—56954
- Ar, elastic electron scatt., multiple scattering method cross section calcs., anal. of method 7—25370
- Au-Sd transition metal alloys, heat of form. and cryst. struct., linear augmented STO calcs. 7—51705
- $BF_3.H_2O$, electronic struct., EEL and UV photoelectron spectra, ab initio MO STO calcs. 7—36449
- Cl isoelectronic sequence, allowed 3-3 transitions, Slater parameter optimisation, HF CI calcs. 7—48205
- Cu_2 STF HF wave function 7—25365
- Fe XV, oscillator strengths, transition energies and probabilities, CI STO calcs. 7—25423
- Ge I, odd parity energy levels, precise spectroscopic assignments 7—846
- HD^+, pot. curves, vibr. and rot. states, adiabatic STO calcs. 7—25380
- He, correlation energy, Fulde's local approach studies 7—30957
- $He+Li^{3+}(C^{6+})(O^{8+})$, electron capture, Coulomb integral eval. 7—15679
- HfPt, electronic struct. calcs. 7—45200
- $Li+He^{2+}$, electron capture, Coulomb integral eval. 7—15679
- NH_2NO, struct. and vibr. freqs. calc. using basis sets ranging from STO-3G to 6-311G** 7—10385
- NO_2^-, electron deform. density, basis set depend. 7—62252
- NbS_2 monolayers, optical absorption spectrum, Slater orbitals two-centre dipole matrix element calcs. 7—46158
- O, electron affinity, CI STO calcs. 7—5606
- Si isoelectronic sequence, allowed 3-3 transitions, Slater parameter optimisation, HF CI calcs. 7—48206
- a-Si:H, Si—H—Si three centre bonds IR spectra, LCAO-MO-SCF-STO-3G calcs. 7—6741
- TaIr, electronic struct. calcs. 7—45200
- WOs, electronic struct. calcs. 7—45200

stochastic processes
- *see also random processes*
- 1D time series anal. for sphere, appl. in geomag. and gravimetric geodesy 7—9239
- ϕ^4 theory, stochastic quantization simulation 7—48960
- accuracy of meas. increase, by redundant channel data utilisation 7—4802
- adiabatic thermal explosion in small systems, stochastic theory, numerical results 7—9764
- aerosol particles scavenging by water drops, nonlinear stochastic collisions model 7—55200
- amorphous semiconductor superlattices, stochastic carrier transport props. *(Chinese)* 7—12791
- amorphous solid, e^- scavenging, generalized master eqn. theory 7—21884
- anharmonic oscillator, nonlinear system under combined periodic and randomexcitation 7—9699
- area-preserving maps, fat-fractal scaling exponent 7—56160
- ARMA stochastic processes for daily average temp. anal. 7—34639
- atmosphere chemical deposition, stochastic modelling of space-time struct. 7—23239

stochastic processes continued
- atom, multi-level, randomly modulated, second order optical process 7—50522
- axial gauge non-Abelian gauge theory, stochastic quantisation, Langevin eqn. 7—41627
- Axiom A dynamical systems, resonance location, simple model 7—29893
- bifurcations and positive *P*-representation 7—24480
- binary systems, stochastic theory of solidification 7—12238
- birth and death processes, anal. using stochastic formalism 7—18697
- bistable system, equistability criterion 7—35418
- bound processes, first-passage time statistics tech. 7—221
- Brownian particles, interacting, stochastic descriptions 7—29900
- chromatography, computer simulation of physic-chemical stochastic processes 7—65379
- clouds, lidar investigation 7—55135
- condensed phase, curve crossing, dissipation, tunnelling and adiabaticity criteria 7—65284
- continuous, random gaussian elements approx. *(German)* 7—41276
- continuous invariant measures for circle maps, Lebesgue measure and stochastic behaviour 7—48331
- correlation inequalities of FKG type for stochastic models 7—14870
- coupled Langevin eqns., asymptotic props. 7—35406
- cubic lattice, quantum mech. particle behaviour, stochastic quantisation 7—61235
- deep bed filtration, stochastic compartmental model 7—6301
- differential equations, comparison of solutions *(French)* 7—60988
- differential equations with variable diffusivity, numerical integration 7—35233
- discrete stability of general stochastic programming problem *(Russian)* 7—9778
- disordered chains, fractal behaviour, 2D stochastic maps 7—41268
- dissipative dynamical systems, review 7—29909
- distinguishability or indistinguishability in classical and quantum statistics 7—41244
- driven quantum systems, level statistics and stochasticity 7—24561
- dynamical and Hamiltonian dilations of stochastic processes 7—41275
- dynamical processes in many-body systems, random motion approx. 7—48587
- dynamical systems and statistical physics conf., Koszeg, Hungary, Aug.-Sept. 1984 7—48194
- Edwards Hamiltonian of polymer physics, stochastic quantisation study 7—48945
- Eguchi-Kawai models, stochastic quantisation 7—56450
- EPR gedanken expt., Bell's theorem and stochastic local hidden-variable model 7—29790
- equilibrium fluctuations in stochastic particle systems 7—48586
- ergodic props. of colour sequence for random walker on black-white lattice 7—14894
- Euclidean supersymmetric quantum theory, stochastic representation of arbitrary fermion sectors 7—18630
- evolutionary spectra of non-stationary underwater sound reverberation process *(Chinese)* 7—20494
- exclusion process and droplet shape, isomorphism with stochastic Ising model 7—29922
- fatigue crack growth, stochastic modelling based on damage accumulation 7—6715
- fatigue crack propagation, exam. of intra-specimen variability model *(Japanese)* 7—51930
- fatigue crack propagation, stochastic loading and material inhomogeneity 7—43768
- fatigue crack propagation rate, composite variability model *(Japanese)* 7—44677
- forced plasma-maser effects, stochastic motion 7—51434
- free string field theories, stochastic quantisation 7—61632
- gauge fields and constrained systems, stochastic quantization 7—15051
- Gaussian process max. distribution analysis using Monte Carlo method 7—48338
- giant resonance damping, stochastic two-level model 7—10133
- glass freezing as kinetics time scale singularity 7—26954
- gradient algorithm limit for nonpersistently excited systems 7—35409
- graphite intercalation cpd., stage transformation, stochastic model 7—21433
- ground cover thematic classification map, use of multitemporal data 7—8951
- groundwater flow, stochastic anal. of three-dimensional flow in bounded domain 7—23761
- growth oscillations; deterministic models 7—48571
- growth oscillations, phenomenology and origin, simple stochastic model 7—35414
- hadron mass spectrum, stochastic approach 7—30262
- hadron spectrum, stochastic approach, link with quarkonium model 7—49121
- hadron squared mass spectrum, stochastic approach 7—30261
- Hamiltonian systems, scaling, renormalisation approach 7—41263
- HF power spectra for systems subject to noise 7—61247
- Hilbert space valued partially observable stochastic processes, parameter estimation 7—24548
- hot electron plasma, stochastic instability and precessional modes 7—20883
- human body centre of gravity, statistical analysis of fluctuations in upright posture *(Japanese)* 7—14036
- hybrid stochastic algorithms, generalised Fokker-Planck eqn., lattice gauge theory appl. 7—24770
- information loss in the transition from deterministic systems to probabilistic processes 7—48568
- interacting diffusions, fluctuation phenomena, tightness problem, stochastic evolution 7—211
- internal damage in struct. solid, stochastic approach 7—37965
- ion transfer across interfaces between two media, kinetics 7—32687
- ionising radiation interaction with matter, stochastic processes meas. optimisation 7—5535
- islands around islands, class renormalisation 7—222
- Ito stochastic differential eqns., Lyapunov function method anal. *(Russian)* 7—35399
- K-distributed noise, Fokker-Planck description, stochastic diff. eqns. 7—61236
- Korteweg-de Vries hierarchy with noise, soliton eqns. 7—29766
- L-kernel approach to quantisation of phase space polynomials 7—61147
- lake pollution, computer assessment of eutrophication countermeasures 7—55112

stochastic processes continued
- Langevin equation, derivation for systems interacting with a thermal bath 7—24613
- Langevin equation, renormalization and stochastic quantization 7—395
- lattice gauge theory, Langevin simulations, conf., Wuppertal, Germany, Nov. 1985 7—60883
- lattice gauge theory, stochastic quantization using Langevin and Fokker-Planck eqns. 7—24792
- lattice SU(2) chiral model, complex Langevin simulation on non Abelian group 7—61479
- limited time-series data, correl. algorithms appl. 7—224
- linear filtration of cylindrical stochastic processes in normed spaces *(Russian)* 7—56017
- linear stochastic difference eqns., matrix criteria, sufficient conditions *(Russian)* 7—35212
- linear struct. vibration model with nonGaussian noisy power obs., state estimation 7—37243
- Lorenz attractor, effective noise, stochastic differential eqn. 7—223
- macroscopic state variables in quantum mechanics, objective description 7—29884
- mathematical physics problems, Monte Carlo method scheme 7—35259
- mathematical properties of statistical mechanics and dynamics 7—48203
- metallic fine particles, energy level statistics 7—38431
- migratory phase transitions, stochastic theory 7—29956
- modified Korteweg-de Vries eqn. with noise 7—29767
- molecular line shape and relaxation, stochastic theory 7—31116
- multiphase interface and interaction problems, probabilistic modelling and simulation 7—52219
- multispecies population models in random environments, stability of stochastic model 7—48569
- multivariate stationary stochastic processes, angle between past and future 7—29733
- N distinguishable particles, Schrodinger eqn. derivation from stochastic processes 7—29805
- neutron transport in multiplying media, stochastic discrete model 7—61940
- neutron transport model, transport theory conf., Montecatini Terme, Italy, June 1985 7—60874
- noise correlation function props. of Langevin-type eqns. 7—234
- nonlinear oscillator coupled to FM wave, stochastic behaviour 7—61225
- nonlinear stochastic oscillator, linear response 7—9704
- nonperturbative inconsistency of stochastic quantization in odd dimensions 7—61442
- nonstationary random vibrs. of yielding multi-degree of freedom systems 7—6130
- nonuniform 1D fluid model system, self-diffusion process calcs. 7—24607
- O(3) nonlinear σ model, numerical simulation by Parisi-Wu stochastic quantization 7—19008
- open systems, stimulated recomb. 7—226
- optical bistability, absorptive, quantum fluctuations, nonlinear anal. 7—11046
- optical bistability, mirrorless, heuristic stochastic microscopic model 7—62762
- ordered exponentials in adiabatic and stochastic limits, approx. representations 7—48293
- Pacific Ocean, chaotic behaviour in large and mesoscale motions of Kuroshio current 7—55073
- parabolic stochastic obstacle problem 7—56157
- periodically perturbed area preserving system, transition to stochasticity 7—41265
- phase separation on regular and fractal lattices in two dimensions 7—14887
- population governed by stochastic Verhulst eqn. 7—48559
- positive definite doubly stochastic matrices and extreme points 7—24356
- potential energy barrier crossing, 2D Langevin eqn. soln. 7—270
- power spectra of discrete stochastic time series 7—61238
- probabilistic schemes for repeated meas. in stochastic mechanics 7—48443
- QED, stochastic regularization, gauge and chiral covariant Langevin equations 7—35775
- quantum field theory, relaxation and finite volume effects, stochastic numerical simulations 7—61481
- quantum field theory, stochastic quantization and Langevin eqn. 7—41588
- quantum field theory with fundamental mass, stochastic quantisation 7—30199
- quantum fluctuations and the Lorenz equations 7—9696
- quantum mechanical stochastic differential equations, observables and multiple Wiener integrals 7—48543
- quantum mechanics, measurement theory, stochastic differential eqns. 7—126
- quantum mechanics, nonrelativistic, stochastic, path integral formulation 7—14807
- quantum mechanics, objective stochastic formulation 7—18635
- quantum stochastic processes, perturbations and local algebras 7—48588
- quantum stochastic processes as models for state vector reduction 7—24562
- quantum transport properties in a dynamically stochastic medium 7—41311
- quartic Hamiltonian maximal 1D Lyapunov exponent and singular point anal. 7—18700
- radioastronomical images, very large array phase data modelling by Box-Jenkins method 7—14504
- random pattern extension to the stochastic network pore model 7—9758
- random process with infinitely many interacting particles 7—29894
- random walk and diffusion in a stochastic lattice gas model 7—41274
- Rayleigh-Benard instability, stochastic perturbations, random rot. effect 7—31751
- reacting particles, stochastic clustering and loss kinetics, fluctuations spectrum anal. 7—39851
- reaction-diffusion equation, microscopic selection principle 7—54079
- regularization schemes for stochastic quantization 7—48988
- relative diffusion in stochastic fields, Monte Carlo simulation 7—271
- relaxation problem with quadratic noise 7—29899
- RF discharge, electron acceleration by self-generated stochasticity 7—32166
- Rydberg atoms in uniform magnetic field, quantum stochasticity, eigenvalue spectra calcs. 7—42526
- sedimentation, stochastic model of kinetic type 7—13820
- shells, spherical, and circular membranes, flexure theory, stochastic bifurcation 7—26151
- Siegel radius, improved KAM estimates 7—48524

stochastic processes continued
- soil moisture estimation and forecasting for irrigated fields, stochastic method 7—23732
- solute transport in aquifers and field soils, stochastic convection-dispersion model 7—23729
- sound program signals, stochastic process model 7—37267
- spin models, accelerated hybrid stochastic algorithm for critical slowing down problem 7—2859
- statistical closures and stochastic particle acceleration 7—9763
- Stefan systems, stochastic two-phase, state and free boundary estimations 7—62956
- stellar dynamics, stochastic stellar orbits in galaxies 7—9519
- stochastic algorithms for physical systems 7—61077
- stochastic attractors and their small perturbations 7—48583
- stochastic calculus of variations and Wiener space distributions 7—48306
- stochastic equations, existence and uniqueness of soln. and semimartingales 7—29730
- stochastic evolution equation 7—61019
- stochastic geometry, operator formalism in quantum mechanics and fictitious time in stochastic quantisation 7—14804
- stochastic infinite particle processes, approach to equilibrium 7—18693
- stochastic quantum mechanics, relevance to quantum geometries 7—14805
- stochastic transitions through quasiperiodic oscillations, num. and expt. investig. 7—35419
- stochastically quantized field theories, hadron mass, energy gap derivation 7—35706
- SU(2) chiral model in external field, complex stochastic process on nonAbelian group 7—393
- SU(N) lattice gauge theory, Langevin eqns. and stochastic quantization 7—35691
- SU(N) nonAbelian gauge theory, gauge fixing and stochastic smeared regularization incompatibility 7—41637
- superparamagnets, Mossbauer spectra, many-state relax. model 7—45856
- symmetric α-stable processes, path properties in Banach spaces 7—29734
- symmetry in stochastic quantization with regularizing noise 7—14826
- tent map, invariant distrib. of non-fully developed chaos 7—4760
- three-level vibrational system for bath represented by two-state stochastic processes, Raman band shapes 7—31052
- tokamak plasma, clumps in drift-wave turbulence, trajectory stochastic treatment 7—6388
- toroidal plasma, stochastic diffusion driven by single wave 7—51398
- trajectories near a separatrix using the matching method 7—56166
- tubular flow chemical reactors, stochastic axial dispersion model 7—14864
- turbulence, nonhomogeneous, random force method, Lagrangian-Eulerian probability relations 7—51074
- two-level system, optical and vibr. dephasing, mechanical and stochastic formulations 7—31013
- two-step chemical reaction, nonequilib. conc., steady state fluctuations and struct. factor 7—13726
- unidirectional diffusion fields in a plane, transformations in stochastic space *(Russian)* 7—61277
- universal strange attractor underlying Hamiltonian stochasticity 7—56163
- unstable fronts in a porous medium, stochastic numerical scheme 7—57919
- variational and stochastic processes in classical and quantum mechanics 7—4761
- vector continuous local martingales, stochastic linear regression appl. 7—9656
- vibrationally excited molecules, ions. by UV irrad. or electron impact, stochastic dynamics 7—19734
- Ward identities and chiral anomalies in stochastic quantization 7—24774
- weakly coloured noise, effective Fokker-Planck eqn. uniform convergence 7—24557
- XY model, accelerated stochastic algorithms near critical temp. 7—41296
- Yang-Mills time-dependent equations, spherically symmetric solutions, stochastic nature 7—61468
- AlGaAs laser, mode hopping suppression by saturable absorber 7—62696
- CD surface resist. self-oscills. randomisation in the current-carrying state 7—45427
- Fe-Cr, passive current fluctuations, statistical anal. 7—28190
- H$^+$ motion in asymm. double-well pot. interacting with heat bath 7—24533
- ^{4}He II, hard-sphere gas approx. near absolute zero, self-consistent hydrodynamical model calcs. 7—58557
- ^{4}He superfluid, first and second sound, stochastic wave fields, acoustic turbulence calcs. 7—44938
- SO$_2$ pollution forecasting around thermal power stations 7—55244
- Sm, four-wave light mixing, collision-and stochastic-fluctuation induced Hanle reson. 7—15559
- Sn, crystal growth and Stefan problem, stochastic theory comparison 7—21415
- W surface resist. self-oscills. randomisation in the current-carrying state 7—45427

stochastic systems
- *see also random processes*
- 1st order nonlinear systems, approx. eigenfunction analysis 7—37321
- cell mapping method for nonlinear deterministic and stochastic systems 7—35271
- cell mapping method for nonlinear deterministic and stochastic systems, appl. 7—35272
- magnetosphere, stochastic instability of charged particles in geomag. trap 7—34804
- optimal stochastic tracking systems, parameter estimates consistency 7—35260
- Stefan systems, stochastic two-phase, state and free boundary estimations 7—62956

Stockbarger method *see crystal growth from melt*

Stokes flow *see flow*

Stokes law (fluid mechanics) *see flow*

Stokes law (optical) *see luminescence*

Stokes lines *see spectra*

Stokes optical law *see luminescence*

Stoneley waves *see surface acoustic waves*

stopping of particles *see energy loss of particles*

storage, digital *see digital storage*

storage devices *see digital storage*

storage modulus *see elastic moduli*

storage organisation *see file organisation*

storage rings
beam-beam interactions in high energy pp and p̄p colliders, SSC implications 7—815
BESSY low emittance beam props. 7—30789
BESSY multipole magnet, electron opt. props. and electron trajectories 7—42254
BESSY storage ring, aperture depend. electron beam lifetime 7—30790
capture and retention of ions by an electron bunch circulating in a storage ring 7—15430
CERN Antiproton Collector, 400 kA pulse generator with pseudo-spark switches for plasma lens 7—32078
CERN ISR p̄p physics, review 7—42249
cold unbunched beam relaxation in storage ring, ordering effects, kinetic eqns. 7—36354
collective instabilities 7—15431
cooler storage ring, new accelerators in Uppsala 7—49754
cooling methods for stored ion beams 7—30795
Czechoslovak synchrotron radiation source 7—30788
dynamic aperture and transition to chaos 7—36348
electron storage rings, beam-beam limit, solvable model 7—42266
electron storage rings, current-lifetime product, Touschek limit 7—36352
electron storage rings, longitudinal ion motion, bremsstrahlung studies 7—10320
electron storage rings using superconducting magnets 7—49778
electron synchrotron radiation in mag. fields 7—49756
ELSA, future expts. in few-body physics 7—61860
European Hadron Facility project, design, research program 7—62150
free electron laser storage ring 7—31351
heavy-ion atomic and nuclear physics, use of storage rings 7—36346
high energy EM processes, energy loss and ang. characts., SSC design appl. 7—5504
high energy proton storage rings, dynamic aperture problems, SSC appl. 7—816
insertion device beam line optics, review 7—43305
insertion device Beam Line Wunder design at SSRL 7—42256
insertion device performance in ESRF 7—42251
insertion devices, future developments, limitations 7—42257
insertion devices, variational theory 7—42879
Japanese synchrotron radiation facilities, present and future 7—5505
LAMPF II, design 7—36351
low energy antiproton physics facility 7—36350
magnetic modulator for proton storage ring, design and anal. 7—30817
microwave instability criterion for overlapped bunches 7—36360
multiprocessor system for parallel proton tracking 7—19591
Orsay storage ring FEL, operating point modifications 7—1110
PEP storage ring, gas-target expt. using TPC/2γ facility 7—36358
radiometric standards comparison cryogenic radiometer vs. electron storage ring BESSY 7—18861
relativistic heavy ion collector, magnet system status 7—36347
SPRED VUV spectrograph, synchrotron radiation calibration 7—24711
SPS, initial operating period, physics overview 7—41848
Super-ACO, prospects for VUV harmonic generation 7—1229
synchrotron radiation mirror, lacquer-coated, irrad. with undulator light, surface heating 7—43307
synchrotron radiation mirror, thermal distortion prediction with finite element analysis 7—43306
synchrotron radiation source, UHV Be windows 7—18796
transverse mode coupling instability, Fokker-Planck theory 7—814
transverse mode coupling instability due to localizedstructures 7—5506
TRISTAN e^+e^- colliding beam ring, Al alloys, corrosion resistance to cooling water *(Japanese)* 7—42248
unbunched cold beam relax., ordering effects influence 7—49755
undulator, linear, variable gap permanent magnet, for ENEA free electron laser expt 7—43151
undulator, long, evolution of radiation beam system 7—42880
undulator, short period, design and performance 7—42252
undulator, soft X-ray, performance predictions 7—42876
undulator spectra, computer simulations and modeling 7—31226
UVSOR storage ring, ion-clearing system 7—36353
VUV harmonic generation on storage ring of optical klystron 7—1229
wiggler, NdFe-steel hybrid permanent magnet, development for insertion in SPEAR ring 7—42250
wiggler beam monochromator, distortion from synchrotron radiation thermal loading, finite element analysis 7—42269
wiggler design, 3 Tesla, with supercond. windings, for ESRF 7—42253
XUV FEL, high-gain, storage-ring design 7—1115
XUV FEL oscillator at Stanford X-ray Centre Storage Ring 7—1138
p̄ polarization technique for low energy storage rings, anal. for LEAR 7—30911

storage tubes
see also image storage tubes
No entries

stores (computer) *see digital storage*

storms
see also thunderstorms
air-sea interactions role in mesoscale devel., conf., Honolulu, USA (August 1985) 7—60858
Alpine lee cyclogenesis, numerical simulation, effects of terrain height and blocking initialisation 7—29201
Arabian Sea, low-level inversion synoptic characts. (during MONEX-79) 7—9120
E Arabian Sea, thermal response to summer monsoon forcing 7—9011
Arabian Sea, upper layers response to SW monsoon 7—9012
N Atlantic, explosive cyclogenesis by fine-mesh model 7—60358
N Atlantic, low pressure record for centre of active depression 7—66278
S Atlantic Bight, extreme wind, wave, surge, and current data 7—60272
Atlantic Ocean, 1985 hurricane season 7—34626
N Atlantic Ocean, thermocline microstructure characts. var., storm effects 7—29070
N Atlantic Ocean, west-central region, explosive cyclogenesis 7—47497
Atlantic Ocean tropical cyclones, cloud canopy tops temp. and future max. winds 7—29197
NW Australia, evening glory wave-cloud lines, formation characts. 7—29124
Australia, sea-level var., atm. effects 7—18192
Bangladesh, rainfall probabilities during monsoon period 7—14337
Bass Strait, tidal and storm surge model 7—18206

storms continued
Bay of Bengal, storm surge of Paradip cyclone of June 1986 AD 7—29060
Bay of Bengal, the storm surge flooding problem 7—34547
Bay of Bengal, upper layers response to SW monsoon 7—9012
Bay of Bengal coastal areas, occurrences of severe cyclonic storms 7—60362
Boulder, Colorado, USA, upstream wind profiler data collected during windstorms 7—29194
Cape Cod Bay, field performance of NBIS Smart ACMs with EG&G Sea Link VMCMs 7—66366
coastal wave climate categorization, software packages 7—55254
continental shelf with sloping bottom, storm surges 7—9015
cumulonimbus clouds, introductory review 7—4142
cyclone-scale eddies, transient vorticity forcing of blocking highs 7—9094
Denver hailstorm, 1984 June 13, meteorological obs. 7—29127
downslope windstorms, supercritical flow in stratified fluid 7—66234
dust storm detection, satellite image processing method 7—66329
dust storm remote sensing by satellite and detection of wind erosion vulnerable areas 7—8949
dust storms, microwave link attenuation at 2 and 7.5 GHz, obs. 7—55137
explosive mid-latitude synoptic-scale storms dynamics, effects of intense cumulus convection 7—4164
extratropical cyclones 7—60346
flooding studies, use of point rainfall probabilistic model 7—23747
GATE waterspouts, interacting cumulus processes 7—4120
Great Britain, fine-mesh forecast of 25 Aug. 1986 storm 7—55205
hail cell radar reflectivity profiles in Switzerland 7—14348
hail growth in 3D storm cloud model *(Chinese)* 7—4081
high plains of USA, supercell thunderstorm, well-developed weak echo region microphysics 7—14350
Hurricane Gloria (1985), assoc. sea surface cooling, satellite obs. 7—66252
hurricanes, ice distribution and convection 7—4121
hydrologic model choice for watersheds and floods 7—55117
India, daily monsoon rainfall persistence anal. 7—47495
India, microseisms due to cyclonic storms at sea 7—28899
SW India, monsoon fluctuations in 20000 yr BP O isotope/pollen records 7—47532
India, monsoonal fields sequential evol. 7—29203
India, rainfall probabilities and amounts assoc. with monsoon depressions 7—9119
India, SW monsoon, rainfall distrib. and assoc. thermodynamic parameters anal. 7—9121
India, SW monsoon active and break phases, sensible heat fluxes 7—4094
Indian monsoon radiative forcing model, role of stratospheric aerosols 7—55196
N Indian Ocean, 1972-3 air-sea interactions in monsoon conditions 7—9014
Indian region monsoon depression, prediction with regional primitive eqn. model 7—9114
Indian sea areas, rainwater comp. during monsoon season 7—9123
Indian seas, 1984 cyclones and depressions 7—9112
Indian seas, ocean waves response to monsoons 7—9017
Indian seas, wave characts., (during MONEX-79) 7—9018
Indian Summer monsoon, 30-50 day activity interannual var. 7—34611
ionosphere disturbances due to typhoon disturbances 7—4259
jet streak circulation in pre-convective environment 7—34608
Johnston convective complex, PA, USA, vertical motion, vorticity and precipitation 7—9091
Johnstown flood, Pennsylvania, USA, model of July 1977 rainstorm 7—40524
Kansas, USA, downbursts, visual obs. and rel. to aviation weather obs. 7—29204
Kerala, India, summer monsoon onset rel. to Himalaya snow cover area 7—9125
Kyushu, Japan, heavy rainfall depth-area-duration characts., for July 1982 period *(Japanese)* 7—4160
lee cyclogenesis, 2D time-depend. quasi-geostrophic theory 7—9103
lightning storms intensity determ. using centimetre and metre-wave radar *(Russian)* 7—47549
linear baroclinic disturbances, structural determinism and simple nonlinear equilibration 7—9095
microburst or tornado damage over W Germany and Belgium 7—66250
microburst winds, Doppler radar data, aircraft response 7—66241
midlatitude low, pressure field, shape fitting appl. 7—4148
Mississippi delta barrier islands, geomorphic recovery after hurricane erosion 7—4024
Miyazaki Prefecture, effect of typhoons on sea salt deposition on insulators *(Japanese)* 7—66248
MM wave propagation through sand and dust storms, effect of particle size 7—47480
monsoon 30-50 day oscill. theory 7—60317
monsoon activity, evidence in outgoing longwave radiation var. 7—29191
Monsoon depression baroclinic growth, effect of Ekman boundary layer friction 7—9122
monsoon depressions, energy aspects 7—9113
monsoon depressions, WNW movement and precipitation characts. mechanism 7—66253
monsoon depressions in Bay of Bengal, atmospheric struct. during suppressed and active convective periods 7—55211
monsoon over India and E Asia, correl. with tropical convection during northern summer 7—34623
monsoon period, sensible heating effects 7—60339
New England, USA, 1982 December 11 storm, band form. 7—29199
New England, USA, snowstorm, frontogenesis and symm. stability, radar characts. 7—47502
ocean waves, extreme wave steepness and asymmetry of deep water waves near to Norway 7—55067
orographic cyclones in extratropical region 7—34642
NE Pacific Ocean, 1985 cyclones 7—47507
S Pacific Ocean, tropical cyclones and Southern Oscillation 7—4155
Pacific Ocean, zones of storm waves and stillness identification from satellite clouds imaging 7—34731
Paradip, India, storm surge following June 1986 cyclone 7—29060
Polish Baltic coast, Jan. 1983 storm surge calculation 7—14290
precipitation events, effect on vertical profiles of atmospheric NH_3 7—40513
QE II storm, 1978 September 9-11, develop., influence of upstream upper-level baroclinic processes 7—4149

storms continued
- Rajasthan, India, localized flooding due to heavy rains, meteorological study 7—29183
- remote sensing method for surface pressure, using satellite sensed wind data 7—60417
- sand storms in arid land millimetre wave radio links, design considerations 7—40518
- sandstorm effect on radiowave propag., system design for Riyadh, Saudi Arabia 7—4111
- sandstorms of Arabian Gulf, due to anomalous anticyclones? 7—55233
- seasonality of mesoscale storms and dry period parameters in northeastern USA 7—14324
- severe rainband, flow dynamics and stability 7—9096
- Sichuan flood catastrophe, China, mesoscale analysis of July 1981 event 7—60344
- Central Sierra Nevada, United States, winter storms ice-phase water capture regions identification 7—4084
- soil, water infiltration during rainstorm, surface sealing phenomena due to rain 7—9031
- stratosphere electric field above Arctic storm system 7—18293
- stream water, prediction of pH, alkalinity and total acidity during episodic events 7—23777
- synoptic-scale cyclones, effects of sea ice and snow cover 7—47498
- Tai Lake, China, storm deposition study 7—55097
- Tawhai State Forest, New Zealand, catchments, runoff characts. 7—29100
- Tawhai State Forest, New Zealand, storm runoff, hillslope and low order stream response 7—29101
- E Texas, storm flow and sediment losses from site-prepared forestland 7—23768
- Tibet Plateau, floods, droughts and snowstorms in historical times *(Chinese)* 7—18255
- tides, 2D eqns., soln. by method of characts., adaptation to wind-induced currents and storm surges 7—18188
- tornado interaction with rough terrain 7—23831
- tornado simulation, momentum diffusion effects in axisymmetric vortices 7—57850
- tornado-like vortices, max. windspeeds 7—66224
- traditional cyclone freq. maps, biases anal. 7—29193
- Trivandrum, India, aerosol altitude vertical profiles, monsoon effects, lidar obs. 7—66213
- tropical cyclone, axisymmetric PE model, nonlinear response to heating 7—9101
- tropical cyclone, mature struct. and motion 7—4146
- tropical cyclones, evolution of potential vorticity 7—66259
- tropical cyclones, future direction of motion, upper flow asymmetry effects 7—47503
- tropical squall line, diagnostic modelling study of stratiform cloud region 7—29136
- tropical storm growth and decay model, in f and k space 7—4107
- typhoon eye region, numerical simulation *(Chinese)* 7—29215
- typhoon formation and development, ambient dynamic and thermodynamic effects *(Chinese)* 7—29220
- Typhoon No. 7507, kinematical fields from upper air obs. (1975 August 17 to 23) 7—40510
- typhoon track forecasting by dynamical-statistical method *(Chinese)* 7—18263
- typhoon trade, random dynamic prediction model 7—18295
- typhoons, infrasonic signals and eye pressure 7—29176
- SW United States, severe storm simulation, impact of missing wind obs. 7—34619
- United States, warm-season precipitation, mesoscale convective system contrib. 7—66237
- Victoria Harbour, Hong Kong, storm surge spectral analysis 7—4038
- vortices formation over ocean surface heat anomalies, dynamic struct. 7—9134
- West African squall lines, 2D dynamics 7—66258

strain ageing
- steel, Al-killed, flow behaviour after tensile prestraining and strain ageing 7—17595
- steel, austenitic stainless, strain ageing and load relax. behaviour at room temp. 7—28092
- steel, austenitic stainless, strain hardening in powder metallurgy alloys 7—22721
- steel, low C, strain ageing, internal stress, Bauschinger effect 7—39612
- steel, low-C, mech. prop. change after cold deform. and ageing 7—33696
- Zircaloy-4, temp. depend. of elongation 7—65094
- AgCl, strain ageing, temp. depend. 7—65065
- Al-Mg, creep, stress exponent, dynamic strain ageing, dislocation struct. 7—17591
- Cr alloy, low alloy, strength parameters, effect of dynamic strain ageing *(Russian)* 7—46505
- Cu-Ti alloy, powdered, dynamic strain ageing, 375-860K 7—28058
- In-Sn solid solns., strain ageing kinetics investig. *(Russian)* 7—13467
- Mo-base alloy, welded joint, strain hardening and fracture *(Russian)* 7—53877
- (Ti,Mo)C, solid solution hardening of TiC by Mo 7—46498

strain gauges
- *see also strain measurement*
- accuracy meas., survey 7—57774
- bonded resistance type, dynamic characts. exam. method 7—18772
- calibration procedure for modal analysis, correction 7—56251
- capacitance strain gauges, CERL planer, calibration errors 7—29993
- capacitive strain gauge for mechanical vibrations meas. 7—300
- displacement gauge including linear variable differential transformer, rock mechanics appl. 7—34695
- displacement sensor for surface crack profile meas. 7—22939
- dynamic-strain recording sensor synthesis 7—48707
- elastic trunnion as three-dimensional force and torque transducer 7—18773
- Fabry-Perot fibre optic sensor and its appls. 7—43424
- fibre-optic strain sensor using concentric core fibre 7—26020
- gait analysis system, portable computerised, force distrib. meas. under foot in walking modes *(Japanese)* 7—14146
- hydrostatic testing of nuclear fuel waste disposal containers 7—15406
- laser speckle strain gauge, using spatial filtering detector 7—43821
- Manganin stress gauges, rarefaction wave velocities determ. 7—48713
- optical methods in composites, conf., Keystone, USA (Nov. 86) 7—55894
- optical waveguide, strain gauge 7—31459

strain gauges continued
- plethysmograph, granular strain gauge, for use as respiratory belt 7—14141
- pressure transducer, diaphragm, strain gauge based, grid geom. influence on output 7—56250
- resistance strain gauges, wet surface appl., moisture protection 7—29994
- rosette data acquisition and analysis, microcomputer-data logger interfacing 7—29995
- sensitivity in plastic range 7—6168
- skin friction and wall shear stress meas. instrument 7—37406
- steels, dynamic yield strength determ., embedded manganin gauges, flyer plate impact technique 7—33871
- strain gauges, resistance, temp. charact., error in determ. 7—56245
- surface residual stress measurement using blind-hole strain gauge method, calibration 7—65249
- thick-film sensors, design and fabrication 7—48704
- transverse piezoresistance gauges, stress meas. in shock loaded targets 7—29999
- wall shear stress meas., hot film surface gauge improvement 7—37405
- Si, polycrystalline, as strain gauge material 7—45322
- Si polycrystalline thin film strain resistance model *(German)* 7—64033
- Si SOS structure, thermophysical meas. appls. 7—4831
- Yb vapour deposited foils, piezoresist. response of stress gauges 7—32986

strain hardening *see work hardening*

strain measurement
- *see also strain gauges*
- 3D displacement and strain meas., automated evaluation by quasi-heterodyne holographic interferometry 7—31287
- bones, fresh, human, strain meas. by strain gauge, method and obs. *(Chinese)* 7—28782
- ceramic/metal jointed interface, strain distrib. determ., laser speckle photography *(Japanese)* 7—54037
- composite, digital image correlation methodology use for deform. quantification 7—59718
- composite panel, whole-field strain determ. using coherent opt. processing 7—57779
- composite plate, spectral analysis of natural grid features for surface analysis 7—63096
- dynamic strain meas. by high-speed moire photography 7—20673
- elastic trunnion as three-dimensional force and torque transducer 7—18773
- fibre optic interferometric detection of slow phenomena 7—43423
- fibre optic sensors and their appls., conf., Cannes, France (Nov. 1985) 7—40999
- fibre optic strain monitoring system, marine appl. 7—57597
- fibre sensor intermodal interference appl., fringe counting meas. technique 7—31499
- fibre-optic strain sensor using concentric core fibre 7—26020
- fractional moire strain analysis using digital imaging techniques 7—31713
- gauge accuracy meas., survey 7—57774
- graphite fibre reinforced epoxy, NDT by OTDR in embedded optical fibres 7—28255
- graphite fibre reinforced PEEK, quasi-isotropic laminate, shear strain meas. by moire interferometry 7—65253
- hydrostatic testing of nuclear fuel waste disposal containers 7—15406
- in-plane strain anal. by reflection holography *(Polish)* 7—43818
- interferometric, using fibre optic sensor 7—43433
- moire, strain meas. by shifting model grating, image processing *(Japanese)* 7—31715
- moire deformation field quality and strain meas., effects of spatial coherence of light source and grating gap 7—61372
- moire interferometry, crack tip displacement anal. 7—11367
- nondestructive evaluation methods, holography and shearography comparison 7—39836
- optical graded index fibres, longit. strain meas. techniques 7—43418
- photoelectric method for the simultaneous measurement of longitudinal and transverse deformations of specimens 7—33875
- plastic strain-limit control in cyclic deformation testing, using servohydraulic testing machine 7—28233
- probing method for investig. of rules of change in stressed and strained state 7—59714
- semiconductor superlattices, ion beam channelling, review 7—51902
- semiconductors, X-ray double crystal diffractometry 7—51577
- slightly slanting impact on an elastic cantilever column—an experimental study 7—51008
- SOS epitaxial layers, strain meas., using X-ray diffr. 7—44305
- speckle metrology techniques, displacement and strain meas. 7—42936
- speckle photography, photography, diffraction halo effect 7—35574

strain-optical coefficients *see piezo-optical effects*

strange particles
- *see also hyperons; kaons*
- baryonium, strange, standard model anal. of strange B = O states 7—41676
- baryons, strangeness-induced size effects 7—19067
- dibaryon, strangeness-1, future search at AGS 7—36056
- dibaryon, strangeness-2, future search at AGS 7—36056
- dibaryons, positive parity, strangeness −1 potential model anal. 7—24846
- early Universe, evaporation of strange quark matter, dark matter candidate 7—40974
- heavy ion collisions, relativistic, metastable strange-quark droplet production 7—36019
- quark decay rates in quark matter at high temp. 7—49067
- quark-gluon plasma, strange particles as signature 7—56504
- Skyrme masses, counting strange quarks 7—24831
- ν_μN→strange particles, inclusive production rates 7—528
- s→d+gluon, h, quark scalar boson interactions and strangeness-changing weak vertex, heterotic string anal. 7—30301
- $\bar{p}$p, baryon production, quark-quark and quark-diquark reaction mech. 7—5133

strangeness *see strange particles*

stratified flow
- *see also multiphase flow*
- 3D 2-phase immiscible flow displacement, finite element analysis and error analysis *(Chinese)* 7—16229
- air-water (hexadecane), natural convection in complex enclosed space, heat transfer 7—11421
- balance equations in periodic domain, numerical model, balanced turbulence 7—34604
- capillary fluids, equilibr. and stability 7—58567
- chaotic mixing, two periodic model flows anal. 7—43934

stratified flow continued

- emulsions, coalescent stratification intensity in turbulent flow 7—6266
- entrainment, sheared density interface study 7—51266
- entrainment and mass transfer at the density interface in a trough 7—11539
- equations of motion in Eulerian-Lagrangian variables 7—44004
- fibre-optic liquid film sensor for 2-phase annular and stratified flow 7—37611
- finite element analysis of incompressible stratified flows 7—37512
- flooding in elbow between vertical and horizontal (near-horizontal) pipes 7—1633
- fluid enclosed in cylinder through-flow, thermal adjustment 7—31856
- gas-liq. descending annular flow, phase boundary turbulence and heat exchange 7—63201
- gas-liquid flow in inclined pipes, press. loss. liq. holdup study 7—63196
- gravity current on sloping bottom, rot. flow interaction, shelf wave generation, flow visualisation expts. 7—43947
- gravity currents, stratified fluids, turbulence effect 7—43949
- gravity waves, N-layer stratified fluid, variational formulation 7—43950
- gravity waves, N-layer stratified shear flow, Kelvin–Helmholtz instability 7—43951
- helically coiled steam-generator ducts, flow struct. and heat transfer 7—63205
- hexadecane-water, natural convection in complex enclosed space, heat transfer 7—11421
- horizontal boiler tubes, dryout criteria for nonuniform heat flux 7—20713
- hydromagnetic stability of stratified compressible fluid between two rotating cylinders 7—57936
- ideal fluid, shear flow stability, effect of stratification 7—26249
- ideal fluid injection from slot into free stream 7—31855
- ideal incompressible fluid, plane steady flow 7—51265
- immiscible displacement in porous medium, viscous fingering instability 7—11491
- immiscible viscous fluids, fingering in Hele-Shaw cells 7—43854
- interfacial waves, finite amplitude stability, effect of basic current shear 7—43946
- internal gravity waves, stratified shear flow, wave-action model study 7—43948
- Karman vortex street dynamics, fluid stratification effect 7—1600
- Kelvin waves, cylindrical, in compressible stratified fluid *(Russian)* 7—43957
- Kelvin waves in compressible stratified fluids *(Russian)* 7—63168
- laminar shear layer, stability 7—43849
- linearly stratified, rotating flow over long ridges ina channel 7—6224
- liquid-gas, nonuniform stratified flow through horizontal tubes 7—31862
- LOFT facility, rewet, NCC, stratified flow and plant recovery procedure studies 7—49564
- marine weather prediction, 3D models 7—55245
- multilayer ideal incompressible heavy fluid flow past body 7—1601
- natural convection experiments in a stratified liquid-saturated Porous Medium 7—63150
- natural convection of stably stratified fluid layer with uniform heating from below 7—51141
- near resonant flow, modulation solution 7—51267
- Newtonian liquid-gas stratified flow, interfacial level gradient effects 7—37509
- non-Newtonian liquid-air stratified flow through tubes 7—37510
- nonlinear stability analysis of stratified fluidequilibria 7—6186
- ocean currents shear, appl. to internal waves verification in offshore areas 7—40482
- ocean stratified bottom current, nature of structural instability 7—14310
- oscillation instability while radiating surface and internal waves 7—20775
- particle motion near immiscible fluid interface 7—20738
- perturbation spectrum, internal wave problem 7—31859
- phase flow regimes, heat exchange with vapour condensation in horizontal tubes 7—31858
- pressure-strain term, influence of buoyancy, numerical calc. 7—44005
- radiative convection in stratified atmosphere, anelastic eqns. soln. 7—29389
- Rayleigh-Taylor instability, steady solns. in 3D bounded domain, bifurcation theory 7—16228
- Rayleigh-Taylor problem in vertical slot, moving contact lines, stability 7—43855
- reacting and non-reacting turbulent liquid mixing layer, entrainment and mixing, composition meas. 7—16174
- reservoirs, upwelling response to surface shear stress 7—29088
- rotating differentially heated annulus with unstable stratification, convection characts. *(Russian)* 7—29129
- rotating fluid, baroclinic vortex pairs 7—51168
- Saffman-Taylor experiment, dendritic growth 7—1531
- salinity-temperature front, double-diffusive horizontal intrusions, linear stability theory 7—26250
- salt-stratified fluid, turbulent boundary layers, mixing, mean circulation and transport rates 7—51086
- salt-stratified layer, double-diffusive convection induced by discrete heat source 7—43901
- shear flow, explosive processes, multidimensional and self-similar props. 7—37434
- shear flow, stability, Richardson's criterion 7—37511
- shear flow in ocean, wind mixing 7—34504
- squire's theorem for two stratified fluids 7—11490
- stationary closed streamlines in stratified fluids, laminar flow theory of vortices 7—6267
- stationary closed streamlines in stratified fluids, vortex pair expts. 7—6268
- stationary closed streamlines in stratified fluids, vortex pair soln., turbulent flow theory 7—6269
- steady heat source moving through stratified flow, resulting flow patterns, atm. appl. 7—4127
- stratified-slug transition in horizontal tubes, inlet and outlet effects 7—57894
- Taylor instability in streamer and bubble amplitude 7—11389
- thermal plume in thermally stratified medium holographic visualisation 7—11489
- thermally stratified fluid, slow flow between rot. eccentric spheres with radial gravit. field 7—26333
- thermocapillary convection in two-layer system, surface active agent effect 7—51121
- thermohaline convection, finger development, similarity anal. 7—11413
- trapped internal waves from body moving in ocean thermocline, phase config, visualisation 7—31854

stratified flow continued

- two layer fluid, chemically reacting mixing layer, vortical struct., flow visualisation anal. 7—44007
- two stratified layers, rectangular enclosure, natural convection, numerical anal. 7—31778
- two-layer and three-layer flows, three-wave resonant interactions and multiple reson. 7—11439
- two-layer baroclinic circumferential flow, chaotic behaviour 7—57893
- two-layer flow in rot. channel, solitary internal waves 7—57855
- two-layer fluid in cylinder and channel nonlinear wave reductive method 7—20776
- two-layer immiscible fluids with thermally insulated boundaries, convective instability 7—51122
- two-layer model, direction of energy movement in wave number 7—57864
- two-layer systems, thermocapillary convection, numerical anal. 7—63911
- two-phase flow through breaks in horizontal pipe, stratified flow 7—770
- two-phase flows, interfacial stress, extended Charnock estimate 7—20774
- two-phase wavy film flow, interfacial shear factor, interfacial mobility study 7—57899
- two-soliton internal wave, formation in stratified stream flow over obstacle 7—51264
- vertical through-flow between flows, Navier-Stokes eqn. 7—31857
- viscous incompressible nonhomogeneous fluid, hydromagnetic stability 7—63114
- viscous stratified flow, dynamics, initial boundary value problem soln. *(Russian)* 7—9675
- viscous stratified fluid, unsteady flow, variable mag. induction 7—63193
- vortex structure in plane mixing layers, meas. and models 7—16191
- wave motion prevention in liquid layer undergoing vertical periodic motion, by superposed liq. layer 7—26299
- $NO+O_3$, chemically reacting mixing layer struct., conc. field meas., entrainment and mixing anal. 7—44006

stratosphere

- *see also ozonosphere*
- 1984 spring processes 7—34616
- acetonitrile-water mixtures, stratosphere-related aspects of gas phase ion chemistry 7—13775
- acoustic pulse incomplete reflection in upper stratosphere *(Russian)* 7—4118
- aerosol obs., balloon-borne polarimetric expt. 7—14373
- aerosol profile in stratosphere between 1977 and 1984 AD 7—4136
- aerosols, effect on climate *(Italian)* 7—60372
- aerosols in turbid atmosphere, airborne meas. of optical stratification 7—47536
- Antarctic, radiative heating due to stratospheric aerosols, implications for O_3 depletion 7—55175
- Antarctic, stratosphere temperature, effects of O_3 depletion 7—55174
- Antarctic atmosphere, O_3 losses, role of heating perturbations 7—55171
- Antarctic atmosphere, O_3 var. modelling, chem. and dynamical effects 7—55172
- Antarctic O_3, seasonal distrib. and thermal struct. 7—55168
- Antarctic O_3 comp., implications of $ClO+ClO$ reaction kinetics 7—54090
- Antarctic O_3 decreases, possible dynamic cause 7—55170
- Antarctic O_3 depletion, chemical mechanisms for spring O_3 decrease 7—55165
- Antarctic O_3 depletion, implications of SAM II meas. of polar stratospheric clouds and aerosols 7—55160
- Antarctic O_3 depletion, implications of stratospheric NO_2 meas. at Syowa station 7—55158
- Antarctic O_3 hole, effects of HNO_3 and HCl condensation in winter polar stratospheres 7—55162
- Antarctic O_3 hole, impact of OClO and Cl_2O_2 on O_3 concs. in stratosphere 7—55164
- Antarctic O_3 hole formation, relation to characts. of polar stratospheric clouds 7—55163
- Antarctic O_3 stratospheric depletion, effects of Cl and Br pollution 7—55173
- Antarctic polar stratospheric clouds and aerosols, SAM II meas. 7—55160
- Antarctic snow, tropospheric and stratospheric sources of nitrates 7—55227
- Antarctic spring, stratospheric heating rates and diabatic circulation, implications for O_3 depletion 7—55176
- Antarctic spring stratosphere; aerosol and temp. var., lidar obs. 7—60325
- Antarctic springtime stratosphere, O_3, NO_2 and aerosol extinction meas. by SAM II, SAGE and SAGE II 7—55161
- Antarctic troposphere and stratosphere, balloon obs. of aerosols 7—55225
- Antarctica, cooling of stratosphere at Syowa 7—55147
- Antarctica stratosphere, temperature decrease in AD 1979 to 1985 period 7—55143
- Arctic polar stratospheric clouds, airborne lidar meas. 7—60334
- Arecibo, Puerto Rico, middle atm. oblique vel., power spectra 7—60338
- balloon-borne remote sensing, single-axis platform design 7—23912
- baroclinic planetary modes in deep and shallowspherical atmospheric models *(Chinese)* 7—4077
- Berlin, Germany, stratosphere temperature-height standard-profile 7—4103
- Cenozoic temperature variations, stratospheric aerosol effects 7—34666
- chloromethane in upper troposphere and stratosphere, spectroscopic detection 7—9076
- climate modelling, band strengths temp. depend., low temp. meas. using Freons 7—55252
- density fluctuations over Japan indicating gravity waves 7—40621
- dynamics and remote sensing of middle atmosphere, symposium, Prague (Aug. 1985) 7—40986
- EHF limb sounding from Space Shuttle 7—40568
- El Chichon and "mystery cloud" aerosols in stratosphere and mesosphere 7—23803
- electric field above Arctic storm system 7—18293
- electrical conductivity variations above thunderstorms 7—29169
- equatorial waves in wind field 7—66212
- far-IR emission analysis, synthetic spectra and FTIR meas. comparison 7—55315
- far-IR spectrum, high resolution meas. with Fourier transform spectrometer 7—55262
- general circulation, area of polar vortex as diagnostic for tracer transport on isentropic surface 7—29134
- global temperature changes, annual and seasonal (1960 to 1985) 7—47527
- gravity wave effects under solstice conditions, simulation using 3-D circulation model 7—47597

stratosphere continued
- gravity waves, effects of Doppler shifts on wave spectra observed by MST radar 7−47490
- Indian monsoon radiative forcing model, role of stratospheric aerosols 7−55196
- internal waves, radar observations and theory 7−40517
- internal waves and turbulence in troposphere and lower stratosphere 7−23814
- IR cooling rate calculation, for cooling due to H_2O vapour *(Chinese)* 7−29221
- IR spectroscopy, math. representation, resolution and role of model in anal. 7−48875
- IR spectroscopy from space, ATMOS expt. on Spacelab-3 7−55314
- IR spectroscopy with balloon-borne cryogenic Fourier spectrometer 7−60377
- low latitude atm., diurnal propagating tides 7−60436
- methane, absolute strengths and self-broadened widths in IR spectra 7−36622
- microwave brightness temperature of stratosphere, zonal wave number variance 7−29163
- midlatitude ClO and BrO comp. 7−60324
- MU radar obs. of troposphere and lower stratosphere, backscattered VHF echo power, aspect sensitivity 7−40550
- nitrate flux on Ross Ice Shelf, Antarctica 7−55091
- O_3 depletion in polar upper stratosphere, effects of meteoric material 7−55166
- peroxynitrate formation rate in stratosphere, $CFCl_2O_2$ + NO_2 reaction kinetics 7−23802
- photochemical behavior of O_3 near to 1 mbar level 7−29160
- photochemical model rel. to LIMS obs. 7−66269
- photolysis rate calc. method with molecular scattering 7−29162
- planetary wave breaking in stratosphere 7−4158
- polar stratospheric cloud, implications of ice in −83°C cirriform cloud 7−4123
- polar stratospheric clouds, characts. during form. of Antarctic O_3 hole 7−55163
- polar stratospheric clouds, detect. from satellite data 7−55156
- PROUST radar for UHF stratosphere-troposphere meas. 7−60421
- quasi-biennial oscillation in equatorial stratosphere 7−60363
- quasiperiodic perturbations due to solar activity, 3D simulation 7−66371
- radiance/temperature vars., Nimbus 6 PMR expt. meas. 7−47588
- radiative balance of stratosphere, determ. from Nimbus-7 LIMS meas. 7−9098
- radiative heating and cooling rates 7−60337
- response to solar activity oscills. (of period 27 and 13 days) 7−66369
- SCRIBE interferometer atmospheric emission spectra 7−55319
- SOUSY VHF radar measurements in the lower and middle atmosphere 7−23870
- Southern Hemisphere, circulation changes including polar vortex and warming events 7−55149
- Southern Hemisphere, global temperature struct., seasonal changes 7−23817
- Southern Hemisphere, observational study of stratosphere warming event 7−55150
- Southern Hemisphere lower stratosphere, trajectories anal. 7−55169
- springtime Antarctic stratosphere, O_3 and aerosol meas. (November 1985) 7−55155
- temperature and circulation vars. in middle and high latitudes 7−47590
- temperature global trends in AD 1957 to 1979 period, for 850 to 30 mbar altitudes 7−40532
- temperature measurement, remote sensing procedure with high vertical resolution 7−66218
- temperature profile meas. in troposphere and stratosphere, radio acoustic technique 7−14360
- temperature variations over Volgograd, search for solar cycle relationship 7−47599
- temperature-height standard profile for Central Europe (Berlin) 7−4103
- thermal structure of middle atmosphere, meas. in Eastern and Western Hemispheres over solar cycle 7−66375
- total O_3 decrease at South Pole, Antarctica (1964-1985) 7−55154
- trace constituents, meridional distrib. 7−9087
- trace gas transport by planetary waves during major warming event in winter 7−29161
- tracer horizontal spectra in global stratosphere and troposphere 7−29164
- transient medium-scale wave activity in the summerstratosphere 7−9069
- tropical winds, observed quasi-biennial oscill. 7−34594
- turbulence, high-resolution obs. in lower and middle atmosphere by MU radar 7−47598
- UV cross sections and photodissociation rate consts. 7−55260
- vertical velocity spectrum for troposphere and stratosphere 7−14341
- volcanic aerosol from El Chichon and lidar depolarization observations 7−29243
- volcanic dust and atm. extinction 7−4177
- volcanic eruption aerosol, horizontal transport and evolution modelling 7−23819
- volcanic eruption plumes from basaltic fissure eruptions, plume heights 7−8895
- volcanic plumes from Etna and Mt. St. Helens, particle geochemistry 7−34427
- wave-mean flow in general circulation model 7−29141
- wind and temperatures of lower mesosphere 7−4248
- wind measurements, results from middle and upper atmosphere radar 7−47561
- Winter MONEX area, tropopause height short term var. rel. to deep convection 7−4128
- winter polar vortex, simulation as material entity 7−47489
- winter stratosphere, integrated enstrophy budget determ. from Nimbus-7 LIMS data 7−4125
- zonal current, eddy effects, conventional and transformed Eulerian diagnostics 7−66264
- zonal wind in tropical stratosphere and troposphere, longitudinal and inter-annual vars. 7−47486
- zonal wind minimum in stratosphere, due to mesoscale mountain wave breaking 7−40522
- COF_2 in stratosphere, concentration determined by IR solar absorpt. observations 7−9077
- Cl chemistry in Antarctic stratosphere, impact of OClO and Cl_2O_2 on O_3 concs. 7−55164
- $ClONO_2$, stratosphere conc. profile from IR spectral observation 7−9167
- $ClONO_2$+HCl, homogeneous and heterogeneous components, kinetics, implications for stratosphere chem. 7−54091

stratosphere continued
- HCl condensation in winter polar stratospheres, contrib. to Antarctic O_3 hole 7−55162
- HCl in middle stratosphere, obs. and modelling 7−14363
- HCl in stratosphere, near-IR satellite remote sensing and interference from OH airglow 7−23926
- HNO_3 cloud formation in cold Antarctic stratosphere, role in form. of springtime O_3 hole 7−47508
- HNO_3 condensation in winter polar stratospheres, contrib. to Antarctic O_3 hole 7−55162
- H_2O budget, satellite observations and importance of methane oxidation 7−34650
- H_2O in middle atmos., vertical profile observations 7−34758
- HO_2NO_2, IR spectra of stratosphere at 802 cm^{-1} and conc. profile 7−9168
- NO_2 amounts, transport and photochemical effects 7−47487
- NO_2 concentrations, obs. by ground-based and balloon-borne techniques at Syowa Station (69.0°S, 39.6°E) 7−55158
- NO_2 in stratosphere above USSR, concentration variations *(Russian)* 7−60331
- NO_2 var. (1979 to 1984) 7−29205
- O+NO_2 (ClO) stratospheric reactions, rate const. meas. 7−8265
- O_2 molecular photodissociation and Herzberg continuum 7−34757
- O_2, photoabsorpt. cross section, Herzberg continuum, UV obs. 7−36639
- O_2, UV molecular absorption continua and radiative lifetimes UV molecular absorption continua and radiative lifetimes 7−15620
- O_3 above Antarctica and southern mid-latitudes, decrease due to dynamical mechanism 7−55144
- O_3 composition, implications of $ClONO_2$+HCl(H_2O) reaction kinetics 7−54089
- O_3 conc. in S Hemisphere, influence of medium-scale waves 7−29151
- O_3 content determination via mutual covariation links between temp. and O_3 content, accuracy of determ. 7−9135
- O_3 decrease in Antarctic stratosphere, role of planetary waves 7−55148
- O_3 decrease of Antarctica and southern mid-latitudes, TOM observations 7−55146
- O_3 depletion above Antarctica, recent observations 7−55141
- O_3 determination, balloon borne instrumentation, BOIC intercomparision expt. 7−29159
- O_3 distribution in atmosphere *(Russian)* 7−40521
- O_3, electronically excited state, radiative lifetime and quenching mechanism 7−31110
- O_3, global minima in historical record 7−55153
- O_3 in Antarctic stratosphere, decreases in springtime rel. to circulation 7−55151
- O_3 in middle atmosphere, latitudinal-seasonal vars. of O_3 conc. and mixing ratio 7−9280
- O_3 in stratosphere, DIAL meas. from Shuttle, error analysis 7−40560
- O_3 in stratosphere above Antarctica, conc. rel to temperature changes 7−55152
- O_3 in stratosphere above Antarctica, AD 1985 vertical distrib. 7−66210
- O_3 in stratosphere above Antarctica, O_3 depletion in AD 1971 to 1984 period 7−66211
- O_3 isotope measurements at Texas, USA, ^{49}O and ^{50}O observations 7−66209
- O_3 minimum in Antarctic during springtime, photochem. model and 11-year solar cycle 7−29149
- O_3 over Antarctica, interannual variability during circumpolar vortex breakdown 7−55139
- O_3 over Antarctica, ozonosphere conc. decrease in AD 1961 to 1985 period 7−55140
- O_3 profiles meas. by ROCOZ-A 7−55308
- O_3 remote sensing, SBUV satellite meas. technique for Antarctic O_3 vertical profiles 7−55145
- O_3 seasonal variations at high latits. in Southern Hemisphere, general circulation model simulation 7−55167
- O_3, statistical trend analysis for troposphere and stratosphere 7−29158
- O_3 var. (1979 to 1984) 7−29205
- O_3 vertical distrib. over Dakshin Gangotri, Antarctica 7−66215

strays (atmospherics) *see atmospherics*

streak photography
- camera designs using SAW-CTD imagers 7−56368
- camera performance characts., with cooled CCD 7−19425
- cameras, technological developments 7−61393
- femtosecond streak camera, struct., operating characteristics *(Japanese)* 7−357
- femtosecond streak camera 7−18895
- fibre dispersion meas. technique using streak camera 7−57589
- fibre optic streak camera system to monitor X-ray refl. changes in metal multilayers 7−30135
- flow visualization and meas., chronographic technique based on split-timer cct. 7−51353
- green light 2ω as an X-ray streak camera fiducial 7−11771
- high-speed photography, videography and photonics, conf., San Diego, CA, USA (Aug. 1985) 7−18486
- imaging techniques utilizing optical fibres and tomography 7−25977
- ion beam-target interaction, ablation process obs., backlighting technique 7−11793
- IR streak camera for use in 1.0 to 1.6 μm region 7−18896
- laser-target interactions, temporally resolved target potential measurements 7−63315
- light velocity meas., using streak camera and ring laser 7−18766
- microwave pulse photonic meas. using electro-optic and fibre-optic components 7−25983
- optical fibre transient radiation damage meas. using streak camera 7−50757
- optical fiducials for X-ray streak cameras at LLE 7−11772
- picosecond pulses recording developments 7−15026
- picosecond semiconductor lasers for characterizing high-speed image shutters 7−20466
- shock experiments, velocity-interferometer data, digital image processing 7−18868
- soft X-ray streak camera, absolute calibration 7−18963
- soft X-ray streak cameras, resolution characteristics 7−9931
- sweep-nonlinearity correction procedures in picosecond streak camera measurements 7−15024
- synchronously operated streak camera driven by a GaAs photoconductive device 7−18903
- time-resolved VUV spectrograph for X-ray laser research 7−56355

streak photography continued
time-resolved X-ray photography of laser imploded fusion targets 7—18960
trigatron-triggered breakdown initiated by streamers, streak photographic studies 7—32191
two-dimensional transients acquisition and processing, using IBM personal computer 7—15025
X-ray remote detect., coupling between plastic scintillators and light fibres 7—25320

streamer chambers
ALEPH hadron calorimeter, high voltage network for streamer tubes 7—5549
charge division and timing difference techniques comparison in streamer mode 7—42305
CHARM II neutrino detector, test results of streamer-tube system 7—30851
conf., Vienna, Austria, February 1986 7—40989
drift chambers with delay line readout in limited streamer mode 7—30850
hadron calorimeter using wire chamber readout 7—62223
high spatial resolution track chambers, holographic data systems 7—36382
limited streamer drift tubes with conductive plastic walls, cathode readout 7—25309
limited streamer tubes with analog strip readout, spatial resolution 7—30849
massive monopole search using CR-39, scintillation and streamer tubes 7—42396
MWPC in streamer chamber triggering system 7—49832
relative humidity measurement using alpha-particle corona streamer counter 7—55333
self-quenching streamer discharge under extremely large amounts of quenching gas 7—25310
self-quenching streamer mode study, induced charge method 7—10356
SGS digital strip readout electronics for streamer tubes 7—62238
UA1 limited-streamer tubes muon detector, electronics and parallel readout system 7—49795
upgraded muon detection system for UA1 based on limited streamer tubes 7—49794
VME/VMX parallel multiprocessor system for the data acquisition of the UA1 streamer tubes 7—19665

streamers *see discharges (electric)*

streaming, acoustic *see acoustic streaming*

strength (mechanical) *see mechanical strength*

stress *see internal stresses; stress effects; stress-strain relations; yield stress*

stress analysis
see also bending; crack-edge stress field analysis; photoelasticity; photoplasticity; strain gauges; thermal stresses; torsion; yield strength; yield stress
2D elastostatics, stress computation by BEM 7—37330
2D hybrid stress analysis, laser speckle photography, image processing techniques 7—31712
accuracy of stress intensity factors calc., improvement methods *(Chinese)* 7—41099
acoustoelastic effect, influence of plastic deformation, stress distribs. in slightly orthotropic materials 7—16069
anisotropic materials of different moduli, cylindrical shell theory 7—43684
assumed stress hybrid finite element method 7—1451
axisymmetric nonstationary problems of dynamic elasticity, ray series method appl. 7—41114
bar, circular, weakened by rectilinear cut, torsion problem 7—11288
bar, prestressed, on elastic foundation with initial stresses, contact problem soln. 7—43809
bars, collision with bar or disk, longit. impact, mech. similarity study 7—37394
bars, plastic impact, contact duration 7—37393
beam, square, with central circular hole and two cuts, torsion 7—62996
beams, cracked, stress intensity factors, elementary theory 7—62978
beams, shear flexible, field consistency in FEM 7—57687
beams/plates under combined loading, finite element dynamic inelastic analysis 7—63002
boundary-integral-equation and finite-element methods, combined scheme for elasticity theory problems 7—56041
brittle-matrix, fibre-reinforced composites, matrix cracking mechanics 7—65129
CALIF computer code for fusion reactor first wall lifetime anal. 7—25188
ceramic cylindrical nuclear fuels, computer modelling, review 7—720
circular hollow cylinder, coupled thermal stresses due to thermal and mech. loads 7—16063
circular ring under internal pressure, stress distribs. in 2nd order elasticity 7—57693
complex stress state material swelling 7—31648
components under complex loading, stress anal. incorporating fracture mech. and materials aspects 7—13584
composite, winding, stress form. in frontal hardening 7—17491
composite cross-ply flat specimens, interlaminar edge stress analysis 7—57694
composite laminates, stress singularity by FEM 7—1401
composite structures, stress analysis, methodologies, new expt. approaches 7—37326
composite structures, stress analysis, methodologies 7—37325
composite wedges, laminated, stress singularities 7—43659
composites, laminated, strength of pin loaded holes, effect of pin load distrib. 7—1403
composites, layered, curvilinear structure, stress distribution *(Russian)* 7—63012
compressive wave 1D, stress field calc. after reflections *(Chinese)* 7—11335
cone, nonhomogeneous, with spherical caps, torsional vibration 7—48364
corners of equilateral triangular holes, stress distrib. and intensities 7—31638
Cosserat media, inelastic behaviour of plane frictionless block-systems 7—1432
crystalline rods, thermoelastic stresses and temps., asymptotic calc. 7—32542
cyclic loading, creep plasticity problem 7—63003
cylinder, hollow, fluid-filled, initial stresses effect on wave speed 7—43749
cylinder, hollow, with nonplanar end-faces, stressed state, approx. method 7—16067
cylinder, isotropic, spatial stressed state, mixed problem of elasticity theory *(Ukrainian)* 7—11282

stress analysis continued
cylinders, thick-walled, stress anal. under press. and temp. gradients 7—50947
cylinders, uniformly loaded, relaxed Almansi-Michell problem soln. 7—43679
defence hole systems, for reduction of stress conc. in uniaxially loaded plate with two coaxial loads 7—37324
diamond cut-off discs, example of positive effect of stress conc. 7—31642
dielectric cylinder with radial cut, stress intensity factors 7—56039
discontinuity surfaces in a rigid plastic anal. 7—43697
domain with cut, stress intensity coeffs. in quasistatic temp. problems, asymptotic form 7—26152
dynamical response of systems with localized nonlinearities, ultimate state method 7—10190
Earth crust, influences of stress and temp. regimes on graben subsidence 7—66083
Earth crust, local stress field determ. from earthquakes focal mechanism in Great Basin of Nevada 7—54884
Earth crust, present stress state in China rel. to faulting and earthquakes *(Chinese)* 7—34396
elastic and viscoelastic bodies, state of stress and strain during phase transitions 7—29961
elastic body, three-dimens., asymptotics of stress-strain state in vicinity of pointed inclusion 7—6096
elastic inclusions, stress distrib., 2D soln. 7—62989
elastic isotropic medium with almost spherical reinforced cavity, axisymm. stress state 7—1421
elastic layer on rigid foundation with annular hole, torsion study 7—37332
elastodynamics with viscous damping, stress functions, axisymmetric problems 7—16064
elbow, stress anal. before and after radial head resection *(German)* 7—23376
epiphyseal-based designs for tibial plateau components, stress anal. in frontal plane 7—3934
epiphyseal-based designs for tibial plateau components, stress anal. in sagittal plane 7—3935
epoxy resins, effects of epoxy number and hardener on properties *(German)* 7—22973
fatigue crack propagation computer simulation *(Japanese)* 7—14772
femoral stress anal., 3D, using CT scans and P-version FEM 7—8613
ferritic spent fuel casks, predrop test anal., stresses and fracture toughness 7—46651
fibre in viscoelastic matrix, stress state of isolated fibre 7—16079
fibre reinforced composite, energy dissipation properties, anisotropy 7—6143
fibre reinforced composites, mechanical properties, statistical and deterministic approach comparison 7—11287
fibre reinforced plastic hollow cylinder, 3D stress state 7—37333
fibre reinforced viscoelastic plate, circular hole or inclusion, stress, conc. calc. 7—1446
finite thickness piezoelectric plate, thermo-piezo stresses, thermal and pol. fields 7—27667
first wall/blanket structures, comparison of tokamak and tandem mirror designs 7—25190
FTU Tokamak, main mechanical, thermal loads and stresses 7—56842
FTU tokamak machine, vacuum vessel thermal and mechanical problems 7—25179
fusion reactor, bonded armour tiles for in-vessel components, residual stresses 7—5416
half-plane with system of rectilinear thin elastic inclusions, stress-strain state 7—11285
half-planes interface, stress conc. at tip of hard inclusion 7—16065
half-space, prestressed elastic, general spatial static contact problem 7—1516
half-space with initial stresses, contact interaction with a finite elastic cylinder 7—63084
heterogeneous materials, cracking micromechanics under compression 7—37377
high temperature reactor components, multiaxial loading tests 7—49541
image processing for stress analysis *(Italian)* 7—46777
inelastic half-space with cylindrical cavity, load problem, wave interaction 7—11305
IR technique appraisal 7—31723
Lamb's plane problem in thermoelastic solid 7—6128
lamellar inclusion problem in plane elasticity 7—1422
laminate, orthotropic photoelasticity appl. to stress state analysis 7—57778
lattice element, explicit form of stress constraints *(French)* 7—14767
linear stress analysis, comparison of boundary element and finite element methods 7—1390
mean stress dependence of the thermoelastic constant 7—65248
membrane, transversely loaded, geometrically nonlinear analysis 7—6095
metals, elastoplastic problems, numerical methods, double exposure speckle photography 7—57714
micropolariscope for automatic stress analysis 7—43815
multidimensional stress states, rate-dependent endochronic theory 7—11280
near-incompressible material, FEM 7—11279
nonhomogeneous and transversely isotropic media, fundamental soln. 7—57690
nonlinear viscoelasticity with time-dependent coefficients 7—50959
notch tips, plane, stress singularity 7—26220
optical fibre, stress-applied, with inhomogeneous core *(Japanese)* 7—50780
optical stress anal. of supporting walls *(German)* 7—20669
orthotropic toroidal shell stresses under axisymmetric loads *(Chinese)* 7—14774
panel, composite, min. wt., optimum design w.r.t. arbitrary loads 7—1397
paperboard, constitutive behaviour under uniaxial and biaxial loading 7—63019
photoelastic 2D model, principal stresses, image processing 7—37401
photoelastic analysis of composites and other bonded-material structures, limitations 7—63094
photoelastic stress analysis, automatic system 7—26231
photoelastic stress separation along lines of symmetry 7—31714
piezoelectric layer with periodic system of electrodes, plane problem of electroelasticity 7—2983
plane, elastic, hole-defect interaction, stress distrib., integral eqn. method 7—37964
plane anisotropic contact problems, Green's function soln. 7—6163
plastic medium, semi-infinite, with hollow spherical inclusion, stress conc. 7—31651

stress analysis continued
plate, annular, with cyclically symm. curvilinear notches, stress state anal. 7—1420
plate, circular, influence of annular stiffening rib on stress distrib. *(Rumanian)* 7—20594
plate, epoxy, subjected to rapid cooling on both surfaces, residual stress anal. 7—63007
plate, large square, central circular hole, uniaxial loading, elastic stress concs., photoelastic models 7—43682
plate, orthotropic, loaded hole, boundary element study 7—1402
plate, thick rectangular, buckling, high-order deform. theory *(Chinese)* 7—11320
plate and shell structures,. nonlinear anal. using bilinear degenerate shell element *(Japanese)* 7—16060
plate bending, stability regions 7—16080
plate bending element, bilinear, force evaluation 7—57707
plate with thin regions, stress conc., theoretical and photoelastic studies 7—57697
plates, elastic annular, connected by elastic rods, stress analysis 7—62992
plates, infinite containing ovaloid hole, stress concentration 7—57688
plates, interlaminar shear stress determination using MSC/NASTRAN theory 7—20597
plates, laminated, boundary layer approach to free-edge stress concentration 7—26158
plates, laminated composite, 3D hybrid stress isoparametric element 7—56020
plates, orthotropic folded, elasticity versus finite strip analysis 7—1427
plates, sandwich with unidirectional thickness variation, stress anal. 7—43718
plates and shells, hybrid strain technique for FEA 7—20603
plates of cubic crystals, stress determ. by photoelasticity method 7—51011
plates structures, 3D, elastostatic anal., CAD, stress anal. 7—37334
plunger pump piston, numerical and expt. stress systems, math. representation *(German)* 7—18596
power plant mechanical components, stress and strain limitation 7—10187
power station piping systems, dynamic test data, comparison with analytical methods 7—10191
principle strains in the plastic region, optical meas. using moire method and interferometry 7—17580
quadratic shear flexible beam element 7—24425
randomly loaded structures, using IR technique 7—31724
rarefaction wave velocities determ. at high pressures, use of Manganin stress gauges 7—48713
reactor components, asymptotic and reference stresses for design by anal. 7—49518
reactor construction codes and engineering mechanics conf., Paris, France, Aug. 1985 7—48153
reactor pressure vessel, thermoplastic stress calcs. from stress-relief up to thermal shock 7—10216
reactor pressure vessel and piping design, stress indices for nonradial branch connections 7—49520
reactor relaxed core stress in ratcheting evaluation for elevated temp. design 7—49521
rectangle, elastic, compressible object, contact interaction of two stressed half-planes 7—1518
residual stress analysis, US techniques 7—65273
RFX vacuum vessel, structural and thermal anal. using FEM 7—25178
rigid line inhomogeneity tip under antiplane shear loading, stress singularity 7—6100
rocks, fracture anal. 7—66106
rod, curved elastic, vibrs. in plane of curvature during heating 7—43751
rods, reinforced, curvilinear, limiting condition under multiparametric external forces 7—1399
rotating disc with jump-like nonhomogeneity, elastic, limit and decohesive carrying capacities 7—63001
rotating solid disc, cyclic rotations, dynamic stress anal. 7—24424
rough disks, shear flow, constitutive relations 7—35267
rough surface, boundary layer in plastic medium flow 7—26169
sandwich holography appl. to stress anal. of paintings on canvas 7—31284
shell, circular cylindrical thick, torsion, stress and displacement study 7—62977
shell, cylindrical, on absolutely solid bed, contact problem, stress-strain state *(Ukrainian)* 7—11357
shell, cylindrical four-layer coiled, stress state 7—11292
shell, cylindrical leaning on rigid support, stress-deformed state 7—16132
shell, flat, multiply, nonlinear variant of elasticity theory 7—1414
shell, inclined Timoshenko-type, triangular finite element construct. 7—1415
shell, laminated composite, applied theory development 7—1413
shell, spherical, thick-walled, under short pulse loading max. stresses eval. 7—20640
shell, stresses under local loads, calc. using Timoshenko method 7—57696
shell, three-layer, limit boundary problem in theory of stability *(Ukrainian)* 7—11315
shell analysis using a simple flat hybrid stress element 7—16081
shell of revolution with hole, elastic-plastic axisymmetric state under concentric loading 7—16078
shells, cylindrical, thick-walled, nonlinear cross section, stress state anal. 7—62993
shells, elastic-viscoelastic layered, multi-director formulation 7—37347
shells, shallow, boundary/interior element method for quasi-static and transient response analyses 7—6090
shells, single-layer reticulated, stress function and its relation to continuous membrane shells 7—26140
shrink connection, photoelastic investigation *(German)* 7—20671
single fibre composites, stress transfer, critical fibre length, Young's modulus ratio 7—59558
solid, nonsimple elastic, yield function, constitutive eqn. 7—62980
solid, simple elastic, constitutive eqn. limitations 7—62979
solid deformable body mechanics, configurational forces 7—26167
solids, elastic, 2D inhomogeneities, minimum stress conc. 7—37342
space with two hyperboloidal cuts under the action of auniformly distributed pressure 7—97
speckle metrology with finite element modelling for stress analysis 7—43820
sphere, elastic isotropic, of compressible material, dynamics under cubic initial loading 7—1480
sphere, twisting, induced stress field 7—11314
spherical cavity in isotropic micropolar elastic medium, anal. 7—57691
spherical head pressure vessels, large deflection anal. 7—5321
stationary behaviour of stress invariants 7—14776

stress analysis continued
steady stress cycle construction for elastic-plastic structures 7—57706
steel, Cr, high C, notched rods, breaking by heating process, elastic-plastic stress analysis *(Japanese)* 7—33777
steel/composite, double-lap joints, stress anal. and failure props. 7—33769
stress, FEA using microcomputer 7—48357
stress assisted diffusion in elastic and viscoelastic materials 7—50953
strip, infinite, transient field under point force 7—11339
strip, infinite orthotropic, finite crack, impact response 7—63082
synchrotron radiation mirror, thermal distortion prediction with finite element analysis 7—43306
tensile strip with large circular hole, stress analysis using nonlinear FEM 7—20596
thermal stresses, theoretical aspects, book 7—9607
toroidal solenoid, thermomech. loaded, optimal design 7—57695
torsion of transversely isotropic elastic layer bonded to transversely isotropic half-space 7—6106
torsional axially symmetric finite element model for problems in elasticity 7—57701
transversely isotropic elastic plate pressed between two rigid cylindrical surfaces, contact problem 7—16130
tubes, hollow, axisymmetric external projections, axial loading, stress conc. factors 7—43681
video/computer technology role in exptl. mech. 7—63093
viscoelastic bar, response to sudden axial loading 7—37345
viscoelastic media, solidifying and incrementing, theory 7—11301
wall shear stress meas., turbulent pulsating pipe flow 7—16264
weld eigenstresses, stress optical modelling *(German)* 7—21494
wiggler beam monochromator, distortion from synchrotron radiation thermal loading, finite element analysis 7—42269
wire drawing dies and boreholes, expt. stress anal. *(German)* 7—22769
yield surfaces, initial and subsequent, translated deviator stress tensor 7—16061
C fibre reinforced plastic laminates, ply failure under moisture and temp. influences *(German)* 7—22744
C steel, environmental fatigue stress rules appl. to reactor piping 7—13600
InGaAsP film, defect struct. and strain anal., X-ray topography 7—52344
InP stress meas., photoelasticity determ. with aid of computer 7—31725
Tl_3AsSe_3 crystals, Bridgman growth, dislocation etching, thermal stress distrib. 7—21208

stress birefringence *see mechanical birefringence*

stress corrosion cracking
see also corrosion fatigue
Alloy 600, intergranular SCC, in aq. soln. containing dissolved H_2, activation energy 7—59683
Alloy 600 PWR steam generator tubing, intergranular attack and SCC remedial methods 7—8199
alloy 600 tubes, intergranular attack, cause evaluation 7—59685
alloy 600 tubes, stress corrosion cracking in aggressive chemical environments 7—10230
brass, Naval, transgranular SCC, dislocation distrib. 7—17708
α-brass, SCC initiation after exposure to $NaNO_2$ soln. 7—65173
α-brass, SCC propagation after exposure to $NaNO_2$ soln. 7—65174
BWR piping, fracture mech. research in Japan 7—53891
BWR piping, use of Mechanical Stress Improvement Process to inhibit IGSCC 7—33836
BWR piping research in Italy, IGSCC tests, fracture and cracks 7—53890
BWR steel, CITROX decontamination solvent, corrosive effects 7—10232
BWR top-guide structure, integrity eval., irradiation induced SCC 7—54012
cement paste, low-porosity, subcrit. crack growth in alcohol media 7—59650
cements, bending stress determ. from density of localised cracks *(German)* 7—22935
ceramics, crack propagation by double-torsion method *(Japanese)* 7—59614
ceramics, static and dynamic fatigue *(Japanese)* 7—46619
conference on water reactor safety, Gaithersburg, MD, USA, (Oct. 1985) 7—48152
electrochemical potential profile models 7—46717
glass fibre reinforced polyester, aligned, AE stress corrosion cracks 7—59722
Inconel 600 and 690, SCC under high temp. NaOH, comp. and annealing effect 7—39710
Inconel X-750, Ni-base superalloy, SCC susceptibility in high-temp. water, effect of chloride 7—39729
lightweight US data acquisition and graphic display system 7—1335
LWR, pressure vessel materials, environmental sensitive cracking *(German)* 7—10214
mechanism based on surface mobility 7—53943
metals, bend tests for stress corrosion testing 7—54040
metals, electronic structures of lattice defects, tight binding recursion method 7—27289
Nimonic 80A, crack growth under sulphidising conditions, metallography 7—59680
optical fibres, silicone-coated, influence of pH solns. on strength and dynamic fatigue 7—6006
PMMA, stress cracking in air, mol. wt. distrib. effect 7—50992
polyester resin, glass-reinforced, stress corrosion cracks, acoustic emission monitoring 7—53926
polyester-polycarbonate blend, crystallising crazes, probable source of solvent stress cracking resist. 7—13621
polyethylene, interlamellar links, environmental stress cracking agent effect 7—53928
polyethylene, low density, environmental stress cracking in methanol, heat treatment effect 7—8146
polymeric insulation, water treeing and morphology 7—39029
power plant components stress corrosion crack model in laboratory tests 7—17732
PWR steam generators, review of secondary side tube degradation processes 7—30616
PWR steam turbine secondary side SCC, remedial actions 7—61969
sapphire, stress corrosion, crack tip, dissociative chemisorpt. 7—33812
semi-infinite crack, SCC growth rate rel. to plasticity 7—31704
stainless steel, 304, strain effects on sensitisation developments, STEM/EDS and electrochemical potentiokinetic reactivation methods 7—54014
steam generator tubing, primary side stress corrosion cracking, remedial measures 7—30613

stress corrosion cracking continued
- steel, alloy, corrosion resist., influence of thermomech. treatment 7—22873
- steel, austenitic stainless, chloride SCC, O and corrosion pot. effects 7—39719
- steel, austenitic stainless, cold-worked, SCC and hydrogen embrittlement 7—13637
- steel, austenitic stainless, intergranular SCC resist., influence of Si 7—46681
- steel, austenitic stainless, nuclear grade, SCC in simulated BWR environments 7—46682
- steel, austenitic stainless, SCC, delayed fractures under mode III loading, H induced cracking 7—53898
- steel, austenitic stainless, SCC at const. load in molten $NaCl-CaCl_2$ at 570°C 7—53944
- steel, austenitic stainless, SCC susceptibility in polythionic acids 7—65183
- steel, austenitic stainless, sensitisation resistance improvement, application of analytical electron microscopy 7—39762
- steel, austenitic stainless, sensitised, SCC, re-anal. of results from constant extension rate tests 7—39723
- steel, austenitic stainless, sensitised, SCC in high temp. Na_2SO_4 soln. 7—39735
- steel, austenitic stainless, single cryst., SCC and pot. depend. in $MgCl_2$ soln. *(Japanese)* 7—33831
- steel, austenitic stainless, slow strain rate SCC in NaCl soln., cathodic protection 7—39709
- steel, austenitic stainless, stress corrosion cracking susceptibility, cathodic reduction treatment effects 7—8185
- steel, carbon and stainless, pipe fracture safety analysis using limit load and *J*-integral techniques 7—13585
- steel, Cr-Mn and Cr-Mn-Ni types, corrosion and SCC behaviour 7—17683
- steel, Cr-Mn-Si-Ni, SCC in aq. NaCl soln., microstruct. effect 7—8196
- steel, Cr-Ni-Co VKS6, struct. and mech. characts., effects of Ni, Co and heat treatment 7—8108
- steel, cyclic corrosion crack resistance, basic diagrams, electrochemical conditions at crack tip 7—51926
- steel, high strength, H assisted cracking in aq. environment 7—3393
- steel, high strength, H induced SCC rel. to galvanisation *(German)* 7—3521
- steel, high-strength wire, prod. parameters influence on corrosion cracking tendency in H_2S media 7—17693
- steel, HSLA, partially coated, SCC, non-uniform H charging effect 7—3483
- steel, low alloy, SCC and corrosion fatigue in artificial seawater, effect of yield strength *(Chinese)* 7—8152
- steel, low alloy, sulphide cracking, role of H 7—39726
- steel, low alloy ferritic, strain induced corrosion cracking prevention for BWR piping 7—13641
- steel, low alloy Ni-Cr-M0-V, with 850 N/mm^2 yield strength, hydrogen-induced crack form. 7—3437
- steel, Ni, sulphide stress cracking susceptibility rel. to tempering 7—17712
- steel, stainless, crack growth in BWR piping, meas. techniques 7—39839
- steel, stainless, passivity rel. to comp. and microstruct. 7—39711
- steel, stainless, Type 304 IGSCC, BWR plant life extension, materials aspects 7—53995
- steel, type, with plasma and powdered Al coatings, SCC behaviour 7—17686
- stress corrosion cracking test of expanded steam generator tubes 7—56764
- test procedure problems 7—8215
- tubesheet sample removal from Point Beech 1 steam generator 7—56763
- turbine rotor and disk stress corrosion cracking characteristics 7—33849
- water cooled reactors, steam generator tube performance during 1983 and 1984 7—25118
- Al brass, SCC in acidic sulphate solns, Cl^- conc. effect 7—17679
- Al-base alloys, IN-9021, SCC fracture behaviour 7—39744
- Al-Li-Cu-Mg-Zr die forgings, mech. props., microstruct. 7—46636
- Al-Li-Cu(-Mg), stress corrosion resist. and mech. props. 7—33833
- Al-Mg, rapidly solidified powders, effect of extrusion parameters on props. 7—39595
- Al-Zn-Mg-Cu, 7475, environment sensitive fracture using shadow optical method of caustics 7—39647
- Al-Zn-Mg-Cu, high-strength alloys, long-term marine atm. stress corrosion tests 7—46679
- Al_2O_3 ceramics, microstruct.-mech. prop. relationship 7—65147
- Al_2O_3, Na-S cell reliability models using ceramic degradation mechanisms 7—59831
- B fibre reinforced Al alloy, corrosive media influence on crack resist. 7—17668
- C/glass fibre reinforced hybrid composites, aligned short fibres, SCC propag. 7—13615
- Cu, SCC propagation after exposure to $NaNO_2$ soln. 7—65174
- Fe-Al-Mn, austenitic, SCC in NaCl soln. 7—8195
- Fe-Ni-Cr, reactor bolting material A-286, failure analysis 7—30536
- FeCrNiW amorphous alloys SCC behaviour 7—39727
- MgF_2, stress corrosion, crack tip, dissociative chemisorpt. 7—33812
- Ni-base weld metals, SCC in simulated BWR environments 7—46682
- Ni-Fe-Cr, age hardenable, SCC in PWR coolant water, heat treatment and Zr additions effect 7—39708
- Pb-acid stationary battery crevice corrosion cracking and counter measures 7—46930
- a-Si photovoltaic modules, electrochemical degradation 7—17870
- SiO_2 silica fibre mechanical strength determ. *(French)* 7—11157
- Ti alloys, hot salt SCC rel. to surface conditions *(Chinese)* 7—13623
- U-Nb-Zr (7.5, 2-5 wt.%), SCC in gaseous O_2 and H_2 *(French)* 7—17619

stress effects
- *see also cavitation; deformation; elastic waves; heat treatment; high-pressure phenomena and effects; magnetomechanical effects; materials testing; mechanical properties of substances; mechanical testing; piezo-optical effects; piezoelectricity; piezoresistance; shock wave effects; stress analysis; stress measurement; stress-strain relations; tribology*
- agar-agar gel, effect of gelation time on wetting by water 7—39927
- brass, stress assisted dezincification in NH_3 soln. 7—17675
- casein gel, effect of gelation time on wetting by water 7—39927
- coating-solid interface, nonlinear mechano diffusion 7—17669
- Earth crust, influences of stress and temp. regimes on graben subsidence 7—66083
- gelatin, effect of gelation time on wetting by water 7—39927
- Mg-Al alloys, precipitation and recrystallisation rates under small external stress 7—17532

stress effects continued
- polyethylene terephthalate glycol, uniaxially stretched, amorphous orientation and induced crystallisation 7—11956
- polymers, corrosive medium and mech. stress effect *(Russian)* 7—65166
- polyvinyl alcohol gel, effect of gelation time on wetting by water 7—39927
- precipitate shape and stability, influence of applied stress 7—44828
- rubber blends, cryo-ground, rheology rel. to natural rubber matrix viscosity 7—59566
- GaAs:Si, annealing behaviour of impurities in presence of stress 7—65060
- $GaAs-Ga_{0.3}Al_{0.7}As$ quantum wells, uniaxial stress depend. of spatially confined excitons 7—33078
- KBr crystal, radiation defects destruction by electron beam generated pulsed stresses 7—63663
- Si, thermal donors, alignment by uniaxial stress, EPR and optical studies 7—59227

stress field analysis at cracks *see crack-edge stress field analysis*

stress measurement
- 2D hybrid stress analysis, laser speckle photography, image processing techniques 7—31712
- 2D photoelastic shear-difference data, computer-assisted reduction 7—57775
- axisymmetric 3D residual stresses, new meas. method using inherent strains as parameters 7—51013
- fibre optic sensor development for high speed material diagnostics 7—65250
- foils and films tensile testing, specimen-deformation machine for X-ray diffractometers 7—33874
- laminate, orthotropic photoelasticity appl. to stress state analysis 7—57778
- manganin foil stress gauges, piezoresist. response meas. 7—29998
- manganin stress gauges, dynamic release curves from resistive hysteresis props. 7—35506
- manganin stress gauges, dynamically loaded, piezoresistive response 7—29992
- mean stress dependence of the thermoelastic constant 7—65248
- metal sheets, rolled, US SH wave vel., ang. depend. 7—38126
- metals, elastoplastic problems, numerical methods, double exposure speckle photography 7—57714
- metals, texture and internal stress determ. using ultrasonic Rayleigh waves and neutron diffraction 7—46767
- nondestructive detection and analysis of stress stateswith polarized ultrasonic waves 7—3552
- optical methods in composites, conf., Keystone, USA (Nov. 86) 7—55894
- orthotropic materials, stress measurement using vertically polarized shear waves 7—57699
- plates, butt-welded, residual deform. meas., white light speckle technique 7—17749
- plates and rings, SPATE stress studies under in-plane loading 7—63086
- PMMA, rubber toughened, dynamic crack propag., high speed photographic, transmitted caustics 7—39638
- polyethylene, medium-density, noncontact monitoring of cyclic loading and stress relax. by US backscatter 7—59724
- polyimide adhered films, solvent induced crack-like defects 7—46653
- polymers, stress/strain coupled diffusion studied by vibrational time-delay technique 7—51012
- polyvinylidene fluoride piezoelec. film transducer, charge output stress depend., gauge accuracy 7—29997
- polyvinylidene fluoride piezoelectric film stress gauge response under impact loading 7—29996
- probing method for investig. of rules of change in stressed and strained state 7—59714
- residual stress determination through combined use of holographic interferometry and blind-hold drilling 7—63087
- residual stress meas. by speckle multiple image shearing camera 7—31720
- semiconductor interfaces, bonding and adhesion, characterisation techniques, electronic struct. 7—27418
- shape memory alloy, intrinsic stresses evaluation by AE 7—39829
- solids of revolution integral gradient photoelasticity 7—1418
- SPATE stress measurement system, calibration and qualitative assessment 7—31726
- speckle metrology with finite element modelling for stress analysis 7—43820
- spectral analyser for meas. of thermomechanical response of solids to low-frequency dynamic loads 7—43814
- steel, austenitic stainless, residual stress meas. SEM/ASTM round robin study 7—13680
- steel, C, inverse magnetostrictive effect and electromagnetic nondestructive testing methods 7—13714
- steel, Cr-Ni-Cu, welded specimens, residual stress meas. mag. induced US vel. obs. 7—46761
- steel, HSLA, rolled sheets, residual surface stresses, corrosion pot., X-ray obs. 7—39704
- steel, Ni-Cr-Mo, autofrettaged tubes, residual stress determ. by neutron and X-ray diffr. 7—33743
- steel, stainless, type 304, tubes, surface stress meas. using blind-hole strain gauge method, calibration 7—65249
- steel flatpack soil stress gauge, shock loading, elec. noise anal. 7—30001
- tibial plateau, cement layer stresses, model obs., 3D strain rosettes 7—65798
- transverse piezoresistance gauges, stress meas. in shock loaded targets 7—29999
- turbulent jet flow perpendicular to flat plate, shear stress meas. by erosion technique 7—31898
- video/computer technology role in exptl. mech. 7—63093
- wall shear stress meas., hot film surface gauge improvement 7—37405
- X-ray diffr. method accuracy 7—16353
- X-ray stress measurement by use of synchrotron rad. source *(Japanese)* 7—8213
- Al_2O_3, sintered, X-ray stress meas. *(Japanese)* 7—8169
- Si polycrystalline ribbons stress meas., photoelasticity determ. with aid of computer 7—31725
- Yb vapour deposited foils, piezoresist. response of stress gauges 7—32986

stress-optical effects *see piezo-optical effects*

stress relaxation
- *see also anelastic relaxation; creep; viscoelasticity*
- alloy, structural, creep and stress relax. mechanism 7—46571
- Aramid fibre reinforced composite beams, viscoelastic-plastic anal. in flexure 7—33717
- bisphenol-A-type epoxide resin, mech. and dielec. relax., alkyl side chains effect 7—45925

stress relaxation continued
composite, macroscopic relaxation kernels determ. 7−16073
creep-plasticity constitutive models suitable for thermal loading 7−51925
crystalline solid bodies, conditions of elastic equilib. of submicrocracks *(Russian)* 7−58407
delayed damage in brittle solids 7−38111
dislocation-diffusion mechanisms of stress relax. *(Russian)* 7−32564
elastomers, stress relax rig for use in γ-irrad. environments 7−8224
epoxide resins, mech. and dielec. relax. rel. to spiro-ring struct. 7−17572
Furko glasses, quenched, isothermal relaxation of density and stresses 7−1893
glass, stabilised, low temp. relax., pot. barrier model. 7−43714
glass fibre reinforced PVC matrix, acoustic emission during irreversible deform. 7−3380
metal, structural, creep and stress relax. mechanism 7−46571
metallic glasses, struct. relax., theory *(Russian)* 7−44397
PET, high-temp. viscoelasticity and heat-setting, strain recovery meas. 7−63721
plastic foams, stress relax. curves, charactn. 7−44688
PMMA, glass transition temp. and stress relax. 7−52049
polyarylates, amorphous, glassy, plastic deform. in stress relax. and creep regimes *(Russian)* 7−63730
polyethylene, creep behaviour, stress relax. expts. 7−46546
polyethylene, medium-density, noncontact monitoring of cyclic loading and stress relax. by US backscatter 7−59724
polyethylene, triple-step shear-strain, constitutive eqns. 7−43831
cis-polyisoprene, relax. time discontinuous spectra, relax. transitions *(Russian)* 7−44642
polyisoprene vulcanizate, double step retraction, molecular models comparison 7−16685
polymer, radiation-induced stress change during electron irrad. 7−16631
polymer, thermoviscoelastic properties prediction in complex stressed state 7−17573
polymer films, stress development during thermal cycling, bending beam technique 7−28063
polymeric materials, stress relax., bond breaking, free vol. effects 7−22742
polymers, partially crystalline, viscoelastic and acoustic props. on hydrostatic compression 7−33719
polystyrene-cis-decalin gels, isotactic, compression modulus, conc. depend. 7−32536
rheology, conf., Ann Arbor, MI, USA (Oct. 1985) 7−18481
rod, nonuniformly ageing viscoelastic, with small deform., thermal stability 7−11317
rubber, gel and mol. wt. influence on mech. props. 7−37904
shape memory effects in plastic transform. conditions *(Russian)* 7−33656
shear, uniaxial and biaxial stress relax. functions 7−26855
sphalerite single crystals, plastic behaviour between 473 and 873K, differential creep stress, relaxation tests 7−2093
steel, austenitic stainless, strain ageing and load relax. behaviour at room temp. 7−28092
steel, Cr-Mo-Ni-Mn, stress relief cracking, impurity effects 7−46635
steel, quenched, high hardenability, thermal stress and strain generation 7−8071
steel, stainless, pressure vessel, stress relief cracking, reactor safety 7−8117
structural tension relax. in small particles 7−6708
submicrosecond elastic loading, material relax. phenomena 7−12186
time depend. plasticity theory, stress relax., creep, plastic flow 7−43703
Zircaloy-4, cold worked, anelastic contrib. to high temp. stress relax., model 7−65072
zircaloy-4, polycryst., high temp. internal friction 7−17571
Al, relaxation process studied by positron annihilation 7−6698
Al thin films, stress relax. mechanisms 7−21784
Al-Zn dilute alloys, stress-induced mixed dumbbell tunnelling, sound propag. meas. *(Russian)* 7−51674
C black, in styrene-butadiene rubber soln. relax. properties 7−8317
Cu-Fe-Mg-Ni-Al alloy, stress relaxation in tension and creep in torsion 7−44667
Fe-Ni-based amorphous alloys, relax. spectra, effect of pulse treatment 7−46536
Fe-Si-B metallic glasses, struct. relax. *(Chinese)* 7−65070
$Fe_{40}Ni_{40}P_{14}B_6$, ferromag. amorphous alloy, struct. relax., effect of surface 7−28062
$Fe_{10}Ni_{65}Si_{10}B_{15}$ spin glass, amorphous, effect of phase segregation during struct. relax. 7−39517
GaAs, undoped, thermal activation of plastic deform., 528-813K 7−6710
GaAs, X-ray topographic examination 7−32225
Ge single crysts., plasticity meas. near yield peak *(Russian)* 7−44664
GeSi-Si strained-layer superlattices, elastic relax. effects on TEM 7−52378
HgSe, plastic deformation 7−21331
InGaAsP buried heterostructure lasers, polarisation, effect of stress relax. caused by repetitive temp. change 7−62690
InGaAsP, spinodally decomposed, elastic relax. effects on TEM 7−52378
InP single crystals, thermal activation of glide 7−21213
Mo, creep behaviour, stress relax. expts. 7−46546
Pb-Sn solder, deform. props. 7−46590
PbF_2-MnF_2-$Al(PO_3)_3$ glasses, conductivity and mechanical relax 7−16803
a-Sb_2S_3 films, thermally induced relax. of mechanical stresses 7−8032
Si, oxidation, stress relax. model 7−65229
Si, surface layers, local mechanical stresses relaxation 7−21604
SiN film CVD coatings, Al void form. suppression in MOS struct. 7−7406
TiN coatings, internal stress and adherence 7−52374
W wire, grain boundary struct. annealing above 1800K 7−6636
Zn, deformation recovery, positron annihilation spectroscopy 7−21329
ZnSe MBE layers on GaAs, lattice mismatch effects, TEM, photolum. and X-ray diffr. studies 7−45042
Zr-Co, amorphous alloys, microhardness and struct. relax. *(Chinese)* 7−65069
Zr-Ni, amorphous alloys, microhardness and struct. relax. *(Chinese)* 7−65069

stress-strain curves *see stress-strain relations*

stress-strain diagrams *see stress-strain relations*

stress-strain relations
see also elastic constants; elastic limit; serrated yielding; yield point; yield stress
adhesive lap joints, yield strength in tension, compression and torsion, Poisson ratio 7−39591
alloys, dislocation annihilation and strain hardening *(Russian)* 7−46500
alloys, two-phase, models of tensile behaviour from components 7−46570
anisotropic media and composites, linear-elastic, lateral press. coeff. 7−1416
annular membranes, large deformations under vertical edge loads 7−6107
bar material, dilutely voided, instability in uniaxial tension 7−53787
bars, collision with bar or disk, longit. impact, mech. similarity study 7−37394
beams, cold-bent, flowchart for overbend prediction 7−6103
bioprosthetic valves, porcine, leaflet stiffening effect on leaflet stresses 7−65889
brass plated steel cords, mech. and cohesion props. in sulphurising environment 7−39740
brass sheet formability, grain struct. and stress raisers influence 7−3376
carboxylato-telechelic polyisoprene, mech. props. 7−38096
cavities, 2D of various shapes, compressibility 7−43716
cellulose/asbestos fibre reinforced mortar, strain softening, crack growth resist. curves 7−39640
ceramic part, heat resistance under two-dimens. strain conditions 7−59630
composite, macroscopic relaxation kernels determ. 7−16073
composite shell of revolution, flexible, weakened by notches, stress-strain state, num. method 7−16075
composite structures, stress analysis, methodologies, new expt. approaches 7−37326
composite structures, stress analysis, methodologies 7−37325
composite system, design problems with allowance for interphase reactions 7−43661
composite with periodic structure, coupled problems of thermoviscoelasticity 7−16074
composites, fibre-reinforced, stress distribution, Raman spectrosc.-mech. anal. 7−21333
crack tip elastoplastic stresses, experimental-analytical hybrid model 7−63065
cylinder, hollow, with nonplanar end-faces, stressed state, approx. method 7−16067
cylinders, hard/soft mixture, uniaxial compression effects 7−26135
cylindrical, asymmetrically loaded, stability and large deformation behaviour 7−11306
damage model, 3-D finite strain viscoelastic 7−50955
diamond, optical phonons and elasticity at megabar stresses 7−21375
dislocations, nonlinear continuous medium model for stress, strain and displacement fields 7−6623
ductile materials, determining relationships derivation by method of orientation averaging 7−6112
elastic and viscoelastic bodies, state of stress and strain during phase transitions 7−29961
elastic body, three-dimens., asymptotics of stress-strain state in vicinity of pointed inclusion 7−6096
elastic film on rigid substrate, contact stress and strain, zero friction, finite element anal. 7−57768
elastic film on rigid substrate, contact stress and strain with friction, finite element anal. 7−57769
elastic-plastic loading, notch root stress/strain prediction 7−63017
elastic-plastic problem soln. with increasing strain hardening of material 7−11304
elasticity, linear, class of conservation rules assoc. with sensitivity anal. 7−26146
equations of state and constitutive equations 7−21389
fatigue failure, strain criterion 7−22943
fibre in viscoelastic matrix, stress state of isolated fibre 7−16079
fibre reinforced composite, spatially reinforced, deform. props. eval., rigidity 7−6097
fibre reinforced composites, flexible, nonlinear elastic behaviour 7−39570
fibre reinforced epoxy, average stress-strain curves 7−33733
fibre reinforced plastics, hybrid, tensile, compressive, flexural and shear props., review 7−39532
frictional materials, theoretical framework for modelling behaviour 7−43706
glass fibre reinforced epoxy, cross-reinforced wound, deform. and failure in tensile loading 7−17633
graphite, bend strength and fracture strain under press. 7−46595
graphite, nucl. grade, polycryst., deform. under press., elastic moduli rel. to struct., neutron irrad. effect 7−28069
graphite fibre reinforced epoxy, thermomech. behaviour, space rad. effects 7−51828
graphite fibre reinforced epoxy laminates, dynamic response at high shear strain rates 7−3371
half-plane with system of rectilinear thin elastic inclusions, stress-strain state 7−11285
half-space with initial stresses, contact interaction with a finite elastic cylinder 7−63084
Hastelloy X, thermomech. response, viscoplastic constitutive model 7−8059
heavy elastica, critical review 7−11286
impact test, stress strain relationships, elastic deformation, specimen connected with long bar *(Japanese)* 7−11290
inclusions and voids, stress distrib. calc. 7−43685
inhomogeneous materials, 1D strain-dependent creep damage 7−6153
inhomogeneous viscoelastic bodies, accretion under finite deforms. 7−26168
intermetallic phases, appl. as high temp. materials, review 7−22775
laminated plates with metal bearing layers, use in compressed elements, equil. mode stability 7−31667
lignocellulosic fibres, phys. and mech. props. 7−53883
martensitic transformations, stress-induced, anal. of inelastic bending 7−65032
material, homogeneous, isotropic, stiffness and strength reduction due to crack development 7−51927
material, mechanical behavior representation rel. to internal damage 7−53838
material strength determ. at high strain rates, freely expanding ring test 7−54044
metal, cyclic hardening, hardening law and fatigue damage 7−58400
metal powders, shock wave induced consolidation, microlevel numerical modelling 7−27965
metal-H, systems, anelastic props. 7−26856
metal-polymer two-layer plates under bending load, strength and stiffness calc. 7−57713

stress-strain relations continued
metallic elements, cyclic local stress-strain and fatigue crack initiation life *(Chinese)* 7—46593
metallic specimen heating in split-Hopkinson bar expts. using induction coil heaters 7—33870
metals, fatigued, dislocation patterning, labyrinth structures, rotational effects 7—38009
metals, plasticity and viscoplasticity 7—46552
metals, sheet, history depend. forming limits, hardening models 7—59542
metals, sheet, press formability and anisotropic yield, Bassani-type criteria 7—28068
metals, steady state creep, strain response to complete unloading 7—59568
nonlinear compaction model for sandstone 7—4027
nonlinear hardening materials, constitutive model of cyclic plasticity 7—6113
nonlinearity elastic solids, Volterra dislocations, large deformations, Weingarten theorem generalization 7—43669
nylon 6 composites, formed by in situ polymerisation of caprolactam, mech. performance 7—39575
orthorhombic crystals, deformed, elastic moduli and stability 7—16666
paperboard, constitutive behaviour under uniaxial and biaxial loading 7—63019
PEEK matrix for high performance composites, processing, struct. and props. 7—3262
perforated plates, simplified creep anal. for steady creep conditions 7—28094
PET films, crystallisation under strain, annealing, morphology, mech. props. 7—44415
plant vegetative tissue, cell wall elastic constitutive laws and stress-strain behaviour 7—40184
plastic flow at high strain rates, molecular dynamics studies 7—26834
plastic medium, semi-infinite, with hollow spherical inclusion, stress conc. 7—31651
plate, doubly-connected, optimisation of temp. fields and stresses 7—11309
plate, infinite, of crack-weakened hereditary material, limiting equil. 7—31705
plate with thin regions, stress conc., theoretical and photoelastic studies 7—57697
plates, circular, plastic limit load numerical evaluation using Mises yield criterion 7—20604
plates, circular incompressible, variational principle for large axisymmetric strain 7—31660
plates, orthogonally stiffened, under lateral and axial loads, nonlinear anal. 7—37360
plates, rectangular on linear elastic foundation, nonlinear dynamic response 7—20599
plates, rectangular thin laminated composites, bending analysis using FEM 7—57708
plates, sandwich with unidirectional thickness variation, stress anal. 7—43718
plates and shells, hybrid strain technique for FEA 7—20603
poly(p-phenylene terephthalamide) fibres mech. props., stochastic model 7—39661
polybutyl methacrylate, tensile flow, stress-strain behaviour, temp. depend., mol. wt. 7—6847
polydimethylsiloxane, swelling by phenylmethylsiloxane, modulus, stress-strain isotherms 7—8039
polyethylene, continuous melt extrusion, morphology, strength 7—39472
polyethylene, extended under press., hydrostatic press. effect on damage accumulation, struct. reorganisation 7—8065
polyethylene, lin., deform. process, morphological study 7—13518
polyethylene, semicrystalline, elastic modulus meas. method 7—13683
polyethylene-tetrafluoroethylene, row crystallised film, deform. mechanism 7—44663
polyisoprene, cis- and trans-, blends, props., meas. 7—13517
cis-1,4-polyisoprene networks, uniaxial extension, stress-strain relation 7—39605
polymer, radiation-induced stress change during electron irrad. 7—16631
polymer, thermoviscoelastic properties prediction in complex stressed state 7—17573
polymer composites, particle filled, mechanical strength/filler content relationship 7—13594
polymer honeycomb filter, strength and stiffness in shearing determ. 7—17634
polymer-dominated multi-material systems, hygrothermal process interdependence and elasto-viscoplastic behaviour 7—53785
polymers, amorphous, structured, strain-dependent birefringence under creep conditions *(Russian)* 7—27690
polymers, deformation isothermal conditions, dynamometric curves *(Russian)* 7—8073
polymers, neck propag., plane strain 7—44658
polyoxypropylene, cross-linked model networks, swelling, elastic stress-strain props. 7—46540
polypropylene film, fibrillation, sonic pulse propag., stress-strain meas. 7—26669
polypropylene mica filled composites, struct.-mech. props. relations 7—1919
polypropylene-cryo-ground rubber blends melt flow, dynamic mech. props. 7—12346
polypropylene-polyethylene blends, γ-irrad., mech. and thermal props. 7—21137
porous, anisotropic and variable strength media, applied theories of plasticity 7—16072
powder metallurgical materials, plastic working in presence of free surface, math. modelling 7—53651
principle strains in the plastic region, optical meas. using moire method and interferometry 7—17580
probing method for investig. of rules of change in stressed and strained state 7—59714
pulley belt in steady motion, influence of bending stiffness on shape 7—11312
reinforcing bar behaviour under compression 7—1440
respiratory mechanics, structural model of thorax and abdomen 7—54663
rocks, effect of press. on elastic and strain-strength props. 7—47424
rocks, stress-strain state at high press., appl. of nonlinear heredity models 7—55021
rolling of adsorption-plasticised strip, surface layer rheology influence on stressed and strained state 7—17582
rolling resistance in repetitive rolling and stress-strain state in contact zone 7—26229

stress-strain relations continued
rubber, particle reinforced, with distributed damage, micromech. model for nonlinear viscoelastic behaviour 7—43698
sand, liquefaction, initial static shear stresses effect 7—4037
shear band, modelling of instability at tip 7—26838
shear plastic stress-strain relations obtained from torque-twist data 7—51014
sheet metals with complex strain bending histories, elastic-plastic springback 7—37348
sheets, thin with plastic anisotropy, radial stressing 7—43699
shell, cylindrical, dynamic stability under nonaxisymmetry loading 7—57720
shell, cylindrical, on absolutely solid bed, contact problem, stress-strain state *(Ukrainian)* 7—11357
shell, cylindrical, thermally sensitive, stress-strain state analysis using displacement theory 7—16068
shell, cylindrical four-layer coiled, stress state 7—11292
shell, cylindrical leaning on rigid support, stress-deformed state 7—16132
shell, flat, multiply, nonlinear variant of elasticity theory 7—1414
shell, inclined Timoshenko-type, triangular finite element construct. 7—1415
shell, sectional, with holes, wave fields 7—16106
shell, spherical, in contact with elastic filler, natural oscills., asymptotic analysis 7—11328
shell, spherical, thick-walled, under short pulse loading max. stresses eval. 7—20640
shell, spherical, transversely isotropic, thick-walled, transient response, ray theory determ. 7—26142
shell, stresses under local loads, calc. using Timoshenko method 7—57696
shell of revolution with hole, elastic-plastic axisymmetric state under concentric loading 7—16078
shells, noncircular cylindrical, deformation 7—11308
shells, nonlinear elastic-viscoelastic layered, multi-director FEM formulation 7—43695
shells, nonlinear orthotropic cylindrical, finite deformations 7—11311
shells, shallow spherical sheared and twisted, stress conc. factors 7—43717
shells of revolution, cantilevered, pressure buckling 7—20613
shock viscosity, steady shock wave profiles, calc. 7—26839
simple layer of arbitrary anisotropy, stress operator limiting values from elastic pot. 7—43668
singular loading surfaces, plasticity theory 7—11300
SOI thin films, props. after laser focused beam processing 7—32497
solid bodies, three dimensional, stress and strain determ. *(German)* 7—20670
sphere, elastic, above critical strains 7—11289
sphere, twisting, induced stress field 7—11314
spiral longitudinal systems, tensioning and twisting 7—50949
split Hopkinson pressure bar method use in dynamic testing, review 7—22944
steel, austenitic stainless, softening mechanism in hot working 7—3333
steel, austenitic stainless, strain ageing and load relax. behaviour at room temp. 7—28092
steel, Cr-Ni type, temper hardened, strain rate effect on plastic deform. resist. and energy characts. 7—39601
steel, fatigue, criterion for omission of variable amplitude loading histories 7—22794
steel, hot working of austenite, transition from multiple- to single-peak recrystn. 7—65057
steel, HSLA, high strain-rate behaviour, Bodner-Partom viscoplastic constitutive model description 7—33754
steel, low C, mech. props., effect of cold working and annealing *(Chinese)* 7—13473
steel, low C, work hardening, softening and dislocation multiplication 7—3324
steel, Mn, Hadfield, strain hardening, plastic flow 7—28055
steel, quenched, high hardenability, thermal stress and strain generation 7—8071
steel, quenching, effect of martempering on thermal stress and strain 7—46532
steel, stress-strain curves, approx. functions 7—59591
strain-space plasticity formulation for hardening-softening materials with elastoplastic coupling 7—26164
strip, displacement loaded, semi-infinite crack, dislocation interaction, nonlinear stress-strain law 7—44676
strips, rectangular, springback anal. in torsion 7—11298
structurally nonuniform materials in complex stress state, variant of strength criterion 7—32553
superconducting turbogenerator rotors, stress-strain state investigation 7—13511
T-junctions, stamped, thick walled, stress-strain state anal. *(Russian)* 7—1409
tensile flow stress beyond necking, determ. at very high strain rate 7—63726
tensile properties, determ. by three-point method 7—13699
tensile test, numerical investig. using finite difference 1D elasto-viscoplastic code 7—46747
thermal stress generation during quenching, effect of stress relax. rate 7—17590
thin layers, determ. of stress-strain curves using indentation test 7—12191
thin plate, stretching deformation, method of generalized plane stress 7—29760
thin-walled structures under combined loading, elastic buckling anal. using finite strip method 7—20612
torispherical heads, elastic-plastic state 7—26162
tubes, curvilinear, under uniformly distributed load, nonlinear deformation and stability loss 7—6121
tubular specimens, mech. tests in high-press. chamber, stress-strain tensor functional construct. 7—59716
two-phase solid, cyclically loaded, residual stresses 7—63010
uniaxial material laws, generalisation of tensorial constitutive eqns. *(German)* 7—57715
viscoelastic ageing solid, build-up with solid-liq. transition 7—43711
viscoelastic material, Kelvin-type, thermal effect anal. 7—57667
viscoelastic medium with microfractures, mechanical behaviour under extension and shear 7—29003
viscoelastic rectangular body excited by rectangular waveguide, vibrs. and heating 7—16109
viscoelastic solid growth under frontal hardening conditions, stressed state form. 7—43712
viscoplasticity, nonlinear FEM anal. 7—63008
W single crystals, cyclic deform. 7—22773

stress-strain relations continued
- work hardening curve analysis 7—22713
- Zircalloy, mech. eqns. of state of material irrad. at 573K in deform. in working direction 7—8064
- Al alloy, Duralumin type, stability of struts in compression in elastoplastic range 7—22771
- Al alloy, uniaxial transient creep behaviour under varying stress states *(Chinese)* 7—13513
- Al, explosively launched expanding ring test, computer simulation and anal. 7—33878
- Al quenched, tensile flow stress, effect of grain size and strain 7—22756
- Al single crystals, cyclic deform. at low const. plastic strain amplitude 7—65114
- Al under shock loading conditions, constitutive relation 7—26865
- Al-Li base alloys, deform. and fracture 7—39594
- Al-Mg alloys, spall strength, impact stress and strain-rate depend. studies 7—33796
- Al-Mg-Mn, fatigue, criterion for omission of variable amplitude loading histories 7—22794
- Al-Mg(-Si), response to single and multistage compression 7—53830
- Al-Si-Mg (7, 0.3 wt.%), strength and ductility, effect of macroporosity 7—3386
- Al_2O_3-ZrO_2 ceramics, hot forging characts., grain size 7—3370
- B_2O_3-SiO_2 glass, Pyrex, shock loading meas., impact failure modes determ. 7—33798
- Bi alloy impregnated Ti, composite pseudoalloy, mech. props., Bi alloy content depend. 7—28095
- C fibre reinforced C, multidirectional composites, macroporosity and interface cracks 7—46513
- C fibre reinforced epoxy, laminates, quasi-isotropic, response to biaxial stress 7—33732
- C fibre reinforced plastic, cemented lap joint, stress-strain state and strength 7—33794
- C steel, S45C, fretting fatigue damage accumulation, cycle and stress ratio effect 7—28232
- Cd, polycrystalline, work-hardening and recovery during steady-state creep 7—63734
- Cu, cyclic stress-strain behavior of single- and ⟨111⟩ multiple-slip-oriented single crystals 7—26845
- Cu, isoaxial bicrysts, with ⟨001⟩ tilt boundaries, dynamic recrystn., effect of grain boundaries 7—17549
- Cu, near-threshold fatigue crack propag. and high cycle fatigue 7—13545
- Cu, polycrystalline, cyclic stress-strain curve, grain size effect 7—53803
- Cu, polycrystalline, high cycle fatigue behaviour, effect of grain size 7—46626
- Cu, tensile test, numerical investig. using finite difference 1D elasto-viscoplastic code 7—46747
- Cu-Al-Ni, shape memory alloys, polycrystalline, cyclic deform., fatigue above transform temp. 7—3434
- Cu-Al-Ni shape memory alloys, polycrystalline, cyclic deform. and fatigue above transform. temp. 7—3433
- Cu-Co (2 at.%), underaged, fatigue props., comparison of single crysts. and polycrysts. *(German)* 7—46648
- Cu-Sn (11 wt.%), stir cast, torsion behaviour 7—46567
- Cu-Ti-Al single crysts., strain hardening due to multiple twinning *(Russian)* 7—46501
- CuAlNi deformed single cryst., internal friction amplitude depend. *(Russian)* 7—13491
- FeCrAlY, Al_2O_3 adhesion mechanism 7—33843
- GaAs, Raman phonon piezospectroscopy, IR meas. 7—64647
- Ge ⟨111⟩, dynamical recovery 7—13475
- Ge single crysts., plasticity meas. near yield peak *(Russian)* 7—44664
- KCl crystals, rolling friction, elastoplastic deform. 7—16681
- Mo, cyclic deformation, dislocation substructures and hardening 7—21330
- Mo, cyclic deformation 7—22719
- Nb, shape-memory effect and microstrain during hydride form. 7—16670
- Nb single crystals, cyclic deform., dislocation behaviour 7—63729
- Ni-Al-Cr, melt spun ribbons, microstruct., mech. props., Cr conc. effect 7—28031
- Ni-CO, limitations of dynamic recovery as revealed by temp. change tests at large strains 7—22723
- NiAl, slow plastic creep props. between 1200 and 1400 K, effect of comp. and grain size 7—65084
- NiCrAlY, Al_2O_3 adhesion mechanism 7—33843
- Pb-Tl alloy single crysts., plasticity and internal friction changes at supercond. transition *(Russian)* 7—26832
- Si polycrystalline thin film strain resistance model *(German)* 7—64033
- TiC-WC-TaC-Co three-phase sintered carbides, Ta content influence on struct. and props. 7—65097
- V, shape-memory effect and microstrain during hydride form. 7—16670
- ZrO_2 ceramics, hot forging characts., grain size 7—3370

stress wave emission testing *see ultrasonic materials testing*

stresses, internal *see internal stresses*

stretch receptors *see mechanoception*

striations *see discharges (electric)*

striking *see impact (mechanical)*

string theory
- *see also quark models; supersymmetry; unified field theories*
- abelian lattice gauge theories, large Wilson loop averages from the Schwinger-Dyson equation 7—61456
- Abelian lattice gauge theories, mean field methods for strings and monopoles 7—24772
- accidental degeneracies in string compactification 7—30258
- adjoint string at finite temperature, renormalisation group study 7—49117
- affine Lie algebras on group manifolds 7—35814
- anomaly-free superstring theory, compactification 7—56480
- antisymmetric string actions for free bosonic string on external flat space 7—35825
- attractor in superstring model, Einstein theory, Friedmann universe, inflation 7—41201
- baryon string model, quantum theory of single-mode configs. 7—61629
- black hole evaporation, closed superstring theories role, quantum coherence 7—66651
- black hole mass quantisation in string theory 7—61628
- book, dual theory reprint 7—60893
- bosonic closed string theory, hidden superstrings in Poincare supersymmetric sectors 7—35840
- bosonic Kac-Moody string theories 7—61625
- bosonic knotted strings, Liouville equation, Fuchsian Groups 7—30165
- bosonic string, classification of subgroup truncations 7—30227

string theory continued
- bosonic string, Hamiltonian and Lagrangian constraints and gauge fixing 7—19088
- bosonic string, interacting, 26-dimensional, torus compactification for non-simply laced groups 7—30226
- bosonic string, Q_{BRST} cohomology and negative norm states. 7—61613
- bosonic string compactification, conformal subalgebras of Kac-Moody algebras 7—35826
- bosonic string compactification at higher loops 7—49104
- bosonic string reparametrizations and the geometry of path space 7—35832
- bosonic string theory, tachyon scatt. amplitude 7—61618
- bosonic string theory, universality, critical exponents and mass gap in $D\to0$ limit 7—61622
- BRST approach to N=2 superconformal algebra 7—24866
- BRST cohomology in superstring theories 7—24814
- BRST cohomology of the fermionic string 7—49115
- BRST ghosts as worldsheet parameters in gauge-invariant string field theory 7—30257
- BRST hamiltonian quantization of the supersymmetric particle in relativistic gauges 7—30213
- chaotic inflation, effects of nonrenormalisable terms 7—29558
- charmed particle formation, quark-gluon-string model 7—41750
- Chiral models, geometrical aspects, superstring theory 7—61496
- chordal gauge symmetry in string theory, local gauge theory of extended object 7—56454
- closed bosonic and Neveu-Schwarz free strings and their gauge invariance 7—24860
- closed bosonic string, covariant field theory 7—24855
- closed bosonic string, modular invariance and two-loop vacuum amplitude 7—24811
- closed bosonic string theory as the Kahler geometry of loop space 7—41770
- closed bosonic strings in a covariant phase space 7—24809
- closed fermionic string models in 10D, classification 7—49035
- closed string, spacetime gauge invariance origin, quantisation 7—35827
- closed string with rigidity, instability of static soln. 7—56527
- closed strings in background fields, β-functions and vertex operators 7—49118
- closed strings in open-string field theory 7—56529
- compactified bosonic string and topological solitons 7—49036
- compactified superstrings and torsion, light-cone gauge investigation 7—35816
- complete N=2, d=6 supergravity with matter and Yang-Mills couplings, superstrings 7—18676
- complex sine-Gordon theory, one-soliton solns., virial approach 7—30195
- component string field theory, covariance and massive fields 7—61624
- conf., Neuchatel, Switzerland, April 1986 7—40984
- conformal and current algebras on a general Riemann surface 7—56475
- conformal anomaly, Virasoro algebra and Chern-Simons cohomology 7—30173
- conformal equivalence of the Caneschi-Schwimmer-Veneziano and Witten vertices 7—35820
- conformal field theory, energy-momentum tensor on a Riemann surface, bosonic strings 7—48969
- cosmic axion string decays, constraint on Peccei-Quinn symm. breaking scale 7—24517
- cosmic strings, damping of motion by dynamical friction 7—56101
- cosmic strings, evolution and scaling soln. 7—48496
- cosmic strings, fractal geometry and galaxy and cluster correlation functions 7—56115
- cosmic strings, orbifold compactifications 7—35363
- cosmic strings, radiation of Goldstone bosons 7—56129
- cosmic strings, superheavy, superconducting, from superstring models 7—60847
- cosmological evolution of monopole-string networks 7—56114
- cosmology with Ricci-flat compactification from 10D superstring theories 7—40977
- covariant heterotic strings, classical gauge and BRST struct. 7—49105
- covariant heterotic strings, supergauge field theory 7—35834
- covariant interacting string field theory, off-shell vertex in Fock-space representation 7—49034
- covariant string field theory, gauge-fixed action and BRS transformation 7—19087
- covariant superstring, space-time supersymmetry 7—24511
- covariant superstring with N=1 global supersymmetry, quantum geometry 7—35735
- covariant wave functions in the dual model 7—24862
- dimensional reduction of 10-D supergravity and superstring 7—35378
- Dirac operator determinants, anomaly cancellation and torsion 7—35813
- Dirac string, detectability 7—61614
- E_6 superstring-inspired models, neutral current anal. 7—61543
- E_6 superstrings, $\nu\to\nu'\gamma$ decay rate calcs. 7—30266
- E_6 superstrings, L parity and ν_e masses 7—19048
- $E_8\times E_8$ superstring theory, extra U(1) phenomenology at low energy 7—41688
- $E_8\times E'_8$ superstring theory, low-energy gauge interactions, renormalisation group anal. 7—41687
- $E_8\times E'_8$ superstring theory, phenomenologically viable models 7—41686
- E_8 superstrings, calabi-Yau manifolds motivations and constructions 7—56109
- effective action for string corrected Einstein gravity 7—61203
- effective actions, existence of R^3-terms 7—61197
- energy-momentum tensor and conserved currents 7—35833
- equations of motion with rigidity, classical solns. 7—49119
- Faddeev-Popov ghosts and BRS symmetry in string theories 7—35830
- fermion string, multiloop contrib. 7—19052
- fermionic closed orientated Polyakov strong, loop amplitudes for d=10 7—19035
- fermionic closed string theories, two-loop modular invariance and spin-statistics 7—61615
- fermionic string, interacting string formalisms 7—35839
- fermionic strings, gauge invariant Liouville action 7—35771
- field theory approach, effective action, dilation field interactions 7—19050
- field theory quantisation, BRST symmetry, gauge fixing, ghost lagrangian 7—19084
- four-dimensional string, from modified Green-Schwarz covariant supersymmetric action 7—49112
- Fradkin-Tseytlin S-matrix generating functional, BRS hamiltonian approach 7—61611
- free bosonic string, covariant quantisation 7—24861

string theory continued
- free bosonic string, worldsheet reparametrizations and Tomonaga-Schwinger-Dirac formalism 7−35837
- free null string, quantisation, absence of critical space-time dimensions 7−30260
- free string field theories, stochastic quantisation 7−61632
- free strings, gauge invariant field theories 7−30254
- galactic halos, rotation, density and string-seeded spirals 7−29562
- gauge covariant formulation 7−24859
- gauge invariant, covariant quantisation 7−56531
- gauge string fields from the light cone 7−48971
- gaugino masses from radiative corrections in superstring models 7−24864
- generalised cosmic strings, quasi-regular singularities 7−41190
- Hadamard factorization of Selberg zeta function on compact Riemann surface 7−24392
- hadronic low transverse momentum transfer reactions, colour superconducting treatment 7−41738
- heterotic string, (2,0) supersymmetric, internal degrees of freedom, action calc. 7−61522
- heterotic string, anomaly cancellation and self-dual lattices 7−35367
- heterotic string amplitudes, modular invariance and one-loop finiteness 7−41203
- heterotic string in continual integration formalism, analytical anomaly 7−61619
- heterotic string in 10D supergravity background, world-sheet supergravity anomaly cancellation 7−61209
- heterotic string models, removing tachyons by compactification 7−61192
- heterotic string theory, (2,0) supersymmetry and space-time supersymmetry 7−19085
- heterotic string theory, toroidal compactification 7−30223
- heterotic string theory in 4D with families of chiral fermions and standard gauge symm. 7−49033
- heterotic superstring geometry, super-Weyl transformations 7−61191
- heterotic-string anomalies in (1,0) superspace 7−24513
- heterotic-string $O(\alpha')$ corrections 7−24515
- hypothetical fundamental length, limits on ideal flexible string struct. of vacuum 7−30229
- interacting bosonic strings, gauge-invariant action 7−61630
- interacting bosonic strings, gauge-invariant field theories, 3-point vertex operator 7−56526
- interacting closed bosonic string, non-commutative geometry, quantum action 7−19083
- interacting closed bosonic strings, covariant formulation with compactified dimensions 7−35769
- interacting gauge-covariant bosonic string, symm. and transformations 7−35684
- interacting open superstrings, noncommutative supergeometry 7−41760
- interacting string field theory, operator formulation 7−61609
- interacting string field theory and Chern-Simons form 7−41766
- large-N QCD, Eguchi-Kawai approach, static pot. and string tension 7−61574
- light quark pair prod. in heavy quarkonia, pot. model study 7−41720
- light-like integrability of string superalgebras 7−35841
- lightest glueball mass in SU(2) and SU(3) gauge theories, lattice size depend. 7−41722
- locally supersymmetric string Jacobian 7−35383
- lower critical dimens. and curved backgrounds 7−41763
- massive scalar field in the static space-time of a cosmic string 7−41217
- massless mixed-symmetry bosonic free fields 7−24865
- multilocal model and relativistic string theory 7−35831
- multistring models, test of hadron-nucleus and nucleus-nucleus interactions 7−41771
- Mumford form and Polyakov measure 7−35812
- muon anomaly contribution for superstring inspired models 7−24821
- $N=1$ supergravity, $SU(3)\times Su(2)\times U(1)$ models, superparticle and t-quark masses 7−41228
- $n=1$ supersymmetric truncations and the superstring low-energy effective theory, compactification appl. 7−61519
- $N=2$, $d=2$ supergeometry and superconformal transformations 7−41654
- $N=2$ superconformal algebras in 2D, null field construction and Kac formulae 7−61620
- $N=2$ supersymmetric σ models, perturbative treatment of infrared divergences 7−56435
- N-reggeon vertex, BRST invariance 7−41765
- Neveu-Schwarz and Ramond algebras, highest weight representations 7−24506
- Neveu-Schwarz strings, cyclic symmetric vertex 7−24856
- nonabelian anomaly in the light-cone gauge, superstring theories 7−30187
- nonabelian gauge theories, exotic string configurations 7−61458
- nonperturbative effects on the string world sheet 7−24853
- nonrenormalization Theorems in superstring theory 7−41633
- nuclei, weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
- null string quantisation, absence of critical dimens. 7−49111
- null vectors, spinors, and strings 7−35253
- $o(16)\times o(16)$ heterotic string, four-point amplitude, conformal field theory appl. 7−49029
- open bosonic Polyakov string, saddle-point spectrum anal. and chiral anomaly 7−56528
- open bosonic string, dilaton tadpole 7−49114
- open bosonic string, interacting, gauge invariant theory and nonassociative algebra 7−41764
- open bosonic string with external vector particles, one-loop amplitude calcs. 7−49108
- open bosonic strings, covariant and gauge invariant theories 7−35835
- open bosonic strings, three-string vertex and conformal mappings 7−24810
- open bosonic strings in gravitational, tensor and Yang-Mills fields, renormalization props. 7−24826
- open interacting string, auxiliary field system, nilpotent BRS operator 7−61616
- open string fields, translations as inner derivations of star algebra and associativity anomalies 7−61623
- open superstring light cone hamiltonian, supersymmetry relation and quartic vertex 7−41762
- open superstring with O(32) massless gauge bosons, principal-part regularization 7−19046
- open-string interactions, algebraic struct. by Yang-Mills system analogy 7−19086
- orbifolds, conformal field theory, appl. to twisted string scattering 7−49106

string theory continued
- particles, fields and now strings 7−49001
- Pauli quenching effects in a simple string model of quark/nuclear matter 7−35828
- Poincare group with BRST and Parisi-Sourlas supersymmetries, strings, unification 7−49030
- Polyakov string theory from Φ^3 theory 7−61631
- prime number theories and string theories, multiple string case 7−56530
- QCD, nonperturbative hadron phase, chromoelectric flux and action quantisation 7−41736
- QCD, static quark pot. in dual superconductor calcs. 7−49074
- QCD, x-space sum rules and π wave function 7−41734
- QCD string, origin in Yang-Mills theory 7−61552
- quantised superstring theory, vanishing vacuum energy eqns. 7−61627
- quantum Gel'fand-Levitan-Marchenko solns. for sine-Gordon model in soliton sector 7−35718
- quantum gravity and cosmology, Kyoto, Japan (May 1985), conference 7−24295
- quantum strings interaction, path group anal. 7−30259
- Ramond-Ramond closed string field theory 7−49110
- relativistic string, closed, rotational motion and vacuum trajectories 7−61507
- relativistic string in curved space-time, prolongation structure anal. 7−56122
- relativistic string in Peres space-time 7−35354
- reparametrisation-invariant string field theory 7−49113
- Ricci-flat supersymmetric σ-models, counterterm counterexamples. 7−61446
- S^2 nonlinear σ-model with Abelian gauge field, string-like solns. 7−61437
- Schwarzschild black hole with cosmic string, thermodynamics and metric 7−18660
- second BRST operator in superstring theories, vacua struct. 7−61518
- semi-off-shell string amplitudes, local operator expansion 7−41759
- SO(10) superstring theory without intermediate scales 7−35365
- SO(32) superstring theory, infinity cancellation mechanisms 7−35836
- SO(p,q) Kac-Moody algebra, vertex operator construction, compactified bosonic string 7−30256
- space dimensionality and the number of possible neutrino types 7−35829
- space-time supersymmetry in covariant superstring field theory 7−24813
- space-time topology 7−35838
- spin content of string models, O(D−1) representation 7−35823
- standard model, development to GUTs and supergravity 7−30219
- static potential for smooth strings 7−41769
- static potentials from bosonic string models, lattice Monte Carlo calcs. 7−61612
- static quark pot. in string model with extrinsic curvature effects 7−61610
- string action on group manifold, Kac-Moody groups and anomaly cancellation 7−24824
- string field algebra for gauge-invariant interaction of bosonic string 7−49109
- string interactions on orbifolds 7−30225
- superalgebra and light-like integrability, uniqueness 7−35772
- superconducting cosmic strings, cosmological effects 7−24518
- superconformal algebras, relation to integrable nonlinear systems and quantum string theory 7−56463
- superconformal algebras in 2D, general classification 7−61621
- supergravity, superstring inspired, intermediate scale symmetry breaking 7−35379
- supermanifold cohomology and the Wess-Zumino term of the covariant superstring action 7−61186
- superspace path integral measure of the $N=1$ spinning string 7−24852
- superstring, open, six-fermion amplitude calcs. using superconformal techniques 7−56479
- superstring, propagation in metric tensor dilaton fields 7−61523
- superstring alternative of b-quark interactions 7−61517
- superstring compactifications, large radius expansion 7−41758
- superstring compactifications, orbifolds with nonabelian space groups 7−35366
- superstring model, baryogenesis and entropy generation 7−66801
- superstring models, baryon and lepton number violation 7−35817
- superstring models, baryon and lepton number violation 7−48498
- superstring models, candidates for inflaton field in cosmology 7−40976
- superstring models, neutral E_6 gauge boson 7−61196
- superstring models, neutrino mass and baryon number violation 7−48499
- superstring models on Calabi-Yau manifolds, gauginos and Higgs particles 7−61514
- superstring models with intermediate scale breaking, inflation as cure for cosmological problems 7−56113
- superstring models with vacuum expectation values for conjugate sneutrinos 7−24863
- superstring one-loop nonrenormalization theorem in covariant path-integral formalism 7−24514
- superstring orbifold compactification hierarchy of quark-lepton masses 7−35364
- superstring phenomenology, general review 7−61199
- superstring phenomenology, Kaluza-Klein compactifications 7−24522
- superstring theory, classical symmetries in the low-energy limit 7−24804
- superstring theory, elementary introduction *(Japanese)* 7−41205
- superstring theory, supersymmetric 10D low-energy limit 7−48515
- superstring theory, time variation of Newton's gravit. constant 7−18661
- superstring theory, topological sectors 7−61193
- superstring-inspired standard model 7−24526
- superstrings, bosonic gauge interactions, implications at lower energies 7−56126
- superstrings, brief review 7−41193
- superstrings, connection to $N=2$ no-scale supergravity 7−29853
- superstrings, energy splitting of gauge field vacua 7−35842
- superstrings, fermion emission vertex and space-time supersymmetry 7−35770
- superstrings, gaugino mass contributions in low-energy limits 7−24812
- superstrings, massless field effective action, use in D=10 SUSY field theories 7−48513
- superstrings, supergravity models from truncation mechanism 7−61211
- superstrings, type-I, one-loop finiteness 7−56483
- superstrings, vanishing of vacuum energy 7−56478
- superstrings and no-scale supergravity 7−35381
- superstrings with closed twisted boundary conditions, Green-Schwarz formalism, quantization 7−30231
- supersymmetric string dynamics, conformal field theory on a super-Riemann surface 7−41761

string theory continued
  supersymmetric string theory, covariant quantization and Ramond-Neveu-Schwarz model 7−35815
  supersymmetrization of $\zeta(3)(R_{\mu\nu\rho\sigma})^4$ in superstring theories 7−29856
  ten dimensional heterotic string, supersymmetric compactification on coset manifolds 7−24823
  ten dimensional off-shell superspace, heterotic string-induced modification 7−29855
  ten-dimensional heterotic strings from Niemeier lattices 7−30255
  Thirring strings, squeeze parameter 7−35819
  three-generation superstring model, compactification and discrete symmetries 7−35818
  three-reggeon vertex, props. in string theories 7−49107
  Toda lattice, bijections and linear wave eqns. 7−48602
  topological strings and other topological defects 7−29566
  topologically massive gauge theories, monopoles and string tension 7−48989
  topology massive gravity in the dreibein light-front gauge 7−41188
  toroidal compactification of heterotic superstrings 7−41679
  toroidal compactification of the interacting gauge covariant bosonic string 7−61617
  twisting toroidally compactified heterotic strings with enlarged symmetry groups 7−35822
  type-I SO(32) superstring theory, proof of one-loop finiteness, response to comment 7−41224
  type-I SO (32) superstring theory, proof of one-loop finiteness, comment 7−41223
  type-I superstring, one-loop gauge anomaly 7−35736
  U(n) Veneziano model, Wick-rotated light cone gauge, nonperturbative study 7−24854
  ultraviolet finiteness, elementary exposition 7−61633
  unidexterous D=2 supersymmetry in superspace 7−61195
  unified action for higher spin gauge bosons from covariant string theory 7−49028
  unitarity constraints for string propagation in the presence of background fields 7−49116
  vacuum Einstein eqn. solns., cylindrical waves and cosmic strings of Petrov type D 7−48477
  vacuum energy and dilaton tadpole for the unoriented closed bosonic string 7−41767
  Veneziano amplitude from interacting string field theory 7−19082
  vertex interactions 7−24858
  Virasoro algebra, anomalous term derivation by topological method 7−19081
  Virasoro conditions, vertex operators, and string dynamics in curved space 7−41768
  wave equations in cosmic string spacetime 7−35071
  Witten's action, relation to SUSY Yang-Mills action, use of Parisi-Sourlas mechanism 7−61626
  Witten's string field theory, physical and ghost vertices 7−35821
  Witten vertex, computation of three string vertex 7−24857
  $e^+e^-\to\nu\bar{\nu}\gamma$, ν counting effects from light ν's and gauge bosons in E_6 models 7−19094
  $e^+e^-\to\gamma\nu\bar{\nu}$, superstring effects, contrib. of ν and right handed neutrino to cross section 7−30263
  $e^+e^-\to$jets, hadronic final states, QCD and string model comparisons, review 7−30274
  $e^+e^-\to\pi X$, Bose-Einstein correlations among identical pions, Fourier transform technique, string model comparisons 7−61707
  $e^+e^-\to X$, Bose-Einstein correlations, string model predictions and Monte Carlo calcs. 7−24898
  ν, superstring-induced mass and mag. moment 7−35824
  $pp\to K\pi NX$, inclusive spectra, quark-gluon string model anal. 7−61769
  $\bar{p}p\to$quark+gluon jets, fragmentation props., gluon radiation effects, model comparisons 7−61772
  $\pi p\to K\pi NX$, inclusive spectra, quark-gluon string model anal. 7−61769
  $s\to d$+gluon, h, quark scalar boson interactions and strangeness-changing weak vertex, heterotic string anal. 7−30301
  $pN\to X$, inclusive spectra of secondary particles in quark-gluon string model 7−41859

strip line components
  field patterns of microstrip antenna in two component plasma 7−6397

strip lines
  asymmetric strip line segments, cross coupling, electrodynamic theory 7−36848
  Nb, thin film, microstrip line, parameter change during superconducting to normal conducting state switching 7−22075

stripping reactions
  (α,X), theoretical treatments, review 7−42039
  (d,p), antisymmetrization corrections to three-body models 7−41963
  (d,p), direct stripping anal. powers, DWBA anal., optical pots. 7−634
  ^{12}C(d,p), 12 MeV, anal. powers for stripping reaction leading to bound and unbound states 7−630
  ^{64}Ni(Li,d), DWBA anal., exptl. comparisons 7−56699
  ^{208}Pb (^{58}Ni, ^{57}Ni), quasielastic transfer meas. and DWBA anal. 7−42065
  ^{208}Pb(^{16}O,^{15}N), transfer to discrete levels, semiclassical selection rules and DWBA formalism 7−36032
  ^{208}Pb(^{16}O,^{15}O), transfer to discrete levels, semiclassical selection rules and DWBA formalism 7−36032

stroboscopes
  see also velocity measurement
  vibratory structures, stroboscopic laser speckle interferometry 7−30074

strong-coupling superconductors
  CDW, supercond., effect of randomness 7−27459
  dirty superconductors, strong-coupling eqns., disorder effects 7−64393
  dirty superconductors, strong-coupling theory, McMillan soln. and T_c degradation 7−64394
  disordered and amorphous nontransition metals and alloys, electron-phonon coupling strength and phonon spectrum calcs. 7−52889
  electron pairing, exchange and correl. contributions 7−45574
  electron-phonon systems, strongly coupled, 1D and 2D, BCS pairing versus bipolaron crystallisation 7−45552
  energy gap eqn. inversion, electron tunnelling spectrum temp. corrections, phonon spectrum determ. 7−52900
  ferromagnetic superconductor, phase diagrams and order parameters 7−17127
  quasi-2D strongly-coupled electron-phonon systems, CDW and superconductivity, polaron theory 7−58750
  specific heat difference functional derivative 7−38815
  superconducting critical temp. 7−7434

strong-coupling superconductors continued
  transition metal impurities in host metals, magnetic nature, superconductivity studies, review 7−7437
  tunnel junction 7−12918
  $BaPb_{1-x}Bi_xO_3$, electron-phonon interaction and superconductivity 7−27463
  In-Pb whiskers, quasi 1D supercond., weak to strong coupling transition, I-V characts. study 7−38835
  Pb films, 2D superconductivity, disorder effects, Eliashberg theory 7−22070

strong interactions, elementary particle *see elementary particle strong interactions*

strontium
  see also nuclei with ......
  Aegean arc, recent magmatism, geodynamics and isotope geochemistry 7−23589
  atom, autoionising series, multichannel quantum-defect theory model data fit, UV PES study 7−62334
  atom, ground state, ICP atomic fluoresc. spectrometry 7−54234
  atom, laser beam excited, collisional and radiative relax. 7−5637
  atom, quadratic Zeeman effect for nonhydrogenic systems 7−36544
  atom, scattered light obs. with laser excitation 7−30968
  atom, two-photon resonant three photon ionisation, power broadening, laser bandwith and interaction time effect 7−36571
  atoms, (7s)^{1}S-(5s^2)^{1}S transition, two-photon absorpt., quantum interference 7−881
  atoms, isotope shift and hyperfine struct., atomic fluoresc. anal. 7−30987
  autoionizing levels meas. *(Chinese)* 7−5645
  Black Hills of S Dakota, USA, Precambrian rock origin, isotope geochemical constraints 7−60205
  Colorado Peaks volcanic rocks, USA, isotope and trace element geochemistry 7−60203
  concentration determ. in environment, beta-ray counting flow cell 7−30896
  fixation on antimonic and phosphatoantimonic acids 7−25089
  Grenville Front, Labrador, Canada, Sr, Nd, Pb isotope geochemistry 7−60199
  ions, coincidence laser spectroscopy, ultrasensitive technique for fast ionic or atomic beams 7−30100
  ions, in air-acetylene flame, time decay, laser-induced ionis. detect. 7−62316
  liquid phase, density and surface tension 7−44957
  SW Pacific islands, Pb, Sr, Nd isotope and element abundances study 7−8874
  Phanerozoic, seawater, SR isotopic comp. var. 7−60273
  phonon spectra, dynamical pseudopot. shell model calcs. 7−51965
  relativistic band struct., self-consistent calcs. under normal and high press. 7−64068
  Rydberg states with n/100, laser spectroscopy 7−10461
  singly and doubly charged ion form. by nonlinear laser induced ionisation 7−42573
  Tariat Depression, Mongolia, Nd, Sr isotope study and subcontinental lithosphere evolution 7−60201
  water pollution ^{90}Sr in groundwater at U-plant in Rhode Island, USA 7−23245
  KCl:Sr, quenched and as-grown crysts., ionic cond., impurity dispersion state effects study 7−26786
  KX:Sr,Eu (X=Br,Cl), Sr precipitation, study using Eu^{3+} ions 7−53127
  Na_2O-SnO_2-SiO_2:Sr^{2+}, glass diffusion of cations, 500-800°C 7−12371
  Rb-Sr geochronological system, isochrons time-temp. relation 7−66008
  RbBr:Sr^{2+}, Z_2 colour centres, picosecond relax., nonstationary spectra 7−59233
  SR + inert gases, collisional energy transfer, time resolved fluoresc. meas., quenching cross sections 7−62497
  Sr + He^+, L shell X-ray prod. cross sections meas., first Born approx. and ECPSSR theory anal. 7−36526
  Sr ions, Ne-like laser plasma, photoexcitation, X-ray and XUV spectra 7−26507
  Sr XXX X-ray lines, wavelengths and identifications 7−5626
  Sr^+, lasing mechanism and energy characts., relax. processes of metastable states 7−62673
  Sr^+ reson. line, collisional broadening by Ar, visible spectra 7−49988
  Sr^+-Ar(He), reson. line broadening and shift rates, pot. calc. 7−15683
  Sr+Ar, ^{1}P fluoresc. line broadening, ab initio close-coupled scatt. calcs. 7−36494
  Sr^++Ba, laser-induced charge exchange, quasi-mol. model, fluores. anal. 7−36748
  ^{82}Sr, optical isotope shift in 6s^2-6s6p resonance transition 7−5635
  ^{90}Sr, immobilization using hydrous TiO_2 and zeolite 7−10295
  ^{90}Sr, removal from acidic nuclear waste solns. 7−25051
  ^{90}Sr retention mechanisms in synthetic ion-exchange resins 7−36269

strontium alloys
  see also strontium compounds
  Al-Si eutectic, Sr-modified, fibrous Si cryst. morphology, TEM study 7−28015
  Al-Si-Zn-Mg-Ti(-Sr) system alloys, mech. props., Sr microalloying effect 7−3377
  Ge-Sr, liq. alloys, enthalpy of form. 7−23050
  $SnSr_3Rh_4Sn_{12}$ crysts., structural distortion and chem. bonding, X-ray diffr. studies 7−1947

strontium compounds
  see also strontium alloys
  formate dihydrate single crystals, polarised Raman scatt., water internal modes 7−53311
  intracentre transition probabilities and luminesc. self-quenching 7−22332
  Si/SrO/Si heteroepitaxial structure formation by molecular beam epitaxy 7−53600
  (Al,Ga)As/(Ca,Sr)F_2 multilayer structures, MBE grown, broadband high-reflectivity mirrors fabrication 7−11091
  (Ba,Sr)TiO_3 film metal-dielec.-metal system, polarisation switching 7−52849
  $BaCa_{1/2}Sr_{1/2}Fe_4O_8$, mag. ordering 7−45624
  $Ba_{0.1}Sr_{1.1}Ca_{0.8}Fe_{12}O_{19}$-$La_2O_3$, hexagonal ferrites, influence of electric field on struct. and props., Mossbauer study 7−7616
  $Ba_{0.4}Sr_{0.4}Ca_{0.2}Fe_{12}O_{19}$, hexagonal ferrites, influence of electric field on struct. and props., Mossbauer study 7−7616
  $Ba_{2-x}Sr_xK_{1-y}Na_yNb_5O_{15}$, ferroelectric tungsten bronzes, crystal growth and optical appl. 7−39085
  $BaSrNb_2O_6$, ferroelectric thin films, pyroelec. props 7−59154

strontium compounds continued
- $BaSrNb_4O_{12}$, chaotic states, high resolution electron microscope study 7−3001
- $Ba_xSr_{1-x}Nb_2O_6$ optical phase conjugator, absolute phase shift 7−20364
- $Ba_xSr_{1-x}Nb_2O_6$ paraelec. phase, polarisation distrib. studies 7−38993
- $Ba_xSr_{1-x}Nb_2O_6$, poly- and single-domain samples, integrated light scatt. and polarisation 7−53361
- $Ba_{0.03}Sr_{0.97}TiO_3$, single crystal, electronic transport behaviour 7−33011
- $Ba_{0.5}Sr_{0.5}TiO_3$ polycryst. films, SAW scatt. and ferroelec. transitions 7−44984
- $Ba_{0.9}Sr_{0.1}TiO_3$:Sb, positive temp. coeff. of resist., synthesis method depend. 7−45324
- $Ba_{1-x}Sr_xTiO_3$ system, ferroelectric, weakly broadened phase transition 7−45944
- $(Ba_{1-x}Sr_x)_2Zn_2Fe_{12}O_{22}$ helimagnet single cryst., neutron diffr. study 7−52942
- $(Ca,Sr)F_2$-GaAs heterostructure interfaces, twinning, Raman spectra 7−13148
- CaO-SrO-P_2O_5 glasses, internal friction investig. 7−6721
- $Ca_xSr_{14-x}F_2$ layers, epitaxial growth on CaF_2 by vac. evap. 7−22498
- $Ca_xSr_{1-x}F_2$, mixed crysts., microhardness study 7−51928
- $Ca_xSr_{1-x}F_2$/GaAs SOI structures, epitaxial GaAs films, antiphase disorder 7−52315
- Cr^{3+}:$SrAlF_5$ laser emission tunable from 825 to 1010 nm 7−10964
- EuS-SrS mag. superlattices grown on Si(111), strain, study by He ion channelling 7−27215
- $Eu_{0.4}Sr_{0.6}S$ spin glass, activated dynamic scaling relation for susceptibility 7−38878
- $Eu_{1-x}Sr_xS$ solid soln., X-ray absorpt. spectra d-f exchange interactions effects study, comp. depend. 7−3114
- $Eu_xSr_{1-x}S$ mag. sp. ht., field and temp. depend., numerical simulation 7−2883
- $Eu_xSr_{1-x}Te$, dilute antiferromag., phase diagram, spin glass props. *(German)* 7−12981
- Fe_2O_3-SrO system, glass ribbon prep. by melt spinning, charactn. 7−53690
- $Gd_{1-x}Sr_xCrO_3$, coordination number and elec. cond., EXAFS and XANES studies 7−64785
- $Gd_2SrSb_2Zn_3O_{12}$, rare-earth activated garnets, cathodolum. 7−7763
- InF_2-PbF_2-BaF_2-SrF_2-YF_3-AlF_3-UO_2F_2, luminesc., lifetime meas. 7−27750
- $La_{0.7}Sr_{0.3}CoO_3$ cathodes for CO_2 waveguide lasers, electrical and emission characts. 7−59383
- $La_{1-x}Sr_xCoO_3$, local struct., EXAFS and XANES studies 7−63582
- $La_{1.8}Sr_{0.2}CuO_4$, superconducting transition at 36.2 K 7−58947
- $La_{1-x}Sr_xFeO_{3-\alpha}$, elec. cond. props. rel. to struct. 7−63871
- $La_{1-x}Sr_xMO_3$, (M=Cr, Mn, Fe, Co), electrodes for high temp. oxide fuel cells 7−54291
- MgF_2-SrF_2 mixtures, films, prep., physicochemical and optical props. 7−3178
- Na_2O-Y_2O_3-SrO-SiO_2 glass, Na^+ conductivity 7−52134
- $Nd_{0.7}Sr_{0.3}CoO_3$ cathodes for CO_2 waveguide lasers, electrical and emission characts. 7−59383
- $(Pb_xSr_{1-x})TiO_3$, ferroelec. solid solns., dielectric and hysteresis props. 7−64588
- Sr ferrite fine particles, prep., mag. props. *(Japanese)* 7−53065
- $SrAlF_5$:Cr^{3+}, laser material, EPR study 7−45807
- SrAr, excitation spectra in supersonic jet, spectroscopic const. determ. 7−25591
- SrB_4O_7:Sm^{2+}, fluorescence shift, pressure depend. *(French)* 7−4805
- $SrBaNb_2O_6$ as self-pumped phase conjugator 7−5957
- $SrBaNb_2O_6$:Ce as self-pumped phase conjugator 7−5957
- $SrBaNb_2O_6$:Ce crystal optical oscillator based on frequency-degenerate pumping 7−25887
- $Sr_{0.5}Ba_{0.5}Nb_2O_6$, incommensurate superstructures, phase transition, electron diffr. study 7−63792
- $Sr_{0.6}Ba_{0.4}Nb_2O_6$, doped and undoped, photorefractive props. 7−39057
- $Sr_{0.6}Ba_{0.4}Nb_2O_6$, photorefractive props. 7−22205
- $Sr_{0.6}Ba_{0.4}Nb_2O_6$ photorefractive props. 7−45955
- $Sr_{0.6}Ba_{0.4}Nb_2O_6$:Ce, photorefractive props. 7−22205
- $Sr_{0.6}Ba_{0.4}Nb_2O_6$:Ce(Fe), photorefractive props. 7−45955
- $Sr_{0.61}Ba_{0.39}Nb_2O_6$:Ce crysts., light emission obs. during freq.-degenerate laser pumping 7−15947
- $Sr_{0.75}Ba_{0.25}Nb_2O_6$:Ce self-starting passive phase conjugate mirror 7−43243
- $Sr_{1-x}Ba_xNb_2O_6$ bronze piezoelectric for SAW device applications 7−17271
- $Sr_{1-x}Ba_xNb_2O_6$, ferroelectric tungsten bronzes, crystal growth and optical appl. 7−39085
- $Sr_xBa_{1-x}Nb_2O_6$ photorefractive crystal, wavefront-reversing mirror characts, 7−43247
- $SrBr_2H_2O$, cryst. struct., comparative study with isotypic halides, bifurcated H bonds 7−63543
- $Sr(BrO_3)_2.H_2O(D_2O)$, EFG parameters, H bonding, PMR, deuteron mag. reson. 7−27612
- $SrCeO_3$ based proton conductive solid electrolyte in high temp steam electrolysis for H_2 production 7−54364
- $SrCeO_3$ proton-conductive solid electrolyte fuel cell performance with ethane, CO and ethanol fuels 7−3641
- $SrCe_{0.95}Yb_{0.05}O_{3-\delta}$ proton conductor, D solubility, SIMS study 7−12298
- $SrCl_2$:Eu, defect equilibria, site selective laser spectrosc. 7−46078
- $SrCl_2$-Al_2O_3 system, enhancement of ionic conductivity 7−2256
- $SrCl_2$-HCl mixed electrolyte, thermodynamic study, appl. of Pitzer's eqns. 7−33940
- $SrCl_2H_2O$, cryst. struct., comparative study with isotypic halides, bifurcated H bonds 7−63543
- $SrCrO_4$, spin-triplet state, luminescence and ODMR 7−64686
- SrF_2 heat sources fabrication for thermoelectric generators 7−65502
- SrF_2, low temp. thermal expansion, calc. 7−44867
- SrF_2, microhardness study 7−51928
- SrF_2, OH radical desorpt., kinetic and internal energy, determ., fluoresc. detect. 7−8298
- SrF_2, phase transitions, influence of shear deformation 7−21429
- SrF_2, thermal expansion at elevated temps. 7−63849
- SrF_2, US attenuation 7−51944
- SrF_2:Na^+, EPR of colour centres 7−17222
- SrF_2:Tm^{2+}, g-factor signs, optically detected ESR 7−32948
- SrF_2:Tm^{2+}, optically detected low-field ESR, cross-relaxation effects 7−33301
- SrF_2-$2YF_3$-$Er^{3+}(Ho^{3+})$, interionic interaction, occupation kinetics, stimulated emission 7−46072

strontium compounds continued
- SrF_2-$2(Y_{1-x}Er_x)F_3$ intracentre transition probabilities and luminesc. self-quenching 7−22332
- SrF_2-Si structures, heteroepitaxial growth, struct., elec. props. 7−12567
- SrF_3, phys. props., effective pot. calcs. 7−26692
- $SrF(Cl)_2$, linear thermal expansion meas. 7−44863
- $SrFe_{1-x}Co_xO_3$ ferromag. cpd., mag. props., comp. depend., Mossbauer spectra and neutron diffr. studies 7−7539
- $SrFe_{1-x}Co_xO_3$, Mossbauer spectroscopic studies 7−59130
- $SrFe_{12}O_{19}$, dispersion and particle packing of mag. oxide powders 7−3233
- $SrFe_{12}O_{19}$, mm wave magnetic and dielec. resonances 7−53139
- Sr_2FeTiO_{6-x}, defect struct. 7−1992
- $Sr_{0.2}Hf_{0.8}O_{1.8}$ solid soln., enthalpy of form. 7−3600
- SrI_2H_2O, cryst. struct., comparative study with isotypic halides, bifurcated H bonds 7−63543
- $Sr_{0.69}La_{0.31}F_{2.31}$, nonstoichiometric phase, atomic struct. 7−21175
- $SrLaFeO_4$, layered cpds., bidimensional mag. coupling, Mossbauer spectra 7−27637
- $Sr(La_{1/2}Nb_{1/2})O_3$-$PbZrO_3$-$PbTiO_3$, hot-pressed ceramics, dielectric, piezoelectric and optical props. 7−64583
- $Sr_2Mn_{2-x}Ti_xO_{5+x/2}$, struct. and defects 7−44490
- $Sr(NO_3)_2$, ionic cond. study as function of pelletizing press. 7−12358
- $Sr(NO_3)_2$, phys. props., effective pot. calcs. 7−26692
- $Sr_6Nb_{34}O_{91}$ single cryst., bronze-type struct., X-ray diffr. study *(German)* 7−37949
- $SrNd_2S_4$-Nd_2S_3 solid solns., vacancy disorder charactn., Raman spectra study 7−58270
- $SrNpO_3$, oxo-neptunates, Mossbauer and mag. studies 7−13063
- SrO, influence on durability of borosilicate glass 7−8144
- SrO-Ba(Mg)(Zn)O-P_2O_5 glasses, internal friction investig. 7−6721
- SrO-SiO_2 systems, liq. immiscibility 7−6807
- SrO-UO_2 system, elec. cond. of uranates, 550–1300K 7−45321
- $SrO.5.6Fe_2O_3$, doped with kaolin and BaB_2O_4, sintering temp., effect on structural and mag. parameters 7−7543
- $Sr_2P_4O_{12}.6H_2O$, cryst. struct. determ. 7−1953
- SrS:Sm^{3+}, photolum. of Sm^{3+} ions 7−59246
- $SrSe_2O_5$, cryst. struct. 7−58216
- Sr_2SiO_4, β to α' to β transformation, electron microscope study 7−16723
- Sr_2SiO_4, β to α' to β transition, modulated struct. 7−16724
- $Sr_{1/2}Sm_{3/2}Li_{1/2}Fe_{1/2}O_4$, layer cpd., Mossbauer spectra 7−45849
- SrTe, vaporisation thermodynamics and formation enthalpies *(German)* 7−26930
- $SrTiO_3$, 100 K phase transition charact. by high-resolution γ-ray diffractometry 7−52040
- $SrTiO_3$ (100), adsorption of H_2O, surface struct., photon stimulated ion desorption SEXAFS determ. 7−64752
- $SrTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7−2539
- $SrTiO_3$ ceramics, Maxwell-Wagner relax. and degradation 7−2970
- $SrTiO_3$ cryst., electron pulse irradiation-induced transient optical absorpt. study 7−6682
- $SrTiO_3$, electronic struct., special features *(Russian)* 7−45146
- $SrTiO_3$ single cryst., H defect diffusion 7−58545
- $SrTiO_3$, spherical fine particles prep. by US spray pyrolysis, microstruct. *(Japanese)* 7−22625
- $SrTiO_3$ surface, adsorbed H_2O, photon stimulated ion desorption 7−52276
- $SrTiO_3$, surface D_{4h} hypothesis, X-ray diffr. study 7−2182
- $SrTiO_3$:$Fe^{5+}(V^{5+})$, impurity energy levels, tight binding model, Green's function method calcs. 7−21856
- $SrTiO_3$:H(D), O−H and O−D stretching vibrs. under applied electric field and uniaxial stress 7−44723
- $SrTiO_3$:Mn, Mn oxidation state change near phase transitions 7−16974
- $SrTiO_3$-Al_2O_3-SiO_2 glass-ceramics, low temp. dielec. props. 7−7636
- $SrTiO_3$-based SPBT ceramics, DC conduction and breakdown at high temps. 7−39020
- $SrTiO_3$-SiO_2-Al_2O_3 glass-ceramics, anomalous crystn. behaviour obs. 7−44395
- $SrTi_{0.97}Zr_{0.03}O_3$ ceramics, superconducting transitions from states with low normal conductivity 7−27452
- $SrTi_{0.97}Zr_{0.03}O_3$, superconductivity at low carrier conc. and indications of charged Bose gas 7−27453
- $Sr_2UO_2(CO_3)_3.8H_2O$, cryst. struct., X-ray diffr. study 7−44462
- $SrZn_2Fe_{16}O_{27}$, cryst. struct. refinement, X-ray diffr. study 7−32413
- α-$SrZrF_6$, ionic conductivity 7−52129
- $SrZrO_3$, valence band struct., X-ray-electron spectra studies 7−12604
- $Y_{1-x}Sr_xCrO_3$, electrical and thermal transport props 7−45319
- $Y_2SrSb_2Zn_3O_{12}$, rare-earth activated garnets, cathodolum. 7−7763

structural transformations *see solid-state phase transformations*

structure (chemical) *see chemical structure*

structure factors (crystals) *see crystal atomic structure*

structure functions
- *see also EMC effect*
- backwards evolved initial state parton showers, Monte Carlo model 7−15128
- deep inelastic scatt., large transverse momentum parton behaviour *(Chinese)* 7−24849
- deep inelastic structure functions, relativistic Fermi motion 7−521
- Drell-Yan processes, EMC effect *(Chinese)* 7−10070
- electronuclear structure functions and quark deconfinement in nuclear matter 7−5177
- EMC effect, nuclear dependence of structure functions 7−56602
- EMC effect, QCD and Fermi gas model interpretations 7−15188
- EMC effect and nuclear spectral function normalization, nuclear structure function anal. 7−56596
- gluons, properties in hadrons, gluonic structure functions, review *(Polish)* 7−30243
- hadronization of quarks and gluons into hadron jets at high energies 7−41749
- lepton-lepton and lepton-jet correlations at Z resonance, new particles vs. standard model 7−56476
- nucleon structure functions in nuclei, EMC-SLAC effect calcs. *(Russian)* 7−30323
- phenomenological structure functions and Gribov-Lipatov relation 7−56555
- photon structure function, meas. and QCD anal. 7−49148
- polarized structure functions and applications 7−61692
- QCD, longitudinal structure function, fermionic next-to-leading-order contributions 7−41708
- QCD and higher twist, anal. of xF_3 7−35793
- QCD evolution of structure functions, EMC effect study 7−61601

structure functions continued
  quark percolation in finite size nuclei 7−591
  quark structure function meas. using Drell-Yan process, proposed expts. 7−36351
  quark structure functions measured with Drell-Yan process 7−49079
  spin-dependent structure fns. for polarized nucleons, perturbative QCD calcs. 7−56553
  structure function, sensitivity to QCD scale parameter 7−35877
  SUSY Yang-Mills theories and QCD, structure fn. comparisons in leading log approximation, second moments 7−5095
  three-nucleon bound state, struct. function calcs. using Faddeev wave function 7−5151
  virtual photon-proton scatt., total cross section calcs. 7−35883
  (e,X) deep inelastic scatt., vector meson dominance and EMC effect 7−30317
  ed interactions, nonperturbative QCD corrections to $R=\sigma_L/\sigma_T$, use of MIT bag model 7−481
  $e^+e^-\to e^+e^-X$, scaling of photon structure function at low Q^2 7−41825
  $e^+e^-\to e^+e^-$+hadrons, 7-70 $(GeV/c)^2$, photon structure fn. meas. QCD, parton model comparisons 7−540
  $e^+e^-\to q\bar{q}g$, parity violating structure function calcs. 7−10067
  ep interactions, nonperturbative QCD corrections to $R=\sigma_L/\sigma_T$, use of MIT bag model 7−481
  $\gamma\gamma\to$ hadrons, data compilation, struct. functions, resonance widths, cross sections 7−14722
  $\gamma\gamma$ reactions, inclusive and exclusive final states, jets and total cross sections 7−61783
  lN→X, deep inelastic scatt., two-photon collisions 7−19115
  lN→X, structure functions and parity violation in supersymmetric QCD 7−61700
  μN deep inelastic scatt., struct. function nucl. effects, EMC effect 7−30269
  $\mu N\to X$, inclusive deep inelastic scatt., structure function meas., QCD comparison 7−529
  N structure functions from hadronic wave functions *(Chinese)* 7−24888
  N structure functions in e($\tilde{e}$)p scatt., SUSYQCD anal., sum rules 7−61689
  νN, deep inelastic, quark-confining pot. models 7−507
  $\bar{p}p$, SPS energies, fragmentation props. of quark and gluon jets 7−5129
  π structure function, Fock state expansion of hadronic wave function in QCD *(Chinese)* 7−24887
  π structure functions, second moments, QCD sum-rule calcs. 7−5094
  $\pi^+N\to\mu^+\mu^-X$, 80, 225 GeV, pion struct expt. 7−61693
  $C(\mu,X)$, high Q^2 deep inelastic scatt. nucleon struct. function meas. 7−61792
  ^{56}Fe, proton form factor, valon model *(Chinese)* 7−10100
  ^{2}H, NN pot. and phase shifts with quark degrees of freedom 7−41886
structure of alloys, crystal *see crystal atomic structure of alloys*
structure of elements, crystal *see crystal atomic structure of elements*
student experiments *see demonstrations*
student laboratory apparatus
  A-level physics (Nuffield) investigations, assessment criteria 7−29640
  Air-track kinematics and ultrasonic ranging module interface for Apple IIe 7−35148
  carrier mobility meas., Haynes-Shockley expt. use for student laboratory 7−55933
  Cavendish balance, Leybold version elec. and mech. modification 7−18538
  fluids, differential light scatt. expts. 7−29627
  general purpose correlator for introductory student demonstration expts. 7−18537
  glycerin, motion of sphere studied using videotapes, viscosity meas. 7−35149
  holography, single beam projects 7−24345
  MTF analyzer, microcomputer and dynamic RAM chip camera based 7−47
  paraxial cylinders, resistance and capacitance, undergraduate laboratory expt. 7−44
  physics experimental and practical work assessment through OEA 7−29641
  Ranque-Hilsch tube, demonstration of second law of thermodynamics *(Spanish)* 7−14746
  scanning camera with line CCD sensor for use in schools *(Slovak)* 7−29646
  Science Toolkit, software, with light and temperature probes, for Apple II 7−35180
  solar temperature, 4 GHz, undergraduate expt. 7−53
  water flow in capillary, surface and kinetic energy, laboratory exercise 7−18528
  water waves in a ripple tank 7−18526
studios
  see also radio studios; television studios
  broadcast and recording studio, electronic architecture 7−6063
  control room design, psychoacoustic considerations 7−31570
  live-end-dead-end type recording studio control rooms, rear-wall reflection patterns 7−31571
  sound recording control room design incorporating RFZ, LFD and RPG diffusors 7−37249
SU$_2$ theory
  chiral model in external field, complex stochastic process on nonAbelian group 7−393
  chiral soliton model, baryons as rotating excitations 7−5066
  chiral SU(2)×SU(2) lattice theory with spin 3/2 action in 2D, Monte Carlo anal. 7−15067
  complex Langevin equation and Monte Carlo simulations of actions with static charges 7−24769
  Coulomb-like gauge for massive gauge fields, SU(2) model appl. 7−4957
  d=2 conformally invariant SU(2) σ-model with Wess-Zumino term, primary operator 4-point correls. 7−56418
  deconfining phase transition, correlation length and susceptibility, Monte Carlo methods 7−56515
  dimensional reduction of gauge theories yielding unified models spontaneously broken to $SU_3\times SU_2\times U_1$ 7−35773
  Dirac eqn., supersymmetry in nonabelian, chromomagnetic field 7−35726
  Dirac equation, generalisation admitting isospin and colour symmetries 7−9941
  effective gauge action on a finite-size lattice, SU(2) theory simulations 7−41620
  Einstein-Maxwell-σ theory, 6D, spontaneous breaking of global and local symmetries 7−35369
SU$_2$ theory continued
  electroweak form factors of the Skyrmion 7−415
  electroweak SU(2)×U(1) lattice gauge theory with variable-length Higgs fields 7−24791
  Euclidean SU(2) gauge theory, elliptic solns. 7−4974
  extra gauge field structure uncovered in the Kaluza-Kleinframework 7−164
  fermion-monopole system, existence of physical charged fermions 7−35754
  Fierz identities, gauge symmetric approach, Yang-Mills vector fields 7−35673
  finite temperature SU(2) gauge theory, correlation length temp. depend., screening, deconfinement 7−41606
  five-dimensional gravitational super Chern-Simons terms 7−4754
  gauge field theory, nonAbelian, Gribov non-single valuedness, harmonic mappings 7−56448
  gauge theory, Monte Carlo renormalisation study of deconfining transition 7−15073
  gauge theory, topological mass induced by radiative corrections 7−420
  gauge theory, transverse fluctuations in multidimens. tunnelling 7−123
  gauge theory on $R\times S^3$ topology 7−61431
  gauge-Higgs model with scalar doublet, continuum limit 7−41604
  glueball mass in SU(2), effect of dynamical quarks 7−61501
  glueball mass spectrum calculation by light-cone quantization *(Russian)* 7−61594
  heavy quark forces and potentials in SU(2) lattice gauge theory *(Chinese)* 7−35657
  hedgehog models of quarks, semiclassical projection 7−35787
  hierarchy problem in the scalar triplet model 7−49032
  Higgs boson mass upper bounds in electroweak interaction models 7−19054
  Higgs-boson doublets, model, with no increase in parameters 7−15110
  Kaluza-Klein theory, torsion and chiral fermions on topologically nontrivial Yang-Mills fields 7−48994
  Kaluza-Klein theory for SU(2) particle scatt. off Euclidean instanton 7−35750
  Kaluza-Klein theory in 11D, compactifications with SU(3)×SU(2)×U(1) symmetry 7−29840
  KSFR relation and strength of the nonSkyrme term 7−4968
  lattice gauge theory, evidence against asymptotic freedom 7−41631
  lattice gauge theory, Monte Carlo renormalization group study 7−19002
  lattice gauge theory, phase structure, Schwinger-Dyson eqn. of a Wilson loop, deconfinement 7−24780
  lattice gauge theory, phase transitions, Monte Carlo anal. 7−406
  lattice gauge theory, renormalisation and continuum limit of composite operators 7−19017
  lattice gauge theory, strong-coupling anal. of space-time critical dimensionality 7−56430
  lattice gauge theory, surface representations of Wilson loop expectations, confinement 7−24771
  lattice gauge theory, topology and instanton struct., Monte Carlo simulation 7−61482
  lattice gauge theory simulations, conf., Wuppertal, Germany, Nov. 1985 7−60883
  lattice gauge theory with dynamical fermions, static quark pot. 7−61478
  lattice gauge theory with mixed action, Z(2) monopoles and specific heat 7−48962
  lattice QCD, quenched SU(2) simulation with staggered fermions, chiral limit 7−61602
  lattice QCD, t-expansion method 7−61573
  lattice QCD in 2D, Monte Carlo simulation 7−35782
  lattice SU(2) chiral model, complex Langevin simulation on non Abelian group 7−61479
  lattice SU(2) Yang-Mills theory, anal. as nuclear many-body problem 7−35802
  left-right symmetric models, light scalar indications 7−15099
  lightest glueball mass in SU(2) and SU(3) gauge theories, lattice size depend. 7−41722
  mesons, micrononcausal Euclidean wave functions assuming Yukawa type couplings 7−41596
  multiboson Holstein-Primakoff squeezed states for SU(2) and SU(1,1) 7−18632
  N=2 conformal supergravity, linearized theory, SU(2) extended superfield formulation 7−61204
  neutrino indices of refraction, quantum loop corrections 7−41680
  nonAbelian gauge theory, quantum fluctuations of Copenhagen vacuum 7−61436
  noncompact lattice gauge simulations 7−35690
  ordered exponentials in adiabatic and stochastic limits, approx. representations 7−48293
  periodic generalization of static, self-dual SU(2) gauge fields 7−41621
  physical symmetry groups and associated bundles in field theory 7−41666
  polarisation algebra and group theory 7−56319
  pseudoscalar lattice mesons, relative charge distribs. for $q\bar{q}$ pair 7−49072
  QCD, quark condensates in spontaneous chiral SU(2)×SU(2) symm. breaking 7−471
  QCD flux tubes and glueballs, soliton interactions in gauge theories 7−5051
  QED, topological mass quantization and parity violation, SU(2) nonperturbative anomaly 7−41693
  quantum symmetries from quantum phases, fermions from bosons, a Z_2 anomaly and Galilean invariance 7−48970
  quark mass matrices, model of flavor mixing 7−447
  quark-gluon plasma in SU(2) T=200-300 MeV, reduction of degrees of freedom from T, Q, Y effects 7−5062
  quaternionic bifurcation in presence of SU(2) symm. 7−48562
  random lattice gauge systems and interacting gaussian surfaces, strong coupling expansion 7−48958
  sigma model, SU(2), Wess-Zumino term calcs., chiral currents, Kac-Moody algebraic props. 7−61427
  Skyrme Lagrangian, collective-coordinate quantization and new mass term 7−56439
  Skyrme model for baryons, SU(2) and SU(3) solns. 7−30197
  skyrmions with vector and axial-vector mesons 7−61461
  SO(3) Georgi-Glashow model, (SU(2) gauge-Higgs), phase structure 7−30188
  standard SU(2) Higgs model, Monte Carlo study on lattices 7−9949
  static potentials from bosonic string models, lattice Monte Carlo calcs. 7−61612
  SU$_2$ lattice gauge theory, Monte Carlo renormalization group transformation, β-fn. anal. 7−9957

SU$_2$ theory continued
SU(2,1) group, Clebsch-Gordon series 7−61499
SU(2,2|N)XSU⟨N′⟩ supergravity, superspace for supergauge actions 7−29852
SU(2,2)×SU(m), decomposition of manifold O$_2^{(4,m)}$ 7−19030
SU(2)$_{\rm global}$xU(1)$_{\rm local}$ gauge-Higgs model, phase props., chiral symmetry breaking 7−398
SU(2)$_L$×SU(2)$_R$×U(1) gauge model, electroweak interaction anal. 7−35751
SU(2)$_L$×SU(2)$_R$×U(1) models, beta-decay Fermi and Gamow-Teller transitions, comparison of beta-ray polarization 7−35977
SU(2)×SU(2) 2D chiral Wess-Zumino model, operator algebra and correl. functions 7−19016
SU(2)×SU(2) algebraic description of the skyrmion, SU(4) quark model recovery 7−56440
SU(2)×SU(2) asymmetric linear σ model, symm. restoration at finite temp. 7−41650
SU(2)×SU(2) chiral σ model, phase structure of fermionic system 7−15074
SU(2)×U(1)×SU(3) standard model, form. of parity-nonconserving nuclear forces 7−19174
SU(2)×U(1) breaking, dynamical, doubly charged pseudo-Goldstone bosons 7−41659
SU(2)×U(1) gauge theory, Majorana D and CP violation in leptonic sector 7−24790
SU(2)×U(1) radiative corrections, nonstandard Higgs bosons 7−10005
SU(2) flux-tube model of quark deconfinement at hightemperature, effective string tension calcs. 7−473
SU(2) lattice gauge Higgs theory, Monte Carlo anal. at finite temp. 7−24796
SU(2) lattice gauge theory, finite temperature, Migdal renormalization group anal. 7−9966
SU(2) lattice gauge theory, instanton density calcs. 7−4985
SU(2) lattice gauge theory, quark and gluon string tensions 7−417
SU(2) lattice gauge theory with dynamical fermions, glueball mass calcs. 7−9959
SU(5) supergravity models, low energy properties 7−24531
supergravity model, exact potential minimization and SU(2)×U(1) breaking 7−18679
supergravity SU(2)×U(1) tree-level breaking 7−56138
superstring low energy theory, spontaneous breakdown of E$_6$ 7−9736
superstring model, baryogenesis and entropy generation 7−66801
superstring models, neutral E$_6$ gauge boson 7−61196
supersymmetric standard model, light gluinos and CP violation 7−443
supersymmetric Yang-Mills theory, harmonic superspace formalism and consistent chiral anomaly 7−18999
symmetry tests in unified theory and the standard model, review 7−30205
topological charge of lattice gauge fields 7−35663
two-level atom, mixed-state SU(2) squeezing, quantum optical models 7−50521
U(1) and SU(2) average plaquette energies up to third order approx. in cumulant expansion 7−41579
U(1) lattice gauge theory, 3D, meson mass calcs. in quenched approx. 7−15068
Weyl-Dirac equation for an SU(2) gauge theory with spherical symmetry 7−41622
Wood-Saxon pot. radial path integral, path integration over SU(2) manifold 7−35958
Yang-Mills lattice theory, correlation lengths and finite size effects 7−56426
Yang-Mills self-dual fields, permutability property 7−30174
Yang-Mills theory in background plane-wave field, stability props. 7−403
Yang-Mills theory with noncompact symm. and arbitrary local gauge group 7−41580
$e^+e^-\rightarrow f\bar{f}$, $f\neq e$, ν_e, t, forward-backward and polarization asymmetries for SU(2)$_L$×U(1)$_Y$×U(1)$_{Y*}$ and SU(2)$_L$×SU(2)$_R$×U(1)$_{B-L}$ 7−61708
$\mu^+\rightarrow e^+\nu\tilde{\nu}$, left-right symmetric electroweak models 7−35872
$\mu N\rightarrow eN'$, massive neutrino bounds, SU(2)$_L$×U(1) anal. 7−19112
$\nu\rightarrow\nu\gamma$, lifetime in left-right models 7−35764
$\bar{\nu}_e$e elastic scatt., single-loop corrections to cross section, SU(2)×U(1) theory 7−41784
SU(2)$_L$×SU(2)$_R$×U(1) electroweak models, constraints from nuclear beta-decay 7−56489
$Z^0\rightarrow$neutralinos in supersymmetric SU(2)×U(1) model 7−519
$Z^0\gamma\gamma$ and $Z^0Z^0\gamma$ Green's functions, Ward identity derivation 7−41817

SU$_3$ theory
band sequences and interbandhead E2 transitions, IBM SU(3) limit 7−10122
baryon-baryon multiple scattering matrix elements, color parts, SU(3) group 7−41827
cloudy bag model, dynamical source of mass splitting 7−493
complex Langevin equation and Monte Carlo simulations of actions with static charges 7−24769
complex Langevin simulation of chiral symmetry restoration at finite baryonic density 7−35734
dimensional reduction of gauge theories yielding unified models spontaneously broken to $SU_3\times SU_2\times U_1$ 7−35773
Dirac equation, generalisation admitting isospin and colour symmetries 7−9941
E$_8$×E′$_8$ superstring theory, gauge hierarchies for intermediate mass scale 7−41686
electron hidden U(3) symmetry, Zitterbewegung and degrees of freedom, Dirac eqn., Lie algebra 7−19031
fermion masses and mixings in SU(3)$_C$×SU(2)$_L$×U(1)$_Y$ six-dimensional model 7−30228
gauge field theory, nonAbelian, Gribov non-single valuedness, harmonic mappings 7−56448
gauge theory for quark-gluon plasma 7−41623
gluon mass, gluon propagator calcs. in Landau gauge, SU(3) lattice anal. 7−61588
heterotic string theory in 4D with families of chiral fermions and standard gauge symm. 7−49033
hierarchy problem in the scalar triplet model 7−49032
higher order corrections to supersymmetry and heterotic string compactifications 7−4997
hyperon beta-decay, Kobayashi-Maskawa angles and SU(3) breaking 7−41788
IBM, correspondence with fermion dynamical symmetry model 7−49262
Kaluza-Klein theory in 11D, compactifications with SU(3)×SU(2)×U(1) symmetry 7−29840

SU$_3$ theory continued
lattice gauge theory, Hamiltonian connected movements, expectation values 7−41605
lattice gauge theory, Monte Carlo calcs. of gluon propagator 7−61474
lattice gauge theory, Monte Carlo simulation of fermionic fields 7−48964
lattice gauge theory, sweep-sweep correlations of Polyakov loops 7−413
lattice gauge theory, topology and instanton struct., Monte Carlo simulation 7−61482
lattice gauge theory, topology for $\beta>5.6$ 7−56453
lattice gauge theory on 32^4 lattices, sweep to sweep correls. of Polyakov loops 7−15075
lattice gauge theory simulations, conf., Wuppertal, Germany, Nov. 1985 7−60883
lattice QCD, improved actions, redundant operators and scaling 7−56513
lattice QCD, t-expansion method 7−61573
lattice QCD 7−24781
lattice QCD with Wilson fermions, fast fermionic algorithms 7−61572
lattice SU(3) gauge theory, deconfined phase, gluon plasma thermodynamic props. 7−41741
light Higgs scalar boson searches, prospect for next generation e^+e^- collider 7−24807
lightest glueball mass in SU(2) and SU(3) gauge theories, lattice size depend. 7−41722
mixed symmetry states in pn-systems, systems for U(5), SU(3), O(6) symmetries, M1, E2 decay props. 7−49222
N=1 supergravity, SU(3)×Su(2)×U(1) models, superparticle and t-quark masses 7−41228
nonleptonic K decays in broken SU(3)×SU(3) 7−49134
nonlocal SU(3) current algebra 7−56470
normal product representation of SU$_3$ 7−61489
nuclear quadrupole phonon model, SU(3) supersymmetric limit, renormalization for nonsemisimple and semisimple algebra 7−41911
outer multiplicity problem and computation of Wigner coefficients 7−19022
preon model with three SU$_3$ hypercolours and three SU$_5$ hyperflavours 7−49026
pseudo-L scheme in strongly deformed Bose-Fermi systems and its relation to the Nilsson model 7−49260
pseudoscalar meson charge radii from QCD sum rules, SU(3) breaking 7−10033
QCD, nonperturbative aspects 7−49069
QCD, quenched lattice approx. hadron mass calcs. using renormalization group improved SU(3) gauge action 7−61581
QCD, spectral function sum rules and SU(3) violation of quark condensates 7−466
QCD spin-depend. static pots., SPINSUB vectorised code for Monte Carlo computation 7−41721
quarks in an external plane-wave Yang-Mills field 7−41583
Skyrme model for baryons, SU(2) and SU(3) solns. 7−30197
SO(10)$_V$×SU(3)$_H$ model, quark mass hierarchy 7−15102
SO(6, 2) model of SU(3) and its generalisation to SU(n) 7−35730
static potentials from bosonic string models, lattice Monte Carlo calcs. 7−61612
string propagation and affine Lie algebras on group manifolds 7−35814
SU$_3$ dynamical symmetry, interacting boson-fermion approximation, inertial parameters 7−41913
SU$_3$ lattice gauge theory, Monte Carlo renormalization group transformation, β-fn. anal. 7−9957
SU$_3$/Z$_3$ string theory, soliton structure 7−5077
SU$_L$(3)×SU$_R$(3)×SU$_C$(3)→zz 7−49038
SU(3) × SU(2) × U(1) model, addition of vector-like quarks 7−35753
SU(3) gauge theory, finite size results 7−35704
SU(3) lattice gauge theory, $\Delta\beta$ and asymptotic scaling 7−4955
SU(3) lattice gauge theory, scaling behaviour of heavy-quark potential 7−486
SU(3) lattice gauge theory, topological susceptibility Monte Carlo calcs. 7−61455
SU(3) spin model at finite chemical potential and temp., comparisons with QCD with Wilson fermions 7−61589
superstring compactifications, large radius expansion 7−41758
superstring low energy theory, spontaneous breakdown of E$_6$ 7−9736
superstring models, neutral E$_6$ gauge boson 7−61196
topological charge of lattice gauge fields 7−35663
topologically massive gauge theories, monopoles and string tension 7−48989
U(6)×U(11) α-cluster and collective excitation model, SU(3) dynamical symm. *(Chinese)* 7−24941
$e^-e^+\rightarrow f\bar{f}$, asymmetries and cross section, superstring gauge boson effects 7−499
$ep\rightarrow ep$, scattering asymmetries, superstring gauge boson effects 7−499
η^1 mass and topology in SU(3) lattice gauge theory 7−24783
η' effects and instanton physics in low energy axion dynamics 7−30191
η' mass in SU(3) lattice gauge theory, topology 7−429
$\iota(146\phi)\rightarrow\gamma\gamma(0\gamma)$, radiative decays and SU(3) flavour structure 7−15161
$K_L{}^0\rightarrow\gamma\gamma$, chiral perturbation theory corrections to SU(3) terms 7−15160
$\psi\rightarrow\eta\gamma(\eta'\gamma)$, gluonium content in phenomenological model with SU(3) breaking 7−19108
Hf, generalisation of $\hat{Q}.\hat{Q}$ Hamiltonian for IBM 7−61816
^{170}Yb, multiple occurrence of 0$^+$ excited bands, SU(3) multiplets of high spin bosons 7−49195

SU$_4$ theory
charmed meson nonresonant three body decays in chiral perturbation theory 7−10058
polarisation algebra and group theory 7−56319
SU$_C$(4), gauge symmetry and supersymmetry breaking 7−15083
SU$_W$(4)×SU$_C$(4)→zz 7−49038
SU(2)×SU(2) algebraic description of the skyrmion, SU(4) quark model recovery 7−56440
SU(4)×SU(4) composite model of weak interactions *(Chinese)* 7−10037
vector glueball, algebraic approach consistent with QCD 7−41743
Wigner supermultiplet basis, canonical, orthonormal form 7−56462
$p\bar{p}\rightarrow$meson+meson, quark rearrangement and annihilation models 7−49178

SU$_5$ theory
coupling constant reparameterization and finite fieldtheories 7−9950
finite $N=1$ supersymmetric grand unified theories 7−41674
GUT scale parameter, constraints 7−48488
GUTs and SUSY GUTs, proton decay status, SU(5) model, lifetimes 7−30220

SU_5 theory continued
- preon model with three SU_3 hypercolours and three SU_5 hyperflavours 7−49026
- $SU(5)_{GUT}$ model with vertical and horizontal preons 7−56524
- supergravity, minimal $N=1$, radiative electroweak symmetry breaking and SU(5) parameter running 7−14849
- supergravity models, low energy properties 7−24531
- U(6)×U(11) α-cluster and collective excitation model, SU(5) dynamical symm. *(Chinese)* 7−24941
- d quark-D fermion mixing, $D=E_6$ fermion, KM mixing angle, SU (5) mass relation study 7−61528
- $u \to \bar{u}$, quark scattering on SU(5) colourless magnetic monopole 7−30300

SU_n theory
- *see also elementary particle symmetry; O groups; SO groups; SU_2 theory; SU_3 theory; SU_4 theory; SU_5 theory*
- Clebsch-Gordan coefficient for nonspecial Gel'fand basis of SU(*m*/*n*) for 5-particle system 7−35312
- E_6 supergravity GUT with SU(N,1) invariant Kahler potential, strong CP violation elimination via invisible axion 7−61524
- generalised coherent states and Bogoliubovtransformations, anal. for SU(1,1) 7−115
- glueball (0^{++}), mass scaling, SU(N) Hamiltonian lattice calcs., Monte Carlo anal. 7−35807
- Hamiltonian lattice $SU(N_c)$QCD, mechanism to lift the Goldstone degeneracy 7−49081
- Higgs field mass parameter 7−408
- interacting vector boson model, boson representations of symplectic algebras 7−41912
- Kaluza-Klein theory, SO(4)×U(1) vacuum solns. and nonvanishing cosmological constant 7−4753
- laser-plasma scattering, antibunched radiation generation, SU(2) and SU(1,1) Hamiltonians 7−67
- lattice SU(N)×SU(N) chiral models, two-loop coupling constant renormalization 7−424
- lattice SU(N) QCD study at finite chem. pot. and baryon density 7−474
- Marshalek boson derivation, SU_6 quantum case 7−387
- nonAbelian gauge theory, gauge fixing and stochastic smeared regularization incompatibility 7−41637
- physical symmetry groups and associated bundles in field theory 7−41666
- QCD, finite temperature Monte Carlo simulations 7−61567
- QCD gluon Wigner operator, quantum transport eqns. derivation 7−5046
- QCD SU(N) quark Wigner operator, transport equations 7−475
- quark-lepton generation as hypercolor degrees of freedom 7−24850
- real- and imaginary-time field theory at finite temperature and density 7−48983
- SO(4) pseudoparticle solutions to the Yang-Mills equation 7−35675
- SO(6, 2) model of SU(3) and its generalisation to SU(n) 7−35730
- squark mixing angles in supergravity theories, gluino flavour changing in SU(5) 7−56136
- string theory on SU(N), soliton structure 7−5077
- SU(1,1) propagator as a path integral overnoncompact groups 7−4994
- SU(2,2|N)XSU⟨N′⟩ supergravity, superspace for supergauge actions 7−29852
- SU(2,2)×SU(m), decomposition of manifold $O_2^{(4,m)}$ 7−19030
- $SU(4)_G \times SU(3)_C \times SU(2)_R \times SU(2)_L$ grand unified model with 10^{19} GeV unification scale 7−4745
- SU(5) model, monopole-fermion interactions, Abelian and nonAbelian anomalies 7−9996
- SU(5) unification, low energy effects of scalar leptoquarks 7−5027
- SU(7) preon model with complementarity, constraint on 't Hooft indices 7−49099
- SU(N) gauge theories, effects of self-dual fourth-rank tensor scalar fields on asymptotic freedom 7−390
- SU(N) gauge theories at finite temp. and chem. pots., rel. partition function 7−41623
- SU(N) gauge theory with independent metric and connection fields, quantisation 7−35693
- SU(N) lattice gauge theories, topological charge in Monte Carlo simulation 7−48938
- SU(N) lattice gauge theory, Langevin eqns. and stochastic quantization 7−35691
- SU(N) SUSY QCD, instanton superfield calcs. in Higgs phase 7−56512
- SU(N) Yang-Mills theory, $d=4$, lattice actions, effects of one-loop improvement on scaling behaviour 7−410
- SU(n) Yang-Mills-Higgs systems, non-self-dual monopole solns. 7−9943
- SU(n/n) graded Lie algebra 7−49008
- twisted Eguchi-Kawai model, complete set of twists 7−41648
- vacuum decay rate at zero temp. in gauge theories 7−30168
- vortices and electrically charged vortices in non-Abelian gauge theories 7−41607
- Yang-Mills theory, nonperturbative calcs. away from strong coupling 7−56434
- $\Sigma^+ \to p\gamma$ asymmetry, W-exchange dominance in SU(6) broken quark-diquark model 7−49153
- $Z^0 \to f\bar{f}$, branching ratios in SU_8 multigenerational grand unification 7−30267

sub-lepton models *see composite models of elementary particles*

sub-quark models *see composite models of elementary particles*

subboundary structure
- metals, struct. changes under action of thermal cycling *(Russian)* 7−53752
- SOI films, laser recrystallisation, agglomeration, surface roughness and crystal imperfection 7−38389
- SOI films, recrystallisation by obliquely scanned pseudoline electron beam 7−58686
- SOI films, zone melting recrystallisation, subboundary structure 7−38388
- SOI films scan-melted at low velocities, subboundary misalignment 7−38387
- SOI technology by zone-melting recrystn. on quartz substrates 7−21736
- steel, austenitic stainless, creep strain, resulting changes in subboundary mesh size 7−46575
- steel, Cr-Mn(V), bainite transform. kinetics, austenitising and working conditions effect 7−22674
- steel, duplex stainless, decomp. of deformed ferrite, TEM obs. 7−28091
- steel, HSLA, mech. props. rel. to ferrite substruct. and grain size. 7−13531
- stress field of isolated subgrain 7−63613
- Al single cryst. and bicrystal, polygonisation substruct., grain boundary effects *(Russian)* 7−58287

subboundary structure continued
- Al-Li-Cu(-Mg), fracture, effect of subgrain struct. and ageing practice 7−13563
- Al-Mg (5 at.%), creep, interpretation of internal stress determ. from dip tests 7−65091
- Al-Mg alloys, steady-state creep, microstruct. development 7−53817
- CoO, subgrain size after creep 7−39603
- Cu alloys, rapidly solidified powder metallurgy, irrad. to 13.5 dpa with neutrons, microstruct. evolution and swelling 7−51840
- Fe-Si (3 wt.%), secondary recrystallisation grains, subboundaries formation and their influence on mag. domain struct. 7−13471
- GaAs, semi-insulating, photoluminescence imaging using laser scanning microscope 7−53384
- LaB_6, crysts. grown with Xe arc image furnace, subgrains 7−59411
- $LiBnO_3$, charactn. by γ-ray diffr. 7−54061
- MgO:Fe, small angle [001] twist boundaries, Fe solute effect 7−32459
- Mo, single crysts., deform. in US field, var. in angle of misorientation of substruct. *(Russian)* 7−53812
- Mo-W alloys, creep failure, thermomechanical treatment effects 7−28072
- Nb-Zr (1 wt.%) alloy, hydroextruded, optimum degree of deform., microstruct. 7−3325
- Ni-P coating, electrolytic, electron microscope obs. of struct., P content depend., amorphous layer form. 7−8157
- Si, polycrystalline, for solar cell appls., photovoltaic props., effect of impurities and defects 7−38639
- $Si\text{-}SiO_2$ structures, prod. by recrystallisation, subgrain boundaries, barrier effects 7−52305
- β-Ti alloys, superplastic deform. props. 7−65092
- Zn-Cd monocrystals, dislocation struct. as function of Cd content *(Russian)* 7−44556

subgrain structure *see subboundary structure*

sublimation
- *see also heat of sublimation*
- graphite, fusion reactor, sublimation and hydrocarbon production under intense energy deposition 7−49629
- graphite, laser heated, optical characts. 7−32686
- graphite fibre reinforced epoxy, reflectance and thermal response during high-power CO_2 laser irrad. 7−32496
- III-V semiconductors, MBE, thermodynamic anal. 7−46328
- refractory substances, apparatus for examining sublimation and evaporation 7−41374
- Cr-Te, oxidation process, thermodynamic anal., partial sublimation of Te 7−8202
- GeS_2, vaporisation, torsion and Knudsen effusion technique 7−2163
- I, cryst. growth by phys. vap. transport, faceting and rounding during sublimation 7−58177
- In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7−12535
- In_2Te_3, vaporisation, torsion-effusion obs., morphology 7−58455
- IrLa(Ce) cathodes, thermal emission and sublimation 7−13317
- $MoSe_3S$ cathode for secondary Li batteries, prep. and characterisation 7−64948
- Ne, solid films, erosion by keV electrons 7−3124

submarine cables
- *see also cable laying*
- 1.5 micron fibre submarine transmission system sea trial 7−31519
- optical single-mode fibres exposed to H_2, loss increase over long term *(French)* 7−50746
- optical submarine cable production using arc fusion splicer with profile alignment system 7−11185
- optical submarine cable splicing using self-core-alignment arc-fusion splicer 7−11186
- $In_{1-x}Ga_xAs_{1-y}P_y$-InP quarter-wavelength-shifted DFB laser source for 1.55 μ underwater optical cable system *(Japanese)* 7−62720

submarines *see marine systems*

submillimetre conductivity *see high-frequency effects*

submillimetre waves *see microwaves*

suboptimal control *see optimal control*

subroutines
- *see also macros*
- ML-TEST, FORTRAN subroutine package for implementation of maximum-likelihood method 7−59986

subsets (mathematics) *see set theory*

substitution reactions *see chemical exchanges*

substrates
- *see also semiconductor device manufacture*
- amorphous, detection and size classification of nanometer-size metal particles 7−32240
- ceramic substrates, decohesion of thin films 7−21711
- contoured substrates, post magnetron sputter and reactive sputter coating 7−53588
- degassing effects on sputter deposition of Co-Cr films 7−27904
- glass substrate, CdS_xSe_{1-x} doped, for thin film waveguides 7−5941
- inhomogeneous electron gas pressure calc. *(German)* 7−64145
- physisorbed film-substrate many-body interaction energy, non-pair-additive contrib. calcs. 7−2383
- piezoelectric crystal electrode substrates Fe electrodeposition and corrosion obs. 7−39707
- polyethersulphone transparent film substrate for a-Si solar cell 7−8394
- sapphire substrate, adhesion of metallic films, mechanical resonance spectra 7−21712
- semiconductor substrates, decohesion of thin films 7−21711
- Si:B polycrystalline solar cell substrates, B conc. meas. using IR spectroscopy 7−23176
- solar cell substrate charactn. techniques 7−40004
- steel, high-speed, nitride coatings characterisation by Auger electron spectroscopy and X-ray photoelectron spectroscopy 7−53982
- steel, stainless, substrates, mechanical props. of W-C coatings, effect of interlayers 7−53983
- steel, stainless, substrates, with Ti(C,N) films, residual stress 7−52373
- steel, tool, substrate, plasma assisted CVD of TiN and Ti(O,C,N) hard coatings 7−53977
- steel, tool, substrate with TiN coating, interfacial composition 7−52303
- steel, tool, substrates, with Ti(C,N) films, residual stress 7−52373
- surface preparation effects 7−45037
- thin-film layering transitions, quenched disorder effects 7−27195
- Wolter X-ray microscopes, single and multilayered, mirror substrate prod. 7−30137

substrates continued
  X-ray mirror substrates, grazing incidence, precision machining/metrology facility 7−37222
  AgI-AgCl solid solns., ice nucleation, X-ray diffr. 7−58179
  Al substrate, two step pot. model of Na overlayer, nonlocal corrections to Fresnel optics calc. 7−64716
  Al textured substrate for a-Si solar cell fabrication 7−23156
  Al_2O_3, growth of Ni Al_2O_4 spinel, topotactic relationships 7−58717
  Al_2O_3, sapphire, ion beam induced enhancement of noble metal film adhesion 7−21292
  $Ba_3(VO_4)_2$ substrates for hexaferrite film growth 7−52320
  C, glassy, for IR external refl. spectroscopy characteris. of thin films 7−41509
  $Cd_xHg_{1-x}Te$ layers, MOVPE, CdTe substrate orientation effect, RHEED, SEM obs. 7−59447
  $CoGa_2O_4$ substrates for hexaferrite film growth 7−52320
  Cu (100), Fe epitaxial growth 7−52353
  Cu surface with vapour deposited Ni film, SIMS meas. of interdiffusion coeffs., SIMS analysing depth 7−27853
  GaAs (110), substrate for In growth, RHEED study 7−2425
  GaAs, channelled (100), V-groove, LPE of GaAs 7−13391
  GaAs MBE substrate refractory metals growth 7−21755
  GaAs, multi-technique approach to defect microstructure characterisation 7−52215
  GaAs semi-insulating cryst. characts., IC substrate appls. *(Japanese)* 7−6622
  GaAs substrate for MBE growth, thermal etching 7−7861
  GaAs substrates, laser-induced metal and alloy plating, silicide form. 7−39448
  GaAs substrates and devices, surface anal., SIMS appl. 7−22417
  GaAs:Si, ion implanted, rapid thermal annealing effects 7−21259
  GaAs-Ni interfacial reactions, contact elec. props. 7−12504
  Ge (100) substrate for ZnSe layers, MBE growth and photoluminesc. 7−7858
  Ge, for MOCVD growth of AlGaAs and GaAs, tandem solar cell appl. 7−3671
  Ge ion cluster beam deposition substrates for MOCVD GaAs solar cells 7−23182
  Ge substrate (001) oriented, with GaAs epitaxial film, structural props. 7−58687
  Ge substrate for single-domain epitaxial growth of GaAs 7−22578
  Ge/Si ion cluster beam deposition substrates for MOVCD GaAs solar cells 7−23182
  InAs substrates and devices, surface anal., SIMS appl. 7−22417
  InP substrate vapour phase etching, surface morphology, temp. depend. study 7−28220
  InP substrate with GaInAs epitaxial layer, depth profiling and interface detection using anodic oxidation 7−45057
  InP substrates and devices, surface anal., SIMS appl. 7−22417
  InP surface annealed under As pressure, epitaxial growth of InAs 7−2431
  InP:S substrate wafers for LPE growth of laser diode heterostructures, polarised IR and X-ray topographic evaluation 7−32453
  $In_{2-x}Sn_xO_{3-y}$-InP, solar cells for space appl. 7−3700
  MgO single cryst. substrates, Rh and Cu epitaxial film struct. and surface purity study 7−16896
  $MgO.Al_2O_3$ epitaxial film substrate for Si solid phase epitaxy 7−38399
  Pb, Mossbauer spectra area meas., use of internal standard 7−36426
  Pt (111), electrodeposition of Pb from aq. HCl soln. 7−27954
  Si, anisotropic dry etching effects on surface props., XPS, ion channelling and Raman scatt. studies 7−28229
  Si, for GaAs solar cells fabrication by MOCVD 7−23183
  Si MBE growth, conf., Toronto, Ont., Canada (May 1985) 7−9588
  Si, MBE simultaneous growth on multiple substrates, apparatus 7−7867
  Si, patterned substrates for LPE of Si layers 7−22599
  Si, substrate, (001) oriented, with GaAs epitaxial film, structural props. 7−58687
  Si substrate, dopant redistrib. during Pd_2Si formation 7−21255
  Si substrate, insulator growth by rapid thermal processing 7−22921
  Si, substrate for CVD of W, effects of dopants and cryst. perfection 7−16912
  Si substrate for thin film InP solar cells 7−59852
  Si substrate for W CVD, effect of dopants and crystal perfection 7−22576
  Si substrates, interaction with thin film amorphous metal alloys 7−21761
  Si substrates, laser-induced metal and alloy plating, silicide form. 7−39448
  Si surface, effect of preoxidation annealing, ion implantation and sputtering on oxide film decomposition 7−63999
  Si, Ta_2O_5 coated for GaAs/Ge cryst. growth 7−53579
  Si wafer substrates, oxide removal, transient mass spectrometry, XPS studies 7−13670
  Si:As substrate, dopant effects on formation kinetics of Pt silicides 7−21697
  a-Si:H solar cells on textured glass substrate with SiO_2 film 7−13899
  Si:O, P, Sb wafers, O precipitation during simulated CMOS cycles 7−38218
  Si:O substrate materials, heavily doped, control of O and precipitation behaviour 7−32665
  Si-binary alloy interfacial interactions, Rutherford backscattering spectrometry, TEM 7−12505
  Si(111) with evaporated Al film, wire bondability 7−21710
  TiO_2 on glass substrate, photocatalysis 7−23066
  W (110), MBE growth of BaO films 7−16886
  W, for VPE growth of Er, field electron emission microscopy 7−64029
  ZrO_2-Y_2O_3 substrates for heteroepitaxial growth of Si 7−21735
subsynchronous reluctance motors *see reluctance motors*
sudden commencement *see magnetic storms*
Suhl effect
  InSb, coherent spontaneous oscills. under transverse breakdown conditions, high frequencies 7−17046
sulphur
  see also nuclei with ......
  adsorbate geometry on Ni (001), angle-resolved-photoemission extended-fine struct. studies 7−27111
  adsorbed on Cu (100), surface struct. determ. using angle-resolved photoemission extended fine struct. 7−7822
  adsorbed on Mo (100), hydrocarbon adsorption and reaction 7−28345
  adsorbed on Ni, field electron emission props. 7−33529
  adsorbed on Ni (011), struct., angle-resolved-photoemission extended fine struct. studies 7−63950
sulphur continued
  adsorbed on Ni (100), angle-resolved photoemission extended fine-structure oscillations 7−64873
  adsorbed on Ni (100), segregation kinetics, AES and LEED studies *(Chinese)* 7−58607
  adsorbed on Ni (100) and (110), surface struct. determ. using angle-resolved photoemission extended fine struct. 7−7822
  adsorbed on Ni (110), azimuthally depend. XANES 7−64773
  adsorbed on Ni (110) and (111), surface struct., SEXAFS, XANES studies 7−64770
  adsorbed on Ni-Mo (6 at.%), oxidation, ESCA study 7−22897
  adsorbed on Pd(111), adsorbate oxidation kinetics *(German)* 7−33953
  adsorbed on Pt (111), surface crystallography using LEED and R factor analysis 7−27120
  adsorbed on Pt catalyst particles, S-induced faceting, TEM study 7−27109
  adsorption on Cu (100), (2×2) surface struct., LEED anal. 7−32827
  adsorption on $Ni_{60}Fe_{40}$ (100), LEED study 7−58641
  adsorption on Ni, surface geometry, low energy ion scatt. determ. 7−53474
  atmosphere sulphur deposition, spreadsheet-based model 7−54397
  atom, g_J factors, many-body calcs. 7−62265
  atom, UV photoionisation and autoionisation 7−10523
  atomic laser, VUV, antiStokes Raman 7−15850
  comets, S in UV spectra 7−55574
  compact H II regions, S and N abundances 7−66695
  coverage on Pd (110), kinetics of H absorption 7−6995
  desorption from Ni-Mo, kinetics at constant anodic pot. *(French)* 7−16858
  Devonian shales from Appalachian Basin, C and S relations as indicator of deposition environment 7−65988
  equilibrium polymerization and polymer solns. as multicritical phenomena 7−28310
  HD 46703, Population II supergiant, N and S overabundances 7−66578
  In torus, O I and S I densities from UV spectra 7−55522
  interstellar S and Zn in high density sight-lines abundances 7−66730
  isoelectronic series, transition probabilities and wavelengths 7−15550
  liquid, index of refr., refl. and extinction coeff. 0.4 to 2.0 μm, temp. depend. 7−3009
  molecule, $b^1\Sigma g$-$X^3\Sigma^-g$ system consts., IR and microwave spectra anal. 7−19848
  polymeric, energy surface struct. and electronic props. 7−2472
  segregation and adsorption on $Ni_{50}Fe_{50}$ (100) alloy, surface composition and struct. 7−21617
  sputtering by Ar^+, S_2 rotational, vibrational and translational energy distribs. 7−993
  steel, Mn, influence of S on failure mechanism in dual α/γ phase *(French)* 7−33760
  surface segregation on V, effect on H permeation, AES anal. 7−32660
  target, Ar^+ ion irrad., S_2 sputtered mol. props. 7−936
  thermal expansion coeffs., Gruneisen parameter, X-ray powder diffr. determ. 7−2235
  thin films, MeV He^+ beam erosion, temp. depend. yield meas. 7−27847
  thin layers, sputter erosion by 1.0 MeV He^+, induced X-ray emission meas. 7−64860
  VUV radiation generation by antiStokes Raman laser process 7−11050
  Al_2O_3:C,S CVD layers, C and S distrib., SIMS anal. 7−6668
  Cu-Al (111), S segregation, LEED and AES studies 7−2321
  $Ga_{1-x}Al_xAs$:S(Se), MBE growth, dopant incorporation 7−12533
  GaAs: S, Sn, epitaxial layers, photoluminescence spectra 7−46095
  GaAs:S, LEC grown, struct. defects, influence of Si and S doping 7−53550
  GaAs:S,Si epitaxial layers, close space vapour transport growth, photoluminescence and electrical props. 7−21776
  GaAs:S layers obtained by gas-phase epitaxy, electrophysical props. 7−7418
  GaAs:S surface elec. props. modification by plasma exposure 7−27346
  $Ga_{0.47}In_{0.53}As$-InP:Fe(S), deep defect levels, photoluminescence, DLTS meas. 7−33457
  n-$Ga_xIn_{1-x}Sb$:S, impurity states, press. and comp. depend., Hall coeff. and elec. resist. meas. 7−2533
  I_2-KI-S_8 melts, percolative cond. calcs. 7−6845
  InP:Ge,S, LEC-growth, dislocation-free 7−17409
  InP:S, LEC grown, influence of growth conditions on defects 7−32427
  InP:S, shallow n^+ diffusion of S, open-tube diffusion technique, n^+-p junction formation 7−44912
  InP:S,Ga,Sb, LEC growth, appl. mag. field method, dislocation etching 7−53553
  InP:S substrate wafers for LPE growth of laser diode heterostructures, polarised IR and X-ray topographic evaluation 7−32453
  InP:Si,S,Zn epitaxial films, MOCVD grown, identification of acceptors and donors 7−58688
  InSb:Te(Se)(S)(Cd)(Zn) thin films, doping, Hall effect meas. 7−21743
  In_2Se_3:S, electrical transport props. 7−21917
  N/s 14 kWh/21 kW batteries for electric vehicles, performance testing 7−65438
  Na-S cell reliability models using ceramic degradation mechanisms 7−59831
  Na-S cells, with Na_2O-ZrO_2-Al_2O_3-SiO_2 glass electrolytes, ionic cond., glass transition temp. meas. 7−26998
  Ni (111) surface, electronic structure, S effects on heterogeneous catalysis 7−54185
  Ni:S, grain-boundary cohesion, impurity segregation effects, density-functional cluster model calcs. 7−44835
  $Pb_{0.75}Sn_{0.25}Te$:In, Ge(S)(Se), elec. resist., photocond., Hall effect meas. 7−17050
  Pt-S surface, effect of S-induced surface reconstruction on CO adsorption 7−6987
  Rh (111) surface, electronic structure, S effects on heterogeneous catalysis 7−54185
  ^{32} S, collisions with wide range of targets, K-shell ionisation, polarisation and binding effects 7−31165
  α-S orthorhombic, elastic behaviour under pressure, lattice dynamics anal. 7−16667
  S X, N I-like ion, forbidden lines identification in solar EUV spectrum 7−66441
  S-I working fluid, max. heat flux transferable in thermosiphon 7−50930
  S-Ni (100), adsorption of NO 7−6990
  S+Au, X-ray emission from multiply ionized atoms *(Rumanian)* 7−15699

sulphur continued
- S_2, rotational, vibrational and translational energy distribs. from Ar^+ sputtering 7—993
- S_8, crown struct., pot. hypersurface, EHT calcs. 7—36483
- S_n clusters, fragmentation investig. 7—15792
- S_n, liq., chem. reactions, mol. dynamics simulation 7—39862
- $^{32}S_2$ in comets, photodissoc. lifetime 7—24075
- Si:S, chalcogenide pairs, electronic structs., Green's function calc. *(Chinese)* 7—58759
- Si:S/Pt system, impurity migration during silicide form. 7—6895
- Si-SiO_2:S, effect of S on the oxide charge 7—7024
- $Si_{1-x}Ge_x$:S solid solns., deep levels investig. 7—2529

sulphur compounds
- bond order and valence indices for use with ab initio wave functions 7—56947
- ignition voltage of spark gaps in technically important gases *(Czech)* 7—32144
- inert gas-O_2-SF_6 discharge, charged particle induced, O_3 synthesis 7—3587
- interstellar S chem. in mol. shocks 7—48048
- photoionisation, triple coincidence, double time-of-flight study 7—36709
- poly-p-phenylene sulphide: SO_3, electron motion, proton NMR T_1 studies 7—33289
- pulsed power accelerator for fusion research, SF_6 reprocessing system 7—30769
- Rimfire 6 MV laser triggered SF_6 filled switch for PBFA II 7—30746
- scavenging from atm. 7—55192
- scavenging in narrow cold-frontal rainbands, numerical model 7—55191
- $(SCN)_x$:I, prep., elec. cond. 7—52597
- sulphate atmospheric aerosol, scavenging 7—40059
- sulphate deposition from atm., adsorption by soil, implications for dynamics in hydrological systems 7—29102
- sulphate deposition from atm., conc. in streams 7—28426
- sulphates, in atmosphere, scavenging coeff. estimates from sequential precip. samples on Long Island 7—8467
- sulphides gas emission from sulphide ore deposits 7—40439
- Xe-SF_6 gaseous mixture, stimulated Brillouin and thermal scatt. of Nd μs pulses 7—62777
- Ar-SF_6 plasma, negative ion detect., wall probe method appl. 7—20960
- As-S glass IR fibre, Teflon clad, optical loss due to water diffusion 7—57556
- $As_{40}Ge_{10}Se_{25}S_{25}$ glass grating couplers, fabrication using electron beam induced Ag doping *(Japanese)* 7—62817
- C_xSO_3F fibre intercalation cpds., enhanced elec. cond. 7—33927
- Ca-$SOCl_2$ cells with $Ca(AlCl_4)_2$-$SOCl_2$ electrolytes, performance improvement using C cathodes 7—65444
- $Ca(AlCl_4)_2$-$SOCl_2$ cells, cond., C cathode performance improvement 7—13851
- CaO-Al_2O_3-SO_3-H_2O hydrated inorganic salts found in concrete, thermal energy storage appls. 7—17922
- $ErCl_3$-$GaCl_3$-$SOCl_2$ system, solution viscosity 7—21500
- Ge-S+bi chalcogenide glasses, struct., DTA and X-ray diffr. studies 7—6543
- $Ge_{10}As_{40}Se_{25}S_{25}$ glass films, photodarkening effect, exposure characts. *(Japanese)* 7—64706
- $Ge_{25}S_{75}$, amorphous, anomalous photoinduced transformations study 7—45070
- H_2SO_4, kinetics of heterogeneous reactions for chemical storage of energy 7—23229
- He-SF_6 glow discharge, mag. control, electron energy distrib. 7—26555
- KrF-SF_6 mixtures, excimer mol. excitation in steady-state plasma jet 7—58070
- Li/$SOCl_2$ cell, corrosion, calorimetric study 7—46929
- Li/$SOCl_2$-SO_2Cl_2 cells, low temp. discharge behaviour 7—65422
- Li-SO_2, Li-$SOCl_2$ and Li-SO_2Cl_2 batteries for space appls., proceeding of NASA/Goddard workshop, Greenbelt, MD, USA (Nov. 1985) 7—29578
- Li-SO_2 batteries, effect of water during incineration 7—39983
- Li-SO_2 commercial cells, impedance meas. at various states of charge 7—54281
- Li-SO_2 primary cells, safety hazards during charging 7—34007
- Li-SO_2 rechargeable cell with $Li(SO_2)_3AlCl_4$ electrolyte and C electrodes 7—65443
- Li-SO_2Cl_2 cell battery pack fabrication, safety 7—34008
- Li-$SOCl_2$ cell battery pack fabrication, safety 7—34008
- Li-$SOCl_2$ primary cells, heat dissipation study 7—34009
- N_2-He-SF_6 laser, high power, UV preionised, characts. 7—25805
- S-containing compounds, KLL Auger and core level photoelectron shifts, binding energy 7—15647
- SCN ions, adsorbed on evaporated Ag films, SERS 7—32838
- SCN^-, aq. soln., band shape anal., Raman and IR spectra 7—57067
- SCN^-, rots. in aqs. soln., ^{14}N NMR, spin-lattice relax. 7—27620
- SCN^- solutions, anodic oxidation of anodic Cu 7—52052
- SD^+, $X^3\Sigma^-$ ground state, mol. rot.-vibr., Zeeman consts., mid-IR LMR spectra anal. 7—62368
- $(SF_6)_2$, mol. beam IR laser photodissoc. 7—10576
- $SF_2+O_2(O(^3P))$, gas-phase reaction rel. to plasma processing 7—3586
- SF_3 radicals, electronic struct., ab initio SCF CI calcs. 7—19716
- SF_4, inner- and valence-shell excitation, X-ray and EELS study 7—57171
- $SF_5+O_2(O(^3P))$, gas-phase reaction rel. to plasma processing 7—3586
- SF_6 and SF_6 mixtures, streamer, leader and corona formation under positive impulse 7—37773
- SF_6 and SF_6 mixtures, streamer to leader transition under positive impulse 7—37774
- SF_6 beam-plasma discharge for plasmachemical appls. 7—37706
- SF_6, breakdown and corona, electrode surface processing effect 7—51557
- SF_6, charge transfer, time-resolved study 7—10748
- SF_6 clusters, supersonic jet, Fourier transform IR spectra 7—15598
- SF_6, corona and glow discharges, electrode-F reaction influence 7—26565
- SF_6, degenerate four-wave mixing 7—37016
- SF_6, dimer dissoc., dimer conc., isotope effect, model and bolometer IR spectra anal. 7—19977
- SF_6, discharge characts. and insulating props., review of Japanese research 7—44279
- SF_6, double photoionisation and photodissociation, mass spectrometer and coincidence studies 7—19965
- SF_6, electron affinity, HF SCF calcs. 7—49907
- SF_6, electron impact, fragment ion kinetic energy determ. 7—25673
- SF_6, electron impact ionis. cross section calc. 7—50380
- SF_6, electron swarm kinetics with attachment and ionis., higher-order Boltzmann eqn. calcs. 7—20854

sulphur compounds continued
- SF_6, electron transfer reaction kinetics, binding energy role 7—22989
- SF_6, electronegative gas, electron beam transmission anomalies study 7—44094
- SF_6 filled spark gap, high-power discharge, electrode erosion and breakdown voltage study 7—44300
- SF_6 gas, degenerate four-wave interaction for CO_2 amplifier with mirror 7—25837
- SF_6 gas, infrared radiation wavefront inversion, thermomagnetic image recording 7—43245
- SF_6 gas, Paschen's law, impurity effects 7—37771
- SF_6, gas pressure effect on arc cathode erosion and cathodic plasma expansion 7—32164
- SF_6, high temperature absorpt. of laser radiation 7—51385
- SF_6, high-current discharges, optical diagnostics 7—37775
- SF_6, IR multiphoton excitation probed by CARs, vibr. population distribs. 7—10591
- SF_6, IR radiation degenerate multiphoton parametric scatt. by vibr.-rot. transitions 7—25883
- SF_6, impulse breakdown voltage of slightly nonuniform field gaps, wavefront effect 7—32145
- SF_6 impulse breakdown voltage for nonuniform field gaps with different wavefronts 7—51546
- SF_6 in Ar soln., IR absorpt. spectra 7—25522
- SF_6, ionosphere SF_6 release expt. at F-region altitudes, excitation of O permitted lines 7—9282
- SF_6 ions, densities, mobilities, Gerdien ion counter meas. 7—11581
- SF_6 jets, Raman scatt., Franck-Condon and double reson. study 7—31082
- SF_6, K X-ray yield, chem. environment effect 7—3618
- SF_6, liq., acousto-optic interaction in FIR 7—37623
- SF_6, mixtures and cryogenic solns., low temp. vibr. relax. 7—5755
- SF_6, mol. gas, γ-ray induced ionis. 7—63247
- SF_6, mol. vibr.-rot. consts., IR saturated absorpt. spectra anal. 7—50118
- SF_6 monolayer on graphite, X-ray diffraction studies 7—6965
- SF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
- SF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7—25550
- SF_6 nonisothermal gas mixture, transport coeff. calc. 7—11574
- SF_6 on graphite, Kr physisorption studies *(French)* 7—32799
- SF_6, optoacoustic signal generated by pulsed IR radiation 7—41480
- SF_6, physisorbed on Cr target, coverage effect on sputtering behaviour 7—64845
- SF_6 plasma, electrostatic interaction effect on composition 7—37632
- SF_6, plasma, reactive ion etching of SiO_2 7—39693
- SF_6 plasma etching reactors, energy distrib. of ions 7—37759
- SF_6, pseudostationary oblique shock-wave reflections, interferometric and numerical results 7—51940
- SF_6 puffer-type circuit breakers, effects of aerodynamic shocks on performance 7—51223
- SF_6, RF breakdown and discharges, continuum modelling 7—37798
- SF_6 RF discharges, etching of Si wafers, diagnostic meas. 7—28214
- SF_6, RF molecular plasma, electron energy distrib. functions 7—37636
- SF_6 resonant mols., capillary flow, laser light effects in transitional flow regions 7—57927
- SF_6, rot. freezing in two-photon excitation of triply degenerate vibrs. 7—31005
- SF_6, S 1s core-level photoionis. spectra 7—941
- SF_6, shape reson. behaviour, inner-shell photoabsorpt. and valence-level photoelectron spectra 7—5718
- SF_6, supersonic mol. beams, IR-multiphoton excitation characts. 7—50282
- SF_6, thermal attachment rate constants, 200-600K 7—975
- SF_6, thermal diffusivity around crit. point along liquid-gas coexistence curve, light scatt. meas. 7—52098
- SF_6, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7—25882
- SF_6 under DC stress, potential distortion from change on solid insulators 7—51554
- SF_6, wavefront reversal system using four-wave interaction with passive optical isolator, reflection efficiency 7—62783
- SF_6^-, negative ionis. source for quadrupole mass analyser 7—35620
- SF_6/dichlorodifluoromethane gas mixtures, electron transport, collision cross section and dielectric strength 7—63244
- SF_6/N_2 gas mixtures, electron transport, collision cross section and dielectric strength 7—63244
- SF_6-Ar, photorefractive deflection technique using parallel and overlapping probe and pump beams appl. 7—51377
- SF_6-Ar mixtures vibr. relax. time resolved IR multiphoton absorpt. 7—5752
- SF_6-Ar_n clusters, spectroscopic obs. of phase coexistence 7—36842
- SF_6-methane mixtures, negative ion drift velocities 7—11583
- SF_6-O_2 discharges, LF and RF, etching and surface modification of polyimide films 7—22858
- SF_6+CFCl_3 discharge, directional plasma etching of Si:P 7—39788
- SF_6+Cs^-, low-energy collisions, absolute total cross section meas., curve-crossing model anal. 7—36749
- SF_6+Freon 113 mixtures in nonuniform field gaps, breakdown 7—51551
- SF_6+H, Rydberg atom depopulation, scattering cross section, 7—10732
- SF_6+N_2O, vibr. energy transfer and relax. study, kinetic model, IR fluoresc. spectra 7—50227
- SF_6+O_2, plasma etching of Si, kinetic model 7—39787
- SF_6+O_2+Ar, plasma etching of Si, kinetic model 7—39784
- SF_6Ar, mol. beam IR laser photodissoc. 7—10576
- SF_5Cl, shape reson. behaviour, inner-shell photoabsorpt. and valence-level photoelectron spectra 7—5718
- SH^-, electron affinity calc. with fourth order many body perturbation theory 7—42471
- SH^-, IR spectra, laser modulation 7—62363
- SH^+, electronic transitions, IR laser spectra 7—50100
- SH_3 radicals, electronic struct., ab initio SCF CI calcs. 7—19716
- $(SN)_x$, repolymerisation, mass spectrometric study 7—54119
- $(SN)_x$, molecular orbits, various chain sizes, MNDO calcs. 7—15517
- $(SN)_x$, vibronic interaction, HMO calcs. 7—26878
- S_2N_2, excited states, ab initio CI calcs. 7—42491
- S_2N_2, photoelectron spectrum, valence ionic state calc. by many-body Green's function method 7—10667
- $S_4N_4^{2+}$ dication, HF instabilities 7—15508
- $(S_5N_5)(AuCl_4)$, crystal struct. studies *(German)* 7—12004
- SO in comet UV spectra 7—55574
- SO radical, $A^3\Pi_1$-$X^3\Sigma^-$ transition, 0-0 band spectrum, rot.-vibr. levels, rot. consts. 7—10542
- SO, vibr. excited, mm-wave rot. spectrosc. obs. 7—36595

sulphur compounds continued
- SO^+, $A^2\Pi_i$-$X^2\Pi_r$ band system, obs. in rot. cold supersonic expansion 7−62391
- SO_2 acid rain in India, model of monsoon effects near coal-fired power plants 7−65663
- SO_2 adsorbed on SiO_2:Na, FTIR and Raman spectra obs., Na promotion of Claus process 7−46869
- SO_2, adsorpt. on stainless steel, kinetics and laser-stimulated surface oxidation 7−63958
- SO_2 air pollution, use of higher plants as detectors 7−59901
- SO_2, air pollution in Philadelphia, USA, and marble tombstone weathering 7−59886
- SO_2 air pollution in Valladolid urban area, Spain, spatial and temporal distrib. 7−3738
- SO_2, air pollution in W Germany 7−54389
- SO_2, air pollution near to oil refinery at Mathura, India 7−28433
- SO_2 air pollution of Shuaiba Industrial Area, Kuwait 7−54400
- SO_2, air pollution removal by 2D frontal rain system 7−34577
- SO_2 analyzer, fibre optic 7−23090
- SO_2 and ions, deform. densities, d function role in ab initio calcs. 7−62260
- SO_2 and SO in circumstellar envelopes, millimetre-wave obs. 7−4429
- SO_2 and SO_3 removal from flue gases in heat and power generation from coal *(German)* 7−65653
- SO_2, C^1B_2 electronic state, unequal bond lengths, two state vibronic model 7−25531
- SO_2 cluster, UPS using pulsed gaseous free jets 7−36685
- SO_2, electron scatt., low energy, absolute total cross-sections meas. 7−25650
- SO_2 emissions and acid deposition in USA, monthly data (1980-4) 7−40075
- SO_2 from coal-fired power plants, environmental control systems using integrated design strategy 7−28438
- SO_2, in atmosphere, pollution modelling in Cracow area, Poland 7−40068
- SO_2 in atmosphere, probability model for concs. in Venice area 7−17929
- SO_2 in atmosphere, statistical study of pollutant concs. via generalised gamma distrib. 7−34090
- SO_2 in atmosphere, summertime climatology in E United States (1977 to 1981) 7−40066
- SO_2 in atmosphere over Ljubljana, Yugoslavia, oxidation in wintertime conditions 7−34575
- SO_2, in humid air, level meas. by chromatography 7−34078
- SO_2, K X-ray yield, chem. environment effect 7−3618
- SO_2, microwave spectrum, laboratory meas. of constituent gas opacities, Venus atmosphere 7−47744
- SO_2, near UV absorpt. cross-sections 7−50165
- SO_2, O_3-induced oxidation to aqueous sulphate in warm cloud conditions 7−54114
- SO_2, photodesorption from Si (100) 7−52290
- SO_2, radiative lifetimes, collision-free supersonic beam, fluoresc. spectra 7−19922
- SO_2, super-excited molecule, quantum defect theory ionisation channels 7−30962
- SO_2 vapour, second virial coeff., intermol. pair pots., mol. dynamics simulation method study 7−31908
- SO_2^{2+}, double photoionisation, photoelectron ion-ion triple coincidence technique 7−50248
- SO_2-containing cpds., Cl effect on ^{33}S and ^{17}O NMR 7−36646
- SO_2-H_2S complex, microwave spectrum, rot. transitions 7−42601
- SO_2-HF(DF), mol. geometry, ^{19}F spin-spin and D-nucl. quadrupole coupling consts., rot. spectrum 7−5666
- $SO_2+Al \rightarrow AlO+SO$, pulsed crossed supersonic beam expt., energy threshold determ. *(French)* 7−33915
- SO_2+Ar, intermol. energy transfer, trajectory study, rovibrational mol. energy depend. 7−31151
- SO_2+Ar, intermol. energy transfer, trajectory calcs., rate coeffs. for rovibrational states 7−31152
- SO_2+Cs^-, low-energy collisions, absolute total cross section meas., curve-crossing model anal. 7−36749
- SO_3 complexes with selected O_2-containing bases, matrix isolation IR spectra 7−36615
- SO_3 radical, strong perchloric acid soln., free radical protonation equilib., ESR study 7−33918
- SO_4^{2-} content in aq. atmospheric aerosols in Japan *(Japanese)* 7−47511
- SO_4^{2-} in atmosphere, contrib. of decreased concs. to decrease in precip. acidity 7−54391
- SO_4^{n-}, electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7−856
- SO_x sensor using β-Al_2O_3-Na_2O-Ag_2O solid electrolyte 7−326
- $S_2{}^{16}O$, equilib. struct., diode laser spectrosc. obs. 7−5661
- $S_2{}^{18}O$, equilib. struct., diode laser spectrosc. obs. 7−5661
- $SOCl_2$, in $Ar(N_2)$(methane), electron attachment rate consts. 7−36758
- $SOF+O_2(O(^3P))$, gas-phase reaction rel. to plasma processing 7−3586
- SOF_2, gas-phase hydrolysis, reaction rate consts. 7−13744
- SOF_4, gas-phase hydrolysis, reaction rate consts. 7−13744
- SO_2.HCN (SO_2.DCN) dimers., anti-H-bonded, rot. spectrum, mol. geometry 7−36592
- $SPCl_2F^-$, radical, ESR and ab initio quantum chem. study 7−42654
- Sf_6, IR multiphoton excitation, time-resolved Raman spectra anal. 7−36629
- XeF-SF_6 mixtures, excimer mol. excitation in steady-state plasma jet 7−58070

sum frequency generation (optical) *see optical frequency conversion*

sum rules
- baryons, electroweak properties in QCD 7−56522
- electronuclear structure functions and quark deconfinement in nuclear matter 7−5177
- heavy quark condensation in QCD sum rule approach, quark expansions 7−5054
- IBM, quadrupole sum rule violation and E2 matrix elements 7−61819
- lattice action sum rules, appl. to glueballs and static quark pots. 7−48959
- lattice QCD sum rules and spontaneous chiral symm. breaking, Monte Carlo simulation 7−61603
- MIT bag model, Δ contribution to Adler-Weisberger sum rule 7−49093
- moment sum rule and meson spectroscopy in statistical model 7−15132
- nuclei, weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
- nucleon size, density dependence of f_π in nuclear medium, QCD sum rule anal. 7−480
- nucleon wavefunctions and QCD sum rules 7−30248
- photoproduction processes, quark model with charm and colour 7−41737

sum rules continued
- pions and H(1190) meson, polarisabilities, sum rules 7−10087
- pseudoscalar meson charge radii from QCD sum rules, SU(3) breaking 7−10033
- QCD_2 ($N_c \rightarrow \infty$), spectrum of states, low-energy theorems and sum rules 7−61595
- QCD, finite energy sum rules for light quark systems 7−24841
- QCD, spectral function sum rules and SU(3) violation of quark condensates 7−466
- QCD, x-space sum rules and π wave function 7−41734
- QCD sum rules, analytic continuation by duality 7−15114
- QCD sum rules, quark operator classification, gluon condensate contrib. to quark vacuum polarization 7−61599
- QCD sum rules and the Skyrme model at large N_c 7−61583
- QCD sum rules for exotic $\bar{q}qG$ states 7−41733
- QCD SVZ sum rules, compatibility with expt. sum rules 7−5055
- quark distribution amplitudes for the nucleon from perturbative QCD and QCD sum rules 7−41745
- S-wave nonleptonic hyperon decays in quantum chromodynamics 7−15149
- scalar gluonium, local duality constraints, Gauss-Weierstrass QCD sum rule anal. 7−489
- seniority scheme of identical particles, sum rule for spectroscopic factors 7−48422
- Skyrme model, Δ contribution to Adler-Weisberger sum rule 7−49093
- Skyrme parameter calcs. from QCD sum rules 7−30186
- string tension and plaquette-plaquette correlation fromQCD sum rules 7−478
- tensor gluonium spectrum, QCD sum rules framework 7−19073
- wave function, nonlocal condensates and QCD sum rules 7−41747
- B mesons, QCD probes of charge radii and possible sum rules 7−35805
- $\bar{c}c$, QCD sum rules for S-wave charmonium 7−41732
- $\gamma\gamma \rightarrow \gamma\gamma$, elastic scatt., worden sum rule and perturbative QCD 7−24924
- H′ meson investigation by QCD sum rule method 7−41751
- K^0-$\bar{K}^0$ mixing, short-distance contrib. from QCD sum rules 7−15122
- $\bar{L}\bar{N}$, polarised deep inelastic scatt. from cloudy bag model 7−49159
- (μ,X) total capture rate calcs., sum rule approach 7−656
- N structure functions in $e(\bar{e})p$ scatt., SUSYQCD anal., sum rules 7−61689
- π, QCD probes of charge radii and possible sum rules 7−35805
- π distribution amplitude moments and QCD sum rules 7−30246
- π structure functions, second moments, QCD sum-rule calcs. 7−5094
- π^+-π^0 mass difference and Weinberg sum rules, phenomenological anal. 7−41809
- $\bar{q}q$, sum rule prediction for masses of $L \geq 1$ 7−35744
- ^{208}Pb, gamow-Teller sum rules and ground-state correlations for (n,p) and (p,n) 7−49406
- ^{208}Pb, sum rule approach to 3s proton occupancy 7−56620

Sun
- *see also solar .....*
- 5-min oscillations, quasi-periodic departures in low-degree spectrum 7−18392
- 5-minute oscillations, contrib. to photospheric intensity fluctuations at meso-granulation scale 7−47800
- 810 MHz emission, obs (1971 to 1976) 7−4388
- azimuthal aperture synthesis, RATAN-600 obs. of Sun in 'south plus periscope' mode 7−60612
- companion star, effect on outer boundary of solar system 7−34890
- companion star, orbital radius limit set by Galaxy from King-Innanen formula 7−4357
- companion star, period stability and lifetime from dynamic anal. of wide binaries in solar neighbourhood 7−66663
- convection in rotating hemispherical shell with radial gravity, Spacelab simulation expts. 7−55450
- core struct. and 5 minute oscills., high-Z Fe-like core model 7−47814
- core struct. and 5 minute solar oscills., high-Z core model 7−47815
- electric and gravitational forces, and the ballistic theory of light 7−29836
- EUV telescopes, layered synthetic microstructures 7−40703
- features and activity, general description *(French)* 7−66544
- general characteristics *(Italian)* 7−60622
- global oscillation spectrum, anal. of daily power spectra of vel. meas. 7−47798
- global oscillation spectrum, obs. of low-l, high-n p-mode spectrum 7−47802
- global oscillations rel. to Earth rotation nonuniformities 7−28809
- granulation and dark networks, morphology and classification 7−47816
- gravity, influence on Earth rot. 7−3965
- high resolution studies, meeting, Toulouse, France (September 1984) 7−18498
- low-degree gravity modes, asymptotic props. 7−4399
- magnetic structures and convection in Sun, evidence for large-scale circulation *(French)* 7−24094
- models testing, implications of H-R diagram position of Hyades eclipsing binary star (HD 27130) 7−66665
- motion about solar system barycentre rel. to solar-terrestrial phenomena 7−40726
- motion around solar system barycentre, correl. with global seismic activity 7−18127
- neutrino short-time variations rel. to solar activity and core oscillations 7−47826
- oblateness, 1984 meas. of variability 7−60620
- oscillations, evidence in ground based photometric obs. 7−60615
- oscillations, excitation and damping 7−40792
- oscillations, Fe I line diagnostics for propagating waves in solar photosphere 7−55591
- oscillations, obs. from Antarctica *(French)* 7−9453
- oscillations, obs. using Stable Solar Analyzer instrument 7−9375
- oscillations and sunspot activity 7−55597
- oscillations inverse problem, integral formula for solar rot. as function of depth and latit. 7−55599
- oscillations of solar interior, influence of internal magnetic field 7−18397
- p-mode interaction with sunspot, observations 7−60619
- p-mode oscillations, compressive waves propag. through fibril mag. fields 7−66541
- plasma conf., Sukhumi, USSR (May 1986) 7−48174
- plasma interchange instabilities driven by magnetic buoyancy, for solar interior 7−66456
- polar flattening, dynamical estimate rel. to influence on planetary orbits 7−29452
- r-mode props 7−4414

Sun continued
- Ritchey-Chretien solar telescope for 30.4 nm, asphérisation and multilayer coating 7—39388
- solar neutrinos and solar evolution, overview 7—55600
- spacelab-2 experiments 7—23973
- Ulysser spacecraft mission for exploration of high solar latitude solar wind 7—55472
- X-ray burst stereo observations, thick-target interpretation 7—47651
- X-ray bursts from flare electrons, intensity rel. to mag. field strength 7—47650

sunlight
- *see also atmospheric optics; sky brightness*
- Angstrom's turbidity coeff., determ. from direct total solar irradiance meas. 7—66355
- Antarctic, stratosphere heating, aerosols contrib., implications for O_3 depletion 7—55175
- Atlantic region, visible and near IR solar radiation for cloudy days *(Russian)* 7—60332
- atmosphere, contrib. of solar heating to seasonal movements of subtropical high ridge line 7—40508
- atmosphere, vertical temp. distrib. rel. to solar and atmospheric radiation propag. *(French)* 7—14338
- beam radiation received by tilted surfaces, atmospheric effects 7—23125
- Brazil, estimation of global solar radiation and evap. from precip. data 7—66272
- Bremen, West Germany, summer temp., precipitation and sunshine characts. 7—9162
- Campbell-Stokes sun radiation recorder with photocells *(Italian)* 7—29265
- Canada, cloud shade to point cloudiness, empirical relationship 7—47513
- cloud shading, implications for mesoscale circulations generation and modification 7—34617
- compound parabolic concentrator collector, solar irradiance calc. using computer program 7—39964
- cumulus cloud influence on solar radiation intensity 7—4105
- daily effective optical air mass and solar related angles for horizontal or inclines surfaces 7—66274
- daylight availability data generation from existing solar radiation data bases 7—60428
- Dhahran, Saudi Arabia, insolation meas., diffuse fraction estimation 7—3625
- Dhahran, Saudi Arabia, solar radiation meas. 7—23801
- diffuse solar radiation model applicability to Huntsville, Alabama 7—60370
- Earth Radiation Budget Experiment (ERBE), meas. data (1984 November 15) 7—9067
- NE England and North Sea, May 1986 cool seas and clear skies 7—55231
- EUV and F-region heating at high-latitude 7—34772
- extraterrestrial solar radiation on inclined surfaces, FORTRAN program 7—55138
- global and direct solar radiation meas. and photovoltaic testing results in Jeddah 7—23144
- global solar irradiance, monthly average, meas. and predicted data comparison, Pakistan 7—23826
- Greece, global solar radiation estimation 7—55214
- Greece, sunshine duration rel. to altitude, latitude and longitude 7—66296
- Gulf Stream energy active zone, winter radiative regime *(Russian)* 7—29041
- heliostat reflected sunlight, flux density analytic function 7—8362
- hourly beam and diffuse solar radiation estimation and meas. in Lesotho 7—23827
- ice nucleation by AgI-AgBr-CuI system, UV irrad. effect 7—66247
- incident solar radiation on Earth's surface, calc. method 7—47478
- India, sunlight absorpt. due to El Chichon dust 7—9126
- SW India climate var. in 20000 yr records insolation effect 7—47532
- insolation availability and peak demand matching at 6 MW photovoltaic facility 7—4169
- insolation simulation by compact-source iodide lamps 7—23122
- ionising radiation vars. during solar eclipse, relation to ionospheric radio waves absorpt. 7—29361
- Italy, global irradiation estimation, Angstrom equation fitted using least squares method 7—55215
- Italy, solar irradiation simulation using Markov processes and Fourier analysis 7—8433
- Italy, spacial statistical correl. of solar energy and eliophany 7—55240
- Linke turbidity factor, optical thickness of clean dry atmosphere 7—47512
- non-stationary Markov chains for modelling of daily radiation data 7—34654
- Mars, sunlight absorption in IR CO and CO_2 bands 7—4358
- Mercury, effects of solar radiation press. on Na atmosphere 7—24038
- Mercury, photon sputtering of surface Na rel. to Na atmosphere 7—24037
- mesosphere, auroral zone, radar obs. of negative-ion photodetachment at sunrise 7—66376
- nonresidential building daylighting by automated exterior louvres 7—8365
- Norway, models of solar radiation climate for graphical database 7—47514
- Ob River valley, sunlight obs. rel. to photochemical mist form. 7—9136
- ocean-atmos. system, visible region spatial radiance field 7—55180
- Pakistan, daily solar radiation incident on flat tilted surface 7—55216
- parabolic trough collectors, concentrated flux density distrib. calc, using semifinite formulation 7—39966
- photothermal radiometer for concentrated sunlight intensity measurements 7—23919
- photovoltaic device performance and insolation meas., conf., Vail, CO, USA (June-July 1985) 7—48164
- Pune, India, daylight illumination studies 7—9118
- radiometers, instrumentation, calibration techniques, and standards 7—55326
- Saudi Arabia, total radiation on tilted surfaces, comparison of measured and calculated values 7—8378
- solar angle derivation for design of solar energy system using vector algebra 7—46970
- solar cell irradiance models, data and instrumentation for device performance anal. 7—13905
- solar cell short-circuit current sensitivity to atmospheric conditions 7—13904
- solar constant, exptl. meas. by Spacelab 1 radiometer 7—66549
- solar constant, vars., during 1978-9 and 1981 from Nimbus-7 and SMM meas. 7—4409

sunlight continued
- solar constant measurement from snow melting from barn roof 7—48256
- solar energy fluctuation determ. in lower atmospheric using spectral anal. techniques 7—14364
- solar insolation data analysis by means of Allan variance and Fourier transform 7—60371
- solar irradiance conversion models 7—55219
- solar radiation availability and energy coat for tracking and nontracking photovoltaic power systems 7—3691
- solar radiation meas., network meas. characts. 7—55218
- solar radiation prediction and cloud cover effects 7—23828
- solar radiation prediction and cloud cover effects 7—23829
- solar radiation research and photovoltaic solar energy conversion technology, overview 7—55217
- solar receiver fibrous insulator, temp. meas. using thermocouples 7—59872
- Spain, atmospheric transmission for cloudless skies from daily global radiation, 7—9141
- spectral absorption and total vertical water vapour determ. 7—4087
- spectral absorption by H_2O vapour and O_2 7—60375
- spectral attenuation for 8-13 μm range *(Russian)* 7—29239
- spectral distribution of solar irradiance models and data sets 7—55220
- spectral solar irradiance instrumentation and measurement techniques, spectroradiometers 7—55327
- stratosphere, radiative balance determ. from Nimbus-7 LIMS meas. 7—9098
- sunshine duration, principal component and near neighbour methods for areal quality control 7—4141
- surface, wind roughened, albedos and glitter patterns generation 7—9006
- terrestrial atmosphere effects *(Italian)* 7—60622
- Turkey, direct and total solar radiation, monthly and yearly average maps 7—8377
- UV irradiance at various heights use for O_3 vertical profiles meas. 7—55308
- UV radiation meas. at Baghdad 7—23813
- UV transmittance and energy transport to middle stratosphere 7—55260
- UV-B and visible radiation under cloudless skies 7—66270
- UV-B daily totals from routine meteorological obs. 7—4132
- vegetation canopy, model of sunlight penetration involving leaf distribution 7—4097
- Venus, mesosphere, solar fluxes and heating rates 7—24040
- Venus, sunlight absorption in IR CO and CO_2 bands 7—4358
- volcanic dust from El Chichon in stratosphere, solar radiation anomalies 7—34677
- HCl in atm., ground-based IR solar spectra anal. 7—40538

sunshine *see sunlight*

sunspots
- *see also solar activity*
- 1963 June, mag. field and photospheric development 7—29451
- 1980 activity 7—24095
- activity and slow global oscills. 7—55597
- activity throughout cycle, effect on solar const. meas. 7—34964
- apparent even-odd cycle distrib. in Mt. Wilson data 7—24110
- bipolar active regions and VHF type III burst asymmetry 7—4423
- complex sunspot groups, relation to vars. of solar const. (1978-9 and 1981) 7—4409
- compressive waves propag. through fibril mag. fields, appl. to sunspots mag. struct. determ. 7—66541
- granulation deformation near and in sunspot regions 7—4415
- groups with abnormal mag. structures and rapid vars., relation to SWF flares *(Chinese)* 7—4390
- Hale 17901, 17906, mag. fields, rel. to long-decay soft X-ray flare (1981 October 12) 7—55595
- large-scale structure of sunspot and surrounding photosphere 7—4416
- latitudinal motions, depend. on sunspot type and activity cycle phase 7—60616
- magnetic structures, appl. of fuzzy clustering theory to short-term forecasts of proton flares *(Chinese)* 7—4389
- McMath 17644, kinematics of mag. field decrease of flare complex 7—4411
- meridional motions of sunspots and sunspot groups, Mount Wilson obs. (1917 to 1983) 7—47810
- multichannel autoregressive spectral estimators, performance 7—40553
- nests, manifestation of sequences in mag. activity 7—24100
- numbers, long-term var. in N-S asymmetry 7—24111
- numbers correl. with ionosphere F_2-layer critical freq. 7—23848
- observations for solar rotations 1748 to 1753, visual and photographic obs. 7—55596
- p-mode interaction observations 7—60619
- polarization of sunspot light, broad-band circular polarization 7—47818
- relative numbers forecasting *(Chinese)* 7—4395
- semiempirical modelling 7—4408
- solar cycle simulation 7—9454
- solar cycles 20 and 21, statistical relationship between sunspots and major flares 7—66536
- TA activity report (1986 December) 7—55588
- TA activity report (1986 November) 7—55587
- TA activity reports (1986 August) 7—14553
- TA activity reports (1986 June) 7—14552
- TA activity reports (1986 June-July) 7—24093
- TA activity reports (1986 September) 7—34963
- umbral dots *(Chinese)* 7—18395
- umbral oscillations, simultaneous meas. in photosphere, chromosphere and transition region 7—66542
- AlO, B-X system vibr. bands in sunspot spectra 7—60525

superaerodynamics *see rarefied fluid dynamics*

superalloys
- advanced metals developments 7—27978
- alloy 600 nuclear steam generator tubes, local pitting conditions using Pourbaix diagrams 7—46716
- Alloy 600 PWR steam generator tubing, intergranular attack and SCC remedial methods 7—8199
- alloy 600 tubes, intergranular attack, cause evaluation 7—59685
- alloy 600 tubes in PWR steam generators, localised electrochem. corrosion 7—39760
- alloy 600 tubing in nuclear steam generators, intergranular attack, environmental effects eval. 7—39761
- Alloy 718, Ni-base superalloy, fatigue crack propag. under hold-time cycling, effect of grain size 7—28106
- Alloy 800, pitting corrosion in chloride-sulphate media, potentiodynamic polarisation 7—65184

superalloys continued
  Astrology, LC, Nirbase superalloy, hot isostatic pressing, powder metallurgy, second phase particle anal. 7−17497
  Astroloy, fatigue crack growth, closure anomalies 7−3403
  columnar grained and single-crystal, high-temp. strength with surface recrystallised layer *(Japanese)* 7−53788
  crystalline struct. and growth twin of Cr_7C_3, electron diffr. *(Chinese)* 7−12077
  electron microscopy studies, symposium, Nantes France (July 1986) 7−18479
  Hastelloy B-2 and G-3, polarization effects in galvanic corrosion 7−39706
  Hastelloy X, thermomech. response, viscoplastic constitutive model 7−8059
  hot corrosion processes, diffusion and overlayer coating struct. effects 7−53985
  IN738LC, Ni base superalloy, low cycle and thermal fatigue, small crack initiation and growth *(Japanese)* 7−13567
  IN 100, cast superalloy, creep strain and life prediction 7−33741
  IN 100, rheocasting and vacuum are double electrode remelting, solidification struct. 7−39497
  IN 100 superalloy, MC carbide props. rel. to transition element doping 7−13456
  Inconel 600, recovery kinetics, X-ray determ. 7−22722
  Inconel 600, specific heat capacities *(German)* 7−2228
  Inconel 600 and 690, SCC under high temp. NaOH, comp. and annealing effect 7−39710
  Inconel 600 in direct absorption received, optical props. at high temp. 7−40042
  Inconel 718, Ni-base superalloy, creep deform., back stress determ. 7−46564
  Inconel GH39, thermal desorption study *(Chinese)* 7−52295
  Inconel MA 6000, oxide dispersion strengthened superalloy, cyclic creep, HF effect, anelastic model 7−53827
  Inconel MA 6000, oxide-dispersion hardened superalloy, cyclic creep and anelastic relax anal. 7−17596
  Inconel X-750, air environment/creep interactions, prior exposure times effect 7−13499
  Inconel X-750, Ni-base superalloy, SCC susceptibility in high-temp. water, effect of chloride 7−39729
  mechanical alloying, development of strong alloys 7−39534
  Monel K-500, precip. of intermetallic γ' phase and carbide phases 7−33678
  Nimonic 105, Ni-base superalloys, precip. and tensile deform. behaviour 7−65078
  Nimonic 80, coupled plastic and creep damage at finite deform. *(Japanese)* 7−33736
  Nimonic 80A, coupled effect of plastic damage and creep damage at finite deform. 7−46599
  Nimonic PE16, grain boundary crystallography, practical approach to determ. 7−21224
  Nimonic PE 16, Ni-base superalloy, duplex γ' particle hardening 7−28053
  Nimonic superalloy, PE16, decomposition kinetics, TEM, FIM and SANS studies 7−53748
  oxide dispersion strengthened, manufacturing process developments 7−27979
  oxide scale adherence rel. to Y addition 7−52615
  Rene 80, aluminised coatings, high temp. oxidation, TEM obs. 7−28202
  Rene 80, first stage aluminised coating microstruct., STEM obs. 7−17709
  Rene 80, Ni-base superalloy, creep rupture props., influence of coating treatment and directional solidification 7−28116
  single crystals, directional solidification, mech. anisotropy, fatigue, creep 7−3293
  steel, Ni-Cr A286, crack initiation and propag. characts. under high-temp. fatigue 7−22834
  steel, Ni-Cr A286, high-temp. fatigue strength characts. 7−22835
  stress rupture notch sensitivity, grain boundary precip. *(Chinese)* 7−13541
  superalloy $L1_2$ structures, high temp. deform. mechanisms *(French)* 7−22766
  topologically close packed phases, domain struct. *(Chinese)* 7−11989
  Waspaloy, γ-γ' partitioning behaviour, energy dispersive spectrometry 7−17534
  Fe-Ni-Cr, reactor bolting material A-286, failure analysis 7−30536
  Ni base high temp. alloys, corrosion in simulated HTGR He environments 7−17703
  Ni base superalloys, hot deformed, matrix dislocations, weak beam electron microscopy obs. *(French)* 7−21210
  Ni base superalloys, pressure vessel performance, strength, ductility, comp., struct. 7−3365
  Ni, IN738LC, creep modelling for engng. design 7−22776
  Ni, MAR M002, borides analysis using convergent beam electron diffr. 7−22699
  Ni, Mar-M247, high-temp. fatigue crack propag. characts. 7−22836
  Ni powder metallurgical superalloy, intermetallic phase 7−16503
  Ni-Al-Co-Cr-Ta, polycrystalline superalloys, microstruct. rel. to Ta content 7−46446
  Ni-Al-Co-Nb, interphase boundary, FIM atom probe study 7−33683
  Ni-Al-Mo, precip. in Ni-base superalloys 7−53745
  Ni-base, electron-probe X-ray microanalysis, accuracy evaluation without standard materials 7−33979
  Ni-base, life time prediction in crop-fatigue interaction regime *(German)* 7−53905
  Ni-base alloys, microcryst. powders, shock consolidated, microshear bonding 7−22745
  Ni-base superalloy, CMSX-2 creep anisotropy, TEM anal. *(French)* 7−22764
  Ni-base superalloy, carbide precip., influence of alloy chem. 7−46481
  Ni-base superalloy, cast, high Al-Ti, eutectic form. and σ-phase control *(Chinese)* 7−7983
  Ni-base superalloy, IN-100, rheocast, processing-struct. charactn. 7−46449
  Ni-base superalloy, oxidation in steam at 800°C, role of Al and Ti 7−65203
  Ni-base superalloy, single cyst., SRR99, creep behaviour 7−17587
  Ni-base superalloy, single cryst., MAR-M200, with bimodal γ' distrib., low cycle fatigue at 750 and 870°C 7−17627
  Ni-base superalloy powder, IN-100, shock consolidation 7−39459
  Ni-base superalloy powders, Ar atomised, dendritic struct. 7−46451
  Ni-base superalloy power, mach stem characterisation during shock wave loading 7−38117

superalloys continued
  Ni-base superalloys, age hardening, ordered strengthening phase characts., electron microscopy *(French)* 7−22710
  Ni-base superalloys, cast, solidification behaviour w.r.t. Hf additions *(Chinese)* 7−7984
  Ni-base superalloys, creep resist. improvement, role of Re additions, APFIM study 7−22772
  Ni-base superalloys, fatigue endurance at high temps., influence of struct. and surface oxidation 7−59626
  Ni-base superalloys, γ' strengthened, creep and microstruct. rel. to refractory elements 7−3364
  Ni-base superalloys, mag. clusters, calorimetrically determined 7−12977
  Ni-base superalloys, single cryst. and directionally solidified, oxidation in air at 1093 °C 7−65179
  Ni-base superalloys, stability of lamellar γ-γ' struct. 7−46566
  Ni-base superalloys and intermetallics, rapidly solidified, mech. props. 7−22839
  Ni-base ternary alloys and superalloys, hot corrosion in SO_2/O_2 atm. 7−65175
  Ni-base ternary alloys and superalloys, hot corrosion mechanism in SO_2/O_2 atm. 7−65176
  Ni-base wrought superalloy, thermal fatigue resist. improvement by laser-glaze 7−22840
  Ni-based superalloys, stiffness consts., dislocation line energy and tension, ultrasonic vel. meas. 7−63719
  Ni-Co-Cr-Al-Y, plasma sprayed, high temp. tensile and creep behaviour 7−28083
  Ni-Cr, heat resistant, heat treatment effect on ductile props. in cold deform. 7−46584
  Ni-Cr, high-temp. material, microstruct. and mech. props. with high-temp. heating 7−3341
  Ni-Cr, IN738LC creep induced damage identification using electron back-scatt. patterns 7−46748
  Ni-Cr, Inconel superalloy, substrates for Au/CeO_2 thin films, diffusional processes 7−45098
  Ni-Cr-Co-Mo, interphase boundary, FIM atom probe study 7−33683
  Ni-Cr-W superalloy, experimental, tensile props., effect of carburisation and aging 7−59576
  Ni-Fe-Cr, age hardenable, SCC in PWR coolant water, heat treatment and Zr additions effect 7−39708
  Ni-W-Co-Cr superalloy single crystals, fatigue crack propag. under multiaxial cyclic loads 7−28122
  Ni-W-Co-Cr superalloys, creep rupture and tensile props. rel. to hot pressing or aluminising 7−3363
  Ni_3Al, dislocation bowing and partial separation during in situ straining, TEM obs. 7−63617
  W fibre reinforced Fe-Cr-Al superalloy, surface cladding and matrix deform., thermomech. loading 7−46568

superconducting cables
  cryogenic cables, high field dielectric loss behaviour of insulating polyethylene films 7−17264
  cryogenic current leads with current overloads and coolant flow interruption, temp. state 7−61341
  low temperature measurement methods, thermometers and magnetic effects *(German)* 7−24652

superconducting coils *see superconducting magnets*

superconducting critical currents *see critical currents*

superconducting critical field
  A15 imperfect superconductors, upper critical field and critical temp. 7−7457
  anisotropic metallic superstructures, superconductivity *(Russian)* 7−52877
  antiferromagnetic superconductors, anomalous behavior 7−58964
  antiferromagnetic superconductors, upper crit. mag. field *(Russian)* 7−58963
  β-$(BEDT\text{-}TTF)_2I_3$, high-temp. superconducting state 7−2769
  β-$(BEDT\text{-}TTF)_2I_3$, normal and deuterated, upper critical field studies 7−45588
  β-$(BEDT\text{-}TTF)_2I_3$ high T_c state, upper critical field meas. 7−45589
  BEDT-TTF radical cation salts, synthesis, conducting and superconducting props. 7−46855
  Chevrel phase cpd. films, upper critical field determination from critical current data 7−38828
  dirty superconductors, weak localisation and supercond. fluctuations 7−64403
  ferromagnetic supercond. films, mixed states 7−27478
  ferromagnetic superconductors, intermediate state 7−52915
  ferromagnetic superconductors, mixed state, surface tension 7−52919
  filamentary superconductors, hard, transport props. in vicinity of H_{c2} *(Russian)* 7−38827
  film, elec. props., temp. cycling effects 7−38804
  finite width effect on the upper critical field H_{c2} of superconducting networks 7−45586
  Ginzburg-Landau equations for triplet local-electron-pair systems 7−45547
  heavy fermion metals, supercond. upper crit. field, temp. depend. 7−45587
  metallic multilayers, sputter deposited, superconducting props. *(Japanese)* 7−12906
  microcomposite superconductors, in situ, nature of connection *(Russian)* 7−45585
  organic superconductors, S-based, superconductivity, volume property 7−2779
  superconducting superlattices, phase diagram 7−2792
  superconductivity in superlattices *(Japanese)* 7−12905
  superconductivity with triplet pairing, diamagnetic limit, critical mag. field determ. 7−64395
  thin films, critical temp. enhancement, coherence length mag. field depend. effects 7−58944
  thin supercond. films, parallel nucleation field determ., quasiclassical BCS theory calcs. 7−7458
  third critical field determination *(Chinese)* 7−12925
  triplet bipolaron systems, superconducting A and B phases *(Chinese)* 7−58949
  two-dimensional and three-dimensional superconductivity, interplay with electron localisation 7−64392
  type II superconductor, mixed state, free energy, interpolation method 7−52920
  upper critical field determination from critical current data 7−38828
  B-$(BEDT\text{-}TTF)_2IBr_2$ ambient press. organic supercond., critical mag. fields 7−45590

superconducting critical field continued
$BaPb_{1-x}Bi_xO_3$, supercond. props., press. effects 7−45533
Bi-Pb, superconducting transition temp., effect of plastic deform. 7−52879
Bi-Tl, superconducting transition temp., effect of plastic deform. 7−52879
Cu-Nb composite superconductors, critical parameters and surface flux pinning studies 7−38830
$Cu_{33}Zr_{67}$, glassy metals, peak effect, flux pinning *(Chinese)* 7−12929
$ErRh_4B_4$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7−22077
$EuMo_6S_{8-y}Se_y$, mag. field induced supercond. under pressure 7−64414
$HoMo_6S_8$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7−22077
$HoMo_6S_8$ ferromagnetic films, supercond. props., temp. and mag. field depend. 7−45538
In cold-deposited thin films, H_{c2} temp. and film thickness depend. study *(Russian)* 7−27477
In superconducting cylinders, mag. flux diffusion, exptl. study 7−38813
$La_{1.8}Sr_{0.2}CuO_4$, superconducting transition at 36.2 K 7−58947
$Lu_5Ir_4Si_{10}$, superconducting, electronic phase transition and partially gapped Fermi surface 7−12902
Mo/Ni heterostructures, upper critical field, anisotropy studies 7−27479
Mo/Ni superlattices, anisotropic superconds., upper critical field anal. 7−22076
Mo/V quasiperiodic multilayers, growth and superconductivity 7−12927
Mo_6Se_8, superconductivity and metal-insulator transition *(Russian)* 7−58742
Nb single crystals, twinned interlayers, superconductivity at fields higher than H_{c2} *(Russian)* 7−52917
Nb superconducting bicrystals, flux pinning by symmetrical grain boundaries 7−64419
Nb, superconducting bicrystal, flux pinning by special grain boundary 7−64420
Nb thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7−52918
Nb thin films, T_c suppression and critical fields 7−2762
Nb/Si multilayered thin films, supercond. props. *(Japanese)* 7−64405
Nb-Si multilayers, electron beam deposited, characts. 7−27456
NbN composites, fusion reactor magnet appls., sputter deposition, critical props. 7−49627
Nb_3Sn multifilamentary composite superconductor, bronze processed, global pinning force, critical mag. field, grain size 7−22078
Nb_3Sn-Ti(In) multifilamentary superconducting composites, growth dynamics, struct. and props., additive and heat treatment effects 7−22056
$Ni_{33}Zr_{67}$, glassy metals, peak effect, flux pinning *(Chinese)* 7−12929
organic type II quasi-1D superconductors, reversible orbital superconductivity suppression mechanism calcs. 7−52885
Pb In type II cylindrical superconductor, AC losses, circular magnetic field effects 7−52895
Pb_3BiS_x films, superconducting props. 7−22060
PbTe:Tl(Tl,Na) films, superconducting transition 7−38797
$Pd_2Y_{1-x}Dy_xSn$, Heusler alloy system, field-induced reentrant superconductivity 7−2765
Sn superconducting cylinders, mag. flux diffusion, exptl. study 7−38813
Sn, superconducting transition temp., effect of plastic deform. 7−52879
SnTe:In, superconducting transition 7−38798
Ta-Nb multilayered films, critical field studies 7−64416
$Ti_{1-x}V_x$ quench condensed thin films, supercond. crit. field and fluctuation cond. meas. 7−64415
UBe_{13} coherent Kondo state, upper critical field calcs. 7−2793
UBe_{13} superconducting thin films, mag. field studies 7−12928
UPt_3, upper critical field, ang. and temp. depend. 7−7459
V thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7−52918
YRh_3B, supercond. and mag. props. 7−38800
$Yb_{1.2-x}Eu_xMo_6S_8$, superconductivity and mag. interactions 7−38826
Zr-Ni(V) amorphous superconductors, struct. and supercond. props. 7−27482

superconducting critical temperature *see superconducting transition temperature*

superconducting devices
see also cryotrons
cryogenic engineering conf., Berlin, Germany (April 1986) 7−48183
h/m_e determ., using rotating, superconducting ring 7−14914
magnetic monopole detector, design, initial results 7−19660
magnetic susceptometer for thin films and surfaces 7−30047
networks, quantum interference effects in small systems 7−52914
oscillatory circuits, influence of time-depend. gravit. fields 7−41181
refrigeration technology using liquid He for superconducting devices 7−18790
solid-state devices and materials, conf., Tokyo, Japan (Aug. 1986) 7−48173
SQUID without Josephson junctions, nonlinear Ginzburg-Landau eqns. 7−45577
Nb, thin film, microstrip line, parameter change during superconducting to normal conducting state switching 7−22075

superconducting energy gap
Anderson Kondo lattices, heavy-fermion superconductivity 7−2775
β-(BEDT-TTF)$_2$AuI$_2$, bulk supercond., sp. ht. anomaly meas. 7−27466
Bogoliubov transform. method for superconductors with inverted population *(Chinese)* 7−27458
electron tunneling spectrum, differential conductance, energy gap determ. 7−33128
β-(ET)$_2$X organic superconductors, ambient press., point contact tunnelling studies 7−44517
heavy electron superconductors, normal impurity effects, excitation spectrum 7−27462
highly disordered superconductors, tunnelling, Coulomb induced anomalies 7−45581
nonequilibrium supercond. thin films, multigap state density instability, kinetic eqns. 7−52891
organic superconductors, S-based, superconductivity, volume property 7−2779
p-wave pair states, spin-orbit interaction and crystal field effects 7−38806
quasi-2D strongly-coupled electron-phonon systems, CDW and superconductivity, polaron theory 7−58750
strong-coupling superconductors, energy gap eqn. inversion, electron tunnelling spectrum temp. corrections, phonon spectrum determ. 7−52900

superconducting energy gap continued
strongly coupled electron-phonon systems, 1D and 2D, BCS pairing versus bipolaron crystallisation 7−45552
superconducting film, resistive state, high freq. nonJosephson vibrations and quasi-particle interaction calcs. *(Russian)* 7−27263
Nb, Fermi surface, Fermi vel., many-body enhancement and supercond. energy gap anisotropies calcs. 7−58729
Nb_3Al(Ge)/Pb magnetron sputtered Josephson tunnel junction props., film deposition conditions dependence 7−58955
Pb films, 2D superconductivity, disorder effects, Eliashberg theory 7−22070
Pb-PbO$_x$-Pb tunnel junction I-V characts., Pb film quasi-particle effective chem. pot. calcs. 7−22065
Sn supercond. films, self-injecting phenomena 7−45567
Tc-Ag point contacts, current-voltage characts., temp. depend. studies *(Russian)* 7−7335
UBe_{13}, heavy electron supercond., anomalous temp. depend. of mag. field penetration depth 7−2780
UPt_3, anisotropic superconductivity 7−7461

superconducting junction devices
145-GHz-frontend with superconductor-isolator-superconductor (SIS)-mixer 7−34867
chaos in a superconducting quantum interferometer 7−18873
coil constant determ. in in γ'_p expt. at PTB 7−18739
corrosion of electronic materials and devices, causes and prevention 7−33815
cryogenic current comparator, automatic AC bridge for precision resistance meas. 7−18832
cryogenic gravitational wave antenna with resonant capacitive transducer and d.c. SQUID amplifier 7−34881
DC SQUID, macroscopic quantum tunnelling 7−38820
DC SQUID for low-temperature magnetic spectroscopy 7−48780
DC SQUID in three-mode 1200 kg gravitational radiation detector 7−41229
DC SQUID using quasiparticle-injected superconducting weak link 7−58956
gravity gradiometer for space and terrestrial applications 7−55305
gyroscope, readout for gravity probe-B 7−14855
interferometers, small inductance, resonant modes 7−2785
Josephson array voltage standard, NBS efforts 7−18824
Josephson junction, current biased, in parallel with arbitrary dissipative circuit, quantum energy levels and tunnelling 7−2788
Josephson junction, FIR laser line freq. meas. by mixing with microwave freq. harmonics 7−1084
Josephson mixers, voltage bias studies at high freqs. 7−38822
Josephson series arrays development, for high-precision voltage standards 7−18823
Josephson tunnel junctions, microwave-soliton or microwave-antisoliton interaction 7−33130
Josephson tunnelling junctions for α-particle detection 7−56910
Josephson voltage standard, computer controlled 7−14970
length measurement, improving sensitivity, noise removal *(Japanese)* 7−48690
levitating superconducting body, NRLM work relating to precision meas. and fundamental constants 7−14915
magnetic levitation system for magnetic flux quantum determ. 7−18846
magnetic susceptometer, SQUID-based high pressure 7−41410
materials, advances and developments *(French)* 7−27476
microwave detection, quantum statistical theory 7−2786
MM-wave radiometer, 145 GHz, receiver design using superconducting mixer, radiotelescope appl. *(German)* 7−24007
point-contact-type Josephson harmonic mixer, frequency meas. of FIR lasers 7−20310
quasiparticle trapping and the quasiparticle multiplier 7−58954
squeezable junctions for electron tunnelling and surface electric field experiment 7−24344
SQUID, DC, cooled to 4.2 K with hybrid closed-cycle cryocooler, operation 7−56278
SQUID, DC, noise effect on instabilities and chaotic solns. 7−52908
SQUID, DC, noise effect on instabilities and chaotic solns. 7−52909
SQUID flux-transformer-coupled instrument, quantum Hall resistance and electric noise meas. 7−18830
SQUID galvanometer, quantum Hall resistance meas., using improved Josephson potentiometer 7−18810
SQUID magnetometers, multichannel, flux-transformer crosstalk elimination 7−35541
SQUID magnetometers for magnetocardiographic data measurement and its movie display *(Japanese)* 7−14073
SQUID magnetometers for medical and geophysical use *(Swedish)* 7−9849
SQUID without Josephson junctions, nonlinear Ginzburg-Landau eqns. 7−45577
SQUIDs, macroscopic quantum objects, theory 7−48436
submillimeter astronomy, low noise heterodyne receiver 7−34868
submillimetre spectroscopy and appls. conf., Cannes, France (Dec. 1985) 7−29585
superconductor-insulator-superconductor mixers integrated with slot antennas, imaging array 7−60556
tunnel junction, β-particle detection by DC Josephson effect 7−30832
tunnel junction for phonon detection from nonradiative states of optically illuminated semiconductors 7−3074
volt realisation using integrated Josephson ccts. 7−14971
voltage meas. appl., Josephson standard establishment at NPL, India 7−18826
voltage measurement appl., Chinese Josephson standard, 2e/h precision determ. 7−18825
weak links, superconductive-controlled 7−17139
X-ray detector, nonequilib. model 7−36410
Al superconducting microbridges, phase slip centres 7−38819
Nb/n-InAs/GaAs/Nb SNS heterostructure weak link 7−52898
Nb-NbO$_x$-PbInAu, Josephson tunnelling current depend. on normal state tunnelling resist. 7−22073
Nb-NbO$_x$-PbInAu Josephson junction fabrication by ion beam oxidation 7−22074
NbN Josephson tunnel junctions, appl. to DC-SQUIDs 7−7449
NbN microbridges, current-voltage characts., magnetic field effects *(Russian)* 7−7460
NbN/Pb-In Josephson junctions, fabrication by Ar^+ ion bombardment 7−2787

superconducting junction devices continued
- Pb alloy base electrode Josephson junction, self-positioned, fabrication 7−52906
- Pb-In films, Josephson junction, thermal stress cycles, hillock form. *(Japanese)* 7−12536
- $Sn/SnO_x/Sn$ superconducting tunneling junctions as high-resolution X-ray detectors 7−56908

superconducting lenses *see magnetic lenses*

superconducting machines
- cryoturbogenerator rotors, heating and convection of boiling fluid 7−31796
- inertial clock based on computer controlled servo-driven corotation system with superconducting suspension 7−14927
- low temperature measurement methods, thermometers and magnetic effects *(German)* 7−24652
- submerged driving motor for liquid He flow rate meas., IMGC calibration facilities 7−63234
- turbogenerator rotors, stress-strain state investigation 7−13511

superconducting magnets
- *see also superconducting machines*
- accelerating-storage unit superconducting magnet testing using cryogenic equipment 7−48754
- accelerator technology, magnet and RF struct. design 7−30784
- compensated current control 7−19508
- conf., Austin, Texas, USA (Nov. 1985) 7−14703
- cryogenic engineering conf., Berlin, Germany (April 1986) 7−48183
- cryostat, subcooled, for hybrid supercond. mag. system 7−14952
- electron storage rings using superconducting magnets 7−49778
- energy storage appl., 1985 state and future potential *(Czech)* 7−59880
- energy storage plant for electric utility load leveling, design and estimated costs 7−54369
- force flow cooled superconductor bends, mechanical invitations and failure criteria 7−15356
- force-cooled superconductors, protection considerations 7−19507
- FTU tokamak, poloidal field coils, thyristor convertors 7−36263
- fusion reactor appls., review 7−49680
- fusion reactor superconducting magnet system with internal short, MSCAP code appl. 7−15351
- galvanomagnetic studies of organic metals, at high pressures and low temp. 7−30035
- HERA magnet measurement facility, cryogenic system 7−49781
- high intensity neutrino beam prod. at meson factories, focusing device, magnets 7−5517
- IFSMTF power supply regulator 7−19467
- internally cooled cable superconductors, enhanced heat transfer calcs. 7−15355
- JAERI tokamak, high field superconducting coil 7−15372
- JT-60 toroidal field coil power supply, DC output control 7−15319
- low temperature measurement methods, thermometers and magnetic effects *(German)* 7−24652
- magnetic reson. imager, ferromag. screening 7−28748
- magnetoelastic stability of a superconducting ring in its own field 7−17148
- MCFR superconducting magnet system, irradiation and mechanical design features 7−19510
- mechanical behaviour for fusion reactor 7−15345
- near term fusion reactors, key materials issues 7−49620
- NET, superconducting toroidal field coil power supply and protection systems 7−15350
- NMR superconducting magnets, refrigerator coding systems 7−54713
- nuclear fusion superconducting magnets develop. 7−5408
- poloidal field coil design from plasma equilibrium parameters, Green's fn. computer code anal. 7−15318
- pulsed poloidal coil for next tokamak 7−15377
- refrigerators for large superconducting devices, thermodynamic optimisation 7−48753
- relativistic heavy ion collector, magnet system status 7−36347
- RF superconducting linac structures for heavy ions and electrons 7−62119
- stellarator conductor design limitations for modular coils 7−19453
- storage ring magnet for muon g-2 meas., design 7−36349
- superfluid He II for cooling 7−61343
- TFCX, current density determ. for superconducting toroidal field coils 7−5414
- tokamak fusion devices, superconducting poloidal field coils design, CAD program system development 7−5412
- TOPAZ magnet, field mapping device 7−14984
- toroidal field coils for compact tokamak ignited experiments, structural evaluation 7−15346
- VENUS superconducting magnet at KEK, test operations 7−62210
- whole-body magnetic-resonance imaging, appl. *(Japanese)* 7−23479
- wiggler design, 3 Tesla, with supercond. windings, for ESRF 7−42253
- ^4He, superfluid, props. and appls. in superconducting magnet systems 7−48751
- Nb-Sn composite wires, effectiveness of V as diffusion barrier material 7−15353
- Nb_3Sn coil, high field performance 7−15354
- Nb_3Sn-NbTi hybrid superconducting magnet, Meissner magnetic image effect, magnetisation and susceptibility meas. appl. 7−4869
- NbTi/Cu stabilised wires, wiggler design for ESRF 7−42253
- NbTi-Cu Al stabilised superconducting detector magnet technology for high energy accelerators, review 7−49779
- NbTi-Cu dipole superconducting magnet for accelerators, develop. 7−5510
- NbTi-Cu superconducting magnet for NMR field cycling 7−41412

superconducting materials
- *see also composite superconductors; dirty superconductors; magnetic superconductors; organic superconductors; strong-coupling superconductors; superconducting semiconductors; superconducting thin films; type I superconductors; type II superconductors*
- anisotropic superconductors, Meissner effect 7−45557
- cryogenic engineering conf., Berlin, Germany (April 1986) 7−48183
- Fermi liquid interaction influence on behaviour of superconductors in strong mag. field 7−52896
- heavy electron superconductors, normal impurity effects, excitation spectrum 7−27462
- HfRuSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607
- metals, positron annihilation studies, review 7−46180
- near term fusion reactors, key materials issues 7−49620

superconducting materials continued
- $(CSe)_n$, polymerised, metallic and supercond. 7−7433
- $CePb_3$, possible superconductivity in nearly antiferromagnetic itinerant fermion systems 7−38802
- HfOsSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607
- HfRhSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607
- $Hg_{3-\delta}AsF_6$, 1D BCS Hamiltonian 7−45558
- $La_{100-x}Al_x$ metallic glasses, electron transport 7−45265
- $(Li_{1-x}M_x)_{0.9}Mo_6O_{17}$, (M=K,Na), superconductivity and CDW 7−45541
- $Li_{0.9}(Mo_{1-x}W_x)_6O_{17}$, superconductivity and CDW 7−45541
- $Mo_{1-x}Re_x$, enhanced superconductivity by electron renormalization of directly obs. Brout-Visscher local phonon 7−38824
- Nb, supercond., nondestructive inspection by scanning laser acoustic microscope 7−3566
- $PdT_{0.7}$, quasiharmonic phonon dispersion relation, coherent neutron scatt. study 7−38141
- TiOsSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607
- $Tl_2Mo_6Se_6$, 1D superconductor, polarised reflectance spectra 7−45554
- UBe_{13}, superconductivity 7−45535
- UPt_3, heavy-fermion system, development of antiferromag. correlations 7−64435
- UPt_3, possible superconductivity in nearly antiferromagnetic itinerant fermion systems 7−38802
- ZrRhSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7−6607
- $ZrTe_3$, anisotropic superconducting transition 7−45565

superconducting quantum interference devices *see superconducting junction devices*

superconducting semiconductor materials *see superconducting semiconductors*

superconducting semiconductors
- $BaPb_{1-x}Bi_xO_3$, supercond., struct. and elec. props. 7−58247
- $BaPb_{1-x}Bi_xO_3$, superconductivity and metal-semicond. transition 7−58940
- $BaPb_{1-x}Bi_xO_3$, supercond. characts., press. effect versus composition effect 7−58941
- Ge, superconductivity and electron-phonon interactions 7−12899
- GeTe, valence and energy spectrum, supercond. state 7−45534
- InSb amorphous films, metal-semicond. transitions, superconductivity 7−64085
- PbTe:Tl(Tl,Na) films, superconducting transition 7−38797
- Si, superconducting transition temp., press. depend. 7−33121
- Si, superconductivity and electron-phonon interactions 7−12899
- Si, total energy and superconductivity, pseudopotential method 7−32358
- SnTe:In, superconducting transition 7−38798
- $SrTi_{0.97}Zr_{0.03}O_3$ ceramics, superconducting transitions from states with low normal conductivity 7−27452
- $SrTi_{0.97}Zr_{0.03}O_3$, superconductivity at low carrier conc. and indications of charged Bose gas 7−27453
- $TaSe_3$, transport props., uniaxial stress effect 7−38801

superconducting thin films
- bilayer composite excitation spectrum, density of states, Bogoliubov eqns. 7−52892
- Chevrel phase cpd. films, upper critical field determination from critical current data 7−38828
- critical temp. enhancement, coherence length mag. field depend. effects 7−58944
- deposition using low energy ion beam from single grid Kaufman type ion source *(Japanese)* 7−62156
- ferromagnetic supercond. films, mixed states 7−27478
- ferromagnetic superconductors, surfaces and thin films, mag. and superconducting props. 7−58986
- inelastic electron collision lifetime, surface fluctuating superconducting electron pairing effects *(Russian)* 7−52890
- Kosterlitz-Thouless transition analytic soln. of renormalisation equations 7−27480
- localisation, interplay with superconductivity 7−64392
- magnetic flux dynamics eqns. 7−33132
- magnetisation of superconducting network 7−64397
- Nb_3Ir films, supercond. transition temp., effect of radiation induced disordering 7−45540
- nonequilibrium dynamic quasi-particle distribs., high freq. EM field effects calcs. *(Russian)* 7−27467
- nonequilibrium supercond. thin films, multigap state density instability, kinetic eqns. 7−52891
- parallel nucleation field determ., quasiclassical BCS theory calcs. 7−7458
- resistive state, high freq. nonJosephson vibrations and quasi-particle interaction calcs. *(Russian)* 7−27263
- scale effect on transition temp. 7−7432
- wide films, phase slippage lines 7−33127
- Ag-Al alloy, superconductor film structs., fabrication and appls. *(Spanish)* 7−27483
- Al, nonlinear RF props., vortex pair creation, critical effects 7−17137
- Al thin films, spin-orbit scatt., localisation and superconductive tunnelling studies 7−45242
- Au, temp. depend. of elec. resist. 7−58792
- Au-Al alloy, superconductor film structs., fabrication and appls. *(Spanish)* 7−27483
- Cr-BN amorphous films, supercond. transition temp. 7−27454
- Ga crystalline film amorphisation by pulsed excimer laser irrad., residual resist. and T_c meas. 7−12140
- Ga ultrathin amorphous films, superconductivity threshold studies 7−22059
- $HoMo_6S_8$ ferromagnetic films, supercond. props., temp. and mag. field depend. 7−45538
- In cold-deposited thin films, H_{c2} temp. and film thickness depend. study *(Russian)* 7−27477
- In superconducting film, nonequilibrium phenomena under quasiparticle injection *(Chinese)* 7−27465
- In, temp. dependent order parameter relax. time determ., critical DC current meas. 7−17147
- Nb film, elec. props., temp. cycling effects 7−38804
- Nb films, epitaxial growth and superconducting props. 7−3181
- Nb films, superconducting, synthesis under Mbar dynamic pressures 7−2757
- Nb, supercond. props., α particle bombardment and thermal cycling effects 7−33704
- Nb, T_c suppression and critical fields 7−2762

superconducting thin films continued
- Nb, thin film, microstrip line, parameter change during superconducting to normal conducting state switching 7—22075
- Nb thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7—52918
- Nb/Nb_2O_3/Pb film struct., Josephson and tunnel junctions, scanning tunnelling microscope study 7—64410
- Nb/Si multilayered thin films, supercond. props. *(Japanese)* 7—64405
- Nb-Ge films, formation of high T_c A15 phase 7—58948
- Nb-Si films, sputtered, superconducting props. 7—17126
- Nb-Si films, superconducting fluctuations weak localisation and electron interactions 7—2783
- Nb-Ti multilayered thin films, superconducting and struct. 7—64384
- $Nb_3Al(Ge)$/Pb magnetron sputtered Josephson tunnel junction props., film deposition conditions dependence 7—58955
- Nb_3Ge, high supercond. transition temp., struct. instabilities and electronic props. 7—58943
- Nb_3Ge tape conductors, CVD deposited, compositional distrib. and superconducting props. 7—58936
- NbN composites, fusion reactor magnet appls., sputter deposition, critical props. 7—49627
- NbN, superconducting 2D films 7—27470
- NbN_xC_y superconducting thin films, dual ion-beam sputter deposition 7—2758
- Nb_3Sn film, grain size, grain boundaries and diffusion, TEM study 7—21222
- Nb_3Sn films, superconducting critical temp., effect of ion beam irradiation 7—7430
- Pb films, 2D superconductivity, disorder effects, Eliashberg theory 7—22070
- Pb, superconducting granular film SAW attenuation, percolation model 7—2781
- Pb, temp. depend. of elec. resist. 7—58792
- Pb-Ag supercond.-normal conducting film structures, Andreev scatt. 7—45572
- Pb-In films, Josephson junction, thermal stress cycles, hillock form. *(Japanese)* 7—12536
- Pb-In-Au fine-grained codeposited alloy films, RF plasma oxidation 7—53970
- Pb-PbO_x-Pb tunnel junction I-V characts., Pb film quasi-particle effective chem. pot. calcs. 7—22065
- Pb_3BiS_x films, superconducting props. 7—22060
- PbTe:Tl(Tl,Na) films, superconducting transition 7—38797
- Pt-Bi (22 wt.%), supercond. films, pinning in appl. mag. field *(Russian)* 7—64418
- Ru-Ir bicrystal superlattice, stacking struct. and superconductivity 7—2432
- Si/$CoSi_2$/Si structs., parallel and perpendicular transport, supercond. props. 7—45518
- Sn granular films, superconductivity and metal-insulator transition *(Chinese)* 7—12923
- Sn, nonequilibrium supercond. film, instability, bifurcation, nonequilibrium transition *(Chinese)* 7—64412
- Sn supercond. films, self-injecting phenomena 7—45567
- Sn superconducting films, resistive state visualisation using laser beam scanning 7—17142
- Sn wide superconducting films, voltage-depend. excessive current, resistive state obs. *(Russian)* 7—12930
- Sn-GeO granular films, struct., resistivity and superconducting props. study 7—45082
- SnTe:In, superconducting transition 7—38798
- Ta-Nb multilayered films, critical field studies 7—64416
- Te superconducting films at high press. 7—33120
- $TiSi_x$ silicides grown on SiO_2 surface, superconductive props., composition 7—2760
- $Ti_{1-x}V_x$ quench condensed thin films, supercond. crit. field and fluctuation cond. meas. 7—64415
- UBe_{13} superconducting thin films, mag. field studies 7—12928
- V thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7—52918
- V_3Ga films, supercond. electron-phonon interaction spatial function, electron tunnelling spectra study 7—45578
- VSi_x silicides grown on SiO_2 surface, superconductive props., composition 7—2760
- V_3Si films, electrical transport props. 7—33108
- ZrN reactively sputtered films, elec. charactn. rel. to submicron gate electrode appls. 7—38777
- ZrN superconducting thin films, electron tunnelling, phonon coupling effects 7—45580

superconducting transition temperature
- A15 compounds, martensitic and supercond. phase transitions 7—58942
- A15 cpds., supercond. rel. to martensitic transition, microscopic theoretical model 7—2767
- A15 imperfect superconductors, upper critical field and critical temp. 7—7457
- A_xB_{1-x} BCC alloys, low temp. props., spin fluctuations, alloying effects 7—52402
- anisotropic disordered superconductor, T_c degradation by Coulomb interaction 7—12898
- anisotropic metallic superstructures, superconductivity *(Russian)* 7—52877
- anisotropic supercond. under uniaxial stress, possibility of additional phases 7—64382
- anisotropic superconductivity, lattice distortion, group theoretical anal. 7—58264
- β-$(BEDT\text{-}TTF)_2(I_3)_{1-x}(AuI_2)_x$, thermal expansion and stepwise superconducting transition 7—27469
- β-$(BEDT\text{-}TTF)_2AuI_2$, bulk supercond., sp. ht. anomaly meas. 7—27466
- β-$(BEDT\text{-}TTF)_2I_3$, high T_c superconducting state, effect of high-temp. phase transitions, c* resistivity study 7—58934
- β-$(BEDT\text{-}TTF)_2I_3$, high-temp. superconducting state 7—2769
- $(BEDT\text{-}TTF)_2I_3$, organic superconductor, critical temp., randomness effects 7—52882
- B-$(BEDT\text{-}TTF)_2I_3$, supercond., AC susceptibility and NMR studies 7—45543
- β-$(BEDT\text{-}TTF)_2I_3$, supercond. transitions, diamag. suscept. study 7—52886
- β-$(BEDT\text{-}TTF)_2I_3$, superconductivity, proton irrad. effects 7—45544
- $(BEDT\text{-}TTF)_2ReO_4$, band electronic struct. 7—7094
- B-$(BEDT\text{-}TTF)_2X$ organic metal, high T_c supercond. state 7—45542

superconducting transition temperature continued
- BEDT-TTF radical cation salts, synthesis, conducting and superconducting props. 7—46855
- castings, strength and elec. props. 7—27971
- dirty superconductors, conductivity and diamag. susceptibility fluctuations near Anderson localisation 7—45563
- dirty superconductors, strong-coupling eqns., disorder effects 7—64393
- dirty superconductors, strong-coupling theory, McMillan soln. and T_c degradation 7—64394
- dirty superconductors, weak localisation and supercond. fluctuations 7—64403
- dirty thin films, superconducting transition temp., weakly localised regime 7—52883
- electron exchange interaction, influence on superconducting transition temp. *(Chinese)* 7—27450
- electron pairing, exchange and correl. contributions 7—45574
- β-$(ET)_2X$ organic superconductors, ambient press., point contact tunnelling studies 7—44517
- ferromagnetic superconductors, self-organising auto-wave regimes 7—17129
- film, scale effect 7—7432
- germanides, M-M′-Ge, (M=Ca,Sr,Sc,Y,La-Lu; M′=Co,Rh,Ir), structural and superconducting props. *(French)* 7—44491
- granular superconductors, phase-locking transition, phase-number representation 7—38803
- graphite-KHg intercalation cpd., supercond. props., density of states model 7—27457
- graphite-KHg intercalation cpds., $KHgC_4$ and $KHgC_8$, valence bands, XPS studies 7—16932
- heavy Fermi liquids and narrow band metals, characteristic temps. 7—45689
- heavy fermion systems, BCS supercond. theory 7—7441
- Josephson coupled superconducting array in a mag. field, quantum effects 7—64409
- Josephson junction, critical temp., ordered magnetic impurity effects calcs. *(Russian)* 7—22072
- Josephson junction array, positional disorder 7—64408
- magnetisation of superconducting network 7—64397
- metallic multilayers, sputter deposited, superconducting props. *(Japanese)* 7—12906
- metals, unstable plastic deformation at low temp., superconducting transition effects *(Russian)* 7—6709
- Nb_3Ir films, supercond. transition temp., effect of radiation induced disordering 7—45540
- ordered binary alloys of isovalent metals, superconducting transition temp., conc. depend. *(Russian)* 7—64386
- p-wave pair states, spin-orbit interaction and crystal field effects 7—38806
- physicochemical analysis in development of superconducting alloys 7—45536
- plumbides, M-M′-Pt, (M=Ca,Sr,Sc,Y,La-Lu; M′=Co,Rh,Ir), structural and superconducting props. *(French)* 7—44491
- pseudo-potential calcs. *(Russian)* 7—58938
- pseudopotential dependence of superconducting stateparameters 7—12896
- quasi-one-dimensional electron systems, phase transitions, theory 7—52408
- random disorder and superconductivity in zero-bandwidth limit 7—58945
- stabilized superconductor carrying current in varying mag. fields 7—22063
- strong-coupling superconductors, specific heat difference functional derivative 7—38815
- strong-coupling theory 7—7434
- superconductivity in superlattices *(Japanese)* 7—12905
- ternary material superconductivity, multifilament superconductor fabrication *(French)* 7—2777
- tetrathiofulvalene bis(bis-(4,5 dimercapto-1,3-dithiole-2-thione) Ni(II)), 3D mol. supercond. 7—45594
- thin films, critical temp. enhancement, coherence length mag. field depend. effects 7—58944
- $(TMTSF)_2ClO_4$, superconducting and spin-density-wave transition temperatures, effect of anion ordering 7—2761
- $(TMTSF)_2PF_6$, organic superconductor, critical temp., randomness effects 7—52882
- transition metal impurities in host metals, magnetic nature, superconductivity studies, review 7—7437
- transition metals, resistivity and superconducting transition temp. 7—17013
- $TTF(Ni(dmit)_2)_2$ molecular supercond., BCS and small supercond., lattice parameters *(French)* 7—2759
- two-dimensional and three-dimensional superconductivity, interplay with electron localisation 7—64392
- V-Hf-Zr-Ta C-15 phase superconducting alloys, phonon props., inelastic neutron scatt. spectra 7—51969
- zero-field transition temperature meas., mag. shielding 7—38796
- Al, superconducting transition temperature, press. depend. 7—22058
- Al-Si-Pb-Bi, duplex alloys, melt quenching, microstruct. supercond. props. 7—45593
- $Al_{80}Si_{20}$ melt spun ribbons, microstructures and superconducting transition temperatures 7—38222
- AuGe-Nb-GaAs, ohmic superconducting contacts to GaAs 7—33088
- B-$(BEDT\text{-}TTF)_2IBr_2$ ambient press. organic supercond., critical mag. fields 7—45590
- Ba-La-Cu-O system, possible high T_c superconductivity 7—2770
- BaLaCuO, magnetic susceptibility meas., indication of high-T_c superconductivity 7—58953
- $BaPb_{1-x}Bi_xO_3$, $0 \leq x \leq 0.30$, hydrothermal cryst. growth 7—46290
- $BaPb_{1-x}Bi_xO_3$, electron-phonon interaction and superconductivity 7—27463
- $BaPb_{1-x}Bi_xO_3$ soln.-grown single crysts., crystallographic symmetries, effect on supercond. props. 7—37916
- $BaPb_{1-x}Bi_xO_3$, supercond. props., press. effects 7—45533
- $BaPb_{1-x}Bi_xO_3$, supercond. crysts., hydrothermal synthesis and props. 7—53532
- $BaPb_{1-x}Bi_xO_3$, supercond., struct. and elec. props. 7—58247
- $BaPb_{1-x}Bi_xO_3$, superconductivity and metal-semicond. transition 7—58940
- $BaPb_{1-x}Bi_xO_3$, supercond. characts., press. effect versus composition effect 7—58941
- Bi-Pb, superconducting transition temp., effect of plastic deform. 7—52879
- Bi-Tl, superconducting transition temp., effect of plastic deform. 7—52879
- Bi_3Ni, α-irrad. and H implanted, elec. resist. and superconducting T_c 7—7202
- C_6K and C_4K layered cpds., superconductivity 7—12904
- $(CSe)_n$, polymerised, metallic and supercond. 7—7433

superconducting transition temperature continued
Ce, electronic struct. and superconducting transition temp. calcs. *(Chinese)* 7—27244
$CeCu_2Si_2$ Kondo lattice heavy fermion system, quasi-particle-phonon interactions 7—2521
$CeOs_2$, electronic struct. determ. 7—52417
$CePb_3$ heavy fermion material, magnetism and superconductivity 7—52880
Cr-BN amorphous films, supercond. transition temp. 7—27454
Cr-Ru, BCC alloys, supercond. and mag. props. 7—7443
Cu-Nb composite superconductors, critical parameters and surface flux pinning studies 7—38830
$ErRh_4B_4$, superconducting and ferromagnetic transitions 7—64385
Ga crystalline film amorphisation by pulsed excimer laser irrad., residual resist. and T_c meas. 7—12140
Ga, fine particle layers, enhanced supercond. 7—7436
Ga ultrathin amorphous films, superconductivity threshold studies 7—22059
Ge, superconductivity and electron-phonon interactions 7—12899
$HoMo_6S_8$, quenched superconductivity by rapid cooling to low temps. below T_{c2} 7—45545
$In_xMo_6Se_{8-y}$, insertion cpd., synthesis and props. 7—32407
La, crystal electronic struct., electron-phonon interactions and superconducting transition temp. calcs. *(Chinese)* 7—27261
La-Ba-Cu-O system, superconducting transition above 40 K, high press. 7—58946
$La_{100-x}Al_x$ metallic glasses, electron transport 7—45265
$La_{1.8}Sr_{0.2}CuO_4$, superconducting transition at 36.2 K 7—58947
$(Li_{1-x}M_x)_{0.9}Mo_6O_{17}$, (M=K,Na), superconductivity and CDW 7—45541
$Li_{0.9}(Mo_{1-x}W_x)_6O_{17}$, superconductivity and CDW 7—45541
$(Li_{1-x}Na(K)_x)_{0.9}Mo_6O_{17}$ anomalous transport props., resist., mag. suscept., sp. ht., struct. and supercond. transition temp. meas. 7—21913
Lu-Ir, superconducting transition temp. and lattice constants 7—64387
$Lu_5Ir_4Si_{10}$, superconducting, electronic phase transition and partially gapped Fermi surface 7—12902
$Lu_3Os_4Si_{13}$, existence and electrical props. *(French)* 7—17008
$Mg_{70}Zn_{30}$ and $(Mg_{70}Zn_{30})_{95}Pb_5$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7—38148
$Mn_xSn_{1-x}Mo_6S_8$, Mn dopant props., supercond. transition temp., EXAFS, XANES, photoemission studies 7—46236
Mo/Sb multilayer film, superconductivity and structural characterisation 7—17128
Mo/V quasiperiodic multilayers, growth and superconductivity 7—12927
Mo-Si amorphous alloys, cluster formation and percolation 7—27455
Mo_6Se_8, superconductivity and metal-insulator transition *(Russian)* 7—58742
Mo_5SiB_2, supercond, investig. 7—22082
$Mo_3(SiRe)$, neutron irrad., supercond. investig. *(Russian)* 7—12926
Nb film supercond. props., α particle bombardment and thermal cycling effects 7—33704
Nb films, epitaxial growth and superconducting props. 7—3181
Nb, shock-synthesised superconductor, characterisation 7—38116
Nb thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7—52918
Nb thin films, T_c suppression and critical fields 7—2762
Nb/Si multilayered thin films, supercond. props. *(Japanese)* 7—64405
Nb-Al, fig. quenched, supercond. transition temp., cooling rate depend. 7—45537
Nb-Ge films, formation of high T_c A15 phase 7—58948
Nb-Si films, sputtered, superconducting props. 7—17126
Nb-Si multilayers, electron beam deposited, characts. 7—27456
Nb-Sn liq.-infiltrated superconducting composite wire, T_c and sp. ht. meas. studies 7—45560
Nb-Ti multilayered thin films, superconducting and struct. 7—64384
Nb_{3+x} Ge_{1-x} and Nb_5Ge_3, superconducting alloys, thermoreflection spectra, electron struct. 7—33370
Nb_3Al, supercond. transition and mag. fields, muon spin resonance studies 7—52878
Nb_3Al superconducting tape prepared by CO_2 laser beam irradiation 7—17145
$Nb_3(Al\text{-}Ge)$, high T_c supercond., Raman spectra studies 7—7699
$Nb_{76}Au_{24}$, with Cr and Fe impurities, supercond. transition temp., impurity conc. depend. 7—2768
NbC_xN_y, nonstoichiometric, supercond. transition temp. and band struct. *(Russian)* 7—58935
$Nb_3(Ge,Si)$, A15 phase, Si stabilisation, supercond. transition temp., sp. ht. meas. 7—45532
Nb_3Ge films, obtained by joint evaporation technique, microstruct. *(Russian)* 7—59435
Nb_3Ge, high supercond. transition temp., struct. instabilities and electronic props. 7—58943
Nb_3Ge tape conductors, CVD deposited, compositional distrib. and superconducting props. 7—58936
NbN composites, fusion reactor magnet appls., sputter deposition, critical props. 7—49627
NbN_xC_y superconducting thin films, dual ion-beam sputter deposition 7—2758
Nb_3Si, superconducting critical temp., review 7—38795
$Nb_{79}Si_{21}$, N^+ implantations, effect on A15 phase formation 7—63480
Nb_3Sn bronze process multifilamentary wire, cooling stress and supercond. *(Chinese)* 7—12894
Nb_3Sn films, superconducting critical temp., effect of ion beam irradiation 7—7430
Nb_3Sn superconductor, sp. ht. meas. in mag. fields up to 19 T 7—17134
Nb_3Sn, Ti-alloyed, cryst. growth from soln. by top seeded soln. growth 7—46293
Nb_3Sn-Ti(In) multifilamentary superconducting composites, growth dynamics, struct. and props., additive and heat treatment effects 7—22056
Nb_5Sn_2Ga, crystal growth and superconductivity 7—27451
NbTi alloy, neutron and γ-ray irrad. effects near supercond. transition temp. *(Russian)* 7—33119
organic type II quasi-1D superconductors, reversible orbital superconductivity suppression mechanism calcs. 7—52885
P, high-pressure superconductivity studies 7—38799
Pb, superconducting transition, deform. strengthening, dislocation density *(Russian)* 7—58939
Pb-Bi-Sn(In), alloy filaments, prod. by glass-coated melt spinning, enhancement of supercond. 7—58937
Pb-Pb and Pb-Sn, superconducting point microcontacts, electron-phonon interaction 7—2509

superconducting transition temperature continued
Pb-Tl alloy single crysts., plasticity and internal friction changes at supercond. transition *(Russian)* 7—26832
Pb_3BiS_x films, superconducting props. 7—22060
$Pd_{0.9}Ag_{0.1}D_{0.61}$, lattice dynamics and phonon line shapes 7—2120
$Pd_2Y_{1-x}Dy_xSn$, Heusler alloy system, field-induced reentrant superconductivity 7—2765
Ru-Ir bicrystal superlattice, stacking struct. and superconductivity 7—2432
Ru-Ir bicrystal superlattices, X-ray and transport studies 7—27159
Si, superconducting transition temp., press. depend. 7—33121
Si, superconductivity and electron-phonon interactions 7—12899
Si/Nb, proximity effect, superconducting transition temp. meas. 7—45566
Sn, superconducting transition temp., effect of plastic deform. 7—52879
Sn superconductivity and electron-phonon interactions 7—12899
Sn-GeO granular films, struct., resistivity and superconducting props. study 7—45082
SnTe:In, superconducting transition 7—38798
$SrTi_{0.97}Zr_{0.03}O_3$ ceramics, superconducting transitions from states with low normal conductivity 7—27452
$SrTi_{0.97}Zr_{0.03}O_3$, superconductivity at low carrier conc. and indications of charged Bose gas 7—27453
$TaSe_3$, transport props., uniaxial stress effect 7—38801
$TaSe_3$, V-I characteristic anomalies in the superconducting transition region 7—45564
Te superconducting films at high press. 7—33120
TiN_x sputtered films on sapphire, elec. and optical props., depend. on substrate temp. 7—39192
$Ti_{75}Sb_{25}$, with Cr and Fe impurities, supercond. transition temp., impurity conc. depend. 7—2768
$TiSi_x$ silicides grown on SiO_2 surface, superconductive props., composition 7—2760
U alloys, high press. magnetic and superconducting props., review 7—12952
UBe_{13}, heavy fermion system, unusual low temp. Hall voltage behaviour obs. 7—38540
UBe_{13}-Gd, EPR in superconducting phase 7—33269
UPt_3, anisotropic superconductivity 7—7461
UPt_3, heavy fermion supercond., Cooper pair states, atomic representation 7—45550
UPt_3, superconductivity, one-component Fermi liquid theory 7—22066
URu_2SI_2, heavy electron system, competing electronic correlations, press. effect 7—45539
$(U_{1-x}Th_x)Be_{13}$, superconductivity under pressure 7—12903
$U_{1-x}Th_xPt_3$, Fermi surface instability modification by Th substitution in UPt_3 7—2766
$U_{1-x}Th_xRe_2$, polymorphic transform., supercond. crit. temp., low temp. sp. ht. meas. 7—17125
V thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7—52918
V-Ru-Os, B2 alloys, correlation between superconductivity and structural transitions 7—52881
V-Si fine A-15 particles, supercond. transition temp. 7—7435
$(VCr)_3Si$, neutron irrad., supercond. investig. *(Russian)* 7—12926
V_3Ga films, supercond. electron-phonon interaction spatial function, electron tunnelling spectra study 7—45578
$(VMo)_3Si$, neutron irrad., supercond. investig. *(Russian)* 7—12926
VSi_x silicides grown on SiO_2 surface, superconductive props., composition 7—2760
V_3Si films, electrical transport props. 7—33108
V_3Si, high T_c supercond., Raman spectra studies 7—7699
Y electronic struct., electron-phonon matrix and superconductivity, high press. effects, KKR calcs. 7—21805
Y, electronic structure, electron-phonon matrix, supercond. transition temp. *(Chinese)* 7—12596
YRh_3B, supercond. and mag. props. 7—38800
$Yb_{1.2-x}Eu_xMo_6S_8$, superconductivity and mag. interactions 7—38826
Zn, Mossbauer spectroscopy 7—59125
Zr-based alloys, disordered, Coulomb pseudopotential 7—2764
Zr-Co, electronic struct., supercond. and magnetism 7—64398
Zr-Co amorphous alloys, superconductivity, normal-state resistivity and mag. susceptibility 7—12900
Zr-Fe amorphous alloys, chemical short range order, thermal relaxation and ion irradiation effects 7—44385
Zr-Fe compounds, electronic, lattice and supercond. props., rel. to amorphous alloys 7—17133
ZrN reactively sputtered films, elec. charactn. rel. to submicron gate electrode appls. 7—38777
$Zr_{75}Rh_{25}$ and $(Zr_{75}Rh_{25})_{93}Be_7$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7—38148
$ZrTe_3$, anisotropic superconducting transition 7—45565

superconductive tunnelling
see also Josephson effect; proximity effect; superconducting junction devices; tunnelling spectra; tunnelling spectroscopy
DC SQUID, macroscopic quantum tunnelling 7—38820
electron tunneling spectrum, differential conductance, energy gap determ. 7—33128
β-$(ET)_2X$ organic superconductors, ambient press., point contact tunnelling studies 7—44517
Ginzburg-Landau equations, soln. stability *(Chinese)* 7—12907
highly disordered superconductors, tunnelling, Coulomb induced anomalies 7—45581
Josephson junctions, tunnelling spectroscopy of a macroscopic variable 7—45435
low-capacitance tunnel-junction, small size, cond. and quasi-particle current fluctuations 7—52744
quasi-particle current jump at gap voltage 7—12918
SIS tunnel contact, thermal balance 7—12922
SNS junctions, resonant microwave absorption 7—45579
squeezable tunnelling junctions 7—7447
strong-coupling superconductors, energy gap eqn. inversion, electron tunnelling spectrum temp. corrections, phonon spectrum determ. 7—52900
triplet pair states, superconductive tunnelling 7—38825
Al thin films, spin-orbit scatt., localisation and superconductive tunnelling studies 7—45242
Al/NbN/Al sputtered thin film system, tunnelling characts., comment 7—45575
$Al\text{-}Al_2O_3$ crystalline oxide tunnel barriers on superconductor surfaces, thermal oxidation 7—7448

superconductive tunnelling continued
$Mo_{1-x}Re_x$, enhanced superconductivity by electron renormalization of directly obs. Brout-Visscher local phonon 7—38824
Nb/Cu artificial superconductive metallic superlattices, electron density, pair tunnelling studies 7—58959
Nb/Si multilayered thin films, supercond. props. *(Japanese)* 7—64405
$NbO_xH_y(D_y)$, H tunnelling, isotope and temp. depend. 7—27474
Pb alloy tunnel junction, quasiparticle RF-induced steps *(Chinese)* 7—27472
Pb films, 2D superconductivity, disorder effects, Eliashberg theory 7—22070
$Pb/Nb_3O_5/Nb/Nb/Cu$ junction, 2D superconductor, pair tunnelling study 7—12916
Pb/NbN/Pb sputtered thin film system, tunnelling characts., reply to comment 7—45576
$Pb-PbO_x-Pb$ tunnel junction I-V characts., Pb film quasi-particle effective chem. pot. calcs. 7—22065
Pb_3BiS_x films, superconducting props. 7—22060
Sn supercond. films, self-injecting phenomena 7—45567
Tc-Ag point contacts, current-voltage characts., temp. depend. studies *(Russian)* 7—7335
V_3Ga films, supercond. electron-phonon interaction spatial function, electron tunnelling spectra study 7—45578
ZrN superconducting thin films, electron tunnelling, phonon coupling effects 7—45580

superconductivity
see also BCS theory; coherence length; composite superconductors; Cooper pairs; critical currents; dirty superconductors; fluctuations in superconductors; Ginzburg-Landau theory; magnetic superconductors; Meissner effect; organic superconductors; penetration depth (superconductivity); strong-coupling superconductors; superconducting critical field; superconducting devices; superconducting energy gap; superconducting materials; superconducting transition temperature; superconductive tunnelling; type I superconductors; type II superconductors
d-wave superconductivity in the large-degeneracy limit of the Anderson lattice 7—45551
A15 superconductors, mechanisms for martensitic transformations 7—38188
actinide metal, compound and alloy props., conference, Aix en Provence, France (Sept. 1985) 7—9579
clean BCS superconductor clean superconductor, linear response to EM radiation 7—52888
composite, superconductor stability, forced cooling by coolant stream 7—33126
conference, Japanese Physical Soc. Nishinomiya-shi, Nyogo-ken, Japan (Sept. 1986) *(Japanese)* 7—48186
dense Kondo systems, coherent state and Z^{-1} expansion 7—2603
disordered 2D systems, interactions and localisation problems, review 7—64178
electromagnetic props., dynamical calcs. using QED and thermo field methods 7—9986
Fermi liquid systems, mag. props. 7—12387
gravitationally-induced supercurrents in Schwarzschild fields appl. of jellium model 7—45595
heavy electron superconductors, p-wave pairing consequences 7—2772
heavy fermion liquids, superconductivity, microscopic and phenomenological aspects 7—2773
heavy fermion superconductors, transport and thermal props. 7—38809
heavy fermion systems, conduction band and virtual bound states, Kondo-like interaction, periodic Anderson Hamiltonian calcs. 7—27460
heavy fermion systems, Fermi liquid aspects 7—27275
heavy fermion systems, itinerant f-electron model 7—38808
heavy fermions and valence fluctuations, conf., Shima Kanko, Japan (April 1985) 7—23
impure metals and superconductors, electron-phonon interaction 7—38143
metal-nonmetal transitions 7—2486
molecular system, complete vibronic Hamiltonian, hidden superconductivity 7—52887
networks, quantum interference effects in small systems 7—52914
one-dimensional random normal-superconductor mixture, models 7—38837
phonon pumping of superconductors 7—33125
photoelectric effect 7—38817
quasi-1D superconductors, effect of impurities 7—45548
random disorder and superconductivity in zero-bandwidth limit 7—58945
random resistor and random supercond. networks, multiscaling approach 7—17000
semiconductors, insulators and metals, structural, electronic and vibr. props., pseudopotential calcs. 7—16484
singlet superconductivity, mean field theories in extended Hubbard models 7—27461
spinless fermions solvable 1D two-band model calcs., renormalisation-group eqns. 7—208
spontaneous breakdown of electromagnetic gauge invariance, props. derivation 7—38810
surface superconductivity of the superconducting cylinder in a perpendicular magnetic field *(Chinese)* 7—64381
symmetries of disorder ensembles with superconducting order 7—64388
technology at zero degrees, past achievements and future prospects 7—22057
topological transitions, quasi-particle states density and sp. ht. temp. depend. calcs. *(Russian)* 7—7439
toroidal magnetic material, quasistatic electromag. field, skin effect 7—64276
unitary transformations in solid state physics, book 7—24310
In superconducting film, nonequilibrium phenomena under quasiparticle injection *(Chinese)* 7—27465
KC_8 intercalation cpd., polarisation depend. XANES study 7—59298
$KH_{08}C_x$, polarisation depend. XANES study 7—59298
Si, superconducting high-press. phases, occurrence and props. 7—2646
β-Sn, superconducting high-press. phases, occurrence and props. 7—2646

superconductors *see superconducting materials; superconductivity*

supercooling
cloud pt. and nucleation theory 7—26906
condensation of supercooled vapour, phase boundary velocity 7—21399
frost penetration into water saturated porous medium *(Russian)* 7—47471
glasses, tiling model, relax. behaviour, Monte Carlo simulation 7—44816
liquid-solid interface, kinetics of crystal growth 7—1924
liquids, effect of local molecular order on viscoelastic behavior 7—38129
liquids in porous glass, geometrical supercooling 7—16720
metastable states, simple model for dynamics 7—32601

supercooling continued
micellar liq. cryst., isotropic phase, temp.-depend. supercooling limit, mag. birefringence meas. 7—63815
nylon-6,6, crystallisation, supercooling, temp. depend. of fold length 7—21072
nylon-6, crystallisation, supercooling, temp. depend. of fold length 7—21072
polyethylene, single cryst. growth mode and lateral habit, impurity effects 7—26668
solidification, rapid, oscillatory morphological instabilities, role of diffusion in the solid. 7—12235
steel, hypoeutectoid, accelerated spheroidisation by decomp. of supercooled austenite 7—3337
viscous flow in supercooled liquids, transport theory anal. 7—63863
Bi, solidification of undercooled liquid, nucleation, pressure effects 7—38169
Ga growth into supercooled melt, faceted solid-liq. interface kinetics, kinetic roughening 7—58172
InGaPAs, LPE growth on GaAs, immiscibility effects 7—39442
LaB_6, crysts. grown with Xe arc image furnace, subgrains 7—59411
LiCl aq. soln., supercooled, viscosity meas., power-law behaviour, structural relax. theories 7—2247
Pb-Bi system, peritectic crystallisation, cooling rate effect 7—46440
Pb-Tl, Bridgman growth, pattern generation at solidification front, forbidden cells 7—22651
Rb, supercooled liquid, structural relax. 7—37840
Sb liquid droplets, undercooling and crystallisation 7—39496
Si/metal film interface, silicide nucleation, kinetic model 7—63970
Sn-Sb, dil., planar solid-liq. interface, morphological development and stability *(Korean)* 7—7985
$WO_3-Na_2O(NaF)$, nucleation and flux growth 7—44430

superexchange interactions
magnetic insulators, light absorpt. by intersublattice charge transfer 7—46065
transition metal dimers, antiferromagnetic coupling, ligand spin polarisation, broken symmetry UHF calcs. 7—22084
$(Ba_{1-x}Sr_x)_2Zn_2Fe_{12}O_{22}$ helimagnet single cryst., neutron diffr. study 7—52942
$Co_{0.55}Cu_{0.45}Cr_2S_{4-y}Se_y$, high field susceptibility 7—45630
$Co_xZn_{1-x}In_2S_4$ solid soln. layer cpd., site coordination and short range magnetic order, XPS anal. 7—26724
$LaF_3:Pr^{3+}$, $^3P_0$ fluorescence quenching processes 7—22314
YIG, superexchange interactions, inelastic neutron scatt. studies 7—33161

superfluid helium-3
see superfluid helium-3
A_1-phase, magnetically generated superflow, nonlinear effect obs. 7—27047
A and B phases, f-wave correlations 7—21561
A and B phases, order parameter dynamics, spin and orbital dynamics 7—44943
A phase, textural transformation, A_2 transition, zero sound 7—2294
A-phase, dynamic intrinsic orbital momentum *(Russian)* 7—32737
A-phase, friction force between vortices and normal component 7—44941
A-phase, hidden supersymmetry 7—52178
A-phase, normal current in thin film 7—21560
A-phase, orbital dynamics, Wess-Zumino function 7—63899
A-phase, spin-temp. discontinuity propagation and soliton form. calcs. *(Russian)* 7—6908
A-phase, vortex phenomena in narrow gaps, surface spin waves probe 7—58562
B phase, ν vortex core matter, topological transition 7—38285
B phase, autocorrelation functions and spinless oscillations 7—12389
B-phase, orbital ang. momentum in mag. field 7—38289
B-phase, sound wave pulse propag. in reson. medium 7—44940
B-phase, spin hydrodynamics, slow modes 7—44944
B-phase, texture and vortex struct. between rotating coaxial cylinders *(Russian)* 7—6907
B-phase, thermomechanical emission and detection of ballistic quasiparticles 7—12390
chiral anomaly, finite fermion vacuum current calcs. 7—44945
chiral fermion excitation-collective boson mode interaction dynamics, field theory 7—52176
dissipative flow through thin channels 7—38288
driven longitudinal nuclear spin resonance, Smale's horseshoes 7—2292
dynamics in flow channels with restricted geometries 7—38287
fermion vacuum momentum nonconservation, Schwinger source, chiral anomaly anal. 7—16835
films, gapless superfluidity, diffuse boundary scatt. effects 7—44939
films, modified XY model 7—4774
films, phase A, anomalous currents and fractional charge associated with domain walls 7—2297
flowing in narrow aperture, Josephson effect calcs. 7—52177
free energy symmetry and stationary points 7—2293
Freedericksz transition, obs. 7—16834
hydrodynamic boundary conditions and cooling in superfluid ^3He 7—63897
nonaxisymmetric equilib. vortex struct. solns., comment and response 7—21563
pressure effects on superfluidity 7—52175
reentrant superfluidity in highly polarised liquid ^3He 7—2295
rotating, A-B interface, lattice of monopoles 7—63896
rotating A-phase, negative ion focusing by vortices 7—21562
static spin susceptibilities 7—12387
suppression of superfluidity of ^3He in cylindrical channels 7—63898
topological defects, transformations under mag. field changes *(Russian)* 7—52172
unitary states in strong mag. fields 7—12388
vortices in rotating A and B phases 7—32738
^3He-A, persistent flows in a toroidal container, topological aspects 7—44942

superfluid helium-4
adsorbed on Vycor, superfluid transition, constrained randomness, Harris criterion 7—44935
anomalous phonon dispersion in helium II, review 7—63893
applications, rel. to phys. props. 7—48751
condensate fraction 7—32735
critical temp. and nonzero momentum condensation 7—21557
critical vel. regime at low temps. 7—27042
cryostat, subcooled, for hybrid supercond. mag. system 7—14952
dissipative flow in absolute zero limit 7—12386

superfluid helium-4 continued
- films, one-dimensional electron system, localisation, ripplons, scatt. and Coulomb interaction effects *(Russian)* 7−27050
- films and interfaces, at $T=0$, local interactions 7−38283
- first and second sound, stochastic wave fields, acoustic turbulence calcs. 7−44938
- flow, transient phenomena and nonuniform superfluid turbulence 7−27043
- flow properties w.r.t. cryogenic appls. 7−52171
- flow through tiny orifice, order parameter phase difference 7−63894
- fractal surface, third sound, capillary condensation 7−27041
- fractionated surface, 2D electron stability study 7−21558
- hard-sphere gas approx. near absolute zero, self-consistent hydrodynamical model calcs. 7−58557
- Josephson effect search using low freq. acoustic resonator 7−44936
- Joule-Thomson effect 7−2287
- Kapitza conductance of sintered $Gd_3Ga_5O_{12}$ mag. refrigerant 7−58603
- Kapitza resistance between Au and superfluid, singularity 7−58559
- low temperature bath for Cu-^{57}Co Mossbauer source, oscillations after heating by an RF pulse 7−59128
- mechanical and fountain-effect pumps for in-orbit transfer 7−61339
- nonrotating, Clebsch representations of symplectic two-cocycles 7−6904
- pressurized, confined to channel, boiling phenomena 7−38280
- production using rotary magnetic refrigerator 7−35525
- quantised vortex lines, turbulent motion 7−52168
- refrigerators for large superconducting devices, thermodynamic optimisation 7−48753
- renormalization-group functions and nonuniversal critical behaviour 7−63892
- saturated film, spin polarised H thermal accommodation meas. 7−38299
- solid-liquid interface, acoustic wave transmission, second sound effects 7−21568
- specific heat measurements with second-sound Helmholz resonator 7−21566
- strongly disordered superfluids, quantum fluctuations, critical behavior 7−2288
- structure factor, pair correl. function, X-ray scatt. intensity meas. 7−44937
- structure factor temp. depend. 7−2289
- subcritical flows, second-order effects 7−16833
- superconducting magnet system superfluid He II for cooling 7−61343
- thermal shock profiles, evolution 7−44934
- two-phase counterflow phenomena meas. in ^{4}He cycling dilution refrigerator 7−2290
- two-phase counterflow phenomena meas. in dilution refrigerator 7−2290
- He solid-superfluid ^{4}He interface, macroscopic surface oscillations, second sound and kinetic phenomenon, hydrodynamic approx. calcs. 7−32745

superfluidity
- *see also quantum fluids; superfluid helium-3; superfluid helium-4; vortices*
- 2D bose system, vortex pair dissociation kinetics calcs. *(Russian)* 7−58560
- Bose gases, nonideal binary mixture, collective variables study 7−6906
- Bose superfluid, fluctuation dispersion of transport coeffs. 7−38284
- charged superfluid, microscopic theory, hydrodynamics *(Russian)* 7−32732
- dynamic spin response function near Kosterlitz-Thouless transition, theory 7−32604
- Fermi liquid in strong mag. fields, vertex eqn. 7−27046
- fermi system, correlation functions of order-parameter fluctuations 7−56145
- homogeneous turbulence, absence of small scale structure 7−21556
- Landau model for superfluid films and interfaces at $T=0$, local interactions 7−38283
- neutron stars, magnetic moments of stars with different eqns. of state 7−40857
- quantum crystals, thermodynamics and eqns. of motion 7−32744
- quantum liq.-quantum cryst. phase interface, hydrodynamic eqns., sound transmission calcs. 7−32746
- strongly disordered superfluids, quantum fluctuations, critical behavior 7−2288
- third sound in superfluid film, rel. to crossover in Anderson transition 7−63748
- two-dimensional, fractional vortex statistics 7−44933
- vibrating superleak transducers, vortex nucleation, critical velocity effects 7−12385
- Fermi liquids, superfluid, spin singlet triplet states in presence of strong mag. fields 7−38286
- H, spin polarised, adsorbed on He, sticking coeff. and 2D superfluidity 7−6912
- ^{3}He-^{4}He dilute superfluid solns., ^{3}He quasiparticle specular reflection 7−6911
- ^{3}He-^{4}He dilute superfluid mixtures, thermal transport props. study 7−38290
- ^{3}He-^{4}He films, superfluid phase transitions 7−21565
- ^{3}He-^{4}He superfluid soln., phonon-impurity system kinetics, review *(Russian)* 7−52179
- ^{4}He-^{3}He mixture films, surface superfluidity, vortex pair pot. energy *(Chinese)* 7−12391

superfluorescence *see superradiance*

supergiant stars
- *see also OH-IR stars*
- A7, supergiant in SMC globular cluster NGC 330, composition anal. 7−34970
- A-type supergiants, wind characts., IUE obs. anal. 7−55636
- V1302 Aql. (IRC+10420), supergiant OH-IR star, new emission features obs. 7−48101
- ε Aur, eclipsing binary system, high-resolution spectroscopy during 1982-4 eclipse 7−4519
- ζ Aur type detached binary systems, IUE obs. rel. to accretion shocks 7−55732
- B-type stars, terminal vel.-escape vel. ratio 7−60632
- late B-type supergiants, comparison of models with obs. for discrete absorpt. components in mass-losing stars 7−47886
- B-type supergiants, radiation-driven wind theory for mass loss 7−47841
- binary systems with evolved primary components, relation to props. of main-sequence binaries 7−29505
- α Cam, O-type supergiant, Hα line profile obs. rel. to atmospheric expansion 7−60638
- υ Car, close visual binary star, spectral and radial vel. study 7−24164
- η Car, dust shell internal struct. from six-channel 8 to 13 micron mapping 7−55650

supergiant stars continued
- η Car, grain size and geometrical effects in dust shell rel. to 8-13 μm feature 7−9494
- η Car, UV spectrum obs. 7−47942
- η Car, visual features and IR emission characts. 7−60769
- V641 Cas, photometry of VV Cep type star 7−18414
- ρ Cas, yellow supergiant, atm. radial pulsations, spectral obs. 7−40813
- V509 Cas (HR 8752), UBV photometry of hypergiant 7−4452
- μ Cep, red supergiant star, image of circumstellar envelope in Na I 589.0 nm line 7−4442
- Cepheid variables, radii and masses from surface-brightness methods 7−9492
- circumstellar dust shells around late type stars, models for IRAS obs. 7−9461
- circumstellar shells, diagnostic IR signatures of refractory grain processing in circumstellar shells 7−55611
- circumstellar shells, SO_2 and SO emission obs. 7−4429
- classical Cepheids, birthplaces rel. to local chemical inhomogeneities in galactic disk 7−34997
- cool giant and supergiant stars, atm. characts., EUV emission anal. 7−47871
- R CrB, fadings, search for periodicity 7−47895
- R CrB, IRAS detect. and study of fossil circumstellar shell 7−55649
- R CrB, UBV obs. 7−55661
- R CrB stars, explosive phenomena rel. to dust form. and brightness decreases 7−24137
- R CrB stars, IRAS obs. of cool circumstellar dust 7−9495
- ξ Cyg, K-type supergiant, atmospheric props. and Fe/H ratio from spectroscopic anal. 7−14573
- P Cyg, spectral lines, multicomponent structure 7−4465
- Cyg OB2 no.8A, UV and Balmer line profile vars. rel. to mass loss problems 7−47944
- V157 Dra, anomalous Cepheid in Draco dwarf galaxy 7−9483
- G-type stars, general characts. 7−24135
- G-type stars with IR excesses, IRAS survey 7−66575
- GK-type supergiant stars, expanding chromospheres models from Hα line profiles anal. 7−9470
- HD 1383, massive double-lined spectroscopic binary star, spectroscopic orbits determ. 7−4523
- HD 152408, Of star, absolute UV flux determ. 7−60685
- HD 161796, 89 Her star, pulsation mass and lumin. 7−47921
- HD 46703, Population II supergiant, N and S overabundances 7−66578
- HD 77581 (Vel X-1), X-ray probing of circumstellar matter during eclipse phase 7−55726
- UU Her, mass pulsation and lumin. 7−47921
- high-luminosity non-coronal stars, Fe II emission line profiles 7−47867
- HR 8752 (=V509 Cas), G-type hypergiant, historical light curve (1840 to 1979) 7−24134
- IRC+10420, detection of HCN in circumstellar shell of peculiar O-rich evolved supergiant 7−9464
- K-type stars, orange giants and dwarfs, review 7−4457
- late M-type stars, dust condensation process 7−14565
- late-type supergiant eclipsing binaries, chromospheric ionisation and opacity, UV, spectra 7−40869
- LMC B-type supergiants, energy distrib. and model atm. 7−55635
- M-type giants and supergiants, shell and mass loss characts., CO obs. 7−60649
- Magellanic Cloud supergiants, CO 2.3 μm band synthesis and band strengths interpretation 7−66577
- massive early-type stars in nearly galaxies (M31 and M33), IUE and optical obs. 7−47881
- massive high-luminosity stars, presupernova evolution 7−29461
- massive stars, evolution calcs. using non-local convection theory 7−29460
- O3-B8 type supergiants, stellar wind UV profiles and optical spectral types 7−55637
- O6 to A3 supergiants, M_V-W(Hγ) calibration 7−47860
- OB supergiant stars, visible and IR continuum spectropolarimetric obs. 7−47845
- OB-type supergiants, equivalent widths of interstellar 217 nm band 7−66479
- α Ori, dust shell Si fractional condensation, mass loss rate and grain characts., polarisation anal. 7−34972
- α Ori, dust shell UBV polarisation meas. 7−34971
- β Ori, IUE and Hα obs. rel. to models for discrete absorpt. components in spectral lines 7−47886
- α Ori, long-term spectroscopic monitoring by IUE 7−47877
- α Ori, outer atm. and circumstellar material characts., far-IR spectral obs. 7−60690
- α Ori, scatt. model for optical polarisation 7−47852
- α Ori (Betelgeuse), image restoration via the shift-and-add algorithm 7−40719
- oscillation of stellar atmospheres, response of isothermal atmosphere with nonlinear waves 7−4439
- peculiar emission-line supergiants, IUE and optical obs. of Henize-Carlson sample 7−47948
- polarization standard stars, position angle wavelength dependence 7−9473
- R136a, group of 8 massive stars within Tarantula Nebula 7−55749
- red supergiants, SiO emission 7−47951
- red supergiants in M31, lumin. characts., BV obs. 7−60785
- Sanduleak−69°202 as SN 1987A progenitor, photometric characts. and spectral type 7−66629
- Sanduleak −69°202, SN 1987A progenitor in LMC, RI photometry 7−66640
- Sanduleak −69°202 (SN 1987A progenitor), possible double nature 7−66634
- α Sco, optical and radio positions comparison *(French)* 7−24131
- semi-regular variables of short period, search for OH and SiO maser lines 7−14580
- FG Sge, photometric search for rapid oscills. 7−4476
- υ-Sgr, H-deficient binary star, evidence for pulsation from UBV light curves 7−14608
- υ Sgr, H-deficient star, mass loss and mass characts., UV spectra anal. 7−14579
- VX Sgr, VLBI obs. of SiO masers rel. to physical conditions in circumstellar envelope 7−55619
- Sk 80, Of-type supergiant near SMC cluster NGC 346, spectrum and radial vels. 7−48002
- SMC F to M-type stars, CORAVEL photoelectric radial vels. and comparison with spectrographic radial vels. 7−66738
- SN 1987A in LMC, multiple nature of progenitor star, (Sanduleak −69°202) 7−66636

supergiant stars continued
  SN 1987A in LMC, optical spectra, radiobrightness and double nature of progenitor 7−66634
  SN 1987A in LMC, progenitor, evidence for companion star 7−66630
  SN 1987A progenitor (Sanduleak −69°202), reappearance in supernova UV spectrum (1987 March 2) 7−66642
  stellar coronae in late-type stars, low-g model for dividing line in H-R diagram 7−66569
  SU Tau, R CrB star, visual magnitude estimates during decline (1986 October 26 to November 3) 7−29494
  4U 1700−37 (HD 153919), EXOSAT search for X-ray periodicities 7−14610
  variable stars to blue side of Cepheid instability strip, pulsation characts. 7−47928
  Vel X-1/HD 77581 system, circumstellar matter characts. from X-ray energy spectra 7−24168
  22 Vul, ζ Aur star, mass loss and wind props., IUE obs. 7−14601
  S Vul, Cepheid variable, implications of photometry of nearby star cluster 7−14620
  He I 1083 nm chromospheric line, obs. in bright late-type stars 7−55612
  He stars, evolution of single and binary stars of 2.5 $M_\odot$ up to Ne ignition 7−4430
  Li-rich supergiant stars HR 7008 and HD 174104, CNO abundances 7−4453
  SiO maser sources, monitoring obs. at 7 mm wavelength (1977 to 1979) 7−4449

supergravity
  (2,2) SUSY σ-models, higher order counterterms, superstring effective action 7−15079
  $N=2$ conformal supergravity in $N=1$ superspace 7−24530
  $N=2$ no-scale supergravity, supersymmetry breaking 7−29853
  anti-de Sitter theories, Chern-Simons action in 3D 7−24532
  antigravity and the missing mass problem in galaxies 7−35377
  black hole evaporation, closed superstring theories role, quantum coherence 7−66651
  book, supersymmetry, superfields, supergravity 7−14724
  book, supersymmetry and supergravity reprints 7−60895
  bosonic or SUSY minimal surfaces and strings in 4D, ambitwistor description 7−185
  classical 10D superparticle in curved superspace, supergravity torsion constraints 7−29857
  classical cosmologies from ten-dimensional supergravity 7−9563
  compactified d=10 supergravity, residual supersymmetry 7−61205
  compactified superstring, global symmetries and flat pots., D=4 supergravity 7−14851
  complete N=2, d=6 supergravity with matter and Yang-Mills couplings, superstrings 7−18676
  conformal and Poincare supergravity, N=1/2, two dimensional structure 7−56137
  conformal supergravity, N=1, 2, two-dimensional structure 7−192
  cosmology with Ricci-flat compactification from 10D superstring theories 7−40977
  CP-violation in 11D 7−41225
  D=10, N=1 supergravity, heterotic-string $O(\alpha')$ corrections 7−24515
  D=10 N=1 supergravity, Euler characteristics 7−48513
  D=10 supergravity, connection to doubly graded sigma model 7−30184
  d=10 supergravity, stable compactification 7−189
  d=11 supergravity, S^7 truncation consistency 7−41222
  D=11 supergravity theory, cosmological constant contribs. from quantized gravitino sector 7−18678
  d=5, N=2 Maxwell-Einstein supergravity, symmetric spaces and kinks 7−186
  dilaton β-function on a Kahler manifold 7−61208
  dimensional reduction of 10-D supergravity and superstring 7−35378
  E_6 supergravity GUT with SU(N,1) invariant Kahler potential, strong CP violation elimination via invisible axion 7−61524
  electroweak bags, nontopological solitous macroscopic objects 7−24818
  exact potential minimization and SU(2)×U(1) breaking 7−18679
  factorisation and gauge transforms, in supergravity theories based on free differential algebras 7−187
  finite-temperature instability for compactification 7−9564
  five-dimensional gravitational super Chern-Simons terms 7−4754
  Freidmann cosmology with a cosmological constant in scale covariant theory 7−4608
  graded exceptional algebras and symmetric spaces 7−35384
  gravitation and supergravity, gauge theory formulation 7−9744
  gravity as the limit of the type-II superstring theory, graviton-graviton scatt. 7−4751
  heterotic string in d=10 supergravity background 7−5017
  heterotic string in IOD supergravity background, world-sheet supergravity anomaly cancellation 7−61209
  heterotic-string anomalies in (1,0) superspace 7−24513
  inflation, oscillation and quantum creation in gauge extended supergravity 7−35380
  inflation in the heterotic $E_8 \times E_8$ superstring model, reheating 7−4604
  Kaluza-Klein and 11D supergravity, algebraic methods for spontaneous compactification 7−29847
  Kaluza-Klein ansatz for chiral N=2 D=10 supergravity on round 5-sphere, truncations 7−183
  Kaluza-Klein theory, extra time-like dimens. leading to nonvanishing cosmological constant 7−4753
  kasner-type cosmological solutions in $N=1$ supergravity 7−41221
  light neutral Higgs bosons, prod. rates in N=1 supergravity theories 7−29858
  light-like integrability of string superalgebras 7−35841
  locally supersymmetric string Jacobian 7−35383
  matrix formulation of $N=1$ supergravity based on universal nonlinear first-order equations 7−41220
  matter coupled to $D=2$ simple unidexteroussupergravity, local (supersymmetry)^2 and strings 7−184
  minimal $N=2$ supergravity in superspace 7−56135
  minimal low energy supergravity, left-right squark flavour mixing effects on CP violation 7−35737
  minimal supergravity, hierarchy and mass spectrum 7−56139
  multidimensional space physics, Metagalaxy, review 7−4663
  multiplet calculus and compensating fields in $D=2$ conformal supergravity 7−14848
  N=1 conformal supergravity, 2D and 3D, constraints and actions, spinning strings, SUSY σ-models 7−4756

supergravity continued
  N=1 minimal supergravity, radiative electroweak symmetry breaking and SU(5) parameter running 7−14849
  N=1 supergravity, flat potential, Klein's model of Lobachevsky plane 7−41226
  N=1 supergravity, lepton number nonconservation 7−191
  N=1 supergravity, Newtonian limit, gauge soln. and torsion 7−18677
  N=1 supergravity, SL(2,C) gauge theory 7−24529
  N=1 supergravity, torsion term in Einstein-Cartan action 7−14850
  N=1 supergravity GUTs, Higgs potential minima with vanishing cosmological constant 7−9731
  N=1 supergravity in 11D, fermionic mass and cosmological constant generation 7−61206
  N=1 superspace supergravity in ten dimensions 7−190
  N=2 conformal supergravity, linearized theory, SU(2) extended superfield formulation 7−61204
  N=2 d=7 supergravity, stability of non-SUSY ground state 7−188
  N=2 supergravity model with a light graviphoton 7−41227
  N=2 supergravity solitons, exact superpartners 7−35382
  N=2 supersymmetry with tensor matter, classical potential, impossibility of SUSY breaking under certain metric conditions 7−61210
  N=4 SUSY Yang-Mills theory, superfield actions for $N=4$ and 8 degenerate central-charge multiplets 7−15078
  N=8, superfield actions for $N=4$ and 8 degenerate central-charge multiplets 7−15078
  no-scale supergravity 7−35381
  nonabelian bosonization, triality, and superstring theory 7−14852
  partial supersymmetry breaking in $N=4$ supergravity 7−4752
  quantum field theory, progress, book 7−9602
  Riemannian supergravity, geometrostasis and current algebra of sigma models on supergroup manifolds 7−56411
  SL(2,C) gauge theory, N=1 supergravity and torsion 7−24761
  spin-5/2 gauge field, grav. interaction, gauge symmetry, nonminimal grav. coupling 7−14842
  squark mixing angles in supergravity theories, gluino flavour changing in SU(5) 7−56136
  standard model, development to GUTs and supergravity 7−30219
  SU(2,2|N)XSU(N′) supergravity, superspace for supergauge actions 7−29852
  SU(2)×U(1) tree-level breaking 7−56138
  SU(3)×Su(2)×U(1) models, superparticle and t-quark masses 7−41228
  SU(5) supergravity models, low energy properties 7−24531
  superconformal anomalies in the superspace of simplesupergravity 7−4755
  superspace path integral measure of the $N=1$ spinning string 7−24852
  superstring inspired, intermediate scale symmetry breaking 7−35379
  superstring models, candidates for inflaton field in cosmology 7−40976
  superstring modifications of Einstein's equations 7−9727
  superstring theory, supersymmetric 10D low-energy limit 7−48515
  superstring-inspired standard model 7−24526
  supersymmetric inflationary cosmology in supergravity framework 7−48514
  supersymmetrization of $\zeta(3)(R_{\mu\nu\rho\sigma})^4$ in superstring theories 7−29856
  SUSY electroweak model, N=1 supergravity extension, cosmology of phase transition 7−445
  SUSY R^2 actions, conformal invariance and six-, ten-dimensional Lorentz Chern-Simons term 7−29854
  symmetry, supersymmetry, supergravitation *(German)* 7−61207
  ten dimensional off-shell superspace, heterotic string-induced modification 7−29855
  truncation of superstrings 7−61211
  twisting toroidally compactified heterotic strings with enlarged symmetry groups 7−35822
  type-I SO(32) superstring theory, proof of one-loop finiteness, response to comment 7−41224
  type-I SO (32) superstring theory, proof of one-loop finiteness, comment 7−41223
  zero mass limit of spin $^3/_2$ wave equations 7−9743
  μ anomalous mag. moment, supersymmetry corrections in N=1 supergravity 7−35876

superheating *see heat transfer*

superheavy nuclei
  see also nuclei with mass number 220 or higher
  ^{264}108, decay and synthesis expts. 7−49347
  atoms, fractional charges, optical searches 7−10782
  giant quark nuclei, bag model anal. 7−19186
  masses and decay properties 7−5149
  nuclear properties and laboratory synthesis, review 7−61904
  spherical superheavy nuclei, nucl. and chemical props. and prod. methods 7−49219
  spontaneous fission studies using multiple neutron emission 7−42093
  synthesis, shell stabilised island of α-active heavy deformed nuclei 7−35956
  UNILAC heavy-ion reaction searches for superheavy elements 7−19298
  ^{248}Cm (^{48}Ca,X), superheavy element production 7−24993

superionic conducting materials
  see also ionic conduction in solids; mixed conductivity
  alumina, ion-rich β- and β''-phases, superionic props., homogeneity ranges and conductivities 7−21520
  alumina, ion-rich β- and β''-phases, superionic props., local and long-range order determ. 7−21519
  bis(tetramethylammonium)$Ag_{13}I_{15}$:NH_4I, O probe, electrical conductivity and struct. 7−52147
  ceramics, cation-conductive, lattice imperfections, 1 MV HRTEM obs. 7−2258
  ceramics, props. meas., conf., Soverato, Italy (Sept. 1986) 7−9582
  $Cu_6PS_5Br(Cl)$, superionic cryst., refractive indices, optical-refractometric correlation *(Russian)* 7−3016
  density functional theory, appl. to Ag_2S 7−32697
  dimethylsiloxane-ethylene oxide copolymer containing Na salt, ionic conductivity 7−2255
  disordered sublattice cpds., supersonic conductivity and lattice parameters 7−38247
  disperse systems, elec. cond., phenomenological classification 7−6858
  dispersed solid electrolyte systems, mode of ionic cond. 7−2262
  electrochromic materials, book contrib. 7−25913
  energy conversion and storage using insertion materials 7−28391
  ice, cubic, proton transport, FTIR obs. 7−53340
  ionic thermoelec. power, heuristic treatment 7−45345
  metal/solid electrolyte interface, elec. simulation 7−52122

superionic conducting materials continued

- model, nonequilib. phase transforms., critical behaviour, Monte Carlo scaling 7—61304
- ozone generation by membrane electrolysis for treating ultra-pure water 7—23024
- poly(ethylene oxide)-$LiCF_3SO_3$ evaporated electrolyte films, struct. and ionic cond. characts. 7—64002
- polyethylene glycol, phosphate ester crosslinked complexes, ionic cond., temp depend., glass transition 7—52128
- polymer electrolyte developments, book contrib. 7—27008
- polypyrrole electronically conductive polymer, fibrillar/microporous morphology control 7—26667
- protonic solid electrolyte fuel cells, polarisation model 7—65454
- redox polymer-TiO_2 detector junctions, flatband pot. meas. 7—13787
- solid oxide electrolytes, electroreduction, galvanostatic process kinetics 7—21505
- solid state electrolyte, δ-transfer and diffusion *(French)* 7—17801
- triorthophosphates, superionic, synthesis and charactn. 7—53530
- water electrolyser for H_2 production, membrane electrolysis 7—23230
- ZrO_2-MgO electrolyte mixed ionic and electronic conduction obs. 7—2644
- Ag chalcogenide-type fast-ion conductors, diffuse X-ray scatt. 7—21044
- Ag-Ag_4RbI_5-Ag ionic conducting system, elec. current press. and relax. effects, plastic deform. obs. 7—52123
- $AgCrS_2$ two dimens. superionic conductor, DC cond. theory 7—16804
- Ag_2HgI_4, photosensitivity near a superionic phase transition 7—41522
- $Ag_8HgS_2I_6$, superionic cpd., electrical and mechanical relax. 7—44900
- α-AgI, cation diffusion and dynamic correlation 7—52124
- α-AgI ion-exchange reaction with β''-Al_2O_3-Na_2O, potentiometric study 7—54230
- α-AgI, ionic motions and neutron inelastic scatt., mol. dynamics studies 7—27004
- AgI, submillimeter cond., permitt. spectra meas. 7—44901
- AgI/α-Fe_2O_3 composite electrolytes, phase transition temperatures *(Chinese)* 7—38244
- AgI-Ag_2O-B_2O_3 fast ion conducting glasses, struct., XANES studies 7—63483
- AgI-Ag_2O-B_2O_3 glasses, superionic, crossover freq. between phonon and fracton regimes, scaling behaviour 7—44728
- AgI-Ag_3AsO_4 superionic conducting glass, cond. and glass form. studies 7—32711
- AgI-$AgPO_3$ glasses, thermoelec. power 7—6867
- $Ag_7I_4VO_4$, superionic conductor, thermoelec. power, 25-60°C 7—21517
- $Ag_2P_3I_2$, solid electrolyte, prep., props. and cryst. struct. 7—32396
- α-Ag_2S, energy gap, EMF consts. determ. by SALS program *(Japanese)* 7—16943
- Ag_2S, fractal dimensionalities of ionic trails andisosets in superionic conductors 7—6869
- Ag_2S, superionic conductor, single-particle trajectories and isojets, fractal behaviour 7—26608
- Ag_2Se:Sn, solid electrolyte, microscopic disorder, Mossbauer spectroscopy 7—58533
- β''/β-Al_2O_3-$(Na_{0.6}K_{0.4})_2O$, mixed-alkali-mixed phase cpds., acoustic study 7—63749
- Al_2O_3-MgO-TiO_2-Na_2O system, sintering and creep, Na_2O influence, Cable and Reijnen-Readley models *(German, English)* 7—7933
- β'-Al_2O_3-Na_2O, ZrO_2 toughened solid electrolyte, failure initiation, critical current density, AE obs. 7—38252
- β-Al_2O_3-Na_2O ceramic electrolyte; electrophoretic deposition 7—13411
- B″-Al_2O_3-Na_2O solid electrolytes, degradation in Na-S batteries 7—3466
- β-″Al_2O_3-Na_2O solid electrolyte in alkali metal thermoelec. convertor, ion cond. props. 7—13925
- β-Al_2O_3-Na_2O-Ag_2O solid electrolyte, appl. in SO_x sensor 7—326
- B″-Al_2O_3-Na_2O-ZrO_2 ceramics, transform toughened, fabrication, mech, props. ionic resist. 7—65143
- B_2O_3-Li_2O-LiCl-Al_2O_3, amorphous ionic conductor, crystallisation, position annihilation study *(Chinese)* 7—37872
- BaF_2, linear thermal expansion meas. 7—44863
- BaF_2-based solid solns., ionic conductors with fluorite struct., thermal conductivity study 7—38275
- $Ba_{1-x}Gd_xF_{2+x}$, defect struct., ionic thermocurrents, dielec. meas., EPR obs. 7—44907
- CU_2S, superionic conductor, ionic conductivity and diffusion 7—44899
- CaF_2, linear thermal expansion meas. 7—44863
- CaF_2-Al_2O_3, dispersed solid electrolyte systems, enhanced ionic conduction 7—16801
- CaF_2-Al_2O_3 (ZrO_2) dispersions, single and polycrystalline, elec. conductivity 7—27005
- CaF_2-based solid solns., ionic conductors with fluorite struct., thermal conductivity study 7—38275
- CaF_2-CeO_2, dispersed solid electrolyte systems, enhanced ionic conduction 7—16801
- $CsDSO_4$, superionic transition, NMR 7—38951
- $CsH(D)SO_4$ struct. and phase transitions, X-ray diffr. studies 7—2170
- $CsHSO_4$ cryst. struct. IR spectra study 7—63588
- CuI, Debye-Waller factors, Mossbauer scatt. meas. 7—6746
- $Cu_2P_3I_2$, solid electrolyte, prep., props. and cryst. struct. 7—32396
- Eu(II)-β''-alumina, luminescence, order-disorder effects, optical, structural and ion transport props. 7—46114
- $H(H_2O)_nBiO_3$, prep. from $KBiO_3$ by ion exchange, high proton cond. 7—2260
- $KCu_4Cl_3(I_3)$ and KCu_4I_5 solid electrolytes, elec. conductivity and mag. susceptibility 7—12360
- LaF_3, lattice phonons, high temp. Brillouin scatt. studies 7—46059
- LiCl-Li_2O-B_2O_3-Al_2O_3, amorphous Li^+ conductor, crystn. and phase separation, interface effect *(Chinese)* 7—38245
- LiF electrolyte in Au-WO_3-LiF-Au solid-state electrochromic structures 7—53275
- $Li_{1+x}FeCl_4$, ionic conductors, Mossbauer spectra studies *(French)* 7—2955
- $LiIO_3$, acoustoionic interaction 7—39041
- $LiNaSO_4$, BCC, rotator phase, solid electrolyte behaviour, thermodynamic props. 7—21139
- Li_2O-B_2O_3, ion conducting glass, effect of CaO substitutions on transport and physical props. 7—58535
- $xLi_2O.yLi_2SO_4.B_2O_3$, IR and Raman spectra, vibr. study and struct. 7—37879
- Li_2SO_4-Li_2CO_3 system, phase diagram and elec. cond. meas. 7—32612
- $Li_2SO_4.H_2O$, supercooled melts, cryst. and mol. struct., thermal stability 7—21170
- Li_4TeO_4 glassy electrolyte, vibrational, thermal and elec. characts. study 7—6866
- Li_2WO_4, elec. transport mechanism, superionic phase 7—12359

superionic conducting materials continued

- $LiZr_2(PO_4)_3$ superionic conductor, Li^+ motion, NMR study, phase transition obs. 7—32709
- β-M_2O_3-Na_2O, study of Na^+ motion by quasi-elastic neutron scatt. 7—63875
- $(NH_4)_2SeO_4.2NH_4HSeO_4$, single cryst., superionic phase transition at 378 K 7—52125
- $Na_4Hf_2Ge_3O_{12}$, ionic conductor, hydrothermal crystallisation and cryst. struct. 7—37935
- $Na_2LaZrP_3O_{12}$ crystals, X-ray powder diffr. data 7—26722
- β''-$Na_{1+x}Mg_xAl_{11-x}O_{17}$ based multivalent β''-aluminas, synthesis 7—33628
- $NaMn_2ZrP_3O_{12}$, $Na_2(Ce,Co)ZrP_3O_{12}$ and $Na_2(La,Co)TiP_3O_{12}$, Nasicon analogues, cryst. data 7—12014
- Na_2O-$11Al_2O_3$, β-alumina, effect of NO_2 sorption on electrical conductivity 7—21511
- β-Na_2O-Al_2O_3-CdO:Cr^{3+}, luminescence spectra 7—33448
- Na_2O-ZrO_2-Al_2O_3-SiO_2 glasses, ionic cond., glass transition temp. meas. 7—26998
- $Na_2O.nAl_2O_3$, mullite struct., form. by solid state reaction 7—7937
- $Na_3Sc_2(PO_4)_3$ cryst. struct., tetrahedra disorder and ion-ion correls. studies 7—26723
- $Na_5TbSi_4O_{12}$, superionic cond., photoluminescence spectra 7—46093
- $Na_{1+x}Zr_{2-x}In_x$ $(PO_4)_3$ solid soln., Na^+ ion motion, NMR study 7—44904
- $Na_{1+4y+x}Zr_{2-y-x}Si_xP_{3-x}O_{12-2z}$ nonstoichiometric monoclinic NASICONs, X-ray powder Rietveld refinements 7—12304
- $Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7—6870
- $Na_3Zr_2Si_2PO_{12}$ and $Na_3M_2(PO_4)_3$, rhombohedral structures, crystallochemistry 7—32377
- $Pb_xCd_{1-x}F_2$, phonon spectra, superionic props. 7—6735
- $PbCl_2$ solid electrolyte for Cl_2-H_2 cells, cathodic characts. *(Japanese)* 7—13850
- PbF_2, linear thermal expansion meas. 7—44863
- $RbAg_4I_5$, electrodeless meas. method 7—48777
- $RbAg_4I_5$, solid electrolyte, microscopic disorder, Mossbauer spectroscopy 7—58533
- $RbAg_4I_5$, superionic conductor, diffusional modes calc. *(Russian)* 7—27003
- $RbAg_4I_5$ superionic crystals, fine struct. of Raman scatt. spectra 7—46005
- $Rb_4Cu_9Cl_{13}$, solid electrolyte, elec. cond. and cryst. struct. 7—2257
- $Rb_4Cu_9Cl_{13}$ solid electrolyte single crysts., anisotropic elec. cond. meas., structural model 7—52126
- $RbCu_4Cl_3I_2$, luminesc. band profile, localised carrier tunnel recomb. effects calcs. 7—3075
- SiS_2-Li_2S-LiI glass, ionic cond. meas. 7—38251
- $SrCeO_3$ proton-conductive solid electrolyte fuel cell performance with ethane, CO and ethanol fuels 7—3641
- $SrCe_{0.95}Yb_{0.05}O_{3-\delta}$ proton conductor, D solubility, SIMS study 7—12298
- $SrF(Cl)_2$, linear thermal expansion meas. 7—44863
- $Y_{4x}Zr_{1-4x}O_{2-2x}$, ionic cond., defect struct., self-diffusion calcs. 7—12356
- ZrO_2, effect of admixture cation radius on sintering 7—13398
- ZrO_2, stabilised, solid electrolyte/Pt,O_2(g) interfaces, electrode reactions, theory 7—65329
- ZrO_2, stabilised, solid electrolyte/Pt,O_2(g) interfaces, electrode reactions, electrochem anal. 7—65330
- ZrO_2 substrates, sputtered Pt films, agglomeration and electrical conduction props. 7—52859
- ZrO_2:Y_2O_3 solid oxide fuel cell development to 5 kW 7—28396
- ZrO_2-Y_2O_3 solid-electrolyte cell, polarization of porous Pt electrode 7—23027
- ZrO_2-Y_2O_3/(U, M)$O_{2\pm x}$, M=Sc or Y, interface charactn. 7—21677
- ZrO_2-$YO_{1.5}$, thermal behaviour of ^{56}Fe implantations 7—27006

superlattices

- *see also semiconductor superlattices*
- amorphous multilayer X-ray reflectors, layer imperfections effects 7—25936
- antiferromagnetic superlattices with magnetisation perpendicular to surface, collective excitations, magnetostatic theory 7—45647
- arbitrary continuous superlattices, general anal. 7—7322
- band theory 7—45124
- bulk and surface collective modes 7—38486
- bulk and surface phonons 7—2343
- coherent multilayer structures, damage by dislocation or crack injection 7—21674
- composition modulated layered structs., elastic strain, X-ray diffr. studies 7—27086
- continuous composite materials, interface response theory 7—64039
- crystal growth, Monte Carlo simulation 7—6568
- diffraction and channelling of photons and neutrons 7—6480
- discrete crystals, layered struct. form., theory, quantum well sandwiches and superlattices appl. 7—12507
- disordering transitions, nucleation mechanism, review 7—44743
- dynamical phenomena at surfaces, interfaces and superlattices, summer school, Erice, Italy, (July 1984) 7—1
- electronic structure of surfaces, interfaces andsuperlattices 7—2665
- ferromagnet-antiferromagnet superlattice struct., mag. props. 7—2831
- ferromagnetic multilayers, propagating spin waves 7—52959
- ferromagnetic superlattices with magnetisation perpendicular to surface, collective excitations, magnetostatic theory 7—45647
- ferromagnetic-nonferromagnetic supercond. superlattices, vortex pinning 7—45591
- gap solitons and nonlinear optical response 7—43204
- graphite-KHg intercalation cpd., supercond. props., density of states model 7—27457
- Heisenberg magnetism study in superlattices *(Chinese)* 7—27485
- incomplete crystals, surfaces, defects, interfaces and layered structures, theory 7—16926
- interface response theory of discrete composite systems 7—38424
- interfacial diffusion effect on superlattice electronic structure *(Chinese)* 7—7303
- Ising model on square superlattice, critical props., real space renormalisation group calcs. *(Chinese)* 7—27532
- LV optical modulator and self-biased self electro-optic-effect device 7—43445
- metal-insulator superlattices, optical properties, plasma wave effects 7—64599
- metal-metal superlattices, magnetism at interfaces and surfaces, neutron scatt. studies 7—2822

superlattices continued
  metal-metal superlattices, prep. by sputtering, struct. charact. 7−3172
  metallic, electron scatt. by plasmons 7−32931
  metallic, mech. props. and diffusion 7−52377
  metallic multilayers, sputter deposited, superconducting props. *(Japanese)* 7−12906
  metallic superlattice elastic and acoustic props. 7−2086
  metallic superlattices, long wavelength bulk and surface spin waves 7−2835
  metallic superlattices, plasmon spectra 7−64137
  metallic-based layered structs., depth profile anal. using multilayer anodisation 7−27170
  metals, elastic and plastic props. 7−27085
  modulated structures, lattice dynamics, appl. to superlattices 7−52220
  multilayers and superlattices, X-ray diffr., recursion formulae 7−32212
  Nb-Ti compositionally modulated films, low-temp. interdiffusion 7−38269
  optical applications 7−17283
  photoelastic, elastic and dielectric consts. in long wavelength regime 7−33361
  photoelastic and dielectric consts., thin layered superlattices 7−53268
  rare earth and rare earth-transition metal superlattices, magnetism *(Japanese)* 7−12951
  resonant tunnelling props. of heterostructures 7−52741
  strained layer, struct. effects on positron channelling radiation 7−63979
  strained layer superlattices, symposium, Annandale, NJ, USA (June 1986) 7−48150
  structural, electronic and mag. props. 7−16849
  structure charactn. by Buerger precession camera 7−58099
  superconducting superlattices, phase diagram 7−2792
  superconductivity in superlattices *(Japanese)* 7−12905
  surface acoustic soliton, anal. 7−63938
  Ag-Mg, commensuration and discommensuration characteristics, modulation periods 7−46463
  Al-Mo multilayered films, struct., elec. props. 7−58863
  Al-Ni multilayered films, struct., elec. props. 7−58863
  Au-Cr, elastic props., effect of strain 7−52376
  Au-Cr superlattices, electrical resistivity 7−27384
  AuCu$_3$, ordered alloy, antiphase boundary form. energy, atomic config., Morse pot. approx. *(Russian)* 7−46419
  Co-Sb superlattices, NMR study *(Japanese)* 7−13046
  Cu/Pd metallic superlattices, UPS, LEED, AES and ISS studies 7−3153
  Cu-Al long-period superlattice, interface struct., TEM and HREM study 7−16499
  Cu-Cr multilayers, laser alloying 7−45025
  Cu-Ni, compositionally modulated thin films, double positioning twinning 7−38351
  Cu-Ni electrodeposition, comp. modulated alloy form. 7−59468
  Cu-Pt-Pd ternary alloys, L1-type ordered phases 7−16493
  Cu-Zr, compositionally modulated amorphous films, sputter deposition prep. 7−22482
  Cu$_{48}$Ti$_{52}$, amorphous, crystallisation, intermediate long period superlattice phase form. 7−21098
  EuS-SrS mag. superlattices grown on Si(111), strain, study by He ion channelling 7−27215
  Fe-Mg superlattices, mag. props. *(Japanese)* 7−12950
  Fe-Mn superlattices, NMR study *(Japanese)* 7−13046
  Fe-Ti compositionally modulated amorphous films, sputter deposition prep. 7−22482
  Fe-V superlattices, NMR study *(Japanese)* 7−13046
  Fe-V superlattices and alloys, magnetism study 7−64436
  Gd-Y single crystal superlattices, struct. and mag. props. 7−27160
  KH$_x$-graphite intercalation cpd., struct. and electronic props. 7−27234
  Mo/Ni heterostructures, upper critical field, anisotropy studies 7−27479
  Mo/Ni superlattice, sputtered, struct. anal. 7−45030
  Mo/Ni superlattices, anisotropic superconds., upper critical field anal. 7−22076
  Mo/Sb multilayer film, superconductivity and structural characterisation 7−17128
  Mo/V quasiperiodic multilayers, growth and superconductivity 7−12927
  Mo-Ni, elastic props., effect of strain 7−52376
  Nb/Cu artificial superconductive metallic superlattices, electron density, pair tunnelling studies 7−58959
  Nb/Cu Fibonacci 1D quasiperiodic superlattice struct., X-ray diffr. meas. 7−52307
  Nb-Cu, elastic props., effect of strain 7−52376
  Nb-Ta superlattice single crystals, MBE growth 7−39385
  Nb-Ti compositionally modulated films, struct. study 7−7056
  Nb-V sinusoidally modulated superlattice, growth and charact. 7−21741
  Ni, oxidation, oxide epitaxy depend. on growth temp., LEED, AES, ellipsometry studies 7−22869
  Ni/Ni-P compositionally modulated films, electrodeposition 7−3209
  Ni-Cr multilayer structures, Auger depth profiles using a dual ion gun system 7−22429
  Ni-Cr multilayers, interface resolution in Auger depth profiles 7−27830
  Ni-Mo metallic superlattices, macromag. and micromag. props. 7−2826
  Ni-Mo-Fe-Cr alloy, transient phase obs during long range ordering to Ni$_4$Mo, electron diffr. study 7−63806
  Ni$_3$Fe, ordered alloy, antiphase boundary form. energy, atomic config., Morse pot. approx. *(Russian)* 7−46419
  Pb(Sc$_{1/2}$Ta$_{1/2}$)O$_3$, single crysts. and hot pressed ceramics, ordering, domain struct., TEM obs. 7−26936
  Pd-Y system, obs. of order 7−58456
  Ru-Ir bicrystal superlattice, stacking struct. and superconductivity 7−2432
  Ru-Ir bicrystal superlattices, X-ray and transport studies 7−27159
  Si/Ti amorphous superlattices, high resolution photovoltaic position sensing 7−48847
  Si-Ti amorphous superlattice films, lateral photoeffect 7−45487
  Si-Ti amorphous superlattice films, lateral photovoltage, wavelength dependence 7−45488
  Si-Ti thin-film superlattices, structure 7−38350
  Sr$_{0.5}$Ba$_{0.5}$Nb$_2$O$_6$, incommensurate superstructures, phase transition, electron diffr. study 7−63792
  2H-TaSe$_2$, triply incommensurate phase, phase slip region 7−44811
  V/Ni multilayered superlattice, microstruct., X-ray and neutron diffr. 7−32849
  V-Ni, elastic props., effect of strain 7−52376
  W-C multilayer structures, X-ray standing wave enhanced scatt. 7−58095
  W-Si multilayer structures, Auger depth profiles using a dual ion gun system 7−22429

superluminescence *see superradiance*

supernova remnants
  Cas A, evidence for pair creation supernova in massive Wolf-Rayet star 7−29462
  Cas A, explosive O burning model 7−47961
  Cas A, fast moving knot, IR spectral and photometric meas. 7−66708
  Cas A, nonsteady shock model for permitted O I line emission from O-rich nebulosity 7−55779
  Cas A, presupernova evolution of massive high-luminosity stars 7−29461
  Cas A, search for stellar remnant, improved brightness limits 7−66705
  Cas A, surface brightness map at 1.2 mm wavelength 7−24176
  Cas A, tenuous gas expansion vel. determ. via H I lines broad wings obs. 7−66691
  Cas A, VLA obs. of 1667 MHz OH absorpt. 7−55761
  cosmic ray acceleration, γ-ray evidence for intensity variations 7−18338
  cosmic ray acceleration by supernova remnant shock-waves, orbit averaged Darwin quasi-neutral hybrid code 7−14425
  cosmic ray acceleration in supernova remnants, large-scale intensity variations 7−18339
  Crab Nebula, 1.4 GHz continuum emission in jet and absorpt. in filaments 7−60750
  Crab Nebula, γ-ray spectral obs. 7−55857
  Crab Nebula, EAS, composition anal., distribs. functions 7−14461
  Crab Nebula, element abundances in filaments from photoionisation models 7−40904
  Crab Nebula, surface brightness map at 1.2 mm wavelength 7−24176
  Crab Nebula and related SNRs, conf., Fairfax, USA (October 1984) 7−60887
  Cygnus Loop, high-resolution X-ray spectroscopic evidence of nonequilib. conditions 7−48037
  extended nonthermal sources in galactic plane, 57.5 MHz obs. 7−40897
  G54.4−0.3, WSRT radio continuum map 7−35057
  G7.7−3.7, highly-polarised radio supernova remnant, total power and polarisation meas. 7−48045
  high-velocity gas detect. towards WR star HD 50896, possible SNR 7−14627
  IC 443, multiwavelength investigation 7−40896
  IC 443, obs. in coronal [Fe X] 6374 Å line 7−48051
  interstellar bubbles, structure and evolution is multiphase interstellar medium 7−60764
  interstellar radiative shocks, dynamical models and line spectra of steady shocks 7−55454
  kinematic detection of supernova remnants in giant H II regions 7−55764
  long term variations of terrestrial and near-Earth cosmic-ray intensity 7−66402
  in M33, SNR density *(Russian)* 7−24217
  Magellanic H I bridge, 160 pc shell feature characts., stellar wind or SNR origin 7−35049
  monochromatic images prediction 7−14626
  nonspherical colliding supernova remnants, oblique shock refls. rel. to anomalous H I vel. features 7−24175
  North Polar Spur, contrib. to interstellar UV absorpt. lines towards A0 IV star (Hd 119921) 7−48057
  North Polar Spur, contrib. to refractive interstellar scintillation in quasar (1741−038) 7−55845
  observations and theory (book) 7−60914
  pulsar supernova remnant correlation 7−66647
  Pup A, nonsteady shock model for permitted O I line emission from O-rich nebulosity 7−55779
  radio emission during radiative expansion stage, brightness temp. and morphology 7−60744
  radio structure of supernova remnants, evidence for biannular enhancement 7−55752
  radiosources, VLA survey in outer Galaxy 7−14655
  RCW 103, young supernova remnant, obs. of expanding shells in filamentary edge of remnant 7−14632
  SN 1006 remnant, total intensity obs. at radio frequencies 7−35025
  statistical investigations, selection effect due to projected H II regions 7−24170
  superbubbles, evolution through sequential supernova explosions in plane-stratified gas distrib. 7−55778
  surface brightness-diameter relation 7−40889
  surface brightnesses and radio spectral indices 7−14621
  Tycho's SNR and 0022+6352, H I obs. of compact source 7−66778
  Type I SN remnant characts. *(Japanese)* 7−4508
  Vela supernova remnant, nature of radio emission from Vela X 7−24174
  W49, exptl. 'zoned relay' obs. at RATAN-600 radio telescope 7−60822
  X-ray emission from a galactic ridge, contrib. from supernova remnants 7−24221
  young supernova remnants, constraints on struct. and dynamics from shock-heated dust obs 7−55754

supernovae
  see also supernova remnants
  blast wave energy content, determ. for model with continuous density distrib. 7−34856
  Cas A-type supernovae, presupernova evolution of massive high-luminosity stars 7−29461
  Cep OB2 association, supernova shock wave rel. to anomalous dust towards open cluster (Trumpler 37) 7−48010
  collapse, nuclear matter equation of state anal. 7−35969
  conf., Erice, Italy (April 1986) 7−41001
  cylindrical-symmetrical relativistic shock wave, motion in presence of axial mag. field 7−4322
  cylindrically-symmetrical relativistic shock waves, astrophysical appl. 7−47685
  degenerate C-O cores, final evolution, numerical studies 7−66626
  distance indicators, proceedings, Cambridge, MA, USA (September 1984) 7−24296
  frequency in galactic nuclei, possible implications for binary stars occurrence 7−66601
  heating of medium in elliptical galaxies and cluster cores 7−66741
  host galaxies, supernovae in flocculent and grand design spirals 7−60696
  initial value problems, simple adaptive grids in 1D 7−66457
  interstellar matter, effects of supernovae 7−66725
  IR emission from heated interstellar grains, analytical soln. 7−48007
  M31, interstellar H I holes and supernova rate 7−35036
  massive star, supernova explosion 7−47961
  neutron star formation, neutrino signature of collapse 7−55699
  in NGC 1559, Oct. 1986 discovery of SN 1986L 7−18425
  in NGC 891, SN 1986J, prediscovery microwave flux densities 7−18426

supernovae continued
nuclear equation of state 7−55693
observations and theory (book) 7−60914
pair creation supernova in massive Wolf-Rayet star, implications for Cas A supernova remnant 7−29462
plasma neutrino energy loss rate in stellar interiors, axial-vector contrib. 7−55608
Population III supernovae, contrib. to metals in primordial Population II stars 7−29470
sequential supernova explosions in plane-stratified gas distrib., contrib. to interstellar superbubbles evolution 7−55778
shock wave propag. into interstellar medium 7−4537
SN 1054, ^{22}Ne nucleosynthesis and mass from element abundances in Crab Nebula 7−40904
SN 1408, probably spurious supernova, anal. of Chinese and Japanese obs. 7−47962
SN 1985F in NGC 4618, explosive O burning model 7−47961
SN 1985F in NGC 4618, light curve characts. *(Russian)* 7−24156
SN 1985F in NGC 4618, optical light curve 7−40851
SN 1986 M in NGC 7499, prediscovery and 1986 Dec. magnitudes 7−47952
SN 1986E, SN 1986I, type II supernovae, spectroscopic obs. 7−47956
SN 1986G in NGC 5128, upper limits on pre-discovery magnitudes, and visual magnitude estimates 7−9501
SN 1986G in NGC 7499, discovery observations 7−40853
SN 1986J, in NGC 891, radio supernova, upper limits on B-magnitude from Schmidt plate obs. 7−18429
SN 1986J, prediscovery radioobservations of supernova in NGC 891 galaxy 7−47955
SN 1986J in NGC 891, spectrum and radio detections 7−9503
SN 1986J in NGC 891, VLBI determ. of supernova radial expansion 7−47957
SN 1986K, in anonymous galaxy in Cetus, discovery, precise position, and magnitude estimate 7−9502
SN 1986K in anonymous galaxy at RA=Ohr 52′, DC=−7°36′, spectral characts. 7−4495
SN 1986L, in NGC 1559, spectroscopic obs. and visual magnitude estimates (1986 October 9 to 12) 7−18428
SN 1986L in NGC 1559, precise position and magnitudes 7−18427
SN 1986L in NGC 1559, UBV and visual magnitude estimates 7−40852
SN 1986L in NGC 1559, visual magnitude estimates (1986 November 1 to December 11) 7−47953
SN 1986M in NGC 7499, spectroscopic identification as type Ib supernova 7−47956
SN 1986N, type Ia supernova in NGC 1667, spectroscopic obs. and precise positions 7−47956
SN 1986N in NGC 1667, 11 Dec. 1986 supernova discovery 7−47954
SN 1986O in NGC 2227, discovery, approximate position, and magnitude estimate 7−47958
SN 1986O in NGC 2227, spectra of Type Ia object 7−55692
SN 1987A, in LMC, discovery, precise position, possible progenitor, photometry, and spectrum 7−66628
SN 1987A in LMC, astrometric obs., UV photometry and spectrum, and visual magnitude estimates 7−66642
SN 1987A in LMC, IUE obs. of UV spectra and light curve 7−66638
SN 1987A in LMC, multiple nature of progenitor star, (Sanduleak −69°202) 7−66636
SN 1987A in LMC, neutrino signal obs. and interstellar vel. systems 7−66637
SN 1987A in LMC, optical spectra, radiobrightness and double nature of progenitor 7−66634
SN 1987A in LMC, photometric and spectral obs. (1987 February 24-26) 7−66632
SN 1987A in LMC, photometric and spectral obs. and evidence for companion to progenitor 7−66630
SN 1987A in LMC, photometry and spectral characts. (1987 February) 7−66640
SN 1987A in LMC, progenitor position, photometry, and polarization 7−66631
SN 1987A in LMC, spectral evolution (1987 Feb. 25-Mar. 1) 7−66641
SN 1987A in LMC, Type II SN, astrometry, spectral and photometric obs. and progenitor characts. 7−66629
SN 1987B in NGC 5850, Feb. 1987 discovery observations 7−66633
SN 1987B in NGC 5850, Feb. 1987 supernova observations 7−66635
SN 1987B in NGC 5850, Type II SN, spectral characts. 7−66639
star formation initiation in metal-enriched regions, evidence from classical Cepheids 7−34997
stellar core collapse, electron capture effects 7−55614
Type I and II SN events *(Japanese)* 7−4508
Type I colours and systematic flux dilution 7−66627
Type I events, observational constraints to theoretical models 7−24157
Type I SN models, numerical methods 7−60573
Type I supernovae, evolution from double-degenerate C-O dwarfs rel. to supernova rate in solar neighbourhood 7−24155
Type I supernovae, partially incinerated white dwarf models *(Chinese)* 7−4494
type Ia supernovae, model atmospheres rel. to C deflagration models and max. light spectra 7−40854
Type Ib from hot H-deficient binaries 7−24154
type Ib supernovae, spectra rel. to supernebulae and nucleosynthesis 7−40854
Type II supernovae, general relativistic and nuclear matter equation of state anal. 7−47960
Type II supernovae, nucleosynthesis and isotopic anomalies 7−47959
UK patrol report (1986 no.5) 7−24142
UK patrol report (1986 no.6) 7−14587
UK patrol report (1986 no.9) 7−55643
He stars, evolution of single and binary stars of 2.5 $M_\odot$ up to Ne ignition 7−4430
He stars, evolution rel. to lower mass limit for neutron star form. 7−24122

superparamagnetism
see also magnetic properties of fine particles
Mossbauer spectra, many-state relax. model 7−45856
$Ni_3Al_{0.8}$-based alloys, magnetic and structural props. studies 7−45635
spin glasses, review, recent developments, characteristic props. and related phenomena 7−59030
$BaO-V_2O_5-Fe_2O_3$ semiconducting glasses, elec. props., Mossbauer, EPR and X-ray diffr. studies 7−7236
$Co_{1-x}Ca_xFe_2O_4$, single domain-superparamagnet transition 7−17203

superparamagnetism continued
Cr-Fe (28.5 at.%) superparamag. particles formed during solid soln. decomp., mag., transitions *(Russian)* 7−33220
$Fe-SiO_2$ granular films, mag. relax., DC SQUID magnetometry, Mossbauer spectra 7−45761
Fe-Zr, amorphous, superparamagnetic behaviour 7−2904
$Fe_{48.5}Ni_{34}P_{17.5}$, small-angle polarized neutron scattering study 7−52939
$\gamma-Fe_2O_3$ particles, colloidal suspension, mag. props. of ionic ferrofluids 7−45758
FeOCl, anisotropic layer cpd., hyperfine interactions, Mossbauer spectra 7−58786
Fe(0) microclusters, in A-type zeolites, mag. props. meas. 7−17256
Ti-Fe, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
$YFeO_3-Fe_2O$ mixed phase system microcryst., anomalous behaviour of mag. hyperfine field 7−45760
Zr-Ru, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846

superplasticity
alloys, structurally superplastic flow, texture, neutron and X-ray obs. 7−46589
alloys, superplastic, necking, fracture, strain rate sensitivity, cavity growth 7−28087
alloys, superplastic, plastic instabilities and uniaxial tensile ductilities, effect of grain growth 7−53820
boundary migration, grain growth, during superplastic deform. 7−17600
flow, void growth mechanism 7−28086
grain-boundary slip velocity and microstruct. *(Russian)* 7−3362
metal sheet, superplastic bulging, technological anal. 7−65093
metal sheet, superplastic free bulging, mech. anal. 7−32552
metallic glasses, superplastic deform. *(Russian)* 7−39599
metals, local and macroscopic viscosities in solid state 7−46555
transition from superplastic to non-superplastic deform. at high strain rates 7−46586
Al-Cu, Al-Cu-Si, superplastic strain rate sensitivity index 7−3387
Al-Cu, superplasticity rel. to grain refining addition elements 7−46561
Al-Li-Cu-Mg-Zr powder alloy, superplastic, high modulus and hardness 7−53816
Al-Zn eutectoid-base superplastic alloy for hot-dipping of steel sheet *(Japanese)* 7−59664
Al-Zn-Mg, superplasticity rel. to grain refining addition elements 7−46561
Al-Zn-Mg-Cu, 7475, superplasticity, constitutive eqn., evaluation of parameters 7−65085
Al-Zn-Mg-Mn-Si, rapid solidification, superplasticity 7−53826
Al-Zr-Mg (Cu), grain boundary struct. and superplasticity, electron microscopy studies *(Russian)* 7−6630
$BaTiO_3$, fine-grained superplastic creep in reducing environment 7−28075
Be, superplastic flow, electron microscopy studies *(Russian)* 7−3360
$Co_{68}Fe_7Ni_{13}Si_7B_5$, amorphous alloy, superplasticity 7−3368
Cu-Al-Fe, Al bronze, superplasticity, effect of Fe content 7−65109
Fe-Ni austenitic alloys, martensitic transformations, grain size effects *(Russian)* 7−46465
Mg-Mn, MA8, superplastic behaviour, effect of grain struct. *(Russian)* 7−59584
Mg-Mn-Al-Zn, MA8, superplastic deform., effective stresses *(Russian)* 7−53811
Ni-Co-Cr-Al-Y, plasma sprayed, high temp. tensile and creep behaviour 7−28083
$Ni_{75}B_{17}Si_8$, ultrafine grained, creep deformation mechanisms 7−22781
Pb-Sn eutectic, superplasticity, investig. by impression creep testing 7−3372
β-Ti alloys, superplastic deform. props. 7−65092
Ti alloys, superplastic forming and diffusion bonding 7−8048
Ti-Al-Fe, mech. props., investig. as implant material *(German)* 7−46647
Ti-Al-Mo-Zr(-Si) alloys, superplastic characts., H alloying effect 7−8049
Ti-Al-Sn-Zr-Mo (6,2,4,2 wt.%) superplastic deform., temp. depend. 7−39588
Ti-Al-V (6,4 wt. %) superplastic deform., temp. depend. 7−39588
Ti-Al-V (6,4 wt.%), machined sheet test pieces, superplastic deform. 7−22763
Ti-Al-V (6,4 wt.%) r-values after superplastic strain 7−53806
Ti-Ni-Cu system metallic glasses, superplastic props. in vitrification temp. range 7−3356
Zn, microalloyed, superplasticity and self-diffusion parameters 7−2251
Zn-Al-Cu, superplastic, cavitation damage 7−65080
Zn-Al-Cu (ZZ,0.5%), superplastic behaviour 7−28093
α-Zr, low stress creep at intermediate temps. 7−33745
$ZrO_2-Al_2O_3$ composite, Y_2O_3-stabilised, compressive deform. 7−28100
$ZrO_2-Y_2O_3$, Y-TZP, superplastic, compressive deform. props. and microstruct. *(Japanese)* 7−22774

superradiance
see also acoustic superradiance
alkali metal atoms, collision induced amplified emission 7−10513
atomic array, cooperative spontaneous emission, small-sample limit 7−50047
atoms, j to j′ transition between degenerate levels, superradiance theory, polarisation properties 7−10536
atoms in front of plane mirror, superfluorescence initiation 7−31003
cooperative effects in the spontaneous emission from two non-identical atoms 7−36927
cooperative radiation from three identical two-level atoms, near-field and super-radiance effects 7−15579
Dicke model and the theory of driven and spontaneousemission, review 7−5864
dispersive forces, role in the onset or superradiant beating 7−25787
dye lasers, pulsed, expression for small signal gain 7−15889
dye solution travelling wave laser with two photon picosec. optical pumping, time characts. 7−62685
fibre Raman amplifiers, amplified spontaneous Raman scattering 7−15978
free electron laser, amplified spontaneous emission props. *(Japanese)* 7−1177
free electron lasers, self-amplified spontaneous emission and coherent amplification 7−15881
free electron lasers, superradiant harmonic radiation, 3D model 7−20233
gamma-ray lasers, kinetic behavior 7−25825
laser media inversion filament form. due to interatomic interactions via superradiation field 7−50529
laser modes, intensity correlations; effective eigenvalue charactn. 7−50531

superradiance continued
laser oscillators and amplifiers, small aspect ratio, 3D calc. 7—10894
lasers with filamentary plasma active medium, superradiance characts. 7—1044
nonequilibrium selecting system, quantum-mechanical model, asymmetric interactions 7—19991
nuclear superradiance kinetics for gamma-ray lasers 7—10949
pyrene-biphenyl mixed crysts., local heating, phonon modes and Dicke optical superradiance *(Russian)* 7—13178
quasiperiodicity criterion of the spectral structure of pulsed radiation 7—43067
rhodamine dyes, S_0-S_n two-photon absorption dynamics 7—42715
self amplified spontaneous emission 7—1163
small-area pulses, coherent propagation in YAG:Nd and ruby activated crysts. 7—43038
small-sample superradiance, dipole-dipole interaction, statistical anal. 7—57282
superluminescent diodes, high frequency modulation 7—62744
two-level atomic lattice models, spontaneous emission and light scatt. 7—50018
two-level atoms, coherently driven superradiant system, symmetry breaking, metastable chaos 7—50524
two-level atoms, waveguide effects in superfluorescence and stimulated Raman scatt. 7—15832
two-level system ensemble, superfluorescence spontaneous collective emission *(German)* 7—5863
two-photon resonance fluorescence 7—10488
undulator, long, evolution of radiation beam system 7—42880
X-ray laser expts. 7—62678
X-ray lasers and superradiance theory, basic notions and models 7—25785
X-ray lasers and superradiance theory, extending semi-classical model to realistic situations 7—25786
CdSe, stimulated photolum. 7—27776
Cs highly excited atoms as coherent radiations source, superradiative transitions 7—57027
InGaAsP-InP bistable lasers, temp. depend. 7—5887
KH_2PO_4 two-cryst. superradiant parametric light source, high-energy subnanosecond pulse pumping 7—31396
KrF electron beam sustained discharge excimer lasers, discharge constriction, photodetachment, ionisation instabilities 7—10920
NH_3 superradiant Raman FIR laser with nonlinear reson. four-wave mixing generation of medium IR emission 7—50657
Na highly excited atoms as coherent radiations source, superradiative transitions 7—57027
Nd:YAG fibre lasers, superfluorescent, anal. 7—31329
Ne laser, superradiance under delayed excitation, asymmetry 7—1076
Rb, superfluoresc., coherent ringing 7—15580
Xe amplified spontaneous emission studies 7—15830

supersaturation control *see chemical variables control*

supersaturation measurement *see chemical variables measurement*

supersonic flow
see also shock waves
3D flow obs. by interferometry and image processing 7—37576
air ejector, primary flow oscill. 7—37492
airfoils, Euler eqn. finite vol. flux vector splittings 7—20745
alkali metal-mol. gas mixture, cooling in supersonic nozzle, population inversion of electronic states 7—31304
annular nozzle cascade, endwall contour effect on performance 7—20772
astrophysical, rocket effect on gravitating mass-losing object 7—23995
asymmetric dual-flow interrupter nozzles, flow field study 7—26331
asymptotic behaviour, determ., num. soln. 7—43976
by-passing flow in a supersonic nozzle with optical windows *(Japanese)* 7—51263
CAD system with Denton scheme for flow program, comparison with expt. results 7—63177
chemically reactive flowfield, modelling using spectral methods 7—20747
coaxial supersonic jet, interaction with vortex ring 7—51259
collision of multiple supersonic jets related to pip noise generation in cage valve 7—26316
complex dependences approximation in averaging eqns., appls. 7—20758
compressible turbulent free shear layer interaction 7—51078
corona excited supersonic expansion, for cold radicals or ions production 7—9926
cylinder-aerofoil configuration, Mach number effects on vortex shedding 7—16205
delta wing, ascent of Ferri point on upwind side 7—51213
diffuser, shock-wave response to small amplitude pressure disturbances *(Japanese)* 7—11462
dust-laden gas flow round blunt body, blowing effect 7—51217
dusty gas flow over a wedge, oblique shock waves 7—31835
entropy layer absorption effect on supersonic flow heat transfer of submerged circular cone 7—43975
Euler equations, time depend., soln. using Taylor-Galerkin finite element method 7—43968
extragalactic jets, steady supersonic flow model rel. to appl. as probes of surrounding medium 7—55822
finite element methods, adaptive and moving mesh, flow interaction 7—37493
flow structure near windward side V-shaped wings with attached shock wave, calcs. 7—20757
free cavern separation zone pulsation at supersonic stream vel. 7—11458
free-vortex nozzle, supersonic jet struct. study using pulse holographic interferometry 7—51256
fuel drops combustion, stability loss mechanism in stream of oxidising gas 7—31892
gas beam source, electromagnetically driven 7—48915
gas flow past 3D bodies and wings of maximum lift-drag ratio 7—57874
gas suspension, supersonic flow near wedge in presence of reflected particles 7—1621
gas turbine computer-aided interactive design system, Denton scheme for flow program 7—63176
gas-particle mixture, supersonic two-phase flow around a wedge 7—1614
gas/particle nozzle flows, quasi 1D, shock waves 7—6238
gasdynamic focusing in supersonic jets, chemical anal. appl. 7—20752
hemisphere and cones in wind tunnels 7—51218
high temperature pulsed nozzle for supersonic jet spectrometry, gas chromatographic appls. 7—15005
high-intensity sound waves generated by supersonic flow, volume heat-release source effects 7—16022
ideal gas flows in plane and axisymmetrical nozzles *(Russian)* 7—44003

supersonic flow continued
ideal gas supersonic flow past blunt bodies with protruding spikes 7—57873
instantaneous flowrate measurement of transient air flow 7—31906
interaction between moving bodies, moving grid FEM 7—26314
interference and diffraction flows at supersonic velocities, props. 7—31832
inverse integral equation method, appl. to compressors and turbines, in compressible flow 7—6244
inviscid flow, 3-D characteristics streamlines approach 7—57876
inviscid flow, supersonic to subsonic transition, quasi-conservative lambda formulation 7—11454
jet, light amplification coefficient and intensity, spasmodic increase during metastable atom and mol. condensation *(Russian)* 7—50523
jet supersonic and subsonic mixing, parabolised Navier-Stokes anal. 7—11481
laminar flow with strong viscous-inviscid interaction 7—51212
lifting bodies using the flow behind axisymmetric conical shock waves 7—51215
magnetic energy dissipation in force-free jets, implications for radio galaxies 7—29391
molecular beam intensities, translational temp. relax. 7—6254
molecular gas flow, low density, collisional stimulation, intramol. motion and relax., macroscopic quantum effects 7—15693
Navier-Stokes eqns. of supersonic flow around semi-infinite plate 7—11456
noise generation in transonic flow, investig. *(German)* 7—31833
nonequilibrium homogeneous condensation in rarefaction waves 7—51280
nozzles, nonuniform flow effects on base pressure at supersonic flight speeds 7—6264
oscillating cascades, unsteady flow, asymptotic solns. 7—37437
oscillation excitation is supersonic boundary layer by external acoustic field 7—51046
perturbation propag. in boundary layer on flat channel walls 7—51045
plasma optical breakdown, supersonic turbulent propag. regime 7—20836
plasma supersonic arc jet, expansion 7—21016
power plant combustion chamber, combustion stability 7—31890
pressure measurement in a blow-down wind tunnel, automatic system 7—16280
pulsed supersonic He free-jet expansions, time-of-flight characterisation 7—11457
quasi-three-dimensional flow of gas in turbomachine bladerow 7—6245
radiant heat fluxes, distrib. over bodies in supersonic ideal-gas flow 7—1589
radiative heat fluxes in supersonic flow of inviscid gas over 3D bodies 7—43972
radical flowfield created by ring-type source nozzle, time-depend. 2D viscous anal. 7—31830
rarefied gas, high Mach number flow past almost specularly reflecting plate 7—63186
rarefied gas flow, transport theory conf., Montecatini Terme, Italy, June 1985 7—60874
rotational nonequilibrium in expanding gas flows 7—62349
shock wave generation in supersonic flow, rotating body shape effect 7—43974
shock-free transonic airfoils with a given pressure distribution 7—26312
simulation in 3D of very strong shock waves 7—6247
single unsteady supersonic jet, interaction with moving obstacle of finite dimens. 7—51255
single-step wedge with sideplates at yaw angles, supersonic flow, expt. study 7—51219
spatial streamline flow with knock-on shock wave *(Russian)* 7—43977
spontaneous condensation of vapor in a nonequilibriumsupersonic monodisperse flow 7—6286
steady gas flow past blunt bodies screened by permeable surface 7—51216
submerged supersonic jets, compressibility effects 7—51254
supersonic Laval nozzle separated regions, heat transfer investig. 7—31831
surface roughness effects on adiabatic wall temp. 7—20700
Taylor-Maccoll soln., const. density approx. 7—20749
turbomachinery flow, supersonic and choked, modified pot. method 7—20750
turbulent boundary layer, supersonic flow, investig. 7—57877
turbulent flow, rapid expansion, bulk dilation role 7—51087
turbulent flow through square duct, cross-flow vel. profiles 7—20748
underexpanded jet flow into subsonic counterflow, propag. laws 7—57890
unimolecular reactions of isolated collisional gas phase and solvated molecules 7—13792
unsteady flow, past 2D plate cascade, vorticity inhomogeneities 7—57875
viscous flow, parabolised Navier-Stokes eqn. 7—20753
viscous shock layer, ionisation of gas modelling 7—11466
vortex rings, differential interferometry study 7—51220
wake past blunt body, heat transfer and drag 7—51214
around wedge, Lavrentiev-Bitsadze approximations calcs. *(Russian)* 7—57879
wind-tunnel diffuser operating at Mach no.4.4 to 8.5, press. recovery 7—43973
wings, thin, perturbing supersonic flow of perfect gas, optimal lifting surface 7—20754
CO_2-H_2O-N_2, laminar and turbulent mixing, vibr. relax. 7—11459
H flame-out in air flow, gas dynamic struct., interaction effect 7—26315
I_2, supersonic flow study by 3D visualization and laser-induced fluorescence 7—20751
NO_2, liq., supersonic vel. at 20 MPa and temp. up to 450K *(Russian)* 7—51221
Na particles in N_2 flow, size determ. by optical method, radiation loss 7—17837
UF_6, multiphoton dissoc. in supersonic jets 7—42706

supersonics *see supersonic flow*

superstrings *see string theory*

supersymmetric particles *see sparticles*

supersymmetry
see also supergravity
(2,2) SUSY σ-models, higher order counterterms, superstring effective action 7—15079
σ-model, supersymmetric, nonlinear, constrained Hamiltonian formalism, canonical struct. 7—30153
σ-models, finite two-dimensional field theories 7—61422
σ-models, two-dimensional, N=4, existence of solitons 7—61462
σ-models, two-dimensional, supersymmetric, ultraviolet props. 7—48972
σ-models in 4D as quantum theories, vacua and effective lagrangians 7—48967

supersymmetry continued
σ-models on Calabi-Yau manifolds, central charge of virasoro algebra 7—9960
σ-models on Ricci-flat Kahler manifolds, finiteness 7—15057
$N=1$ superconformal operator product expansions andsuperfield fusion rules 7—4998
action principle for strings and superstrings 7—15134
anomaly-free superstring theory, compactification 7—56480
anti-de Sitter spaces, reflective boundary conditions for SUSY models 7—5001
Ashkin-Teller quantum chain with free boundary conditions, superconformal invariance 7—24454
attractor in superstring model, Einstein theory, Friedmann universe, inflation 7—41201
Backlund transformations for superextensions of theLiouville equation 7—5003
bagged superfields and light pseudo-Goldstone fermions 7—61502
bimodular representation of ten-dimensional fermions 7—49010
book, supersymmetry, superfields, supergravity 7—14724
book, supersymmetry and supergravity reprints 7—60895
Bose-Fermi eqns., finite supersymmetrical action solns. *(Russian)* 7—30217
bosonic closed string theory, hidden superstrings in Poincare supersymmetric sectors 7—35840
bosonic or SUSY minimal surfaces and strings in 4D, ambitwistor description 7—185
bound state problem for quarks and leptons, spontaneous symm. breaking 7—35709
broken N=2 super Yang-Mills theory with finite vacuum energy 7—24789
BRST analysis of super Kac-Moody and superconformal current algebras 7—4996
BRST approach to N=2 superconformal algebra 7—24866
BRST charge operator as nonlinear transformation generator of constraint superalgebra 7—61450
BRST cohomology in superstring theories 7—24814
BRST hamiltonian quantization of the supersymmetric particle in relativistic gauges 7—30213
chaotic inflation, effects of nonrenormalisable terms 7—29558
character-valued index theorems, proof 7—35661
chiral anomalies in gauge and gravitational interactions, ID SUSY path integral approach 7—41661
Chiral models, geometrical aspects, superstring theory 7—61496
classical 10D superparticle in curved superspace, supergravity torsion constraints 7—29857
closed fermionic string models in 10D, classification 7—49035
compactified d=10 supergravity, residual supersymmetry 7—61205
compactified superstring, global symmetries and flat pots., D=4 supergravity 7—14851
compactified superstrings and torsion, light-cone gauge investigation 7—35816
complex supersymmetry and the supersymmetric skyrmion 7—56458
composite Nambu-Goldstone superfield, dynamical aspects of minimal realisation 7—4999
composite quark-lepton model, effective Lagrangian 7—41755
composite string, Lorentz invariance and SUSY transformations, quantisation 7—5078
conformally invariant Yang-Mills theory, QED analogy and residual global supersymmetry 7—35720
coset space dimens. reduction of antisymm. tensor fields, Becchi-Rouet-Stova supersymmetry 7—41581
cosmic strings from hidden-sector flux tubes 7—18658
cosmology with Ricci-flat compactification from 10D superstring theories 7—40977
covariant heterotic strings, classical gauge and BRST struct. 7—49105
covariant heterotic strings, supergauge field theory 7—35834
covariant superstring, space-time supersymmetry 7—24511
covariant superstring with N=1 global supersymmetry, quantum geometry 7—35735
dark matter candidates, scatt. and annihilation cross sections 7—15089
degenerate (super) conformal models, equivalence 7—56446
dilaton β-function on a Kahler manifold 7—61208
dimensional reduction of 10-D supergravity and superstring 7—35378
Dirac eqn., supersymmetry in nonabelian, chromomagnetic field 7—35726
Dirac equation, square root in supersymmetry 7—35688
disorder fields in two-dimensional conformal quantum-field theory and $N=2$ extended supersymmetry 7—41161
double-sine-Gordon kink, eigenfunctions of small oscillations 7—18995
E_6 breaking patterns, low energy phenomenology 7—15105
E_6 superstring-inspired models, neutral current anal. 7—61543
E_6 superstrings, phenomenology of exotic particles 7—169
$E_8 \times E_8$ superstring theory, extra U(1) phenomenology at low energy 7—41688
$E_8 \times E'_8$ superstring theory, low-energy gauge interactions, renormalisation group anal. 7—41687
$E_8 \times E'_8$ superstring theory, phenomenologically viable models 7—41686
E_8 superstrings, calabi-Yau manifolds motivations and constructions 7—56109
effective action in 3D, parity violation and renormalisation procedure 7—48992
Euclidean supersymmetric quantum theory, stochastic representation of arbitrary fermion sectors 7—18630
Euclidean supersymmetries 7—61495
exact parapositronium like solution to two-body Diracequations 7—5039
extended supersymmetric Yang-Mills theories, integrability on lightlike lines 7—9976
Faddeev-Popov ghosts and BRS symmetry in string theories 7—35830
fermionic string, interacting string formalisms 7—35839
fermionic string models in 4D, construction 7—15136
finite $N=1$ supersymmetric grand unified theories 7—41674
finite $N=1$ SUSY field theories and dimensional regularization 7—24802
finite field theories, 3D, with and without supersymmetry, S-matrix and vacuum stress finiteness 7—61472
five-dimensional gravitational super Chern-Simons terms 7—4754
four-dimensional string, from modified Green-Schwarz covariant supersymmetric action 7—49112
fractional electric charge induced on GUT monopoles, chiral anomaly effects 7—19044
galactic halo study using γ-rays from WIMP annihilation 7—9542
gauge fields, factorisation condition for bidimensional and pseudo-Euclidean groups 7—48946

supersymmetry continued
gauge theories, coupling constant reparameterization and finite field-theories 7—9950
gauge theories and Wilson operator expansion, anomaly puzzle solution 7—15059
gauged SUSY σ-model in 4D, visualisation by Killing pots. 7—4988
gaugino masses from radiative corrections in superstring models 7—24864
generalized superspaces, anal. over σ-commutative algebras 7—4653
geometrical objects, transformation laws, supersymm., no. system of octonions 7—49009
global supersymmetry, partially broken, implications for superstrings 7—15077
globally supersymmetric preon models with gauged colour-flavour symm. 7—19079
gluinos, quasi stable, evidence against existence 7—5004
gluon bremsstrahlung in supersymmetric QCD 7—461
gravity as the limit of the type-II superstring theory, graviton-graviton scatt. 7—4751
GUT scale, no-scale models and gravitino mass 7—18665
GUTs and SUSY GUTs, proton decay status, SU(5) model, lifetimes 7—30220
Hamiltonian systems with even and odd Poisson brackets, conservation laws duality 7—49015
harmonic oscillator, dynamical supersymmetries 7—24801
hermitean oscillator-like realisations of classical algebras and superalgebras in Hilbert space 7—41655
heterotic string, (2,0) supersymmetric, internal degrees of freedom, action calc. 7—61522
heterotic string, Lorentz and gauge anomalies cancellation and world sheet SUSY 7—15094
heterotic string, vanishing vacuum amplitude, modular forms and cosmological constant 7—15091
heterotic string in d=10 supergravity background 7—5017
heterotic string in superspace 7—10048
heterotic string theory, (2,0) supersymmetry and space-time supersymmetry 7—19085
heterotic string theory 7—9735
heterotic string theory in 4D with families of chiral fermions and standard gauge symm. 7—49033
heterotic superstring, compactifications 7—10046
heterotic superstring geometry, super-Weyl transformations 7—61191
hidden supersymmetry and spectral asymm., fermion number fractionization and anomalies 7—24800
Higgs boson mass upper bounds in electroweak interaction models 7—19054
Higgs bosons in softly broken two-doublet supersymmetry model 7—35731
Higgs field mass parameter, perturbative evolution in SUSY gauge theory 7—408
higher order corrections to supersymmetry and heterotic string compactifications 7—4997
hyperkahler manifolds and nonlinear supermultiplets 7—56403
hyperkahler metrics, constructions and supersymmetry 7—56404
inflation in the heterotic $E_8 \times E_8$ superstring model, reheating 7—4604
inflationary cosmology in supergravity framework 7—48514
inhomogeneous transmission lines, supersymmetry and signal propagation 7—1011
inos in N=2 massive gauge superfield formalism 7—4958
integrability of supersymmetric chiral model with Wess-Zumino term 7—4962
interacting field theory of open superstrings 7—5071
interacting open superstrings, noncommutative supergeometry 7—41760
jets with small missing energy at CERN and Fermilab in supersymmetry 7—24918
Kaluza-Klein and 11D supergravity, algebraic methods for spontaneous compactification 7—29847
Kaluza-Klein vacuum with supersymmetric extra space, Planck mass problem 7—56123
Kasner spacetime, exact solns. for electromagnetic, neutrino and gravit. fields 7—41173
lattice N=2 Wess-Zumino model, local Hamiltonian Monte Carlo study 7—15052
light-like integrability of string superalgebras 7—35841
linear superfields, projection operators *(Korean)* 7—30208
locally supersymmetric string Jacobian 7—35383
Lorentz covariant string theories in D=10 and D=18 7—19038
low-energy gauge couplings and the mass gap of N=1 supersymmetry 7—61503
massive gauge superfields, N=2 in harmonic superspace 7—4958
massless SQED, Witten index 7—61538
massless SUSY QCD, vacuum stability, instanton-anti-instanton contrib. to vacuum energy 7—41725
matter coupled to $D=2$ simple unidexteroussupergravity, local (supersymmetry)^2 and strings 7—184
minimal $N=2$ supergravity in superspace 7—56135
muon anomaly contribution for superstring inspired models 7—24821
N=1 conformal supergravity, 2D and 3D, constraints and actions, spinning strings, SUSY σ-models 7—4756
N=1 super-Poincare superspace current, model-independ. improvement 7—49018
N=1 supergravity, SU(3)×Su(2)×U(1) models, superparticle and t-quark masses 7—41228
N=1 supergravity, torsion term in Einstein-Cartan action 7—14850
N=1 superspace translator tensor, improved Minkowski-space currents and residual shifts 7—5007
N=1 supersymmetric nonlinear σ-model in 2D, four loop divergences 7—15058
n=1 supersymmetric truncations and the superstring low-energy effective theory, compactification appl. 7—61519
N=1 SUSY Yang-Mills theory, two-loop finite class 7—35678
N=2, d=2 supergeometry and superconformal transformations 7—41654
N=2 d=7 supergravity, stability of non-SUSY ground state 7—188
N=2 harmonic superspace with central charges, appl. to self-interacting massive hypermultiplets 7—19020
N=2 pseudomechanics, superspace formulation and superpotentials 7—56461
N=2 super Yang-Mills theories in harmonic superspace, analytic formulation 7—48979
N=2 superconformal algebra, bosonic representation 7—19025
N=2 supergravity model with a light graviphoton 7—41227
N=2 supergravity solitons, exact superpartners 7—35382

supersymmetry continued
  - N=2 supersymmetric σ models, perturbative treatment of infrared divergences 7−56435
  - N=2 supersymmetric gauge theory, action in harmonic superspace 7−56422
  - N=2 supersymmetry, duality transformations and general matter self-couplings, harmonic superspace anal. 7−49013
  - N=2 twisted supersymmetric σ models, four loop divergence 7−30158
  - N=4 SUSY Yang-Mills theory, superfield actions for $N=4$ and 8 degenerate central-charge multiplets 7−15078
  - neutralino decay in $e^+e^- \to$ neutralinos 7−15140
  - neutrinoless double β-decay without Majorana neutrinos in supersymmetric theories 7−61839
  - neutrinoless double-beta decay in supersymmetric theories, R-parity violation 7−35765
  - Neveu Schwarz model, scattering amplitude calcs. using supersheet functional integration 7−442
  - Neveu-Schwarz and Ramond algebras, highest weight representations 7−24506
  - new superspace, structure 7−61500
  - no-go theorem of supersymmetry breaking 7−19026
  - no-scale supergravity and supersymmetry 7−35381
  - non-particle-like Goldstone modes in the spontaneous breakdown of symmetry 7−41660
  - nonabelian bosonization, triality, and superstring theory 7−14852
  - nonAbelian gauge models, exact β-function from one-loop perturbation theory 7−41644
  - nonlinear σ-models, construction and geometry of graded supermanifolds 7−61448
  - nonlinear σ-models based on E-type groups 7−48940
  - nonperturbative effects on the string world sheet 7−24853
  - nonrenormalization theorems for chiral anomalies in N=1 supersymmetry 7−4963
  - nuclear quadrupole phonon model, SU(3) supersymmetric limit, renormalization for nonsemisimple and semisimple algebra 7−41911
  - nuclei, weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
  - O(2) superstring theory, BRST quantization and Regge trajectory 7−19039
  - O(N)×O(N) supersymmetric model, flat directions and spontaneous breaking of scale invariance 7−9993
  - O(N) model, coupling constant behavior at high temp. 7−41664
  - O(N) nonlinear sigma models, spectra in 0+1 dimens. 7−4953
  - o-model, supersymmetric with torsion 7−9936
  - one dimensional systems, relation between Gelfand-Levitan procedure and supersymmetric partner method 7−113
  - open superstring light cone hamiltonian, supersymmetry relation and quartic vertex 7−41762
  - open superstring theory, vector field effective action 7−5076
  - open superstring with O(32) massless gauge bosons, principal-part regularization 7−19046
  - open superstrings, effective action for vector field 7−500
  - partial supersymmetry breaking in $N=4$ supergravity 7−4752
  - particles in the early universe, conference, Thessaloniki, Greece (June 1985) 7−9596
  - phase transition in a supersymmetric theory 7−5000
  - Poincare group with BRST and Parisi-Sourlas supersymmetries, strings, unification 7−49030
  - QCD, consistency of instanton calculus 7−61551
  - QCD, effective Lagrangian in 1/N approx. 7−30244
  - QCD nonperturbative effects modelling, 2D sigma models and 4D gauge theories 7−35664
  - QED, superfield formalism using loop functionals 7−61539
  - quantum gravity and cosmology, Kyoto, Japan (May 1985), conference 7−24295
  - quantum mechanical models on flat space, supersymmetric path integral 7−56062
  - quantum mechanics and inverse scatt., KdV eqn. solns. 7−35742
  - quantum mechanics in 3D curved space 7−4715
  - reduction and reparametrization of quantum field theories 7−35711
  - relativistic wave equations, invariance algebras and superalgebras 7−61440
  - reviews of particle and nuclear physics, book 7−55907
  - revised Robertson's test theory of special rel., supergroups and superspace 7−48355
  - Ricci-flat supersymmetric σ-models, counterterm counterexamples. 7−61446
  - scattering theory for SUSY hamiltonians, nonstationary approach, quantum mech., nuclear interactions 7−30214
  - second BRST operator in superstring theories, vacua struct. 7−61518
  - sigma model, doubly graded with torsion 7−30184
  - sigma model, geometrostasis and current algebra on supergroup manifolds 7−56411
  - sigma model, two-dimensional, formulation in (2,0) superspace 7−30185
  - sigma-model superstring corrections to theEinstein-Hilbert action 7−4961
  - signatures of new particles at high energy colliders 7−56520
  - single electron search expt., sparticle mass limits 7−49142
  - $SO(10)\times E_8'$ superstrings, phenomenology 7−9998
  - $SO(10)\to SU(2)_L\times SU(2)_R\times SU(4)_C$, $SU(2)_L\times SU(2)_R\times SU(3)_C\times U(1)_{B-L}\times D$ unified models, Higgs potential calcs. 7−454
  - SO(10) superstring theory without intermediate scales 7−35365
  - SO(32) superstring theory, infinity cancellation mechanisms 7−35836
  - solar neutrino energy spectra calcs. from supersymmetric relics 7−34814
  - solitons, supersymmetry, 1+1 dimensional, saturation of quantum Bogomolny bound 7−15076
  - $Sp(2)\wedge T(2)$ Grassmann Euclidean group, extended BRST SUSY, pseudomass, pseudospin 7−61491
  - space-time supersymmetry in covariant superstring field theory 7−24813
  - spectrum supersymmetry of Regge trajectories 7−5079
  - spin structures in string theory 7−5070
  - spinning cosmic strings and quantization of energy 7−170
  - spinor two-point functions in maximally symmetricspaces 7−430
  - SQCD with $N_{colour}<N_{flavour}$, symmetry breakings 7−49085
  - squark and gluino mass limits from CERN $p\bar{p}$ collider 7−56464
  - squark mixing angles in supergravity theories, gluino flavour changing in SU(5) 7−56136
  - standard model, development to GUTs and supergravity 7−30219
  - standard model, light gluinos and CP violation 7−443
  - standard model, softly broken SUSY extended, lepton number and lepton flavour violation 7−41671

supersymmetry continued
  - stochastic quantization, supersymmetry and the anisotropy of microlocal space-time 7−14806
  - string dynamics, conformal field theory on a super-Riemann surface 7−41761
  - string field theory action, group theoretic approach 7−5073
  - string theory, covariant quantization and Ramond-Neveu-Schwarz model 7−35815
  - string theory, unidexterous D=2 supersymmetry in superspace 7−61195
  - SU(N) SUSY QCD, instanton superfield calcs. in Higgs phase 7−56512
  - super AKNS scheme and its infinite conserved currents, 3×3 eigenvalue problem 7−434
  - super-Kadomtsev-Petviashvili Hierarchy and super-Grassmann manifold 7−61492
  - super-Yang-Mills fields in noncovariant supergauges 7−48965
  - superconducting strings and membranes, heterotic string behaviour 7−9739
  - superconformal algebras, relation to integrable nonlinear systems and quantum string theory 7−56463
  - superconformal field theory with modular invariance on a torus 7−15080
  - superconformal theories, 2D minimal, modular invariant partition fns. 7−61494
  - superevaluation equations, Hamiltonian structure and Backlund transformation 7−19021
  - supergravity, N=2 no-scale model, supersymmetry breaking 7−29853
  - supergravity, superstring inspired, intermediate scale symmetry breaking 7−35379
  - supergravity model, exact potential minimization and SU(2)×U(1) breaking 7−18679
  - supermanifold cohomology and the Wess-Zumino term of the covariant superstring action 7−61186
  - supermembrane in 6D SUSY gauge theory, spontaneous breaking of D=4 N=2 global supersymmetry 7−30212
  - superpropagators for broken supersymmetric abelian gauge theories 7−19023
  - superspace mechanics as the classical limit of superfield theory 7−49012
  - superspace path integral measure of the $N=1$ spinning string 7−24852
  - superspace with underlying Banach stratification of connectivities, effective action supersymmetries 7−56459
  - superstring alternative of b-quark interactions 7−61517
  - superstring compactification on Calabi-Yau manifolds, conformal invariance 7−10047
  - superstring compactifications, large radius expansion 7−41758
  - superstring compactifications, orbifolds with nonabelian space groups 7−35366
  - superstring fermion amplitudes, covariant, sum over fermionic surface 7−9999
  - superstring field theories, symmetry structs., rigid space-time supersymmetry 7−5075
  - superstring in 4D, evolution with temp. and possibility of inflation 7−9728
  - superstring low energy theory, spontaneous breakdown of E_6 7−9736
  - superstring model, baryogenesis and entropy generation 7−66801
  - superstring models, baryon and lepton number violation 7−35817
  - superstring models, baryon and lepton number violation 7−48498
  - superstring models, candidates for inflaton field in cosmology 7−40976
  - superstring models, neutral E_6 gauge boson 7−61196
  - superstring models, neutrino mass and baryon number violation 7−48499
  - superstring models, renormalisation group anal. 7−9737
  - superstring models, theory of everything 7−15087
  - superstring models on Calabi-Yau manifolds, gauginos and Higgs particles 7−61514
  - superstring models with intermediate scale breaking, inflation as cure for cosmological problems 7−56113
  - superstring models with vacuum expectation values for conjugate sneutrinos 7−24863
  - superstring modifications of Einstein's equations 7−9727
  - superstring neutrino mass problem without high intermediate energy scale, soln. search 7−15096
  - superstring orbifold compactification hierarchy of quark-lepton masses 7−35364
  - superstring phenomenology, general review 7−61199
  - superstring phenomenology, Kaluza-Klein compactifications 7−24522
  - superstring theory, classical symmetries in the low-energy limit 7−24804
  - superstring theory, elementary introduction *(Japanese)* 7−41205
  - superstring theory, supersymmetric 10D low-energy limit 7−48515
  - superstring theory, time variation of Newton's gravit. constant 7−18661
  - superstring theory, topological sectors 7−61193
  - superstring-inspired standard model 7−24526
  - superstrings, bosonic gauge interactions, implications at lower energies 7−56126
  - superstrings, energy splitting of gauge field vacua 7−35842
  - superstrings, fermion emission vertex and space-time supersymmetry 7−35770
  - superstrings, finite-temperature instability for compactification 7−9564
  - superstrings, fundamental quantum theory 7−455
  - superstrings, gaugino mass contributions in low-energy limits 7−24812
  - superstrings, problems for (2,0) compactifications 7−5023
  - superstrings, supergravity models from truncation mechanism 7−61211
  - superstrings and preons, uniqueness, parameterlessness and good quantum gravity 7−9738
  - supersymmetric models of particle physics and their phenomenology, review 7−56467
  - supersymmetrization of $\zeta(3)(R_{\mu\nu\rho\sigma})^4$ in superstring theories 7−29856
  - SUSY σ model, (1,0), action calc. using supergravity tensor calculus 7−56137
  - SUSY σ models and world-sheet supersymmetry 7−19005
  - SUSY degeneracy, soft breaking by trilinear soft terms 7−15081
  - SUSY electroweak model, N=1 supergravity extension, cosmology of phase transition 7−445
  - SUSY extension of gauge anomaly, direct proof of uniqueness 7−5006
  - SUSY field theory, effects of conserved charge density, goldstinos and Goldstone modes 7−41657
  - SUSY grand unified theories, softly broken, tree-level fine-tuning problem, Higgs field mass parameter variation 7−408
  - SUSY nonlinear σ-models based on $E_l(l=6, 7, 8)$ groups, global anomalies 7−9969
  - SUSY QCD, nucleon spin conservation at short distances 7−490
  - SUSY quantum theory, scattering 7−56079
  - SUSY R^2 actions, conformal invariance and six-, ten-dimensional Lorentz Chern-Simons term 7−29854

supersymmetry continued
  SUSY theories, two-dimensional, SUSY breaking to next-to-leading order in 1/N expansion 7−5002
  SUSY Yang-Mills theories and QCD, structure fn. comparisons in leading log approximation, second moments 7−5095
  SUSY Yang-Mills theory, effective Lagrangian 7−407
  symmetry, supersymmetry, supergravitation *(German)* 7−61207
  ten dimensional heterotic string, supersymmetric compactification on coset manifolds 7−24823
  ten dimensional off-shell superspace, heterotic string-induced modification 7−29855
  three-generation superstring model, compactification and discrete symmetries 7−35818
  topology massive gravity in the dreibein light-front gauge 7−41188
  twisting toroidally compactified heterotic strings with enlarged symmetry groups 7−35822
  type-I SO(32) superstring theory, proof of one-loop finiteness, response to comment 7−41224
  type-I SO (32) superstring theory, proof of one-loop finiteness, comment 7−41223
  type-I superstring, one-loop gauge anomaly 7−35736
  valley construction in supersymmetric model with E_6 gauge group and matter 27-plet 7−41667
  weak form factors and supersymmetry 7−61490
  Wess-Zumino gauge, translational invariance consistency, superfield anal. 7−41658
  Wess-Zumino model, coupling constant behavior at high temp. 7−41664
  Wess-Zumino supermultiplet, Lagrangian constraint free theory 7−388
  Witten's action, relation to SUSY Yang-Mills action, use of Parisi-Sourlas mechanism 7−61626
  Witten index at finite temperature 7−35733
  WKB spectra, exactness for shape invariant potentials 7−35732
  Yang-Mills equations, formal power series solns. 7−4949
  Yang-Mills theories, supersymmetric, coupled chiral and supersymmetric anomalies 7−41600
  Yang-Mills theory, constraints and field equations in 10D 7−383
  Yang-Mills theory, harmonic superspace formalism and consistent chiral anomaly 7−18999
  Yang-Mills theory, N=2 in 4D, superconformal transformations 7−56442
  Yang-Mills theory, Riemann-Hilbert problem for constraint eqns. 7−48944
  Yang-Mills theory, self dual condition 7−35660
  B^0 - $\bar{B}^0$ system, CP violation, left-right mixing, SUSY standard model comparisons 7−24805
  $e(\bar{e})p$, nucleon structure fns., SUSYQCD anal. 7−61689
  e electric dipole moment bounds in a wide class of models 7−41815
  $e^-e^+\to f\bar{f}$, asymmetries and cross section, superstring gauge boson effects 7−499
  $e^+e^-\to$ neutralinos, production and decay anal. 7−15140
  $e^+e^-\to e^+\tilde{\gamma}\tilde{e}^-$, longitudinally polarized beams, longitudinal and P-violating asymmetries, supergravity GUT calcs. 7−5082
  $e^+e^-\to\mu^+\mu^-$, radiative corrections to charge asymmetry in supersymmetric theories 7−5081
  $e^+e^-\to$neutralinos, CP violation effect, SUSY electroweak model anal. 7−10065
  $e^+e^-\to X$, effects of Z′-bosons from superstring or nonlinear σ models 7−444
  $e^+e^-\to X$, single photon search and supersymmetric particle mass limits 7−533
  $e^+e^-0\to X$, sparticle pair prod. with polarized beams 7−61493
  ep→ep, scattering asymmetries, superstring gauge boson effects 7−499
  lN→X, structure functions and parity violation in supersymmetric QCD 7−61700
  ν, superstring-induced mass and mag. moment 7−35824
  $\bar{p}p$, $\sqrt{s}$ = 630 GeV, search for monojet and multijet events with large missing p_T 7−10076
  $\bar{p}p$, one-jet events, colour scalar bosons as source of jets 7−5134
  $p\bar{p}\to H^+H^-$, SUSY Higgs production, SUSY standard model calcs. 7−61763
  pp→light gluinos, production cross section calcs. 7−10079
  $\bar{p}p\to X$, cross-sections for supersymmetry production 7−560
  $\pi^-p\to$light gluinos, production cross section calcs. 7−10079
  $\tilde{W}\to l\nu\tilde{\gamma}$, supersymmetric signals in leptonic decays 7−41808
  $\tilde{W}$ mass, astrophysical bound 7−5005
  $Z\to\tilde{h}\tilde{h}h$, Higgs boson signature 7−61678
  $Z\to l^+l^-$, supersymmetric signals in leptonic decays 7−41808
  $Z^0\to$neutralinos in supersymmetric SU(2)×U(1) model 7−519
  ^{195}Ir low-spin positive-parity states identification U(6/4) supersymm. representations 7−41869
  μ anomalous mag. moment, supersymmetry corrections in N=1 supergravity 7−35876
  ^{195}Pt(^{32}S, ^{32}S′), 125 MeV, levels and transitions, B(E2) values, SUSY classification in IBFM 7−30310
  ^{98}RU, supersymmetric U(6/2) scheme *(Rumanian)* 7−15189
  ^{99}Rh, supersymmetric U(6/2) scheme *(Rumanian)* 7−15189
supply systems (electric) *see power systems*
supports
  see also poles and towers
  heart valves, prosthetic, flexible support frame 7−3938
suppression wavemeters *see wavemeters*
suppressors (surge) *see surge protection*
surface acoustic wave devices
  see also acoustic microwave devices; acoustic parametric amplifiers; acoustic parametric devices; acoustic parametric oscillators
  5 GHz range SAW filter fabricated by electron beam exposure with O_2-plasma ashing techniques 7−20534
  accelerometers using integrated thick and thin film technologies 7−301
  acousto-electro-optic device, Raman-Nath regime meas. and calc.. 7−20550
  acousto-optic signal processors, polarisation effects 7−25723
  acoustoelectronic Rayleigh wave devices 7−1350
  acoustooptical Bragg diffraction, devices and appls. 7−45983
  beam deflector of SAW formed by an IDT array of 'flash grating' type *(Chinese)* 7−20514
  centrosymmetrical dielectric, Rayleigh waves on surface excited by external periodic electric field 7−31614
  chemical piezoelectric sensor and sensor array characterisation 7−54200
  chemosensor, processes involved at chemical interface 7−65376
  coating responses, rel. to solubility and chem. struct., pattern recognition 7−54162
surface acoustic wave devices continued
  compensation of diffraction effects in SAW-filters using the uniform asymptotic expansion 7−57648
  conical axicon used as a SAW focusing device 7−57645
  dispersive delay line, SAW, using dispersive interdigital transducer with periodic electrodes 7−6053
  dispersive delay line design 7−20530
  excitation, detection and reflexion of Rayleigh andsurface skimming bulk waves 7−1374
  fan shaped SAW transducers, characts. distortions, anal. and compensation 7−20554
  fast computation of SAW diffraction by asymptotic techniques 7−57623
  filters, acoustic field investig. using fibre optic homodyne laser probe 7−1358
  filters, appls. of classical truncated cosine series functions 7−57647
  filters, method for false signal level reduction 7−57640
  filters using 3-transducer config. 7−20532
  frequency control, conf., Philadelphia, PA, USA (May 1986) 7−55893
  frequency trimming by sputter etching 7−20531
  gas sensors, design aspects, review 7−48716
  guided SAWs in surface acoustic Δν/ν waveguides on anisotropic piezoelec. substrates, approx., anal. *(Japanese)* 7−43603
  integrated SAW transducer using reflective periodic structures 7−1375
  interdigital transducers, anal., validity of model of Tancrell and Holland 7−6068
  interdigital transducers, equiv. cct. taking propag. loss into account 7−20565
  metallic gratings, equivalent network analysis 7−20563
  multifrequency SAW waveguide resonators, amplitude-freq. characts. anal. 7−16050
  NDT applications of laser-generated focused acoustic waves 7−17754
  planar ultrasonic transducers using $LiTaO_3$ poled with interdigital electrodes 7−20564
  polarimeter spectrometer for radio astronomy 7−14495
  quartz, leaky surface wave propag. characts. and new cut with small temp. coeff. 7−12453
  quartz, natural single phase unidirectional low-loss SAW transducer 7−1359
  quartz, surface wave propag. characts. and influence on device performance 7−12451
  Rayleigh wave device fabrication technology 7−1352
  Rayleigh wave linear filters 7−1346
  Rayleigh wave nonlinear convolver components 7−1349
  Rayleigh wave resonators and delay lines, 1/f noise 7−1348
  Rayleigh wave scattering by wedge, boundary method approach 7−26196
  Rayleigh wave theory and appls., conf., London, England (July 1985) 7−22
  Rayleigh wave transducers 7−1373
  Rayleigh waves, modern technology, systems impact 7−1351
  resonator and oscillator appls. of Rayleigh waves 7−1347
  resonators, 600 MHz band, driving current dependence of aging drift 7−20553
  resonators, acceleration and vibration effects 7−57644
  resonators, continuous representations of mode shape 7−57663
  single-phase unidirectional SAW transducer analysis 7−57658
  streak and framing camera designs using SAW-CTD imagers 7−56368
  stress and temperature compensated orientation and propagation direction for surface acoustic wave devices 7−57646
  transducer, layered struct. tempering *(German)* 7−31615
  ultrasonics conference, San Francisco, USA (Oct. 1985) 7−11
  waveguide-type optical separators using acousto-optical effects 7−62825
  wide-band and low-loss unidirectional SAW filter 7−20533
  Zenith acoustic touchscreen using SAW technology 7−6066
  AlN-sapphire, low temp. epitaxial film growth 7−13387
  $AlPO_4$ delay lines, heat treated, IR meas., temp. coeff. of delay and insertion loss 7−13486
  CuAl-quartz, SAW resonators, annealing behaviour and phase noise performance 7−11242
  GaAs acoustic charge transport device using SAWs, signal processing appl., principles and performance 7−57653
  GaAs:Cr free and metallised surfaces, SAW absorpt. meas., hybrid SAW semicond. devise appls. 7−52217
  $Li_2B_4O_7$, temp. compensated piezoelectric cryst. SAW study 7−12452
  $LiNbO_3$: Ti waveguide collinear Bragg diffr. cell, acousto-optic interaction efficiency anal. 7−37234
  $LiNbO_3$, 180° SAW reflectivity and vel. perturbation of thin metal dot arrays 7−2329
  $LiNbO_3$, natural single phase unidirectional low-loss SAW transducer 7−1359
  $LiNbO_3$, proton exchanged, SAW props. study 7−12454
  $LiNbO_3$ SAW oscillator for humidity and temp. meas. 7−4232
  PZT ceramic SAW interdigital transducers, anal., validity of model of Tancrell and Holland 7−6068
  $PbLaZrO_3TiO_3$, electrostrictive ceramics, SAW transduction, electronic control 7−12450
  $PbMgO_3NbO_3$, electrostrictive ceramics, SAW transduction, electronic control 7−12450
  $Pb(Ti,Zr)O_3$ monolithic bimorph with internal electrodes 7−20559
  $ZnO/Y_{2.8}La_{0.2}Al_5O_{12}$ SAW resonator struct., amplitude-freq. and phase-freq. characts. 7−16051
  $ZnO-SiO_2-Si$ SAW chemosensor for NO_2 gas concentration meas. 7−3621

surface acoustic waves
  see also acoustic waves; Rayleigh waves; surface acoustic wave devices; surface phenomena
  acoustic microscope spherical focusing transducers, ray-optical analysis 7−1371
  acoustic surface waves on an impenetrable cylinder with periodically varying circular cross section 7−43475
  acoustoelectronic interaction of surface acoustic waves in structures with a piezoelectric insulator layer 7−63932
  alloy film, magnetostrictive, on glass substrate, magneto-SAW propag. 7−22127
  anisotropic surface film lenses, SAW propag. 7−16023
  bulk waves radiated from IDT on anisotropic substrate 7−43515
  displacement/anisotropy relationship for crystal structures 7−1310
  excitation of surface waves by sound in a liquid containing gas bubbles 7−62883
  ferroelastic film on deformable substrate, Love waves and domain struct. near phase transition 7−52216

surface acoustic waves continued
  ferroelectrics with multi-domain layers, fabrication and SAW excitation 7−27676
  flaw detection, high-resolution holographic techniques for visualization of surface acoustic waves 7−28251
  Gaussian beam divergence meas. using SAW modulation 7−20297
  helical surface waves on an elastic cylinder 7−50800
  Lamb wave flaw inspection appls. 7−20540
  Lamb wave velocity meas. in thin plates by acoustic microscopy 7−2332
  laser-induced instabilities in semiconductor and metal surfaces, nonlinear optical diagnostics 7−2061
  leaky wave spatial spectrum generated by guided wave scatt. from acoustic wave 7−31460
  $LiNbO_3$ proton-exchange 128° Y-cut optical waveguides, acousto-optic interaction effects 7−62824
  liquid-solid interfaces, refl. acoustic field distrib., nondestructive evaluation *(Japanese)* 7−57651
  liquid/solid structure, effects of liq. viscosity on US propag. 7−21356
  Lord Rayleigh's research activities 7−62
  magneto-surface-acoustic-wave propagation, anal. considering micro-eddy current loss 7−27589
  maximal surface-acoustic wave generation by thermoelasticity 7−1313
  mode conversion in layered structures with magnetic inhomogeneities 7−62878
  NDT using SAW techniques 7−3571
  nonequilibrium solid, SAW attenuation, gas-induced high freq. anomalies 7−52218
  optical detection of nanosecond acoustic pulses 7−43584
  optical detection of ultrasound 7−43583
  photothermal generation of Rayleigh waves 7−43621
  piezoelectric substrates, Stoneley waves propag. along interface between same materials, theoretical anal. *(Japanese)* 7−32781
  piezoelectric transducer array elements, 2D displacement anal. 7−43617
  polycrystalline materials, evolution of scatt. loss by line-focus-beam acoustic microscope 7−2331
  pressure wave propagation in fluid flowing through porous medium 7−6310
  quantum aspects of Rayleigh waves; surface andinterface-waves at very high frequencies 7−1312
  quartz, leaky surface wave propag. characts. and new cut with small temp. coeff. 7−12453
  quartz, surface wave propag. characts. and influence on device performance 7−12451
  Rayleigh pulse interactions with cracks and slots, noncontacting study using lasers 7−46756
  Rayleigh wave generation using acousto-optical interactions 7−1376
  Rayleigh wave propag. theory developed by Lord Rayleigh 7−1309
  Rayleigh wave theory and appls., conf., London, England (July 1985) 7−22
  Rayleigh waves, laser interferometry meas. 7−1345
  Rayleigh waves and associated acoustic wave mode propag. 7−1311
  Rayleigh waves using laser generation and EM acoustic transducer detection 7−44979
  reflections, two-component, from surface breaking slots 7−50819
  resonant phase matching of surface waves on impenetrable spheroids 7−50805
  rolled materials, surface wave meas. 7−20539
  SAW reflection/transmission at boundary between metallized and free surfaces *(Japanese)* 7−11204
  scanning acoustic microscopy, appls. of Rayleigh waves 7−1353
  semiconductor fast surface state parameter meas. using SAWs 7−11230
  semiconductor superlattices, surface EM waves, amplification 7−17075
  semiconductors, Rayleigh wave excitation during optical pulse absorption 7−38314
  SH wave propag. in piezoelectric ceramic plates 7−21603
  shear SAWs in region of spin-reorientation phase transition 7−38921
  shear subsurface wave propag., viscous loading effects 7−16021
  surface (111), surface ripples, depend. on laser pulse width 7−12445
  surface acoustic solitons, attenuation due to surface roughness 7−21599
  surface magnetoelastic wave excitation by meander-line transducer 7−62936
  surface-breaking cracks, noncontact detection using laser acoustic source and EM acoustic receiver 7−3551
  time harmonic cylindrical SAW excitation 7−43470
  ultrasonic microspectroscopy using Rayleigh waves 7−1354
  Al cylinder in water, Franz and Stoneley SAW mode obs. 7−1303
  Al, SAW generation by thermoelasticity for nondestructive testing appl. 7−44981
  $AlPO_4$, heat treated, IR meas., temp. coeff. of delay and insertion loss 7−13486
  Au on NaCl, elastic surface wave anomalies near cluster to layer transition 7−21606
  $Ba_{0.5}Sr_{0.5}TiO_3$ polycryst. films, SAW scatt. and ferroelec. transitions 7−44984
  $(BiLu)_3(FeGa)_5O_{12}$ film, magnetic bubble motion, Rayleigh surface wave effects 7−33245
  GaAs, piezoelectric, SAW slowness surfaces 7−38315
  GaAs, Rayleigh wave propag., 7−2334
  GaAs:Cr free and metallised surfaces, SAW absorpt. meas., hybrid SAW semicond. devise appls. 7−52217
  GaAs/$LiNbO_3$ struct., SAW parametric generation with light pumping 7−63934
  GaAs-$Ga_{1-x}Al_xAs$ superlattices, Brillouin scatt. 7−3063
  a-H_2O films, low temp. elastic props. 7−45099
  He-Ne laser beam divergence meas. using $LiNbO_3$ SAW interaction 7−1211
  InP, optical generation and phase-sensitive detection of SAWs 7−58598
  InSb/$LiNbO_3$ layered struct. `with transverse drift, SAW detection 7−12447
  $Li_2B_4O_7$, temp. compensated piezoelectric cryst. SAW study 7−12452
  $LiNbO_3$, leakage SAW propag. characts. for new cut *(Japanese)* 7−44985
  $LiNbO_3$, proton exchanged, SAW props. study 7−12454
  $LiNbO_3$, proton-exchanged, acoustic microscopic studies 7−21597
  $LiNbO_3$ SAW bifurcation and chaotic state obs. 7−2333
  $LiNbO_3$, shallow gratings, leaky surface waves, trapping and temp. compensation 7−12449
  $LiNbO_3$/CdSe multilayer structs. with ohmic contacts, electroacoustic conversion, SAW excitation 7−58839
  $LiTaO_3$, 36°YX-cut, interaction of leaky SAW with bulk waves under metallic grating 7−2330

surface acoustic waves continued
  Li_2TiO_3, shallow gratings, leaky surface waves, trapping and temp. compensation 7−12449
  Mn-Zn ferrite US scatt. loss evaluation by line-focus-beam acoustic microscope 7−2331
  P, black, surface acoustic props., Brillouin scatt. study 7−38316
  PZT-adhesive-PZT (glass), acoustic boundary waves propag. along thin layer between two bonded substrates 7−21602
  Pb, superconducting granular film SAW attenuation, percolation model 7−2781
  $PbLaZrO_3TiO_3$, electrostrictive ceramics, SAW transduction, electronic control 7−12450
  $PbMgO_3NbO_3$, electrostrictive ceramics, SAW transduction, electronic control 7−12450
  Si, SAW generation by optical irradiation 7−63933
  Si, slow surface state determ. by SAW technique 7−21959
  n-Si, ultraheavily doped, Rayleigh surface waves, Brillouin scatt. study 7−21605
  Si-WSi_2, effective elastic consts., surface acoustic wave anal. 7−58597
  SiO_2-YX-SiO_2 anisotropic layered systems subject to static deformation, dispersion 7−43495
  $Sr_{1-x}Ba_xNb_2O_6$ bronze piezoelectric for SAW device applications 7−17271
  Ta_2O_5 strip waveguides, SAW propag. and acousto-optic interaction efficiency 7−20583
  ZnO films on Si substrates, layer acoustic mode propagation, electroelastic effect 7−44978
  ZnO thin film layered struct., SAW rapid attenuation 7−44983
  ZnO-AlN-glass, SAW characts. study 7−12448
  ZnO-SiO_2 multilayer structures, SAW propag. characts. 7−21601
  ZnO-YIG-$Gd_3Ga_5O_{12}$ surface magnetostatic wave scatt. by SAW 7−64507

surface activity *see surface energy*

surface-atomic beam collisions *see atom-surface impact*

surface charging *see static electrification*

surface chemistry
  see also chemisorption; corrosion; oxidation
  acrylamide, UV irrad., free radical reactions with gases, ESR obs. 7−10633
  activated chemisorption, internal degrees of freedom and measured activation energies, activation mechanism determ. 7−27113
  alkaline earth orthovanadates, surface electrochem. of O, cyclic voltammetric obs. 7−33957
  alloys, amorphous, friction and wear behaviour rel. to microstruct. and surface chem. 7−8127
  arachidic acid spontaneously adsorbed monolayer on Ag, surface organisation, IR spectra obs. 7−46164
  benzene, chemisorbed on Pt {110}, influence of orientation on H-D exchange reactions 7−59781
  bimetallic film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7−21705
  bimolecular surface reaction kinetics, adsorbate islanding effects, Monte Carlo model 7−65342
  binary metal alloy clusters, generation and reactivity 7−15784
  biological coal beneficiation micro-organisms 7−65387
  bond making and breaking at surfaces 7−28335
  catalyst surface, fractal clustering of reactants 7−3605
  3D chemically nonequilibrium viscous shock layer on catalytic surface 7−20810
  coatings and surface modifications, conf., Toronto, Ont., Canada (Oct. 1985) 7−41004
  condensed media, powerful surface EM wave generation role in intense light effect 7−33348
  conference, Julich, Germany (April 1986) 7−55890
  diffusion of reactive gases through porous shells, reaction of microparticles 7−65343
  electroactive species, Fourier transform IR reflectron absorpt. spectra 7−23093
  elemental targets, reactive sputtering, surface interactions 7−22431
  ethane, adsorpt. and reaction on Fe and Ni films, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
  ethylene, adsorpt. and reaction of Fe and Ni films, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
  Fecralloy, interaction with $Na_2O.2SiO_2$ glass 7−3501
  field emission, conference, Berlin, Germany (July 1986) 7−29577
  flavin derivatives, adsorbed on oxide layers, photophysics study 7−7738
  fluorozirconate glass, chem. durability, reaction with water 7−39682
  III-V semiconductor-metal interface, reaction and interdiffusion, review 7−21544
  III-V semiconductor-metal interface, thermodynamic stability considerations 7−21490
  IR Fourier transform spectroscopy for investigating elementary processes in gas-solid interaction 7−33986
  irreversible surface reactions, kinetic phase transitions, mean-field theory 7−33962
  ketene adsorbed on Pt(lll), surface chemistry, substrate temp. influence, EELS 7−46867
  laser surface treatment, recent developments 7−21274
  macrotransport processes in the presence of bulk andsurface chemical reactions 7−8299
  metal bulk sample, laser heating and combustion by obliquely incident radiation 7−26795
  metal films, etching, kinetic model, electron flux activation 7−3492
  metal surface, pulsed laser induced desorption 7−58617
  metal surfaces, chemisorpt., surface bond length anal. 7−23057
  metal-carbide composites, implantation modified, friction, surface chemistry 7−46660
  methacrylamide, UV irrad., free radical reactions with gases, ESR obs. 7−10633
  methane, deposition plasma, homogeneous and heterogeneous chemistry, deposition of C:H 7−39424
  molecular photodissociation, at structured metal surface, surface effects 7−15663
  muonium+ethylene, reaction, on amorphous SiO_2 7−54166
  Odessa Fe meteorites, plasma cleansing and reduction 7−34956
  organic molecules at surfaces, Fourier transform IR studies 7−54220
  plasma collector probes, surface layer analysis 7−58053
  plasma processing, conf., Palo Alto, CA, USA (April 1986) 7−35109
  polyamides, aliphatic, nonhomogeneous thermooxidative degradation during heat ageing *(Russian)* 7−28060

surface chemistry continued
  - polyethylene, oriented films, oxidation effects on dynamic and struct. parameters *(Russian)* 7−17823
  - polymer film deposition, electron beam induced polymerisation 7−27898
  - polymer surfaces, IR laser irradiation, physico-chem. and chem. transforms 7−65350
  - polymers, plasma oxidation, rates and mechanisms 7−23065
  - polymers, thermoreactive, polyphenylene-type, tribochem. processes and wear resist. 7−28148
  - polyphenylene oxide article surface, nonstationary thermal field created by IR laser radiation, chem. processes control 7−16622
  - polyurethane biomaterials, hydrolytic stability in model biological media, surface morphology changes 7−17673
  - powdered coating bonding during plasma deposition, diffusion kinetic mechanism 7−32874
  - practical applications of surface analysis 7−8329
  - propionamide, UV irrad., free radical reactions with gases, ESR obs. 7−10633
  - PVC surface, sputtered, AES, electron beam induced dissociation 7−20077
  - (10-(3-pyrenyl)decyl)dimethylmonochlorosilane, chemically bonded to silica surfaces, solvent effects on config., excimer decay profiles 7−22329
  - pyridine, chemisorbed on Pt {110}, influence of orientation on H-D exchange reactions 7−59781
  - reactor steam generator pitting, electrochemical effects on Ni-base alloys 7−10228
  - trans-retinylidene Schiff base, protonation on crystal surfaces, attenuated total refl. IR study 7−50102
  - sapphire, filaments, CO_2 laser heating, evaporation and chlorination 7−58331
  - scanning tunnelling microscopy appl. 7−18920
  - semiconductor electrodes, adsorption, review 7−16867
  - semiconductor surface chemistry, adsorption and desorption kinetic meas. combined with Auger spectroscopy 7−65348
  - solid surfaces, chemistry and physics, book 7−60891
  - solid-solution interfaces, transition probability of reactive processes, contrib. of medium phonons 7−54181
  - spacecraft glows, surface-catalysed reactions role 7−14401
  - steel, surface analysis by charged particle activation 7−46893
  - tribochemistry, chemical reaction increase by friction 7−46868
  - tubular CVD reactor, deposition rate and uniformity, diffusion and convection effects, mathematical model 7−22559
  - water adsorption and dissociation on Pt (111) contaminated with Si or oxidised Si 7−27134
  - zeolite 13X, hydrophobic, generation by exchange with octadecylammonium ion 7−13809
  - Ag (110), Br_2 adsorpt. and reaction, UV photoemission study 7−45014
  - Ag (110), clean and O_2 covered, adsorption and reaction of acetonitrile 7−28344
  - Ag (111), molecular O_2 chemisorpt., XPS studies 7−2374
  - Al surface, plasma oxidised, adsorption of benzoic acid and benzaldehyde, SIMS and XPS 7−65351
  - Al-polyacrylic acid interface, reactivity, comp., XPS 7−28334
  - Al-polyethylene interface, reactivity, comp., XPS 7−28334
  - $Al_{0.3}Ga_{0.7}As$, thermal and ion-assisted reactions with Cl_2 7−28349
  - Al_2O_3 surfaces, catalytic reactions, studies by positron annihilation 7−39309
  - Al_2O_3-transition metal film interfaces, thermal reaction, backscattering spectra, X-ray diffr. studies 7−52304
  - As_2S_3 thin films, dissolution investig., surfactant effects 7−6802
  - Au (110), clean and oxidised, adsorption and oxidation of CO and CO_2, surface reactions 7−59782
  - Au (110), clean and oxidised, adsorption of formic acid and formaldehyde, acid-base and nucleophilic reactions 7−59783
  - CN^-, oxidation at Pt electrode, polarisation modulation IRRAS 7−17836
  - CO adsorption on Cu (111)-Fe cryst. 7−21616
  - CO oxidation on Pt(100), kinetic oscillations, computer simulations 7−23061
  - CdS, oxidised, SIMS/XPS characterisation 7−39934
  - CdS reaction with aq. CuCl, TEM 7−39920
  - CdTe, cathodic electrochemical surface modifications, Cd layer form. 7−65239
  - CdTe, electrodeposition from acidic aq. solns., voltammetry 7−27188
  - p-CdTe, single crystal and thin film, chemical etching study 7−46724
  - Co catalyst, O_2 adsorpt. and oxidation of Si at CoSi (100) surfaces 7−46865
  - Co foil surface, preadsorbed K, CO adsorption, XPS and AES studies 7−8296
  - Co surface, metal atom catalysed oxidation, UPS and AES studies 7−46865
  - Cr film on polyimide, interface chemistry 7−46871
  - Cu, anodic oxidation in KOH soln., in situ spectroelectrochemical anal. 7−28192
  - Cu films, interaction with Cl_2, bulk diffusion processes 7−21783
  - Cu oxide films, form. mechanism and struct. 7−33956
  - Cu plates, monomer films form. and polymerisation 7−65347
  - Cu, with adsorbed O, reaction with CO and H_2 7−59784
  - Fe (III) surface, K precovered, promotion of surface reactions with N_2 7−13807
  - Fe (100) with adsorbed CO, adsorbate tilted dissociation precursor 7−58642
  - Fe (111), CO_2 adsorption and dissociation, ARUPS 7−63961
  - Fe cathode surface, plasma nitriding, N conc. profile modelling 7−54188
  - Fe, layer growth on polysiloxane surface in stream of H_2-Cl_2 mixture *(Russian)* 7−65353
  - Fe, reaction with HCl-O_2-Ar mixtures at 550°C 7−17713
  - Fe, surface, H_2 and N_2 interactions, pulsed laser atom probe studies 7−32811
  - Fe surface, polycryst., interaction with $O_2(N_2)$, electron spectrosc. obs. 7−7794
  - Fe surface oxide layer, reduction by H adsorption, AES and LEED studies 7−8297
  - Fe-Si (3 wt.%) alloy, denitriding in solid state on heating in vac. 7−8159
  - GaAs (100), surface Fermi level unpinning in air using photochem. 7−2655
  - GaAs epitaxial films, growth by close-spaced vapour transport, unwanted doping, X-ray diffr., SEM obs. 7−27187
  - GaAs, laser-enhanced oxidation, X-ray photoelectron and Auger electron spectroscopy 7−17739
  - n-GaAs, photoelectrochemical etching, orientational depend. 7−65224

surface chemistry continued
  - GaAs/Al(Mn)(Ag) interfaces, interactions, XPS and elec. transport studies 7−7384
  - GaAs-thermal oxide interfacial chem. reactions, Raman spectra, AES 7−27145
  - GaAs(100), thermal and ion-assisted reactions with Cl_2 7−3537
  - Ga_2O_3, surface O photoactivation, struct. *(Russian)* 7−65352
  - Ge surface, GeO stabilisation on laser irrad., X-ray photoelectron spectra anal. 7−46723
  - H_2, ortho-para conversion, non-dissociative, on mag. surfaces, theory review 7−17781
  - $Hg_{1-x}Cd_xTe$/Pt interface, overlayer-cation reaction, XPS, UPS and LEED studies 7−65349
  - I retention by Fe surface, role in source term reduction, reactor accident anal. 7−33961
  - In surface, electrochem. H evolution in US field 7−11231
  - InP/Al(Mn)(Ag) interfaces, interactions, XPS and elec. transport studies 7−7384
  - InP/Pd (110) interface, chem. reactions, overlayer morphology and Fermi level pinning 7−7020
  - $Mn_{1-\Delta}O$, manganosite, relax. kinetics in CO-CO_2 mixtures 7−58539
  - Mo (100), chemically modified, chemisorption bond energies of Lewis acids and bases 7−23056
  - Mo (100), chemically modified by adsorption of B, C, O, CO, surface atom oxidation states, ESCA meas. 7−28333
  - Mo (100), clean and with S or C overlayers, adsorption and reactions of hydrocarbons 7−28345
  - $Mo(CO)_6$, adsorbed on Si(111), laser induced electronic excitation followed by CO desorption 7−12470
  - MoS_2, surface chemistry and props., photoemission, SIMS and SEM anal. 7−44971
  - MoS_2-Co catalyst-promotor interaction, UPS, XPS, LEED studies *(Chinese)* 7−39913
  - NbSe single crystals, vapour transport growth, superficial charactn., AES 7−46253
  - Ni (100), chemisorption and decomposition of ethylene 7−59785
  - Ni (100), clean and O covered, adsorption and decomposition of N_2O 7−58644
  - Ni (111), adsorption and reactions of methyl thiocyanate 7−21640
  - Ni (111), chemisorption of acetonitrile or benzonitrile, XPS 7−21641
  - Ni, hydrogenation, getter effect of Cu substrate 7−13804
  - Ni/GaAs film/surface reaction, TEM 7−39920
  - Ni/Zr thin film diffusion couples, amorphisation, DSC studies 7−26639
  - Ni-Fe (100) surface, break-up of oxide films by S_2 impingement, LEED and AES meas. 7−46260
  - Ni-$GeCl_4$, binding energy rel. to Ni chem. state, XPS 7−17820
  - NiO (100), adsorption of CO, ethylene and H_2O, surface reactions 7−23055
  - NiO, adsorption of NO, IR transmission spectra, calorimetry studies 7−58640
  - O+CO adsorbed on Pt, surface catalysed reaction, surprisal anal. 7−3601
  - O_2 7−3608
  - PbO adsorbed γ-methacryloxypropyltrimethoxysilane, chem. reaction, Fourier transform IR spectra 7−53308
  - Pd (100), clean and S covered, adsorption and desorption of NO, surface reactions, TPD, EELS, LEED 7−58639
  - Pd (111), CO and O co-adsorption, SIMS and TPD studies 7−27137
  - Pd electrodes, surface hydride formation 7−23067
  - Pd/Al_2O_3 surfaces, ethylidyne covered, CO adsorpt., IR spectra studies 7−2371
  - Pd/GaAs film/surface reaction, TEM 7−39920
  - Pd(111), adsorbed S, adsorbate oxidation kinetics *(German)* 7−33953
  - Pt (100) surface, defect struct. rel. to catalytic behaviour, scanning tunnelling microscopy study 7−6930
  - Pt (111), reaction of coadsorbed C_2N_2 and H_2 7−54186
  - Pt clusters in Y-zeolite, atomic and electronic struct. and chemical reactivity 7−32677
  - Pt electrode, in anhydrous methanol solns., added water effects 7−33936
  - Pt particle/Al_2O_3 surface, ethylene hydrogenation, intrinsic size effects 7−3607
  - Pt-Rh surfaces, N_2 and CO adsorption, temp. depend. and work function studies 7−33960
  - Rh (111), NO adsorpt. and dissoc., EELS and LEED study 7−16859
  - Ru (001), alkali modified, adsorption of O, TDS, AES, EELS, work function meas. 7−58637
  - Ru (001), coadsorption of H_2O and Li 7−21645
  - Ru (001), H_2 chemisorption, effect of coadsorbed O_2, LEED spectra anal. 7−33959
  - Ru, adsorpt. of ethylene, on (001) surface, $H_2(CO_2)$ coadsorpt. effects 7−32789
  - Ru, surfaces, CO reactions, $Ru(CO)_x^{n+1}$ formation, field desorption study 7−54183
  - SAW device, coating responses, rel. to solubility and chem. struct., pattern recognition 7−54162
  - SF_6, corona and glow discharges, electrode-F reaction influence 7−26565
  - Si (III) surface, Cu deposition, Auger electron spectrosc. obs. *(Russian)* 7−27833
  - Si (100), propylene chemisorption, reaction chemistry, active-site manipulation 7−39916
  - Si (100), reaction with propylene, adsorption and desorption kinetic meas. combined with Auger spectroscopy 7−65348
  - Si (100)2×1, interaction with O_2 and N_2O 7−63962
  - Si (111), metal atom catalysed oxidation, UPS and AES studies 7−46865
  - Si (111), single crystal, interaction with HCl, 190-720K 7−13817
  - Si (111) surface, H_2 dissoc. chemisorption dynamics 7−54169
  - Si, CVD in annular tubes, film thickness profiles in mixed convection-diffusion regime 7−27190
  - Si, chemically assisted ion beam etching using low energy Kaufman source 7−22931
  - Si, etching by HF-CrO_3-H_2O solns., selective dissolution studies 7−3530
  - Si, ion-induced etching, surface processes 7−59702
  - Si, oxidation, linear regime analysis, film thickness 7−46729
  - Si, photochemical etching in NF_3 gas, surface processes 7−59704
  - Si shallow p-n junctions, reactive ion etching damage, defects and leakage current studies 7−27411
  - Si substrate, anisotropic dry etching effects on surface props., XPS, ion channelling and Raman scatt. studies 7−28229
  - Si substrate for W CVD, effect of dopants and crystal perfection 7−22576
  - Si surface, atomic and mol. F reactions, XPS studies 7−28350

- **surface chemistry** continued
  - Si surface, etching by HCl/H_2 mixtures, low pressure gas composition 7–65221
  - Si surface, reaction probability with CF_2 radical from tetrafluoromethane plasma 7–23059
  - Si surface, reaction with propylene, effect of addition of H 7–54187
  - Si surface etching by HCl/H_2 gas mixtures 7–65220
  - Si, surface reaction with XeF_2, rel. to etching mechanism 7–17738
  - Si, thermal nitridation in NH_3, atomic transport mechanisms 7–8201
  - Si, wafer aqueous cleaning, chemical action, book contrib. 7–46737
  - a-Si:H, photo-CVD deposition, initial processes *(Japanese)* 7–7053
  - a-Si:H,D, H abstraction from surface, HD formation 7–39914
  - a-Si:H films, discharge and CVD deposition, surface reactions 7–33601
  - a-Si:H/Ti/Al system, solid state reactions, TEM and SAD studies 7–3602
  - Si:In, heavily doped, laser induced oxidation 7–13672
  - Si-pyrex, irreversibility of anodic bonding 7–33910
  - Si-Si surfaces, direct bonding, silanol group reactions and O diffusion mechanisms 7–21791
  - Si-transition metal interfaces, competing initial chemical reactions 7–21693
  - SiH_4, pyrolysis on hydrogenated a-Si surface, reaction mechanism and kinetics 7–13739
  - Si_3N_4 MNOS struct., CVD, elec. props., effects of deposition variables 7–52843
  - SiO_2 films thermally grown on Si, decomposition acceleration factors 7–63999
  - SiO_2, ion-activated chem. etching, laser interferometry studies 7–12424
  - SiO_2, ion-induced etching, surface processes 7–59702
  - SiO_2 refractories, corrosion by molten Mn steel *(Japanese)* 7–65167
  - SiO_2 surface interaction with ${CF_3}^+$ and ${CH_4}^+$, mol. sputtering model calcs., AES meas. 7–27854
  - SiO_2:Na with adsorbed SO_2 and H_2S, FTIR and Raman spectra obs., Na promotion of Claus process 7–46869
  - Ti-Si interface, silicide form., Auger and appearance pot. spectra studies 7–45031
  - TiO_2 on glass substrate, photocatalysis 7–23066
  - W, surface reaction with XeF_2, rel. to etching mechanism 7–17738
  - WO_3, supported on γ-Al_2O_3, dispersion, surface Ni spinel effects 7–59779
  - Zn, corrosion resistance improvement by surface modification with organic cpds. *(Japanese)* 7–8164
  - Zr cathode, material and structural changes during arc operation in N_2 7–46866
  - ZrO_2 high temp. surface, impingement of steam jet to produce H_2 7–54362

- **surface composition** *see surface structure*

- **surface conductivity**
  - *see also surface scattering*
  - n-Ge, many-valley semicond., surface photogalvanic effect calcs. 7–52679
  - glasses, characterisation by electron bombardment 7–32506
  - metals, anomalous skin effect, Fermi surface curvature effects *(Russian)* 7–58827
  - polymers, conducting, high temperature, synthesis reactions 7–2594
  - porous composites, transport props., pore-size parameter studies 7–38657
  - resistivity measurement methods and standards 7–61356
  - semiconductor, inversion bond bending at surface, generation-recombination noise 7–17067
  - semiconductors, dispersive transport under conditions of maximum population of localized states 7–52605
  - solar cells, illumination and surface recombination effects on currents, anal. 7–34046
  - Ba(Pb, Bi)O_3 superconducting ceramics, surface resistance 7–38829
  - CD surface resist. self-oscills. randomisation in the current-carrying state 7–45427
  - CsH(D)SO_4 7–63925
  - GaAs (100), ambient induced surface effects, O adsorption, photolum., conductivity 7–45429
  - GaAs (100) unpinned surface, picosecond transient reflectivity 7–59168
  - GaAs, DC conductivity, surface conductivity 7–21919
  - GaAs device structures, γ-ray effects, surface generation-recombination processes 7–64349
  - GaAs:Sn(Te)(Zn) surface layers, luminesc., electrophys. parameters, effect of annealing 7–64680
  - Ge cleaved surface in liquid He, photo-EMF production, quasi-2D carrier diffusion in surface cond. gradient 7–38636
  - Ge surface state characts., surface struct. and low temp. annealing effects 7–45426
  - HgI_2 single crysts., photoconduction, carrier surface generation and recombination 7–33045
  - In_2O_3:Sn-ZnS:Cu,Cl,Mn-Al, surface electrical conductivity in ZnS:Cu,Cl,Mn thin films 7–38672
  - InP (100), ambient induced surface effects, O adsorption, photolum., conductivity 7–45429
  - InP (110) cleaved surface and Schottky diodes 7–58850
  - NH_4HSO_4 single crysts., surface layer phase transitions, surface cond. anomalies obs. 7–63925
  - $RbHSO_4$ single crysts., surface layer phase transitions, surface cond. anomalies obs. 7–63925
  - a-Se:Te films, space-charge depletion studies of deep states 7–59148
  - Si (100), magnetoconductivity of nonequilib. electron-hole pairs associated with surface charge layer 7–38671
  - Si (111) in MIS struct., Hall resistivity of 2D electron gas in strong mag. fields 7–7391
  - Si (111)-7×7, temp.-depend. surface resistivity, electron energy loss meas. anal. 7–21973
  - Si, Auger recombination at low carrier densities 7–7328
  - Si, nondegenerate, minority carrier diffusion length and doping density 7–33031
  - n-Si, surface potential, stabilisation by ion bombardment 7–12782
  - Si, transverse photovoltaic effect due to intervalley diffusion of electrons under laser excitation conditions 7–38613
  - a-Si:H films, contact potential difference, surface photovoltage and conductivity 7–58855
  - Te (0001), conductivity of size-quantised holes, hydrostatic pressure effects 7–45428
  - TiO_2(110), stoichiometric and defective surfaces, chemisorption of H_2 and CO 7–6983
  - W surface resist. self-oscills. randomisation in the current-carrying state 7–45427

- **surface conductivity** continued
  - ZnO:H, quantised accumulation layers on ZnO surfaces, photoenhancement 7–7304
  - ZrO_2 substrates, sputtered Pt films, agglomeration and electrical conduction props. 7–52859

- **surface diffusion**
  - *see also sorption*
  - adatom diffusion on hexagonal lattice 7–21636
  - adsorbed particles, surface migration 7–2368
  - adsorbed particles, tunnel diffusion, effect of lateral interactions 7–27125
  - alloys, binary, self-diffusion in surface layer *(Russian)* 7–44898
  - chemisorbed atoms, vibration, electron-hole friction mechanism 7–38317
  - gases, adsorbed, surface diffusion, connectivity effects 7–46864
  - graphite surface with adsorbed H_2, rotational states of physisorbed molecules 7–52278
  - kinetics and energetics studies at surface and interfaces 7–2422
  - mass transport along surfaces, computer, modelling, book contrib. 7–27082
  - MBE growth fronts, mol. statics and dynamics studies 7–7065
  - MBE growth mechanism determ., dynamic RHEED method anal. 7–7062
  - metal surfaces, adsorbate binding 7–12491
  - metals, adsorbed H_2, kinetics model of chemisorption layer *(Korean)* 7–32813
  - Newns-Anderson model, time-depend., for moving particles on metal surfaces 7–52263
  - refractory metals, crystal growth and surface self-diffusion in high elec. fields, FEM studies 7–37914
  - rough surface, smoothing kinetics due to surface diffusion at low temp. 7–12414
  - semiconductor and metal adatom overlayers, diffusion and interactions 7–7012
  - sintering, solid-state, neck shape and limiting grain boundary diffusion/surface diffusion 7–64951
  - stearic acid, B modification, growth kinetics of (001) and (110) faces from n-alkanes 7–58174
  - steel, Cr-Mo-V, nitrided, wear resist rel. to preliminary thermomech. treatment 7–17659
  - steel, tool, surface layers, Cr and V diffusion 7–46685
  - substitutional impurity atoms uprise diffusion in cryst. near-surface layers *(Russian)* 7–44920
  - surface diffusivity variation on surface morphology and electromigration 7–63920
  - tip shape evolution, capillarity induced matter transport by surface diffusion 7–58592
  - AgCu powder, ultrafine, surface segregation of atoms during oxidation 7–54004
  - Au crystallites, diffusion process on (100) cleavage planes of KBr, KCl, NaCl 7–21590
  - Au thin films, on Au (111), surface-diffusion-induced ageing processes 7–45080
  - Au tip crysts. morphological evolution and surface self-diffusion, in situ scanning electron microscopy study 7–32239
  - CdS epitaxial films, initial oxidation stages, diffusion mass transport between CdO islands 7–8206
  - Cu, electrocrystallisation kinetics, surface ion conc. depend. on overvoltage in case of slow adatom surface diffusion *(Russian)* 7–2429
  - Cu, filament growth on Cu_2Se, superionic transport mechanism 7–45104
  - GaAs-Mo Schottky diodes, elec. characts. and microstruct. study 7–22015
  - In monolayer and multilayer surface diffusion, growth mode and thermal stability on W (100), LEED, TDS and scanning AES studies 7–2386
  - Ir foil sample, Cs diffusion and surface ionisation studies 7–3138
  - KH_2PO_4, crystal growth spiral morphology on {100} surfaces, impurity effects, step kinetics 7–16459
  - La epitaxial layer on W field emitter, surface self-diffusion studies 7–32702
  - $LiNbO_3$:Ti waveguides, Ti diffusion, model 7–21528
  - MgO, adsorption induced luminescence, O atomic and mol. beams 7–13231
  - Na clusters, at. desorpt. energies determ. 7–15787
  - $NbSe_4I_{0.33}$, vapour grown, cryst. growth by microsteps 7–58176
  - Ni (100), adsorbed S, segregation kinetics, AES and LEED studies *(Chinese)* 7–58607
  - PbSe films, elec. cond. and thermoelec. power, dynamic behaviour 7–2750
  - $Pb_{97.4}Sn_{2.6}$ alloy surface, sputtering related phenomena *(Chinese)* 7–59316
  - Rh (100), diffusion of Rh adsorbed clusters, classically exact overlayer dynamics 7–38328
  - Si (111) surface, H_2 dissoc. chemisorption dynamics 7–54169
  - Si ion implanted surface dopant cross-contamination, enhanced diffusion effects 7–32719
  - Si, MBE cryst. growth, dopant incorporation 7–12559
  - Si surface, Cs migration and equilibrium in strong elec. field 7–2351
  - Si surface, electromigration of Ag, In, Sb, and Sn ultrathin films, scanning AES study 7–63891
  - Si:B, diffused through narrow windows, doping profiles 7–12113
  - a-Si:H, photo-CVD deposition, initial processes *(Japanese)* 7–7053
  - Si:transition metals, anomalous diffusion and gettering 7–2264
  - Si-metal complexes on W(110), atomic interactions, FIM study 7–21691
  - W (011) plane, edge atoms surface migration activation energy, emission current meas. 7–32887
  - W surface, He fluid adsorption and diffusion, atom-probe field ion microscopy studies 7–32808
  - W surface, Hg absorption, field emission microscopy studies 7–32804

- **surface discharges**
  - *see also corona*
  - air, spark propagation at surface of charged dielectric, expt. 7–58077
  - air, spark propagation at surface of charged dielectric, theory 7–58078
  - glass, surface recomb. of electrons and ions, kinetic theory 7–46263
  - holographic device for recording rectilinear discharge propag. on a surface, lighting simulation 7–26575
  - impulse surface discharge in compressed air in nonuniform field, characts. 7–51550
  - ionising solitary waves of elec. field, propag. along dielec. surface 7–21025
  - light-ion fusion accelerator cleaning using surface discharges as intense photon sources 7–37800
  - optical pump sources, incoherent, based on surface discharges 7–15883

surface discharges continued
organic insulating materials tracking breakdown, associated discharge light emission characts. 7—44274
satellites, electron-irradiated dielectric discharges, statistical behaviour 7—55423

surface electron states
see also interface electron states; surface plasmons; surface scattering 7—27867
$(\bar{2}01)$ plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7—58846
actinide systems, photoelectron spectroscopy, review of present status 7—39348
adsorbate resonances, fractional occupation and van der Waals interactions 7—27376
adsorbate-induced initial states, angle-resolved photoemission cross section 7—17062
adsorbates, near edge X-ray adsorption fine structure spectroscopy 7—27822
adsorbates on metals, struct. of inverse photoemission spectra, model Hamiltonian study 7—33478
alkali halides, photon-surface interaction dynamics 7—27826
alkali metal adsorbed layers on solid surfaces *(Japanese)* 7—21966
alkali phosphates, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7—26816
ambipolar photoconductors with surface states, photoelec. amplification 7—38620
apparent adatom size w.r.t. density of states in scanning tunnelling microscope, bias voltage depend. 7—44321
bilayer systems, long-range surface phonon-polaritons, damping props. 7—12881
bond making and breaking at surfaces 7—28335
charged dielectric sphere, electron bound states 7—21960
chemisorbed atoms, electronic struct. and tunnelling current 7—6962
chemisorbed atoms, vibration, electron-hole friction mechanism 7—38317
chemisorption, substrate impurity effects 7—63964
classical grating and bigrating, light diffr., surface polariton resonant excitation 7—20129
condensed media, powerful surface EM wave generation role in intense light effect 7—33348
conference, Julich, Germany (April 1986) 7—55890
dielectric films, on compound semiconductors, conf., Las Vegas, USA (Oct. 1985) 7—35108
disordered alloy surfaces, density of states calc. 7—21961
disordered surfaces, electrons and 1/f noise 7—38669
electronic struct., initial stages of intercalation 7—53503
electronic structure of surfaces, interfaces andsuperlattices 7—2665
ethylene-vinylacetate-Ag copolymer-metal contact, pot. barrier electronic props., photocurrent spectra meas. 7—27419
ethylene-vinylacetate-Au copolymer-metal contact, pot. barrier electronic props., photocurrent spectra meas. 7—27419
excited states near a small metal particle, nonradiative lifetime 7—45422
exciton motion, influence on shape of optical absorption lines, appl. to surface vibrations 7—7317
ferromagnetic transition metal surface, H_2 chemisorpt., self-consistent model 7—16862
ferromagnets, electron energy loss spectrum in the near-specular regime, electron-hole excitations 7—33496
film, calc. using MT-Z potential 7—17064
film linearised muffin-tin orbital calcs., implementation and problems 7—27374
Fresnel optics, nonlocal corrections calcs. 7—45957
generalised Bethe lattices, chemisorpt. theory 7—7318
graphite (0001), adsorption of Cs, induced work function changes, LEED obs. 7—33064
graphite surface with Xe monolayer, H atom scatt. resonances 7—64864
helicons, electron beam interactions, energy exchange and magnetic damping calcs. *(Russian)* 7—21949
hybridisation interaction between He and metal surface 7—38664
III-V semiconductor surfaces, virtual gap states and Fermi level pinning by adsorbates 7—2654
III-V semiconductor surfaces (110), Sb p(1 × 1) overlayers, atomic and electronic struct. 7—7007
ion-surface collisions, excited state form. dist., reson. charge exchange, multichannel theory 7—46266
ionic crystals, surface excitons, EELS obs. 7—12781
laser-stimulated desorption of adsorbed molecules via electronic excitation 7—59309
linear-muffin-tin orbital method appl. *(Japanese)* 7—17059
local density for semiconductor surface narrow channels *(Chinese)* 7—7084
magnetism and electronic struct. at surfaces and interfaces, ab initio calcs. 7—58854
metal surface, adsorbate optical absorption spectra 7—27741
metal surface, interaction with dipole, electronic struct. calcs. 7—2663
metal surface state positron annihilation 2D ang. correl., jellium model calcs. 7—3106
metal surface with periodic profile, SHG, surface plasma waves 7—62776
metal surfaces, clean and adsorbate covered, electronic states 7—52719
metal surfaces, effective masses, lifetimes, images potential induce states 7—52722
metal surfaces, field adsorption of rare gases 7—21648
metal surfaces, inverse photoemission studies, review 7—59279
metal surfaces, plasmon effects on image states 7—7309
metallic films, electron states calc., allowance for transition layer in construction of pot. *(Russian)* 7—58733
metallic surface, image potential saturation 7—7314
metallic surface, pseudopotentials and dynamical props. 7—2341
metallic surfaces, positronium momentum spectra 7—52532
metallic thin films, surface electron light absorpt. Green's function method study *(Russian)* 7—21970
metals, electronic structures of lattice defects, tight binding recursion method 7—27289
molecular cryst. thin films, surface exciton calcs. 7—52429
multiple-scattering treatment of surfaces and interfaces 7—45420
nonlinear resonator, multistable excitation of a channelled surface polariton 7—38658
one dimension, effective range approx. 7—21963
polarised electrons in surface physics, book 7—29607
polystyrene thin film surfaces, electronic excitation, secondary electron emission studies 7—53460

surface electron states continued
positronium physisorbed on jellium surface, positron states model anal. 7—38347
pyrazine, adsorbed on Ag (111), affinity level, EELS, inverse and direct photoemission spectra studies 7—52724
pyridine, adsorbed on Ag (111) and Ag polycrystalline substrates, struct., electron bands, LEED, UPS 7—53506
radiationless carrier surface recomb. model calcs. 7—52646
rare earth metals, surface physics, reviews 7—27073
relativistic surface states of a finite crystal 7—2662
relativistic surface states of distorted surfaces, relativistic Kronig-Penney eqn. 7—7319
resonant optical medium surface, nonlinear refl. and refraction of scanning laser beam, integrodifferential eqns. method calcs. 7—43209
scanning tunnelling microscopy, current saturation through image surface states 7—7320
secondary electrons, energy distribution, relationship with surface electron struct. 7—22396
semiconducting crysts., surface reconstruction model calcs. 7—32780
semiconducting materials, cryst., and device appls., book 7—60894
semiconductor, inversion bond bending at surface, generation-recombination noise 7—17067
semiconductor, surface space charge layer, electronic self-energy calc. *(Korean)* 7—27373
semiconductor clusters, zero-dimensional excitons, localised surface states 7—12615
semiconductor electrodes, adsorption, review 7—16867
semiconductor fast surface state parameter meas. using SAWs 7—11230
semiconductor superlattice, 3D anisotropic system, surface states and quantum Hall effect 7—38700
semiconductor surfaces, atomic, electronic and vibronic props. 7—2307
semiconductor thin film, steady-state photoresponse under subbandgap illum., effect of surface states 7—64290
semiconductor-electrolyte interface photoelectrochemical system, quantum yield interpretation and surface state model calcs. 7—23036
semiconductors, MBE growth, RHEED and photoemission studies 7—2438
solar cells, illumination and surface recombination effects on currents, anal. 7—34046
solid surface, physics, conf., Smolenice, Czechoslovakia (Sept. 1984) 7—48170
solid surface electronic and magnetic struct. calcs., book contrib. 7—33061
solid surfaces, chemistry and physics, book 7—60891
spectroscopy of single atoms in the scanning tunneling microscope 7—33060
superlattices, surfaces and interfaces, structural, electronic and mag. props. 7—16849
techniques for surface studies, book 7—60888
thin films, electron dynamics in external longitudinal mag. field, electron energy spectrum calcs. 7—58906
tight-binding muffin-tin orbital Green's function method 7—52721
transition metal surfaces, metastable noble-gas atom interactions 7—64852
transition metal surfaces and interfaces, hyperfine fields 7—58847
transition metal surfaces and overlayers, mag. and electronic props. 7—58985
transition metals, magnetic and electronic properties of surfaces, interfaces and overlayers 7—13015
two-dimensional polaron, cyclotron reson. spectrum calc. 7—45175
Al_2O_3-SiO_2, surface centres, electronic and energy characts. 7—7323
Ag (110), adsorbed Br, normal exit XPS studies 7—2380
Ag (110), He selective adsorpt., bound-state reson. meas., interaction pot. electron density depend. 7—21631
Ag (111), Tamm surface state 7—58849
Ag (111) and (100), effective mass of image-potential states 7—64304
Ag monolayers, electronic struct. and binding energy, substrate effects, photoemission studies 7—39359
Ag surface, binding energy of image-potential states 7—64303
Ag, surface states, phase shifts, image planes 7—21962
Al (100), positron surface states, 2D ang. correl. of annihilation radiation, momentum density study 7—39305
Al (100) and (110), electronic props. calc. using layer method 7—45105
Al (110), scatt. of H_2^+ ions, resonant transition rates for charge transfer 7—3134
Al, surface plasmons, electron energy loss peaks 7—7305
Al surfaces (111) and (110), surface tensile stress tensor calcs. 7—44982
Al-Mg surface layers, electronic and atomic structs., heat treatment effects *(Russian)* 7—58575
Au (110), electron emission, interaction of multiply charged ions with surface 7—53473
Au (111), electronic struct., angle-resolved XPS studies 7—17060
Au (111), surface electron state spectroscopy with scanning tunnelling microscope 7—7306
Au (111) and (100)-(5×20), surface-atom valence-band photoemission 7—22447
Au, epitaxial growth on W (100), adsorbate props. 7—38329
Au, structural stability of reconstructed (110) surfaces 7—7326
Be, electronic surface states investig. 7—17061
CO monolayer on Si (111), electronic props., pseudofunction method calcs. 7—2659
CaF_2-Si (111), interface form., photoemission study 7—2395
CaF_2-Si (111), UV irradiation-induced ordered struct., surface F-centres 7—7396
CdS, film, charge transport, rel. to electrophysical props. 7—17121
CdS, photoconductivity spectrum, surface excitons, localised hole in quantum inversion layer 7—12762
CoO-Al_2O_3 dispersed oxides, positron annihilation 7—39275
Co(001), metastable BCC phase, electronic struct. and magnetism 7—45418
Cr (001), near-surface antiferromagnetism and surface ferromagnetism, photoelectron spectroscopy 7—59381
Cr (100), electronic struct. and surface magnetism at finite temps. 7—12776
Cr_2O_3-GaAs, struct. and electrophysical props. 7—17109
Cu (001), single cryst., inverse photoemission polarisation effects study 7—27812
Cu (001), surface electronic struct., relativistic effects, high resolution angle-resolved photoemission study 7—52723
Cu (100), effective mass of image-potential states 7—64304
Cu (100), electronic props. calc. using layer method 7—45105
Cu (100), surface characterisation by In probe atoms, electric field gradient 7—2553

surface electron states continued
  Cu (100), unoccupied surface states, surface barrier, spectroscopy 7−2651
  Cu (110), surface relax., electron states 7−21965
  Cu (111), K doped, anomalous surface-state penetration near band edge, photoemission studies 7−39361
  Cu (111), Tamm surface state 7−58849
  Cu (111) surface electronic struct., perturbations induced by adsorption of K 7−52720
  Cu, effective-mass theory of simple surface states 7−38661
  Cu surface, binding energy of image-potential states 7−64303
  Cu surface, Raman intensity of adsorbate vibr., cluster-model calc. 7−27089
  Cu surface modified by Al, electronic struct. and oxidation of surface 7−22443
  Cu, surface states, phase shifts, image planes 7−21962
  Cu, X-ray photoelectron diffr., temp. depend., surface and bulk effects 7−39356
  Cu-Ni alloys, surface segregation, tight-binding Hartree Hamiltonian, cluster-Bethe-lattice approx. calcs. 7−38665
  CuO-Al_2O_3 dispersed oxides, positron annihilation 7−39275
  D adsorbed on Rh (111), delocalised quantum behaviour, EELS study 7−38666
  Fe (100) with adsorbed CO, UPS characterisation of a and b adsorption states 7−27126
  Fe (110), (111) and stepped (110), adsorption of CO_2, UPS, work function meas. 7−12484
  Fe (110) and (100) surfaces, Stoner excitation spectrum, spin polarised electron energy loss spectroscopy 7−53463
  Fe (111), CO_2 adsorption and dissociation, ARUPS 7−63961
  Fe overlayers or sandwiches with Cu (001), electronic and mag. props. 7−64499
  $Fe_{80}B_{20}$ ribbons, amorphous and crystallised, surface comp., electronic props., topography, AES, XPS, ion scatt. studies 7−27065
  GaAs (001), chemisorption of CF_3 radicals, RHEED, photoelectron spectra, HF SCF calcs. 7−53497
  GaAs (100), ambient induced surface effects, O adsorption, photolum., conductivity 7−45429
  GaAs (100), surface Fermi level unpinning in air using photochem. 7−2655
  GaAs (100) unpinned surface, picosecond transient reflectivity 7−59168
  GaAs (110), O_2 adsorption, electronic props., contact pot. meas. 7−2353
  GaAs (110) with ordered Sb overlayers, ARUPS 7−59378
  GaAs (111) and (-1-1-1), electronic props., angle resolved photoemission studies 7−7327
  GaAs (311)(1×1) surface, atomic geometry and electronic struct. 7−2311
  n-GaAs, cleaved clean (110) surface initial band bending cause, noble metal deposition 7−22017
  GaAs devices, 1/f fluctuation, surface states effects *(Japanese)* 7−21955
  GaAs, optical reflection anisotropy due to surface band bending 7−39062
  GaAs, passivation, by a-P and alkali metal polyphosphides 7−39778
  GaAs, secondary electron emission, effect of illum. in space charge region 7−17374
  GaAs surface, Fermi level unpinning by flowing water 7−58843
  GaAs surface, H_2S adsorption, orientation and temp. depend. 7−58634
  GaAs:S surface elec. props. modification by plasma exposure 7−27346
  GaAs:Sn(Te)(Zn) surface layers, luminesc., electrophys. parameters, effect of annealing 7−64680
  GaAs-Mn(V), extrinsic surface states, core level UPS study 7−2713
  GaP (110), with ordered Sb overlayers, ARUPS 7−59378
  GaSb (110), intrinsic intergap surface state, angle-resolved photoemission 7−45423
  Gd, spin-polarised Auger electron spectroscopy 7−33489
  Ge (001), field emission flicker noise and electron states 7−33533
  Ge (001) (2×1), electronic struct., first principles self-consistent calc. 7−12778
  Ge (111), adsorbed Pb monolayers, photoelectron scatt., temp. depend. 7−13328
  Ge (111) cleaved surface, optical props. and atomic struct. 7−58595
  Ge (111) pure and As doped, surface electronic struct., photoemission studies 7−2658
  Ge surface, H_2S adsorption, orientation and temp. depend. 7−58634
  Ge, surface plasmons, electron energy loss peaks 7−7305
  Ge surface state characts., surface struct. and low temp. annealing effects 7−45426
  H adsorbed on Rh (111), delocalised quantum behaviour, EELS study 7−38666
  H_2, solid, surface localised electrons, photoresonances 7−63901
  ^{4}He superfluid fractionated surface, 2D electron stability study 7−21558
  HgCdTe IR photodetectors, magnetoresist. and cyclotron resonance characterisation 7−64054
  n-$Hg_{0.8}Cd_{0.2}Te$ accumulation layer electrons, tilted field cyclotron resonance 7−7591
  InAs (110), oxidation, correlated changes of electronic surface props. 7−2354
  InAs (110), surface electron states, effect of Al submonolayer coverage, soft XPS study 7−2653
  InAs surface on InP, epitaxial regrowth, surface states and recomb. velocity 7−2431
  $In_{0.53}Ga_{0.47}As$, surface analysis using organic-on-inorganic contact barriers 7−21991
  InP (100), ambient induced surface effects, O adsorption, photolum., conductivity 7−45429
  InP (100), empty surface states, two-photon photoemission 7−53498
  InP (110) cleaved surface and Schottky diodes 7−58850
  InP (110) surface, picosecond time-resolved photoemission study 7−46280
  InP, passivation, by a-P and alkali metal polyphosphides 7−39778
  InP, passivation by plasma deposited P film 7−3540
  InP room temp. band edge photolum. intensity interpretation 7−27762
  InP, surface, As-stabilisation, effect on elec. and physiochemical props. 7−38767
  InP, surface analysis using organic-on-inorganic contact barriers 7−21991
  InP surfaces, sputter etched, optoelectronic and structural props. 7−13661
  InP-Au interface, Fermi level pinning, growth characts., photoemission spectra 7−22009
  InP(110), P- and In-rich, electronic states, semi-empirical tight binding calcs. *(Chinese)* 7−12773
  InSb (110), surface electron states, effect of Al submonolayer coverage, soft XPS study 7−2653
  InSb, optical reflection anisotropy due to surface band bending 7−39062
  γ-In_2Se_3 bound layer, elec. props. and surface states *(Japanese)* 7−22038

surface electron states continued
  Ir, structural stability of reconstructed (110) surfaces 7−7326
  KCl (100), sand gap photoemission yield spectroscopy 7−22445
  Kr, adsorbate, excited states assignment 7−52725
  Li electrodes, semicond. passivating film, impedance meas. 7−33111
  Mg surface, air exposed, XPS after hydrogenation-dehydrogenation cycles 7−17923
  MgO (001), ab initio Hartree-Fock calcs. 7−27378
  MgO (001), initial stages of Cu deposition, EELS 7−63959
  MgO, with chemisorbed O_2, photostimulated desorption 7−27107
  Mo (001), unoccupied surface states, inverse photoemission study 7−46171
  Mo low temperature growth on Al, electron spectra studies 7−12540
  MoO^{n-} (n=6,5,4), surface centres, electronic struct. anal., MO-LCAO calcs. 7−7324
  MoS_2, surface chemistry and props., photoemission, SIMS and SEM anal. 7−44971
  NaCl (100), sand gap photoemission yield spectroscopy 7−22445
  Ne, solid films, erosion by keV electrons 7−3124
  Ni (100), (111) and (110), N_2 chemisorption, molecular cluster calcs. 7−52280
  Ni (100), adsorbed N, surface phonon dispersion, adsorbate induced reconstruction 7−52225
  Ni (100), adsorption of CO, poisoning in heterogeneous catalysis, role of electronegativity 7−13818
  Ni (100) with adsorbed C, electronic struct. 7−7315
  Ni (110), adsorption and reaction of Co_2 and CO_2/O co-adsorption 7−52289
  Ni (110), adsorption of O, electron stimulated ion desorption O^+ yield meas. 7−12487
  Ni (110), chemisorbed H induced (1×2) reconstruction 7−58851
  Ni (110), valence band satellite, obs. in photoelectron spectra 7−59377
  Ni (110) with adsorbed CO, bremsstrahlung isochromat spectroscopy 7−27379
  Ni (111), coadsorption of NH_3 and CO, multilayer formation studied by metastable quenching spectroscopy 7−21639
  Ni (111) surface, electronic structure, S effects on heterogeneous catalysis 7−54185
  Ni clusters with surface adsorbed CO, surface electronic and mag. struct. 7−21969
  Ni films, adsorption of benzonitrile and alkyl cyanides, XPS 7−52288
  Ni surface, with adsorbed N_2 or coadsorbed N_2 and Al or Ba, N(1s) spectrum 7−21968
  Ni surface modified by Al, electronic struct. and oxidation of surface 7−22443
  Ni, surface states, phase shifts, image planes 7−21962
  Ni_3B, amorphous, surface electronic struct. during crystallisation and O_2 and CO adsorption 7−7308
  O chemisorbed layer on Ni (001), self-consistent field He scatt. cluster model calcs. 7−53471
  Os (0001) adsorbed benzene, mol. struct., angle-resolved UV photoemission spectral study 7−53492
  Pb-Pt composite films oxidation, KPS 7−27867
  Pd (100) and (111), surface resonances in vibr. spectroscopy 7−52229
  Pd (111), CO chemisorption, inverse photoemission spectra 7−21638
  Pd (111), high resolution inverse-photoemission study 7−17357
  Pd clusters on substrates, core-electron binding energy, photoemission initial and final state effects studies 7−27859
  Pd films, adsorption of benzonitrile and alkyl cyanides, XPS 7−52288
  Pd(111), surface electron state spectroscopy with scanning tunnelling microscope 7−7306
  Pt (110), hybridisation of electronic bands, spin-polarised UV photoemission spectra 7−45421
  Pt (111) with coadsorbed CO and K, inverse photoemission 7−52726
  Pt particle/Al_2O_3 surface, ethylene hydrogenation, intrinsic size effects 7−3607
  Pt, structural stability of reconstructed (110) surfaces 7−7326
  Pt_3Ti (111), chemisorption induced surface core level shifts 7−22448
  $Rb_{0.3}MoO_3$, ($\bar{2}01$) plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7−58846
  Rh (111) surface, electronic structure, S effects on heterogeneous catalysis 7−54185
  Ru (001), adsorbed Xe multilayers, inverse photoemission spectra, final-state screening effects 7−13251
  Ru (001), CO and K coadsorpt., angle resolved Auger lineshapes 7−2372
  Ru (001), CO chemisorption, inverse photoemission spectra 7−21638
  Si (001), anomalous diamagnetic effect in highly excited surface subbands 7−64305
  Si (001), step related surface states angle resolved photoelectron spectra 7−52716
  Si (001) (2×1), electronic struct., first principles self-consistent calc. 7−12778
  Si (100), chemisorption of water, MNDO calcs. 7−63963
  Si (100), exposed to CO, CO_2, O_2, NO and SO_2, photodesorption 7−52290
  Si (100) surface, electron delocalisation in 2D electron gas 7−12779
  Si (100)2×1, interaction with O_2 and N_2O 7−63962
  Si (111), adsorbed Ag, geometry and local electron states 7−58626
  Si (111), adsorbed H, generalised Bethe lattices, chemisorpt. theory 7−7318
  Si (111), Ag and Au overlayers, room temp. oxidation behaviour, XPS study 7−13676
  Si (111), disordered adsorption of H, electronic struct. calcs. 7−27377
  Si (111), local density of states near ideal vacancies 7−27380
  Si (111), ordered Au, Ag, Cu overlayers, surface states, inverse photoemission studies 7−2660
  Si (111), surface reconstruction, benzene-like ring model 7−16851
  Si (111), thermal oxidation, initial stages, AES, LEED and photoelectron spectra studies 7−3543
  Si (111) anal., charge and current corrugation correls. in scanning tunnelling microscopy 7−63410
  Si (111) cleaved surface, optical props. and atomic struct. 7−58595
  Si (111) with ordered Cu, Ag and Au overlayers, inverse photoemission spectroscopy 7−59280
  Si (111)/Au interfaces, structural and electronic props., annealing effects 7−21679
  Si (111)-(7×7), interface formation during W deposition 7−58710
  Si (111)2×1, electronic struct., scanning tunnelling microscopy studies 7−38668
  Si (111)2×1, pseudofunction slab calcs. 7−52727
  Si, dangling-bond surface states, orientation depend. *(Chinese)* 7−58844

surface electron states continued
Si, defect states on the surface and in the bulk, H passivation 7—13665
Si, electron stimulated oxidation, surface effects, macroscopic continuum model 7—65236
Si, epitaxial wafers and films, temporal behaviour of modulated optical reflectance 7—53422
a-Si films, surface passivation, study by photothermal deflection spectroscopy 7—59689
Si, optical reflection anisotropy due to surface band bending 7—39062
Si pure and As-doped single-domain reconstructed (100) surface state dispersion and struct., LEED and photoemission studies 7—38667
Si, slow surface state determ. by SAW technique 7—21959
Si surface, (111) $\sqrt{3}\times\sqrt{3}$-Sn, angle resolved UPS, rel. to other Si-metal overlayer surfaces 7—3149
Si surface, (111)-2×1, surface phonon and surface state excitations, EELS, polarisation depend. 7—2338
Si surface, (111)2×1, electronic surface transitions studied by polarised light 7—2664
Si, surface, quantum states and atomic struct. 7—32775
Si surfaces, (111)7×7-Ge and (111)5×5-Ge, angle-resolved photoelectron spectra 7—3150
Si:Ar laminated structure formed by Ar ion doping, electroreflectance 7—7676
a-Si:H, bulk, surface state densities, Bethe lattice method, CPA calcs. 7—32898
a-Si:H, surface deep hole trap, photocurrent studies 7—45424
SiO_2, electron induced dissoc., AES study 7—22392
SiO_2/SiC interface. elec. characts., MOS conductance technique meas. 7—12873
Si(111), energy minimisation calc. for dimer-adatom-stacking fault model 7—63940
Si(111), surface structure, temp. depend. polaron shifts 7—7325
Sn, white, (100) surface, electronic props. 7—12772
SnO_2 (110), O deficient surface, photoemission study, comparison with TiO_2 (110) 7—46277
Ta (100), unoccupied surface states, inverse photoemission spectra 7—64302
Ta (211), stability of adsorbed 5d dimers 7—52285
TiO_2 (110), O deficient surface, photoemission study, comparison with SnO_2 (110) 7—46277
TiO_2 (110), O deficient surfaces, electronic excitations, EELS 7—58853
TiO_2 electrode, illum., elementary steps in charge transfer mediated by surface states 7—12780
W (001), electronic struct., self-consistent linearized APW calc. 7—45122
W (100) and (110), adsorption of H, very low electron energy refl. study 7—12488
W (110), adsorption of Cu, Ag and Au, calcs. based on nonadditive effective binding pot. 7—12483
W (110), five-layer film, self-consistent electronic-struct. calcs. 7—38659
W (110), secondary electrons, energy distribution, relationship with surface electron struct. 7—22396
W (110), surface barrier, LEED fine-struct. anal. 7—38660
W (110), thermal field emission and thermal photofield emission 7—7826
W (211) and (110), stability of adsorbed 5d dimers 7—52285
W, magnetoresistance, crystal with surface defects *(Russian)* 7—32988
W surface, desorption of Na atoms, resonance ionisation study 7—63966
W surface, field adsorption of He 7—32816
W(001), unoccupied surface states, inverse photoemission study 7—46171
Xe, adsorbate, excited states assignment 7—52725
Yb_3Si_5, mixed valence behaviour, angle-integrated photoemission study 7—13327
ZnO $(10\bar{1}0)$, initial stages of Cu deposition, EELS 7—63959
ZnO, particulate, surface states *(Japanese)* 7—12774
ZnO varistor, grain boundary pot. barrier, effects of annealing 7—16568
ZnO:H, quantised accumulation layers on ZnO surfaces, photoenhancement 7—7304
Zn_3P_2, photoconductivity response, surface damage 7—21951
ZnSe (110) surface atomic geometry and energy states, self-consistent pseudopot. calcs. 7—21582
ZnSe, thin films, surface electron states *(Russian)* 7—21971
ZrN_x (100), vacancy state, UPS obs. 7—52718

surface energy
see also surface electron states; surface energy measurement
p-aminotriphenylmethane dyes, in organic solvents, surface activity, He(I) photoelectron spectra 7—2300
classical one-component plasma, surface props. 7—6490
collisional sputtering theory 7—64847
diamond (111) surface reconstruction, energy minimisation calculations 7—12434
diamond nucleation and growth at high press., colloidal theory 7—46301
diphenyl crystal, interaction of anthracene impurities with surface layers, struct. model of quasiliquid layer 7—58191
electrostatic lattice energy, crystal lattice of point charges 7—51697
FCC (110) surface, cooperative premelting effects, molecular dynamics simulation 7—16852
ferrofluid droplet shape stability in magnetic field 7—6324
fluid structure and surface roughening 7—58606
fluid-solid interface, one order parameter theory 7—27098
grain boundary, unstable spreading of fluid inclusion under normal stress 7—26761
grain boundary segregation, free energy considerations and fracture 7—38110
graphite fibre reinforced epoxy, interface modified, moisture effects 7—3476
graphite surface, ordering and phase separation of adsorbed binary mixtures 7—21651
hybridisation interaction between He and metal surface 7—38664
kinetics and energetics studies at surface and interfaces 7—2422
metal surfaces, jellium model, nonlocal exchange and correlation 7—52736
metallic fine particles, surface free energy anisotropy determ. 7—32783
metals, surface energy term, particle in cube or square with infinite pot. walls 7—58604
minimum anisotropic surface energy surfaces, cusp singularity 7—2347
nematic liquid crystals, torsional anchoring on substrates, birefringence study 7—1858
oxides, sputtering by inter gas ions, depletion layer study, Sigmund's sputtering theory 7—46262
perfect crystal tensile strength, anisotropy and interatomic pot. effect 7—12187
plastic deformation of solids in media, surface form. energy 7—16853

surface energy continued
polymer surface and interface dynamics study 7—63917
rapidly condensed highly dispersed films and glasses, phase size effect 7—2149
rubber-glass interfaces, form. and rupture *(French)* 7—54072
small particles, quasi-melting 7—32608
solid metal-metallic melt systems, phase interactions, interface energies 7—3273
solids in contact, interfacial bonding 7—27148
sputtering yield meas., role of surface binding energy 7—59361
thin films, nucleation and growth modes 7—38384
transition metal alloys, dilute binary FCC, surface segregation 7—63830
transition metals, BCC, atomic stability of (100) face, quenched molecular dynamics approach 7—6932
transition metals, surface structure and total energies calc. 7—12435
vapour phase homogeneous nucleation, interfacial tension rel. to droplet size 7—58435
water-in-oil emulsions, adsorbed-solvated layers, optical obs. 7—59798
water-oil-tenside microemulsion, three-phase regime 7—13826
Ag interfacial surface energy atomistic estimation and adhesion meas. *(Japanese)* 7—58657
Ag surface, ordering and phase separation of adsorbed binary mixtures 7—21651
Ag thin films on NaCl, preferred orientations, detection of complete set 7—39542
Al film, quantum size effects and dimensionality 7—45521
Al-Zn-Mg (4.5, 1.75 at.%), ageing, specific surface energy of Guinier-Preston zones 7—28046
Au (100), reconstruction, glue model 7—32777
Au (100) surface reconstruction, embedded-atom simulation 7—52199
Au interfacial surface energy atomistic estimation and adhesion meas. *(Japanese)* 7—58657
Au, surface (110), struct. and surface energy, Monte Carlo study 7—6945
Cu (110), surface energy anisotropy, surface reconstruction 7—2346
Cu (115), thermal behaviour, molecular dynamics study 7—52222
Cu interfacial surface energy atomistic estimation and adhesion meas. *(Japanese)* 7—58657
Cu, surface roughening transition, He beam diffr. study 7—52202
Fe epitaxial monolayers on the Au (100), surface magneto-optic Kerr effect 7—59080
Fe, porous, segregation of impurity elements, alloying elements selection and activated sintering 7—53742
Fe-Cu alloys, phase transformations, SANS studies 7—53747
Fe-Si-B alloy glass, crystn., effect of solid-liq. interfacial energy 7—16437
In crystallites, surface free energy anisotropy 7—27091
LiF, pore-grain boundary configs., fracture surface, SEM obs. 7—32458
MgO (001), ab initio Hartree-Fock calcs. 7—27378
Mo and alloys, containing pores, segregation effects *(Russian)* 7—59533
Mo, solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
$NH_4H_2PO_4$ crystals, kinetics of dislocation growth of dipyramid and prism faces 7—58578
$NaNO_2$, single cryst. growth by Stepanov's method 7—32329
Nb, solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
Ni, oxidation, oxide epitaxy depend. on growth temp., LEED, AES, ellipsometry studies 7—22869
Ni, surface roughening transition, He beam diffr. study 7—52202
Ni-NiO interface struct., TEM study 7—21692
Pd polycrystalline surface, internal energy distrib. of recombinatively desorbing D_2 7—2350
Pt (110), surface energy anisotropy, surface reconstruction 7—2346
Pt (110), surface self-diffusion, directional depend., surface energy anisotropy 7—6956
Si (001)-(2×8), clean and Ni contaminated, ordered-defect model 7—21586
Si (100), surface reconstruction 7—16850
Si (100) with chemisorbed H_2, transition from the dihydride to the monohydride phase 7—58631
Si (111), surface reconstruction, benzene-like ring model 7—16851
Si (111)2×1, pseudofunction slab calcs. 7—52727
Si (111)7×7 surface, total-energy calcs. for Takayanagi model 7—2345
Si, molecular dynamics, classical two and three-body interatomic potentials 7—16966
Si, reconstructed structures of symmetrical (011) tilt grain boundaries 7—51785
Si surface studies with a high resolution transmission electron microscope 7—21595
Si:P thin films, surface energy-driven grain growth during rapid thermal annealing 7—63994
Si:P(As)(P,B)(As,B) films, surface energy driven secondary grain growth 7—22740
Si(111), energy minimisation calc. for dimer-adatom-stacking fault model 7—63940
Ta, solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
UNiAl, surface segregation behaviour 7—33519
UO_2, surface energy determ. 7—16857
V, solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
W (001), surface reconstruction phase transition, energetics 7—52231
W (110), adsorption of Cu, Ag and Au, calcs. based on nonadditive effective binding pot. 7—12483
W, solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
YNiAl, surface segregation behaviour 7—33519
ZrNiAl, surface segregation behaviour 7—33519

surface energy measurement
No entries

surface enhanced Raman scattering
adenine series adsorbed on aqueous Ag sol, SERS study 7—17947
admolecules on Ag sol, absorpt. forces in SERS 7—52254
benzenethiol in aq. Ag sol, SERS study 7—62385
benzenethiolate adsorbed on Ag surface, SERS study 7—62385
biological macromolecules adsorbed on surfaces, struct., optical studies 7—28458
1,3-butadiene adsorbed on Ag films, SERS 7—22251
1-butene adsorbed on Ag films, SERS 7—22251
crystal violet, adsorpt. on Ag island films, surface-enhanced reson. Raman scatt. 7—46022

surface enhanced Raman scattering continued
4-cyanopyridine, electrochem. reduction, SERS 7—54165
cytochrome c, surface-enhanced reson. Raman spectrosc., 77-295K 7—28469
electrode, competitive adsorption of pyridine and monosubstituted pyridine, SERS study 7—22267
flavins on Ag colloids, SERS 7—64626
halide and pseudohalides at Au surface, SERs, metal-adsorbate vibr. freqs., surface bonding 7—12468
imidazole, adsorbed on microlithographically prepared Cu, SERS obs. 7—27712
indigo dyes adsorbed on Ag hydrosol particles, SERS spectra 7—46870
laser-induced instabilities in semiconductor and metal surfaces, nonlinear optical diagnostics 7—2061
mercaptobenzothiazole lubricant additive, Raman microscopy study 7—46772
1-methyl-1′-octadecyl-2,2′-cyanine perchlorate dye, Langmuir-Blodgett multilayers, Ag/glass substrate, distance depend of SERS 7—32801
N-methyl-thioacetamide on Cu and Ag surfaces, enhanced Raman spectroscopic obs. on rot. isomers 7—46037
O-nitrobenzoic acid and pyridine coadsorbed on Ag sol, SERS excitation profiles 7—33373
pyridine adsorbed layer on Cu and Ag surfaces, resonance Raman contrib. to SERS in aq. media 7—3055
succinonitrile on Cu and Ag surfaces, enhanced Raman spectroscopic obs. on rot. isomers 7—46037
1,2,4triazole, adsorbed on microlithographically prepared Cu, SERS obs. 7—27712
Ag clusters, vibrational characteristics, SERS studies 7—22255
Ag colloid particles, SERS of adsorbed quinoxaline, adsorbate orientations 7—22265
Ag electrodes, interfacial water surface-enhanced Raman scatt. using halide solns. 7—17311
Ag film, CO adsorbed layer, surface enhanced Raman scattering study 7—3037
Ag films, SERS-active, chem. prep. method 7—53293
Ag films, with surface adsorbed ethylene, adsorbate-substrate bonding 7—52292
Ag particles, adsorbate light scatt., energy transfer induced interfacial optical processes 7—39109
Ag, SERS, very low freq. mode 7—22264
Ag-AgCl surface system, adsorpt.-enhanced Raman scatt. and optical absorpt. 7—53301
AgCl-Ag clusters on Ag electrode surface, optical second harmonic generation, SERS, luminesc. 7—11057
Au films, with surface adsorbed ethylene, adsorbate-substrate bonding 7—52292
Au, smooth surface with adsorbed crystal-violet molecules, resonant Raman scatt., charge-transfer excitation 7—17320
Cl^-, adsorbed on Ag, surface enhanced Raman spectrum pot. depend., surface coverage and mutual depolarisation effects 7—7686
Cu films, with surface adsorbed ethylene, adsorbate-substrate bonding 7—52292
Cu surface, Raman intensity of adsorbate vibr., cluster-model calc. 7—27089
Fe-tetrasulphonated phthalocyanines, photography, SERS and electrochemical studies 7—13155
n-GaAs cleaved surfaces, elec.-field-induced Raman scatt., reson., temp. and screening effects 7—27717
Na-colloid in NaCl, low freq. surface enhanced Raman scatt. from NaCl-Na interface localized fractal vibrational modes 7—59195
SCN ions, adsorbed on evaporated Ag films, SERS 7—32838
Si evaporated film on Ag island film, surface-enhanced Raman scatt. study 7—13165
Si for solar cells, characterisation by electrolyte-semiconductor interphase and SERS investigation 7—13887

surface hardening
chemicothermal treatment conditions of metals, form. kinetics of irreversible deform. 7—17692
coatings and surface modifications, conf., Toronto, Ont., Canada (Oct. 1985) 7—41004
French Metallurgy Society meeting, Paris, France (Oct. 1986) *(French)* 7—29579
hard coatings formed by Ti implantation on 304 stainless steel, XPS study 7—3154
high temp. materials, carburisation, mathematical model, diffusion and precip. *(German)* 7—8193
HTR alloys, carburisation behaviour 7—10234
ion nitriding, influence on hardness layer of 15-5 PH stainless steel 7—3515
laser processing of high-tech materials at high irradiance, review 7—13342
laser welding, machining and materials processing, conf., San Francisco, USA (Nov. 1985) 7—9597
laser-hardened layer thickness, influence of laser pulse time profile 7—44612
metal, nitriding, laser-plasma synthesis, melting processes calc. 7—28176
metal surfaces, ion implanted, durability 7—53918
metal-carbide composites, implantation modified, friction, surface chemistry 7—46660
metallic materials, surface refinement by ion implantation, friction, abrasive and corrosion resist. *(German)* 7—53949
metals, ion beam-induced nitride form. and phase identification, X-ray diffr. study 7—12176
Nimonic 86, carburised, heat treatment, creep behaviour rel. to carbide precip. *(Korean)* 7—46560
steel, abrasion resistance after heat treatment 7—17697
steel, adhesive wear of boride and nitride layers 7—3465
steel, alloy type, boronizing and alloying elements influence 7—59661
steel, boride layer growth kinetics, influence of non-equilib. defect conc. 7—22874
steel, boride layers, obtained by laser irrad., wear 7—28150
steel, boronisation, pack method 7—46718
steel, boronised, boride-substrate interface morphology 7—53984
steel, boronized low C, conversion electron and X-ray Mossbauer studies under corrosion and oxidation conditions 7—27632
steel, carbon, boriding effect on thermo-EMF 7—8177
steel, carbon and low-alloy, nitriding temperature in glow discharge effect on nitride zone thickness and comp. 7—8176
steel, carbonitride phase comp. in zone of inner nitriding 7—39747
steel, carburised, microstructural constituent in high C layers 7—54006

surface hardening continued
steel, carburising process for dense and porous materials, math. model 7—39745
steel, case hardened, struct. and contact endurance after plastic surface deform. tempering effect 7—46706
steel, case-hardened, C profile, automatic quantitative meas. 7—17728
steel, catalytic carbonitriding, thermogravimetric anal. of effect of rare earth addition *(Chinese)* 7—8153
steel, combined heat treatment, surface layer props. *(Russian)* 7—39742
steel, Cr-Mo, ion nitriding, transform. of $(Cr,M)_7C_3$-type carbides 7—17701
steel, Cr-Mo-V, ion nitriding characts. *(Korean)* 7—8162
steel, Cr-Mo-V, nitrided, wear resist rel. to preliminary thermomech. treatment 7—17659
steel, electrospark alloying of TiB_2-Mo coatings, form. kinetics and high-temp. oxidation 7—65210
steel, ferritic and austenitic welded joints, thermally loaded, struct. and mech. props. 7—8102
steel, high strength structural, finishing monitoring by magnetic structurescope based on the Barkhausen effect 7—28241
steel, high-speed, ion beam metallurgy processing, influence on surface props. *(Chinese)* 7—53764
steel, high-speed, thermal stability improvement by laser alloying 7—8170
steel, high-speed tool, laser glazing and boronizing 7—39753
steel, implanted with N ions, physicochem. characters. of surfaces, wear resist. *(French)* 7—28209
steel, line hardening by low-power CO_2 lasers 7—13653
steel, low C, alloying using high-intensity sources 7—28179
steel, low C, vacuum carburising with methane 7—54009
steel, martensitic, tempering after surface plastic deform. effect on damageability in cyclic loading 7—46705
steel, mech. props. and failure character after repeated thermomech. strengthening of surface layer 7—53994
steel, mild and Cr, surface saturation with B by laser radiation 7—8172
steel, Mn, austenitic, friction induced martensitic transform., wear resist., work hardened surface layer 7—17531
steel, Ni-Cr-Mo, vacuum carburising with methane *(Japanese)* 7—13631
steel, nitrided layer, hardness distrib. prediction model 7—39746
steel, nitrided layers, surface strength and hardness prediction 7—3495
steel, stainless, $(Cr_xFe_y)_{23}C_6$ compact specimens, corrosion-electrochem. and phys. props. w.r.t. comp. 7—54000
steel, stainless, duplex, austenitic-ferritic, cavitation erosion 7—65149
steel, stainless, ion implanted with N, fretting wear resist. 7—13636
steel, stainless, O-alloyed friction structures, under conditions of thermal action, stability *(Russian)* 7—59673
steel, structural, diffusion chromised, elevated temp. effect on comp., struct. and mech. props. 7—8178
steel, surface oxidation through laser beam treatment, oxide film struct. and wettability 7—8158
steel, surface treated, iron nitrides decomposition 7—17736
steel, thermal conductivity profile, inverse determ. from thermal wave surface data 7—46751
steel, Ti, nitrided, mech. props. rel. to cold working 7—28089
steel, TiN coating, ion-plasma appl., laser alloying, dynamic surface strength 7—17730
steel, tool, laser surface quenching, comparative anal. of two- and three-stage thermal cycles 7—28178
steel, tool, surface layers, Cr and V diffusion 7—46685
steel, tool and mild, ion nitriding process with variations 7—53989
steel, tool and struct., nitrided, prior heat treatment effect on mech. props. 7—46707
steel 45, boronising the heating by laser radiation 7—8173
steel 45, electric spark alloying with TiB_2-MoB 7—28205
steel 45, hardening coatings, electroerosion alloying 7—17722
steel surfaces, heat hardening with scanning laser beam 7—13634
steel U6, laser alloying with W base facing powder, SiO_2 and B_4C additions effect 7—8171
steels, Cr-Mo-Al, plasma-nitrided, fretting fatigue strength *(German)* 7—33848
steels, stainless, ion-nitrided, struct. and props. 7—22884
thermochemical treatment of steel in an electrolyticplasma 7—3500
Al-Cu, directionally crystallised, crystallographic texture transform. during wear 7—17660
Al-Mg and Al-Zn-Mg alloys, plasma-coated, heat treatment effect on fine struct. and failure mechanism 7—3496
Co, boronising, diffusion and CVD processes 7—17434
Co, siliconisation using Si_2Cl_6 source by diffusion and CVD processes 7—17700
Cr carbonaceous films, prod. in situ in Tokamak TEXTOR, depth profiling 7—22893
Cu, plasma nitriding, sputtering and redeposition of cathode material 7—39752
Cu-Al-Ni-Fe-Mn bronze, cast, laser surfacing, improved corrosion resist., microstruct. characteris. 7—13651
Fe, cast, high-Cr, wear-resistance, laser and heat treatment effect on struct. and props. 7—8174
Fe, cast, high-strength, form. of wear resistant structs. corresponding to Charpy principle 7—28180
Fe, cast, laser surface hardening, optimisation of process variables 7—13645
Fe, cementation layer struct., Mossbauer spectra, radioisotope method, microhardness obs. *(Russian)* 7—39741
Fe, ductile and grey cast, laser surface hardened, sliding wear 7—17650
Fe, laser glazing and boronizing 7—39753
Fe-Al-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7—59672
Fe-Cr-Mn-C alloy, laser clad, microstruct. and wear props. 7—13652
Fe-graphite diffusion chromised materials, high-temp. interaction in hydrogen 7—17671
Fe-Mn-Al, plasma nitriding, sputtering and redeposition of cathode material 7—39752
Fe-Mo-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7—59672
Fe-Ni, austenitic crystals, nitrided, phase comp. of diffusion layers *(Russian)* 7—63922
Fe-Ni-Ti, austenitic crystals, nitrided, phase comp. of diffusion layers *(Russian)* 7—63922
Fe-Ni-Ti(Al)(Cr), nitrided layers, struct. investig. using Mossbauer spectroscopy *(Russian)* 7—53992
Fe-V-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7—59672

surface hardening continued
  Hf, surface nitridation by powerful CW CO_2 laser irrad. in air 7—2051
  Mo (110) chemically modified surface, Au thin film form. study 7—12489
  Mo, boriding by immersion process in fused salts *(Japanese)* 7—59663
  Mo-Cu pseudoalloy obtained by sintering of powdered mixtures, chromising investig. 7—54003
  Nb single crystals, reverse lattice nodes form rel. to N diffusion *(Russian)* 7—58201
  Nb-Mo-Zr alloy, protective props. of thermodiffusion Mo-B-Si coating 7—8156
  Nb-Ti-W (30, 20 wt.%), nitriding, hardness, wear and corrosion resist. 7—46713
  Ni alloy, surface plastic deformation by microballs, low-cycle damage 7—17698
  Ni, boronisation, pack method 7—46718
  Ni carbonaceous films, prod. in situ in Tokamak TEXTOR, depth profiling 7—22893
  Ni-B, implanted, mech. props., disorder and amorphicity 7—53819
  Ni-Cr, carburisation, kinetics, diffusion and precipitation *(German)* 7—8194
  Ni-P, implanted, mech. props., disorder and amorphicity 7—53819
  Si carbonaceous films, prod. in situ in Tokamak TEXTOR, depth profiling 7—22893
  α-SiC polycrysts., pulsed laser annealing and ion beam mixing surface modification studies 7—16657
  Ti nitridation by breakdown plasma in N_2 due to TEA CO_2 laser irrad. 7—2052
  Ti, nitriding in rarefied activated nitrogen 7—8181
  Ti, plasma nitriding, sputtering and redeposition of cathode material 7—39752
  Ti-Al-Mo-Cr, VT3-1, struct. changes during US case hardening *(Russian)* 7—53991
  Ti-Al-V-Mo-Cr alloy, VT23, gas impregnation influence in heat treatment, rapid heating effect 7—17696
  B-Ti-Mo, single crysts., age and quench hardening, effects of cryst. orientation and surface condition *(Japanese)* 7—22709
  TiB_2-MoB base electrode materials for elec. spark alloying 7—28205
  Zr nitridation by breakdown plasma in N_2 due to TEA CO_2 laser irrad. 7—2052
  Zr, surface nitridation by powerful CW CO_2 laser irrad. in air 7—2051
  Zr-Nb (1 wt.%), laser irrad., hardness, struct., corrosion resist. 7—3400

surface-ion beam collisions *see ion-surface impact*

surface ionisation
  adamantane, surface ionis. coeff. eval., mass spectra 7—59786
  alkylamines, surface ionis. mass spectra 7—10763
  alloocimene, surface ionis. coeff. eval., mass spectra 7—59786
  aminoalcohols, surface ionis. mass spectra 7—10763
  camphene, surface ionis. coeff. eval., mass spectra 7—59786
  ethylene propylene, fluorinated, ionis. pot. and work function meas. using low-energy electron beam 7—22397
  hydrazines, surface ionis. mass spectra 7—10763
  nonstationary surface ionisation processes in particle interactions with solid surfaces 7—13270
  α-pinene, surface ionis. coeff. eval., mass spectra 7—59786
  polypropylene, ionis. pot. and work function meas. using low-energy electron beam 7—22397
  quarternary ammonium salts, surface ionis. mass spectra 7—10763
  surface analysis by laser ionisation, review 7—52213
  H_2, molecular solid, charged particle irradiation, secondary electron emission 7—21569
  Ir foil sample, Cs diffusion and surface ionisation studies 7—3138
  LiI impinging Re surface, surface ionisation in high vacuum, work function increases due to adsorpt. 7—46264
  Na atoms, desorption from hot W surface, resonance ionisation study 7—63966

surface magnetism *see magnetic surface phenomena*

surface-molecular beam collisions *see molecule-surface impact*

surface phenomena
    see also surface......
    see also atom-surface impact; capillarity; crazing; crystal surface and interface vibrations; emissivity; field evaporation; interface phenomena; ion-surface impact; magnetic surface phenomena; molecule-surface impact; sorption; surface acoustic waves
  2D media, polarisable and magnetisable, forces in EM field 7—50459
  aerosol mixtures, ion formation from neutral molecule surface absorption 7—11580
  BCC lattice crystal, rolling, interrelationship between struct. and orientation changes *(Russian)* 7—53773
  castings, strength and elec. props. 7—27971
  charge-induced effect on creep and hardness 7—21598
  charged microspheres, interaction with extended surfaces 7—59308
  Coulomb interaction in presence of surface 7—38794
  decomposed granite soil thickness, spectral reflectance and surface temp. *(Japanese)* 7—40479
  detector geometry effects on measured lineshapes and intensities in surface scatt. 7—64827
  diphenyl cryst., surface melting, ellipsometry studies 7—32613
  dynamics and melting of surfaces 7—52011
  electrolyte solution surfaces, hydrodynamic instabilities caused by elec. forces. 7—51322
  electronics and vacuum physics, conf., Bratislava, Czechoslovakia (Sept. 1985) 7—24292
  epoxide adhesive interfaces, props. and regulation *(Russian)* 7—37400
  EXAFS and XANES, conference, Abbaye Royale de Fontevraud, France, (July 1986) 7—60862
  field emission, conference, Berlin, Germany (July 1986) 7—29577
  fluid surfaces, effective bending rigidity calcs., integration meas. 7—58571
  Fredholm determinant associated with path integrals, exact evaluation 7—61035
  glass, helicopter windshield, chemically tempered impact fracture 7—28108
  incomplete crystals, surfaces, defects, interfaces and layered structures, theory 7—16926
  inner cylindrical surface, erosion by force particle impact 7—26852
  insulating liquid surface, electrostatic charge effects on photoelectron spectroscopy 7—17069
  insulators, excimer laser irradiated, surface deformation 7—21596
  lipoproteins, surface charge determ. and its changes on peroxidation of lipids 7—40087

surface phenomena continued
  liquid surfaces, stabilisation by application of variable force fields 7—63907
  mass transport along surfaces, computer, modelling, book contrib. 7—27082
  metal powders, shock wave induced consolidation, microlevel numerical modelling 7—27965
  metal-H system, surface props. investig. 7—33487
  metallic surfaces, friction mechanisms 7—53921
  nonlinear optics, surface probe appls. 7—11064
  nonlinear surface polaritons 7—2507
  optical surface contaminants identification, using electron spectroscopy and SEM techniques 7—4935
  percolation at surface, fractal dimension 7—14867
  plastic deformation of solids in media, surface form. energy 7—16853
  polar gas molecules, motion in strong surface fields 7—12786
  polymers in 2D, exact surface and wedge exponents 7—51668
  positron lifetime spectra, surface-positron interaction effects 7—3111
  response theory of discrete composite systems 7—38424
  SHG technique, book contrib. 7—25896
  solar pond pond surface zone temp. rel. to air wet and dry bulb temps. 7—54360
  space electric charge distrib. in surface layer of β-radioactive dielectrics 7—33326
  steel, austenitic, surface blistering from pulsed H plasma, formation mechanism 7—63667
  steel, HSLA, rolled sheets, residual surface stresses, corrosion pot., X-ray obs. 7—39704
  surface polaritons, absorpt. by molecules near metallic surface 7—58749
  synchrotron radiation studies, review 7—33977
  water narrow band stochastic surface, laser beam transmission 7—13111
  Al alloy, high temp. creep, role of surface layer in power law breakdown 7—65089
  Al, charge-induced effect on creep and hardness 7—21598
  Fe, cast, surface melting, composition and impurity effects 7—21423
  Fe, surface damage, plastic deform., 4-293 K *(Russian)* 7—59581
  Ge, uniaxially stressed, internal strain parameters, surface effects 7—44980
  He liq. charged surface stability, nonlinear autowave props. *(Russian)* 7—58556
  ^4He-^3He mixture films, surface superfluidity, vortex pair pot. energy *(Chinese)* 7—12391
  NH_4Cl, undoped and Ni doped, TSC, polarisation meas., 150-500K 7—52645
  NaCl crystal, surface optical breakdown, exoelectronic emission with laser irradiation, impurity effects 7—59384
  Si, uniaxially stressed, internal strain parameters, surface effects 7—44980
  Si_3N_4 layers, electrographic effect 7—46675
  Si(111), surface dielectric props., reflection high resolution electron energy loss study, azimuthal depend. 7—33498
  Ti-Al-V, spall strength and fracture mechanism 7—46627
  TiO_2 on glass substrate, photocatalysis 7—23066

surface phonons *see crystal surface and interface vibrations*

surface plasmons
  adenine series adsorbed on aqueous Ag sol, SERS study 7—17947
  adlayer photostimulated phase transitions on semicond. surface, reson. conditions calcs. *(Russian)* 7—45016
  adsorbates on metals, struct. of inverse photoemission spectra, model Hamiltonian study 7—33478
  arachidic acid, Langmuir-Blodgett mono-mol. layers, surface-enhanced SHG 7—17355
  atom near planar surface, van der Waals interaction 7—38663
  charged particle, interaction with solid surface, general formalism, spherical geometry 7—2652
  cylindrical surface EM waves, radial-ang. surface struct. 7—58756
  deep metallic grating, light scatt., surface plasmon dispersion 7—20128
  diffuse light in diffraction gratings and surfaceplasma oscillations 7—10847
  Fresnel optics, nonlocal corrections calcs. 7—45957
  hemicyanine dye monolayer, surface plasmon enhanced SHG 7—25881
  hot electron dynamics in tunnel junctions, surface plasmon emission as probe 7—2735
  interfaces, TEM imaging using inner potential differences 7—52299
  ionic cryst.-semicond. superlattice interface excitations, classical anal. 7—52845
  Langmuir-Blodgett films, nonlinear, substrate influence on film struct. and linear optical props. 7—53259
  layered structures on nonlinear substrate, optical bistability with surface plasmons 7—20319
  linear Pockels response of a monolayer Langmuir-Blodgett film 7—13131
  metal foils, surface loss intensity of incident electrons, angular distribution 7—64836
  metal surface, adsorbate optical absorption spectra 7—27741
  metal-clad four-layer waveguides, long-range surface modes 7—37142
  metal/electrolyte interface electrodynamics, surface soliton form. 7—21958
  metallic surface, image potential saturation 7—7314
  metals, surface plasmon dispersion relation by ricochet photoemission 7—27280
  nematic liquid crystal, guided modes and surface plasmon-polaritons obs. with attenuated total refl. 7—64664
  nonlinear TE polarised surface plasmon polaritons guided by metal films 7—5946
  optical bistability with surface plasmons beyond plane waves in nonlinear dielectric 7—57429
  prism-metal film-nematic liq. cryst. system, excitation of nonlinear surface EM waves 7—25866
  quantum field theoretical view 7—52483
  reflection of plasmon and phonon polaritons at dielec. behaviour 7—64099
  Schottky detectors, frequency and polarisation-selective 7—41470
  semi-infinite type I semicond. superlattice, surface electronic collective excitation modes, ionised donor oscill. current effects 7—21837
  semiconductor superlattice, boundary surface collective charge-density excitations 7—52776
  semiconductor superlattice, bulk and surface plasma modes, band dispersion 7—33085
  semiconductor superlattices, interface plasmon modes as collective electronic excitations 7—17081
  semiconductor superlattices, plasmons, Raman spectra, EELS and finite-size effects 7—27392

surface plasmons continued
- semiconductor superlattices, surface plasmons obs. 7—52777
- semiconductors, surface magnetoplasmons, dispersion characteristics 7—12636
- small metallic spheres, plasmon excitations, EELS study in STEM 7—32937
- superlattices, bulk and surface collective modes 7—38486
- tunnel junctions, prism coupled light emission 7—38770
- XPS, UPS, work function meas. 7—12485
- Ag film, lauric acid adsorpt., reflectivity and laser excited surface plasmon spectroscopy meas. 7—45011
- Ag film bounded by Langmuir-Blodgett films, antisymmetric coupled surface-plasmon-polaritons 7—22364
- Ag films, loss coeffs. determ. of long-range surface plasmons 7—2650
- Ag island films, surface plasma emission, electron-photon spectra anal. 7—52491
- Ag particles, adsorbate light scatt., energy transfer induced interfacial optical processes 7—39109
- Ag, resonant optical excitation *(Korean)* 7—33059
- Ag surface, far IR surface plasmon attenuation, overcoating effects 7—22358
- Ag surfaces, corrugated, plasmon surface-polariton reson. studied with pyroelectric calorimeter 7—52440
- Al films, chemisorption of O, Al-O bond lengths, photoemission EXAFS meas. 7—64871
- Al small supported particles, surface plasmon excitation, EELS study 7—45197
- Al, surface plasmons, electron energy loss peaks 7—7305
- Al/Ag layers, surface plasmon dispersion, plasma wave effects, reflectivity meas. 7—58848
- Al-Al_2O_3-Ag MIM structs. biased near breakdown voltage, optical emission 7—52853
- Al-Al_2O_3-Au MIM structs. biased near breakdown voltage, optical emission 7—52853
- AlGaAs/GaAs heterointerface solid-state far IR emitter utilising 2D plasmon 7—53414
- $Al_xGa_{1-x}As$-GaAs heterostructures, 2D electron space charge layers, plasmon and magnetoplasmon excitation 7—38696
- Au colloidal particles, optical nonlinearities, surface resonances and quantum size effects 7—50648
- Au films, surface plasmon modes 7—7316
- Au thin films, optical characterisation using surface plasmon-polaritons 7—53425
- Au-InP high-speed internal photoemission detectors enhanced by grating coupling to surface plasma waves 7—52688
- CdS-Ag, size quantisation in CdS layer, surface plasma spectroscopy 7—32936
- Fe thin films, surface plasma waves, optical and magneto-optical effects 7—27704
- Ga small metallic clusters, vol. and surface plasmons, EELS studies 7—27271
- GaP thin films, optical props., meas. by surface plasmon excitation 7—46166
- Ge, electron mean free path needed for excitation of volume and surface plasmons 7—21838
- Ge, surface plasmons, electron energy loss peaks 7—7305
- Na surface, interaction with O_2, photoemission and Auger studies 7—17063
- Pb thin film, optical consts. in visible region 7—7662
- Pb thin films, surface plasmon detection, attenuated total refl. meas. 7—16961
- Si (100) 2 × 1, adsorbed alkali metals, anisotropic plasmons *(Japanese)* 7—21967
- Si-SiO_2 interfaces, surface roughness and elec. cond. 7—2724
- Sn small metallic clusters, vol. and surface plasmons, EELS studies 7—27271

surface potential
- atom near planar surface, van der Waals interaction 7—38663
- atom-surface van der Waals interaction, quadrupolar contributions 7—12482
- body surface pot. mapping, recursive computation of LF baseline drifts 7—40338
- cellulose acetate, corona charged, electrothermographic characteristics 7—61391
- crystal plate, MT-Z potential 7—17064
- dispersive trap-controlled carrier transport, surface pot. decay, space charge effects, finite difference calcs. 7—38588
- double-layer interaction between curved surfaces bearing pot., Derjaguin approx. 7—17819
- ethylene-vinylacetate-Ag copolymer-metal contact, pot. barrier electronic props., photocurrent spectra meas. 7—27419
- ethylene-vinylacetate-Au copolymer-metal contact, pot. barrier electronic props., photocurrent spectra meas. 7—27419
- glasses, characterisation by electron bombardment 7—32506
- hybridisation interaction between He and metal surface 7—38664
- metal surface, pot. change with charge, Thomas-Fermi-Dirac-jellium model 7—52715
- metal surfaces, jellium model, nonlocal exchange and correlation 7—52736
- metallic surface, image potential saturation 7—7314
- MIS structures, nonequilibrium surface potential relax. under constant charge conditions 7—38732
- MOS systems, freq. spectrum of reciprocal capacitance 7—38741
- optical radiation continuous spectrum emitted by at. particle secondary emission products, two-photon form. mechanism 7—42713
- organic photoconductive particles in thin layers, photoresponse characts. *(Japanese)* 7—38612
- orientable dipoles, surface forces, asymptotic expressions 7—64306
- photothermoplastic material, electrostatic sensitisation pot. and parameters of scorotron 7—38683
- polyimide film, Kapton-H, photoreceptor, photoinduced discharge characteristics 7—25918
- polystyrene film, electron thermalisation and trapping 7—27343
- polyvinylidene fluoride films, surface potential decay 7—58858
- quartz, rotated Y-cut, bulk acoustic wave reflection theory and expt. 7—2107
- Schottky surface layers, pot. variation, analytical approx. *(German)* 7—7329
- semiconductor electrodes, adsorption, review 7—16867
- semiconductor thin film, steady-state photoresponse under subbandgap illum., effect of surface states 7—64290

surface potential continued
- simple metals, physisorption interaction of H_2 7—12480
- sputtering yield meas., role of surface binding energy 7—59361
- submonolayer ordering and multilayer adsorption, simple lattice gas models 7—12490
- transition metal thin films, ferromagnetic, surface spin waves, multiband model 7—2834
- Ag, surface states, phase shifts, image planes 7—21962
- AgBr thin films and microcrystals, surface pot., ionic cond. data anal. 7—58534
- $As_{40}S_{30}Se_{30}$ glasses, surface pot. relax., TSC meas. 7—64261
- Au (100), FCC, hexagonal reconstruction 7—58591
- Au-Ni-Cu, diffusion of Au and Cu through Ni layer, depend. on ambient 7—38266
- BeO, TSEE, pyroelectric properties influence 7—13340
- Bi surface, polycryst., simulated, elec. double-layer struct. anal. 7—52732
- Cu (100) MT-Z potential, calc. electronic states 7—17064
- Cu, surface states, phase shifts, image planes 7—21962
- Fe-Ni alloy surfaces, sputter-cleaned, work function and dipole barrier 7—38673
- GaAs, dielectric overlayers, effect on surface depletion potential 7—38678
- GaAs, secondary electron emission, effect of illum. in space charge region 7—17374
- GaAs, surface potential barrier in ion-etched (100) surface, electron-voltaic effect 7—7819
- Ge (001) (2×1), electronic struct., first principles self-consistent calc. 7—12778
- Ge, surface potential, photomemory effects 7—12775
- $Ge_{28.5}Pb_{15}S_{56.5}$ glasses, surface pot. relax., TSC meas. 7—64261
- HCl, soln., elec. surface pot. change with conc. and surface age *(Russian)* 7—27063
- H_2O microclusters, mol. orientations at surface, surface pot. num. soln. 7—36838
- InP electrodes, surface modified, time resolved photoelectrochemical meas. 7—27415
- InP MIS structures, prep. by RF plasma oxidation, interface elec. props. 7—2731
- InP-aqueous electrolyte interfaces, laser induced photoelectrochemistry 7—27412
- InP-SiO_2 interface, electron localisation 7—45514
- InSb, electron inversion layers, cyclotron and electron spin resonance 7—38736
- Ir (100), FCC, hexagonal reconstruction 7—58591
- Ir surface, oxidised, in acidic solns., zero charge points 7—13783
- N_2-crystal collisions, alignment, pot. parameters effect 7—64839
- Na overlayer on Al, two step pot. model, nonlocal corrections to Fresnel optics calc. 7—64716
- Ni, surface states, phase shifts, image planes 7—21962
- PbSe films, photosensitivity mechanism 7—58923
- Pd surface, oxidised, in acidic solns., zero charge points 7—13783
- Pt (100), FCC, hexagonal reconstruction 7—58591
- Rh (100), diffusion of Rh adsorbed clusters, classically exact overlayer dynamics 7—38328
- Rh surface, oxidised, in acidic solns., zero charge points 7—13783
- a-Se, residual potential, dark discharge 7—27360
- Si (001) (2×1), electronic struct., first principles self-consistent calc. 7—12778
- Si, electron stimulated oxidation, surface effects, macroscopic continuum model 7—65236
- n-Si, stabilisation by ion bombardment 7—12782
- a-Si:H,F films, dark discharge mechanism of surface potential *(Japanese)* 7—17034
- n^+-a-Si:H/a-Si:H/a-SiC:H heterostructures, electrophotographic props. 7—45485
- SiO_2 in NaCl solns., surface pot., polyoxyethylene soln. influence 7—6968
- Sn, white, (100) surface, electronic props. 7—12772
- W (110), adsorption of Cu, Ag and Au, calcs. based on nonadditive effective binding pot. 7—12483
- W surface, Hg absorption, field emission microscopy studies 7—32804
- W-vacuum-Au junctions, quasi-self-consistent barrier calc. 7—33065
- ZnCdS:Ag/Cd(S,Se):Cu mixed photoconductor system for electrophotography 7—2636
- ZnO powder-polyvinyl butyral films, dark discharge props. 7—58919
- ZnO-electrolyte interface, photoconductivity and photocurrent spectra, influence of exciton absorption 7—45486

surface roughness *see surface topography*

surface scattering
- *used for carrier scattering by surfaces*
- *see also surface conductivity*
- metal foils and films, Hall effect and magnetoresistance 7—52575
- metal wire, size effect, analytical expression w.r.t. Cottey mean free path 7—12885
- metals, current state excitation, surface scatt. effects calcs. 7—17005
- quantum transport and surface scatt. in thin films and wires 7—33105
- quantum well structures, metal-insulator transition due to surface roughness scatt. 7—27400
- single crystal, elastic scatt. of slow electrons over surface, effect of mag. transform. *(Russian)* 7—52549
- thin films, electron dynamics in external longitudinal mag. field, electron energy spectrum calcs. 7—58906
- Al single cryst., transverse conduction electron focusing and specular reflection 7—52407
- Au films, sputtered, optical and elec. props., influence of surface scatt. of electrons 7—52858
- $AuIn_{2+\delta}$ thin films, resistivity 7—7410
- Bi, filamentous single crystals, static skin effect and acoustoelectric instability 7—38644
- $Bi_{1-x}Sb_x$ narrow-gap semicond., intraband breakdown, current-voltage characts., size effect conditions 7—52624
- Cu thin polycryst. wires, elec. resist. meas., surface induced deviations from Matthiessen's rule 7—27319
- GaAs quantum well structures, metal-insulator transition due to surface roughness scatt. 7—27400
- InAs quantum well structures, metal-insulator transition due to surface roughness scatt. 7—27400
- $In_{0.53}Ga_{0.47}As$-$In_{0.52}Al_{0.48}As$ modulation-doped heterostructs., interface roughness scatt. 7—2678
- Si quantum well struct., 2D electron gas, transport props. 7—52774
- W plates with adsorbed layers, transverse magnetoresist. under static skin effect conditions *(Russian)* 7—45369

surface structure
see also interface structure; surface texture; surface topography
(2̄01) plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7−58846
adsorbed layers, order-disorder phase transition, effect on rate of elementary processes 7−6976
adsorption dynamics, exchange reactions and defect form. at solid surfaces, computer simulations 7−32823
alkali phosphates, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7−26816
alloy surfaces, amorphisation during nanosecond ion beam irradiation 7−6517
alumina, grain boundary glassy phase, ion milling of TEM specimens 7−44327
alumina surface crack characterisation by scanning acoustic microscopy 7−3567
aminopyrene, probe for polar surface struct. investig. 7−27070
amorphous semiconductor films, laser-induced explosive crystallisation, Raman microprobe analysis 7−12430
analysis, AES, XPS, ISS and SIMS, review 7−28372
analysis, appls. conf., Veldhoven, Netherlands, (Oct. 1985) 7−24289
analysis by laser ionisation, review 7−52213
analysis using XPS and electrochemistry 7−28370
analytical techniques for surface studies, review 7−6933
angle-resolved photoemission extended fine struct. for surface struct. determ. 7−7822
angle-resolved photoemission spectra, low-energy modelling 7−46275
anharmonic crystal surface, statistical theory 7−32766
anthracene crystal monolayer, photodimer disorder effects, UV reflection spectra anal. 7−53362
applied materials charact., conf., San Francisco, CA, USA (April 1985) 7−18495
arachidic acid spontaneously adsorbed monolayer on Ag, surface organisation, IR spectra obs. 7−46164
atom probe field ion microscopy, pulsed-laser TOF, for solid surface anal. 7−23080
atom scattering from surfaces, low energy, appl. in struct. anal. 7−33504
atomic beam diffr., use in surface struct. anal. 7−6944
atomic imaging of surfaces by TEM 7−51594
atomic structure models, electron microscope images, computer simulation 7−16380
Auger electron spectroscopy and X-ray photoelectron spectroscopy in surface anal. 7−24732
Auger elemental depth profiling, preferential sputtering 7−54247
bombardment-induced segregation and redistribution 7−58381
bond distance determ., surface electron energy loss fine struct. spectroscopy, EXAFS-like anal. 7−64834
cadmium stearate Langmuir-Blodgett films on sapphire, thermal disordering, optoacoustic IR spectra anal. 7−52236
catalyst surfaces, characterisation by neutron inelastic scatt. from adsorbates 7−7000
ceramics, ion implantation and near surface microstructures, analytical electron microscopy 7−37816
ceramics, ion milling of TEM specimens, grain boundary glassy phase 7−44327
characterization, ion scatt. and channelling, scanning tunnelling microscopy and computer simulation *(Japanese)* 7−7803
chemical bonds, electron spectroscopy methods 7−39364
chemical moieties at surfaces, IR diode laser spectroscopy 7−41512
conference, Berkeley, CA, USA (Aug. 1984) 7−9593
conference, Julich, Germany (April 1986) 7−55890
conference, Oconomowoc, WI, USA (April-May 1985) 7−18468
contrast mechanisms in electron and ion induced secondary electron images 7−27834
corrosion science, role of electron spectroscopy, review 7−22860
crystal growth, surface coarsening by macrostep formation 7−26683
crystal lattice termination, reflection electron microscopy studies 7−12437
crystalline surface layer at. struct. probed by SHG 7−20324
crystals, fast charged particles channelling rel. to surface layer distortion distrib. *(Russian)* 7−63687
defects at surfaces, microscopy and diffr. studies 7−2325
desorption, electron and photon-stimulated, probes of surface struct. and bonding 7−32817
diamond (111) surface reconstruction, energy minimisation calculations 7−12434
diamond crystals, surface phonon modes and reconstructions, Green's function method calcs. 7−2339
diamond knife edges, megavolt and cryo electron microscopy 7−41547
differential amplitude scanning optical microscope, appl. to surface studies 7−345
diffraction methods for struct. determ. of surfaces and overlayers 7−2324
diphenyl crystal, interaction of anthracene impurities with surface layers, struct. model of quasiliquid layer 7−58191
disordered, diffuse LEED and XANES studies 7−12442
EELS in STEM of surfaces and interfaces, dielec. theory and verification 7−18935
electrical contact surface, two-dimens. FTIR mapping 7−48882
electron microscopy, defocussed images, atomic-level surface features 7−11863
electron microscopy of surface structure, review 7−51593
EM wave FTIR spectroscopy of very thin films 7−41506
epoxy-epoxyester polymers, relax. and specific orientation in surface layers *(Russian)* 7−63918
eroding surface profile during ion sputtering, Huygens' construction study 7−27842
erosion by ion bombardment 7−16843
evanescent X-ray diffraction during total external reflection, struct. studies 7−26590
EXAFS, depth controlled, near edge spectroscopy for study of surface layer struct. 7−59297
EXAFS studies at Daresbury SRS, in 60 to 11100 eV range 7−33486
FCC (110) surface, cooperative premelting effects, molecular dynamics simulation 7−16852
film deposition, surface segregation and impurity concentrations 7−2409
films, laser-assisted CVD, surface undulations, Raman microprobe analysis 7−12430
fine structure in ionisation cross sections, surface science appl., review 7−27074
fluorozirconate glass, chem. durability, reaction with water 7−39682
friction, material compatibility, surface processes 7−26850
friction, surface film form., physicochem. processes 7−21347

surface structure continued
friction layers, study by AES method *(Russian)* 7−59674
FTIR mapping, two-dimens., of curved surfaces 7−48882
FTIR-ATR spectroscopy, lower limit of thickness of measurable surface layer 7−41508
fused quartz, surface periodic struct. formation during vaporisation by CO_2 laser radiation 7−6936
gentle surface analysis by laser ionisation using intense UV laser light 7−23078
glass, Ar ion implantation, effect on mechanical and optical props. *(Chinese)* 7−51796
glass, ion exchange, surface investig. by XPS and X-ray spectra studies 7−13614
E-glass fibre composite interfaces, surface studies using diffuse reflectance and photoacoustic FTIR spectra 7−46044
glasses, surface singularities, topological origin 7−12444
glasses, surface structure minimal disturbance under ion bombardment 7−12419
graphite, contamination-mediated deformation, scanning tunnelling microscope study 7−44967
graphite, fusion reactor, surface erosion by D_2^+ irrad., struct. 7−51869
graphite, Tokamak limiter, thermal props., effusivity 7−49630
graphite basal plane, adsorbed N_2, computer simulation 7−52297
graphite surface, adsorbed N_2 and CO, pinwheel and herringbone structs. 7−7015
graphite surface, giant corrugations, scanning tunnelling microscopy 7−44320
graphite surface (0001)-(2 × 2)K intercalated structure, LEED calcs. 7−6952
graphite surface in air and water, scanning tunneling microscopy study 7−21585
graphite surface pulsed laser irradiation, SEM, TEM and STEM microstructural studies 7−12139
graphite surface with adsorbed methane, LEED 7−27129
grazing incidence X-ray scatt. determ. 7−26592
growing crystal surface, impurity atoms and vacancies, nonlinear kinetic effects 7−44575
high energy ion scatt., struct. anal. of surfaces and interfaces 7−22410
highly oriented pyrolytic graphite, surface with deposited Ag(Au) clusters, scanning tunnelling microscopy study 7−12413
III-V semiconductor surfaces (110), Sb p(1 × 1) overlayers, atomic and electronic struct. 7−7007
impact-collision ion scatt. spectroscopy technique 7−63931
imperfect crystals, strongly absorbent, surface layer defects and flaws, X-ray diffr. *(Russian)* 7−63923
imperfect surfaces and adsorbates, short range order and correlations 7−6953
incommensurate sandwiches in displacive surface reconstructions 7−52223
incompatible polymers mixtures, surface layer of films investig. 7−37888
incomplete crystals and crystalline interfaces, discrete struct. anal. 7−12508
ion and electron spectroscopy system, with angular resolution 2-6° 7−32773
ion scattering techniques, atomic arrangement *(Japanese)* 7−27838
IR external reflection spectroscopy of thin films on glassy C electrodes 7−41509
laminate flaws, pulsed photothermoelastic quantitative eval. 7−54048
Langmuir-Blodgett films, surface study using electron microscopy and X-ray reflectivity 7−58677
laser annealing, pulsed, surface structure formation 7−58322
laser induced thermal waves for surface analysis *(German)* 7−8334
laser ionisation mass spectrometry appl. to thin film and near-surface layer studies 7−28374
laser irradiation of solid surfaces, Raman microscopy 7−21264
laser processing, surface modelling and absorption 7−58325
LEED, computer controlled LEED intensity and spot profiledetermination 7−11857
LEED, expt., theory and surface struct. determ., book 7−60892
LEED techniques, review 7−12441
liquid surface obs. using X-ray diffractometer 7−18969
local deformations, reflection-hologram interferometry 7−41457
mass transport along surfaces, computer modelling, book contrib. 7−27082
material analysis, computer-based, conf., Boston, MA, USA (Dec. 1985) 7−14709
materials fatigue behaviour, influencing factors *(Japanese)* 7−39642
metal surface, atomic arrangements 7−32776
metal surfaces, deformed, imaging using ion bombardment 7−39342
metal-carbide composites, implantation modified, friction, surface chemistry 7−46660
metal-electrolyte rough interface, AC response, inverse-Cantor-bar model anal. 7−22012
metallic glasses, defects, SANS studies 7−51659
metallic materials, ion implantation and near surface microstructures, analytical electron microscopy 7−37816
metals, electronic structures of lattice defects, tight binding recursion method 7−27289
metals, semiconds. and adsorbates, surface topography meas. using scanning tunnelling microscopy 7−37814
microelectronic materials, characterisation by SIMS, book contrib. 7−44976
microelectronic materials processing, appl. of neutron depth profiling, book contrib. 7−44595
misorientation angle determination, near surface layers of crystal cuts 7−16842
modification by ion beam methods, review 7−27081
modulated structures, cryst. form and surface morphology 7−58190
multicomponent materials, surface composition, X-ray photoeffect discontinuity studies 7−12416
nitrocellulose film, on Cu, BaF_2 or K8 glass, periodic microrelief, laser irradiation 7−63927
non-semiconductor material, surface modification by ion beam indication *(Chinese)* 7−51799
nonmagnetic, elastic spin-polarised LEED studies, book contrib. 7−32233
nuclear micro-beam probe for the investigation ofsurfaces, microprocessor-controlled 7−8352
optical SHG studies 7−12440
overlayer nucleation and growth, surface defects, characterisation by surface-sensitive diffr. 7−21614
overlayers, mismatched, mol. dynamics study 7−2344
overlayers on metal surfaces, atomic struct. and composition 7−7013

surface structure continued
oxide anodic films on Al, struct., surface EXAFS, magic angle spinning NMR studies 7−22382
oxide cathodes, surface composition and property changes 7−13318
oxide surfaces, structure and rearrangements, atomic imaging 7−27078
oxides, sputtering by inter gas ions, depletion layer study, Sigmund's sputtering theory 7−46262
p=2 lock-in phase transition in surface reconstruction, theory 7−32628
plasma collector probes, surface layer analysis 7−58053
PMMA, ion beam damage effects, surface characterisation by SIMS 7−26817
PMMA film on glassy C, IR external refl. spectroscopy obs. 7−41509
PMMA surfaces, excimer laser irradiated, XPS studies 7−51822
polarised electrons in surface physics, book 7−29607
poly(α-methylstyrene) surfaces, excimer laser irradiated, XPS studies 7−51822
poly(n-alkyl methacrylates), surface mobility and struct. transitions, dynamic contact angle meas. 7−32758
poly(vinyl acetate) film on Cu, FTIR surface EM wave spectroscopy, Otto config. 7−46162
poly(vinyl alcohol)-poly(dimethylsiloxane) graft copolymers, surface studies 7−32307
polyamide, cavitation erosion tests *(German)* 7−33809
polybutylene terephthalate fibres, phase transitions, surface characterisation, spectrosc. methods 7−63505
polyimide film, etching and surface modification in plasmas, XPS, SEM and contact angle meas. 7−28166
polymer film, excimer laser micromachining and surface microstruct. modification 7−53940
polymer film on metal substrate, FTIR surface EM wave spectroscopy, Otto config. 7−46162
polymer surfaces, erosive wear by steel ball blasting 7−3446
polyurethane biomaterials, hydrolytic stability in model biological media, surface morphology changes 7−17673
PTFE, bonding and surface struct., ESCA investigation, electron beam interactions 7−51662
PTFE surface chemical struct. and adhesive props., effects of low-energy electron bombardment 7−44963
pyridine, adsorbed on Ag (111) and Ag polycrystalline substrates, struct., electron bands, LEED, UPS 7−53506
quartz, fused, surface structure minimal disturbance under ion bombardment 7−12419
quartz crystal microbalance, use for surface anal. in combination with surface sensitive spectroscopies 7−27076
rare earth metals, surface physics, reviews 7−27073
real-time imaging of analyzed areas in surface analysis 7−12427
reconstruction, theory 7−12433
reconstruction phase transformations 7−2326
reconstructions and critical phenomena 7−27067
Rene 80, first stage aluminised coating microstruct., STEM obs. 7−17709
RHEED, intensity oscills., periodic surface steps array effects, multiple scatt. theory calcs. *(Japanese)* 7−11856
RHEED and reflection electron microscopy, dynamical diffr. calcs. 7−32232
salol melt-grown crysts., decanted surface markings, in situ microscope obs. 7−27068
sapphire, as-grown surface, high resolution imaging 7−44977
sapphire, filaments, CO_2 laser heating, evaporation and chlorination 7−58331
scanning electron microscopy, ultra-high vacuum techniques with field emission gun, surface studies 7−24725
scanning tunneling microscopy *(Czech)* 7−6484
scanning tunnelling microscopic images, distance dependence 7−11861
scanning tunnelling microscopy, theory 7−11866
self-induced adsorption, surface vacancy generation 7−44993
semiconducting crysts., surface reconstruction model calcs. 7−32780
semiconductor, surface undulations produced by pulsed laser illumination, Raman microprobe analysis 7−12430
semiconductor characterisation, Raman spectroscopy, review 7−53354
semiconductor industry, appl. of SIMS, SAES, XPS 7−16847
semiconductor interface physics and chem., conf., Pasadena, CA, USA (Jan. 1986) 7−4
semiconductor surfaces, atomic, electronic and vibronic props. 7−2307
semiconductors, ion implantation and near surface microstructures, analytical electron microscopy 7−37816
semiconductors, MBE growth, RHEED and photoemission studies 7−2438
SEXAFS studies of clean surfaces and chemisorption systems 7−13262
SHG technique, book contrib. 7−25896
silica glasses, surface structure, mol. dynamics simulations 7−12443
SIMS techniques appl. 7−32774
small particles, high resolution electron microscopy, surface struct. at atomic resolution 7−1824
solid solutions, surface composition, multilayer adsorption 7−6938
solid surface, physics, conf., Smolenice, Czechoslovakia (Sept. 1984) 7−48170
solid surface, thermal-wave transient behaviour 7−54034
solid surface anal. methods *(Japanese)* 7−63921
solid surface atomic-scale imaging by scanning tunneling microscopy 7−37811
solid surfaces, chemistry and physics, book 7−60891
steel, austenitic stainless, cavitation erosion tests *(German)* 7−33809
steel, austenitic stainless, LWR cladding, oxidation in high temp. steam, LOCA appl. 7−727
steel, austenitic stainless, SCC susceptibility in polythionic acids 7−65183
steel, austenitic stainless, surface phase transform. rel. to H charging and ageing 7−17530
steel, carburised, microstructural constituent in high C layers 7−54006
steel, Cr-Mo, friction pair, contact zone surface struct. and mech. props. *(Russian)* 7−59640
steel, Cr-Mo, friction pair, surface layer structural modifications *(Russian)* 7−39678
steel, Cr-Mo-V, nitrided, wear resist rel. to preliminary thermomech. treatment 7−17659
steel, galvanised sheet, surface treatment prior to painting, effects on surface comp. and corrosion resist. *(French)* 7−46703
steel, low alloy, damaged surface, comp., displacement dislocations, Auger spectra *(Russian)* 7−59620
steel, mild, corrosion in sea water, calcareous deposits form. 7−3485
steel, N^+ implanted layers, in 9Cr18, GCr15 steels *(Chinese)* 7−53996

surface structure continued
steel, Ni-Cr-Mo, cylinder-on-disc lubricated sliding wear expts. *(Chinese)* 7−59639
steel, Ni-Cr-Mo, vacuum carburising with methane *(Japanese)* 7−13631
steel, rail, US inspection signal rel. to microstruct. and surface condition 7−3556
steel, stainless, ion trapping of D^+, mechanisms 7−64857
steel, stainless, passivity rel. to comp. and microstruct. 7−39711
steel, stainless, surface corrosion products after exposure to liq. alkali metals, glow discharge optical spectroscopy, SIMS anal. 7−22896
steel, stainless, surface segregation and grain boundary precipitation during heating, atom probe study 7−33672
steel, surface analysis by charged particle activation 7−46893
steel, surface characterization, EPMA, XPS, GDOS anal. 7−17372
steel, tool, laser surface glazing, microstruct. rel. to melt depth 7−46691
structure amplitudes, almost intrinsic integral diffraction curves 7−44307
substitutional impurity atoms uprise diffusion in cryst. near-surface layers *(Russian)* 7−44920
subsurface solid layers, Rutherford electron backscatt. studies 7−13287
superalloy single crystals, directional solidification, mech. anisotropy, fatigue, creep 7−3293
superlattices, surfaces and interfaces, structural, electronic and mag. props. 7−16849
surface analysis with second harmonic generation 7−16848
surface behaviour diagrams, for surface and interfacial reactions 7−27077
surface crystallography, future of LEED intensities 7−1822
surface defect distribution, reconstruction from positron annihilation parameters 7−39307
surfaces, force sum rules, Hellmann-Feynman theory 7−44989
surfaces, opaque, ablation due to laser irradiation 7−2055
techniques for surface studies, book 7−60888
techniques for surface studies, book 7−60911
TEM analysis techniques 7−44964
tensor LEED, high speed surface struct. determ. technique 7−37809
tetramethylammonium tetrachlorozincate, cryst. form, surface morphology, optical microscopy study 7−63919
thermionic emission cathodes, surface struct., EXAFS study 7−44970
transition metal silicide layers, electron microscope exam. *(German)* 7−45081
transition metals, BCC, atomic stability of (100) face, quenched molecular dynamics approach 7−6932
transition metals, surface structure and total energies calc. 7−12435
tunnel microscope for study of material atomic surface structure, operation and construction *(German)* 7−35637
vacuum symposium, Tokyo, Japan (1985) *(Japanese)* 7−14698
X-ray photoelectron diffr. studies of surface and epitaxial overlayer structures, review 7−27862
X-ray total external reflection, review 7−16360
XANES spectra, multiple scattering effects 7−13260
Ag (110), with physisorbed Kr, adsorption of NO_2, EPR, LEED AES studies 7−53116
Ag (111), adsorbed Cl, weakly ordered and disordered, struct. studies 7−2365
Ag films, ion-induced microcones, TEM obs. 7−58593
Ag, scanning tunnelling microscopy using high-stability vibration insensitive microscope 7−18922
Ag, sputtering yield, weight loss method studies 7−59340
Ag surface, binding energy of image-potential states 7−64303
Ag thin films, surface sensitivity of fluoresc. EXAFS in refl. conditions 7−64750
Ag, with adsorbed Cl, adsorbate-substrate bond lengths, coverage depend., SEXAFS 7−63948
Ag, with adsorbed Cs, adsorbate-substrate bond lengths, coverage depend., SEXAFS 7−63948
Ag-Au, external surface adsorption isotherm 7−6978
Ag-CdTe (100) interface, photoemission studies, surface struct., growth behaviour, Schottky barrier and surface photovoltage 7−39352
Ag-Zn, corrosion in H_2S, surface analysis, AES, XPS *(Japanese)* 7−53955
Ag(Ni, S) ternary alloys, surface cosegregation props. 7−52206
Al (110), Ar^+ sputtered, vacancy-type defect distribs., variable energy positrons study, mol. dynamics simulations 7−12429
Al (110), sputtered defect profile, variable-energy positron beam meas. 7−38077
Al (110) surface, atomic arrangements 7−32776
Al alloy surface, UV laser pulse irrad., microscopic crater form. 7−12124
Al, anodising by chromic acid, surface struct., abrasion resist., hardness, adhesion props. 7−13646
Al disks, He ion implanted, He re-emission ratios and surface obs. *(Japanese)* 7−12089
Al film deposition on amorphous substrates 7−21770
Al films, chemisorption of O, Al-O bond lengths, photoemission EXAFS meas. 7−64871
Al, investigation using surface behaviour diagrams 7−27077
Al, ion trapping of D^+, mechanisms 7−64857
Al, long-range oscillatory surface relaxations simulation 7−2317
Al, polycrystalline, near surface struct., simultaneous He^+ and H^+ implantation effects 7−58302
Al sputtered thin films, struct. props. 7−21758
Al, surface damage, dislocation struct., TEM anal. 7−16564
Al surfaces (111) and (110), surface tensile stress tensor calcs. 7−44982
Al-Mg surface layers, electronic and atomic structs., heat treatment effects *(Russian)* 7−58575
Al-Mn surface icosahedral phase form., ion beam mixing and interdiffusion 7−16653
AlGaAs, low press. MOCVD grown, surface morphology and defects 7−64023
$Al_xGa_{1-x}As$ surface, protection by As and GaAs ultrathin layers, AES sputter depth profiles 7−54022
$Al_{12}Mo$ precipitate microstruct. and orientation, implantation and annealing effects, electron microscopy study 7−16782
Al_2O_3 anodic films on Al, struct., magic angle spinning NMR study 7−22382
α-Al_2O_3, cation solute segregation to surface 7−21593
α-Al_2O_3, identification by electron diffr. 7−27069
α-Al_2O_3, ion implantation, crystallisation of amorphous surface layers 7−58304
α-Al_2O_3, surface, segregation of Y and Mg, atomistic lattice simulation 7−58492
As (0001), laser pulsed oxidation modification 7−58320
Au (100), FCC, hexagonal reconstruction 7−58591

surface structure continued
Au (100), reconstruction, glue model 7—32777
Au (100) surface reconstruction, embedded-atom simulation 7—52199
Au (110), surface struct., low energy ion backscattering determ. 7—52205
Au (110) (1×2), sp. ht. anomaly for order-disorder transition, LEED study 7—12310
Au (110)2×1, surface structure, X-ray diffr. studies 7—12438
Au crystals, small, surface twin form., high resolution electron microscopy 7—44566
Au particle faces, restructuring TEM study 7—12418
Au, small metallic particles, surface fractal dimension 7—38308
Au, structural stability of reconstructed (110) surfaces 7—7326
Au, surface (110), struct. and surface energy, Monte Carlo study 7—6945
Au, surface layer comp., Auger spectra *(Russian)* 7—58703
Au, surface reconstruction phase transformations 7—2326
Au-Cu alloys, surface composition, sequential ion scatt. spectroscopy-Auger electron spectroscopy meas. 7—22394
Au-Cu sputtered alloys, segregation, surface compositional changes 7—58585
Au-Pd, preferential sputtering and surface segregation 7—59339
BN pyrolytic crucibles for MBE, AES, XPS, SIMS, and bulk anal. after vac. baking 7—53596
C containing compounds, chemisorbed on cold rolled steel sheets, XPS characterisation *(French)* 7—44965
C films, plasma fluorination, surface structure determ. 7—27196
CO, chemisorbed on Pt (111), adsorbate vibr. modes, inelastic He atom scatt. obs. 7—32782
CaF_2 (111), surface at. struct. anal., impact-collision ion scatt. spectroscopy 7—63931
CaF_2, crack-free epitaxial film, on GaAs (100), surface morphology, elec. props. 7—39392
CaF_2-Si (111), interface form., photoemission study 7—2395
$CaTiO_3$, ion implantation, crystallisation of amorphous surface layers 7—58304
$Cd_{0.2}Hg_{0.8}Te$, electron stimulated desorption of Hg 7—17378
CdS epitaxial films, initial oxidation stages, diffusion mass transport between CdO islands 7—8206
CdS, single crystal, US wave absorption, impurity distrib. effect., electron-probe X-ray anal. 7—53241
CdS single crystals, subsurface region comp., laser radiation effects, AES study *(Russian)* 7—58329
CdS surfaces, electron-beam-stimulated processes, real-time atomic-resolution electron microscopy 7—7798
CdSe, ordered structures, field ion microscopy studies 7—32768
CdSe, single crystal, US wave absorption, impurity distrib. effect., electron-probe X-ray anal. 7—53241
CdSe thin films, electrodeposited from $SeSO_3^{2-}$ soln., comp. performance, polarography, RBS, cyclic voltammetry, power meas. 7—2411
CdTe (001), Cd and Te desorpt., surface stoichiometry and reaction kinetics, RHEED studies 7—21613
CdTe (100), photoemission studies, surface struct., growth behaviour, Schottky barrier and surface photovoltage 7—39352
CdTe and CdZnTe, single-crystal substrates, struct. characterisation 7—32769
CdTe, atomic layer epitaxy on CdTe (111) substrates, growth mech. 7—12525
CdTe, cathodic electrochemical surface modifications, Cd layer form. 7—65239
CdTe, crystallographic polarity, determ. from Auger electron spectra 7—64830
CdTe, D plasma etching, surface comp. 7—46730
CdTe films, electrochemically deposited, comp., struct., AES, electron probe anal., X-ray diffr. spectroscopy 7—58694
CdTe grown on Si by LPMOCVD, physical props., SEM obs. of surface morphology 7—27181
CdTe, ion milling, TEM 7—39344
CdTe, positron annihilation in defects at crystal surface, defect anal. 7—39306
p-CdTe, single crystal and thin film, chemical etching study 7—46724
CdTe(Se) heteroepitaxial layers, deposition on InAs 7—7045
Ce (001), H_2 adsorption, initial stages of hydride form., UPS, LEED and EELS studies 7—21629
Ce conversion coatings on Al alloys, corrosion protection 7—53988
Co-Cr thin films, DC magnetron sputtered, mag. props., effect of substrate and deposition rate 7—59067
CoCr thin films, microstructure and corrosion resistance, effect of SiO_2 protective film 7—28184
CoO (100), LEED intensities, quasidynamical approx. calc. 7—12428
$CoSi_2$, MBE growth, struct. props. and device appls. 7—21738
Cr single crysts., surface and deeper layers, struct. changes due to laser irradiation 7—6937
Cr-Ni multilayer thin films structures, AES depth profiling during sample rotation 7—27829
Cr_2O_3-GaAs, struct. and electrophysical props. 7—17109
$CrSi_2$,Ar^+ ion beam induced surface and subsurface modifications, AES study 7—64846
Cr_3Si, Ar^+ ion beam induced surface and subsurface modifications, AES study 7—64846
$CsH(D)SO_4$ 7—63925
CsI, surface stoichiometry, changes under electron and laser radiation 7—44961
Cu, (001), K adatoms two-dimensional condensation, LEED obs. 7—12478
Cu (10,10) and (510), adsorption of Pb, faceting, LEED, AES studies 7—32828
Cu (100), adsorption of S, (2×2) surface struct., LEED anal. 7—32827
Cu (100), surface characterisation by In probe atoms, electric field gradient 7—2553
Cu (110), adsorbed O induced reconstruction, XANES 7—53447
Cu (110), adsorbed Pb, struct. and melting, X-ray scatt. studies 7—7016
Cu (110), H adsorpt., adsorbate movement-induced subsurface reconstruction, LEED and atom diffr. meas. 7—27114
Cu (110), surface energy anisotropy, surface reconstruction 7—2346
Cu (110) stepped Faces, O_2 adsorption 7—27132
Cu (115), low temp. behaviour of surface roughness 7—6941
Cu (115), thermal behaviour, molecular dynamics study 7—52222
Cu, crystal surface and interface, heterophase fluctuations *(Russian)* 7—58650
Cu, fatigue near surface indentations and pits, deform. 7—46628
Cu, sputtering yield, weight loss method studies 7—59340
Cu surface, binding energy of image-potential states 7—64303

surface structure continued
Cu surface, characterisation with intense positron beams 7—13256
Cu, surface structure minimal disturbance under ion bombardment 7—12419
Cu-Ag, surface segregation 7—44829
Cu-Al (111), S segregation, LEED and AES studies 7—2321
Cu-Al-Mn, surface layers, change in chem. state during annealing investig. using Auger spectroscopy *(Russian)* 7—33834
Cu-Al-Ni-Fe bronze, laser glazing, microstruct. 7—52197
Cu-Ni, external surface adsorption isotherm 7—6978
Cu-Ni alloy surfaces, composition, low energy ion scatt. study 7—32771
Cu-Ni alloys, chemisorpt.-induced surface segregation, time-of-flight atom probe and AES studies 7—32657
Cu-Pd alloy, surface segregation, scanning Auger electron microscopy study 7—21578
Cu-Rh, dilute alloy, surface composition, Auger electron spectroscopy 7—16845
Cu-Ti alloys, amorphous and crystalline, H absorption 7—2369
$ErSi_2$, behaviour under ion bombard. and O exposure, AES, EELS 7—33506
EuO (100), cleaved surface, struct. and comp. 7—12426
EuS (100), cleaved surface, struct. and comp. 7—12426
EuSe (100), cleaved surface, struct. and comp. 7—12426
EuTe (100), cleaved surface, struct. and comp. 7—12426
FE-Cr coatings for gun bores, morphology and erosive wear 7—46697
Fe (100) 7—8154
Fe (110), clean and O-covered, struct., surface extended energy loss fine struct., spectra obs. 7—12481
Fe (111), chemisorbed N_2, adsorbate geometry, angle resolved XPES anal. 7—45009
Fe, C deposition in vacuum carburising *(Japanese)* 7—33827
Fe, cementation layer struct., Mossbauer spectra, radioisotope method, microhardness obs. *(Russian)* 7—39741
Fe garnet films containing Bi, comp. study, and chemical etching anal. 7—45083
Fe, laser irrad., Nb surface alloying, Mossbauer spectra *(Russian)* 7—58580
Fe particles on planar Al_2O_3 supports, low rate growth 7—32779
Fe, porous, segregation of impurity elements, alloying elements selection and activated sintering 7—53742
Fe surface layers under toluene, laser irradiated, supersaturation with C 7—51820
Fe/Ni Reed blades, Au coated, AES/SEM study 7—44972
Fe-Al-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7—59672
Fe-C-N, ion implanted, C surface contamination, AES and XPS studies 7—38312
Fe-Cr surface oxide scales, XANES 7—65193
Fe-Mo-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7—59672
Fe-N, implantation at 77 K, surface comp., microstructure, AES, HVEM, transmission HEED studies 7—38033
Fe-Ni, austenitic crystals, nitrided, phase comp. of diffusion layers *(Russian)* 7—63922
Fe-Ni-Ti, austenitic crystals, nitrided, phase comp. of diffusion layers *(Russian)* 7—63922
Fe-Ni-Ti(Al)(Cr), nitrided layers, struct. investig. using Mossbauer spectroscopy *(Russian)* 7—53992
Fe-Si (3 wt.%), Goss orientation rel. to hot rolling conditions 7—8018
Fe-Si-C single cryst., surface segregation and interactions 7—2322
Fe-Sn (001), surface segregation of Sn, surface struct. anal. 7—58594
Fe-Sn (100), surface structural transitions during Sn surface segregation 7—52210
Fe-V-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7—59672
Fe_3Al, near surface atomic correlations depth profiling, total reflection of synchrotron radiation 7—52214
$Fe_{80}B_{20}$ ribbons, amorphous and crystallised, surface comp., electronic props., topography, AES, XPS, ion scatt. studies 7—27065
$Fe_{83}B_{17}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7—13065
$Fe_{84}B_{16}$ amorphous alloy, heterogeneous surface struct., Mossbauer differential conversion electron spectra anal. 7—2319
$Fe_{81}B_{13.5}Si_{3.5}C_2$, Metglass 2605 SC, surface crystn. behaviour 7—58154
$Fe_{0.92}Cr_{0.08}$, near surface layer conc. profile, XPS *(Russian)* 7—58582
$FeCr_{10}P_{13}C_7$ amorphous alloy, surface layer chemical bonds, XPS studies 7—12417
$Fe_xNi_{80-x}B_{20}$, XRF and PIXE surface anal. 7—12411
$Fe_{40}Ni_{38}B_{18}Mo_4$, Metglass 2826 MB, surface crystn. behaviour 7—58154
$Fe_{40}Ni_{40}P_{20}$ amorphous alloy, electron struct. and surface struct., XPS and UPS studies 7—27238
$Fe_{40}Ni_{40}P_{14}B_6$, ferromag. amorphous alloy, struct. relax., effect of surface 7—28062
$Fe_{70}Ni_8S_{10}B_{12}$, amorphous and cryst. states., oxidation *(Russian)* 7—53993
Fe_2O_3, adsorpt. of pyridine, gas chromatography and IR spectro study 7—39917
γ-Fe_2O_3 particles, pure and Co-modified, microstructural defects 7—58497
$Fe(OH)_3$, adsorpt. of pyridine, gas chromatography and IR spectro study 7—39917
$Fe_{78}Si_9B_{12}$ amorphous alloys, surface crystallisation and mag. props. 7—51649
$Fe_{90}Zr_{10}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7—13065
GaAs (100), chemical etching and oxidation, XPS characterisation 7—21591
GaAs (111), (2 × 2) reconstruction, geometric struct. model 7—6950
GaAs (111), sorption of O, surface struct., AES anal. 7—53457
GaAs (111) orderly faceted struct., LEED pattern anal. 7—21579
GaAs (311)(1×1) surface, atomic geometry and electronic struct. 7—2311
GaAs (511) and (711) surfaces, struct. studies using LEED AES, and EELS 7—2312
GaAs, doped, oxidation, in situ TEM obs. 7—28215
GaAs films, initial stages of MBE growth on Si (100) 7—63995
GaAs films, MBE growth and structural characterisation 7—21775
GaAs, high temp. annealing, prevention of thermal surface damage 7—39546
GaAs, laser-induced melting and nonlinear optical studies 7—12432
GaAs, near-surface structure, analysing He^+ ion beam effects 7—7808
GaAs, overlapping etch pits, density, evaluation technique 7—32443
GaAs, passivation, by a-P and alkali metal polyphosphides 7—39778

surface structure continued
- GaAs, sputtered, comp. depth profiles, AES, XPS, inverse Laplace transforms 7–22390
- GaAs, substrates, multi-technique approach to defect microstructure characterisation 7–52215
- GaAs, surface morphology of crysts. grown by gas-source MBE using trimethylgallium and As_4 7–17424
- GaAs, surface morphology, in HNO_3-HF-H_2O etching system *(Korean)* 7–28225
- GaAs, surface structure with adsorbed Te 7–12460
- GaAs:Al, surface layer, degree of disordering, effect of dopant 7–63929
- GaAs:Cs, impurity ion beam effects, SIMS depth profiling 7–22419
- GaAs:Er MBE layer, dopant trapping level, photolum. obs. 7–44581
- GaAs:Sn(Te)(Zn) surface layers, luminesc., electrophys. parameters, effect of annealing 7–64680
- GaAs-GaI_3-H_2, dissolution of GaAs, crystallographic characteristics 7–12415
- GaAs(100), MBE growth parameter influence on surface kinetic processes, RHEED specular beam intensity meas. 7–2424
- Ga_2O_3, surface O photoactivation, struct. *(Russian)* 7–65352
- Ge (111), adsorbed Pb, atomic geometry, surface X-ray diffr. 7–52277
- Ge (111), stability and struct. of 7×7 reconstruction 7–2310
- Ge (111) cleaved surface, optical props. and atomic struct. 7–58595
- Ge (111) pure and As doped, surface electronic struct., photoemission studies 7–2658
- Ge, (111) surface structure, lattice gas model anal., DAS structure 7–2309
- Ge, atomic-scale surface modifications by scanning tunnelling microscope 7–58583
- Ge crystals, surface phonon modes and reconstructions, Green's function method calcs. 7–2339
- Ge, periodic surface microrelief, determ. optical constants of laser-irradiated material 7–63926
- Ge surface state characts., surface struct. and low temp. annealing effects 7–45426
- Ge, surface structure, optical transitions 7–12439
- Ge:H, H composition at surfaces and interfaces 7–27083
- Ge:Si, ion-implanted amorphous surface layers, EXAFS 7–27823
- Ge-GeO_2, defect formation, during thermal oxidation 7–65237
- Ge_xSi_{1-x} (111) vicinal surfaces, step-band formation, cross-sectional TEM studies 7–12412
- $Ge_{50}Te_{50}$, Auger elemental depth profiling, preferential sputtering 7–54247
- $Hg_{1-x}Cd_xTe$ MBE layers, plasma oxidation, oxide growth, comp. and surface struct. 7–54018
- In-Sn alloys, solid and liquid, surface composition, Auger electron spectra study 7–12421
- InP (100), prep. by P deposition and annealing, surface reconstruction, LEED, EELS studies 7–38311
- InP (111) orderly faceted struct., LEED pattern anal. 7–21579
- InP, passivation, by a-P and alkali metal polyphosphides 7–39778
- InP substrate vapour phase etching, surface morphology, temp. depend. study 7–28220
- InP substrates, influence of inhomogeneities on quality of quaternary layers 7–32770
- InP surfaces, sputter etched, optoelectronic and structural props. 7–13661
- InP(As)(Sb) surfaces, oxidation processes studied by high-resolution electron microscopy 7–39766
- InP(Sb), ion milling, TEM 7–39344
- InSb (-1-1-1) (3 × 3) reconstructed, X-ray diffr. studies 7–6951
- InSb (110), LEED surface crystallography and R-Factors 7–26596
- InSb, nondislocating crysts., damaged surface struct., X-ray scatt. *(Russian)* 7–58581
- Ir (100), FCC, hexagonal reconstruction 7–58591
- Ir (100), low temp. field evaporation of clusters, surface reconstruction, field ion microscopy studies 7–44973
- Ir (100) surface reconstruction by field-ion microscopy 7–2316
- Ir (110) and (100) surfaces, reconstruction, obs. in field ion microscope 7–1828
- Ir, structural stability of reconstructed (110) surfaces 7–7326
- Ir surfaces, reconstructed, direct imaging using field ion microscopy 7–32767
- Ir-Pt (2 at.%), surface segregation, AES study 7–27066
- KCl (100), interaction of NaCl mol. beams with surface, desorption flux meas., SIMS obs. 7–33508
- $K_2Cr_2O_7$, surface micromorphology rel. to growth conditions 7–58175
- KI, {100} cleavage faces, surface morphology, influences of UV photo-enhanced evap. 7–44962
- LaB_6 (001), adsorption of Cs, surface structure and work function 7–6977
- LiF evaporated films, surface anal., electron stimulated desorption, XPS studies 7–27173
- $LiNbO_3$ (001), z-cut, surface struct., RHEED studies 7–2308
- $LiNbO_3$ crystals, struct. defects and etch figures 7–44555
- MgO (100), atomic-level surface features studied by an electron-microscopic technique 7–6939
- MgO (100), LEED intensities, quasidynamical approx. calc. 7–12428
- MgO, cation solute segregation to surface 7–21593
- MgO crystal surface, defocussed dark-field electron microscope images 7–6485
- MgO:C, single crystals, solute C and C segregation, SIMS study 7–16759
- MgO:C, single crystals, solute C and C segregation, SIMS study 7–16761
- MgO:C single crystals, solute C and C segregation, SIMS study 7–16760
- MgO:Ca^{2+} (100), entropy of segregation calcs. 7–2323
- $Mn_{1-x}Zn_xFe_2O_4$ substrates, Auger microprobe temperature profiles of contamination residue 7–59822
- Mo (110) chemically modified surface, Au thin film form. study 7–12489
- Mo (111) surface layer relax., low energy Li^+ ion scatt. study 7–6943
- Mo, ion trapping of D^+, mechanisms 7–64857
- Mo surface, struct. phase transitions 7–2327
- Mo, surface reconstruction phase transformations 7–2326
- Mo, surface structure minimal disturbance under ion bombardment 7–12419
- Mo:Cu(Re), pulsed ion implantation, surface struct. 7–51867
- MoO_3 crysts., surface structure, implications for catalytic oxidation of hydrocarbons 7–6942
- MoS_2, surface chemistry and props., photoemission, SIMS and SEM anal. 7–44971

surface structure continued
- Mo(100), pulsed laser irradiated, use of LEED for surface damage charact. 7–21592
- N_2-crystal collisions, alignment, pot. parameters effect 7–64839
- $NH_4H_2PO_4$ crystals, kinetics of dislocation growth of dipyramid and prism faces 7–58578
- NH_4HSO_4 single crysts., surface layer phase transitions, surface cond. anomalies obs. 7–63925
- $Na_2CaAl_2Si_4O_{12}.6H_2O$, zeolite, adsorption and desorption of ethylene, TPD study 7–32826
- Nb alloys, borosilicide coatings, X-ray obs. *(Russian)* 7–45066
- Nb, ion trapping of D^+, mechanisms 7–64857
- Nb thin whiskers, struct., heat treatment effects, SEM study 7–12579
- Nb-Ti-W (30, 20 wt.%), nitriding, hardness, wear and corrosion resist. 7–46713
- NbSe single crystals, vapour transport growth, superficial charactn., AES 7–46253
- $NbSe_2$ (2H), surface struct., scanning tunnelling microscopy obs. 7–52212
- 2H-$NbSe_2$ surface, atomic image, scanning tunneling microscopy study 7–12423
- Ni (001), adsorbed Na, photoelectron diffraction spectrum calc. and Fourier transform anal. *(Chinese)* 7–13326
- Ni (011), adsorbed S, struct., angle-resolved-photoemission extended fine struct. studies 7–63950
- Ni (100), adsorbed N, surface phonon dispersion, adsorbate induced reconstruction 7–52225
- Ni (100), adsorbed S, segregation kinetics, AES and LEED studies *(Chinese)* 7–58607
- Ni (100), adsorption of CO, C_2H_4, O_2 or H_2, X-ray induced secondary electron emission 7–27866
- Ni (100), chemisorbed H and D, vibr. motion, high resolution EELS 7–12458
- Ni (100), coadsorption of H_2 and CO 7–27117
- Ni (100), Cu overlayer growth, X-ray induced secondary electron emission meas. 7–27865
- Ni (110), adsorbed H, competing surface reconstruction mechanisms 7–7004
- Ni (110), adsorbed H, struct. determ., LEED studies 7–45004
- Ni (110), adsorption of D_2, LEED, TDS, RBS, nucl. reaction anal., work function meas. 7–58638
- Ni (110), adsorption of O, surface phases, absolute coverages 7–12486
- Ni (110), adsorption of O, electron stimulated ion desorption O^+ yield meas. 7–12487
- Ni (110), chemisorbed H induced (1×2) reconstruction 7–58851
- Ni (110), defects developed by epitaxial growth of Ni film or ion bombardment 7–63924
- Ni (110) and (111), adsorbed S, surface struct., SEXAFS, XANES studies 7–64770
- Ni (111), adsorption of Cl, surface struct., SEXAFS, photoelectron diffr. studies 7–64775
- Ni (111), adsorption of Te, adsorbate induced C segregation and dissolution 7–12477
- Ni (111), ordering of acetylene and ethylene, LEED, EELS 7–52269
- Ni {100}, adsorption of I, surface phases, SEXAFS, multishell simulation anal. 7–59303
- Ni {100}, adsorption of I, surface phases, SEXAFS, breakdown of Fourier filtering single shell anal. 7–59304
- Ni, adsorption of Si, surface geometry, low energy ion scatt. determ. 7–53474
- Ni, D permeation rel. to surface impurities and Ar sputtering 7–52141
- Ni finite films, sputtered, struct. and compositional studies 7–64024
- Ni, long-range oscillatory surface relaxations simulation 7–2317
- Ni, oxidation, oxide epitaxy depend. on growth temp., LEED, AES, ellipsometry studies 7–22869
- Ni, surface oxide struct., XANES study 7–64771
- Ni, surface phonons, HREELS study 7–13291
- Ni-Al ordered alloys, long-range oscillatory surface relaxations simulation 7–2317
- Ni-Au (110), Au-enriched by surface segregation, LEED 7–27080
- Ni-Cr, carburisation, kinetics, diffusion and precipitation *(German)* 7–8194
- Ni-Cr alloy, surface segregation, scanning Auger microprobe study 7–22703
- Ni-Cu alloy, equilib. segregation, embedded atom simulation 7–17538
- Ni-Cu binary alloys, surface segregation *(Japanese)* 7–12422
- Ni-Cu binary alloys, surface segregation studied by atom-probe 7–44966
- Ni-Fe (100) surface, break-up of oxide films by S_2 impingement, LEED and AES meas. 7–46260
- Ni-$GeCl_4$, binding energy rel. to Ni chem. state, XPS 7–17820
- Ni-Mo (6 at.%), oxidation, ESCA study 7–22897
- Ni-Mo-B(P), metallic glasses, depth-composition profile, X-ray photoelectron study 7–63928
- Ni-Pt, surface segregation, composition anal., AES studies 7–7999
- Ni-Si-B amorphous ribbons, surface charactn. 7–12420
- Ni_3Al, atomic struct. of alloy surface, LEED study 7–38306
- Ni_3Al surface, atomic struct., LEED study 7–38307
- $Ni_{50}Fe_{50}$ (100) alloy, segregation and adsorption of S 7–21617
- $Ni_{60}Fe_{40}$ (100), initial oxidation and sulphidation, LEED study 7–58641
- NiO, adsorpt. of pyridine, gas chromatography and IR spectro study 7–39917
- NiO, adsorption of NO, IR transmission spectra, calorimetry studies 7–58640
- $Ni(OH)_2$, adsorpt. of pyridine, gas chromatography and IR spectro study 7–39917
- NiSi layer on Si (111), solid phase epitaxial growth from Si/Ni multilayer structure 7–7071
- $NiSi_2$ epitaxial layer on Si (001), surface struct., ion-scatt. studies 7–27075
- $NiSi_2$, MBE growth, struct. props. and device appls. 7–21738
- O (2×1) overlayer on Cu (110), surface reconstruction, mean free path and Debye-Waller factor, SEXAFS study 7–46238
- O chemisorbed layer on Ni (001), self-consistent field He scatt. cluster model calcs. 7–53471
- Os (0001), coexistence of mono- and diatomic steps 7–52204
- Os (0001) adsorbed benzene, mol. struct., angle-resolved UV photoemission spectral study 7–53492
- PLZT, transparent ferroelectric ceramic, surface composition and structure 7–32765
- Pb (110), surface initiated melting, ion shadowing and blocking meas., RHEED 7–44769

surface structure continued
$Pb_5Ge_3O_{11}$, surface segregation of Pb upon heating to the melting pt. 7−6931
PbSe films, photosensitivity mechanism 7−58923
$Pb_{80}Si_{20}$, amorphous, thermal stability, Auger study 7−58577
$Pb_{1-x}Sn_xTe$ surfaces, AES, LEED and Kikuchi pattern obs. 7−52200
Pd (110), adsorbed H, row pairing model 7−2370
Pd, pulsed current electrodeposition, pulse parameters effect on deposit morphology, H content 7−59473
Pd, small metallic particles, surface fractal dimension 7−38308
Pd-Rh, high temp. air oxidation, surface comp., AES 7−22891
PdRhPSi(SiNi), amorphous laser processed surface alloy on cryst. Ni in NaOH soln., anodic characts. 7−28317
PdSi, phase transform. to Pd_2Si, kinetics 7−16795
Pd_2Si polycryst. film on Si, ion sputtering effects, XPS, UPS and scanning tunnelling microscopy studies 7−59357
Pt (100), FCC, hexagonal reconstruction 7−58591
Pt (100), low temp. field evaporation of clusters, surface reconstruction, field ion microscopy studies 7−44973
Pt (100) surface, defect struct. rel. to catalytic behaviour, scanning tunnelling microscopy study 7−6930
Pt (110), catalytic CO oxidation, kinetic oscillations 7−28346
Pt (110), surface energy anisotropy, surface reconstruction 7−2346
Pt (111), coadsorption of K and CO, structural and vibrational studies 7−52266
Pt (111) clean and CO covered, LEED structural anal. 7−2376
Pt (111) with adsorbed S, surface crystallography using LEED and R factor analysis 7−27120
Pt (111) with incommensurate graphite overlayer, LEED 7−63930
Pt, and Pt group metals, ion probe microanalysis effect of O_2 admission 7−17380
Pt binary alloys, surface segregation struct. and composition 7−7013
Pt, catalyst particles, adsorbed S-induced faceting, TEM study 7−27109
Pt crystallites supported on C black, surface struct., TEM study 7−32778
Pt, small metallic particles, surface fractal dimension 7−38308
Pt, structural stability of reconstructed (110) surfaces 7−7326
Pt, surface structure and adsorbate bonding, NMR studies 7−13050
Pt surfaces, impurity segregation, high resolution AES studies 7−33668
Pt-Ni alloys, surface segregation, ISS study 7−52208
Pt-Rh alloys, surface composition, lattice vibrational entropy 7−52207
Pt-Rh surfaces, N_2 and CO adsorption, temp. depend. and work function studies 7−33960
Pt_3Ti (111), chemisorption of CO and O_2 7−27131
RSi_{2-x}-Si (R=Sc, Y, Gd, Ho, Tb, Dy, Er, Tm, Yb, Lu), silicide thin films, phase composition, conductance, surface morphology 7−7072
$RbHSO_4$ single crysts., surface layer phase transitions, surface cond. anomalies obs. 7−63925
$Rb_{0.3}MoO_3$, ($\bar{2}01$) plane study using LEED, AES and angle-resolved UPS, Fermi wave vector determ. 7−58846
Rh (100), coadsorption of CO and H_2, adsorbate-adsorbate interactions effects 7−44997
Rh (111), clean and with adsorbed O, ion bombarded, desorbed atoms distributions 7−22420
Rh surfaces, adsorption and desorption of NO, effect of surface structure 7−6994
Ru (001), CO and K coadsorpt., angle resolved Auger lineshapes 7−2372
Ru (001), chemisorption and rot. epitaxy of Li, LEED, TDS obs. 7−12479
Sb (111), LEED studies using automized high-speed data acquisition system 7−21589
a-Sb_2S_3 films, thermally induced relax. of mechanical stresses 7−8032
$Se_{50}Te_{50}$, Auger elemental depth profiling, preferential sputtering 7−54247
Si (001), clean and with adsorbed H, RHEED intensities 7−27123
Si (001), scanning tunnelling microscopy 7−27072
Si (001), surface order-disorder transition 7−52209
Si (001)-(2×8), clean and Ni contaminated, ordered-defect model 7−21586
Si (100), adsorption of H_2O, surface struct., photon stimulated ion desorption SEXAFS determ. 7−64752
Si (100), laser irrad., matrix atomic losses and impurity incorporation 7−2058
Si (100), surface reconstruction 7−16850
Si (100) surface, atomic terraces and steps, refl. electron microscopy obs. 7−52211
Si (100)2×1, adsorbed H, surface structure, high resolution, IR spectroscopy 7−13169
Si (100)2×1, interaction with O_2 and N_2O 7−63962
Si (111), absorbed Ag, structure, scanning tunnelling microscopy studies 7−58625
Si (111), adsorbed Ag, geometry and local electron states 7−58626
Si (111), Ar ion bombardment, RHEED and REM studies 7−32511
Si (111), atomic-level surface features studied by an electron-microscopic technique 7−6939
Si (111), clean and Au covered, SEM, LEED and scanning Auger microscopy obs. 7−21056
Si (111), convergent beam RHEED studies 7−32764
Si (111), cryst. surface layer at. struct. probed by SHG 7−20324
Si (111), local density of states near ideal vacancies 7−27380
Si (111), MBE, ordered and disordered growth modes 7−12558
Si (111), stability and struct. of 5×5 reconstruction 7−2310
Si (111), surface bonding configuration, triangle-dimer stacking fault model 7−6946
Si (111), surface reconstruction, benzene-like ring model 7−16851
Si (111), surface reconstructions, X-ray standing-wave study 7−44968
Si (111), surface ripples, depend. on laser pulse width 7−12445
Si (111), surface struct., LEED data 7−6947
Si (111), symmetry and order, SHG 7−15948
Si (111), thermal oxidation, initial stages, AES, LEED and photoelectron spectra studies 7−3543
Si (111) 7×7, surface struct. study using scanning tunnelling microscope 7−4919
Si (111) cleaved surface, optical props. and atomic struct. 7−58595
Si (111) surface, study using an MBE system with automatic ellipsometer, nondestructive anal. 7−7058
Si, (111) surface structure, lattice gas model anal., DAS structure 7−2309
Si (111) surfaces, reconstruction study 7−2315
Si (111) with adsorbed Ga, X-ray photoelectron and Auger electron diffr. 7−27116

surface structure continued
Si (111)/Au interfaces, structural and electronic props., annealing effects 7−21679
Si (111)7×7, surface structure, X-ray diffr. studies 7−12438
Si (111)7×7 surface, total-energy calcs. for Takayanagi model 7−2345
Si (5×5) surface reconstruction, stability against native oxide form. obs. 7−2318
Si crystals, surface phonon modes and reconstructions, Green's function method calcs. 7−2339
Si epitaxial layers, selective, surface morphology 7−32880
Si etched and polished (111) surfaces, LEED spot profile anal. 7−11859
Si, etching by $HF-CrO_3-H_2O$ solns., selective dissolution studies 7−3530
Si, laser irradiated, surface morphology and phase transitions 7−12121
Si, layers damaged by cutting, struct., X-ray diffr. obs. 7−2401
Si, MBE cryst. growth, dopant incorporation 7−12559
Si, oxidation, surface layer defect formation 7−46733
Si, oxidation of damaged surfaces, precipitation at stacking faults 7−38313
Si, periodic surface microrelief, determ. optical constants of laser-irradiated material 7−63926
Si pure and As-doped single-domain reconstructed (100) surface state dispersion and struct., LEED and photoemission studies 7−38667
Si, reactive ion etching, near-surface disorder, surface residues 7−16846
Si rough surfaces, ellipsometry spectra, Ohlidal-Lukes model anal. *(Chinese)* 7−13109
Si single cryst., laser-driven shock induced damage study 7−64829
Si, structural changes produced by one micron picosecond laser pulses, TEM characterisation 7−12133
Si substrate, anisotropic dry etching effects on surface props., XPS, ion channelling and Raman scatt. studies 7−28229
Si surface, (111) $\sqrt{3}\times\sqrt{3}$-Sn, angle resolved UPS, rel. to other Si-metal overlayer surfaces 7−3149
Si surface, cellular structures formation due to interaction with picosecond light pulses 7−44960
Si, surface, laser beam melting and recrystallisation 7−12431
Si surface, Mossbauer diffraction from rotating single crystal *(Russian)* 7−27071
Si, surface, periodic struct. form. by millisecond pulsed laser light 7−44975
Si, surface, quantum states and atomic struct. 7−32775
Si surface, thermal oxides, X-ray scattering studies 7−52326
Si, surface contamination during reactive ion beam etching with Cl_2 7−3539
Si, surface damage induced by low energy ion sputtering *(Chinese)* 7−6693
Si surface state after plasma etching in a diode type system 7−6940
Si, surface structural phase identification, use of specular beam in LEED 7−58589
Si, surface structure, optical transitions 7−12439
Si, surface structure, pulsed electron-beam annealing 7−21284
Si, surface structure, UHV scanning tunnelling microscope studies 7−18923
Si surface studies with a high resolution transmission electron microscope 7−21595
Si surface study using metal-vacuum-semiconductor structs. 7−38749
Si surface with Rh overlayers, FIM 7−52284
Si surfaces, (110), clean and hydrogenated, atomic configuration, LEED studies 7−2314
Si surfaces, (7×7)-Ge and (5×5)-Ge superstructures, angle-resolved EELS studies 7−21583
Si, thin crystals, grinding, surface defect struct., X-ray diffr. *(Russian)* 7−38304
Si:Al implanted crysts., amorphous surface regions with crystalline impurity grains, TEM study 7−58579
Si:C,N, ion implanted, C surface contamination, AES and XPS studies 7−38312
Si:Fe, low damage surface anal., sputtered atom resonance ionisation method 7−58584
Si:Gd,C profiled single cryst., electronic parameters and SiC inclusions 7−32944
a-Si:H, glow discharge deposition, surface roughness evolution 7−64933
Si:H, H composition at surfaces and interfaces 7−27083
a-Si:H, surface structure, inert gas plasma exposure effects 7−21584
a-Si:H films, growth habit, influence of substrate struct., ellipsometry study 7−45055
a-Si:H surfaces and interfaces, microstruct., ellipsometry studies 7−38362
Si:P, ion implanted defect structs. rel. to implant energy 7−38079
Si/PtSi($CrSi_2$) Schottky diodes, surface imperfection induced elec. leakage paths 7−2719
Si-Al_2O_3, SOS struct., UV reflectance meas., ellipsometry study 7−33414
Si-SiO_2, Si oxidation kinetics, interface width determ. 7−39764
SiC (0001) and (000$\bar{1}$) surface segregation, electron spectroscopy 7−21459
SiC ceramics, hot pressed, grinding, surface damage, bending strength *(Japanese)* 7−17602
α-SiC polycrysts., pulsed laser annealing and ion beam mixing surface modification studies 7−16657
SiC powders, surface charactn. and treatment 7−2306
SiC(100), cubic, grown on Si(100) by CVD, surface morphology 7−46339
Si_3N_4, hot-pressed, friction and wear 7−59642
Si_3N_4 powders, surface charactn. and treatment 7−2306
Si_3N_4, surface flaws effect on strength 7−59638
Si_3N_4, surface structure and chemisorption, XPS, AES and direct recoiling studies 7−32790
SiO_2, ion-activated chem. etching, laser interferometry studies 7−12424
SiO_2 native oxide, ion and electron bombardment induced surface modifications studies 7−12175
SiO_2, vitreous, surface struct., mol. dynamics simulation studies 7−63497
a-SiO_2 with high surface area, local order 7−52201
SiO_2-GeO_2 optical fibre surfaces, formation mechanism of H-associated defect centre 7−65158
Si(001), 2 × 1 surface relax. and vibr. excitations 7−6949
Si(001), biatomic steps 7−38309
Si(001) surface, refinement of buckled-dimer model 7−6948
Si(111) (7×7), geometrical struct. 7−38310
Si(111), energy minimisation calc. for dimer-adatom-stacking fault model 7−63940
Si(111) with adsorbed Ag layers, struct. anal. by impact collision ion scatt. spectroscopy 7−6999
Si(111) with As overlayer, removal of surface reconstruction 7−21587

surface structure continued
- α-Sn crystals, surface phonon modes and reconstructions, Green's function method calcs. 7−2339
- Sn surface, plastic deformation, multiplied dislocations, density gradient 7−26757
- $SrTiO_3$ (100), adsorption of H_2O, surface struct., photon stimulated ion desorption SEXAFS determ. 7−64752
- $SrTiO_3$, surface D_{4h} hypothesis, X-ray diffr. study 7−2182
- Ta (001), struct., instability, and reconstruction model energetics, general-pot. LAPW calcs. 7−44969
- Ta-Cu, ion irradiated, Cu_3 cluster formation, atomic mixing and demixing *(Chinese)* 7−53468
- Ta_2O_5, preferential sputtering, collisional processes 7−59338
- Te-Ge alloy glass, isothermal surface crystallisation 7−58576
- $(Te_{90}Ge_5In_5)_{100-x}O$, Auger elemental depth profiling, preferential sputtering 7−54247
- $(Ti,Cr)B_2$ sintered electrode exposed to liq. Al, degradation, effect of segregated Cr 7−28045
- Ti anodic oxide film, Raman spectra 7−46688
- Ti, film, periodic microrelief, laser irradiation 7−63927
- TiFe, oxidised, bulk and surface phase composition 7−46700
- TiO_2 surface defect-struct., photon- and electron-stimulated desorption ion yield studies 7−44974
- TiO_2-SiO_2, synthetic, surface struct., XPS, NMR and mass spectra 7−58596
- TiO_x, thin film, reactive sputtering deposition, using RF triode sputtering source 7−59424
- U surface oxidation, substoichiometric oxide form., AES and XPS studies 7−46714
- UO_2 (111) surface, oxidation investig., U_3O_8 form., X-ray studies 7−3474
- W (001), adsorbed H, displacive surface reconstructions, incommensurate sandwiches 7−52223
- W (001), H adsorption, commensurate-incommensurate phase transitions 7−7010
- W (001), struct., instability, and reconstruction model energetics, general-pot. LAPW calcs. 7−44969
- W (001), surface reconstruction phase transition, energetics 7−52231
- W (001) clean surface, reconstruction transition, effect of surface steps and adsorbate-induced perturbations 7−6935
- W (001) clean surface, surface-reconstruction phase transition and high temp. phase 7−6934
- W (011), pulsed field evaporation, impurity distrib. 7−63956
- W (100), surface reconstruction investig., He diffr. studies 7−2320
- W (100) and (110), adsorption of H, very low electron energy refl. study 7−12488
- W (100) with adsorbed H, long and short range fluctuations, lattice dynamical model 7−7002
- W (110), adsorption of Eu, Gd and Tb 7−27118
- W (112), K adatoms, density fluctuation simulation 7−32806
- W, interaction of He molecules, Auger anal. 7−64858
- W, magnetoresistance, crystal with surface defects *(Russian)* 7−32988
- W, oxidation, normal spectral emissivity meas., 800-1000K 7−26988
- W polycrystalline surfaces of thermionic cathodes, SEXAFS of absorbed Ba 7−64774
- W surface, struct. phase transitions 7−2327
- W, surface reconstruction phase transformations 7−2326
- W-Os polycrystalline surfaces of thermionic cathodes, SEXAFS of absorbed Ba 7−64774
- WO_3, carburized, surface composition at catalytic activity 7−21594
- n-WSe_2 single crystal, growth, struct. and photoelectrochem. props. 7−27879
- Y_2O_3-ZnO-Al_2O_3-SiO_2, glass form. and crystn., effect of ZnO additions 7−44382
- ZnO, ordered structures, field ion microscopy studies 7−32768
- ZnS(Se), ion milling, TEM 7−39344
- ZnSe (110) surface atomic geometry and energy states, self-consistent pseudopot. calcs. 7−21582
- Zr (0001) HCP to BCC phase transition He^+ capture effects, AES, TDS and SIMS studies 7−58590
- Zr cathode, material and structural changes during arc operation in N_2 7−46866
- Zr, oxidation effect of Ar ion beam mixing *(Chinese)* 7−53997
- Zr-Nb (1 wt.%), laser irrad., hardness, struct., corrosion resist. 7−3400
- $ZrMo_2$ and $ZrMo_2H_{1.8}$, surface composition and state of components, XPS study 7−7818
- ZrO_2, Y_2O_3 stabilised, phase transform., mech. props., surface struct. rel. to polishing *(Japanese)* 7−53791
- ZrW_2 and $ZrW_2H_{1.8}$, surface composition and state of components, XPS study 7−7818

surface tension
- ϵ-expansion of the surface tension in an externalfield 7−2305
- aggregation of mols in liqs., surface tension obs. 7−63905
- amphiphilic molecules, adsorpt. and orientation, liq.-liq. interface 7−12403
- anisotropic interface tension, scaled interface width and equilib. shape in 2D, relationships 7−12401
- Benard fluid two-component, with surface adsorption accumulation, stability anal. 7−62954
- Benard-Marangoni's instability, nonuniform temp. gradient and Coriolis force effect 7−43886
- binary nematic systems, anisotropic droplet observation in phase separation 7−52054
- binary system, eqns. for calc. of conc. depend. of surface tension, generalisation for multicomponent systems 7−2301
- bubble, rising, free streamline model 7−11520
- buoyancy-driven flows of gases above liquids with nonuniform heating 7−31790
- capillary waves, sheets of fluid, highest waves criteria study 7−43953
- chemical process design, fluid props. and phase equilibria, conf., Lo-Skolen, Helsinger, Denmark (May 1986) 7−18473
- condensation of flowing vapour on horizontal elliptic cylinder 7−58452
- convection, surface tension driven, subject to rot. and nonuniform temp. gradient 7−6213
- correlation 7−2299
- crystal growth, thermocapillary free boundaries 7−46309
- crystal surfaces with quasi-liq. layer, thermodynamics 7−58605
- crystal violet in ethanol, spreading layer, capillary convection 7−6925
- Czochralski growth, cryst. wt. rel to melt temp. variation 7−7841
- drops, inviscid, with surface tension, 3D oscillations, quadratic reson. 7−11519

surface tension continued
- drops, rotating in weightlessness, equilib. shapes 7−63198
- drops, surface tension dynamics, laser-induced modification 7−58570
- drops on planar surface, dislodgment due to surrounding fluid motion 7−52190
- dynamic fatigue limit, determ. method 7−8221
- equilibrium equation near a wetting ridge *(French)* 7−63906
- ferrofluid droplet shape stability in magnetic field 7−6324
- ferromagnetic superconductors, mixed state, surface tension 7−52919
- fluid phases, separation, and bubble dynamics in temp. gradient and microgravity conditions 7−20722
- fluid-wall interface, wetting, computer simulation and statistical sum rules 7−32753
- fluids confined between solid surfaces, wetting dynamics 7−12406
- gas bubble rise vel. in liq.-filled tube, surface tension and viscosity effects 7−57903
- Hele-Shaw cell bubble shape, surface tension effect 7−31869
- Hele-Shaw flow stability, wetting-layer effect 7−12404
- Hg/H_2O, polarised interface, interfacial tension 7−27056
- hydroelastic viscous liquid system, coupled freq. 7−43674
- immiscible fluid mixture in shear flow, phase separation, spinodal decomposition under shear 7−21464
- interfacial growth instability, scaling, simulation 7−44746
- interfacial monolayer between surfactants, rheological anal. of the Marangoni effect. 7−38233
- interfacial tension, determ. in Monte Carlo simulations 7−63904
- intergranular phase, continuous, morphological stability 7−63772
- isobutane, capillary const. and surface tension 7−12395
- liquefied gases, pure and mixed 7−58566
- liquid drops, charged, instability of evap. 7−20091
- liquid film on a rotating disk, slip effect 7−57849
- liquid metal drops, energy characts. 7−32762
- liquid metals, surface tension, local density functional calcs., pseudopot. nonlocality effects 7−2304
- liquid thread breakup in linear flow 7−57805
- liquid-vapour interface, surface tension formulas, equivalence 7−27060
- lungs, elastic stability and surface tension 7−54662
- magnetic liquid, surface tension model 7−54199
- Marangoni convection, bubble motions induced by a temperature gradient 7−20717
- Marangoni convection, surface deformation, nonlinear diffusion eqn. 7−51130
- Marangoni convection and mass transfer from the the liquid to the gas phase under microgravity conditions 7−20720
- Marangoni convection in an open vessel *(German)* 7−20718
- Marangoni convection in one- and two-liquids floating zones 7−20719
- MBBA, nematic, surface tension anisotropy, Freedericksz transition in mag. field. 7−63443
- metal matrix composites, liq. metal infiltration prep., wetting 7−46372
- microscopic theory of surface tension 7−32761
- molten surfaces, roughening 7−52194
- moving interface problems in slow viscous flows, FEM 7−16157
- multicomponent mixtures, fluid-fluid interfacial tensions 7−12394
- nematic-isotropic interface, surface tension and mol. orientation, statistical theory 7−51619
- nematogen, surface props. computer simulation 7−37850
- oil-water three component microemulsion, interfacial curvature studies 7−39930
- organic fusion reactor coolant, radiation stability, surface tension meas. 7−62059
- pendent drop, falling, surface tension, density, viscosity effects *(Russian)* 7−16838
- pendent drop profile computer calcs. 7−2298
- n-pentane-dichloromethane, excess thermodynamic props. 7−52079
- plate oscills. across liquid interface, contact-angle hysteresis effects 7−52189
- polyampholytes acrylic acid-2-methyl-5-vinylpyridine, surface activity at liq.-gas interface determ. 7−6924
- profiled crystal growth, surface tension as an automatic control parameter 7−32324
- profiled crystals, Stepanov growth, conf., Leningrad, USSR (March 1985) 7−29573
- propane capillary const. and surface tension 7−12395
- relation to energy of vaporisation 7−12393
- Saffman-Taylor meniscus during flow between plates, gravity effect 7−63915
- slot, 2D with inclined walls, steady pot. flow, contraction coeff., capillarity effect 7−57891
- solid-liq. interfacial tensions, q-state Potts lattice gas model, mean-field approx. calcs. 7−256
- solvent-extraction systems, regularities in interfacial tension and emulsion unmixing 7−63903
- stability of the isotropic fixed point near one dimension 7−9787
- steric interaction between wandering walls, mean field theory 7−27058
- surface diffusivity variation on surface morphology and electromigration 7−63920
- surface rippling during laser material processing, thermohydraulics anal. 7−58574
- thermocapillary movements under microgravity at a minimum of surface tension 7−20721
- transient dilation of bubbles and drops, theoretical basis for dynamic interfacial meas. 7−32757
- triglycine sulphate nucleation in supersaturated solns., induction period meas. 7−26680
- two-dimensional growth models, interface dynamics, time-reversal invariance and universality 7−63532
- two-phase medium, gas content and speed of sound, calc. with surface tension forces 7−51279
- two-phase three component solns., interfacial tension 7−6923
- vapour filled bubbles, motion and development 7−6282
- vapour phase homogeneous nucleation, interfacial tension rel. to droplet size 7−58435
- viscoelastic films, surface driven leveling of surface irregularities 7−51017
- viscous flows in two dimensions, complex analytic methods, book contrib. 7−51059
- viscous flows in two dimensions 7−11388
- water capillary-gravity waves, fundamental singularities 7−63165
- water-surfactant-oil microemulsion, spin-1 model 7−3612
- Ba, liquid phase, density and surface tension 7−44957
- Ca, liquid phase, density and surface tension 7−44957

surface tension continued
Fe-Mn(S), surface comp. and surface tension, effect of S and Mn *(Chinese)* 7−6916
He, liquid, free surface, surface tension *(Japanese)* 7−2291
^{4}He and ^{3}He liquid drops, ground states, variational Monte Carlo calcs. 7−12383
$KAl(SO_4)_2$ solutions, effect of impurities on props. 7−6495
$LiNbO_3$, crystal growth from liquid, physical consts. determ. 7−32322
Si, Stepanov reverse method cryst. growth, thermal and capillary conditions 7−33545
Si:C crystals, Stepanov method growth, defect structs. 7−32421
Sr, liquid phase, density and surface tension 7−44957

surface tension measurement
automatic, microprocessor based system using Wilhelmy method 7−52192
automatic surface tension measurements, optimisation algorithm 7−14929
porous powdered material, contact wetting angle determ. method 7−52193

surface texture
7−44363
ceramic technology appls. of interferometric meas. techniques 7−39813
dielectric slab lossy, absorpt., effect of surface texture 7−42851
graphite fibre, benzene-derived, exfoliation and characters. 7−46663
highly reflecting diffusers, middle-IR region, develop. status study 7−57615
Langmuir monolayers, phase transitions, fluoresc. microscopy 7−32867
misorientation angle determination, near surface layers of crystal cuts 7−16842
polysilicon-SiO_2, surface texturing effect on SiO_2 cond. and breakdown 7−39773
polysilicon-SiO_2 interfaces, textured, electronic props. 7−38754
quartz, topography of etched rhombohedral faces, evidence for orientation effects 7−16840
Raman microprobe appl. to mapping solid surfaces 7−56333
solar cells, optical sheets, intensity enhancement by surface texturing 7−46940
steel, case hardened, struct. and contact endurance after plastic surface deform. tempering effect 7−46706
superalloys, columnar grained and single-crystal, high-temp. strength with surface recrystallised layer *(Japanese)* 7−53788
Al-Cu, directionally crystallised, crystallographic texture transform. during wear 7−17660
C, glassy, anodic oxidation of surfaces 7−46850
Nb_3Sn strips with high current-carrying capacity, surface relief *(Russian)* 7−52198
Pt electrochemical electrode surface struct. existence of electro-faceting 7−16841
Si SEM determ. of surface structure 7−56387
Ti alloy sheet, vac. annealing temp. influence on surface relief 7−17688
W LPCVD film struct., IC appls. 7−58692
ZrO_2, Y_2O_3 stabilised thermal barrier coatings, ionisation assisted physical vapour deposition 7−46349

surface topography
acoustic phonon scatt. from atomically irregular surfaces, intensity reflection coeffs. 7−12446
asymmetrically roughened surfaces, confined turbulent air flow, mean flow parameters *(Chinese)* 7−11399
backscattered electron signal at edges and surface steps, depend. on surface tilt and take-off direction 7−7800
coated surfaces, influence of metal films on optical scatter and microroughness 7−13242
coatings, friction and adhesion meas. using microtribometer 7−46742
cusp singularity in solid surfaces that minimise anisotropic surface energy, theory 7−2347
CVD and PVD coatings, structural, mechanical and tribological props. and applications 7−53935
defects, US scatt., surface roughness effects 7−54062
elastic frictionless contact of real rough surfaces, numerical model 7−16133
electron microscope objects characterized by linear elements, three-dimens. reconstruction 7−56377
evaporated films, elec. resist., influence of surface roughness *(German)* 7−64368
fatigued metals, surface roughening by random irreversible slip 7−2313
fluid structure and surface roughening 7−58606
glass fibre reinforced plastics, surface deform. modelling 7−2236
glass surface, He atom scatt. 7−64863
graphite particulate composites, opt. and scanning electron microscopic obs. of graphite struct. 7−22933
highly reflecting diffusers, middle-IR region, develop. status study 7−57615
Hubble Space Telescope performance, prediction using optical surface anal. code 7−25930
insulating film thickness meas. using contact instrument, surface geometry effects 7−4811
ion bombardment, narrow beam, surface morphological changes 7−51868
ion implantation, effect on erosion and wear of solids 7−63683
ion sputter morphology evolution w.r.t. angle of incidence variation 7−59649
junction of rough surfaces, run-in mechanism with plastic initial contact 7−16680
Langmuir-Blodgett films, surface study using electron microscopy and X-ray reflectivity 7−58677
metal-ceramic dental prostheses, strength rel. to surface roughness of metal frames 7−40365
metal/electrolyte interface electrodynamics, surface soliton form. 7−21958
metallic sliding friction, fatigue wear mechanism 7−8135
metallic thin films, resist. increase during gas adsorpt., surface roughness effects calcs. 7−45519
microrough surfaces, speckle pattern, correlation function influence 7−36883
mirrors, large, production using single-point diamond crushing followed by polishing 7−26048
molten surfaces, roughening 7−52194
multilayer mirrors, reflectivity, roughness effects 7−42908
multilayer X-ray mirror, influence of thickness errors and boundary imperfections on performance 7−1248
nickel phthalocyanine films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7−59277
oxide surfaces, structure and rearrangements, atomic imaging 7−27078

surface topography continued
pentacene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7−59277
poly-N^ϵ-trifluoroacetyl-L-lysine-polysarcosine diblock copolymers, ESCA of surfaces 7−21588
quartz, topography of etched rhombohedral faces, evidence for orientation effects 7−16840
reactive etching and codeposition effects on surface topography 7−58587
rough surface, smoothing kinetics due to surface diffusion at low temp. 7−12414
rough surfaces, elastoplastic deform. in real contact zones, friction coeffs. calc. 7−16136
roughening of solid surfaces 7−52203
roughness control, procedures and development trends *(German)* 7−18748
sapphire, as-grown surface, high resolution imaging 7−44977
SOI films, lamp zone melting recrystallisation, liquid-solid interface 7−38419
SOI films, laser recrystallisation, agglomeration, surface roughness and crystal imperfection 7−38389
sputter induced surface topography, computer simulation 7−64867
steel, C, microhardness load depend., influence of surface roughness *(Japanese)* 7−46622
steel, fatigue fracture surface at elevated temps., X-ray fractographic study *(Japanese)* 7−8098
steel, medium C, wear, influences of materials and operating parameters 7−8133
steel, medium C and Cr-Mo, rolling contact fatigue, asperity interacting frequency effect 7−39616
steel, migration-effect of N^+ implantation, during wear *(Chinese)* 7−53998
steel, stainless, nitrized, ion milling 7−59660
subsurface defect acoustic imaging in composites and roughened samples 7−3568
surface diffusivity variation on surface morphology and electromigration 7−63920
tetracene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7−59277
thin film model, 1D, autocorrelation fn. of surface roughness 7−52196
thin overlayers, thickness meas., conc. gradients and surface roughness influence 7−56216
waveguide statistical surface roughness, effect on CO_2 lasing characts. 7−50536
wear scar contour resulting from fretting of spherical surface against flat 7−2098
X-ray mirror surfaces, roughness meas. 7−15042
Ag (110), ion bombarded, He atom scatt. 7−64863
Ag in self-lubricating coatings for extreme temps. 7−3444
Ag, surface plasmons, resonant optical excitation *(Korean)* 7−33059
AgCl films deposited by evaporation and RF sputtering, compositional and morphological anal. 7−16892
Al based composite, rheocasting, microstruct., fracture, worn surface *(Chinese)* 7−13407
Al film, reactively evap., morphology and opt. props. 7−59272
Al film, surface roughness characterisation, spectroscopic ellipsometry method 7−9819
Al surface, ion induced secondary electrons, surface topography effects 7−13280
Au thin films, on Au (111), surface-diffusion-induced ageing processes 7−45080
CdO bent whiskers, three-dimens. reconstruction of electron microscope objects 7−56377
Cr-Ni multilayer thin films structures, AES depth profiling during sample rotation 7−27829
CrCo-porcelain and CrNi-porcelain dental prostheses, strength rel. to surface roughness of metal frames 7−40365
Cu, diffusion bonding, strain-free mounting appl. 7−3572
Cu single crystals, fatigue crack initiation mechanism, persistent slip band model 7−53869
Cu surface, ion bombardment-induced microtopography 7−58588
Cu surface, sputtering and surface topography evolution 7−58586
Cu, surface roughening transition, He beam diffr. study 7−52202
Cu, whiskers, derivation from Matthiessen's rule, effect of surface condition 7−45276
Fe (110), (111) and stepped (110), adsorption of CO_2, UPS, work function meas. 7−12484
Fe, migration-effect of N^+ implantation, during wear *(Chinese)* 7−53998
$Fe_{80}B_{20}$ ribbons, amorphous and crystallised, surface comp., electronic props., topography, AES, XPS, ion scatt. studies 7−27065
$Fe_{80}P_{13}C_7$ alloy, metallic glass surface layers by rapid quenching, microhardness 7−3512
GaAs, laser-induced melting and nonlinear optical studies 7−12432
GaAs, semi-insulating, surface photocond., surface topography meas. using scanning tunnelling microscopy 7−45376
GaAs, substrates, multi-technique approach to defect microstructure characterisation 7−52215
Ge epitaxial growth on CaF_2/Si (111), film quality improvement by Ge predeposition 7−7070
Ge-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7−12566
Hg reflector geometry variation by immersed-electrode current *(Spanish)* 7−11095
InSb surface damage layer refl. spectra and thickness meas. 7−22209
KCl (100), interaction of NaCl mol. beams with surface, desorption flux meas., SIMS obs. 7−33508
KH_2PO_4 crystals grown at boiling point, surface microtopography 7−21581
MgO single crystals, vibr. polishing in water 7−3479
Mo CVD coating on graphite, struct., thermal resist. props. 7−52375
Na_2O-CaO-SiO_2 glass, cracktip blunting kinetics, annealing, corrugated surface 7−46611
Ni electroless plated mirrors, diamond-turned, surface finish meas. 7−37218
Ni, surface roughening transition, He beam diffr. study 7−52202
Ni/Cr multilayer films, AES sputter profiling, depth resolution 7−59358
Ni-Fe film, ion beam sputter deposition, ion bombardment effect on preferred orientation 7−64010
$Ni_{69.2}Cr_{6.6}Si_{13.7}B_{7.9}Fe_{2.6}$, amorphous alloy, 70 MeV Ni^{+6} ion irrad., surface swelling 7−16646
Pd (100), surface topographies, SEM and scanning tunnelling microscopy studies 7−12436
Pd, H diffusion coeff., influence of subsurface layer on meas. 7−6892

surface topography continued
- $Pd_{81}Si_{19}$, glassy, surface topographies, SEM and scanning tunnelling microscopy studies 7−12436
- Pt electrochemical electrode surface struct. existence of electro-faceting 7−16841
- Sc, single crystal surface characterization, RBS/channeling, SEM and LAMMA anal. 7−12425
- Si polycrystalline films, optical props. 7−7782
- Si, substrate for CVD of W, effects of dopants and cryst. perfection 7−16912
- Si surface relief, 3D cellular struct. formed by picosec. light pulse irrad. 7−32772
- Si surface roughening by reactive ion etching, mech. 7−65240
- Si wafer, laser and energy-beam annealing of mechanical damage, melting and recrystallisation 7−46516
- Si wafers, striation prod. by grazing ion incidence 7−63684
- Si-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7−12566
- Si-SiO_2 interfaces, surface roughness and elec. cond. 7−2724
- Si-W CVD film interaction, annealing, silicide formation 7−2390
- β- SiC films on substrates, CVD, X-ray topography 7−63998
- SiO_2 on polysilicon, thermally grown, elec. cond. and breakdown props. 7−45508
- SiO_2-P_2O_5 glass films, deposited by different CVD methods, phys. props. 7−27220
- SiO_2-Si interface, roughening induced during AES depth profiling 7−21685
- SiO_x:P films, pure and doped, low press. CVD growth, structural, optical, elec. props. 7−27186
- Sn-Ge interface form., growth mode, AES, RBS studies 7−58666
- SnO_2:F thin film, uses for a-Si:H/a-$Si_{1-x}C_x$:H solar cells 7−46952
- TbO_2, anion deficient, surface topography, atomic imaging 7−27079
- Te $(10\bar{1}0)$, He atom scatt. 7−64863
- Ti-Al-V (6,4 wt.%), machined sheet test pieces, superplastic deform. 7−22763
- Ti-Si interface, self-aligned Ti silicide formed by rapid thermalannealing, RBS study 7−2391
- TiN-coated high-speed steel cutting tools, coating quality and surface finish., tool metallurgy and design 7−53979
- W LPCVD film struct., IC appls. 7−58692
- WSi_x CVD films on Si and Si_3N_4 coated Si, excess Si redistribution upon annealing 7−21723
- ZnS, film deposition, surface morphology and preferential orientation 7−27906
- ZrO_2 base ceramic thermal barrier coatings, erosion rel. to processing and microstruct. 7−3450
- ZrO_2-SiO_2 optical films, struct. modification by coevaporation 7−45064

surface topography measurement
- 3D surface metrology, interference microscopy, computer controlled instrumentation 7−29975
- ball bearing rolling ring, surface roughness meas. using vibration analysis 7−54060
- beam deflection as a method for testing optical components 7−20475
- body surface measurement and replication by photogrammetry and CAD 7−54695
- ceramics, parameter meas. by laser interferometry 7−9888
- ceramics, powder size and distrib., surface texture, thermal props., interferometric meas. 7−9818
- contouring by electronic speckle pattern interferometry 7−29971
- curved metal surface, roughness monitoring using laser light scattering *(Japanese)* 7−14918
- deformation measurement by light speckle using optical fibre bundle 7−30078
- deformation measurement using holographic interferometry and moiré fringes 7−48685
- deformation slope meas., reflection grating method, digital image processing 7−29974
- diffuse object, scattered light props. and appl. to roughness meas. 7−20140
- electric breakdown effects obs. using nematic liquid crystals 7−18744
- electron microscope objects characterized by linear elements, three-dimens. reconstruction 7−56377
- ellipsometry of rough surfaces, depolarisation and cross polarisation 7−9873
- fracture surfaces, semi-automated topographic mapping through stereophotogrammetry 7−13691
- fretting wear assessment, metrological techniques and equipment 7−39812
- heterodyne interferometric profilometer 7−29980
- injection laser application for measuring surfacegeometric parameters 7−4816
- interferometer, heterodyne profiling, for angstrom region 7−35493
- interferometry, sinusoidal phase modulating, for surface profile meas. 7−9878
- Itek optical technology in manufacturing and metrology 7−37227
- liquid surface shape meas., self-reproduction phenomenon appl. 7−18749
- mass transfer, surface geometry meas. by projected moire fringes 7−31903
- metal surface roughness parameter measurement, diamond turned, light scattering technique 7−61318
- microscope-TV-computer system appl. 7−14922
- microtopographic roughness parameters determ. from surface sections 7−4810
- microtopography evaluation with SEM 7−296
- mirror surfaces, high performance, spectral and parameter estimation problems in metrology 7−37232
- mirrors surface evaluation by soft X-ray scattering 7−25934
- non-contract high precision optical surface measuring instrument 7−48686
- object surface topography measurement, TEM-photogrammetric method 7−41361
- optical chromatic aberration, longitudinal, pseudocolour effects, metrology appl. 7−42953
- optical microscope, differential phase simplified, for surface topography and index variation meas. 7−9893
- optical microscopes, confocal, depth response 7−41462
- optical plate surface flatness meas. by phase detection technique 7−31536
- optical techniques, overview 7−29976
- phase shifting holographic interferometry appl to surface contouring 7−31288
- phase-shift interferometer, surface gauging in quality control 7−4885

surface topography measurement continued
- random rough surface characterisation from speckle intensity meas. 7−42933
- rough surface profile, two wavelength speckle interferometry, statistical props. 7−48837
- rough-surface interferometry, two-wavelength, absolute statistical error 7−41448
- roughness control, procedures and development trends *(German)* 7−18748
- scanning moire topography, fringe sequence number automatic determ. *(Japanese)* 7−14919
- scanning thermal profiler 7−41370
- scanning thermal profiler 7−48693
- scanning tunneling microscopy 7−51591
- scanning tunneling microscopy applied to opticalsurfaces 7−4929
- scanning tunneling microscopy of surface microstructure on rough surfaces 7−21580
- scanning tunnelling microscope, biological and technological appls. in air at atm. press. 7−4917
- scanning tunnelling microscope appls. in temp. range 4.2 to 300K 7−4918
- scanning tunnelling microscope for surface science studies 7−4919
- scanning tunnelling microscopy, overview 7−4916
- SEM with two secondary electron detectors, surface topography meas. system 7−295
- spectroscopic ellipsometry, Al film surface roughness characterisation 7−9819
- super-smooth surface, roughness measurement using interference microscope *(Japanese)* 7−41344
- surface structure, scanning tunnelling microscopy using high-stability vibration insensitive microscope 7−18922
- X-ray interferometer for surface roughness transducers calibration 7−35649
- X-ray mirror substrates, grazing incidence, precision machining/metrology facility 7−37222
- Al vacuum-deposited films, topography characts. by light scattering 7−9816
- Al vacuum-deposited films, topography charactn. by ellipsometry 7−9817
- GaAs cleaved semiconductor surfaces scanning tunnelling microscopy 7−21051
- GaAs wafers, LEC-grown, semi-insulating, two-dimens. high-resolution EL2 topography 7−53381
- GaSe single crystal, surface bending, radius of curvature determ., Berg-Barret method *(Russian)* 7−38305
- Ni:P plated mirrors, diamond-turned, surface finish meas. 7−26047
- Si cleaved semiconductor surfaces scanning tunnelling microscopy 7−21051
- Si, surface structure, UHV scanning tunnelling microscope studies 7−18923

surface treatment
- *see also etching; polishing; surface hardening*
- cermet powder, surface treatment and surface props. *(Japanese)* 7−46666
- diamond, surface graphitisation *(Russian)* 7−17667
- electrical breakdown strength, effects of alloys and surface treatment 7−32185
- French Metallurgy Society meeting, Paris, France (Oct. 1986) *(French)* 7−29579
- glass, ion exchange, surface investig. by XPS and X-ray spectra studies 7−13614
- E-glass fibre composite interfaces, surface studies using diffuse reflectance and photoacoustic FTIR spectra 7−46044
- graphite fibre, benzene-derived, exfoliation and characters. 7−46663
- graphite fibre reinforced epoxy, interface modified, moisture effects 7−3476
- Inconel 600, corrosion resist., effects of $BF_2{}^+$ ion implementation 7−39734
- ion bombardment cleaning, ultrahigh vacuum ion source using Bayard-Alpert gauge 7−61400
- laser cladding of metallic surfaces *(Chinese)* 7−8155
- laser processing of high-tech materials at high irradiance, review 7−13342
- laser treatment, recent developments 7−21274
- laser welding, machining and materials processing, conf., San Francisco, USA (Nov. 1985) 7−9597
- material contacts, tribo-frontiers in surface modification 7−53917
- metal pretreatment, surface coating and post-treatment methods 7−22905
- metal surfaces, ion beam and laser processing for improvement corrosion resist., surface modification program 7−65200
- metallic materials, surface refinement by ion implantation, friction, abrasive and corrosion resist. *(German)* 7−53949
- monotectic alloy, section prep., micromilling, polishing *(German, English)* 7−22937
- nuclear power station, steel component surface treatment, detonation-deposition method *(Russian)* 7−39736
- optical figure generation using feedback from IR phase-shifting interferometer 7−37219
- plasma appls. in industry *(French, English)* 7−20966
- plasma treatments, surface temperature monitoring by pyrometric method 7−18779
- plastic surfaces, wettability control by plasma treatment, etching effects 7−53927
- poly γ-benzyl-L-glutamate, alignment, liq. cryst. phase transition, surface treatment effect 7−32644
- polyimide film, etching and surface modification in SF_6-O_2 discharge 7−22858
- polyimide surface, in situ anal. of H,C,N and O using direct recoil time-of-flight technique 7−54242
- polyphenylene oxide article surface, nonstationary thermal field created by IR laser radiation, chem. processes control 7−16622
- polyurethane sponges, hydrophilic plasma surface treatment, geometric factors 7−22856
- rippling during laser material processing, thermohydraulics anal. 7−58574
- sapphire, ion implantation, mechanical surface property modifications 7−32473
- semiconductors, laser machining, physical processes in surface erosion 7−2053
- solids in contact, interfacial bonding 7−27148
- speculum surface finish effect on refl. of CO_2 laser beams 7−65830
- steel, austenitic stainless, bright annealed, selectively absorbing surface, oxidation prep. 7−8186
- steel, austenitic stainless, LWR cladding, oxidation in high temp. steam, LOCA appl. 7−727

surface treatment continued
steel, austenitic stainless, surface, S containing corrosion inhibitor removal 7−39717
steel, combined heat treatment, surface layer props. *(Russian)* 7−39742
steel, electrospark alloying with carbides, electron nature of interaction, phase comp. 7−8182
steel, eutectoid, 1.3 wt.% Cr, specimen prep. technique influence on analytical TEM obs. of partitioning 7−22950
steel, galvanised sheet, surface treatment prior to painting, effects on surface comp. and corrosion resist. *(French)* 7−46703
steel, ion implantation and thermal oxidation treatments for wear reduction 7−3481
steel, spring, residual stress meas., effect of decarburisation, shot peening and cyclic torsion loading *(German)* 7−22904
steel, stainless, laser alloying with Au(Mo), Rutherford backscattering and channelling studies 7−28206
steel, stainless, laser surface melted, residual stresses 7−3506
steel, stainless, passivity rel. to comp. and microstruct. 7−39711
steel, surface conversion, phosphate coatings, corrosion protection during welding 7−8198
steel, tool, laser surface glazing, microstruct. rel. to melt depth 7−46691
steel, V, W2, laser surface melting, effects of prior heat treatment 7−65195
strip with hole, fatigue resist., effect of multiple local plastic deform. 7−59625
surface discharges as intense photon sources for light-ion fusion accelerator cleaning 7−37800
surface modification by ion beam methods, review 7−27081
surface preparation effects 7−45037
synchrotron radiation mirror, lacquer-coated, irrad. with undulator light, surface heating 7−43307
ultrasmooth surfaces preparation, book contrib. 7−28165
X-ray mirror substrates, grazing incidence, precision machining/metrology facility 7−37222
Al, corrosion protection by Ce corrosion coatings 7−53988
Al powder-steel composite coatings, prod. by compacting electrophoretic and electrostatic deposits protective props. 7−3491
Al-Cu, corrosion protection by Ce corrosion coatings 7−53988
Al-Cu-Mg, 2024, TEM specimen prep. parallel and perpendicular to machined surfaces 7−39808
Al-killed 1006 steel, H diffusion effect on enamelling 7−33816
Al-Si-Cu castings, fatigue strength improvement by shot peening *(Japanese)* 7−8100
Al-Zn-Mg, corrosion protection by Ce corrosion coatings 7−53988
Al-Zn-Mg, TEM specimen prep. parallel and perpendicular to machined surfaces 7−39808
AlGaAs surface cleaning using ECR radical beam gun 7−54028
$Al_xGa_{1-x}As$ surface, protection by As and GaAs ultrathin layers, AES sputter depth profiles 7−54022
Al_2O_3 ceramics, grindability, effect of microstruct. 7−22862
Al_2O_3, sintered, X-ray stress meas. *(Japanese)* 7−8169
Al_2O_3, strengthening by reactions with Si film, effect of ion irrad., 7−28160
BN pyrolytic crucibles for MBE, AES, XPS, SIMS, and bulk anal. after vac. baking 7−53596
C fibres, polymer-coated, charactn. and pot. for composite appl. 7−22632
$CaO-Al_2O_3$ glass, 3-5 μm transmission, rain erosion resist., surface crystallisation treatment 7−37070
CdTe, cathodic electrochemical surface modifications, Cd layer form. 7−65239
Cr-C, deposited on Fe, surface amorphous alloys, Ar^+ and Xe^+ bombardment *(Chinese)* 7−51885
Cr-Mo, deposited on Fe, surface amorphous alloys, Ar^+ and Xe^+ bombardment *(Chinese)* 7−51885
Cu-Al-Mn, surface layers, change in chem. state during annealing investig. using Auger spectroscopy *(Russian)* 7−33834
Cu-Al-Ni-Fe bronze, laser glazing, microstruct. 7−52197
Cu-Al-Ni-Fe-Mn bronze, cast, laser surfacing, improved corrosion resist., microstruct. characteris. 7−13651
Fe, C deposition in vacuum carburising *(Japanese)* 7−33827
Fe, laser irrad., Nb surface alloying, Mossbauer spectra *(Russian)* 7−58580
Fe surfaces, chemical cleaning by NO 7−22886
Fe surfaces, fluorination, XPS study 7−22887
Fe-Al, al alloying for oxidation resist. improvement, comparison between ion implantation and laser irrad. 7−22883
Fe-B-Si and Fe-B-Si-Cr-Mo-W alloys, finely cryst. and amorphous structs. on surface by laser treatment 7−8175
Fe-Cr-Mn-C alloy, laser clad, microstruct. and wear props. 7−13652
Fe-Ni-Si-B glass alloy, liq. quenched, saturated mag. flux density, effect of peening 7−13611
Fe-Si (3 wt.%) alloy, denitriding in solid state on heating in vac. 7−8159
$Fe_{80}P_{13}C_7$ alloy, metallic glass surface layers by rapid quenching, microhardness 7−3512
GaAs (100), chemical etching and oxidation, XPS characterisation 7−21591
GaAs (100), UV-ozone clearing, for device appl. 7−28228
GaAs. dielectric overlayers, effect on surface depletion potential 7−38678
GaAs, Schottky barrier formation, effect of surface annealing 7−12785
GaAs substrates and devices, surface anal., SIMS appl. 7−22417
GaAs surface cleaning using ECR radical beam gun 7−54028
GaAs-SiON interface, plasma enhanced CVD deposited SiON, NH_3 plasma pretreatment effects 7−7874
InAs substrates and devices, surface anal., SIMS appl. 7−22417
InP substrates and devices, surface anal., SIMS appl. 7−22417
InP, surface, As-stabilisation, effect on elec. and physiochemical props. 7−38767
InP:Si, substrate, encapsulated annealing, using SiN encapsulant 7−39779
n-InP/Au Schottky contacts, surface treatment by plasma-induced O radicals 7−38674
InSb, 1/f noise, temp. depend. 7−52710
$In_{2-x}Sn_xO_{3-y}$ films, transparent conducting oxides, H_2 plasma treatment 7−3528
$Mn_{1-x}Zn_xFe_2O_4$ substrates, Auger microprobe temperature profiles of contamination residue 7−59822
$Na_2O-B_2O_3-SiO_2$, interaction with HNO_3, effect of volumes, radii of channels 7−13613
$Na_2O-CaO-SiO_2$ glass, cracktip blunting kinetics, annealing, corrugated surface 7−46611
$Na_2O-CaO-SiO_2$ glass, dynamic fatigue, indentation flaws, surface treatment 7−46629

surface treatment continued
Ni plating basics, electroforming, surface prep. and quality control procedures 7−13638
Ni, siliconised layer form. by diffusion and CVD, oxidation and corrosion resist. 7−59659
Ni surfaces, chemical cleaning by NO 7−22886
Ni surfaces, fluorination, XPS study 7−22887
Ni-Cr, oxidation, laser surface treatment and its influence on development of healing Cr_2O_3 scales 7−65204
$NiSi_2$-Si (111), Schottky barrier height, rel. to Fermi level positions 7−27427
Si (100), nitridation kinetics in NH_3 by thermal activation or electron bombard., LEED, AES, and TDS study 7−39770
Si, excimer laser photoablation, spectroscopic characts. of plasma 7−54019
Si, low-temp. plasma nitridation process, props. and appls. 7−33867
Si MBE films, deep level defects 7−12668
Si, MBE growth, Radclean surface cleaning process 7−12557
Si MBE homoepitaxial growth, expt. considerations 7−13369
Si materials science and technology, conf., Boston, MA, USA (May 1986) 7−29598
Si, nitridation treatments, review 7−17747
Si, single cryst., ultimate strength, surface treatment effect 7−2090
Si substrate, insulator growth by rapid thermal processing 7−22921
Si surface, 100, in situ anal. of H, C, N and O using direct recoil time-of-flight technique 7−54242
Si surface, thermal cleaning in ultrahigh vacuum 7−13671
Si, surface nitridation, current status 7−33866
Si, thermal nitridation in NH_3, atomic transport mechanisms 7−8201
Si, wafer aqueous cleaning, chemical action, book contrib. 7−46737
Si wafer substrates, oxide removal, transient mass spectrometry, XPS studies 7−13670
Si wafers, surface contaminants, identification, depth distrib., SIMS 7−22418
Si:Al surfaces, SIMS anal. of contaminants 7−33989
a-Si:H, surface structure, inert gas plasma exposure effects 7−21584
a-Si:H solar cells, leakage currents, electrochem. treatment effects 7−65467
Si:Sb MBE film, doped by electron impact ion source, improved doping characts. 7−12101
$Si-Si_3N_4$, nitridation of Si (100) by RF plasma, XPS study 7−33515
SiC powders, surface charactn. and treatment 7−2306
α-SiC, sintered, non-equilib. surface conditions and microstruct. changes following pulsed laser irrad. and ion beam mixing of Ni overlayers 7−65170
Si_3N_4 powders, surface charactn. and treatment 7−2306
SiO_2 films, effects of nitridation press. on props. 7−33818
SiO_2 layers, thermally nitrided, charge transport 7−38791
SiO_2, microporous thin films, thermochemical nitridation in NH_3 7−46726
SiO_2, nitridation treatments, review 7−17747
SiO_2 plasma nitrided encapsulent for lamp zone melting recrystallisation of SOI films 7−38391
SiO_2, surface nitridation, current status 7−33866
SiO_2 thermal films, nitridation 7−58680
SiO_2:N thin films on Si, surface nitridation in low NH_3 press. 7−46721
SiO_xN_y, high press. NH_3-nitrided, elec. characts. 7−39039
SnO_2:F films, transparent conducting oxides, H_2 plasma treatment 7−3528
TI, thermochemical surface treatment using lasers, wear and corrosion resist. 7−22908
Ti alloy sheet, vac. annealing temp. influence on surface relief 7−17688
Ti alloys, hot salt SCC rel. to surface conditions *(Chinese)* 7−13623
Ti film on Si, heat treatment in O_2, N_2 or O_2/N_2, Ti silicides, TiO and TiN formation 7−65191
Ti, high temp. cyclic oxidation of aluminide layers 7−17719
Ti-Si, native contamination layer effect on interface props. 7−17104
$TiN-TiSi_2$ bilayers and selectivity doped thin films, material characterisation 7−33817
V, thinning treatment, TEM appls. 7−8190
V-Cr-Ti, fusion reactor blanket, surface alloying, oxidation resist. to high temp. He coolant 7−53964
V-Cr-Ti, thinning treatment, TEM appls. 7−8190
V-Mo, thinning treatment, TEM appls. 7−8190
V-Ni, thinning treatment, TEM appls. 7−8190
V-W, thinning treatment, TEM appls. 7−8190
W LPCVD equipment for selective deposition, use of NF_3 as in-situ tube clean 7−17463
ZnO:In films, transparent conducting oxides, H_2 plasma treatment 7−3528
ZrO_2, Y_2O_3 stabilised, CeO_2 doped on surface, thermal stability improvement 7−13619

surface vibrations *see crystal surface and interface vibrations*

surface waves (fluid)
see also liquid waves; oceanography
atmospheric turbulent flow over progressive water wave, eddy viscosity model 7−51193
capillary-gravity ripples generation by strongly non-linear waves on deep fluid surface *(Russian)* 7−29040
capillary-gravity wave at free surface of viscous incompressible liq., dispersion eqn. 7−43943
capillary-gravity waves, symmetry and bifurcation 7−43941
compressible liq., localised laser thermooptical volume source surface wave excitation, numerical estimates 7−31818
conference, Cambridge, England (March 1986) 7−40987
deep water gravity waves, subharmonic instability *(French)* 7−31817
Eulerian and Lagrangian aspects 7−51191
film flow in vertical pipes with and without interfacial stress, long-wave eqn. 7−11540
finite element methods in flow problems, conference, Antibes, France (June 1986) 7−41009
free surface gravity waves, surface impedance formulation 7−57869
gas-liq. descending annular flow, phase boundary turbulence and heat exchange 7−63201
horizontal shear crossing, approx. soln. 7−57868
hydrodynamic system, low-dimensional chaos 7−11442
interfacial wave measurement method involving light polarisation and optical activity 7−4201
inviscid water waves, shore singularity nonlinear eqn. 7−40500

surface waves (fluid) continued
Kelvin ship-wave pattern, cusp lines, unsteady and nonlinear effects 7−57845
laser interferometer skin-friction meter, numerical and expt. study 7−16276
liquid ^{4}He, quasi-periodic, phase locking effects 7−11444
liquid films, air-driven, interfacial instability 7−11513
liquid in vibrating cylindrical container, liquid surface response, turbulence, waves 7−16196
liquid metals, capillary wave dispersion relation modifications due to electric charge, surface Green fn. matching method 7−21575
liquid surface gravity wave propag., interfacial props. influence 7−37479
narrow trough, solitary waves excited by two frequency modes *(Chinese)* 7−57862
nonlinear cross waves, Benjamin-Feir instability 7−51198
nonlinear gravity waves and capillary waves on surface of infinitely cond. liq., MHD effects 7−44058
nonlinear instability and evolution of steep water waves under wind action 7−31820
nonlinear waves at the surface of a liquid layer with a constant vorticity 7−43944
nonlinear waves on the surface of a liquid filmrunning down a vertical wall 7−1584
oceanographic acoustic Doppler profiles, surface wave kinetic energy influence 7−9274
oil-water core-annular flow in pipe loop, turbulent lubricating film model 7−57922
oscillation instability while radiating surface and internal waves 7−20775
plasma column, conical, surface wave discharge 7−21019
plasma cylinder solitary surface waves eqns. 7−26410
plasma MHD surface waves, mag. field direction variation effects 7−31963
plate oscills. across liquid interface, contact-angle hysteresis effects 7−52189
regular gravity wave diffraction by circular cylinders in incompressible fluid 7−6228
shallow water eqns., num. anal. 7−9026
shallow water equations, complex flow, boundary fitted grids 7−6231
shallow water waves, real finite-gap regular solutions of the Kaup-Boussinesqequation 7−6233
single capillaries, droplet formation in the jet regime of a liquid/liquid system *(German)* 7−16227
singularities in water wave theory with inertial surface 7−51189
superposed fluids, internal wave source potentials 7−11436
surface gravity waves in deep water, class I and II instabilities, modified Zakharov eqn. 7−51195
thermal fluctuations, photon correlation spectroscopy 7−51197
thin rods in water, US press. distrib. prod. 7−6065
travelling waves on fluid interfaces, Kuramoto-Sivashinsky eqn. anal. 7−37481
two-phase pipe flow, flooding behaviour anal. using Navier-Stokes eqn. 7−11494
visualisation of slightly deformed, liquid surfaces, using K.-Moire method 7−37483
water, quasi-periodic, phase locking effects 7−11444
water waves, shore singularity 7−40501
water waves and floating bodies, workshop, MIT, Cambridge, MA, USA (Feb. 1986) 7−48143
water waves for finite and infinite depths, nonlinear theory 7−26301
water waves in a ripple tank 7−18526
water waves over a sloping beach 7−63166
water-air temp. difference effect on wind-wave generation 7−11443
wave asymmetry over slopes with variable-depth water 7−6229
wave load on body with arbitrary shape, coupled element anal. *(Chinese)* 7−26298
wind generated waves, wave tank expts. 7−66151
wind waves and low freq. oscillations of water surface 7−31819
wind-driven circulation 7−9046
Al cylindrical tank, water-filled, damping characteristic determ. from vibration meas. 7−16200
surge absorbers *see surge protection*
surge arresters *see surge protection*
surge protection
see also surges
lightning surge and transient protection and warning systems 7−34663
surge suppressors *see surge protection*
surgery
see also laser applications in medicine
anaesthesia for surgery, prod. by elec. simulation of brain, generator 7−8759
angiography and surgery, ideal marriage for managing massively traumatized patients 7−3872
arterial anastomoses, laser-assisted and sutured, mech. props. under axial loading, rabbit obs. 7−23374
articulated arm for laser beam delivery, surgical appl. 7−50613
blood pressure regulation during surgery using self tuning controller 7−54805
cornea cutting for implantation by microsurgery robot *(Japanese)* 7−14153
diathermy units, evaluation 7−23483
dye laser surgical successes 7−34217
electrodes, optimal design for electrosurgery, defibrillation, and external cardiac pacing: finite-element computer model 7−3928
endarterectomy of expt. atheromas, fibre optic laser delivery 7−34220
excimer lasers in medicine, surgical appls. 7−60073
fibre optic cable for CO_2 laser scalpel 7−14086
fibre optic laser beam delivery system for medical appls. 7−47200
flexible waveguide for CO_2 laser surgery 7−34226
hand-held surgical CO_2 lasers, advanced appls. 7−34219
implant orthopaedic surgery, conf., Marbella, Spain (July 1984)d 7−48188
instruments used in surgery, diffuse laser light refl. from surfaces 7−47205
intraoperative EEG monitoring, comparison of a set of power distrib. parameters 7−3927
laser, CO_2, speculum surface finish effect on beam refl. 7−65830
laser repair of severed nerves 7−23420
laser surgery, high power, fibre optic beam delivery systems 7−47201
laser surgical instruments, surface treatment for improved safety 7−34328
laser-assisted vascular anastomosis, rat expts. 7−23422
surgery continued
laser-tissue interaction, thermal and biological aspects of medical laser appl. 7−60037
microscope, OPM-110, surgical experience in gen. practice 7−8757
microscope, OPM-212F, use in ENT surgery 7−8755
microscope use in microneurosurgery 7−8756
nerve anastomosis with low-power CO_2 laser, rat model 7−23421
ophthalmic therapy, argon laser coagulator use 7−8674
ophthalmic therapy, LAK argon laser coagulator design and use 7−8673
optical and laser technology in medicine, conf., Los Angeles, CA, USA (Jan. 1986) 7−29587
optical self focusing operative microscope for microsurgery 7−54705
pulsed UV laser use 7−34232
Slitlamp Surgiscope, OPS-330, for microsurgery of eye 7−8758
spinal somatosensory evoked pots. monitoring during surgery, microprocessor-based system 7−23482
stereotactic radiosurgery of central nervous system disorders, He ion beam 7−40270
tachyarrhythmias surgery, programmable stimulator: data acquisition, processing and display system 7−34330
therapeutic laser instrument for ophthalmology, the VISULAS YAG 7−54709
vascular tissue: CO_2, Nd:YAG, and Ar laser welding 7−34225
wound repair by laser welding 7−34222
Nd:YAG, CO_2 dual wavelength laser system for surgery 7−47198
Nd:YAG laser and sapphire contact probe, surgical appls. 7−34228
surges
see also overcurrent; overvoltage; transients
double impulse tests of long airgaps, engineering problems 7−20974
double impulse tests of long airgaps, pre-existing space charge effects 7−20977
double impulse tests of long airgaps, voltage front perturbation effects 7−20976
surgical operations *see surgery*
surveying
adjustment model for geodesy and surveying, validity of mathematical model *(German)* 7−40400
aerial photographs, potential precision of monocular and stereoscopic obs. 7−47317
aerial survey camera trials, for Wild RC10A and Zeiss RMK A 15/23 cameras 7−28817
S California, levelling refr. 7−8791
S California, VLBI meas. of North American-Pacific relative plate motion 7−28978
conference, Kensington, NSW, Australia (Nov. 1985) 7−35082
digital elevation models, comparative test of photogrammetrically sampled models 7−47316
fault imaging from space for civil engineering purposes 7−60406
geodetic levelling survey, elimination of bias caused by variable spacing 7−65912
geodetic surveying, Ferranti, Honeywell and Litton systems 7−4197
geometrical levelling automation, appl. of digital linear measuring system *(German)* 7−3972
GPS carrier phase for centimeter-level surveys, initial results 7−60419
GPS navigation radio receiver sets for surveying MINI-MAC system by Litton 7−34370
GPS satellite radionavigation for surveying for road engineering 7−34687
inertial surveying missions over short distances, methods for high accuracy 7−4198
Landsat data, Fourier filtering for information extraction in surveying and mapping 7−47582
least squares in geodetic surveying computations, soln. method 7−65914
Mekometer distance meas., statistical correction methods *(German)* 7−23519
North azimuth determination using suspended gyrocompasses 7−66309
rangefinding by optical method, precision, for long baseline meas., error of point approx. method for air integral refr. index 7−66342
salt marsh creek, River Esk, Cumbria, seasonal changes in surface level 7−8914
Saugus-Palmdale, California, atm. refr. error in historical levelling surveys 7−8790
strain measurement, prediction of thermoelastic strain in half-space covered by unconsolidated material 7−29001
Takase Dam, Japan, tiltmeter obs. rel. to microearthquake activity 7−23572
susceptance, electric *see electric admittance*
susceptance, electric, measurement *see electric admittance measurement*
susceptibility, dielectric *see optical susceptibility*
susceptibility, magnetic *see magnetic susceptibility*
susceptibility, optical *see optical susceptibility*
suspensions
acceleration waves in particulate suspension 7−6285
anil brown, anisotropy in elec. cond. induced by external field 7−39924
artificial Kerr medium, microspheres suspension, moving electromag. gratings, response study, Planck-Nernst eqn. 7−64605
bentonite clay suspension, thixotropic-coagulation struct., shock waves 7−6253
borosilicate glass ATM-2, Am-doped, Am concentration in solutions 7−32659
charged colloidal particles, mean-squared displacement and self-diffusion coeff. 7−28360
charged particle and neutral particle suspensions, structure transitions, phenomenological rheology 7−8310
clay suspensions, montmorillonite and kaolinite, viscosities and densities 7−28351
clay-kaolin aqueous suspensions, particle association, floc formation, shear, time-dependent properties 7−8308
colloidal suspensions, solitary wave model anal. of sedimentation 7−57911
colloids, strongly interacting in suspension, viscosity and shear modulus calcs. 7−1617
combustion, wave propag. 7−54125
concentrated suspensions, particle interactions, continuum approx., falling ball rheometry 7−37409
Cotton-Mouton constant, cluster integral expansion 7−3025
Couette flow with porous walls of a dilute suspension 7−51037
creeping flow over rot. cylinder between parallel plates 7−20784
dielectric properties, Maxwell mixture formula, Debye type contributions 7−13090

suspensions continued
- dilute macro-ion suspension, effective charge and diameter, Gibbs-Bogoliubov inequality calcs. 7−65356
- dilute suspensions, rheological effects of nonuniform particle distribs. 7−37410
- electromagnetic flowmeter sensitivity with two-phase flow 7−37522
- electrorheological suspensions, viscoelastic behaviour 7−43826
- fibre optic particle concentration sensor 7−20443
- fibre suspensions in Newtonian fluids and polymer solns., capillary flow 7−6318
- film thickness meas. of postwidthdrawal drainage, using Mach-Zehnder laser interferometry 7−18750
- frictional flow properties of coal-oil slurries at low Reynolds number 7−20801
- gas suspension, supersonic flow near wedge in presence of reflected particles 7−1621
- gas-droplet, shock wave struct. 7−6252
- gas-matter suspensions, shock wave interaction with rigid walls, mathematical modelling 7−1590
- gas-solid, explosion wave damping 7−6236
- gas-solid flow pattern transition in vertical pneumatic conveying, statistical anal. 7−57906
- glass bead and glass fibre suspensions, flow through flat orifices, elastic props. influence *(German)* 7−6296
- granular materials and dispersions, flow, conf., Blacksburg, VA, USA (Feb. 1985) 7−35086
- hemicellulose suspensions, gelation, flow *(German)* 7−13830
- HF acoustic perturbation propag. singularities 7−13832
- high concentration suspensions Reynolds numbers, homogenisation methods 7−6289
- highly concentrated, sound propag. *(Chinese)* 7−11193
- Hookean dumbbell suspensions in steady state shear flow, hydrodynamic interaction, num. investig. 7−31868
- hydromagnetic Stokes flow in a rotating fluid with suspended small particles 7−44008
- inertial settling of polydispersed particles at critical point of sphere 7−1620
- kaolin suspensions, rheological behaviour at high shear rates 7−6226
- kaolinite particles in aq. suspension, amplification of shock waves 7−43978
- laminar buoyancy-driven convection flow in settling vessels having inclined walls 7−51135
- liquid suspensions of microparticles, four-wave mixing 7−20367
- magnetorheological suspensions, struct., phys. props. and dynamics 7−37521
- microbial suspensions, rheological meas. *(German)* 7−14035
- microstructure characterization and bulk properties of disordered two-phase media 7−52068
- mineral waste dil. suspensions, interacting particles, kinetic theory 7−46880
- model suspensions, 2D, interactive and non-interactive rigid spherical particles, hydrodynamic interactions *(French)* 7−8306
- optical and electrical particle analyses, increasing resolving power using divergent deflecting plates 7−48688
- particle size distribution in multicomponent systems, polarisation intensity ratio and pointer beam techniques 7−29967
- phase differential scattering from microspheres 7−10855
- polymeric colloidal suspensions in polymeric suspending fluids, dichroism and birefringence meas. 7−11478
- polystyrene, colloidal cryst. in semidilute aq. suspension, ordering process 7−13829
- polystyrene, cryst. colloidal array filter 7−37117
- polystyrene latex spheres, aggregation kinetics, laser light scatt. 7−13827
- polystyrene latex spheres, particle size and vel. meas. using phase Doppler particle analyser 7−29968
- polystyrene latex suspensions, aq., semidilute, ordering process of colloidal crysts. 7−17829
- polystyrene submicron size sphere in aq. suspensions, multiple light scatt. 7−59220
- polystyrene-based lattices, dil. suspensions, ordered struct., charge density and size effects 7−26615
- polystyrene-based lattices, dil. suspensions, ordered struct. 7−26614
- PVC, suspensions, grain formation 7−22694
- random two-phase suspensions, statistical moments calcs. 7−13824
- randomly oriented particles, scatt. matrix 7−10856
- randomly oriented rods in viscous Newtonian liquid, rheological behaviour 7−57895
- reactive, flames, radiative transfer as propag. mechanism 7−17796
- resonance light scattering from liquid suspension of microspheres 7−42911
- rheological properties, flowing colloidal crystals, spatially periodic suspensions 7−8305
- rice starch suspension, image transfer modulation transfer function 7−36884
- rigid particle suspensions, mass and entropy transport 7−32691
- rodlike particles suspended in Newtonian and non-Newtonian fluids, rheological props. 7−37407
- sedimentation, stochastic model of kinetic type 7−13820
- shear viscosity behavior at low and high shear-rates 7−43993
- single inclusion probability fns. calc. 7−54194
- slender body, motion in quiescent polymer solns. 7−11523
- slurries, flow curve, rheological props. 7−43833
- solar collector, volume heat-trap type, graphite-diethylphthalate suspension, parameters study 7−34069
- spheres moving in viscous fluid, transport props. and hydrodynamic interactions 7−11522
- structures induced in alternatively sheared suspensions *(French)* 7−31861
- two-layer particle suspension, Rayleigh-Gans approx. in extremal illum. region 7−31249
- two-phase suspension flow, particle transverse migration, turbulent diffusion 7−57905
- two-phase suspension flow, turbulent particle transport, unified theory 7−57907
- US attenuation meas., coherent scattering contribution 7−16040
- vertical wind tunnel for water drop studies 7−6293
- viscous fluid, suspended small particle collision with body, critical condition 7−37514
- viscous incompressible fluid, homogenisation method, force free particles *(French)* 7−8304
- C black, in styrene-butadiene rubber soln. relax. properties 7−8317
- C particle laden O_2 gas, normal shock wave anal. 7−51288

suspensions continued
- C-O_2 suspension, parameters affecting postshock wave relax. zone 7−51289
- FeCO colloids, anisotropy in elec. cond. induced by external field 7−39924
- α-Fe_2O_3 particles in silicone oil, mag. suspension, rheology 7−37408
- $LaNi_{4.7}Al_{0.3}H_x$-n-undecane suspension, H_2 absorpt. kinetics 7−33966
- $LaNi_5H_x$-n-octane suspension, H_2 absorpt. kinetics 7−33966

swelling
- complex stress state material swelling 7−31648
- composite materials, hygrothermal behaviour, new prediction methods 7−21492
- copolymer gels, water swellable, with L-lysine pendant group, optical resolution of DL-lysine 7−64601
- elastomer gels, swollen cis-trans isomerisation, network density effects 7−8273
- epoxide networks, crosslinked, sorption and diffusion of chloroform vapours *(Russian)* 7−27021
- ethylene-propylene-diene elastomer, sorption and swelling in water and humid media *(Russian)* 7−27139
- fusion reactor structural materials, irradiation, He effects control 7−51845
- fusion reactor structural materials, welling after neutron and ion irrad., comparison 7−58357
- liquid crystalline polymers, cross linked, shape variation by elec. fields 7−32280
- liquid metal fast breeder reactor fuels, swelling 7−19351
- membranes, diffusion under strain, thermodynamics 7−44886
- membranes transport process meas. techniques 7−28337
- metals, irradiated, deformation, impurity atmosphere effects *(Russian)* 7−59569
- metals, irradiated, deformation rate, radiation swelling and creep *(Russian)* 7−44597
- metals, radiation swelling, vacancy-interstitial and interstitial-impurity complex form. *(Russian)* 7−58309
- natural rubber/polybutadiene elastomers, C black distrib., flow behaviour depend. 7−43832
- PET films, crystallisation induced by integral sorption of organic vapours 7−12473
- PMMA, swelling caused by CS_2 imbibition, light scatt. investig. 7−62628
- poly(vinyl acetate), network, mechanical and swelling behaviour investig. 7−12185
- poly(vinyl alcohol), network, mechanical and swelling behaviour investig. 7−12185
- poly 2-hydroxy ethyl methacrylate films, swollen membranes, phenylalanine solute diffusion 7−28343
- polybutadiene networks, mechanical and swelling behaviour 7−11965
- polydimethylsiloxane, swelling by phenylmethylsiloxane, modulus, stress-strain isotherms 7−8039
- polydimethylsiloxane, swollen in benzene, network struct., cryoscopic obs. 7−21135
- polyester-polycarbonate blend, crystallising crazes, probable source of solvent stress cracking resist. 7−13621
- polymer nets, high elasticity, mol. theory with allowance for topological constraints 7−37839
- polymers, solid, solvent swelling and noninvasive visualisation by ESR imaging 7−45797
- polymers, solns., molecular translational mobility, flow and thermodynamic swelling effects *(Russian)* 7−16393
- polyoxypropylene, cross-linked model networks, swelling, elastic stress-strain props. 7−46540
- polypropylene films, morphology and dielec. props., impregnants effects 7−39024
- polystyrene in ethyl acetate, cyclohexane solns. props. 7−11889
- pyrographite, highly irrad., property change on thermal annealing 7−63665
- star-like polymers, swelling in good solvent, Monte Carlo calcs. *(Russian)* 7−63436
- steel, austenitic stainless, electron beam welded, void swelling under electron irrad. 7−51830
- steel, austenitic stainless, electron irrad., cold working, vacancy swelling, void form., carbide precip., electron microscopy 7−21282
- steel, austenitic stainless, in-reactor deform. 7−56826
- steel, austenitic stainless, swelling by electron irrad., influence of appl. stress *(Japanese)* 7−16632
- steel, austenitic stainless, swelling under dual ion beam irrad. 7−44629
- steel, austenitic stainless, Ti addition effect on swelling under HVEM conditions 7−58343
- steel, austenitic stainless, Ti modified, void swelling and precipitation, aging effects 7−33685
- steel, austenitic stainless, void stability, effect of O 7−58262
- steel, austenitic stainless radiation damage process obs. using high voltage electron microscopy 7−51831
- steel, ferritic stainless, He-doped, microstruct. evolution following 14 MeV Ni ion irrad. 7−58363
- steel, stainless, neutron irradiated, microstruct. and swelling, Si and N impurity effects *(Russian)* 7−2217
- steel, stainless, type 316, neutron damage USA-Japan studies 7−56834
- urea-formaldehyde polymer, struct. swelling and titration *(Russian)* 7−6500
- vinyl pyrrolidone copolymers, highly swollen hydrogels preparation 7−21073
- Zircaloy, claddings, creep deform., bulge growth, time to failure 7−59589
- Al_2O_3, neutron irrad., microstruct., mech. props. 7−51843
- B_4C, fast neutron irradiated, thermal cond. meas. 7−6900
- Be, energy multiplier in fusion reactor blanket, costs and benefits 7−49625
- C fibre reinforced polymer cracks, lightweight construction appl. *(German)* 7−22825
- $Ca_2Nd_8(SiO_4)_6O_2$:Cm ceramic simulated nuclear waste forms, radiation effects on microstruct. and fracture props. 7−58373
- $CaPuTi_2O_7$, substituted zirconolite, high level waste, self-irrad. effects, mech. props. 7−805
- Cu alloys, candidate materials for high heat load appl. in neutron environments 7−49636
- Cu alloys, irrad. in FFTF to 16 dpa at 450°C, microstruct. eval. 7−51837
- Cu alloys, neutron irrad., cond. changes, porosity swelling and transmutation contrib. 7−51838

swelling continued
Cu alloys, neutron irrad., 13 dpa, mech. prop. and elec. cond. changes 7—51839
Cu alloys, rapidly solidified powder metallurgy, irrad. to 13.5 dpa with neutrons, microstruct. evolution and swelling 7—51840
Cu and alloys, neutron irrad. effects, elec. cond., fusion reactor appl. 7—51835
Fe, Armco, annealed and cold worked, neutron irrad. damage 7—2067
Fe-Ni-Cr austenitic alloys, MC carbide dispersed, void swelling and precip. behaviour following proton irrad., dose depend. 7—58365
Fe-Ni-Cr-P, ion irrad., swelling suppression, effect of P modification 7—58358
GaP, implanted with He ions and protons, microhardness rel. to damage density 7—51883
$GaP:He^+$, implanted, swelling, strain and radiation damage 7—6694
$MgAl_2O_4$, neutron irrad., microstruct., mech. props. 7—51843
$MgAl_2O_4$, spinel single cryst., low dose neutron irrad., swelling, defect interaction 7—51842
Na-K ion-exchanged glass waveguides, swelling characts. 7—31532
$NbT_{0.59}$, acoustic emission and swelling, ageing effects 7—33708
Ni, Ni ion irrad., 14 MeV, void form., gas effects 7—58360
Ni, void stability, effect of O 7—58262
Ni-rich alloys, vacancy swelling suppression mechanism 7—46511
$Ni_{69.2}Cr_{6.6}Si_{13.7}B_{7.9}Fe_{2.6}$, amorphous alloy, 70 MeV Ni^{+6} ion irrad., surface swelling 7—16646
Si, high dose implantation, with Co, Ni, Fe ions struct. and phase modifications 7—12095
Si:N, high dose implanted, swelling, saturation, and sputtering effects 7—16648
TaT_x ($x = 0.12, 0.103, 0.42$), acoustic emission and swelling, ageing effects 7—33708
TiB_2-TiC composite, hot pressed, degradation in liq Al 7—28156
U based intermetallic compounds, fission gas swelling, cryst. struct. stability 7—42115
$U_{0.86}Gd_{0.14}O_{2\pm x}$ pellets, reaction with Cs fission product, annealing, diametral expansion 7—56756
UO_{2+x} pellets, reaction with Cs fission product, annealing, diametral expansion 7—56756
V alloys, neutron irradiation effects 7—53750
V-20Ti pressurized tubes, creep response to neutron irrad. 7—56831
V-Cr-Ti, ion-irrad., swelling and microstruct. evolution, effect of He 7—58359
W fibre reinforced Fe-Cr-Al superalloy, surface cladding and matrix deform., thermomech. loading 7—46568

swept-frequency reflectometry
No entries

swirling flow
see also vortices
annuli turbulent swirling flow, principal characteristics 7—20737
axisymmetric flows in swirlers, difference method 7—51166
axisymmetric vortex breakdown in circular pipe 7—26286
axisymmetric wakes, stagnation point flow study 7—51152
confined swirling coaxial jet flow multiple-scale turbulence model 7—31813
effect of solid-body swirl on performance of wide angle diffusers 7—26297
hydraulic turbine, draft tube, 3D turbulent flow anal. 7—51026
impulsively started circular cylinder, buoyancy effects on transient flow and heat transfer 7—26279
incompressible viscous fluid time-dependent swirling flow between rotating disks 7—26285
jet diffusion flames, swirl effect on stability 7—23017
laminar boundary layer on permeable surface 7—31815
laminar end-wall vortex and boundary layer, numerical simulation 7—51181
laminar momentumless wakes, self-similar solns. 7—51151
linear stability of hydromagnetic flow for nonaxisymmetric disturbances 7—63230
pipe bend, analytical study 7—57853
pipe flow with air suction, fluid mech. fundamentals 7—16187
plumes, shear stresses, turbulent heat flux 7—6220
pulverised coal combustors, NO emissions, swirling flow effect 7—51155
radial swirling free jet flow *(French)* 7—63157
stability criteria for swirl flows with free surfaces 7—1579
swirling jet, self-similar solns. 7—51253
turbulent Reynolds stresses in the swirling radial free jet flow *(French)* 7—63191
turbulent swirling flow in diffusers, Navier-Stokes eqn. soln. 7—6222
turbulent transfer processes, flow swirl effect 7—43927
twisted oval tube, heat transfer and hydraulic drag coeffs. 7—1631
unsteady flow around spherical bodies 7—6227
visualisation of swirling flow in narrow annuli with tangential air inlets 7—43926
working fluid flow, aerodynamic calc. 7—6219
H swirling turbulent diffusion flames, turbulence intensity study 7—26287
O_3 swirling flow combustor, gas densities, laser scatt. meas. 7—6218

switchboxes *see switchgear*

switched mode power supplies *see power supplies to apparatus; power supply circuits*

switches
see also plasma switches; semiconductor switches
all-optical, using interaction between low power light beams in liquid film 7—25864
electro-optic directional coupler switches, crosstalk due to reversed-$\Delta\beta$ electrode misalignment 7—20471
electro-optic switch for providing active feedback to solid laser 7—1205
electrooptic modulators, digital and quasi-linear, synthesized from directional couplers 7—50727
fibre optic components, in-line filter, switch and in-line attenuator 7—26002
integrated optical switch design 7—31455
magnetic switches, formative time lags, extension of Davidson's theory 7—51547
optical $\Delta\beta$ phase reversal directional coupler switches, crosstalk characts. 7—26037
optical bistability and optical computers *(Danish)* 7—1214
planar acoustooptic 2×2 commutator switch 7—50741
pulsed power supplies, IEEE conf., Arlington, VA, USA (1985) 7—35110
vacuum switch quality Cu electrorefining and vacuum processing systems 7—27966

switches continued
Ar/C_2F_6 mixtures, Penning ionisation for diffuse discharge switching appls. 7—37622
$Ar-CF_4$ mixtures in corona discharges in diffuse discharge switch appls., decomposition 7—37799
GaAs monolithic integrated optics, performance in space environment 7—26028
$LiNbO_3$:Ti 4×4 directional coupler switch with permanently attached polarisation maintaining fibre array, low crosstalk 7—31520
$LiNbO_3$:Ti 4×4 nonblocking interconnection network for test bed, video switching 7—26039
$LiNbO_3$:Ti guided-wave optical switch, 1×16, polarisation-independent 7—31525
$LiNbO_3$:Ti X- and Z-cut directional coupler and BOA switches, voltage-length product 7—43352
Ti:$LiNbO_3$ optical switch, three-electrode 7—15970

switchgear
see also circuit breakers; switches
escalating arcing ground fault phenomenon, effect of preventative solns. on equipment specifications 7—51530

switchgear protection
earth leakage circuit-breaker protection *(German)* 7—3782

switching
see also electrical conductivity transitions; ferroelectric switching; magnetic switching; Q-switching; switches
chiral smectic liquid crystal cells, bistability and switching 7—37842
electron beam controlled discharges, charactn. and switching performance 7—26533
holographic, deflection matrices, optical switching appl. 7—37206
Josephson tunnel junctions, switching behaviour, Werthamer model calcs. *(Russian)* 7—52901
magnetic linear accelerator (MAGLAC), switching studies 7—36342
optical bistable devices graphical anal. of dynamic response 7—15922
optical computing and logic using Sagnac interferometric switches 7—25940
optical switching using stimulated Rayleigh scattering 7—25895
optical waveguide, tunnel-coupled, switching by radiation of different frequency 7—43368
optically bistable semiconductor devices, carrier surface recombination 7—57401
picosecond electronics and optoelectronics, topical meeting, Lake Tahoe, NV, USA (Mar. 85) 7—41007
plasma pulse formation and accel., high power and switching appls. 7—32125
polythiophene film in electrochem. color switching cells, cycle life, stability and characts. 7—62815
semiconductor face-pumped laser, bimolecular recombination, bistability theory 7—57336
semiconductor laser, transverse beam deflection 7—5933
SOS, submicron-gap photocond. switching 7—52689
two-dimensional optical beam switching techniques using dynamic holography 7—25755
ultra-fast delivery system for producing abrupt compositional switching in OMVPE 7—22525
CdS, temperature-electric instability, spontaneous oscillation states 7—38616
GaAlAs strip waveguides, optical transistor effects, expt. study 7—37026
GaAs-GaAlAs passive MQW waveguide resonators, all-optical switching effects, expt. study 7—15967
$LiNbO_3$:Ti integrated electro-optic devices, modelling and beam propag. anal. 7—11177
Li_xWO_3-$LiClO_4$-Nb_2O_5 electrochromic cells, electrochromic window development, materials and devices 7—50664
Nb, thin film, microstrip line, parameter change during superconducting to normal conducting state switching 7—22075
a-Si:H p^+-n-i structs., memory switching, transient current instability study 7—52762

switching circuits
see also choppers (circuits); trigger circuits
DC motors in wheelchairs and prostheses, switching converters for efficient control 7—34355
priority switching in measurement of time spectra of gamma-gamma coincidences 7—10369
RFX fusion expt., Italy, design criteria for switching units 7—30667
$LiNbO_3$, optical components for modulation and switching 7—15996

switching systems
video switching, $LiNbO_3$:Ti 4×4 nonblocking interconnection network for test bed 7—26039

switching theory
see also automata theory
optical computing, compound literal implementation via shadow-casting 7—25732

switching transitions *see electrical conductivity transitions*

symbiotic stars
accretion from inhomogeneous medium, general case and observational consequences 7—9460
Z And, choice of system model 7—29491
EG And, symbiotic star, mag. field 7—18424
R Aqr, obs. of jet at UV and radio wavelengths 7—55686
R Aqr, UV variability and mass expulsion from IUE obs. 7—55651
atmospheric vel. fields, conf., Trieste, Italy (August-September 1982) 7—35118
cool components, nature 7—40820
CH Cyg, broad-band multicolour photometry 7—47926
CH Cyg, eclipsing symbiotic star, photometry, spectra and radio flux characts. *(Russian)* 7—40846
C Cyg, eclipsing symbiotic star, radio outburst characts. *(Russian)* 7—40847
V1016 Cyg, photometric obs. rel. to dust shell form. (summer 1983) 7—47897
CH Cyg, photometry and spectroscopy (April to November 1985) 7—18419
CH Cyg, possible end of shell spectrum phase and transition to real symbiotic star (1983-4), spectral characts. 7—4487
CH Cyg, spectral and photometric characts. 7—4486
V1016 Cyg, spectrophotometric obs. (1980-5) 7—4464
V1329 Cyg, UBVRJHK photometry (1980-3) 7—29492
evolution of interacting binary stars, implications of IUE obs. 7—47997
general characteristics (book) 7—35122

symbiotic stars continued
GX 1+4, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7—55712
HBV 475, IUE obs. rel. to origin of nebular emission 7—55687
HBV 475 (V1329 Cyg), UV obs. variability 7—34983
He 2-104, He 2-106, spectrophotometric obs. of emission lines 7—9477
IRAS observations and energy fluxes 7—34984
nebular emission location, implications of IUE obs. of HBV 475 (V1329 Cyg) 7—55687
AG Peg, spectrophotometric obs. *(Russian)* 7—55669
AG Peg, symbiotic star, mag. field 7—18424
spectrophotometric obs. 7—4474
PU Vul, peculiar symbiotic star, binary characts. and spectral obs. *(Chinese)* 7—4460
yellow symbiotic stars, relation to binary planetary nebula (IRAS 1912+172P09) 7—48046

symbol manipulation
digital optical computing with symbolic substitution 7—10859
optical implementation of symbolic substitution logic 7—10860

symbols *see nomenclature*

synchrocyclotrons
sector focusing, new accelerators in Uppsala 7—49754

synchronisation
noise reduction by discharge current modulation 7—31348
radio-meteor systems for time-scale synchronisation, accuracy criteria 7—41350
time and frequency meas., fundamentals *(French)* 7—9820

synchronism *see synchronisation*

synchronous machines
drive systems for pulsed synchronous machines 7—19482

synchroscopes *see cathode-ray oscilloscopes*

synchrotron radiation
antiferromagnetic crystal wiggler synchrotron radiation and free electron lasers 7—57223
atoms, electronic struct. and dynamics study by electron spectrometry 7—36755
beam line critical elements, heat transfer studies 7—42255
beam system evolution in long undulators 7—42880
BESSY multipole magnet, electron opt. props. and electron trajectories 7—42254
3C 273, quasar, particle accel. in jet hotspot rel. to radio to IR spectrum 7—14676
Cas A, supernova remnant, 1.2-mm map rel. to synchrotron and IR spectra 7—24176
Cen A, thermal Comptonization and synchrotron self-Compton models for MeV gamma-ray emission 7—66754
charged filament in media having travelling parameter, synchrotron and undulator radiation emission 7—57222
Cherenkov and synchrotron radiation interference 7—25705
coherent synchrotron radiation, spectrum and angular distrib. 7—5824
collimated synchrotron radiation, Z-shaped wire profile and position monitor 7—35625
Crab Nebula, 1.2 mm map rel. to synchrotron and IR spectra 7—24176
cyclic accelerators, electron synchrotron radiation in mag. fields 7—49756
Czechoslovak synchrotron radiation source 7—30788
Daresbury Laboratory Synchrotron Radiation Source, selected activities 7—35651
electron storage rings using superconducting magnets 7—49778
FEL undulator technology and synchrotron radiation source requirements 7—31350
FIR spectroscopy by synchrotron radiation at UVSOR facility 7—41498
fluorescence tomography using synchrotron radiation 7—59806
free electron laser EUV, three-dimens. simulation 7—43131
gamma-ray burst sources, spectra and thermal synchrotron radiation 7—48103
high resolution synchrotron spectroscopy appl. 7—19742
insertion device beam line optics, review 7—43305
insertion device Beam Line Wunder design at SSRL 7—42256
insertion device performance in ESRF 7—42251
insertion devices, future developments, limitations 7—42257
insertion devices, variational theory 7—42879
insertion devices for synchrotron sources, conf., Stanford, CA, USA (Oct. 1985) 7—29584
integral formulae, corrections in derivation 7—55442
Japanese synchrotron radiation facilities, present and future 7—5505
layered synthetic microstructures, soft X-ray monochromator appls. 7—35648
linear colliders, beamstrahlung energy spread, quantum correction due to finite photon no. 7—5512
microscopy, soft X-ray at national synchrotron light source 7—18951
microwave undulator, theory, construct, and exptl. results 7—42878
mirror, lacquer-coated, irrad. with undulator light, surface heating 7—43307
mirror, thermal distortion prediction with finite element analysis 7—43306
molecular ions, doubly charged, dispersed fluoresc., synchrotron excitation 7—36673
monochromatic and polarised photons, prod. for photonuclear reaction studies 7—62153
monochromatic beams, intensity, universal and diagnostic curves 7—62174
multipole wiggler design producing circularly polarized synchrotron radiation 7—49772
noise characteristics of US synchrotron radiation sources 7—41569
optics formulation using Wigner distrib. 7—31221
oscillation camera data processing, synchrotron radiation data in macromolecular crystallography 7—18098
probing semiconductor-semiconductor interfaces 7—64336
radio galaxies, role of magnetic energy dissipation in force-free jets 7—29391
relativistic magneton, synchrotron radiation, classical and quantum theory 7—62603
soft X-ray emission spectrometer used with synchrotron radiation excitation 7—30150
source, UHV Be windows 7—18796
sources for IR to γ-rays, developments 7—42877
SPRED VUV spectrograph, synchrotron radiation calibration 7—24711
surface science, synchrotron radiation studies, review 7—33977
undulator, linear, variable gap permanent magnet, for ENEA free electron laser expt 7—43151
undulator, short period, design and performance 7—42252

synchrotron radiation continued
undulator, soft X-ray, performance predictions 7—42876
UVSOR storage ring, ion-clearing system 7—36353
vacuum interface to a soft X-ray synchrotron beam line 7—18967
VUV spectrometer-detector system calibration using synchrotron radiation 7—24710
VUV-soft X-ray beamline for spectroscopy and calibration 7—18966
wiggler, NdFe-steel hybrid permanent magnet, development for insertion in SPEAR ring 7—42250
wiggler beam monochromator, distortion from synchrotron radiation thermal loading, finite element analysis 7—42269
wiggler design, 3 Tesla, with supercond. windings, for ESRF 7—42253
X-ray calibration sources 7—18965
X-ray fluorescence, diffraction interference 7—17830
X-ray micro-tomography, using synchrotron radiation, chem. state mapping 7—54248
X-ray microscopy experiments with synchrotron radiation 7—18949
X-ray microtomography with synchrotron radiation 7—47224
X-ray sources, effects of one-generation pair production in synchrotron self-Compton sources 7—55452
YIG, ^{57}Fe enriched, quantum beats from synchrotron radiation pulses 7—2960
Au cathode photoelectric detectors, absolute photon sensitivity characterisation 7—24704
KCl, two-photon absorption meas. using synchrotron radiation 7—9906
KI, two-photon absorption meas. using synchrotron radiation 7—9906
Kr, atom, multielectron photoelectron meas. 7—5643
2H-MoS$_2$, photoionisation cross-sections for whole valence band, synchrotron radiation obs. 7—7812
NaCl, two-photon absorption meas. using synchrotron radiation 7—9906
Ni-C multilayer monochromator characterization using 200-900 eV synchrotron radiation 7—41558
Si X-ray phase plate, optimisation for circular polarisation 7—24742
UC, high press. struct. study, X-ray diffr., synchrotron radiation 7—16729

synchrotrons
see also cosmotrons
AGS, future dibaryon research 7—36056
beam line critical elements, heat transfer studies 7—42255
beam-beam interactions in high energy pp and $\bar{p}$p colliders, SSC implications 7—815
CERN SppS, SUMMER VME trigger processor 7—19592
EHF, antiproton physics 7—49752
EHF, proton synchrotron, conceptual design 7—49751
electron synchrotron, vertical electron oscillations, dynamics control 7—56889
electron synchrotron radiation in mag. fields 7—49756
European Hadron Facility, conference, Maine, Germany (March 1986) 7—48154
European Hadron Facility project, design, research program 7—62150
high intensity proton synchrotrons 7—30786
insertion device storage rings, design potential 7—31230
internal supersonic gas jet targets for circular accelerators 7—5518
KEK, hypernuclear experiments 7—41930
KEK, recent topics on spin physics 7—30910
KEK H-ion source development and status *(Japanese)* 7—19601
large superconducting accelerators *(French)* 7—10321
LEP, online FASTBUS processor for LEP 7—19590
longitudinal instability threshold of bunched beams inproton synchrotrons 7—5503
low energy antiproton physics facility 7—36350
multilayer structures, soft X-ray performance, synchrotron based meas. 7—30147
pulsed power supply, high power, for proton synchrotron 7—25274
Superconducting Supercollider, elementary particles and cosmology 7—48260
tagged photon beams, intensity 7—56890
TRIUMF kaon factory proton beam production proposal, physics program, design status 7—62149

synthetic metals
Used for chemical compounds, having metallic properties, that are distinguishable from naturally occurring metals and alloys
see also one-dimensional conductivity
(BEDT-TTD)$_2$BrI$_2$, synthesis, structure and electrical props. 7—46296
β-(BEDT-TTF)$_2$AuBr$_2$, conducting charge transfer salt, struct. and props. 7—58259
(BEDT-TTF)$_2$I$_3$, α and β phases, CESR 7—2930
β-(BEDT-TTF)$_2$I$_3$, molecular motion, proton spin-lattice relax. meas. *(Russian)* 7—17236
α-(BEDT-TTF)$_2$I$_3$, struct. charact. and band electronic struct. below metal-insulator transition 7—2007
β-(BEDT-TTF)$_2$I$_3$ organic conductor, high resolution thermal expansion meas. 7—26986
β-(BEDT-TTF)$_2$I$_3$/Cu point contact spectra 7—27383
(BEDT-TTF)$_2$ReO$_4$, band electronic struct. 7—7094
(BEDT-TTF) BrO$_4$, band electronic struct. 7—7094
BEDT-TTF complexes with linear chain anions, crystal growth 7—46297
BEDT-TTF derivative (DIMET) radical cation salts, synthesis, conducting and superconducting props. 7—46855
BEDT-TTF radical cation salts, synthesis, conducting and superconducting props. 7—46855
bis(ethylenedithio)tetrathiafulvalene, low-temp. phases, X-ray diffr., resistivity and thermopower meas. 7—37962
β-bis(ethylenedithiolo)tetrathiofulvalene iodide, organic superconductor, ^{2}H spin-lattice relax., temp. depend. study 7—53171
(BMDT-TTF)$_2$Au(CN)$_2$ organic metal, synthesis, struct. and props. 7—32420
(BPDT-TTF)$_2$IBr$_2$, synthesis by electrochemical oxidation, struct. and ESR spectra 7—46856
BVDT-TTF organic conductors and 1D metals, synthesis 7—45299
charge transfer complexes, synthesis, struct. and physical props. 7—44510
conference, Kyoto, Japan (June 1986) 7—60872
degassing and characterisation *(Japanese)* 7—45261
donor-acceptor complexes, interstack and intrastack forces 7—63594
graphite, intercalated fibre elec. conductors, passivating coatings 7—8140
graphite intercalation compound, $C_{1-x}F_x$, resistivity and ESR study 7—64197
graphite intercalation compound with HNO$_3$, diffusion, charge transfer and strain fields, ESR study 7—53117
graphite intercalation cpds., staging dislocation electronic struct., electron scatt. rates, residual resist. 7—52558

synthetic metals continued
- graphite-K intercalation cpd., C_8K, electronic band struct., angle resolved UPS study 7—27232
- HMTTeF-$TCNQF_4$ solid complex, partial charge transfer, Raman and XPS studies 7—32967
- organic, metal-nonmetal transitions 7—2486
- organic conducting single crysts., electron irrad., Bragg spot fading 7—12158
- organic conductors, low temp. ground state, antiferromagnetic resonance probes 7—45827
- organic conductors, positron annihilation 7—39277
- organic metals, interstack and intrastack forces 7—63594
- poly(p-phenylene) films, heat treated, electrical conductivity, thermoelectric power 7—52557
- poly m-phenylene sulphide, SbF_5 doping, elec. cond., IR spectra 7—17006
- poly-p-phenylene:K, heavily doped, elec. cond., chain length depend. 7—32975
- polyacetylene:I_3^-, semicond. soliton lattice-metal phase transition, photomodulation spectra studies 7—21819
- polyaniline, doped, thermoplastic amorphous-crystalline conversion 7—32315
- polyazulene, in situ optical and ESR studies during electrochemical doping 7—26670
- polydiacetylene, conductivity enhancement by chemical doping and ion implantation 7—21957
- polyisothianaphthene and derivatives, valence effective Hamiltonian band struct. calcs. 7—16936
- polymers, highly conjugated, giant nomadic polarisation investig. 7—7635
- polypyrrole films, elec. cond., molecular anisotropy, WAXS 7—51669
- polypyrrole-halogen charge transfer complexes, chemically synthesized, elec. props. 7—27313
- polythiophene films, photolum. quenching by electrochemical doping 7—59254
- quasi-1D conductors, conf., Yamanashi, Japan (May 1986) 7—60868
- α-quinquethiophene-stearic acid: I Langmuir-Blodgett films, elec. cond. 7—33106
- rare earth dihydrides, Fermi surface nesting 7—52398
- $(TMTSF)_2PF_6$, cryst. struct., neutron low temp. and X-ray high press. diffr. studies 7—44502
- transition metal complexes, $M(dmit)_2$, conductive and superconductive materials 7—44515
- transition metal dichalcogenides, low-dimens., as secondary cathodic materials, book contrib. 7—28394
- $Ag_{1/3}TiS_2$, intercalation cpd., transport and mag. props. 7—52572
- C_xSO_3F fibre intercalation cpds., enhanced elec. cond. 7—33927
- $(CSe)_n$, polymerised, metallic and supercond. 7—7433
- $Cs[Pd(S_2C_2(CN)_2)_2].0.5\ H_2O$, low-dimensional metal at low-temp. and high-press. 7—45290
- $K_3Cu_8S_6$, mixed valence 2D metal, CDW 7—45294
- trans-polyacetylene, inter-chain versus intra-chain electron-hole photogeneration 7—27362
- SmS, golden phase, f-d hybridisation gap 7—27231
- $TaSe_3$, chain-like conductors, electrical anisotropy 7—52593
- TiO_x, elec. resist. meas., 1023-1323K 7—38531
- VO_x, elec. resist., Seebeck coeff. meas., 1023-1323K 7—38531
- V_7O_{13}, metallic, electron state, electron diffr. determ. 7—37921

synthetic rubber *see rubber*

system generated electromagnetic pulse *see electromagnetic pulse*

system theory
- *see also artificial intelligence; identification; information theory; modelling; pattern recognition; simulation*
- delay-differential systems, chaos, statistics and dimensions 7—48572

systems analysis
- eye: convergence insufficiency, fixation disparity, and control systems anal. 7—8567
- nonlinear analysis: math. theory and biological appls. 7—3747
- Phycomyces, system anal. of light-growth response, wavelength 7—23401
- Phycomyces, system anal. of light-growth response with sum-of-sinusoids test stimuli 7—23400
- Phycomyces light-growth response, system anal., photoreceptor and hypertropic mutants 7—23402
- radiation-induced late effects, computer simulation by system dynamics 7—18024
- systems analysis of respiratory control *(Japanese)* 7—14033

systems design *see systems analysis*

systems engineering
- *see also systems analysis*
- nuclear power plant reliability and availability enhancement, generic software package 7—15467

systems programming *see systems analysis*

systolic arrays *see cellular arrays*

Szilard-Chalmers reactions *see radiochemistry*

T invariance
- atoms, parity and time-reversal violation in nuclei and atoms, atomic electric dipole moment meas. 7—30325
- Fermilab Antiproton Source, physics workshop report 7—49174
- nuclear probes of isospin parity and time-reversal symmetry 7—49016
- P-A theorem and time symmetry in nuclear reactions 7—5205
- symmetry tests, T, CP and CPT invariance, review 7—30205
- T, CP, and CPT transformations in the presence of vacuum degeneracy 7—35741
- $K^- \rightarrow \pi^0 \gamma e \bar{\nu}$, decay probability, dependence on γ-detection threshold, T violation asymmetry 7—56538
- $\bar{K}^0(K^0)$ decay, meas. possibilities for T-, CP-, CPT-violation parameters 7—10053
- $\bar{K}^o \rightarrow e^- \pi^+ \bar{\nu}$, search for T and CPT violation 7—41787
- $K^o \rightarrow e^+ \pi^- \nu$, search for T and CPT violation 7—41787
- $K^0 \rightleftarrows \bar{K}^0$ transitions in matter 7—61498
- $(\vec{n},\vec{n}')$, high sensitivity search for T-violation in slow neutron resonances 7—49424
- NN interactions in nuclei, time-reversal symmetry test using (n,n′) 7—30347
- pp elastic scattering, 198.5 MeV, time reversal invariance test in strong interaction, polarization-analyzing power comparisons 7—5110
- ^{7}Li($\vec{p}$,p), 1.9-2.6 MeV, analyzing powers and angular distributions, T-invariance test 7—5239

Ta *see tantalum*

table lookup
- *see also data handling*
- nuclear power station simulation, parallel-processing modular system 7—10197

table-top computers *see microcomputers*

tables (data) *see collections of physical data*

tachometers
- *see also angular velocity measurement*
- No entries

tachyons
- *see also special relativity*
- causal violations and tachyons *(French)* 7—9664
- causality, superluminal frames and transformations 7—9665
- classical tachyons and possible applications, review 7—4679
- detection through cosmic ray muon energy spectra anal. 7—14442
- heterotic string models, removing tachyons by compactification 7—61192
- heterotic string models in 10D, removal by compactifications 7—171
- magnetic flux linking and enclosure 7—35844
- production, in extended manifolds of general relativity 7—35348
- relativistic objects, event horizons and intertransitions, systematics *(Russian)* 7—159
- search in EAS data 7—66414
- tachyonic muon neutrinos, consequences for neutrino oscillations 7—24827

tackiness *see adhesion*

tactile sense *see mechanoception*

TADMR *see microwave-optical double resonance*

tandem accelerators *see electrostatic accelerators*

tantalum
- *see also nuclei with ......*
- annealing behaviour of H traps in Ne implanted Ta 7—46506
- atom, Z 7—51879
- BCC, H-dislocation interaction mechanism, embrittlement and dislocation motion 7—44600
- BCC crystal structure, secondary ion emission, current density effects 7—59318
- Compton profiles, APW calcs. 7—27809
- corrosion behaviour in HBr solns. 7—39725
- DC transport 7—17010
- deposited on Mo surface, short range bonding interaction, RBS meas. 7—3142
- diffusion of H, internal friction 100-400K *(Chinese)* 7—6872
- disordered systems, impurity diffusion *(Russian)* 7—52145
- dynamic elongation determ. expanding ring test, 2D hydro-plasto-dynamic code anal. 7—33755
- electron irrad., transverse muon-spin relax. functions 7—53197
- etching by photochem. machining 7—22909
- film, $(H_2O)_nH^+$ energetic cluster impact, transmission electron microscopy 7—13304
- films, maskless ion beam assisted deposition 7—46342
- grain boundaries in very clean tips, SEM, FEM obs. 7—52148
- grain boundary studies, field ion microscopy, optimal conditions 7—32461
- high-temp. sp. ht. meas. and eqn. 7—6821
- high-temperature corrosion film characterization using Raman microscopy 7—46772
- muon arrhenius jump rates, neutrino emission 7—27643
- overlayer, on SiC, Si_3N_4, Al_2O_3, SiO_2, mixing phenomena 7—58330
- oxidised, sputtered atoms and monoxide mols., energy distribs. 7—59335
- pion-decay channelling, high and low temps. 7—45866
- radioactivation monitoring based on local activation by p,d,α 7—49726
- resistivity and superconducting transition temp. 7—17013
- solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
- surface, (100), unoccupied states, inverse photoemission spectra 7—64302
- surface, (110), Pd monolayers, morphology and struct. phase transitions 7—38374
- surface, (211), stability of adsorbed 5d dimers 7—52285
- surface (001), struct., instability, and reconstruction model energetics, general-pot. LAPW calcs. 7—44969
- surface (110), Pt and Pd monolayers, heat of adsorpt. estimates from core-level shifts 7—52258
- surface morphological changes induced by narrow beam bombardment 7—51868
- Triotron sputtering equipment for the production of mixed Ta/Si layers *(German)* 7—33564
- valve metal, corrosion under influence of Pu, oxide layer formation 7—17699
- wire, cold worked, internal friction, hydride precip. *(Chinese)* 7—8034
- X-ray photoabsorption cross sections 7—46240
- Nb-Ta superlattice single crystals, MBE growth 7—39385
- Ta I, absolute transition probabilities 7—57031
- Ta:H(D)(T), heat of transport, isotope and temp. depend. 7—27024
- Ta/W diffusion couples, analytical electron microscopy 7—39946
- Ta-AlSi 7—21762
- Ta-H system, T migration in Hall field, effect of temp. 7—6890
- Ta-Mo superlattices, sputtering prep., struct. charact. 7—3172
- Ta-Nb bimetal, accelerated mutual diffusion during thermal cycling *(Russian)* 7—44926
- Ta-Nb multilayered films, critical field studies 7—64416
- Ta-Si interface, depth profile, Ar^+ ion bombard., Auger electron spectra anal. 7—46261
- Ta-Ta_2O_5-electrolyte system, conduction processes 7—38725
- $Ta+SiO_2 \rightarrow Ta_2O_5+Si$, redox reaction induced by shock loading 7—59763

tantalum alloys
- *see also tantalum compounds*
- V-Hf-Zr-Ta C-15 phase superconducting alloys, phonon props., inelastic neutron scatt. spectra 7—51969
- AuTa, heat of form. and cryst. struct., linear augmented STO calcs. 7—51705
- Co-Ta, 1D disordered structural states, form., quenching, X-ray diffr. study 7—44784
- Co-Ta, cryst. struct. of α-martensite, effect of Ta conc. *(Russian)* 7—44452
- Co-Ta alloy, 1D disordered α-martensite states *(Russian)* 7—51703
- Co-Ta amorphous magnetic thin films, sputter deposition methods 7—22483
- Co-TaC, rapid quenching, microstruct. 7—65023
- CoCrTa corrosion-resistant alloy films, mag. props. and longitudinal recording performance 7—33226

tantalum alloys continued
  CoCrTa sputtered films, microstruct. and mag. props. studies 7—12575
  CoTa sputtered magnetic thin film, ion beam irrad., struct. studies 7—22588
  Cr-Os-Ta-La system, anomalous elastic and thermal props. in region of phase transform. *(Russian)* 7—53783
  Cr-Ta-C, ageing, hardening processes, carbide separation and dissolving *(Russian)* 7—59541
  Cu-Ta, castings, strength and elec. props. 7—27971
  Nb-Hf-Ta-O dilute alloy system, O-induced nonaxially symmetric elec. field gradient, TDPAC meas. 7—12686
  Ni-Al-Co-Cr-Ta, polycrystalline superalloys, microstruct. rel. to Ta content 7—46446
  Ni-base superalloys, γ' strengthened, creep and microstruct. rel. to refractory elements 7—3364
  Ni-Ta, reaction with Si studied by RBS and TEM 7—21704
  Ni-Ta amorphous alloy, struct. changes and crystallization during heating *(Russian)* 7—16419
  Ni-Ta-(P), amorphous, corrosion behaviour in boiling conc. HNO_3 and HCl 7—3511
  Ni_3FeTa, atomic short range order, pseudopot. calcs. *(Russian)* 7—44448
  NiTa, quenched amorphous alloy, thermal stability and crystn. *(Russian)* 7—11911
  $Ni_{77}Ta_3B_{20}$, amorphous, mag. scatt. influence on transport props. 7—33001
  No-Fe-Cu-Ta, mag. props., hardness, elec. resist. *(Japanese)* 7—12998
  Pu-Ta alloys, formation amorphous or metastable structures 7—16421
  Si-$Co_{50}Ta_{50}$-Al, amorphous $Co_{50}Ta_{50}$ alloys as diffusion barriers 7—44923
  Ta-Cf dilute alloy, Cf diffusion meas. 7—12353
  Ta-Cu, ion irradiated, Cu_3 cluster formation, atomic mixing and demixing *(Chinese)* 7—53468
  Ta-Cu, multilayer systems, temp. depend. of ion beam mixing, 77-book *(Chinese)* 7—51884
  Ta-Es dilute alloy, Es diffusion meas. 7—12353
  Ta-Fm dilute alloy, Fm diffusion meas. 7—12353
  Ta-H system, diffusion, coherent quasielastic neutron scatt. 7—51581
  Ta-H system, elec. resist., phase transition *(Russian)* 7—46458
  Ta-H system, electron irrad., vacancy recovery, positron lifetime studies 7—37972
  Ta-H system, thermal wave propag. props. meas. 7—2572
  Ta-Ir alloy, amorphous, rapidly solidified, high temp. oxidation 7—33841
  Ta-Ir amorphous thin film thermal stability, crystallisation behaviour studies 7—63464
  Ta-T system, distortion by He form. 7—51717
  Ta_{55}-It_{45} amorphous alloy, crystallisation study 7—58145
  Ta_xCu_{1-x} amorphous thin-film diffusion barriers on GaAs, thermal and structural stabilities 7—52321
  TaD_x, nonstoichiometric, D atom disorder and diffusion 7—58532
  $TaH_{0.015}$, ^3H migration in Hall field, temp. effect 7—32729
  $TaH_{0.19}$, degenerate excited H states, Jahn-Teller effects calcs. 7—52535
  TaH_x, H transfer integral renormalisation 7—12085
  $TaH_{0.5}(D_{0.5})$, localised H vibrs., inelastic neutron scatt. studies 7—58426
  TaIr, electronic struct. calcs. 7—45200
  TaIr-GaAs Schottky barrier contacts 7—17102
  $TaSi_2$ films, electrical transport props. 7—58908
  TaT_x ($x = 0.12, 0.103, 0.42$), acoustic emission and swelling, ageing effects 7—33708
  TaT_x, lattice deformation due to ^3He production 7—21237
  Ti-Ta metastable alloys, phase transforms. during heating *(Russian)* 7—13449
  Ti-Ta sublimation getter pumping system and performance, computer control at TMX-U 7—25184
  TiC-WC-TaC-Co hard metals, Ta conc. effect on comp. and physicomech. of carbide and Co phases 7—53708
  TiC-WC-TaC-Co three-phase sintered carbides, Ta content influence on struct. and props. 7—65097
  WC-TaC-Co, N contained cemented carbides, sinterability, mech. props. rel. to prep. 7—17507

tantalum compounds
  see also tantalum alloys
  hydride, electronic density of states from press.-composition isotherm 7—7088
  oxide film thin overlayers, quantitative AES depth profiling studies 7—7796
  Al_2O_3-Ta_2O_5 thin films, dielec. props. rel. to electrolum. display appls. 7—2975
  $Co_2Ta_9S_6$, channel structs., 3d metal pairing 7—26719
  $CuTaS_3$, isomer shift of elec. split 6.2 keV nucl. transition of ^{181}Ta 7—7624
  $Fe_2Ta_9S_6$, channel structs., 3d metal pairing 7—26719
  $H_{0.33}TaS_2$, host lattice-intercalant strong interaction, proton mobility hysteresis, PMR study 7—53159
  $KTaO_3$ UHF dielectric resonators, mechanical pressure effects on permittivity and dielectric loss 7—7642
  $KTaWO_6.H_2O$, pyrochlore-type cpd., characterisation 7—1989
  Li_2O-Ta_2O_5-$(SnO_2)_2$ system, vicinity of $LiTaO_3$, solid solns., crystal chemical and ferroelectric props. 7—6805
  $Ni_2Ta_9S_6$, channel structs., 3d metal pairing 7—26719
  Ta complex, $(BEDT\text{-}TTF)_3Ta_2F_{11}$, optically enhanced phase transition, EPR investig. 7—64454
  Ta-T system, distortion by He form. 7—51717
  Ta-Ta_2O_5-electrolyte system, conduction processes 7—38725
  Ta_{16}-$W_{18}O_{94}$-Super Invar composite, thermal expansion coeff. 7—12331
  TaC (001), multiple scatt. of low energy He^+, Ne^+, Ar^+ ions 7—22426
  TaC (001), surface phonon dispersion, double shell-model anal. 7—21608
  TaC, high temp. hardness, stacking faults, hardening rel. to C diffusion 7—3369
  TaC_{1-x}, thermodynamic props., 1200-2500 K 7—44849
  TaC_x, defect states, core level binding energy and valence band struct., XPS meas. 7—27291
  TaC_x, ordering processes, slip transition 7—7990
  TaC_x, substoichiometric, core-level binding energies and valence-band struct., XPS 7—22450
  TaD_x foils, D desorpt., Auger electron and thermal desorpt. spectra studies 7—32800
  $TaH_{0.07}$, lattice location of H by channeling method 7—1975
  TaH_x foils, H desorpt., Auger electron and thermal desorpt. spectra studies 7—32800
  TaO_5 layer on Ta, SIMS depth profiling 7—13314
  Ta_2O_4:H films, NPL standard, distrib. of H, AES and SIMS 7—26789

tantalum compounds continued
  Ta_2O_5, amorphous layers, H content determ. by nucl. reactions 7—23097
  Ta_2O_5, anodic amorphous oxide films, short-range order 7—28200
  Ta_2O_5 coated Si substrates for GaAs/Ge cryst. growth 7—53579
  Ta_2O_5 crystalline films, sputter deposited, phys. and elec. props. 7—2412
  Ta_2O_5 evaporated and ion assisted deposited coatings, microstruct., electron microscope obs. 7—52335
  Ta_2O_5 film, photocurrent and elec. cond. mechanism, electrode interface effects studies 7—27366
  Ta_2O_5 films for MOS DRAMs using ultra-high purity Ta sputtering target 7—59423
  Ta_2O_5, preferential sputtering, collisional processes 7—59338
  Ta_2O_5, redox reaction product of $Ta+SiO_2$ under shock loading 7—59763
  Ta_2O_5 strip waveguides, SAW propag. and acousto-optic interaction efficiency 7—20583
  Ta_2O_5-Fe-Fe_2O_3 system, equilibria at 1200°C 7—12301
  $Ta_2O_5nH_2O$, prep. of monodispersed particles with controlled size 7—64979
  $TaPO_5$, β-form, bronzoid, struct. and stability 7—44478
  TaS_2, 1T polytype, CDW transition obs. by positron annihilation 7—39267
  TaS_2, electrochem. intercalation reactions with Li, K, H, In, Ga, $In_{0.17}Ga_{0.83}$, nucl. quadrupole interactions, TDPAC meas. 7—17245
  TaS_2, IT and 2H polymorphs, charge density waves, formation and characts. 7—2515
  TaS_2:H polytype form. and stability, impurity effects 7—44440
  TaS_2-Li intercalation cpds., room temp. optical transmission spectra, charge transfer and band struct. modification 7—45962
  TaS_3, CDW conduction and periodic current noise 7—21896
  TaS_3, CDW conductors, mode locking phenomena and routes to chaos 7—52474
  TaS_3, current oscillations in CDW transport 7—32999
  TaS_3, disequilibration of pinned CDW state 7—32927
  TaS_3, monoclinic, CDW conduction under RF field 7—52590
  TaS_3, nonlinear effects and inductive response of dissipative incommensurate chain 7—52471
  TaS_3, orthorhombic, CDW state, point contact study 7—52468
  TaS_3, orthorhombic, DC resist. along a-axis 7—64225
  TaS_3, orthorhombic, inertial dynamics of pinned CDW condensates 7—7218
  TaS_3, orthorhombic, press. and field depend. of DC resistance 7—52592
  TaS_3 quasi-1-D conductor, nonlinear effects in small samples 7—17020
  TaS_3 quasi-1-D conductor, laser-induced EMF and CDW effects 7—17053
  TaS_3, quasi-1-dimens. conductor, dynamic behaviour, possible electronic appls. 7—38548
  TaS_3, quasi-1D conductor, submicron transverse dimensions, jumps between metastable resistance states 7—38547
  TaS_3, quasi-1D conductor, solitons 7—45179
  TaS_3, scaling behaviour, high field CDW transport, role of free carrier damping 7—64224
  TaS_3 sliding CDW conductor, narrow-band noise freq. modulation and AC-DC mixing 7—52711
  TaS_3, sliding CDW systems, dielectric relax. freq. 7—45293
  TaS_3, small orthorhombic samples, nonlinear effects 7—64220
  TaS_3, uniaxially deformed, DC induced voltage oscillations 7—52589
  TaS_2; 1T, submillimetre conductivity, dielectric function 7—12749
  $TaSe_2$, 2H polytype, CDW transition obs. by positron annihilation 7—39267
  $TaSe_2$, 2H polytype, high resolution TEM study of triply incommensurate phase 7—6813
  $TaSe_2$, charge density waves, formation and characts. 7—2515
  $TaSe_2$ crystals, ZH polytype, positron meas. 7—46202
  2H-$TaSe_2$, triply incommensurate phase, phase slip region 7—44811
  $TaSe_2$:H, polytype formation, impurity conc. depend. 7—63801
  $TaSe_3$, chain-like conductors, electrical anisotropy 7—52593
  $TaSe_3$, transport props., uniaxial stress effect 7—38801
  $TaSe_3$, V-I characteristic anomalies in the superconducting transition region 7—45564
  $(TaSe_4)_2I$, AC conductivity, dielectric constant 7—52591
  $(TaSe_4)_2I$, chain-like conductor, Peierls gap, optical study 7—52469
  $(TaSe_4)_2I$, electronic struct., positron annihilation and UPS study 7—53500
  $(TaSe_4)_2I$, ID CDW system, positron annihilation 7—39272
  $(TaSe_4)_2I$, lattice vibrs. at CDW transitions 7—51973
  $(TaSe_4)_2I$, linear chain conductor, elastic behaviour 7—52466
  $(TaSe_4)_2I$, low-dimensional conductors, inelastic neutron scatt. study 7—52701
  $(TaSe_4)_2I$, quasi-1D, sp. ht., phason and low-energy excitation contribs. 7—21479
  $(TaSe_4)_2I$ quasi-1D chain cpd., thermoelec. power temp. depend. meas. 7—17045
  $(TaSe_4)_2I$, sliding CDW systems, dielectric relax. freq. 7—45293
  $TaSi_2$ and Ta_2Si surfaces, oxidation oxide stability 7—39685
  $TaSi_2$ film form. by scanning electron beam annealing 7—21285
  $TaSi_2$, LPCVD process 7—59449
  $TaSi_2$, thin film, electrical transport props. 7—27442
  $TaSi_2$/polycrystalline Si structures, oxidation, dopant effects 7—39686
  $TaSi_2$/Si films, oxidation characts. in steam 7—54031
  $TaSi_2$-Si interface, ion implanted, dopant diffusion, SIMS anal. 7—38271
  Ta_xSi electrodeposited coatings, composition, morphology and hardness meas. 7—27191
  TaT, disorder induced by aging 7—21199
  TaT_x, evolution of lattice spacing and damage 7—16582
  $TaTe_4$, quasi-1D conductivity, CDW state effects 7—64213
  $TaVO_5$, thermal expansion coeff. below room temp. 7—12332
  $Ta_{16}W_{18}O_{94}$, thermal expansion coeff. below room temp. 7—12332
  $(Ti,Ta)O_2$ rutile solid solns., charge transfer and ligand fields, XANES studies 7—64782
  $(Ti,Ta)O_2$ solid solns., chem. shift and cryst. field splitting rel. to valence charge, EXAFS 7—27818
  TiC-TaC-WC system, γ-α-solubility line, 1723K, thermochemical estimation 7—39526
  To_2NiSe_5, reactivity, intercalation structural changes, X-ray diffr. exam. 7—46839
  To_2PdSe_6, reactivity, intercalation structural changes, X-ray diffr. exam. 7—46839
  ZnS-Ta_2O_5-Nb_2O_5 multilayered films, waveguide-type acousto-optic separators 7—62825

tantalum electrolytic capacitors *see electrolytic capacitors*
taste *see chemioception*
taxation *see government data processing*
Taylor instability *see flow instability*
TDM *see time division multiplexing*
teaching
see also demonstrations; education; student laboratory apparatus; training
acoustics, signal processing, digital methods 7—14743
angular displacement vector, ang. vel. and time derivative 7—18533
angular momentum, zero turns, explanation 7—54
angular momentum operators, spherical coords. obs. 7—41041
angular velocity concept 7—29632
aufbau principle, chessboard model 7—14738
automobile deceleration force by the coast-down method 7—18541
ball rolling without slipping on horizontal table *(French)* 7—29626
balloons, pot. energy, elementary calculus appl. 7—29623
band structure of dimerised Kronig-Penney model 7—18530
biological education of university, integrative conceptual network 7—9611
bound states, one-dimensional weak attractive potential 7—48235
brachistochrone, unrestrained problem soln. 7—18523
Cahn-Ingold-Prelog assignment of R and S configs., hand method 7—14737
canonical density matrix, derived using principle of least information 7—55929
capillary, time-depend. rise, Newton's motion law for variable mass systems 7—48238
Carnot cycle, heat flows and work, diagram 7—56
casino physics approach to probability and random processes teaching 7—35169
charged particle moving parallel to current, stable oscillating orbits 7—35164
chemical potentials and activities, electrochem. introduction 7—9632
chemical synthesis, micro and semimicro methods, time efficiency study 7—9642
chemistry, objectives and innovative curricula in Italy 7—9619
classical mechanics problem solving by the numerical integration of Hamilton's equations 7—35173
classical quantal dualism 7—35157
Compton effect, Schrodinger's treatment 7—29620
conceptual change, explanation 7—9610
constituents of matter, acids and bases, first year university students conceptions 7—9616
constrained Hamiltonian dynamical system, path integral quantisation 7—18532
cosmogony and creation 7—60930
cosmological paradox resolution using concepts from general relativity 7—35172
cosmos, space education, conf., Copenhagen, Denmark (Aug. 1986) 7—48182
crystal phase transitions, appl. of group theory 7—55926
current transformers, appls. 7—35177
data use in opinion formation 7—9615
diatomic molecules, vibr.-rot. spectrum anal. 7—29635
digit distribution, probabilistic model 7—45
dilute gases, binary diffusion coeff., mean free path theory 7—9624
dissipative systems, Lagrangian and Hamiltonian formulation 7—18524
diverging beams, 3D bundle, generation using crossed diffraction gratings 7—35165
Einstein's inertia-energy relationship, deduction using isotropic light signal 7—55931
Einstein-Podolsky-Rosen problem, consistent history anal. 7—48227
electric shock effects on the human body 7—24337
electricity, theory 7—35151
electrodeposition, laboratory scale, practice and appls. 7—48252
electrodynamics, radiation from point charges 7—41033
ellipsoidal homogeneous dielectric, depolarisation field 7—48241
EM theory, teaching in one-course setting for undergraduates 7—55923
enantiomers, R, S labels assignment method 7—14736
energy propag. and mass-energy equivalence derivation from fundamental symmetries *(French)* 7—29622
enthalpy of mixing, derivation using Flory-Huggins lattice theory 7—14735
entropy of mixing and lost work 7—29628
equipotential surface around electrical dipole, field lines diagram 7—59
ethane, internal rot. barrier, Coulombic models calcs. 7—9630
expanding universe, redshift, ang. size 7—18527
falling body, sideways deflection 7—29630
Fermat's principle, nonminimum time paths 7—24340
Fermat's principle used to derive F=ma eqn. in medium of varying refractive index 7—35145
Fermilab Conference on the Teaching of Modern Physics, Batavia, IL, USA (April 1986) 7—48156
Feynman's disk paradox, field ang. momentum 7—35163
Feynman-Hellman theorem, central force problems, radial expectation values 7—35156
fluids, differential light scatt. expts. 7—29627
fly ball trajectory, analytical soln. 7—48230
flycasting mechanics, flyline investig. 7—50
Foucault pendulum, visualisation using geometric model. 7—48239
founding fathers of physics, Christian beliefs 7—60931
Fresnel approx., validity and physical explanation 7—55935
Fresnel diffr., circular aperture, method of Fresnel zone counting 7—55936
Fresnel diffraction computation, review 7—18521
gases, second virial coeff., kinetic theory derivation 7—29633
geometrical optics, image formation by plane mirror 7—48254
geometrical optics, rel. to wave optics 7—35176
ghosts's shadows and superluminal occultations 7—35154
gravitation theory, dimensionless const. 7—29624
gravitational field, Earth-Moon system, momentum current picture 7—55934
harmonic oscillator, damped, quantisation 7—41035
heat flux and temp. gradient relation 7—18540
Heisenberg ferromagnet, easy-axis, phase transitions, mech. model 7—41034
Helmholtz theorem, symbolic proof 7—48236
hot atoms produced by nucl. transformations 7—48250
improved learning through enhanced metacognition 7—9612
individual learning methods, achievements and attitudes 7—9613

teaching continued
induced electric field from a time-dependent current 7—41037
industry's perspective of critical issues in biomedical engineering education 7—65873
ionic crystals, radius ratios, general approach 7—9634
Ising model, kinetic, microscopic obs. 7—35178
isothermal mol. gas, Maxwellian versus Rayleigh distrib. 7—18535
jj coupling scheme, energy levels 7—9628
K_a values of H_3O^+ and H_2O 7—9626
Kolb learning-style inventory system 7—55922
laboratory chemistry, students' attitudes 7—9641
laboratory course construction 7—18519
lanthanide and scandinide contractions 7—9633
Laplacian, coordinate-free proof of Maxwell's interpretation 7—55928
latent heat, measurement and meaning, elementary formalism 7—29625
linear flywheel for energy storage 7—48
magnetic dipoles suspended above line charge, dynamic origin 7—18536
mass tensor, geometric interpretation in Minkowski space, noncovariant eqns. of motion. 7—48240
mathematics and operational research, modelling and creative thinking 7—55937
Maxwell-Dirac isomorphism 7—61
meteorology teaching with microcomputers, software packages review 7—60
metrology teaching techniques *(Polish)* 7—48680
minimum time problem 7—41042
modern physics, Fermilab conf., Batavia, IL, USA (April 1986), delegate's report 7—48261
molecular vibrational theory, comparison with Huckel MO theory 7—29636
momentum, relativistic, alternate derivation 7—42
natural sciences, integrated approach 7—14731
nearest-neighbor distribution, theory 7—41036
Newton third law, conceptual change, alternative frameworks 7—9614
nonlinear media, electrostatic problems 7—18529
nuclear track detector kit for use in teaching 7—18543
oligosaccharide structures, containing hexopyranose units, graphic representation 7—14734
orbiting object location, calcs. 7—52
oxidation number of atoms in cpds., determ. method 7—9627
particle ground state under influence of uniformly charged sphere 7—18539
particle moving in free space, eigenfunction normalisation 7—29638
pendulum damping, mathematical model 7—18522
periastron precession in general relativity 7—48244
perturbed elliptic motion 7—29631
photons and neutrinos, gauge transformations 7—46
physical constants, measurement uncertainty assessment 7—39
physical Universe, reality? 7—60921
physics and spirituality, unification 7—60929
physics education, computer use 7—38
physics in Denmark upper secondary school 7—9617
physics taught as service subject 7—29642
plasma, in Tokamak, temp. meas. 7—60922
point groups, rel. to mol. symm. 7—29634
polyatomic molecules, Franck-Condon factors, calc. for undergraduate quantum chem. 7—60919
polysaccharide structures, containing hexopyranose units, graphic representation 7—14734
potential energy and the field concept in A-level physics 7—14744
potential energy for inverse square force, derivation without calculus 7—35161
power transfer rel. to efficiency 7—48259
problem solving, using technology assessment, structured teaching approach 7—9639
proportionality and quantitative relationships in physics 7—24338
quantum meas. probabilities, ensemble interpretations 7—35147
quantum mechanics, constraints 7—29629
quantum mechanics, multiple scatt., ID 7—35152
quantum mechanics, probability theory and its interpretation 7—35146
quantum mechanics, supersymmetry 7—35158
quantum mechanics in curved space, wave eqn. derivation 7—49
quantum theory 7—29639
quark harmonic oscillator, charmonium and bottomonium spectra 7—18534
quasilinear diffusion coeff. of particle moving in field of many waves 7—29621
raindrop falling in stationary mist, undergraduate mechanics problem 7—58
random variable transformation theorem, proof 7—41043
real gases, P-V-T isotherms 7—9623
reality, science and faith 7—60928
reciprocal lattice concept and props. 7—18525
relativistic acoustic Doppler effect in the opticallimit 7—55
remote sensing digital imaging processing theory, microcomputer training system 7—18542
SATIS project 7—14729
Schrodinger's cat paradox 7—35298
Schrodinger equation, classical physics teaching approach 7—35171
science practicals, pupil views 7—9618
seismic exploration, teaching approach 7—48253
semiconductor crystals, chem. and electronic considerations 7—60920
semiconductor diode equation $I = I_0 [\exp(qV/kT)-1]$, validity 7—35153
series circuits, students' approaches 7—24339
solar cell, EMF-internal resistance model 7—48258
spinning baseball, lateral force study 7—48231
SPISE, Select Programme In Science and Engineering 7—14728
Superconducting Supercollider, elementary particles and cosmology 7—48260
supercritical fluid, nature 7—9622
thermal hydraulics in nuclear engineering courses at the Univ. of Illinois 7—29617
thermal hydraulics in undergraduate nuclear engineering education 7—29616
threo isomers, definition, twofold rot. axis 7—9636
traveling round without feeling it and uncurving curves 7—35159
uncertainty principle, introduction 7—9640
undergraduates, teaching students to continue their education 7—55924
variation principle, approx. wave functions calcs., quality investig. 7—29637

teaching continued
- variational principle, classical thermodynamics, second law formulation 7—48242
- visual theorem, applications 7—35174
- wire, long, back electric field 7—35162
- $CaSO_4$, solubilities calcs. 7—9625
- H atom, compressed, energy shift calcs. 7—35175
- H-like atoms, stability, particle in a spherical box theory 7—9629
- HCl, gas, vibr.-rot. spectrum anal. 7—29635
- H_2O, K_a values 7—9626
- H_3O^+, K_a values 7—9626
- H_2SO_4, 1-1 electrolyte theory 7—9631
- Li bonds, existence and nature 7—48249

teaching approaches to particular topics *see teaching*

teaching demonstrations *see demonstrations*

teaching machines *see computer-aided instruction*

technetium
- *see also nuclei with ......*
- aqueous soln., reaction rate consts. of radiation-produced transients 7—60903
- Tc-Ag point contacts, current-voltage characts., temp. depend. studies *(Russian)* 7—7335
- Tc-C system, phase diagram and components activity 7—7962
- Tc(IV) and Tc(VII) interactions with iron oxyhydroxides 7—19533
- ^{99}Tc, nuclear fuel cycle chemistry 7—19384
- ^{99}Tc, plant uptake under field conditions 7—28729
- ^{99}Tc radiopharmaceuticals, in-house production and control 7—60088
- $^{99}Tc^m$ generators, radiation-hygienic eval. 7—28719
- ^{99m}Tc-pyrphotech use, patient irrad. doses *(Russian)* 7—3881

technetium alloys
- *see also technetium compounds*
- Tc-C system, phase diagram and components activity 7—7962

technetium compounds
- *see also technetium alloys*
- Tc pyrophosphate, adsorpt. on hydroxyl apatite, study by back scatt. of 2 MeV α-particles, pH effects *(French)* 7—3877
- Tc_8Br_{12}, metal-metal multiple bonding, cluster electron count and geometries, HMO calcs. 7—25410
- $Tc_6Cl_{12}{}^{2-}$, metal-metal multiple bonding, cluster electron count and geometries, HMO calcs. 7—25410
- Tc_2P_3 twinned cryst., space group and lattice constant, X-ray diffr. determ. 7—1979
- ^{99}Tc, organ imaging agents, X-ray photoelectron spectrosc. 7—54715

technical information centres *see information services*

technical presentation
- No entries

technicians *see personnel*

technicolour model *see colour model*

technological forecasting
- *see also research and development management*
- Appalachian low-S coal reserves and supply prospects 7—39951
- automotive long range highway vehicle propulsion system using fuel cells, R&D needs 7—65456
- battery technology trends (1981-6) and prospects *(Japanese)* 7—65429
- chemical sensors, research and development trends *(German)* 7—24645
- Chinese energy consumption growth forecast and implications for atmospheric CO_2 increase 7—28418
- fibre-optic technology and applications in power industry *(French, English)* 7—15972
- mild coal gasification yielding gaseous, liquid and solid products 7—28408
- ocean energy extraction technology status and economic prospects 7—65403
- OTEC power generation *(Japanese)* 7—34053
- solar cell appl. of future *(German)* 7—65462
- vacuum technology survey, applications and prospects *(French)* 7—322

tectonics
- 7—34495
- Acadia position relative to N America, palaeomagnetic study 7—40415
- Adriatic promontory, palaeomagnetism and geodynamic evolution 7—23543
- N Aegea, Greece, Oligocene formations palaeomag. data, tectonic implications 7—47417
- central Aegea deformation from Neogene palaeomagnetism 7—60163
- Aegean arc, recent magmatism, geodynamics and isotope geochemistry 7—23589
- Aegean area, Neogene palaeomagnetism and tectonic rotational deformation 7—23542
- S Africa, Permian and Triassic palaeomagnetism and plate tectonic reconstructions 7—8797
- Pan-African tectonics and geology of Trans-Saharan belt in Mali 7—34453
- Afro-Arabian dome, structural and igneous evolution 7—29027
- W Alaska, earthquakes focal mechanisms and stress orientations from seismicity studies 7—28907
- Aleutian subduction zone, focal mechanisms of Shumagin Islands earthquake sequence (1983 February 14) 7—54886
- Alpine Foreland, Cainozoic palaeo-stress pattern 7—34452
- Alpine-Himalayan belt, tectonic implications of nonshear-type earthquakes 7—8854
- Western Alps, lithospheric sections assuming that the Sezia zone is not of South Alpine origin *(French)* 7—66004
- Amazonian foothills of Peruvian Andes, seismicity and tectonic activity 7—47373
- N America, deglaciation-induced vertical motion and transient lower mantle rheology 7—8912
- America-Eurasia plate boundary in eastern Asia and the opening of marginal basins 7—60236
- N American Cordillera, USA, deep seismic traverse and orogenic evolution 7—55000
- Andaman-Nicobar island arc and Andaman Sea, stress distrib. 7—60244
- Andaman-Nicobar Islands, seismo-tectonics anal. 7—65962
- Andean Convergent Margin off Peru, tectonic regime *(French)* 7—66056
- Anza, California, USA, seismicity and source parameters rel. to crustal stress 7—65951
- N Apennines, deformation phases dating using K-Ar and $^{40}Ar/^{39}Ar$ techniques 7—40459
- Appalachians Piedmont (USA), southwestward shifting *(French)* 7—66062
- W Arabian continental margin, S Red Sea, tectonic configuration 7—14276

tectonics continued
- Arabian Sea rifting, relation to Deccan flood basalts and Cretaceous-Tertiary boundary 7—34417
- Archaean high-grade terrains, tectonic significance of REE patterns in metasediments 7—34486
- Archaean tectonics, contrib. of mantle melting to lithosphere stabilisation and heat loss 7—34398
- aseismic crustal deformation at Hollister, California, dislocation model 7—40445
- SE Asia, earthquake focal mechanisms and crustal stress 7—14197
- Asia, Mesozoic accretion by microblock collisions, wrench movement *(French)* 7—66061
- Asia (south-central region), tectonics, book 7—48212
- Asia (West-Central region), Kimmerian movements and structural development 7—60242
- Astrid Ridge off Queen Maud Land, Antarctica, fracture zone nature 7—66035
- Atalandi fault-zone, Greece, recent vertical movements 7—28977
- NE Atlantic continental margin, seafloor canyon directions and tectonic implications 7—55005
- Atlantic equatorial fracture zones with large-offset, isostatic response 7—23628
- N Atlantic Ocean, residual geoid anomalies and tectonic implications 7—28814
- Atlantic-type continental margins, thermo-mech. evolution, numerical models 7—54950
- S Australia, Precambrian periglacial varvites, palaeomagnetism, palaeolatitude and palaeoclimate 7—8798
- Australia, underplated crustal material indicated by seismological evidence 7—8900
- Australia, unstable platform for tide-gauge meas. of changing sea levels 7—29049
- E Australia metallogeny and tectonics, conf., Sydney, Australia (August 1984) 7—55882
- Australia-Antarctica, reconstruction of tectonic break-up process 7—8899
- Baja California northward motion, from palaeomagnetic study 7—28836
- Bali Basin, tectonic origin, anal. of gravity, bathymetry and earthquake data 7—66073
- Baltic Shield, 1.9-1.8 Gyr strike-slip megashears and plate tectonic implications 7—14284
- E Baltic Shield, polar wander path from palaeomagnetism of Archaean and Proterozoic basic intrusives 7—28828
- Banda Arc subduction zone structure from earthquake depths 7—54981
- Barbados, palaeogeography and tectonics of quartzose sandstones 7—28981
- basalt formation, peridotite root zone beneath Grand Lagon Nord, New Caledonia *(French)* 7—66087
- basaltic volcanism, tectonic settings discrimination using trace element abundances 7—28957
- basins tectonic maps, principles of tectonic classification and structural units description 7—34435
- Bassaride Belt, Guinea-Senegal, evidence for Panafrican tectonics events *(French)* 7—66060
- N Bay of Biscay continental margin, isostasy gravity and tectonic model 7—8902
- Bering Sea region, deformation and motion between Eurasia and N America 7—66078
- Bhatsa area, Maharashtra, India, tectonic struct. rel. to reservoir-induced seismicity 7—23567
- biaxial extension of Earth crust, appl. of two-layer crustal model 7—8886
- Bir Safsaf-Aswan uplift, SW Egypt, petrology, geochemistry, and structural development 7—66118
- Bissau-Kidira-Kayes fault zone, extension in W Africa *(French)* 7—34434
- W Black Sea, electrical anomaly over continental slope fracture 7—54856
- Black Sea trough, crust struct., geology and tectonics 7—60214
- Boso and Miura peninsulas, Japan, collision area, convergence changes tectonic record 7—66066
- Bridge River terrane, British Columbia, Canada, geology and tectonics 7—55001
- SW British Columbia, Canada, Hozameen fault system and Coquihalla serpentine belt 7—4009
- Caledonian orogen collapse and 'Old Red Sandstone' characts. 7—4013
- S California, fault systems rel. to 1930 Santa Monica and 1979 Malibu earthquakes 7—54883
- N California, plate-tectonic model 7—28984
- California, Quarternary faults props. rel. to seismic hazard 7—40430
- California, San Andreas and Calaveras faults, H_2 due to fault strips and earthquakes 7—40438
- N California, USA, mantle struct. and teleseismic P-wave residuals azimuthal var. 7—66031
- California, VLBI obs. and tectonic motions (1980-4) 7—14244
- Campi Flegrei, Italy, volcanic area ground deformation and seismicity 7—23642
- E Canada, continental rifting and diabase from Northumberland Strait 7—4018
- Canadian Cordillera, seismic refl. geometry of Columbia River fault zone and Shuswap metamorphic complex 7—14281
- cape Breton Is., Nova Scotia, Canada, paleomagnetism and tectonic history 7—65928
- Cape Verde Rise, in N Atlantic, heat flow anomaly and geoid indicating mantle plume support 7—47396
- Cariboo gold belt, BC, Canada, imbricated terrane geology and tectonics 7—23584
- E Carpathians Arc Bend, Romania, shallow vs. deep and old vs. recent tectonic movements 7—28987
- Castle Mountain (Alaska) fault system, Sutton earthquake rel. to activity on Talkeetna segment 7—3984
- East Caucasus, late Alpine tectonic development 7—60243
- Caucasus, USSR, isostasy including crust density variations 7—8909
- Cenozoic global plate motions, determ. relative to hot spot reference frame 7—40455
- Charleston region, South Carolina, vertical crust movements, levelling data anal. 7—8911
- Charvak reservoir, USSR, isostatic state of Earth's crust rel. to induced seismicity 7—23576
- Cheliff basin, Algeria, seismotectonics 7—28906
- Chile, interplate coupling rel. to temporal vars. of mechanisms of intermediate-depth earthquakes 7—54888
- Chile Ridge-Chile Trench interaction, mag., thermal and bathymetric characts. 7—66074

tectonics continued
China, crustal stress state rel. to faulting and earthquakes *(Chinese)* 7—34396
N China, NNW fracture belts 7—40460
China, tectonic activity anal., use of fluid-geochem. methods 7—40421
coal seams, tectonic disturbances and quality changes, geoelectric anal. method 7—34712
Col de la Cine faulting during Mesozoic *(French)* 7—18161
Colorado Plateau, palaeomag. data anal. rel. to tectonic rotation 7—14251
Colorado Plateau, palaeomag. evidence for tectonic rotation 7—14250
compressional tectonics, faulted tilting blocks *(French)* 7—23620
conference, Chengdu, China (Sept. 1985) 7—48165
continent development and geothermal field 7—28930
continental and oceanic volcanic assocs. in palaeogeodynamic reconstructions 7—34418
continental crust, comp. and evol. (book) 7—60913
continental crust, origin and early growth rate 7—14229
continental rifting, thermomechanical models of active rifting 7—14247
convection in mantle and terrestrial heat flow, Nusselt number calc. 7—47398
Cordilleran tectonics, N America, from palaeomagnetic evidence 7—28834
core westward drift and Earth rotation rel. to secular geomagnetic changes 7—23515
cratonization and mantle thermal evolution 7—23622
Crete, geological linear features seen by satellite 7—47402
Crozet Plateau in Indian Ocean, anomalous heat flow and mantle convection 7—8879
crustal deformation, appl. of stream function and Gauss's principle of least constraint in structural geology 7—29009
crustal features and geomag. obs. from balloons 7—47574
crustal movements in Central and South America, symposium, Maracaibo, Venezuela (February 1985) 7—24291
crustal tilt, strain and displacement meas., effects of surface topography 7—54851
crustal tilt anomaly patterns assoc. with earthquakes, features and classification *(Chinese)* 7—34388
crystal uplift, Gulf of Lions, South Provence *(French)* 7—60234
Cyprus, rot. and translation, palaeomagnetic timing 7—66067
deep seated anisotropic oblique zones assoc. multiple elec. discontinuities mapping, magnetotelluric freq. sounding use 7—47573
deep seated processes in collision zones, Hyderabad, India (Nov. 1984) 7—60873
deformation of Earth due to surface tractions Green's function theory 7—54850
diapiric structures, relation between initial conditions and late stage of Rayleigh-Taylor instabilities 7—66108
diatreme phenomena responsible for volcanoes, fountains continental motion, etc. 7—34420
Digne thrust, France, origin, motion, regional significance *(French)* 7—18169
dilatational model for elastic-plastic deformation of anisotropic media 7—55035
Dinaric fold belt, Yugoslavia, Cretaceous palaeomagnetism and tectonic rotation 7—65937
Dneiper-Donets trough and Donets folded struct. in USSR 7—60216
Donets Basin, USSR, Carboniferous deposits parting fractures 7—34403
Donets basin, USSR, principal faults and wrench faults 7—8908
ductile deformation, problems in extrapolation of laboratory rheological data to tectonic processes 7—66107
early Paleogene deformation in south-eastern slipped sedimentary cover of the Argentera Massif (French Maritime Alps) *(French)* 7—66057
Earth mantle convection, viscosity of partial melts in upper mantle 7—8934
earthquake focal regions, physics and geodynamics of deform. processes, conf., Potsdam, East Germany (November 1985) 7—48140
earthquake source mechanisms, behaviour of viscoelastic medium with microfractures under extension and shear 7—29003
earthquake source mechanisms, numerical modelling of nonplanar faults 7—28886
earthquakes hazard and prediction, conf., Tokyo, Japan (1985) 7—60859
East African rift and northeast lineaments, possible continental spreading-transform system 7—66071
East Germany, gravity var. and temporal heights, assoc. neotectonic characts. 7—14177
East Germany, tectonomagnetic field var. 7—14183
East Pacific Rise, dispersed minerals in sediments rel. to plates motion 7—14260
East Pacific Rise, overlapping spreading centres, deep-tow studies 7—28983
E Egypt, heat flow as signature of continental breakup 7—28935
Elat pull-apart basin (Aqaba), character of transverse faults 7—55006
Eromanga Basin, N Australia, seismic study of crust and Carboniferous orogeny 7—65960
Eurasia tectonic development and the Indosinides 7—60239
NW Europe, contemporary seismicity and tectonics 7—28848
central Europe, earthquake props. and fault characts. 7—54911
central Europe, stress patterns 7—54947
Faizabad earthquake prediction site, Tajikistan, USSR, tectonic lineaments seen from space 7—60245
fast tectonic wave theory, interaction at lithosphere-asthenosphere interface 7—4020
fault displacement due to incidence of seismic wave 7—54919
fault formation mechanism in viscoelastic medium 7—23545
fault geometries in basement-induced wrench faulting under different initial stress states 7—40458
fault lineament analysis, comparative study of remote sensing imagery in Nigeria 7—55292
fault planes depressuring in oil and gas fields of S Texas, evolution of seismic barriers and asperities 7—3982
fault rupture characts. for $ML \sim 3$ earthquakes near Anza, S California, tomographic source imaging results 7—40431
fault trace by α-particle track etch method, Pleistocene gravel bed surface *(Japanese)* 7—34688
fault zones, internal struct. 7—54995
faulting, stick-slip and stick-slip-creep regimes 7—8905
faulting associated with earthquakes *(Japanese)* 7—65980
faulting process, effect of gouge and surface roughness 7—65957
Fijian Fracture Zone, western end, geophysical and bathymetric survey *(French)* 7—66064
Finland, tectono-exogenic evolution of Precambrian supracrustal rocks 7—34490

tectonics continued
fractal model of crustal deformation 7—34455
fractal structure in architectural features of fracture fields in rocks *(French)* 7—66100
Friuli, Italy, focal parameter determ. from seismicity and geodetic data 7—8829
Friuli area, Italy, crustal deform. and 1976 earthquakes 7—54948
Galapagos spreading centre, 3D gravity study of 95·5°W propagating rift 7—60196
W Ganga Basin, India, evidence for oceanic crustal block from shear vel. struct. 7—54939
Garm region, Central Asia, seismicity rel. to deform. in zone of continental convergence 7—28847
geodynamics since Archaean, implications of previous higher mantle temp. 7—54994
The Geysers geothermal area, California, USA, induced seismicity and extensional tectonics 7—28972
Ghoubbet-Asal rift photography, median valley tectonics 7—14254
global satellite laser ranging use for tectonic deform. anal. 7—55287
Gobles oil field (SW Ontario) microearthquakes, first motions rel. to fault plane solns. 7—28856
Gorda deformation zone, kinematic model of diffuse southern boundary of Juan de Fuca plate 7—28968
GPS baseline determ., bias fixing and water vapour radiometer correction 7—9228
graben subsidence, influences of crustal stress and temp. regimes 7—66083
S Great Basin, Nevada, local stress field determ. from earthquakes focal mechanism 7—54884
Great Valley, California, tectonic setting from 2D seismic vel. struct. along synclinal axis 7—28861
greenstone belts tectonic evolution, conf., Houston, USA (January 1986) 7—41017
central Gulf of California, geodetic meas. of plate motions 7—66069
Gulf of Genoa, location methods for underwater seismic shots and structural implications 7—14217
Gulf of Suez, tectonic interpretation of joint systems in extensional environment *(French)* 7—34432
Hawaiian swell, compensation depth estimation using linear filters 7—54986
NW Himalaya, palaeomag. evidence for rot. overthrusting from Riasi thrust sheet, India 7—34379
W Himalaya, structural evolution and sequence of thrusting 7—54990
W Hoggar, Algeria, Pan-African crustal decoupling zone in Timgaouine area 7—34439
Central Hogger, Algeria, struct., geochronology and tectonic evolution 7—54997
Hungary, palaeomagnetism and tectonics of Valence Hills and Mecsek Mts. 7—14182
Iberian margin, continental tholeiitic magmatism *(French)* 7—66065
Iceland, accretionary volcanic processes rel. to crustal struct. 7—66081
Ile-Ife, Nigeria, possible fault zone, elec.-geomag. surveys and minerals existence 7—47330
Illinois Basin, tectonic subsidence anal. 7—54984
Illinois borehole UPH 3, USA, crust stress from stress relief microcracking 7—18150
Imperial fault, California, surface displacement triggered by Westmorland earthquake (1981 April 26) 7—3983
Imperial Valley (California) earthquake, 1979, assoc. vertical crustal deform. and implications for fault behaviour 7—54929
India, super-mobility of hot lithosphere 7—14255
Indian Ocean, intraplate deformation by plate tectonic models 7—34443
SW Indian Ocean Ridge, seismic activity and faulting 7—47370
Indian Shield and Tibetan Plateau, mantle seismic velocities and tectonics 7—8838
Indo-Australian plate, model of tectonic stress field 7—34444
initial continental rifting, controlled by existing tectonic pattern 7—34447
intraplate deformation due to continental collision, numerical model involving rigid punch 7—34454
intraplate stresses and seismicity, role of topography and density heterogeneities 7—34449
Inuyama area, central Japan, Triassic paleolatit. from paleomagn. study of red cherts 7—54872
W Ireland, Caledonides Palaeozoic terrane accretion 7—55004
island arc magmagenesis, implications of geochemistry of lavas from Okmok volcano, central Aleutians 7—28949
N Italy, geophysical exploration of upper crust from Ligurian coast to N Po Valley 7—14240
Ivory coast-Ghana continental margin, evidence for transform margin evol. 7—66075
Jabal Tirf layered gabbro, SW Saudi Arabia, continental extension model for magma origin 7—29015
NE Japan, active tectonic line across N Honshu *(Japanese)* 7—8831
SW Japan, Cretaceous Izumi group, paleomagnetic directions and tectonics 7—3975
SW Japan, Jurassic oblique collisional orogen 7—55003
NE Japan arc, 3D seismic velocity struct. of subduction zone 7—18128
NE Japan Arc, horizontal crustal strain and tectonics 7—18175
NE Japan arc, oceanic plate bending rel. to normal faulting events in deep seismic zone 7—14211
Japan Sea, U and Th contents of basalts as indicators of continental-type volcanism 7—14274
Japan Sea earthquake (1983 May 26), rupture process determ. via waveform inversion method 7—54889
Japan Sea opening 7—18172
Japan-Arc area, upper mantle seismic velocity structure 7—8840
Josephine ophiolite of Klamath Mountains, N California, timing and kinematics of emplacement 7—14282
Juan de Fuca plate, kinematic history from diffuse boundary model for Gorda deformation zone 7—28968
Juan de Fuca ridge, NE Pacific, asymmetric distrib. of seamounts 7—8901
Jurassic apparent polar wander for N America, and tectonic plate movements 7—28834
Kaiko, Franco-Japanese exploration of Japan Trench *(French)* 7—34680
E Kamchatka, Quaternary tectonics 7—8907
Kamchatka, USSR, tectonics and volcanism 7—28963
Kenya, failed Jurassic rift and triple junction, geomag. and gravity evidence 7—60197
Kenya rift, crustal struct. from seismic refr. study 7—54957

tectonics continued

- Kermadec-New Zealand region, plate reconstruction using Wadati-Benioff zone unfolding 7—23629
- Kidal gneissic assemblage (Adrar des Iforas, Mali), tectonometamorphic evolution rel. to Pan-African thrust tectonics 7—66117
- Kinki district, SW Japan, crustal stress and lineaments 7—66086
- E Klamath Mountain, California, island arc sedimentation in Middle Devonian Kennett Formation 7—29017
- Klamath Mts., California, USA, native terrane geology and evolution 7—54968
- Kodiak convergent margin, episodic growth of accretionary prism 7—54992
- Konda fault, Osaka Plain, Japan, displacement caused by 1510 earthquake 7—8863
- Korea-Japan region, Triassic palaeotectonics and palaeogeography 7—60241
- S Kuril Islands, space-time distrib. and focal mechanisms of lithospheric earthquakes 7—28885
- Kvamshesten, W Norway, tectonic implications of Solundian (Upper Devonian) magnetisation of Devonian rocks 7—34376
- Kyoto, Japan, earthquake occurrence possibility, from geodetic observations 7—65954
- lacustrine levels and neotectonic around Lake Faguibine (Mali) *(French)* 7—18164
- W Leone-Liberian shield area, tectonic development and metallogeny 7—60240
- Ligurian Tethys, ultramafic and gabbroic sea-floor *(French)* 7—18160
- lineament imaging and identification using remotely sensed data 7—66333
- lithosphere flexure due to thermal loading, finite element model 7—60238
- lithosphere in-plane stress, effects on sedimentary basin stratigraphy 7—14278
- lithosphere mag. field, origin and dynamics of long wavelength anomalies, geodynamic effects 7—47338
- lithosphere movements, evidence from new geological developments *(Russian)* 7—60254
- lithosphere thinning under conditions of large heat flows, numerical study 7—28928
- active lithospheric thinning, thermomechanical destabilization models 7—34456
- Lizard front, SW England, Variscan strain pattern in Palaeozoic series 7—14279
- Los Angeles Basin, two-dimensional model of extension, subsidence and thermal evolution 7—66080
- Louisville ridge, Tonga trench, subduction anal. from SEAPSO campaign *(French)* 7—18162
- low-pressure metamorphic belt form., role of plutonism 7—28975
- lower Var valley, France, rift structure, workings *(French)* 7—66063
- upper mantle, brittle failure during continental lithosphere extension 7—18173
- mantle base (D″ region), seismic lateral heterogeneity and convection 7—8841
- mantle convection, analytical soln. of 2D convection problems 7—8910
- mantle convection, buoyancy-driven instabilities of low-viscosity zones as models of magma-rich zones 7—8930
- mantle convection, geoid anomalies and topography 7—28971
- lower mantle convection, interaction with mantle dregs rel. to laterally heterogeneous core-mantle boundary 7—66022
- mantle convection, magma ascent by porous flow 7—8928
- mantle convection, rheology and struct. of olivine-basalt partial melts 7—8931
- mantle convective mixing, effects of chemical density differences 7—28969
- mantle fluid dynamics, soln. of Rayleigh-Taylor problem 7—66084
- mantle plumes, contrib. to periodicity of mag. field reversals 7—65934
- anomalous mantle spreading beneath lithosphere, causing topography changes 7—54982
- mantle transient rheology and glacial isostasy 7—28970
- mantle viscosity, transient creep calc. using generalized Maxwell bodies 7—54980
- mantle viscosity estimates 7—60237
- Mariana Trough region, tectonic characts. determ. from basalt glass noble gases anal. 7—40436
- NW Massif Central, France, chronology of Neogene and Quaternary geologic events *(French)* 7—60235
- McGregor Fault, New York, USA, strain history since Precambrian 7—14242
- Mecsek Mts., SW Hungary, tectonic rotation, palaeomagnetism and volcanic history 7—14243
- median valley tectonics, Ghoubbet-Asal rift photography 7—14254
- Mediterranean geosynclinal belt, Carpathian and E Alps, segments, pre-Alpine evol. and main tectonic boundaries 7—34437
- Mediterranean-Asiatic seismic belt, earthquake foci and stress state 7—54915
- megakink bands and miocene regional stress field in outer southwestern Japan 7—54996
- megathrust evolution, role of strain heating 7—40443
- Merida Andes, Venezuela, struct. and stratigraphy rel. to Neo-gene transcurrent motion 7—14283
- Mesozoic Mogollon Highlands, Arizona, Early Cretaceous rift shoulder model 7—29016
- metamorphism on regional scale, tectonic settings, conf., London, England (Jan. 1986) 7—60867
- Methow-Pasayten belt of Washington, USA, Cretaceous palaeomagnetism and tectonics 7—8807
- Mianwali re-entrant and W Salt Range, Pakistan, palaeomag. constraints on form. 7—34380
- SW Michipicoten Greenstone Belt, Ontario, evidence for complex Archean deform. history 7—55040
- mid-oceanic ridges, axial zones geometry, effects of thermal conditions 7—28964
- Middle America Trench, Guatemala, subduction erosion versus sediment offscraping at toe of trench 7—14248
- midocean ridge subsidence rates, for fast and intermediate spreading centres 7—23625
- Mindoro Island, Philippines, allochthonous terrane evolution 7—14249
- Miramichi (New Brunswick) earthquake sequence, focal depth and fault dip from GRF broad-band array anal. 7—54921
- Mojave Desert, California, USA, geodetic deformation on faults 7—40395
- Mojave-Sonora megashear in NW Mexico, palaeomagnetic test 7—14194
- Inner Mongolia, palaeo-plate tectonics and geology 7—55002
- Mongolia, ring structures and fractures, assoc. gravity and topographic characts. 7—28962

tectonics continued

- Mongolia, tectono-magmatic devel., Late Palaeozoic and Early Mesozoic stages 7—28960
- Mongolia, Trans-Altai zone tectonics and struct. 7—28961
- Montagne Noire, France, magnetotectonic study of Devonian limestones 7—23541
- Monte Viso alpine ophiolitic complex tectonite fabric *(French)* 7—18165
- S Mugodzhary, USSR, Palaeozoic oceanic crust spreading and palaeorelief 7—23606
- Mygdonian graben, Greece, struct., microearthquake data anal. 7—66010
- Nagano Prefecture, tertiary landslide area, tectonic strain meas. *(Japanese)* 7—54983
- Nagano region, Japan, stress var. before earthquake causing gas anomalies in mineral springs and fumaroles 7—40423
- Nagano region, Japan, tectonic-seismic activity and ^{3}He/^{4}He anomalies in hot springs 7—40422
- Namaqua mobile belt, South Africa, calc-alkaline volcanism assoc. with Middle Proterozoic volcanic arc 7—34493
- Napier Complex, Enderby Land, Antarctica, Late Archaean tectonothermal evolution from Rb-Sr, Sm-Nd and U-Pb systematics 7—14231
- Narmada-Son lineament on W India continental margin, magnetic anomalies and tectonics 7—54991
- Nazca Plate west of Peru Trench, fragmentation *(French)* 7—60232
- Nazca plate-S America convergence rate estimate 7—8903
- Nazca-South American plate boundary, source mechanisms of Colombia (1979 December 12) aftershocks 7—54887
- Neogene continental crust structural devel., conf., Moscow, USSR (January 1985) 7—18474
- E Nepal, petro-structural study of ductile Himalayan layers *(French)* 7—23617
- New Brunswick, Canada, petrochemistry and tectonics of Carboniferous volcanic rocks 7—65992
- SE New England, tectonic model for Late Palaeozoic history 7—4029
- central New Hebrides Island Arc, seismicity patterns assoc. with asperity complex 7—40427
- New Hebrides island arc, subduction and faulting *(French)* 7—18159
- New Hebrides island arc, tectonic collision and crust struct. 7—18122
- New Madrid Rift Complex, tectonic development 7—14252
- New Madrid seismic zone, evidence for periodic energy release 7—3986
- New Madrid seismic zone, evidence for recurrent faulting, Mini-Sosie refl. data anal. 7—23626
- New York and Connecticut, USA, geodetic obs. of horizontal deformation 7—40456
- New Zealand, palaeomag. evidence for large tectonic rot. in last 5 Myr 7—34377
- New Zealand, seismicity, struct. and tectonics of Wellington region 7—23624
- New Zealand, uplifted marine terraces along Alpine fault 7—66077
- North American-Pacific relative plate motion in S California, determ. from VLBI meas. 7—28978
- North Sea, tectonic models rel. to seismic risk anal. 7—4004
- Norway, Caledonian thrust front and palinspastic restorations 7—40475
- S Norway and adjacent offshore areas, lineaments study 7—29026
- Norwegian Sea, volcanism, continental crust rifting, climatic fluctuations *(French)* 7—66089
- Obaku fault, Uji, Japan, gamma-ray survey of active fault 7—18157
- oceanic crust, subduction and processing in convectively mixing mantle 7—66009
- oceanic crust generation rates since 116 Myr BP, foraminifera Li content evidence 7—23632
- oceanic crust recycling, due to plate tectonic and continental denudation processes 7—4021
- oceanic crust stress state inferred from intraplate earthquakes 7—34442
- Okhotsk Sea, lower mantle slab penetration indicated by teleseismic data 7—54923
- Okinawa basin opening and collision in Taiwan, model 7—23621
- Olary Block, South Australia, stratigraphic and structural constraints on Proterozoic tectonic history 7—55045
- Oregon, USA, fault patterns obs. and Cenozoic rot. characts 7—66068
- Oregon-Idaho seismic zone, fault-plane soln. for Powder River earthquakes (August-September 1984) 7—3985
- Orfordville Belt, New Hampshire, press., temp. and structural evolution 7—55044
- Osmansagar reservoir, Hyderabad, India, tectonic stresses rel. to microearthquakes 7—23573
- SW Pacific, Early Tertiary plate motion, revised history 7—54993
- S Pacific, Eltanin fault system, tectonic and magmatic ridges 7—23610
- SW Pacific, incipient detachment of microplate 7—34445
- NE Pacific, spreading centre with episodic volcanicity and nonsteady state rift valley 7—54974
- Pacific coast of N America, sea level changes due to tectonics and oceanographic causes 7—54987
- Pacific Northwest, tectonic history from paleomagnetism of Tertiary Clarno Formation, Oregon 7—54871
- Pacific plate subduction beneath central Alaska, seismic evidence for down-dip tension 7—28855
- circum-Pacific region, subduction zone seismicity, review 7—54934
- East Pacific Rise, tectonics of overlapping spreading centres and neovolvanic zone 7—18151
- Palaeozoic continental reconstruction, appl. of cladistic methods 7—4019
- Paleozoic terranes of the central Argentine-Chilean Andes 7—28982
- Panxi region, SW China, tectonic stress field and earthquake distrib. *(Chinese)* 7—54977
- Paris Basin, France, chronology of Neogene and Quaternary geologic events *(French)* 7—60235
- Paris Basin, Variscan overthrusts characts. 7—4012
- Pennsylvania Salient, USA, oroclinal folding, palaeomagnetic study 7—40412
- peridotites, petrology and geodynamics evolution, review 7—54967
- Permian to Present tectonic events chronology of North-Eastern France and South-Western Germany *(French)* 7—60233
- Persian Gulf and Gulf of Oman, geology and tectonics 7—23615
- Perth region, Australia, Holocene sealevel var., crystal effects 7—47462
- S Peru, 3D P- and S-wave vel. structures rel. to tectonics 7—14227
- plate bending at N Tonga Trench rel. to origin of Samoa 7—60229
- plate convergence rate during Taconic arc-continent collision, geological evidence 7—28966
- plate motion, driving mechanism rel. to mantle convection models 7—23613
- plate motions and mantle flows 7—18171
- plate tectonics, implications of oceanic expeditions *(Russian)* 7—66076

tectonics continued
plate tectonics, use of VLBI 7—55325
plates motion and an expanding Earth, fossil data anal. 7—47418
polyphased tectonic evolution of the Karakorum belt(Baltoro, North Pakistan) *(French)* 7—66058
Ponte de Lima placement, Portugal, superposed thrusting, strike slip faulting *(French)* 7—23619
W Portugal, palaeomagnetism, ages and tectonics of Cretaceous igneous rocks 7—47327
post-glacial rebound and transient lower mantle rheology 7—18170
post-glacial uplift, mantle transient creep calc. using generalized Maxwell bodies 7—54980
postglacial uplift used for determ. of crustal thickness 7—34440
postseismic viscoelastic relaxation following 1959 Hebgen Lake earthquake 7—14245
Precambrian geology, 27th IGG Congress, Moscow (August 1984) 7—29580
precision geodesy and crustal deform. meas. instrument, hydrostatic levels 7—9229
Priest River Complex, Washington-Idaho, mylonite zone metamorphism rel. to tectonic evolution 7—4033
Early Proterozoic bimodal volcanic rocks in central Colorado, petrogenesis and tectonic setting 7—23645
Proterozoic ophiolite preservation problem and prevailing plate tectonics, and Venus comparison 7—28980
Provencal Basin (W Mediterranean), tectonic evolution rel. to geothermal data from surrounding Hercynian basement 7—14239
Provencal Basin (W Mediterranean Sea), post-rifting magmatic activity rel. to thermal regime 7—14238
Pyrenees, geological evolution, symposium, Strasbourg (April 1985) 7—24290
N Pyrenees, tectonostratigraphic units rel. to apparent western termination of North Pyrenean fault 7—14280
Rajmahal Hills, E India, gravity field over Palaeo-Mesozoic continental margin 7—28820
Red Sea, sedimentary section struct., seismic data anal. 7—28927
Red Sea opening, study of Egyptian heat flow 7—28935
Red Sea-Arabian Shield transition, ray path interpretation of crustal struct. and thickness 7—28956
remote sensing method for geothermal anomalies and faults, by satellite photography 7—28920
Reykjanes Peninsula, SW Iceland, postglacial volcanism and tectonics 7—40450
rheological stratification of lithosphere 7—55007
rheology, for viscous inclusion embedded in matrix, Eshelby's eqns. 7—55046
rock rheology in low-stress regime, weakening due to water 7—47435
ring structures seen by remote sensing, due to jointing following earthquakes 7—54951
Rocky Mountains, SW Alberta, Canada, duplex structures in Lewis thrust sheet 7—54989
S Rocky Mts., USA, tectonic redefinition 7—34450
Ancestral Rocky Mts. during L Palaeozoic, plate motions 7—34451
rotational variations and nutation of Earth rotation, influence of mantle anelasticity 7—23512
Ruby Mountains-East Humboldt Range, Nevada, Mesozoic-Cenozoic tectonothermal evolution 7—28986
Ruby Mts.-E Humboldt Range, Nevada, USA, chronology of tectonic denudation 7—54999
Saint-Georges-sur-Loire synchronorium, ligerian unit. glaucophane occurrence *(French)* 7—18166
Samoa-Gilbert-Ralik area of SW Pacific, intraplate deformation seismicity 7—34445
San Andreas fault, California, United States, fractal geometry and seismicity 7—66030
San Andreas Fault, S California, evidence for 160 km offset from Triassic megaporphyritic monzogranites 7—55043
San Andreas fault, United States, fault geometry, appl. of fractal anal. 7—66348
San Andreas fault at Parkfield, California, geodetic strain obs. and slip deficit 7—28979
San Andreas fault system, S California, seismic evidence for conjugate slip and block rot. 7—14216
S San Jacinto fault zone, California, rupture patterns and preshocks of large earthquakes 7—28854
San Juan Is., Washington, USA, geochronology and tectonic development 7—65994
San Miguel Is., California, USA, Cretaceous and Eocene palaeomagnetism and tectonics 7—28836
sandstone-mudstone suites, tectonic setting determ. using SiO_2 content and K_2O/N_2O ratio 7—29014
Santa Cruz County, California, magnetostratigraphy of Pliocene Purisima Formation 7—8799
Saskatchewan, Canada, well water He and methane anomalies correl. with crust tectonic features 7—40440
Scotia arc, evol. and continental mag. anomalies 7—60155
S Scotland, tectonic implications of Late Caledonian lamprophyre dyke swarms 7—4032
Scottish Ordovician palaeomagnetism, reappraised 7—54862
Scottish Ordovician palaeomagnetism and tectonics, reappraisal 7—54861
Sea of Okhotsk, lower mantle slab penetration, broadband S-waves anal. 7—47416
seafloor spreading rages and biological evol. correl. 7—18174
sediment subduction, melange formation, and prism accretion, dynamics 7—28967
sedimentary basin analysis (book) 7—35129
sedimentary basins, form. mechanism rel. to He isotopic comps. 7—47405
sedimentary basins development, heterogeneous stretching model with simple shear 7—34399
sedimentary rocks, straining of cross-bed populations 7—4034
seismic faulting, development of conjugate-shear fracture in marble *(Chinese)* 7—34474
seismic faulting, tectonic stress evolution and earthquake rebound in antiplane case 7—8821
seismotectonics, near-field ground motion from kinematic fault models 7—54897
Seychelles microcontinent, magmatism and tectonics 7—40452
shear crack in elastic medium, nonstationary radiation direction 7—54916
shear zones in St. Barthelemy Massif, Cretaceous crustal stretching *(French)* 7—34433

tectonics continued
Shebandowan greenstone belt, Ontario, Canada, magmatism age and regional deformation 7—23585
Shirshov Ridge, Bering Sea, tectonics and seismic profiling 7—23627
Shumagin seismic gap, Alaska, vertical crust deform. detect. via sea level var. 7—9223
NW Siberia, aerospace imagery of lineament zones rel. to presence of oil and gas 7—66335
Siberia, modern dynamics of the main lithospheric tectonotypes 7—54979
W Siberia, neotectonic vertical movements from palaeomagnetic data 7—28959
Siberia, the state of tectonic research 7—54978
NE Siberia (Yakutiya), USSR, crust evol. 7—23593
Sierras Pampeanas of Argentina, modern analogue of Rocky Mountain foreland deformation 7—66113
Solea graben, Mediterranean Sea, ore deposition and off-axis hydrothermal metamorphism 7—60247
SE Solomon Islands, earthquake multiplet characts. and tectonics 7—47377
Solomon Islands arc, Neogene displacements rel. to geology and arc configuration 7—66082
Sovanco Fracture Zone, rotated crustal blocks, bathymetric obs. 7—47415
spatial problem soln. using repeated geodetic meas. 7—23623
spherical shell tectonics and buckling of subducting lithosphere 7—47419
Spitsbergen, Devonian sandstone palaeomagnetism and plate tectonic position 7—23531
spreading zones devel. in modern and palaeo-oceanic structures 7—34436
Sri Lanka, seismicity anal. rel. to uplift of central highlands 7—23570
Sriramsagar reservoir, Andhra Pradesh State, India, fault-plane solns. for induced microearthquakes 7—23575
S St. Helens seismic zone, Washington, earthquakes near Swift Reservoir (1958-63) 7—54885
stress determination from focal mechanisms 7—66072
stress field due to faulting in presence of asperity, antiplane crack model 7—8822
stress fields due to tides *(Chinese)* 7—54841
stress measurement by borehole deform. meas. using prepressed multiprobe unit *(Chinese)* 7—29259
strike-slip duplexes 7—40457
strike-slip faulting, role of crack-seal mechanism, in deform. process 7—29010
subducting lithospheric slabs, thermal vel. models rel. to teleseismic mislocation of island arc earthquakes 7—14209
subducting mantle slabs, contrib. to coupling of core dynamo and mantle 7—65933
subducting oceanic lithosphere mag. anomalies 7—47331
subduction zones, interpretation of mag. signatures detected by MAGSAT 7—65938
submarine accretionary wedges, evidence from Barbados for origin of convex wedges 7—28992
Sunda Arc, seismic history and seismotectonics 7—65952
Superstition Hills fault, California, surface displacement triggered by Westmorland earthquake (1981 April 26) 7—3983
surface faulting in Rainbow Mountain-Fairview Peak-Dixie Valley (Nevada) earthquakes, 1954-59, appl. to seismic processes anal. 7—40429
Svecofennian fold belt of SW Finland, tectonic environment of Proterozoic mafic volcanic rocks 7—14275
syntectonic emplacement of granitoids in French western Massif Central *(French)* 7—18167
Tancheng-Lujiang fault zone, basic characteristics 7—28974
Tancheng-Lujiang wrench fault system in E Asia, Mesozoic tectonics 7—66079
tangential tectonic and carboniferous thrusting in leucogranites, French Central Massif *(French)* 7—66055
Tazekka, Morocco, Carboniferous volcanosedimentary complex *(French)* 7—66046
Tengchong geothermal field region, China, tectonics, thermal springs and active structures 7—60219
Tengchong volcanic-geothermal region, China, crust thickness and stress characts. *(Chinese)* 7—54875
Tethys oceanic crust movement during Austrian phase (cretaceous) 7—8904
thermal convection in Earth interior, review *(French)* 7—23618
thermoelasticity of two-phase media with mass exchange between phases 7—55034
Thien Dam, NW Himalayas, India, tectonics of microearthquake activity 7—23577
thrust slice stacking in collision zones, thermal consequences 7—28985
Tibet, Ar dating of Meso- and Cenozoic rocks, and geodynamic significance 7—8875
S Tibet, extensional tectonics and underthrusting by Indian plate 7—54985
Tibetan Plateau, 1985 Chinese/British expedition results 7—8913
Tibetan Plateau, rise, continental underplating model 7—40454
S Tien Shan, greenschist metamorphism conditions and geotectonic evol. model 7—34401
Tien-Shan region, isostatic gravity anomaly from isostatic compensation models 7—28965
Tonga subduction zone area, S-wave splitting in upper mantle wedge 7—47355
Tonga Trench axis and intersection with Louisville guyot chain 7—54955
Tonga-Kermadec island arc, tectonic struct. from earthquake mechanisms 7—8823
Tornquist-Teisseyre zone (Poland), deep crustal struct. in contact zone of Palaeozoic and Precambrian platforms 7—14235
Transantarctic Mountains-Ross Embayment region, asymmetric extension and assoc. uplift and subsidence 7—40453
pre- Transvaal wrench fault tectonics, Witwatersrand basin, South Africa 7—14253
trench regions, causes of compression and extension behind trenches 7—34446
Triassic core in Cretaceous series of Morgon massive *(French)* 7—66059
Troodos microplate, Cyprus, palaeorotation in Meso-Cenozoic plate tectonic framework of E Mediterranean 7—34441
Tunisia, platform environment, early diaclase development *(French)* 7—18168
two-component marble cake mantle 7—4010
two-layer planet with Burgers-body mantle, moment of inertia, effect of faulting 7—14509

tectonics continued
  Tyrnyauz ore field Front Range, N Caucasus, structural development 7—34438
  Tyrrhenian Sea region, subduction zone geometry and stress patterns 7—28976
  SW United States, geochemistry and tectonic setting of Early Proterozoic supracrustal rocks 7—55037
  Upper Silesian Massif, Poland, pre-Permian tectonic position *(French)* 7—66054
  Ural Mountains, Precambrian geodynamic regimes 7—34494
  S Urals and N Caucasus, structure and tectonic evolution 7—8906
  central USA, basement Precambrian ages and tectonic significance 7—8877
  E USA, neotectonic movements rel. to seismicity 7—34448
  Vermilion granitic complex, NE Minnesota, USA, multiple folding and pluton emplacement 7—65990
  vertical crust motion meas. by VLBI, effects of atm. water vapour 7—9227
  vertical crustal motion, use of GPS meas. 7—8795
  vertical motion meas. by mobile VLBI and GPS, effects of atm. water vapour 7—9226
  vertical motions, obs. with portable absolute gravimeter 7—9225
  Virgin island basin, E. Great Antilles, extension and wrench tectonics *(French)* 7—18163
  volcanic area displacement and stresses due to centre of dilation 7—23642
  volcanic earthquakes, and stress-strain state of crust with magma inclusion 7—65967
  Wadati-Benioff zone unfolding in Kermadec-New Zealand region 7—23629
  Washington continental margin, subduction zone model for seismic refr. data 7—4006
  West Virginia, mesostructures development in detached folds 7—4030
  Western Australia, relations between Archaean high-grade gneiss and granite-greenstone terrain 7—34491
  Witwatersrand basin, South Africa, wrench fault tectonics 7—14253
  Wopmay Orogen in Canada, geology of metamorphic internal zone 7—54998
  wrench fault tectonics, Witwatersrand basin, South Africa 7—14253
  Xianshuihe Fault Zone, S China, seismic activity estimation via earthquake activity parameters *(Chinese)* 7—34387
  Yakataga seismic gap, S Alaska, strain accumulation 7—14246
  Yamada fault region, Kinki district, Japan, geological, geophys. and hydrological study *(Japanese)* 7—66085
  Yamasaki earthquake, Japan, crustal movements observations 7—65926
  Yangbajing fault, isotopic depth 7—28973
  Yap-Mariana trenches intersection, petrology, geochemistry, and tectonic implications of volcanic rocks 7—34469
  Yinchuan graben, N China, seismicity rel. to fault scarps produced by AD 1739 earthquake 7—28859
  young ocean basin evolution, controlled by existing tectonic pattern 7—34447
  young oceanic lithosphere, thermal model 7—18177
  Yunnan Province, China, crustal struct., seismic refr. profiles anal. 7—40446
  Yuso Basin, N Spain, fold geometry and deformation regime 7—54988
  Zabargad Island, struct. and Red Sea rifting 7—66034
  N Zeravshan faults, USSR, tectonic movements indicated by river drainage pattern 7—66070
  Zhelin reservoir, E China, active faulting rel. to induced earthquakes 7—23571

TEGFET *see high electron mobility transistors*

tektites
  Australasian Muong Nong-type, buried crazed layers 7—8954
  indochinites, K, Rb and Li concs. rel. to selective volatilisation and imperfect mixing 7—34500
  Muong Nong type tektites from moldavite and North American strewn fields, implications of element abundances 7—55050
  North American tektite fragments for Barbados, ^{40}Ar/^{39}Ar dating rel. to Eocene-Oligocene boundary age 7—47391
  origin and Cretaceous-Tertiary extinctions 7—8953
  Cl contents of normal and Muong Nong-type tektites, new determs. 7—34501
  F contents of normal and Muong Nong-type tektites, new determs. 7—34501

telecommunication
  see also optical communication; radiocommunication; telecommunication channels; voice communication
  history, 1650 to 1985 7—55944
  plastics in telecommunications, conf., London, England (Sept. 1986) 7—9591
  system theory, conf., Knoxville, TN, USA (Apr. 1986) 7—14714

telecommunication cables
  see also coaxial cables; optical cables; submarine cables
  lightning discharge, current induced in aerial on buried telecom. line *(French)* 7—10817
  photon (boson) and electron (fermion) transmission comparison 7—57594

telecommunication channels
  narrowband tunable optical filter for channel selectionin densely packed WDM systems 7—11174

telecommunication theory *see information theory*

telecommunications computer control
  see also telecommunications computing
  low-cost satellite image reception and analysis facility 7—66305

telecommunications computing
  see also telecommunications computer control
  meteor bursts for communication links, database anal. approach 7—60607

telecommunications industry *see telecommunication*

telecontrol
  see also alarm systems; telemetering
  FFTF interim examination and maintenance cell, remote tool development 7—49547
  FRG nuclear fuel reprocessing plant, remote maintenance aspects, manufacturer's viewpoint 7—49559
  joint motion clusters in servomanipulator operations 7—36177
  mitral valve, remote-controlled, development and use 7—14159
  nuclear fuel pin weighing system, remote maintenance design considerations 7—49548
  nuclear fuel reprocessing plants, remote maintenance using servomanipulator based system 7—5338

telecontrol continued
  power supplies to magneto-optical elements of particle channels, digital remote control system 7—42268
  remote equipment operators in nuclear facilities, training programme requirements 7—49607
  remote handling in hot cells, state of the art and future view 7—49555
  remote handling systems for reprocessing plant maintenance and reactor dismantling, testing and design 7—49614
  remote reconnaissance vehicle for core-bore sampling, operational experience at TMI-2 7—49612
  remote vacuum cleaner for PUREX cells 7—49557
  remote work vehicle, design rationale, radiological decontamination work 7—49741
  remotely operated TRU waste size reduction and material handling process at SRP 7—49698
  tethered remotely operated vehicle for ocean bottom surveys 7—9200
  TMI-2, integrated defuelling system, remote tools and support equipment 7—49610
  TOR fast reactor fuel reprocessing facility, integrated remote handling system 7—49558

telecontrol equipment
  gas reaction expts., remote-controlled glass-Teflon high-vacuum stopcock design 7—321
  HLW vitrification in a liquid-fed ceramic melter, remote equipment performance 7—42201
  nuclear waste glass canisters, remote handling at the Savannah River Plant 7—42200
  radioactive waste vitrification facilities, closed circuit TV and remote crane control 7—42204
  remote radwaste canister level and turntable positioning system 7—42202

telemetering
  Arabsat telecom. spacecraft, solar generator and telemetry of orbit performance 7—65488
  biotelemetry, modulation techniques 7—34301
  nuclear fuel pin weighing system, remote maintenance design considerations 7—49548
  oceanographic surface current meas., CODAR intercomparison, Delaware Bay (1984) 7—9254
  passive biotelemetry by freq. keying, low-level bioelec. data appl. 7—23492
  radiographic images, digital system for teletransmission 7—14108
  remote weighing of irradiated fuel pins at FFTF 7—49546
  twin-wave laser interferometer appl., accuracy increasing methods 7—343
  water level measurement stations prototype network, test and evaluation software 7—66364
  X-ray remote detect., coupling between plastic scintillators and light fibres 7—25320

telemetering equipment
  AFMS-2, microcomputer-based automatic remote transmitting meteorological station *(German)* 7—4228
  oceanographic current profiling system design and calibration, HF volumetric backscattering 7—9270
  pollution monitoring, automatic station and data telemetry system 7—59900
  seismic telemetry system of large dynamic range, design and performance 7—28870
  seismometer hydrophone array system on seafloor 7—23890
  surgically implantable, crystal-controlled, temperature telemetry transmitter 7—65903
  temperature telemetry addition for an RF-coupled phrenic nerve stimulator implant 7—28771

telemetering systems
  16-channel controller for implantable gait stimulation system, design 7—28781
  Automated Remote Monitoring System for machinery health assessment 7—20674
  fibre optic system, high-bandwidth, using laser diode transmitters 7—25978
  GPS use for NBS calibration service, time and frequency transfer, appl. 7—14926
  implantable gait stimulation system, 16-channel microprocessor-based controller, features 7—28780
  implantable telemetry systems finite element anal. of mag. fields 7—28754
  JEOS, JANUS Earth Observation Satellite data handling and transmission 7—34824
  low-cost satellite image reception and analysis facility 7—66305
  magnetic field sensor, wideband optical fibre, using Cd$_{1-x}$Mn$_x$Te sensing element 7—25979
  rock mass stress data, acquisition and radio telemetry *(Russian)* 7—34681
  US biotelemetry system to obtain EMGs from marine animals in situ 7—3955

telemeters *see telemetering equipment*

telemetry *see telemetering*

telephone equipment
  see also microphones; repeaters
  electroacoustic transducers for sound-powered telephone, bond graph modelling 7—57660

telerecording *see video recording*

telescopes
  see also astronomical telescopes
  airborne optical telescope, boundary layer turbulence effects 7—57504
  atmosphere-telescope system, image form. through turbulent atm., isoplanatism problem 7—50502
  balloon borne remote sensing, single-axis platform performance 7—23913
  balloon-borne remote sensing, single-axis platform design 7—23912
  electromechanical compensators of optical-image displacement 7—20387
  far-focus thermal imager system, deep-focus attachment 7—30061
  fibre compensation, grating compressor with positive group velocity dispersion 7—57575
  four-mirror, performance and complexity comparison of aspheric and spherical primaries 7—37092
  historical development, rationale for design changes, cost drivers 7—37087
  IR zoom telescope development 7—31425
  large aspheric optics, rapid fabrication using computer-controlled opt. surfacing unit 7—37224
  large optics technology, conf., San Diego, USA (Aug. 85) 7—35089
  laser dispersive resonator with Gaussian stop and telescopic system, emission spectra study 7—62731
  light-weight mirror, vertically mounted, load relief 7—43452

telescopes continued
- line of sight deflection, effect of lateral displacement of light beam 7—50670
- mirror, large multicomponent, image parameters 7—37090
- pancratic system, exit pupil position determ. *(Czech)* 7—25928
- phase closure with a rotational shear interferometer 7—56324
- prismatic, using refr. of prism rows 7—37091
- resonator diffr. losses 7—43292

television
- *see also video signals*
- film role in UK TV over 50 years from 1936 7—41524
- liquid crystal television spatial light modulator appl. to computer-generated holography 7—36918
- radwaste melter at the DWPF, remote viewing of interior 7—49697
- special effects techniques for integral holograms 7—25775

television applications
- Australian Broadcasting Commission TV network use for precise time comparisons 7—56214
- automatic quantitative microstructure analysis, contrast determ. 7—8227
- biological thick specimens, computer-assisted video technique for preparing high resolution pictures and stereograms 7—28789
- biomedical fibre optical and video monitor stimulators, comparison in normals and multiple sclerosis patients 7—65865
- biomedical image intensifier digital imaging systems, struct. mottle obs. 7—54721
- biomedical image intensifier TV digital systems, accurate meas. of charact. curves by Al stepwedge technique 7—54726
- digital videofluorography, clinical basis 7—28678
- elastomer, viscoelasticity meas. by electronic speckle pattern interferometry 7—33877
- electronic speckle pattern interferometry, basic principles, configs., industrial appls. 7—35588
- eye rotational movement anal. using template matching, IR image processing *(Japanese)* 7—60111
- gastro-intestinal radiology, appl. of 1024×1024 pixel digital image store with pulsed progressive readout camera 7—28680
- human body biomechanics study, technique for superimposition of computer graphics and video images 7—34361
- ligaments, methodology to determ. mech. props. at high strain rates 7—65909
- liquid crystal TV, low-cost appl. to white-light optical signal processing 7—31251
- NDT, video images, digital enhancement techniques 7—65272
- optical time-resolved multichannel Raman spectrometer, appl. to transient photomerocyanines 7—15010
- photoelectric method for the simultaneous measurement of longitudinal and transverse deformations of specimens 7—33875
- pipe flow, visualization in steel pipes using real-time neutron radiography 7—37583
- real-time imaging of analyzed areas in surface analysis 7—12427
- real-time programmable image subtractor using a magnetooptic device and video camera 7—20145
- scanning moire topography, fringe sequence number automatic determ. *(Japanese)* 7—14919
- Stepanov method cryst. growth, computerised TV system examination 7—33542
- strain measurement using moire by shifting model grating, image processing *(Japanese)* 7—31715
- structural ceramics, flaw detection, holographic interferometry techniques 7—46760
- surface contouring by electronic speckle pattern interferometry 7—29971
- surface testing by microscope-TV-computer system 7—14922
- time meas., passive TV techniques for time transfer via Indian satellite INSAT-1B 7—18764
- VEGA space probes, TV real-time software *(Hungarian)* 7—29379
- video/computer technology role in exptl. mech. 7—63093
- wooden plates, vibration mode meas. using TV-holographic and electroacoustical methods 7—31716
- X-ray diffraction, real time studies, Vidicon system 7—11839
- X-ray real-time imaging for weld inspection, methods and equipment 7—54045
- Al-Mg (5 at.%), Portevin-Le Chatelier band kinetics, video recording 7—65103

television broadcasting
- 4 GHz PAL and 12 GHz B-MAC comparison in Australia 7—29229
- Australian Broadcasting Commission TV network use for precise time comparisons 7—56214
- component TV signals, photographic recording 7—24719
- proximity image intensifier persistence improvements with Y_2O_2S:Tb phosphor 7—57598
- studios, slideway type sound absorbers use *(Russian)* 7—37251
- VHF signal propagation, far beyond primary service zone 7—34768

television camera tubes
- *see also image storage tubes*
- IR vidicon as image sensor in near-IR Fourier transform spectrometer 7—48889
- magnetic focusing and deflection systems of camera tubes *(Chinese)* 7—10837
- Stepanov method cryst. growth, computerised TV system examination 7—33542
- a-Si solar cells, vidicon mode characterisation 7—8421

television cameras
- *see also colour television cameras*
- electronic speckle pattern interferometry, basic principles, configs., industrial appls. 7—35588
- real-time programmable image subtractor using a magnetooptic device and video camera 7—20145
- solar unit focal spot analyser based on CCTV 7—54264
- star camera and aspect determ. system for balloon-borne payloads 7—55418
- video/computer technology role in exptl. mech. 7—63093

television equipment
- *see also video and audio discs*
- Marconi B3410 telecine, digital progress 7—15019
- optique applications to photography and television 7—3793
- switching of video, $LiNbO_3$:Ti 4×4 nonblocking interconnection network for test bed 7—26039
- ultrasonogram displays on liq. crystal TV and fluorescent vacuum tube 7—31602

television networks
- Australian Broadcasting Commission TV network use for precise time comparisons 7—56214

television receivers
- *see also colour television receivers*
- liquid crystal TV as spatial modulator for optical data processing 7—25958
- optical videodisk system for visual performance testing with stereoscopic TV displays 7—60129

television reception
- apparent depths of figures and a model for sizeconstancy 7—14010
- HDTV and 525-line viewing, sight-line displacements, eye movements eval. 7—59992

television reception quality *see television reception*

television signals *see video signals*

television standards
- broadcasting, 4 GHz PAL and 12 GHz B-MAC comparison in Australia 7—29229

television studios
- modular construction, and acoustic performance 7—20507
- slideway tape sound absorbers use *(Russian)* 7—37251

tellurium
- *see also nuclei with ......*
- adsorbed on GaAs, surface structure 7—12460
- adsorption on Ni (111), induced C segregation and dissolution 7—12477
- atmospheric aerosol, Se and Te content at Missouri, USA 7—18273
- atom, specific column and atomic absorpt. spectroscopic determ. 7—33976
- atoms, fluoresc., SRS eval. as excitation source 7—30981
- Auger electron spectra, deconvolution calcs. 7—24728
- Auger energy, Slater transition state calcs., metallic and atomic states, jellium model 7—38475
- crystalline thin films, laser-induced transform., transient conductance and optical meas. 7—12142
- cyclotron reson. characts. of nonequilibrium carriers at low temps. 7—64532
- desorption from CdTE (001), surface stoichiometry and reaction kinetics, RHEED studies 7—21613
- dimer, isotope selective ionization 7—36699
- gyrotropic crystals, transient photocurrent 7—38618
- off-optical axis anisotropic acousto-optical diffraction 7—59177
- refining by continuous zone melting 7—3163
- superconducting films at high press. 7—33120
- surface, (0001), conductivity of size-quantised holes, hydrostatic pressure effects 7—45428
- surface, $(10\bar{1}0)$, He atom scatt. 7—64863
- thin films, laser irrad. effects, refl. meas., optical data storage appl. 7—12144
- thin films, prep. by partially ionised vapour deposition 7—3186
- $Al_xGa_{1-x}As$:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7—21242
- Bi-Sb:Te(Sn) thin films, elec. props 7—64376
- GaAs:Cr(Te)-GaAs, VPE grown, photoluminescence study, effect of substrate doping 7—27771
- GaAs:Te, annealing encapsulation props. of SiO_2, Si_3N_4 and $Si_xN_yO_z$ films 7—8030
- GaAs:Te, defect study by positron annihilation *(Chinese)* 7—13254
- GaAs:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7—21242
- GaAs:Te, struct. environment of dopant, study by EXAFS in fluorescence mode. 7—59300
- GaAs:Te films, flash evaporation, annealing, elec. props. 7—64373
- GaAs:Te surface layers, luminesc., electrophys. parameters, effect of annealing 7—64680
- GaAs:Te VPE, vacancy-impurity complex capture, photolum. study 7—58678
- $GaAs_{0.12}P_{0.88}$:N, Te and GaP:N, Si(Te) epitaxial layers, minority carrier lifetimes, surface and interface recombination effects 7—7424
- GaP:Te, doping superlattices, growth and props. 7—64684
- GaSb:Te single crysts., Czochralski growth, carrier conc. rel. to dopant conc. 7—22462
- Ge:Te, implanted, heavy ion damage, TEM, annealing studies 7—63676
- n-InAs:Sn,Te, LPE growth, elec. characts. 7—33603
- $In_{1-x}Ga_xAs_yP_{1-y}$:Te films, Fermi energy, dopant conc. depend. 7—52867
- In_2O_3:Te, thin films, etching, comparison of solns. dilute HCl and H_3PO_4 7—8208
- InSb:Te, Cd, Zn single crystals, Czochralski growth, solute distrib., mag. field effect on melt 7—3158
- InSb:Te, heterogeneity study 7—21476
- InSb:Te, resonance absorpt. of electromag. wave due to impurity band 7—52499
- InSb:Te crystals, Czochralski growth, layered heterogeneity, melt temp. fluctuations, mag. field effect 7—27888
- InSb:Te(Se)(S)(Cd)(Zn) thin films, doping, Hall effect meas. 7—21743
- Pd-Te system, phase diagram study 7—26934
- a-Se:Te films, space-charge depletion studies of deep states 7—59148
- a-Si:Se(Te) thermally evaporated films, photoelectronic props. 7—38640
- Si:Te, chalcogenide pairs, electronic structs., Green's function calc. *(Chinese)* 7—58759
- Si-Te, metal implantation using pulsed electron beam 7—6882
- $Si_{1-x}Ge_x$:Te solid solns., deep levels investig. 7—2529
- $Te+He^+$, L-subshell ionisation, X-ray prod. 7—50303
- ^{125}Te, Mossbauer isomer shifts and contact densities 7—38966
- ^{125}Te, valence electron contact density 7—25457
- $^{130}Te_2$, transitions in Balmer β-line region, interferometric freq. meas. 7—15618
- $^{130}Te_2$ reference line absolute calibration for positronium spectroscopy 7—25685

tellurium alloys
- *see also tellurium compounds*
- optical data storage, phase-change properties, transition metal elements effects 7—50662
- optical storage, digital media, transient thermal conduction 7—57490
- Ag-Sn-Te system, ternary, enthalpy of mixing *(German)* 7—21469
- Bi-Sb-Te, single cryst. alloys, component distrib., stratified heterogeneity 7—46302
- Bi-Te metastable solid soln., fine struct., X-ray diffr. studies 7—44449
- CdTe, detector material, applications 7—45307
- CdTe, single cryst., transmission region optical props., impurities effects 7—39128

tellurium alloys continued
Co-Te system, phase diagram, DTA 7—46425
Fe-Te amorphous thin films, RF sputtered, struct. and elec. meas. 7—12534
Fe-Te cluster, localised props., multiple scatt. Xα SCF method 7—21848
Fe-Te sputtered films, CsCl-type ordering and amorphisation 7—64021
Ga-Te system, phase diagram, DTA 7—46425
Ni-Te, vapour deposited thin films, annealing behaviour 7—3345
Pb-Te system, phase equilib., optimisation and calc. 7—3270
PbGeTe, thermal cond. minimum, thermoelectric appl. 7—38276
PbSnTe, thermal cond. minimum, thermoelectric appl. 7—38276
Pd-Te, phase diagram, DTA, X-ray powder diffr. studies 7—39483
Se-Te liquid alloys, struct. study by neutron diffr. 7—51610
Se-Te liquid mixtures, mass density at high temp. and press. 7—63701
Se-Te-Au(Ag) liq. mixtures, electronic props. 7—64247
Te-Ge(Se) thin films, laser irrad. effects, refl. meas., optical data storage appl. 7—12144
$Te_{80}S_{19}As$ overcoated trilayer struct., laser writing mechanism, microscopy studies 7—20149
$U_xLa_{1-x}Te$ single crysts., elect. resist. temp. depend. Kondo effect and ferromagnetic ordering 7—13119

tellurium compounds
see also tellurium alloys
$Au_x(TeO_2)_{1-x}$ thin films, nanosecond laser annealing, Au cluster redistrib., growth and coalescence 7—12145
valence electron configs., X-ray chemical shift and Mossbauer isomer shift, SCF anal. 7—32893
As-Te-based glasses, small polaron hopping and transport props. 7—21911
$As_{0.2}Se_{0.5}Te_{0.3}$ chalcogenide glass, struct. models, X-ray diffr. and Monte Carlo calcs. 7—6548
$As_{0.45}Se_{0.10}Te_{0.45}$ glassy alloy, struct. model and switching props. 7—1904
$As_{2-x}Te_{3-x}In_{2x}$ and $As_{20-x}Te_{80-x}In_{2x}$ systems, chalcogenides, thin films, optical and electrical props. 7—27446
Ge-Te liq. eutectic alloys, elec. resist. and struct., 600 to 900 K *(German)* 7—45334
GeO_2-TeO_2-V_2O_5 system, phase diagram and equil., quasi-binary section investig. 7—21405
$Ge_{25}Te_{75}$, amorphous, anomalous photoinduced transformations study 7—45070
Na_2O-TeO_2-Cr_2O_3 glasses, IR absorpt., visible and UV spectra studies 7—27720
$Na_6(TeW_6O_{24})22H_2O$, crystal struct. investig. 7—12002
Se-Te, glass forming melts, nonisothermal crystn., DTA, crit. cooling rate 7—44394
Si-Te-As-Ge chalcogenide glass film, electronic processes in strong elec. field 7—45524
a-$Si_{1-x}Te_x$ amorphous alloys, electronic and optical props. 7—7234
Si_xTe_{100-x} glasses, crystallisation, DSC studies 7—6542
Te-As-S chalcogenide system, annealing, crystalline precipitate phase form., X-ray diffr. anal. 7—16751
Te-based materials, reversible optical data storage appl. 7—37068
Te-based thin films, crystn. rate, thermal stability, erasable optical recording appl. 7—37069
Te-Cl and Te-Cl-S, chalcohalogen glasses, IR transmitting materials *(French)* 7—1905
Te-Ge alloy glass, isothermal surface crystallisation 7—58576
Te-Se, whisker crystals, growth and elec. props. 7—12578
TeF_6, electron affinity calcs. 7—36453
TeF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
TeF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7—25550
TeF_6, ν_3 bond, free jet IR absorpt. spectroscopy 7—10569
$Te_{1-x}Ge_x$ amorphous films as reversible phase-change optical data storage materials 7—1242
$(Te_{90}Ge_5In_5)_{100-x}O$, Auger elemental depth profiling, preferential sputtering 7—54247
TeO_2, paratellurite, circular dichroism and weak absorption bands 7—45977
TeO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7—64077
TeO_2, small-divergence acoustic beams formation 7—58418
TeO_2 tunable filter, rotating linearly polarised light source appl. 7—18850
α-TeO_2:Al single crysts., electron irrad., colour centre ESR obs. 7—33271
TeO_2-based halide glasses, prep., thermal, mechanical, elec. and optical props. characterisation *(French)* 7—37884
TeO_2-$ZnCl_2$ system, glass prep. and composition 7—46403
TeO_x films, nanosecond pulsed laser-induced segregation 7—44610
TeO_x:Ge,Sn films, optical props., thermal stability 7—39207
$Te(OH_6)Na_2HPO_4.H_2O$, IR and Raman spectra, vibr. anal. 7—13147
$Te(OH)_62(NH_4)_2HPO_4$, IR and Raman spectra, vibr. anal. 7—13147
$TlSbTeO_6$, ionic conductivity and powder X-ray diffr. characterisation 7—12362
V_2O_5-TeO_2 glasses, memory switching 7—27370
V_2O_5-TeO_2-PbO, glass, elec. and optical props. *(Korean)* 7—27330

TEM *see transmission electron microscopy*

temper brittleness *see brittleness*

temperature
see also atmospheric temperature; boiling point; critical points; Debye temperature; ferroelectric Curie temperature; magnetic transition temperature; melting point; plasma temperature; superconducting transition temperature; temperature scales
cyclohexane-methanol, critical soln. temp., dissolved gas effect 7—44759
evaporation and condensing surface, kinetic theory, temp. paradox 7—48660
heat theory principles, historically and critically elucidated, book 7—48265
materials during ablation in high temp. dust laden gas jet, temp. determ. 7—20590
negative absolute temp. domain, extended Callen postulate system 7—48652
oxidic actinide cpds., systematic props., oxidation states, fluorite lattice and thermodynamic props., review 7—12013
semiconductor wafers, surface temperature meas., non-contact method 7—41382
Cu, Xe desorpt., surface temp. determ. using pyroelectric calorimeter 7—52233

temperature compensation *see compensation*

temperature control
see also thermostats
adaptive control of a solar central receiver: modelling and simulation 7—59877

temperature control continued
batch cooling crystalliser, microcomputer programming of temp. 7—53522
blackbody with Pt heater and temp.-sensitive element 7—35518
cryogenic temp. controller, for diffusion coeff. of Kr in liquid Ar determ. 7—30020
cryostats, thermal mode optimisation *(Russian)* 7—48746
ESR expts., high-precision programmable temp. controller 7—30053
fixed-bed reactor, robust multivariable control system design 7—54256
flowing water system for high-precision temp. control 7—48729
hot-wire anemometer compensated for ambient temperature variations 7—16275
laser power meas. in μW range, sensitive calorimeter with isothermal temp. control 7—15918
macroscale heat flow calorimeter for studying chemical processes 7—41391
medical microwave hyperthermia, thermal dosimetry method using microwave radiometry for temp. control 7—65859
NMR, variable temp., solid state, CP/MAS, rel. to temp. meas. and control 7—48793
optical components manufacture 7—31541
optimisation of power supply and temp. control system 7—4290
plasma spray deposition process parameters control, math. model 7—3477
reverse osmosis desalination meas. and controls 7—28338
semiconductor lasers, power control *(German)* 7—50578
thermal energy storage system performance, impact of operation and control, DOE2 simulation 7—65621
thermocouples, bath for reference junctions, using solid-state heat pump 7—14936
thermoelec. device construction for temp. controlled X-ray single cryst. diffractometry 7—14935
thermophysical meas. automation, universal microcomputer-controlled system 7—4854
tubular heat pipe furnace characts., gas-controlled 7—41375
very high temperature gas cooled reactor, control system design and dynamics 7—768
Hg, contact switches, instrument temp. control 7—30009

temperature distribution
AGR boilers, Heysham I and II and Hartlepool II modifications 7—15253
annular packed-sphere bed with wall effects, fully-developed forced convective flow 7—51110
axisymmetric cylinder-shell system, US oscills. excitation, temp. field 7—1384
betatron magnetic circuit temp. distrib. calc. *(Russian)* 7—42247
BH laser diodes, thermal props. 7—57328
bimetal cylinder, temp. fields and residual stresses in cooling 7—33705
binary semiconductor alloys, directional solidification, convection, segregation, ampoule and furnace design 7—59501
biological temperature retrieval by scanning radiometry 7—14104
bistable thermal equilibrium systems, initial temp. profile, asymptotic evolution 7—31632
Bridgman growth, interface temp. distrib., furnace stability, computer calc. 7—53546
cavity flow, buoyancy effect *(Chinese)* 7—11429
ceramic part, heat resistance under two-dimens. strain conditions 7—59630
circular jet with initially laminar boundary layers, turbulent interaction region 7—11486
composite media, thermoelastic waves, photothermal generation 7—44685
composite slab, transient heat conduction, convective and radiative cooling 7—11246
crystal surface, temp. distrib., induced by local heat pulse 7—57671
cylinder, rotating horizontal, partially filled by viscous fluid, transient temp. distrib. 7—6215
Czochralski growth, cryst. wt. rel to melt temp. variation 7—7841
domain with cut, stress intensity coeffs. in quasistatic temp. problems, asymptotic form 7—26152
evacuated tubular collector, nonuniform temp. effect on receiver performance parameter 7—40031
flexible structure, local region, optimum profile of temp. field 7—31652
floating zone imaging furnace, molten zone temp. distrib., calc. method 7—17416
fretting wear, subsurface layer, temp. profile meas. 7—17665
glass-copper laminate, one-dimens. unsteady heat cond., appl. to thermal diffusivity meas. 7—31624
horizontal eccentric annular cavity, natural convective heat transfer reduction by baffles 7—20701
ingot solidification, temp. field, ZD simulation 7—33650
laminar natural convection in annuli between concentric and eccentric cylinders 7—37546
laminated thick composite plates, buckling, hygrothermal effects 7—11321
laser diode arrays with heat sinks, temperature profile model 7—20221
laser heating of slab by time-dependent irradiation 7—21266
laser-heated materials, temp. distrib. meas. method 7—9837
latent heat storage unit with finned tube, heat transfer characts. 7—43647
liquid inclusions movement in soluble solids, inverse Stokes' law 7—11263
metal equipment struck by lightning, temp. distrib. anal. and heat fluxes *(Russian)* 7—43649
MHD boundary layers, heat transfer, Joule heating and transpiration effects 7—37556
MHD heat transfer in cylinder, temp. distrib., implicit calcs. 7—51324
mirror, honeycomb sandwich, thermal design 7—37089
MOVPE, reaction processes, Raman spectroscopy investig. 7—22538
multilayer composite wall with effects of internal thermal radiation and cond., transient temp. distrib. 7—11262
natural convection, heated horizontal surface, numerical anal. 7—31777
natural convection, partially filled rectangular enclosure, heat transfer study 7—31625
natural convection, partitioned enclosures, heat transfer study 7—31626
natural convection enclosure flow, temp. and heat flux distrib. 7—1563
natural convective heat transfer on vertical plate, heat conduction effect 7—26124
nonisothermal wake behind axisymm. body, turbulent vel. and temp. fields 7—11423
ocean, calc. method for thermal structure of upper ocean 7—14302
organic liquid, multiple bubble collapse *(Chinese)* 7—11518
paraboloidal systems, steady heat conduction, temp. distrib. 7—50912
plate, nonisothermal flat, free convection flow influenced by blowing or suction 7—11529

temperature distribution continued
polyphenylene oxide article surface, nonstationary thermal field created by IR laser radiation, chem. processes control 7—16622
rod, long, plastic wave propag., strain and temp. distrib. *(Japanese)* 7—31678
rod, nonuniformly ageing viscoelastic, with small deform., thermal stability 7—11317
rolled metal section, light, accelerated cooling rate during TMT, effects of design, hydromech. and temp. factors 7—8011
rotating cylindrical annulus, imposed temp. gradient, flow regimes study 7—43933
sea surface temp., monthly anomalies prediction *(Russian)* 7—23669
sea surface temperature anomaly field in N Atlantic Ocean, autoregression model 7—14309
semiconductor and electrical engineering devices, cooling device design 7—37314
semiinfinite body, surface temp. distrib., annular heat source effects 7—43630
sintering, thermal stress anal. using moving grid 7—53648
solid adsorbent grain, spherical, submitted to adsorbable vapor press. step temp., conc. and press. distrib. *(French)* 7—1386
sputtering temperature of cooling cylindrical rod with insulated core, num. results 7—31631
steam-water dispersed flow heat transfer in vertical round tube, post-dryout regime *(Chinese)* 7—11419
steel, low-alloy, H-beams, controlled rolling effect on mech. props. 7—39562
surface rippling during laser material processing, thermohydraulics anal. 7—58574
synchrotron radiation mirror, thermal distortion prediction with finite element analysis 7—43306
tensile tests, nonisothermal, anal. using measured temp. distrib. 7—65245
thermoacoustic wave imaging and depth profiling cell 7—1337
tissue, light intensity and temp. distribs. created by light emitted from an embedded optical fibre 7—47013
toroidal solenoid, thermomech. loaded, optimal design 7—57695
transformer magnetic circuit temp. distrib. calc. *(Russian)* 7—42247
transverse thermal dispersion in forced convective flow through packed bed 7—51105
trapped internal waves from body moving in ocean thermocline, phase config, visualisation 7—31854
tubular specimen under HF induction heating, temp. distrib. anal. 7—43650
US hyperthermia simulation using finite element model 7—47181
US levitation simulation, boundary- and finite-element approaches 7—1360
Venus ionosphere, two-dimensional model of thermal struct. 7—24039
viscoelastic rectangular body excited by rectangular waveguide, vibrs. and heating 7—16109
wake, axisymmetric body, velocity and temperature profiles study 7—63155
wiggler beam monochromator, distortion from synchrotron radiation thermal loading, finite element analysis 7—42269
yawed finned tube, heat transfer, temp. distrib., orientation effects 7—1564
Al-Cu (4.5 wt.%), laser treated, surface solidification with moving heat source 7—22648
GaAs, rapid thermal annealing, heating behaviour 7—21258
He-H_2O, gas/vapour mixtures in porous medium, natural convection 7—1554
InP, rapid thermal annealing, heating behaviour 7—21258
N_2-H_2O, gas/vapour mixtures in porous medium, natural convection 7—1554
Zr cathode, material and structural changes during arc operation in N_2 7—46866

temperature measurement
see also pyrometers; spectral methods of temperature measurement; temperature scales; thermocouples; thermometers
analogue thermistor thermometer for 0 to 100°C range 7—14943
atmospheric temp., estimation from remotely sensed IR data *(Japanese)* 7—18316
biological tissues temp. profiles reconstruction, statistical-regularisation method 7—59939
black-body cavity for total radiation thermometry 7—48739
blackbody with Pt heater and temp.-sensitive element 7—35518
cable-type thermoelectric converters, pulsed method for thermal inertia estimates 7—30592
Chernobyl reactor surface temp. analysis using Landsat TM images 7—49585
combustion diagnostics by pulsed photothermal and photoacoustic deflection spectroscopy 7—23016
conference, Prague, Czechoslovakia (April 1985) 7—48169
contactless temperature meas. using infrared detectors *(Russian)* 7—4889
converging detonation waves, temp. var. meas. *(German)* 7—51207
cryogenic engineering conf., Berlin, Germany (April 1986) 7—48183
dew point sensor for gas mixtures and pure gases *(German)* 7—56248
digital portable temp. measuring instruments *(German)* 7—18776
digital readout temperature indicator, low cost, with Chromel-Alumel thermocouple 7—14942
diode-bridge temperature sensor 7—18783
droplet surface temperature meas. with IR technique *(Chinese)* 7—48733
electrodynamic thermogravimetric analyzer for aerosol particle kinetics obs. 7—3620
equipment review 7—35517
errors in temperature measurement with built-in thermoelectric thermometers 7—41378
Fabry-Perot fibre optic sensor and its appls. 7—43424
falling films, surface temp. meas., rel. to gas and vapour sorption 7—56263
fibre optic sensor, sapphire blackbody design 7—30012
fibre optic sensor technique developments 7—18785
fibre optic sensor using biconical fused taper low-loss coupler config. and characts. 7—43439
fibre optic sensors, development, configs., and appls., review 7—31485
fibre optic sensors and their appls., conf., Cannes, France (Nov. 1985) 7—40999
fibre optic sensors for chem. industry, industrial meas. of press., temp., and level 7—57579
fibre optic sensors for temp., vibration and pressure meas. *(German)* 7—11158

temperature measurement continued
fibre optic simple reflectometer configured to sense temperature 7—25994
fibre optic temperature sensor based on light amplitude modulation 7—50767
fibre optic thermometer for medical appl., using thermochromic transducer and TDM technique 7—47276
fibre optic thin film temperature sensor for temp. meas. in mag. fields 7—25992
fixed bed catalytic reactors, 1D heat transfer coefficient 7—6298
flame fluctuating temp. meas. by thermocouple 7—56264
fluorescence decay temp. sensor with optimised signal processing 7—41386
fretting wear, subsurface layer, temp. profile meas. 7—17665
gas jet impacting a cavity, temp. and velocity meas., flow anal. 7—43999
gas thermometry, constant-volume, between 4K and 100K 7—18780
glass:Nd absorption thermometer with fluorescent referencing, fibre optic temp. sensor 7—25996
heterodyne interferometric temp. sensor using transverse He-Ne Zeeman laser and polarisation maintaining fibre 7—25991
infrared fibre-optic cable system for measurement of temperatures near ambient 7—14945
interferometric, using fibre optic sensor 7—43433
IR sensor material, characts. *(Japanese)* 7—56339
IVV-2M reactor, thermoelectric temp. transducers, transient effects 7—5345
Japanese Industrial Standards and scales *(Japanese)* 7—56265
laser beam profile meas., by thermographic technique 7—31377
liquid crystal thermography for wall heat transfer and flow visualisation 7—35520
low temperature measurement methods, thermometers and magnetic effects *(German)* 7—24652
low-temperature measurement principles, thermodynamics and thermometer functions *(German)* 7—24651
manometric thermometers with liquid and Hall transducers, manufacturing possibilities *(Rumanian)* 7—48734
medical circuit for linear meas. of temp. 7—28739
meteosat IR meas., surface and cloud-top temp. determ. atmospheric correction scheme 7—18310
methane, press., density and temp. meas. in crit. region 7—52000
microbead surface temperature determination, IR, thermocouple and resist. thermometric techniques 7—30008
microcomputer data-acquisition and control system for thermal variables meas. 7—4841
microwave detection of nonelectrical props. in China, review 7—48682
multichannel digital temperature meter using transistor sensor, design for medical appls. *(Spanish)* 7—30010
multichannel temp. meas. system with built-in microcomputer 7—41381
multispectral image processing of temperature sensitivetracer particles 7—4833
NMR imaging of temperature profiles 7—35542
nuclear power stations, diagnostic subsystems in Czechoslovakia *(Czech)* 7—19386
nuclear quadrupole resonance thermometers, freq.-temp. conversion *(Russian)* 7—41385
nuclear reactor, WWER temp. meas. reliability checking method *(Russian)* 7—30594
ocean meas. under sea ice, medium-resolution turbulence cluster 7—9271
oceanographic shallow water tomography, acoustic reciprocal transmission expts. 7—9259
online pressure and temperature calibration based on well-known phase transition 7—4853
optical fibre intrinsic sensors for temp. meas. 7—50762
optical fibre thermometry, advantages and appls. 7—9835
polymer solutions cloud points meas., using pressurised apparatus 7—9871
primary gas thermometry, harmful volume influence elimination, electrophysical method 7—310
pyrometer, Ge photodiode based, for 60 to 1400°C range *(Rumanian)* 7—4856
quartz resonator temperature transducer with no activity dips, expt. and theoretical study 7—56268
quartz tuning fork resonator type temp. sensor, design, fabrication and characts. 7—56269
radiation thermometers for simultaneous emissivity and temp. meas. 7—18781
radiothermometer, S/N ratio and sensitivity equations 7—18782
rotational pyrometer, precision temperature measurement 7—311
sea surface temp. from AVHRR meas., split-window retrieval using 12 μm data 7—55293
sea surface temperature imaging, appl. of Advanced Very High Resolution Radiometer (AVHRR) data 7—14297
sensor technology and appls., conf., Bad Nauheim, FRG (March 1986) *(German)* 7—24271
sensors, principles and signal processing aspects *(German)* 7—18777
solar pond geometric mean temp. meas., digital meter design 7—54356
solar receiver fibrous insulator, temp. meas. using thermocouples 7—59872
standards and sensors for temp. meas. *(French)* 7—303
steel, austenitic, ultrasonic measurement of internal temperature distribution 7—46776
surface temp. meas. of poor heat conducting materials radiation technique accuracy 7—26133
TFTR high accuracy cryogenic temperature measuring system 7—15402
thermistors characts. var. implications for air temp. meas. 7—9233
thermocouples and resistance temperature devices comparison 7—4852
thermodynamic props. of solids determ., by adiabatic pressure variation method 7—2230
thermodynamic temp. meas. between 683K and 933K, using IR pyrometer 7—18788
thermoelectric and resistance thermometers, characts., props. and reliability *(German)* 7—18778
thermoelectrode materials certification practices 7—304
three-band microwave radiometer system for noninvasive measurement of the temperature at various depths 7—18102
tubular heat pipe furnace characts., gas-controlled 7—41375
turbulent boundary layer, heated, hot-wire meas. of velocity and temp. fluctuations 7—63236
turbulent plane jet, organised struct., role in momentum and heat transport 7—44000
U-shaped curved multimode fibre sensor for process refractometry and temp. meas. *(German)* 7—11160
ultrahigh vacuum sample mount for insulators 7—48762
US cavitation, sonochemical reaction and local temp. determ. 7—3594
vapour, multiplet, spectral broadening, temp. depend. 7—42551

temperature measurement continued
VVER in-reactor monitoring system, improvement of accuracy and reliability 7—30593
Co-Ba-Ni-O_2 thermal resistance thermometer study *(Chinese)* 7—24650
Ga melting and triple points realisation, comparison of sealed cells 7—61333
GaAs hot-electron temperature measurement, method 7—52623
GaAs junction, temp. meas. using capacitance change of space-charge region 7—48742
Ge, laser heated, time-dependent X-ray reflectivity 7—26796
^{4}He, dynamic temp. and second virial coeff. meas. using constant-volume gas thermometer 7—48738
Hg, high pressure decaying arc., spectroscopic temp. meas. 7—11809
$LiNbO_3$ SAW oscillator for humidity and temp. meas. 7—4232
$MnCO_3$, decomp. to Mn_3O_4, kinetic evol. for laser/thermal prep. 7—39870
NH_3, cryogenic, high press. shock temp. meas. 7—32566
Ni thin film temp. sensor *(German)* 7—61332
Ni, thin film temperature sensors 7—35519
Pt resistance thermometer, errors 7—9833
W ribbon furnace for electrothermal at. absorpt. spectrometry. temp. meas. 7—30017

temperature scales
EIPT reference scale *(French)* 7—303
gas thermometry, constant-volume, between 4K and 100K 7—18780
Japanese Industrial Standards and scales for temp. meas. *(Japanese)* 7—56265
succinonitrile triple-point cells for temp. ref. standard near 58.08°C 7—35492
superconductive fixed point, zero-field transition temperature meas., mag. shielding 7—38796
transfer-standard monochromatic comparator pyrometer, using Si photodiode 7—14947
water, distilled, triple point, prep. of water cells *(Korean)* 7—24620
CaO, solidification point, reinvestig. by digital pyrometry 7—38168

tempering
glass, helicopter windshield, chemically tempered impact fracture 7—28108
SAW transducer, layered struct. tempering *(German)* 7—31615
steel, 4340, positron annihilation parameter and H behaviour, effects of tempering temps. 7—46205
steel, abrasion resistance after heat treatment 7—17697
steel, alloy, impact behaviour, influence of grain boundary carbide density 7—13574
steel, alloy type, low-C, tempering temp. effect on mech. props. and crack resist. 7—39654
steel, C, Vasco X-2M, precipitation during tempering, rel. to impact toughness 7—46494
steel, case hardened, struct. and contact endurance after plastic surface deform. tempering effect 7—46706
steel, constructional carbon type, original charge purity influence on microstruct. hardenability and mech. props. 7—46521
steel, Cr type, dislocation struct. after hydraulic pressing followed by austempering 7—3334
steel, Cr-Mo, high C, bonded carbide, secondary temper hardening, microstruct. 7—17542
steel, Cr-Mo, normalised, tempered, neutron irrad., 390-550°C, tensile props. 7—17621
steel, Cr-Mo type, ageing effect on heat resist. props. after cold deform. and tempering 7—22813
steel, Cr-Mo-V, ion nitriding characts. *(Korean)* 7—8162
steel, Cr-Mo-V type, heat resistant, impurities effect on temper embrittlement susceptibility 7—3419
steel, Cr-Ni-Co VKS6, struct. and mech. characts., effects of Ni, Co and heat treatment 7—8108
steel, Cr-Ni-Mo, fracture toughness rel. to austenitising temp. *(Japanese)* 7—33778
steel, Cr-Ni-Mo-Fe-C, reversible temper brittleness kinetics investig. *(Russian)* 7—13554
steel, die, heat-resistant, optimum hardening temps., struct. and mech. props. 7—8022
steel, fatigue crack growth, influence of ambient environment 7—28107
steel, fatigue threshold, effective, influencing factors 7—46607
steel, ferritic, HT-9, mech. props. as function of heat treatment 7—53858
steel, ferritic, unirradiated, low activation, microstructure and mechanical props. 7—53863
steel, hardened and tempered, struct. aspects of cyclic crack resist. 7—17613
steel, high C, quenched, structural changes, tempering effects *(Russian)* 7—17556
steel, high speed, wear, role of primary carbides 7—33807
steel, high-C, hardened, mech. prop. changes on tempering, martensite decomp. role 7—3375
steel, high-speed W-Mo, nitrogen effect of stabilisation of austenite 7—8021
steel, low alloy, B-containing, near-threshold fatigue cracks 7—46605
steel, low C, low alloy, tempering investig., epitaxial ferrite stability studies *(Russian)* 7—13479
steel, low-C, Ni influence on struct., fracture resist. and fractographic features 7—3420
steel, low-C, wrought, thermal strengthening methods effectiveness 7—46524
steel, martensitic, tempering after surface plastic deform. effect on damageability in cyclic loading 7—46705
steel, martensitic stainless, low activation, hardening, tempering, mechanical props. 7—53861
steel, medium C, impact toughness and fracture, prolonged high tempering effects *(Russian)* 7—8083
steel, Mo stainless, microstructure rel. to heat treatment 7—53770
steel, Ni, plate manufacture, direct quenching and tempering process 7—59556
steel, Ni, plates, direct quenching and tempering manufacturing process *(Japanese)* 7—3342
steel, Ni, reverse austenite transform., Mossbauer study *(Chinese)* 7—65028
steel, Ni, sulphide stress cracking susceptibility rel. to tempering 7—17712
steel, Ni-Cr-Mo, crack branching in H embrittlement *(Japanese)* 7—53847
steel, p/m, heat treatment effect on strength and yield parameters 7—53775

tempering continued
steel, quenching, effect of martempering on thermal stress and strain 7—46532
steel, stainless, martensitic and austenitic, amplitude depend. damping rel. to annealing and tempering *(German)* 7—13498
steel, strengthening of parts and semifinished products in thelast stage of heat treatment 7—8024
steel, structural, heat treated, coercivity in various remanent magnetization states, NDT method development 7—65259
steel, structural, temper embrittlement, preferential segregation, Auger spectra 7—53737
steel, structural heredity in heat cycling 7—33703
steel, took, Cr-Mo-V, hot working, ductility, C content, toughness, eutectic carbide segregation 7—59592
steel, tool, H-13 hot-work, partial substitution of Nb for V 7—13463
steel, tool and struct., nitrided, prior heat treatment effect on mech. props. 7—46707
steel 65G, microstruct. and mech. props. after low-temp. TMT, tempering temp. influence 7—17554
steels, tool, M2 and H13, fracture toughness, influence of microstruct. 7—46632
Cu and alloys, neutron irrad. effects, elec. cond., fusion reactor appl. 7—51835
Fe-C martensite, struct. in transition state from first to third stage of tempering, electron microscopy and diffr. study 7—46528
Fe-N martensite, transform. kinetics, anal. by nonisothermal dilatometry 7—8004
Fe-Ni-Cr-Ti-B, constant elastic alloy, torsion reson. freq. temp. coeff. rel. to B content *(Chinese)* 7—13488
HfN films, colour, aging and tempering effects 7—46159
Mn-Cu, sintered damping alloy, tempering, & solid soln. breakdown mechanism 7—22692
TiC-steel hard alloys, wear resist. in abrasive jet, methods of improvement 7—3448
TiN films, colour, aging and tempering effects 7—46159
TiN ion plated films, tempering effects 7—59461
W-Cu-Ti(Zr), saturation rate of porous W with Cu, effect of Ti and Zr 7—3220

tenacity *see tensile strength*

tensile strength
see also fracture; yield strength
alkali metals, tensile strength under (110) uniaxial stress *(Chinese)* 7—26825
aspen fibre reinforced polyethylene, mech. props., effect of extreme conditions 7—39604
brass plated steel cords, mech. and cohesion props. in sulphurising environment 7—39740
brass sheet formability, grain struct. and stress raisers influence 7—3376
bronze, powder particle shape effect on stability props. 7—7927
castings, strength and elec. props. 7—27971
cellulose fibre reinforced polyester, prep., and props. 7—3265
cements, bending stress determ. from density of localised cracks *(German)* 7—22935
ceramics, engineering, tensile strength *(Japanese)* 7—53800
collagen, tendon, specimen length rel. to tensile failure props. 7—34180
composites, laminated, struct.-performance maps 7—17574
continuous fibre composites, compression moulded, tensile strength, fibre misorientation effect 7—3379
corundum-graphite refractories, thermomech. props. 7—22806
cracks, unstable growth, conditions of normal separation under static loading beyond ultimate strength 7—32559
epoxide resins, particulate filled, parameters determining strength and toughness 7—65071
epoxy-amine matrices, improvement of phys. and mech. props. 7—39574
ethylene glycol, rapid cavitation induced by shock-wave refl., tensile strength meas. 7—31848
fabric dependence of anisotropic strength criterion 7—38084
fibre reinforced composites, delamination growth in angle-ply laminated composites 7—31701
fibre reinforced composites with internal stresses under control 7—3383
fibre reinforced plastics, hybrid, tensile, compressive, flexural and shear props., review 7—39532
fibre reinforced polymeric composite, cracked orthotropic, long-time strength under constant tensile load 7—6156
fibres, natural, fracture behaviour, empirical evaluation of struct.-prop. relationships 7—39633
first wall candidate ferrite alloys, Ni doped, postirrad. tensile behaviour 7—56827
fusion reactor first wall, plasma disruption damage calc. 7—791
glass and C fibre reinforced epoxy laminates, cross-ply cracking 7—39617
glass fibre reinforced epoxide resin, tensile props. under superposed hydrostatic press., failure mechanisms 7—28078
glass fibre reinforced epoxy, cross-reinforced wound, deform. and failure in tensile loading 7—17633
glass fibre reinforced epoxy and polyester composites, flexural failure mechanisms, global stress plane 7—8082
glass fibre reinforced plastic, cross-layered reinforcement strength criteria 7—17631
graphite fibre reinforced Al-Mg-Fe, unidirectional and angle-ply, strength and fracture anal. 7—59605
graphite fibre reinforced epoxy, thermomech. behaviour, space rad. effects 7—51828
graphite fibre reinforced epoxy resin composites, multidimensionally braided, tensile, compressive and flexural props. 7—33726
graphite isotropic, fine grained, oxidation effect on crack extension rate *(Japanese)* 7—56754
ivory, tensile props. and fracture rel. to comp. and struct. 7—14032
Kevlar 49-285 style fabric for space structures use, thermoelastic behaviour 7—37329
Kevlar fibre reinforced epoxy resin composite strands, tensile props. rel. to fibre vol. fraction 7—65087
Kevlar fibres, epoxy reinforced, failure, lifetime distrib., kinetic approach 7—39533
$L1_2$ ordered alloys, grain boundary strength and fracture, electronic and struct. studies 7—33756
laminates, centrally notched, residual strength determ. *(Chinese)* 7—13557
lignocellulosic fibres, phys. and mech. props. 7—53883
liquids, entropy changes and fluctuations near tensile instability 7—6830
metal-ceramic dental prostheses, strength rel. to surface roughness of metal frames 7—40365

tensile strength continued
- metallic elements, cyclic local stress-strain and fatigue crack initiation life *(Chinese)* 7—46593
- metals, sheet, press formability and anisotropic yield, Bassani-type criteria 7—28068
- Monel 400, embrittlement by Hg, effect of prestress 7—3431
- nylon 6 composites, formed by in situ polymerisation of caprolactam, mech. performance 7—39575
- nylon-6-rubber-modified rubber blends, mixing effect on morphology, mech. and impact props. 7—37903
- optical fibres, strength and fatigue, Weibull probability function 7—62842
- optical fibres, strength meas. by bending 7—43384
- perfect crystal tensile strength, anisotropy and interatomic pot. effect 7—12187
- pineapple leaf fibre reinforced rubber, phys. and mech. props. 7—3378
- poly(ethylene terephthalate), irradiated, phys. and dielec. props. 7—33332
- poly(p-phenylene terephthalamide) fibres mech. props., stochastic model 7—39661
- poly ether ether ketone film, zone annealing prep., dynamic modulus, tensile strength 7—8038
- polyamide 6-polyethylene blends, miscibility, mech. props. 7—59535
- polycarbonate, shock-loaded, tension-recompression response method study 7—33879
- polyethylene, ultra-high modulus, tensile strength, effect of mol. wt. 7—39590
- polyethylene filaments, low and high mol. wt. blend, tensile strength 7—17599
- polyethylene films, drawing, mech. props. rel. to polymerisation temp. 7—59488
- polymer fibre, discontinuous strength spectrum 7—17610
- polymers films, high modulus, fabrication by solid-state rolling 7—46525
- polyoxymethylene, tubes, microwave heat drawing, tensile load and precursor size effects 7—22734
- polypropylene, electret and mechanical props., supermolecular structure effects *(Russian)* 7—64560
- polypropylene, irradiated, phys. and dielec. props. 7—33332
- polypropylene-EPDM elastomer multicomponent blend, $CaCO_3$ filled, mech. and rheological props. 7—3381
- polystyrene, mechanical props. of thin films 7—52380
- polystyrene, tensile strength, effects of temp. and mol. wt. *(Japanese)* 7—33737
- polysulphide rubber-butadiene-acrylonitrile copolymer/PVC blend, mech. props., ageing and solvent resist. 7—39593
- power law materials, neck form. invariance to strength and strain rate 7—17597
- pressure pulse reflection at free surfaces of water 7—11480
- PVC, rubber modified or filled, damage kinetics, AE analysis 7—54063
- PVC-thermoplastic copolyester elastomer blends, γ-irrad., mech props., fractography 7—21317
- reinforcing elements, unidirectional, scale effect of strength in tensile loading 7—31640
- silk fibre filled thermoplastic elastomer, tensile rupture 7—39635
- single fibre-resin tensile tests, stress transfer 7—28074
- solid materials, bonding, external electrostatic field effects 7—26693
- steel, alloy type, low-C, tempering temp. effect on mech. props. and crack resist. 7—39654
- steel, austenitic, Cr-Mn, thermal and mech. props., fusion reactor appl. 7—53795
- steel, austenitic, fusion reactor first wall material, development and testing 7—53860
- steel, austenitic stainless, BWR pipe welds, toughness and tensile props. 7—46650
- steel, austenitic stainless, grain boundary microstruct., He embrittlement resistance 7—56829
- steel, austenitic stainless, low activation, development, mechanical props., fusion reactor structural material 7—53799
- steel, austenitic stainless, Mo-ion plated, corrosion resist. in flowing Na environment 7—59667
- steel, Cr-Mo, normalised, tempered, neutron irrad., 390-550°C, tensile props. 7—17621
- steel, Cr-Mo, normalised heavy section plate, weld cold cracking susceptibility *(Japanese)* 7—3425
- steel, Cr-Mo type, temp. and deform. rate conditions influence on mech. props. 7—33752
- steel, Cr-Ni high-temp. type, N and heat treatment effect on struct. and mech. props. 7—33688
- steel, Cr-Ni type, temper hardened, strain rate effect on plastic deform. resist. and energy characts. 7—39601
- steel, Cr-Ni-Co VKS6, struct. and mech. characts., effects of Ni, Co and heat treatment 7—8108
- steel, Cr-Ni-Mo, Ge and melting method influence on mech. props. at high temp. 7—8025
- steel, Cr-Ni-Mo, maraging, mech.-props. rel. to heat treatment *(Japanese)* 7—53792
- steel, Cr-Ni-Mo type, austenitisation conditions effect on austenite decomp. kinetics and mech. characts. 7—39557
- steel, dislocation struct. rel. to cyclic bending strain 7—22760
- steel, duplex stainless, sintered, mech. props., corrosion resist. and high temp. oxidation resist. 7—7928
- steel, ferrite-pearlite, H occlusivity and embrittlement, effect of C content 7—3417
- steel, ferritic, fusion reactor first wall material, development and testing 7—53860
- steel, ferritic, unirradiated, low activation, microstructure and mechanical props. 7—53863
- steel, growth under impact tension 7—28105
- steel, high strength, strength meas., anal. of elastic-plastic ball indentation method 7—63088
- steel, HSLA, high strain-rate behaviour, Bodner-Partom viscoplastic constitutive model description 7—33754
- steel, low-C, mech. prop. change after cold deform. and ageing 7—33696
- steel, low-C, wrought, thermal strengthening methods effectiveness 7—46524
- steel, low-pearlite, rules of austenite decomp. in continuous cooling 7—3339
- steel, low-tensile, crack resist. in elastoplastic region under static loading 7—33793
- steel, martensitic stainless, low activation, hardening, tempering, mechanical props. 7—53861
- steel, mech. props. and failure character after repeated thermomech. strengthening of surface layer 7—53994

tensile strength continued
- steel, Mn-V, low-pearlitic, normalized, struct. and mech. props., sheet thickness depend. 7—8006
- steel, Ni-Co-Mo, maraging, ultrahigh strength, H embrittlement rel. to coatings 7—28136
- steel, Ni-Co-Mo, maraging, ultrahigh strength, H embrittlement rel. to Ni or Cu coating 7—28137
- steel, p/m, heat treatment effect on strength and yield parameters 7—53775
- steel, stainless, austenitic, low-activation, constitution, struct. and mech. props. 7—42195
- steel, stainless, powder compacts, props., influence of sintering conditions *(Korean)* 7—17496
- steel, stainless, type 316, neutron damage USA-Japan studies 7—56834
- steel 65G, microstruct. and mech. props. after low-temp. TMT, tempering temp. influence 7—17554
- steel reinforcement, hot-rolled, strength characts. eval. using mag. method 7—39824
- steels, stainless, α-particle irradiated, mech. props. and microstruct. 7—51872
- steels, surface degradation in elevated temp. gas-particle streams 7—3520
- stress-rupture strength, temp.-time prediction 7—28133
- sunhemp fibre reinforced polyester composites, tensile and impact props. 7—39592
- superalloys, columnar grained and single-crystal, high-temp. strength with surface recrystallised layer *(Japanese)* 7—53788
- water, rapid cavitation induced by shock-wave refl., tensile strength meas. 7—31848
- whisker-type monocrystal, elastic limit rel. to phys. characts. 7—2443
- wollastonite reinforced polyamide 6, strength props., depend. on humidity and temp. 7—39636
- Al-Cu-Li-Mn-Cd alloy, 2020, micromechanisms governing elevated temp. fracture resist. 7—22803
- Al-Cu-Mg-Al_2O_3-Al_4C_3, IN 9021, mechanically alloyed precip. hardened, tensile behaviour 7—13525
- Al-Fe-Si-TiO_2, dispersion hardened, strength props., effect of matrix particle size and oxide vol. fraction 7—17544
- Al-Li-Cu(-Mg), stress corrosion resist. and mech. props. 7—33833
- Al-Mg, rapidly solidified powders, effect of extrusion parameters on props. 7—39595
- Al-Mg-Li, 14 MeV neutron irrad., mech. props. microscopic struct. 7—56820
- Al-Mg-Si, Al-Mg, cast, mica particle dispersed composites, struct., strength, hardness 7—59574
- Al-Mg-Si, squarely extruded, texture and mech. props. *(Japanese)* 7—33694
- Al-Si, cold worked, damping characts. 7—28064
- Al-Si, talc particle reinforced composites, prep., wear and mech. props. 7—13408
- Al-Si thin film metallisations, Hall-Petch relation 7—2442
- Al-Si-Mg (7, 0.3 wt.%), strength and ductility, effect of macroporosity 7—3386
- Al-Si-Zn-Mg-Ti(-Sr) system alloys, mech. props., Sr microalloying effect 7—3377
- Al-Zn-Mg-Cu alloy, microalloying effect on struct. and mech. props. 7—53755
- Al_2O_3 fibres, strength distrib., multi-model Weibull distrib. 7—28081
- Al_2O_3, neutron irrad., microstruct., mech. props. 7—51843
- Al_2O_3-TiO_2 system detonation coatings, struct. and phase characts., physicomech. props. 7—65212
- Au wires, very thin, fatigue 7—39671
- B fibre reinforced Al matrix composites, transverse mech. props., isothermal exposure effect 7—39688
- B_2O_3-SiO_2 glass, Pyrex, shock loading meas., impact failure modes determ. 7—33798
- Bi alloy impregnated Ti, composite pseudoalloy, mech. props., Bi alloy content depend. 7—28095
- C fibre, continuous filament, strength and modulus, eval. methods 7—28061
- C fibre reinforced Al-Cu(Mg) composites, tensile strength, fracture, interfacial bond strength 7—33744
- C fibre reinforced C composites, tensile props. and fracture toughness at high temps. up to 2400°C *(Japanese)* 7—53864
- C fibre reinforced epoxy, unidirectional, fracture strength, role of matrix resin 7—53845
- C fibre reinforced plastic laminates, ply failure under moisture and temp. influences *(German)* 7—22744
- C fibre reinforced plastics, strength, thermomech. props. thermal spiking and moisture absorpt. effect 7—28085
- C fibres, B modified, effect on mech. props. 7—17570
- C fibres, Celion, mechanical and fracture behaviour 7—22786
- C fibres, melt spun, non-circular, elastic modulus, tensile strength 7—7908
- C fibres, pretorsional deform., annealing, acid treatment, struct., mech. props 7—22768
- C fibres, tensile strength distrib., statistical model, electrodeposited coating effect 7—39585
- C-sunhemp fibre reinforced polyester hybrid composite, tensile strength and fracture 7—13522
- $Ca_5Na_4K_2Si_{12}O_{30}F_4$, chain-silicate canasite glass-ceramic, thermal shock behaviour, effect of crystn. 7—46613
- CoCr sputtered film recording media, wear resistance, mech. strength and microstruct. 7—32859
- Cr-Mo ferritic steel, 14 MeV neutron irrad., mech. prop. changes 7—56821
- CrCo-porcelain and CrNi-porcelain dental prostheses, strength rel. to surface roughness of metal frames 7—40365
- Cu commercial alloys, low neutron dose effects on tensile props., yield stress 7—51863
- Cu fibre, porous, physicomech. props. and model prediction 7—3353
- Cu, ion irradiated, mech. prop. meas. 7—51873
- Cu, low neutron dose effects on tensile props., yield stress 7—51863
- Cu, single crysts., mech. instability during tension at high temps. 7—13505
- Cu, third-order elastic modulus, effect of plastic deform. *(Russian)* 7—46544
- Cu wires, very thin, fatigue 7—39671
- Cu-Cr multilayers, laser alloying 7—45025
- Cu-Zn, embrittlement in solidification process 7—3435
- Cu-Zr, ion irradiated, mech. prop. meas. 7—51873
- $(Fe,Ni)_3V$, LRO alloys, mech. props., effects of strain rate and long-term ageing 7—53796

tensile strength continued
- Fe, cast, bainitic ductile, microstruct. rel. to comp. and heat treatment 7—39579
- Fe powder, ultrafine, and hot forged specimens, reduction temp. effect on struct. form. and props. 7—53670
- Fe/Fe-FeO/Al_2O_3 systems, diffusion bonded, interface chemistry, bonding strength 7—28079
- Fe-Cu, pore form. during sintering, effect on mech. props. 7—64970
- Fe-Mn-Al, processing and props., effect of Si and C additions 7—17707
- Fe-Ni, creep in vacuum and air, relationships governing deform. and failure 7—28097
- Fe-Ni-Al, sintered, ageing, precip. strengthening, tensile strength 7—39536
- Fe-Si alloy wires, rapidly solidified by in-rotating-water-spinning method, prod. and props. *(Japanese)* 7—22654
- $Fe_{80}P_{13}C_7$ alloy, metallic glass surface layers by rapid quenching, microhardness 7—3512
- $Fe_{78}Si_9B_{13}$, amorphous, tensile strength, elastic stiffness *(Japanese)* 7—3346
- $MgAl_2O_4$, neutron irrad., microstruct., mech. props. 7—51843
- $Mg_{1-x}Cr_xFe_2O_4$, Barkhausen noise parameters correl. with strength 7—22963
- Mo, solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
- NaCl crystal, surface optical breakdown, exoelectronic emission with laser irradiation, impurity effects 7—59384
- Nb, solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
- Ni alloy, heat-resisting, hot strain rate effect on microstruct. and mech. props. 7—39559
- Ni fibre, porous, physicomech. props. and model prediction 7—3353
- Ni strip, drawing after annealing at various heating rates 7—28071
- Ni-Cr fibre, porous, physicomech. props. and model prediction 7—3353
- Ni-Cr-W superalloy, experimental, tensile props., effect of carburisation and aging 7—59576
- Ni-P-B electroless coatings, prep. and deposit characts. 7—59671
- $Ni_{77}Si_8B_{15}$, amorphous, tensile strength, elastic stiffness *(Japanese)* 7—3346
- Pb-Al-Mg-Sn-Li, strength and microstruct. 7—8047
- Pb-Bi-Sn(In), alloy filaments, prod. by glass-coated melt spinning, enhancement of supercond. 7—58937
- Pb-Li, strength and microstruct. 7—8047
- $PbTi_xZr_{1-x}O_3$ piezoceramic, annealing in gaseous media with controllable comp., effect on electrophysical props. 7—8012
- Pt alloys, fast-quenched, struct. and props. *(Russian)* 7—59555
- SIC fibres, strength distrib., multi-model Weibull distrib. 7—28081
- SiC fibre reinforced Al alloys, whisker or particulate hybrids, mech. props. 7—13537
- SiC fibre reinforced Al composite wires, neutron irrad., mech. props., fusion reactor appl. 7—49628
- SiC fibre reinforced Li_2O-Al_2O_3-SiO_2 glass ceramics, tensile and flexural strength 7—13520
- SiC fibres, neutron irrad., mech. props., fusion reactor appl. 7—53794
- SiC fibres, prep. from polycarbosilane, heat treatment, Raman study 7—65062
- SiC whisker reinforced Al alloy, fabrication and props. 7—53680
- SiC whisker reinforced Al, flame spraying fabrication and forging, whisker distrib. and strengths 7—59483
- SiC whiskers, tensile fracture rel. to defects 7—58722
- SiC-Al composites, heat treatment and neutron irrad. effects on mech. props. 7—65081
- SiC-Si3N_4 fibres, prep. by polycarbosilazane precursors pyrolysis 7—27988
- Si_3N_4 ceramic, bonding to stainless steel, using Cr and Mn prediffusion *(Japanese)* 7—8147
- Si_3N_4, hot-pressed, tensile strength at room and elevated temp. *(Japanese)* 7—65139
- Si_3N_4/Al/Invar ceramic/metal joints, rel. between tensile and three-point bending strengths 7—39583
- Si_3N_4/ferritic stainless steel, joining with soft metal interlayers, tensile strength 7—28266
- Si_3N_4-SiC reaction sintered ceramics, oxidation effect on strength 7—65163
- SiO, stress meas. techniques 7—52380
- SiO_2 silica fibre mechanical strength determ. *(French)* 7—11157
- Ta, solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
- β-Ti alloy, springs, design and mech. props. 7—46630
- Ti alloy, two-phase, microstruct. and failure nature correl. 7—8110
- Ti-Al-Mo-Cr alloy, VT3-1, cooling regimes in heat treatment effect on mech. props. 7—8026
- Ti-Al-V (6, 4 wt.%) plates, rolling, heat treatment, microstruct., mech. props., turbine blade appl. 7—17644
- Ti-Al-V alloys, VT20 and VT6, annealing temp. effect on mech. props. of semifinished products 7—39558
- Ti-Mn, alpha and beta phases, yield and tensile strength, ductility, Bauschinger behaviour, fatigue life, crack propag. 7—8052
- V and alloys, dispersion hardened, strength changes and recrystn. 7—17545
- V, solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
- W base heavy metal alloys, mech.-props., porosity, impurity effects 7—17495
- Zn, deformation, action of series of elec. pulses 7—44659
- Zr-Nb (20 wt.%), ageing behaviour, effect of H 7—46527
- ZrF_4-BaF_2-LaF_3-AlF_3 glass, etching method for prep. of IR fibres with high tensile strength 7—1243

tensile testing
- bars, tensile, void coalescence, plastic localisation, failure modes 7—6108
- biotissues, automatic tensile test system 7—23489
- cements, bending stress determ. from density of localised cracks *(German)* 7—22935
- creep failure by microstruct. degradation and grain boundary cavitation 7—65117
- dynamic tensile test, numerical investig. using finite difference 1D elasto-viscoplastic code 7—46747
- fibre reinforced ceramics, test techniques for mech. props. 7—13698
- foils and films tensile testing, specimen-deformation machine for X-ray diffractometers 7—33874

tensile testing continued
- machine for tensile and compressive testing of materials with application of pressure 7—33876
- machine modification to perform simultaneous tensile and torsion tests 7—22948
- multiwire chambers filament tension meas., using automated electronic tensometer 7—30004
- nonisothermal, anal. using measured temp. distrib. 7—65245
- photoviscoplastic polymers, hydrostatic pressure effect meas. 7—11365
- polycarbonate, shock-loaded, tension-recompression response method study 7—33879
- polyethylene, fracture toughness, high press. tension testing 7—28111
- power law materials, neck form. invariance to strength and strain rate 7—17597
- sheets, thin voided viscoplastic, instabilities during tension 7—16076
- strain gauge sensitivity in plastic range 7—6168
- three-point method for determ. of tensile props. 7—13699
- trabeculae, bovine, tensile testing, device and obs. 7—3832
- Al-Cu-Mg r-curve behaviour of double edge notched tensionspecimens in plane stress 7—13701
- Cu, tensile test, numerical investig. using finite difference 1D elasto-viscoplastic code 7—46747
- Fe-Si, plasticity, influence of thermomechanical parameters 7—13512
- SiC-Al composites, heat treatment and neutron irrad. effects on mech. props. 7—65081
- SiO_2 silica fibre mechanical strength determ. *(French)* 7—11157
- Ti, heat treated, softening, in situ HVEM obs. 7—17548

tensimeters *see vapour pressure measurement*

tensors
- Borchers' tensor algebra, invariant states 7—15047
- chemical bond index, definition 7—877
- failure criteria of composites, exptl. verification 7—22812
- Fierz identities in Dirac gamma matrix algebra 7—9982
- general relativistic energy-momentum pseudotensor and the de Donder condition 7—4731
- generalized spectral matrices and radial matrices on symmetry classes of tensors 7—48276
- killing tensors and dynamical symmetries 7—68
- Killing tensors in spaces of constant curvature 7—29663
- material anisotropy and creep damage, constitutive eqn. formulation, tensor functions 7—50989
- plasticity theory variant, determining relationships derivation by method of orientation averaging 7—6112
- second rank tensors, representation as linear combination of tensors 7—4733
- sensorimotor hierarchies of gaze, tensor network modelling 7—54552
- thin plate two-dimensional diffusivity tensor meas. by thermal pattern analysis 7—2285
- turbulent flow with passive scalar, general tensor form 7—26262

terbium
- *see also nuclei with ......*
- adsorption on W (110) 7—27118
- atom, resonant UPS, 5p valence band interaction, photoionisation cross section 7—15564
- carboxylate, luminescence props. calcs. 7—42667
- plastic strain of single crysts. between 77 and 683 K 7—21327
- surface, electron capture spectroscopy 7—59368
- $Ca_3Al_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7—53404
- $Ca_3Ga_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7—53404
- $Ca_3Sc_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7—53404
- $Ca_3Y_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7—53404
- $GdBO_3$:Pr^{3+}, Tb^{3+}, host lattice sensitisation, energy transfer and photolum. 7—46113
- Gd_2O_2SiTb X-ray fluorescent screen for use in portable fluoroscope 7—61407
- Gd_2SiO_5:Tb, Czochralski growth 7—53556
- Na_2O-3SiO_2 glass, Tb^{3+} activated, temp. depend. of tunnel lumin. 7—59265
- Na_2O-SiO_2:Tb^{3+} glasses, colour centre formation during UV irradiation 7—2049
- Pt-Tb contact, mag. order destruction by cold current 7—52980
- YAG:Tb, electron-phonon relax. in $^5D_4$ of Tb^{3+} 7—2130
- YAG:Tb cryst. field anal. of Tb^{3+}, site selective polarisation spectroscopy 7—2546
- $Y_2O_2S_2$:Tb^{3+}, phosphor, electronic struct., cathodoluminescence meas. 7—17350

terbium alloys
- ternary alloys, evaporation, thermodynamic props., Knudsen effusion method 7—32627
- Ag-Tb dilute alloys, magnetoelastic coupling coeff., 5d virtual found state effects calcs. 7—53108
- Co-Gd-Tb-based thin films, properties and stability for magneto-optic recording 7—53075
- $Cu_{94.6}Tb_{5.4}$ sputtered alloy, spin glass like behaviour 7—53001
- Dy $_{0.73}$ $Tb_{0.27}Fe_2$ alloys, magnetomechanical coupling 7—45788
- Fe-Tb amorphous alloys, film and bulk mag. props. and thermal expansion meas. 7—7540
- $Fe_{0.74}Tb_{0.26}$, amorphous, oxidation 7—65192
- $Fe_{77}Tb_{15}B_8$ metallic glass permanent magnets, TEM studies 7—26661
- Gd-Tb alloys, temp. depend. of magnetostrictive coeffs. 7—64505
- Gd-Tb-Co-Fe sputtered amorphous films, Kerr magneto-optical effect, anisotropy dispersion effects 7—38913
- GdTbFe, corrosion resistance improvement by metal coatings 7—53952
- $(Nd,Tb)_{16.7}Fe_{75.5}B_{7.8}$, magnetisation meas., spin reorientation temp. 7—17161
- $Nd_{2-x}Tb_xFe_{12}Co_2B$, mag. characts. 7—45670
- $Pr_{2-x}Tb_xFe_{12}Co_2B$, mag. characts. 7—45670
- $Sn_{1-x}Tb_{4+x}Rh_6Sn_{18}$, disordered II′ phase, structural study, electron and X-ray diffr. meas. 7—63549
- Tb-Co amorphous films, magneto-optic props. 7—64611
- Tb-Co thin films preparation for erasable optical memory disk *(Japanese)* 7—7049
- a-Tb-Fe/Ni-Fe-Mo bilayer films, unidirectional anisotropy 7—59065
- Tb-Pd alloys, thermodynamic study by Knudsen effusion method 7—44855
- Tb-Si amorphous films, spin-glass transition 7—7519

terbium alloys continued
$TbAg$ amorphous alloys, local mag. anisotropy energy estimation 7−7503
$TbAg$, sp. ht. meas. 0.5 to 21 K 7−52994
$TbAl_2$ single crysts., low temp. heat capacity meas. in mag. field, mean field approx. calcs. 7−27530
$TbAuCu_4$, cubic alloys, mag. props. 7−52936
$TbCo$, amorphous sputtered films, mag. props., film struct., comp., internal stress meas. *(Japanese)* 7−7570
$TbCo$ film, optical disc memory struct., mag. props., underlayer film treatment effect 7−45767
$TbCo$ sputtered films, compositionally modulated, mag. props. 7−64495
$TbCo$ sputtered films, mag. and magneto-optic props., stability 7−53076
$TbCo$ sputtered films, stability of mag. and magneto-optical props. *(Japanese)* 7−33241
$TbCo_2$, NMR of ^{159}Tb *(Russian)* 7−45832
$TbCo_5$, magnetocrystalline anisotropy, rare earth contribution 7−45659
$Tb_2Co_{14}B$, spin arrangements, 4.2-1100K 7−22094
$Tb_3Co_2Ge_4$, crystal struct. determ. 7−16495
$Tb_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
$TbCu_{3.54}$, seedy mag. order, neutron scatt. study, mag. meas. 7−33145
$Tb_{0.3}Dy_{0.5}Er_{0.2}Fe_2$, spin reorientation, Mossbauer study 7−13068
$Tb_{0.27}Dy_{0.73}Fe_2$, Terfenol, polycrystalline, domain structures and magnetomech. coupling 7−53025
$Tb_{0.27}Dy_{0.73}Fe_2$, twinned [112] crystals, magnetostriction 7−53105
$TbFe$ amorphous alloys, local mag. anisotropy energy estimation 7−7503
$TbFe$ amorphous alloys, magneto-optical props. and mag. anisotropy 7−27706
$TbFe$ and $GdTbFeCo$ alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7−64459
$TbFe$ films, micron-size laser-written mag. domains, Lorentz microscopy 7−2913
$TbFe$ magneto-optical layer, AlN corrosion protective coating 7−53953
$Tb_{21}Fe_{79}$ amorphous films, radial distribution function 7−37860
$Tb_{31}Fe_{69}$ amorphous films, mag. props. and domains, substrate temp. effects 7−13011
$TbFeCo$ amorphous film sputtered onto polycarbonate substrate, depth profile, XPS 7−65362
$TbFeCo$/dielectric interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7−12513
$TbFeCo$-based amorphous films, magneto-optical recording appls. 7−53074
$Tb(Fe_xCo_{1-x})_3$, struct. and mag. props. 7−1950
a-$Tb_{64}Fe_{20}Ga_{16}$, mag. phase transition behaviour in random anisotropy system 7−2864
$(Tb_xFe_{1-x})_{1-y}U_y$, amorphous, magneto-optical effects 7−59187
$Tb_{0.05}Gd_{0.95}Al_2$, NMR of ^{159}Tb *(Russian)* 7−45832
$Tb_xGd_{1-x}Al_2$, intrinsic low field susceptibility studies 7−45633
$Tb_xGd_{1-x}Al_2$, intrinsic coercive field 7−45729
$TbGe_{1-x}Si_x$, first-order mag. phase transition, neutron diffr., mag. struct. study 7−45673
$TbNi$ amorphous ferrimag. anisotropic films, Hall voltage polarity voltage and temp. depend. studies 7−7206
$TbSc(V)(Cr)(Mn)(Co)$, dilute alloys, hyperfine fields and local moment form. 7−64433
Tb_xSi_{1-x}, $x=0.18$, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7−53039
$(Tb_{1-x}Y_x)Co_2$ ferrimagnetic alloy, sp. ht., Curie temp. and density of states comp. depend. meas. 7−7514
$(Tb_{1-x}Y_x)_3Co$, magnetoelastic interactions and thermal expansion *(Russian)* 7−17211

terbium compounds
see also terbium alloys
glass:Tb_4O_7 Faraday rotator low loss single mode fibres, MCVD fabrication 7−25993
oxides, TbO_2, Tb_4O_7, Tb_2O_3, X-ray absorpt. study of 4f electrons 7−64795
$CaTbAlO_4$ crystals, growth by Czochralski method 7−22460
$CrTb_4S_7$, 7−44470
HfO_2-Tb_2O_3, solid soln. single crysts., physicochem. props. 7−2097
HfO_2-Tb_2O_3, solid solution single crystal growth 7−7838
$LiTbF_4$, uniaxial dipolar ferromagnet, nonasymptotic crit. behaviour 7−64467
$LiTbP_4O_{12}$, flux cryst. growth 7−13345
$Na_5TbSi_4O_{12}$, superionic cond., photoluminescence spectra 7−46093
$PbTe$-Tb_2Te_3, solid solns., physicochemical anal. 7−21456
Tb^{3+} complexes, terbium (III) 4,7,13,16,21-pentaoxa-1,10-diazabicyclo-8,8,5-tricosane cryptand, luminesc. 7−13191
$Tb_3Fe_5O_{12}$ ferrogarnets, heat of crystallisation, scanning calorimetry obs. 7−2154
$Tb_3Fe_5O_{12}$, magnetic struct., X-ray absorpt. spectra magnetic dichroism meas. 7−39315
$Tb_2Ge_2O_7$, circular dichroism, chirality, UV spectra 7−33412
β-$TbH(D)_{1.9+x}$, defect study 7−37971
$Tb_2(MO_4)_3$, improper ferroelectrics, energy spectrum and vacuum UV spectra 7−33413
TbO_2, anion deficient, surface topography, atomic imaging 7−27079
TbO_x, fluorite prototype struct., interfaces and domain form. study 7−58498
$TbSi_{2-x}$-Si, silicide thin films, phase composition, conductance, surface morphology 7−7072
$Tb_2Ti_2O_7$, elastic modulus, low temp. anomalies 7−44651
$TbVO_4$ coherent vibr. and electronic excitation, time resolved spectra 7−22230
ZnS:TbF thin-film electroluminescent devices, excitation mechanism 7−46149
ZnS:TbF_x, sputtered thin films, electrolum. and photolum. 7−7727

ternary logic
optical binary coded ternary arithmetic and logic 7−10863

ternary semiconductors
for pseudobinary semiconductors, see II-VI semiconductors, III-V semiconductors, III-VI semiconductors, IV-VI semiconductors and semiconductor materials
see also chalcogenide glasses
7−39072
CdS-$CuInSe_2$ solar cells fabricated by DC magnetron sputtering of Cu_2Se and In_2Se_3 7−23170
chalcopyrite semiconductor, gate capacitance in n-channel inversion layers, quantising mag. field 7−2733
Ag_3AsS_3 undoped proustite crystals, photolum. obs. 7−33445
$AgGa_{1-x}In_xS_2$, solid solns., conc. depend. of band gap 7−52423

ternary semiconductors continued
$AgGa_{1-x}In_xSe_2$ thin films, evaporated, photosensitivity and optical props. study *(Korean)* 7−53423
$AgGaS_2$, reflectivity spectra, 1.2 to 25 eV, contrib. of electronic transitions 7−46067
$AgGaS_2(Se_2)$, chalcopyrite, crystal growth, nonlinear IR props. 7−37040
$AgGaSe_2$, broadly tunable infrared parametric oscillator 7−11052
$AgGaSe_2$, cryst. field and spin-orbit interactions at fundamental gap, reflectivity meas. 7−16997
$AgGaSe_2$, optical band-pass filter using accidental isotropy and optical activity 7−15966
$AgGaSe_2$, reflectivity spectra, 1.2 to 25 eV, contrib. of electronic transitions 7−46067
$AgGaSe(Te)_2$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7−27252
n-$AgInSe_2$/polyiodide junctions, photoelectrochemical activity 7−2704
$AgIn_5Se_8$ photoelectrodes, thermodynamic stability in electrolytes 7−54330
$AgInTe_2$ polycrystalline thin films, elec. and optical props. study 7−58924
Au-$CdIn_2S_2Se_2$-In Schottky diodes, I-V charact. 7−33010
$CdCr_2Se_4$, photoferromagnetic effect, magnetic impurity effects, magnetisation reversal characts. meas. 7−17154
$CdGa_2S_4$, luminesc. associated with defect complexes 7−27757
$CdGa_2S_4$ single crystals, chemical vapour transport growth, microhardness, crack patterns 7−7833
$CdGa_2S(Se)_4$ defect chalcopyrite struct. crysts., linear optical response, atomic core electron contrib. calcs. 7−39061
$CdGeAs_2$, glassy, optoelectronic props., photoelectrochemical investigation 7−45382
$CdGeAs_2$, n-channel inversion layers, oscillatory diffusivity-mobility ratio, quantising mag. field 7−45419
$CdGeAs_2$, optical sum frequency generation, influence of competition 7−1231
$CdGeAs_2$, SHG of single and multilongit. mode CO_2 laser emissions 7−43211
p-$CdGeAs_2$ semicond., hole mobility and scatt., temp. depend. study 7−52609
$CdGeAs_2$, ternary chalcopyrite semiconductor, gate capacitance in n-channel inversion layers, quantising mag. field 7−2733
$CdGeAs_2$:Ni amorphous films, elec. cond., low temp. impurity breakdown, high field effects 7−52625
$CdGeP_2$, glassy, optoelectronic props., photoelectrochemical investigation 7−45382
$CdInGaS_4$ in MSM surface-barrier structs., photovoltaic effect and SCL currents 7−52687
$CdIn_2(Ga_2)S_4$ single crysts., phase transforms., photoluminesc. studies 7−2171
$CdInGaSe_4$, optical absorption spectra, hydrostatic pressure dependence 7−59222
$CdIn_2O_4$ RF sputtered films, transparent heat mirror characts., elec. and optical meas. 7−39199
$CdIn_2O_4$ thin films, DC reactive sputtered, elec. and optical props. 7−38788
$CdIn_2S_4$, electron trap characts., TSC meas. 7−27340
$CdIn_2S_4$ optical props., annealing and γ-ray irradiation effects 7−13211
$CdIn_2S_4$ single cryst., chem. vapour transport growth and Vickers microhardness 7−21345
$CdIn_2S_2Se_2$, semicond., optical and elec. props. 7−33010
$CdIn_2Se_4$, energy spectra of local centres *(Russian)* 7−64150
CdS-$CuGaSe_2$ solar cell fabrication 7−22047
CdS-$CuInSe_2$ Boeing solar cells, I-V characteristics meas. 7−8408
CdS-$CuInSe_2$ heterojunctions, struct., elec. and photoelectric props. 7−22001
CdS-$CuInSe_2$ thin film solar cell, solid state photovoltaic research status at SERI 7−8389
CdS-$CuInSe_2$ thin-film solar cells, junction formation and O role, EBIC studies 7−17915
CdS-$CuInSe_3$ backwall solar cells, intrinsic loss mechanisms calc. 7−23187
$CdSnAs_2$ crystal growth from melt sealed by LiCl-KCl mixture 7−7839
n-$CdSnAs_2$, photoluminescence 7−53393
$CdSnO_4$:PbO highly conducting films, characterisation 7−22049
Cd_2SnO_4, CVD, struct., elec. and optical props. *(Korean)* 7−27940
Cd_2SnO_4, sintering synthesis and props. 7−64954
Cd_2SnO_4 transparent thin film electrodes prepared by DC reactive sputtering from Cd-Sn alloy targets 7−22477
CdZnS/$CuInSe_2$ solar cells, transient current studies of junction activity 7−8409
$Co_xFe_{1-x}Cr_2S_4$ mixed spinel system, temp. depend. Mossbauer studies 7−38976
$CoGaInS_4$ pseudoternary layers cpds., optical props., comp. depend. studies 7−39072
$Co_xZn_{1-x}InS_4$ pseudoternary layers cpds., optical props., comp. depend. studies 7−39072
$Co_xZn_{1-x}In_2S_4$ solid soln. layer cpd., site coordination and short range magnetic order, XPS anal. 7−26724
Cu/nS_2 films, LPE growth 7−46359
$Cu_xAg_{1-x}InSe_2$, liquid-encapsulated Bridgman-Stockbarger melt growth and props. 7−59403
$CuAl_xGa_{1-x}Se_2$, chem. transport reactions, growth and morphology 7−7830
$CuBiS_2$ thin films, spray pyrolytic deposition, elec. and optical props. 7−7894
$CuFeS_2$ electronic struct., K-edge EXAFS study 7−64079
$CuGa_{1-x}In_xS_2$, solid solns., conc. depend. of band gap 7−52423
$CuGa_xIn_{1-x}Se_2$ mixed chalcopyrite local struct., K-edge EXAFS meas. 7−63574
$CuGaSe_2$ thin films, flash evaporated, optical and elec. props. 7−7417
$CuGaSe_2$ thin films, physical props, and photovoltaic potential 7−22047
$CuGaSe_2$-CdS solar cells, physical properties and photovoltaic potential of $CuGaSe_2$ thin films 7−12889
$CuGaSe_2$-ZnCdS wide bandgap solar cells for thin film tandem structs. 7−23172
$CuGaSe(S)_2$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7−27252
$CuGaSe_{2(1-x)}Te_{2x}$ solid solns., prep. and characteris. 7−21169
$CuGaSnSe_4$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7−27252
$CuGaTe_2$, lattice thermal expansion, 80 to 650K 7−12326
$CuGaTe_2$ thin films, elec. cond., 100-300K 7−22042
$CuGe_2P_3$, semicond., elastic consts., anharmonic props. 7−26830

ternary semiconductors continued
$CuIn(Ga)Se_2$ thin film solar cells, ESCA anal. 7—23197
$CuIn_{1-x}Ga_xSe_2$ absorber materials, electroplating prep. 7—17894
$CuIn_yGa_{1-y}Se_2$, liquid-encapsulated Bridgman-Stockbarger melt growth and props. 7—59403
$CuInS_2$, chem. diffusion, 20-100°C 7—16799
$CuInS_2$, chemical transport, thermodynamics 7—7832
$CuInS_2$ films, RF sputtering, struct. and elec. props. 7—3169
$CuInS_2$, heterogeneous, VLS growth, electronic defects, photocurrent spectra, photolum., EBIC analysis 7—27288
p-$CuInS_2$, strongly sublinear photocond. 7—52667
$CuInS_2$:P, ion implanted, pulsed electron beam annealing 7—16644
$CuInS_2$/a-Si:H heterojunctions, photovoltaic behaviour, c-v meas. 7—7340
$CuInS_2$-SnO_x:F sprayed solar cells, photovoltaic props. 7—54322
$CuIn_5S_8$ photoelectrodes, thermodynamic stability in electrolytes 7—54330
CuInSe thin films, flash evaporation prep. and characterisation 7—7893
$CuInSe_2$ coatings, sputter deposition 7—39377
$CuInSe_2$ electrodeposited films, photoelectrochem. solar cells fabrication 7—3710
$CuInSe_2$ epitaxial films deposited on GaAs and CdS, RHEED studies 7—12549
$CuInSe_2$, flash evaporation, elec. and optical props. 7—7892
$CuInSe_2$ large grain (112) oriented thin films grown by RF sputtering, solar cell applications 7—17422
$CuInSe_2$, p-type, CdS induced homojunction formation 7—58867
$CuInSe_2$, pH effects on surface properties 7—23201
n-$CuInSe_2$ photoelectrochemical cells 7—23199
$CuInSe_2$ photovoltaic devices, analysis using admittance spectroscopy 7—7171
$CuInSe_2$ polycryst. semicond. growth from melt, surface props., ion bombardment and annealing effects 7—46304
$CuInSe_2$ polycrystalline thin film solar cells 7—17888
$CuInSe_2$ polycrystalline thin film solar cells, donor-acceptor pair luminescence 7—17890
$CuInSe_2$, thin film, electron beam evaporation optical props. *(Korean)* 7—27801
$CuInSe_2$ thin film growth 7—13368
$CuInSe_2$ thin film photoelectrochemical cells 7—23200
$CuInSe_2$, thin films, flash evaporated, electrical cond. and optical absorpt. spectrum 7—33112
$CuInSe_2$ thin films, polycrystalline, elec. props., effect of excess Cu 7—52871
$CuInSe_2$/CdS, thin film chalcopyrite solar cells, electroplating prep. 7—17894
$CuInSe_2$/CdS solar cells, modelling and anal. 7—17893
$CuInSe_2$/CdS-CdTe/CdS tandem solar cells 7—17891
$CuInSe_2$/CdZnS solar cells, spray pyrolysis prep. and characts. 7—8374
n-$CuInSe_2/I^-$-I_2 acidic electrolyte contact, interphase characterisation 7—2703
p-$CuInSe_2$/n-(Cd,Zn)S polycrystalline solar cells, open circuit voltage 7—17889
$CuInSe_2$-based photoelectrochem. solar cells, optical and electronic props. studies 7—46958
$CuInSe_2$-$Cd_{1-x}Zn_xS$ thin-film solar cells, voltage and light bias-dependent spectral response 7—8375
$CuInSe_2$-CdS heterojunctions deposition, in-line sputtering system 7—64900
$CuInSe_2$-CdS solar cells and $CuInSe_2$ thin films, charge transport studies 7—12890
$CuInSe_2$-CdS solar cells, capacitance determ. of interfacial states 7—13916
$CuInSe_2$-CdZnS solar cell development for space appls. 7—13917
p-$CuInSe_2$-CdZnS-ZnO solar cells, device anal. 7—23171
$CuInSe_2$-Si:H, tandem modules, thin film design and fabrication 7—13913
$CuInSe_2$-Si:H thin film tandem solar cells, energy based perform. and eval. 7—13890
$CuInSe_2$-ZnCdS thin film polycryst. solar cell efficiency improvement using antireflection coatings 7—23186
$CuInTe_2$ film, amorphous, flash evap., DC cond. mechanisms, density of states 7—22041
$CuInTe_2$, lattice thermal expansion, 80 to 650K 7—12326
$CuInTe_2$ thin films, flash evaporated, elec. conductivity, optical absorption 7—7428
$Cu_2P_3I_2$, solid electrolyte, prep., props. and cryst. struct. 7—32396
Cu_4SnP_{10}, bonding and electronic struct. studies 7—26694
$HgCr_2Se_4$ spinel magnetic semicond., electronic struct., elec. props., defects and ferromag. anisotropy 7—38857
$HgCr_2Se_4$, stoichiometry and phys. props. investig. 7—2218
$HgGa_2Se_4$, optical props. in fundamental absorption region 7—39065
$HgGa_2Se_4$, photocond., photoluminescence spectra, annealing and ion implantation effects 7—39152
$HgGa_2Se_4$, single cryst., deep levels, photocond. and photolum. spectra 7—7159
$LiInSe_2$ epitaxial films on GaAs and GaP, RHEED 7—52318
$PbGa_2S_4$ single cryst., optical absorption and photocond. studies 7—2635
Sn-In-S ternary system, cryst. growth and charact. *(French)* 7—33645
In-SnO_2-n-$CdGeP_2$:In heterojunction, elec. and photoelec. props. 7—45478
$TlBi_{1-x}Sb_xVI_2$ solid solns., band spectrum double inversion to semimetallic state 7—38452
$TlGaS_2$ crysts., photolum., magneto-optical characts. study 7—46089
$TlGaS_2$, exciton states, absorpt. and refl. spectra 7—46066
$TlGaSe_2$ crystals, exciton spectrum, phase transitions 7—7124
$TlGaSe_2$, electric field induced photoconductivity 7—52676
$TlGaSe_2$ single cryst., photolum. and edge absorpt. spectra 7—59241
$TlGaSe_2(S_2):Nd^{3+}$, photoluminescence spectrum *(Russian)* 7—64682
$(TlGaSe_2)_x(TlInS_2)_{1-x}$ mixed crystals, photoresistive characteristics *(Russian)* 7—64281
$TlInS_2$, crystals, vibr. spectra in vicinity of phase transitions 7—17321
$TlInSe_2$, electronic struct., synchrotron radiation photoelectron spectra 7—52422
p-$TlInSe_2$ single cryst., impurity photocond. studies 7—2642
$TlSbS_2$, near band gap optical props. 7—7715
$TlSbS_2$, Raman spectra and vibr. modes, polarisation depend. 7—27725
$ZnGa_2S_6$, thermal stability in air 7—22914
$ZnGeP_2$, Hall effect and conductivity in zinc vapours, high temp. meas. 7—27350
$ZnIn_2S_4$, recombination kinetics, photoconductivity and photoluminesc. studies 7—2637
$Zn_3In_2S_6$ and Zn_3GaInS_6, thermal stability in air 7—22914
$ZnSiP_2$ and $ZnGeP_2$, single crysts., prep. and characterisation 7—2612

ternary semiconductors continued
$ZnSiP_2$ cryst., exciton absorpt. spectrum, energy gap and exciton binding energy determ. 7—2500
p-$ZnSnP_2$ single cryst., recombination radiation, cryst. growth effects 7—53394

terrestrial age *see geochronology*

terrestrial atmosphere
see also air; air pollution; air pollution detection and control; atmospheric acoustics; atmospheric chemistry; atmospheric composition; atmospheric electricity; atmospheric electromagnetic wave propagation; atmospheric humidity; atmospheric ionisation; atmospheric movements; atmospheric optics; atmospheric precipitation; atmospheric pressure and density; atmospheric radiation; atmospheric radioactivity; atmospheric spectra; atmospheric structure; atmospheric techniques; atmospheric temperature; atmospheric thermodynamics; atmospherics; clouds; fog; stratosphere; troposphere; upper atmosphere
Archaean atmosphere, expt. weathering of mafic and ultramafic rocks 7—29021
bolide over N Europe, grazing incidence for 23 Sept. 1986 phenomena *(French)* 7—55580
comet impacts responsible for UV dayglow holes, rel. to lunar seismicity 7—40727
coupled ocean-atm. model of Dynamical Climatology Branch of Meteorological Office 7—29061
formation, degassing model *(Russian)* 7—9177
formation, Earth accretion rel. to impact-induced atmosphere and Earth thermal history 7—54840
formation, relation to Earth accumulation and initial state 7—34367
global-scale hydrology, dynamic modelling of ocean-atmos.-land system 7—18229
hydrodynamic escape episodes, effects of mass fractionation on inert gases isotopic comps. 7—55508
image from space, Giotto spacecraft observation and image processing method 7—9380
impact-induced volatile loss during planetary accretion, meas. on Murchison carbonaceous chondrite 7—34949
interplanetary micro-organisms, heat exposure expt. rel. to entry into planetary atmosphere 7—9275
meteoroids destruction, Tunguska event rel. to meteors with terminal flares 7—9449
neutrons of cosmic ray origin, altitude and latitude effects on intensity and energy spectra 7—9346
photochemistry of terrestrial atmosphere, book 7—48210
Precambrian atmosphere, O_2 end CO_2 concs. from palaeosols chemistry and mineralogy 7—29018
Precambrian atmosphere, transition to O_2-rich state, geological evidence 7—18304
primordial atmosphere, climatic consequences of high CO_2 levels 7—66271
Upper Proterozoic carbonates, ^{13}C stratigraphy rel. to palaeoenvironment 7—47544
rare gases rel. to formation 7—60386
rotation rate from Intercosmos 13 rocker (1975—22b) inclination var. analysis 7—55419
solar effects *(Italian)* 7—60622
vertical temperature distrib., relation to solar and atmospheric radiation propag. *(French)* 7—14338
^{10}Be cosmogenic radionuclide production during Pleistocene 7—23842

terrestrial composition *see Earth composition*

terrestrial electricity
2D structures, resist. modelling by finite element method *(Chinese)* 7—55270
2D topographic responses in magnetotellurics, finite element modelling 7—47333
3D transient EM responses for grounded source 7—47332
aggregated soils, microwave diel. models 7—23649
apparent resistivity computation using exponential approx. of kernel functions 7—28822
Baijing-Beigezhuang profile, magnetotelluric data inversion via continuous resist. var. model *(Chinese)* 7—34375
Baikal Rift region, USSR, elec. cond. anomalies identification by magnetovariation methods 7—23525
Baikal-Amur Main Line, USSR, elec. struct., mag. var. profiling anal. 7—23527
W Black Sea, electrical anomaly over continental slope fracture 7—54856
Black Sea, surface current vel. distrib. from EM current meter meas. 7—14306
borehole electroprospecting, influence of surface deposits on const. current field in anisotropic medium 7—28831
borehole EM induction logging, moving and stationary transmitter methods 7—4226
borehole well logging by EM method, HFILIS method for producing oil wells 7—55279
Bulgaria, electric potential anomalies as earthquake precursors 7—65930
Bushveld Complex, S Africa, geoelectric struct. of arc-like bodies 7—60167
Canadian Cordillera, electrical conductivity structures of crust 7—60160
Carpathian Mountains, USSR, geomag. anomaly and geoelectric model 7—40411
SE China, high-conductivity layer depth determ. *(Chinese)* 7—34374
coal seams, tectonic disturbances and quality changes, geoelectric anal. method 7—34712
conductivity distribution, appl. of disjunctive kriging 7—23755
conductivity probes, open-cell, theoretical anal. 7—47545
continental crust, seismic reflectors, elec. cond., water and stress 7—4011
controlled source audiofrequency MT soundings in Japan rel. to Schlumberger sounding *(Japanese)* 7—66318
cross-borehole electrical surveys, geological noise effects 7—28825
crustal regions shallow sounding using EM surface waves 7—14193
currents in earthquake zone, ionospheric MHD waveguide oscills. 7—14407
deep seated anisotropic oblique zones assoc. multiple elec. discontinuities mapping, magnetotelluric freq. sounding use 7—47573
dipole induction profiling above sphere buried in homogeneous half-space, anomaly evaluation 7—28827
dipole source and layered Earth *(Japanese)* 7—23528
dipping anisotropic crustal layers, electrodynamic problem soln. 7—8812
earthquakes hazard and prediction, conf., Tokyo, Japan (1985) 7—60859
electrical resistivity method for exploration of thin slab struct. 7—29310
electrical resistivity survey of the Kerri-Kerri Formation, Darazo, Nigeria 7—18219

terrestrial electricity continued
- EM emission during seismic activity, crustal mechanical-electric convertors model 7−8856
- EM fields induced by coastal current, secondary EM fields *(Russian)* 7−18198
- EM induction, use of arrows to display EM induction effects 7−54863
- EM induction anomalies of two-dimensions, freq. response 7−47334
- EM induction numerical modelling, E-polarization calcs. 7−47325
- EM modelling for buried 3D body in a two-layered Earth 7−55286
- EM modelling program for 2D structures 7−34714
- EM prospecting method, finite element modelling *(Japanese)* 7−55280
- EM prospecting of quasiplanar conducting layers, approx., boundary conditions 7−55304
- EM prospecting theory, optimized digital filter for the Fourier transform 7−14387
- EM response of buried thin sheets in uniformly conducting half-space 7−66326
- EM sounding of an electrochemically active half-space 7−23853
- EM subsurface radar using transient field radiated by wire antenna 7−23866
- field diffusion in three-dimensional conductor, air-subsoil coupling *(French)* 7−28843
- finite ground conductivity effect on errors in direction finding due to nonvertical lightning channels 7−14366
- geomagnetic depth sounding method, use of line current analogues 7−34719
- Greece, precursory seismic electric signals and source dynamic parameters 7−65961
- groundwater flow generated elec. currents causing magnetic anomalies 7−23533
- horst structure, EM field from multiple freq. sounding and transient sounding 7−54864
- Ile-Ife, Nigeria, possible fault zone, elec.-geomag. surveys and minerals existence 7−47330
- India, effect of source-field geometry on EM induction Earth 7−28821
- S India, magnetotelluric study of geoelectric anomalies 7−8804
- induced polarisation logging in borehole, theory 7−23864
- induced polarisation method for exploration of thin slab struct. 7−29310
- induced polarisation method for study of buried 3D body in a two-layered Earth 7−55286
- induced polarisation surveys, EM coupling removal 7−9190
- induced polarization meas. device, noise resistance maximization *(Russian)* 7−34700
- Central Japan, gravity and magnetotelluric study of Fossa Magna region 7−23609
- Kamchatka, increased elec. conductivity layer in crust and upper mantle 7−54868
- Central Karelia, magnetotelluric sounding in 10^{-3} to 10^4 s period interval 7−28829
- Lalitpur District, Uttar Pradesh, India, groundwater and water supply in granitic terrain 7−4065
- lateral EM field of vertical dipole, props. and appl. 7−23537
- lateral wave propagation in a three-layered medium 7−14192
- magnetometric mise-a-la-masse method *(Japanese)* 7−23856
- magnetotelluric data inversion using localised cond. constraints 7−28823
- magnetotelluric field above an archipelago, laboratory model expts. 7−60157
- magnetotelluric field over elliptic cylinders, for E-polarization 7−60158
- magnetotelluric impedance for 3D cond. structures 7−23536
- magnetotelluric inverse problem in one-dimension, discrete freq. inequality theory 7−3976
- magnetotelluric method for 2D structures, resolving power *(Japanese)* 7−66317
- magnetotelluric response of a laterally inhomogeneousanisotropic inclusion 7−14190
- magnetotelluric sounding at sea, methods of elec. field meas. in medium with extraneous fields 7−47444
- magnetotelluric sounding data in class of quasi-1D models, interpretation 7−54867
- magnetotelluric sounding in 2-D, stable finite element soln. 7−47328
- magnetotelluric sounding method for hilly terrain, E-polarization case 7−29252
- magnetotelluric sounding method in hilly terrain, using H-polarization 7−29251
- magnetotelluric sounding method using H polarization, physical modeling 7−29255
- magnetotelluric sounding of 2-layered 3D structs., approx. soln. 7−29254
- magnetotelluric sounding of Earth struct., Rayleigh-fast fourier transform method 7−9181
- marine electrical prospecting with pulsed signal, synchronous noise *(Russian)* 7−34701
- marine sediments, bulk physical props. estimation at depth from seafloor geophysical meas. 7−55009
- MHD model for the Earth's magnetic field with spatially dependent electrical conductivity 7−60165
- microprobes for elec. logging with flat field in medium with cylindrical boundaries *(Russian)* 7−34704
- microseism propag. between two sites on deep sea floor, press. and elec. field fluctuations meas. 7−28869
- MINI-MOSES magnetometric resist. method for deep-sea floor polymetallic sulphide exploration 7−23863
- mise-a-la-masse anomalies near vertical contact, behaviour 7−9189
- Monte La Queglia (Abruzzo, Central Italy), geophysical investigations of carbonate struct. 7−40477
- Mount Hood, Oregon, USA, magnetotelluric investigations 7−28839
- Murmansk block, Kola Peninsula, magnetotelluric sounding in 10^{-3} to 10^4 s period interval 7−28829
- natural gas hydrate deposits prospecting, acoustic and resistivity meas. on rock samples containing tetrahydrofuran hydrates 7−55026
- nonuniform thin vein with transverse conductance variability, elec. prospecting solution 7−28830
- Northumberland Trough magnetic anomaly in N England, interpretation using 2D current model 7−23530
- ocean, electric fields meas. in medium with fields generated by extraneous sources 7−47444
- ocean crust, cond. meas. with vertical antenna 7−23537
- ocean current meas. from motional electric fields and currents 7−9257
- ocean currents generating EM fields and application for sounding of crust 7−9222
- ocean eddy, EM field components calc. 7−55063
- ocean waves EM field induced by 3D ocean waves 7−8970

terrestrial electricity continued
- oil exploration, induced polarisation method *(Chinese)* 7−55269
- oil pipeline, induced EM fields due to electrojet current sources 7−8814
- olivine, electrical conductivity changes due to creep at Earth mantle conditions 7−18180
- ore deposit EM prospecting method metallogenesis rel. to tectonic lineaments 7−29256
- Pacific Ocean, apparent resist. curve determ. 7−40569
- partially molten rock, effects of sample-electrode interface polarisation on elec. props. 7−8932
- PCM station for investigating contact and contact-free polarisation curve methods *(Russian)* 7−34702
- permittivity of porous rocks, appl. of Bergmann-Milton theory of bounds 7−23635
- potential due to point current source over layered conducting Earth with dipping anisotropy 7−8801
- potential field of stationary elec. current, Fredholm's integral eqns. calc. 7−14181
- prospecting, uniqueness of determ. of 3D underground structs. from surface meas. 7−8809
- prospecting by vertical electric sounding curves, data interpretation improvements 7−14389
- prospecting direct problem, numerical soln. method 7−29267
- radar method for underground structure probing 7−47580
- resistivity logs, appl. of digital filter technique *(Chinese)* 7−29261
- resistivity spectral transformation, dilution factor use *(Chinese)* 7−54855
- rock fracture, voltages between surfaces *(Chinese)* 7−29000
- rock samples containing tetrahydrofuran hydrates, acoustic and resistivity meas. 7−55026
- rock with cracks, pressure depend. elec. conductivity theory 7−29008
- rocks electrical parameters, relation to chemical comp. 7−18181
- San Andreas fault near Hollister, USA, electrical resistivity temporal variations 7−28840
- scalar audiomagnetotellurics applied to base-metal exploration in Finland 7−29272
- Schlumberger geosounding, lateral effects reduction method 7−9193
- Schlumberger soundings, rel. to controlled source audiofrequency MT soundings in Japan *(Japanese)* 7−66318
- seismic-ionospheric electrical interaction, resonant phenomena 7−28890
- self-potential variations with time and their relation to hydrogeological and meteorological parameters 7−29275
- S Senegal basin, geoelectromagnetic meas. 7−47413
- Senegal basin, W africa, geoelectric struct., MT and DGS study 7−18111
- snow fork for density and wetness profiles determ., permittivity meas. 7−9206
- soil, electrical conductivity properties of water saturated fine-grained soils *(Japanese)* 7−18178
- surface borehole exploration with direct current for oil and gas deposits contouring 7−23849
- synthetic sulphide bearing rocks, complex resist. 7−8918
- Tasman Sea, Warm-core ring barotropic flow from seafloor electric obs. 7−34520
- telluric anomalies analysis in lower half-space, Fourier transforms method 7−28826
- telluric method, results for faulted structures 7−34713
- TEM response of 3D body in layered Earth 7−29271
- theoretical TEM response curves over thin dipping dyke in free space for separated inline loop config. 7−9197
- thermally stimulated currents in different rocks from Greece 7−4026
- three-layer Earth model with thin intermediate conducting layer, surface impedance determ. 7−60166
- Transbaikal, USSR, magnetovariational study of crust and upper mantle 7−14179
- transfer functions for geomag. induction data, robust estimation anal. 7−18313
- transient EM anomalies, inline and broadside, characts. 7−9191
- transient EM anomalies, topography effects 7−8802
- transient response of a deposit excited by a pulse ofcurrent 7−8808
- two-dimensional electrical exploration by resistivity method, numerical soln. 7−8810
- ULF pulsations, study of ground-level transient magnetic fields 7−34806
- VLF transmitter EM prospecting method for geological fracture mapping 7−14386
- Yamasaki fault earthquake in Japan, associated crust resistivity changes *(Japanese)* 7−8835
- Zyoso Terrace, Japan, ELF magnetotelluric surveying *(Japanese)* 7−23604
- Ni sulphides, electrochemical transfer characts. in Western Australia localities, nonlinear complex resist. anal. 7−47553

terrestrial heat
- *see also volcanology*
- accreting Earth, blanketing by impact-induced H_2O atmosphere rel. to thermal history 7−54840
- Aileu Formation, East Timor, Indonesia, metamorphic temps. from K/Ar ages 7−28916
- Alaska, permafrost temp. profile, evidence for climate change 7−66299
- Alberta Basin, Canada, terrestrial heat flow, temp. gradients and groundwater flow 7−28944
- anomalous heat flows and their interpretation, review 7−28929
- Arabian heat low, surface energy budget and struct. 7−4151
- Arabian heat low structure 7−4152
- Archaean mantle, contrib. of melting to lithosphere stabilisation and heat loss 7−34398
- N Atlantic Ocean, residual geoid anomalies rel. to lithosphere thermal evolution 7−28814
- Atlantic-type continental margins, thermo-mech. evolution, numerical models 7−54950
- Baikal-Amur Mainline area of USSR, surface heat balance study 7−23816
- bare soil surface, moisture and energy fluxes, event-based simulation model 7−55107
- Basin and Range province, USA shallow subsurface temp. surveys 7−60398
- Beijing area, China, geothermal resource of hot water aquifier 7−3622
- Beijing-Baigezhuang profile N China, temp. profile rel. to magnetotelluric data inversion *(Chinese)* 7−34375
- biotite-sillimanite-spinel assemblages in high-grade metamorphic rocks, thermobarometric appl. 7−40434
- W Black Sea, electrical anomaly over continental slope fracture and thermal anomaly 7−54856

terrestrial heat continued
W Black Sea, marine sediment heat flow study 7—14225
Bohemian Cretaceous Basin of Czechoslovakia, heat flow and groundwater 7—28945
Calgary area, Canada, geothermal energy potential 7—28924
Canadian Appalachian crust, thermal nature from heat flow meas. 7—66041
Cape Verde Rise, in N Atlantic, heat flow anomaly and geoid indicating mantle plume support 7—47396
Cevennes Medianes, France, vaugneritic magma evol. and characts. 7—40472
Chile Ridge-Chile Trench interaction, mag., thermal and bathymetric characts. 7—66074
N China Basin, evolution of geothermal regime 7—28936
collision zones, thermal consequences of thrust slice stacking 7—28985
conduction of heat within elastic Earth, temp. profile and radial deform. 7—23592
conference, Hamburg, Germany (Aug. 1983) 7—24265
consolidated rocks thermal conductivity meas. instrumentation 7—40609
continent development and geothermal field 7—28930
continental rift zones, influences of crustal stress and temp. regimes on graben subsidence 7—66083
continental rifting, thermomechanical models of active rifting 7—14247
convection in mantle and terrestrial heat flow, Nusselt number calc. 7—47398
core heat flux, lateral modulation by mantle convection and dregs 7—66022
outer core temperatures, implications of physics of melting for Fe melting curves 7—23614
coupled groundwater flow and heat transfer in granite rock locality 7—55110
cratonization and mantle thermal evolution 7—23622
Crozet Plateau in Indian Ocean, anomalous heat flow and mantle convection 7—8879
crust-mantle boundary, heat flow estimation methods 7—18155
Dakongbeng geothermal area, SW China, hot spring activity 7—4064
depletion of geothermal reservoir (vapour dominated reservoirs) 7—3623
Earth inner core, latent heat release by adcumulus growth rel. to geomag. dynamo 7—66027
East China Sea, surface cold water areas in late spring and summer *(Chinese)* 7—55072
East Pacific Rise and Guaymas Basin, hot springs U-Th-Pb systematics 7—40462
Efate, Vanuatu, thermal springs hydrology and chem. 7—60282
E Egypt, heat flow as signature of continental breakup 7—28935
eroding mountain belts, geotherm extremal bounds from metamorphic data 7—47397
Central Europe, 3D modelling of crust temp. and Moho heat flow 7—28932
Europe, combined geophysical-thermal models of crust and upper mantle 7—28933
fire areas (of red sediments and vegetation carbonization) in California, USA, due to hot groundwater 7—23654
fissured rock areas, groundwater circulation influence on geothermal gradients 7—28941
freezing problem, moisture migration allowance study 7—55094
French Massif Central, inverse problem for bounds on mantle heat flow 7—28953
fulgurites, form. temp. characts. 7—47439
garnet-hornblende thermometry, $CaMgSi_2O_6$ activity rel. to min. press. limits for garnet amphibolites 7—29005
geodynamics since Archaean, implications of previous higher mantle temp. 7—54994
geothermal energy resource utilization, hydraulic investigations 7—28387
geothermal site (hot dry rock), shear-wave polarization in cracked rock 7—14205
German Alpine Foreland, geothermal temp. gradient maps 7—28946
The Geysers geothermal area, California, USA, induced seismicity and extensional tectonics 7—28972
Geysers geothermal area, N California, 3-D seismic vel. struct. determ. 7—3987
Great Plains of USA, surface heat flow altered by groundwater circulation 7—28943
groundwater for causing heat flow anomalies 7—28940
groundwater table geometry influence on near surface heat flow 7—28939
heat-conducting fluid flow through porous media 7—16249
high-level radioactive waste disposal in unsaturated alluvium, assoc. fluid flow and energy transport 7—23767
Hungarian Basin, geothermics and deep groundwater flow 7—28947
hydromagmatic eruptions, implications for volcanic hazard in Italy 7—66053
convecting hydrothermal system, inversion approach to thermal data analysis 7—28938
Iceland, geothermal activity and gases and volcanism, review 7—34430
Iceland, geothermal system prospecting using borehole temperature observations 7—28948
Illinois Basin, thermal contraction model for tectonic subsidence 7—54984
impact heating during Earth accumulation, effects on initial state 7—34367
S Indian Ocean, mass, heat and freshwater fluxes 7—47453
IR reflectance spectra of mafic minerals, Gaussian anal. of temp. effects 7—29006
Jabal Tirf layered gabbro, SW Saudi Arabia, crystallisation temps. from mineral chemistry 7—29015
Juan de Fuca Ridge regional perspective on heat and Mn fluxes from hydrothermal plume meas. 7—66095
karstic, rock areas, groundwater circulation influence on geothermal gradients 7—28941
central Kazakhstan, USSR, lithosphere heat flow, struct. and evolution model 7—23608
Kentland, Indiana, cryptoexplosion struct., palaeomag. estimate of age and thermal history 7—29030
Kraternaya Bay region, Yankicha Island, Kuril Islands, volcanic region rock temps. 7—29078
Lake Arakhlei, USSR, ice gas inclusions and ice sheet radioluminescent temp. 7—23709
lake sediment temp. gradients, influence of different sediment layer props. 7—65993
lake surface energy balance modelling, review 7—23722
land surface temperature remote sensing, microwave method 7—60411

terrestrial heat continued
lateral heat flow due to radiogenic sources with horizontal variations, theory 7—18149
layered soil or rock containing decaying heat source, mechanical behaviour 7—14264
Liaohe Basin, China, mantle heat flow *(Chinese)* 7—28913
lithosphere thermal characts. 7—54953
lithosphere thinning under conditions of large heat flows, numerical study 7—28928
Los Angeles Basin, two-dimensional model of extension, subsidence and thermal evolution 7—66080
low-pressure metamorphic belt form., role of plutonism 7—28975
lower mantle, revised thermal cond. rel. to interpretation of D'' zone 7—66020
magma chambers, magma convection and mixing 7—4028
magmatic heat pumps, evidence from igneous cumulates 7—47406
Malanjkhand Cu sulphide deposit, India, temp. and chemical conditions during ore deposition 7—29025
mantle convection under oceans and continents 7—54952
mantle diapirs evolution, effects of comp. and thermal buoyancies 7—8890
mantle heat flow, inverse problem for limits determ. 7—28953
mantle heat transfer, 2D model 7—54940
mantle partial melting, connectivity of melt phase in partially molten peridotite 7—8924
mantle partial melting, effect of water saturation on partial melt distrib. in olivine-pyroxene-plagioclase system 7—8925
mantle plumes, contrib. to periodicity of mag. field reversals 7—65934
mantle temperature, thermal coupling with core dynamo 7—65933
marine sediments, bulk physical props. estimation at depth from seafloor geophysical meas. 7—55009
megathrust zones, role of strain heating in tectonic evolution 7—40443
metal-silicate fractionation in growing Earth, energy source for magma ocean 7—8888
Mid-Atlantic Ridge rift valley, convective heat loss near high-temp. vents 7—34468
mid-oceanic ridges, axial zones geometry, effects of thermal conditions 7—28964
mineral isochrons, time-temperature relation, thermodynamic model, Rb-Sr system as example 7—66008
Momotombo hydrothermal area, Nicaragua, thermal evolution modelling 7—28937
Momotombo volcano, Nicaragua, fumarole gas chemistry and prediction of eruptions 7—34425
Napier Complex, Enderby Land, Antarctica, Late Archaean tectonothermal evolution from Rb-Sr, Sm-Nd and U-Pb systematics 7—14231
S Nevada, USA, palaeomagnetism of plastically deformed welded tuff 7—40416
SE New England, $^{40}Ar/^{39}Ar$ ages rel. to Late Palaeozoic cooling curve and tectonic model 7—4029
New Zealand, geothermal systems exploration and devel., use of applied chem. 7—13848
ocean, seawater geothermal heating in abyssal Pacific 7—8956
oceanic crust, alteration temps. rel. to O isotopic profile through upper kilometer 7—34467
upper oceanic crust, hydrothermal alteration of 1 km section at DSDP Hole 504B 7—28993
Orfordville Belt, New Hampshire, press., temp. and structural evolution 7—55044
N Pacific Ocean, surface temp. characts. 7—34533
permafrost of Alaska, temp. profile and evidence for climate change 7—66299
plagioclase-muscovite geothermometer 7—34475
Precambrian continental crust, heat prod. model from deep drillholes in USSR 7—34413
Priest River Complex, Washington-Idaho, metamorphic temp.-press. packs 7—4033
primitive mantle, geothermal gradients rel. to origin and early growth rate of continents 7—14229
Provencal Basin (W Mediterranean), heat flow, heat prod., and fission track data from surrounding Hercynian basement 7—14239
Provencal Basin (W Mediterranean Sea), thermal regime anal. from flumed heat flow surveys 7—14238
pyroclastics from 1985 eruption of Nevado del Ruiz, Colombia, emplacement temp. rel. to reversed magnetisation 7—34482
Regina, Saskatchewan, Canada, geothermal reservoir numerical model 7—18156
remote sensing method for geothermal anomalies and faults, by satellite photography 7—28920
rivers, temperature distribution downstream from dam or reservoir 7—23782
Ruby Mountains-East Humboldt Range, Nevada, Mesozoic-Cenozoic tectonothermal evolution 7—28986
Ruby Mts.-E Humboldt Range, Nevada, USA, chronology of tectonic denudation 7—54999
sedimentary basin heat flow patterns, influence of basement relief 7—28931
seismic waves propagation, effect of couple stress and gravity on Lamb's plane problem in thermoelastic solid 7—6128
Siberia, lithosphere temperature and thickness 7—28923
Sohm Abyssal Plain, NW Atlantic, nonlinear temp. profiles 7—8872
soil, moisture and temp. props. determ. from passive microwave data 7—23868
Solea graben, Mediterranean Sea, ore deposition and off-axis hydrothermal metamorphism 7—60247
stable isotopes in high-temp. geological processes, book 7—35126
stationary heat eqn., temp. optimisation 7—8871
subcontinental mantle, thermal evol., implications of eclogite equilibration temps. and origin depths 7—28955
subducting lithospheric slabs, thermal vel. models rel. to teleseismic mislocation of island arc earthquakes 7—14209
subducting oceanic lithosphere, thermal state rel. to mag. signature interpretation 7—65938
subterranean thermal water resources *(Rumanian)* 7—9054
Surtsey island, S of Iceland, thermal state of volcanic island 7—28934
Swiss Alpine Foreland, geothermal temp. gradient maps 7—28946
Switzerland, deep groundwater circulation and heat flow maps 7—28942
TAG geothermal field, Mid-Atlantic Ridge, hydrothermal activity dating 7—8915
Tengchong geothermal field region, China, tectonics, thermal springs and active structures 7—60219
Tengchong geothermal systems, China, evolution (since 1639) 7—60218

terrestrial heat continued
Tengchong volcanic-geothermal region, China, microseismicity and hydrothermal activity *(Chinese)* 7—54875
thermal convection in Earth interior, review *(French)* 7—23618
thermal core-mantle interactions 7—54960
thermal dynamics of a block-filled underground hot water store 7—46972
thermoelastic strain in half-space covered by unconsolidated material, prediction technique 7—29001
time-dependent layered mantle convection, high spatial resolution models 7—18145
Triassic megaporphyritic monzogranites of S California, thermal histories rel. to offset along San Andreas Fault 7—55043
Upsal Hogback geothermal area, USA, ground temps. 7—60217
S Urals, USSR, lithosphere heat flow, struct. and evolution model 7—23608
Urals mountains area, crust struct. and heat flow 7—60208
central USA, basement Precambrian ages and tectonic significance 7—8877
Valles Caldera, New Mexico, USA, thermal structure 7—66040
Xikang-Yunnan continental palaeorift zone, China, Curie isotherm depths determ. from geomag. obs. *(Chinese)* 7—28914
young oceanic lithosphere, thermal model 7—18177

terrestrial magnetic field *see geomagnetism*

terrestrial magnetism *see geomagnetism*

test equipment
see also automatic test equipment; battery testers
acoustic emission piezoelectric receiving transducer, reciprocity calibration 7—62937
adaptive multichannel systems in X-ray flaw detection 7—39817
adhesion strength measurement method for In-glass seals 7—59715
apparatus for measuring the refractive index profile of an optical fibre 7—37231
biomedical equipment safety testing 7—54798
chromatic dispersion measurement system using 'n' LD light sources different in wavelength 7—14995
dielectric waveguides use as sensors for dielec. consts. 7—4863
fibre optic sensor development for high speed material diagnostics 7—65250
fluoroscope, portable, with image intensifier, optimal screen characts. 7—61407
fretting wear assessment, metrological techniques and equipment 7—39812
high-pressure chamber for mech. tests of tubular specimens, stress-strain tensor functional construct. 7—59716
image convertor, gas discharge, operating in avalanche mode, intrinsic blurring and freq. contrast characts. 7—4937
induction transducers for Barkhausen jump detection, compute, and design problems 7—39823
laboratory assessment of camouflage materialseffectiveness in the thermal IR 7—4850
measurement equipment for subscriber optical lines 7—62856
OTDR for optical fibre cable meas. 7—14994
RF absorber horn test system 7—43605
servohydraulic testing machine, plastic strain-limit control 7—28233
US inspection instruments, improved sensitivity 7—65256
US transit-time meters, pulsed, transient processes in acoustic section 7—62938
weather satellite automatic picture transmission, design of grey scale test pattern generator 7—29292
a-Si:H thin film solar cells, repeatable meas. system for accelerated stress testing 7—23174

test facilities
see also aerospace test facilities; anechoic chambers; reverberation chambers
accelerometers testing and calibration in frequency range 20 to 600 Hz 7—4820
airgap breakdown characts. obs., under ambient conditions of reduced air density 7—20978
Canadian fusion breeder blanket program, Chalk River irradiation facilities 7—49664
FFTF as an irradiation test bed for fusion materials and components 7—49662
HFIR irradiation facility, HIFI Project 7—49615
laser-induced optical damage research at LANL (USA) 7—57392
Low-Temperature Neutron Irradiation Facility for fusion materials research 7—49665
Oak Ridge RF test facility for ion cyclotron resonance heating systems 7—26456
OTEC, open cycle heat and mass transfer expts. 7—65575
RTNS-II fusion materials irradiation facility, status 7—49667
SIRIUS-M, ICF test facility, materials testing 7—49663
SIRIUS-M, symmetric illumination, inertially confined direct drive materials test facility 7—49661
solar cell performance testing, outdoor facility 7—54311
solar test facility for high concentration solar cells, water cooled blackbody calorimeter 7—13849
X-ray diagnostic calibration facilities for 100 eV to 100 keV range 7—18964
a-Si photovoltaic module performance 7—3684

testers *see test equipment*

testing
see also automatic testing; electronic equipment testing; environmental testing; impulse testing; inspection; integrated circuit testing; life testing; machine testing; materials testing; mechanical testing; nondestructive testing; optical testing; production testing
accelerating-storage unit superconducting magnet testing using cryogenic equipment 7—48754
aerosol radiation meters checking, Rn daughters products meas. 7—9220
angle digitisers, precision accuracy-checking method based on multifaced prisms 7—41335
biomedical equipment acceptance testing and hospital equipment management 7—54797
DOE/NASA Automotive Stirling Engine Project overview 86 7—65533
fracture toughness assessment using elec. pot. method in comparison with standardized multiple specimen method 7—22932
functional neuromuscular stimulation hands, clinical efficacy assessment 7—34352
HERA magnet measurement facility, cryogenic system 7—49781
high resolution vertex chamber, test of full scale sector 7—30839
JT-60 integrated performance test 7—15361
Netherlands nuclear power plant air filter testing and monitoring 7—3741

testing continued
Ringbom-Stirling engines, parameter effects expt. study 7—65536
solar cells, thin film and modules, performance testing, overview 7—54309
solar collector performance transient testing using digital filter 7—65582
sound level meters, Japanese testing and calibration methods 7—1334
spectroradiometer for testing radiation sources at 2 to 15 μm 7—18891
spinal fixation instrumentation, standardisation of testing procedures 7—8767
Stirling engine, inverted yoke drive, improvements 7—65546
Stirling engine, variable-stroke, testing 7—65537
Stirling engine for model aircraft propulsion, design and test 7—65543
Stirling engine heater tubes, single and double-row, heat transfer 7—65549
thermal conductance apparatus, large-scale, commissioning trials 7—14940
Varian-NCSU relativistic magnetron, initial test results 7—30043
WAK reprocessing plant, in-service testing of techniques and components *(German)* 7—61973
N/s 14 kWh/21 kW batteries for electric vehicles, performance testing 7—65438
Ni-Cd cell separator with Pellon 2536, space qualification program 7—65445
Ni-H$_2$ aerospace batteries, low Earth orbit test program 7—34025
Ni-H$_2$ batteries, 40 Ah, bipolar, for space appls., parametric testing 7—34027
Ni-H$_2$ cells technology for RADARSAT spacecraft appls., test program 7—34024

testing apparatus *see test equipment*

testing equipment *see test equipment*

testing machines *see test equipment*

tetraneutrons *see neutrons*

tetrodes
CROSSATRON modulator switch development 7—26537
plasma ICRH, technical feasibility of very high power tetrodes 7—26458

text processing *see word processing*

textile fibres *see fibres*

textile industry
conference, Charlotte, NC, USA (May 1986) 7—29594
linen material, raw, water-content meter 7—56292

texture
see also recrystallisation texture; surface texture
alloys, structurally superplastic flow, texture, neutron and X-ray obs. 7—46589
analysis by simultaneous meas. of several X-ray pole figures 7—32216
bis(1,3-di(p-n-alkoxyphenyl) propane-1-3-dionato) copper (II), discotic liq. cryst. props. 7—37846
α-brass, rolling deform. texture, shear band angles 7—33724
ceramic coatings, thermo-sprayed, microstruct. studies *(Japanese)* 7—22628
composition modulated layered structs., elastic strain, X-ray diffr. studies 7—27086
cubic materials, textured, diffr. elastic consts., Voigt model calcs., Hill approx. 7—51913
CVD and PVD coatings, structural, mechanical and tribological props. and applications 7—53935
electrical steels, physical metallurgy, conf., New York, USA (Feb. 1985) 7—4626
helical biological polymers, liq. cryst. phases, columnar textures 7—34106
human texture discrimination, use of texture boundaries 7—3794
liquid crysts., monomers and polymers, mesophase behaviour, mol. structural effects study 7—63458
lyotropic nematic liquid crystals, nonequilib. periodic reorientation induced by mag. field 7—58138
metal sheets, rolled, US SH wave vel., ang. depend. 7—38126
metals, texture and internal stress determ. using ultrasonic Rayleigh waves and neutron diffraction 7—46767
MgO films, prep. by RF sputtering, orientation and microstruct. *(Japanese)* 7—22480
4-(4-n-pentyloxybenzylideneamino)azobenzene, liq. cryst. transitions 7—63812
petrographic parameters quantification, appl. of digital image processing *(Spanish)* 7—34740
piezoceramic narrow-strip element resonance freq. dispersion diagrams, texture and ionic substitution effects 7—1363
polycrystal, textured, yield surface, crystallographic calc. 7—33723
polycrystalline permanent magnet, texture influence on coercive field strength computation *(German)* 7—2902
polycrystals with trigonal crystal and orthorhombic specimen symmetry, elastic props. 7—44646
powder diffractometry, preferred orientation, intensities correction, March model appl. 7—1808
rotation rate field determ. from texture data 7—65056
Siemens texture goniometer, modified with microcomputer controlled stepping motors 7—44306
sitosteryl chloride-cholesteryl laurate binary mixture, polymorphism 7—12267
steel, austenitic stainless, rolled, characts. of $\alpha \rightarrow \gamma$ transform. in different texture components. *(Russian)* 7—59516
steel, austenitic stainless, single crysts., rolling texture and elastic consts. *(Russian)* 7—51912
steel, cryogenic, Al alloying effect on mech. and mag. props. 7—39679
steel, low C, sheets, yielding rel. to prestrain, uniaxial tension 7—46553
steel, maraging, hydraulically pressed, struct., texture and hardening *(Russian)* 7—3323
steel, Mn, Hadfield, strain hardening, plastic flow 7—28055
steel, plain C, cold-rolled, texture and lattice deform. states *(German)* 7—53765
steel, Si, recrystallised grain growth, 650 to 850°C 7—46509
steel, stainless, ferritic, annealed hot-rolled plates, texture heterogeneous, correl. with plastic deform. struct. *(French)* 7—13483
steels, deformation steel, model taking into account inhomogeneous microscopic behaviour *(French)* 7—63725
structure-dependent optical phenomena 7—45953
X-ray pole figures, computer plotting 7—26589
X-ray texture analysis, TZ-6 texture attachment 7—8214
Ag thin films on NaCl, preferred orientations, detection of complete set 7—39542
Al-Cu-Li, 2020, low-cycle fatigue, effect of environment and temp. 7—28117

texture continued
  Al-Mg-Si, squarely extruded, texture and mech. props. *(Japanese)* 7—33694
  Al-Si eutectic, unmodified, Al grain struct. 7—65012
  Al_2O_3, engineering ceramics, texture 7—28057
  Al_2O_3-ZrO_2 ceramics, hot forging characts., grain size 7—3370
  Au epitaxial ultra-thin films, X-ray diffr. studies 7—27204
  Au, texture of leaf fabricated by hammering 7—39541
  Au-Ge-GaAs, interfacial reactions, struct. after annealing 7—27154
  BN samples, quantitative phase anal., elimination of texture effects 7—63771
  BN, wurtzite, sintered polycryst., texture form. during hot compacting at high press., sphalerite transition 7—53685
  α-brass, hot rolled, recrystallized microstruct., deform. processes 7—13500
  $CaCO_3$, calcite, polycrystals, elastic props. 7—44646
  CaO_3, induced morphology crystal aggregates, structures, wheatsheaf morphologies 7—51687
  CdTe layers, electrochemical deposition, struct. and elec. props. 7—12526
  CoCr films, texture formation, appl. for perpendicular mag. recording 7—39539
  CoCr-based thin films, growth and mag. props., nucleation layer effects 7—45065
  Cu, cubic polycrystals, elastic consts., Young's modulus rel. to axial texture *(Russian)* 7—59562
  Cu, hot rolled, recrystallized microstruct., deform. processes 7—13500
  Cu_xTi_{100-x}, x=50,66, metallic glasses, crystn., DTA, X-ray diffr., hardness meas. 7—63489
  Fe, cubic polycrystals, elastic consts., Young's modulus rel. to axial texture *(Russian)* 7—59562
  Fe, rolling texture, effect of parity 7—59548
  Fe-Al(Si) cold-rolled nonbrittle powder strip prep., texture and mag. props. 7—46370
  Fe-Cr-Co-Mo permanent magnet ribbons, mag. props., influence of modulated structure 7—53043
  Fe-Mn-Al alloy, mag. props., struct. and deform. texture 7—2892
  Fe-Si, grain oriented, hot rolling texture, thickness variations 7—8009
  Fe-Si, rapidly quenched ribbons, grain growth, mag. props. 7—8017
  Fe-Si, structure, texture and mag. props. 7—12995
  Fe-Si (2 wt.%), microstruct., mag. props., thermomech. history effect 7—7551
  Fe-Si (3 wt.%), dynamic remagnetisation, structural depend. of losses 7—12994
  Fe-Si (3 wt.%), Goss orientation rel. to hot rolling conditions 7—8018
  Fe-Si (3 wt.%), grain oriented, desulphurisation kinetics, 899-1171°C 7—8002
  Fe-Si (3 wt.%), grain oriented, texture development for regular and high permeability 7—8008
  Fe-Si electric steel, X-ray texture analysis using TZ-6 texture attachment 7—8214
  Fe-Si sheets, grain oriented, orientation of individual grains by means of Kossel patterns *(Japanese)* 7—22716
  Fe-Si-Ni (6.5, 2 wt.%), development of Goss texture, lowering of core loss 7—33693
  $Fe_{75}Mo_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7—11925
  $Fe_{75}Ni_3Si_9B_{13}$, amorphous, structural relax. and quasi-texture 7—11925
  Ge sputtered ⟨100⟩ textured film, TEM grain growth obs. 7—45040
  In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7—12535
  Mo alloys, forging, crystallographic texture, X-ray diffr. *(Russian)* 7—39538
  Mo CVD coating on graphite, struct., thermal resist. props. 7—52375
  Mo, hydroextruded single crystals, nonuniformity of texture deform. *(Russian)* 7—33695
  Ni thin strips, cryst. growth 7—53580
  Ni-P coating, electrolytic, electron microscope obs. of struct., P content depend., amorphous layer form. 7—8157
  $Ni_{70}Cr_7Fe_3Si_8B_{12}$ ribbon, rapidly quenched from melt, struct. inhomogeneity and crystallised metastable phase *(Chinese)* 7—63477
  PbCaSn, rolling deform. texture, shear band angles 7—33724
  Pd_2Si-Si interface, at. struct., TEM obs. 7—63977
  Si CVD thin film, struct. and elec. props. 7—21730
  Si, polycrystalline layers, growth shape and struct. investig. 7—2405
  Si:P thin films, surface energy-driven grain growth during rapid thermal annealing 7—63994
  Si:P(B) LPCVD films, amorphous and polycrystalline, struct., elec. resist. meas. 7—52870
  SiC:Si, reaction bonded composite, mech. props. and microstruct. anisotropy 7—65146
  $SmCo_5$ powder magnet, texture form. in alternating and steady mag. fields 7—27977
  Sn films, sputtered onto polypropylene sheet, orientation rel. to deposition rate 7—45061
  Ti alloys, rolling deformation, $\beta \to \alpha'$ transformations *(Russian)* 7—46454
  α-Ti, hexagonal texturised sheet stock, orientation distrib. function 7—22714
  Ti, implantation-induced textures, electron diffr. and microscopy studies 7—46507
  Ti, rolling, texture form., metastable high press. phase transform *(Russian)* 7—65029
  Ti sheet, grain orientation distrib. meas. by etch pit method 7—46510
  Ti sheet, mech. behaviour, effect of texture and orientation rel. between neighbouring grains 7—53763
  Ti-Al-V (6, 4 wt.%) plates, rolling, heat treatment, microstruct., mech. props., turbine blade appl. 7—17644
  Ti-Al-V (6, 4 wt.%) texture stability during rolling in two-phase field 7—46508
  Ti-Al-V (6,4 wt.%), machined sheet test pieces, superplastic deform. 7—22763
  Ti-Cr-Mo-V(Al), textured sheets, Young's modulus anisotropy, elastic consts. calc. 7—46535
  Ti-Mn, alpha and beta phases, yield and tensile strength, ductility, Bauschinger behaviour, fatigue life, crack propag. 7—8052
  Ti-N ion deposited film, struct., phase comp. and mechanical props., comp. depend., X-ray diffr. study 7—12573
  TiN ion plated films, tempering effects 7—59461
  U, texture anisotropy, as-cast and heat treated 7—46518
  Zn electrodeposition, struct. rel. to inhibition conditions 7—22593
  ε-ZrH_x, shape memory effect *(Russian)* 7—59577
texture, surface *see surface texture*
TGA *see thermal analysis*
thallium
  see also nuclei with ......
  alkali halides with Tl^+ impurities, excitons, optical absorpt. D band study 7—64096
  atom, $6^2P_{3/2}$ metastable and $6^2P_{1/2}$ ground state relax. 7—36505
  atom, hyperfine struct., quantum beat spectra anal. 7—31000
  atom, Stark broadening, line shift and width 7—50010
  atom, valence energy and polarisability, semiempirical pseudopot. calcs. 7—56926
  atomic absorption spectrometry for river sediment, coal, coal fly ash 7—59801
  atoms, detection using resonance ionisation 7—15570
  atoms, elastic scatt. of electrons, spin polarisation meas. 7—50364
  atoms, interaction pot. diffusion coeffs. in inert gases 7—31913
  atoms, low-energy electron elastic scatt. calcs. 7—50362
  ion, electron impact, 6^1S_0-6^3P_1 intercombination transition excitation resonance obs. 7—36778
  liquid, electron distrib., struct. factors, neutron diffr. determ. 7—26620
  normal potentials in liq. NH_3 7—39903
  phase diagrams, appl. for online press. and temp. calibration 7—4853
  positron lifetimes, temp. depend. 7—39253
  triglycine sulphate:Tl^+, X-ray effects, changes in physical props. 7—22198
  $(As_2Se_3)_{1-x}Tl_x$, elec. and thermal transport props., effect of Tl addition 7—38200
  CsI:Tl, energy resolutions for p and α 7—5557
  CsI:Tl, γ-ray radiation damage, recovery 7—63657
  CsI(Tl) scintillator response to light particles and heavy ions *(Italian)* 7—25327
  Hg-Tl high press. lamp arcs, partial press. determ. 7—26554
  α-HgS:Tl single cryst., elec. relax. current 7—64241
  InSb:Tl, physicochemical behaviour of Tl 7—21452
  KBr:Tl(In), defect creation by excitons, room temp. *(Russian)* 7—16946
  KCl:Tl, luminescence, intensive KrF laser irradiation *(Russian)* 7—17340
  KCl:Tl, photoionisation of Tl^+, intense excitation in A-absorption band *(Russian)* 7—16554
  KCl:Tl, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
  KCl:Tl, X-ray luminescence, grain size effects *(Russian)* 7—27767
  KCl:Tl crystals, optical and lasing characts. of $Tl^0(1)$ colour centres 7—50569
  KCl:Tl^+-type phosphors, Jahn-Teller-induced A-absorption and A-emission bands 7—53398
  KCl:Tl^{2+}, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
  KH_2PO_4:Tl^{2+}, impurity centres, ESR line width studies 7—38498
  KI:Tl^+ crysts., luminescence polarisation of dimer centres 7—22335
  KI/Tl^+, stability of V-type defects 7—26745
  $(NH_4)_2SO_4$:Tl, cryst. fields calc., Madelung energies and cryst. pots., optical absorption spectra anal. 7—64180
  $(NH_4)_2SO_4$:Tl, mol. orbitals, EHT calc., rel. to absorption spectra 7—64181
  $(NH_4)_2SO_4$:Tl crystal, temp. depend. of optical absorption bands 7—64671
  NaCl:Tl, photoionisation of Tl^+, intense excitation in A-absorption band *(Russian)* 7—16554
  NaCl:Tl, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
  NaCl:Tl colour centre laser, structural, optical and prod. props. 7—57340
  NaI:Tl,OH^-, NO_3^-, CO_3^{2-} crysts., scintillation props., vibrational spectra, anion impurity effects *(Russian)* 7—22348
  NaI(Tl) inorganic scintillators, role of activators 7—33459
  PbTe:Tl, Na, carrier reson. scatt., effect on transport coeffs. 7—38602
  PbTe:Tl(Tl,Na) films, superconducting transition 7—38797
  $Pb_{1+x}Te$:Tl, quasilocal level and transport props. 7—38492
  RbH_2PO_4:Tl^{2+}, impurity centres, ESR line width studies 7—38498
  Sb_2Te_3:Sn, Tl, single crystals, X-ray spectral microanalysis 7—44590
  Si:Tl ion implanted layers, defect form. and precipitation, electron microscopy studies 7—12097
  Si:Tl/Pt system, impurity migration during silicide form. 7—6895
  SiO_2-B_2O_3-K_2O-Na_2O-Al_2O_3-TiO_2-ZnO:Tl^+, diffusion 7—27022
  Tl^+ in alkali halide crystals, polarised luminesc., model of impurity centre 7—27753
  Tl^+, shielding of external elec. field, Hartree-Fock calcs. 7—15532
  Tl^+, transport is emulsion liquid membrane, dicyclohexano-18-crown-6 mediated 7—13814
  Tl+inert gas, $6P_{1/2}$-$7P_{1/2,\ 3/2}$ two-photon line broadening and shift 7—49983
  $Tl^+ + H^+$, charge transfer and ionis. 7—31162
thallium alloys
  see also thallium compounds
  Bi-Tl, superconducting transition temp., effect of plastic deform. 7—52879
  Bi-Tl alloys, supercond. and normal state, thermal cond., effect of plastic deform., 1.5-300K 7—17132
  Hg-Tl, liq. alloy, molar mag. susceptibility, temp. depend 7—7494
  In-Tl, liq., activities, temp. depend., EMF obs. *(Japanese)* 7—12320
  In-Tl (23 at.%) alloy, FCC, thermodynamics of ferroelastic phase transition 7—2189
  In-Tl (3 wt.%), adhesion to glass, adhesion strength, meas. method for vac. seals 7—59715
  In-Tl system, absolute thermo-EMF *(Russian)* 7—32996
  Pb-Tl, Bridgman growth, pattern generation at solidification front, forbidden cells 7—22651
  Pb-Tl alloy single crysts., plasticity and internal friction changes at supercond. transition *(Russian)* 7—26832
  Tl_2GeSe_3-Tl_2SnSe_3 systems, phase equilibria 7—6760
  Tl_4GeSe_4-Tl_4SnSe_4 systems, phase equilibria 7—6760
  Tl_7Sb_2, giant cells, polyhedral packing 7—11992
  U-Ti dilute alloys, phase transformations 7—16730
thallium compounds
  see also thallium alloys
  halides, excitonic processes, book chapter 7—29610
  halides, ionicity-effective radius diagram calcs. interatomic distances determ. 7—1939
  oxides and halides, covalency and NMR chem. shift correls. 7—2941
  Ag_2O-Tl_2O-B_2O_3 glasses, physical props. and tandem monovalent ions effect 7—3013
  AgTlTe, molten, struct. factors and radial distrib. functions, X-ray diffr. meas. 7—26617

thallium compounds continued
Cr Lu_4S_7, synthesis, physiochemical props. 7−44470
$CuTlS(Se)$-$AgTlS(Se)$, solid solutions, phase formation 7−7976
$Ga_9Tl_3O_2S_{13}$, crystal struct. investig. *(French)* 7−12000
KCl:Tl crystal, luminesc. from metastable level of Tl^+ center 7−39170
$Li_xTlGaSe_2$, ion intercalated, dark current and photocurrent relax. meas. 7−38622
$Sb_{2-x}Tl_xTe_3$, doped crystals, energy formation of antisite defects 7−21204
$Se_{1-x}Tl_x$, liq. semicond., Se-rich, optical absorpt. edge 7−22213
SnS_2-Tl_2S phases, ^{119}Su Mossbauer study *(French)* 7−27639
Tl halide crysts. NO_3^- effect on IR absorpt. spectra 7−39124
Tl halides, polycrystalline low loss fibres, plastic deformation mechanism 7−37189
Tl-Ge-Se, bulk glass formation region, elec. and struct. characts. 7−58159
Tl-$SbTlSe_3$, liq., semicond., elec., mag. and thermoelec. props. 7−58825
Tl-$SbTlTe_3$, liq., semicond., elec., mag. and thermoelec. props. 7−58825
Tl_3AsSe_3 crystals, Bridgman growth, dislocation etching, thermal stress distrib. 7−21208
$TlBi_{1-x}Sb_xVI_2$ solid solns., band spectrum double inversion to semimetallic state 7−38452
TlBr, strain derivatives of dielec. constants 7−17259
TlBr:I indirect exciton transition, effects of disorder 7−2489
TlBr-TlCl fibres, growth by Stepanov's method 7−31533
TlBr-TlCl/CsBr-CsCl single-crystal two-layer fibres for visible and infrared transmission 7−57569
TlBr-TlI fibre for high power CO_2 laser beam 7−31487
TlBr-TlI fibre optic cable for CO_2 laser scalpel 7−14086
TlBr-TlI polycrystalline fibres with crystalline cladding, optical characts. 7−37186
TlCl crystal, electronic struct. 7−38449
TlCl, strain derivatives of dielec. constants 7−17259
$TlCl:Al_2O_3$, ionic transport investig. 7−16798
$TlCl_{0.7}Br_{0.3}$, Debye temp., Debye-Waller factor and mean vibr. amplitude, X-ray determ. 7−26893
$TlClO_4$, rotational diffusion of rare spin ^{17}O, NMR *(Japanese)* 7−45835
$Tl_2Co(SeO_4)_2.6H_2O:Mn^{2+}$, electron spin resonance studies 7−45809
$Tl_2Cu(SO_4)_2$, glassy γ-modification, structural and electronic props. studies 7−58161
TlD_2PO_4, cryst. struct., X-ray diffr. study 7−32414
TlF, predissoc., tunneling, UV spectra 7−57141
$TlFeS_2$, low temp. sp. ht. *(Russian)* 7−32678
$Tl_3Fe(SO_4)_3$, columnar cpds., vibr. spectra and phase transitions 7−17314
$TlFe_{2-x}Se_2$ layered cpd. single cryst., magnetic and structural props., Mossbauer and X-ray diffr. studies 7−2848
$TlGaS_2$ crysts., photolum., magneto-optical characts. study 7−46089
$TlGaS_2$, exciton states, absorpt. and refl. spectra 7−46066
$TlGaS_2:Nd^{3+}$, photoluminescence spectrum *(Russian)* 7−64682
$TlGaSe_2$ crystals, exciton spectrum, phase transitions 7−7124
$TlGaSe_2$, electric field induced photoconductivity 7−52676
$TlGaSe_2$ single cryst., photolum. and edge absorpt. spectra 7−59241
$TlGaSe_2:Nd^{3+}$, photoluminescence spectrum *(Russian)* 7−64682
$(TlGaSe_2)_x(TlInS_2)_{1-x}$ mixed crystals, photoresistive characteristics *(Russian)* 7−64281
$TlH_2P(As)O_4$, cryst. struct. and polymorphic transformations, X-ray and thermal anal. 7−1972
$TlHf_2$, non-polar crystals, antiferroelectric ordering, 1D mechanism 7−33344
TlI, excitons, band struct., polarised refl. spectra 7−27738
TlI, X-ray photoelectron and Auger electron spectrosc. 7−5647
TlI_3, cryst. struct., X-ray diff. study 7−44461
$TlIn_{0.95}Ga_{0.05}S_2$, crystals, vibr. spectra in vicinity of phase transitions 7−17321
$TlInS_2$, crystals, vibr. spectra in vicinity of phase transitions 7−17321
β-$TlInS_2$, Urbach rule and phase transitions 7−46009
$Tl_3In(SO_4)_3$, columnar cpds., vibr. spectra and phase transitions 7−17314
$TlIn(S_{0.8}Se_{0.2})_2$, crystals, vibr. spectra in vicinity of phase transitions 7−17321
$TlInSe_2$, electronic struct., synchrotron radiation photoelectron spectra 7−52422
p-$TlInSe_2$ single cryst., impurity photocond. studies 7−2642
Tl_3MS_4 (M=P,As,Ta), electronic energy struct. and bonds, X-ray spectra studies 7−45148
Tl_4MnI_6, paramag. suscept. w.r.t. NMR chem. shift, hyperfine coupling const. determ. 7−2941
$Tl_2Mo_6Se_6$, 1D superconductor, polarised reflectance spectra 7−45554
$Tl_2Mo_6Se_6$, thermal expansion of ternary chalcogenides containing infinite $(Mo_{6/2}Se_{6/2})$ chains 7−16791
$TlNO_3$, ferroelastic switching, mech. twinning, at. mechanism, symm. anal. 7−2186
$TlNO_3$-glass, ion-exchange diffusion, planar waveguides fabrication 7−11108
TlO_2, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7−50252
Tl_3PO_4, optical SHG material, cryst. struct., X-ray diff. study 7−44465
$Tl_4P_2Se_6$, isomeric forms, $P_2Se_6^{4-}$ vibr. spectra, normal coordinate anal. *(German)* 7−22270
$TlPrSe_2$ $(Se_2)(Te_2)$, elec. cond., Hall effect and thermoelec. studies 7−2606
Tl_2S-Cu_2S melts, ionic-electronic conductivity 7−33057
$Tl_2S(Se)$-GeS(Se), polythermal sections, physicochemical anal. 7−7975
$TlSbS_2$, near band gap optical props. 7−7715
$TlSbS_2$, Raman spectra and vibr. modes, polarisation depend. 7−27725
TlSe, thermal expansion coeff. temp. depend. and absorpt. spectra meas. 7−58508
Tl_xSe_{100-x} glasses, glass transition, melting, recrystallisation, elec. transport 7−64246
$TlSn_2F_5$, F^- motion, NMR and electrical conduction 7−52132
$Tl_4UO_2(CO_3)_3$, cryst. struct., X-ray diffr. study 7−44463

thawing *see melting*

theoretical mechanics *see mechanics*

thermal analysis
p-acetoxybenzoic acid, tetramer, topotactic transitions 7−12264
alkali metal layered Mo bronzes, $(A^+(H_2O)_n)_xMoO_3^{x-}$, (A=Li, Na, K, Rb, Cs), composition and struct. 7−16518
alloy, solidification, differential thermal anal., modelling *(French)* 7−65024
aluminium polyfluorophthalocyanine, IF_5 chemical doping 7−52600
aniline, substituted, polymerisation and characterisation 7−33929
$(BEDT\text{-}TTF)_2I_3$, α to superconducting β phase transform., heat absorpt. and resist. temp. depend. meas. 7−63808

thermal analysis continued
N,N′-bis(4-n-octyloxybenzal)-1,4-phenylenediamine, condis crystal props. 7−37909
bis(ethylenedithio)tetrathiafulvalene, low-temp. phases, X-ray diffr., resistivity and thermopower meas. 7−37962
breached LMR fuel element, thermal effects of $Na_3(U_{1-y}Pu_y)O_4$ formation 7−30558
cadmium arachidate, Langmuir-Blodgett films, struct. disorder and polymerisation competition at elevated temp., IR spectra obs. 7−46163
ceramic cylindrical nuclear fuels, computer modelling, review 7−720
cholesteryl acetylferulate, liq. cryst. transitions, glass transition and cold crystn., DSC study 7−63814
coal gasification-combined-cycle plant thermoeconomic anal. 7−23206
cobaltites, fine-particles, low temp. prep. by solid solution precursor method 7−59486
cryogenic current leads with current overloads and coolant flow interruption, temp. state 7−61341
cyclosilanes, plastic and condis crysts., thermal anal. 7−37910
p-cynophenyl p′-n-heptylbenzoate, liq. cryst., phase transition studies 7−38195
p-cynophenyl p′-n-heptylbenzoate-p-nitrobenzylidene-p′-n-heptyloxyaniline, liq. cryst. mixtures, phase transition studies 7−38196
decomposition study instrument 7−59818
4,4′-di-n-pentyloxyazoxybenzene, nematic and rotary phases, molecular reorientation 7−32278
didymium tartrate crystals, gel grown, charactn., thermal behaviour 7−39367
differential scanning calorimeters, standard operating procedures development 7−18786
14,4′- diphenylmethane diisocyanate 1,4- butanediol, thermal degradation 7−8272
EBBA, nematogen, diffr. and spectroscopic study of solid states 7−64645
EBBA melting and crystn. processes, Raman spectroscopy, X-ray and thermal anal. 7−63777
electrodynamic thermogravimetric analyzer for aerosol particle kinetics obs. 7−3620
ERM thermal anal., heat radiation case study using finite element method 7−20588
Estec sun simulator for researching the thermal behaviour of satellites *(Dutch)* 7−55422
Fe-Ni-B metallic glasses, struct. and crystn. kinetics, DSC and X-ray diffr. meas. 7−16436
ferrites, synthesis and sintering kinetics and mechanisms 7−13423
ferrocene, azaferrocene and ruthenocene, struct. phase transitions and mol. dynamics. ^{1}H NMR 7−13053
ferrous spinel, oxidation kinetics and mechanism, elec. cond., thermogravimetry 7−27326
flat-plate photovoltaic arrays, thermal characterisation 7−3685
gas-solid reactions, transport and mixing characts., thermocentrifugometric anal. 7−54095
gilsonite, microstructure and mechanical props. 7−44838
hollow spheres with internal heat generation and variable thermal conductivity, thermal stability anal. 7−57677
hot deformation, simulated, determ. of CCT diagrams by thermal anal. 7−59557
p-hydroxybenzoic acid-based polymers, pyrolysis, thermal stability, thermogravimetric and gas chromatographic mass spectral anal. 7−54208
IN 100 superalloy, MC carbide props. rel. to transition element doping 7−13456
Landau slabs with linearly varying thermal conductivity, thermal stability anal. 7−57676
lead (II) carboxylates, thermotropic phase transitions, DSC meas. 7−21441
liquid crysts., monomers and polymers, mesophase behaviour, mol. structural effects study 7−63458
liquid metals or alloys, structural changes, sensitive thermal analysis technique 7−9831
membranes, bilayer, double-chain amphiphiles, phase transitions, DSC obs. 7−54496
membranes, bilayer, single- and triple-chain amphiphiles, phase transitions, DSC obs. 7−54497
metals, BCC and FCC cryst. struct., H trapping, thermal anal. obs. 7−22830
muscovite mica, effect of high γ-ray doses on thermal props. 7−8270
particle dissolution kinetics, size determ., DSC obs. 7−3309
PEEK, melting behaviour, molecular anal. using Fourier transform spectroscopy, thermal anal. 7−12244
4-(4-n-pentyloxybenzylideneamino)azobenzene, liq. cryst. transitions 7−63812
perovskite-like ferroelectrics, optical and electrophysical props. 7−3002
PET films, crystallisation under strain, annealing, morphology, mech. props. 7−44415
phthalocyanines, thermogravimetric meas., 300 to 1000 K *(German)* 7−46863
PMMA, Tg and Tu tacticity depend., DSC investig. 7−12277
poly(ethylene oxide)-$LiCF_3SO_3$ evaporated electrolyte films, struct. and ionic cond. characts. 7−64002
poly 2,6-dimethyl-1,4-phenylene oxide and poly styrene-co-p-fluorostyrene blends, miscibility, press. depend. 7−17533
poly-ether-ether-ketone crystallisation, investig. 7−6558
polyarylate, mol. motions in glass transition region, thermally stimulated depolaris. current 7−38586
polybutadienes, high-temp, struct. transition obs. *(Russian)* 7−63820
polybutylene, crystallisation, X-ray scatt., differential scanning calorimetry and torsion pendulum investig. 7−32308
polyetheretherketone, phys. ageing characts. 7−65110
polyethylene, chlorinated, prep., mech. and thermal props. 7−28006
polyethylene, lamellas, thermodynamic characts., DSC investig. *(Russian)* 7−21422
polyethylene, linear, DSC, origins of endothermic peaks 7−11952
polyethylene, low density, crosslinked, morphology, transmission electron microscopy 7−37894
polyethylene, low density, with antioxidants, irrad., DSC melting behaviour 7−21421
polyethylene, oriented, temp-induced crystallisation 7−11954
polyethylene, oriented, temp.-induced crystallisation 7−16446
polyethylene, struct. change by ionising irradiation, DSC investig. *(Russian)* 7−21138
polyethylene blends, melting, crystallisation, DSC, X-ray diffr., Raman spectra 7−44411

thermal analysis continued
polyethylene blends, melting, crystallisation, relax., DSC, light scatt. 7−44412
polymer. composite structure, thermal and thermomech. response 7−8150
polymer liquid crystals, synthesis, characterisation and applications 7−17508
polypropenyl ethers with mesogenic groups, side-chain liq. cryst. polymers 7−51622
polypropylene, high-oriented, struct. rel. to physico-mech. props. *(Russian)* 7−26672
polypropylene films, glass isotactic, crystallisation, struct., dynamic mech. props. 7−16445
polystyrene/styrene-methyl methacrylate random copolymer blend, DSC obs. of miscibility 7−12291
polyurethane semicarbazides, segmented, microphase ply separation initiation *(Russian)* 7−6562
polyurethane-polysiloxane interpenetrating polymer network, morphology, dynamic mech. investig. 7−37901
polyurethanes, molecular struct., morphology, phase mixing, mech. props. 7−51664
polyvinyl ethers with mesogenic groups, side-chain liq. cryst. polymers 7−51622
polyvinyl methyl ether, ageing, enthalpy relax. meas. 7−8029
polyvinylidene fluoride, struct., melting and crystn. *(Russian)* 7−6563
porphyrin derivatives, mesogenic props., DSC study *(French)* 7−1859
PVC, pure and plasticized, orientation, Fourier transform IR study 7−44661
pyridazine derivatives, synthesis and liq. crystalline phases, PMR, NMR and DTA studies 7−63456
quartz particles, α-β inversion, structural damage effects, micro DTA study 7−2185
rubber, gel and mol. wt. influence on mech. props. 7−37904
sitosteryl chloride-cholesteryl laurate binary mixture, polymorphism 7−12267
steel, Cr-Mo, breakaway oxidation and internal cracking at 900°C, freq. anal. of AE signal 7−17718
steel, Cr-Mo, oxidation kinetics, breakaway oxidation and inversion phenomena 7−17714
steel, high-speed, produced from machining waste, liq. phase forming during sintering 7−3226
tetramethyl bisphenol A polycarbonate-styrenic polymer systems, phase props. 7−38209
tetramethyl bisphenol-A polycarbonate-aliphatic polyester blends, phase props. 7−38210
bis(tetramethylammonium) bromochlorocuprate single cryst. solid solns., phase diagram study 7−26944
thermobalance apparatus, metal sulphidation kinetics meas. 7−30013
thermopiezic analysis, gas absorption and desorption studies on milligram samples 7−16861
thin plate two-dimensional diffusivity tensor meas. by thermal pattern analysis 7−2285
triorthophosphates, superionic, synthesis and charactn. 7−53530
VF_2-TrFE random copolymers, Curie point meas., thermal and processing history depend. 7−33341
water cooling circulation system thermal conditions anal. at Leningrad nuclear power station *(Russian)* 7−30595
water-in-oil microemulsion, exptl. evidence for interphasal water, scanning calorimetry anal. 7−3609
AgI-Ag_2MoO_4 system, conductivity in the liquid and glassy states 7−44881
AgI-Ag_3AsO_4 superionic conducting glass, cond. and glass form. studies 7−32711
AgO cathode used in AgO/Zn batteries, decomposition kinetics 7−46827
$Ag_4P_2O_7$, high-press. polymorph, characterisation 7−1991
Al-Fe system, phase diagram, DTA obs. 7−39485
Al-Fe-Si, quasicrystalline phases and amorphous structure 7−51637
Al-Mg-Ce system, liquidus, intermetallic compound *(Chinese)* 7−7960
Al-Mn, Al-rich alloy, rapidly solidified, crystn. of quasicryst. icosahedral phase 7−63472
Al-Mn quasicrystalline and metastable phases, phase form. and thermal stability 7−26644
Al-Mn-Si, quasicrystalline phases and amorphous structure 7−51637
Al-R (R=Gd, Ho, Er, Y) alloys, intermediate phase metastable extensions, DSC and X-ray diffr. studies 7−21413
Al-Si, talc particle reinforced composites, prep., wear and mech. props. 7−13408
Al_2O_3 film, transparent, growth from ultrafine alumina sol characteris. 7−13395
Al_2O_3 glass, gel produced, optical transmission rel. to heat treatment 7−27733
$AlPO_4$, berlinite, synthesis and charactn. of new polymorphic modification 7−53534
$Al_2P_6O_{18}$, synthesis and struct. 7−1969
As-Sb-Se glasses, calorimetric meas. 7−26652
$Ba(NO_2)_2.{}^1/_2H_2O$, cryst., phase transition at 211K, DTA and dielec. meas. 7−32633
$BaTiO_3$:Nd, ceramics, diffuse phase transform 7−16731
Bi, solidification of undercooled liquid, nucleation, pressure effects 7−38169
C fibre reinforced plastics, NDT, optothermal method, degree of cure 7−59728
C fluorination, thermobalance for investig. 7−41349
$Ca(OH)_22Zn(OH)_22H_2O$, chem. comp., solubility in KOH, thermodynamic props., reaction equilib. const. 7−26962
$Ca_{10}(PO_4)_6(OH_2)$, thermal lattice expansion, 20-600 °C 7−58510
$CaTiSiO_5$, sphene crystals, melt growth and character. 7−7840
$Ca(UO_2)_2(SiO_3OH)_25H_2O$, β-uranophane, refined cryst. struct., thermal anal., IR spectra 7−55031
Co-Te system, phase diagram, DTA 7−46425
$Co_{58}Ni_{10}Fe_5B_{16}Si_{11}$, metallic glass, reversible struct. transformation 7−1907
Cr, NaCl-induced accelerated oxidation 7−17715
Cr-Li-K-C-O system, phase relationships at 650°C, appl. to corrosion processes in molten carbonate fuel cells 7−28020
Cr-Ti-C system, existence of quasibinary section Cr-TiC 7−3288
Cs-Se system, phase diagram 7−6759
Cu (111) with Ni overlayers, CO adsorption studies 7−21658
α-Cu-Al, ordered domain charactn. from dissoln. kinetics study 7−22693
Cu-based alloys, rapid solidified and ion implanted, struct. studies 7−21130
Cu-Mn-Ge system, phase equilib. in Cu-rich alloys 7−3277

thermal analysis continued
Cu-Za-Al ribbons, rapidly, quenched, martensitic transform., stabilisation 7−22678
Cu-Zr, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
$Cu_{0.96}Fe_{0.04}SiF_6.6H_2O$ Jahn-Teller cryst., glass transition, calorimetry and Mossbauer studies *(Russian)* 7−26952
Cu_2HgI_4, order-disorder transition, differential scanning calorimetry, high-press. phase diagrams 7−58463
$Cu_xMo_6S_8$, Chevrel cpd., oxidation study 7−3473
Cu_3Pt ordering kinetics, comp. depend., X-ray and DTA studies 7−26940
$Cu_{0.85}Sn_{0.15}$, amorphous melt-quenched alloys, crystn. *(Russian)* 7−37881
Cu_xTi_{100-x}, x=50,66, metallic glasses, crystn., DTA, X-ray diffr., hardness meas. 7−63489
$Cu_{60}Zr_{40}$, amorphous, isothermal crystallisation, nucleation activation energy, DSC obs. 7−11926
Er-Cu (Ni) metallic glass form. by near-isothermal cold rolling 7−22610
Eu_xTiS_2 mixed valence intercalation cpd., low-temp. synthesis and mag. props. 7−17779
Fe, cathodic charging, H trapping 7−21256
Fe, reaction with HCl-O_2-Ar mixtures at 550°C 7−17713
Fe-Co-B films, phase transition, microstruct. 7−33568
Fe-Cr-Ni-C system, phase relationships at solidification temps. 7−7969
Fe-Mn-Ni system, melting diagram 7−3278
Fe-Nd-B system, phase relations 7−46422
Fe-Ni-P-C, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
Fe-Pd-S system, phase equilib. 7−3272
Fe-Si-B metallic glasses, struct. relax. *(Chinese)* 7−65070
Fe-Sm amorphous alloys, crystn. behavior, DTA, magnetisation and X-ray diffr. meas. 7−44372
Fe-Te amorphous thin films, RF sputtered, struct. and elec. meas. 7−12534
Fe-Zr, mechanically alloyed, glass forming ability 7−21110
$Fe_{83}B_{17}$, metallic glass, struct. relax. X-ray and neutron diffr. study 7−6521
$Fe_{77}B_{16}Si_5Cr_2$ metallic glass, crystallisation, DSC and X-ray diffr. studies 7−11932
$Fe_{74}Co_{10-x}Cr_xB_{16}$, amorphous, prep. by melt spinning, X-ray diffr., DSC, Mossbauer studies 7−46369
$Fe_{3-x}M_xO_4$ (M=Ti, Cr, Mn, Al), substituted magnetite, reactivity in O_2, relation with cation distrib. *(French)* 7−46829
$Fe_{40}Ni_{40}B_{20}$ amorphous alloy, effect of plastic deform. on mech. and mag. props. *(Russian)* 7−53810
$Fe_{40}Ni_{38}Mo_4B_{18}$, amorphous alloys, thermal devitrification kinetics 7−51651
$Fe_{70}Ni_8Si_{10}B_{12}$, amorphous alloys, thermal devitrification kinetics 7−51651
FeO_x, wustite, molar thermodynamic properties, thermogravimetric anal. *(French)* 7−26981
γ-Fe_2O_3:H, H content, DTA, mag. anal. and Mossbauer studies *(Chinese)* 7−12104
Fe_2O_3-SrO system, glass ribbon prep. by melt spinning, charactn. 7−53690
$Fe_{90-x}Si_xB_{10}$ amorphous alloys, multistep-micro-crystallisation studies 7−21129
Ga-Te system, phase diagram, DTA 7−46425
Gd-Sb, phase diagram, peritectic reactions, congruent melting, DTA, microstructural and X-ray anal. 7−39481
$Gd_3Fe_5O_{12}$ ferrogarnets, heat of crystallisation, scanning calorimetry obs. 7−2154
Gd_xSi_{1-x}, x=0.18, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7−53039
Ge-S+bi chalcogenide glasses, struct., DTA and X-ray diffr. studies 7−6543
Ge-Sb-Se glasses, crystallisation ability, high energy electron irrad. effects *(Russian)* 7−32306
$Ge_{80-x}Mn_xB_{20}$ amorphous alloy, Curie point and crystallisation temp. 7−17173
GeO_2-$PrCl_3$ glasses, elec. props., effect of $PrCl_3$ content 7−21907
GeO_2-TeO_2-V_2O_5 system, phase diagram and equil., quasi-binary section investig. 7−21405
GeS and GeSe, chalcogenide glasses for IR fibres, plasma deposition 7−37191
H absorption and desorption on milligram samples 7−6981
$Hf_{1-x}Cu_x$ metallic glass, thermal stability and phase transformations 7−21125
HgTe-EuTe system, interactivity 7−6801
$Ho_3Fe_5O_{12}$ ferrogarnets, heat of crystallisation, scanning calorimetry obs. 7−2154
$K_{1.5}Bi_{1-x}Nd_xNb_{5.1}O_{15}$, cryst. growth, spectral props. of Nd^{3+} ions 7−53405
KCl, in NaCl-$NiCl_2$-UO_2Cl_2, fusibility, differential thermal anal. study 7−61972
$K_2(Fe(CN)_5NO).1.25\ H_2O$, DTA-TGA, cryst. and mol. struct. and vibr. props. 7−6597
$K_{1-x}Rb_xAlF_4$, shear structural phase transition, temp. behavior 7−63809
$KTaWO_6.H_2O$, pyrochlore-type cpd., characterisation 7−1989
La-Co-O system, nonstoichiometric K_2NiF_4-type phases 7−37936
$LaCO_3OH$ polymorphs, prep., cryst. data, X-ray powder diffr., IR spectra, TGA curves 7−32392
Li-Na-K-CO_3/MgO salt/ceramic phase change material for high temp. thermal storage, thermoanalytic investigation 7−65631
Li-Sn, liq. alloy, mixing enthalpies, high temp. calorimetry, EMF obs. 7−65044
$LiFeP_2O_7$, cryst. synthesis, at. struct., DTA, X-ray diffr. study 7−26708
$Li_{1-x}H_xNbO_3$, struct. and props. 7−12017
$LiKSO_4$ phase diagram, critical points determ., press. depend., differential thermal anal. 7−6780
$LiMO_2$, M=Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu props., review 7−64437
$Li_xMo_6Se_8$ intercalation cpd., entropy, electrochem. cell calorimetry studies 7−6833
$Li_x{}^+(NH_4{}^+)_y(NH_3)_zTiS_2{}^{(x+y)-}$ intercalation cpd., NH_3 oxidation, charge compensation 7−32354
Li_2O-Al_2O_3-SiO_2 glass., cryst. phase nucleation, DTA, X-ray diffr. 7−58156
$Li_2O.2SiO_2$ sol-gel glass, prep. and devitrification behaviour 7−58158
Li_2SO_4-Li_2CO_3 system, phase diagram and elec. cond. meas. 7−32612
$Li_2SO_4.H_2O$, supercooled melts, cryst. and mol. struct., thermal stability 7−21170

thermal analysis continued
Li_4TeO_4 glassy electrolyte, vibrational, thermal and elec. characts. study 7−6866
$LiVO_2$, phase transition near 200°C, elec. resist., mag. susceptibility, X-ray diffr., IR spectra, EPR, thermal anal. 7−32914
Mg-Sm-Zn system, phase equilib. 7−46413
Mg-Zn metallic glasses, room temp. stability, crystallisation and precipitation 7−11931
Mg_2NiH_4, struct., thermal and elec. props., rel. to covalent bonding 7−21184
Mg_2NiH_x, structural transition, DSC obs. 7−59510
MgO, electron irrad., stored energy, differential thermal anal. studies 7−32503
MgO, sinterability, prep. and charactn. of sample powder 7−22623
$Mn_{1-t}Ni_tAs$, structural and magnetic phase diagrams 7−6784
Mo_xNi_{100-x}, $x=20$, 28, 35, 48, 63, amorphous, struct., short range order, thermal stability 7−21107
MoO_3-P_2O_5 glasses, thermal anal. between room temp. and softening point 7−12329
MoS_2, high press. synthesis, characterisation 7−26716
NH_4AlPO_4-P_2O_5-H_2O system, phase relations, $AlPO_4$ stability 7−65009
$(NH_4)_2SeO_4.2NH_4HSeO_4$, single cryst., superionic phase transition at 378 K 7−52125
$(NH_4^+)_{0.22}TiS_2^{0.22-}$ ionic intercalation cpd., synthesis, characterisation by thermal anal., mag. 7−45244
NaCl, in KCl-$NiCl_2$-UO_2Cl_2, fusibility, differential thermal anal. study 7−61972
Na_2O-V_2O_5-P_2O_5, crystallised glass, containing V bronze crysts., elec. cond. 7−21922
$Na_3Ti_{0.75}Si_2P_2O_{12}$, NASICON-based glass and glass ceramics, synthesis and characterisation 7−44908
$Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7−6870
Nb-Al_2O_3, high temp. interactions, X-ray diffr., DTA studies 7−8259
Nb-B-C system, struct. and phase equilib. of Nb 7−22638
Nb-Cr_2O_3, high temp. interactions, X-ray diffr., DTA studies 7−8259
Nb-Y_2O_3, high temp. interactions, X-ray diffr., DTA studies 7−8259
Nd-Fe-B, phase diagram, permanent mag. anal. 7−39486
Nd_2O_3-P_2O_5-GeO_2, phase equilibria, X-ray diffr., thermal anal., fluoresc. spectra 7−6758
Ni, H trapping phenomena, meas. by desorption thermal anal. technique 7−6673
Ni/Zr thin film diffusion couples, amorphisation, DSC studies 7−26639
Ni-B alloy, electroless, heat induced struct. changes 7−13639
Ni-B-Si ternary system, liq.-solid equilib. in Ni-rich region *(French)* 7−65004
Ni-Cr, carburisation, kinetics, diffusion and precipitation *(German)* 7−8194
Ni-H_2 secondary cells heat generation and transfer rates 7−65452
Ni-P electroless deposited amorphous coatings, wear resistance, crystallisation effects 7−53913
Ni-P ion-implanted and melt spun amorphous alloys, crystn., TEM, RBS and DTA meas. 7−16439
Ni-Sn highly undercooled droplets, rapidly solidified, microstruct. studies 7−22670
Ni-Zr amorphous powder, prep. by mechanical alloying 7−33623
Ni_3Al and NiAl, positron annihilation and DSC studies of diffusion mechanisms 7−46204
$Ni_{64}B_{36}$, metallic glass, struct. relax. X-ray and neutron diffr. study 7−6521
$NiCl_2$, in NaCl-KCl-UO_2Cl_2, fusibility, differential thermal anal. study 7−61972
$Ni_{60}Nb_{40-x}Al_x$ metallic glasses, form. and stability, X-ray diffr., DSC obs. 7−58155
NiO, adsorption of NO, IR transmission spectra, calorimetry studies 7−58640
$Ni_{93.35}Sb_{6.65}$ and $Ni_{78.5}Sb_{21.5}$ alloys, characterisation studies *(French)* 7−28010
$NiZr_2$ metallic glasses, crystallisation, influence of O and other trace impurities 7−51633
NpO_2CO_3, crystal chemistry, Mossbauer studies 7−17249
PbO-Fe_2O_3, binary phase diagram, DTA, X-ray diffr. meas. 7−46434
PbO-K_2O-Nb_2O_5, polymorphism, DTA, X-ray phase anal. 7−6782
PbO-Nb_2O_5 oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
PbO-Nb_2O_5-Sc_2O_3 oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
PbSe films, elec. cond. and thermoelec. power, dynamic behaviour 7−2750
PbTe-$MnTe_2$ system, phase diagram, conductivity and thermoelectromotive force 7−63824
$Pb_3(VO_4)_2$, β-γ transition, intermediate modulated struct. 7−2183
Pd (110) with H chemisorption phases, selective population of H subsurfaces sites, He diffr., thermal desorption spectra study 7−6958
Pd-Te, phase diagram, DTA, X-ray powder diffr. studies 7−39483
Pd-Te system, phase diagram study 7−26934
Pd-U-Si, growth of quasicrystalline phase from glassy state 7−58144
$Pd_{78.5}Cu_6Si_{15.5}$ metallic glass, structural relax., vitrification, sp. ht., DSC obs. *(Russian)* 7−37880
PrO_x-$DyO_{1.5}(YO_{1.5})$ solid solutions, phase diagrams and variable valency 7−33642
Pt-Pd-Cu_2S-Ni_3S system, annealing, phase comp., DTA 7−46412
Pt-PtS system, phase equilib. 7−22644
Pu-Fe(Ta)(Si) alloys, formation amorphous or metastable structures 7−16421
Rb_2KMF_6, (M=Al, Cr, Fe, Y, Br), structural phase transitions 7−52044
Rh complex, dirhodium tetradodecanoate, discotic mesophase struct., optical microscopy, DSC and X-ray diffr. study 7−26627
Ru-Cu_2S system, annealing, phase comp., DTA 7−46412
Sb liquid droplets, undercooling and crystallisation 7−39496
Se-Te, glass forming melts, nonisothermal crystn., DTA, crit. cooling rate 7−44394
Si:N, oxidation-inhibiting behaviour after N implantation, thermogravimetric anal. 7−59697
SiC short fibred filamentary crystals., phase comp. and morphology 7−65010
SiO_2, spherical particles synthesis, thermal behaviour *(Japanese)* 7−7943
Si_xSe_{1-x} glasses, intermediate range order 7−11938
Si_xTe_{100-x} glasses, crystallisation, DSC studies 7−6542
$SmAsO_4$, vibrational spectra, IR and Raman obs., X-ray and thermal analysis 7−59198

thermal analysis continued
Sn-In-S ternary system, cryst. growth and charact. *(French)* 7−33645
SnSe, high temp. oxidation mechanism 7−3536
Tb-Pd alloys, thermodynamic study by Knudsen effusion method 7−44855
$Tb_3Fe_5O_{12}$ ferrogarnets, heat of crystallisation, scanning calorimetry obs. 7−2154
Tb_xSi_{1-x}, $x=0.18$, 0.59, 0.87, amorphous, thermal, elec. and mag. props. 7−53039
TeO_2-based halide glasses, prep., thermal, mechanical, elec. and optical props. characterisation *(French)* 7−37884
Th-Au system, phase diagram, DTA, micrography, X-ray anal. 7−17512
α-Ti, commercial purity, oxidation 7−17717
Ti-Al (6 to 16 wt.%), ordered DO_{19} phase form., DTA study 7−39484
Ti-Fe-Mn, sintering, dilatometry, thermographic obs. 7−13404
Ti-Pd, formation by mechanical alloying methods, differential thermal anal. 7−59479
TiC_x, order-disorder transition 7−63796
TiNi-TiCu amorphous alloy, thermal devitrification kinetics, DSC obs. 7−21116
TiS_2, highly stoichiometric, compositional and struct. studies 7−2224
TiS_2, nearly stoichiometric, direct reaction synthesis and characterisation 7−58499
$Tl_2Cu(SO_4)_2$, glassy γ-modification, structural and electronic props. studies 7−58161
Tl_2GeSe_3-Tl_2SnSe_3 systems, phase equilibria 7−6760
Tl_4GeSe_4-Tl_4SnSe_4 systems, phase equilibria 7−6760
$TlH_2P(As)O_4$, cryst. struct. and polymorphic transformations, X-ray and thermal anal. 7−1972
$Tm_3Fe_5O_{12}$, double phase transition, EXAFS studies 7−63799
$Tm_3Fe_5O_{12}$ ferrogarnets, heat of crystallisation, scanning calorimetry obs. 7−2154
$UMoO_6+CaO=CaMoO_4+{}^1/_3U_3O_8+{}^1/_6O_2$, free energy of form., thermodynamic feasibility 7−13753
UO_2Cl_2, in NaCl-KCl-$NiCl_2$, fusibility, differential thermal anal. study 7−61972
U_3Si, U_3Si_2 powders dispersed in Al matrix, heat of reaction, DTA 7−719
W-Si amorphous thin films, DC sputter deposited, crystn. temp., DTA 7−21720
W-Ti-Si system, metallisation materials, amorphous phase form. and stability 7−22640
WO_3-$Na_2O(NaF)$, nucleation and flux growth 7−44430
Yb-In-Te system, phase equilibria 7−44761
$Yb_{0.06}$ $(NH_3)_{0.32}TiS_2$ intercalation compounds, structural and magnetic studies 7−63593
Yb_xTiS_2 mixed valence intercalation cpd., low-temp. synthesis and mag. props. 7−17779
$ZnGa_2S_6$, thermal stability in air 7−22914
$Zn_3In_2S_6$ and Zn_3GaInS_6, thermal stability in air 7−22914
Zr-Ni metallic glass, crystallisation, metastable crystalline phase form. 7−21126
Zr-Ni metallic glasses, crystn. 7−21111
ZrF_4-BaF_2-AlF_3 glass, viscous flow vs. phase separation, DSC study 7−44383
ZrF_4-BaF_2-NaF glasses, crystallisation study 7−11933
ZrF_4-BaF_2-NaF-AlF_3 glass, crystn. *(Japanese)* 7−26659
ZrF_4-BaF_2-NaF-AlF_3-LaF_3 glasses, crystallisation study 7−63491
ZrO_2, tetragonal, cryst. growth 7−17417

thermal blooming
turbulent atmosphere, thermal self-interaction of partially coherent laser beam 7−31376

thermal capacity *see specific heat*

thermal conductivity
see also Kapitza resistance; Lorenz number; thermal conductivity of gases; thermal conductivity of liquids; thermal conductivity of solids; thermal diffusivity; thermal insulating materials
aerosol particles, spherical, thermophoresis at arbitrary Knudsen nos. 7−63185
Anderson model, transport props. at low temps. 7−27311
binary mixture of isotropic materials, effective conductivity, exact estimates 7−62961
bistable thermal equilibrium systems, initial temp. profile, asymptotic evolution 7−31632
continued fraction expansions, thermodynamic aspects 7−11249
determination of the thermal conductivity of ceramic materials by the 'hot wire' method *(Polish)* 7−52894
Earth lower mantle, revised thermal cond. rel. to interpretation of D″ zone 7−66020
Fermi multicomponent liq., transport props. 7−61220
field transient phenomena duration numerical determ. *(Polish)* 7−31633
flat plate thermometer, heat transfer characteristics, effect of variable fluid property 7−43910
heat flux and temp. gradient relation 7−18540
ice, melting in porous media, solid-liq. interface motion, temp. distrib. 7−50926
laminar natural convection flow in square enclosure thermal cond. effect 7−51115
matrix solar collector theory simplification 7−54349
multiphase composites, effective thermal conductivity, three phase results 7−31634
NEMD algorithms, comparison 7−4801
nonhomogeneous material, equivalent thermal diffusivity, determ., numerical method 7−6078
stationary vapour on corrugated surface of horizontal tube, heat transfer, condensation 7−50919
temperature fields, finite elements nonlinear anal. 7−50924
K plasma, electron thermal cond., hot-wire meas. 7−20950

thermal conductivity measurement
automated system for managing measurements on the UNTOthermophysical systems 7−4847
cavity method for flash measurement of specificheat and thermal diffusivity 7−4836
commissioning trials on large-scale thermal conductance apparatus 7−14940
compensated heat flow meter, thermal flux meas. at elevated radiation influence 7−4838
composite materials, directionally reinforced, flash method for thermal diffusivity meas. *(French)* 7−4835
converging-thermal-wave technique, meas. of thermal diffusivity 7−41372

thermal conductivity measurement continued
- DC-AC hot-wire procedure for determiningthermophysical properties under pressure 7—9830
- diffusivity measurement using photopyroelectric effect 7—14939
- fluids, transient hot-wire apparatus with compensating wire system 7—4839
- fluids, transient line-source meas., Knudsen-effect errors 7—48727
- hot-wire apparatus and method for use with liqs. *(Chinese)* 7—14938
- hydrostatic pressure dependence obs. for hard materials and crystals thermal props. 7—306
- insulating materials, thermal cond. determ. apparatus 7—4840
- katharometer bridge circuit with linearising feedback 7—17840
- liquids, radiation heat transfer influence on effective thermal conductivity 7—6898
- liquids, thermal cond. and thermal diffusivity, simultaneous meas. technique 7—48728
- metals, thermal conductivities measurement by direct elec. heating technique 7—24649
- microcomputer data-acquisition and control system for thermal variables meas. 7—4841
- mirage-effect meas. of thermal diffusivity, expt. 7—45270
- mirage-effect meas. of thermal diffusivity, theory 7—45271
- ocean meas. under sea ice, medium-resolution turbulence cluster 7—9271
- optical coatings, absorptance and thermal conductivity meas. using thermographic laser calorimeter 7—41389
- oxide melts, thermal conductivity and diffusivity measurements at high temps. 7—61335
- porous media, moist, thermal props. at temps. below 0°C 7—4834
- refractory materials specific heat, resistivity and integral emissivity meas., automatic system 7—4842
- resistance method for meas. thermal cond. *(Russian)* 7—52569
- rocks, consolidated, heat pulse line source method 7—40609
- role of thermotechnical measurements in material and power economy *(Hungarian)* 7—56201
- sand, thermal conductivity and diffusivity measurement by transient hot-strip method 7—56257
- steel, stainless, thermal cond. meas. 7—32983
- thermogrammetry and thermal engineering conf., Budapest, Hungary (April 1987) *(Hungarian)* 7—56258
- thermophysical laboratory database formation, using pulse heat method 7—4828
- toluene, meas. using hot-wire apparatus, standard specimen *(Chinese)* 7—14938
- GaAlAs/GaAs heterostructure, absorption coeff. and thermal conductivity meas. by photothermal spectroscopy 7—41474
- para-H_2 concentration meas. using thermal conductivity cell 7—54229
- Mo thermal cond. meas. 7—32983

thermal conductivity of gases
- aerosol particle, thermophoresis at arbitrary Knudsen numbers 7—44014
- aerosol spherical particles at arbitrary Knudsen no., thermophoresis, gas-kinetic eqn. 7—44030
- dense gases, transport processes, kinetic theory 7—6342
- dilute polyatomic gases, transport coeffs., WUB eqn. soln., Grad's method 7—6350
- metal vapours and vapour-gas mixtures, atomic interactions and transport coeffs. 7—11575
- methane-ethane fluid mixture, thermal cond./comp. depend. 7—51368
- optically thick gas, sound generation, optoacoustic effect, thermal piston model 7—44091
- propane, fluid, thermal cond. and diffusivity meas., Knudsen-effect, line-source method 7—48727
- propane, gas, thermal cond. meas., coaxial cylinder method 7—51369
- thermally conducting gas, isothermal phase discontinuity 7—31909
- Tuman-2A tokamak, plasma electron thermal conductivity determ. and radiative loss meas. 7—6471
- Ar, fluid, viscosity and thermal cond. 7—60900
- Ar, thermal cond. coeffs. based on interatomic pot. 7—51370
- H_2, viscosity, thermal cond., zero density limit data 7—60899
- H_2Om ordinary fluid, thermal cond., viscosity and density data 7—60898
- He-N_2 mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect on physical parameters 7—16287
- K, plasma, electron collisions, momentum transfer cross sections, expt. data fit 7—20845
- Kr, transport phenomena, multiparametric potential models 7—6344
- Ne, transport phenomena, multiparametric potential models 7—6344

thermal conductivity of liquids
- carbon tetrachloride thermal cond. meas., transient hot-wire apparatus 7—4839
- copolyester, liq. cryst., low temp. thermal cond. 7—6899
- ethanol thermal cond. meas., transient hot-wire apparatus 7—4839
- glass-plastic melt, thermal cond., effect of type and content of binder 7—58553
- n-heptane, liq., thermal cond. and thermal diffusivity, simultaneous meas. 7—48728
- n-heptane, thermal cond., standard reference data 7—18515
- induced thermal lens, spatial Fourier spectrum anal., for studying thermal conductivity and diffusivity 7—12379
- Lennard-Jones fluid, transport coeffs., mol. dynamics 7—12336
- measurement, hot-wire apparatus and method *(Chinese)* 7—14938
- methane-ethane fluid mixture, thermal cond./comp. depend. 7—51368
- methane-ethane mixtures, liq., thermal cond. study 7—2280
- molten salts, thermal cond. by transient hot-wire method *(Japanese)* 7—16825
- oxide melts, thermal conductivity and diffusivity measurements at high temps. 7—61335
- radiation heat transfer influence on effective thermal conductivity 7—6898
- shock wave structure, liq. with bubbles, transient heat and mass transfer effect 7—6249
- spreading, axisymm., over surface of solid, thermal stresses 7—63916
- thin liquid layers, thermal conductance, meas. 7—16827
- toluene, liq., thermal cond. and thermal diffusivity, simultaneous meas. 7—48728
- toluene, meas. using hot-wire apparatus, standard specimen *(Chinese)* 7—14938
- toluene, thermal cond., standard reference data 7—18515
- toluene liq. thermal cond. and sp. ht. meas., AC heated wire method 7—16824
- toluene thermal cond. meas., transient hot-wire apparatus 7—4839
- transition metals, liquid and solid, thermal diffusivity and thermal conductivity meas. *(Russian)* 7—2567

thermal conductivity of liquids continued
- water, thermal cond., standard reference data 7—18515
- water, thermal cond. meas., transient hot-wire apparatus 7—4839
- water, thin liquid layers, thermal cond. and diffusivity 7—16828
- Ar, fluid, viscosity and thermal cond. 7—60900
- H_2O-D_2O liq. mixture, thermal transport props. 7—16826
- H_2Om ordinary fluid, thermal cond., viscosity and density data 7—60898
- ^{3}He, liquid, collision bracket of linearized quasiparticle Boltzmann equation 7—32740
- ^{3}He-^{4}He dilute superfluid mixtures, thermal transport props. study 7—38290
- ^{3}He-^{4}He superfluid soln., phonon-impurity system kinetics, review *(Russian)* 7—52179
- ^{4}He, normal phase, thermal transport props. study 7—38282
- $Hg_{1-x}Cd_xTe$, pseudobinary melts, heat capacity, enthalpy of melting, thermal cond. 7—21477

thermal conductivity of solids
- *see also thermal magnetoresistance*
- amorphous and glassy, thermal conductivity, temp. dependence 7—21553
- amorphous materials, thermal cond. w.r.t. phonon-fracton anharmonic interactions 7—2283
- β-(BEDT-TTF)$_2$I$_3$, organic superconductor, Debye temperature 7—64399
- bone, compact, thermophys. props. 7—17952
- ceramics, thermal diffusivity and cond. 7—12381
- composite material, diffusion and heat transfer, practical eqns. 7—6855
- composite materials, effective thermal conductivity determ. method 7—52160
- composites, effective conductivity with imperfect thermal contact at constituent interfaces 7—6901
- condensation, solid-state, heat transfer and cryodeposit props. 7—63789
- cylinders, pairs and square array, transport props., multiple coeffs. 7—32973
- d-wave superconductors, sp. ht., thermal cond., US absorpt. 7—64400
- diamond, thermal cond., C-defect effects 7—27035
- diamond films, microwave plasma CVD synthesised, thermal conductivity meas. 7—38417
- drill cuttings, thermal cond. absolute meas. apparatus 7—29270
- earth, oil-bearing, heat and mass transfer 7—56189
- elastomers, impurity containing, exposed to laser pulses, thermooptic lenses, form. kinetics 7—51671
- electrical and thermal conductivity investigation in solids at high temp. 7—32730
- expanded polystyrene, thermal flux meas., compensated heat flow meter appl. 7—4838
- ferroelectrics, relaxation, dielectric and thermal props. at low temps. 7—13102
- fibre reinforced composite, thermal conductivity calc. using boundary collocation method *(Polish)* 7—44931
- fibre reinforced composite with barrier coatings on fibres, diffusional interaction of components effect on cond. 7—52167
- fibre-reinforced composites, bounds on properties 7—7301
- fibre-reinforced composites, effective properties, effects of polydispersity n fibre diameter 7—6702
- glass, hydrostatic pressure dependence obs. 7—306
- glass, tunnel modes and kinetic props. at low and high temps. 7—21115
- glass fibres, Al coated, extinction props., thermal cond. meas. 7—52162
- glasses, phonon localisation and thermal cond. 7—21379
- granular materials, loose, effective thermal conductivity calc. 7—1385
- graphite films, pyrolysed from polyoxadiazole condensation polymer, elec. and thermal props. 7—2736
- heat propag. by second sound, nonlinear hyperbolic system 7—2281
- hollow spheres with internal heat generation and variable thermal conductivity, thermal stability anal. 7—57677
- induced thermal lens, spatial Fourier spectrum anal., for studying thermal conductivity and diffusivity 7—12379
- insulating films with highly reflecting boundaries, thermal resistance 7—21781
- Khrovangal alloy, phonon thermal cond., heat treatment effects 7—12696
- Landau slabs with linearly varying thermal conductivity, thermal stability anal. 7—57676
- Laplace transform method meas., arbitrary heat input *(Japanese)* 7—16832
- lattice thermal cond. reduction by point defects at intermediate temps., appl. to Ge-Si 7—52161
- lattice thermal conductivity, molecular dynamics and anharmonic lattice dynamics 7—21552
- magneto-optical thin films, under laser irradiation, thermal anal. 7—45995
- metals and alloys, thermal conductivity theory, Lorenz ratio 7—45272
- optical coatings, thermal conductivity 7—45094
- periodic composite materials, effective transport props., multipole coeffs. 7—32974
- cis-1,4 polybutadiene, crosslinked, anomalous thermal conductivity 7—27038
- polymers, filled, thermally conductive 7—2284
- porous material, diffusion and heat transfer, practical eqns. 7—6855
- porous media, moist, thermal props. at temps. below 0°C 7—4834
- PTFE, amorphous and cryst., irradiated, thermal. characts. *(Russian)* 7—6681
- PVC-polyvinyl butyral (phenolformaldehyde resin), thermophys. props. *(Russian)* 7—27040
- rare earth borides, RB_{66}, elec., optical and thermal cond. props. 7—21910
- rare earth metals, thermophysical props. studied using mol. laser radiation 7—58555
- refractory materials specific heat, resistivity and integral emissivity meas., automatic system 7—4842
- resistance method for meas. thermal cond. *(Russian)* 7—52569
- rocks from Pannonian Depression *(Rumanian)* 7—8940
- rocks thermal conductivity meas., heat pulse line source method 7—40609
- self-pumping multilayer insulation, thermal conductivity, temp. depend. 7—16829
- semiconductors, carrier reson. scatt., effect on transport coeffs. 7—38602
- semiconductors, doped, prep. and thermal cond., review 7—38279
- small particle aggregates, phonon localisation and thermal cond. 7—21380
- soil, TRNSYS/GROCS simulation of horizontal coil ground coupled heat pump 7—8427
- solids, thermophysical props., predictions 7—44841
- steel, austenitic, Cr-Mn, thermal and mech. props., fusion reactor appl. 7—53795
- steel, cold-rolled, corrosion investig. by thermal-wave microscopy 7—28169
- steel, rapid solidification, fusion reactor appl. 7—49657

thermal conductivity of solids continued
steel, stainless, thermal cond. meas. 7—32983
steel, thermal conductivity profile, inverse determ. from thermal wave surface data 7—46751
temperature field evolution on ion beam irradiated absorber 7—63670
thermophysical properties, heat-wave method determ. 7—2282
$(TMTSF)_2CLO_4$, thermal cond. meas., 300 to 6 K 7—38278
transition metals, liquid and solid, thermal diffusivity and thermal conductivity meas. *(Russian)* 7—2567
transition metals, resistivity and superconducting transition temp. 7—17013
two-component composite, elec. and thermal cond., Bergman-Milton theory of bounds appl. 7—23635
two-phase and porous materials, microstructure-thermomech. prop. correls. 7—12380
upside down mounted ridge-waveguide lasers, thermal resistance, device model anal. 7—43092
viscoelastic material, Kelvin-type, thermal effect anal. 7—57667
Ag_2Te-Ag_4SSe, thermoelectrical props. 7—45364
Al, high purity samples, cryoconductivity investig. *(Russian)* 7—12695
Al, monocrystals, 6N purity, thermal cond. minimum 7—17011
Al-Si-SiC(Si_3N_4), composites, thermal props. *(Japanese)* 7—52164
Al_2O_3-Cu, effective thermal cond. determ. 7—27037
$Am_{0.25}Np_{0.25}U_{0.5}O_{2-x}$, thermal conductivity at elevated temperatures 7—21551
$Am_{0.5}U_{0.5}O_{2-x}$, thermal conductivity at elevated temperatures 7—21551
Au-Au point contacts, electronic thermal cond. temp. depend. study *(Russian)* 7—12789
B, amorphous, elec., optical and thermal cond. props. 7—21910
B_4C, fast neutron irradiated, thermal cond. meas. 7—6900
BN, cubic, polycryst., influence of sintering conditions on phys. props. 7—22618
B_2O_3-Na_2O glasses, low temp. thermal cond. meas. 7—38277
BaF_2-based solid solns., ionic conductors with fluorite struct., thermal conductivity study 7—38275
$BaTiO_3$, polycryst., glasslike behaviour at very low temp. 7—27647
BeF_2-based glasses, thermal conductivity meas. 7—12382
BeO/Li ceramic, sphere-pac forms, T breeder materials, thermal cond. 7—52163
Bi thin films, lattice thermal cond. meas., modified Mayadas-Shatzkes model 7—21554
Bi-Pb alloys, supercond. and normal state, thermal cond., effect of plastic deform., 1.5-300K 7—17132
Bi-Tl alloys, supercond. and normal state, thermal cond., effect of plastic deform., 1.5-300K 7—17132
Bi_2Te_3-based solid solns., $CdCl_2$ doped, thermal conductivity studies 7—45363
C, hard type, B-doped, prep., phys. and mech. props. 7—39571
CaF_2-based solid solns., ionic conductors with fluorite struct., thermal conductivity study 7—38275
$Ca_5Na_4K_2Si_{12}O_{30}F_4$, chain-silicate canasite glass-ceramic, thermal shock behaviour, effect of crystn. 7—46613
CeO_2-ZrO_2-Y_2O_3 thermal barrier coating, plasma-sprayed, thermal and mech. props. *(Japanese)* 7—27899
$CsVF_4$, layer cpd., struct. phase transitions, thermal diffusivity, polarised light scatt. and X-ray diffr. studies 7—6788
Cu alloys, neutron irrad., cond. changes, porosity swelling and transmutation contrib. 7—51838
Cu alloys, rapid solidification, fusion reactor appl. 7—49657
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7—12698
Fe, cast, alloyed pearlitic flake graphite, thermal cond., comp. and microstruct. depend. 7—27317
GaP:Cr, impurity ion-lattice coupling, reson. phonon scatt. spectra 7—58420
GdS, lattice thermal cond., two-made cond. of phonons 7—27039
H in Pd, molecular dynamics simulation model for mobility and thermotransport props. 7—58554
$Hg_{1-x}Cd_xTe$, pseudobinary melts, heat capacity, enthalpy of melting, thermal cond. 7—21477
InP:Cr, impurity ion-lattice coupling, reson. phonon scatt. spectra 7—58420
$In_{2-x}Sn_xO_{3-y}$ coatings, evacuated window glazings for energy efficient buildings 7—54352
$(KBr)_{1-x}(KCN)_x$ mixed single crysts., low temp. thermal props. meas.; amorphous solids model 7—52075
$K_{0.3}MoO_3$, excess low-temp. sp. ht., CDW state 7—12311
LaAg, nonmag. cpds., transport props. and electronic struct. 7—2575
La_2CuO_4, thermal cond. meas. in semiconducting and metallic phases 7—16830
La_2NiO_4, thermal cond. meas. in semiconducting and metallic phases 7—16830
Li containing ceramic, T breeder material, thermal cond. 7—10280
LiF, deformed crystal, lattice thermal conductivity, low temp. 7—52165
LuAg, nonmag. cpds., transport props. and electronic struct. 7—2575
MgO, hydrostatic pressure dependence obs. 7—306
MgO-Al_2O_3-SiO_2-GeO_2 cordierite ceramics, sintering, microstruct., thermal props. 7—52088
Mo thermal cond. meas. 7—32983
$(NbSe_4)_3I$, phase transition props. 7—44803
Nd_2CuO_4, thermal cond. meas. in semiconducting and metallic phases 7—16830
Ni-Al-Cr based alloy plasma-sprayed thermal barrier coatings, sp. ht. and thermal cond. meas. and 2D computer simulation 7—7076
Ni_3Al, thermal and elec. cond., temp. and comp. depends. 7—64200
$Np_{0.5}U_{0.5}O_{2-x}$, thermal conductivity at elevated temperatures 7—21551
PbGeTe, thermal cond. minimum, thermoelectric appl. 7—38276
PbSnTe, thermal cond. minimum, thermoelectric appl. 7—38276
PdCuSi, amorphous, reversible and irreversible changes in the thermal conductivity 7—45267
Pt, wire, heat transfer characteristics 7—12693
$(Pu, R)O_2$, (R=Nd, Y), reactor fuels, thermal conductivity 7—19352
Si (111) (2×1), π-bonded chain model, vibr. props. 7—16856
Si surface with adsorbed Ne, H_2, D_2 films, phonon scatt., thermal conductivity meas. 7—21609
Si, thermal and electronic transport, photothermal deflection spectroscopy 7—32731
Si:Ni, thermal cond., impurity effect 7—44929
Si_3N_4 powders, high press. not pressing, mech. props., thermal cond. temp. depend. 7—3231
Si_3N_4, reaction bonded, thermal cond. *(Japanese)* 7—6902

thermal conductivity of solids continued
α-SiO_2-TiO_2 super fine structural insulator, thermal conductivity 7—21555
SnO_2:F coatings, evacuated window glazings for energy efficient buildings 7—54352
TiC-WC-TaC-Co hard metals, Ta conc. effect on comp. and physicomech. of carbide and Co phases 7—53708
$(U, R)O_2$, (R=Nd, Sm, Eu, Gd, Y), reactor fuels, thermal conductivity 7—19352
UBe_{13} single crysts., normal and supercond. states, thermal cond. temp. depend. meas. 7—52166
UO_2-Gd_2O_3, solid solution, lattice parameters, O/U thermal conductivity meas. 7—21180
$(UPuR)O_2$, (R=Nd, Eu), reactor fuels, thermal conductivity 7—19352
WC-Co hard metals, thermal conductivity and thermal diffusivity *(German)* 7—27036
W_5Re/Cu joint for divertor plate in Next European Torus, thermal conductivity, mech. props 7—25198
YAg, nonmag. cpds., transport props. and electronic struct. 7—2575
$Y_{1-x}M_xCrO_3$, (M=Mg, Ca, Sr, Ba), electrical and thermal transport props 7—45319
$Y_{3-x}Yb_xA_5O_{12}$, thermal conductivity, temp. and composition dependences 7—38274
Zr cathode, material and structural changes during arc operation in N_2 7—46866
ZrO_2-Y_2O_3 plasma-sprayed thermal barrier coatings, sp. ht. and thermal cond. meas. and 2D computer simulation 7—7076
$ZrTe_5$, thermal and mag. meas. 7—44932

thermal convection *see convection*

thermal decomposition *see pyrolysis*

thermal diffusion
see also thermal diffusion in gases; thermal diffusion in liquids
bodies of complex geometry, thermal diffusion, transmission-line modelling 7—37313
stars, photospheric plasmas, time-dependent radiative transfer, analytical methods 7—55451
thermodiffusion apparatus, counterflow, closed stream motion 7—43908
thermophoretic forces acting on a spheroid 7—1666

thermal diffusion in gases
binary gas mixtures, thermodiffusion ratio determ. 7—57972
binary mixtures, nonsteady thermodiffusional separation in regime with sampling 7—57973
binary reactive gas mixtures, kinetic rates, press. and laser intensity thermodiffusion effects 7—63241
flames, curved, nonlinear thermal diffusive theory 7—57941
monatomic gases and their mixtures, dilute gas props. 3 parameter MSK pot. calcs. 7—16285
multicomponent mixtures, thermal diffusion, Enskog theory 7—51364
optically thick gas, sound generation, optoacoustic effect, thermal piston model 7—44091
He-hydrogenic trace mixtures, temp. depend. of thermal diffusion factor, role of column calibration factor 7—63240
He-N_2 mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect on physical parameters 7—16287
Kr, transport phenomena, multiparametric potential models 7—6344
Ne, transport phenomena, multiparametric potential models 7—6344
Ni alloys, thermodynamic anal. of gas phase in thermal diffusion alumosiliconising 7—1660
Si, CVD, thermal diffusion effects, math. model 7—2410

thermal diffusion in liquids
binary liquid mixtures, heat and mass transport 7—1559
bromobenzene, in binary liq. mixtures, diffusion thermoeffect, heats of transport 7—12337
chlorobenzene, in binary liq. mixtures, diffusion thermoeffect, heats of transport 7—12337
induced thermal lens, spatial Fourier spectrum anal., for studying thermal conductivity and diffusivity 7—12379
intramolecular nuclear magnetic relaxation, correlation time 7—31070
molten glass layer, temp. convection, anal. 7—57822
toluene, in binary liq. mixtures, diffusion thermoeffect, heats of transport 7—12337
$AgI_{0.75}$-$KI_{0.25}$ mixture, Soret effect meas. under microgravity 7—21499
CS_2, liq., isotopic thermal diffusion meas. 7—44880
Ga-In, liq., surface segregation, ion bombard. photon emission study 7—32265
$LiNO_3$, molten salt, thermal diffusivity meas. 7—44877
$NaNO_3$, molten salt, thermal diffusivity meas. 7—44877
PbTe, diffusion controlled travelling heater method growth, thermal diffusion effect 7—53527

thermal diffusivity
automatic meas. of thermophysical props. of metals, 600 to 4000K range 7—4843
B_4C, thermal stress fracture, grain size and porosity effects *(Japanese)* 7—8087
bone, compact, thermophys. props. 7—17952
cavity method for flash measurement of specificheat and thermal diffusivity 7—4836
ceramics, thermal diffusivity and cond. 7—12381
composite materials, directionally reinforced, flash method for thermal diffusivity meas. *(French)* 7—4835
composite materials, layered, thermal diffusivity, laser flash meas. method *(Japanese)* 7—16831
converging-thermal-wave technique, meas. of thermal diffusivity 7—41372
doped semiconductors, prep. and thermal cond., review 7—38279
ethane, thermal diffusivity around crit. point along liquid-gas coexistence curve, light scatt. meas. 7—52098
FeB, amorphous alloy, metallic glass ribbon, thermal diffusivity, photoacoustic study 7—45262
flat-plate transient measuring method 7—44877
glass-copper laminate, one-dimens. unsteady heat cond., appl. to thermal diffusivity meas. 7—31624
graphite, Tokamak limiter, thermal props., effusivity 7—49630
graphite films, pyrolysed from polyoxadiazole condensation polymer, elec. and thermal props. 7—2736
n-heptane, liq., thermal cond. and thermal diffusivity, simultaneous meas. 7—48728
high-temperature melts, thermal diffusivity meas. by stepwise heating *(Japanese)* 7—14948
homogeneous solid isotropic material, thermal diffusivity using partial time moments *(French)* 7—6083

thermal diffusivity continued
induced thermal lens, spatial Fourier spectrum anal., for studying thermal conductivity and diffusivity 7—12379
Laplace transform method meas., arbitrary heat input *(Japanese)* 7—16832
laser flash meas. method *(Japanese)* 7—16831
light-irradiated AC calorimetry meas. method *(Japanese)* 7—14946
liquids, thermal cond. and thermal diffusivity, simultaneous meas. technique 7—48728
measurement by non-steady-state method, data acquisition system 7—305
measurement using photopyroelectric effect 7—14939
measurements, AC calorimetric technique *(Japanese)* 7—18787
mirage-effect meas. of thermal diffusivity, theory 7—45271
nonhomogeneous material, equivalent thermal diffusivity, determ., numerical method 7—6078
oxide melts, thermal conductivity and diffusivity measurements at high temps. 7—61335
photothermal deflection meas. of thermal diffusivity in hot gas 7—30007
polyethylene, thermal diffusivity, meas. by laser flash method, 4.2-300K 7—24647
polymer films, thermal diffusivity measurements, pulsed method 7—44928
powders and porous media, thermal diffusivity, photoacoustic technique meas. 7—4837
propane, fluid, thermal cond. and diffusivity meas., Knudsen-effect, line-source method 7—48727
pure elements, thermal diffusivity meas., mirage-effect thermal-wave method 7—45270
rock thermophysical characts. determ., automatic meas. system 7—9219
sand, thermal conductivity and diffusivity measurement by transient hot-strip method 7—56257
semiconductor materials, thermal diffusivity meas., mirage-effect thermal-wave method 7—45270
smectic A thin sample, thermal diffusivity determ., photoacoustic effect appl. 7—44812
thermally affected layer caused by friction, temp. field, calc., experimental study 7—45095
thermophysical properties, heat-wave method determ. 7—2282
thin plate two-dimensional diffusivity tensor meas. by thermal pattern analysis 7—2285
thin plates, remote meas. of in-plane components 7—62958
toluene, liq., thermal cond. and thermal diffusivity, simultaneous meas. 7—48728
transition metals, liquid and solid, thermal diffusivity and thermal conductivity meas. *(Russian)* 7—2567
water, thin liquid layers, thermal cond. and diffusivity 7—16828
Ag, solid, thermal diffusivity, mirage-effect meas. 7—45271
Al, solid, thermal diffusivity, mirage-effect meas. 7—45271
Al-Si-SiC(Si_3N_4), composites, thermal props. *(Japanese)* 7—52164
B_4C, fast neutron irradiated, thermal cond. meas. 7—6900
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7—12698
H in Pd, molecular dynamics simulation model for mobility and thermotransport props. 7—58554
H_2O-D_2O liq. mixture, thermal transport props. 7—16826
^4He, normal phase, thermal transport props. study 7—38282
$Hg_{1-x}Cd_xTe$, pseudobinary melts, heat capacity, enthalpy of melting, thermal cond. 7—21477
N_2O, thermal diffusivity around crit. point along liquid-gas coexistence curve, light scatt. meas. 7—52098
Nb-H system, thermal wave propag. props. meas. 7—2572
Ni, temp. wave modified method for thermal diffusivity determ. 7—12352
PbO-SiO_2 mixtures, thermohomogenised layers, UV photoelectron spectra study 7—59370
PbTe:In,I, Soret effect, impurity cond. distrib., thermoelec. power meas. 7—44930
$RbFeF_4$ layer cpd., structural phase transitions studies 7—26942
SF_6, thermal diffusivity around crit. point along liquid-gas coexistence curve, light scatt. meas. 7—52098
Si, thermal and electronic transport, photothermal deflection spectroscopy 7—32731
Ta-H system, thermal wave propag. props. meas. 7—2572
WC-Co hard metals, thermal conductivity and thermal diffusivity *(German)* 7—27036
Zr_5Pb_3, fusion blanket neutron multiplier, fabrication and props. 7—49656

thermal effects in magnetism *see magnetocaloric effects*

thermal expansion
see also Gruneisen coefficient
alkali halide mixed crystals, phys. props., review 7—37943
β-$(BEDT\text{-}TTF)_2(I_3)_{1-x}(AuI_2)_x$, thermal expansion and stepwise superconducting transition 7—27469
β-$(BEDT\text{-}TTF)_2I_3$, conductor, thermal expansion and structural phase transitions 7—44870
β-$(BEDT\text{-}TTF)_2I_3$ organic conductor, high resolution thermal expansion meas. 7—26986
benzene, acoustic and thermodynamic props., press. and temp. depend. 7—63745
butoxybenzylidene phenylazoaniline, liq. cryst. transitions, density and US vel. studies 7—32266
calcium cadmium acetate hexahydrate single crysts., first order phase transition, thermal expansion meas. 7—26985
calcium copper acetate hexahydrate single crysts., thermal expansion meas. 7—26985
ceramic/metal jointed interface, strain distrib. determ., laser speckle photography *(Japanese)* 7—54037
coal, thermal charactn., piezoelectric photoacoustic microscopy 7—44643
coated short fibre composite, thermal stresses 7—37327
composite materials, hygrothermal behaviour, new prediction methods 7—21492
composite micromechanics, simplified, 3D finite element anal. 7—31637
composites, laminated, struct.-performance maps 7—17574
cordierite, cryst. struct. refinement and thermal expansion, 100-550K 7—6609
cryocrystal:O_2, thermodynamic props., impurity mol. exchange interaction effects calcs. *(Russian)* 7—12308
crystal growth from melt, physical constants of melt determ. 7—13348
cubic solids, fourth order theoretical model *(French)* 7—63761
cyclohexane, acoustic and thermodynamic props., press. and temp. depend. 7—63745
d- and f-metals and alloys, anomalous props. due to charge density fluctuations 7—7132

thermal expansion continued
dilute mag. alloy system, external mag. field, thermodynamic props. anomalies 7—45666
disordered systems, two-level system ensemble, low-temp. thermal expansion anomalies 7—2234
Earth thermal expansion, temp. profile and radial deform. assoc. with heat cond. in elastic Earth 7—23592
effect of ion irrad., 7—28160
elastoplastic medium with point source of heat, plastic zone generation 7—1443
ethylene-tetrafluoroethylene copolymer, cryst.-mesophase transition, struct. obs. 7—21436
fibre reinforced metal, subjected to uniform temp. change, dislocations punched out around short fibre 7—21491
fibreglass-filled rubber-modified phenolic resin, sp. ht. and thermomech. expansion meas., thermal decomp. 7—6822
Fischer-Tropsch waxes, cell parameters, temp. dependence 7—12043
glass fibre reinforced plastics, surface deform. modelling 7—2236
graphite, reactor, thermal expansion, effect of rad. 7—26804
graphite fibre reinforced borosilicate glass matrix composites, thermal expansion, laminate theory anal. 7—52087
graphite fibre reinforced epoxy, subjected to cyclic thermal loading, damage-induced prop. changes 7—46600
graphite fibre reinforced epoxy and polyamide matrix composites, thermal expansion, laminate theory anal. 7—52087
heavy fermion systems, Gruneisen parameter electron-phonon coupling 7—2138
N-(p-n-heptyloxybenzylidene) p-n pentylaniline, liq. cryst. transitions, density meas. 7—26821
III-V covalent crystals, thermal expansion coeffs. calc. 7—44869
Indian upper mantle rocks, pressure-temp. studies for Gruneisen coeff. and specific heat 7—55267
Kevlar 49-285 style fabric for space structures use, thermoelastic behaviour 7—37329
Langmuir-Blodgett film pyroelectric devices, optimisation of thermal performance 7—59155
liquids, thermal expansion and heat capacity at high pressure 7—6818
mat-reinforced polymeric composite, thermal expansion and elastic characteristics 7—33631
metal matrix composites, thermal residual stress 7—63848
metal wire connections, contact resist., effect of fretting 7—21980
metallic workpieces, linear thermal expansion, two point meas. *(German)* 7—48692
metals, liquid and solid, thermal properties and compressibility 7—58509
metals, point defects in thermal equilibrium, laser interferometry-neutron diffr. studies 7—58274
metals, polycrystalline, internal friction temp. spectrum and microplasticity *(Russian)* 7—16684
metals, temp. depend. of work fn., anal. 7—52737
metals, twin-boundary energies and entropies, const. press. Monte Carlo calc. 7—2028
mixed alkali borate glasses, transform. range viscosity, thermal expansion 7—52103
monolithic fuel cell tapes, three-layer ceramic composite, stress and fracture analysis 7—3407
$(Na_2O)_{25}(Li_2O)_{25}(P_2O_5)_{50}$ glass fibres, struct., birefringence, density and thermal shrinkage, drawing parameters depend. 7—6536
naphthalene-tetracyanobenzene complex, mol. motions, neutron scatt. obs. 7—44709
nonlinear convection with variable coefficient ofthermal expansion 7—6207
optical fibres, hermetically coated, anti-thermal and high strength coating development 7—31483
optical materials, dimensional stability meas. 7—43270
oxides, complex ABO_3 cpds., thermal expansion data 7—12330
PET, biaxially oriented, effects of thermal treatment 7—12193
plate, epoxy, subjected to rapid cooling on both surfaces, residual stress anal. 7—63007
polycrystalline aggregates with texture, thermal expansion coeffs. 7—52091
polydimethylsiloxane, refr. index and thermal expansion coeff. variations with temp. 7—39060
polyethylene, monoclinic form, hydrostatic compression effect 7—44690
polymer films, stress development during thermal cycling, bending beam technique 7—28063
polymers, thermodegradation kinetics, softening effect *(Russian)* 7—46844
polypropylene, oriented, thermal expansion behaviour 7—6839
PTFE, amorphous and cryst., irradiated, thermal characts. *(Russian)* 7—6681
PTFE, oriented, annealing, crystn. lattice temp. behaviour *(Russian)* 7—6840
pyrographite, highly irrad., property change on thermal annealing 7—63665
quartz, glass, thermal expansion coeff., two-level system contrib. *(Russian)* 7—21495
α-quartz, thermal expansion, internal strain below room temp., lattice dynamical model 7—52092
rocks, P wave velocity during thermal cycling, effect of temp. *(Japanese)* 7—47431
steel, austenitic, Cr-Mn, thermal and mech. props., fusion reactor appl. 7—53795
steel, austenitic-ferritic stainless, weld metal deposits, final microstruct. form., role of thermal contraction stresses assoc. with inclusions 7—59738
$(TMTSF)_2ClO_4$, anion ordering and lattice expansion 7—58511
$(TMTSF)_2ClO_4$, conductor, thermal expansion and structural phase transitions 7—44870
$(TMTSF)_2PF_6$, cryst. struct., neutron low temp. and X-ray high press. diffr. studies 7—44502
$(TMTSF)_2PF_6$, metal-insulator transition, lattice expansion 7—64086
transition metals, liquid, thermodynamic props. 7—12323
universal eqn. of state of solids, temp. effects 7—44736
weld eigenstresses, stress optical modelling *(German)* 7—21494
α-Ag-Al, thermal expansion, X-ray determ. 7—32685
Al, fourth-order thermal expansion coeff. fn. 7—44868
Al_2O_3 ceramics, sintering, effect of TiO_2 *(Japanese)* 7—3248
Al_2O_3, engineering ceramics, texture 7—28057
Al_2O_3-TiO_2, mech. props. and microstruct., influence of TiO_2 additions. *(Japanese)* 7—22706
Al_2O_3-TiO_2-SiO_2 composite, thermal shock resist. 7—33771
Al_2O_3-TiO_3 amorphous films, thermal expansion and coordination state of cations 7—44860

thermal expansion continued
Al_2TiO_5-mullite composites, thermal and mech. props., effect of comp. *(Japanese)* 7−26987
B_2O_3 glass, thermal expansion, sp. ht. meas. 7−44862
$Ba(Ca_{1/3}Nb_{2/3})O_3$-$PbZrO_3$-$PbTiO_3$ ceramics, hot-pressed, ferroelectric phase transitions 7−7652
BaF_2, linear thermal expansion meas. 7−44863
BaF_2, low temp. thermal expansion, calc. 7−44867
BaF_2, thermal expansion from 296 to 1173K 7−12327
$Bi_{12}GeO_{20}$, pure and doped crystals phys. props. 7−7283
$Bi_4Ge_3O_{12}$ single cryst. growth, characterisation and appls. 7−33550
$Bi_{12}SiO_{20}$, pure and doped crystals phys. props. 7−7283
Br_2, liquid, optical props. 7−17294
C fibre reinforced Al-Zn-Mg alloy, linear thermal expansion coeff., 25 to 400°C 7−52093
C fibre reinforced C, 3D, residual stress 7−52090
CaF_2, linear thermal expansion meas. 7−44863
CaF_2, low temp. thermal expansion, calc. 7−44867
CaF_2-Si interface, strains in MBE grown insulator films, MeV ion channelling meas. 7−7080
$CaMg(B_3O_4(OH)_3)_2.3H_2O$, hydroboracite, thermal expansion 7−63850
$CaMgSi_2O_6$, diopside, thermal expansion and glass transition, quenched defects effects 7−12333
$Ca_5Na_4K_2Si_{12}O_{30}F_4$, chain-silicate canasite glass-ceramic, thermal shock behaviour, effect of crystn. 7−46613
$(CaO)_{25}(BaO)_{25}(P_2O_5)_{50}$ glass fibres, struct., birefringence, density and thermal shrinkage, drawing parameters depend. 7−6536
$Ca_{10}(PO_4)_6(OH_2)$, thermal lattice expansion, 20-600 °C 7−58510
$CaSiO_3$, perovskite type, cryst. struct., lattice dynamics and eqn. of state 7−58248
$Cd(Cu_{1-x}Al_x)_2$, mag. and cryst. props. 7−27506
$Cd(Cu_{1-x}Ni_x)_2$, mag. and cryst. props. 7−27506
CdO-SiO_2-M_2O (M=Na,K,Li), glasses, thermal expansion, free volume 7−58152
CdP_2, crystal structures and microphases, devil's staircase 7−11982
CeO_2-ZrO_2-Y_2O_3 thermal barrier coating, plasma-sprayed, thermal and mech. props. *(Japanese)* 7−27899
Co, internal friction and linear expansion coeff. in phase transition region 7−44857
Co_3O_4-P_2O_5 glass system, thermal analysis from room temp. to softening pt., vibr. anharmonicity, US vel. 7−12221
Cr, magnetovolume, thermal expansion and Gruneisen parameters 7−33260
Cr, Neel temp. and thermal expansion press. depend., strain gauge meas. 7−6724
Cr thin films, intrinsic stress, elasticity modulus, thermal expansion and struct. 7−16889
Cr-Mo dilute alloys, magnetoelasticity, antiferromagnetism disappearance effects 7−45789
Cr-Os-Ta-La system, anomalous elastic and thermal props. in region of phase transform. *(Russian)* 7−53783
Cr-V alloy, magnetovolume, thermal expansion and Gruneisen parameters 7−33260
$Cs_2Mo_6Se_6$, thermal expansion of ternary chalcogenides containing infinite $(Mo_{6/2}Se_{6/2})$ chains 7−16791
$CsPbBr_3$, lattice thermal expansion, 140-400°C, X-ray obs. 7−44859
CsX (X=Cl,Br,I), low temp. thermal expansion, calc. 7−44867
$CsZr_2P_3O_{12}$, thermal expansion, structural model 7−44858
Cu, fourth-order thermal expansion coeff. fn. 7−44868
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7−12698
$CuGaTe_2$, lattice thermal expansion, 80 to 650K 7−12326
$CuInTe_2$, lattice thermal expansion, 80 to 650K 7−12326
Cu_2MnAl, Heusler alloy, heat and press. processed, changes in phys. props. during heating *(Russian)* 7−59645
Fe, cast, pearlitic, flake graphite, alloyed, thermal expansion 7−52094
Fe, thermal expansion, electron correl. effects 7−2238
Fe-C system, elastic anal. of deform near spherical C particle embedded in Fe matrix 7−63709
Fe-cementite alloy castings, Young's modulus and thermal expansion 7−65068
Fe-La amorphous alloys, high-field susceptibility and Curie temp. 7−58989
Fe-Ni based metallic glasses, quenched-in excess vol. and structural relax. 7−6531
Fe-Si-Cr system, ordering process, thermal expansion studies *(Russian)* 7−1932
Fe-Tb amorphous alloys, film and bulk mag. props. and thermal expansion meas. 7−7540
$FeClMoO_4$ layered compound, struct. and mag. props., Mossbauer effect, mag. suscept., and neutron diffr. studies 7−58981
$(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, ferromagnetism onset, magnetovolume effect study 7−2845
FePd, annealed, transport and thermal expansion props. 7−46512
FePd, thermal expansion and α-γ phase boundary lines 7−2239
Fe_3Si, near-stoichiometric high temp. creep and struct. investig. 7−22762
Fe_2SiO_4, spinels, cryst. struct. as function of temp. and heating duration 7−16522
GaAs, fundamental energy gap, temp. depend. 7−7115
GaP crystal, low temp. negative thermal expansion coeff. 7−6837
Gd-Co, amorphous, influence of hydrogenation or mag. props. 7−2899
$Gd(Cu_{1-x}Co_x)_2$, mag. and crystallographic props. 7−38903
Ge, fourth-order thermal expansion coeff. fn. 7−44868
HfO_2-Ln_2O_3, (Ln=Y,Gd,Tb,Er,Yb), solid soln. single crysts., physicochem. props. 7−2097
Hg-In liquid alloys, vol. and thermal expansion coeffs., higher-order correlation effects 7−12328
Hg-Sn liquid alloys, vol. and thermal expansion coeffs., higher-order correlation effects 7−12328
Hg−In liquid alloys, volume, thermal expansion coeff. 7−56227
Hg−Sn liquid alloys, volume, thermal expansion coeff. 7−56227
I_2, liquid, optical props. 7−17294
InP_xAs_{1-x} solid solutions, temp. depend. of lattice constants and thermal expansion coeffs. 7−21165
Ir paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
$KCl:Li^+$, impurity interactions, sp. ht. and thermal expansion, pair density of state calcs. 7−63852
$KZnF_3:Mn^{2+}$, thermal expansion of the $Mn^{2+}-F^-$ bond 7−6836
$KZr_2P_3O_{12}$, thermal expansion, structural model 7−44858
La_2O_3, thermal expansion coeff. below room temp. 7−12332

thermal expansion continued
Li-P-O-N glass, prep. and characterisation 7−26654
$LiNaSO_4$, BCC, rotator phase, solid electrolyte behaviour, thermodynamic props. 7−21139
$LiNbO_3$, crystal growth from liquid, physical consts. determ. 7−32322
Li_2O-P_2O_5-PON, nitrogen phosphate glasses, preparation from PON *(French)* 7−26657
$LiY_{1-x}Yb_xF_4$ single cryst. growth, lattice const. and thermal expansion coeff. temp. depend. studies 7−27891
$LiZr_3P_3O_{12}$, thermal expansion, structural model 7−44858
$Mg_2Al_4Si_5O_{18}$ and solid solutions, thermal expansion *(Japanese)* 7−21496
MgO-Al_2O_3-SiO_2-GeO_2 cordierite ceramics, sintering, microstruct., thermal props. 7−52088
$MgSiO_3$, perovskite type, cryst. struct., lattice dynamics and eqn. of state 7−58248
Mg_2SiO_4, fosterite-based ceramic with BaO addition, synthesis, sintering, struct. and props. 7−46397
X-Mn, Neel temp. and thermal expansion press. depend., strain gauge meas. 7−6724
Mn-Sn, homogenised, mag. props., thermal expansion 7−2900
$Mn_xFe_{1-x}Si$ solid solns., thermal expansion 7−6835
Mo paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
MoO_3-P_2O_5 glasses, thermal anal. between room temp. and softening point 7−12329
N_2-O_2 solid soln., thermal expansion anomaly 7−6838
ND_4ReO_4, heat capacity anal. 7−26984
$NaBF_4$, orthorhombic, cryst. growth and phys. props. 7−7834
NaCl, Anderson-Gruneisen parameters, temp. variation 7−2137
$NaGe_2P_3O_{12}$ glass-ceramic, synthesis, thermal expansion meas. 7−46406
$Na_2Mo_6Se_6$, thermal expansion of ternary chalcogenides containing infinite $(Mo_{6/2}Se_{6/2})$ chains 7−16791
Na_2O-B_2O_3 glasses, effect of Na_2O addition, thermal expansion, sp. ht. meas. 7−44862
Na_2O-CaO-SiO_2 coating glass for optical fibres, preparation 7−7949
Na_2O-Fe_2O_3-SiO_2 systems, glass formation and props. 7−2203
Na_2O-FeO-SiO_2 systems, glass formation and props. 7−2203
Na_2O-P_2O_5-PON, nitrogen phosphate glasses, preparation from PON *(French)* 7−26657
$NaPO_{2+x}N_y$ glass prep. and props., comp. calcs. 7−7951
$NaZr_2P_3O_{12}$, thermal expansion, structural model 7−44858
$Na_4Zr_2Si_3O_{12}$-$Y_3Fe_5O_{12}$ composite ceramics, prep., thermal expansion 7−63853
Nb, BCC, thermodynamic props. 7−6828
Nb_3Sn bronze process multifilamentary wire, cooling stress and supercond. *(Chinese)* 7−12894
Nd, magnetic structure studies, free energy anal. 7−2821
Ni, thermal expansion, electron correl. effects 7−2238
Ni-based metallic glasses, quenched-in excess vol. and structural relax. 7−6531
Pb films, breakdown, nodule form., thermal expansion effect *(Russian)* 7−45067
Pb surface, anomalous thermal expansion, ion shadowing meas. 7−58512
Pb-In-Au thin films, hillock growth kinetics, grain boundary diffusion, SEM study 7−27221
$PbBi_4Te_7$, synthesis and physicochemical props. 7−13349
$Pb_5Cr_3F_{19}$, nonlinear optic, lattice consts., ferroelec. Curie temp., phase transition obs. at 555K 7−17275
PbF_2, linear thermal expansion meas. 7−44863
$PbHPO_4$, phase transition, thermal expansion meas. 7−44861
$PbMg_{1/3}Nb_{2/3}O_3$, thermal expansion, effect of Mg and Nb substitution by divalent, trivalent, tetravalent and W^{6+} ions 7−63851
PbO-SiO_2 glass, elastic props. and short- and medium-range structs. *(Japanese)* 7−65077
PbTe, thermoelectric props., effect of dielectric inclusions 7−12746
Pt paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
Pt, thermal expansion meas. 7−44864
Pt-Rh alloy, thermal expansion meas. 7−44864
$(Pt(NH_3)_4)$ $(PtCl_2(NH_3)_4)$ $(HSO_4)_4$, quasi 1D cpd., valence fluctuation and negative thermal expansion 7−45248
$Rb_{1-x}(NH_4)_xH_2PO_4$, lattice constants, temp. and concentration dependence, X-ray diffraction anal. 7−1976
$RbZr_2P_3O_{12}$, thermal expansion, structural model 7−44858
Rh paramagnetic suscept. temp. depend., thermal expansion effects 7−17156
S, thermal expansion coeffs., Gruneisen parameter, X-ray powder diffr. determ. 7−2235
Se-Te liquid mixtures, mass density at high temp. and press. 7−63701
Si, fourth-order thermal expansion coeff. fn. 7−44868
SiC, cubic (3C) polytype, thermal expansion 7−21493
SiC fibre reinforced Li_2O-Al_2O_3-SiO_2 glass ceramic composite, thermomech. mismatch 7−46538
α-SiC, thermal expansion of hexagonal polytype, 20-1000°C 7−52089
SiC whisker or particle reinforced Al composites, deform. thermal expansion, strengthening mechanisms 7−3373
Si_3N_4-ZrO_2 composites, thermal instability 7−28158
SiO_2 RF sputtered thin films, atomic defects and stresses, optical and elec props. 7−16898
SrF_2, low temp. thermal expansion, calc. 7−44867
SrF_2, thermal expansion at elevated temps. 7−63849
$SrF(Cl)_2$, linear thermal expansion meas. 7−44863
$Sr(NO_3)_2$, ionic cond. study as function of pelletizing press. 7−12358
Ta_{16}-$W_{18}O_{94}$-Super Invar composite, thermal expansion coeff. 7−12331
$TaVO_5$, thermal expansion coeff. below room temp. 7−12332
$Ta_{16}W_{18}O_{94}$, thermal expansion coeff. below room temp. 7−12332
$(Tb_{1-x}Y_x)_3Co$, magnetoelastic interactions and thermal expansion *(Russian)* 7−17211
Ti-Al-V, VT23, α and β phases, temp. relationship of chem. comp. *(Russian)* 7−39520
TiC-WC-TaC-Co hard metals, Ta conc. effect on comp. and physicomech. of carbide and Co phases 7−53708
$Tl_2Mo_6Se_6$, thermal expansion of ternary chalcogenides containing infinite $(Mo_{6/2}Se_{6/2})$ chains 7−16791
$TlPrSe_2$ $(Se_2)(Te_2)$, elec. cond., Hall effect and thermoelec. studies 7−2606
TlSe, thermal expansion coeff. temp. depend. and absorpt. spectra meas. 7−58508
URu_2Si_2, monocrystalline, thermal expansion and sp.ht. 7−44866
W (100), surface reconstruction investig., He diffr. studies 7−2320
W, BCC, thermodynamic props. 7−6828

thermal expansion continued
  W CVD films, high temp. stress meas. 7—58718
  W fibre reinforced Fe-Cr-Al superalloy, surface cladding and matrix deform., thermomech. loading 7—46568
  W/C multilayers for X-ray optics, anomalous expansion 7—21782
  WSi_x CVD films, high temp. stress meas. 7—58718
  Y_2O_3-ZnO-Al_2O_3-SiO_2, glass form. and crystn., effect of ZnO additions 7—44382
  Zn polycrystalline, internal friction, temp., time and amplitude depend, heat expansion anisotropy effects *(Russian)* 7—16687
  ZnO-SiO_2-M_2O (M=Li,K,Na), glasses, thermal expansion, free volume 7—58152
  ZnP_2, crystal structures and microphases, devil's staircase 7—11982
  Zr, internal friction and linear expansion coeff. in phase transition region 7—44857
thermal expansion measurement
  ceramics, parameter meas. by laser interferometry 7—9888
  cryocrystal thermal expansion meas. automation 7—4845
  dilatometer based on electro-optical meas. technique 7—41338
  hydrostatic densitometer, absolute meas. of temp. dependences of density and related variables 7—35496
  laser beam reflection, beam position change meas. 7—56223
  laser Doppler anemometer for measuring superlow velocities 7—43812
  liquids complex adiabatic compressibility and adiabatic pressure-induced temp. variation meas. 7—21316
  metallic workpieces, linear thermal expansion, two point meas. *(German)* 7—48692
  optical system design for automated thermal expansion measurements 7—24694
  speckle interferometer for thermal expansion measurements 7—48840
  three-terminal capacitance cell construction and calibration 7—29966
  Pt, thermal expansion meas. 7—44864
  Pt-Rh alloy, thermal expansion meas. 7—44864
  UO_2-Gd_2O_3 fuel pellets, thermal expansion meas. at 293-1973K 7—49538
thermal fatigue *see thermal stress cracking*
thermal imaging *see infrared imaging*
thermal insulating materials
  see also thermal conductivity
  DIII-D tokamak, thermal insulation blankets and heater jackets for vacuum vessel and ports 7—25192
  films on thermally conducting substrates, opto-thermal transient emission radiometry 7—9829
  glass fibres, Al coated, extinction props., thermal cond. meas. 7—52162
  multilayer fusing heat insulating coating, weight minimisation algorithm 7—65154
  surface destruction, self-similar heating regime study 7—62950
  Al_2O_3-SiO_2 as fibrous insulator of solar receiver, temp. meas. using thermocouples 7—59872
  α-SiO_2-TiO_2 super fine structural insulator, thermal conductivity 7—21555
thermal insulation
  commissioning trials on large-scale thermal conductance apparatus 7—14940
  contactless measurement of wall insulations to prepare the reconstruction of old buildings *(Hungarian)* 7—56259
  direct surface heat flow measurement and the optimisation of thermal insulations *(Hungarian)* 7—58500
  greenhouse insulation using double glazing and thermal curtains 7—46925
  multilayer insulation, heat flux, 77 to 277K 7—35523
  self-pumping multilayer insulation, thermal conductivity, temp. depend. 7—16829
  shield-vacuum heat insulation, gas permeability 7—44038
  stricter requirements in the thermal insulation of buildings and their measurement *(Hungarian)* 7—58501
  thermogrammetry and thermal engineering conf., Budapest, Hungary (April 1987) *(Hungarian)* 7—56258
  thermosyphonic solar water systems, pipe thermal insulation effects 7—40040
  ultrahigh vacuum sample mount for insulators 7—48762
  vacuum shield insulation, heat exchange calc. allowing for end effects 7—31629
thermal magnetoresistance
  Co-Ba-Ni-O_2 thermal resistance thermometer study *(Chinese)* 7—24650
thermal noise
  dielectric relax., thermal noise correl. anal. 7—22186
  excess Johnson noise, thermal noise voltage modulation effects 7—17058
  neural networks, asymmetric temporal association, effects of thermal noise 7—34122
  Ramo's theorem generalisation, electric charge motion, induced currents, energy balance and noise calcs. 7—21889
  superconducting tunnel junctions, microwave detection, quantum statistical theory 7—2786
  US inspection instruments, improved sensitivity 7—65256
thermal properties of substances
  see also magnetocaloric effects; Scott effect; specific heat; thermal conductivity; thermal diffusivity; thermal expansion; thermal variables measurement
  ceramic technology appls. of interferometric meas. techniques 7—39813
  cholesteryl benzoates, smectic A phase with polar terminal groups, thermal props. studies 7—63459
  composite superconductor thermal processes and charact. thermal length, math. model 7—64389
  graphite fibre reinforced epoxy, reflectance and thermal response during high-power CO_2 laser irrad. 7—32496
  heavy fermion superconductors, transport and thermal props. 7—38809
  linear polymers, struct., thermophys., props. *(Russian)* 7—12334
  liquids complex adiabatic compressibility and adiabatic pressure-induced temp. variation meas. 7—21316
  PET, highly branched, synthesis and characterisation 7—11960
  piezoelectric materials, acoustic resonance techniques for temp., stress and impurity characterization 7—45938
  refrigerant R22, isentropic change in exponents 7—20831
  β-sitosteryl benzoates, smectic A phase with polar terminal groups, thermal props. studies 7—63459
  solids, thermophysical props., predictions 7—44841
  thermophysical laboratory database formation, using pulse heat method 7—4828
  thin films, conference, India (Jan. 1985) 7—4619
  Cu Foametal, high thermal conductivity material, thermal, mechanical and vacuum props. 7—25191
thermal properties of substances continued
  Li ceramics, thermal stability with fusion reactor structural materials 7—38227
  P_2O_5-Dy_2O_3(Pr_2O_3) glasses, struct., mag. and thermal props. 7—26658
  ZrO_2, Y_2O_3, dip process thermal barrier coatings for gas turbines 7—46314
thermal quenching *see quenching (thermal)*
thermal radiation *see heat radiation*
thermal resistance
  lenses, cement contact, heat resistance depend. on construction parameters 7—43299
  open-type vortex cooler for power semicond. instruments, thermal resist. study 7—11405
  CuO and magnesia ceramic, direct bonding region, thermal resistance 7—37395
  ^{3}He-$CuK_2(SO_4)_2.6H_2O$, thermal resist., surface mag. coupling, effect of ^{4}He addition 7—52173
  Mo CVD coating on graphite, struct., thermal resist. props. 7—52375
  ZrO_2 ceramics stabilised by rare earth oxides, thermal shock resistance *(Japanese)* 7—22736
thermal resistivity *see thermal conductivity*
thermal shock
  ceramics, porosity and thermal shock behaviour *(German)* 7—22707
  ceramics, thermal shock testing with pulsed laser irradiation 7—32491
  fused quartz particulate composite, fracture behaviour *(Chinese)* 7—8079
  nonlinear waves of different physicomechanical nature in finite continua 7—18604
  plate, edge-cracked, subjected to uniform surface heating, thermal shock 7—57752
  plates, deformation and fracture under thermal shock 7—43763
  steel, nuclear reactor pressure vessel, thermal transient, crack arrest in K-gradient 7—46617
  strip, cracked, thermal shock, temp. depend. material props. 7—16114
  Al, relaxation process studied by positron annihilation 7—6698
  Al_2O_3 coatings made by sol-gel process, mechanical props. 7—22867
  Al_2O_3 discs, thermal shock reliability, Weibull parameters, bending and fracture testing 7—3408
  Al_2O_3-TiO_2-SiO_2 composite, thermal shock resist. 7—33771
  $Ca_5Na_4K_2Si_{12}O_{30}F_4$, chain-silicate canasite glass-ceramic, thermal shock behaviour, effect of crystn. 7—46613
  ZrO_2 ceramics stabilised by rare earth oxides, thermal shock resistance *(Japanese)* 7—22736
  ZrO_2, partially destabilised, thermal shock behaviour 7—3392
  ZrO_2, Y_2O_3 partially stabilised, thermal shock behaviour *(Japanese)* 7—8115
thermal shock failure *see thermal stress cracking*
thermal spikes *see crystal defects; radiation effects*
thermal stress cracking
  B_4C, thermal stress fracture, grain size and porosity effects *(Japanese)* 7—8087
  ceramic part, heat resistance under two-dimens. strain conditions 7—59630
  computerized test system for thermal-mechanical fatigue crack growth 7—39801
  corundum-graphite refractories, thermomech. props. 7—22806
  crack closure integral and J-integral calcs. for thermally stressed specimens, numerical investig. 7—26211
  cylinder, circular, infinite, with penny-shaped crack under transient loading 7—43774
  fusion reactors, first wall materials, plasma-wall interactions 7—25156
  glass, AE source characteristics from thermal crack 7—21341
  glass ceramic, failure kinetics using composite glass-crystal system model 7—59631
  glass tubing, thermally induced crack propagation *(German)* 7—22805
  IN738LC, Ni base superalloy, low cycle and thermal fatigue, small crack initiation and growth *(Japanese)* 7—13567
  monolithic fuel cell tapes, three-layer ceramic composite, stress and fracture analysis 7—3407
  nonlinear coupled thermomechanical system crack propagation 7—63067
  plate, edge-cracked, subjected to uniform surface heating, thermal shock 7—57752
  refractories, failure with thermal loads, anisotropy effects, US propag. obs. 7—33791
  rock cracking due to thermal stress, for granite, diabase, limestone 7—40466
  rocks, elastic moduli changes during thermal cycling between 110 and 370K *(Japanese)* 7—47432
  rocks, P wave velocity during thermal cycling, effect of temp. *(Japanese)* 7—47431
  steel, Cr, high C, notched rods, breaking by heating process, elastic-plastic stress analysis *(Japanese)* 7—33777
  steel, Cr-Mo type, ageing effect on heat resist. props. after cold deform. and tempering 7—22813
  steel, Cr-Mo-V, creep crack growth at 838 K, displacement-controlled loading behaviour 7—17626
  steel, Cr-Mo-V type, service props. in different struct. conditions 7—8107
  steel, Cr-Ni-Co VKS6, struct. and mech. characts., effects of Ni, Co and heat treatment 7—8108
  steel, die, heat-resistant, optimum hardening temps., struct. and mech. props. 7—8022
  steel, ferritic and austenitic welded joints, thermally loaded, struct. and mech. props. 7—8102
  steel, heat-resistant, N and V influence on mech. and service props. 7—8105
  steel, high-speed p/m tungstenless, Mo and V effect on microstruct. and operating props. 7—33788
  steel, Ni-Cr A286, crack initiation and propag. characts. under high-temp. fatigue 7—22834
  steel, Ni-Cr A286, high-temp. fatigue strength characts. 7—22835
  steel, nuclear reactor pressure vessel, thermal transient, crack arrest in K-gradient 7—46617
  strip, cracked, thermal shock, temp. depend. material props. 7—16114
  theoretical aspects, book 7—9607
  Al_2O_3-TiO_2-SiO_2 composite, thermal shock resist. 7—33771
  BE prototype limiter for JET, thermal fatigue tests, microcracking 7—5415
  C fibre reinforced C, multidirectional composites, macroporosity and interface cracks 7—46513

thermal stress cracking continued
C fibre reinforced plastic, thermal fatigue, flexure strength *(Japanese)* 7—13568
$Ca_5Na_4K_2Si_{12}O_{30}F_4$, chain-silicate canasite glass-ceramic, thermal shock behaviour, effect of crystn. 7—46613
Cr, low alloyed, elastobrittle failure under thermal loading stresses 7—33790
Mo-Bi-Si thermodiffusion coating on Nb-Mo-Zr alloy, oxidation protection, heat resist. 7—8156
Ni superalloy, Mar-M247, high-temp. fatigue crack propag. characts. 7—22836
Si_3N_4-SiC reaction sintered ceramics, oxidation effect on strength 7—65163
Si_3N_4-ZrO_2 composites, thermal instability 7—28158
TiB_2-Mo electrospark coatings on steel, form. kinetics and high-temp. oxidation 7—65210
W fibre reinforced Fe-Cr-Al superalloy, surface cladding and matrix deform., thermomech. loading 7—46568
W-Cu duplex struct., brazed test pieces, durability against thermal fatigue *(Japanese)* 7—56818
ZrO_2, partially destabilised, thermal shock behaviour 7—3392
ZrO_2, Y_2O_3 partially stabilised, thermal shock behaviour *(Japanese)* 7—8115

thermal stresses
see also thermal stress cracking; thermoelasticity
aspen fibre reinforced polyethylene, mech. props., effect of extreme conditions 7—39604
boundary integral methods for thermoelasticity problems 7—11296
ceramic part, heat resistance under two-dimens. strain conditions 7—59630
ceramic/metal jointed interface, strain distrib. determ., laser speckle photography *(Japanese)* 7—54037
circular hollow cylinder, coupled thermal stresses due to thermal and mech. loads 7—16063
coated short fibre composite, thermal stresses 7—37327
complex bodies, residual stresses, investig. by photoelastic methods *(Polish)* 7—43683
composite materials, mode I edge delamination, stress distrib. ahead of crack, thermal residual stress 7—6151
creep-plasticity constitutive models suitable for thermal loading 7—51925
crystalline rods, thermoelastic stresses and temps., asymptotic calc. 7—32542
cylinder, elastic circular containing cavity or penny-shaped crack, thermal stresses 7—26202
cylinders, thick-walled, stress anal. under press. and temp. gradients 7—50947
cylindrical shell, thermal stress state for moving heat sources 7—1411
elastoplastic medium with point source of heat, plastic zone generation 7—1443
flexible structure, local region, optimum profile of temp. field 7—31652
free electron laser, mirror degradation and performance requirements 7—43152
FTU Tokamak, main mechanical, thermal loads and stresses 7—56842
fusion reactor, solid breeder blankets, thermomech. props., T retention 7—49650
fusion reactor first wall, plasma disruption damage calc. 7—791
glass ceramic, failure kinetics using composite glass-crystal system model 7—59631
graphite, fusion reactor, sublimation and hydrocarbon production under intense energy deposition 7—49629
graphite fibre reinforced borosilicate glass matrix composites, thermal expansion, laminate theory anal. 7—52087
graphite fibre reinforced epoxy and polyamide matrix composites, thermal expansion, laminate theory anal. 7—52087
graphite fibre reinforced epoxy laminates, holographic investigation of stressing techniques for detecting flaws 7—59732
human head internal heating by pulsed microwave irradiation, thermal stress calc. *(Japanese)* 7—47166
infinite elastic medium containing penny-shaped crack, stress intensity factors for transient thermal loading 7—20647
infinite solid weakened by circular crack, asymmetric thermal stress distrib. 7—6150
IR based stress analysis technique 7—31723
laminate, holographic investigation of stressing techniques for detecting flaws 7—59732
liquid, axisymm., spreading over surface of solid, thermal stresses 7—63916
LMFBR materials, buckling anal. and design rules 7—49517
metal matrix composites, thermal residual stress 7—63848
monolithic fuel cell tapes, three-layer ceramic composite, stress and fracture analysis 7—3407
optimal thermoelastic designs in case of fixed stress and deform. fields. 7—1417
plane problems of thermoelasticity, thermal stress components, integro-differential correlations *(Ukrainian)* 7—11281
plate, doubly-connected, optimisation of temp. fields and stresses 7—11309
plate, epoxy, subjected to rapid cooling on both surfaces, residual stress anal. 7—63007
plate, heating of cracked edge, variation of stress intensity factors with crack inclination 7—1512
plate, orthotropic containing pair of coplanar central cracks 7—1513
plates, thermomechanically coupled nonlinear vibration 7—31671
polyethylene, interlamellar links, environmental stress cracking agent effect 7—53928
polymer. composite structure, thermal and thermomech. response 7—8150
polymer films, stress development during thermal cycling, bending beam technique 7—28063
polymers, oriented, thermally stimulated shrinkage forces, induction time 7—13484
quartz, surface wave propag. characts. and influence on device performance 7—12451
quenching, thermal stress generation, effect of stress relax. rate 7—17590
randomly loaded structures stress analysis, using IR technique 7—31724
rod, curved elastic, vibrs. in plane of curvature during heating 7—43751
rod, long, plastic wave propag., strain and temp. distrib. *(Japanese)* 7—31678
rod, nonuniformly ageing viscoelastic, with small deform., thermal stability 7—11317
shape memory heat engine performance and optimum stress calc. 7—23207

thermal stresses continued
shell, cylindrical, thermally sensitive, stress-strain state analysis using displacement theory 7—16068
sintering, thermal stress anal. using moving grid 7—53648
solid state laser systems heat transfer and thermoelasticity effects, alternating direction implicit method 7—50567
spectral analyser for meas. of thermomechanical response of solids to low-frequency dynamic loads 7—43814
sphere crystallisation, thermoelastic stresses in weightless conditions 7—1424
stainless steel plate, thermoviscoelastic stress analysis 7—2092
steel, austenitic-ferritic stainless, weld metal deposits, final microstruct. form., role of thermal contraction stresses assoc. with inclusions 7—59738
steel, ferritic stainless, Mo, welding, heat affected zones, microstruct., thermal history 7—53769
steel, low-alloy, H-beams, controlled rolling effect on mech. props. 7—39562
steel, martensitic transformation, residual stresses establishment 7—33657
steel, quenching, effect of martempering on thermal stress and strain 7—46532
steel, quenching stresses interaction with structural transforms. 7—22727
steel XC 80, pearlitic transformation in continuous cooling calc., thermal stresses contrib. *(French)* 7—46410
synchrotron radiation mirror, lacquer-coated, irrad. with undulator light, surface heating 7—43307
synchrotron radiation mirror, thermal distortion prediction with finite element analysis 7—43306
theoretical aspects, book 7—9607
toroidal solenoid, thermomech. loaded, optimal design 7—57695
transient coupled thermoelastic crack problems 7—37391
viscoelastic rectangular body excited by rectangular waveguide, vibrs. and heating 7—16109
wiggler beam monochromator, distortion from synchrotron radiation thermal loading, finite element analysis 7—42269
Zircaloy-2, irrad. growth under temp. cycling, solute-interstitial complex mechanism 7—44607
Ag, polycrystalline film, recrystallisation under thermal stress *(Russian)* 7—58702
GaAs epitaxial layer, EL2 midgap electron trap prod. by rapid thermal annealing, DLTS study 7—64154
GaAs, LEC growth configuration, thermal stresses, effect of liq. encapsulation, thermoelastic anal. 7—59414
GaAs:In, low In conc., LEC cryst. growth employing thermal stress anal. 7—46305
Li based ceramics, fusion breeder blanket, irrad., high burnup, large temp. gradients 7—49644
Nb epitaxial film (110), elastic strain generation and relax. *(Russian)* 7—16916
Ni alloys, struct.-sensitive props., effect of external thermal action 7—46558
Ni/NiO/ZrO_2, partially stabilised, bonding, stresses, shear strength 7—39845
Pb films, breakdown, nodule form., thermal expansion effect *(Russian)* 7—45067
Pb-In films, Josephson junction, thermal stress cycles, hillock form. *(Japanese)* 7—12536
Si, defects and device processing, achievements and limitations 7—32428
Si, microarea stress study by microprobe Raman spectroscopy 7—63708
Si ribbon growth, dislocation dynamics and thermal viscoplastic stresses 7—2017
Si, thermoplastic deformation, nondestructive ultrasonic detection 7—12215
aSi:H solar cell characts. change due to long term temp. stresses 7—8393
a-Si:H solar cell prep. by laser-induced CVD of SiH_4 7—7890
SiC whisker or particle reinforced Al composites, deform. thermal expansion, strengthening mechanisms 7—3373
SiO_2 RF sputtered thin films, atomic defects and stresses, optical and elec props. 7—16898
Ti-glass mirror, temp. deformation 7—20386
Tl_3AsSe_3 crystals, Bridgman growth, dislocation etching, thermal stress distrib. 7—21208
V epitaxial film (110), elastic strain generation and relax. *(Russian)* 7—16916
W CVD films, high temp. stress meas. 7—58718
WSi_x CVD films, high temp. stress meas. 7—58718
ZrO_2, CeO_2 containing tetragonal polycrystals, thermal stability, mech. props. 7—28101

thermal transformations *see phase transformations*

thermal variables control
see also temperature control
2D heat conduction problems, time optimal control 7—11248

thermal variables measurement
see also bolometers; calorimeters; calorimetry; temperature measurement; thermal conductivity measurement; thermocouples; thermometers
automated system for managing measurements on the UNTOthermophysical systems 7—4847
automatic meas. of thermophysical props. of metals, 600 to 4000K range 7—4843
capacitance dilatometer/oven system, computerized analysis of thermal correlations using Peltier AC-heating 7—18775
ceramics, powder size and distrib., surface texture, thermal props., interferometric meas. 7—9818
commissioning trials on large-scale thermal conductance apparatus 7—14940
contactless measurement of wall insulations to prepare the reconstruction of old buildings *(Hungarian)* 7—56259
DC-AC hot-wire procedure for determiningthermophysical properties under pressure 7—9830
diffusivity, laser flash meas. method *(Japanese)* 7—16831
diffusivity, meas. by light-irradiated AC calorimetry *(Japanese)* 7—14946
diffusivity and propagation props. of thermal waves meas., data acquisition system 7—305
dual-slope method for specific heat measurements 7—14937
dynamic measurement at high temp. and pressure, review 7—314
emissivity measuring apparatus, vac. high-temp. system 7—56272
high-temperature melts, thermal diffusivity meas. by stepwise heating *(Japanese)* 7—14948
hydrostatic pressure, low temp. technique in mag. field *(Japanese)* 7—48790

- **thermal variables measurement** continued
  - hydrostatic pressure dependence obs. for hard materials and crystals thermal props. 7—306
  - IR radiation meas. and appls. *(Japanese)* 7—347
  - liquids, thermal cond. and thermal diffusivity, simultaneous meas. technique 7—48728
  - microcomputer data-acquisition and control system for thermal variables meas. 7—4841
  - performance assessment of thermal imaging system 7—30091
  - periodic-heating method development 7—4844
  - photothermal deflection meas. of thermal diffusivity in hot gas 7—30007
  - polyethylene, thermal diffusivity, meas. by laser flash method, 4.2-300K 7—24647
  - porous media, moist, thermal props. at temps. below 0°C 7—4834
  - radiation flux densities meas., automated metrological support 7—4846
  - refractory materials, automatic high-speed pulse meas. 7—4842
  - rock thermophysical characts. determ., automatic meas. system 7—9219
  - solar collector, flat-plate type electronic, heat transfer coeff. digital meter 7—23220
  - specific heat, cavity method for flash meas., appl. to metals 7—4836
  - specific heat of B, ^{4}He cryostats appl. 7—35526
  - steel, thermal conductivity profile, inverse determ. from thermal wave surface data 7—46751
  - thermoelectric rapid inspection, contacts temp. effects 7—2580
  - thermophysical characteristics meas., error due to heat capacity of heater 7—56256
  - thermophysical laboratory database formation, using pulse heat method 7—4828
  - thermophysical meas. automation, software for a microcomputer data-acquisition andcontrol system 7—4824
  - water flow in tubes, heat transfer crisis, control expt. errors 7—63130
- **thermal wave imaging** *see photothermal effects*
- **thermally stimulated capacitor discharge** *see thermally stimulated currents*
- **thermally stimulated currents**
  - anthracene: acridine crysts., conduction mechanism and trap levels, TSC meas. 7—27342
  - disaccharide maltose monohydrate, water binding modes, TSC meas. 7—38997
  - dispersive trap-controlled carrier transport, surface pot. decay, space charge effects, finite difference calcs. 7—38588
  - DNA, electric charge transfer phenomena, TSC investig. *(Czech)* 7—13948
  - double-layer dielectric films, carrier interaction and interface characts. 7—45934
  - ethylene-vinyl acetate/polyethylene double layer dielec. films, TSC phenomena obs. 7—27663
  - ITC spectrum analysis, role of background currents 7—38996
  - marble, temp. effect on dielec. behaviour at 1 kHz 7—47434
  - Novolac phenol-formaldehyde resin-nylon-6 blend, thermally stimulated discharge 7—64561
  - nylon films, thermally stimulated and pyroelectric currents, H bond struct. effects 7—27664
  - oxide glass, relax. time and loss peak correl, with DC cond. 7—22181
  - phenol-formaldehyde novolac resin, thermally stimulated depolarisation current meas. using blocked electrodes 7—17261
  - PMMA, refractive index, thermal variations 7—33369
  - poly-p-phenylene-1,3,4-oxadiazole, photoconduction, O_2 adsorption effects 7—52683
  - polyarylate, mol. motions in glass transition region, thermally stimulated depolaris. current 7—38586
  - polycarbonate, absorption/resorption currents and thermally stimulated resorption 7—58820
  - polyethylene:Si films, trapping states, TSC, optical absorpt. spectra, photocond. meas. 7—27345
  - polyethylene, low density, γ relax., chain segment lengths, thermostimulated depolarisation meas. 7—11948
  - polyethylene, space charge form., needle-plane arrangement, partial discharge and TSC meas. 7—39008
  - polyethylene, thermally stimulated luminesc. and depolarisation, electron trapping studies 7—27651
  - polyethylene film, TSC due to dipolar depolarisation in temp. gradient 7—59141
  - polyethylene films, charge storage lifetime, structural effects 7—27344
  - polyethylene terephthalate/polyvinylidene fluoride double layer dielec. films, TSC phenomena obs. 7—27663
  - polyethylene/ionomer blends, insulating material, aging characteristics 7—39025
  - polypropylene, space charge form., needle-plane arrangement, partial discharge and TSC meas. 7—39008
  - polypropylene films, charge storage lifetime, structural effects 7—27344
  - polystyrene, refractive index, thermal variations 7—33369
  - polyvinyl alcohol thermoelectrets, thermovoltaic effects 7—22178
  - polyvinyl alcohol-polyvinyl acetate blends, TSDC, effect of blending 7—13084
  - polyvinyl alcohol/polyvinyl acetate/carbon black composites, thermal currents meas. 7—45920
  - polyvinylidene fluoride films, TSD studies 7—13085
  - PVC, field induced thermally stimulated relax. 7—27654
  - PVF_2 films, thermally stimulated discharge current characts., injecting contacts effects 7—38995
  - rocks from Greece, thermally stimulated current observations 7—4026
  - solid dielectrics, conference, Erlangen, W.Germany (July 86) 7—35099
  - solid dielectrics, meas. 7—59140
  - superionic conducting materials, ionic thermoelec. power, heuristic treatment 7—45345
  - Teflon-FEP electrets, stability, stretching effects 7—27650
  - $As_{40}S_{30}Se_{30}$ glasses, surface pot. relax., TSC meas. 7—64261
  - $Ba_{1-x}La_xF_{2+x}$ solid solutions, thermally stimulated depolarisation currents 7—53226
  - $Ba_{1-x}U_xF_{2+x}$ solid solutions, thermally stimulated depolarisation currents 7—53226
  - $Bi_{12}GeO_{20}$, pure and doped crystals phys. props. 7—7283
  - Bi_2O_3 thin films, traps, TSC meas. *(Japanese)* 7—7423
  - $Bi_{12}SiO_{20}$, pure and doped crystals phys. props. 7—7283
  - $CdIn_2S_4$, electron trap characts., TSC meas. 7—27340
  - $CdIn_2Se_4$, energy spectra of local centres *(Russian)* 7—64150
  - CdS, integral exciton absorpt. coeff., temp. depend. characts. 7—45959
  - CdS thin films, deep trap depth, TSC meas. 7—58774
  - $Ga_{1-x}Al_xAs$ MIS and SIS structures, prep. by metallorganic chem. hydride method, electrophysical props. 7—22018
- **thermally stimulated currents** continued
  - GaAs semiinsulating LEC substrate, elec. homogeneity evaluation, thermally stimulated drain conductance meas. 7—32954
  - GaAs:V, photocond. props. and thermally stimulated currents 7—7284
  - GaAs-AlGaAs heterostructures, density of states of Landau levels 7—52822
  - $Ge_{28.5}Pb_{15}S_{56.5}$ glasses, surface pot. relax., TSC meas. 7—64261
  - HgI_2 solution-grown crystals, X-ray and γ-ray irrad. effect on elec. props., radiation detector performance 7—58838
  - LiD:Mg^{2+}, elec. props., X-irradiation effects, DC cond., dielec. loss and ionic thermocurrent meas. 7—27341
  - LiF, electrification mechanism during cleaving 7—44621
  - LiH:Ca^{2+}, elec. props., X-irradiation effects, DC cond., dielec. loss and ionic thermocurrent meas. 7—27341
  - $Mg_xCd_{1-x}Se$ single cryst. solid solns., local centres parameters determ. *(Russian)* 7—32953
  - MgO:Fe, gamma irrad., thermoluminescence and TSC studies 7—33464
  - NH_4Cl, undoped and Ni doped, TSC, polarisation meas., 150-500K 7—52645
  - NaCl:Eu^{2+}, gamma irrad., optical absorpt. spectra, TSC meas. 7—58337
  - NaF:Mg, doped and undoped, electron beam irradiated, thermoluminescence and thermally stimulated conductivity 7—7771
  - RbCl, divalently doped, ionic thermocurrent studies 7—7262
  - Si p-n structures, induced current pot., temp. depend., impurity levels, SEM 7—17073
  - Si_3N_4 MNOS structures, degradation, thermoactivational spectroscopic study 7—12872
  - $Tl_2Cu(SO_4)_2$, glassy γ-modification, structural and electronic props. studies 7—58161
  - YIG single crysts., thermodepolarisation studies *(Russian)* 7—33029
- **thermally stimulated depolarisation** *see thermally stimulated currents*
- **thermally stimulated discharge** *see thermally stimulated currents*
- **thermally stimulated ionic currents** *see thermally stimulated currents*
- **thermally stimulated polarisation** *see thermally stimulated currents*
- **thermally stimulated relaxation currents** *see thermally stimulated currents*
- **thermionic cathodes**
  - activated cathodes, process dynamics 7—33509
  - heavy-current cathode for X-ray tubes with electrostatic focusing *(German)* 7—24740
  - surface structure of thermionic-emission cathodes, EXAFS study 7—44970
  - Ar discharge, thermionic cathode double sheath-plasma interaction 7—1707
  - $Cs_2O-Al_2O_3-SiO_2$ thermionic cathode as efficient electron source 7—9923
  - IrLa(Ce) cathodes, thermal emission and sublimation 7—13317
  - W polycrystalline surfaces of thermionic cathodes, SEXAFS of absorbed Ba 7—64774
  - W-Os polycrystalline surfaces of thermionic cathodes, SEXAFS of absorbed Ba 7—64774
  - Y_2O_3 cathode, Van de Graaff 3 MV accelerator feasibility for short electron pulses generation 7—10314
  - Zr cathode, material and structural changes during arc operation in N_2 7—46866
- **thermionic conversion**
  - combustion heated thermionic energy converter, materials and preliminary design 7—65509
  - direct energy conversion R and D in Russia 7—13923
  - fuel element verification issues 7—65504
  - internal parameter determ. from current-voltage characts. 7—34051
  - open thermionic converter with vapour injection through collector 7—46960
  - output electric characteristics, effect of Nb:O^- polycrystal collector 7—44271
  - STAR-C thermionic advanced nuclear reactor space power system 7—65505
  - technology breakout in energy conversion, conf., San Diego, CA, USA (Aug. 1986) 7—60875
  - TRICE, thermionic in-core reactor with inductively coupled elements, second generation 7—65508
  - ultrahigh-temperature thermionic conversion in space nuclear power, material considerations 7—65506
  - work function and electron emission effects on thermionic converter parameters 7—34050
  - Cs and Ba Knudsen ultrahigh-temperature thermionic energy conversion for space nuclear power 7—65507
  - Si-C-W hot shells for thermionic energy converters, CVD deposition 7—27914
  - W-Re alloys, annealed and sintered, elevated temp. softening, appl. for thermionic energy conversion 7—28077
- **thermionic electron emission**
  - *see also Schottky effect; thermionic cathodes*
  - converter internal parameter determ. from current-voltage characts. 7—34051
  - fusion reactor, first wall, sheath potential and thermionic emission, wall temp. dependence 7—30651
  - metal surfaces, ion-electron emission mechanism 7—7825
  - metals, electron work functions in diglyme (diglyme-water), photo- and thermionic emission meas. 7—52731
  - metals, irregular surface, thermionic emission, thermodynamical treatment 7—64868
  - polyethylene dielec. thin films, hot-electron-induced damage and charge storage, electron spectra studies 7—27662
  - semiconductor grain boundary photovoltaic effect, scanning laser beam obs. anal. 7—12766
  - semiconductor superlattices, graded gap, carrier transport calc. 7—12848
  - surface junction solar cells, illumination and surface recombination effects on currents, anal. 7—34046
  - work function and electron emission effects on thermionic converter parameters 7—34050
  - n-GaAs/Ti-Pt system, Schottky barrier height, doping depend. 7—2708
  - GaAs-Al_xGa_{1-x}As-GaAs, perpendicular transport, tunnelling, thermionic emission studies 7—52781
  - n-Ga_xIn_{1-x}Sb:Se(S), impurity states, press. and comp. depend., Hall coeff. and elec. resist. meas. 7—2533
  - n^+-InGaAs/InAlAs/n^--InGaAs, conduction band discontinuity determ. by current-voltage meas. 7—7352
  - KCl, Frenkel defect recomb., thermally stimulated electron emission obs. 7—64869
  - Mo, adsorption of Ba and Cs, bonding energies, thermionic emission studies 7—12463

thermionic electron emission continued
  NaCl:Ag Frenkel defect recomb., thermally stimulated electron emission obs. 7—64869
  Nb, adsorption of Ba and Cs, bonding energies, thermionic emission studies 7—12463
  Nb:O^- polycrystal collector in thermionic converter, output characts. study 7—44271
  Si-C-W hot shells for thermionic energy converters, CVD deposition 7—27914
  UO_2, electron emission studies using laser and conventional heating techniques 7—7810
  W, electron emission studies using laser and conventional heating techniques 7—7810
  Zr cathode, material and structural changes during arc operation in N_2 7—46866
thermionic emission
  see also thermionic electron emission; thermionic ion emission
  activated cathodes, process dynamics 7—33509
  graphite monolayer, on Re surface, struct. and props., AES, TDS and thermionic emission anal. 7—45017
  transition metal cluster oxides, high-temp. multiphoton ionis. and fragmentation 7—36835
  zeolite A ion source, emission characts. 7—49776
  GaAlAs-Mo junctions, Schottky barrier height, electrical props. 7—64346
  GaAs-AlGaAs heterostructures, energy band alignment, thermionic emission of holes 7—13319
  Si:P, polycrystal. thin film, carrier transport, temp. depend. study 7—22043
thermionic generators *see thermionic conversion*
thermionic ion emission
  Li^+ triode ion gun, thermal emission, characts. meas. 7—39345
thermionic power generation *see thermionic conversion*
thermionic tubes
  see also cathode-ray tubes; electron-wave tubes; gas-discharge tubes; rectifier tubes; vacuum tubes
  gridded e^- gun for KEK e^+ linac, characts. *(Japanese)* 7—19608
thermionic valves *see thermionic tubes*
thermistors
  analogue thermistor thermometer for 0 to 100°C range 7—14943
  astable multivibrator based thermistor thermometer 7—9832
  detector for bolometric measurements on high temp. plasma 7—1734
  reference field strength meters with dipole antennas, appl. of thermistors 7—56232
  thermostat temperature stability meas. 7—41373
thermo-EMF *see thermoelectricity*
thermo-optical effects
  see also thermoreflectance
  α-2nP_2 cryst., refractive index temp. hysteresis 7—39071
  $\Delta^{2,2'}$-bi-(2H-1,4-benzothiazine), photochromism and thermochromism, quantum yield 7—46859
  ceramic colour standards, thermochromism 7—9867
  elastomers, impurity containing, exposed to laser pulses, thermooptic lenses, form. kinetics 7—51671
  fibre optic interferometric electrically tunable filter using the thermo-optic effect 7—37113
  fibre optic thermometer for medical appl., using thermochromic transducer and TDM technique 7—47276
  fibre optic thermometer using temp. depend. absorpt., broadband detect. and time domain referencing 7—50751
  focusing mirrors, thermooptic aberrations, heat transfer study 7—57509
  glass:Nd absorption thermometer with fluorescent referencing, fibre optic temp. sensor 7—25996
  metallic oxide thermostable reversible thermochromic materials *(Japanese)* 7—13140
  mirrors, thermo-optic aberrations with central holes 7—43303
  nematic liquid crystal films, laser-induced distortion, cavityless optical bistability due to thermal effects 7—57441
  nematic liquid crystals, optical modulation, high-speed 7—37131
  nonlinear waves of different physicomechanical nature in finite continua 7—18604
  optical glasses for disks athermality criteria 7—20376
  PMMA, refractive index, thermal variations 7—33369
  polarisation coupled resonators, spatial hole burning suppression 7—11074
  polydimethylsiloxane, refr. index and thermal expansion coeff. variations with temp. 7—39060
  polygermanes, alkyl substituted, soluble, thermochromism 7—64619
  polystyrene, refractive index, thermal variations 7—33369
  probe beam diffraction at laser induced thermal lens 7—20135
  salicylidenamines, thermochromic and photochromic, IR spectra, conformational influence 7—53310
  single mode fibres, temp. depend. of chromatic dispersion 7—31489
  switch, all-optical, using interaction between low power light beams in liquid film 7—25864
  thermal lens microscope, crossed-beam 7—18874
  thermally induced optical bistability with two holding beams investig. 7—57395
  Ag_2HgI_4, thermochromic phase transition, Raman and optical absorption studies 7—7680
  Al-coated fibre, high-temp. effects 7—11146
  CO_2 laser P(16) transition, temp. variation of linewidth 7—36934
  CdS films, superlinearity of light-current characts. 7—64282
  CdS thermally induced optical bistability study 7—11047
  InP refractive index and its temp. coeff. at 0.96 to 13 μm 7—39070
  Ir complex, $(NEt_4)_4(Ir(CO)_2 4,4',5,5'$-tetracyano-2,2'-biimidazole) mixed valence cpd., anisotropic conductor precursors identified by intermolecular charge transfer 7—7190
  $LiNbO_3$, temp. tuning coeff., meas. using SHG based interferometry 7—11051
  VO_2:W(Nb) for optical switching films 7—39198
thermochemical energy conversion *see chemical energy conversion*
thermochemistry
  see also chemical reactions
  actinides, physics and chemistry, handbook 7—24317
  alkali halide mixtures, binary, common-anion; correl. of thermochem. and phase-diagram data 7—3286
  direct work output from thermochemical energy transfer systems 7—54334
  hydride chemical heat pump thermodynamics, alloy selection 7—40023
  methylbenzyl radicals, photoelectron spectrosc., thermochem. 7—10664
thermochemistry continued
  phthalocyanines, thermogravimetric meas., 300 to 1000 K *(German)* 7—46863
  spiroindolinonaphthoxazine, in glassy polymer matrix, thermal reaction anal. by photochromism 7—54088
  water-methanol mixed clusters, H-bonded networks, stability, thermochemistry 7—62559
  $Al_{0.3}Ga_{0.7}As$, thermal and ion-assisted reactions with Cl_2 7—28349
  $C_5MnCl_2.2.4NH_3+4.8NH_3$, thermochemical energy storage, kinetic study *(French)* 7—17782
  Cl^-+H_2O (methanol)(acetonitrile), clustering reactions, van 't Hoff plots based on ab initio MO calcs. 7—28288
  Fe-Mg-Si-O system, phase equilibria at high press. and temp., thermochemical data base 7—21407
  Hi-H_2O-I_2 system vapour pressure determ. using static phase equilib. apparatus 7—23049
  NA high pressure lamps, Na loss reactions, thermochemical calcs. 7—65324
  SiC fibres, stability, thermomechanical analysis 7—33627
  Ti-Si, native contamination layer effect on interface props. 7—17104
thermochromism *see thermo-optical effects*
thermoclines *see temperature distribution*
thermocouples
  see also thermopiles
  air, negative corona, neutral densities and temps., optical interferometric and thermocouple studies 7—26569
  bath for reference junctions, using solid-state heat pump 7—14936
  Chromel thermocouples, mag. field effects *(Japanese)* 7—18784
  Chromel-Alumel, low-cost temp. indicator with digital readout 7—14942
  combined thermocouple-noise thermometry 7—14944
  differential AC method of thermopower measurement 7—48776
  dynamic behaviour of sheathed thermocouples under fieldconditions obs., using online identification 7—4848
  flame fluctuating temp. meas. by thermocouple 7—56264
  frequency responses in liq. Na 7—767
  high-temperature compensating leads for carbide thermocouples 7—48737
  low temperature measurement methods, thermometers and magnetic effects *(German)* 7—24652
  low-temperature measurement principles, thermodynamics and thermometer functions *(German)* 7—24651
  microbead surface temperature determination, IR, thermocouple and resist. thermometric techniques 7—30008
  online pressure and temperature calibration based on well-known phase transition 7—4853
  radiometer, thermocouple-type, design and characts. 7—48730
  scanning thermal profiler 7—41370
  solar receiver fibrous insulator, temp. meas. using thermocouples 7—59872
  surface temp. meas. of poor heat conducting materials radiation technique accuracy 7—26133
  temperature measurement, thermocouples and resistance temperature devices comparison 7—4852
  temperature measurement equipment review 7—35517
  thermoelectrode materials certification practices 7—304
  ultrahigh vacuum sample stub for heating and cooling with integral thermocouple 7—61346
  AuFe thermocouples, mag. field effects *(Japanese)* 7—18784
  NiCr-CuFe thermocouple, mag. field effects *(Chinese)* 7—24646
thermocurrents *see thermally stimulated currents*
thermodiffusion *see thermal diffusion*
thermodynamic changes of state *see phase transformations*
thermodynamic cooling *see cooling*
thermodynamic equations of state *see equations of state*
thermodynamic potential *see free energy*
thermodynamic properties
  see also critical points; enthalpy; entropy; free energy; Gruneisen coefficient; latent heat; specific heat
  actinide metal, compound and alloy props., conference, Aix en Provence, France (Sept. 1985) 7—9579
  actinide metals, solid state and thermodynamic props., f-electron bonding and struct., review 7—12321
  actinide-noble metal alloys, thermodynamic props., coupled reduction meas. 7—13752
  actinides, physics and chemistry, handbook 7—24317
  activity coefficient at infinite dilution, ambiguity in definition 7—6834
  1-alcohol-n-alkylaromatic cpd. systems, excess thermodynamic props. model *(German)* 7—2232
  alkali borate glasses, M_2O-B_2O_3, (M=Li, Na, K, Rb, Cs), thermodynamic props. 7—2211
  alkali halide mixtures, binary common-anion, phase diagrams, thermodynamic anal. 7—3287
  alkali halide solns. in water-acetamide mixtures, partial molal vol. meas. 7—58389
  alkali metal cation-halogen anion microclusters, structs. and energetics 7—8266
  alkali metal cyanide-halide mixed crysts., orientational glass state static props., microscopic model calcs. 7—63591
  alkali metal hydrides, inter-ionic bonding and thermodynamic functions, microscopic theory *(Russian)* 7—58198
  alkali metals, BCC, thermodynamic props. 7—6828
  n-alkanes C_6-C_{20}, nonpolar liqs., viscous flow, thermodynamic activation functions 7—6341
  n-alkylamine-n-dodecane systems, static dielec. consts. and excess molar enthalpies 7—59134
  alloy phase diagrams, thermodynamic modelling, direct use of chem. pot. function 7—7970
  alloys, interatomic interaction pots., temp. depend. investig. *(Russian)* 7—12314
  Anderson model, Bethe ansatz soln. and thermodynamic props. 7—2448
  Anderson model, Coulomb repulsion between localised and extended states 7—17157
  anharmonic effects in imperfect crystals, self consistent statistical theory 7—51984
  antiferromagnets, double sublattice, metamagnetic soft mode, spin dynamics, suscept. and thermodynamics 7—59012
  ascorbic acid radicals, stability, semiempirical MNDO calcs. 7—36480
  atomic systems 7—25336
  Base-Einstein condensation, free boson gas in thermodynamic limit 7—29873
  Bechgaard salts, thermodynamics of field-induced SDW states 7—7520

thermodynamic properties continued
benzonitriles, substituted, thermodynamic functions 7−52082
binary liquid mixtures, heat and mass transport 7−1559
biominerals, form. and stability, thermodynamics of ionic solid solns. 7−17936
Bose-Einstein condensation, critical density and thermodynamic functions 7−29872
bubble formation at submerged orifice using boundary element method 7−6272
ditert.-butyl malonate in dioxane-water media, acid-catalysed hydrolysis, kinetic and mechanistic studies 7−39884
cellulose acetate membranes, struct., kinetic and thermodynamic parameters 7−54172
cellulose complex, in water-methanol media, acidic props. *(Russian)* 7−63437
charge transfer compounds, thermodynamic and dynamic props. 7−59048
chloranil-mesitylene(benzene), charge transfer complexes, thermodynamic and spectrophotometric study 7−33950
composite materials, hygrothermal behaviour, new prediction methods 7−21492
continuous intergranular phases, morphological stability, thermodynamic considerations 7−21475
Coulombic systems, interacting, thermodynamic functions and self-energy 7−16963
crystal surfaces with quasi-liq. layer, thermodynamics 7−58605
deformation, linear reversible, thermodynamics 7−32551
dense fluid with square-well pot., quantum correction to radial distrib. function 7−209
diamond synthesis at low press., basic thermodynamics and kinetic conditions *(Russian)* 7−17486
DNA-salt solutions, thermodynamic coeffs., Monte Carlo calcs. 7−54443
ductile fracture, new-microvoid-damage model 7−26843
electric double layer, thermodynamic consistency of the modified Poisson-Boltzmann eqn. 7−33941
electrolytes, unassociated, ionic activities, hydration model 7−54081
electron liquid at any degeneracy, thermodynamic and dielectric props. 7−7135
ethane, adsorbed on graphite, phase transitions, thermodynamics and struct. anal., LEED obs. 7−32797
excess pressures for aqueous solutions 7−63843
ferrites, synthesis and sintering kinetics and mechanisms 7−13423
fluids containing small or large mols., thermodynamics, low-density and high-density contrib. 7−52077
fluorite-type AB$_2$ crystals, cohesive energy and thermodynamical props. 7−51692
freezing, density functional theory with reference liq., appl. to hard sphere system 7−16718
Gibbs-Duhem eqn. in separation calcs. 7−44847
glasses, thermodynamics, miscibility and phase separation 7−63498
grain boundary movement analogous to dislocation movement, anal. 7−6637
graphite, basal plane, adsorbed methane, bilayer and trilayer 7−2363
graphite surface with adsorbed methane, LEED 7−27129
growing crystal, correl. between chemoepitaxial temp. and thermodynamic characts. *(Russian)* 7−58704
halide glasses, phase equilibria, thermodynamic model 7−2150
heavy-fermion systems, thermodynamic props., lattice-gas anal. using heavy fermion-boson mixture 7−58505
Heisenberg antiferromagnetic chain, S=1/2 random-exchange, correlation effects 7−52928
Heisenberg classical easy-plane models, 2D, Monte Carlo studies 7−27542
Heisenberg ferromagnet, anisotropic, thermodynamic props., Monte Carlo Method calcs. 7−38894
hydrocarbons, liquefied, nonsteady discharge during rupture of pipelines 7−44057
II-V semiconds., cryst. growth, characterisation and appls., review 7−26685
II-VI-III-V systems, thermodynamics and reactivity 7−16790
III-V quaternary alloy semiconductors, thermodynamic anal. of MOVPE growth 7−16884
III-V semiconductor superlattices, pseudopotential approach to thermodynamic props. 7−7377
III-V semiconductor-metal interface, thermodynamic stability considerations 7−21490
III-V semiconductors, MBE, thermodynamic anal. 7−46328
III-V semiconductors, metal organic MBE and VPE growth, kinetic and thermodynamic aspects 7−7064
infinite-pressure excess functions and VLE *K* values from liquid-phase activity coefficients 7−16708
interfacial growth instability, scaling, simulation 7−44746
intergranular phase, continuous, morphological stability 7−63772
intermediate-valence system, fluctuations and photoemission props. calc. in tetrahedral-cluster model 7−39354
intermetallic hydrides, recent studies 7−21489
Ising model, lD, in a variety of random fields 7−33188
Laves phases, and struct. rel. cpds., interstitial site occupancy of H atoms 7−16549
liquid alkali metals, struct., total partition function and thermal props. calcs. 7−6502
liquid binary mixtures, excess props., predictions, Weeks-Chandler-Anderson type perturbation theory calc. 7−32247
liquid metal-alumina systems, nonreactive, thermodynamic adhesion *(French)* 7−54073
liquid water local percentage, thermodynamic meas. 7−50931
lithium n-heptanoate, heat capacities and thermodynamic props. 7−52072
lithium n-pentanoate, heat capacities and thermodynamic props. 7−52072
membranes, diffusion under strain, thermodynamics 7−44886
membranes, open pores, nonequilib. chemical pot. 7−23060
metal ions in liquid NH$_3$, normal pots. 7−39903
metal-ceramic interfacial props., thermodynamics 7−12506
metal-H systems, statistical thermodynamic aspects of bonding 7−6576
metals, ferromagnetic, elastic moduli anomalies, thermodynamic theory *(Russian)* 7−2080
metals, high temp. corrosion in sulphidising/oxidising environments 7−3494
metals, liquids, characteristic parameters, thermodynamic similarity methods *(Russian)* 7−44848
metals, thermodynamic functions of relative temps. 7−38225
metastable phase, parametric eqn. of state, use of linear model 7−58439

thermodynamic properties continued
methyl chloride dimer, liq. electrostatic induction, thermodynamic and struct. props. 7−57145
methyl isobutyl ketone-n-pentanol (isoamyl alcohol) excess functions, Gibbs free energies 7−6825
methylated Aerosil R-972, organophilic, alcoholic dispersions, coagulation by additions of water and electrolytes 7−8325
micellar solutions, equilib. thermodynamic props. and phase separation theory 7−46876
micelles and bilayers, chain statistics, surface roughness and internal energy effect 7−23052
mixtures, dilute behaviour near crit. pt. of solvent 7−26979
mixtures, thermodynamic description 7−44853
mixtures containing components with large difference in mol. size or pot. energy, phase equilibrium 7−52078
molecular struct. relaxation in flat channel, thermodynamics and kinetics 7−32583
monatomic systems, liq. and dilute gas, thermodynamics and transport props., MSK pot. calcs. 7−6826
multicomponent systems, association, thermodynamic functions *(German)* 7−21411
multicomponent systems, complete integration of Gibbs-Duhem eqn. phase boundaries *(Chinese)* 7−61298
NaCl single cryst., high temp. elasticity meas., rectangular parallelipiped reson. method 7−63714
nonelectrolyte liquids and their mixtures, eqns. of state and struct. 7−26898
nonelectrolyte solutions, supersaturation, estimation from solubility data 7−16755
nonideal Bose gas, chemical pot. and press., perturbation theory anal. 7−61222
nonpolar solutes, in water, thermodynamic props., hydrophobic hydration shells struct. 7−12317
one-component classical plasma, struct. factor, self-consistent approach *(Russian)* 7−58110
osmosis, solvent tension theory and thermodynamics 7−21063
oxide glasses, phase equilibria, thermodynamic model 7−2150
oxidic actinide cpds., systematic props., oxidation states, fluorite lattice and thermodynamic props., review 7−12013
parametric eqn. of state, metastable fluid phase, thermodynamic props. at stability boundary, linear scaling theory model calcs. *(Russian)* 7−2140
partial derivatives of thermodynamic properties 7−32682
perturbed soft-chain theory, thermodynamic props. prediction, group-contrib. correlation 7−16711
phase diagrams, thermodynamic formalism, computer calcs. 7−3269
phase transformations in solids, plastic deformation and thermodynamic hysteresis 7−16714
phase transition, transient problem steady-state problem 7−12236
plastisols, multicomponent, form., thermodynamics *(Russian)* 7−65359
polar-nonpolar molecule mixtures, anal. soln. 7−44336
poly-4-hydroxystyrene, dil. soln. props., light scatt. and viscosity meas. 7−39135
polyacenic skeletons, low temp. ordered states, superconductivity 7−64396
1,4-polybutadienes, thermodynamic flexibility, continuum model *(Russian)* 7−10802
polyester thermoelastoplastics, softening, thermodynamics *(Russian)* 7−63847
polyethylene, lamellas, thermodynamic characts., DSC investig. *(Russian)* 7−21422
polyethylene, oriented in heptane, uniaxial stretching, thermodynamics *(Russian)* 7−63731
polyethylene oxide-water system, high molecular, calorimetric obs. *(Russian)* 7−12325
polyformaldehyde plasma, optical and thermodynamic props. 7−11592
polymer solutions, thermodynamic props. 7−16386
polymer solutions, thermodynamic props. prediction by group contrib. method 7−32683
polymer solutions, thermodynamics, lattice theory, free volume theory and effective volume theory 7−32255
polymers, solns., molecular translational mobility, flow and thermodynamic swelling effects *(Russian)* 7−16393
polyoxypropylene diol, solns., structs. and thermodynamics near consolute temps. *(Russian)* 7−63435
polypropenylenes, thermodynamic flexibility, continuum model *(Russian)* 7−10802
polystyrene, solns., structs. and thermodynamics near consolute temps. *(Russian)* 7−63435
primary gas thermometry, harmful volume influence elimination, electro-physical method 7−310
propyne, thermodynamic props. *(German)* 7−52081
PTMM, synthesis, soln. props., chain flexibility 7−11890
pure liq. metals, ab initio variational thermodynamic calcs., hard-sphere Yukawa model 7−26606
quartz, solubility of water, thermodynamic model 7−16758
quasicrystal, two-dimensional, thermodynamic props., molecular dynamics anal. 7−21482
rare-earth magnets, spin reorientation phase transitions, fluctuation effects, critical behaviour *(Russian)* 7−52990
reaction involving minerals and aqueous solutions, program 7−28330
real fluid in critical region, eqn. of state, thermodynamic props. 7−58430
renormalisation group approach to thermodynamical variables 7−18733
rubber-epoxy materials exhibiting increased crack resistance, thermodynamic compatibility 7−17509
Sb$_2$O$_4$, thermodynamic stability, EMF obs. 7−46828
sd metals, liq., variational thermodynamic calcs. 7−12590
second virial coeffs., semi-theoretical correl., temp. depend. Lennard-Jones pot. calcs. 7−6749
semiconductors, anisotropic, electro-magneto-thermo-elasticity, extended irreversible thermodynamic approach 7−58394
semiconductors, electro-magneto-thermo-elasticity, classical irreversible thermodynamic approach 7−58393
shock waves, equation of state calcs. 7−21393
simple gas, free expansion anal. by use of first law of thermodynamics 7−16293
sintering thermodynamics, problems in nomenclature and symbols 7−64962
slab with spatially varying surface temp., thermal explosion 7−54129
sodium p-n octylbenzenesulphonate, aq. solns., micelle form., acoustic and rheological props. 7−13823
solid samples meas., by adiabatic pressure variation method 7−2230
solubility and enhanced tension of solute in soln. 7−21066

thermodynamic properties continued
solutions, thermodynamic description 7—44853
spin 1/2 triangular antiferromagnet, thermodynamic props. 7—59046
steam, thermodynamic properties, computer calc. algorithm 7—51374
steam-water mixtures, thermodynamic equilibrium during loss from reactor 7—49577
steel, austenitic stainless, FCC lattice, stacking fault energy calcs. *(Russian)* 7—12081
steel, C, thermodynamics of phase boundaries 7—65007
steel, Cr-Mo, thermodynamic props. of carbides, 985K 7—17536
structural phase transitions in highly anisotropic systems, dynamics 7—32605
sulpholane-benzene (toluene)(p-xylene)(mesitylene), ultrasonic speeds, compressibility and excess molar quantity at 303.15K 7—26870
superconductors, type II, magnetic instability, thermodynamic anal. 7—52921
terminal solutions, modified regular-soln. model 7—26980
thermal desorpt. kinetics, surface phase transitions influence, compensation effect 7—13815
thermophysical properties, calcs., microcomputer interactive FORTRAN programs 7—11260
three-spin box product interaction, mag. transition 7—17180
two-centre Lennard-Jones fluids, phase equilibria 7—32610
two-component plasmas, strongly degenerate, thermodynamics 7—16962
universal eqn. of state of solids, temp. effects 7—44736
N-vinyl carbazole-alkyl methacrylate random copolymers, thermodynamic props. *(Russian)* 7—26982
water between metal walls, Monte Carlo simulation, struct. and thermodynamic props. 7—11881
water-LiBr absorption cooling system thermodynamic design data 7—23208
Ag-Au-Zn ternary system, liq., thermodynamic functions *(German)* 7—44856
Ag-In (Sn)(Sb)(Ge), liq., activity coeffs. of O 7—3284
Ag-Zn intermetallic phase, reversible electrode 7—17802
Al binary alloys liq., thermodynamic props. *(Korean)* 7—26978
Al-Zr(Nb)(Mo), molten, thermodynamic props. 7—21450
An-In liq. alloys, magnetic and thermodynamic props. 7—2812
Au thermodynamic props., universal eqn. of state of solids 7—44736
Br^-, in ethylene-glycol (ethylene glycol-water), primary medium effects 7—12313
CO_2-Ne soln. thermodynamic props. near CO_2 vaporisation crit. point 7—12316
$CaCO_3$-$CaSO_4.2H_2O$-NaCl-CO_2-H_2O, solubility in 4-phase systems, thermodynamics 7—2210
Ce impurity system, degenerate Anderson model, Bethe-ansatz soln. 7—2559
Co-B alloy, amorphous, thermodynamic, thermomag. and struct. studies *(French)* 7—16438
Co-Ni-Mn system, thermodynamics and phase equilib. 7—65008
$CoGa_2O_4$, crystal growth, chemical vapour transport, struct., mag. and electronic props. 7—53517
CoO-H_2O and Co_3O_4-H_2O systems, hydrothermal equilib. thermodynamic props. of $Co(OH)_2$ 7—39492
CoO-NiO system, immiscibility 7—38202
Cr_2BeO_4 multi-sublattice antiferromag., elec. polarisation, magnetoelec. effect calcs. *(Russian)* 7—7577
Cu ionic clusters, evaporation, evaporation ensemble approach, unimol. rate consts. effects 7—62562
Cu-Ag, surface segregation 7—44829
Cu-Ag-Pb system, thermodynamic optimisation 7—46421
Cu-Al-Mg alloys, complex oxide form. and precipitate morphology *(Russian)* 7—33664
Cu-Li, prep. and props. 7—53663
2-Cu-Ni-Sn solid solutions, ternary diffusion and thermodynamic interactions 7—52159
Cu-Si alloys, thermodynamic props. determ. by Knudsen cell mass spectrometry 7—26976
Cu-Zn system, phase equilib., thermodynamic evaluation 7—3271
Cu-Zn-Al, liq. alloys, activity of Zn *(Japanese)* 7—53698
Cu-Zn-Ni, liq. alloys, activity of Zn *(Japanese)* 7—53698
$CuInS_2$, chemical transport, thermodynamics 7—7832
DCl, molar vol., vapour press. meas. 7—44779
Dy-Tb-Pd(Pt) ternary alloys, evaporation, thermodynamic props., Knudsen effusion method 7—32627
$EuXO_n$, (X=Group, IV, V or IVA element), gaseous, stability 7—38224
Fe and alloys, molten, N solubility, statistical thermodynamics 7—52060
Fe, polymorphism interpretation 7—51700
Fe-Co, liq., thermodynamic mixing functions, Knudsen cell mass spectrometry *(German)* 7—21470
Fe-Cr, liquid alloy, N activity coeff., soln. model for nonmetallic solutes 7—65043
Fe-Cr system, thermodynamic characts., mass spectrometry 7—53736
Fe-Cr-Mn-Ni-C system, phase relationships at solidification temps. 7—28014
Fe-Cr-Ni-C system, phase relationships at solidification temps. 7—7969
Fe-Cu alloys, phase transformations, SANS studies 7—53747
γ-Fe-Cu-C, C activity, effect of Cu 7—13432
Fe-Mn-C, FCC, energy of complex packing defects, calc. *(Russian)* 7—58263
Fe-N system, phase diagram, thermodynamic calc. 7—7973
Fe-Ni, liquid alloy, N activity coeff., soln. model for nonmetallic solutes 7—65043
Fe-Ni-W system, phase equilib., expt. and theoretical study 7—28013
Fe-Pd-N austenite, thermodynamics, 1315-1538K 7—13429
Fe-Pt-N austenites, thermodynamics 7—63844
Fe-Zn, intermetallic phase, reversible electrode 7—17802
FeO_x, wustite, molar thermodynamic properties, thermogravimetric anal. *(French)* 7—26981
Fe_3O_4-$ZnFe_2O_4$ system, thermodynamic props., EMF obs., X-ray diffr. 7—22646
$Fe_3(1-\delta)O_4$, magnetite, synthesis, crystal growth and characterisation 7—2647
p-GaAs/electrolyte, photoelectron emission spectra, thermodynamic consts. 7—12856
$Ga_xIn_{1-x}P_yAs_{1-y}$, solid solns., thermodynamic stability 7—21453
Ga_2O_3, chem. transport in Ga_2O_3/N-H-Cl system 7—53519
Ge, thermodynamic interrelation between amorphous, diamond cubic and liquid states 7—12245
H overpotentials on Pd(Pd alloy) electrode surfaces 7—23031
H_2, thermodynamic properties, semiclassical limit 7—51373

thermodynamic properties continued
HCl, molar vol., vapour press. meas. 7—44779
HCl-$SrCl_2$ mixed electrolyte, thermodynamic study, appl. of Pitzer's eqns. 7—33940
H_2SO_4, 1-1 electrolyte theory 7—9631
^3He, liquid, thermodynamic props., lattice-gas anal. using heavy fermion-boson mixture 7—58505
^4He, superfluid, fractal surface, third sound, capillary condensation 7—27041
$HfC_xN_{0.93-x}O_{0.07}$, thermodynamic props. in temp. range 298 to 1500 K 7—44854
$Hg_kPb_{1-k}Se(Te)$, quasiternary system, quasibinary phase diagrams 7—38172
In nonequilibrium superconductor, Bernoulli effect meas. *(Russian)* 7—7455
In superconducting film, nonequilibrium phenomena under quasiparticle injection *(Chinese)* 7—27465
In-Pb, liq., activities, temp. depend., EMF obs. *(Japanese)* 7—12320
In-Tl, liq., activities, temp. depend., EMF obs. *(Japanese)* 7—12320
p-InP/electrolyte, photoelectron emission spectra, thermodynamic consts. 7—12856
K^+, in ethylene-glycol (ethylene glycol-water), primary medium effects 7—12313
$KSFO_3$, vibr., force consts., IR spectra 7—19837
$KZnF_3$, heat capacity, thermodynamic functions 7—52071
$LaNi_5H_n$:O, dissociation press., O content depend. 7—63825
Li ion pairs in tetrahydrofuran, indicator scale rel. to C acidity 7—51602
Li vapour, thermodynamic props. at press. 10^2 to 10^7 Pa and temp. 1000 to 3000 K 7—57975
Li/K Cl, molten, struct., thermodynamics, theory 7—37831
$LiAlO_2$, surface adsorpt. isotherms, T inventory appl. 7—52246
$LiNaSO_4$, BCC, rotator phase, solid electrolyte behaviour, thermodynamic props. 7—21139
$Li_xNa_yTiS_2$ intercalated dichalcogenides, struct., electrochem. and thermodynamic props. studies 7—21167
$MgCl_2$-$CaCl_2$ melts, thermodynamic props. 7—26977
$Mn_{0.794}Cr_{0.206}$ alloy, sigma phase, heat capacities 7—52073
Mo, thermodynamic stability in a fusion reactor environment, H, O and C implantation and diffusion 7—49658
MoO_x-WO_x, H insertion, struct. and thermodynamics 7—16506
NH_4ZnF_3, heat capacity, thermodynamic functions 7—52071
Na, crysts., BCC and FCC, thermophys. props., mol. dynamics calcs. 7—2229
NaCl, thermodynamic props., universal eqn. of state of solids 7—44736
Na_2O-SnO_2-SiO_2, glass, diffusion of cations, 500-800°C 7—12371
Nb-Li alloys, interstitial impurity distrib., thermodynamic anal. *(Russian)* 7—32430
Nb-V:O system, solute atom trapping, O diffusivity, kinetics and thermodynamics 7—12368
Ni-base superalloy, oxidation in steam at 800°C, role of Al and Ti 7—65203
Ni-Zn, intermetallic phase, reversible electrode 7—17802
NiO-CuO solid solutions, tweed microstruct., investig. using TEM 7—44756
Pb/PbSn, chem. diffusivity of Sn in Pb, expt. determ. 7—63887
Pb-Bi system, heat of fusion *(Russian)* 7—44766
Pb-PbO_x-Pb tunnel junction I-V characts., Pb film quasi-particle effective chem. pot. calcs. 7—22065
Pb-Sn, cellular transform., directional invariance of grain boundary migration 7—22695
Pb-Sn-Ag system, eutectic temp. rel. to Ag content, phase diagram, thermodynamic props. 7—65005
$Pb(S_{1-x}Te_x)$, quasibinary, phase diagram and miscibility gap calcs. 7—16764
$PbTi_xZr_{1-x}O_3$ piezoceramic, annealing in gaseous media with controllable comp., effect on electrophysical props. 7—8012
Pd-B alloys, thermodynamic props. *(German)* 7—21486
Pd-H, and substitutional alloys, thermodynamics of dil. solns. 7—21480
Pd-Y-H ternary solid soln., H diffusivity 7—63866
Pt-Pd phase diagrams, thermodynamic calc. from expt. data on solidus temp. 7—3274
Pt-Ph phase diagrams, thermodynamic calc. from expt. data on solidus temp. 7—3274
Sb-Ge-Zn system, thermodynamic investig. *(German)* 7—53703
Sc-Bi alloys, thermodynamic props. and phase equilib. 7—3276
Sc-Ga(In)(Sb), alloy form, thermodynamics 7—22637
Si, thermodynamic interrelation between amorphous, diamond cubic and liquid states 7—12245
Si-C-O system, predominance diagrams, thermodynamics of Si and SiC prep. 7—22645
SiC fibres, stability, thermomechanical analysis 7—33627
α-SiC, static fatigue limit at elevated temps., thermodynamics 7—17629
SiO_2-Al_2O_3 vitreous systems, low temp. sp. ht. and thermodynamic props. study 7—63842
SiO_2-TiO_2 vitreous systems, low temp. sp. ht. and thermodynamic props. study 7—63842
Sn-Bi system, heat of fusion *(Russian)* 7—44766
Tb-Pd alloys, thermodynamic study by Knudsen effusion method 7—44855
Tc-C system, phase diagram and components activity 7—7962
$(Ti,Mo)O_2$ solid solution, activity-comp. relationship, 1350 to 1600K 7—28019
$UMoO_6+CaO=CaMoO_4+{}^1/_3U_3O_8+{}^1/_6O_2$, free energy of form., thermodynamic feasibility 7—13753
UO_{2+x}, stoichiometry, thermodynamic analysis of point defects, 600-1400°C 7—16550
$U_{1-x}Pu_xC$, mixed carbide fuel, thermodynamic props., effect of O and N impurities 7—58507
V-Ti-Fe-H_2 system, V-rich, dihydride form., lattice parameters, thermodynamics 7—32369
W, thermodynamic stability in a fusion reactor environment, H, O and C implantation and diffusion 7—49658
Xe, thermodynamic props., universal eqn. of state of solids 7—44736
$Xe(H_2O)_n$, NMR and thermodynamic parameter determ. 7—50195
Yb impurity system, degenerate Anderson model, Bethe-ansatz soln. 7—2559
Zn-Ho alloy, two-phase, partial thermodynamic props., 690 to 1020K 7—7963
$ZnCr_2O_4$, crystal growth, chemical vapour transport, struct., mag. and electronic props. 7—53517

thermodynamics
see also atmospheric thermodynamics; critical phenomena; entropy; equations of state; Joule-Thomson effect; statistical mechanics
Ala dipeptide in free space and water, conformational stability and flexibility, Monte Carlo studies 7—8486
alkaline batteries, thermodynamic framework for efficiency estimation 7—3636
anisotropic fluids, viscous behaviour, transport phenomena 7—32272
anisotropic interface tension, scaled interface width and equilib. shape in 2D, relationships 7—12401
anisotropic solid, heat conducting second sound and internal energy 7—57669
atom, interacting with blackbody radiation, thermodynamic perturbation theory 7—910
axial decorated Ising model with competing interaction, phase diagram and thermodynamics 7—14875
Bethe method, thermodynamics and limit states 7—61307
Big Crunch, strong black hole thermodynamics, unified geometrical approach 7—4749
binary fluid mixtures, comparative anal. by extended irreversible thermodynamics and kinetic theory 7—16290
black hole accretion MHD, entropy accretion rate and moving black hole accretion 7—14599
Bose-Einstein condensation in second-quantised boson field 7—29874
Brayton cycle engines with reciprocating work components, thermodynamics realities 7—65518
Brayton cycle with positive displacement compression and expansion, piston-speed-related inefficiency effect on performance 7—65519
Callen postulate system, extension to negative absolute temp. domain 7—48652
Carnot cycle, heat flows and work, diagram 7—56
centrosymmetric crystals, symmetry of nonlinear kinetic coeffs. 7—4792
chemical potentials and activities, electrochem. introduction 7—9632
chlorobenzene-nitrobenzene mixtures, dielectric absorpt. meas. in microwave region 7—53211
classical and statistical thermodynamics 7—29958
classical Toda lattice, sine-Gordon thermodynamics, Bethe-ansatz eqn. anal. 7—61272
complex temperature plane zeros, scaling theory and multicritical mean-field models 7—56202
computational continuum dynamics, introduction 7—4800
continuum models with no phase transitions 7—41317
convection-diffusion equations, bracket formulation 7—6214
correlations and fluctuations in charged fluids 7—56149
cosmic microwave background, entropy of perturbed background radiation 7—66791
crystal growth, conf., York, England (Jul. 1986) 7—48142
crystal growth, interfacial, surface angles at three phase line, melt solidification conditions, thermodynamic analysis 7—27889
de Sitter symm., spontaneous breaking by radiative effects 7—35373
diffusion, mobility and Einstein relation for stationary nonequilibrium state 7—48651
dilute gas, geometric expansion of boundary free energy 7—48518
dimer model on square-, bathroom tile lattices, entropy calcs. 7—61262
disequilibrium and self-organisation, book 7—24328
dissipation, lower bounds in composite systems 7—48662
dissipative flows, local dimens.-2 bifurcations, nonequilibr. pot. 7—61302
dynamic ensemble theory tested for classical 1D oscillators 7—29868
dynamical system, time ordering and thermodynamics of fractal invariant measure 7—4790
dynamical systems and statistical physics conf., Koszeg, Hungary, Aug.-Sept. 1984 7—48194
dynamical theory reductions 7—24612
early universe, possible violation of thermodynamic equilibrium 7—48118
early Universe extended thermodynamics 7—9557
efficiency maximization by controlled boundary conditions 7—24610
elastic and viscoelastic bodies, state of stress and strain during phase transitions 7—29961
elastic moduli of classical system, wall theorem 7—29867
entropy of mixing and lost work 7—29628
equilibrium adiabatic flow, thermodynamic existence conditions for phases 7—31891
equilibrium under long-range, forces, SCF and fixed-external-field formulations equivalence 7—48664
equilibrium under long-range forces, calc. including gravity 7—48663
equivalence in statistical mechanics, approximating Hamiltonian method 7—18685
extended irreversible thermodynamics, linear Burnett coeffs. and thermodynamic fluctuations 7—285
extended thermodynamics of ideal gases with 14 fields 7—56197
Fermi liquid, normal, thermodynamics, nonlinear corrections 7—48534
ferroelectrics, thermodynamics equilibr. critical exponents and stability 7—12237
ferromagnetic Ising model, thermodynamics, Monte Carlo simulation 7—29939
fibrous medium, thermally induced hygroscopic mass transfer 7—44037
first-order phase transitions, classification 7—14907
formulae analysis, through group charact. theory 7—9754
gas dynamics, quasi-equilibrium, thermodynamic theory 7—51204
graph partitioning and statistical mechanics, Monte Carlo simulation 7—48522
harmonic oscillator, thermal averages and Bloch's second theorem 7—48657
heat conduction, continued fraction expansions, thermodynamic aspects 7—11249
heat equation with absorption, singular soln. 7—37318
heat exchanger design, thermoeconomic perspective 7—65516
heat pump system, thermoeconomic optimisation 7—23210
heat theory principles, historically and critically elucidated, book 7—48265
Heisenberg paramagnets, thermodynamics, influence of crystal field anisotropy 7—12988
hierarchical vector-valued ϕ^4 model, Maxwell rule and phase separation 7—48634
Hubbard model, degeneracy and quantum effects 7—7469
hydride chemical heat pump thermodynamics, alloy selection 7—40023
ideal gas diffusion through porous plug, finite-time thermodynamics 7—31914
ideal gas mixtures, extended thermodynamics 7—56199
industrial heat pumps, novel approach to placement, sizing and selection 7—65527
information and thermodynamics 7—29955

thermodynamics continued
interacting multilevel systems with single order parameter, thermodynamical model, state eqn. 7—6756
interaction round a face model, free energy expression 7—196
intermediate valence systems with two magnetic configurations, thermodynamic perturbation theory 7—64182
interstellar shock waves, limits of validity of isothermal approximation 7—60742
irreversibility for homogeneous active systems 7—14902
irreversible, phenomenological coeffs. in cases of dependent fluxes or forces 7—9808
irreversible processes, general governing principles, entropy prod. 7—61301
irreversible processes, Lagrange formalism 7—24617
irreversible processes, linear and nonlinear, variation principle 7—9810
irreversible processes and Onsager relations 7—29865
Ising ferromagnet, fixed spin influence on thermodynamic behaviour 7—38887
Ising model, 3D thermodynamic functions at $T>T_c$ *(Ukrainian)* 7—9781
isoenthalpic-isobaric ensemble, fluctuation formulae 7—279
lakes and oceans, 1D models of thermal stratification 7—55076
Langevin equation, derivation for systems interacting with a thermal bath 7—24613
lattice Bose gas in 1D, equilibrium thermodynamics 7—61276
liquid theory, direct correl. function, thermodynamic characts. 7—58117
low temperature thermal engines, problems with entropy 7—24618
low-grade heat sources, Rankine vs. trilateral cycle engine comparison 7—3714
low-temperature measurement principles, thermodynamics and thermometer functions *(German)* 7—24651
magnet properties, thermodynamic pot. technique 7—41327
Markov informational representation of evolutions 7—61232
mass and linear momentum concepts in Galilean thermodynamics 7—56198
mass transport in porous media, macroscopic balance laws 7—57914
mechanical work, discussion on use of conventions *(Spanish)* 7—61306
metal hydrides, thermodynamics of hysteresis at high pressures 7—39911
metallic materials, crystal to glass transform., kinetics and thermodynamics 7—44399
metals, stress application, irreversible thermodynamics 7—28098
micellar aggregates, packing of semi-flexible chains, statistical thermodynamics approach 7—28357
microscopic background 7—29957
microscopic system, high press. effects, P,T thermodynamic description 7—48655
microscopic system, high press. effects, P,T thermodynamic description, appls. 7—48656
mixed-lipid membranes, electrokinetic effects, nonequilibrium thermodynamics 7—54495
multicomponent fluids, eqns. of motion, thermodynamical derivation 7—48653
multicomponent Ising model with complex thermodynamic parameters, phase coexistence 7—29942
multicomponent mixtures, partial molar props., computer calc., operational definitions 7—28329
N-level systems, quantum Markovian master eqn., evolution matrix in coherence vector formulation 7—48539
non-Newtonian fluids, thermodynamic restrictions calc. 7—11476
nonequilibrium ensemble dynamics 7—61214
nonequilibrium processes, computer simulation 7—18688
nonequilibrium thermodynamic appls. to liq. spreading and capillary flow 7—6920
nonequilibrium transitions, mass and energy flux 7—12252
nonlinear irreversible processes, variational principle for entropy prod. 7—41324
nonlinear response theory, time-depend. dynamical invariants, nonequilib. thermodynamics appl. 7—29959
nonuniform fluids, one-particle density calcs. 7—278
nuclear matter thermodynamic properties, anal using saturating chiral field theory 7—24948
open reactive systems, centre manifold onset, far-from-equilib. fluctuations scaling, virtual size parameter calcs. 7—35484
optimization rules in thermal cycle models 7—65520
P-T-X phase diagrams calc. using FORTRAN 77 programs PT-SYSTEM, TX-SYSTEM and PX-SYSTEM 7—38161
particle in a box, thermodynamics 7—41238
particles adsorbed on spherical surface, statistical thermodynamics, canonical ensemble 7—41231
perfluorinated Nafion 120 membrane, NaCl transport, hydrated species interactions 7—33968
phase equilibria, thermodynamics, review *(Japanese)* 7—38226
phase interfaces, boundary-layer theory for dynamics and thermodynamics 7—26909
photon gas, Bose-Einstein condensation in thermal equilibrium 7—29885
piston expander, balanced pressure, ideal cycle analysis 7—56275
polymer melts, elongational flow, thermodynamics nonlinear theory 7—43991
property energy, definition by first postulate of thermodynamics 7—18731
QCD, finite temperature Monte Carlo simulations 7—61567
quantum crystals, thermodynamics and eqns. of motion 7—32744
Rankine cycles optimisation for low temp. heat recovery 7—65523
Ranque-Hilsch tube, demonstration of second law of thermodynamics *(Spanish)* 7—14746
relativistic extended thermodynamics, classical limit 7—56196
relativistic nonequilibrium thermodynamics, tensorial local equilib. axiom and evolution operator 7—14901
remote sensing, thermodynamical approach *(Russian)* 7—9242
rough sphere dense gas kinetic theory 7—31910
scaling laws and universality of critical phenomena in an external field 7—14906
Schwarzschild black hole with cosmic string, thermodynamics and metric 7—18660
self-organising systems, information, information gain and efficiency 7—41326
self-organising systems, synergetic information vs. Shannon information 7—56204
semi-infinite 1D system of point particles, Bernoulli flow and thermodynamics 7—48530
silicide oxidation, thermodynamics and kinetics 7—22863
sine-Gordon model, exact Bethe-ansatz thermodynamics, long string effects 7—35393
sine-Gordon thermodynamics using Bethe ansatz, classical limit 7—41319

thermodynamics continued
solid metal-metallic melt systems, phase interactions, interface energies 7−3273
solids with microcracks, fatigue failure self-similarity, static thermodynamics 7−31706
spin glass models, effective decrease of long-range interactions 7−59036
square-lattice-gas model with anisotropic repulsive interactions, multicritical behaviour, transfer-matrix scaling 7−41291
statistical methods, conf., Oaxtepec, Mexico, Jan. 1986 7−24268
statistical physics and field theory conf., Groningen, Netherlands, Aug. 1985 7−55899
Stirling engine, gas-fired, 3 kW, perform. anal. and improvement 7−65541
substance macroscopic properties; MINDO/3 semiempirical approximation program calc. 7−10434
surfaces and interfaces, singular, virtual power method appl. 7−4682
symmetry-breaking transitions, state selection 7−48661
thermal equilibrium, statistics and thermodynamics 7−9806
thermoelasticity, thermodynamic and energetic forces 7−26212
Toda lattice, thermodynamics as classical limit of two-component Bethe ansatz scheme 7−41304
transport in porous media, generalised Darcy's and Fick's laws 7−57915
transport processes in field of extremals, osmosis and reverse osmosis 7−17824
transport theory connection with extended thermodynamics 7−29953
tribromoacetonitrile, force field and thermodynamic fns. 7−30960
two-dimensional rotor system, relaxation processes 7−9807
virtual power and thermodynamics for electromagnetic continua with interfaces 7−48654
viscoelastic materials, extended irreversible thermodynamics description 7−16077
viscoelasticity, linear, irreversible thermodynamics 7−6171
zeroth law of thermodynamics, quantum system thermodynamical equilib. 7−14905
CeO_{2-x}, thermodynamic model for nonstoichiometric ionic phases 7−32673
Co complexes and related cpds., aq. soln., densities, viscosities and electrolytic cond. *(Japanese)* 7−12347
H, ideal gas, modified Gibbs state 7−44087
H_2 production processes, thermodynamic perform. anal. and comparison 7−65650
H_2O-LiBr absorption heat pumps, thermodynamic design data, heating 7−23209
$LaNi_{4.77}Al_{0.22}$-$LaNi_5$, hydride chem. heat pump, thermodynamics 7−13926
NaCl soln., salt vel. correl. functions, microscopic interpretation 7−12338
Ni-Ti, Nitinol, thermodynamics 7−58506
Si, oxidation, UV laser-induced 7−65234
Si_3, gas, isomers, thermodynamics 7−25350
SiO, oxidation, UV laser-induced 7−65234
ZnTe, chemical vapour transport and homoepitaxial growth in closed-tube system, thermodynamic analysis 7−33582
ZrC and ZrO_2, chemical vapour deposition, thermodynamic conditions *(French)* 7−27938

thermoelasticity
see also thermal stresses
acceleration wave propagation and evolution in thermoelastic solids *(Italian)* 7−20616
anisotropic, generalised, plane harmonic wave propag. 7−6093
boundary integral methods for thermoelasticity problems 7−11296
ceramic part, heat resistance under two-dimens. strain conditions 7−59630
coal, thermal charactn., piezoelectric photoacoustic microscopy 7−44643
composite media, thermoelastic waves, photothermal generation 7−44685
composite with periodic structure, coupled problems of thermoviscoelasticity 7−16074
contour integral and energy release rate 7−26147
coupled dynamic thermoelasticity, approx. solns. 7−16062
crystalline rods, thermoelastic stresses and temps., asymptotic calc. 7−32542
cylinder, circular, sliding over dissimilar thermally conducting half-plane 7−20666
cylinder, thermoelastic, longitudinal wave propag. 7−1474
defect and fracture mechanics, conf., Bad Honnef, Germany (Jan. 1985) 7−24260
domain with cut, stress intensity coeffs. in quasistatic temp. problems, asymptotic form 7−26152
finite compression of solids, second order thermoelastic anal. 7−43708
flexible structure, local region, optimum profile of temp. field 7−31652
geophysical media, thermoelasticity of two-phase media with mass exchange between phases 7−55034
half-space heated by laser radiation, thermoelasticity generalised dynamic problem 7−1476
heat-flux dependent micropolar thermoelasticity 7−6092
IR based stress analysis technique 7−31723
Kevlar 49-285 style fabric for space structures use, thermoelastic behaviour 7−37329
Lamb's plane problem in thermoelastic solid 7−6128
laminate flaws, pulsed photothermoelastic quantitative eval. 7−54048
laser-generated ultrasound, epicentral waveforms 7−1356
linear thermo-microelasticity, first boundary initial value problem 7−57686
materials, photothermal methods of optical charactn. 7−28249
mean stress dependence of the thermoelastic constant 7−65248
nonlinear electro-magneto-thermo-elasticity, steady-state problems 7−37331
nonlinear eqn. soln., singularities development 7−37341
nonlinear waves of different physicomechanical nature in finite continua 7−18604
optimal thermoelastic designs in case of fixed stress and deform. fields. 7−1417
planar boundary contact problem with cracks *(German)* 7−6166
plane problems of thermoelasticity, thermal stress components, integro-differential correlations *(Ukrainian)* 7−11281
plastic film covered steel plates, thermoelastic props. meas. 7−33713
plate, semiinfinite, heated by moving heat source, thermoelasticity problem, welding-anal. 7−1419
plate, three-dimensional, thermoelasticity problem, effect of matching conditions 7−29757

thermoelasticity continued
plates, thick, vibr. problems, thermoelastic reciprocal theorem *(Chinese)* 7−1461
PMMA, temp. change during rapid compressive deform., thermoelastic coeffs. 7−13495
polyester thermoelastoplastics, softening, thermodynamics *(Russian)* 7−63847
polyethylene, high density, temp. change during rapid compressive deform., thermoelastic coeffs. 7−13495
polymer, thermoviscoelastic properties prediction in complex stressed state 7−17573
porous material, rheological model, applic. to powder densification by hot isostatic pressing *(French)* 7−13400
quartz plates, doubly rotated, thickness vibr., frequency-temperature behaviour 7−20624
Rayleigh waves, thermooptic excitation efficiency 7−6954
rock, thermoelastic response of fluid-saturated porous media 7−14267
rod, curved elastic, vibrs. in plane of curvature during heating 7−43751
rod, nonlinear, viscoelastic, longitudinal vibrs. and heating 7−1478
rod, nonuniformly ageing viscoelastic, with small deform., thermal stability 7−11317
semibounded medium with thermal memory, thermoelastic acceleration wave propag. 7−43677
semiconductors, anisotropic, electro-magneto-thermo-elasticity, extended irreversible thermodynamic approach 7−58394
semiconductors, electro-magneto-thermo-elasticity, classical irreversible thermodynamic approach 7−58393
shell, cylindrical, thermally sensitive, stress-strain state analysis using displacement theory 7−16068
shells, 2D nonlinear eqns. 7−57685
shells, layered composite, thermoelasticity 7−31649
shells, linear thermoelastic, mech. contact, uniqueness theorem 7−37340
sliding half-planes, transient contact problem, thermoelastic instability 7−43810
solid state laser systems heat transfer and thermoelasticity effects, alternating direction implicit method 7−50567
solids, thermophysical props., predictions 7−44841
SPATE stress measurement system, calibration and qualitative assessment 7−31726
spectral analyser for meas. of thermomechanical response of solids to low-frequency dynamic loads 7−43814
spectral theorems via eigenfunction expansions 7−26149
sphere crystallisation; thermoelastic stresses in weightless conditions 7−1424
stainless steel plate, thermoviscoelastic stress analysis 7−2092
steel, martensitic transformation, residual stresses establishment 7−33657
steel, notched specimens, cyclic deform., thermoelastic effect *(German)* 7−33746
stress analysis of randomly loaded structures, using IR technique 7−31724
styrene-butadiene rubber, thermoelastic coeff. Gruneisen parameter, thermal effects 7−39576
superconducting elastic crystals, constitutive theory 7−26826
thermal loading, transient heat transfer thermo-elastic anal. 7−50951
thermodynamic and energetic forces 7−26212
thermoplasticity with simple loading processes, 3D problems soln. 7−31641
thermoviscoelasticity, homogenisation and mechanical dissipation 7−43666
toroidal solenoid, thermomech. loaded, optimal design 7−57695
transient coupled thermoelastic crack problems 7−37391
transient generalized thermoelastic waves in a transversely isotropic half-space 7−63031
two-dimensional wave propagation in a thermoelastic layer, couple stress effects 7−63030
variational and reciprocal principles in micropolar thermoelasticity 7−57689
weak solution uniqueness in linear thermoelasticity 7−62981
Al, SAW generation by thermoelasticity for nondestructive testing appl. 7−44981
Cu-He system, closed swelling layer, internal stress distrib. *(Russian)* 7−59571
Cu-Zn-Al, thermoelastic, two way memory effect, dislocation form. model 7−22741
Cu-Zn-Al, thermoelastic, two-way memory effect, dislocations origin 7−22754
CuZnAl, isothermal growth of thermoelastic martensite, quenching and ageing effects 7−53730
Fe-cementite alloy castings, Young's modulus and thermal expansion 7−65068
Fe-Co-Ni-Ti (34.9, 20.0, 10.2 wt.%), thermoelastic martensite transformation 7−52032
Fe-Pd, thermoelastic FCC-FCT martensitic transform. mechanism, TEM obs. 7−28041
GaAs, LEC growth configuration, thermal stresses, effect of liq. encapsulation, thermoelastic anal. 7−59414
GaP, phonon shifts due to temp. and pressure rise induced by a laser beam 7−2125
KCN, cryst., Akhieser damping 7−21360
$NaBF_4$, orthorhombic, cryst. growth and phys. props. 7−7834
$Ti_{50}Ni_{47}Fe_3$, intermetallic cpd., martensitic transform. at high press. *(Russian)* 7−59520

thermoelectrets
polyvinyl alcohol thermoelectrets, thermovoltaic effects 7−22178
PVDF films, thermal Barkhausen effect, spontaneous polarisation 7−59142

thermoelectric conversion
see also thermoelectric devices
AC-DC difference meas. system establishment at NPL, Israel, using multijunction thermal convertors 7−18837
alkali metal thermoelectric convertor, role of O in porous Mo electrides 7−13925
cable-type thermoelectric converters, pulsed method for thermal inertia estimates 7−30592
digital automated AC/DC transfer standard, using differential multijunction thermal convertors 7−18838
direct energy conversion R and D in Russia 7−13923
gas+liq. metal two-phase flow under transverse mag. field, modelling 7−51335
generator materials figure of merit improvement for increased thermoelectric conversion efficiency 7−13924

thermoelectric conversion continued
multijunction thermal convertors as NBS primary AC-DC transfer standards 7−18836
OTEC expt. *(Japanese)* 7−34064
polyvinylidene fluoride-trifluoroethylene copolymers, pyroelectric conversion materials 7−65498
power generator develop. for military appls. 7−65501
PU238 special applications radioisotope thermoelectric generators, thermoelectric materials testing 7−65500
refrigerating machines calc., eval. of accuracy 7−34049
technology breakout in energy conversion, conf., San Diego, CA, USA (Aug. 1986) 7−60875
thin layer redox nonisothermal galvanic cell *(Japanese)* 7−23203
voltage standard, programmable 7−18839
zero power-factor reference based on thermal convertors 7−18816
Al_2O_3 powder, metallised, heater appl. *(Japanese)* 7−23204
GeSi thermoelectric devices, fabrication, materials and properties 7−65499
GeSi thermoelectric materials, ZrO_2 commercial paints as coatings 7−65503
Mo porous electrodes for alkali metal thermoelec. convertor, voltammetric studies 7−28405
SrF_2 heat sources fabrication for thermoelectric generators 7−65502

thermoelectric devices
see also thermocouples; thermoelectric conversion; thermopiles
cable-type thermoelectric converters, pulsed method for thermal inertia estimates 7−30592
errors in temperature measurement with built-in thermoelectric thermometers 7−41378
IVV-2M reactor, thermoelectric temp. transducers, transient effects 7−5345
multijunction thermal convertors as NBS primary AC-DC transfer standards 7−18836
Peltier elements for thermoelectric cooling *(Dutch)* 7−309
temperature controlled X-ray single cryst. diffractometry, thermoelec. device construction 7−14935
thermometers, characts., props. and reliability *(German)* 7−18778

thermoelectric effect *see thermoelectricity*

thermoelectric effects in metals and alloys
alkali metals, CDW instabilities and thermoelec. parameters 7−12707
anisotropic composites, kinetic Hall and seebeck coeffs., critical behaviour calcs. 7−45411
differential AC method of thermopower measurement 7−48776
identical metals, point-contact config., thermoelec. voltage, phonon drag and finite size effects 7−2582
liquid and amorphous metals, multiple scattering effects, cluster calcs. 7−7100
metallic alloys and cpds., phonon point contact spectroscopy, review *(Russian)* 7−12788
steel, carbon, boriding effect on thermo-EMF 7−8177
temperature-electric waves in normal metals 7−64207
thermopower, electron-phonon enhancement effect calcs. 7−38542
Ag, liquid, thermoelectric power calc. 7−12704
AgCd, martensite transformation and shape memory effect, resistivity and thermoelectric power meas. 7−53729
Au, liquid, thermoelectric power calc. 7−12704
Ba, thermoelectric power meas. up to 8 GPa 7−64208
Ca-Al-Ga metallic glasses, electron transport 7−45264
Ce Kondo systems, thermopower, elec. resist. and cryst. field effects 7−21900
Ce-Cu amorphous alloys, mag. and transport props., Ce-derived anomalies 7−52601
$CeIn_3$ antiferromagnetic alloys, thermoelec. power meas., band gap form. 7−38543
$(Ce_{1-x}La_x)In_3$ antiferromagnetic alloys, thermoelec. power meas., band gap form. 7−38543
$CeSi_x$, galvanomag. and thermoelec. props. 7−38537
Cr single crysts., thermoelec. power near the Neel temp., precursor behaviour 7−64209
Cu, liquid, thermoelectric power calc. 7−12704
Cu-Fe-Al alloys, thermoelec. power temp. depend. *(Russian)* 7−12706
Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7−12698
Fe-Si, thermoelec. rapid inspection, contacts temp. effect 7−2580
$Fe_{80}B_{20}$ amorphous alloy, differential AC method of thermopower measurement 7−48776
$Fe_{83}B_{17}$ with V, Cr, Mn or Nb, amorphous, mag. contrib. to thermopower 7−45287
$(Fe_{1-x}M_x)_{84}B_{16}$ (M=Co,Ni) thermoelectric power, influence of Ci(Ni) additives 7−32995
$Fe_{45.5}Ni_{44.5}B_{10.3}$, amorphous, internal friction, thermo-EMF struct., annealing effect *(Russian)* 7−59560
$Fe_xNi_{80-x}B_{20}$ amorphous ferromagnets, elec. resist. and thermopower meas., comp. and temp. depend. 7−45263
$Fe_{90}Zr_{10}$ amorphous alloy, differential AC method of thermopower measurement 7−48776
Ga, solid and liquid, high press. phase transitions, EMF pulse study *(Russian)* 7−2166
$GdIn_3$ antiferromagnetic alloys, thermoelec. power meas., band gap form. 7−38543
Hg-In liquid alloys, vol. and thermal expansion coeffs., higher-order correlation effects 7−12328
Hg-Sn liquid alloys, vol. and thermal expansion coeffs., higher-order correlation effects 7−12328
In-Tl system, absolute thermo-EMF *(Russian)* 7−32996
$La_{100-x}Al_x$ metallic glasses, electron transport 7−45265
Mg-based simple metallic glasses, thermoelec. power temp. depend. studies 7−2581
Mo-Ce alloy point contacts, low temp. I-V characts., thermoelec. effects obs. 7−27382
$Mo_{1-x}Re_x$ system, thermal EMF and topological electronic transition 7−45286
Nb_3Sn, thermoelectric power, 4.2-273K meas. *(Chinese)* 7−12705
$NdIn_3$ antiferromagnetic alloys, thermoelec. power meas., band gap form. 7−38543
Ni, liquid, thermoelectric power calc. 7−12704
Ni-B alloy with transition metal additives, amorphous, mag. scatt. influence on transport props. 7−33001
Ni_3Al, thermal and elec. cond., temp. and comp. depends. 7−64200
Pd, liquid, thermoelectric power calc. 7−12704

thermoelectric effects in metals and alloys continued
Pt, liquid, thermoelectric power calc. 7−12704
Re, anisotropy of thermoelectric power and electrical resistivity 7−17017
$SmIn_3$ antiferromagnetic alloys, thermoelec. power meas., band gap form. 7−38543

thermoelectric effects in semiconductors and insulators
anisotropic composites, kinetic Hall and seebeck coeffs., critical behaviour calcs. 7−45411
graphite, highly oriented, low temp. anomalies in thermoelec. power 7−17044
II-V semiconds., cryst. growth, characterisation and appls., review 7−26685
lead phthalocyanine, electrical props., influence of I impurity 7−58927
nematic liq. crysts., thermoelectrical effects, temp. depend., contact pot. effects *(Russian)* 7−21945
p-n junction, thermoelectric potential distribution 7−52761
resonant scatt. of carriers, effect on transport coeffs. 7−38602
semiconductor quantum well structs., 2-D thermopower studies 7−33081
semiconductors, anisotropic, electro-magneto-thermo-elasticity, extended irreversible thermodynamic approach 7−58394
semiconductors, electro-magneto-thermo-elasticity, classical irreversible thermodynamic approach 7−58393
semiconductors, hopping thermoelectric power near the mobility edge, critical behaviour 7−52661
TCNQ salt, conducting Langmuir-Blodgett film, electronic transport props. 7−38782
TCNQ salt, N-n-propyl phthalazinium 7,7,8,8 $TCNQ_2$, struct., elec., mag. props., EPR meas. 7−33005
Ag_2S-Ag_2Se-Ag_2Te, quasi-binary systems, elec. conductivity, thermoEMF 7−21908
Ag_2Te-Ag_4SSe, thermoelectrical props. 7−45364
AlN_x nonstoichiometric sputtered films, electron localisation, transport props. 7−58929
As magnetothermoelectric power meas. in quantising mag. fields 7−45362
As-Te-based glasses, small polaron hopping and transport props. 7−21911
As_2Se_3:Ni films, electronic struct. and transport props. 7−12595
$BaFe_{12-x}Mn_xO_{19}$, magnetoplumbite system, transport props., influence of internal electric field 7−52662
$Ba_{1-x}Gd_xF_{2+x}$, defect struct., ionic thermocurrents, dielec. meas., EPR obs. 7−44907
$Ba_{0.03}Sr_{0.97}TiO_3$, single crystal, electronic transport behaviour 7−33011
Bi, high press. phase transitions, EMF pulse study *(Russian)* 7−2166
Bi thin films, lattice thermal cond. meas., modified Mayadas-Shatzkes model 7−21554
$Bi_{2-x}As_xS_3$ thin films, solution-gas interface deposition technique 7−7901
$Bi_{0.52}Sb_{1.48}Te_3$, semiconducting solid soln., thermoelectric props 7−45365
Bi_2Te_3-based solid solns., $CdCl_2$ doped, thermal conductivity studies 7−45363
$Bi_2Te_{2.4}SeO_{0.6}$, semiconducting solid soln., ultrafast cooling of melts 7−45365
n-$Cd_xHg_{1-x}Te$, single crystal, γ-irradiation, electrophysical props. in strong elec. field 7−7251
CdO-B_2O_3-SiO_2 glasses, photochromism, photocond. and ESR *(Japanese)* 7−22282
CdS polycrystalline films, temp. variation in thermoelectric power 7−22048
CdSb thin films, preparation and thermoelec. props. 7−64374
$CdSnO_4$:PbO highly conducting films, characterisation 7−22049
FeO, wustite, defect agglomeration at high temps., elec. conduction model 7−21197
Fe_xZrSe_2, intercalated layered cpd., thermopower and low DC field magnetisation study 7−17199
$Fe_3(1-\delta)O_4$, magnetite, synthesis, crystal growth and characterisation 7−2647
GaAs thin films, on glass substates, transport props. 7−2742
GaAs:Te films, flash evaporation, annealing, elec. props. 7−64373
GaAs-AlGaAs heterostructures, zero mag. field thermopower meas., temp. var. 7−33075
n-$GaAs_{1-x-y}Sb_xP_y$ epitaxial film, impurity distrib., cond. and Hall mobility study 7−51808
GaP, thermo-EMF of high press. phase 7−38604
GaSb:Se, resist. and thermoelec. power meas. at metal-insulator transition 7−45403
GaSb+GaV_3Sb_5, eutectic alloys, elec. props., anisotropy 7−12717
GaSb+V_2Ga_5, eutectic alloys, elec. props., anisotropy 7−12717
Ge, drag thermoelec. power, anisotropy parameter, carrier density depend. 7−38603
GeTe, solid and liquid states, electrophysical props. 7−52654
a-HgSe films, elec. conductivity, thermoelectric power, optical absorpt. 7−22050
InAsSbP/InAs p-n structures, nonclassical thermal injection current 7−12806
$La_{0.6}Pb_{0.4}Co_yMn_{1-y}O_3$, elec. conductivity, influence of Co ion substitution for Mn 7−45314
$Li_xSn_{1-x}Y_2O_4$, metal-insulator transition, Seebeck coeff. and elec. resist. studies 7−21817
$Mn_{0.61}Zn_{0.26}Fe_{2.13}O_4$, ferrite, conductivity study 7−21909
MoS_2 films, RF magnetron sputtered, elec. and optical props. 7−2747
MoS_2, high press. synthesis, characterisation 7−26716
$NbC_{0.97}$, single cryst., mechanical stresses, thermo-EMF 7−21944
$(NbSe_4)_3I$, phase transition props. 7−44803
$Ni_xFe_{3-x}O_4$, elec. cond., thermoelec. power meas., 10-300K 7−38648
PbGeTe, thermal cond. minimum, thermoelectric appl. 7−38276
PbSe films, elec. cond. and thermoelec. power, dynamic behaviour 7−2750
PbSnTe, thermal cond. minimum, thermoelectric appl. 7−38276
$Pb_{0.8}Sn_{0.2}Te$:In, impurity diffusion, thermoelec. probe meas. 7−63879
PbTe, effect of dielectric inclusions 7−12746
PbTe, solid and liquid states, electrophysical props. 7−52654
PbTe:In,I, Soret effect, impurity cond. distrib., thermoelec. power meas. 7−44930
PbTe:Tl, Na, carrier reson. scatt., effect on transport coeffs. 7−38602
PbTe-Gd_2Te_3 system, solid solns., synthesis and props. 7−21458
PbTe-$MnTe_2$ system, phase diagram, conductivity and thermoelectromotive force 7−63824
PbTe-Tb_2Te_3, solid solns., physicochemical anal. 7−21456
$Pb_{1+x}Te$:Tl, quasilocal level and transport props. 7−38492
Sb_3Te_3 crysts., pure and Cd-doped, point defects, reflectivity and elec. props. room temp. meas. 7−33008
Se, amorphous, elec. resist. and Hugoniot shock wave vel. meas. 7−32567

thermoelectric effects in semiconductors and insulators continued
a-Si:H,B, thin films, thermoelectric power 7—58826
a-SiC:H,B, thin films, thermoelectric power 7—58826
SiC:H,F amorphous films, struct., elec. and optical props. 7—22360
Si_xGe_{1-x}:H,F amorphous films, struct., elec. and optical props. 7—22360
SmSe, thermoelec. power, elec. resist., meas. near semiconductor-metal transition, press. up to 12 GPa 7—45404
SnO_2 thin films, vacuum evaporated, thermoelec. power, temp. and thickness depend. 7—58918
$(SnSe)_{1-x}Sb_x$ solid solns., phase diagrams and elec. props., comp. depend. 7—2172
SnTe, conc. depend. props. in region of homogeneity 7—45366
SnTe, solid and liquid states, electrophysical props. 7—52654
$TaSe_3$, transport props., uniaxial stress effect 7—38801
$(TaSe_4)_2I$ quasi-1D chain cpd., thermoelec. power temp. depend. meas. 7—17045
$TiC_{0.98}$, single cryst., mechanical stresses, thermo-EMF 7—21944
TiS_2 intercalation cpd. with Mn, Fe, Co, Ni elec. resist. and thermopower studies 7—45331
$Ti_{1.17}S_2$ crystals, metal-insulator transition investig. 7—7296
Tl-$SbTlSe_3$, liq., semicond., elec., mag. and thermoelec. props. 7—58825
Tl-$SbTlTe_3$, liq., semicond., elec., mag. and thermoelec. props. 7—58825
$TlPrSe_2$ $(Se_2)(Te_2)$, elec. cond., Hall effect and thermoelec. studies 7—2606
V_2O_5-TeO_2-PbO, glass, elec. and optical props. *(Korean)* 7—27330
YFe_2O_4, elec. resist. and Seebeck coeff. studies 7—21914
$Zn_xHg_{1-x}Se$, electrophysical props. and carrier scatt. mechanisms 7—17024
$ZrC_{0.95}$, single cryst., mechanical stresses, thermo-EMF 7—21944
thermoelectric generators *see thermoelectric conversion*
thermoelectricity
see also Peltier effect; Seebeck effect; thermocouples; thermoelectrets; thermoelectric effects in metals and alloys; thermoelectric effects in semiconductors and insulators; thermomagnetic effects; thermopiles; Thomson effect
Anderson model, transport props. at low temps. 7—27311
BEDT-TTF radical cation salts, synthesis, conducting and superconducting props. 7—46855
bis(ethylenedithio)tetrathiafulvalene, low-temp. phases, X-ray diffr., resistivity and thermopower meas. 7—37962
coatings, thickness meas., thermo-EMF obs., method of division 7—48687
disordered metal-nonmetal mixtures, percolation, anisotropic conductivity, Hall effect, thermopower 7—52555
electron-phonon scatt. effect on thermoelec. power singularity at topological Lifshitz transition 7—45285
generating function for thermoelectric field 7—64190
Ohm's law, heat flux effects 7—31939
phase analysis, thermoelectric methods 7—28240
piezoelectric half space problem with generalized thermal coupling 7—59150
poly(p-phenylene) films, heat treated, electrical conductivity, thermoelectric power 7—52557
poly(p-phenylene vinylene) films, highly graphitisable, elec. conductivity, thermoelectric power 7—32916
polyacetylene films, doped, electronic struct., elec. cond. and thermopower 7—64065
power meas. on small samples 7—41406
quasi-1D wire, thermopower, effect of subband struct., determ. 7—7213
quasi-one-dimensional wire, cond., thermopower, effect of lifetime broadening 7—45252
small polaron hopping regime, thermoelec. power, temp. and coupling strength effects 7—7196
thermoelectrode materials certification practices 7—304
thermogalvanomagnetic props. of 2D two-component systems 7—64204
thin films, conference, India (Jan. 1985) 7—4619
$TSF(Ni(dmit)_2)_3$, organic conductor, structure-related magnetism 7—2807
two-component media, metal-insulator transition, thermoelectric props., lattice model 7—52660
AgI-$AgPO_3$ glasses, thermoelec. power 7—6867
$Ag_7I_4VO_4$, superionic conductor, thermoelec. power, 25-60°C 7—21517
$NbSe_3$ CDW conductor, magnetothermopower studies 7—64226
Pt complex, $(H_3O)_{0.33}Li_{0.8}(Pt(C_4N_2S_2)_2)1.67\ H_2O$, synthetic conductor, spin-carrying defects 7—44524
thermography *see infrared imaging; microwave imaging*
thermogravimetry *see thermal analysis*
thermoluminescence
Al_2O_3:Fe, single cryst., thermoluminesc. response 7—27794
alkaline earth sulphide phosphors, prep. and thermolum., review 7—17488
bytownite, thermoluminesc. study of exptl. shock-loading effects 7—55025
copper phthalocyanine thin films, thermoelectroluminescence studies 7—7770
epidote, radiation damage study using fission track and thermoluminescence methods 7—51818
green-leaf thermoluminescence, effect of oxygen on electron transport 7—8523
indole:naphthalene(anthracene)(tetracene) crysts., impurity complexes, photolum., thermolum. and absorpt. spectra studies *(Russian)* 7—46139
naphthalene crysts., indole admixture trap form., thermolum. study *(Russian)* 7—22357
natural quartz minerals, thermoluminescent emissions 7—27798
oligoclase, thermoluminesc. study of exptl. shock-loading effects 7—55025
polyethylene, thermally stimulated luminesc. and depolarisation, electron trapping studies 7—27651
polymers, thermoluminesc. and oxyluminesc., review *(Japanese)* 7—59267
quartz:Li, $(SiO_4/Li)^0$ centre, correlated ESR and thermoluminescence studies 7—22140
quartz, as-grown or Li-, Na-, Cu- electrodiffused, radiation-induced conductivity 7—6691
quartz, luminescence of pure and Ge-activated samples 7—46152
α-quartz, synthetic, defects 7—63603
quartz sands, natural, red and blue colouration of thermoluminescence 7—46153
relative tissue kerma sensitivity of thermoluminescent materials to neutrons 7—54760
sand dunes, thermoluminescence dating method used for Sri Lanka red-sand beds 7—23847
sphene, natural radiation damage, fission track and thermoluminescence props. 7—51889
two-layer system, laser beam heated, transient temperature response 7—39190

thermoluminescence continued
volcaniclastic materials, thermoluminescence ages, meas. apparatus 7—47571
zinc phthalocyanine thin films, thermoelectroluminescence studies 7—7770
Al_2O_3, γ-irradiated, thermoluminescence from F and F^+ centres *(Korean)* 7—27795
BaFCl:Dy(Cu), thermolum., X-irradiated at room temp. 7—53419
$Ba_2NaNb_5O_{15}$, X-ray irradiated ferroelectrics, radioluminesc. and thermolum. 7—27797
$BaSO_4$, barite, X-irrad., thermally stimulated luminesc., trap distrib. 7—59266
CaF_2:Ce, Mn crysts., energy transfer, optical absorpt. and luminesc. studies, X-ray irrad. effects 7—27773
CaF_2:Nd single cryst., thermoluminescence and X-ray fluorescence studies 7—33463
CaF_2-Nd single crystals, thermolum., spectra and X-ray luminesc. spectra 7—64704
$CaSO_4$, thermally stimulated exoelectron emission and luminesc. 7—27873
$CaSO_4$:Dy, gamma radiation damage on thermolum. 7—38059
$CaSO_4$:Dy phosphor, thermoluminesc. props. of a new prep., dosimetry appl. 7—28701
$CaSO_4$:Mn, thermoluminescent dosimeter, phys. characts. *(Korean)* 7—34278
GaP single crysts., anisotropic deep centres, polarised photolum. and thermolum. studies *(Russian)* 7—21867
$KAlSi_3O_8$, thermally stimulated luminesc. at low temps. 7—13238
KBr single crystals, X-ray irrad., F-band absorpt. and thermolum., effect of laser excitation 7—21277
KBr single crysts., F-band absorpt., X-irrad., thermolum., mag. and elec. field effects 7—59230
$K_2Cd_2(SO_4)_3$:Sm, doped and undoped, thermoluminescence 7—39191
KCl:Ca, γ-irrad., Z_1-centre growth, effect of dislocations, thermolum. study 7—32487
KCl(Br) γ-irrad. single crysts., piezolum. and thermolum. spectral shift meas. 7—27796
K_2ZnCl_4, X-ray induced luminesc. and thermoluminesc. spectra anal. 7—46132
$Li_2B_4O_7$:$CuCl_2$ crystallised glasses, pure and doped, thermally stimulated exoelectron emission, thermolum. 7—27874
LiF (TLD-100), thermoluminesc., 90 to 300K 7—3097
LiF:C^{6+}, ion implanted, impurity defects outside implantation zone 7—7773
LiF:Mg,Ti phosphor layer on borosilicate glass substrate, laser stimulated thermolum. 7—64703
$LiXO_3$ (X=Nb,Ta,I), X-ray irradiated ferroelectrics, radioluminesc. and thermolum. 7—27797
MgO:Fe, gamma irrad., thermoluminescence and TSC studies 7—33464
$NaAlSi_3O_8$, thermally stimulated lumin., spectral anal. 7—46154
NaCl, pure and doped, irrad. defect, thermoluminesc. 7—3098
NaCl, thermolum. of colloids centres 7—7772
NaCl:Co, doped and undoped, thermoluminescence and X-ray fluorescence spectra 7—22356
NaF:Mg, doped and undoped, electron beam irradiated, thermoluminescence and thermally stimulated conductivity 7—7771
Na_2O-$3SiO_2$ glass, Tb^{3+} activated, temp. depend. of tunnel lumin. 7—59265
Rb_2ZnCl_4, X-ray induced luminesc. and thermoluminesc. spectra anal. 7—46132
ZnS-CdS:Ag,Ni,Co phosphors, photolum., energy level model 7—59245

thermoluminescent dosimeters
conference on radiation protection physics, Bad Schandau, Germany (Feb. 1986) 7—24267
electron trap level determ. by two temperature annealing 7—16970
environmental TLD systems, intercomparison 7—40307
heating of TLDs, regulation device *(Russian)* 7—49742
LR-115 Kodak SSNTD, α-counting efficiency and thermoluminescence dating appl. 7—36401
measurement device for TLD reading *(Russian)* 7—49743
personal monitors, film and TLDs 7—65862
relative light conversion factors for high energy protons 7—25261
BeO thermoluminescent phosphor, γ and in dosimetry using electrical conductivity 7—62095
CaF_2 TLDs, Al- or Ta-encapsulated, non-equilibrated bremsstrahlung dosimetry for 0.75 MeV electrons 7—56876
CaF_2:Mn thermoluminescent phosphor, γ and in dosimetry using electrical conductivity 7—62095
$CaSO_4$:Mn, glow-curve, activation energy *(Korean)* 7—34278
$Li_2B_4O_7$:Cu, TLD, thermal neutron response 7—5491
$Li_2B_4O_7$:Mn thermoluminescent phosphor, γ and in dosimetry using electrical conductivity 7—62095
LiF TLDs, dose enhancement effects, comparison with 2D Monte Carlo calc. 7—56875
LiF thermoluminescent dosimeter appl. in n-γ mixed field dosimetry in TRIGA reactors 7—49733

thermomagnetic effects
2D electron systems, quantum oscillations of thermogalvanomagnetic coeffs. 7—12691
anisotropic conductors, instability of thermomagnetic waves 7—45284
conductive thin films, Nernst-Ettinghausen effect, nonmonotonous behaviour in strong transverse mag. field 7—2632
Curie point thermomagnetic engine, demonstration of Carnot principle 7—48233
plasma, laser prod., magnetised electron transport, bifurcation 7—44208
semiconductors, anisotropic, electro-magneto-thermo-elasticity, extended irreversible thermodynamic approach 7—58394
semiconductors, electro-magneto-thermo-elasticity, classical irreversible thermodynamic approach 7—58393
semiconductors, extrinsic, thermal gradient magnetoconc. effect 7—52659
semiconductors, homogeneous, isotropic, limited, vortical thermomagnetic currents calcs. *(Russian)* 7—33037
As magnetothermoelectric power meas. in quantising mag. fields 7—45362
As-Sb alloys, magnetoresist., thermomag. power and Fermi surface quantum oscills. meas. 7—2578
Cs-Se system, phase diagram 7—6759
$CuMn_{0.05}Ni_{0.03}$, spin glass, long-time low temp. relaxation 7—38870
n-Ge, Nernst-Ettingshausen coeff. in the case of scatt. by impurities in quantising mag. fields 7—12745
$NbSe_3$ CDW conductor, magnetothermopower studies 7—64226
$Pb_{1+x}Te$:Tl, quasilocal level and transport props. 7—38492

thermomagnetic effects continued
$U_3Sb_3Cu_2$, cryst. struct., mag. props. 7—38864
$Zn_xHg_{1-x}Se$, electrophysical props. and carrier scatt. mechanisms 7—17024

thermomagnetic recording
infrared radiation wavefront inversion, thermomagnetic image recording 7—43245
Co-Gd-Tb-based thin films, properties and stability for magneto-optic recording 7—53075
DyFe alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
GdCo and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
TbFe and GdTbFeCo alloys, amorphous thin films, thermomag. recording, magnetisation reversal, coercivity 7—64459
TbFeCo-based amorphous films, magneto-optical recording appls. 7—53074

thermomagnetic torque *see Scott effect*

thermomagnetic treatment
see also magnetic annealing; magnetocaloric effects
Fe-Cr-Co solid soln., uniaxial tensile stress in spinodal decomp. effect on coercive force, thermomag. treatment effects 7—7555
Fe-Cr-Co-Mo permanent magnet ribbons, mag. props., influence of modulated structure 7—53043
$Fe_{40}Ni_{38}Mo_4B_{16}Si_2$, ferromag. amorphous ribbons by field quenching technique, mag. anisotropy 7—33164
$SmCo_5$ powder magnet, texture form. in alternating and steady mag. fields 7—27977

thermomechanical processing *see thermomechanical treatment*

thermomechanical treatment
see also hot pressing; hot working
Al-Zn-Mg-Cu, impact toughness improvement by intermediate thermomech. treatment 7—53907
creep strength rapid prediction, thermoactivation analysis basis, residual life eval. after TMT 7—22941
grain boundary migration, diffusion-induced, effect of thermomech. treatment 7—26764
Hastelloy X, thermomech. response, viscoplastic constitutive model 7—8059
polyaniline, doped, thermoplastic amorphous-crystalline conversion 7—32315
rolled metal section, light, accelerated cooling rate during TMT, effects of design, hydromech. and temp. factors 7—8011
steel, Al killed, tensile testing, deform. heating 7—65105
steel, alloy, corrosion resist., influence of thermomech. treatment 7—22873
steel, constructional, struct. and props. after high-temp thermomech. isothermal working 7—46522
steel, Cr-Mo-V, nitrided, wear resist rel. to preliminary thermomech. treatment 7—17659
steel, Cr-Mo-V, porosity assoc. with insoluble carbides, probable effect on rolling contact fatigue 7—17639
steel, low-pearlite, subjected to controlled rolling, complex microalloying effect 7—46523
steel, mech. props. and failure character after repeated thermomech. strengthening of surface layer 7—53994
steel, Ni, abrasive wear rel. to anisotropic ferrite-martensite microstruct. 7—13607
steel, stainless, dual phase, phase transform. obs. using thermomag. analysis 7—53696
steel, stainless, O-alloyed friction structures, under conditions of thermal action, stability *(Russian)* 7—59673
steel, tool, heat treatment cycles, original struct. and deform. influence on mech. props. 7—39560
steel 65G, microstruct. and mech. props. after low-temp. TMT, tempering temp. influence 7—17554
steels, microalloyed, high strength, phys. metallurgy and appls. 7—65066
test simulator for computer controlled tensile tests *(French)* 7—33701
Al, hardness, effect of thermomech. history 7—53873
Al-Fe-V rapidly solidified sheets, mech. props., hot rolling effects 7—22838
BN polycrystals, heat treatment conditions effect on mech. and service props. 7—53894
$Cu-Al_2O_3$, dispersion strengthened powder alloys struct. and mech. props. 7—53667
Cu-Fe, thermomech. treatment, softening rel. to disperse α-Fe particle, size and orientation 7—28054
Cu-Ni-Al (7.5, 2.5 at.%), thermomech. treatment *(Japanese)* 7—8013
Cu-Ti alloy, powdered, dynamic strain ageing, 375-860K 7—28058
Cu-Zn-Al, thermoelastic, two-way memory effect, dislocations origin 7—22754
Fe-Si (2 wt.%), microstruct., mag. props., thermomech. history effect 7—7551
Fe-Si anisotropic elec. engineering steels, EM losses, thermomechanical treatment effects *(Russian)* 7—59550
Mo-Ti-Zr alloy, creep resistabnce, particle strengthening contribution 7—28073
Mo-W alloys, creep failure, thermomechanical treatment effects 7—28072
NbTi alloy, neutron and γ-ray irrad. effects near supercond. transition temp. *(Russian)* 7—33119
Ni_2Cr, order-disorder transform. kinetics, P content effect 7—13446
SiC whisker reinforced Al matrix composites, interaction, with eutectic brazing alloys 7—46689
Ti alloys, microstruct. and slip characts. 7—8050
Ti-Al-Mo-Zr(-Si) alloys, superplastic characts., H alloying effect 7—8049
Ti-Al-V (6,4 wt.%), α morphology rel. to thermomech. treatment 7—46520
Ti-Al-V (6,4 wt.%), powder metallurgy, thermomechanically treated, deform. behaviour 7—53908
Ti-Al-Zr-Mo-Si, creep resistance, silicides obs., effect on mechanical props. and fracture 7—8051
$ZrC_{0.98}$, sintered polycryst., primary recrystn. process 7—28056

thermometers
see also pyrometers; resistance thermometers; temperature measurement; thermocouples; thermopiles
astable multivibrator based thermistor thermometer 7—9832
combined thermocouple-noise thermometry 7—14944
constant-volume gas thermometer for thermodynamic temp. determ. 7—48738
contactless IR thermometer principle and digital operation *(Japanese)* 7—56266

thermometers continued
correction of thermometric characts. of planar semiconductor diodes *(Czech)* 7—61334
digital readout temperature indicator, low cost, with Chromel-Alumel thermocouple 7—14942
errors in temperature measurement with built-in thermoelectric thermometers 7—41378
fibre optic thermometer using temp. depend. absorpt., broadband detect. and time domain referencing 7—50751
flat plate thermometer, heat transfer characteristics, effect of variable fluid property 7—43910
glass:Nd absorption thermometer with fluorescent referencing, fibre optic temp. sensor 7—25996
low temperature measurement methods, thermometers and magnetic effects *(German)* 7—24652
low-temperature measurement principles, thermodynamics and thermometer functions *(German)* 7—24651
manometric thermometers with liquid and Hall transducers, manufacturing possibilities *(Rumanian)* 7—48734
multichannel digital temperature meter using transistor sensor, design for medical appls. *(Spanish)* 7—30010
nuclear quadrupole resonance thermometers, freq.-temp. conversion *(Russian)* 7—41385
optical fibre thermometry, advantages and appls. 7—9835
primary gas thermometry, harmful volume influence elimination, electrophysical method 7—310
quartz temperature sensing device, output nonlinearity correction 7—41380
quartz thermometer calibration method 7—41379
quartz tuning fork resonator transducers 7—35512
radiation, for simultaneous emissivity and temp. meas. 7—18781
self referenced fibre optic glass absorption thermometer 7—41388
temperature measurement equipment review 7—35517
thermoelectric and resistance thermometers, characts., props. and reliability *(German)* 7—18778
US high-temperature thermometer 7—313
H_2O, shocked water, temp. meas. using fluorescence probe thermometer 7—24653
^3He melting curve thermometer, automated, pressure meas. appl. 7—14955
Hg, contact switches, instrument temp. control 7—30009
N_2 thermometry, CARS 7—62377
Pt thin-film thermometers, frequency response investig. 7—48741

thermometric conductivity *see thermal diffusivity*

thermonuclear devices *see plasma devices*

thermonuclear reactions *see nuclear fusion*

thermooptical effects *see thermo-optical effects*

thermopiles
surface temp. meas. of poor heat conducting materials radiation technique accuracy 7—26133

thermopower *see thermoelectricity*

thermoreflectance
7—39072
$Bi_{25}FeO_{40}$, reflectivity spectra structure, thermoreflectance 7—59207
$Bi_{12}Si(Ge)(Ti)O_{20}$, reflectivity spectra structure, thermoreflectance 7—59207
$Co_xZn_{1-x}InS_4$ pseudoternary layers cpds., optical props., comp. depend. studies 7—39072
Nb_{3+x} Ge_{1-x} and Nb_5Ge_3, superconducting alloys, thermoreflection spectra, electron struct. 7—33370
$Pb_{1-x}Cd_xSe$, inter-band transitions, thermoreflectance study 7—3029
PbSe, energy band structure, thermoreflectance study 7—3028
Si, heavily doped, thermoreflectance, study 7—45999

thermosphere
circulation models and wind regime from meteor radar obs. 7—47589
composition modelling for mid-latitudes 7—14402
dynamics and remote sensing of middle atmosphere, symposium, Prague (Aug. 1985) 7—40986
dynamics of auroral zone influences by ion drag in winter 7—55336
EHF limb sounding from Space Shuttle 7—40568
equatorial thermosphere, excess heating during storm sudden commencement 7—47584
geopotential mean height fields in southern hemisphere 7—47592
gravity wave effects under solstice conditions, simulation using 3-D circulation model 7—47597
gravity wave motions in the upper middle atmosphere (60–110 km) 7—47587
gyres and jets, viscous pumping and spin-down 7—9279
ion composition, rocket-borne mass spectrometer meas. 7—66373
momentum flux variations in lower thermosphere, results from midlatitude meteor wind obs. 7—55343
near-Earth space environment, spaceglow and material erosion 7—60506
neutral mass density calc. 7—47585
neutral winds and auroral arcs electrodynamics 7—47609
polar mesopause, large-amplitude semidiurnal temp. var. as evidence for pseudotides 7—34754
N polar region, temperatures of winter season mesopause and thermosphere 7—34755
response to solar activity oscills. (of period 27 and 13 days) 7—66369
semi-annual density variations, determ. from satellite data 7—4245
Shuttle glow, chemilum. processes 7—47602
Shuttle glow, rammed surface temp. dependence 7—9284
spacecraft glows, surface-catalysed reactions role 7—14401
temperature and density seasonal and tidal variations, at high-latitude 7—29315
thermodynamics of lower thermosphere, role of tides for solstice conditions 7—47595
tidal winds, role in counter electrojet generation 7—66378
tides in 80 to 100 km height region, results from wind vel. meas. 7—47594
wave-associated density disturbances 7—55342
wind measurements by EISCAT, ionosphere effects 7—29319
wind pattern high-latitude thermosphere, general circulation model calc. 7—29320
wind var., long term periodicities in meteor radar meas. 7—47591
winds correl. to mag. field var. 7—66370
zonal and meridional winds, long term observations 7—47600
CO_2, molecule, vibr. relax. during injection from spacecraft 7—34087
D and H concentrations in daytime thermosphere 7—60437

thermosphere continued
H dissipation flux, density meas. rel. to thermosphere temp. 7—23922
NO concentrations in thermosphere and nightglow continuum 7—47605
NO, dayglow UV emissions and vertical profile 7—29324
NO in disturbed heated thermosphere, energetics and IR radiation 7—4247
NO in upper atmosphere, geomagnetic latitudinal conc. distrib. 7—9278
O and nightglow 7—47603
O_2 ($A^3\Sigma_u^+$) vibrational populations, altitude for nightglow 7—47606
O_3, metastable, occurrence and assoc. chem. reactions 7—55340

thermostats
see also cryostats; temperature control; thermistors
bimetal, stresses 7—35515
flowing water system for high-precision temp. control 7—48729
temperature stability meas. 7—41373
tubular heat pipe furnace characts., gas-controlled 7—41375
Hg, contact switches, instrument temp. control 7—30009

theta pinch *see pinch effect*

thick film circuits
fibre-optic hybrid receiver uses thick film technology 7—26021
pH sensor, hybrid, microelectronic, fabrication 7—46891
SAW accelerometers using integrated thick and thin film technologies 7—301

thick film devices
sensors, review 7—48717

thick film resistors
chip resistors as low temperature thermometers 7—316
conduction threshold, segregation effects, percolation model 7—27372
sensors, design and fabrication 7—48704
temperature sensing thick film resistors with high TCR 7—48735
Ni thin film temp. sensor *(German)* 7—61332

thick films
horizontal soap film, transformation process *(French)* 7—32752
SnO_2:glass, elec. resistance, effect of struct. 7—7300

thickness control
coating thickness meas. and control during thermal spraying 7—61315
evaporation system, thickness monitor using four quartz crystal oscillators 7—61319
multilayer monochromators and supermirrors, X-ray and neutron, controlled sputter deposition 7—33563
multilayer soft X-ray coatings, automatic electron-beam deposition system 7—3184
multilayer soft X-ray reflection coatings, automatic electron beam deposition 7—33571
single-mode optical fibre preforms, dimension control in VAD process 7—6025

thickness measurement
air gap thickness underneath an opaque film, meas. by pulsed photothermal radiometry 7—41334
amorphous layer on crystalline substrate, thickness meas. using X-ray diffr. 7—44304
antireflection coatings, three-layer, layer thickness meas. technique 7—43324
autocorrelation-function method of measuring film thicknesses 7—41336
coating thickness meas., XFT-84 microcomputer based X-ray fluorescent instrument *(Chinese)* 7—4814
coating thickness meas. and control during thermal spraying 7—61315
coating thickness meas. by X-ray fluoresc. testing 7—41342
coatings, thickness meas., thermo-EMF obs., method of division 7—48687
dielectric thin films, refr. index and thickness meas. using waveguide props. 7—56323
diffraction-schlieren image method of measuring hollowcylindrical objects 7—6024
evaporation system, thickness monitor using four quartz crystal oscillators 7—61319
fibre-optic liquid film sensor for 2-phase annular and stratified flow 7—37611
film, transparent, thickness and absolute fringe order, interferometric determ. method 7—292
film deposit assessment with hologram interferometry 7—1291
film thickness meas. of postwidthdrawal drainage, using Mach-Zehnder laser interferometry 7—18750
holographic, spectroscopy for refraction indicators determ., layer thickness meas. appl. 7—9877
insulating film thickness meas. using contact instrument, surface geometry effects 7—4811
IR film thickness gauging, optical interference suppression 7—33472
laminated dielectric, parameters determ. near min. of absolute refl. coeffs., variable freq. radio-interference method 7—65264
laminated dielectric with losses, parameters determ. in broad freq. range, inspection method 7—65263
layer thickness, generalised linear inversion calcs. from phase vels. of Love waves *(Russian)* 7—24627
metallic films, multilayer, thickness and composition meas., X-ray fluorescence algorithms 7—54249
metallic glass thin films, thickness meas. using quartz microbalance *(French)* 7—29982
metallic multilayer films, thickness and composition anal. using X-ray fluorescence 7—46898
metallic optical films, contactless thickness meas. using eddy currents *(German)* 7—24626
microprocessor coating thickness and air dust pollution gauges 7—61317
microwave detection of nonelectrical props. in China, review 7—48682
nondestructive coating thickness meas. 7—13703
oil thickness gauge using ultrasound 7—43597
optical film, rotating linearly polarised light source appl. 7—18850
optical microscopes, confocal, depth response 7—41462
photothermal radiometry appl. using IR scanners 7—33898
portable flaw detector with built-in LCD thickness meter 7—13704
PTFE antifriction coatings, thickness and uniformity, X-ray fluoresc. method 7—17661
radioisotope gauge apple. and development 7—61311
semiconductor multilayer structures, variable angle of incidence spectroscopic ellipsometric study 7—48830
semiconductor thin films, thermal wave meas., book contrib. 7—41345
semiconductors, X-ray double crystal diffractometry 7—51577
SOI structures, thickness determ. using optical interf. method 7—18743
specimen thickness determination in electron microscopy 7—9928

thickness measurement continued
specular reflectance accessory for VU-VIS spectrophotometer, thickness meas. appl. 7—29964
thin films, optical constants and thickness meas. by two-incident angle ellipsometry *(Chinese)* 7—48828
thin films, quantitative electron probe microanal. 7—8327
thin films, thickness and optical constants determ. from photometric and ellipsometric data 7—41419
thin films, thickness and refractive index simultaneous measurement by spectral analysis *(Japanese)* 7—24688
thin films, thickness meas. using double twin path interferometer 7—344
thin overlayers, thickness meas., conc. gradients and surface roughness influence 7—56216
US, standardless meas. of objects having variable sound vel. with depth 7—65257
US nondestructive testing, microcomputer appls. in thickness meters and hardness testing *(French)* 7—54068
US signal processing for near surface defect detect. and thickness meas. 7—39830
vacuum deposition, Wheatstone bridge with two thin film arms, dynamic balancing 7—22491
Al-Ti-Cu multilayer films, thickness and composition anal. using X-ray fluorescence 7—46898
Cu layer on steel substrate, thickness meas. by transverse surface waves *(French)* 7—4815
GaAs-Al_xGa_{1-x}As-GaAs, multilayer struct., variable angle of incidence spectroscopic ellipsometric study 7—48830
KP_x thin films, composition and thickness determ. 7—21785
MoS_2 coatings, thickness meas., nondestructive methods performance 7—18751
Ni-P electroless coatings, electronics components, thickness meas. 7—14920

thin film capacitors
No entries

thin film circuits
microtransducer for air flow and differential pressure sensing 7—61329
SAW accelerometers using integrated thick and thin film technologies 7—301
vacuum technology survey, applications and prospects *(French)* 7—322

thin film devices
see also magnetic thin film devices
breakdown counters for heavy charged particle detection, time response 7—824
solar cells for concentrators and thin film types 7—54298
CdS/CdTe screen-printed thin-film solar cell for indoor consumer electronics *(Japanese)* 7—65472
NA vapour sensor using Au and Sb intermetallic compounds 7—18774
Si, amorphous thin film solar modules, excitation intensity effects on photocurrent response 7—40000

thin film electroluminescent displays *see electroluminescent displays*

thin film resistors
AC resistance divider 7—18831
Ni-Cr vacuum deposition for reproducible thin film resistors, book contrib. 7—46332
Ni-Cr-Al films, thin film resistor appl., struct., temp. coeff. of resist. props. 7—58912

thin film transistors
amorphous semiconductors, conference, Palo Alto, CA, USA (April 1986) 7—29602
amorphous semiconductors for microelectronics appls., conf., Los Angeles, CA, USA (Jan. 1986) 7—24282
Si, crystallised thin films, electrical characterisation 7—33116
a-Si FET addressed liquid crystal spatial light modulator 7—37132
a-Si:H photo-CVD coatings, characterisation using TFT structure 7—38561
a-Si:H/a-SiN_x:H interface, deep states and photoluminescence spectra, transistor characts. 7—39186
a-Si:H-SiN_x:H layered structures, effect of a-SiN_x:H composition on band bending near interface 7—45510
Si-$CoSi_2$-Si, heterostructure transistor, electrical transport props. 7—27442
Si-SiO_2, lateral solid phase epitaxial growth, SOI transistors fabrication 7—2399

thin film triodes *see thin film transistors*

thin films
see also coatings; dielectric thin films; epitaxial layers; insulating thin films; magnetic thin films; metallic thin films; semiconductor thin films; semimetallic thin films; sputtered coatings; substrates; vapour deposited coatings
activated reactive evaporation 7—33576
adhesion measurement by indentation 7—45093
alkanes, long-chain, cryst. and molten, low energy electron transmission and secondary electron emission expts. 7—33492
amorphous, grazing incidence X-ray scatt. 7—26592
amorphous, transverse hopping cond. temp. depend. mesoscopic behaviour anal. 7—17028
analysis using a Seeman-Bohlin X-ray diffr. attachment 7—21046
analytical electron microscopy of thin films, review *(Czech)* 7—59261
applied materials charact., conf., San Francisco, CA, USA (April 1985) 7—18495
atom passing through thin film, radiation excitation 7—42738
atomic structure models, electron microscope images, computer simulation 7—16380
autocorrelation fn. of surface roughness, 1D thin film model 7—52196
bilayer systems, long-range surface phonon-polaritons, damping props. 7—12881
cathodoluminescence spectrum in STEM 7—22355
characterisation and microanalysis, sputtering, AES and XPS destructive depth profiling methods 7—53454
characterisation by analytical electron microscopy, imaging, diffr. and microanal. techniques 7—51589
characterisation by optical reflectance and ellipsometry 7—45084
chemical analysis using TESLA BS 613 TEM with Si:Li detector *(Czech)* 7—65371
conductive, Nernst-Ettinghausen effect, nonmonotonous behaviour in strong transverse mag. field 7—2632
conference, India (Jan. 1985) 7—4619
CVD and PVD coatings, structural, mechanical and tribological props. and applications 7—53935
decohesion from ceramic or semiconductor substrates 7—21711

thin films continued
deposition, surface segregation and impurity concentrations 7−2409
deposition in square groove, Monte Carlo simulation 7−12572
diffraction methods for struct. determ. of surfaces and overlayers 7−2324
dissolution kinetics, meas. using quartz crystal microbalance 7−2439
electron diffusion, scattering-act correl. effects 7−32972
electron dynamics in external longitudinal mag. field, electron energy spectrum calcs. 7−58906
electron state density in longitudinal mag. field 7−27440
ellipsometric metrology of ultrathin films, using dual incidence angle meas., error anal., optimum angle determ. 7−24686
grain growth phenomena and microstructural evolution during deposition, Monte Carlo simulation 7−52336
graphite, thin absorber layer on Cu and glass, thermal wave appls. 7−48723
graphite films, pyrolysed from polyoxadiazole condensation polymer, elec. and thermal props. 7−2736
graphite incommensurate overlayer on Pt (111), LEED 7−63930
graphite layers on diamond surfaces, optical anisotropy, effect of crystallographic orientation 7−53267
graphite overlayer dissolution into the substrate 7−26966
Hall coefficient for double layer thin films 7−12740
incoherent exciton migration, detector luminesc. decay rate *(Russian)* 7−2503
interdiffusion, phase suppression in transient stages 7−16820
interfaces and phenomena, conf., Boston, MA, USA (Dec 1985) 7−18502
ionised cluster beam technique for thin film deposition 7−17478
laser ionisation mass spectrometry appl. to thin film and near-surface layer studies 7−28374
laser-assisted CVD, surface undulations, Raman microprobe analysis 7−12430
layering transitions, quenched disorder effects 7−27195
materials modification with ion beams, review 7−16647
mechanical properties, stress meas. during deposition, review 7−52380
mechanical properties meas., depth-sensing indentation instruments 7−8211
microindentation hardness testing, techniques and data interpretation 7−33868
molecular cryst. thin films, surface exciton calcs. 7−52429
molecular solids, electron elastic scatt., reson. absence 7−31169
multilayer focusing films, computing X-ray reflectance 7−30143
multilayer structures, convex surfaces for soft X-ray diffr., plasma spectra appl. 7−37100
multilayer structures, soft X-ray performance, synchrotron based meas. 7−30147
multilayer X-ray mirror performance, coating thickness errors and boundary roughness determ. 7−30148
multilayer X-ray reflectivity calcs., lossy transmission line theory 7−37103
multilayered structures, microcleavage TEM charactn. 7−38375
multilayered structures, physical and chemical charact. 7−38376
multilayered structures, thin-film, appl. to figured X-ray optics, conf., San Diego, CA, USA (Aug. 1985) 7−29581
multilayered structures for soft X-ray mirrors, physical charactn. 7−37098
multilayers, sputter depth profiling, influence of individual layer thickness on depth resolution 7−59367
multilayers analyzers for absolute X-ray spectrometry, characterisation 7−30146
multilayers for neutrons and X-rays, disorder and diffusion 7−32872
multilayers on flexible mica, prep. and charactn. for soft X-ray optics 7−37101
nucleation and growth modes 7−38384
organic photoconductive particles in thin layers, photoresponse characts. *(Japanese)* 7−38612
orientation by ion bombardment during deposition 7−45053
overlayer nucleation and growth, surface defects, characterisation by surface-sensitive diffr. 7−21614
perylene red film coated on Ge, ATR and refl.-absorpt. IR spectroscopic analysis 7−41510
phase transition temp., thickness depend., thermodynamic theory, appl. to Au 7−26922
pulsed heating, thermal and plasma models 7−26946
quality testing using hardness meas. in SEM 7−8210
quantitative electron probe microanal. 7−8327
quantum transport and surface scatt. in thin films and wires 7−33105
radiative heat transfer models validity 7−26132
refractory compound films, mech. props., struct., test methodology 7−33684
solid surface, physics, conf., Smolenice, Czechoslovakia (Sept. 1984) 7−48170
structural, mech., and comp. props., charactn. and meas. 7−38378
structure charactn. by Buerger precession camera 7−58099
structure of films grown from a partly ionised molecular beam, computer simulation 7−7060
submicron materials characterisation, conf., Evanston, IL, USA (Oct. 1983) 7−24294
Sugiyama phase sum rule, inapplicability to very thin films 7−17117
surface analysis, AES, XPS, ISS and SIMS, review 7−28372
surface analysis by laser induced thermal waves *(German)* 7−8334
surface and interface analysis, appls. conf., Veldhoven, Netherlands, (Oct. 1985) 7−24289
surface ATR and reflection-absorption IR spectroscopic analysis of thin films 7−41510
surface electronic structure calc., using linear-muffin-tin orbital method *(Japanese)* 7−17059
surface EM wave FTIR spectroscopy of very thin films 7−41506
tetracene, secondary electron emission *(Russian)* 7−17375
thermally insulating films on thermally conducting substrates, optothermal transient emission radiometry 7−9829
thickness and refractive index simultaneous measurement by spectral analysis for thin films *(Japanese)* 7−24688
thickness determination in electron microscopy 7−9928
thickness meas. using double twin path interferometer 7−344
thin supported films, melting 7−44770
trace anal. of H, C and O using extremely high vacuum SIMS 7−54243
tunnel junction conductivity, anomalous temp. depend. 7−17070
uniaxial nonabsorbing films, multiple-wavelength ellipsometry 7−33468
X-ray anal. using Read camera 7−58103
X-ray diffr. spectra, processing methods 7−44308
Ag-Ge granulated films, Coulomb gap and hopping conduction 7−38774

thin films continued
AgCl-Ag films, photo-induced gratings due to radiative TE modes 7−22363
Au/CeO_2 thin films on Ni-Cr Inconel superalloy substrates, diffusional processes 7−45098
$Au_x(TeO_2)_{1-x}$ thin films, nanosecond laser annealing, Au cluster redistrib., growth and coalescence 7−12145
C diamond-like films, stresses, energy depend. 7−45097
C films, diamond-like, empirical categorization and naming 7−16919
C films, diamond-like, intrinsic stress, depend. on deposition parameters 7−58721
C films, plasma fluorination, surface structure determ. 7−27196
C protective film on ZnS and ZnSe IR transmitting windows 7−46731
C thin films, sputtering yields for O and Ne ions 7−59341
C:H films, carbonization in acetylene discharge 7−17444
C-W multilayers, sputtered, ellipsometry monitoring, X-ray refl., XPS 7−39376
CO solid films, Fourier transform IR spectra 7−59214
CO_2, amorphous solid, mol. vibr., IR spectra anal. 7−53307
FeOOH thin films, precipitated, structure anal. 7−32860
GeO_2:Cu thin films, optical absorpt. edge 7−53431
a-H_2O films, low temp. elastic props. 7−45099
Hg_2Cl_2 thin films, morphology and growth on Hg surface, electron beam damage 7−59469
MoO_3, amorphous films, X- and γ-irradiated, color center form. 7−44541
N_2 solid films, Fourier transform IR spectra 7−59214
Ne, solid films, erosion by keV electrons 7−3124
O_2 solid films, Fourier transform IR spectra 7−59214
RuO_2-TiO_2, microheterogeneous struct. 7−12541
Si-Cu-Au layered struct. reflectivity and EXAFS study 7−59292
Sn-Ge granulated films, Coulomb gap and hopping conduction 7−38774
TiN coatings, N partial pressure effects on composition, spectral reflectance and colour 7−53420
TiN, film, triode ion plating, influence of substrate temp. on struct. 7−39438
TiN films, reflectance and colour 7−46160
TiO_x, amorphous reactive ion beam deposition, crystallisation 7−45091
TiO_x, reactive sputtering deposition, using RF diode sputtering source 7−59424

third-order optical susceptibility *see nonlinear optical susceptibility*

thixotropy
bentonite clay suspension, thixotropic-coagulation struct., shock waves 7−6253
coal tars, rheological props., composition influence 7−6170
oven-curing high solids white enamels, flow props. 7−11371
polytrimethylamine-p-vinylbenzimide, aq. solns., negative thixotropy and thermoreversible gelation 7−51608
soap-mineral oil lubricating grease, 12 Li-hydroxysterate greases, thick film, ambient pressure, shear flow transient tests *(French)* 7−6169
viscoelastic thixotropic fluids, unsteady shear flow and constitutive relation 7−16140
yield stress, time depend. prop., meas. tech. 7−43834

Thomas-Fermi model
atom, constructive method for the Thomas-Fermi equation 7−36478
atom, Thomas-Fermi kinetic energy functional, Weizsacker-type gradient corrections 7−36475
atomic kinetic energy density, approx. functionals study, HF calcs. 7−36476
atomic theory, rel. to electron subshell filling 7−49870
charged particle energy loss in solids, confined-atom model calcs. 7−44634
cohesive energies of solids, soft-core Thomas-Fermi pseudopot. 7−21845
electron gas, diamagnetic susceptibility at low temps., surface effects 7−21841
electron gas, inhomogeneous, ground state energy as function of potential energy, extended Thomas-Fermi calcs. 7−56974
fermions system, ground-state kinetic energies, explicit procedures 7−14827
graphite, intercalation cpds., staging walls charge profile, Thomas-Fermi description 7−12687
graphite crystal interplanar binding, Englert-Schwinger eqn. calcs. 7−21846
graphite intercalation cpds., staging dislocation electronic struct., electron scatt. rates, residual resist. 7−52558
hot nuclei, semiclassical calcs. using Hartree-Fock and Thomas-Fermi approx. 7−61826
inert gas, pair pot., energy density functionals, Thomas-Fermi theory 7−42485
ion backscattering from solids at oblique and grazing incidence, analytical calcs. and computer simulation 7−53466
metal surface, pot. change with charge, Thomas-Fermi-Dirac-jellium model 7−52715
methane, equilib. bond lengths, relativistic corrections 7−36477
multifragmentation of hot and compressed nuclei within a time dependent Thomas Fermi and percolation model 7−30450
nonergodic Thomas-Fermi theory, covalent bonding anal. 7−42452
optical radiation continuous spectrum emitted by at. particle secondary emission products, two-photon form. mechanism 7−42713
particle-hole level density in Thomas-Fermi approximation 7−35954
spherical nuclei, Thomas-Fermi approach to nuclear mass formula 7−10111
Z-dependent screening of positive point charge in insulator 7−64146
Cu-like heavy positive ions, binding energy and electron density, relativistic Thomas-Fermi theory 7−49923
F I, excited levels, photoionisation cross-sections, Thomas-Fermi calcs. 7−10423
GaAs/Al_xGa_{1-x}As superlattices, magnetophonon oscills. damping, polar-optical phonon contrib. calcs. 7−27391
He^+ bombard. of target atoms, shadow cone form. calc. 7−36731
Li^+ bombard. of target atoms, shadow cone form. calc. 7−36731
Na^+ bombard. of target atoms, shadow cone form. calc. 7−36731
Ne^+ bombard. of target atoms, shadow cone form. calc. 7−36731
PbH_4, equilib. bond lengths, relativistic corrections 7−36477
Ti, H-like, dielectronic satellite spectra 7−19741

Thomson effect
photoelectron statistics effects on Thomson scattering meas. 7−11800
plasma diagnostics, molecular origin of background light in Thomson scattering measurements 7−32089

thorium
see also nuclei with ......
Amazon River continental shelf, Th partitioning between dissolved and particulate phases 7−34549
aqueous soln., reaction rate consts. of radiation-produced transients 7−60903
atom, doubly ionised, $5f^2$-config. 7−19738
atoms, K_β/K_α X-ray intensity ratios 7−42537
Barberton Mt. Land, S Africa, U and Th content of Archaean granitoids 7−18153
concentrations in geological samples, plastic track detector study 7−40596
East Pacific Rise and Guaymas Basin, hot springs U-Th-Pb systematics 7−40462
fuel resources and reprocessing for HTGRs *(Japanese)* 7−5329
giant dipole resonance absorption, two-laser technique 7−5620
ions, laser produced spectra and QED effects 7−37747
isotopes, radiochem. determ. in atmospheric samples 7−3616
lattice dynamics 7−51972
nuclear fuels, diffusion processes, review 7−19350
peat dating by U-Th disequilibrium, geochem. aspects 7−60392
phonon density of states from heat capacity temp. depend., inverse problem 7−6736
plasma, XUV spectra, isotope line identification, HF and DF calcs. 7−15487
solid state and thermodynamic props., f-electron bonding and struct., review 7−12321
^{228}Th, activity in bones of former Ra dial workers in Illinois 7−8700
^{232}Th concentrations in seawater, meas. techniques and results 7−34554
^{232}Th, lakes, seasonal anoxia, actinide release 7−60286
^{232}Th, space-dependent fast neutron spectra, eigenvalue and eigenfunction study 7−30532

thorium alloys
$SnTh_3Rh_4Sn_{12}$ crysts., structural distortion and chem. bonding, X-ray diffr. studies 7−1947
Th-Au system, phase diagram, DTA, micrography, X-ray anal. 7−17512
Th-Mo(Zr)(Re)(W), diffusion and electrotransport of transition metals in BCC Th 7−63888
$ThAl_2$, press. induced AlB_2 to $MgCu_2$-type struct. transition 7−12263
$ThBe_{13}$, band struct. calc. 7−32905
Th_2Hg, intermediate phase in Th-Hg system, synthesis, struct., X-ray diffr. study 7−37911
ThM_2Si_2 (M=Cu, Ru, Os, Ir, Pt), magnetochemistry and crystal chemistry 7−58976
Th_6Mn_{23}, giant cells, polyhedral packing 7−11992
U-Th-Sn, liq. N-nitride equilib. 7−46417
$U_{0.95}$ $Th_{0.05}$ Pt_3, ground state antiferromag. order, neutron diffr. meas. 7−38847
$U_{0.967}Th_{0.033}Be_{13}$, heavy-fermion superconductor, muon Knight shift study 7−7628
$U_{0.97}Th_{0.03}Be_{13}$, low temp. high mag. field study 7−12911
$U_{1-x}Th_xBe_{13}$, anisotropic supercond. and ultrasound attenuation study 7−22067
$U_{1-x}Th_xBe_{13}$ heavy fermion superconds., muon Knight shift and zero-field relax. meas. 7−45887
$(U_{1-x}Th_x)Be_{13}$, superconductivity under pressure 7−12903
$U_{1-x}Th_xPt_3$, Fermi surface instability modification by Th substitution in UPt_3 7−2766
$U_{1-x}Th_xRe_2$, polymorphic transform., supercond. crit. temp., low temp. sp. ht. meas. 7−17125
Y-Th, T release in Ar gas flow, 973-1173 K 7−56836
$Y(Dy)(Er)_{2-x}Th_xFe_{14}B$ alloys, mag. props., comp. depend. study 7−7492

thorium compounds
BaF_2-ThF_4-YbF_4 glass, electron irradiation effects, Yb^{3+} optical transitions 7−27764
$La_{30}Ce_6Li_{24}O_{69}$, $Li_{24}Ce_{12}Li_{24}O_{72}$ and $La_{30}Th_6Li_{24}O_{69}$, cubic and tetragonal phases, structures 7−26725
Na_2O-B_2O_3-SiO_2 ThO_2-rich porous glass ceramic, phase separation *(Afrikaans)* 7−13439
SiO_2-B_2O_3-ThO_2 based glasses, local struct. around actinide, EXAFS and optical spectral studies, appl. for nuclear waste glasses 7−59290
$(Th,U)O_2$, irradiation induced dimensional changes 7−5331
$(Th,U)O_2$ microspheres with 0-35% U, prod. using sol-gel process in CCl_4 7−30569
Th complex, bonding, Xα-SW MO calcs. 7−62283
Th complex, Th (IV)-amino acid complexes, stability const. determ., ionophoretic technique investig. 7−28381
$ThBe_{13}$, high temp. sp. ht. meas. *(French)* 7−16786
α-$ThBr_4$:U, Stark energy level determ. of $^3H_4$ ground state of U^{4+} 7−27696
ThC powders, structural stability, eqn. of state, press. up to 36 GPa 7−16688
$ThCl_4$: U^{4+} incommensurate struct., absorption and emission spectra studies 7−33439
$ThCl_4$:Gd^{3+}, impurity-vacancy centre EPR probe for incommensurate phase 7−17220
β-$ThCl_4$:Pr^{3+}, site selective laser fluorescence spectroscopy 7−64687
$ThCl_4$:U, optical spectra of U^{4+} 7−27732
$ThGeO_4$, cryst. struct. determ. 7−26718
Th_3N_4 and ThN, prep. and oxidation behaviour 7−22600
$Th(NO_3)_2$, synergistic extraction by mixture of DMHMP+HTTA in benzene 7−25086
$Th(NO_3)_2$, synergistic extraction mechanism for DMHMP and HEHEHP 7−25088
ThNX (X=Se, Te), heat capacity, neutron diffr. and crystal field models 7−12976
ThO_2, crystalline and glasses, localisation of 5f states, XANES study 7−64794
ThO_2, nuclear fuel, diffusion processes, review 7−19350
ThO_2, photoacoustic-spectroscopy 7−27731
ThO_2, prep. and EPR study of actinide and rare earth ions 7−27598
ThO_2:Np^{4+}, absorption and emission spectra of Np^{4+} 7−27763
ThO_2-UO_2, polycryst., lattice and grain boundary diffusion 7−58519
ThO_2-UO_3 sol preparation for gelation into microspheres in CCl_4-NH_3 media 7−19370
α-$ThSi_2$, struct. type, geometrical characteristics 7−2003
$ThSiO_4$ single crystal, low temp. Raman and room temp. IR spectra 7−13158
$ThSiO_4$:Np^{4+}, absorption and emission spectra of Np^{4+} 7−27763
$ThSiO_4$:U, optical spectra of U^{4+} 7−27732
$ThZr_2D_x$, D distrib., neutron diffr. study 7−16512

thorium compounds continued
$U_{1-x}Th_xSb$, AC mag. susceptibility meas. 7−17160
ZrF_4-BaF_2-ThF_4-LiF quaternary glasses, ionic cond. and NMR studies 7−6865

three-phase flow *see multiphase flow*

three phase rectifiers *see rectifiers*

three-photon spectra *see multiphoton spectra*

three-term control
digital controller for a magnetic suspension system 7−333
paralysed limbs, joint angle control by using functional electrical stimulation with digital PID control system *(Japanese)* 7−60128
very high temperature gas cooled reactor, control system design and dynamics 7−768

threshold elements
digital optical computers, threshold device tolerance requirements 7−57410
nonlinear optical associative memories using thresholding devices and volume hologram 7−57408

throat microphones *see microphones*

thulium
see also nuclei with ......
atom, Auger transitions, relative intensities for KMX and KXY groups 7−25442
atom, ground-state sublevels, optical pumping, depolarisation cross section meas. 7−50027
polycrystalline, electrical resistivity, mag. struct. effect 7−52564
$BaYb_2F_8$:Tm, energy levels Stark struct., crystn. field interactions 7−58782
CaF_2:Tm Teflon TLD discs of different thicknesses, fast neutron responses 7−54757
CaF_2:Tm^{2+} crystal, dynamic nuclear polarisation, strong hyperfine interaction, ENDOR study 7−45840
CaF_2:Tm^{3+}, absorption spectra of optically excited Tm^{3+} 7−33418
$GdScGa_5O_{12}$:Cr, Tm crystals., dual freq. lasing study 7−43117
Ho,Cr,Tm:YAG laser spectroscopic pumping scheme for 2 μm band 7−36968
$LiYF_4$:Ho^{3+},Er^{3+},Tm^{3+}, excited-state absorpt., energy transfer, fluoresc. study 7−22322
$LiYF_4$:Tm^{3+} crystal, Tm optical spectrum, press. induced linear dichroism, electron-phonon interaction 7−3069
$LiYbF_4$:Tm, energy levels Stark struct., crystn. field interactions 7−58782
$Lu_3Al_5O_{12}$:Cr^{3+},Fm^{3+},Ho^{3+}, 2 μm stimulated emission of Ho^{3+} ions, spectral composition and kinetics 7−46073
Pt-Tm contact, mag. order destruction by cold current 7−52980
SrF_2:Tm^{2+}, g-factor signs, optically detected ESR 7−32948
SrF_2:Tm^{2+}, optically detected low-field ESR, cross-relaxation effects 7−33301
$Tm+H^+$, K-shell ionisation cross sections 7−50326
Tm+Ne(Xe), excited state transition cross sections, nonreson. fluoresc. 7−42540
$Y_3Al_5O_{12}$:Tm^{3+},Cr^{3+},Ho^{3+}, 2 μm stimulated emission of Ho^{3+} ions, spectral composition and kinetics 7−46073
ZnS:O, Tm, activator centres, spectrosc. investig. 7−13184

thulium alloys
intermediate valence systems, dynamics, self-consistent perturbation theory studies 7−27309
magnetic dynamics, low-frequency, in vicinity of the quadrupolar phase transition pt. 7−17155
Ag-Tm dilute alloys, magnetoelastic coupling coeff., 5d virtual found state effects calcs. 7−53108
$TmAl_2$ polycrysts., low temp. heat capacity meas. in mag. field, mean field approx. calcs. 7−27530
$TmCo_5$, magnetocrystalline anisotropy, rare earth contribution 7−45659
$TmCu_2$, $^3H_6$ multiplet splitting, cryst. field effect 7−52533
$TmCu_2$, magnetic phase transitions, suscept., sp. ht., elec. resist. and magnetisation meas. 7−2857
$TmNi_2$, singlet ground-state cpd., induced-moment ferromagnetic ordering meas. 7−38866

thulium compounds
see also thulium alloys
$(BaTm)_3(FeGa)_5O_{12}$, garnet films, pulsed magnetisation reversal, in-plane mag. field 7−45736
$(Bi,Tm)_3(Fe,Ga)_5O_{12}$ garnet films, magnetisation reversal, pulsed mag. field nonuniformity effect 7−45783
$(BiGdTm)_3(FeGa)_5O_{12}$ single cryst. film, reverse-magnetisation domain nucleation studies 7−17208
$(BiGdTm)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7−45778
$(BiTm)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7−45778
$(BiTm)_3(FeGa)_5O_{12}$, garnet films, pulsed magnetisation reversal, influence of temp. on integral characts. 7−45735
$CrTm_4S_7$, synthesis, physiochemical props. 7−44470
$Gd_{2.813}Tm_{0.17}Ho_{0.017}Sc_yCr_{0.05}Ga_{4.95}O_{12}$, laser active medium operating in 2 μm range 7−50568
$LiTmF_4$, Van Vleck paramagnet, 4f electron excitations, mag. relax. of ^{169}Tm nuclei 7−7601
$LiTmP_4O_{12}$ and $Li(Ho,Er,Tm)P_4O_{12}$, flux cryst. growth 7−13345
$(TmBi)_3(FeGa)_5O_{12}$ indicator film, visualisation of mag. field profile of thin-film magnetic heads 7−61359
$Tm_3Fe_5O_{12}$, double phase transition, EXAFS studies 7−63799
$Tm_3Fe_5O_{12}$ ferrogarnets, heat of crystallisation, scanning calorimetry obs. 7−2154
$Tm_2Ge_20_7$, circular dichroism, chirality, UV spectra 7−33412
TmH_2, spin-disorder resistivity and cryst. field effects 7−17021
Tm_xSe, mixed valent systems, atomic relax., determ. from EXAFS spectra 7−64797
$TmSi_{2-x}$-Si, silicide thin films, phase composition, conductance, surface morphology 7−7072
$Y_{1-x-y}Er_xTm_yF_3$, 1.5 μm IR excitation of visible lumin. via resonant energy transfer 7−46100
$(YEuTmCa)_3(FeGe)_5O_{12}$ films, planar anisotropy and magnetisation, ion irrad. effects study 7−2906
$(YEuTmCa)_3(FeGe)_5O_{12}$, epitaxial films, O ion adsorpt. bubble diameter variation effect 7−22125
$(YEuTmCa)_5(FeGe)_5O_{12}/(YLa)_3Fe_5O_{12}$ ferrite/garnet layered structs., domain wall and ferromag. reson. props. *(Russian)* 7−45828
$(YEuTmCa)_3(FeGe)_5O_{12}$ films, double layer, mag. bubbles, translational velocity 7−45781

thulium compounds continued
$(YTmBi)_3(FeGa)_5O_{12}$ films, bubble wall states generation in rotating gradient expt. 7−53097
$Yb_{1-x}Tm_xSe$, anomalous Tm valence, lattice parameters, diamag. suscept. and Hall effect meas. 7−16998

thunderstorms
see also lightning
abnormal polarity thunderclouds, grown from negatively charged air 7−29227
aircraft lightning strike events, rel. to thunderstorm struct. 7−29172
anvil clouds, elec. characts. and dynamics *(Chinese)* 7−29121
cloud top dynamics from satellite obs. and cloud top parcel model 7−40525
clouds electrochemical charge separation mechanism 7−40511
Denver hailstorm, 1984 June 13, meteorological obs. 7−29127
electric field and precip. growth in finite thundercloud, theory 7−29206
electric field measurement method using a corona probe 7−18318
electrostatic field measurements and the mechanism of intracloud discharges 7−55121
funnel-producing indented cloud-base swirl of severe thunderstorm of USA 7−34636
ground coronae effects during lightning flashes 7−55122
ice particle growth in anvil of severe thunderstorm during CCOPE 7−66231
meso-alpha-scale convective complexes, study of meso-beta-scale characts. 7−34635
metallic ground points beneath thunderstorm, calc. of space charge due to corona discharge *(Chinese)* 7−29222
microburst or tornado damage over W Germany and Belgium 7−66250
microphysics, kinematics and electrification of isolated mountain thundercloud 7−34602
Montana thunderstorm, precipitation particles growth trajectories 7−4124
multicell to supercell storm transition 7−14349
precipitation signature on radar displays, 3-body scattering 7−60369
Spanish plume, forecasting and origin 7−29186
squall line pressure and temp. from dual-Doppler obs. 7−66223
stratospheric electrical conductivity variations above thunderstorms 7−29169
supercell thunderstorms, vertical circulation influenced by precipitation development *(Chinese)* 7−18261
thunderstorm initiation by convergence lines 7−60361
turbulence and radar Doppler spectral width 7−60415

thyratrons
CROSSATRON modulator switch development 7−26537
current and plasma quantities intrinsic relationships, thyratron plasma cond. 7−32121
linear thyratron in tetrode configuration, develop. 7−32120
plasmas, self-consistent modeling 7−32122
switch plasma diagnostics using laser induced fluorescence, H thyratron plasma 7−32099

thyristor applications
FTU tokamak, poloidal field coils, thyristor convertors 7−36263
invertor, half-bridge HF variable voltage-fed, used for geophysical survey transmitter 7−23879
JFT-2M poloidal field coils, power supply and control system 7−15323
ultrasonic power generator using voltage-vector controlled resonant inverter 7−20535
wideband power regulation system for Ar ion laser 7−31347

thyristors
NMR field cycling device using GTOs and MOSFETs 7−35546
on state spreading mechanism, diffusion and drift ratio 7−21937
open-type vortex cooler for power semicond. instruments, thermal resist. study 7−11405

tidal power stations
barrage sites in UK, environmental problems caused by schemes 7−33994
ocean energy extraction technology status and economic prospects 7−65403
turbines, advantages of bulb and Straflo types for tidal barrages 7−65401

tides
2D eqns., num. soln. by method of characts. 7−18187
2D eqns., soln. by method of characts., adaptation to wind-induced currents and storm surges 7−18188
acoustic Doppler current profiler, intercomparison with conventional instruments and tidal flow model 7−9266
N Adriatic Sea, current struct. of M2 tidal component from rotary anal. of Taylor model 7−40486
Ampere Bank, Atlantic Ocean, semi-diurnal tidal period, vertical temp. var. struct. 7−29071
Antarctic ice shelves, tidal spectrum beneath ice shelf 7−34522
Atlantic Ocean, M_2 tide, FEM 7−47464
atmosphere, diurnal propagating tides in low-latitude region 7−60436
upper atmosphere, EISCAT obs. of tides and gravity waves 7−29317
atmosphere, influence of zonal tides on Earth's rot. rate *(Chinese)* 7−4073
atmosphere tidal oscillations, general circulation model calcs. 7−40534
atmosphere tides for solstice conditions, numerical simulations 7−9277
atmospheric tide differences in surface layers and ground level 7−60341
atmospheric tide theory, treatment of IR radiative damping 7−29208
atmospheric tide theory in geometric height and log-press. coords. 7−29323
barrage sites in UK, environmental problems caused by schemes 7−33994
Bass Strait, tidal and storm surge model 7−18206
Bristol Channel, 3D model for tides and salinity 7−23656
upper Chesapeake Bay, anal. of tidal propag. signals from two bay systems 7−66164
coastal and ocean tides prediction 7−60261
continental margin, tide models, Australian NW shelf appl. 7−18208
Delaware Bay acoustic Doppler profiler intercomparison expt. 7−9263
depth-limited tidal flow, time-dependent model 7−29037
E-region, semi-diurnal tide, EISCAT obs. 7−34782
Earth, recordings in Romania geodynamic observatories, sensors and auxiliary apparatus characts. *(Rumanian)* 7−9243
Earth, strain tides, theoretical calcs. and harmonic anal. *(Chinese)* 7−28807
Earth model, spherically stratified, response to body force and surface pots. load *(Chinese)* 7−18105
Earth tides, harmonic anal. of strain tidal data in Shanghai City *(Chinese)* 7−34368
Earth tides, indirect effects of ocean tides on gravimetric KAPG stations 7−28813
Earth tides, obs. data smoothing *(Chinese)* 7−55271

tides continued
Earth tides, topographic effects on tilt, strain and displacement meas. 7−54851
Earth tides, torque components determ. independently of Earth internal density distrib. 7−18107
Earth-Moon system, theoretical estimates of tidal decelerations 7−18348
earthquake prediction, using solid Earth tide tilt and strain near to dilatant region 7−3996
Europe, north west continental shelf, tidal effects, FEM 7−47463
eutrophication process in coastal bay, 3D eco-hydrodynamic model 7−55082
extreme sea level return periods (due to tides and storm surges) 7−29053
galactic disks perturbations, tidal triggering of Seyfert galaxies and quasars 7−9537
geodesy, constant part of Earth tides in Earth figure theory 7−65916
geodetic solid Earth tide measurement, horizontal pendulums of capacitive type 7−29250
global displacement and stress fields due to tidal attraction *(Chinese)* 7−54841
Great Barrier Reef, island wakes and internal tide of Myrmidon Reef 7−8955
Gulf of Maine region, positions of tidal fronts 7−29036
harmonic constants of ocean tides, extraction from high and low water data *(Chinese)* 7−55070
Huanghai Sea, cold water mass fronts induced by tidal mixing *(Chinese)* 7−47461
Ivory Coast, semidiurnal internal tides on continental shelf canyon 7−34532
Jiangsu Province, China, characts. of tidal current and suspended load sedimentation on tidal mud flat *(Chinese)* 7−55012
Knight Inlet, BC, Canada, internal tide propagation in a stratified inlet 7−8980
lunar periodicity in great earthquakes (1950-65) 7−60184
luni-solar periodic components in precipitation data 7−66208
marine geodesy in North America 7−47312
Mediterranean Sea, medium and short-period sea level oscills. at Trieste and Cagliari 7−40484
mesosphere, simulation studies of tidal analysis using meteor echo returns 7−40623
mesosphere, wind and tide meas. determ. from meteors radar obs. 7−55341
middle atmosphere, gravity wave effects under solstice conditions with 3-D circulation model 7−47597
Moon, theory of tides in elastic Moon *(Hungarian)* 7−18362
North Sea, pole tide dynamics 7−18195
North Sea, pole tide dynamics 7−47445
Observatory Inlet, BC, Canada, time-depend. hydraulic flour and dissipation over sill 7−4045
ocean., abnormal response at S_2 freq. 7−34505
ocean, direction and vel. determ. for internal tide wave via single-station meas. 7−40483
ocean, effects of tidal loading on harmonic anal. of strain tidal data in Shanghai City *(Chinese)* 7−34368
ocean, form. mechanism and developmental conditions of tidal current ridges 7−40461
ocean, tide-induced Lagrangian residual current 7−55074
ocean, tide-induced residual transport, appl. in S San Francisco Bay 7−55075
ocean tides, comparison between astronomical and geophysical estimates of energy dissipation 7−14301
ocean tides, effects on sensitivity of LAGEOS to changes in Earth's (2,2) gravity coeffs. 7−34825
ocean tides, indirect effect on gravimetric Earth-tide KAPG stations 7−28813
ocean tides, microcomputer tide prediction utility 7−66163
ocean tides, relation between daily mean sea level and tidal range and dynamical explanation 7−40481
ocean tides, verification of tidal period internal wave currents in offshore areas 7−40482
ocean tides analysis, least-squares method as filter and related power in spectrometry 7−40575
oceans, tide gauge records, oceanic signals removal 7−8971
polar mesopause, large-amplitude semidiurnal temp. var. as evidence for pseudotides 7−34754
pole tides in ocean, dynamic theory rel. to period of Chandler wobble 7−8969
solid Earth tide recording, digital data acquisition system 7−29245
solid Earth tides, influence of mantle anelasticity 7−23512
solid Earth tides, measurement with feedback gravity meter 7−40396
solid Earth tides and geodynamics 7−28804
Spencer Gulf, tidal computer model 7−18207
stellar tidal interactions, two-body tidal capture of main sequence stars and white dwarfs 7−4500
Strait of Messina, internal nonlinear tidal waves 7−34508
Taiwan Strait, 3D semidiurnal tide waves *(Chinese)* 7−47460
Taiwan Strait, numerical investigation of three-dimensional diurnal wave *(Chinese)* 7−55069
lower thermosphere, role of tides in thermodynamics for solstice conditions 7−47595
lower thermosphere, tidal contribs. to momentum flux vars. from mid-latitude meteor wind obs. 7−55343
thermosphere, tidal winds, role in counter electrojet generation 7−66378
thermosphere, tides in 80 to 100 km height region 7−47594
water level computation between high and low tides, FORTRAN program 7−55077

tight-binding calculations
see also recursion method
actinide-transition metal alloys, AM_2, A=U-Np, M=Fe-Ni, magnetism and electronic props. 7−27505
alloys, substitutionally random, electron localisation and metal-insulator transition, CPA calcs. 7−27302
amorphous semicond. III-V and II-VI cpds., electronic struct. of bulk and defect sites, tight-binding recursion method 7−45222
amorphous semiconductors, optical absorpt., tight-binding model 7−45961
β-$(BEDT\text{-}TTF)_2IBr_2$, polarised reflectance spectra 7−7697
(BMDT-TTF)TCNQ, molecular conductor, dimensionality, struct. and electrical props. 7−52595
C* algebras, K-theory for tight binding representation 7−58725
chemisorbed atoms, vibration, electron-hole friction mechanism 7−38317
chemisorption, substrate impurity effects 7−63964

tight-binding calculations continued
chemisorption, tight-binding approach, s-orbital hopping parameters calc. 7−21625
concentrated magnetic systems, magnetisation density meas., cryst. translational symm. 7−27498
crystal lattice, spiral mag. struct., band struct. calcs. 7−7096
d-band metals, binding force, effective interatomic pots., strong scatt. open shell metals 7−32262
disordered alloy surfaces, density of states calc. 7−21961
disordered oxide-semiconductor interface, inversion layer electronic density of states 7−58852
disordered systems with statistical correlations electronic states, self-consistent Born approx. 7−2542
electron trapping by micropores in tight-binding solids 7−21870
four-centre integrals evaluation with LMTO tight-binding method 7−27227
graphite intercalation compounds, first stage, with heavy alkali metals, electronic props. 7−2463
heavy fermion superconductivity, tight binding picture and Cooper pairs 7−2776
heterojunction band lineups and interface dipoles, tight binding theory 7−7368
III-V semiconductor surfaces (110), Sb p(1 × 1) overlayers, atomic and electronic struct. 7−7007
incommensurate systems, Aubry 1D tight binding model, hopping range extension, localised states generation 7−21800
incomplete crystals, surfaces, defects, interfaces and layered structures, theory 7−16926
incomplete crystals and crystalline interfaces, discrete struct. anal. 7−12508
ionic solids, overlap interactions and bonding 7−1940
lattice stability and defect form., noncentral forces effects, tight binding parameter calcs., recursion method 7−51694
light quantum particle motion in metallic environment, path-integral formalism calcs. 7−52459
magnetic thin films, surface spin waves, tight-binding and Coulomb parameter effects 7−27572
mean field approx. for fermion or pseudo-spin boson interaction 7−32590
metal alloy hydrides, disordered, theory of electronic states 7−27243
metallic rings in mag. field, quantum interference, tight-binding approx. 7−52570
metals, electronic structures of lattice defects, tight binding recursion method 7−27289
one-dimensional incommensurate model, mobility edges and electronic density of states calcs. 7−21799
one-dimensional quasicrystals, electronic struct., tight-binding model 7−32892
one-dimensional wave equations in random and quasiperiodic media, localisation 7−21872
particle coupled to fermionic environment, ground state static props. 7−45107
Penrose lattice, 2D, DC cond., recursion method calcs. for tight-binding Hamiltonian 7−64192
Penrose lattice, electronic structure, local-environment depend. 7−52392
phenazine, drift mobilities, photovoltaic appls. 7−21906
photoreflectance of doping superlattices 7−53368
polyacene, one-dimensional graphite series, electronic props. 7−64063
trans-polyacetylene, within the extended tight-binding picture, interband transitions, hoping processes 7−27678
polyphenanthrene, one-dimensional graphite series, electronic props. 7−64063
pseudobinary alloys, tetrahedrally coordinated, Coulomb energy calcs. 7−1941
quasi-lattices, two-dimensional, tight binding electron props. 7−27233
quasicrystals, 1D tight-binding model, critical wave functions and Cantor-set spectrum 7−64189
quasicrystals, Fibonacci chains, spectrum, global scaling props. 7−58724
quasiperiodic and periodic lattices in 2 and 3D, electronic props. 7−32891
quasiperiodic Schrodinger equation, global scaling props. of spectrum 7−283
random systems with off-diagonal disorder, localisation studies 7−32959
reconstructed structures of symmetrical (011) tilt grain boundaries 7−51785
Schottky barrier heights, tight-binding theory 7−52813
semiconductor heterojunction band line-ups, tight-binding theory 7−52813
semiconductor superlattices, I-type, intersubband collective excitations *(Chinese)* 7−12804
semiconductors and insulators, nonlocal exchange and correlation contributions to band gap 7−2458
solid surfaces, chemisorpt. of atoms binding energy, sum rules 7−16868
sp-bonded nonmetal solids, cryst. stability and structural transition press., total-energy minimisation, tight-binding calcs. 7−2190
superconductivity and random disorder in the zero-bandwidth limit 7−58945
superlattice band structures of group IV and III-V semicond., axial strain effects 7−2697
surface (100) finite temp. surface magnetism 7−52949
surface (110), surface relax., electron states 7−21965
surface and interface electronic states calc., tight-binding muffin-tin orbital Green's function method 7−52721
tetrahedral solids, semicond., dispersion of linear optical props., empirical tight-binding calc. 7−45966
$(TMTSF)_2X$ Bechgaard salts, cascade of field-induced SDW transitions 7−45704
$(TMTSF)_2X$ Bechgaard salts, mag. field induced SDW phases 7−45703
transition metal alloys, dilute binary FCC, surface segregation 7−63830
transition metal alloys, liquid and amorphous, chemical short-range order, electronic theory 7−44349
transition metal crystal, BCC, metal-H bond investig. 7−32360
transition metal perovskite type oxides, electronic struct. of point defects 7−16979
transition metal surface, chemisorpt. of H, binding energy, sum rules 7−16868
transition metal surfaces, multi-adatom interactions, self-consistent calcs., tight binding formalism 7−2382
transition metals, BCC, atomic stability of (100) face, quenched molecular dynamics approach 7−6932
transition metals, liquid, thermodynamic props. 7−12323
transition metals, Slater-Koster parameters, transferability and scaling 7−64072
AgCl:I, impurity centre local electron states 7−45207

tight-binding calculations continued
Al clusters, electron energy spectra, size effects 7−7103
$BaPb_{1-x}Bi_xO_3$, electron-phonon interaction and superconductivity 7−27463
Br_3^-, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7−52546
Cu-Ni alloy surface segregation, H chemisorbed monolayer effects calcs. 7−21465
Cu-Ni alloys, surface segregation, tight-binding Hartree Hamiltonian, cluster-Bethe-lattice approx. calcs. 7−38665
Fe-Ge (110) interface, electronic struct. calc., mag. effects 7−45496
FeH_x cleavage strength, tight-binding model calcs., interstitial solute effects 7−59538
GaAs-$Al_xGa_{1-x}As$ type I superlattices, electronic struct., tight binding calcs. 7−45475
GaAs-$Ga_{1-x}Al_xAs$, semiconductor superlattice, effective mass, mag. quantisation influence 7−52754
GaAs-$Ga_{1-x}Al_xAs$ quantum wells, with indirect gas semicond. barriers, electron tunnelling 7−64340
$Ga_xIn_{1-x}P_yAs_{1-y}$-InP heterojunction interfaces, electron energy band structure *(Chinese)* 7−33070
$GdMn_2$, magnetic structure, tight binding approx. 7−2819
GeTe, energy bands, relativistic empirical tight binding theory 7−45149
$HfFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7−2475
HgTe-CdTe superlattice, semimetallic, band structure calc. 7−12851
I_3^-, electrical cond. mechanism, tight-binding and ab initio pseudopot. calc. 7−52546
InP(110), P- and In-rich, electronic states, semi-empirical tight binding calcs. *(Chinese)* 7−12773
K, electronic band struct., interatomic distance, role of p-orbitals, EHT tight-binding calcs. 7−32906
Li, electronic band struct., interatomic distance, role of p-orbitals, EHT tight-binding calcs. 7−32906
$LuFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7−2475
MnTe, electronic struct. in magnetically ordered and disordered phases, tight-binding calcs. 7−45145
Mo dislocated lattice, local density of states calcs. in tight binding model, modified recursion method 7−52401
Mo-Fe dilute alloy, Fe solute atom-screw dislocation interaction force, modified tight-binding recursion method calcs. 7−51814
$Mo_6L_8L'_6$, (L, L′ = S, Se, Cl, Br), cluster compounds, electronic struct., 3-band model, tight-binding and extended Huckel method calcs. 7−32913
$MoSi_2$, band structure 7−27248
Na, electronic band struct., interatomic distance, role of p-orbitals, EHT tight-binding calcs. 7−32906
Nb, Fermi surface, Fermi vel., many-body enhancement and supercond. energy gap anisotropies calcs. 7−58729
NbS_2 monolayers, optical absorption spectrum, Slater orbitals two-centre dipole matrix element calcs. 7−46158
Ni (110), chemisorbed H induced (1×2) reconstruction 7−58851
Ni (110) with adsorbed CO, bremsstrahlung isochromat spectroscopy 7−27379
P, black, interplanar forces caused by electron-lattice interaction 7−63547
PbTe(Se)(S), energy bands, relativistic empirical tight binding theory 7−45149
Rb, electronic band struct., interatomic distance, role of p-orbitals, EHT tight-binding calcs. 7−32906
$Re_6L_8L'_6$, (L, L′ = S, Se, Cl, Br), cluster compounds, electronic struct., 3-band model, tight-binding and extended Huckel method calcs. 7−32913
Si (111) (2×1), π-bonded chain model, vibr. props. 7−16856
Si, charge density, compact orbitals, LMTO tight binding representation 7−21806
Si, liquid, electronic props., tight binding-mol. dynamics calcs. 7−16931
Si, tilt grain boundaries, symmetrical ⟨011⟩, struct. and energies 7−16570
Si:N, host-impurity interactions, transferability of tight-binding parameters 7−58773
Si:S(Se)(Te), chalcogenide pairs, electronic structs., Green's function calc. *(Chinese)* 7−58759
Si-$NiSi_2(Pd_2Si)$(PtSi), interface electronic states *(Chinese)* 7−58845
a-$Si_{1-x}Sn_x$:H films, electronic structure of divalent defects 7−32960
Si(001), 2 × 1 surface relax. and vibr. excitations 7−6949
SnTe, energy bands, relativistic empirical tight binding theory 7−45149
$SrTiO_3:Fe^{5+}(V^{5+})$, impurity energy levels, tight binding model, Green's function method calcs. 7−21856
VH_x cleavage strength, tight-binding model calcs., interstitial solute effects 7−59538
W, He field adsorption and evaporation 7−32802
W surface, field adsorption of He 7−32816
$Y_2Co_{14}B$ intermetallic cpd., electronic struct. and mag. props., tight-binding calcs. 7−2450
$ZrFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7−2475
$ZrZn_2$, magnetisation density meas., cryst. translational symm. 7−27498

tilt (Earth) *see geodesy*

tilt boundaries
diamond, tilt boundary struct., computer modelling 7−16579
grain boundary dislocation form. by coincidence tilt boundary bulging 7−38015
$L1_2$ ordered intermetallic cpds., symm. tilt boundaries, geometrical models 7−32454
low angle symmetric tilt boundary, thermal fluctuations 7−21220
β-Sn thin films, high resolution TEM obs. 7−16891
Al tricrystals, grain boundary sliding, triple point fold form. mechanism 7−65101
Al_2O_3, bicrystals, high-purity, grain boundary structures 7−58668
Au crystallites, annealing, grain boundary untwisting and untilting, dislocation climb and glide 7−12076
Cu, isoaxial bicrysts, with ⟨001⟩ tilt boundaries, dynamic recrystn., effect of grain boundaries 7−17549
Cu_3Au, $L1_2$ ordered intermetallic cpds., symm. tilt boundaries, geometrical models 7−32454
Ge, dislocation transmission through $\Sigma=9$ symm. tilt boundaries, synchrotron X-ray topography, HVEM obs. 7−63646
Ge, dislocation transmission through $\Sigma=9$ symm. tilt boundaries, dynamic and crystallographic anal. 7−63647

tilt boundaries continued
- Ge, grain boundary energies, computer calcs. 7—6639
- Ge, tilt boundary struct., computer modelling 7—16579
- LiF, pore-grain boundary configs., fracture surface, SEM obs. 7—32458
- MgO bicrystals, (110) tilt boundaries and (100) twist boundaries *(Japanese)* 7—21232
- Nb superconducting bicrystals, flux pinning by symmetrical grain boundaries 7—64419
- Ni_3Al, computer simulation of grain boundaries, effect of comp. 7—21228
- Ni_3Al, $L1_2$ ordered intermetallic cpds., symm. tilt boundaries, geometrical models 7—32454
- NiO, diffusion processes down coincident tilt boundaries 7—38253
- Si bicrystals, Czochralski growth, tilt boundaries 7—53558
- Si, dislocation transmission through $\Sigma=9$ symm. tilt boundaries, synchrotron X-ray topography, HVEM obs. 7—63646
- Si, dislocation transmission through $\Sigma=9$ symm. tilt boundaries, dynamic and crystallographic anal. 7—63647
- Si, grain boundary energies, computer calcs. 7—6639
- Si, tilt boundary struct., computer modelling 7—16579
- Si, tilt grain boundaries, symmetrical ⟨011⟩, struct. and energies 7—16570

tilting control *see attitude control*

timber *see wood*

time and latitude
- *see also time measurement*
- day length (1657-1984) 7—23516
- Earth rotation parameters determ., appl. of lunar laser ranging data *(Chinese)* 7—3959
- Earth rotation parameters determ. estimation of accuracy in different freq. bands 7—54843
- Earth rotation parameters determination, atm. limitations on accuracy 7—60412
- lunar calendars, missing date-lines determ. 7—66433
- Paris Observatory APP 1985 meas. and time and latitude *(French)* 7—60509
- proper, dynamical and coordinate time scales *(Rumanian)* 7—18347
- rotation peculiarities and time meas. *(Russian)* 7—40397
- shifting date line, interesting feature of solar calendar 7—9362
- solar sidereal rotation axis rel. to synodic rotation axis 7—47825
- Tokyo Astronomical Obs., Time and Latitude Bulletins (April to June 1986) 7—23977
- Tokyo Astronomical Obs., Time and Latitude Bulletins (July-September 1986) 7—55433
- universal time determination, current accuracy 7—56211

time bases
- digital sweeper and Hall-generator magnetic field stabilizer as combined set for magnetic resonance spectrometers *(Polish)* 7—9862

time delays *see delays*

time division multiplexing
- fibre optic thermometer for medical appl., using thermochromic transducer and TDM technique 7—47276
- optical communication, ultimate speed anal. 7—31268

time-domain analysis
- Maxwell's eqns. in inhomogeneous media, 2D finite-difference time-domain analysis 7—15809
- phase reversal travelling wave integrated optic modulators, time-domain anal. 7—5988
- plane EM waves far field scattering, time domain Born approx. by penetrable object 7—10827
- seismic waves, time-domain apparent attenuation operators for compressional and shear waves 7—54928
- speech, nonstationary analysis model 7—47127
- thickness-mode piezoelectric transducer constants, automatic meas. and calibration system 7—1369
- US transducers, multilayered, transmitting and receiving characts. time domain anal. 7—43616

time domain networks *see time-varying networks*

time-domain reflectometry
- fibre optic sensors, distributed, review 7—20434
- fibre optic strain monitoring system, marine appl. 7—57597
- fibre optic time domain reflectometer, semiconductor laser and integrated optics use 7—25998
- fibre optics, short-haul and long-haul meas. and appls., conf., San Diego, CA, USA (Aug. 1985) 7—40998
- graphite fibre reinforced epoxy, NDT by OTDR in embedded optical fibres 7—28255
- IR optical fibres, meas. system for dispersion, attenuation, numerical aperture, optical time-domain reflectometry 7—37229
- measurement equipment for subscriber optical lines 7—62856
- multipoint fibre optic refractive index sensors 7—43419
- optical fibre cable integrated OTDR/throughput loss meas. system for environmental testing 7—43460
- optical fibre loss meas. using optical time-domain reflectometer, launching and receiving conditions *(Japanese)* 7—31513
- optical fibre OTDR, range and accuracy in backscatter measurements 7—15999
- optical fibre transmission loss characteristics during drawing, continuous measurement 7—6004
- optical single mode fibre splicing techniques, statistical anal., splice loss per fibre-span meas. 7—43416
- OTDR, high performance measuring instruments 7—9875
- OTDR for optical fibre cable meas. 7—14994
- OTDR for single-mode fibre using P_2O_5 doped fibre Raman laser 7—31517
- OTDR present and future 7—41436
- OTDR recent trends 7—56322
- permittivity meas. by time-domain reflectometry, single-reflection, conductivity limitations 7—41405
- PROTO II crossover network, time domain reflectometry meas. 7—30759
- resolution limits due to chromatic dispersion in optical time domain reflectometry 7—35570
- sampling oscilloscopes use for economical HF fast-rise-time signal meas. 7—48775
- temperature distribution measurement using Raman ratio thermometry in optical fibre 7—25985

time-domain synthesis
- nonlinear articulatory speech synthesizer using both time- and frequency-domain elements 7—43558

time-domain synthesis continued
- spline time varying digital filter, ventricular blood pressure meas. appl. 7—47268
- thin disc transducers, normalised time-response family model 7—1368

time interval measurement *see time measurement*

time invariance *see T invariance*

time lag *see delays*

time measurement
- *see also clocks; frequency measurement; streak photography; time and latitude; time resolved spectroscopy*
- Australian Broadcasting Commission TV network use for precise time comparisons 7—56214
- automatic time monitor for rate measurement 7—14923
- cloud-to-ground Lightning Position and Tracking System for electric utility weather problems 7—14371
- computer simulation of the photodetection process in optical range finding 7—41467
- digital reverberation time meter 7—20506
- equator projector sundials 7—47715
- flow meas., multichannel time counter and data acquisition system 7—37571
- frequency and time standards comparison along radiometeoric channel, instruments design 7—56209
- frequency standard, metrological certification of radiooptical freq. bridge 7—56210
- fundamentals of time and frequency measurements *(French)* 7—9820
- glass insulated probe in plasma, time required for probe surface meas. 7—37697
- glycerin, motion of sphere studied using videotapes, viscosity meas. 7—35149
- inertial clock based on computer controlled servo-driven corotation system with superconducting suspension 7—14927
- Laboratoire Primaire du Temps et des Frequences, metrological activities in 1986 *(French)* 7—9821
- microcomputer-controlled two-pulse generator, for use in NQR spectroscopy 7—9863
- NBS calibration service based on GPS common view data 7—14926
- passive TV techniques for time transfer via Indian satellite INSAT-1B 7—18764
- pendulum interfacing to microcomputer 7—35166
- radio-meteor systems for time-scale synchronisation, accuracy criteria 7—41350
- reproduction standards, automatic 7—41352
- reverberation time meas. 7—43606
- sleep investig., reaction time meter *(Dutch)* 7—23322
- standard units automatic comparison, software 7—41353
- standards, statistical analysis based on classical variance 7—18736
- universal time determination, current accuracy 7—56211

time of flight mass spectra
- aniline, excited vibronic states, ion dip spectroscopy 7—19990
- benzene cations, energy-selected, multiphoton ionisation, TOFMS 7—10680
- 1,3-butadiene ions, photodissoc., photoelectron photoion coincidence study, isomerisation barrier meas. 7—36711
- cluster dissociation dynamics following multiphoton ionisation 7—20082
- diatomic molecules, dissociative single and double photoionisation, photoion spectra anal. 7—19984
- p-dichlorobenzene, mol. beam excitation, photofragment energy distrib. 7—31130
- 1,4-dichlorobenzene, unimol. ionic form. rates, determ., pulsed laser-line. reflection TOF mass spectrometry 7—15667
- dust-impact ion source, TOF mass spectrometer 7—48907
- graphite surface laser irradiation, ionic cluster desorption, time-of-flight meas. 7—12138
- ice films, Kr^+ bombardment, ion cluster desorption, TOF mass spectra study, astrophysical implications 7—26815
- isocyanic acid, heat of form., photodissoc. study, time-of-flight and laser-induced fluoresc. spectra anal. 7—31105
- metal β-diketonate, multiphoton ionisation mass spectra 7—19960
- metal clusters, ionisation threshold, photoionisation TOF mass spectra 7—20085
- metal surface, field adsorbed He and Ne, atom-probe spectroscopy studies 7—32803
- molecular threshold electron spectra, TEPSICO-II apparatus 7—18907
- noble metal surfaces, laser stimulated desorption during Cl_2 reactions 7—53453
- optical system for laser ionisation mass spectrometer 7—41530
- polyimide surface, in situ anal. of H,C,N and O using direct recoil time-of-flight technique 7—54242
- pyrazine-d_4, spectral anal., Lennard-Jones-H-bonding pot. energy calcs. 7—5734
- pyrazine-d_4-pyramidine, spectral anal., Lennard-Jones-H-bonding pot. energy calcs. 7—5734
- pyrazine-h_4-pyrazine-d_4, spectral anal., Lennard-Jones-H-bonding pot. energy calcs. 7—5734
- small molecules, multiple photoionisation and photodissociation, mass spectrometer and coincidence studies 7—19965
- superheavy atoms, fractional charges, optical searches 7—10782
- surface analysis by laser ionisation, review 7—52213
- tetraphenylporphyrin metal complexes, multiphoton ionisation mass spectra 7—19960
- time-of-flight space and energy focusing examined in time-resolved ion momentum spectrometry 7—10780
- transition metal cluster oxides, high-temp. multiphoton ionis. and fragmentation 7—36835
- trifluoroiodomethane, dissociative electron attachment, unbalanced excess energy distrib. 7—25676
- p- xylene, laser ionisation time of flight mass spectra, mass resolution of 10,000 7—9918
- ArXe, excited states, photoionisation and predissoc. 7—19959
- Ba, double Rydberg states, ionisation, two-photon and TOF mass spectra 7—19809
- Bi_y cluster, laser vaporisation and photoionis., TOF mass spectrometry 7—31201
- C_n^+, (n=1 to 110), laser vaporisation prod., TOF mass spectrometric detect. 7—15760
- C_n^a, (a=+or−), clusters, mass resolution, photofragmentation and photodetachment spectroscopy 7—15795
- CH radical, electronic struct., reson. multiphoton ionisation spectra anal. 7—50240

time of flight mass spectra continued
- CaF$_2$, optical damage, laser mass spectrometric study 7—58319
- GaAs cluster, TOF mass spectra 7—20084
- Ge clusters, TOF mass spectra 7—20084
- Ge surface laser irradiation, ionic cluster desorption, time-of-flight meas. 7—12138
- H$^+$+H$_2$ double capture, collisions, H$^-$ ion excitation energy meas., Franck-Condon calcs. 7—36751
- H$^+$(H$_2$O)$_n$, mobility in water vapour, TOF mass spectra 7—11582
- Kr, 3p excitation, multiple photoionisation cross sections, TOF mass spectrometer anal. 7—19802
- KrXe, excited states, photoionisation and predissoc. 7—19959
- N$_2$, soft X-ray absorpt., at. ion yield 7—949
- N$_2$, triplet Rydberg state, autoionis., TOF mass spectra 7—19963
- NH$_3$, double photoionisation and fragmentation, PIPICO method anal. 7—19985
- NO, photofragment, REMPI and TOF mass spectra 7—25613
- N$_2$O, fragmentation by monochromatic soft X-rays, time-of-flight mass spectra 7—25610
- NeXe excited states, photoionisation and predissoc. 7—19959
- Pb and PbS ionised atomic clusters, fragmentation, TOF mass spectroscopic study 7—10807
- Pt, adsorbed NO, high-speed ramped field desorption spectra 7—32810
- Sb$_x$ cluster, laser vaporisation and photoionis., TOF mass spectrometry 7—31201
- Sb$_x$Bi$_y$ cluster, laser vaporisation and photoionis., TOF mass spectrometry 7—31201
- Si, chemical sputtering by ions, electrons and photons 7—59355
- Si clusters, TOF mass spectra 7—20084
- Si surface, 100, in situ anal. of H, C, N and O using direct recoil time-of-flight technique 7—54242
- Si surface laser irradiation, ionic cluster desorption, time-of-flight meas. 7—12138
- Si$_n$$^+$, clusters, mass resolution, photofragmentation and photodetachment spectroscopy 7—15795
- SiO$_2$, chemical sputtering by ions, electrons and photons 7—59355
- SiO$_2$, sputtering in XeF$_2$ and Cl$_2$ atms. 7—53465
- β-Sn surface laser irradiation, ionic cluster desorption, time-of-flight meas. 7—12138
- Xe, 4p excitation, multiple photoionisation cross sections, TOF mass spectrometer anal. 7—19802
- Xe, multiple photoionisation, charge state of ions, TOF mass spectra anal. 7—50036
- Xe$_2$, excited states, photoionisation and predissoc. 7—19959

time of flight spectra
- *see also atom probe field ion microscopy; time of flight mass spectra*
- accidental-coincidence corrections, discrepancies determ. 7—49858
- atomic beams, resonance ionisation spectroscopy, coincidence detection 7—57188
- bromodifluoroiodoethane, photodissoc. translational spectroscopy 7—62463
- 1,4-dichlorobenzene, laser multiphoton ionisation fragmentation by linear reflection, kinetic energy release 7—36710
- ethane, positron and electron collisions, cross section meas., time-of-flight spectra anal. 7—36799
- ethene, laser-induced vibr. predesorption from NaCl 7—58615
- ethylene, positron and electron collisions, cross section meas., time-of-flight spectra anal. 7—36799
- JAERI linac TOF facility 7—30779
- metal surfaces, production of energetic positronium 7—3109
- methane, positron and electron collisions, cross section meas., time-of-flight spectra anal. 7—36799
- NaNO$_2$ aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7—32692
- neutron scattering expts., evaluation of data from 1D-PSD used in TOF method 7—11846
- neutron TOF spectrometer at KURRI electron linac 7—30831
- particle sizing, high resolution, using time-of-flight and light scatt. meas. 7—48684
- pulsed laser field desorption TOF spectroscopy, ultrafast ion reaction time meas. 7—20072
- pulsed supersonic He free-jet expansions, time-of-flight characterisation 7—11457
- solid surfaces, chemistry and physics, book 7—60891
- tandem fast neutron TOF facility 7—30780
- time of flight small angle neutron scatt., resolution, calc., meas. on biological samples 7—18097
- Ag surface, (111), one-phonon scatt. of He atoms 7—3143
- Ar, electron impact ionisation, cross sections, fast-neutral beam method, TOF spectra 7—42769
- Ar$^+$ collision with surface, direct recoil ion fractions, kinetic energy depend. 7—13302
- Ar+H$^+$(He^{2+}), electron emission, impact parameter depend., TOF, coincidence spectra anal. 7—42747
- Ar$^+$+N$_2$, charge exchange reactions, TEPICO method anal. 7—20076
- Ar$^+$+N$_2$ collisions, low energy charge transfer reactions, time-of-flight spectra studies 7—31163
- Ar$^+$+O$_2$ collisions, low energy charge transfer reactions, time-of-flight spectra studies 7—31163
- Au ion beam, residual ranges in various media, time of flight spectra and adsorption meas. 7—25333
- CO, chemisorbed on Pt (111), adsorbate vibr. modes, inelastic He atom scatt. obs. 7—32782
- CO, desorption from Ni (111) during laser bombardment 7—58628
- CO$_2$, autoionisation and isotope effect in threshold UPS 7—19948
- ^{252}Cf plasma desorption mass spectrometry, low accel. voltage appl. 7—48905
- CsCl aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7—32692
- CsI, H$_n$$^+$ cluster ion impact-induced Cs$^+$ desorption, TOFS study 7—27843
- CuCl nanosec. laser etching, time-of-flight study 7—39687
- D+H$_2$, mol. beam scatt. study, differential cross sections meas. 7—39860
- Ge surface, NO scattering, energy distributions, state-resolved measurements 7—53477
- H$^+$+K, ionisation and charge transfer collisions, cross section meas. 7—20031
- H$_2$, c$^3\Pi_u$ state, total excitation cross-sections 7—5779
- He, 3 ^{3}P state lifetime, electron-photon delayed coincidence technique meas. 7—62533

time of flight spectra continued
- He, electron impact ionisation, cross sections, fast-neutral beam method, TOF spectra 7—42769
- He scattering apparatus for gas-surface interaction studies 7—33503
- He^{2+}+K, ionisation and charge transfer collisions, cross section meas. 7—20031
- HeRh^{2+}, cpd. ion, dissoc. in high elec. field, at. tunnelling, orientational and isotope effects 7—42777
- Kr, electron impact ionisation, cross sections, fast-neutral beam method, TOF spectra 7—42769
- LiF(00), surface optical phonons, obs. by inelastic He scatt. 7—44987
- N$_2$ + K, electronic and vibr. excitation, cross section meas. 7—36735
- N$_2$, electron-impact ionisation, double differential cross section, TOF spectra anal. 7—42774
- NH$_3$$^+$+NO, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7—20028
- NO, autoionisation of $\nu=3$ Rydberg states, branching ratios, multiphoton spectra anal. 7—36718
- NO$^+$+NH$_3$, cross section as a fn. of ion vibr. level, REMPI time of flight spectra, mass spectra 7—20028
- NO$_2$, photodissoc. REMPI study of photofragment energy 7—42709
- Na$^+$+N$_2$(CO)(CO$_2$), dissoc., rot. rainbow effect, time-of-flight spectra 7—54117
- NaCl aq. soln., water self-diffusion coeff. neutron scatt. time-of-flight meas. *(Russian)* 7—32692
- Na$_{1+4y+x}$Zr$_{2-y-x}$Si$_x$P$_{3-x}$O$_{12-2z}$ nonstoichiometric monoclinic NASICONs, X-ray powder Rietveld refinements 7—12304
- Ne, electron impact ionisation, cross sections, fast-neutral beam method, TOF spectra 7—42769
- Ne+Ar$^+$, time of flight energy spectra, long lived excited Ar$^+$ state 7—62486
- O$^-$, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7—25602
- O$_2$$^-$ and O$_4$$^-$, mass-selected negative ions, photoelectron spectra obtained using mass-selected negative ions 7—25602
- O$_2$$^+$ predissociative photoionisation, triple coincidence, double time-of-flight study 7—36709
- Pt (111), NO and CO electronically stimulated adsorbate rotation and desorpt. studies 7—45006
- SF$_6$, dissociative photoionisation, triple coincidence, double time-of-flight study 7—36709
- Si exciton transport, optical time-of-flight investigation 7—64244
- Si, laser-induced etching with Cl$_2$ 7—22915
- U^{90+}, He-like, Lamb shift from beam-foil time of flight meas. 7—36551
- Xe, multiphoton ionisation, final state redistribution, electron energy spectra anal. 7—25468
- Xe, multiphoton ionisation spectrum, space charge elimination pulse polarisation effects 7—15567

time of flight spectrometers
- calibration of flight-time-focused time-of-flight atom probe 7—18906
- CLEO II scintillation TOF system, tests of conventional and microchannel plate photomultipliers 7—25308
- Compton spectrometer for medium-voltage flash X-ray sources 7—56391
- double scatter in time of flight spectrometer for fusion plasma, electronics implementation 7—15368
- double scatter neutron time-of-flight spectrometer as aplasma diagnostic 7—11719
- double scatter neutron time-of-flight spectrometer for fusion plasma measurements 7—15450
- dust-impact ion source, TOF mass spectrometer 7—48907
- gamma correlated neutron spectra meas. spectrometer 7—42277
- impulse-field focussing pulse generators for high-resolution spectrometry 7—359
- KEK TOPAZ barrel TOF counters, laser calibration system 7—62214
- mass resolution of 10 000 in a laser ionization time-of-flight mass spectrometer 7—9918
- mass spectrometer, automatically controlled *(Japanese)* 7—56370
- molecular beam, with five-stage vacuum system 7—30110
- molecular threshold electron spectra, TEPSICO-II apparatus 7—18907
- neutron backscatter effects from photomultiplier assembly in TOF spectrometry at 144 keV 7—49786
- optical system for laser ionisation mass spectrometer 7—41530
- pulsed metastable atomic beam source for time-of-flight applications 7—41533
- small angle neutron scatt. time of flight spectrometer, config., performance, design principles 7—382
- space plasma diagnostic techniques 7—14510
- U-150 cyclotron neutron time of flight spectrometer 7—36376

time projection chamber *see position sensitive particle detectors; proportional counters*

time resolved spectra
- acetaldehyde, electronic struct. and decay channels, negative ion mass and electron impact spectroscopy 7—50383
- aluminium(III)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7—25563
- amino acids, H-bonded crysts., ps librational dynamics, time-resolved coherent Raman spectroscopy 7—47008
- anthracene, ps/jet studies of intramol. vibr. energy redistrib. in large mols. 7—42599
- anthracene crysts., polaritons, picosecond secondary emission studies 7—21825
- atomic vapour, lifetime determ., fluoresc. study 7—36546
- azulene, in rare gas matrix, highly excited single vibronic level relaxation, direct obs. 7—19915
- bis(4-aminophenyl)sulphone, twisted intramol. charge transfer and solvent dynamics, time resolved fluoresc. spectra 7—50232
- camphorquinone radical anion, photogenerated, time-resolved CIDEP spectra 7—57102
- carbazoles and weak complexes, jet-cooled, time-resolved fluoresc. 7—31100
- chlorobenzene, matrix isolated, triplet states, phosphoresc. 7—15636
- clustering in solids, time-resolved multiple-quantum NMR investig. 7—59115
- collisional quenching, rate consts., time resolved spectra 7—31104
- cyanoanthracene/tetracyanoethylene, ps Raman spectroscopy and electron transfer 7—46035
- di-tert-butyl ketone, laser flash photolysis, time resolved CIDNP, multiplet and net effects 7—10617
- 4,4′-diaminophenyl sulphone, intramol. charge transfer state, H-bonded cluster importance, fluoresc. and IR spectra 7—50213

time resolved spectra continued

- 1,8-dichloroanthraquinone, triplet, excited state dynamics, transient absorpt. spectra 7–25530
- 1,2-trans-dichloroethylene, vibr. distribs., time-resolved FTIR photofragment emission spectroscopy 7–25508
- ethyne adsorbed on zeolite, time resolved FTIR obs. 7–54182
- fast discharges, time resolved spectroscopic study *(French)* 7–10724
- femtosecond optical pulses use for investigating ultrafast phenomena 7–24640
- fluorenone ketyl radical cation, single channel quadrature FT ESR spectra 7–25570
- formaldehyde radical + formaldehyde radical, absorpt. cross section and rate const. determ. 7–28269
- germanium(IV)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7–25563
- glass:Yb^{3+}, time resolved fluorescence line narrowing 7–13230
- glass, femtosecond nonlinearities using opt. Kerr effect 7–50660
- glasses, semiconductor-doped, femtosecond carrier relaxation 7–53251
- graphite, laser excitation effects, time resolved picosecond reflectivity study 7–12136
- graphite surface pulsed laser melting, cluster form. and evaporative loss, nanosecond time resolved reflectivity meas. 7–12137
- homoadamantane, ionised, methyl elimination, field ionisation kinetics and ^2H and ^{13}C labelling 7–42775
- indene/tetracyanoethylene, ps Raman spectroscopy and electron transfer 7–46035
- LDS-750 dye, solvation dynamics in polar aprotic and alcohol solvents, subpicosecond resolution meas. 7–49961
- malachite green, coherent mol. vibr. motion, fs time resolved obs. 7–57189
- metalloporphyrin, fluoresc., picosec. kinetic meas. 7–31112
- naphthalene compounds, bromo-substituted, triplet energy transfer and props., time-resolved ESR 7–25561
- nile blue, coherent mol. vibr. motion, fs time resolved obs. 7–57189
- nucleic acid bases, H-bonded crysts., ps librational dynamics, time-resolved coherent Raman spectroscopy 7–47008
- octyloxycyanobiphenyl and octylcyanobiphenyl, smectic Ad phases, time-resolved fluorescence studies 7–2194
- olefin radical cations from hydrocarbon radiolysis, time-resolved fluoresc.-detected mag. reson. 7–57099
- perylene, time-resolved fluoresc. anisotropy obs. 7–25598
- photosynthetic bacteria reaction centres, recomb. kinetics, electric field depend. 7–47017
- picosecond four-wave mixing for orientational relaxation times meas. 7–11072
- poly-N-vinylcarbazole; solns., nonexponential picosec trapping, electronic energy transport 7–13198
- trans-polyacetylene, charged-soliton dynamics 7–45176
- polydiacetylene-toluene-sulphonate, single crystal, transient photoinduced reflectance change study 7–53257
- porphyrin-quinone, excited state, interactions in reversed micelles, time-resolved fluoresc. spectroscopy. 7–19929
- porphyrin-quinone complexes, porphyrin triplet states, ESR and optical investig. 7–25571
- ω-(1-pyrenyl)alkanoic acids, vac. deposited films, fluoresc. spectra 7–50216
- scintillator dye solutions, excited state absorpt. measurements 7–42516
- second harmonic emission from laser produced plasmas, cut off, retardation characts. 7–37695
- semiconductor doping superlattices, physics and applications 7–52826
- trans-stilbene, ps Raman spectroscopy and electron transfer 7–46035
- t-stilbene, ps/jet studies of intramol. vibr. energy redistrib. in large mols. 7–42599
- trans-stilbene, vap., free rot. obs., fluoresc. 7–50314
- time-of-flight space and energy focusing examined in time-resolved ion momentum spectrometry 7–10780
- transient resonant light scatt., time-resolved spectra *(Japanese)* 7–59218
- transient resonant light scatt., time-resolved spectra *(Japanese)* 7–59219
- trifluoromethyl radical+O_2, rate const. meas., laser photolysis and time-resolved mass spectrometry 7–8249
- trimethylaluminium, UV laser photolysis for Al film growth 7–54153
- triplet-doublet systems, spin polarisation memory, time-resolved ESR cts. 7–62418
- vinyl chloride, vibr. distribs., time-resolved FTIR photofragment emission spectroscopy 7–25508
- $Ar+H^+(He^{2+})$, electron emission, impact parameter depend., TOF, coincidence spectra anal. 7–42747
- Ar_2, radiative lifetime of $A1_u$ states, time-resolved fluoresc. 7–19952
- CN, generation by photolysis of NCNO, removal by H_2, HCl and HBr, fluoresc. 7–46812
- CO, C and D states, dissoc. mechanisms, photoelectron-ion coincidence spectra 7–15664
- Ca, metastable states energy pooling time-resolved emission spectra anal. 7–36519
- CaCl, $E^2\Sigma$ state, time-resolved optical double-reson. study 7–25590
- CdI_2:Br, indirect excitons, isoelectronic impurity effects, luminesc. spectra 7–27255
- CdS_xSe_{1-x} doped filters, femtosecond nonlinearities using opt. Kerr effect 7–50660
- CdSe, highly excited, exciton dynamics, picosec. time-resolved gain-absorpt. spectra study 7–2494
- $Cr(CO)_5$(methanol), form. by photodissoc. of $Cr(CO)_6$, time-resolved spectrosc. 7–62399
- Cu, chlorinated surface, laser-induced desorption and etching processes 7–27092
- $Cu+N_2O$, collisional quenching, time-resolved emission and chemiluminescence 7–28285
- CuCl solid surface, laser-induced desorption and etching processes 7–27092
- D+methyl radical, rate const. determ., laser photolysis and reson. fluoresc. 7–8250
- GaAs single quantum wells, free excitons, phase coherence and line broadening 7–45170
- GaAs surfaces, picosecond laser interactions, time-resolved optical studies 7–12134
- GaAs-$Al_xGa_{1-x}As$ multiple quantum well structs., nonequilib. LO phonons 7–12457
- GaAs-$Al_xGa_{1-x}As$ MOCVD quantum well structures, time-resolved photolum. 7–53410
- GaAs-$Al_xGa_{1-x}As$ quantum well structure, recomb. dynamics, photolum. obs. 7–12809
- GaAs-AlGaAs MQW optical NOR gate, exciton and carrier dynamics, time resolved obs. 7–50628
- GaAs-GaAlAs MQW structures, exciton-exciton interaction 7–52439
- GaAs-GaAlAs modulation doped quantum wells, hot carrier energy relax., time resolved photoluminescence spectra 7–52828
- GaN:Zn(Cd), time-resolved photoluminesc. study 7–22347
- GaP, photoexcited plasmon-phonon modes, time-resolved Raman scatt. 7–39106
- GaSe, excitons, room temp. self screening 7–45166
- H+methyl radical, rate const. determ., laser photolysis and reson. fluoresc. 7–8250
- H^-+He, single-electron detachment, time correlated electron spectrum study. 7–36741
- H^++Ar, p state ionisation, density matrix parameters meas., DWBA calcs. 7–36743
- H_2, photodissociation of metastable states, photofragment spectra anal. 7–36716
- H_2^+ + Cs, dissociative charge exchange, H_2 predissociation, fragment spectra anal. 7–36753
- He, electron impact excitation, Stokes' parameters, electron-photon coincidence spectra anal. 7–50377
- $He(2^3X)$, metastable state, reactivity, rate coeff. determ., fluoresc. 7–19760
- $He_2(a^3\Sigma_u)$, metastable state, reactivity, rate coeff. determ., fluoresc. 7–19760
- $Hg+Hg(Ar)(N_2)$, 6s6d and 6s7d states, collisional quenching 7–36730
- InP (110) surface, picosecond time-resolved photoemission study 7–46280
- InP, radiation-damaged photocond., Hertzian dipole meas. of picosecond photoresponses 7–52690
- KBr crystals, resonant secondary luminescence and vibr. F-centre relax. 7–33434
- $KNd_xGd_{1-x}P_4O_{12}$, isolated ion pair interaction, fluoresc. quenching study 7–46117
- Kr_2, radiative lifetime of $A1_u$ states, time-resolved fluoresc. 7–19952
- Mo I, lifetimes, branching ratios and transition probabilities 7–36692
- N_2, aggregates, in solid Xe matrix, time resolved energy transfer and relax., rate const. meas. 7–50313
- N_2 glow discharge, pulsed, time-resolved Fourier transform spectra of IR emission 7–51538
- NH radical, form. by electron impact 7–36800
- NO dimer, vibr. predissoc. lifetimes, time-resolved meas. 7–31126
- $NO+NO_2\rightleftharpoons N_2O_3$, kinetic meas., time-resolved IR laser absorpt. 7–17771
- Na, excited atom, quenching and time resolved fluoresc. 7–30983
- $Na_5TbSi_4O_{12}$, superionic cond., photoluminescence spectra 7–46093
- Ne, solid, electron beam-induced luminescence, time-resolved studies 7–64702
- $Ne^{7+}+He$, transfer excitation in low-energy collisions, spectroscopic meas. 7–15696
- O_2, soln., time-resolved chemiluminesc. 7–8289
- $OH+H_2O$, rot. transfer, time-resolved fluoresc. 7–42664
- P, amorphous, radiative recomb., time-resolved photolum. study 7–13212
- PbO-SiO_2 glass, femtosecond nonlinearities using opt. Kerr effect 7–50660
- Rb excited states, radiative lifetimes, depopulation cross sections, fluoresc. 7–10502
- RbCl crystals, resonant secondary luminescence and vibr. F-centre relax. 7–33434
- SF_6-Ar mixtures vibr. relax. time resolved IR multiphoton absorpt. 7–5752
- a-Si foils, pulsed laser irrad., clusters and plasmas, time resolved X-ray absorpt. meas. 7–64755
- SiO_2:Yb^{3+} glass, energy transfer among impurity ions, time resolved fluoresc. line narrowing meas. 7–46124
- SiO_2-Al_2O_3-Li_2O-ZnO-TiO_2-ZrO_2-As_2O_3-Cr_2O_3:Cr, glass ceramic, time resolved spectra 7–63478
- $TbVO_4$ coherent vibr. and electronic excitation, time resolved spectra 7–22230
- $Ti+Ar(Ne)(He)(N_2)(H_2)$, triplet state quenching and excitation transfer processes 7–19761
- W, J-shell electrons, gamma ray Compton scatt., intensity distrib. 7–13252
- ZnS:In, photoluminescence, D-A pair emission 7–22312
- ZnSe, donor-acceptor pairs, time-resolved recombination luminescence 7–39165

time resolved spectroscopy

see also streak photography

- absolutely calibrated time-resolving X-ray spectrometer 7–18962
- astrophysical molecules 7–14491
- atmospheric microwave plasma emission characteristics in near IR 7–55318
- automated picosecond transient absorption spectrometer, using photodiode arrays as detectors 7–30095
- data acquisition and processing in time-resolved IR spectroscopy system 7–48884
- diode-array coupled time-resolved transmission grating spectrometer 7–18968
- dye DFB picosecond freq.-tunable laser source for time-resolved meas. 7–50584
- electron energy loss spectroscopy, position-sensitive detector performance 7–373
- ESA Photon Counting Detector, phosphor persistence rel. to response nonlinearity 7–34875
- fluorescence spectrometer, frequency-domain, for picosecond rotational-correlation times determ. 7–56347
- FTIR/time resolved spectrometry, rapid scan, for gas phase systems, IR source development 7–48879
- gas phase reaction kinetics, rapid scanning FTIR time-resolved spectrometry technique 7–48886
- impedance spectroscopy applic. to materials sci., book contrib. 7–24659
- laser ablation studies, planar multilayered targets preparation 7–19426
- molecular ions, ultrasensitive IR laser studies 7–14490
- nonlinear UV-visible spectroscopy for analysing higher electron excitation states of org. mols. 7–4897
- nonuniformly broadened media, oscill. induction signals and echoes 7–37059
- parametric amplification sampling spectroscopy of luminescence, subpicosecond resolution in 1-16 μm range 7–9908

time resolved spectroscopy continued
photoemission spectroscopy, time resolved VUV, expts. on Si and InP surfaces 7—18919
picosecond Raman spectroscopy: a two dye laser synchronously pumped Raman system 7—41486
plasma, imploding, thin film, anal. characterisation using space- and time-resolved spectrosc. 7—51505
Raman spectra obtained with optical multichannel spectrometer, digitisation and processing 7—15010
Raman spectrometer for time resolved meas. in gaseous samples, computer controlled 7—18886
spectrofluorimeter, laser pulse, LIS-201, automated ultrashort-time, for UV and visible regions 7—4896
spectroscopic techniques in the femtosecond range 7—9902
streak recording of picosecond pulses 7—15026
subpicosecond time-resolved infrared spectral photography 7—41502
surface SHG technique, book contrib. 7—25896
sweep-nonlinearity correction procedures in picosecond streak camera measurements 7—15024
three-pulse nonstationary scattering method for investig. fast dephasing processing, stochastic theory 7—37015
ultrafast optical electronics from femtoseconds to tetrahertz 7—45993
ultrafast phenomena conf., Snowmass, CO, USA (June 1986) 7—24
VUV spectrograph for X-ray laser research 7—56355
X-ray photography of laser imploded fusion targets 7—18960
X-ray spectrographic instrumentation for laser fusion and X-ray laser studies 7—18961
X-ray spectrometer calibration, electron-impact high-intensity line source 7—24745
XUV laser schemes, expt. facilities at Rutherford Appleton Lab. 7—20206
Ar, RF discharge plasma, electron swarm, time-resolved spectroscopy 7—20959
C ablation plasmas, laser induced, emission spectra 7—26530
Na vapour, time-delayed four wave mixing 7—10778
Nd:YAG mode locked laser, timing fluctuations reduction by electronic feedback, time resolved probing expts. 7—31371

time series
1D time series anal. for sphere, appl. in geomag. and gravimetric geodesy 7—9239
acoustic signals, time series modelling by generalized adaptive function, appl. to random noise data 7—37268
analysis methods for astronomy 7—55629
hydrological time series, nonstationarity detection 7—23888
intramuscular EMG signal estimation from surface EMG signal anal. 7—47035
Liapunov exponents from time series, calcs., algorithm 7—41077
limited time-series data, correl. algorithms appl. 7—224
oceanographic data analysis, least-squares method as filter and related power in spectrometry 7—40575
paraplegics, EMG-controlled stimulation limb function discrimination using Karhunen-Loeve expansions 7—54540
plasma fluctuations meas., integrated data acquisition and handling system based on digital time series anal. 7—25231
precipitation data, homogeneity test 7—47565
rainfall, binary time series from continuous time point processes 7—23776
rivers missing flow data generation, time series model 7—66172
sound insulation system, dynamical identification method, conditioned obs. based 7—43526
superposed epoch analysis method 7—34743
watershed acidification, computer simulation 7—14322

time-varying circuits *see time-varying networks*

time-varying networks
spline time varying digital filter, ventricular blood pressure meas. appl. 7—47268

time varying parameters *see time-varying systems*

time-varying systems
continuous periodic reactor, adaptive model following control algorithm 7—8254
macroscopic EM field in nonlinear or time-variant media, energy and momentum theorems 7—25701
partially ionised plasma, periodic nonlinear oscillations with continuity eqn. in Lotka-Volterra form 7—16307

timing *see time measurement*

tin
see also nuclei with ......
α-phase crystals, surface phonon modes and reconstructions, Green's function method calcs. 7—2339
adsorbate geometry determ. on Ge (111), X-ray photoelectron diffr. study *(Japanese)* 7—11852
alpha phase, thin film quantization studies using high resolution electron energy loss spectroscopy 7—27448
Auger electron spectra, main and satellite structures 7—7795
Auger energy, Slater transition state calcs., metallic and atomic states, jellium model 7—38475
beta phase, positron lifetimes, prevacancy effect 7—37973
crystal growth and Stefan problem, stochastic theory comparison 7—21415
crystal symmetry elements determ. by SEM 7—58107
crystals, Czochralski; growth, dia. control by IR heating method 7—17405
cylindro-inner cones, freezing point, radiant emission characts. 7—56254
electrodeposition kinetics, stripping voltammetric technique 7—27949
film, etching by methyl radicals in discharges 7—3507
films, sputtered onto polypropylene sheet, orientation rel. to deposition rate 7—45061
grain boundary diffusion in Ni, temp. depend. 7—63877
granular films, superconductivity and metal-insulator transition *(Chinese)* 7—12923
graphoepitaxial growth on monatomic steps, TEM, electron diffr. studies 7—58714
high press. phase transitions and compressions, in situ X-ray diffr. study 7—6722
lasing mechanism and energy characts., relax. processes of metastable states 7—62673
melt, steam explosion suppression by coolant viscosity increase 7—8284
melts, wettability and adhesion with Si 7—21576
nonequilibrium supercond. film, instability, bifurcation, nonequilibrium transition *(Chinese)* 7—64412
optical properties in 2.5 to 40 μm range 7—59271
overlayer on Si (111) surface, angle resolved UPS 7—3149
phase diagrams, appl. for online press. and temp. calibration 7—4853

tin continued
phase transitions, Doppler broadened positron annihilation studies 7—38190
phase transitions, positron lifetime study 7—39265
powder, fine, of various degrees of purity, prod. by pneumoacoustic method 7—64966
powders, hot isostatic pressing, empirical model 7—46365
quartz crystal, Sn or Au coated, surface polariton propag. 7—27259
small metallic clusters, vol. and surface plasmons, EELS studies 7—27271
solid/liquid interface, pulse echo US study of location during solidification and melting 7—52006
superconducting cylinders, mag. flux diffusion, exptl. study 7—38813
superconducting films, resistive state visualisation using laser beam scanning 7—17142
superconducting films, self-injecting phenomena 7—45567
superconducting transition temp., effect of plastic deform. 7—52879
superconductivity and electron-phonon interactions 7—12899
surface, plastic deformation, multiplied dislocations, density gradient 7—26757
surface laser irradiation, ionic cluster desorption, time-of-flight meas. 7—12138
thin films, β-phase, high resolution TEM obs. 7—16891
ultrathin films on Si, electromigration, scanning AES study 7—63891
valence band struct., angle resolved photoelectron spectra 7—52416
white, (100) surface, electronic props. 7—12772
wide superconducting films, voltage-depend. excessive current, resistive state obs. *(Russian)* 7—12930
work fn., temp. depend. , anal. 7—52737
X-ray photoabsorption cross sections 7—46240
Ag_2Se:Sn, solid electrolyte, microscopic disorder, Mossbauer spectroscopy 7—58533
Al_2O_3/Sn, wettability of single crysts. between metal melting point and 1673 K *(French)* 7—63902
Bi-Sb:Te(Sn) thin films, elec. props 7—64376
C-Sn composite sputtered films, ion ehancement, struct. prop. relationships studies 7—52332
CdTe:Sn, impurity compensation effect on elec. resist. and mobility 7—52614
Co-Sn multilayers, amorphisation and interdiffusion, EXAFS and XANES studies 7—64812
Cu-Sn thin film diffusion couple, reaction kinetics at room temp. 7—21536
Fe/Sn interface, electrolyte tinplate, determ. of reaction time during first stage of $FeSn_2$ growth 7—53990
Fe_2O_3:Ti(Sn,Nb), γ-ray damage, impurity effects on annealing 7—6679
GaAs: S, Sn, epitaxial layers, photoluminescence spectra 7—46095
GaAs:Sn, epitaxial layers, current carrier distrib. 7—12530
GaAs:Sn, photolum. spectra, line shape anal., conduction band to deep acceptor transition 7—46098
GaAs:Sn epilayers, MOCVD using triethylgallium and tetraethyltin, characterisation 7—22515
GaAs:Sn LPE layers, heavily doped, Mossbauer study 7—38967
GaAs:Sn surface layers, luminesc., electrophys. parameters, effect of annealing 7—64680
Ge-Sn heterostructure, MBE growth in ultra-high vac. system 7—2423
n-InAs:Sn,Te, LPE growth, elec. characts. 7—33603
In_2O_3:Sn, sputtered films prep. and optical props. 7—53587
In_2O_3:Sn, thin films, etching, comparison of solns. dilute HCl and H_3PO_4 7—8208
In_2O_3:Sn evaporated films, optical props. and applications to energy-efficient windows 7—46157
In_2O_3:Sn films, electron effective mass determ., refractive index carrier density depend. meas. 7—38440
In_2O_3:Sn films, optical and elec. props. 7—22365
In_2O_3:Sn films, prep. by thermal decomposition of organometallic cpds., optical and electrical props. 7—17483
In_2O_3:Sn films, theoretical model for optical props. in 0.3 to 50 μm range 7—39200
In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7—12535
In_2O_3:Sn-ZnS:Cu,Cl,Mn-Al, surface electrical conductivity in ZnS:Cu,Cl,Mn thin films 7—38672
In_2O_3Sn thin films, prep. by pyrolysis, props. 7—2749
InP:Sn, doping using thermal atomic beams in chemical beam epitaxy 7—44584
InP:Sn substrate/epilayer interface, Sn depth profiling, AES and SIMS studies 7—27146
KBr:Sn^{2+}, impurity localised excitons, form. energy calcs., UV spectra anal. 7—64095
KCl:Sn^{+}, spin Hamiltonian parameter determ. from ESR data, simulated anneal method 7—27601
KCl:Sn^{2+}, impurity localised excitons, form. energy calcs., UV spectra anal. 7—64095
$MgFe_2O_4$:Sn, photoelectrochemical props., effect of defects and doping 7—45385
NaCl:Sn^{2+}, impurity localised excitons, form. energy calcs., UV spectra anal. 7—64095
Pb-Pb and Pb-Sn, superconducting point microcontacts, electron-phonon interaction 7—2509
Sb_2Te_3:Sn, Tl, single crystals, X-ray spectral microanalysis 7—44590
Si:Sn, ion implanted, annealing behaviour, channelling and conversion electron Mössbauer spectroscopy 7—13485
Si:Sn,B, shallow junction formation, preamorphisation by Sn implantation 7—7338
Si:Sn,H, amorphous alloy fabrication and characterisation 7—8389
Sn I, mpnd and msmp^3 configs., J=3^0 energy level calcs. 7—36451
Sn I, msmp^3, mpnd J=3^0 levels, 3-limit 4-channel representations 7—36452
Sn^{2+} in alkali halide crystals, polarised luminesc., model of impurity centre 7—27753
Sn/SnO_x/Sn superconducting tunneling junctions as high-resolution X-ray detectors 7—56908
Sn/SnTe bilayers, electron diffr. pattern fine struct., influence of angular misorientation 7—16885
Sn-Ge interface form., growth mode, AES, RBS studies 7—58666
Sn-GeO granular films, struct., resistivity and superconducting props. study 7—45082
Sn-Pt composite films, oxidation, KPS 7—27867
Sn-Sb_2O_3 catalyst, O absorpt. and desorpt. kinetics 7—63944
Sn+He^+, L-subshell ionisation, X-ray prod. 7—50303

tin continued
- $Sn+Pb^{26+}$, impact parameter depend. target K X-ray emission, XES spectra anal. 7–62314
- $Sn+U^{q+}$, electron capture, K X-ray emission spectra study 7–36524
- Sn_3, electronic states, pot. energy surface, relativistic calcs. 7–5613
- $Sn_n{}^{3+}$ clusters, produced by liq. metal ion source, stability and struct. 7–31205
- TeO_x:Ge,Sn films, optical props., thermal stability 7–39207

tin alloys
- *see also tin compounds*
- Bi-Pb-Sn-Cd alloy negative electrode for secondary Li batteries *(Japanese)* 7–65435
- brass, Sn alloyed, disordered areas in three component solid solns. 7–21157
- bronze, powder particle shape effect on stability props. 7–7927
- bronze powder, regularity of struct. of porous materials 7–53676
- bronze powder production from melts by centrifugal atomisation 7–7924
- bronze-steel pair, friction surface, local X-ray spectra study 7–3449
- bronze/Pb composite matrix for small closed cycle refrigerators 7–61340
- surface and interphase phenomena, grain boundaries and growth 7–13431
- Zircaloy oxidation and embrittlement criteria for emergency core cooling system acceptance, safety margins 7–36154
- Ag-Sn, internal oxidation kinetics, influence of oxide particles density 7–13722
- Ag-Sn, liq., activity coeffs. of O 7–3284
- Ag-Sn hypoeutectic alloys, primary phase shape rel-to cooling rate and comp. 7–59509
- Ag-Sn-Te system, ternary, enthalpy of mixing *(German)* 7–21469
- AgSn, impurity-vacancy and impurity-impurity interactions calc. from diffusion enhancement 7–6672
- AgSn, solvent and solute diffusion enhancement, effect of non-random solute distrib. around vacancies 7–63868
- Al-Sn, bearing alloys, run-in kinetics, friction, contact resist., AE signals 7–17655
- Bi-In-Sn alloys system, phase relationships 7–13433
- Bi-Sn, thermodynamic analysis of conc. fluctuations and homogeneous nucleation, glass form. 7–44852
- Cd-Sn-Pb, phase diagrams, thermodynamic formalism, computer calcs. 7–3269
- Ce-Sn alloys, intrinsic magnetic behaviour, influence of stoichiometry 7–45747
- $CeRuSn_3$, cage-like void structures *(German)* 7–32365
- $CeSn_3$, comparison of polarised and unpolarised inelastic neutron scatt. data 7–7478
- $CeSn_3$, comparison of polarised and unpolarised neutron inelastic scatt., comment 7–7479
- Cu-Mn-Sn, phase conc. nonuniformities rel. to annealing *(Russian)* 7–59494
- 2-Cu-Ni-Sn solid solutions, ternary diffusion and thermodynamic interactions 7–52159
- Cu-Pb-Sn leaded bronze, resistance to wear and cavitation erosion of bearingalloys 7–8129
- Cu-Sn, Bauschinger effect, influence of alloying elements and grain size *(German)* 7–17605
- Cu-Sn, diffusion coefficients, composition depend. *(Russian)* 7–32701
- Cu-Sn, dual phase, struct.-prop. correl., hardness obs. 7–8094
- Cu-Sn, ductility at elevated temps., effect of small amounts of B, P or Mg 7–53904
- Cu-Sn, low cycle fatigue damage, crack initiation *(Japanese)* 7–33780
- Cu-Sn, rapid solidified and ion implanted, struct. studies 7–21130
- Cu-Sn (11 wt.%), stir cast, torsion behaviour 7–46567
- Cu-Sn (14.37 at.%), hypoeutectoid, diffusion coeff. governing high-temp. creep *(French)* 7–46572
- Cu-Sn (14.4 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7–32658
- Cu-Sn alloy coatings, magnetron sputtered, crystal orientation 7–39381
- Cu-Sn alloy thin films, co-deposited, phase form. 7–59492
- Cu-Sn system, atomised metal powders, factors affecting particle size 7–53659
- Cu-Sn-B(Mg)(P), ductility at high temp., alloying additions effect *(Japanese)* 7–13515
- Cu-Sn-Pb system, struct. form. during sintering 7–64967
- Cu-Su, amorphous system, high press. melt quenching, microhardness, X-ray obs. *(Russian)* 7–44396
- CuNiSn, high-strength heterophase cryst., deform. mechanism investig. *(Russian)* 7–13509
- $Cu_{0.85}Sn_{0.15}$, amorphous melt-quenched alloys, crystn. *(Russian)* 7–37881
- $Cu_{41}Sn_{11}$, giant cells, polyhedral packing 7–11992
- CuSnBe bronze sheets, lamination investig., Auger and photoelectron studies *(Russian)* 7–13628
- $Dy_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7–21161
- $Er_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7–21161
- $EuRh_{1.5}Sn_{4.2}$, anomalous mag. and elec. props. 7–64440
- Fe-Sn (001), surface segregation of Sn, surface struct. anal. 7–58594
- Fe-Sn (100), surface structural transitions during Sn surface segregation 7–52210
- Fe-Sn mixed powder compacts, activated sintering *(Korean)* 7–3221
- FeSnSb dilute alloys, local lattice relax. around impurity, K-edge EXAFS study 7–64159
- Ga-In-Sn liquid alloy, electron field emission studies 7–33535
- Hg-Sn liquid alloys, vol. and thermal expansion coeffs., higher-order correlation effects 7–12328
- Hg–Sn liquid alloys, volume, thermal expansion coeff. 7–56227
- $Ho_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7–21161
- In-Sn, diffusion coeffs. of In and Sn determ. by AES using Xe ion bombardment 7–22405
- In-Sn alloys, solid and liquid, surface composition, Auger electron spectra study 7–12421
- In-Sn solid solns., strain ageing kinetics investig. *(Russian)* 7–13467
- $In_{1-x}Sn_x$ alloys, electronic structure dependence on crystal lattice parameters 7–45141
- $LaRuSn_3$, cage-like void structures *(German)* 7–32365
- Li-Sn, liq. alloy, mixing enthalpies, high temp. calorimetry, EMF obs. 7–65044
- MgZnSn, glass forming ability, intermetallic cpd. effect, X-ray and Mossbauer investig. 7–52050
- Mn-Sn, homogenised, mag. props., thermal expansion 7–2900
- Mo-Ni-Co-Sn, liq. phase sintering, grain boundary migration, coherency strain effect 7–22604

tin alloys continued
- $(Nb,Ti)_3$ Sn, supercond. mag. material, fusion reactor conditions simulation 7–52922
- Nb-Sn alloy film, scanning tunnelling microscopy study 7–4918
- Nb-Sn composite wires, effectiveness of V as diffusion barrier material 7–15353
- Nb-Sn film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7–21705
- Nb-Sn liq.-infiltrated superconducting composite wire, T_c and sp. ht. meas. studies 7–45560
- Nb_3Sn, A15 compounds, martensitic and supercond. phase transitions 7–58942
- Nb_3Sn A15 material, displacement correl. functions temp. depend. calcs. 7–51962
- Nb_3Sn bronze process multifilamentary wire, cooling stress and supercond. *(Chinese)* 7–12894
- Nb_3Sn coil, high field performance 7–15354
- Nb_3Sn filamentary superconductor with high bending strength, fabrication *(Slovak)* 7–58965
- Nb_3Sn film, grain size, grain boundaries and diffusion, TEM study 7–21222
- Nb_3Sn films, superconducting critical temp., effect of ion beam irradiation 7–7430
- Nb_3Sn fine filament internal-tin superconductors, hysteresis losses 7–2778
- Nb_3Sn, heat treatment for in-situ processing, Cu, Nb, Sn, distrib. *(Chinese)* 7–12924
- Nb_3Sn, low-temp field vaporisation *(Russian)* 7–52028
- Nb_3Sn multifilamentary composite superconductor, bronze processed, global pinning force, critical mag. field, grain size 7–22078
- Nb_3Sn multifilamentary superconductor, AC props. 7–38834
- Nb_3Sn multifilamentary wire superconductors, development at SLE 7–64421
- Nb_3Sn, phonon spectrum, temp. depend. *(Chinese)* 7–64413
- Nb_3Sn strips with high current-carrying capacity, surface relief *(Russian)* 7–52198
- Nb_3Sn, superconducting composites, critical current distributions 7–38833
- Nb_3Sn superconductor, sp. ht. meas. in mag. fields up to 19 T 7–17134
- Nb_3Sn tape, Cu-coated, effect on crit. bending diameter *(Russian)* 7–33747
- Nb_3Sn, thermoelectric power, 4.2-273K meas. *(Chinese)* 7–12705
- Nb_3Sn thin films, X-ray diffr. spectra, processing methods 7–44308
- Nb_3Sn, Ti-alloyed, cryst. growth from soln. by top seeded soln. growth 7–46293
- Nb_3Sn-NbTi hybrid superconducting magnet, Meissner magnetic image effect, magnetisation and susceptibility meas. appl. 7–4869
- Nb_3Sn-Ti(In) multifilamentary superconducting composites, growth dynamics, struct. and props., additive and heat treatment effects 7–22056
- Nb_5Sn_2Ga, crystal growth and superconductivity 7–27451
- $Nb_3Sn_{1-x}Sb_x$ A15 pseudobinary alloy, structural transitions and related anomalies 7–38182
- $(NbTi)_3Sn$ multifilamentary superconductors develop. 7–7456
- $NdRuSn_3$, cage-like void structures *(German)* 7–32365
- Ni-Sn, ageing, discontinuous coarsening of cellular precipitate at grain boundary 7–39528
- Ni-Sn (8.5 at.%), cellular precipitate, discontinuous coarsening kinetics 7–65037
- Ni-Sn highly undercooled droplets, rapidly solidified, microstruct. studies 7–22670
- Ni-SnPbBi system, crack form. in diffusion zone 7–3397
- Ni_2MnSn Heusler alloys, galvanomag. props. and magnetisation meas., fermi level shift effects 7–7207
- Ni_2MnSn, Heusler alloys, Curie temp., effect of hydrostatic press. 7–64455
- NiSn-SiC composite coatings, electrodeposition, wear resist., hardness, porosity 7–33613
- NiSnInSb dilute alloys, local lattice relax. around impurity, K-edge EXAFS study 7–64159
- Pb/PbSn, chem. diffusivity of Sn in Pb, expt. determ. 7–63887
- Pb-Al-Mg-Sn-Li, strength and microstruct. 7–8047
- Pb-Bi-Sn, alloy filaments, prod. by glass-coated melt spinning, enhancement of supercond. 7–58937
- Pb-Sn, cellular transform., directional invariance of grain boundary migration 7–22695
- Pb-Sn (2 wt.%), high temp. fatigue, dynamic recrystallisation 7–39667
- Pb-Sn (9 wt.%), solid soln. alloy 7–8066
- Pb-Sn α-phase alloys, cold-worked and splat-cooled, X-ray diffraction line anal. 7–46502
- Pb-Sn eutectic, spiral structures, convection influence 7–22653
- Pb-Sn eutectic, superplasticity, investig. by impression creep testing 7–3372
- Pb-Sn solder, deform. props. 7–46590
- Pb-Sn solder/Cu interfacial reactions, Cu_3Sn intermetallic formation 7–44924
- Pb-Sn-Ag solder alloys, phase equilibria 7–46426
- Pb-Sn-Ag system, eutectic temp. rel. to Ag content, phase diagram, thermodynamic props. 7–65005
- PbCaSn, rolling deform. texture, shear band angles 7–33724
- PbSn liquid alloys, wetting and spreading, surface composition effects 7–16837
- $Pb_{97.4}Sn_{2.6}$ alloy surface, sputtering related phenomena *(Chinese)* 7–59316
- PbSnTe, thermal cond. minimum, thermoelectric appl. 7–38276
- Pd_2MnSn, cubic ferromagnet, high temp. spin dynamics 7–2881
- $Pd_2Y_{1-x}Dy_xSn$, Heusler alloy system, field-induced reentrant superconductivity 7–2765
- $PrRuSn_3$, cage-like void structures *(German)* 7–32365
- Pt-Sn bimetallic systems, Fermi level density of states, XPS studies 7–46278
- Pt_3Sn oxidation at low pressure, AES, ESCA, ISS study 7–17725
- Sb-Sn alloy, maximum microsegregation from peritectic phase systems 7–12286
- Sb-Sn system, phase diagram, thermodynamics 7–3283
- SbSn dilute alloys, muon Knight shift and trapping, comp. and temp. depend. 7–45889
- $Si-Si_{1-x}Sn_x$ strained layer superlattices, electronic struct. 7–38707
- a-SiSn:Cl,H glow discharge films, elec. and optical props. *(Chinese)* 7–58805
- $Si_{1-x}Sn_x$ amorphous alloy films, low-temperature oxidation *(Japanese)* 7–46699
- a-$Si_{1-x}Sn_x$:H films, electronic structure of divalent defects 7–32960
- Sn base alloys, rapid solidification technology 7–39493

tin alloys continued
Sn based white metal, resistance to wear and cavitation erosion of bearingalloys 7−8129
Sn-Ag-Sb thermal fatigue-resistant solder alloys, equilibrium solidification 7−46443
Sn-Bi, heterogeneous, fusion kinetics 7−3280
Sn-Bi system, heat of fusion *(Russian)* 7−44766
Sn-Bi-Hg, liq., struct. microheterogeneity 7−11895
Sn-Er binary system, phase diagram and equilib. 7−7961
Sn-Gd binary system, phase diagram and equilib. 7−7961
Sn-Ge granulated films, Coulomb gap and hopping conduction 7−38774
Sn-La binary system, phase diagram and equilib. 7−7961
Sn-Lu binary system, phase diagram and equilib. 7−7961
Sn-Nd binary system, phase diagram and equilib. 7−7961
Sn-Pb, electrodeposition kinetics, stripping voltammetric technique 7−27949
Sn-Pb eutectic alloys, low temp. plasticity and morphology *(Russian)* 7−13510
Sn-Pb system, metastable quasi-eutectic struct., existence range 7−3275
Sn-R binary systems (R=La, Nd, Gd, Er, Lu), phase diagrams and equilib. 7−7961
Sn-Sb, dil., planar solid-liq. interface, morphological development and stability *(Korean)* 7−7985
Sn-Sb (2 at.%), morphological development of planar solid-liq. interface *(Korean)* 7−17523
Sn-Sb melts, short-range order 7−63438
Sn-Sb system, high press. phase transitions, X-ray diffr. study 7−6779
$Sn_{1-x}Dy_{4+x}Os_6Sn_{18}$, disordered II′ phase, structural study, electron and X-ray diffr. meas. 7−63549
$Sn_{1-x}Tb_{4+x}Rh_6Sn_{18}$, disordered II′ phase, structural study, electron and X-ray diffr. meas. 7−63549
$SnYb(La\text{-}Gd)(Ca)(Sr)(Th)_3Rh_4Sn_{12}$ crysts., structural distortion and chem. bonding, X-ray diffr. studies 7−1947
$Tb_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
Ti-Al-Sn, silicide precipitates struct. 7−63561
Ti-Al-Sn, specific heat capacities *(German)* 7−2228
Ti-Al-Sn, weld metal, cryogenic toughness *(Japanese)* 7−46620
Ti-Al-Sn-Zr-Mo (6,2,4,2 wt.%) superplastic deform., temp. depend. 7−39588
Ti-Sn-Y rapidly solidified alloys, dispersoid particle coarsening 7−22704
Tl_2GeSe_3-Tl_2SnSe_3 systems, phase equilibria 7−6760
Tl_4GeSe_4-Tl_4SnSe_4 systems, phase equilibria 7−6760
U-Th-Sn, liq. N-nitride equilib. 7−46417
UPd_2Sn, heavy electron behaviour, elec. resist., mag. susceptibility, sp. ht. meas. 7−32679
USn_3, electronic struct. and f hybridisation 7−12600
USnNi(Co)(Ru) ternary alloys, magnetic behaviour, elec. resist. and sp. ht. meas., 5f electron effects 7−12999
$Y_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
Zr-Sn, diffusion, chem. activity, modified evaporation method 7−38243
Zr-Ti (Sn)(Dy)(Au), neutron irradiated, solute effects on damage production and recovery 7−51861
Zr-Ti(Sn)(Au), low temp. damage prod. and recovery after fusion neutron irradiation 7−51862

tin compounds
see also tin alloys
carbon tetrachloride-$SnCl_4$ liq. mixture, struct., neutron diffr. exam., RISM integral eqn. calcs. 7−63432
films, transparent conducting oxides, H_2 plasma treatment 7−3528
Mossbauer isomer shifts, first-principles scalar-relativistic linear muffin-tin orbital method calcs. 7−2957
ocean pollution in coastal California, butyltin cpds. due to yacht antifouling paints 7−4055
SnO_2 liquid junction solar cell sensitisation with conc. dyes 7−3646
SnTe, dipole-dipole interactions and ferroelectric props. 7−39046
tetramethyl tin isolated in Ar, inelastic neutron scatt., intermol. interaction, rot. tunnelling 7−20067
$[Ag_6Sn_4P_{12}]Ge(Si)_6$, bonding relationships and electronic struct. calcs. 7−16941
$(Ag_6Sn_4P_{12})Ge_6$ cluster cpd., elastic behaviour and vibr. anharmonicity 7−12223
Al-Langmuir film-SnO_2, photovoltage spectra 7−64354
$Ba_2Sn_2Mn(Ni)(Co)Fe_{10-x}Ga_xO_{22}$ hexagonal ferrites, cryst. and magnetic struct. studies 7−44474
$BaTi_{2-x}Sn_xFe_4O_{11}$, crystal structures and mag. props. 7−12024
Bi_2S_3-SnS, quasibinary section of Sn-Bi-S system 7−13437
CdS:In-SnO_2, spray pyrolysed, photoelectrochemical studies 7−52830
$CdSnAs_2$ crystal growth from melt sealed by LiCl-KCl mixture 7−7839
n-$CdSnAs_2$, photoluminescence 7−53393
$CdSnO_4$:PbO highly conducting films, characterisation 7−22049
Cd_2SnO_4, CVD, struct., elec. and optical props. *(Korean)* 7−27940
Cd_2SnO_4 transparent thin film electrodes prepared by DC reactive sputtering from Cd-Sn alloy targets 7−22477
$CsSn_2F_5$, F^- motion, NMR and electrical conduction 7−52132
$Cu_{2x}Cr_{2x}Sn_{2-2x}S_4$ spinels, Cu-Cu distances, EXAFS studies 7−63585
Cu_2FeSnS_4, stannite, melting, polymorphic transition temp. 7−44764
$CuGaSnSe_4$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7−27252
$Fe_{0.458}Sn_{0.088}O_{0.454}$ film, mag. props., appl. in perpendicular mag. recording 7−59005
$Ge_{1-x}Sn_x$ amorphous films, structural changes on annealing 7−16422
$Ge_{1-x}Sn_xSe_2$ glasses, elec. cond. rel. to Mossbauer and Raman spectra 7−64250
$(Ge_{1-y}Sn_y)_{1-x}Se_x(S_x)$ glasses, percolation transition and strain accumulation 7−11939
$Ge_{0.08}Sn_{0.92}Te$, acoustic mode vibr. anharmonicity 7−63751
$In_{2-x}Sn_xO_{3-y}$ films, reactive RF magnetron sputtering prep., elec. and optical props. 7−46324
$In_{2-x}Sn_xO_{3-y}$ coatings, evacuated window glazings for energy efficient buildings 7−54352
$In_{2-x}Sn_xO_{3-y}$ films, transparent conducting oxides, H_2 plasma treatment 7−3528
$In_{2-x}Sn_xO_{3-y}$ protective coatings for Galileo spacecraft, radiation testing 7−59647
$In_{2-x}Sn_xO_{3-y}$ solar cells, state-of-the-art review 7−40007
$In_{2-x}Sn_xO_{3-y}$ sputter deposited, elec. cond., oxidation resistant coatings for spacecraft applic. 7−22866
$In_{2-x}Sn_xO_{3-y}$ thin films, struct. 7−21722
$In_{2-x}Sn_xO_{3-y}$ thin films, RF reactive sputtering prep., elec. and optical props. 7−39378

tin compounds continued
$In_{2-x}Sn_xO_{3-y}/Ag/In_{2-x}Sn_xO_{3-y}$ magnetron sputtered transparent heat-reflective films, thermal stability study 7−53426
$In_{2-x}Sn_xO_{3-y}$-CdTe solar cells, spray deposited, elec. and photoelec. props. 7−54321
$In_{2-x}Sn_xO_{3-y}$-i-n^+-InP Schottky diode, solar cell props. 7−65474
$In_{2-x}Sn_xO_{3-y}$-InP, solar cells for space appl. 7−3700
$In_{2-x}Sn_xO_{3-y}SnO_2$-Pt-Si:H solar cells 7−8395
$In_{18}Sn_7S_{34}$, cryst. struct. determ. *(French)* 7−58214
KSn_2F_5, F^- motion, NMR and electrical conduction 7−52132
$Li_{2+x}(Li_xMg_{1-x}Sn_3)O_8$, ramsdellite type cpds., ionic conductivity and cryst. chemistry 7−32708
$Li_2Mg_{1-x}Fe_{2x}Sn_{3-x}O_8$, ramsdellite type cpds., ionic conductivity and cryst. chemistry 7−32708
Li_2O-Ta_2O_5-$(SnO_2)_2$ system, vicinity of $LiTaO_3$, solid solns., crystal chemical and ferroelectric props. 7−6805
$Mn_xSn_{1-x}Mo_6S_8$, Mn dopant props., supercond. transition temp., EXAFS, XANES, photoemission studies 7−46236
$NH_4Sn_2F_5$, F^- motion, NMR and electrical conduction 7−52132
Na_2O-SnO_2-SiO_2, glass, diffusion of cations, 500-800°C 7−12371
Na_2O-Y_2O_3-SnO_2-SiO_2 glass, Na^+ conductivity 7−52134
$NaSn_2F_5$, F^- motion, NMR and electrical conduction 7−52132
(Pb,Sn)Se IR detector arrays, heteroepitaxial growth on fluoride-covered Si substrates 7−39429
(Pb,Sn)Te-$(Ba,Ca)F_2$ layers, MBE growth on non-lattice-matched Si substrates 7−27216
Pb-Sn-G solid solns., elec. transport props. and defect form. studies *(French)* 7−33017
PbSe-PbS$(Pb_{1-x}Sn_xSe)(Pb_{1-x}Eu_xSe)$ DH lasers with remote p-n junctions 7−57333
PbSe-SnSe strained layer superlattice, prep. and struct. anal. 7−52301
$Pb_{0.8}Sn_{0.2}$ Te epitaxial films, vacuum deposition growth in a quasiclosed vol. 7−46329
$Pb_{0.88}Sn_{0.12}$ Te cryst., annealing characts. and laser fabrication *(Chinese)* 7−10933
PbSnEuTe, superlattices, prep. by hot wall epitaxy, props. *(Japanese)* 7−12546
$Pb_{1-x}Sn_xS$ films, phase composition, fast-electron diffr. 7−63990
PbSnSe, IR optical bistability at mW powers 7−57436
PbSnTe as IR sensor material, characts. *(Japanese)* 7−56339
PbSnTe BH laser reflectivity, lateral confinement effects 7−43090
PbSnTe laser, single-mode, 8 μm with buried heterostructure, design 7−36980
$Pb_{0.75}Sn_{0.25}$Te:In, Ge(S)(Se), elec. resist., photocond., Hall effect meas. 7−17050
$Pb_{0.8}Sn_{0.2}$Te thin films, structural and elec. props., pulsed laser-irrad. effects study 7−21270
$Pb_{0.8}Sn_{0.2}$Te:Ga solid solns., diffusion coeff., temp. depend. study 7−2254
$Pb_{0.8}Sn_{0.2}$Te:In, impurity diffusion, thermoelec. probe meas. 7−63879
$Pb_{0.8}Sn_{0.2}Te$-$PbSe_{0.08}Te_{0.92}$ heterostruct., LPE prepared, characts. 7−52759
$Pb_{1-x}Sn_xTe$ films prepared by MOCVD, elec. props. 7−27919
$Pb_{1-x}Sn_xTe$ heterojunctions, supersymmetry, band-inverting contact 7−52717
$Pb_{1-x}Sn_xTe$ narrow-gap semicond., electron-electron interaction, effect on permitt., two-band model 7−52420
$Pb_{1-x}Sn_xTe$ quantum oscills. spectrum anal., two-window Fourier transform technique 7−52404
$Pb_{1-x}Sn_xTe$ solid solns., intrinsic defect donor states characts. Hall effect temp. depend. meas. 7−58762
$Pb_{1-x}Sn_xTe$ surfaces, AES, LEED and Kikuchi pattern obs. 7−52200
$Pb_{1-x}Sn_xTe{:}^{57}Br^+$, depth profiles, SIMS meas. and theoretical calcs. 7−6662
$Pb_{1-x}Sn_xTe$:Bi, free carrier density 7−38572
$Pb_{1-x}Sn_xTe$:In, impurity levels, covalent defect theory 7−52515
$Pb_{1-x}Sn_xTe$-PbTe graded-gap heterostruct., spectral photoelec. quantum efficiency 7−36961
$Pb_{1-x}Sn_xTe$-PbTe superlattice, electronic struct., envelope pn. approx. 7−45465
$Pb_{1-x}Sn_xTe_{1-y}Se_y$ solid soln. single crysts., density, comp., lattice const. and galvanomag. props. *(Russian)* 7−44500
PbTe-$Pb_{1-x}Sn_xTe$ superlattice, quantum Hall effect 7−2682
PbTe-PbSnTe compositional and doping superlattices, struct., electronic, optical and magnetooptical studies 7−53290
$RbSn_2F_5$, F^- motion, NMR and electrical conduction 7−52132
a-Si-SnO_x interface, solid state reaction, XPS study 7−22449
$Si_{1-x}Sn_xO_{1+x}$ amorphous thin films, optical and structural studies 7−64714
Sn complex, Sn (IV) meso-tetraphenylporphyrins spectrosc. cis-influences 7−50159
Sn complexes, ESCA, Mossbauer and IR spectrosc. investig. 7−5678
Sn IV complex, form. in mixed Na pyrophosphate/$SnCl_2$ soln., ^{119}Sn NMR 7−10624
Sn/SnO_x/Sn superconducting tunneling junctions as high-resolution X-ray detectors 7−56908
Sn/SnTe bilayers, electron diffr. pattern fine struct., influence of angular misorientation 7−16885
Sn-In-S ternary system, cryst. growth and charact. *(French)* 7−33645
Sn-Sb-Te, complex formation, conc. depend. of lattice parameter 7−44472
Sn-Te-I system, X-ray spectral microanalysis 7−54210
α-$SnBi_2S_4$, congruently melting compound in Sn-Bi-S system, unit cell parameters 7−13437
$SnCl_4$, liq. struct., X-ray diffr. obs. *(German)* 7−58118
$SnCl_4$, liq. struct., X-ray diffr. investig. *(German)* 7−58119
$SnCl_4$, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7−31145
$SnCl_4$, vac. UV spectra, interpretation 7−50171
$SnCl_4$-$TiCl_4$, liq. mixtures, neutron diffr., RISM anal. 7−44342
SnF_2-SnF_4 system, Mossbauer reson. studies 7−7625
α-Sn_2F_6, Mossbauer lattice parameters 7−17251
α-Sn_3F_8, Mossbauer resonance 7−45854
$SnFe_{0.05}Mo_6S_8$, Chevrel-phase superconductor, collinear ordering, EXAFS studies 7−13258
SnH^+ (SnD^+), $a^3\Pi_{0(+),1}-X^1\Sigma^+$ visible emission spectra 7−5688
SnH_4, rot. spectrum in vibr. ground state obs. by IR-RF double reson. 7−25573
$SnH_4{}^+$, Jahn-Teller, struct. and energy distortions ab initio CI calcs., HF calcs. 7−15523
(SnH_3) groups containing inorganic compounds, struct. and acid-base props. MNDO calcs. 7−10424

tin compounds continued
$SnH_3D(SnD_3H)$, bending mode triad, anal. model, IR spectra 7—19822
$Sn_{1-x}Mn_xTe$, degenerate ferro-spin-glass, transport props. and spin disorder 7—45330
SnO_2, ^{119}Sn Mossbauer spectrometry of Sn^{4+} species in stannic acids *(French)* 7—17246
SnO_2 (110), O deficient surface, photoemission study, comparison with TiO_2 (110) 7—46277
SnO_2, amorphous film, vacuum prep., struct., crystallisation 7—53594
SnO_2 conductor stability at Pb-acid battery PbO_2 cathodes 7—65440
SnO_2, dipole polarisabilities, cohesive energies and press. derivatives of bulk moduli 7—2967
SnO_2 films, CVD deposition, elec. and optical props. 7—7429
SnO_2 films for solar cells, struct., elec., and optical props. 7—40003
SnO_2, mechanical activation, defect form. and struct. 7—16972
SnO_2, nonstoichiometry and defect equilib. rel. to cond. props. 7—52069
SnO_2, oriented thin films, elec. props. 7—17123
SnO_2, pure and F doped CVD films, UV absorpt. props. study 7—22370
SnO_2 rutile crysts., electronic struct., scalar-relativistic muffin-tin-orbital calcs. 7—64077
SnO_2 thin films, photochemical fabrication and micropatterning from SnI_2 7—46315
SnO_2 thin films, vacuum evaporated, thermoelec. power, temp. and thickness depend. 7—58918
SnO_2 window layer for CdTe thin films solar cells; 7—17883
SnO_2, with/without colloidal SiO_2, polishing cpd. used on GdGG 7—37212
SnO_2:Cl coatings, electrical and optical props. 7—58925
SnO_2:F coatings, evacuated window glazings for energy efficient buildings 7—54352
SnO_2:F electrodes, surface modification by underpotential deposition of noble metals 7—44998
SnO_2:F films, CVD growth using hydrofluoric acid as doping material 7—7871
SnO_2:F thin film, uses for a-Si:H/a-$Si_{1-x}C_x$:H solar cells 7—46952
SnO_2:F thin films, CVD deposition, elec. and optical props. 7—7425
SnO_2:F-n-Si(poly) solar cells fabricated by CVD, characterisation 7—59859
SnO_2:glass, thick film, elec. resistance, effect of struct. 7—7300
SnO_2:Sb spray deposited coatings, comp., elec. props. thermal treatments, AES study 7—22393
SnO_2:Sb thin films, doped and undoped, prep. by photolysis, phys. props. 7—22368
In-SnO_2-n-$CdGeP_2$:In heterojunction, elec. and photoelec. props. 7—45478
SnO_2-n-Sb_2S_3-Al structures, polarization current relaxation and space charge 7—33090
SnO_2-Pd-Sb H_2 gas sensor insensitive to alcohol *(Japanese)* 7—56242
SnO_2-Si (100), CVD coatings, X-ray studies 7—7886
SnO_2-SiO vac. evaporated films, AC elec. props. 7—45528
SnO_2-SiO_x-Si surface barrier solar cells, optimisation of fabrication process 7—23154
SnO_x:F-$CuInS_2$ sprayed solar cells, photovoltaic props. 7—54322
$Sn_2P_2(Se_xS_{1-x})_6$, ferroelec., phase p, T, x diagram *(Russian)* 7—17278
SnS, photoacoustic response and transmission spectra, thermoacoustic meas. 7—46014
SnS_2, polytypes, electronic behaviour, rel. to energy conversion 7—38447
SnS_2-Tl_2S phases, ^{119}Su Mossbauer study *(French)* 7—27639
SnS(Se)(Te), electronic props., ionicity and isomeric shift correl. 7—7114
SnSe, high temp. oxidation mechanism 7—3536
SnSe, IR absorpt. edge, transition temp. coeffs. 7—27721
SnSe thin films, vacuum deposited, high temp. phase form., X-ray diffr. study 7—32873
$SnSe_2$, polytypes, electronic behaviour, rel. to energy conversion 7—38447
SnSe(S), second order displacive transition and soft mode behaviour, neutron diffr. study 7—26895
SnTe, acoustic mode vibr. anharmonicity 7—63751
SnTe, conc. depend. props. in region of homogeneity 7—45366
SnTe, Debye-Waller factors of ^{129}I, Mossbauer study 7—2135
SnTe, energy bands, relativistic empirical tight binding theory 7—45149
SnTe, low temp. iodide method synthesis, X-ray reaction product studies 7—64945
SnTe, low-temp. iodide method synthesis, micro-nonhomogeneity studies 7—63835
SnTe, Mossbauer spectra and microhardness, stoichiometry deviation effects, vacancy conc. and distrib. 7—26973
SnTe, optical anisotropy due to spatial dispersion 7—53266
SnTe, solid and liquid states, electrophysical props. 7—52654
SnTe:Bi epitaxial layers, vacuum deposition, optical and electrical props. 7—59430
SnTe:Cd(In)(Sb), solution mechanism of impurities, effect of heat treatment 7—21455
SnTe:In, superconducting transition 7—38798
SnTe-CdS, phase diagram, in $SnTe+CdS \rightleftharpoons SnS+CdTe$ ternary reciprocal system 7—13438
SnTe-InSe, quasibinary section of Sn-In-Te-Se, physicochemical props. 7—7979
^{119}Sn compounds, Mossbauer spectra interpretation SCC-Xα-MO calcs. 7—36474
TiN thin films, optical const., thickness and preparation effects 7—13241
TiO_2-SnO_2 system outside coherent spinodal, phase transform. kinetics, role of aliovalent dopants 7—46432
$TlSn_2F_5$, F^- motion, NMR and electrical conduction 7—52132
ZnSe-$In_{2-x}Sn_xO_{3-y}$ junctions, microstruct. optical props., influence of deposition method 7—21689
p-$ZnSnP_2$ single cryst., recombination radiation, cryst. growth effects 7—53394

titanium
see also nuclei with ......
α-phase, mag. suscept. and elec. resist. meas., itinerant antiferromagnetism, comment 7—33151
α-phase, mutual interactions of O and H during heat treatment, diffusion coeffs. meas. 7—39549
alpha phase, elastic constants, phase stability, dynamic obs. 7—3347
alpha phase, hexagonal texturised sheet stock, orientation distrib. function 7—22714
aluminide layers, high temp. cyclic oxidation 7—17719
anodic oxide film, Raman spectra 7—46688
Appalachians of Quebec and Nova Scotia; Ti, P, Zr, Nb, Y geochemistry 7—23587
atom, H-like, dielectronic satellite spectra 7—19741

titanium continued
atoms, transition energies, X-ray spectra, Xα theory, X-ray transition energies 7—10422
Auger spectroscopy, edge effects 7—3121
casting technology 7—7914
clusters, electronic props., CNDO method 7—27247
coated Be substrate, bond failure, thin film fracture 7—59600
Compton profile meas. 7—15449
Compton profiles due to valence electrons, self-consistent calcs. 7—13250
Compton profiles meas. 7—7785
corrosion behaviour in formic acid *(German)* 7—3526
crack initiation sites, determ. using digital NDE workstation 7—65277
crevice corrosion in NaCl-HCl solns. *(Japanese)* 7—13630
direct conversion electrodes, material effects on energy conversion efficiency, neutral beam injection system appl. *(Japanese)* 7—10277
dislocation assemblies, parameter linking change in internal energy and vol. in creation *(Russian)* 7—58279
electrodes, passivated, photoelectrochemical studies 7—12757
electron beam welded, neutron irrad. effects 7—56832
epitaxial films, electron beam bombardment oxidation, structural and phase transforms. 7—21746
etching by photochem. machining 7—22909
Fermi surface, 2D angular correlation of positron annihilation radiation 7—39240
film, periodic microrelief, laser irradiation 7—63927
film, sputtered in oscillatory electron discharge, structural features 7—12548
film on Si, epitaxial silicide form., initial nucleation processes and effects 7—21767
film on Si, heat treatment in O_2, N_2 or O_2/N_2, Ti silicides, TiO and TiN formation 7—65191
films, characterisation by SIMS, Auger spectroscopy and TEM 7—12550
films, deposition by arc evaporation 7—63392
films, on Si, heat treatment, $TiSi_2$ form. 7—46530
filters, hydrodynamic compaction and sintering 7—7915
fracture, deform., porosity effect 7—22750
grain boundaries, interaction with doping atoms *(Russian)* 7—51781
hard coatings formed by Ti implantation on 304 stainless steel, XPS study 7—3154
hardened from β-region, fine struct. study *(Russian)* 7—32450
HCP, ^{47}Ti and ^{49}Ti NMR studies, spin-echo profiles 7—7599
He production in HFIR neutron irradiated pure elements 7—51852
heat treated, softening, in situ HVEM obs. 7—17548
high-temperature corrosion film characterization using Raman microscopy 7—46772
impact produced adiabatic shear bands, deform. twins, dislocation density, HVTEM obs. 7—22753
inner-shell excitations, energy-calibrated APS, correlation effects obs. 7—46247
ion implantation into bearing steel, enhanced lubricated sliding wear resistance 7—53916
laser consolidated coatings on steel, processing of metals for improved corrosion resist., surface modification program 7—65200
metal surfaces immersed in liquid media, pulsed laser oxidation and nitridation 7—59656
Nb-Ti compositionally modulated films, low-temp. interdiffusion 7—38269
nitridation by breakdown plasma in N_2 due to TEA CO_2 laser irrad. 7—2052
nitriding in rarefied activated nitrogen 7—8181
nonisothermal carbidising mechanism, combustion with carbonaceous material, thermal wave propag. vel. determ. 7—46381
osteosynthesis miniplate made of Ti, proposal for analytically-founded construction *(German)* 7—54810
overlayer, on SiC, Si_3N_4, Al_2O_3, SiO_2, mixing phenomena 7—58330
oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
oxidation behaviour, role of N 7—28198
oxidation of commercial purity samples 7—17717
plasma nitriding, sputtering and redeposition of cathode material 7—39752
plasmon spectra and energy, high energy EELS studies 7—12635
plate, fatigue crack initiation in orthotropic materials, effect of stress freq. *(Japanese)* 7—53867
plate, ignition in air under CW laser radiation action 7—32492
polarisation, anodic and cathodic, surface oxide films, ellipsometric anal. *(Japanese)* 7—33828
polarization effects in galvanic corrosion 7—39706
polycrystalline films, electron beam bombardment, recrystallisation, oxidation and phase transforms. 7—21746
polycrystals, $<\bar{1}\bar{1}23>\{10\bar{1}1\}$ slip 7—38011
powder parts prod. from TiH_x powder by hot pressing 7—27973
power metallurgy coatings obtained by impact wave method, struct. form. 7—65211
pure, plate, yield strength, H content depend. *(Chinese)* 7—8044
reversible martensite $\omega \rightleftarrows \alpha$ transformation 7—33654
rolling, texture form., metastable high press. phase transform *(Russian)* 7—65029
sheet, grain orientation distrib. meas. by etch pit method 7—46510
sheet, mech. behaviour, effect of texture and orientation rel. between neighbouring grains 7—53763
sponge, prod. technology 7—7913
sputtered coatings, oxidation, XPS and contact resistance meas. 7—53934
steel, HSLA, Ti and Nb additions effect on coarse grained heat affected zone 7—16765
surface, heavy-ion-induced D desorpt. meas. 7—44990
surface morphological changes induced by narrow beam bombardment 7—51868
SXAPS spectra, L_3 line shape 7—39322
thermochemical surface treatment using lasers, wear and corrosion resist. 7—22908
thin film charactn. for $LiNbO_3$ integrated optic devices 7—57607
thin films, dissolution and diffusion of O, resist., X-ray diffr., particle backscatt. and AES studies 7—58913
thin films, laser-induced damage, parameters effects 7—21275
Ti^{3+}:sapphire laser material, scattering centre formation mechanism 7—10960
tubing improvements for PWR condensers 7—15250
vacuum arc characterisation and struct. of deposited Ti and TiN films 7—63392
valve metal, corrosion under influence of Pu, oxide layer formation 7—17699

- **titanium** continued
  - vapour, heated cathode discharge prod. 7–21022
  - Z 7–46507
  - Al-Si/Ti/Al-Si VLSI metallisation, electromigration and microstruct. props. 7–21550
  - Al-Ti-Cu multilayer films, thickness and composition anal. using X-ray fluorescence 7–46898
  - Al-Ti-Si contacts, four-terminal resistor structs. for contact resist. determ. from end resist. meas. 7–38730
  - Al_2O_3:Ti^{3+}, solid laser material, active ion distributions 7–57342
  - Al_2O_3-Ti interface reactions studied by AES and UPS 7–21702
  - AlSi-Ti bilayer structs., effect of Si on reaction kinetics 7–58546
  - AlSi-Ti multilayer interconnects on oxidised Si substates, electromigration resistance 7–21713
  - Be-Ti multilayer interference system, struct. and phase composition, electron microscopy, X-ray and neutron diffr. meas. 7–63984
  - C-Ti composite sputtered films, ion ehancement, struct. prop. relationships studies 7–52332
  - Fe/Ti multilayered struct., wear and friction, ion beam mixing effects 7–28141
  - Fe-Ti multilayered films, ion bombard., microstructure, TEM obs. 7–12165
  - Fe-Ti-C multilayered films, ion bombard., microstructure, TEM obs. 7–12165
  - Fe_2O_3:Ti(Sn,Nb), γ-ray damage, impurity effects on annealing 7–6679
  - GaAs:Ti, optical spectra 7–7720
  - GaAs:Ti^{3+}, EPR 7–45811
  - p-GaAs/AuZnNi/Ti/Au ohmic contacts, low-resistance 7–7385
  - InP:Ti, Hg, semi-insulating, impurity electron state compensation mechanism, SIMS, SSMS, EPR and Hall effect meas. 7–64164
  - InP:Ti, single crystals, LEC growth, precipitate identification 7–16754
  - $La_2Li_{0.5}Co_{0.5}O_4$:^{57}Co, Ti, ^{57}Fe^{4+} anomalous charge state obs., ^{57}Co^{3+} nuclear decay studies 7–21881
  - LiF:Mg,Ti phosphor layer on borosilicate glass substrate, laser stimulated thermolum. 7–64703
  - LiF:U,Ti, X-irradiated crystals, absorpt. bands of U^{4+} and U^{3+} ions 7–13183
  - $LiNbO_3$: Ti waveguide collinear Bragg diffr. cell, acousto-optic interaction efficiency anal. 7–37234
  - $LiNbO_3$ waveguide, parametric fluoresc. amplification and oscill. 7–25894
  - $LiNbO_3$:T surface, acousto-optic interaction, photoelastic and electro-optic contribs. 7–45982
  - $LiNbO_3$:Ti, acousto-optical diffr. elastic strain and electric field effects 7–45985
  - $LiNbO_3$:Ti, low-loss TM-pass polariser fabricated by proton exchange in Z-cut waveguides 7–43444
  - $LiNbO_3$:Ti 4×4 directional coupler switch with permanently attached polarisation maintaining fibre array, low crosstalk 7–31520
  - $LiNbO_3$:Ti 4×4 nonblocking interconnection network for test bed, video switching 7–26039
  - $LiNbO_3$:Ti channel waveguide electro-optic cutoff modulator 7–43353
  - $LiNbO_3$:Ti directional couplers, appl. of coupled-mode theory to design with non-parallel sections 7–20410
  - $LiNbO_3$:Ti electro-optic Mach-Zehnder waveguide modulators, 1.51 μm operation, optically induced drift effects 7–20404
  - $LiNbO_3$:Ti guided-wave optical switch, 1×16, polarisation-independent 7–31525
  - $LiNbO_3$:Ti integrated optic device for fibre laser Doppler velocimeter 7–6022
  - $LiNbO_3$:Ti integrated electro-optic devices, modelling and beam propag. anal. 7–11177
  - $LiNbO_3$:Ti integrated optical parametric oscillators, numerical model 7–57459
  - $LiNbO_3$:Ti integrated optical devices, domain inversion effects 7–62849
  - $LiNbO_3$:Ti modified 1×2 directional coupler waveguide modulator 7–1259
  - $LiNbO_3$:Ti strip waveguides at 1.3 μm, field distrib. 7–25962
  - $LiNbO_3$:Ti waveguide, SHG, indiffusion proton exchange fabrication 7–25893
  - $LiNbO_3$:Ti waveguide, swept wavelength reflectometer for integrated-optic measurements 7–41432
  - $LiNbO_3$:Ti waveguide dispersion characts. description using generalised parameters 7–43369
  - $LiNbO_3$:Ti waveguides, Ti diffusion, model 7–21528
  - $LiNbO_3$:Ti waveguides, proton-exchanged Fresnel lenses 7–31522
  - $LiNbO_3$:Ti X- and Z-cut directional coupler and BOA switches, voltage-length product 7–43352
  - $LiNbO_3$:Ti(H) waveguides, photorefractive susceptibility, charactn. methods 7–26024
  - Nb-Ti compositionally modulated films, struct. study 7–7056
  - Nb-Ti multilayered thin films, superconducting and struct. 7–64384
  - RuO_2/Ti interface, struct. study using LEED, AES and XPS 7–63981
  - Si:B(As)-Ti, silicide formation using rapid thermal processing, defect behaviour 7–32726
  - Si:Ti, deep level transient spectroscopy, transient capacitance data anal. 7–52526
  - Si:Ti, electron and hole energy levels, DLTS and DDLTS meas. 7–32941
  - Si:Ti, ion implanted, deep level charactn. 7–38513
  - Si:Ti polycrystalline solar cells, structural, elec., photovoltaic props., impurity effects 7–39990
  - Si/Ti, silicide film form., MOS-VLSI appls. 7–7870
  - Si/Ti amorphous superlattices, high resolution photovoltaic position sensing 7–48847
  - Si-SiO_2-Ag(Cu)(Au)(Pd)(Ti) MOS structures, diffusion coeff. meas. in elec. fields, solid solubilities 7–2279
  - Si-Ti, Schottky barrier height investig. 7–2716
  - Si-Ti amorphous superlattices, electronic and photoelectronic props. 7–12795
  - Si-Ti amorphous superlattice films, lateral photoeffect 7–45487
  - Si-Ti amorphous superlattice films, lateral photovoltage, wavelength dependence 7–45488
  - Si-Ti thin-film superlattices, structure 7–38350
  - SiC:Tc, N, 6H polytype, ESR of (TiN)^0 impurity pairs 7–2926
  - Si_3N_4-Ti, reaction under rapid thermal annealing 7–39334
  - SiO_2:Ti^{3+}, rose-quartz, cryst. synthesis 7–46292
  - TI XV-XVII, tokamak plasmas, inner-shell X-ray line spectra 7–6371
  - Ti + Ar(He)(Ne), Ti excited state total ang. momentum charge, radiation quenching 7–42735
  - Ti I, absorpt. spectrum between 1900 Å to 2315 Å 7–49990
  - Ti I, N_2 laser induced fluoresc. in vapour cloud, quenching 7–19763
- **titanium** continued
  - Ti IV, plasma-induced atomic level broadening 7–63262
  - Ti VII transition probabilities and wavelengths 7–15550
  - Ti XXI lines in electron-cyclotron heated tokamak plasmas, nonthermal X-rays, time resolved meas. 7–11658
  - Ti$^+$ excited state selected, one-colour UV multiphoton ionis. 7–36506
  - Ti:$LiNbO_3$ optical switch, three-electrode 7–15970
  - Ti:sapphire laser, 750 to 790 nm, pulsed injection control 7–36984
  - α-Ti:Si, ion implanted, diffusion profiles, annealing behaviour 7–12369
  - Ti^{3+}:Al_2O_3 coherently pumped laser, output characts. 7–31331
  - Ti^{3+}:Al_2O_3 laser, excitation methods, use in intracavity spectroscopy 7–43190
  - Ti^{3+}:$BeAl_2O_4$ chrysoberyl crystal tunable laser, 0.7 to 0.9 μm 7–25826
  - Ti/Al-W thin film reactions, W diffusion marker studies 7–2277
  - Ti/Si (111) interface, diffusion and silicide form. kinetics, XPS meas. 7–52308
  - Ti/Si interface, $TiSi_2$ formation by rapid thermal annealing 7–21707
  - Ti/Si selectively sputter deposited interface, Auger and Rutherford backscatt. studies 7–21690
  - Ti/Si:B,As,Sb interface, dopant redistrib. during silicide form. by rapid thermal processing 7–63641
  - Ti/Si:P, enhanced grain growth by silicide form. 7–27142
  - Ti-AlSi layered films, compound formation and Si behaviour 7–21762
  - Ti-Cu-Ti thin films, reaction kinetics, stress, and microstruct. 7–21764
  - Ti-glass mirror, temp. deformation 7–20386
  - Ti-polyethylene, adhesion of metal films, effects of Ar$^+$ bombardment 7–28267
  - Ti-Si, native contamination layer effect on interface props. 7–17104
  - Ti-Si, Schottky barrier heights, 175 to 295K, silicide form. 7–38679
  - Ti-Si interface, laser irradiated, silicide formation 7–45079
  - Ti-Si interface, nucleation and growth of $TiSi_2$, influence of O_2 7–21541
  - Ti-Si interface, self-aligned Ti silicide formed by rapid thermalannealing 7–2391
  - Ti-Si interface, silicide form., Auger and appearance pot. spectra studies 7–45031
  - Ti-Si MIS Schottky barriers, influence of silicide formation on barrier height 7–45499
  - Ti-Si thin films, silicide phase formation 7–21695
  - Ti-Si:As$^+$(P$^+$)($BF_2{}^+$), $TiSi_2$ formation, ion implantation doping and masking oxide film effects 7–21708
  - Ti-SiC interface, compositional depth profiles and intermixing, atom probe FIM study 7–32843
  - Ti-SiO_2-$TiSi_2$-Si, high temp. reaction between Ti and SiO_2, XPS, sputtering *(Japanese)* 7–7022
  - Ti-TiN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Zr-ZrN 7–38726
  - Ti+Ar(Ne)(He)(N_2)(H_2), triplet state quenching and excitation transfer processes 7–19761
  - Ti+Ar(Ne)(N_2) quenching and excitation transfer processes, fluoresc. 7–10725
  - Ti+D(He)(C)(N)(O), thick target bombardment, X-ray production cross sections 7–20025
  - Ti+He$^+$(Li$^+$)(H$^+$), inner-shell ionis. polarisation effect, variational wave fn. calc. 7–62491
  - TiC, high-resolution Auger spectra, discrete variational Xα method 7–16942
  - $Ti_{1-y}V_yH_x$, FCC-FCT transition, positron annihilation obs. 7–32641
  - ^{44}Ti, radioactive target preparation by high yield electrodeposition 7–819
  - ^{50}Ti anomalies in carbonaceous chondrite hibonites 7–55579
  - W-Ti-Si interface, WSi_x form. by rapid thermal annealing, growth kinetics, Ti film effects 7–63969
  - ZrO_2:Ti, ion implantation, mech. props. 7–28102

- **titanium alloys**
  - *see also titanium compounds*
  - β-phase, metastable, effective H permeability 7–44918
  - β-phase, superplastic deform. props. 7–65092
  - β-type springs, design and mech. props. 7–46630
  - ω-phase, special features of twinning *(Russian)* 7–44570
  - binary, reduced technological plasticity and struct. *(Russian)* 7–17583
  - binary alloys, rapidly quenched, metastable phase form. 7–21414
  - casting technology 7–7914
  - cracking resistance, effect of strain rate and test temp. 7–13548
  - fibre reinforced Ti-base alloy, development of creep-resisting composites 7–3228
  - fracture toughness determination from thin side-grooved specimens 7–59706
  - heat cycling regimes and effects 7–8028
  - hot salt SCC rel. to surface conditions *(Chinese)* 7–13623
  - Incoloy 800H, multilayer oxide scales in gas atmosphere, Ti distribution 7–53972
  - ingot preparation, thermal plasma arc melting 7–27968
  - metastable phases, plasticity *(Russian)* 7–33729
  - microstructure and slip characts. 7–8050
  - Monel K-500, precip. of intermetallic γ′ phase and carbide phases 7–33678
  - Nimonic 80, coupled plastic and creep damage at finite deform. *(Japanese)* 7–33736
  - Nimonic 80A, crack growth under sulphidising conditions, metallography 7–59680
  - ordered structure form. during decomp. of metastable β-phase *(Russian)* 7–53725
  - rapid solidification prep., compaction and processing techniques 7–22612
  - rolling deformation, $\beta\to\alpha'$ transformations *(Russian)* 7–46454
  - sheet, vac. annealing temp. influence on surface relief 7–17688
  - shock wave fracture, interferometric investig. 7–44683
  - steel, austenitic, bombarded with Ar ions, ageing temp. effects on structure, microhardness and sputtering 7–65120
  - steel, austenitic stainless, Ti addition effect on swelling under HVEM conditions 7–58343
  - steel, X8CrNiTi18.10, corrosion product layers in PWRs at pH 7 *(German)* 7–19356
  - superplastic deform., temp. depend. 7–39588
  - superplastic forming and diffusion bonding 7–8048
  - two-phase, microstruct. and failure nature correl. 7–8110
  - two-phase (α+β), vol. changes during polymorphic transform. 7–39506
  - Al-Fe-Si-TiO_2, dispersion hardened, strength props., effect of matrix particle size and oxide vol. fraction 7–17544
  - Al-Si-Zn-Mg-Ti(-Sr) system alloys, mech. props., Sr microalloying effect 7–3377
  - Al-Ti, powder metallurgy alloys, mech. and thermal stability 7–64973

titanium alloys continued
Al-Ti, rapid solidification processed/mechanically alloyed, high temp. deform. 7—65100
Al-Ti alloys, 1D antiphase domain structures 7—63557
Al-Ti brazing alloys with active Ti additive, bonding of Syalon 7—39846
Al-Ti-Gd, rapidly solidified ribbons, aged, ternary phase precipitate identification 7—3311
Al-Ti-based homogeneous alloy films, elec. resist., microstruct., electromigration, comp. effects 7—21765
Bi alloy impregnated Ti, composite pseudoalloy, mech. props., Bi alloy content depend. 7—28095
Co-Ni-Ti-based alloys, critical shear stress asymmetry during stretching and compression *(Russian)* 7—8054
Co-Ti amorphous films, induced anisotropy, relax. process 7—53080
Co-Ti sputtered films, mag. props., O impurity effects 7—33238
$CoNbTi/SiO_2$ amorphous layered films, high freq. permeability 7—53078
$Co_{80}Nb_{10}Ti_{10}$ two-layered films, mag. domain structures, transmission Lorentz microscopy 7—53096
$Co_{80}Nb_{10}Ti_{10}$-SiO_2, amorphous multi-layered films, mag. props. rel. to film thickness 7—2912
CoPtTi thin films, magnetic and microstructural props. 7—33230
CoTi soft ferromagnetic thin films, structure-related induced anisotropy 7—45663
CoTi-CoNb amorphous alternating layers, magnetic and diffusional props. study 7—7563
$Co_{25}Ti_{75}$, amorphous struct., neutron and X-ray diffr. 7—58149
Co_3Ti, alloying behaviour, phase equilib. 7—7968
Co_3Ti, effect of plastic deformation on mag. props. 7—33259
Co_3Ti, $L1_2$ ordered alloys, grain boundary strength and fracture, electronic and struct. studies 7—33756
Cr-Ti-C system, existence of quasibinary section Cr-TiC 7—3288
Cu-Ag-Ti brazing alloys with active Ti additive, bonding of Syalon 7—39846
Cu-Al-Ni-Ti-Zr, shape memory alloy, grain refinement, fracture mode, Ti and Zr additions effect 7—3301
Cu-Ti, amorphisation, high resolution electron microscopy 7—44377
Cu-Ti, early stage precipitation kinetics, SANS studies 7—53746
Cu-Ti, powdered, dynamic strain ageing, 375-860K 7—28058
Cu-Ti (5.7 at.%), cellular decomp. *(Russian)* 7—53693
Cu-Ti (5.7 at.%), diffusion of products of cellular dissoln. *(Russian)* 7—58485
Cu-Ti alloy system, electron irrad.-induced amorphisation, chemical disordering effects study 7—16640
Cu-Ti alloys, amorphous and crystalline, H absorption 7—2369
Cu-Ti brazing alloys with active Ti additive, bonding of Syalon 7—39846
Cu-Ti-Al single crysts., strain hardening due to multiple twinning *(Russian)* 7—46501
CuTi molten alloys, evidence of chemical short range order 7—21077
CuTi:H, medium-range structure, ASAXS study 7—58203
$Cu_{1-x}Ti_x$ metallic glasses, magnetoresist., quantum interference and electron interaction effects 7—2576
Cu_4Ti_3, electron irradiation induced amorphisation, high resolution electron microscopy 7—44373
$Cu_{44}Ti_{56}$ 3D metallic glasses, magnetoconductivity meas., quantum interference effects calcs. 7—17016
$Cu_{48}Ti_{52}$, amorphous, crystallisation, intermediate long period superlattice phase form. 7—21098
$Cu_{50}Ti_{50}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7—39302
$Cu_{70}Ti_{30}$ metallic glass, atomic neighbouring struct., EXAFS study *(Chinese)* 7—6519
Cu_xTi_{1-x} amorphous alloys, neutron diffr., computer simulation studies 7—21109
Cu_xTi_{100-x}, x=50,66, metallic glasses, crystn., DTA, X-ray diffr., hardness meas. 7—63489
Fe-Co-Ni-Ti (34.9, 20.0, 10.2 wt.%), thermoelastic martensite transformation 7—52032
Fe-Cr-Al, C solubility, influence of Ti and Nb, high-temp. oxidation resist. 7—22876
Fe-Ni-Cr-Ti-B, constant elastic alloy, torsion reson. freq. temp. coeff. rel. to B content *(Chinese)* 7—13488
Fe-Ni-Ti, austenitic crystals, nitrided, phase comp. of diffusion layers *(Russian)* 7—63922
Fe-Ti, coercive field meas. 7—64491
Fe-Ti compositionally modulated amorphous films, sputter deposition prep. 7—22482
Fe-Ti/AISI 304 stainless steel system, ion beam mixed, wear and friction studies 7—46657
Fe-Ti-C ion-implanted amorphous alloys, precipitate microstruct. studies, conc. depend. 7—16434
Fe-Ti-C system, austenite-nonstoichiometric precip. equilib. 7—3303
Fe-Ti-N, mech. props. rel. to cold working 7—28089
Fe-TiB_2 eutectic system, microhardness, modulus of elasticity *(Russian)* 7—39648
$Fe_{73}Ti_{27}H_x$ amorphous alloys, Mossbauer spectra 7—33308
Mo-Ti, solid soln. hardening, alloying element effects, Vickers hardness meas. *(Korean)* 7—3319
Mo-Ti-C system, embrittlement of ingots, role of phase stresses 7—3398
Mo-TiC eutectic composites, yield strength in temp. range 285 to 2270 K 7—53831
Mo-W-Zr-Ti, scale resist. of silicide coatings, influence of Fe and B additions 7—22875
$(Nb,Ti)_3$ Sn, supercond. mag. material, fusion reactor conditions simulation 7—52922
Nb-Ti, supercond. mag. material, fusion reactor conditions simulation 7—52922
Nb-Ti, superconducting composites, critical current distributions 7—38833
Nb-Ti composite superconductors, influence of heat transfer on current carrying capability 7—64422
Nb-Ti multifilamentary superconductors develop. 7—7456
Nb-Ti-H(D), anomalous anelastic relax., statistical model 7—28065
Nb-Ti-H(D), substitutional alloys, intermediate temp. relax., Fermi-Dirac model 7—26858
Nb-Ti-H(D) alloys, anomalous anelastic relax., statistical model anal. 7—8036
Nb-Ti-O, struct. state obs. by internal friction, oxide precip. *(French)* 7—13494
Nb-Ti-W (30, 20 wt.%), nitriding, hardness, wear and corrosion resist. 7—46713
Nb_3Sn-NbTi hybrid superconducting magnet, Meissner magnetic image effect, magnetisation and susceptibility meas. appl. 7—4869

titanium alloys continued
Nb_3Sn-Ti multifilamentary superconducting composites, growth dynamics, struct. and props., additive and heat treatment effects 7—22056
NbTi alloy, neutron and γ-ray irrad. effects near supercond. transition temp. *(Russian)* 7—33119
NbTi/Cu stabilised wires, wiggler design for ESRF 7—42253
NbTi-Cu Al stabilised superconducting detector magnet technology for high energy accelerators, review 7—49779
NbTi-Cu dipole superconducting magnet for accelerators, develop. 7—5510
$Nb_{99}Ti_1H_1(D_1)$, localised H vibrs., inelastic neutron scatt. studies 7—58426
$(NbTi)_3Sn$ multifilamentary superconductors develop. 7—7456
Ni base superalloys, pressure vessel performance, strength, ductility, comp., struct. 7—3365
Ni-base superalloy, cast, high Al-Ti, eutectic form. and σ-phase control *(Chinese)* 7—7983
Ni-base superalloy, oxidation in steam at 800°C, role of Al and Ti 7—65203
Ni-Co-Cr-Mo-Al-Ti prealloyed powder, parts prod. by hot pressing *(French)* 7—13400
Ni-Cr-Co-Mo-Nb-Ti-Al superalloy, microstruct. and mech. props. with high-temp. heating 7—3341
Ni-Cr-Co-Mo-Ti-Nb-Al, heat-resisting, supersaturated solid soln., isothermal decomp. kinetics 7—33682
Ni-Cr-Co-Mo-Ti-Nb-Al, heat-resisting, hot strain rate effect on microstruct. and mech. props. 7—39559
Ni-Cr-Ti-Al(-Mo), dendritic single crysts., microsegregation 7—46477
Ni-Ti, electrodeposition from aq. $(NH_4)_2$ TiF_6 bath 7—7902
Ni-Ti, nitinol, memory alloy, martensitic transformations 7—39513
Ni-Ti, nitinol, shape memory alloy, phase transitions, thermal energy conversion appl. 7—39514
Ni-Ti, Nitinol, thermodynamics 7—58506
Ni-Ti, reaction with Si studied by RBS and TEM 7—21704
Ni-Ti composite powder, prod. and processing props. 7—3230
Ni-Ti films, sputter deposition and ion beam mixing, microstruct. 7—44630
Ni-Ti metallic alloy ordering and spinodal decomposition, atom probe FIM study 7—33676
Ni-Ti metallic glass, ion beam mixing, diffusion and phase separation meas. 7—16659
Ni-Ti-H, α/β miscibility gaps, X-ray diffr. study 7—13430
Ni-Ti-Nb, shape memory alloy, cast microstruct. 7—7988
Ni-Ti-(P), amorphous, corrosion behaviour in boiling conc. HNO_3 and HCl 7—3511
$Ni_3Al(B,Ti)$, rapidly solidified powders, struct. of consolidated products 7—3222
NiAlTi, decomposition kinetics, TEM, FIM and SANS studies 7—53748
NiCrAlTi, sputter ion plated coatings for gas turbines 7—53971
NiTa-GaAs, phase separation, cross-sectional TEM 7—27152
NiTi alloy powder, shock compaction 7—59480
NiTi, electronic phase diagram for B2-R transition 7—52388
NiTi, martensitic transform. rel. to d-transition element alloying *(Russian)* 7—59519
NiTi sputtered films on glass substrates, interfacial reaction, Auger study 7—22395
NiTi-Si, interfacial interactions, Rutherford backscattering spectrometry, TEM 7—12505
$Ni_{35}Ti_{65}$, amorphous, internal friction of H 7—39577
Ni_xTi_{1-x}, liquid and amorphous, chemical short-range order, electronic theory 7—44349
Ni_xZr_{1-x}, liquid and amorphous, chemical short-range order, electronic theory 7—44349
Pd-Ti, ion-beam-mixed surface alloys, processing of metals for improved corrosion resist., surface modification program 7—65200
PdTi, enthalpy of form. by high temp. calorimetry 7—21410
PtTi-Si, interfacial interactions, Rutherford backscattering spectrometry, TEM 7—12505
Pt_3Ti (111), chemisorption induced surface core level shifts 7—22448
Pt_3Ti (111), chemisorption of CO and O_2 7—27131
(Ti,W)C-Ni_3Al, composite prep. by liq. phase sintering, wettability of carbide by molten Ni_3Al, 7—64987
Ti base alloys, rapid solidification technology 7—39493
Ti clusters, electronic props., CNDO method 7—27247
Ti-6Al-4V, electron beam welded, neutron irrad. effects 7—56832
Ti-Al, brittle failure rel. to overheating, fractography 7—22796
Ti-Al (6 to 16 wt.%), ordered DO_{19} phase form., DTA study 7—39484
Ti-Al powder mixture subject to explosive shock-wave loading, compound formation 7—39461
Ti-Al-Cr-FeSi, AT3 alloy, corrosion resist. and hydrogenation susceptibility in dil. H_2SO_4 soln. 7—17685
Ti-Al-Cr-Mo, VT3-1 mech. props. depend. on decomp. product morphology for metastable phases 7—39655
Ti-Al-Fe, mech. props., investig. as implant material *(German)* 7—46647
Ti-Al-Mo-Cr, VT3-1, struct. changes during US case hardening *(Russian)* 7—53991
Ti-Al-Mo-Cr, VT3-1, vac. annealing of blanks after isothermal deform., hydrogen plasticising effect 7—8027
Ti-Al-Mo-Cr and Ti-Al-Mo-Zr, VT3-1 and VT9, two-phase, microstruct. and failure nature correl. 7—8110
Ti-Al-Mo-Cr VT3-1, cooling regimes in heat treatment effect on mech. props. 7—8026
Ti-Al-Mo-Fe, struct. changes during phase transitions *(Russian)* 7—53721
Ti-Al-Mo-V, fatigue failure resist., appl. of high-freq. loading methods 7—59627
Ti-Al-Mo-V-Cr, VT22, metallographic study of β-solid soln. decomp. 7—39523
Ti-Al-Mo-Zr(-Si) alloys, superplastic characts., H alloying effect 7—8049
Ti-Al-Nb, rapidly solidified, microstructural studies 7—22668
Ti-Al-Nb (6,2 wt.%), fusion weld, defect regions, cracking, porosity, interstitials analysis 7—28109
Ti-Al-Nb-Zr, plastic deform., elect. resist. oscills. 7—20605
Ti-Al-Sn, silicide precipitates struct. 7—63561
Ti-Al-Sn, specific heat capacities *(German)* 7—2228
Ti-Al-Sn, weld metal, cryogenic toughness *(Japanese)* 7—46620
Ti-Al-Sn-Zr, high-cycle fatigue damage, predicting onset, engng. appl. for long crack fatigue threshold data 7—22789
Ti-Al-Sn-Zr-Mo (6,2,4,2 wt.%) superplastic deform., temp. depend. 7—39588
Ti-Al-V, environmentally assisted cracking at high vel. 7—65213

titanium alloys continued
- Ti-Al-V, high-cycle fatigue damage, predicting onset, engng. appl. for long crack fatigue threshold data 7—22789
- Ti-Al-V, in power generation industry 7—46283
- Ti-Al-V, pseudo-alpha alloys, BCC lattice hydrides *(Russian)* 7—53751
- Ti-Al-V, spall strength and fracture mechanism 7—46627
- Ti-Al-V, struct., martensitic transform., cooling rate depend. *(Russian)* 7—46469
- Ti-Al-V, ternary phase diagram 7—28017
- Ti-Al-V, VT20 and VT6, annealing temp. effect on mech. props. of semi-finished products 7—39558
- Ti-Al-V, VT23, α and β phases, temp. relationship of chem. comp. *(Russian)* 7—39520
- Ti-Al-V (6, 4 wt.%), hardness and alpha/beta ratio, effect of O 7—3430
- Ti-Al-V (6, 4 wt.%), powder metallurgy, fatigue props. rel. to microstruct. 7—8096
- Ti-Al-V (6, 4 wt.%) plates, rolling, heat treatment, microstruct., mech. props., turbine blade appl. 7—17644
- Ti-Al-V (6, 4 wt.%) texture stability during rolling in two-phase field 7—46508
- Ti-Al-V (6,4 wt. %) superplastic deform., temp. depend. 7—39588
- Ti-Al-V (6,4 wt.%), annealed fatigue crack growth in water, SEM fractography *(Chinese)* 7—8076
- Ti-Al-V (6,4 wt.%), α morphology rel. to thermomech. treatment 7—46520
- Ti-Al-V (6,4 wt.%), fracture, deform., porosity effect 7—22750
- Ti-Al-V (6,4 wt.%), machined sheet test pieces, superplastic deform. 7—22763
- Ti-Al-V (6,4 wt.%), powder metallurgy, thermomechanically treated, deform. behaviour 7—53908
- Ti-Al-V (6,4 wt.%), strain distrib. within crack tip plastic zones 7—3396
- Ti-Al-V (6,4 wt.%) r-values after superplastic strain 7—53806
- Ti-Al-V (6,4 wt.%)/TiC(WC) composites, implantation modified, friction, surface chemistry 7—46660
- Ti-Al-V cast strip, prep. by melt overflow rapid solidification 7—22609
- Ti-Al-V PT3V pseudo-α-alloy, fatigue resist. at increased temps. 7—17611
- Ti-Al-V-Mo-Cr, VT23, gas impregnation influence in heat treatment, rapid heating effect 7—17696
- Ti-Al-Zr, IMI 829, low cycle fatigue 7—22792
- Ti-Al-Zr-Mo-Si, creep resistance, silicides obs., effect on mechanical props. and fracture 7—8051
- Ti-Al-base alloys, fatigue failure resist., appl. of high-freq. loading methods 7—59628
- Ti-Al(Si)(Cr) alloys, oxidation behaviour, role of N 7—28198
- Ti-Co, liq-alloys, thermodynamic props., mass spectrometry *(Japanese)* 7—52084
- Ti-Co (3.2 at.%), grain boundary allotriomorphs, nucleation, growth and transform. kinetics 7—28035
- Ti-Cr, β-eutectoid, deform. behaviour of retained β phase 7—39589
- Ti-Cr (6.6 at.%), grain boundary allotriomorphs, nucleation, growth and transform. kinetics 7—28035
- Ti-Cr alloys, cryst. and electronic struct., decomposition of β-solid soln. 7—37931
- Ti-Cr-Mo-Al(V), textured sheets, Young's modulus anisotropy, elastic consts. calc. 7—46535
- Ti-Cr(Mn), nucleation, sympathetic, morphology, crystallography and kinetics 7—65035
- Ti-Cu, H storage, theory 7—34074
- Ti-Cu alloys, Guinier-Preston zones, multi-layer struct., atom probe FIM study 7—33674
- Ti-Cu-Ni-Si amorphous alloys, structural relax. annealing, X-ray diffr. studies 7—6537
- Ti-Fe, electronic, mag., supercond. and glass forming ability rel. to stability 7—38846
- Ti-Fe H storage, theory 7—34074
- Ti-Fe powder mixture compacts. sintering behaviour in H atm., TiFe synthesis 7—53672
- α-Ti-Fe system, Fe solubility, 360 to 580°C, Mossbauer studies 7—32656
- Ti-Fe-Mn, sintering, dilatometry, thermographic obs. 7—13404
- Ti-Fe-Mn compacts, vol. changes in sintering, Mn Influence 7—7926
- Ti-Mn, alpha and beta phases, yield and tensile strength, ductility, Bauschinger behaviour, fatigue life, crack propag. 7—8052
- Ti-Mn, Laves phase, liquid quenching, transformations and phase diagrams 7—65059
- Ti-Mo, electrochemical behaviour in brine, gamma radiolysis effect 7—65185
- Ti-Mo, grain boundaries, interaction with doping atoms *(Russian)* 7—51781
- Ti-Mo, omega transition anal. 7—16737
- B-Ti-Mo, single crysts., age and quench hardening, effects of cryst. orientation and surface condition *(Japanese)* 7—22709
- Ti-Mo, VT8, two-phase, microstruct. and failure nature correl. 7—8110
- Ti-Mo (15 wt.%), Young's modulus, cohesive energy, H effect *(Chinese)* 7—8033
- Ti-Mo (30 wt.%) evidence of FCC δ-hydride form. 7—3312
- Ti-Mo alloy, ordering, effect of interstitial trace elements *(Russian)* 7—37928
- Ti-Nb alloys, struct. and precipitation under high energy electron irrad. *(Russian)* 7—44620
- Ti-Ni, ageing and thermal cycling effects in shape memoryalloys 7—3336
- Ti-Ni, crystalline to amorphous transitions, struct. anal. 7—44375
- Ti-Ni, H storage, theory 7—34074
- Ti-Ni, shape memory alloys, metastable X-phase, cryst. struct., morphology, TEM, X-ray diffr. 7—37926
- Ti-Ni (51 at.%), aged shape memory alloy, precip. morphology, comp., cryst. struct. 7—28049
- Ti-Ni conc. determ. by electron probe microanal. in energy dispersive system, ZAF factor approx. 7—28369
- Ti-Ni-Al rapidly quenched amorphous alloys, thermal stability studies 7—21123
- Ti-Ni-Cu system metallic glasses, superplastic props. in vitrification temp. range 7—3356
- Ti-Ni-Cu(Au), martensite cryst. lattice distortions, comp. depend. 7—22679
- Ti-Ni(Co)(Fe), amorphous phases, mechanical alloying 7—27972
- Ti-Pd, amorphous, formation by mechanical alloying methods 7—59479
- Ti-Pt/n-GaAs system, Schottky barrier height, doping depend. 7—2708
- Ti-R (R=rare earth) alloys, rapidly solidified, tensile and creep props. 7—22778
- Ti-Si, oxidation between 550 and 700°C 7—65202
- Ti-Sn-Y rapidly solidified alloys, dispersoid particle coarsening 7—22704

titanium alloys continued
- Ti-Ta metastable alloys, phase transforms. during heating *(Russian)* 7—13449
- Ti-Ta sublimation getter pumping system and performance, computer control at TMX-U 7—25184
- Ti-V-H alloys, struct., X-ray diffr. and ^1H and ^{51}V NMR studies 7—32364
- Ti-V(Mo)(Nb)(Fe), metastable β-phase alloys, mech. twinning TEM obs. 7—6633
- Ti-W films, characterisation by SIMS, Auger spectroscopy and TEM 7—12550
- Ti-Zr, α-β transform. temp. study 7—38180
- Ti-Zr, dry corrosion, bistability, thermal oscillations *(French)* 7—65188
- TiAl, aluminide layers on Ti, high temp. cyclic oxidation 7—17719
- TiAl, deform. at high temp., flow and brittle fracture stress *(Japanese)* 7—13516
- $Ti_{1+x}Al_{3-x}$, long period struct. 7—16500
- Ti_3Al, struct., phase comp. rel. to crystallisation rate and heat treatment 7—46442
- Ti_3Al-Nb alloys, ductility and fracture toughness, dispersoid modification effects 7—22779
- Ti_3Al-Nb-Er rapidly solidified alloy, microstruct. effects and dispersoid stability 7—22669
- Ti_3Al-Zr, rapidly solidified, microstructural studies 7—22668
- TiB_2-Mo electrospark coatings on steel, form. kinetics and high-temp. oxidation 7—65210
- $TiBe_2$, spin-fluctuation material, magnetoresistivity 7—45278
- TiC cermet powder, surface treatment and surface props. *(Japanese)* 7—46666
- TiC-base cermet, structural materials, cyclic strength 7—59624
- TiC-Fe-Cr alloyed with Si, high-Cr, sinterability and mech. props. improvement 7—64986
- TiC-Mo_2C-Ni hardmetals, high temp. strength 7—3404
- TiC-Ni hard metal, Ni-Ti-C phase diagram analysis 7—28016
- TiC-steel hard alloys, wear resist. in abrasive jet, methods of improvement 7—3448
- TiC-WC-TaC-Co hard metals, Ta conc. effect on comp. and physicomech. of carbide and Co phases 7—53708
- TiC-WC-TaC-Co three-phase sintered carbides, Ta content influence on struct. and props. 7—65097
- TiC_x, KVV Auger electron spectra and band struct. *(Russian)* 7—17371
- TiCoSn ferromagnet, magnetisation, mag. suscept. and cryst. struct. determ. *(Russian)* 7—1952
- $TiCr_{2-x}Fe_x$ alloys, H absorption and storage investig. 7—32832
- TiCu-H_2, thermal stability of hydrides 7—26664
- TiFe, adsorption of O, AES study 7—59312
- TiFe, H absorpt., Mossbauer obs. 7—27642
- TiFe, oxidised, bulk and surface phase composition 7—46700
- Ti_4Fe_2O, H absorpt., Mossbauer obs. 7—27642
- $TiH_{1.98}$, Compton profiles meas. 7—7785
- TiN-Fe sputtered binary coatings on steel substrates *(Japanese)* 7—59419
- TiN-Ni heterophase materials, strength rel. to sintering characts. and components conc. 7—53822
- TiNi, adsorption of O, AES study 7—59312
- TiNi alloy, amorphisation by high press. shear deform. *(Russian)* 7—8053
- TiNi alloy, shape memory and reversibility effects, deform. effects *(Russian)* 7—13508
- TiNi, mono- and polycryst., elastic props. and internal friction, premartensitic anomalies *(Russian)* 7—59564
- TiNi rapidly solidified alloys, shape memory behaviour 7—22780
- TiNi, reverse memory of form, effect of thermal cycling 7—33660
- TiNi shape memory alloys, non-equiatomic, precip. processes 7—17535
- TiNi shape memory alloys, wear resist. and hardness, influence of heat treatment *(Korean)* 7—17647
- TiNi-Ge, premartensitic effects *(Russian)* 7—53692
- TiNi-TiAu alloys, martensitic transformations and shape memory effects *(Russian)* 7—17529
- TiNi-TiCu amorphous alloy, thermal devitrification kinetics, DSC obs. 7—21116
- TiNi-TiFe alloys, martensitic transform. and props. *(Russian)* 7—39511
- TiNi-X, X=Fe, Ge, Re or Ni, struct. transitions in premartensitic range *(Russian)* 7—39504
- Ti_2Ni, giant cells, polyhedral packing 7—11992
- $Ti_{50}Ni_{40}Au_{10}$, martensitic transform., TEM study 7—59522
- $Ti_{50}Ni_{45}Au_5$ martensite, interstitial H-induced extra reflection, TEM and electron diffr. study 7—59521
- TiNiCu alloys, martensitic transformations, kinetic and morphological laws 7—52031
- TiNiFe, premartensitic state investig., Mossbauer effect studies *(Russian)* 7—3298
- $Ti_{50}Ni_{47}Fe_3$, intermetallic cpd., martensitic transform. at high press. *(Russian)* 7—59520
- $Ti_{75}Ni_{20}Ge_5$ metallic glasses, corrosion rates in the H_2SO_4 and HCl solns. 7—28199
- $Ti_{75}Ni_{20}Si_5$ metallic glasses, corrosion rates in the H_2SO_4 and HCl solns. 7—28199
- TiNiSn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7—1952
- $TiPd_3$, electronic structure and intrinsically selective absorption 7—38444
- $Ti_{84}S_{16}$ metallic glass, total struct. factors, neutron and X-ray diffr. studies 7—6546
- $Ti_{75}Sb_{25}$, with Cr and Fe impurities, supercond. transition temp., impurity conc. depend. 7—2768
- $TiSi_2$ films, electrical transport props. 7—58908
- $TiSi_2$ formation on Si by rapid thermal annealing 7—21707
- $TiSi_2$ formation on Si:As 7—12551
- $TiSi_2$ formation or Si, effects of substrate ion implantation and masking oxide films 7—21708
- $TiSi_2$:B(P)(As) films on Si, impurity diffusion 7—7077
- $TiSi_2$:O films, quantitative SIMS analysis, in situ ion implantation of ^{18}O reference level 7—12100
- $Ti_{1-x}V_x$ quench condensed thin films, supercond. crit. field and fluctuation cond. meas. 7—64415
- $(Ti_{1-x}V_x)_2Ni$, orientation relationship between the icosahedral and crystalline phases 7—16477
- Ti_xW_{1-x}-Si, Schottky barrier heights, 175 to 295K, silicide form. 7—38679
- U-Ti (0.75 wt.%), oxidation in O_2/H_2O environments, 140°C 7—59669
- U-Ti (4 at.%), quenching, decomp., TEM obs. 7—39527
- V-20Ti pressurized tubes, creep response to neutron irrad. 7—56831

titanium alloys continued
V-CR-Ti (15, 15 wt.%), mech. props., effect of heat treatment and impurity conc. 7–53857
V-Cr-Ti, fusion reactor blanket, surface alloying, oxidation resist. to high temp. He coolant 7–53964
V-Cr-Ti, fusion reactor first wall, oxidation and volatility 7–53965
V-Cr-Ti, ion-irrad., swelling and microstruct. evolution, effect of He 7–58359
V-Cr-Ti, oxidation in moist He coolant gas 7–53963
V-Cr-Ti, thinning treatment, TEM appls. 7–8190
V-Cr-Ti, V-Ti, corrosion in pressurised water, 288°C 7–53967
V-T-H(D), substitutional alloys, intermediate temp. relax., Fermi-Dirac model 7–26858
V-Ti-Fe-H_2 system, V-rich, dihydride form., lattice parameters, thermodynamics 7–32369
W-Cu-Ti, saturation rate of porous W with Cu, effect of Ti 7–3220
W-Ti-Si system, metallisation materials, amorphous phase form. and stability 7–22640
WC-TiC-Co hard alloy T15K6, heat treatment effect on failure mechanism 7–13550
WC-TiC-Co TK type hard metal prod. using Ti alloy swarf 7–27996
WTi-Si barriers, modification by low energy Ar^+ ions 7–22433
Zr-Ti, diffusion, chem. activity, modified evaporation method 7–38243
Zr-Ti (Sn)(Dy)(Au), neutron irradiated, solute effects on damage production and recovery 7–51861
Zr-Ti(Sn)(Au), low temp. damage prod. and recovery after fusion neutron irradiation 7–51862

titanium compounds
see also titanium alloys
oxides, carbides and nitrides, interaction with phosphate binder, prep. of vitreous ceramic materials 7–3260
oxides and silicates, Ti XANES study, site geometry, spectral features 7–59288
silicide self aligned, formation by rapid thermal annealing of Ti-Si interface 7–2391
TiC ⟨100⟩ field emitter, surface-processed, field emission props. *(Japanese)* 7–64880
tris(tetrahydroborato)titanium(II)-dimethoxyethane, cryst., X-ray structural investig. 7–51730
Ag_xTi_{23}, stage-2 interaction cpd., order-disorder phase transition 7–12255
$Ag_{1/3}TiS_2$, intercalation cpd., transport and mag. props. 7–52572
Al/TiN/Si contacts for VLSI, analytical electron microscopy 7–58651
Al_2O_3-MgO-TiO_2-Na_2O system, sintering and creep, Na_2O influence, Cable and Reijnen-Readley models *(German, English)* 7–7933
Al_2O_3-TiC, CVD coating on cemented carbides, diffusion of Co and W, TEM/AES study 7–27942
Al_2O_3-TiC-TiN composite ceramics, microstruct., hardness, tool appls. 7–65144
Al_2O_3-TiN composite, interfacial reaction and mass transport of components during sintering 7–3254
Al_2O_3-TiN powder composites, densification kinetics and struct. form. during sintering under high press. 7–53687
Al_2O_3-TiO_2, mech. props. and microstruct., influence of TiO_2 additions. *(Japanese)* 7–22706
Al_2O_3-TiO_2 composite powders, prep., transform. temp. 7–27985
Al_2O_3-TiO_2 system detonation coatings, struct. and phase characts., physicomech. props. 7–65212
Al_2O_3-TiO_2-$NaO_{1/2}$ system, elec. cond. meas. to detect suspected liq. phase 7–39467
Al_2O_3-TiO_2-SiO_2 composite, thermal shock resist. 7–33771
Al_2O_3-TiO_3 amorphous films, thermal expansion and coordination state of cations 7–44860
Au-TiB_2-Au-Ge-Ni-GaAs, ohmic contacts, alloying, specific contact resistivity 7–27425
Au-TiO_2:Nb diodes, trapping states, admittance spectra study 7–45494
$BaLn_2O_4$-TiO_2, (Ln=La,Nd), phase props., X-ray and elec. meas. 7–2220
BaO-TiO_2-B_2O_3(V_2O_5)(MoO_3), phase equilib. 7–46430
BaO.Nd_2O_3.5TiO_2, ceramics, matrix phase struct. 7–39488
$BaTiO_3$-TiO_2, heterogeneous ceramics, processing for dielectric appls. 7–64984
$BaTi_{2-x}Sn_xFe_4O_{11}$, crystal structures and mag. props. 7–12024
$Bi_4Ti_3O_{12}$ ceramic fabrication, grain-oriented, by normal sintering, sintering mechanisms *(Japanese)* 7–22619
$Ca_2Ti_2O_6$, pyrolysis product of CaO-TiO_2 system, cryst. struct., X-ray powder diffr. data 7–32394
$CaTiSiO_5$, sphene crystals, melt growth and character. 7–7840
Cr_xTiS_2, intercalated dichalcogenide, electronic struct. 7–52387
$Cs_xTi_{2-x/4}O_4$ phase struct. and stability, composition depend., X-ray studies 7–58229
$CuTiH_x$, amorphous hydrides, quasi elastic and inelastic neutron scatt. 7–21382
CuTiH(D) amorphous hydrides, neutron diffr., computer simulation studies 7–21109
$Cu_{0.5}Ti_2(PO_4)_3$, Nasicon-type phase, struct. and physical props. 7–45804
$(Fe^{3+}{}_{2-2x}Fe^{2+}{}_{1+x}Ti^{4+}{}_x)O_4{}^{2-}$, submicron synthetic titanomagnetites, oxidation products, IR spectra 7–27716
$(Fe_{1-y}Ni_y)TiH_x$, critical study of β-region 7–27634
$Fe_{2-x}Ti_{1+x}O_5$, pseudo-brookite, anisotropic spin-glass transition, transverse spin ordering, μSR study 7–45688
$Fe_{2.4}Ti_{0.6}O_4$, magnetisation in 1 to 30 microns particle size range 7–47425
$Fe_{3-x}Ti_xO_4$, substituted magnetite, reactivity in O_2, relation with cation distrib. *(French)* 7–46829
Fe_xTiS_2, intercalated dichalcogenide, electronic struct. 7–52387
K_2O-P_2O_5-TiO_2 glass, IR spectra 7–46025
$KTi_{2-x}Nb_{5+x}O_{17}$, mixed-valence rutile structures 7–27329
K_2TiF_6, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7–46245
$KTiOPO_4$, electro-optic and dielectric props. 7–13129
La_2TiMo_6 (M=Fe, Ni, Cu, Zn), synthesis, struct. and elec. props. 7–2619
Li-TiS_2, 35 Ah ambient temperature rechargeable cells, design options 7–34011
$Li_x{}^+(NH_4{}^+)_y(NH_3)_zTiS_2{}^{(x+y)-}$ intercalation cpd., NH_3 oxidation, charge compensation 7–32354
$Li_xNa_yTiS_2$ intercalated dichalcogenides, struct., electrochem. and thermodynamic props. studies 7–21167
$LiNb_3O_8$-TiO_2 system, rutile structure solid-solution phase, Ti diffusion into $LiNbO_3$ 7–44473

titanium compounds continued
Li_2O-Al_2O_3-TiO_2, synthesis and props. 7–33643
Li_2O-Nb_2O_5-$(TiO_2)_2$ system, vicinity of $LiNbO_3$, solid solns., crystal chemical and ferroelectric props. 7–6805
Li_xTiS_2, intercalation in solid-state battery cathode, TEM study 7–17854
$Li_{0.5+0.5}XTi_x$ $Fe_{2.5-1.5x}O_4$, dilute ferrite spinels, spontaneous magnetisation, anomalous temp. depend. 7–45739
Li_20-TiO_2-GeO_2, glass form., phase equilibria *(Russian)* 7–21118
$Mn_{0.97}Ti_{0.03}As$, mag. phase transitions, effect of Ti additions 7–27519
$Mn_{1-x}Ti_xAs$, phase transitions, effect of external press. and chemical substitutions 7–63798
Mo, TiC coated, low cycle fatigue behaviour 7–53848
$(NH_4{}^+)_{0.22}TiS_2{}^{0.22-}$ ionic intercalation cpd., synthesis, characterisation by thermal anal., mag. 7–45244
$Na_2(La,Co)TiP_3O_{12}$, Nasicon analogues, cryst. data 7–12014
Na_2O-SiO_2-TiO_2 system, struct. of glasses and melts *(Japanese)* 7–21121
Na_2O-TiO_2-GeO_2 glasses, refractive index, density 7–59170
$Na_8Ti_{3.5}O_2(OH)_2[SiO_4]_4$, polymorphous modification of natisite, cryst. struct., X-ray diffr. 7–26709
$Na_3Ti_{0.75}Si_2P_2O_{12}$, NASICON-based glass and glass ceramics, synthesis and characterisation 7–44908
Nb-Ti-O ceramic coatings, synthesis by reactive ion plating and sputter deposition, struct., electrophysical props. 7–64031
Ni-TiC-Si, TiC as mixing barrier for Ni-Si ion beam mixing 7–44922
$PbTiO_3$ based glass ceramics piezoelectricity, pyroelectricity and ferroelectricity 7–7654
$Pb(Zr_{0.58}Fe_{0.20}Nb_{0.20}Ti_{0.02})_{0.995}U_{0.005}O_3$ ferroelec. ceramic, TEM study 7–17272
Pt/TiO_2 thermally treated model catalysts, CO adsorption 7–54184
Ru-Ti-O ceramic coatings, synthesis by reactive ion plating, struct., electrophysical props. 7–64031
RuO_2-TiO_2, thin films, microheterogeneous struct. 7–12541
Si-$TiSi_2$, Schottky barrier height investig. 7–2716
Si-$TiSi_2$, $TiSi_2$ local epitaxial growth on Si (111), rapid thermal annealing, annealing ambient 7–33856
Si-$TiSi_2$-SiO_2-Ti, high temp. reaction between Ti and SiO_2, XPS, sputtering *(Japanese)* 7–7022
$SiCl_4$-$TiCl_4$, liq. mixtures, neutron diffr., RISM anal. 7–44342
Si_3N_4-TiC composites, densification, matrix-dispersoid reaction, mech. props. microstruct., impurities effect 7–64994
Si_3N_4-TiC composites, mech. props., wear resist., dispersoid-matrix interaction 7–65145
SiO_2-Al_2O_3-Li_2O-ZnO-TiO_2-ZrO_2-As_2O_3-Cr_2O_3:Cr, glass ceramic, time resolved spectra 7–63478
SiO_2-Al_2O_3-MgO-TiO_2-Cr_2O_3 based glass ceramics, Cr^{3+} laser emission and excitation spectra 7–22299
SiO_2-TiO_2, glassy system, thermal capacity, thermodynamic props. 7–12307
SiO_2-TiO_2 channel waveguides, for low radiation loss branching/combining optical circuit 7–31458
α-SiO_2-TiO_2 super fine structural insulator, thermal conductivity 7–21555
SiO_2-TiO_2 vitreous systems, low temp. sp. ht. and thermodynamic props. study 7–63842
SiO_2-TiO_2 waveguides, light induced desorption, bistability mechanism in integrated optical devices 7–57424
SiO_2-TiO_2 solid solutions, phase relationships and spectroscopic features 7–63826
$SnCl_4$-$TiCl_4$, liq. mixtures, neutron diffr., RISM anal. 7–44342
(Ti,Al)N layers on high speed steel, morphology and props., deposition temp. and sputtering atmosphere depend. 7–53975
$(Ti,Cr)B_2$ sintered electrode exposed to liq. Al, degradation, effect of segregated Cr 7–28045
$(Ti,M)O_2$ (M=V, Nb, Ta) rutile solid solns., charge transfer and ligand fields, XANES studies 7–64782
(Ti,Mo)C, solid solution hardening of TiC by Mo 7–46498
$(Ti,Mo)O_2$ solid solution, activity-comp. relationship, 1350 to 1600K 7–28019
$(Ti,Ta)O_2$ solid solns., chem. shift and cryst. field splitting rel. to valence charge, EXAFS 7–27818
Ti complexes, mono- and bis-cyclopentadienyltitanium halides, wide line PMR investig. 7–5707
Ti Si_2 epitaxial growth kinetics on (111)Si, TEM study 7–58683
Ti-Al-N coatings on high-speed steel substrates, characterisation by Auger electron spectroscopy and X-ray photoelectron spectroscopy 7–53982
Ti-based sputtered hard compound films, struct. and props. 7–46318
Ti-D, D stopping cross sections, deviations from Bragg's rule 7–51903
Ti-Mo(W)-N, phase equilibria between high melting nitrides and refractory binder metals 7–28018
Ti-N coatings on high-speed steel substrates, characterisation by Auger electron spectroscopy and X-ray photoelectron spectroscopy 7–53982
Ti-N films deposited by ion plating, intermediate layers, TEM study 7–46350
Ti-N ion deposited film, struct., phase comp. and mechanical props., comp. depend., X-ray diffr. study 7–12573
Ti-N reactively ion plated coatings on high speed steel, turning performance, wear 7–46656
Ti-N system, short-range order 7–63570
Ti-N-C system, EELS fine struct. 7–39333
Ti-N-Permalloy ferromag. multilayers, prep. and props. 7–64497
Ti-Ru oxide anodes, durability in Cl cells with Hg anodes 7–32562
Ti-S system, synthesis of sulphides under high press., phase diagram 7–44791
Ti-TiN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Zr-ZrN 7–38726
TiAlN coatings, sputter ion plating, struct. and protective props. 7–53976
TiAlOC coatings, CVD, composition, struct. and wear resistance 7–53929
TiB, electronic struct., chem. bonding, Green's function methods 7–58741
TiB_2 ceramics, pure and liq. phase sintered, processing and microstruct. development 7–3251
TiB_2 coated B fibre reinforced Al matrix composite, prep. using liq. phase infiltration 7–3229
TiB_2, neutron bombardment, nature of rad. damage *(Russian)* 7–38067
TiB_2, tribological coatings, low temp. sputter deposition 7–46322
TiB_2-Mo electrospark coatings on steel, form. kinetics and high-temp. oxidation 7–65210
TiB_2-MoB base electrode materials for elec. spark alloying 7–28205
TiB_2-TiC composite, hot pressed, degradation in liq Al 7–28156
TiB_x plasma-enhanced CVD films on Si, furnace annealing, metallisation appls. 7–38411
$Ti_{1-x}B_x$ films deposited onto Mo by co-sputtering, D retention 7–51870
Ti(C, N) CVD coatings, morphology and struct. 7–58712

titanium compounds continued
- Ti(C,N) films on steel substrates, residual stress 7−52373
- TiC (100), surface phonon dispersion curves, EELS determ. 7−52224
- TiC amorphous films, organic molecules detection by static SIMS 7−64838
- TiC, amorphous films, prep. and characts. 7−7885
- TiC and TiB_2 coatings, effect of stoichiometry on D retention, thermal desorption study 7−6997
- TiC based hard metals, abrasive polishing problems 7−53939
- TiC, CVD coating on cemented carbides, diffusion of Co and W, TEM/AES study 7−27942
- TiC CVD coatings, high-temperature microhardness profiles 7−28181
- TiC CVD coatings, plasma exposure in mag. fusion devices 7−42193
- TiC, CVD technologies, rate controlling mechanisms, growth morphology 7−33575
- TiC coated cemented carbide cutting tools, conf., Toronto, Ont., Canada (Oct. 1985) 7−41004
- TiC coated cemented carbide cutting tool inserts, performance and material props. 7−46712
- TiC coated cemented carbide milling tools, wear mechanisms 7−53932
- TiC coated Mo, H absorption under glow discharge, fusion reactor appl. 7−52244
- TiC, coatings, plasma sprayed on stainless steel, hot isostatic pressing, hardness, bond strength 7−13624
- TiC coatings on high speed steel, deposition process and mechanical props. 7−64011
- TiC, effective and Debye temps. of Ti, gamma ray reson. scatt. meas. 7−44731
- TiC, electrospark alloying with steel, electron nature of interaction, phase comp. 7−8182
- TiC film ion plated on austenitic stainless steel, adherence rel. to ionisation *(Japanese)* 7−53636
- TiC films, mech. props., relation between different quantities 7−8041
- TiC, fusion reactor first wall, thermal shock behavior 7−25189
- TiC mirrors, soft X-ray reflection 7−41553
- TiC, nonisothermal carbidising mechanism, combustion with carbonaceous material, thermal wave propag. vel. determ. 7−46381
- TiC plasma sprayed coatings, microstruct., composition 7−16902
- TiC sputtered films, influence of ion bombardment 7−3171
- TiC thin films, reactive magnetron sputtering 7−39379
- TiC tip, surface-processed, field emission stability *(Japanese)* 7−64879
- TiC tool coatings, wear resistance, mechanistic model calcs. 7−53915
- TiC, ultrafine powder behaviour during annealing and sintering 7−3244
- TiC/Al alloy composites, implantation modified, friction, surface chemistry 7−46660
- TiC/Fe multicomponent films on steel, sputter deposition and characteris. *(Japanese)* 7−3167
- TiC/TiN double layer coated cemented carbide milling tools, wear mechanisms 7−53932
- TiC-coated cemented carbide cutting tools, role of interface development during CVD 7−53930
- TiC-Ni-Mo sintered carbides, struct. and physicomech. props. 7−3256
- TiC-steel hard alloys, abrasive and hydroabrasive wear 7−17656
- TiC-TaC-WC system, γ-α-solubility line, 1723K, thermochemical estimation 7−39526
- TiC-WC system, wetting with molten Ni_3Al, compact (Ti,W)C-Ni_3Al, composites prep. 7−64987
- $TiC_{0.98}$, single cryst., mechanical stresses, thermo-EMF 7−21944
- TiC_x coatings, tribological props., comp. depend. studies 7−53914
- TiC_x energy band struct., Fermi energy and density of states, vacancy states effects, LMTO-ASA calcs. 7−64078
- TiC_x, order-disorder transition 7−63796
- TiC_x, reactively sputtered film, characterisation by TEM 7−45092
- TiCN CVD coatings, high-temperature microhardness profiles 7−28181
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7−3255
- $TiCl_2$, crystn. heat of form. and entropies data base 7−18511
- $TiCl_3$, α and δ forms, vibr. anal., IR spectra study 7−46049
- $TiCl_3$, crystn. heat of form. and entropies data base 7−18511
- $TiCl_4$, electron attachment, scatt. cross section, multiple scatt. Xalpha continuum calcs. 7−62483
- $TiCl_4$, heat of form. and entropies data base 7−18511
- $TiCl_4$, liq., stimulated Brillouin and thermal scatt. of Nd μs pulses 7−62777
- $TiCl_4$, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7−31145
- $TiCl_4$, photoelectron and absorpt. spectra, MO calcs. 7−36636
- $TiCl_4+NH_3$; RF glow discharge, plasma enhanced CVD of TiN 7−39427
- $Ti_xCo_{1+x}Fe_{2-2x}O_4$ spinel solid soln., mag. props., Mossbauer effect study 7−12685
- $TiCrNb_2Se_{10}$, resistivity, mag. susceptibility, influence of stoichiometry 7−52426
- $TiFe(CN)_6$ microsphere production by sol-gel process 7−30679
- Ti_4Fe_2O, adsorption of O, AES study 7−59312
- TiH moderator, Light Ion Beam Fusion Target Development Facilities, activation studies 7−49732
- TiH_2, amorphous and crystalline, comparative studies via incoherent scatt. 7−21798
- TiH_2, Compton profiles due to valence electrons, self-consistent calcs. 7−13250
- TiH_2, Compton profiles meas. 7−15449
- TiH_2, effective and Debye temps. of Ti, gamma ray reson. scatt. meas. 7−44731
- TiH_2, electronic struct., cluster method *(Russian)* 7−64071
- TiH_2, plasmon spectra and energy, high energy EELS studies 7−12635
- TiH_x, sites and diffusion for muons and H 7−45867
- TiH_x struct. and phase transitions, X-ray diffr. anal. 7−52034
- TiH_x, Ti Knight shift meas. 7−38954
- TiH_x, X-ray diffr., lattice parameter change, density of states 7−44469
- Ti_6H_8He, interatomic bond rel. to He saturation *(Russian)* 7−38022
- TiHfC tool coatings, wear resistance, mechanistic model calcs. 7−53915
- $Ti_{1.2}Mn_{1.8}H_3$ hydride, H diffusion, quasielastic neutron scatt. studies 7−52135
- $Ti_xMo_yC_z$-TiO_2-C black mixture, complex carbide interactions on heat treatment, homogenisation 7−53684
- TiN (100) epitaxial film sputtering, defect density, ion irrad. effects, TEM study 7−58684
- TiN CVD coatings, high-temperature microhardness profiles 7−28181
- TiN, CVD technologies, rate controlling mechanisms, growth morphology 7−33575

titanium compounds continued
- TiN coated carbide indexable inserts, spalling resistance 7−53933
- TiN coated cemented carbide milling tools, wear mechanisms 7−53932
- TiN coated high speed steel, ductility, impact testing 7−46569
- TiN coated WC-Co, residual stress and strength, X-ray diffr. study *(Japanese)* 7−8101
- TiN coating, on steel, ion-plasma appl., laser alloying, dynamic surface strength 7−17730
- TiN coatings, internal stress and adherence 7−52374
- TiN coatings, ion implanted, wear resistant props. *(Japanese)* 7−46698
- TiN coatings, ion plasma deposition on high speed tool steel, struct. and thickness 7−28177
- TiN coatings, ion plating, metal properties modification 7−39435
- TiN coatings, N partial pressure effects on composition, spectral reflectance and colour 7−53420
- TiN coatings, sputter ion plated, conf., Toronto, Ont., Canada (Oct. 1985) 7−41004
- TiN coatings, sputter ion plated, process, engineering appls. 7−46321
- TiN coatings on steel substrates, growth, struct., props. 7−33799
- TiN compound layer prepared by ion implantation, XPS and FTIR obs., depth profile analysis of ion etched samples 7−59373
- TiN, deformation-induced stacking faults, synthesis by vibratory milling 7−44572
- TiN, film, triode ion plating, influence of substrate temp. on struct. 7−39438
- TiN film deposition by reactive sputtering, hardness and optical props. 7−22481
- TiN films, colour, aging and tempering effects 7−46159
- TiN films, deposition by arc evaporation 7−63392
- TiN films, ion plated, stability anal. 7−2400
- TiN films, RF ion plating, residual stress, bias voltage effect *(Japanese)* 7−16917
- TiN films, reflectance and colour 7−46160
- TiN films as diffusion barriers in high temp. metallisation *(Japanese)* 7−46319
- TiN films on tool steel, plasma-assisted CVD deposited, interfacial composition 7−52303
- TiN hard coatings deposition onto tool steel substrates by plasma-assisted CVD 7−53977
- TiN, ion beam enhanced deposition on tool steel, friction and wear reduction 7−53910
- TiN ion plated films, tempering effects 7−59461
- TiN, ionisation assisted PVD processes 7−33599
- TiN magnetron sputtered films, electrochemically measured porosity 7−46317
- TiN planar magnetron sputtering, thin coating deposition on high speed steel substrate, TEM and atom probe FIM studies 7−33561
- TiN, plasma enhanced CVD, rel. to reactive sputtering 7−39427
- TiN powders, fine, prep. by vap. phase reaction *(Korean)* 7−7938
- TiN, protective coatings, reactive magnetron sputtering, microelectronics appl. 7−33556
- TiN protective coatings on cemented carbides, adhesion and toughness 7−65159
- TiN reactively RF sputtered coatings, structural defects and porosity, electrochem. polarisation meas. 7−52333
- TiN, sputtered coatings, wear and friction 7−33800
- TiN sputtered films, mech. props., substrate ion beam pretreatment effects 7−22484
- TiN thin film, adhesion on PBI plastic produced by large-current ion implantation machine *(Japanese)* 7−8149
- TiN thin films, activated reactive evaporation deposited, vacuum annealing, struct., mech. props. 7−8010
- TiN, vacuum methods of film deposition *(Polish)* 7−64901
- TiN, vibrational entropy 7−6745
- TiN-C(BN), hard composite coatings, deposition and props. 7−46623
- TiN-coated gear cutting hobs, wear characteristics, mechanical and structural props. 7−53980
- TiN-coated high-speed steel cutting tools, coating quality and surface finish., tool metallurgy and design 7−53979
- TiN-coated hobs and shaper cutters, wear during gear-cutting operations 7−53981
- TiN-coated tool steel, Ca-treated, machinability 7−46659
- TiN-Ni heterophase materials, strength rel. to sintering characts. and components conc. 7−53822
- TiN-SiC-W composite hot shell for combustion heated thermionic energy converter 7−65509
- TiN-$TiSi_2$ bilayers and selectivity doped thin films, material characterisation 7−33817
- TiN-Ti(C, N), ceramics and coated carbides for matching stainless steels, failure mechanisms 7−3432
- TiN_x, coatings, characterisation by X-ray emission spectroscopy *(French)* 7−46244
- TiN_x epitaxial layers, atomic and electronic struct., growth, physical props. 7−32854
- TiN_x, reactively sputtered coatings, oxidation, XPS and contact resistance meas. 7−53934
- TiN_x sputter-deposited thin films, AES, XPS and RBS studies 7−52327
- TiN_x sputtered films on sapphire, elec. and optical props., depend. on substrate temp. 7−39192
- Ti_3N_{2-x}, cryst. struct., X-ray diffr. study 7−37938
- TiN(C) 7−52330
- TiN(C) hard reactively sputtered and evaporated coatings, composition and microstruct. studies 7−52331
- TiN(C) sputtered films on Nb substrates, surface props. 7−64833
- TiN_xO_{1-x}-$TiSi_x$, bilayer, formation by rapid thermal anneal in N_2 7−21547
- TiNb oxide electrodes, photoelectrochemical characts., zero point of charge effect on flat band potential and O_2 evolution 7−33943
- $Ti_{1-x}Nb_xCo_{0.5}N_{0.5}$ solid solns., prod. factors influence on struct. parameters of variable comp. phases 7−7940
- Ti(O,C,N) hard coatings deposition onto tool steel substrates by plasma-assisted CVD 7−53977
- TiO_2 (110), O deficient surface, photoemission study, comparison with SnO_2 (110) 7−46277
- TiO_2 (110), O deficient surfaces, electronic excitations, EELS 7−58853
- TiO_2, absorption and photolysis spectra 7−22290
- TiO_2 addition to Al_2O_3 ceramics, effect on sintering *(Japanese)* 7−3248
- TiO_2, amorphous, optical dispersion relations, determ. 7−33353
- TiO_2, anatase and rutile particles, Raman spectra intensity, effect of sizes 7−33385

- **titanium compounds** continued
  - TiO_2 clusters, electronic props., determ. using Ti CNDO parameters 7—27247
  - TiO_2, dipole polarisabilities, cohesive energies and press. derivatives of bulk moduli 7—2967
  - TiO_2, effective and Debye temps. of Ti, gamma ray reson. scatt. meas. 7—44731
  - TiO_2 electrode, illum., elementary steps in charge transfer mediated by surface states 7—12780
  - TiO_2 evaporated and ion assisted deposited coatings, microstruct., electron microscope obs. 7—52335
  - TiO_2 film interference system, influence of normal nonhomogeneity of refractive index *(Czech)* 7—64712
  - TiO_2 film on Nb_2O_5 waveguide, surface CARS spectroscopy 7—46036
  - TiO_2 films, low temp. CVD for Si/TiO_2 MIS structures 7—17105
  - TiO_2 films, phase transitions, Raman spectra 7—12556
  - TiO_2 films, pulse laser irradiated, Raman studies of phase transformations 7—12569
  - TiO_2 films, reactive ion plating on PET substrates, interface structure, ESCA studies 7—7897
  - TiO_2 films, sol-gel method prep., appl. to photoelectrochem. electrodes 7—7903
  - TiO_2 gel, formation by hydrolysis of Ti alkoxides, molecular precursor modification by acetic acid 7—59793
  - TiO_2 in Si-TiO_2-electrolyte system, charge-transfer processes 7—22007
  - TiO_2, laser evaporation, luminescence of generated plasma 7—63354
  - TiO_2, nonaq. dispersion in petroleum, dielectric const. in electric field investig. 7—38982
  - TiO_2, OH radical desorpt., kinetic and internal energy, determ., fluoresc. detect. 7—8298
  - TiO_2 on glass substrate, photocatalysis 7—23066
  - TiO_2 photoanode thickness effect on quantum yield of photoelectrolytical cells 7—40018
  - TiO_2, polycryst. rutile, plasticity isotherm variations *(French)* 7—65083
  - TiO_2 powders, dispersant use, sintering, microstruct. 7—46378
  - TiO_2, rutile, defect behaviour, computer-based atomistic simulation studies 7—16548
  - TiO_2 semiconductor electrodes for H_2 production by photoelectrolysis of water 7—3723
  - TiO_2, single crystals, IR absorpt. and transmission spectra study 7—53305
  - TiO_2 sol-gel process, synthesis, structure and appls. 7—46401
  - TiO_2 sputtered thin film electrodes with low donor densities, photoelectrochemical behaviour 7—27359
  - TiO_2 surface defect-struct., photon- and electron-stimulated desorption ion yield studies 7—44974
  - TiO_2 thin dielec. film, deposition on Kodial glass, optical props. 7—7872
  - TiO_2 thin film electrodes of photoelectrolysis solar cells for H_2 production 7—3725
  - TiO_2 thin films, struct., Raman spectra rel. to optical interf. 7—22367
  - TiO_2 thin-film multilayer filter designs for hybrid solar energy conversion systems 7—50723
  - TiO_2, wear mechanism in dry rolling friction 7—59643
  - TiO_2, with/without colloidal SiO_2, polishing cpd. used on GdGG 7—37212
  - TiO_2:Al, absorption and photolysis spectra 7—22290
  - TiO_2:Cr, absorption and photolysis spectra 7—22290
  - TiO_2:Cr, sol-gel process, ESR study 7—59108
  - TiO_2:Cr(Cd) thin films, extension of optical absorpt. range by doping 7—39144
  - TiO_2:V, absorption and photolysis spectra 7—22290
  - $TiO_2:V^{4+}$, anatase and rutile phases, EPR study 7—2923
  - $TiO_2/Ag/TiO_2$ struct., Ag thickness effect on optical transmission *(Rumanian)* 7—17354
  - TiO_2/SiO_2 Fabry-Perot filters, index meas., influence of deposition parameters on wavelength shift 7—37115
  - TiO_2-GeO_2 glasses, crystallisation, ion coordination, X-ray diffr., IR spectra 7—6523
  - TiO_2-redox polymer detector junctions, flatband pot. meas. 7—13787
  - TiO_2-SiO_2, synthetic, surface struct., XPS, NMR and mass spectra 7—58596
  - TiO_2-SiO_2 dielec. multilayer reflector for surface emitting lasers, electron beam evaporation 7—59427
  - TiO_2-SiO_2 dielectric multilayer stacks, absorption meas. by photoacoustic technique 7—17331
  - TiO_2-SiO_2 multilayer coatings prep. by RF magnetron sputtering, interfacial optical absorpt. 7—1252
  - TiO_2-SnO_2 system outside coherent spinodal, phase transform. kinetics, role of aliovalent dopants 7—46432
  - TiO_{2-x}, rutile, H reduced, elec. cond. 7—21912
  - TiO_x, amorphous reactive ion beam deposition, crystallisation 7—45091
  - TiO_x antireflection coatings, appl. in Si alloyed inversion layer solar cells 7—17864
  - TiO_x, elec. resist. meas., 1023-1323K 7—38531
  - TiO_x films, CVD 7—53620
  - TiO_x, thin film, reactive sputtering deposition, using RF triode sputtering source 7—59424
  - TiO_2(B) open metastable structure, layered, synthesis and struct. 7—32406
  - TiO_2-RuO_2 in chloride solns., corrosion and electrochem. props. 7—53951
  - TiO_2(110), Pt thin films, XPS and depth profile data 7—22437
  - TiO_2(110), stoichiometric and defective surfaces, chemisorption of H_2 and CO 7—6983
  - TiOsSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7—6607
  - TiS_2, highly stoichiometric, compositional and struct. studies 7—2224
  - TiS_2 intercalation cpd. with Mn, Fe, Co, Ni elec. resist. and thermopower studies 7—45331
  - TiS_2 intercalation cpds. with Eu or Yb, low-temp. synthesis and mag. props. 7—17779
  - TiS_2, nearly stoichiometric, direct reaction synthesis and characterisation 7—58499
  - TiS_e, prep. in presence of Sb, struct. studies 7—33616
  - $Ti_{1.17}S_2$ crystals, metal-insulator transition investig. 7—7296
  - $TiSe_2$, 1T polytype, CDW transition effects of lattice fluctuations 7—21831
  - $TiSi_2$, filament growth during LPCVD 7—16908
  - $TiSi_2$ films on polysilicon, elec. resist., implications for low temp. appls. 7—58907
  - $TiSi_2$, form. during heat treatment of Ti films on Si 7—46530

- **titanium compounds** continued
  - $TiSi_2$ form. during rapid thermal processing, dopant redistrib., study 7—63641
  - $TiSi_2$ formation by As^+ ion beam mixing and rapid thermal annealing 7—52153
  - $TiSi_2$ formation kinetics on Si (100) and Si (111) 7—38273
  - $TiSi_2$ intercalated with Li, Li_xTiSi_2, elastic effects, comp. depend. staging studies 7—63707
  - $TiSi_2$ nucleation and growth, influence of O_2 7—21541
  - $TiSi_2$, oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
  - $TiSi_2$ plasma-enhanced CVD films for interconnect appls. 7—52342
  - $TiSi_2$ Schottky barrier diodes, barrier heights 7—45432
  - $TiSi_2$, thin film, electrical transport props. 7—27442
  - $TiSi_2$ thin films, production by LPCVD, charact. *(French)* 7—7888
  - $TiSi_2$ ultrafine powder prep. and film charactn. 7—64975
  - $TiSi_2$ vacuum electron beam evaporation, annealing effects, Auger and electron diffr. anal. 7—22492
  - $TiSi_2$:As(Sb) layers, dopant redistribution during silicidation by rapid thermal annealing, ion scatt. spectra study 7—21253
  - $TiSi_2$-GaAs interfaces, struct. and elec. props. 7—22013
  - $TiSi_x$, silicides grown on SiO_2 surface, superconductive props., composition 7—2760
  - $Ti_5Si_3H(D)_{1-x}$, site occupation and local vibration of H isotopes *(Japanese)* 7—12012
  - $Ti_5Si_3H(D)_{1-x}$, site occupation and local vibration of H isotopes 7—12028
  - $TiSi_xSiO_2/Si$ MOS capacitors, radiation-induced interface traps 7—58897
  - TiT_4, T depth profiling using the $T(d,\alpha)n$ reaction, neutron source target 7—23084
  - TiU_2S_5, mag. props. 7—22120
  - TiX:B (X=C, N, O) electronic struct., chem. bonding, Green's function methods 7—58741
  - $Ti_2X_9{}^{3-}$, exchange interaction, effective hamiltonian calcs., quantisation 7—10412
  - WSi_2-$TiSi_2$, bilayer, on Si, rapid thermal annealing 7—21549
  - Y_2O_3-TiO_2 system, fluorite type solid soln. crystallisation 7—1882
  - $Yb_{0.06}$ $(NH_3)_{0.32}TiS_2$ intercalation compounds, structural and magnetic studies 7—63593
  - $ZnTiF_6.6H_2O:Mn^{2+}$, ESR spectrum, axial press. effects 7—22136
  - ZrC-TiB_2, eutectic composites, microstruct. and mech. props. 7—64991
  - ZrO_2-TiO_2, solubility of TiO_2 in ZrO_2 7—39490
  - ZrO_2-TiO_2 films, composition and struct., X-ray emission and ESCA studies 7—22385
  - ZrO_2-TiO_2 system, low-temp. phase relationships 7—46431
  - ZrO_2-Y_2O_3-TiO_2 ceramics, transport, sintering behaviour 7—13421
- **TJS lasers** *see semiconductor junction lasers*
- **TLD** *see thermoluminescent dosimeters*
- **Toda lattice** *see lattice theory and statistics*
- **Tokamak devices**
  - 160 keV JET neutral beam injectors, single-beamlet system, ion optics study 7—11783
  - Alcator C edge plasma, directional asymmetries 7—63300
  - Alcator C Tokamak diagnostics, using Janus bidirectional probe 7—1739
  - ASDEX, carbonisation, plasmachemical in situ deposition 7—63296
  - ASDEX, neutral injection, lower hybrid and ion cyclotron reson. heating 7—6409
  - ASDEX Tokamak, ohmic and auxiliary heating, impurity prod. 7—63293
  - ASDEX tokamak, sawtooth oscillation suppression by lower hybrid current drive 7—1693
  - BIG DEE tokamak vacuum fabrication 7—25183
  - CASTOR tokamak, plasma form. and sustainment by multijunction grill 7—58032
  - compact tokamak device for ignition studies, systems studies at PPPL 7—25173
  - compact toroidal ignition machine, facilities and auxiliary systems 7—25170
  - conference, Schliersee, Germany (April 1986) 7—4629
  - Ct-6b Tokamak device, feedback control, stable region *(Chinese)* 7—37714
  - CT-6B tokamak discharge, electron cyclotron resonance preionisation *(Chinese)* 7—58031
  - CT-6B tokamak feedback control, stability *(Chinese)* 7—6427
  - current drive by lower hybrid waves, effect of escape of resonant particles 7—26481
  - DENSEPACK array of Langmuir probes, Alcator C Tokamak fusion expt. appl. 7—20940
  - diagnostics by meas. poloidal magnetic field, using Zeeman splitting in Li 7—1740
  - DIII-D, plasma diagnostic set, design, installation and operation, eng. and physics problems 7—25217
  - DIII-D, vacuum protection system, limiter design 7—25230
  - DIII-D, vacuum vessel design and anal. 7—25182
  - DIII-D tokamak, data acquisition and control system 7—36252
  - DIII-D Tokamak, physics analysis database 7—5429
  - DIII-D tokamak, thermal insulation blankets and heater jackets for vacuum vessel and ports 7—25192
  - DIII-D tokamak, vacuum control system, design 7—36253
  - DIII-D tokamak, vacuum heating system, design 7—25203
  - DIII-D tokamak device, mechanical assembly 7—16329
  - DITE tokamak, detached plasmas, density and temp. profiles 7—63339
  - Doublet III Tokamak, mag. fluctuations and edge transport 7—44116
  - electron temp. determ. from X-ray continuum radiation 7—58064
  - energy confinement time measurement, RF heated Tokamak and mirror plasmas 7—44234
  - ETI, high elongation ignition tokamak, design with sliding joints 7—25174
  - first wall/blanket structures, comparison of tokamak and tandem mirror designs 7—25190
  - Frascati Tokamak, confinement and heating study 7—6438
  - FT-1 tokamak, electron cyclotron heating, nonlinear phenomena 7—26447
  - FTU Tokamak, main mechanical, thermal loads and stresses 7—56842
  - FTU tokamak, poloidal field coils, thyristor convertors 7—36263
  - FTU tokamak machine, vacuum vessel thermal and mechanical problems 7—25179
  - fusion reactor core, one-dimensional transport model *(Chinese)* 7—5420
  - graphite limiter, porous, effective thermal props., photoacoustic meas. 7—44239
  - HDCT design for study of tokamak plasma close to ignition 7—16330
  - high field tokamaks, advantages for fusion reactor development 7—62066
  - high-confinement regime with ion cyclotron-resonance heating 7—44197
  - HT-6B Tokamak device, soft X-ray fluctuations meas. 7—51506
  - ICRF wave catalyst in beam-heated plasma 7—16313

Tokamak devices continued
  ignition devices, physics parameter space anal. using physics systems code 7−25214
  ISP compact tokamak, mechanical design, sliding joint for TF coil 7−25172
  JET, carbonisation, plasmachemical in situ deposition 7−63296
  JET, edge phenomena, probe diagnostics 7−63334
  JET, ICRH and neutral beam injection heating 7−6432
  JET, impurity behaviour study 7−6441
  JET, neutral injection and ICR heating, status 7−30649
  JET, optimization and development plans 7−15311
  JET, plasma heating in electron cyclotron range freqs. 7−16323
  JET, plasma-wall interactions, impurity behaviour 7−63338
  JET, relevance to the requirements for a fusion power reactor 7−25162
  JET, scrape-off layer, probe meas. 7−63351
  JET H neutral beam heating of D^+ plasma 7−6415
  JET ICRF system automatic matching procedure 7−58071
  JET joint undertaking, 1985 annual report 7−6474
  JET machine, design. mfg. and assembly 7−15306
  JET microwave interferometer, plasma electron density meas. 7−44242
  JET neutral injection/RF heating power supplies, design 7−15322
  JET plasma, ICRF waves anal. 7−1723
  JET plasma, vertical position stabilization and shape control 7−15314
  JFT-2M poloidal field coils, power supply and control system 7−15323
  JFT-2M tokamak, vertical instability anal. 7−36247
  JIPP T-IIU, carbonisation, plasmachemical in situ deposition 7−63296
  JIPP T-IIU, ICRH effect on C coating 7−6418
  JIPP T-IIU Tokamak, density fluctuations, far-IR laser scatt. 7−44257
  JIPP T-IIU Tokamak, mag. field config. disruptive behaviour 7−44168
  JT-60, high power heating expts. 7−6439
  JT-60, ohmic heating, diagnostics study 7−63335
  JT-60 discharge optimization, plasma modelling and simulation study 7−15360
  JT-60 integrated performance test 7−15361
  JT-60 tokamak, mechanical props. in power tests *(Japanese)* 7−5409
  JT-60 toroidal field coil power supply, DC output control 7−15319
  JT-60 vacuum vessel, leak tests and surface conditioning for commissioning 7−25180
  lower-hybrid resonance mode conversion in Tokamak plasma, analytic study 7−58012
  modular tokamak, design 7−15325
  multi-torus system, eddy current analysis, finite element circuit theory 7−58048
  NET, controlled nuclear fusion *(German)* 7−62065
  NET, first wall protection 7−49622
  neutral beam heat on JET 7−16314
  numerical simulation, book 7−48214
  Ohmic tokamak discharges, density limits, thermal cond. models 7−11657
  optimum current density profile, electron-cyclotron resonance heating 7−44198
  overview of the Tokamak de Varennes program 7−32054
  PBX Tokamak, high-β plasmas, bean-shaped configurations 7−20924
  PBX tokamak, Z-dependent impurity accumulation 7−44115
  plasma diagnostic equipment, irradiation effects, conf., Nagoya, Japan (Jan. 1986) 7−18503
  plasma-wall interaction in fusion devices, conf. Princeton, NJ, USA (May 1986) 7−60861
  plasma-wall interactions, redeposited material behaviour and struct. changes, 7−51458
  PLT, current drive, heating, RF expts. 7−6410
  PLT rotatable graphite limiter, thermal analysis 7−25207
  power transmission and shine-through calorimetric meas. during NBI in TFR 7−58056
  Princeton beta expt. tokamak, neutral beam injection effect on MHD instabilities 7−6403
  Princeton Large Torus data acquisition and analysis system 7−5424
  probe exposure to tokamak plasma, SIMS study 7−37740
  pulse neutral beam source, 10×40 cm, 120 kV testing 7−32008
  resonant wave scattering by magnetic fluctuations in Tokamak discharge, microwave diagnostic technique extension 7−58059
  RF current drive in tokamak devices, bootstrap effect 7−51400
  simulations, multihelicity tearing mode growth, MHD eqns. anal. 7−26502
  soft X-ray imaging system for measurement of noncircular Tokamak plasmas 7−44252
  spectroscopic diagnostics, spatial scanning method 7−6455
  spectroscopic diagnostics on JET 7−11791
  SPTR-P tokamak reactor, tube panel first wall, thermohydraulic and mechanical design assessment 7−62070
  SUPERCOIL code for tokamak design NET and ASDEX upgrade appls. 7−5413
  superconducting poloidal field coils design, CAD program system development 7−5412
  T-10 tokamak, large-scale perturbation, radial struct. 7−51427
  T-10 tokamak, plasma-wall interactions 7−63294
  T-15 tokamak, plasma-wall interactions, diagnostics 7−63299
  T-7 tokamak, current drive by lower hybrid waves, temp. depend. of efficiency 7−51522
  T-7 tokamak, impurity transport, mag. islands effect 7−44112
  T-7 tokamak, toroidal current and loop voltage temporal evol., RF-current drive expt. interpretation 7−57983
  TBR-1, electrostatic ion probe for tokamak-plasma-edgediagnostic 7−11781
  TCA, multichannel bolometer for radiation meas. 7−20943
  TCA Tokamak, density fluctuations, long wavelength turbulence 7−1727
  TCA Tokamak, first wall damage, H recycling models 7−801
  TCA Tokamak, ohmically heated, radiated power loss meas. 7−58055
  TEXT, digital spectral anal. diagnostic for transport, turbulence and scatt. 7−25233
  TEXT tokamak, 60 MJ pulsed homopolar generator power supply, design 7−15320
  TEXTOR, carbonisation, plasmachemical in situ deposition 7−63296
  TEXTOR, ICRH, plasma-wall interaction study 7−6414
  TEXTOR, plasma boundary structure, effects on impurity release, density meas. 7−16325
  TEXTOR, plasma-wall interactions, heating, review 7−63289
  TEXTOR solid-state accelerator power supplies 7−36265
  TEXTOR tokamak, power supply, upgrading to 3 T operation 7−36264
  TEXTOR Tokamak microturbulence, CO_2 laser scatt. meas. 7−58015
  TFCX, current density determ. for superconducting toroidal field coils 7−5414

Tokamak devices continued
  TFTR, detached plasma, MARFEs phenomena, diagnostics 7−63341
  TFTR, detached plasmas, impurities study 7−63340
  TFTR, high-density pellet-fuelled discharge confinement 7−6442
  TFTR, plasma-wall interactions heating and diagnostics study 7−63291
  TFTR, recent results 7−30650
  TFTR, scrape-off layer, probe meas. 7−63351
  TFTR bumper limiter, dynamic analysis 7−56837
  TFTR bumper limiter and final protective plate engineering, fabrication and assembly 7−25195
  TFTR bumper limiter and protective plate graphite tile, computer aided design/manufacture 7−25196
  TFTR CAMAC data-acquisition system 7−5426
  TFTR computer support system, configuration and performance 7−36251
  TFTR confinement 7−6436
  TFTR data management system 7−5425
  TFTR status and recent results 7−15310
  TFTR X-ray data analysis from pulse height analyser data modelling 7−5566
  Thomson scattering meas., photoelectron statistics effects 7−11800
  TIBER superconducting ignition tokamak, mechanical configuration 7−25171
  TJ-1, electron temp. meas. using W-band microwave receiver 7−44241
  TM1-MH tokamak interior wall, elec. arc form. 7−51457
  TM-G tokamak, energy confinement at high plasma densities 7−51499
  TNT-A Tokamak, localized electron heating expts. by ion Bernstein waves 7−1713
  Tokamak plasma modelling and atomic processes, conf., Nagoya, Japan (July, 1985) 7−14716
  tokamak-pinch expt., design and operation 7−15367
  Tokoloshe tokamak, metal deposition on walls, toroidal dependence 7−1792
  TORE SUPRA tokamak, cryogenic system design 7−1716
  toroidal current density in tokamak plasma device determ. by multibeam FIR interferometry polarimetry 7−37739
  transport scalings in tokamaks, thermodynamic approach 7−44214
  Tuman-2A tokamak, plasma electron thermal conductivity determ. and radiative loss meas. 7−6471
  two-ion ICRF heating in Tokamaks 7−16337
  Varennes tokamak plasma, multichannel submillimeter wave interferometer 7−37749
  X-ray/XUV light source appl. 7−20926
  Al isoelectronic series highly ionised atoms injected into PLT and TFTR discharges, spectra 7−19748
  Cu XIII and XVII, excitation rate coeff. meas. in TEXT 7−44223
  D^+ JET tokamak plasma, ion cyclotron emission spectra meas. 7−58067

tomography, computerised *see computerised tomography*

tone generators (computer peripherals) *see acoustic generators; electronic music*

tool steel
  corrosion resistance in molten Al alloy 7−33835
  cutting tool materials, mech. props., wear-resist. relations 7−3443
  die, heat-resistant, optimum hardening, temps., struct. and mech. props. 7−8022
  die, preliminary heat treatment schedule 7−8023
  fracture toughness, effect of nonmetallic inclusions 7−59635
  fracture toughness rel. with grain size 7−59634
  friction and wear reduction by ion beam enhanced TiN deposition 7−53910
  H-13, hot-work, partial substitution of Nb for V 7−13463
  heat treatment cycles, original struct. and deform. influence on mech. props. 7−39560
  high speed, Ca-treated, TiN-coated, machinability 7−46659
  high speed, cutting tools, TiN-coated 7−53979
  high speed, laser glazing and boronizing 7−39753
  high speed, peritectic transform., decomp., carbide precip. Nb alloying effect *(German, English)* 7−22677
  high speed, powder metallurgy, cutting performance *(Korean)* 7−46367
  high speed, powders, transform., struct. and props., prior annealing effect 7−13452
  high speed, service performance rel. to Ca and Zr microalloying 7−3366
  high speed, splat quenched, microstruct. variations 7−46439
  high speed, TiN, ion plasma coatings, struct. and thickness, X-ray inspection method 7−28177
  high speed, wear, role of primary carbides 7−33807
  high speed, wear mechanisms and tool life rel. to microstruct. 7−8128
  high-speed, atomised powder, particle size effect on amount of residual austenite 7−3308
  high-speed, cast and wrought, impact-fatigue strength 7−39656
  high-speed, ion beam metallurgy processing, influence on surface props. *(Chinese)* 7−53764
  high-speed, phase comp. of powdered stock 7−53674
  high-speed, powdered, struct. after sintering in presence of liq. phase 7−53677
  high-speed, produced from machining waste, liq. phase forming during sintering 7−3226
  high-speed, thermal stability measurement by laser alloying 7−8170
  high-speed, TiN coated, ductility, impact testing 7−46569
  high-speed, TiN coatings, growth, struct., props. 7−33799
  high-speed, W-Mo, nitrogen effect on stabilisation of austenite 7−8021
  high-speed p/m tungstenless, Mo and V effect on microstruct. and operating props. 7−33788
  ion nitriding process with variations 7−53989
  laser surface glazing, microstruct. rel. to melt depth 7−46691
  laser surface quenching, comparative anal. of two- and three-stage thermal cycles 7−28178
  nitrided, prior heat treatment effect on mech. props. 7−46707
  substrate, nitride coatings characterisation by Auger electron spectroscopy and X-ray photoelectron spectroscopy 7−53982
  substrate, plasma assisted CVD of TiN and Ti(O,C,N) hard coatings 7−53977
  substrate with TiN coating, interfacial composition 7−52303
  substrates with Ti(C,N) films, residual stress 7−52373
  surface (Ti,Al)N layers morphology and props. 7−53975
  surface layers, Cr and V diffusion 7−46685
  tough strengthening heat treatment technique in65Nb steel *(Chinese)* 7−3318
  W-Cr-V, phase transition temps., possible influence *(German)* 7−59517
  wear model, statistical, appl. to machining 7−33804

tool steel continued
- wear resistant steel for cutout dies of electric machine manufacture 7—13719
- Cr-Mo-V, hot working, ductility, C content, toughness, eutectic carbide segregation 7—59592
- Cr-Mo-V(-w), M2 and H13, fracture toughness, influence of microstruct. 7—46632
- Mo-base high speed, carbide chem. composition, electron microscopy studies 7—22671
- TiN coating, ion-plasma appl., laser alloying, dynamic surface strength 7—17730
- V, W2, laser surface melting, effects of prior heat treatment 7—65195

tools
- *see also machine tools*
- cutting tools, performance improvement through the use of ion plated coatings 7—53931
- FFTF interim examination and maintenance cell, remote tool development 7—49547
- nuclear facility decontamination and decommissioning, tools 7—49609
- steel, high speed, cutting tools, TiN-coated 7—53979
- TMI-2, integrated defuelling system, remote tools and support equipment 7—49610
- TiC/TiN double layer coated cemented carbide milling tools, wear mechanisms 7—53932
- TiC(N) coated cemented carbide milling tools, wear mechanisms 7—53932

topography, surface *see surface topography*

topography (Earth)
- *see also geomorphology*
- 2D ridge, semi-geostrophic flow over orography 7—66260
- 2D topographic responses in magnetotellurics, finite element modelling 7—47333
- aeromagnetic data, topographic effects 7—65932
- air pollution diffusion over complex terrain, Gaussian trajectory model 7—14369
- Alpine lee cyclogenesis, numerical simulation, effects of terrain height and blocking initialisation 7—29201
- Antarctic, atm. lee-vortices, topographic effects 7—60322
- atmosphere, ultra-long waves, forced by topography, propag. *(Chinese)* 7—4075
- atmosphere barotropic motion, effects of orography *(Russian)* 7—29130
- atmosphere boundary layer flow over nearly 2D hill 7—9137
- barotropic study of free and forced planetary waves 7—60335
- boundary layer, wind vector profiles, topographic effects 7—34614
- Cape Verde Rise, in N Atlantic, heat flow anomaly and geoid indicating mantle plume support 7—47396
- catchment areas, topographic anal. for surface saturation zones prediction in natural catchments 7—23770
- continental rift zones, topography in thermomechanical models of active rifting 7—14247
- crustal tilt, strain and displacement meas., effects of surface topography 7—54851
- daytime boundary layer evolution over mountainous terrain, upslope flow 7—4153
- digital elevation models, comparative test of photogrammetrically sampled models 7—47316
- digital elevation models, performance evaluation of two bivariate processes using transfer functions 7—3971
- digital elevation models 7—40403
- digital terrain model for flat areas by least squares techniques on minicomputer 7—40410
- digital terrain models, accuracy 7—40404
- East African topographic effect on flow driven by zonally symmetric forcing 7—34593
- flow over hill under near-critical Froude number conditions *(German)* 7—9138
- fractal dimensions of topographic surfaces,, computation using C program 7—54845
- generalised cartography, computer aided 7—47322
- irregular terrain effect on transient EM anomalies 7—8802
- Landsat and SPOT high resolution satellite images: a new component for geographic data bases 7—40405
- Latrobe Valley, Australia, wind and mesoscale easterly flows, topography effects 7—29123
- linearly stratified, rotating flow over long ridges ina channel 7—6224
- mantle convection, geoid anomalies and topography 7—28971
- Mesozoic Mogollon Highlands, Arizona, Early Cretaceous rift shoulder model 7—29016
- Mongolia, ring structures and fractures, assoc. gravity and topographic characts. 7—28962
- nocturnal boundary layer over sloping terrain, numerical simulation *(Chinese)* 7—4080
- central North Sea, valley asymmetry as evidence for periglacial activity 7—14285
- orography, dynamic effects on atm. large-scale motion 7—9116
- plume dispersion over elevated terrain, model performance 7—3733
- raster-formatted geodata, image processing techniques 7—66367
- salt marsh creek, River Esk, Cumbria, seasonal changes in surface level 7—8914
- SAR data, spaceborne, registration to topographic maps 7—4237
- seismic ground motion intensity, index for meas. of effects of topography 7—14201
- seismic surface wave propagation and scattering, topographic effects 7—23581
- seismic surface waves propag., phase speed perturbations and 3D scatt. effects due to topography 7—28866
- Sudan, geoid shape, by astrogeodetic and satellite observations 7—40394
- tectonic spread of anomalous mantle beneath lithosphere, causing topography changes 7—54982
- digital terrain model, on a triangular base 7—28806
- Tibetan Plateau, summer weather systems develop., topographic effects 7—60339
- topographic mapping, digital, of Victoria Australia 7—47321
- tornado interaction with rough terrain 7—23831
- two-way interactive nesting procedure with variable terrain resolution, appl. to jet streak 7—34621
- United States, Florida and Colorado, lightning activity, topographic convection effects 7—34620
- urban turbulence parameters, roughness effects 7—34582
- watersheds, topographic partitioning via digital elevation models 7—23723

topology
- *see also catastrophe theory; differential geometry; graph theory; network topology*
- σ-models, momentum mapping construction for quaternionic Kahler manifold 7—48937
- Banach algebra, algebraic and topological props. 7—55957
- BCS systems, nonAbelian bosonization and topological aspects 7—48931
- cable knots, 2-variable polynomial 7—48335
- compact connected 3D Riemannian manifolds, classification 7—61072
- conformally invariant elliptic equation on R^n 7—24401
- curvature invariants of random interface generated by Gaussian fields 7—41273
- diagonals group and lattice coverings in n-dimensional Euclidean space 7—56009
- dilaton β-function on a Kahler manifold 7—61208
- dimensional reduction via dimensional shadowing 7—35752
- disordered chains, fractal behaviour, 2D stochastic maps 7—41268
- $E_8 \times E'_8$ superstring theory, topology of the compactified manifold 7—41686
- E_8 superstrings, calabi-Yau manifolds motivations and constructions 7—56109
- Einstein action, 3+1 Regge calculus with conserved momentum and Hamiltonian constraints 7—48465
- essentially connected and maximally connected spaces, properties 7—61070
- fermionic/scalar field theories on Riemann surfaces of arbitrary topology, equivalence 7—9954
- foliation topology, symposium, Tokyo, Japan (July 1983) 7—48197
- functions similar to Lie functions, algebras 7—60941
- general relativity, conservation laws in spacetimes with boundary 7—29829
- geometric quantisation, modular reduction theory and coherent states 7—41132
- global stability of gravitational lumps 7—41213
- gravitation singularities and space-time foliations in general relativity 7—48489
- gravitational images classification, role of Fermat's principle and caustics 7—55439
- gravitational interactions, path integral quantisation, local symmetry props. 7—24528
- Harry Dym eqn. in 2+1 dimensions, reciprocal link with Kadomtsev-Petviashvili eqn. 7—61037
- Hausdorff dimension as intrinsic metric prop. of fractals 7—24566
- Henon map unstable manifold, functional equation for segment 7—4661
- immersion of (m−2)-disk bundle, generalisation of Boy's surface 7—18583
- isotopic data multidimensional treatment, topology role 7—66315
- Kac-Moody and gauge groups, nonrepresentability of cohomology classes 7—65
- Kaluza-Klein model, conversation laws and integrability conditions for gravitational and Yang-Mills field equations 7—56108
- Kaluza-Klein theory, harmonics and spectra on general coset manifolds 7—24520
- Lagrangian field theories defined on jet bundles of fibred manifold, Cartan form construction 7—56415
- Laplacian, eigenspaces on hyperbolic spaces, composition series and integral transforms 7—48333
- lattice gauge fields, topological charge 7—35663
- lattice gauge theory, topology and instanton struct., Monte Carlo simulation 7—61482
- lattice of Frechet-Nikodym topologies 7—61074
- Lipschitz domain, comparison between internal and minimal thinness *(French)* 7—56011
- local Euclidean gravity coupled to σ-model, harmonic maps and submersion 7—14843
- Lorenz equations, second order dynamical system 7—4659
- mappings of monotone type, classical topological degree 7—55986
- molecular indices, topological and structural, software suite calc. 7—10373
- multiplicative renormalisation of 2D chiral theories 7—30216
- nematic liquid crystals, biaxial, elastic continuum theory 7—1877
- nonidentical interacting particles, anomalously slow trapping by random sinks 7—229
- nonsemisimple gauge groups, new topological terms in gauge invariant actions 7—61459
- not totally knotted incompressible surfaces for cable knots in S^3 7—61069
- one loop effective potential with spontaneous compactification, stability 7—61187
- one-dimensional modal maps, topological entropy *(Chinese)* 7—35397
- one-dimensional systems, electronic stability and density of states on Fermi surface, topological effect 7—58728
- orbifolds, conformal field theory, appl. to twisted string scattering 7—49106
- perfect fluid space-time, topology 7—56091
- planar convex sets containing many lattice points, van der Corput's theorem 7—56010
- polygonal topological networks in 2D, boundary value problems *(French)* 7—35211
- Proca field in a spacetime with curvature and torsion 7—29850
- Pryce's relative distance in $R_\infty{}^2$, geodesics, relative error for vectors 7—48336
- pseudo-arc X homeomorphisms as a subspace of C(X×X) 7—61071
- QED, topological mass quantization and parity violation 7—41693
- quantum gravity and cosmology, Kyoto, Japan (May 1985), conference 7—24295
- quantum theory on surface of a regular tetrahedron 7—48417
- quantum topological geometrodynamics 7—30222
- quasi-Einsteinian manifolds, geometric and algebraic characts. 7—48474
- quasi-uniform spaces, totally bounded, sobrification and bicompletion 7—48334
- R^4 space-time with a non-R^3 Cauchy surface 7—41167
- random surfaces, triangulated, intrinsic geometry, mean size fluctuations, model anal. 7—61226
- random surfaces, triangulated, intrinsic geometry, mean size fluctuations, Monte Carlo simulation of critical props. 7—61227
- regular hyperstrip, dual normal connections 7—35256
- rim-finite spaces and the property of universality 7—18584
- self-dual Yang-Mills fields, sites and googly twistor spaces, vacuum anal. 7—18977
- self-dual Yang-Mills fields, sites and googly twistor spaces with Yang-Mills fields present 7—18978

topology continued
- semi-tangential bundle of second order, holomorphic extensions of objects 7−35254
- simple transversal polybundles 7−35255
- spinor and algebraic spinor structures, parallel spinor fields on space-time manifold 7−29834
- string theory and space-time topology 7−35838
- SU(1,1) propagator as a path integral overnoncompact groups 7−4994
- SU(2,2|N)XSU(N′) supergravity, superspace for supergauge actions 7−29852
- SU(2,2)×SU(m), decomposition of manifold $O_2^{(4,m)}$ 7−19030
- SU(2) gauge theory on $R\times S^3$ topology 7−61431
- SU(3) lattice gauge theory, topology for $\beta>5.6$ 7−56453
- subdirectly irreducible modal lattices, varieties and subvarieties 7−61256
- superconductors, topological transitions, quasi-particle states density and sp. ht. temp. depend. calcs. *(Russian)* 7−7439
- supergravity, graded exceptional algebras and symmetric spaces 7−35384
- supermanifold cohomology and the Wess-Zumino term of the covariant superstring action 7−61186
- supermanifolds, topological structure, superprojective space 7−29662
- superstring theory, topological sectors 7−61193
- supersymmetric σ-models on Ricci-flat Kahler manifolds, finiteness 7−15057
- supersymmetric string dynamics, conformal field theory on a super-Riemann surface 7−41761
- symplectic manifolds with Lagrangian fibration 7−29745
- topological entropy and chaos of interval maps 7−56158
- topological strings and other topological defects 7−29566
- two-frequency dynamical systems, rotation interval from a time series 7−61088
- U(N) gauge theories, topological aspects of loops 7−24756
- ultrametric structures, introduction and appls. 7−48332
- ultrametricity for physicists, elementary background 7−4664
- Universe topological structure, observational consequences of 'small universe' 7−60844
- vector fields on three-manifolds, modulus of stability 7−29699
- W*-algebra, metrics on sets of states 7−55958
- weakly confluent mappings and products related to span 7−18562
- Wess-Zumino supermultiplet, Lagrangian constraint free theory 7−388
- Woodward-Hoffman rule, topological explanation 7−57012
- Yang-Mills equations, thickenings and gauge fields on 4-manifold 7−30159
- η' mass in SU(3) lattice gauge theory, topology 7−429
- ^{3}He, superfluid, free energy symmetry and stationary points 7−2293

torque
- *see also Scott effect*
- Earth tides, torque components determ. independently of Earth internal density distrib. 7−18107
- horizontal-axis wind turbine free yaw behaviour 7−54260
- Saturn ring system, torque by Mimas on 5:3 density wave 7−24057
- shells, cylindrical orthotropic, uniformly stressed, linear anal. 7−11295
- shells, nonlinear orthotropic cylindrical, finite deformations 7−11311

torque control
- electrorheological fluids, optimisation for electrical control of viscosity and torque 7−44641

torque measurement
- *see also dynamometers*
- attraction force meas., using torsion balance and capacitive position transducer 7−41407
- elastic trunnion as three-dimensional force and torque transducer 7−18773
- gyroscopes, performance characts. 7−48720

torque meters *see torquemeters*

torquemeters
- No entries

Torrey oscillations (NMR) *see double nuclear magnetic resonance*

torsion
- *see also stress analysis*
- adhesive lap joints, yield strength in tension, compression and torsion, Poisson ratio 7−39591
- attraction force meas., using torsion balance and capacitive position transducer 7−41407
- axially symmetric finite element model 7−57701
- axisymmetric elastoplastic torsion problem, num. soln. *(Chinese)* 7−14775
- bar, circular, weakened by rectilinear cut, torsion problem 7−11288
- bar, cylindrical, of elliptical cross section, plastic torsion, exact moment 7−43690
- bars, thin walled, torsion with annulus cross-section of variable size 7−26137
- beam, cracked, of non-circular cross-section, torsional vibr. 7−6136
- beam, square, with central circular hole and two cuts, torsion 7−62996
- beam theory, torsion, buckling and vibr. problems 7−1458
- beams, thin-walled open, elastic nonlinear static analysis 7−62984
- Bridgman notched bar, creep stresses 7−37350
- Collette torsion pendulum theory 7−14934
- cone, nonhomogeneous, with spherical caps, torsional vibration 7−48364
- coupled axial-torsional oscillator with neo-Hookean spring 7−35265
- elastic layer on rigid foundation with annular hole, torsion study 7−37332
- fatigue crack initiation under cyclic torsion 7−43799
- glassy epoxy polymer V notched specimens, quasi brittle fracture *(Polish)* 7−46744
- graphite fibre reinforced epoxy, subjected to cyclic thermal loading, damage-induced prop. changes 7−46600
- I-section members with flexible webs, inelastic flexural-torsional buckling strength *(Japanese)* 7−20610
- linear elastic beam elements of MODULEF library *(French)* 7−31655
- micropolar cylinders, generalised twist for torsion 7−93
- multipolar rod model, virtual power method appl. 7−57684
- nonhomogeneous anisotropic elastic body, under axially symm. torsion, cylindrical interface crack 7−26841
- plastic strain-controlled axial torsional deformation, endochronic constitutive eqn. 7−12192
- polybutylene, crystallisation, X-ray scatt., differential scanning calorimetry and torsion pendulum investig. 7−32308
- ring stiffened circular plates, asymm. buckling 7−6126
- shear plastic stress-strain relations obtained from torque-twist data 7−51014
- shell, circular cylindrical thick, torsion, stress and displacement study 7−62977
- solid, elastic transversely isotropic semiinfinite, torsional loading 7−43664

torsion continued
- steel, fatigue resistance under combined effect of cyclic bending and cyclic torsion 7−28131
- steel, spring, residual stress meas., effect of decarburisation, shot peening and cyclic torsion loading *(German)* 7−22904
- steel, strengthening of parts and semifinished products in thelast stage of heat treatment 7−8024
- strips, rectangular, springback anal. in torsion 7−11298
- tensile testing machine modification to perform simultaneous tensile and torsion tests 7−22948
- thin-walled sections under combined bending and torsion, nonlinear theory 7−57698
- transversely isotropic elastic layer bonded to transversely isotropic half-space 7−6106
- tubes, homogeneous and inhomogeneous conical, torsion under steady-state creep conditions 7−11302
- Al-Cu-Mg, hot workability, recrystallisation during torsional deform. *(Korean)* 7−46559
- Al-Zn-Mg alloy, precipitation hardening, plastic flow instability 7−22757
- C fibres, pretorsional deform., annealing, acid treatment, struct., mech. props 7−22768
- Cu, polycrystalline, annealed, large deform., combined tension-torsion, incremental plasticity theory 7−46554
- Cu-Fe-Mg-Ni-Al alloy, stress relaxation in tension and creep in torsion 7−44667
- Cu-Sn (11 wt.%), stir cast, torsion behaviour 7−46567

torsion loading *see torsion*

torsional waves *see elastic waves*

touch *see mechanoception*

towers *see poles and towers*

town and country planning
- soil erosion planning in Dane County, Wisconsin 7−47442

Townsend coefficient *see Townsend discharge*

Townsend discharge
- air, ionisation currents in cylindrical chambers 7−37778
- high-current relativistic electron beam, ionisation wavefront struct. and propag. vel. 7−51469
- plasma sheath develop., Mather's type plasma focus geometry, geometrical conditions anal. 7−32182
- Ar/Ne mixtures, electron swarm, Penning ionisation effects, Boltzmann eqn. anal. 7−1802
- Ar/Ne mixtures, Townsend first ionisation coeff. Penning ionisation effects 7−37776
- Ne, optogalvanic spectra using tunable laser radiation 7−61389
- SF$_6$, charge transfer, time-resolved study 7−10748
- SiH$_4$ and Si$_2$H$_6$, ionisation and attachment coeffs. meas. 7−1667

tracers
- *see also radioactive tracers*
- air pollution from diesel vehicles, use of Dy as tracer to study aerosol sources 7−59899
- atmosphere, tracer transport model, particle dry-deposition parameterization scheme 7−18289
- atmospheric tracer transport of the diabatic circulation deducedfrom satellite observations 7−9104
- colloidal flow tracers, diffusion method for study of particle motion in concentrated dispersions 7−51351
- diffusion in concentrated colloidal dispersions 7−8303
- dye conc. pattern analysis in Seto Inland Sea hydraulic model 7−40058
- groundwater flow in stratified aquifers, model for simulating two-well tracer tests 7−23759
- hydrology, overland flow velocity determ. by dye tracer method 7−34693
- oceanography, dye patches used for remote sensing observation, spectral radiance and visibility 7−60405
- passive solar test cell air infiltration models and SF$_6$ tracer gas meas. 7−3628

track visualisation, particle *see particle track visualisation*

tracking
- *see also radar*
- facet solar energy concentrator with tracking thermal collector, geometric parameters 7−54265
- laser ranging, extended Kalman filter for automatic target following of lunar reflectors *(German)* 7−23521
- shadow method for automatic solar tracking 7−8379
- solar cell array electrical output for flat plate tracking arrays 7−3690
- solar cell array shadow-following module and sun-tracking control 7−17897
- solar radiation availability and energy coat for tracking and nontracking photovoltaic power systems 7−3691
- underwater tracking, 3D, that considers acoustic medium effects 7−43544

tracking (insulation) *see surface discharges*

tracking (sonar) *see sonar*

tracking systems
- *see also radar systems*
- cloud-to-ground Lightning Position and Tracking System for electric utility weather problems 7−14371
- sun-tracking bifacial photovoltaic panel model 7−3645

tracks, particle *see particle tracks*

trade *see commerce*

trade fairs *see exhibitions*

trade shows *see exhibitions*

traffic
- *see also road traffic*
- CO concentrations, prediction models based on meas. 7−59897

training
- *see also education; teaching*
- computer-assisted instruction for nuclear criticality safety 7−35186
- Creys-Malville (France) nuclear power station maintenance QA *(French)* 7−25127
- industry's perspective of critical issues in biomedical engineering education 7−65873
- LWR thermal-hydraulic issues in nuclear training 7−29618
- memory-intensive recognition for word articulation training 7−37281
- metrology teaching techniques *(Polish)* 7−48680
- nuclear criticality safety training, interactive computer-based simulator 7−35188
- nuclear fuel fabrication facilities, criticality safety training among NRC licensees 7−35184

training continued
  nuclear fuel facilities, criticality safety, performance based training and education 7−35183
  nuclear industry commitments to criticality safety performance based training 7−35185
  nuclear power plant control rooms, appl. of embedded training 7−34006
  reactor simulation for operator training, use of computer graphics 7−55940
  remote equipment operators in nuclear facilities, training programme requirements 7−49607
  Sellafield nuclear reprocessing plant, computer-based training for criticality safety 7−35187
  solar water heating system design criteria for schools 7−8442
  speech training devices for profoundly deaf children 7−37278
  speech training systems for handicapped children using vocal tract lateral shapes 7−37279
  TMI-2 technology transfer, progress report 7−25120

trajectory control *see position control*

tramcars *see road vehicles*

transducers
  see also accelerometers; acoustic transducers; actuators; extensometers; Hall effect transducers; piezoelectric transducers; pressure transducers; strain gauges
  angular and linear displacement meas., with separate gratings 7−4829
  attraction force meas., using torsion balance and capacitive position transducer 7−41407
  capacitive transducers with glued electrodes, drift characteristics 7−14932
  cavity type solar receiver with thermodynamic transducer, heat loss investigation 7−54341
  chemical sensors based on oxygen detection by optical methods 7−43426
  cryogenic, high-resolution meas. using tunnel diode oscillator 7−35538
  cryogenic gravitational wave antenna with resonant capacitive transducer and d.c. SQUID amplifier 7−34881
  DC magnetic field stabiliser based on NMR *(Slovak)* 7−24662
  eddy current electrical cond. meter graduation without specimens 7−28243
  eddy current electrical cond. meters, inspection errors rel. to geometric parameters 7−28244
  EM displacement transducers, error sources in dynamic appls. 7−48712
  EM flowmeter for liq. metal flow rate meas., error in correl. method 7−57954
  fan shaped SAW transducers, characts. distortions, anal. and compensation 7−20554
  ferroprobe azimuth transducers, instrumental errors *(Russian)* 7−34706
  fibre optic, displacement transducer, characts. meas. 7−25968
  fibre optic level transducers, review 7−43405
  fibre optic thermometer for medical appl., using thermochromic transducer and TDM technique 7−47276
  fibre optics, use in transducers 7−6003
  flow measurement utilizing fluidic technology 7−37561
  frequency, servo-controlled lasers progress and appls. 7−20307
  gas density resistive transducer *(Polish)* 7−35507
  impact analysis and obs., effect of mass on transducer sensitivity 7−16137
  induction transducers for Barkhausen jump detection, compute, and design problems 7−39823
  magnetic fields, variable, meas. under cryogenic conditions 7−48787
  photometric, spectral match quality determ. 7−4878
  pressure measurement in a blow-down wind tunnel, automatic system 7−16280
  quartz tuning fork resonator transducers 7−35512
  SAW dispersive delay line using dispersive interdigital transducer with periodic electrodes 7−6053
  seismic measuring transducers, possibility of unification 7−28889
  seismograph calibration, transducer inductance effects 7−40613
  solar energy cooling units thermodynamic parameters optimisation using gas turbine transducers 7−34066
  surface roughness, calibration using X-ray interferometry 7−35649
  vibrating superleak transducers, vortex nucleation, critical velocity effects 7−12385
  vibration, for dynamic parameters meas. of viscoelastic materials 7−61326
  void fraction meas. by capacitance transducers, parametric effects 7−1652
  zenith angle transducers in deviation recorders, accuracy *(Russian)* 7−34707
  CdTe-$Cu_{1.8}$ thin film polycrystalline solar transducers, photosensitivity spectra 7−34036
  Cu_2O-Al_2O_3-Al moisture transducer, design and development 7−41395
  $Cu_{1.8}S$-Se-CdTe thin film polycrystalline solar transducers, photosensitivity spectra 7−34036

transductors *see saturable core reactors*

transfer functions
  see also optical transfer function
  semiconductor lasers, power control *(German)* 7−50578
  solute transport through soil, convection-dispersion eqn. for transfer function model 7−23739
  solute transport through soil, fundamental concepts of transfer function model 7−23737
  solute transport through soil, illustrative appls. of transfer function model 7−23738
  wind turbine test data correl. optimisation using frequency response matching 7−8357
  Fe, oxygen corrosion in neutral aerated sulphate solns., dynamic systems analysis *(German)* 7−8192

transferred electron devices *see Gunn devices*

transferred electron effects *see Gunn effect*

transferred electron oscillators *see Gunn oscillators*

transfluxors *see magnetic cores*

transformations, phase *see phase transformations*

transformer insulation
  see also insulating oils
  electrostatic charge generation in the insulating systems of transformers *(Polish)* 7−37431

transformer iron *see iron alloys; silicon alloys*

transformer steel *see iron alloys; silicon alloys*

transformer substations
  portable gas chromatograph evaluation for transformer site polychlorinated biphenyl meas. 7−46994

transformers
  see also current transformers; power transformers
  magnetic circuit temp. distrib. calc. *(Russian)* 7−42247
  magnetics conference, Phoenix, AZ, USA (April 1986) 7−29572

transforms
  see also Fourier transforms; Laplace transforms; Z transforms
  1D, appl. to strange attractor in a synergistic problem *(Russian)* 7−61252
  2D criticality, correlation functions and projective transformations 7−41322
  ∂ equations, nth order, spatial transform method anal. 7−60997
  amplified climbing-sine map, non-diffusive aspects 7−72
  area-preserving maps, fat-fractal scaling exponent 7−56160
  area-preserving maps, perturbative expansions 7−29719
  axially symmetric higher-dimensional gravity, Belinsky-Zakharov N-soliton transforms. 7−41207
  axially symmetric higher-dimensional gravity, Neugebauer-Kramer transforms. 7−41206
  Backlund transformation and consistence of regular Rieman-Hilbert transform 7−30163
  Backlund transformations, periodic fixed points, KdV eqn. appl. 7−29772
  badly ordered periodic orbits of the standard map 7−24391
  basin boundary constructed by superposition of Weierstrass function 7−4658
  bidimensional Schrodinger equation, uniqueness of restoration *(Russian)* 7−56064
  Bloch transform as scattering problem, inversion problem 7−61131
  Boltzmann eqn., temp. transform 7−35477
  boundary circles for area-preserving maps 7−4660
  boundary problems, solution using Vinner-Hopf system and inversion of integral transforms 7−4692
  cardiac activation movies generation using Walsh-Hadamard phase spectrum 7−54743
  circle mappings, renormalisation group methods 7−56168
  circle maps, composition operator, existence of fixed points 7−24375
  concrete universally topological categories and subcategories, classification 7−60992
  continuous invariant measures for circle maps, Lebesgue measure and stochastic behaviour 7−48331
  de Sitter space, integral transform in (4+1) dimens. 7−35666
  Dirac Hamiltonian, canonical transformation, comparison with Foldy-Wouthuysen analysis 7−48947
  direct methods of solution for problems in mechanicsfrom invariance principles 7−77
  discrete Hankel transform, simple algorithm 7−48300
  discrete Radon transform in a continuous space 7−56235
  dispersive long-wave equation, soln. using inverse spectral transform method 7−61118
  dual mapping with a scale function 7−29693
  ECG pattern recognition, Hilbert transforms and Wigner-Ville distributions 7−47265
  electron microscopes astigmatism detection using radon transform *(Japanese)* 7−18931
  evolution equations, integrable, nonlinear, equivalent classes and generalized Miura transformations 7−55952
  Federbush model, infinite number of infinite hierarchies of conserved quantities, Lie-Backlund transforms. 7−35671
  Fornberg's numerical method for conformal mapping 7−48342
  gauge transformations and generating operators for the discrete Zakharov-Shabat system 7−35217
  genetic algebras, interpretation of derivations 7−48278
  Hankel transform, nonnegative distrib. in classical theory of moments 7−48307
  Hartley transform, geometric moments calc. 7−57261
  Hartley transforms, discrete, two-dimensional, separable forms 7−42954
  Henon map unstable manifold, functional equation for segment 7−4661
  Hilbert-Hankel transforms for reconstruction of complex-valued propagating wave fields 7−42975
  Hough transform for detection of target trajectories 7−42948
  Hough transform optical implementation by matrix of holograms 7−42940
  Hulthen pot., s states, path-integral treatment, use of time transform. trick. 7−35333
  hyperkahler metrics, constructions and supersymmetry 7−56404
  integral transforms for square group representations 7−29683
  invariant circles for the piecewise linear standard map 7−24376
  invariant density distrib. evolution under a discrete time quadratic map 7−35230
  isotropic Hilbert transform by anisotropic spatial filtering 7−42939
  KdV equation related to Schrodinger operator in the plane, spectral transform. 7−61117
  killing tensors and dynamical symmetries 7−68
  kinked crack solved by Mellin transform 7−43789
  Laplace transform, inversion 7−35215
  Laplace transform of G function 7−18580
  Laplacian, eigenspaces on hyperbolic spaces, composition series and integral transforms 7−48333
  mappings of monotone type, classical topological degree 7−55986
  matchings ad Randon transforms in lattices, concordant sets 7−48619
  Mathieu transform pairs, scalar and vector 7−35226
  Mellin transforms, asymptotic expansion 7−61056
  Miura transformation between general KdV and general modified KdV eqns. 7−48376
  multi-valued mappings approximation, marginal function differentiability *(Russian)* 7−60990
  multicomponent lattice Kadomtsev-Petviashvili eqn., linearizing integral transform 7−14891
  N=2, d=2 supergeometry and superconformal transformations 7−41654
  nonlinear Schrodinger model with attractive coupling, quantum inverse scatt. transform 7−122
  nonlinear Volterra integral equations with several kernels, construction method 7−29706
  ocean wave spectra, transformation into SAR image spectra 7−66341
  optical single-instruction multiple-data array architectures for digital optical computing 7−42941
  partial differential equations, nonlinear integration using Backlund, Darboux transformations and dressing method 7−41072
  period doubling in four-dimensional symplectic maps 7−29721
  piecewise linear circle map, scaling behaviour 7−18582
  piecewise linear map, mode locking, exact treatment 7−35420

transforms continued
Poincare, appl. to strange attractor in a synergistic problem *(Russian)* 7−61252
Poisson brackets hierarchy between elements of scatt. matrix 7−35345
projective transformation of space imagery into mosaics and photomaps, minimisation of Earth curvature effect 7−65922
pseudo-arc X homeomorphisms as a subspace of C(X×X) 7−61071
quadratic map with swept parameter, postponed bifurcations 7−14865
quantum mechanical systems, U-matrix theory anal., eigenstates 7−61157
quasienergy integral for canonical maps 7−56029
radar detection, tomographic reconstruction, inversion of an integral transform 7−35216
Radon transform inversion with finite elements, exact reconstruction filters 7−24380
rational complex planar splines, mapping props. for interpolants from polynomial functions 7−29716
reciprocal auto-Backlund transformations, appl. to nonlinear evolution eqns. 7−41066
Riccati transformation in the solution of boundary value problems 7−35249
Riemann hypothesis, fractal random walk approach 7−14896
self similar hierarchical transforms, block transform coding and human visual system model bridge 7−62641
self-generated complexity, quantitative theory 7−29690
shine-Gordon equation, 2D, soln. using inverse spectral transform method, existence of solitons 7−61118
simultaneous diagonalisability of matrices, biunitary transformation 7−35195
simultaneous integro-differential eqns., soln. using Kontorovich-Lebedev transform 7−55968
sine map and driven damped pendulum cross-over 7−18593
sine-Gordon equation, broken affine algebras and Backlund transformation 7−48952
spatial transform method for multidimensional (2+1) problems 7−24444
transformation laws of geometrical objects, algebraic approach 7−29656
twist mappings, continued-fraction procedure for invariant directions 7−71
two-frequency dynamical systems, rotation interval from a time series 7−61088
uncoupling systems of linear partial diff. eqns., operator kernel 7−29685
unitary transformations in solid state physics, book 7−24310
variable coefficient KdV equation, similarity anal. and exact soln. 7−29771
variable coefficient KdV equations, auto-Backlund transform; Lax pairs, Painleve prop. 7−29770
Virasoro algebra in the solution space of the Ernst equation 7−60949
weakly confluent mappings and products related to span 7−18562
whisker mapping, 1/f noise spectrum of chaotic motion 7−4765
XY model in 1D, ergodic props. and hydrodynamic limit 7−35455
transient capacitance spectroscopy *see deep level transient spectroscopy*
transient response
see also step response
cavity-mounted press. transducer, input press. effects on freq. characts. 7−37595
cutoff waveguide antenna, exciter for fusion plasma heating, transient anal. in 3D space *(Japanese)* 7−11801
EEG waveforms, filter transient response 7−54792
electrical shock safety criteria, conf., Toronto, Ontario, Canada (Sept. 1983) 7−18500
orthotropic spherical caps, nonlinear axisymmetric response under shear deform. 7−31644
saturated porous media, evaluation of u-w and u-π finite element methods for dynamic response 7−14262
saturated porous media, higher order, mixed, and Hermitean finite element procedures for dynamic anal. 7−14263
semiconductor structures, hot electron transient behaviour, numerical model 7−12729
shell, spherical, transversely isotropic, thick-walled, transient response, ray theory determ. 7−26142
transient stability *see stability*
transient voltages *see transients*
transients
see also surges
AC network transient anal., RFX fusion expt., Italy 7−30666
asymptotic laminar boundary layer flow mass transfer effects on transient behaviour 7−4323
$Au_x(TeO_2)_{1-x}$ thin films, nanosecond laser annealing, Au cluster redistrib., growth and coalescence 7−12145
CANDU thermohydraulic codes, transient two-phase velocity difference model for drift calcs. 7−30608
disordered solids, dispersive hopping and trapping transport, mean field theory 7−38554
electron accelerator, Neva-01, transients study 7−30797
field transient phenomena duration numerical determ. *(Polish)* 7−31633
gradient time-shape measurement by NMR 7−14985
ion-implanted polymers, fractal elec. cond., current transients, percolative transition calcs. 7−2645
lightning surge and transient protection and warning systems 7−34663
Maxwell's equations, correction for signals, magnetic current density addition, and comments and replies 7−42830
nonlinear dynamical systems, chaotic transients critical exponent calcs. 7−232
nuclear power station two-stage coolant system, hydraulic and mechanical transients *(Russian)* 7−5351
photoconductivity meas. of amorphous semiconductors, by subnanosecond N_2 laser 7−18806
power lines, transient behaviour, real ground presence *(French)* 7−10818
PWR, turbine trip transient, effect of pressurizer sizing 7−30604
PWR pressurizer, accident and transient anal., nonequilibrium three-region model 7−36195
reactor components, dynamic reliability model for damage accumulation processes 7−30535
reactor core cal. code, 3D simulating Xe transient state, develop. *(Japanese)* 7−56778
semiconductor lasers, travelling-wave rate eqn. anal. 7−62701
semiconductor n-i heterojunction, time depend. tunnelling and coherent Zener oscills. 7−17087
solar collector performance transient testing using digital filter 7−65582
solar collector water heater using sand for heat storage, transient anal. 7−23216
transients continued
time constants determ., three point method 7−286
Al thin films, pulsed laser melting, transient elec. resist. and reflectance meas. 7−12141
$Au-Bi_{12}GeO_{20}-Au$ MSMS, short-wave light illuminated, photocurrent kinetics 7−22029
Fe-Cr, passive current fluctuations, statistical anal. 7−28190
a-Si:H p^+-n-i structs., memory switching, transient current instability study 7−52762
a-Si:H pin solar cells, photocurrent, transient behaviour 7−46950
Te crystalline thin films, laser-induced transform., transient conductance and optical meas. 7−12142
transistors
see also bipolar transistors; phototransistors; power transistors; thin film transistors
tunneling transition probability and current across pot. barriers, multistep pot. approx. calcs. 7−64314
$Si-CoSi_2-Si$, transistor current modulation *(French)* 7−58894
transit time devices
see also IMPATT diodes
No entries
transit time noise *see random noise*
transition metal alloys
see also alloys of individual transition metals e.g. nickel alloys
see also copper alloys; gold alloys; silver alloys; transition metal compounds
3d, induced diamag. form factor calcs. 7−2813
actinide-noble metal alloys, thermodynamic props., coupled reduction meas. 7−13752
actinide-transition metal alloys, AM_2, A=U-Np, M=Fe-Ni, magnetism and electronic props. 7−27505
amorphous, short-range order, approx. to coherent locator *(Russian)* 7−58731
amorphous alloy coatings, microindentation response, microstruct. and composition effects 7−46625
binary, melting point trends and elemental variables correls. 7−63775
binary, substitutional, segregation and order 7−22685
dilute binary FCC, surface segregation 7−63830
disordered, electron struct. and positron annihilation *(Russian)* 7−45133
disordered, localised and extended state coexistence 7−7175
glassy and cryst., catalytic activity and selectivity 7−28348
Group VB metal-H solid solutions, thermodynamic props., Monte Carlo calcs. 7−21487
heat of formation, X-ray emission centres *(Russian)* 7−37919
induced magnetic form factors, neutron scatt. calcs. 7−7470
liquid and amorphous, chemical short-range order, electronic theory 7−44349
magnetic atoms, quantum statistical ab initio theory 7−58969
magnetic moment formation and mag. susceptibility 7−58995
metal H system, heats of soln. and vacancy trapping 7−6804
metallic glasses, glass formability and electronic struct. 7−21804
metallic glasses, struct. relax. and segregation *(Russian)* 7−32300
noble metal alloys, Al-K_α XPS intensities 7−27870
permanent magnetic materials, rare earth-transition metal alloy, 1960-85 bibliography 7−14726
rare earth-transition metal alloy magneto-optical thin films, under laser irradiation, thermal anal. 7−45995
silicide, epitaxial growth on Si, progress review 7−21766
spin glasses, amorphous transition metal-metalloid, EPR linewidth, theory 7−45805
superconducting as probe of mag. nature of transition metal impurities in host metals, review 7−7437
transition metal-Ge eutectic alloys, cryst. growth by directional crystallisation 7−64887
two-phase systems, preferential distrib. 7−28012
Al-Cu-Mg, fracture behaviour, influence of fine transition-metal particles and grain struct. 7−3406
Al-transition metal alloys, vacancy-ordered phase and 1D quasiperiodicity 7−63551
Cu-M dil. alloys, electronic struct. of mag. impurities 7−58771
M-M′-X, (M=Ca,Sr,Sc,Y,La-Lu; M′=Co, Rh,Ir; X=Ge,Pb), structural and superconducting props. *(French)* 7−44491
Sm-Co-Fe-transition metal permanent magnets, magnetisation 7−53033
T-Al quasicrystalline alloys, isomorphism, neutron diffr. meas. 7−51638
transition metal complexes *see transition metal compounds*
transition metal compounds
see also compounds of individual transition metals e.g. nickel compounds
see also copper compounds; gold compounds; silver compounds; transition metal alloys
3d metal compounds, equilibr. geometry, pot. surface, ab initio calcs. 7−15511
3d metal oxides, X-ray Lα,β emission spectra studies 7−13265
3d-metal compounds, metal-dielectric transitions 7−52428
aqueous dilute solns., coordination geometry, XANES studies 7−63428
bis(5.6-dihydro-1.4-dithiin-2.3-dithiolate) metallates, molecular solids, struct. and physical props. 7−44511
borides, AlB_2 type, electronic struct. study, heats of formation anal., HMO calcs. 7−25409
chalcogenides, ternary and quarternary, struct. and substitutional chem. 7−32384
charge and magnetisation densities, mol. cluster studies 7−27224
charge density waves, formation and characts. in low dimensional chalcogenides 7−2515
cluster oxides, high-temp. multiphoton ionis. and fragmentation 7−36835
complex, charge distrib. calc. *(Chinese)* 7−15534
complexes, binding with polymer-bound 2,2′-dipyridylamine 7−23014
complexes, IR and Raman spectra 7−50128
complexes, $M(dmit)_2$, conductive and superconductive materials 7−44515
complexes, spin and charge densities calcs. 7−27491
cond. phenomena, intersite correl. and orbital degeneracy effects calcs. *(Russian)* 7−21921
dichalcogenides, CDW states 7−44810
dichalcogenides, CDW transition effects of lattice fluctuations 7−21831
dichalcogenides, layered cpds., CDWs 7−2523
dichalcogenides, low-dimens., as secondary cathodic materials, book contrib. 7−28394
β-diketonate complexes, multiphoton ionisation mass spectra 7−19960
dimers, antiferromagnetic coupling, ligand spin polarisation, broken symmetry UHF calcs. 7−22084

transition metal compounds continued
dithiolates and diselenolates, molecular and electronic structs. 7–52397
first row monocarbonyls, electronic struct. and bonding 7–49897
Group VII hydrides, high-press. cryst. struct. 7–21183
high press. metal-insulator insulator transition, extended Hubbard model calcs. *(Russian)* 7–32917
hydrides, core level shifts, adiabatic excitation, sudden core excitation 7–53502
hydrides, dipole moments, CASSCF/MRCI calcs. 7–10443
intercalation cpds. with NbS_2 and $NbSe_2$, EXAFS 7–53446
layered, structural phase transitions, book 7–41021
layered compounds, CDW phase transitions, Landau theory 7–44809
layered compounds, structural phase transitions, microscopic theory 7–44807
layered compounds, structures phase transitions, lattice fluctuations, microscopic theory 7–44808
metal-metal multiple bonding, cluster electron count and geometries, HMO calcs. 7–25410
mixed fluorides, Raman scatt. by localised and magnon modes 7–46027
nitride particles, ultrafine, laser prod. 7–13406
nitrides, organic polyenes, phosphazenes, struct. and orbital analogy 7–10389
oxide particles, ultrafine, laser prod. 7–13406
oxide surfaces, structure and rearrangements, atomic imaging 7–27078
oxides, catalysts, laser Raman spectra 7–53295
oxides, Fe group, metallic behaviour, rel. to mag. and elec. props. 7–2487
oxides, impurity and defect electron struct., self-consistent local density theory 7–45208
oxides, narrow energy band systems, insulator-metal transition 7–38455
oxides, perovskite type, electronic struct. of intrinsic point defects 7–16979
oxides, sol-gel process synthesis, electronic and ionic props. 7–33618
phosphorous trisulphides, electronic, structural and mag. props., intercalation cpds. and chemical props. 7–44499
photoelectron spectra, ligand-field theory 7–22440
polarised X-ray absorpt. near edge struct. 7–64818
rare earth-transition metal-nonmetal ternary phase struct., crystallochem. anal. *(French)* 7–58234
resonance integrals from Heisenberg eqn. of motion, NDO calcs. 7–62287
second row hydrides, low-lying states, spectroscopic parameters determ. using large valence basis sets 7–42500
silicide layers, electron microscope exam. *(German)* 7–45081
sulphides and selenides, metal-rich, high temp. prep. and struct. props. 7–33617
tetraphenylporphines of transition metals, multiphoton ionisation mass spectrometry 7–46885
thiometallato complexes, mol. vibr., electronic struct., IR and Raman spectra study 7–57068
thiometallato complexes, vibr. spectra and struct., book 7–55913
transition metal-molecular H_2 complexes, characterisation by solid-state ^1H NMR 7–59116
$LiMO_2$, M=Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu props., review 7–64437

transition metals
see also the individual transition metals e.g. nickel
see also copper; gold; silver
3d, induced diamag. form factor calcs. 7–2813
3d atoms and ions, approx. atomic orbitals, basis set reduction, maximum overlap method, mol. and solid state calc. appls. 7–840
3d metals, X-ray Lα,β emission spectra studies 7–13265
5d dimers adsorbed on W (211) and (110) and Ta (211), stability 7–52285
ab initio interatomic potentials 7–21395
atoms, first series, atomic polarisability eval. by variational perturbation approach 7–49911
Auger spectroscopy, edge effects for early transition metals 7–3121
BCC, atomic stability of (100) face, quenched molecular dynamics approach 7–6932
bond-order conservation, bond making and breaking on transition metal surfaces 7–21653
carbides, hard wear-resistant coatings, microstructural and microchemical characterisation 7–52328
chemical effect on the K X-ray intensity ratios for4d transition metals 7–13267
clusters, chemisorpt. patterns, charge depend. 7–15763
crystal, BCC, metal-H bond investig. 7–32360
dimers, ionisation spectra calc., Green's function method 7–36684
dopant complexes photolum. in Si, review 7–45203
electrodeposition from aromatic solvents 7–33611
electronic structures of lattice defects, tight binding recursion method 7–27289
EXAFS, backscattering amplitude and phase shift functions 7–64739
fast electrons, energy loss spectra, microscopic anal. for 4d-systems 7–39329
FCC transition and noble metals, surface EXAFS, Debye-Waller factor, influence of adsorbed monolayer 7–39316
ferromagnetic surface, H_2 chemisorpt., self-consistent model 7–16862
finite temp. ferromagnetism, review, book contrib. 7–33149
first row, energy-adjusted ab initio pseudopots. 7–49898
glass:Nd, transition metal doped, fluorescence and absorption spectra 7–13229
glass, transition metal doped, optical absorpt. and luminesc. spectra 7–13186
impurities, interstitial, enhanced mobilities and reactivities 7–17769
impurities in III-V semiconductors; review 7–48201
impurities in semiconductors, localised electron states, review 7–27295
impurity and defect electron struct., self-consistent local density theory 7–45208
induced magnetic form factors, neutron scatt. calcs. 7–7470
ion implantation in Si, silicide form., RBS and X-ray diffr. studies 7–16656
lattice dynamics 7–51972
liquid, thermodynamic props. 7–12323
liquid and solid, thermal diffusivity and thermal conductivity meas. *(Russian)* 7–2567
low energy in elastic electron scatt. props. 7–63700
magnetic and electronic properties of surfaces, interfaces and overlayers 7–13015
magnetic atoms, quantum statistical ab initio theory 7–58969
magnetism, singular volume dependence 7–22108

transition metals continued
metal-H systems, bond weakening 7–63546
metallic epitaxy on semiconductors 7–27211
molecules, bonding, polyhedral hybrid approach 7–42490
nitrides, hard wear-resistant coatings, microstructural and microchemical characterisation 7–52328
noble, residual resist. calc. *(Russian)* 7–45274
noble metal clusters, produced by liq. metal ion source, stability and struct. 7–31205
noble metal surfaces, high resolution inelastic He-atom scatt., surface phonon dispersion relations 7–3144
noble metals, near IR surface impedance, Maxwell-Boltzmann eqn. 7–7273
particles, ultrafine, laser prod. 7–13406
periodic spin structs., critical props. calcs. *(Russian)* 7–59031
positron annihilation, Lock-Crisp-West theorem, approx. validity 7–46186
rare earth-transition metal superlattices, magnetism *(Japanese)* 7–12951
Slater-Koster parameters, transferability and scaling 7–64072
surface, bonding of adsorbed hydrocarbons, EELS studies 7–3128
surface, chemisorpt. of H binding energy, sum rules 7–16868
surface, dissociative adsorption of H_2, effect of impurities 7–16876
surface electronic and magnetic struct. calcs., book contrib. 7–33061
surface ferromagnetism in transition metals, Hubbard model 7–33139
surface magnetism, review 7–58984
surface structure and total energies calc. 7–12435
surfaces, He atom scattering potential energy surfaces, vibr. substrate relax. effects 7–53478
surfaces, metastable noble-gas atom interactions 7–64852
surfaces, multi-adatom interactions, self-consistent calcs., tight binding formalism 7–2382
thin films, ferromagnetic, surface spin waves, multiband model 7–2834
transition metals:H, local impurity environment in cubic lattices 7–21236
transition metals-H_2, disordered, NMR studies 7–27618
X-ray electron spectra asymmetry and Fermi level density of states *(Russian)* 7–3112
XPS, quantitative non-destructive in-depth composition information 7–64877
Al_2O_3-transition metal film interfaces, thermal reaction, backscattering spectra, X-ray diffr. studies 7–52304
Pt group, surface, ion probe microanalysis effect of O_2 admission 7–17380
Si, with transition metal impurities, detect. using rapid thermal annealing 7–2044
Si: transition metals, solubilities, diffusivities and deep levels 7–32465
Si:transition metals, anomalous diffusion and gettering 7–2264
Si-transition metal interfaces, competing initial chemical reactions 7–21693
SiO_2:transition metals, fused quartz, impurity sites, X-ray absorption spectroscopy 7–13263
ZnO:transition metal, Schottky-like barriers, ion implantation, annealing 7–58860

transition moments
alkali metal atoms, core-polarisation effects, oscillator strength calcs. 7–25454
anthracene, vapour, two-photon excited fluoresc. polarisation 7–31109
benzene, vibronically induced intensities, CNDO/S calcs. 7–19704
diatomic molecule, dissoc. state, pot. curve determ. 7–57013
trans-diphenylpolyenes in polymer film, transition moment, luminesc. 7–19943
ethyne, nucl. spin-spin coupling consts., coupled-cluster polarisation propagator approach 7–62407
magnetic dipole transition moments and rotational strengths of vibr. transitions 7–62453
merocyanine dyes, J aggregate form. in mixed monolayers, visible spectra and surface pressure-area isotherms anal. 7–31059
metal/electrolyte interface electrodynamics, surface soliton form. 7–21958
methanol, C–O stretching band, transition dipole moment, laser Stark spectroscopy 7–57106
5-methyl indole in polymer films, UV polarised absorpt. spectrum 7–925
1-methylcytosine, (010) and (101) single cryst. faces, transition-moment directions, polarised reflection spectra 7–15619
1- methyluracil, electronic spectrum, polarised refl. spectra 7–27737
methyne, nucl. spin-spin coupling consts., coupled-cluster polarisation propagator approach 7–62407
naphthalenes, disubstituted, singlet-singlet electronic absorpt. and polarisation, UV spectra 7–62394
nematic liquid crystals, IR dichroism, mol. interactions effects 7–45981
perylene, vapour, two-photon excited fluoresc. polarisation 7–31109
polycrystalline samples, overtone NMR spectroscopy 7–64535
POPOP vapour, two-photon excited fluoresc. polarisation 7–31109
trifluoroidomethane, spectral moments, dissoc. band 7–36695
trifluoromethane, interacting states, high resolution FTIR absorpt. spectra 7–57065
two-level atoms variable transition freq., optical radiation modulation 7–42554
$(ArH)^{+*}$, short-range pot. curves, Lyman-α line blue wing *(French)* 7–10463
C-containing mols., X-ray emission spectra, ab initio MO HF calcs. 7–36642
Cd-Cd(Kr) mixture, reson. line broadening, interaction pot., anal. 7–36520
Cl_2, dissoc. state, pot. curve determ. 7–57013
Cl_2, spectral moments, dissoc. band 7–36695
Cl_2 third-harmonic generation, nonadiabatic effects, coupled eqns. calcs. 7–1222
$GeH^+(GeD^+)$ in He afterglow, $a^3\Pi_{0+,1}-X^1\Sigma^+$ visible band system 7–50152
HCl, photodissoc. branching ratios pot. energy curves 7–31128
HDO, $\nu_1+\nu_2$ and $3v_2$ bands. energy level and intensity calcs. 7–5654
HF, two photon bound-bound electronic transition calcs. 7–31136
H_2O mol., IR absorpt. spectra, anharmonicity effects, contact transformational and quantum chemical calcs. 7–25385
$He+He^+$, excitation fns., transition moment and pot. energy curves *(Japanese)* 7–50307
NCl, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7–42492
NF, $b^1\Sigma^+$-$X^3\Sigma^-$ system, line assignments, transition moments, visible Fourier-transform spectra anal. *(French)* 7–50153

- **transition moments** continued
  - NF, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7—42492
  - NH_3, two photon bound-bound electronic transition calcs. 7—31136
  - NO, $\gamma(A^2\Sigma^+-X^2\Pi_{1/2})$ system, electronic transition moment variation 7—50257
  - NO vibr. levels, lifetimes, semi-theoretical evaluation 7—15649
  - O+CO, recomb. chemiluminesc. spectrum calc. 7—46807
  - O_2, UV molecular absorption continua and radiative lifetimes UV molecular absorption continua and radiative lifetimes 7—15620
  - OCS, line strengths and collisional half-widths, IR spectra 7—36620
  - PbO, D1-$X^1\Sigma^+$ system, band intensities distrib. 7—50082
  - SF_6, rot. freezing in two-photon excitation of triply degenerate vibrs. 7—31005
- **transition probability, nuclear** *see nuclear energy level transitions*
- **transition probability (atoms and molecules)** *see radiative lifetimes*
- **transition radiation**
  - particle detectors utilizing transition radiation, status and particle identification 7—42282
  - polypropylene foil, coherent transition X-ray meas. under e^- bombardment 7—5698
  - quantum-recoil effect in the phenomenon of transition radiation 7—62604
  - soft X-ray source, coherent, using transition radiation 7—18948
  - sources for IR to γ-rays, developments 7—42877
  - X-ray dielectric constants meas. with coherent transition radiation 7—27811
  - X-ray production by transition radiation 7—27810
- **translators (repeaters)** *see repeaters*
- **transmission**
  - *see also acoustic wave transmission; electromagnetic wave transmission; power transmission*
  - number of terms in transmittance corresponding to a two-port cascade 7—55946
- **transmission electron microscope examination of materials**
  - *see also transmission electron microscopy*
  - p-acetoxybenzoic acid, tetramer, topotactic transitions 7—12264
  - alumina, grain boundary glassy phase, ion milling of TEM specimens 7—44327
  - analytical electron microscopes features and capabilities 7—15033
  - analytical TEM, MV, with JEOL 4000FX 7—30129
  - atomic imaging of semiconductors, using JEOL 4000 EX TEM 7—32230
  - bacteria, stereomicroscopy of isolated R-bodies from Pseudomonas taeniospiralis and Caedibacter taeniospiralis 7—65724
  - binary alloys, crystal-amorphous transformation, thermodynamics and kinetics 7—21108
  - binary alloys, TEM study of precipitate growth mechanisms 7—52064
  - β-brass, strength anomaly, effect of prestrain 7—38094
  - brass, two-phase, Al-B Masteralloy addition, B redistrib. during solidification, grain refining effect 7—22664
  - catalytic particles, structure, TEM charact. studies 7—32241
  - CdTe films, MBE growth, photoluminescence and TEM characterisation 7—22376
  - ceramics, cation-conductive, lattice imperfections, 1 MV HRTEM obs. 7—2258
  - compound semiconductor multilayered structure, cross-sectional obs. with TEM 7—2416
  - conference, Boston, MA, USA (Dec. 1985) 7—35119
  - conference, electron microscopy and anal. Newcastle-upon-Tyne, England, (Sept. 1985) 7—14707
  - conversion layers on Al, struct., TEM, LAMMA, AES, XPS, SIMS, ion scatt. spectra 7—23094
  - diamond, powders, dynamically synthesised, polycrystal microstructure formation during sintering 7—22603
  - dust microparticles from Antarctic Dome C ice core samples 7—55228
  - ethylene-propylene copolymers, lamellar morphology, transmission electron microscopic investig. 7—21132
  - FCC pure metals, neutron irradiated, thermal stability of cascade defects, annealing expt. 7—51856
  - ferromagnetic materials, defect and microstructural analyses using TEM 7—37817
  - field ion microscope specimen preparation technique, combined TEM/FIM examination 7—29988
  - film, early stages of reaction with amorphous Ni-Nb films 7—21703
  - fracture, in-situ, TEM obs., influence of several parameters 7—6713
  - gilsonite, microstructure and mechanical props. 7—44838
  - graphite, pulsed laser melting, impurity redistrib., RBS channelling, Raman scatt. and TEM meas. 7—12135
  - graphite fibre, benzene-derived, exfoliation and characters. 7—46663
  - graphite fibre reinforced Al matrix composites, interface charactn., TEM obs. 7—44554
  - graphite surface pulsed laser irradiation, SEM, TEM and STEM microstructural studies 7—12139
  - III-V semiconductors, line defects, TEM obs. 7—51751
  - impurity in $NiZr_2$ metallic glasses, influence on crystallisation 7—51633
  - interfaces, TEM imaging using inner potential differences 7—52299
  - kaolin-mullite, charactn. of spinel phase formed in thermal sequence 7—37937
  - magnetron sputtered ion plating on A3 steel *(Chinese)* 7—22473
  - metal films, characterisation by SIMS, Auger spectroscopy and TEM 7—12550
  - metal particles, size-dependent melting points 7—44771
  - metal tritides, disorder induced by aging 7—21199
  - metal-Si (SiO_2), silicidation reactions, rapid thermal annealing/TEM technique 7—52156
  - metals, neutron irradiation damage *(Japanese)* 7—32508
  - MgO films, prep. by RF sputtering, orientation and microstruct. *(Japanese)* 7—22480
  - MgO-monticellite ceramic, high resoln. TEM and STEM study 7—22738
  - micas, synthetic, growth spirals and complex polytypism, occurrence frequencies 7—37997
  - microdefects in dislocation-free Si single crystals 7—44528
  - Monel K-500, precip. of intermetallic γ' phase and carbide phases 7—33678
  - moving dislocations, first recorded obs. by TEM 7—32444
  - multilayered X-ray thin films, anal. by microcleavage TEM 7—1826
  - Nimonic 105, Ni-base superalloys, precip. and tensile deform. behaviour 7—65078
  - Nimonic superalloy, PE16, decomposition kinetics, TEM, FIM and SANS studies 7—53748
- **transmission electron microscope examination of materials** continued
  - Nylon 6 membranes, decrystallised acrylic acid grafted, reverse osmosis, fine struct. 7—65346
  - paragonite mica, characteristic beam damage in TEM images 7—12159
  - pearlite spacings, meas. of spread 7—39804
  - PET, friction and wear under water lubrication, degree of crystallinity effect 7—3454
  - PET films, crystallisation under strain, annealing, morphology, mech. props. 7—44415
  - plastics, conductive, continuous milling *(Japanese)* 7—46408
  - poly(p-phenylene terephthalamide), single cryst. and spherulites, morphology and struct. investig. 7—11949
  - poly p-phenylene benzobisthiazole-poly 2,5(6)benzimidazole blends, phase separation morphology 7—7981
  - poly-peri-naphthalene, 1D graphite polymer, morphology and struct. 7—44400
  - polycarbonate-C black composites, TEM obs. of percolation threshold 7—12771
  - polyethylene, low density, crosslinked, morphology, transmission electron microscopy 7—37894
  - polyethylene, melt-crystallised, lamellar morphology, transmission electron microscopic investig. 7—21132
  - polyethylenes, crosslinked, nucleation density, morphology, transmission electron microscopy 7—37895
  - cis-polyisoprene films, crystallisation kinetics and morphology 7—6553
  - polymeric insulating material, dielec. breakdown strength rel. to lamella struct. 7—53237
  - polypropylene, isotactic, lamellar morphology, transmission electron microscopic investig. 7—21132
  - polypropylene sheets, highly oriented, adhesion in laminates 7—8245
  - polypropylene-ethylene-propylene copolymer blends, isotactic, mechanical props. and morphology 7—63539
  - polysilicon oxidation, appl. to double polysilicon devices 7—39774
  - polystyrene films, craze microstruct., low angle electron diffr., Fourier transforms of TEM images 7—13560
  - PVC-chlorinated PVC, miscible blends, rheological and mech. props. 7—8040
  - pyroxenes, synthetic, exsolution and phase transforms., X-ray and TEM obs. 7—16725
  - rare earth silicide epitaxial formation by rapid annealing 7—21768
  - sapphire, as-grown surface, high resolution imaging 7—44977
  - semiconductor heterostructs. and interfaces 7—52806
  - semiconductor materials, high resolution microstruct. studies using TEM 7—21055
  - sialon ceramics, processing, Al ion redistrib., crystallisation EDX analysis 7—3237
  - silicide formation on Si, initial nucleation processes 7—21767
  - SOI formation by O ion implantation of Si, ordered precipitate structure and coesite formation 7—52065
  - SOI wafers, O implantation prep., background doping effects 7—32478
  - specimen preparation 7—39805
  - specimen preparation technique for high resolution studies on model supported metal catalysts 7—369
  - specimen preparation using cross-section technique *(Japanese)* 7—63407
  - sphalerite single crystals, plastic behaviour between 473 and 873K, dislocation structure, TEM anal. 7—2093
  - steel, austenitic stainless, dislocation structure and secondary cyclic hardening at 600°C 7—33783
  - steel, austenitic stainless, extrinsic grain boundary dislocations, spreading kinetics 7—44569
  - steel, austenitic stainless, high press. deform., twinned struct., TEM obs. *(Russian)* 7—46578
  - steel, austenitic stainless, low-cycle fatigue, 350 to 550°C, microstruct. developments, effect on cyclic strength and life 7—39646
  - steel, austenitic stainless, microstructure rel. to cathodic H charging 7—28039
  - steel, austenitic stainless, oxide scales formed in CO_2 at 825°C, microstruct., influence of ion implantation 7—65196
  - steel, austenitic stainless, precipitation and B grain boundary segregation studies 7—33673
  - steel, austenitic stainless, streaking effects of H induced ϵ martensite phase, TEM obs. 7—28038
  - steel, austenitic-ferritic stainless, weld metal deposits, final microstruct. form., role of thermal contraction stresses assoc. with inclusions 7—59738
  - steel, C, Vasco X-2M, precipitation during tempering, rel. to impact toughness 7—46494
  - steel, CR-Mo-Ni, temper embrittlement, effect of V additions 7—13575
  - steel, duplex stainless, decomp. of deformed ferrite, TEM obs. 7—28091
  - steel, eutectoid, 1.3 wt.% Cr, specimen prep. technique influence on analytical TEM obs. of partitioning 7—22950
  - steel, ferritic, unirradiated, low activation, microstructure and mechanical props. 7—53863
  - steel, ferritic stainless, He-doped, microstruct. evolution following 14 MeV Ni ion irrad. 7—58363
  - steel, growth under impact tension 7—28105
  - steel, linepipe, H-induced cracking 7—22881
  - steel, Mn, austenitic, friction induced martensitic transform., wear resist., work hardened surface layer 7—17531
  - steel, Mn-V, continuously cooled, hardness rel. to martensite vol. fraction 7—28121
  - steel, Mo stainless, microstructure rel. to heat treatment 7—53770
  - steel, Ni-Co-Mo, maraging, lath martensite boundary cracking near threshold stress intensity factor *(Japanese)* 7—53846
  - steel, Ni-Cr, deform. dislocation struct., fracture 7—33740
  - steel, oxidation studies using EELS and EDX in the TEM 7—17734
  - steel, pressure vessel, neutron irrad., defect microstruct., SANS and TEM studies 7—58351
  - steel, stainless, duplex, austenitic-ferritic, cavitation erosion 7—65149
  - steel, stainless, Type 316, microstruct. exam. around weldments 7—22697
  - steel, tool, high speed, splat quenched, microstruct. variations 7—46439
  - steels, stainless, α-particle irradiated, mech. props. and microstruct. 7—51872
  - steels, stainless, ion-nitrided, struct. and props. 7—22884
  - styrene-butadiene-styrene block copolymer films, crazing, voiding, fibrillation, TEM obs. 7—17672
  - superalloys, stress rupture notch sensitivity, grain boundary precip. *(Chinese)* 7—13541
  - surface analysis techniques 7—44964
  - surface at. imaging by TEM 7—51594
  - surface topography, sputter induced, computer simulation 7—64867

transmission electron microscope examination of materials continued
SUS316, 40 keV Cu^+, Fe^+ and fission neutron irrad. effects. 7–56823
synthetic Cu salts, corrosion on bronze, TEM and SEM study 7–17737
system, silicide form., struct. and electronic props. 7–38363
Te elemental and alloy thin films, laser irrad. effects, refl. meas., optical data storage appl. 7–12144
thin film multilayered structures, microcleavage TEM charactn. 7–38375
thin films, β-phase, high resolution TEM obs. 7–16891
thin films, prep. by partially ionised vapour deposition 7–3186
thin films characterisation by analytical electron microscopy, imaging, diffr. and microanal. techniques 7–51589
thin films composition determ., using TESLA BS 613 TEM with Si:Li detector *(Czech)* 7–65371
transition metal disilicide films, electrical transport props. 7–58908
zeolite theta-1, structural TEM studies 7–16534
Zircaloy-4, low cycle deform. at elevated temps. 7–22832
YZ-$LiNbO_3$, domain structure and lattice defects, effects of piezoelectricity, TEM anal. 7–2999
$[Ba_xCs_y]$ $[(Ti,Al)_{2x+y}{}^{3+}$ $Ti_{8-2x+y}{}^{4+}]$ O_{16} hollandites, structural chemistry 7–51726
Ag films, ion-induced microcones, TEM obs. 7–58593
Ag, initial stages of epitaxy on Si(111), UHV electron microscopy study 7–27210
Ag-Cu(Ni) systems, amorphisation induced by ion mixing 7–21300
α'-Ag-Mg, annealed, twin like domain boundary, high resolution electron microscopy 7–26763
(Al, Ga)As-GaAs superlattices, Si migration during MBE growth 7–27171
Al alloy powder from high press. gas atomisation, TEM study 7–17493
Al alloys, liquid dynamic compaction, microstruct. and precipitation, TEM study 7–59529
Al and Al alloys, 800 MeV proton irrad., gas accumulation at grain boundaries 7–58361
Al, barrier film formation, anion incorporation and migration 7–53947
Al coating on Rene 80 and pure Ni, high temp. oxidation, TEM obs. 7–28202
Al, fatigue, dislocation mobility *(French)* 7–13539
Al films, vapour deposited, effect of O partial press. 7–52339
Al, plastic deformation under impact loading, metallography, SEM and TEM studies *(Russian)* 7–3361
Al single crystals, cyclic deform. at low const. plastic strain amplitude 7–65114
Al surface, ion irradiated, flaking, orientation dependence 7–38074
Al, surface damage, dislocation struct., TEM anal. 7–16564
Al/a-SiC films, RF sputtered, interfacial struct. and reactions, 573-773K *(Japanese)* 7–53583
Al/TiN/Si contacts for VLSI, analytical electron microscopy 7–58651
Al-Ag, γ' precip. growth, TEM studies at atomic level 7–46491
Al-Al_2O_3, ion plated coatings using pulsed O_2 process 7–22586
Al-Cu (1.87 wt.%), stability of metastable defects at elevated temps. 7–38207
Al-Cu (3 at.%) precip. growth kinetics of θ'- and θ-phases 7–39519
Al-Cu-Be (3, 0.1 wt.%), precip. reactions 7–53738
Al-Cu-Mg, 2024, TEM specimen prep. parallel and perpendicular to machined surfaces 7–39808
Al-Fe, rapidly cooled, $Al_{13}Fe_4$ tenfold twins, TEM obs. 7–63631
Al-Fe-Ce, quasicrystalline decagonal phase, TEM 7–46492
Al-Fe-Mg, solidified from liq. phase, struct. *(Russian)* 7–39498
Al-Fe-Mn powder, rapidly solidified, microstruct. 7–46445
Al-Fe-R, R=Ce, Er, Nd or Gd, rapidly solidified microstruct. 7–59502
Al-Fe-Si, dil., solidification, intermetallic cpd. form. 7–13442
Al-Fe-Si, TEM geometric projection of crystal struct. 7–16501
Al-Ge, TEM anal. of Ge precip. morphology 7–46489
Al-Ge alloys, obs. of Ge pentagonally twinned precipitate needles 7–12297
Al-Li-Cu-Mg quaternary alloy, initiation of voiding at second-phase particles 7–39645
Al-Li-Cu-Mg-Zr, yield stress, temp. and strain rate depend. *(Japanese)* 7–33734
Al-Li-Cu-Mg-Zr powder alloy, superplastic, high modulus and hardness 7–53816
Al-Li-Cu-Zr, nucleation of precipitates 7–46476
Al-Li-Mn (Cu), precip.-hardened, cyclic stress response and deform. behaviour 7–22791
Al-Li-Zr rapidly solidified alloy, plastic deform. characts. 7–22777
Al-Mg (5 at.%), creep, interpretation of internal stress determ. from dip tests 7–65091
Al-Mg (5 wt.%) polycrystals, high temp. deform., microstruct. 7–13501
Al-Mg alloys, steady-state creep, microstruct. development 7–53817
Al-Mn, Al-rich alloy, rapidly solidified, crystn. of quasicryst. icosahedral phase 7–63472
Al-Mn, rapidly quenched, icosahedral phase, comp. analysis 7–26699
Al-Mn (15 wt.%), melt spun ribbons, icosahedral struct., decomp. rel. to annealing 7–28030
Al-Mn icosahedral alloy form. by pulsed electron beam and laser beam surface melting 7–26924
Al-Mn-Fe alloy, aging characteristics, pre-cold working effects 7–53758
Al-Mn-Si, quasicryst., X-ray diffr., TEM and SEM study 7–12299
Al-Mn-Zr (7,1 wt.%), rapidly solidified, quasicrystalline phase precip. 7–3310
Al-Mo, rapid solidification processed, diffusion-induced dislocation migration 7–65047
Al-Mo (11 at.%), rapidly solidified, equilib. phase development 7–46436
Al-R (R=Er,Nd,Gd) rapidly solidified alloys, microstruct. and thermal props. 7–22667
Al-Si (12.7 wt.%), eutectic microstruct., twinning and branching mechanisms 7–17521
Al-Si eutectic, Sr-modified, fibrous Si cryst. morphology, TEM study 7–28015
Al-Si-Mn-Fe,intermetallic phases, TEM obs., extraction replica technique 7–39807
Al-V, rapidly quenched, icosahedral phase, comp. analysis 7–26699
Al-Xe, implanted, form. of solid precipitates and fluid bubbles, TEM obs. 7–38032
Al-Zn, disintegration kinetics, hardening temp. effects 7–52055
Al-Zn (11 wt.%), dislocation density in high temp. creep 7–39611
Al-Zn-Mg, 7075, grain boundary precip., crystallographic orientation depend. 7–22686
Al-Zn-Mg, TEM specimen prep. parallel and perpendicular to machined surfaces 7–39808
AlAs/GaAs superlattice mixing induced by Si^+ implantation 7–58649

transmission electron microscope examination of materials continued
AlAs-GaAs superlattices, Si ion implantation, dose-dependent mixing 7–12500
AlAs-GaAs superlattices, Si migration during MBE growth 7–27171
AlAs-GaAs superlattices, disordering by Si and S implantation 7–45024
AlCuLi quasicrystalline struct., construction 7–37929
AlGaAs-GaAs superlattices, Se (Si)(Mg)(Be) ion implantation, intermixing, residual damage 7–26782
$Al_xGa_{1-x}As$:Mg/GaAs:Se quantum well heterostruct., photopumped laser operation 7–25818
$Al_xGa_{1-x}As$-GaAs superlattices, ion implanted, defect struct. 7–26783
AlH_3, cryst. imperfection obs., TEM 7–32445
$Al_{0.48}In_{0.52}As$:Si, MBE grown, crystalline and optical props. 7–52322
$Al_{86}Mn_7Fe_7$, $Al_{86}Mn_{14}$, icosahedral alloys, obs. of mirror-related grains 7–37867
Al_3Ni-Al eutectic alloy, Bauschinger effect, influence of Al_3Ni dispersion state *(Japanese)* 7–22761
Al_2O_3 anodic porous film on Al, microstruct. 7–22882
Al_2O_3 subsurface layers formed by $O_2{}^+$ ion implantation into Al, O_2 bubbles obs. 7–2035
Al_2O_3 thin films, spectral ellipsometric TEM and electron spectra studies 7–27208
Al_2O_3-SiO_3, mullite, prep. by sol-gel method, microstruct. and mech. props. 7–46386
Al_2O_3-ZrO_2, rapid solidification, alumina dendrite morphology 7–21424
$AlPO_4$, berlinite, hydrothermal cryst., growth, X-ray topography, bulk acoustic wave device characts. 7–59391
AlSi-Ti(Ta) layered films, compound formation and Si behavior 7–21762
Ap-Xe-Kr(Ar), ion implanted, bubble growth, lattice parameters, TEM obs. 7–51803
As_2X_3, X=S,Se,Te, thin film, electron irrad. effect 7–16636
Au, cascade damage under heavy ion irrad. at high temp., in situ obs. 7–58368
Au, cascade overlap effect on defect struct. after repeated neutron irradiation 7–51859
Au crystallites, annealing, grain boundary untwisting and untilting, dislocation climb and glide 7–12076
Au, defects in multiply-twinned particles 7–16558
Au film, $(H_2O)_nH^+$ energetic cluster impact, transmission electron microscopy 7–13304
Au, initial stages of epitaxy on Si(111), UHV electron microscopy study 7–27210
Au, neutron irradiated, recoil energy effects on cascade defect structures 7–51855
Au particle faces, restructuring TEM study 7–12418
Au thin film based transparent IR reflectors, prep. and optical props. 7–39201
Au thin films, on Au (111), surface-diffusion-induced ageing processes 7–45080
Au-Ag-Cu-Pd, cast microstruct, segregation, TEM obs. 7–39495
Au-Fe (10 to 35 at.%), early stage clustering struct. 7–59536
Au-GaAs, contact, structural and elec. props. 7–27424
Au-GaAs contacts, elec. and struct. props. 7–2711
Au-Ge-GaAs, interfacial reactions, struct. after annealing 7–27154
AuGe-Nb-GaAs, ohmic superconducting contacts to GaAs 7–33088
BN:Cs(Br_2), intercalation cpd. formation 7–44574
BaO-Fe_2O_3-B_2O_3-based glasses, crystallisation behaviour, nucleating agent effects 7–51650
BaO.4B_2O_3 glasses, crystallisation 7–63490
Ba(Ti, Zr)O_3 powders, hydrothermal prep. 7–64957
$BaTiO_3$, perovskite, TEM study of dislocations 7–38003
$BaTiO_3$:Nb(Ca), ferroelec. domains, SEM and TEM obs. 7–2998
$BaTi_{2-x}Sn_xFe_4O_{11}$, crystal structures and mag. props. 7–12024
Be coatings, sputter deposited using confined ion beam cylinder technique, morphology TEM 7–53586
Bi thin films $(11\bar{1})$, melt growth, in-situ obs. by TEM 7–53573
BiI_3, layered semicond. with hexagonal end honeycombed structs., growth and optical props. 7–22277
C fibres, B modified, effect on mech. props. 7–17570
$Ca_{1-x}Ba_xF_2$ epitaxial layer growth and struct., electron microscopy studies 7–27174
CaF_2, crack-free epitaxial film, on GaAs (100), surface morphology, elec. props. 7–39392
CaF_2-Si, interface struct., high resolution TEM study 7–2394
CaF_2-Si interface, with epitaxially grown insulator, post-growth annealing treatments 7–7074
$Ca_3Fe_2TiO_{8+x}$, perovskites, microdomains, electron microscopy 7–16533
$Ca_3Mn_{1.8}Fe_{1.2}O_{3+y}$, perovskites, microdomains, electron microscopy 7–16533
$Ca_2Nd_8(SiO_4)_6O_2$:Cm ceramic simulated nuclear waste forms, radiation effects on microstruct. and fracture props. 7–58373
$Ca_3(PO_4)_2CaF_2$, apatite, carbonated crystallites, high resolution TEM study 7–6643
$CaPuTi_2O_7$, substituted zirconolite, high level waste, self-irrad. effects, mech. props. 7–805
$CaTiO_3$, perovskite, TEM study of dislocations 7–38003
$CaZrTi_2O_7$, zirconolite, alpha-recoil damage 7–6692
Cd_3As_2 amorphous films, structure and growth morphology 7–45078
$Cd_{1-x}Mn_xTe$ films, hot wall vacuum growth, twinned struct. 7–53593
CdS reaction with aq. CuCl, TEM 7–39920
CdS:$Ri^+(Kr^+)(Ar^+)(Ne^+)$, ion implantation damage 7–26812
CdTe and CdZnTe, single-crystal substrates, struct. characterisation 7–32769
CdTe, ion milling, TEM 7–39344
CdTe-CdMnTe superlattices, photoluminesc. props. 7–13218
Co ferromagnetic thin layer on Au(111), cryst. struct., TEM study 7–64015
Co-Al (10.9 at.%), cellular prep. from supersaturated solid soln. *(Russian)* 7–65045
Co-Al alloys, magnetic hardening 7–33209
Co-Cr sputtered films, segregated microstructure, TEM studies 7–12538
Co-Cr thin films, mag. props. and microstructure 7–27514
Co-Ni-Pr evaporated recording media, mag. props. and corrosion resistance 7–33825
Co-Pt thin films, sputtered, TEM study 7–21757
Co-TaC, rapid quenching, microstruct. 7–65023
CoCr magnetic thin films, magnetron co-sputtered, microstructure 7–33558
CoCrAl alloys, microstruct., atom probe FIM and TEM studies 7–33636
CoCrTa sputtered films, microstruct. and mag. props. studies 7–12575
$Co_{68}Fe_7Ni_{13}Si_7B_5$, amorphous alloy, superplasticity 7–3368

transmission electron microscope examination of materials continued
- $Co_{80}Nb_{10}Ti_{10}$ two-layered films, mag. domain structures, transmission Lorentz microscopy 7—53096
- CoNi sputtered films on Cr and polyimide, mag. props., relation to struct. 7—33228
- CoO, deformed, dislocation struct., TEM study 7—21209
- $CoSi_2$ self-aligned silicide technology using rapid thermal processing 7—52154
- $CoSi_2$-Si, solid phase epitaxial growth of $CoSi_2$, nonultrahigh vacuum method 7—45043
- $CoSi_2$-Si epitaxial heterostructures, growth and characterisation 7—27212
- Cr films, thin polycrystalline sputtered, oxidation by CW CO_2 laser irradiation 7—13642
- Cr, vacuum-deposited, hardness and struct. studies 7—33761
- Cr/Ni interface broadening and topography of Auger sputtered profiles 7—53485
- Cr-Mo-Ni ferritic-martensitic steel, irrad. in RTNS-II, TEM study 7—58345
- Cr-Ni (45 wt.%) amorphous free-standing thin films, struct. transformations, pulse laser irradiation 7—38382
- Cr-Ni multilayer thin films structures, AES depth profiling during sample rotation 7—27829
- Cr-Si system, thin film silicide phases, formation and microstructure 7—2435
- $Cr_{75}Si_{25}$ thin films, microstruct. and resist., room temp. to 950°C 7—38410
- Cu alloys, candidate materials for high heat load appl. in neutron environments 7—49636
- Cu alloys, irrad. in FFTF to 16 dpa at 450°C, microstruct. eval. 7—51837
- Cu alloys, neutron damage microstructs. 7—58347
- Cu alloys, rapidly solidified powder metallurgy, irrad. to 13.5 dpa with neutrons, microstruct. evolution and swelling 7—51840
- Cu bicrystals, fatigued at high temp., microstruct. obs. in vicinity of cavitated grain boundaries 7—38019
- Cu, cascade overlap effect on defect struct. after repeated neutron irradiation 7—51859
- Cu, damage correlation of high energy neutron and ion irradiation, subcascades 7—51860
- Cu, dynamic softening during deform. at high temps. and strain rates 7—33690
- Cu electrocrystallisation on indifferent substrates, twinning 7—53639
- Cu electrodeposits, decorated grain boundary dislocations, electron microscopy obs. 7—27185
- Cu, initial stages of epitaxy on Si(111), UHV electron microscopy study 7—27210
- Cu single crystal, deformed, lattice parameter changes through long-range internal stresses *(German)* 7—16673
- Cu/NiPd multilayered film, atomic level structural characterisation 7—16900
- Cu-Al long-period superlattice, interface struct., TEM and HREM study 7—16499
- Cu-Be (30 at.%), eutectoid decomp., spatial distrib. of α-phase *(Russian)* 7—53694
- Cu-Co, dynamic fracture characts., void nucleation at incoherent precipitates 7—17628
- Cu-Co (2 at.%), underaged, fatigue props., comparison of single crysts. and polycrysts. *(German)* 7—46648
- Cu-Co alloy, coherent precipitate strain contrast under high order refl. excitation 7—3306
- Cu-Co alloy decomposition, TEM, FIM and SANS studies 7—53749
- Cu-Ni, compositionally modulated thin films, double positioning twinning 7—38351
- Cu-Ni-Cr, spinodal decomp., X-ray diffr. and TEM study 7—22732
- Cu-Ni-Fe, irrad., stability of periodic decomp. struct. 7—58366
- Cu-Si (6 at.%), secondary grain boundary dislocation nodes at junction of three grains 7—63648
- Cu-Zn system, diffusion induced grain boundary migration 7—21227
- Cu-Zn-Al, shape memory alloy, type II twins in self-accommodating martensite plate variants 7—22752
- Cu-Zn-Al, thermoelastic, two-way memory effect, dislocations origin 7—22754
- Cu-Zn-Al shape memory alloys, rapidly solidified, microstruct. and props. *(Chinese)* 7—8043
- CuAu, ordering and recrystallisation, TEM studies *(Russian)* 7—16479
- Cu_3Au alloy, displacement cascade collapse at low temp. 7—51892
- Cu_3Au ordered alloys, twin boundary structure, TEM anal. 7—2027
- $CuFeS_2$, natural chalcopyrite single crystals, deformed, TEM study 7—38002
- $CuGaSe_2$ thin films, flash evaporated, optical and elec. props. 7—7417
- CuInSe thin films, flash evaporation prep. and characterisation 7—7893
- $CuInSe_2$, thin films, flash evaporated, electrical cond. and optical absorpt. spectrum 7—33112
- $Cu_{48}Ti_{52}$, amorphous, crystallisation, intermediate long period superlattice phase form. 7—21098
- Eu(II)-β''-alumina, luminescence, order-disorder effects, optical, structural and ion transport props. 7—46114
- Fe, edge and screw dislocation density determ., TEM, etching and positron lifetime meas. 7—38006
- Fe particles on planar Al_2O_3 supports, low rate growth 7—32779
- Fe thin films, sputter deposited at oblique incidence, microstruct. and mag. props. *(Japanese)* 7—33560
- Fe thin films, stress development during oxidation 7—45096
- Fe, zone refined, radiation hardening by 14 MeV neutrons, temp. depend. 7—51857
- Fe/Cu multilayered samples, ion beam mixing-induced metastable phases 7—58377
- Fe/Fe-FeO/Al_2O_3 systems, diffusion bonded, interface chemistry, bonding strength 7—28079
- Fe-9Cr ferritic steel, 40 keV Cu^+, Fe^+ and fission neutron irrad. effects. 7—56823
- Fe-Al, thin foil, interfacial migration, velocity-driving force relations 7—46411
- Fe-Al bilayered samples, ion beam induced atomic mixing 7—6689
- Fe-Al-Co ordering alloys, phase separations 7—33634
- Fe-Au, solute segregation, grain boundary structural transform. 7—22687
- Fe-B, amorphous alloys, crystallisation, morphology rel. to sample thickness *(Russian)* 7—37861
- Fe-Co-B films, phase transition, microstruct. 7—33568
- Fe-Cr (12 at.%), ferritic alloy, He^+ implantation and Fe^+ irrad., bubble nucleation and growth 7—58362

transmission electron microscope examination of materials continued
- Fe-Cr-Al-Ce, microstruct., high temp. corrosion rel. to Ce additions 7—13648
- Fe-Cr-Co-Mo permanent magnet ribbons, mag. props., influence of modulated structure 7—53043
- Fe-Cr-Co-Si, permanent magnet alloys, microstruct., mag. props., Si content effect 7—22117
- Fe-Cr-Mo (9,1 wt.%), initiation of breakaway oxidation in high press. CO_2 atm. 7—33845
- Fe-Cu, neutron irrad., defect microstruct., SANS and TEM studies 7—58351
- Fe-Cu multilayer films, layered mag. domains, Schlieren-Lorentz TEM studies 7—38916
- Fe-N, implantation at 77 K, surface comp., microstructure, AES, HVEM, transmission HEED studies 7—38033
- Fe-Nd-B-Al sintered magnets, TEM studies 7—51999
- Fe-Ni-Cr, high-purity, irrad., void swelling and nucl.-induced phase transforms. 7—58340
- Fe-Ni-Cr, oxidation, TEM study, nonprotective oxide growth 7—8180
- Fe-Ni-Cr, oxidation study, protective oxide growth 7—8179
- Fe-Ni-Cr-Ti-B, constant elastic alloy, torsion reson. freq. temp. coeff. rel. to B content *(Chinese)* 7—13488
- Fe-Pd, thermoelastic FCC-FCT martensitic transform. mechanism, TEM obs. 7—28041
- Fe-R-B (R=rare earth) metallic glass permanent magnets, TEM studies 7—26661
- Fe-Si-Al, carbide precip. kinetics, core loss 7—8001
- Fe-Si-B, amorphous alloys, crystallisation, morphology rel. to sample thickness *(Russian)* 7—37861
- Fe-Ti multilayered films, ion bombard., microstructure, TEM obs. 7—12165
- Fe-Ti-C multilayered films, ion bombard., microstructure, TEM obs. 7—12165
- Fe-Ti-N, mech. props. rel. to cold working 7—28089
- Fe-V-N, Fe-Al-N, Fe-Mo-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7—59672
- FeAl, B2-structured, annealed and slow cooled, occurrence of displacement fringes 7—6808
- $Fe_{78}B_{13}Si_9$ amorphous and partially crystalline alloy, high resolution TEM studies 7—21127
- $Fe_{67}Co_{18}B_{14}Si$, amorphous mag. alloy, crystallisation, elec. resist., TEM obs. 7—11927
- $Fe_{14}Nd_2B$ permanent magnet, Dy substituted positron annihilation studies 7—3108
- FeNiAlCoTiCuS permanent magnetic material, phase comp. and ordering, atom probe FIM and TEM studies 7—33635
- $Fe_{10}Ni_{65}Si_{10}B_{15}$ spin glass, amorphous, effect of phase segregation during struct. relax. 7—39517
- γ-Fe_2O_3 particles, pure and Co-modified, microstructural defects 7—58497
- Fe_3O_4, magnetite-laced microspheres, mag. moment meas. 7—53064
- $Fe_{80}P_{13}C_7$ alloy, metallic glass surface layers by rapid quenching, microhardness 7—3512
- GaAlAs-GaAs laser diodes, catastrophic optical damage, electrolum., cathodolum., EBIC and TEM obs. 7—57329
- GaAs crystals, liquid-phase electroepitaxial growth, dislocation density reduction 7—58681
- GaAs, dislocation core struct. 7—38007
- GaAs, dislocation loops, TEM image profiles, electron diffr. two-beam dynamical theory 7—12071
- GaAs, dislocation rosette generation round Vickers indentations, mobility and twinning, TEM study 7—63618
- GaAs, doped, oxidation, in situ TEM obs. 7—28215
- GaAs epilayers grown on Ge or Ge/Si substrates, defects 7—21778
- GaAs epitaxial layers and heterostructures grown on Si substrates, material props. 7—7046
- GaAs faulted dislocation dipoles, electron diffr. and high-resolution TEM studies 7—44551
- GaAs films, initial stages of MBE growth on Si (100) 7—63995
- GaAs films on amorphous insulating substrates, laser recrystallisation 7—38397
- GaAs high quality layers grown on Si by MOCVD, misfit dislocations at interface 7—27922
- GaAs, homoepitaxial growth, cross hatch defect structure 7—45054
- GaAs, laser-induced melting and nonlinear optical studies 7—12432
- GaAs, MBE growth, defect reduction using superlattice structures 7—13359
- GaAs, MBE initial growth stage on (100) Si substrate, RHEED, AES and TEM 7—52356
- GaAs, proton bombarded, H platelets, TEM obs. 7—12164
- GaAs, semiinsulating LEC substrates, defect etching 7—59694
- GaAs, sublattices direct resolution and identification by high-resolution TEM 7—37813
- GaAs, undoped, thermal activation of plastic deform., 528-813K 7—6710
- GaAs: Si(Se)(Zn)(Be), ion implanted, rapidly annealed, damage removal process 7—17043
- GaAs:B, ion implanted, struct. and damage distrib., TEM study 7—51893
- GaAs:Be^+, ion implanted, residual microstruct., TEM studies 7—32675
- GaAs:Si, dislocations, STEM and CTEM micrographs 7—1825
- GaAs:Si, ion implanted, amorphisation and epitaxial regrowth, defect depth profiles 7—12088
- GaAs:Si(B)-$Ga_{0.25}Al_{0.75}As$:Si(B) quantum wells, ion implanted, TEM and photolum. studies 7—58865
- GaAs/$Al_xGa_{1-x}As$ superstructure, TEM images, composition anal. by thickness fringes, simulation 7—38353
- GaAs/AlAs MBE superlattice, interface struct., HREM study 7—17096
- GaAs/AlGaAs heterostructs. on Si substrate, MOCVD and MBE growth 7—7883
- GaAs/AlGaAs quantum well structures, MOCVD growth, photolum., TEM obs. 7—27929
- GaAs/GaAlAs ultrathin layer systems, MOCVD growth and struct. props. 7—7063
- GaAs/metal interface microstruct. and reactions, stability and elec. props., TEM and STEM studies 7—12515
- GaAs-(Ca,Sr)F_2 heterostructure interfaces, twinning, Raman spectra 7—13148
- GaAs-$Al_xGa_{1-x}As$ superlattice, composition anal., electron microscopy studies 7—7028
- GaAs-AlAs MQW structures, Ga^+ ion implantation defects 7—44585
- GaAs-AlGaAs superlattice, lattice images, high contrast TEM obs. 7—7027

transmission electron microscope examination of materials continued
GaAs-Ge heteroepitaxy on Si substrates, recrystallised Ge-on-insulator intermediate layers 7−52358
GaAs-InAs strain layer modulated structures, MBE grown, cross-sectional TEM 7−7032
GaAs-Mo Schottky diodes, elec. characts. and microstruct. study 7−22015
GaAs-Si, nucleation and growth of GaAs 7−45038
GaAs-Si heteroepitaxial interface, atomic structure 7−52298
GaAsP-GaAs(P) strained-layer superlattices, MOCVD and device prep. 7−7876
GaInAsP/InP heterojunctions, atmospheric press. MOVPE growth TEM studies 7−3196
GaP epitaxial layers, MOCVD growth on Si, TEM and SEM 7−38416
GaP films, MBE grown on Si, antiphase domain structures 7−64014
GaP films, MBE growth on Si(211), defects obs. 7−58695
GaP on Si substrate, MOCVD growth and characterisation 7−27926
GaP, sublattices direct resolution and identification by high-resolution TEM 7−37813
GaP/GaAsP epitaxial layers, MOCVD growth on Si, TEM and SEM 7−38416
GaSb single crystals, intrinsic point defects and microdefects, TEM studies 7−44529
Ge, amorphous films, laser induced image storage 7−11078
a-Ge films, laser-induced phase transitions, time resolved TEM study 7−38056
Ge ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7−17423
Ge polycrystalline film, preferred orientation control by two-step growth method 7−21728
Ge sputtered ⟨100⟩ textured film, TEM grain growth obs. 7−45040
Ge ultra-thin films, self-implantation, grain growth enhancement, TEM study 7−12173
Ge:As(Sb)(Te)(Bi), implanted, heavy ion damage, TEM, annealing studies 7−63676
a-Ge/Pb/a-Ge trilayers, melting transition of Pb 7−32884
Ge-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7−12566
Ge-GeO_2, defect formation, during thermal oxidation 7−65237
GeMo-GaAs ohmic contact, fabrication and characts. study 7−45490
GeSi-Si strained layer superlattices, growth using limited reaction processing 7−39430
GeSi-Si strained-layer superlattices, elastic relax. effects on TEM 7−52378
Ge_xSi_{1-x} (111) vicinal surfaces, step-band formation, cross-sectional TEM studies 7−12412
GeX, X=S,Se,Te, thin film, electron irrad. effect 7−16636
$Hf_{1-x}Cu_x$ metallic glass, thermal stability and phase transformations 7−21125
HgCdTe, high quality LPE on CdZnTe, IR detector anal. 7−64941
In $As_{1-x}Sb_x$ epitaxial layers, MOCVD, strained-layer superlattices 7−39407
In-GaAs reactions, interfacial native oxide layer effects 7−12501
InAs/GaAs strained-layer superlattices, band struct., TEM, X-ray and photolum. spectra 7−38722
$In_{1-x}Ga_xAs$, MOCVD, optical and elec. props. rel. to growth temp. 7−53613
InGaAsP layers on InP (001), origin of grown-in dislocations 7−38415
InGaAsP, layers on InP, rel. lattice parameter meas., convergent beam electron diffraction 7−52371
InGaAsP, spinodally decomposed, elastic relax. effects on TEM 7−52378
InGaAsP/InP superlattices, gas-source MBE grown, X-ray diffr. and TEM studies 7−32839
InP films on oxidised Si substrate, laser recrystallisation 7−38398
InP single crystals, thermal activation of glide 7−21213
InP, sublattices direct resolution and identification by high-resolution TEM 7−37813
InP:Fe, Czochralski-grown, stoichiometric-related faulted loops, struct. and lumin. props. 7−51772
InP/GaInAs/InP heterostructures, OMVPE, high speed p-i-n photodiodes, photolum., Hall meas. 7−27387
InP(Sb), ion milling, TEM 7−39344
InSb films, preparation of highly sensitive magnetoresistance elements 7−7859
InSb heterostructures, MBE growth 7−27910
LaB_6 dispersed powders and compact specimens, struct. and morphology 7−64976
Li hydrides, ($LiAlH_4$, LiH, $LiBH_4$), cryst. imperfection obs., TEM 7−32445
$LiNbO_3$:H channel waveguides, anal. 7−26023
Li_xTiS_2, intercalation in solid-state battery cathode, TEM study 7−17854
MgH_2, cryst. imperfection obs., TEM 7−32445
MgO:Fe, small angle [001] twist boundaries, Fe solute effect 7−32459
$MgO(Al_2O_3)_2$ spinel, first-order twin boundaries struct., TEM obs. and computer simulation studies 7−51782
Mn_3Ni_2Si, rapidly solidified, Friauf-Laves phase related quasicrystal, TEM obs. 7−51706
MnO, deformed, dislocation struct., TEM study 7−21209
Mo, cyclic deformation, dislocation substructures and hardening 7−21330
Mo/Sb multilayer film, superconductivity and structural characterisation 7−17128
Na hydrides, ($NaAlH_4$, NaH, $NaBH_4$) cryst. imperfection obs., TEM 7−32445
Nb films, oriented, electron beam evaporation in ultrahigh vacuum onto GaAs 7−3175
Nb single crystals, cyclic deform., dislocation behaviour 7−63729
Nb-Al_2O_3 interface, grain boundary struct., elemental comp. determ., TEM obs. 7−21225
Nb-Ce-Nb epitaxial film sandwiches, metastable phases 7−32857
Nb-La-Nb epitaxial film sandwiches, metastable phases 7−32857
NbN, sputtered films, transverse TEM study 7−21731
NbN-Nb_2O_5-NbN trilayer structure, TEM studies 7−7018
Nb_3Sn film, grain size, grain boundaries and diffusion, TEM study 7−21222
Nd-Dy-Fe-B-based sintered magnet, microstruct., heat treatment effects 7−53767
Ni, deformed, microtwin formation 7−38095
Ni, dislocation arrangements in single crystals fatigued at low temps. 7−12068
Ni, electrodeposited films, occurrence of multiply twinned particles 7−38373

transmission electron microscope examination of materials continued
Ni, ion implantation and pulsed laser melt quenching, metastable phase and defect struct. form. studies 7−16625
Ni, Ni ion irrad., 14 MeV, void form., gas effects 7−58360
Ni, T-induced He bubbles on grain boundaries migration and coalescence 7−58289
Ni/Cr(Nb) alternating layers, ion beam mixing 7−21303
Ni/GaAs film/surface reaction, TEM 7−39920
Ni-Al alloy, oxidation studies using EELS and EDX in the TEM 7−17734
Ni-Al-Cr, melt spun ribbons, microstruct., mech. props., Cr conc. effect 7−28031
Ni-Al-Mo, precip. in Ni-base superalloys 7−53745
Ni-B, precipitation and B grain boundary segregation studies 7−33673
Ni-B-Si ternary system, liq.-solid equilib. in Ni-rich region *(French)* 7−65004
Ni-base alloy, (Nimonic 75), creep-fatigue interaction, SEM and TEM studies *(Chinese)* 7−13543
Ni-base superalloy, CMSX-2 creep anisotropy, TEM anal. *(French)* 7−22764
Ni-base superalloy, single cyst., SRR99, creep behaviour 7−17587
Ni-Cr-Al (20, 12.5 wt.%), coatings containing dispersed oxides, high temp. oxidation 7−33842
Ni-Cu-Si, γ' precip. coarsening, bifurcation theory appl. *(Japanese)* 7−53734
Ni-GaAs, lateral reactions, hot-stage TEM 7−27030
Ni-He bubble system, He densities, SANS and TEM studies 7−58266
Ni-NiO interface struct., TEM study 7−21692
Ni-P electroless deposited amorphous coatings, wear resistance, crystallisation effects 7−53913
Ni-P ion-implanted and melt spun amorphous alloys, crystn., TEM, RBS and DTA meas. 7−16439
Ni-Si, spatial correl. to γ' precipitates 7−46484
Ni-Si alloy, Ni_3Si precipitation during electron and ion irradiation 7−51876
Ni-Ti(Ta)(Cr), amorphous and cryst. reaction with Si studied by RBS and TEM 7−21704
NiAl thin films, ion irrad. induced amorphisation studies rel. to cascade parameters 7−63671
Ni_3Al, dislocation bowing and partial separation during in situ straining, TEM obs. 7−63617
Ni_3Al produced by shock compaction, TEM 7−39480
Ni_3Al-B rapidly solidified alloy, B distrib. at grain and antiphase boundaries, atom probe FIM and TEM studies 7−33637
Ni_3Al(B,Ti), rapidly solidified powders, struct. of consolidated products 7−3222
NiAlTi, decomposition kinetics, TEM, FIM and SANS studies 7−53748
$Ni_{75}B_{15}Si_{10}$ amorphous alloy, metalloid redistribution, scanning Auger microprobe study 7−32655
$Ni_{70}Cr_7Fe_3Si_8B_{12}$ ribbon, rapidly quenched from melt, struct. inhomogeneity and crystallised metastable phase *(Chinese)* 7−63477
$Ni_{69.2}Cr_{6.6}Si_{13.7}B_{7.9}Fe_{2.6}$, amorphous alloy, 70 MeV Ni^{+6} ion irrad., surface swelling 7−16646
Ni_4Mo-Cr, isothermal annealing, structural changes 7−46462
NiO ceramics, grain boundary struct., TEM obs. 7−21225
NiO-CaO eutectic, directionally solidified, struct. imperfections 7−65026
NiO-CuO solid solutions, tweed microstruct., investig. using TEM 7−44756
NiO-CuO solid solutions, evidence for long-range cation order, TEM investig. 7−44757
$NiSi_2$-Si, Schottky barrier height, structural characterisation 7−27429
Ni_2Si growth kinetics from Ni and Ni-V films on Si surfaces, TEM, AES, X-ray diffr. and backscatt. studies 7−45032
NiTa-GaAs, phase separation, cross-sectional TEM 7−27152
PZT, shock-recovery expts. 7−38119
$PbBi_2S_4$-Bi_2S_3 system, chemically twinned phases, X-ray diffr., TEM obs. 7−32462
PbI_2, layered semicond. with hexagonal end honeycombed structs., growth and optical props. 7−22277
$Pb(Mg_{1/3}Nb_{2/3})O_3$ ceramics, dielec. props. 7−46382
PbS-Bi_2S_3, chemically twinned phases, transformation to Galena struct. 7−12078
$Pb(Sc_{1/2}Ta_{1/2})O_3$, single crysts. and hot pressed ceramics, ordering, domain struct., TEM obs. 7−26936
PbSe-SnSe strained layer superlattice, prep. and struct. anal. 7−52301
$Pb_{0.8}Sn_{0.2}Te$ thin films, structural and elec. props., pulsed laser-irrad. effects study 7−21270
PbTe films grown by hot-wall epitaxy on KCl and BaF_2, TEM anal. 7−59432
$PbTiO_3$ based glass ceramics piezoelectricity, pyroelectricity and ferroelectricity 7−7654
$Pb(Zr_{0.58}Fe_{0.20}Nb_{0.20}Ti_{0.02})_{0.995}U_{0.005}O_3$ ferroelec. ceramic, TEM study 7−17272
Pd/C model catalyst supported on TEM grids, in-situ heating and microanalysis expts. 7−23098
Pd/GaAs film/surface reaction, TEM 7−39920
Pd-GaAs, phase formation sequence, morphology 7−27153
Pd-Si thin film growth, Pd_2Si formation, TEM study *(Chinese)* 7−7038
Pd-U-Si, growth of quasicrystalline phase from glassy state 7−58144
Pd_2Si-Si interface, at. struct., TEM obs. 7−63977
$Pd_{80}Si_{20}$, metallic glass, crystallisation 7−37882
Pt, catalyst particles, adsorbed S-induced faceting, TEM study 7−27109
Pt clusters in Y-zeolite, atomic and electronic struct. and chemical reactivity 7−32677
Pt crystallites supported on C black, surface struct., TEM study 7−32778
Pt particle/Al_2O_3 surface, ethylene hydrogenation, intrinsic size effects 7−3607
Pt-group metal silicides epitaxial growth on Si (111) 7−21760
PtSi/p-Si thin Schottky diodes, TEM, TED, I-V curve and photoemission characts. 7−12861
PtSi/Si heterogeneous interface struct., defects, and coherency, HRTEM meas. *(Japanese)* 7−7019
δl-Pu-Ga (1.5 wt.%) foils, cold rolling, annealing, microstruct., TEM obs. 7−59544
RSi_{2-x}-Si (R=Sc, Y, Gd, Ho, Tb, Dy, Er, Tm, Yb, Lu), silicide thin films, phase composition, conductance, surface morphology 7−7072
$Rb_{0.023}WO_3$, crystal growth and struct., SEM and TEM anal. 7−46288
Rh polycrystalline films, electrical size effects 7−7412
RuO_4, staining agent for transmission electron microscope obs. of polymer lamellar morphology 7−21132

transmission electron microscope examination of materials continued
Sb_2S_3, nonstoichiometric forms in $PbSb_2S_4$-Sb_2S_3 region of Pb-Sb-S phase diagram 7−6812
Sc thin films, vacuum-deposited, struct. and optical props. 7−58698
Se, thin films, amorphous, crystn. 7−44371
Si (111) substrates with epitaxial CaF_2-BaF_2 epitaxial bilayers, characterisation 7−12521
Si, $(\bar{2}11)$, twin boundary, rigid body translation 7−21223
Si (5×5) surface reconstruction, stability against native oxide form. obs. 7−2318
Si, amorphised and rapid thermally annealed, extended defects 7−16660
Si, amorphised films, solid phase epitaxial regrowth, TEM characterisation 7−32883
Si, amorphous, Bragg diffraction of crystalline clusters 7−44374
Si, amorphous to crystalline transformation, TEM in situ technique 7−44376
Si bicrystals, grain boundary carrier recombination, chemical origin 7−17039
Si, CVD thin film backside gettering effectiveness 7−38217
Si, Czochralski grown crystals, octahedral crystalline inclusions, TEM obs. 7−16581
Si, dislocation loops, generated by ion implantation and furnace annealing, depth profiles, RBS, X-ray diffr., TEM anal. 7−51882
Si, epitaxial low temp. growth by hot wall UHV/low press. CVD techniques, surface optimisation 7−3194
Si films, solid epitaxial regrowth, structural and electrical characteristics 7−38403
Si, intrinsic gettering by butterfly-type defects 7−38047
Si ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7−17423
Si ion-implanted with MeV energy B^+, P^+ and As^+ ions, annealing behaviour 7−51776
Si LOCOS substrates, nucleation of dislocations at thin film edges 7−51597
Si, low-angle silicon sheet (LASS) material, microstructure exam. 7−21231
Si MBE grown layers, arbitrary doping profiles 7−12109
Si MBE layers, defect characterisation, luminesc., TEM studies 7−13227
Si multilayers, LPE growth, DEM, TEM obs. 7−12565
Si, oxidation, surface layer defect formation 7−46733
Si, oxidation of damaged surfaces, precipitation at stacking faults 7−38313
Si, polycrystalline layers, TEM meas. of grain size 7−32672
Si, recoil implantation of O_2, characterisation by double-crystal X-ray diffraction, TEM, Monte Carlo simulation 7−51807
Si SOI structure, O^+ implantation and high temp. annealing 7−44579
Si SOI structures, implanted buried oxide, high-temp. annealing 7−6654
Si, self-implantation, damage production kinetics 7−21239
Si, self-implantation-induced temp. depend. amorphisation, TEM and Monte Carlo simulation studies 7−16595
Si single crysts., insulating cpd. form. by ion beam synthesis, RBS, SIMS and cross-sectional TEM studies 7−26779
Si, structural changes produced by one micron picosecond laser pulses, TEM characterisation 7−12133
Si, substrate for CVD of W, effects of dopants and cryst. perfection 7−16912
Si surface, RIE, Si_3N_4 CVD 7−59691
Si surface studies with a high resolution transmission electron microscope 7−21595
Si wafers, self and ion beam annealing, epitaxial growth and damage layer, TEM study 7−12172
Si:Ag, implantation damage regrowth studied via Ag depth profiling 7−22730
Si:Al, ion implanted and annealed, Al precipitation, TEM studies 7−21238
Si:Al implanted crysts., amorphous surface regions with crystalline impurity grains, TEM study 7−58579
Si:Ar, high dose implanted, thermal regrowth, RHEED studies 7−21734
Si:As, implanted, supersaturated soln., defect struct., TEM obs. 7−58483
Si:As, ion implanted polycrystalline films, electrical activation by rapid thermal annealing 7−58914
Si:As, precipitation and cluster form., elec. resist., backscatt. and TEM studies *(Chinese)* 7−12285
Si:As films, heavily doped, grown by partially ionised MBE, phys. and elec. characts. 7−12561
Si:As films, preannealed and As ion implanted, structural changes during transient pot-annealing 7−16904
Si:As ion implanted, defect structs. generated by buried amorphous layer regrowth 7−38078
Si:As surface, $TiSi_2$ formation 7−12551
Si:As^+, heavily doped, ion implant deactivation 7−17567
Si:As^+($As_2{}^+$), ion implanted, phys. props., spreading resist., TEM, Rutherford backscattering, SIMS 7−26775
Si:As(B)(P), impurities at dislocations and grain boundaries, high-resolution TEM imaging 7−37815
Si:As(Sb)(Bi), implanted, heavy ion damage, TEM, annealing studies 7−63676
Si:B, diffusion and activation of implanted B during rapid thermal annealing 7−16643
Si:B, low temp. epitaxial films, nonequilib. doping effects 7−58672
Si:$BF_2{}^+$, ion implanted, solid phase epitaxial growth, cross-sectional TEM study 7−38364
Si:$BF_2{}^+$ (001), ion implanted, residual defects, cross-sectional TEM study 7−32471
Si:B(P)(As)(Sb), retarded and enhanced dopant diffusion related to implantation-induced excess vacancies and interstitials 7−63881
Si:C,O,P, C precipitation after P junction diffusion 7−16779
Si:Fe, intrinsic gettering, EPR and TEM study 7−38216
Si:Ga epitaxial layers, growth induced planar defects 7−38414
Si:Ge, Ge^+ preamorphisation implants, effect on extended defect formation during subsequent solid phase epitaxy 7−16599
Si:Ge^+, ion implanted and annealed, crystalline to amorphous transformation, TEM study 7−32643
Si:H, impurity clustering, hydride form. on dislocations, TEM study 7−26964
a-Si:H, photo-CVD deposition, initial processes *(Japanese)* 7−7053
Si:H microcrystalline films, glow discharge prep., elec. and optical props. 7−7415
a-Si:H/Ti/Al system, solid state reactions, TEM and SAD studies 7−3602
a-Si:H/a-SiN_x:H interface system, struct. and electronic props. 7−38361

transmission electron microscope examination of materials continued
Si:O, C, precipitation, microstructures, TEM studies 7−32668
Si:O, Czochralski grown, O-related defects after annealing, IR TEM and resistivity meas. 7−32466
Si:O, ion implanted, structure before and after heat-pulse annealing 7−16600
P-Si:O, new donor state, optical, elec. and TEM studies 7−32956
Si:O,B^+, ion implanted, reverse annealing 7−16617
Si:O,C,N, precipitation phenomena, TEM studies 7−16768
Si:O Czochralski wafers, electron traps resulting from O precipitation 7−21866
Si:$O_2{}^+$, Si on insulator structs., amorphous and crystalline oxide precipitates 7−13655
Si:O(O,C), impurity aggregation, SIMS 7−16778
Si:P, ion implanted, dynamic annealing, dose rate effects 7−12093
Si:P, ion implanted defect structs. rel. to implant energy 7−38079
Si:P, Ni^+, ion implantation and annealing 7−21245
Si:P, polycrystalline films, LPCVD, charactn. 7−53615
Si:P, pulsed laser processing via free carrier absorpt. 7−21273
Si:P/Ti, enhanced grain growth by silicide form. 7−27142
Si:$PF_n{}^+$ ion implanted, recrystallisation kinetics during fast thermal annealing 7−16618
Si:W^+ layers, implanted and annealed, struct., TEM, electron diffr. studies 7−32858
a-Si/Al films, laser-induced phase transitions, time resolved TEM study 7−38056
a-Si/Au thin film bilayers, Si crystallisation study 7−21699
Si/SiO_2 system, two-step oxidation and interface structs. 7−3542
Si-binary alloy interfacial interactions, Rutherford backscattering spectrometry, TEM 7−12505
Si-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7−12566
Si-Co(Pt)(Au), high energy density pulsed ion beam irradiation, study of reacted layers 7−52151
a-Si-metal-Si structures, rapid thermal sintering and annealing 7−21700
Si-Ni interface, silicide formation, backscattering spectrometry and TEM studies 7−21696
Si-Pd, Pd_2Si formation, TEM study 7−38267
Si-Pt, Pt_2Si formation, TEM study 7−38267
Si-Si homoepitaxial interfaces, MBE grown, oxygen trapping 7−32855
Si-Si_3N_4, SOI, N^+ implanted, microstructural characterisation 7−52300
Si-Si_3N_4 SOI structs., formation by N^+ implantation 7−32532
Si-SiO_2, buried layer SOI structs., elevated temp. high dose O^+ implantation, effect of annealing 7−32530
Si-SiO_2, buried oxide SOI struct., effects of annealing temp. on characts. 7−33099
Si-SiO_2, SOI struct., deep O^+ implantation, strain and damage in Si 7−32531
Si-SiO_2, Si oxidation kinetics, interface width determ. 7−39764
Si-SiO_2 (111) interface, dangling bonds, dipolar interactions investig. 7−17107
Si-SiO_2 interface, computer simulation of high-resolution TEM images 7−44318
Si-SiO_2 interface roughness, evolution, characterisation 7−32852
Si-SiO_2 interfaces, microstruct. and electronic props. 7−38359
Si-SiO_2 SOI struct. formed by high dose ion implantation, high resolution TEM study 7−59690
Si-SiO_2 SOI structure, lateral solid phase epitaxial growth, TEM study 7−38369
Si-SiO_2 structures, prod. by recrystallisation, subgrain boundaries, barrier effects 7−52305
Si-Ti thin-film superlattices, structure 7−38350
Si-transition metal interfaces, competing initial chemical reactions 7−21693
Si-W, buried conductor formation, low press. CVD W deposition on porous Si 7−32877
α-SiC, 6H polytype, Kikuchi map 7−58225
SiC, 6H single crysts., dislocation glide induced plasticity *(Japanese)* 7−21215
SiC, CVD, microstruct. around indentation, TEM obs. *(Japanese)* 7−22822
β-SiC, epitaxially grown, antiphase boundaries 7−46722
SiC fibre reinforced Al composite wires, neutron irrad., mech. props., fusion reactor appl. 7−49628
SiC fibres, prep. from polycarbosilane, heat treatment, Raman study 7−65062
β-SiC monocryst. thin films, ion implantation and annealing, amorphisation and recrystn. processes study 7−16596
α-SiC polycrysts., pulsed laser annealing and ion beam mixing surface modification studies 7−16657
SiC powders, surface charactn. and treatment 7−2306
βSiC single cryst., wet and dry oxidation kinetics and interface characts. 7−13674
SiC, sintered, microstruct. and props., influence of fabrication method *(Japanese)* 7−22622
α-SiC, sintered, non-equilib. surface conditions and microstruct. changes following pulsed laser irrad. and ion beam mixing of Ni overlayers 7−65170
α-SiC, sintered, occurrence and distrib. of B-containing phases 7−39466
β-SiC thin films, CVD epitaxial growth on 6H α-SiC substrates 7−22502
β-SiC thin films, TEM obs. of process induced defects 7−58696
β-SiC, ultrafine powder synthesis in thermal arc plasmas 7−27916
SiC whisker reinforced Si_3N_4, microstruct. and props. 7−22824
β-SiC:Al^+(P^+) epitaxial films, ion implanted, rapid thermal annealing 7−16905
β-SiC:B(N) films, ion implanted, rapid thermal annealing 7−17569
SiC:H, amorphous CVD film, electron optical characterisation 7−52372
SiC-Al composites, heat treatment and neutron irrad. effects on mech. props. 7−65081
SiC-Si, interface struct. study 7−45021
$Si_{1-x}Ge_x$ MBE crystals, ordering study 7−58709
Si_3N_4, hot pressed, elec. cond., microstruct., fusion reactor insulator appl. 7−52619
α-Si_3N_4, planar defect displacement vector determ. by HREM 7−2444
Si_3N_4 powders, surface charactn. and treatment 7−2306
α-Si_3N_4 whiskers, microstruct. investig. by TEM *(Japanese)* 7−21789
Si_3N_4-Ti, reaction under rapid thermal annealing 7−39334
SiO_2, gate dielectric films, growth by rapid thermal processing, material and electrical props. 7−16906
SiO_2, spherical particles synthesis, thermal behaviour *(Japanese)* 7−7943

transmission electron microscope examination of materials continued
- SiO_2-Al_2O_3 glass, roller-quenched, NMR evidence for 4-, 5- and 6-fold Al sites 7—44384
- SiO_2-Si interface, roughening induced during AES depth profiling 7—21685
- SiO_x optical films, molecular beam fabrication and laser damage props. 7—39389
- SiO_x thin films, obliquely evaporated, cross sectional TEM studies 7—12571
- Sn, graphoepitaxial growth on monatomic steps, TEM, electron diffr. studies 7—58714
- Ta films, $(H_2O)_nH^+$ energetic cluster impact, transmission electron microscopy 7—13304
- Ta-Ir alloy, amorphous, rapidly solidified, high temp. oxidation 7—33841
- Ta-Ir amorphous thin film thermal stability, crystallisation behaviour studies 7—63464
- $Ta+SiO_2 \rightarrow Ta_2O_5+Si$ redox reaction products induced by shock loading 7—59763
- $TaSe_2$, 2H polytype, high resolution TEM study of triply incommensurate phase 7—6813
- 2H-$TaSe_2$, triply incommensurate phase, phase slip region 7—44811
- $TaSi_2$/Si films, oxidation characts. in steam 7—54031
- $Te_{80}S_{19}As$ overcoated trilayer struct., laser writing mechanism, microscopy studies 7—20149
- Ti, heat treated, softening, in situ HVEM obs. 7—17548
- Ti, impact produced adiabatic shear bands, deform. twins, dislocation density, HVTEM obs. 7—22753
- Ti Si_2 epitaxial growth kinetics on (111)Si, TEM study 7—58683
- Ti-Al-Mo-Cr, VT3-1, struct. changes during US case hardening *(Russian)* 7—53991
- Ti-Al-V (6,4 wt.%), α morphology rel. to thermomech. treatment 7—46520
- Ti-Cr alloys, cryst. and electronic struct., decomposition of β-solid soln. 7—37931
- Ti-Cu-Ti thin films, reaction kinetics, stress, and microstruct., TEM and RBS studies 7—21764
- Ti-N films deposited by ion plating, intermediate layers, TEM study 7—46350
- Ti-Ni, shape memory alloys, metastable X-phase, cryst. struct., morphology, TEM, X-ray diffr. 7—37926
- Ti-Si interface, self-aligned Ti silicide formed by rapid thermalannealing 7—2391
- Ti-Si thin films, silicide phase formation 7—21695
- Ti-V(Mo)(Nb)(Fe), metastable β-phase alloys, mech. twinning TEM obs. 7—6633
- TiC film ion plated on austenitic stainless steel, adherence rel. to ionisation *(Japanese)* 7—53636
- TiC sputtered films, influence of ion bombardment 7—3171
- TiC_x, reactively sputtered film, characterisation by TEM 7—45092
- TiN (100) epitaxial film sputtering, defect density, ion irrad. effects, TEM study 7—58684
- TiN planar magnetron sputtering, thin coating deposition on high speed steel substrate, TEM and atom probe FIM studies 7—33561
- $Ti_{50}Ni_{40}Au_{10}$, martensitic transform., TEM study 7—59522
- $Ti_{50}Ni_{45}Au_5$ martensite, interstitial H-induced extra reflection, TEM and electron diffr. study 7—59521
- U-Ti (4 at.%), quenching, decomp., TEM obs. 7—39527
- V, radiation hardening by 14 MeV neutrons, athermal effects 7—51858
- V-Cr-Ti, ion-irrad., swelling and microstruct. evolution, effect of He 7—58359
- VB, 14 MeV neutron irrad., TEM dislocation obs. 7—56819
- $V_{75}Si_{25}$ amorphous films, crystallisation and elec. props. 7—21102
- W CVD films, chem. charactn. 7—16915
- W films, selective deposition on self-aligned $CoSi_2$ by low pressure CVD 7—53606
- W films prep. by various deposition methods, effects on elec. resist. 7—52860
- W reactively sputtered films, elec. resist., microstructure, effects of N or O partial press. 7—52861
- W selective LPCVD films on Si substrate, characts. 7—38409
- W selective LPCVD layers on Si substrate, interfacial struct. 7—16883
- W selective low press. CVD growth on Ti, $TiSi_2$ and PtNiSi, surface reactions, struct. 7—27183
- W/C multilayers for X-ray optics, anomalous expansion 7—21782
- W-GaAs diode system, Schottky barrier degradation after high temp. annealing 7—33089
- W-Re amorphous thin film thermal stability, crystallisation behaviour studies 7—63464
- W-Ru amorphous thin film thermal stability, crystallisation behaviour studies 7—63464
- W-Si amorphous thin films, interfacial reactions with polycryst. metal overlayers, AES study 7—21763
- W-Si interfaces, microstruct. charactn. 7—16882
- WC, high press. sintering, microstruct. 7—39470
- WC-Co, high press, sintering, microstruct. 7—39470
- WC-Co cemented carbides, tensile creep, 800-900°C, grain boundary sliding 7—17585
- WC-Co composites, plastic deform. mechanisms, dislocation struct., TEM obs. *(French)* 7—22765
- YIG, irradiation by high energy heavy ions, electronic stopping power effects on damage rate 7—58352
- Y_2O_3 film, electron beam evap., struct. characteris. using TEM, opt. props. 7—21732
- Zn_3P_2, vacuum deposited films, struct., transmission electron microscopy and X-ray diffr. 7—52316
- ZnS, epitaxial film, TEM and photoelectron study 7—53408
- ZnS(Se), ion milling, TEM 7—39344
- ZnSe epitaxial films, twin boundaries, high resolution TEM obs. and computer simulation studies 7—51784
- ZnSe epitaxial layers on GaAs(100) substrates, anomalous twin boundaries, TEM obs. 7—27198
- ZnSe MBE layers on GaAs, lattice mismatch effects, TEM, photolum. and X-ray diffr. studies 7—45042
- ZnSe optical films, molecular beam fabrication and laser damage props. 7—39389
- ZnSe-ZnMnSe superlattices, photoluminesc. props. 7—13218
- ZnSe-ZnTe strained layer superlattice on InP, TEM obs. 7—52778
- ZnSe-ZnTe strained-layer superlattices, lattice strain and lattice dynamics 7—58654
- Zr, dislocation substruct. after hydrostatic extrusion *(Chinese)* 7—6626
- Zr-Cr-Fe, polytype structures, TEM, electron diffr. obs. 7—37925

transmission electron microscope examination of materials continued
- Zr-Ni metallic glass, crystallisation, metastable crystalline phase form. 7—21126
- Zr-Ni(V) amorphous superconductors, struct. and supercond. props. 7—27482
- ZrO_2 thin films, monoclinic polycryst., sol-gel process, form. and thermal change *(Japanese)* 7—22470
- ZrO_2, Y_2O_3 partially stabilised, microstruct. after ageing at high temp. 7—65061
- ZrO_2-Y_2O_3, arc melted, cubic to tetragonal transform. herringbone struct. 7—28042
- ZrO_2-Y_2O_3, rapidly quenched, microstruct. evolution by annealing 7—22737
- ZrO_2-Y_2O_3, Y-TZP, toughened, microstruct., TEM and electron diffr. study *(Japanese)* 7—22634
- ZrO_2-Y_2O_3 ceramic system, phase equilib. and transform 7—22682
- ZrO_2-Y_2O_3 system, microstruct. resulting from diffusionless cubic to tetragonal phase transform. 7—39501
- ZrT, $ZrT_{1.6}$, ageing, TEM study 7—51773

transmission electron microscopes
- *see also transmission electron microscopy*
- analytical, features and capabilities 7—15033
- image quality criteria, appl. on thin phase objects *(German)* 7—56379
- JEM-2000FX TEM control, using LSI-11/23 computer 7—30130
- Kikuchi lines, sharpness, use in setting height of objective aperture 7—41549
- lens shape with min. spherical aberration coeff., computation method 7—18936
- transfer device for air-sensitive materials and surfaces 7—18940

transmission electron microscopy
- *see also transmission electron microscope examination of materials; transmission electron microscopes*
- analytical, MV, with JEOL 4000FX 7—30129
- biological tissue, fresh, propane-jet freezing without ice form. 7—40379
- ceramics, ion milling of TEM specimens, grain boundary glassy phase 7—44327
- computational methods, upper Laue layers, high resolution TEM 7—44326
- conference, Boston, MA, USA (Dec. 1985) 7—35119
- convergent beam diffr. in the transmission electron microscope 7—37808
- convergent beam electron diffr. techniques 7—4915
- convergent beam electron diffraction, meas. lattice parameter changes in semiconductor device structures 7—52371
- correlation technique for TEM, SEM and light microscopy of fixed tissues in Epon blocks 7—40378
- diamond, platelets, dislocation loops and voidites, TEM anal. 7—16560
- electronic materials characterisation, recent trends *(Japanese)* 7—13163
- electronics and vacuum physics, conf., Bratislava, Czechoslovakia (Sept. 1985) 7—24292
- grid support effects on results of model catalyst expts. 7—23098
- high resolution, digital image processing 7—4931
- image quality comparison by relative information content *(German)* 7—41544
- JEM-2000FX TEM control, using LSI-11/23 computer 7—30130
- light element analysis using windowless X-ray detectors 7—23099
- metal particles, nanometer-size in amorphous substrates, detection and size classification 7—32240
- moire imaging, in TEM, of small precipitates in austenitic steels 7—46490
- nuclear track, pore diameters, transmission electron microscopy study 7—36437
- object surface topography measurement, TEM-photogrammetric method 7—41361
- online images processing 7—35497
- phase diagrams, determination by analytical electron microscopy 7—37820
- precipitate growth, at atomic level, in metallic alloys 7—46491
- semiconductor materials, high resolution microstruct. studies using TEM 7—21055
- semiconductor specimen preparation using I^+ ion milling 7—18941
- small particles, atomic struct. and props., conf., Wickenburg, AZ, USA (Jan. 1986) 7—29592
- solid state phase transformation, atomic mechanisms, in situ technique 7—44376
- surface analysis techniques 7—44964
- surface and interface anal. for electronic devices and circuits 7—17373
- surface at. imaging by TEM 7—51594
- symmetry properties, for precip. morphology anal. 7—46489
- systems design, computer aided image processing, appls. 7—41539
- thin films characterisation by analytical electron microscopy, imaging, diffr. and microanal. techniques 7—51589
- tissue sections, semi-thin, improved method for light and electron microscopy of identical sites 7—3946
- transfer device for air-sensitive materials and surfaces 7—18940
- Al-Si-Mn-Fe,intermetallic phases, TEM obs., extraction replica technique 7—39807
- GaAs-AlAs superlattice struct., lithographic fabrication of TEM cross-sections 7—370
- SiO_2 amorphous substrates, fabrication for TEM studies of ultrathin polycrystalline films 7—35504

transmission line theory
- asymmetric strip line segments, cross coupling, electrodynamic theory 7—36848
- bodies of complex geometry, thermal diffusion, transmission-line modelling 7—37313
- EM wave transmission and propagation, book 7—24329
- inhomogeneous transmission lines, supersymmetry and signal propagation 7—1011
- JET ICRF system automatic matching procedure 7—58071
- lightning discharge, current induced in aerial on buried telecom. line *(French)* 7—10817
- matching impedance of a nonuniform transmission line: application to cochlear modeling 7—54605
- metal-semiconductor contacts, current flow, dual-level transmission line model 7—45493
- multilayer X-ray reflectivity calcs., lossy transmission line theory 7—37103
- photon (boson) and electron (fermion) transmission comparison 7—57594
- planar meshes with discrete loads, circuit modelling, equiv. mesh impedances 7—62600

transmission line theory continued
scattering matrices, bounds and norms 7−10811
solitons, demonstration of behaviour using nonlinear electrical transmission line 7−55932
transmission lines
see also cables (electric); power transmission lines; waveguides
tunnel diode oscillator, low-temp. detection system 7−35538
transmission wavemeters *see wavemeters*
transmitters
see also radar transmitters
broadcast transmitting station radiation hazards 7−14045
semiconductor laser, optical transmitter appl. *(German)* 7−5913
three channel cochlear neuroprosthesis for the deaf, implantable receiver/portable transmitter config. 7−8765
GaAlAs wideband free-space lasercom transmitter, design 7−31354
GaAlAs wideband lasercom transmitter, performance 7−31355
transmitting *see transmission*
transonic flow
see also compressible flow; supersonic flow
aerodynamics, book 7−14717
aerofoil, shock/boundary-layer interaction 7−6241
aeroplane wings, transonic flow calc. using higher-order approximation method 7−51211
airfoil in plane-parallel flow, transonic flow evaluation 7−6243
airfoil with oscillating flap, unsteady wake meas. at transonic speed 7−51208
airfoils, Euler eqns., artificial dissipation models 7−51209
airfoils, lifting, transonic Euler eqns. 7−43969
annular cascade oscill. in transonic flow, unsteady aerodynamic characts. 7−37490
CAD system with Denton scheme for flow program, comparison with expt. results 7−63177
detonation shock waves, transonic flow behind wave front, stationarity conditions 7−63174
diffuser, shock-wave response to small amplitude pressure disturbances *(Japanese)* 7−11462
Euler eqn., wavy wall solns. 7−51210
Euler equations, compressible, soln. by time-marching scheme 7−26311
Euler equations, time depend., soln. using Taylor-Galerkin finite element method 7−43968
Euler transonic lifting flow, 2D/3D finite element soln., stream vector correction 7−43967
far nonlinear field of a nonlifting airfoil for ageneralized equation of transonic flow 7−1588
full potential eqn., intermediate boundary condition in Holst AF2 scheme 7−26308
gas/particle nozzle flows, quasi 1D, shock waves 7−6238
internal flow, Navier-Stokes eqn. num. soln. *(French)* 7−57872
inverse integral equation method, appl. to compressors and turbines, in compressible flow 7−6244
inviscid flow, supersonic to subsonic transition, quasi-conservative lambda formulation 7−11454
Laval nozzles, acoustic disturbance propag. in transonic zone 7−62882
least squares finite element simulation of transonic flows 7−26309
lifting flow over airfoil, far field boundary conditions 7−6242
Ludwieg tubes, stagnation state, starting process study 7−37489
multi-element aerofoils, hybrid subcritical and supercritical flow method 7−16203
Navier-Stokes computations with two-eqn. turbulence model 7−31829
noise generation in transonic flow, investig. *(German)* 7−31833
nozzle flow, Euler eqn. finite vol. flux vector splittings 7−20745
perfect gas flow rate through slit in plane wall 7−20746
planetary atmospheres, mass fractionation during transonic escape of gases rel. to loss of water from Mars and Venus 7−55508
quasi-three-dimensional flow of gas in turbomachine bladerow 7−6245
shock flow through nozzle, implicit time-marching scheme 7−26310
shock-free transonic airfoils with a given pressure distribution 7−26312
steady Euler eqns., multiple-grid and Osher's scheme 7−51021
steady potential flow solution, finite element method using multigrid technique 7−6240
Taylor-Maccoll soln., const. density approx. 7−20749
three dimensional rotor flow with shocks, variational principles 7−43970
trailing-edge mesh influence on skin friction, Navier-Stokes calcs. 7−20740
turbine cascade in wind tunnels, transonic flow meas. 7−26313
turbomachinery flow, supersonic and choked, modified pot. method 7−20750
two-dimensional cascade, num. computation by time-depend. finite vol. method *(Chinese)* 7−16204
unsteady Euler eqns., implicit numerical soln. 7−11455
unsteady phenomena, visualization and registration 7−37491
3D vector potential formulation for solving transonic flows with mixed finite elements 7−43966
viscous flow, 3D Euler/Navier-Stokes zonal approach 7−20744
viscous flow in transonic nozzles, Navier-Stokes eqn. 7−31827
vortex flow past delta wings, integral eqn., approach 7−31828
wind tunnels with perforated test sections equipped with subsonic nozzles 7−43965
transparence *see transparency*
transparency
see also light transmission; optical constants; self-induced transparency
biaxial crystals, nonlinear refr. in conical refr. region 7−31382
coherent spread function for semi-transparent edge, symmetry 7−42994
ferroelectric ceramics, appl., theory and props., conference, Latvian State University, Latvian SSR (April 1985) 7−4622
ferroelectric ceramics, comp., struct. and props. characts. anal. 7−7647
ferroelectric ceramics, cryst. chem. and struct. props. and modifications 7−6590
film, transparent, thickness and absolute fringe order, interferometric determ. method 7−292
film deposit assessment with hologram interferometry 7−1291
glass, light and the information revolution, lecture 7−24253
living human body, spectral radiative props. study 7−18013
magnetooptical apparatus for transparent, magnetic materials transitions meas. 7−30048
MBBA-EBBA nematic liq. cryst., acoustooptic effects 7−45984
metal films, optically transmissive and electrically conductive, microstructural engineering 7−31410
microcomputer-based optical-displacement spectrometer, for kinetics of transparent fluids obs. 7−4894
transparency continued
nitromethane, shock-compressed, refractive index, laser interferometric meas. 7−30081
perception of transparency in man and machine 7−14008
picosecond interferometric technique for study of phonons in Brillouin frequency range 7−14998
plane transparency, diffr. props. in oblique incidence of light 7−50487
plasma layer, overdense, total transparency 7−26434
PMMA, shock-compressed, refractive index, laser interferometric meas. 7−30081
PMMA films, transparent, radiation strength, low-molecular-weight additives effects 7−43273
polydimethylsiloxane, refr. index and thermal expansion coeff. variations with temp. 7−39060
polymer films, half-tone refraction transparencies, real-time recording 7−57489
polymer films, optically transparent, radiation-induced transient darkening 7−39056
pulse velocity through transparent plate 7−42901
quartz: Cu^+ $(Fe^+)(Nb^+)$, ion implanted, coloration and transparency *(Japanese)* 7−7656
rainbow hologram prod., 2D transparency *(Chinese)* 7−57271
refractive index of transparent media, determ. by diffraction method 7−41435
sapphire, shock-compressed, refractive index, laser interferometric meas. 7−30081
silica, fused, shock-compressed, refractive index, laser interferometric meas. 7−30081
Silica aerogels, ethyl versus methyl sol-gel comparison, polar nephelometry studies 7−8312
solar cell metallisation grids, optimum transparency factor determ. 7−59857
spectral emissivity exam., using fast automatic system 7−4855
sputtered transparent conductive coatings for display industry use 7−50663
surface of transparent materials, submicrocrack role in optical props. form. 7−53255
window glass for solar energy devices spectral absorptivity 7−43275
$AgGaS_2(Se_2)$, chalcopyrite, crystal growth, nonlinear IR props. 7−37040
$AgGaSe_2$ crysts., light scatt. and transparency, annealing expts. 7−3338
Al_2O_3 film, transparent, growth from ultrafine alumina sol characteris. 7−13395
B_2O_3-SiO_2 glass coating films, prep. by sol-gel method 7−46310
C films, transparent, sputter- and plasma-deposition 7−22474
Cd_2SnO_4 transparent thin film electrodes prepared by DC reactive sputtering from Cd-Sn alloy targets 7−22477
Ge-Sb-S glasses, bulk and thin film samples, optical and photo-acoustic props. study 7−22211
$In_{2-x}Sn_xO_{3-y}$ films, reactive RF magnetron sputtering prep., elec. and optical props. 7−46324
Li-W-O films, electrochromic props., UV radiation effects study 7−22222
LiF, shock-compressed, refractive index, laser interferometric meas. 7−30081
PLZT transparencies contrast increase, using electrically controlled light scattering 7−25909
PLZT transparent ferroelec. ceramic, hologram recording energy transfer, light scatt. effects study 7−5855
PLZT transparent ceramics, laser beam self-deflection and self-focusing meas. 7−5960
PLZT transparent ferroelec. ceramics, low freq. dielec. props. study 7−7630
PLZT, transparent ferroelectric ceramic, irradiation effects 7−59157
PbO-Nb_2O_5 oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
PbO-Nb_2O_5-Sc_2O_3 oxide mixture transparent ferroelec. ceramics, phase form. during solid state reaction 7−6591
$Pb(Sc_{0.5}Nb_{0.5})O_3$ transparent ferroelec. ceramic production by hot pressing and props. 7−7934
$Pb(Sc_{0.5}Nb_{0.5})O_3$, transparent ferroelectric ceramic, irradiation effects 7−59157
SnO_2 films for solar cells, struct., elec., and optical props. 7−40003
SnO_2:Sb thin films, doped and undoped, prep. by photolysis, phys. props. 7−22368
TeO_2-based halide glasses, prep., thermal, mechanical, elec. and optical props. characterisation *(French)* 7−37884
ZnCl aqueous soln., shock-compressed, refractive index, laser interferometric meas. 7−30081
ZnO thin film preparation by spray pyrolysis for photoelectrochemical solar cells 7−23166
ZnO:In films, microstruct., elec. and optical props., film thickness depend. study 7−16895
ZnO:Si thin films, RF magnetron sputtered, conductive and transparent props. 7−22476
ZrO_2-Y_2O_3-TiO_2 ceramics, transport, sintering behaviour 7−13421
transpiration
see also flow through porous media
evapotranspiration, thermal IR remote sensing 7−34696
evapotranspiration, var. correl. with ground self pot. var. 7−29275
MHD boundary layers, heat transfer, Joule heating and transpiration effects 7−37556
turf grasses, physiological response to trampling pressure 7−34184
transport *see transportation*
transport equation *see Boltzmann equation*
transport phenomena *see transport processes*
transport processes
see also biotransport; Boltzmann equation; cellular transport and dynamics; diffusion; electrical conductivity; Liouville equation; master equation; neutron transport theory; photon transport theory; plasma transport processes; Senftleben-Beenakker effect; thermal conductivity; thermal diffusivity; viscosity
abstract time-dependent transport equations, initial-boundary value evolution problem 7−56190
advection, positive definite schemes, comparison and eval. 7−16151
advection equation, linearised, 2D, finite element approximations, stability and phase speed 7−37455
advection transport algorithm, multidimensional positive definite, further development and appl. 7−29945
air pollution transport eqns., multistep/multigrid implicit technique 7−54402

transport processes continued
anomalous transport in random resistor-capacitor network, appl. to composite materials 7−27312
approximate soln., nonintegral technique 7−9804
atmosphere, mass transport by along-valley wind systems in deep Colorado valley 7−29143
atomic vapour collision kernels, use of classical transport theory 7−36725
Boltzmann equation, Fourier transform for Maxwell model *(Korean)* 7−24605
Bose superfluid, fluctuation dispersion of transport coeffs. 7−38284
carrier transport theory, picosecond processes 7−45342
centrosymmetric crystals, symmetry of nonlinear kinetic coeffs. 7−4792
charged-particle system, elementary theory of transport phenomena under elec. field 7−62607
conference, Montecatini Terme, Italy, June 1985 7−60874
continuum systems, transport props. near percolation threshold 7−41290
criticality transport problems for spherical systems with specular boundary conditions 7−61292
cylinders, pairs and square array, transport props., multiple coeffs. 7−32973
diffusion in random structs. with a topological bias 7−35479
dilute adsorbable gases, heat of transport through pores, pore struct. form. 7−54175
dispersive transport modelling in porous media, solute motion in pipes and capillary tubes 7−23753
dispersive transport modelling in porous media, theoretical development of second-order approach 7−23752
double P_N transport calcs. for highly anisotropic scatt. 7−61289
electron Monte Carlo transport, PRESTA algorithm 7−49854
electron swarms in gases, vel. distrib. function and transport coeffs. 7−1663
ellipsoidal molecules, pure liq. phase, transport props., PMR obs. 7−38228
Enskog equation in two space variables 7−4799
eulerian and Lagrangian particle transport with drag 7−48635
Fokker-Planck equation solns., polynomial expansion and integral eqn. methods 7−61291
gas interaction with light, transport phenomena 7−16288
gas-solid reactions, transport and mixing characts., thermocentrifugometric anal. 7−54095
gaseous swarms, reactive phenomena theory 7−13749
Green-Kubo formalism for lattice gas hydrodynamics *(French)* 7−29912
groundwater flow simulation in stratified aquifers, curvilinear finite element model 7−23759
groundwater pollution, numerical modelling of immiscible organic solvent transport at Hyde Park Landfill, New York State 7−23724
heat flux and temp. gradient relation 7−18540
HETC/LHI/SGS radiation transport code system 7−48637
heterogeneous materials, effect of struct. type on props., generalised conductivity 7−2286
heterogeneous media, spatial correlation functions from computer simulations 7−18692
inhomogeneous slab media, inverse problems in transport theory 7−273
interacting drops in 2-phase flow, fluid dynamics and mass transfer 7−63203
interphase solute transport, interfacial resistance, surfactant effects 7−52188
ion beam transport equation, soln. by flux decomposition method 7−20126
isotropic multigroup problems in half-space geometry, convergence of F_N method 7−61288
kinematics of submanifolds and the mean curvature normal 7−41305
Lennard-Jones fluids, thermoviscous coupling and nonlinear transport effects on plane Couette flow 7−57793
linear particle transport eqns., duality in transport theory 7−56710
linear transport eqns. in a random medium, projection operator methods 7−61287
linear transport equation, inner iteration convergence for finite difference approxs. 7−35482
linear transport theory in a random medium 7−18727
liquid mixtures, transport processes, mutual diffusion, microscopic description 7−58514
macrotransport processes, higher order moments 7−18725
many channel disordered system, transmission, localization length distrib. and one parameter scaling 7−2563
membranes, porous, charged, ionic transport, Goldman const. field assumption 7−39915
membranes transport process meas. techniques 7−28337
microcomputer-based optical-displacement spectrometer, for kinetics of transparent fluids obs. 7−4894
multigroup linear transport in exponent half-space, exit distrib. problem 7−48644
multigroup linear transport in exponent half-space 7−48643
multigroup transport theory, discrete spectrum calcs. 7−48645
nonlinear transport equations from statistical mechanics 7−48647
partially dissociated and ionised gas mixtures, chem. equilib. flow, effective transport coeffs. calcs. 7−31917
particles diffusion and heat flux in the initial stage of the transport process 7−20589
percolation systems, porosity, conductivity fluctuations and the amplitude of the long-time tail 7−35478
periodic composite materials, effective transport props., multipole coeffs. 7−32974
porous media eqn. with absorption, singular soln. 7−29763
powders, anal. using glow discharge source, at. transport phenomena 7−30097
quantum adiabatic particle transport 7−18729
quantum point-contact spectroscopy, motion on manifold 7−29951
quantum transport eqns., generalised Kadanoff-Baym ansatz 7−38529
quantum transport properties in a dynamically stochastic medium 7−41311
semiconductors, dispersive transport under conditions of maximum population of localized states 7−52605
singular integral eqn. formulation for transport in semi-infinite ducts 7−48641
slab geometry transport spatial discretization schemeswith infinite-order convergence 7−4798
solute transport in aquifers, dispersion in fractal fracture networks 7−23772
solute transport in aquifers and field soils, stochastic convection-dispersion model 7−23729

transport processes continued
solute transport through soil, convection-dispersion eqn. for transfer function model 7−23739
solute transport through soil, fundamental concepts of transfer function model 7−23737
solute transport through soil, illustrative appls. of transfer function model 7−23738
Spencer-Lewis eqn. of electron transport theory, moment reconstruction technique 7−61290
Spencer-Lewis equation, derivation from Boltzmann equation 7−4797
stratosphere, area of polar vortex as diagnostic for tracer transport on isentropic surface 7−29134
streaming operator in bounded convex body, boundary conditions 7−61293
ternary electrolyte systems, diffusion pot. in simple porous membranes 7−54170
thermodynamic transport processes in field of extremals, osmosis and reverse osmosis 7−17824
transition metal impurities in host metals, magnetic nature, superconductivity studies, review 7−7437
two-dimensional linear advection equation, high resolution schemes 7−37456
$Ar-H_2$ mixtures, transport and relax. cross-sections, close-coupling calcs. 7−51363
FePd, annealed, transport and thermal expansion props. 7−46512
O_2 transport in dry rocks, exptl. study 7−54954
Ra in groundwater, porous flow model for steady state transport 7−23725

transport properties *see transport processes*

transport theory *see transport processes*

transport theory of neutrons *see neutron transport theory*

transport through biomembranes *see biomembrane transport*

transportation
see also aircraft; marine systems; road traffic
colour vision standards within the transport industry, origins 7−23350
cryogenic liquids, evaporative loss during vibration and transport 7−44776
gas trunk-line transportation, math. model including turbulence and heat conduction 7−63220
LLW in cement, ocean transport off Taiwan 7−49685
spent fuel transportation, safety criteria and accident anal. 7−42241
H_2 storage systems using thermochemical compression for transportation appl. 7−34072

transportation networks *see transportation*

transportation services *see transportation*

transportation systems *see transportation*

transputer systems *see multiprocessing systems; parallel processing*

transputers *see microprocessor chips*

transverse junction stripe lasers *see semiconductor junction lasers*

transverse rupture strength *see bending strength*

trapeziodal wave generators *see function generators*

trapped electron centres *see F-centres*

trapped free radicals *see free radicals*

trapped hole centres *see V-centres*

traps, electron *see electron traps*

traps, hole *see hole traps*

travelling salesman problems *see operations research*

travelling-wave-tubes
see also backward-wave tubes
No entries

treatment, heat *see heat treatment*

treatment, patient *see patient treatment*

treatment, surface *see surface treatment*

treatment, water *see water treatment*

treeing (electrical) *see electric breakdown*

trees (mathematics)
see also network topology
branching Brownian motion and KPP eqn., appl. to spatial trees *(French)* 7−56016
corrosion knowledge, computer modelling, expert systems, decision tree 7−3469
crystal structures, nonconvex, polygonal mesh and quad-tree display algorithms 7−51672
dynamical systems, simultaneous rational approximations 7−18587
evolution, test of phylogenical predictions using combinatorial optimisation 7−40084
irreducible endospectral graphs and endospectral trees 7−29661
NDT, fault tree anal. 7−17756

triacs *see semiconductor switches; thyristors*

triangular wave generators *see function generators*

triboelectric emission *see electron emission*

triboelectricity
see also static electrification
insulating liquid surface, electrostatic charge effects on photoelectron spectroscopy 7−17069

tribology
see also friction; lubrication; mechanical contact; wear
conference, tribology and lubrication, Tokyo, Japan (July 1985) 7−4631
material contacts, tribo-frontiers in surface modification 7−53917
materials, wear, conf., Vancouver, BC, Canada (April 1985) 7−14701
materials design using a hierarchy of structural models 7−16350
selection of materials for rubbing polymer elements of fine mechanisms *(Polish)* 7−57766
surface and interface analysis, appls. conf., Veldhoven, Netherlands, (Oct. 1985) 7−24289

triboluminescence
bis-tetraethylammonium manganese tetrabromide crystals, deformation-induced after-glow 7−64705
crystal struct. determ. by mechanoluminescence studies 7−59268
principle, excitation methods and appls. *(Czech)* 7−59269
ruby, luminescence R lines, wavelength shift under shock compression 7−13239
steel, brittle fracture induced photon emission *(Russian)* 7−33465
U8 steel, mechanoluminesc. spectra 7−46155
ZnS:Mn heavily doped phosphors, mechano and electroluminesc. 7−13240

trigger circuits
  see also flip flops
  microprocessor-based linac main oscillator and beam stabilization using the phase-locked trigger *(Japanese)* 7—19622

triode sputter deposition *see sputter deposition*

triode sputtered coatings *see sputtered coatings*

triode sputtering *see sputtering*

triodes
  reflex switch for HV pulse sharpening, radiation source appls. 7—32123
  Li$^+$ triode ion gun, thermal emission, characts. meas. 7—39345
  Si triodes, radiation effects of 10-12 MeV electrons *(Chinese)* 7—6685
  Xe gas discharge triodes 7—37789

triple point *see critical points*

triplet absorption detection of magnetic resonance *see microwave-optical double resonance*

triplet state
  2-acetonaphthane, triplet, quenching by O_2 7—15641
  acetophenone, triplet, quenching by O_2 7—15641
  acridine, oriented in stretched polyethylene films, triplet-state ESR spectra 7—25564
  alkali dimers, diffuse $1^3\Pi_g$-$x^3\Sigma_u^+$ bands, recombination in discharge plasma 7—19828
  aluminium(III)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7—25563
  -amino-5,6,7,8,-tetrahydronaphthalene, depletion of singlet and triplet states due to external heavy-atom perturbation 7—57121
  anthracene single and triplet states in liq. soln. photoionisation cross sections 7—25616
  anthracene single crysts., structural imperfections as triplet exciton traps, defect recovery 7—64160
  anthracene-$d_0(d_{10})$, oriented in stretched polyethylene films, triplet-state ESR spectra 7—25564
  anthracene-pyromellitic N,N′-dimethyldiimide, triplet exciton contact pairs 7—64093
  1,4-anthraquinone, T_1 state, Jahn-Teller distortion, phosphoresc. 7—42677
  anthraquinone dyes and derivatives as sensitisers of singlet O_2 form. 7—49968
  1,4-anthraquinone phosphoresc. depend. on polycryst. matrix, Jahn-Teller pseudoeffect 7—50236
  anthrone, triplet-triplet energy transfer to donors in Shpolskii matrices, phosphoresc. 7—57122
  benzene, pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7—19958
  benzophenone, triplet, quenching by O_2 7—15641
  benzophenone in diethylaniline, photolysis, excited triplet state with charge transfer struct. 7—42753
  benzophenone triplet+KI, laser-induced optoacoustic spectroscopy, lifetime determ. 7—25683
  $\Delta^{2,2'}$-bi-(2H-1,4-benzothiazine), photochromism and thermochromism, quantum yield 7—46859
  biacetyl, triplet-state form. mechanism, electron impact induced phosphoresc. 7—42666
  bichromophoric mols., short-range intramol. electronic energy transfer, triplet-triplet transfer 7—20019
  binaphthyls, near-IR triplet-triplet spectrum and circular dichroism as probes for electron delocalisation 7—31086
  biphenylene-1,2,4,5,-tetracyanobenzene charge transfer complex, cryst. struct. and photoexcited triplet excitons EPR study 7—63600
  4-bromo-4′-chlorobenzophenone, orientationally disordered, triplet state, electron spin echo dephasing studies 7—38963
  1-bromo-4-chloronaphthalene, orientationally disordered, triplet state, electron spin echo dephasing studies 7—38963
  t-butyl nitric oxide, singlet and triplet surfaces, unimol. reactions, spectroscopy, rate meas. 7—28300
  carbenes, intramol. H shifts, spectrosc. obs. 7—62390
  chloroazidobenzene derivatives, UV spectra, SCF-CI calcs. 7—57000
  chlorobenzene, matrix isolated, triplet states, phosphoresc. 7—15636
  chlorophyll and derivatives, spin state in zero field, phosphoresc. emission 7—57124
  chlorophyll photoelectrochemical solar cell, photoresponse, temp. effect 7—54324
  chrysene, single and triplet states in liq. soln. photoionisation cross sections 7—25616
  cyclophane diarylcarbenes, triplet-singlet equilib., structural control 7—54147
  cyclopropene, low-lying excited states, UV spectrum, ab initio study 7—62393
  di-t-butyl silylene, triplet ground-state, electronic and stearic effects, ab initio calcs. 7—25419
  diacetylene oligomers, carbene and dicarbene triplet state, ENDOR and EPR study 7—7608
  4,4′-dibromobenzophenone-1,4-dibromonaphthalene in polymer films, phosphoresc. study 7—59244
  dibromodiphenylether-d_{10}:dibromobenzophenone-d_{10}, singlet-triplet transitions, photon echoes 7—15959
  1,4-dibromonaphthalene:acenaphthenequinone crysts., phosphorescence spectra and decay kinetics temp. depend. *(Russian)* 7—27751
  β-9,10-dichloroanthracene, triplet excitons, zero field DF ODMR 7—27631
  1,8-dichloroanthraquinone, triplet, excited state dynamics, transient absorpt. spectra 7—25530
  dichlorobenzene-dibromobenzene mixed cryst., triplet electron spin dephasing, ODMR spectra study 7—33300
  4,4′-dichlorobenzophenone single crysts., spin polarised triplet exciton mutual annihilation characts. *(Russian)* 7—12614
  dimethyl silylene, triplet ground-state, electronic and stearic effects, ab initio calcs. 7—25419
  diphenylmethylene, excited triplet state, mag. field effects, fluoresc. 7—10657
  dye multicomponent solution tunable lasers, electronic excitation energy migration 7—31308
  ethylene, nuclear spin-spin coupling constants evaluated using manybody methods 7—5705
  fluorene, single and triplet states in liq. soln. photoionisation cross sections 7—25616
  fluorene and derivatives, low-energy electronic transitions, UV-visible spectra 7—31062
  fluorene-1,2,4,5-tetracyanobenzene, charge transfer cryst., triplet excitons, ODMR and ESR 7—7611

triplet state continued
  fluorescence quantum yield from highly excited molecular states, photoacoustic-effect meas., triplet-state absorpt. 7—36678
  Ge^{2+} impurity ion in alkali halide crysts., triplet excited relaxed states, ODMR study 7—2953
  germanium(IV)dibenzotetraazaannulene complex, excited triplet states, time-resolved and conventional ESR spectra 7—25563
  glyoxal, vibronic bands, rot. anal. 7—5712
  hematoporphyrin diacetate, singlet-singlet and triplet-triplet absorpt. spectra 7—10607
  9-hydroxyphenalenone-de(di) Shpolskii matrix isolated, H bonding, phosphoresc. 7—19926
  ketene, triplet state photolysis, CO photofragment rot. state distrib. 7—23039
  metalloporphyrin dianions, electronic struct., RHF calcs. 7—56946
  3′-methoxyacetophenone, triplet, quenching by O_2 7—15641
  methylene, low-lying singlet and triplet states, substituent effects 7—10429
  methylene, pot. energy surface and singlet-triplet splitting, calcs. 7—10397
  methylene, singlet-triplet gap, basis set and electron correl. effect 7—49943
  methylene, triplet, ν_2 fundamental band, IR spectra 7—10568
  methylene radical, $^1A_1$ state and $^1A_1$-$^3B_3$ coupling, visible absorpt. and mag.-rot. spectra 7—49903
  methylene radical, $\tilde{b}^1B_1$ state, visible absorpt. and mag.-rot. spectra 7—50155
  molecular crysts., triplet exciton diffusion and capture, Monte Carlo modelling 7—12620
  muonic T, hot atom thermalisation, Monte Carlo simulation 7—17805
  muonium, triplet, spin precession in near-resonance oscill. field 7—50417
  naphthalene:pyrene, triplet excitons, prompt and delayed fluoresc. 7—22298
  naphthalene compounds, bromo-substituted, triplet energy transfer and props., time-resolved ESR 7—25561
  naphthalene single and triplet states in liq. soln. photoionisation cross sections 7—25616
  naphthalene-tetrachlorophthalic anhydride charge transfer complex, triplet excitons, phosphorescence 7—39159
  organic cpds., optically allowed and forbidden $\pi\pi^*$ transitions, spectral luminesc. props. 7—31108
  perylene, vapour, electron scatt., energy loss spectra 7—31168
  phenazine triplet state, optical expts., temp. depend. of reson. splittings in mol. pairs 7—16700
  1-phenyl-3-methyl-5-pyrazolone, conform. and charge transfer, UV spectra 7—57168
  1-phenylcyclohexene, triplet energy state meas., photoisomerisation, time-resolved photoacoustic calorimetry study 7—28319
  polyacetylene, alkaline metal doped, ab initio SCF MO calc. of electronic struct. 7—64048
  polydiacetylene-toluene-sulphonate, single crystal, transient photoinduced reflectance change study 7—53257
  polymers, conjugated, correlation effects and excited states 7—27279
  porphyrin, covalently linked hybrid dimers, EPR, triplet state magnetisation, 7—25562
  porphyrin, water-soluble dimers, excited-state props. fluoresc. spectra, EPR, ODMR 7—19925
  porphyrin-quinone complexes, porphyrin triplet states, ESR and optical investig. 7—25571
  pyrozine, triplet lifetime, temp dependence, visible and IR phosphorescence spectra 7—22328
  quartz, X-ray induced blue luminescence, polarisation studies 7—3086
  quasi-one-dimensional conductors, anisotropic SDW and triplet supercond. state properties 7—45706
  quinoxaline, triplet state, Shpol'skii ODMR spectra, spin-lattice relax. 7—62428
  singlet-excited molecule formation in triplet-triplet annihilation 7—19942
  TCNQ salt, N-n-propyl phthalazinium 7,7,8,8 $TCNQ_2$, struct., elec., mag. props., EPR meas. 7—33005
  terphenyl, oriented in stretched polyethylene films, triplet-state ESR spectra 7—25564
  4,4″-1terphenylylenebisgalvinoxyl biradical, nematic liquid crystal, ENDOR and EPR spectra anal. 7—19908
  tetrahedral mols., T_2 electronic state vibronic wavefunctions 7—19731
  tetramethylbutadiene, lowest excited triplet state, reson. Raman spectrum 7—62376
  tetramethyleneethane, ground state triplet investig. 7—30926
  tetraphenyl-tetrahydropophyrins and related mols. triplet-triplet absorpt., visible spectra 7—31061
  $(TMN)_3X_2$, $(X=ClO_4, AsF_6)$, cation radical salts of tetramethoxynaphthalene, EPR, optical absorpt. and conductivity studies 7—53113
  transition metal monocarbonyls, first row, electronic struct. and bonding 7—49897
  triplet-doublet systems, spin polarisation memory, time-resolved ESR cts. 7—62418
  tris-1,10-phenanthroline rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7—50231
  tris-2,2′-bipyridine rhodium ion, lowest excited triplet state, phosphoresc. and zero-field ODMR 7—50231
  N-vinylcarbazole, lowest triplet state props., $AgClO_4$ influence, phosphoresc. spectra 7—62435
  xanthene dyes, triplet-state conc. quenching, fluoresc. study 7—42679
  $AgNa(NO_2)_2$, low temp. triplet exciton decay, photolum. decay temp. depend. meas. 7—21821
  Ar^{q+}, heavy ion impact on gas target, long-lived states form., K X-ray spectra anal. 7—30980
  CCl, pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7—19958
  CH^+, interstellar mol., high resol. laser photofragment spectra 7—31063
  CO, perturbed triplet states, lifetime meas. of rot.-vibr. levels 7—19951
  CO, selected rovibronic triplet levels, radiative lifetimes, fluoresc. 7—42686
  CS, singlet and triplet excitations, selective control, coherent multicolor laser spectroscopy 7—42629
  Ca^+, 4p-3d triplet, broadening by He 7—62323
  $CaCrO_4$, spin-triplet state, luminescence and ODMR 7—64686
  $CaMoO_4$, cryst., photo-excited triplet state, EPR 7—13027
  Ga^+ impurity ion in alkali halide crysts., triplet excited relaxed states, ODMR study 7—2953
  $GeBr_2$, ground and triplet state, bond angle, density functional calc. 7—854
  $GeCl_2$, ground and triplet state, bond angle, density functional calc. 7—854

triplet state continued
H_2, $b^3\Sigma_u{}^+$, excited states, mag. effects, ab initio calcs. 7−10413
H_2, vibronic constants, semiempirical determ. 7−42513
$H_2{}^+$ scattering from Al (110), charge exchange 7−3133
HD, nuclear spin-spin coupling constants evaluated using manybody methods 7−5705
HF, nuclear spin-spin coupling constants evaluated using manybody methods 7−5705
He, ground state, gas discharge, longit. nucl. relax. time, temp. depend. 7−20997
He I triplets, collisional excitation cross sections and implications for primordial He abundance 7−55446
He, plasma, collision induced transitions between singlet and triplet levels, laser fluoresc. 7−20846
He, positron impact triplet-triplet excitation 7−36789
Hg, transitions, relativistic SCF calcs. 7−49979
$K_4[Pt_2(P_2O_5H_2)_4]$, cryst., triplet sublevel annihilation, delayed fluoresc. anal. 7−50215
Li_2S, triplet ground-state, electronic and stearic effects, ab initio calcs. 7−25419
Mg isoelectronic series, energy levels, multiconfig. optimised pot. model calcs. 7−19723
^{24}Mg fine structure transition via linear Ramsey interrogation 7−884
N_2 pulse elec. discharge, triplet state and radical prod., multiphoton ionisation spectra 7−19958
N_2, Rydberg states, SCF and CI calcs. 7−19715
N_2, triplet Rydberg state, autoionis., TOF mass spectra 7−19963
NH, collision-induced intersystem crossing investigated using ArF laser photolysis 7−42692
NH_2NO_2, electronic ground and first triplet states struct., SCF calcs. *(French)* 7−15498
NO, photoexcitation and ionisation cross sections, Stieltjes-orbital representations, HF calcs. 7−19677
$NO_2{}^-$ excited triplet state form. by electron attachment 7−10755
Na dimer, lowest triplet transition, laser-induced fluoresc., IR spectra anal. 7−36627
Na_2, $b^3\Pi_u$ state, lifetimes, laser induced fluoresc. 7−19913
Ni (110), valence band satellite, obs. in photoelectron spectra 7−59377
O_2, inelastic scatt., triplet-singlet conversion of positronium 7−62484
Rh complex, $Rh_2(1,3\text{-diisocyanopropane})_4{}^{2+}$, lowest excited states, absorption spectra anal., 7−25532
Rh complex, $Rh_2(2,5\text{-dimethyl-}2,5\text{-diisocyanohexane})_4{}^{2+}$, lowest excited states, absorption spectra anal., 7−25532
SH^+, electronic transitions, IR laser spectra 7−50100
S_2N_2, excited states, ab initio CI calcs. 7−42491
SiH_2 radicals, singlet-triplet energy separation, SCF CI calcs. 7−19718
SiO_2:OH, X-irrad. induced defect centres, EPR obs. 7−45221
$SrCrO_4$, spin-triplet state, luminescence and ODMR 7−64686
Ta complex, $(BEDT\text{-}TTF)_3Ta_2F_{11}$, optically enhanced phase transition, EPR investig. 7−64454
Ti + Ar(He)(Ne), Ti excited state total ang. momentum charge, radiation quenching 7−42735
Ti+Ar(Ne)(He)(N_2)(H_2), triplet state quenching and excitation transfer processes 7−19761
Ti+Ar(Ne)(N_2) quenching and excitation transfer processes, fluoresc. 7−10725

tritium
accidental release: models and in situ expts. on various plant species 7−60095
accidental releases from fusion reactors 7−54777
aquatic environment ^3H, current literature review 7−54381
atmospheric release rel. to precipitation contamination 7−54382
beta-spectrum meas., exclusion of electron energy loss uncertainty in ν rest mass meas. 7−5201
chemistry in fission and fusion reactors 7−25234
Commission of the European Communities Radiation Protection Programme and ^3H 7−54765
concentration in lake water, variations 7−55099
concentration meas. in atm. around nuclear power reactors 7−23257
diffusion and trapping in Nb, NMR obs. 7−27616
DIORIT research reactor, activation product distrib. in shielding materials *(German)* 7−49536
environmental and human risks, conf., Karlsruhe, Germany (Feb. 1986) 7−48163
environmental aspects, toxicity, metabolism and dosimetry: research at CRNL 7−54774
environmental movement, dynamic model for prediction 7−54372
extraction from fusion reactor breeder blanket fluids, oxidative diffusion 7−49641
extraction in and out of pile from $LiAlO_2$ and $LiAl_5O_8$ 7−49655
fallout detection in tree ring records, short term precipitation 7−23255
fixation of ^3H gas by rats 7−60099
fusion reactor self-cooled heavy water breeding blanket concept 7−15364
hot atom chemistry in gases 7−15746
isotope separation using CO_2 laser, optimisation 7−42707
low-energy β-imaging system for T distrib. meas. 7−42441
LWR spent control and absorber rods, T content for waste disposal 7−25245
metabolism in animals, review 7−60097
metabolism in newborn mice and estimation of accumulated dose 7−60100
migration, in TaH and ZrH in Hall field, temp. effect 7−32729
mixed groundwaters dating, appl. of T corrected ^{14}C and atm. noble gas corrected ^4He 7−9044
molecular conversion in vegetation, litter and soil 7−54778
molecule, β-decay energy spectra, HeT^+ electronic reson., and neutrino mass depend. 7−61840
molecule, rot. transition, Raman line position 7−62380
myeloid leukaemia induction in animals, expt. designed to meas. RBE of ^3H rel. to X-rays 7−60052
NET, preliminary design considerations, ^3H control 7−49670
new surface depth profiling in Li_2O and $LiAlO_2$ ceramics 7−49653
normal releases from fusion processes and environmental radiation doses 7−54775
Ocean Station P, Pacific Ocean, T time series 7−47466
on-line method for prod. meas. in fusion blankets 7−62078
organically bound, distrib. in vegetation exposed to fallout 7−60096
organically bound, given during pregnancy and lactation, retention in young pigs 7−60098
permeation through Au plated on stainless steel 7−6852

tritium continued
plants and ^3H, review 7−54779
post-irradiation recovery from Li_2O and $LiAlO_2$ ceramic breeder materials 7−49647
radiation quality of ^3H β-rays, microdosimetric distribs. for nm-size targets 7−8691
radioisotope distribution in precipitation, surface and groundwaters in NW Yugoslavia 7−23254
reactor produced, migration in Lake Huron 7−13938
recovery and inventory in fusion solid breeders, surface desorption effect 7−49651
recovery from γ-$LiAl_2$ breeder blanket 7−49645
release, in-pile from $LiAlO_2$, Li_2SiO_3 and Li_2O in EXOTIC expts. 7−49648
release from fusion breeder blanket materials 7−49652
release from LiO_2 and $LiAlO_2$ spheres, diffusion coeffs. 7−49643
release from tritiated Y, Y-Th and Y-Nb in Ar gas flow, 973-1173 K 7−56836
releases from nuclear power plants and nuclear fuel reprocessing plants 7−54776
retention in fast neutron irrad. Li based oxide ceramics 7−49649
retention in solid breeder blankets 7−49650
self-cooled heavy water fusion breeding blanket, neutronics anal. 7−15365
soil uptake of elementary ^3H 7−54377
spin-polarised hypernuclear-atom systems, Efimov effect 7−31189
surface adsorpt. on $LiAlO_2$ 7−52246
survey methods in Paks nuclear power plant, development and appl. 7−56881
tissue free water of Japanese bodies, ^3H content 7−60102
transport in the environment, modelling 7−54371
transport modelling in solid γ-$LiAlO_2$ fusion reactor breeder blanket 7−49642
TRIDEX experiment, effective cross sections and prod. rates for tritium, blanket dev. 7−19428
Yala Glacier, Nepal, tritium vertical profile in glacier ice 7−40082
BeO/Li ceramic, sphere-pac forms, T breeder materials, thermal cond. 7−52163
D-T mixture, plasma focus, inductive explosive magnetic generator current source study 7−44299
^3H, environmental, appl. to meas. of water movement in unsaturated zone under irrigated area 7−23757
^3H-^3He atomic mass difference, effects of $^3He^+$ metastable $2^2S_{1/2}$ state, mass spectrometric anal. 7−5782
^6LiD cylinder irradiated by 14 MeV neutrons, T and ^4He prod., comparison with TART code 7−36245
$NbT_{0.59}$, acoustic emission and swelling, ageing effects 7−33708
Pd-T system, solubility meas., comparison with Pd-D and PdH systems 7−21474
$Pd_{0.8}$ $Ag_{0.2}$-T systems, solubility meas., comparison with $Pd_{0.8}Ag_{0.2}$-D and $Pd_{0.8}Ag_{0.2}$-H systems 7−21474
T from nuclear bombs, distrib. in oceans 7−66169
$T_3{}^+$, semiclassical vibr. eigenvalues, adiabatic switching method 7−57043
Ta:H(D)(T), heat of transport, isotope and temp. depend. 7−27024
TaT_x ($x = 0.12, 0.103, 0.42$), acoustic emission and swelling, ageing effects 7−33708
TiT_4, T depth profiling using the T(d,α)n reaction, neutron source target 7−23084

tritium compounds
neoplastic transformation, induction by low-dose-rate exposure to tritiated water 7−8664
HTO, accidental intake: report of 2 cases 7−40316
HTO, acute and chronic effects in mice, rel. to carcinogenicity 7−60053
HTO and H_2O, differences in behaviour in soil after condensation from atm. 7−54378
HTO and T, accidental release: models and in situ expts. on various plant species 7−60095
HTO and T-labelled compounds, induction of somatic mutations in Tradescantia 7−60048
HTO β-rays, RBE measured by effects on cultured mouse embryos at pre-implantation stage 7−60050
HTO in drinking water, background information for development of a standard 7−60101
HTO induced cell killing, mutation and oncogenic transformation in cultured mammalian cells 7−60049
HTO induced intestinal cell death in mice, obs. using a new ^3H safety clean cabinet 7−60054
HTO, RBE on cultured mammalian cells at mol. and cellular level 7−60047
T_2O, IR spectra, ν_3 mode, rot. and quartic distortion consts. 7−50111
T_2O, liq., molecular dynamics simulation 7−26992

triton interactions *see triton-nucleus reactions*

triton-nucleus reactions
for inelastic triton-nucleus scattering, see "triton-nucleus scattering"
see also nuclear fusion
multistring models, test of hadron-nucleus and nucleus-nucleus interactions 7−41771
^{161}Dy (t,p) ^{163}Dy, anomalous $L=0$ transfer, population of non-coherent intrinsic states 7−42030
^{167}Er(t,p) ^{169}Er, anomalous $L=0$ transfer, population of non-coherent intrinsic states 7−42030
Gd(t,p), 17 MeV, $^{160,162}Gd$ ground state and γ-vibr. bands, $L=0$ strengths 7−41875
^{179}Hf(t,p) ^{181}Hf, anomalous $L=0$ transfer, population of non-coherent intrinsic states 7−42030
^{207}Pb(t,p), analyzing power and cross section meas. and DWBA calcs. 7−5248
$^{36}S(t,p\gamma)^{38}S$, level spectrum and E2, M1 transition rates 7−49428
^{78}Se(t,p), 17 MeV, ^{80}Se levels, J^π, ang. distribs., DWBA anal. 7−35949

triton-nucleus scattering
^{12}C(t,t), optical model anal. 7−15215
^{26}Mg(t,t), optical model anal. 7−15215
^{16}O(t,t), optical model anal. 7−15215
^ASi(t,t), $A=28,30$, optical model anal. 7−15215

triton scattering *see triton-nucleus scattering*

tritons
beta-decay, molecular effects, neutrino mass determ. 7−49310
beta-decay, molecular final-state interactions 7−49311

trolleybuses *see road vehicles*

troposphere
see also atmospheric boundary layer; tropospheric electromagnetic wave propagation
acetic acid source determ. 7−55195
acoustic remote sensing of atmosphere and oceans, symposium, Paris (October 1985) 7−48133
aerosol exchange in remote troposphere 7−55224
aerosols, effect on climate *(Italian)* 7−60372
aerosols, seasonally variable background (1972-85) 7−14374
air pollution modelling and applications, conference, St. Louis, Missouri (April 1985) 7−48181
N America and adjacent ocean sectors, flour patterns 7−34624
Antarctic snow, tropospheric and stratospheric sources of nitrates 7−55227
Antarctic troposphere and stratosphere, balloon obs. of aerosols 7−55225
Arabian heat low structure, bulk tropospheric heat budget 7−4152
Arecibo, Puerto Rico, middle atm. oblique vel., power spectra 7−60338
baroclinic planetary modes in deep and shallowspherical atmospheric models *(Chinese)* 7−4077
Bay of Bengal, atmospheric struct. during suppressed and active convective periods 7−55211
blocking anticyclones, local vorticity and heat balances in spectral general circulation model 7−29138
blocking events, climatology in perpetual January simulation of spectral general circulation model 7−29137
blocking highs, forcing by transient cyclone-scale vorticity transfer 7−9094
Boulder, Colorado, USA, upstream wind profiler data collected during windstorms 7−29194
chloromethane in upper troposphere and stratosphere, spectroscopic detection 7−9076
clear air turbulence over British Isles, 1985 September 4, obs. of extensive prolonged CAT event 7−14359
convective systems of 100 km scale during GATE, heat and moisture transport 7−29189
cumulus ensemble effects on GATE large-scale vorticity and momentum 7−9105
energetics in low-resolution general circulation model, effects of topography 7−9099
ethane, identification from 1951 IR solar spectrum 7−55124
flow dynamics and stability in severe rainband, two-dimensional model 7−9096
formic acid source determ. 7−55195
general circulation, comparison of filters for high latits. using shallow water eqns. 7−9133
general circulation model, dynamic and thermodynamic influences of Tibetan Plateau 7−29135
global sea-level press. distrib. in April and July, relation to Indian summer monsoon precip. 7−29207
global temperature changes, annual and seasonal (1960 to 1985) 7−47527
internal gravity waves in troposphere, 2D model of convectively forced waves 7−34641
hydrocarbon (nonmethane) chemistry of troposphere, 1D model 7−29168
internal waves, radar observations and theory 7−40517
internal waves and turbulence in troposphere and lower stratosphere 7−23814
IR cooling rate calculation, for cooling due to H_2O vapour *(Chinese)* 7−29221
jet streak circulation in pre-convective environment 7−34608
laser beam remote sensing of tropospheric gases *(German)* 7−40081
linear baroclinic waves, structural determinism and simple nonlinear equilibration 7−9095
low-level winds over W Indian Ocean, obs. by Indian Ocean satellite 7−40516
mean circulation fields anomalies, month-to-month persistence in general circulation model and Earth's atmosphere 7−9093
meteorological fields mapping, developments in use of empirical orthogonal functions 7−29142
modal amplitudes in interacting triads, probability distrib. with arbitrary random forcing 7−9097
negative ion composition, chemical model 7−55210
Northern Hemisphere winter troposphere, circulation anomalies due to low latitude heating anomalies *(Chinese)* 7−4076
ocean interactions, relation to temp. of abyssal waters of Black Sea *(Russian)* 7−66156
one-dimensional photochemical model with trade-wind boundary-layer parameterisation, appl. to vertical transport 7−9146
tropical Pacific, temperature of tropopause during El Nino 7−29175
PROUST radar for UHF stratosphere-troposphere meas. 7−60421
Rossby-Haurwitz waves weak nonlinear coupling 7−60318
shallow water flow incident upon slender orography, semi-geostrophic response to elongated ridge 7−29122
SOUSY VHF radar measurements in the lower and middle atmosphere 7−23870
Southern Hemisphere, global temperature struct., seasonal changes 7−23817
Southern Hemisphere, wintertime tropospheric planetary scale activity reduction, effect on Antarctic O_3 7−55170
stratiform cirrus, radiative props. and ice crystal growth 7−66222
subtropical high ridge line, contrib. of vapour condensation heating to seasonal movements 7−40508
summertime O_3 and SO_2 climatology in E United States (1977 to 1981) 7−40066
synoptic scale disturbances with circular symmetry 7−34625
temperature global trends in AD 1957 to 1979 period, for 850 to 30 mbar altitudes 7−40532
temperature measurement, remote sensing procedure with high vertical resolution 7−66218
temperature profile meas. in troposphere and stratosphere, radio acoustic technique 7−14360
trace gas trends at Palmer Station, Antarctica (1982-1985) 7−55159
tropical easterly flow, interaction between meridional and zonal disturbances 7−40509
tropics, O_3 content and sources 7−55194
turbulence, high-resolution obs. in lower and middle atmosphere by MU radar 7−47598
Typhoon No. 7507, kinematical fields from upper air obs. (1975 August 17 to 23) 7−40510
ultra-long waves forces by topography, propag. *(Chinese)* 7−4075

troposphere continued
vertical velocity in atmosphere, periodic solns. of non-stationary eqn. 7−18296
vertical velocity spectrum for troposphere and stratosphere 7−14341
vortices formation over ocean surface heat anomalies, dynamic struct. 7−9134
waves as source for travelling ionospheric disturbances 7−60446
wind measurements, results from middle and upper atmosphere radar 7−47561
Winter MONEX area, tropopause height short term var. rel. to deep convection 7−4128
zonal circulation, corpuscular-tropospheric effect of solar wind streams 7−47475
zonal current, eddy effects, conventional and transformed Eulerian diagnostics 7−66264
zonal wind in tropical stratosphere and troposphere, longitudinal and inter-annual vars. 7−47486
CO in troposphere, November 1981, concentration observations 7−29154
CO in troposphere of Saudi Arabia, India, Arabian Sea, conc. obs. 7−18291
CO_2, 19th-century vars. in W Europe and British Isles from anal. of contemporary air masses 7−9144
CO_2 concentration in lower troposphere, simultaneous meas. at neighbouring mountain stations 7−55199
NO, NO_2 and other N cpds., troposphere conc. observations in Colorado, USA 7−18288
N_2O in troposphere near to Florida, day and night vertical profiles 7−40537
O_3 content determination via mutual covariation links between temp. and O_3 content, accuracy of determ. 7−9135
O_3, statistical trend analysis for troposphere and stratosphere 7−29158
O_3 vertical distrib. over Dakshin Gangotri, Antarctica 7−66215
O_3 vertical district influenced by stratospheric intrusions 7−23820

tropospheric electromagnetic wave propagation
1-350 GHz sea level attenuation, dry air and water vapour effects determ. algorithms 7−40548
10 GHz multirelay link rain attenuation outage time calcs. 7−55123
50 MHz amateur radio propag. 7−4264
aerosol light extinction efficiency theory 7−14375
airborne microwave rain scatterometer/radiometer system, rain meas. and data anal. *(Japanese)* 7−23909
antenna radiation pattern energy characts., directional props. of antenna in turbulent atmosphere 7−23825
arid land millimetre wave radio links, design considerations 7−40518
Brazil low latitude areas, exptl. meas. 7−66283
Earth-space paths, low elevation, amplitude scintillations meas. and modelling, telecom. systems impact 7−4110
extinction properties of visible-, IR- andmm radiation (94 GHz) 7−9176
hail causing microwave attenuation, theoretical calcs. 7−18284
hail cell radar reflectivity profiles in Switzerland 7−14348
ice, microwave absorption measurements of melting spherical andnon-spherical hydrometeors 7−9106
IR radiation transfer, transmission of the CO_2 15 μm band 7−40688
marine paths, correlation props. of signals in 10 cm band with angular diversity reception 7−23823
microwave fading, geographical distrib. prediction from ground based climatological meas. 7−55241
microwave rain attenuation and water vapour radiometric meas. at NPL 7−34606
MM wave propagation through sand and dust storms, effect of particle size 7−47480
MU radar obs. of troposphere and lower stratosphere, backscattered VHF echo power, aspect sensitivity 7−40550
multipath fading, annual and seasonal variability 7−55242
polarization diversity radar interpretation 7−66232
precipitation preferred orientation relationship with dual polarisation radar echo characts. 7−60367
precipitation signature on radar displays, 3-body scattering 7−60369
radio links with multibeam signal propagation, generalised stability function 7−23824
radiowave, water vapour correction in GPS baseline determ. 7−9228
radiowave, water vapour effect on VLBI meas. of vertical crust motion 7−9227
radiowave absorption fading at 18 GHz rel. to radio path direction *(German)* 7−66273
radiowave scattering, effect of meteorological conditions on satellite radar images of Earth's surface 7−66217
radiowaves, effect of water vapour on mobile VLBI and GPS meas. of vertical crust movement meas. 7−9226
rain attenuation, precipitation pattern motion meas. using radar 7−4082
rain map of Saudi Arabia, for radiowave propagation studies 7−47485
satellite communications, amplitude scintillations, meas. and preliminary effects *(Italian)* 7−23821
Saudi Arabia, rain map for radiowave propagation 7−47485
terrestrial radio relay lines, wave propagation above 10 GHz, investig. 7−29214
transmission losses use for interference resistant communications 7−34585
tropospheric radio links, fast signal fades rate distrib. 7−34658
turbulence characteristics from microwave amplitudescintillations 7−9108
TV broadcasting, 4 GHz PAL and 12 GHz B-MAC comparison in Australia 7−29229
TV signal propagation at VHF, far beyond primary service zone 7−34768
VHF/UHF vertically and horizontally polarised waves, propag. in 3-100 m range *(Japanese)* 7−14367
waveguide, modal equation, roots instability 7−60368

truth tables *see logic design*

TSC *see thermally stimulated currents*

TSCD *see thermally stimulated currents*

TSD *see thermally stimulated currents*

tsunami *see ocean waves; seismic waves*

tube flow *see pipe flow*

tubes (electronic) *see electron tubes*

tuners *see tuning*

tungsten
see also nuclei with ......
atom, J-shell electrons, gamma ray Compton scatt., intensity distrib. 7−13252
atom, L-subshell ionis., proton deuteron and alpha impact induced, low-velocity effects 7−51879

tungsten continued
atomic, fifth spectrum, 2300-450 Å 7−885
BCC, thermodynamic props. 7−6828
cathode sputtering, meas. of sticking coeffs. of O_2 and N_2 7−12476
chemisorbed on Ni (100) tunneling current calcs. 7−52742
chemisorption, of N_2, dissociative, activated, on (110) surface, dynamics, mol. beam obs. 7−38323
Compton profiles, APW calcs. 7−27809
CVD films, chem. charactn. 7−16915
CVD films, high temp. stress meas. 7−58718
CVD films, interaction with Si during annealing, silicide formation 7−2390
CVD films, nucleation on insulators and surface reaction with Si 7−16911
CVD films on Si substrate, growth kinetics and elec. props. 7−16909
CVD on porous Si for buried conductor formation 7−3189
CVD on Si substrate, effects of dopants and cryst. perfection 7−16912
cyclic deformation of single crystals 7−22773
deformation interaction of incorporation and substitution atoms 7−46556
deposition on Si (111)-(7×7), interface, formation 7−58710
doped wire, effect of dopants on microstruct. *(Korean)* 7−17547
electromagnetic absorption of ultrasound near Doppler-shifted cyclotron resonance 7−45402
electron and proton irrad., thermal annealing, positron annihilation studies 7−46214
electron channelling 7−21305
electron emission studies using laser and conventional heating techniques 7−7810
electrothermal atomiser, temp. distrib. 7−8349
emitter tip radius, condensation-related shape changes 7−13343
England, Ar isotope geochemistry of W mineralisation 7−8876
etching by photochem. machining 7−22909
facing powder, laser alloying of U6 steel, SiO_2 and B_4C additions effect 7−8171
fibre reinforced Fe-Cr-Al superalloy, thermomech. loading, cladding and matrix deform. 7−46568
field emitter (011) plane, edge atoms surface migration activation energy, emission current meas. 7−32887
filament growth during LPCVD 7−16908
film deposition by photolytic dissoc., charactn. 7−17466
film on MBE GaAs, RHEED study of struct. 7−21755
films, amorphous and finely cryst., elec. props. *(Russian)* 7−38776
films, CVD on Si by Si reduction of WF_6, effect of substrate dopants and crystal perfection 7−22576
films, ion beam enhanced etching with XeF_2 7−53942
films, LPCVD deposition kinetics in single wafer vacuum reactor 7−59448
films, LPCVD growth on Si substrates by H_2 reduction of WF_6 7−17470
films, magnetron sputtering prep., elec. and mech. props. 7−16913
films, maskless ion beam assisted deposition 7−46342
films, selective deposition on self-aligned $CoSi_2$ by low pressure CVD 7−53606
films by selective LPCVD, struct. charactn., diffusion barrier appls. 7−17468
films on GaAs substrates, electrical resistivity after high temp. annealing 7−64366
films prep. by various deposition methods, effects on elec. resist. 7−52860
Frenkel pair production cross sections, calc. fission-fusion neutron spectrum sensitivity 7−51849
fusion reactor first wall, thermal shock behavior 7−25189
gamma-irradiated, anomalous effect of small doses 7−12151
grain boundaries in very clean tips, SEM, FEM obs. 7−52148
grain boundary struct., annealing above 1800K in W wire 7−6636
grain boundary studies, field ion microscopy, optimal conditions 7−32461
grain growth, impurity effects 7−28044
growth kinetics on thermal oxide 7−16910
high-melting, fracture toughness *(Polish)* 7−44679
high-temp. sp. ht. meas. and eqn. 7−6821
ions, energy levels, radiation effects and corrections 7−49960
lamp, temperature and pressure profiles, high-resolution CARS measurements 7−41377
laser photochemical etching by surface halogenation 7−46676
LPCVD equipment for selective deposition, use of NF_3 as in-situ tube clean 7−17463
LPCVD film struct., IC appls. 7−58692
LPCVD film thickness depend. on native oxide thickness 7−17473
LPCVD films by WF_6/Si reduction method, influence of deposition variables 7−17461
LPCVD from $W(CO)_6$ in hot-wall environment 7−17465
LPCVD on Si-Ge alloy for interconnect appls. 7−17472
magnetoresistance, crystal with surface defects *(Russian)* 7−32988
micrometer-scale line deposition using near UV laser light 7−59438
microwave plasma etching, side wall protection technique using chopping method 7−59686
mono-atomic tips for scanning tunnelling microscopy 7−21050
monocrystals, with P impurities, removal during chem. and metallurgical treatments 7−6645
monosized spherical powder, dynamic compaction 7−39458
multiwire chambers filament tension meas., using automated electronic tensometer 7−30004
nonselective CVD films, adhesion to SiO_2 7−17760
overlayer, on SiC, Si_3N_4, Al_2O_3, SiO_2, mixing phenomena 7−58330
oxidation, normal spectral emissivity meas., 800-1000K 7−26988
oxidised surface, terpene hydrocarbons, surface ionis. coeffs. eval. 7−59786
photofield emission spectroscopy of bulk electronic states 7−13329
pion-decay channelling, high and low temps. 7−45866
plates, Doppler-shifted cyclotron resonance and skin effect 7−17224
plates with adsorbed layers, transverse magnetoresist. under static skin effect conditions *(Russian)* 7−45369
polycrystalline foils and single crysts., chemical etching, ion bombardment effects, AES study 7−28212
polycrystalline surfaces of thermionic cathodes, SEXAFS of absorbed Ba 7−64774
powders, porous materials, strain hardening, compaction eqns. 7−64953
reactively sputtered films, elec. resist., microstructure, effects of N or O partial press. 7−52861
reconstructed surface (100), vibrational props., force-constant model calcs. 7−44988
ribbon furnace for electrothermal at. absorpt. spectrometry. temp. meas. 7−30017

tungsten continued
scrap processing into powders by electroerosion disintegration 7−3225
selective CVD films, diffusion barrier props. 7−52155
selective CVD for VLSI appls. 7−17457
selective CVD for VLSI device appls. 7−17455
selective deposition by APCVD 7−17460
selective low press. CVD growth on Ti, $TiSi_2$ and PtNiSi, surface reactions, struct. 7−27183
selective LPCVD by WF_6 reduction, reaction kinetics 7−16914
selective LPCVD films on Si substrate, characts. 7−38409
selective LPCVD for CMOS VSLI, appls. 7−17471
selective LPCVD for MOS VLSI appls. 7−17456
selective LPCVD from WF_6 and H_2 7−17464
selective LPCVD kinetics 7−17469
selective LPCVD layers on Si substrate, interfacial struct. 7−16883
selective LPCVD on self-aligned Ti and PtNi silicides 7−17458
selective LPCVD on Si substrate, elec. and struct. props. 7−17467
shock Hugoniot meas. 7−21398
single crysts., galvanomagnetic props., low temp. Fermi surface local features effects *(Russian)* 7−27320
solid surface tension, surface-energy comparisons, semi-empirical calcs. 7−2328
sputter deposited films, impurity effects on elec. props. 7−52862
strength of defect-free crystals, temp. depend. 7−38104
substrate for VPE growth of Er, field electron emission microscopy 7−64029
surface, (001), adsorbed H, displacive surface reconstructions, incommensurate sandwiches 7−52223
surface, (001), electronic struct., self-consistent linearized APW calc. 7−45122
surface, (011), pulsed field evaporation, impurity distrib. 7−63956
surface, (100), adsorbed CO, electron-stimulated desorption, metastable particle production 7−21628
surface, (100), adsorbed O_2, diffuse LEED intensity meas. 7−1823
surface, (100), epitaxial growth of Au, adsorbate props. 7−38329
surface, (100), quantum resolved molecular-beam scattering of NH_3 7−15695
surface, (100), reconstruction investig., He diffr. studies 7−2320
surface, (110), adsorption of Cu, Ag and Au, calcs. based on nonadditive effective binding pot. 7−12483
surface, (110), adsorption of Eu, Gd and Tb 7−27118
surface, (110), anisotropic atom vibrs., high energy He^+ ion backscattering 7−58601
surface, (110), atomic interactions in Si-metal complexes, FIM study 7−21691
surface, (110), energy distribution of secondary electrons, relationship with surface electron struct. 7−22396
surface, (110), field adsorption and desorption of H, atom probe FIM 7−21647
surface, (110), five-layer film, self-consistent electronic-struct. calcs. 7−38659
surface, (110), hyperthermal K^+ scattering, HFS-LCAO pair potential 7−22412
surface, (110), MBE growth of BaO films 7−16886
surface, (110), surface barrier, LEED fine-struct. anal. 7−38660
surface, (110), with adsorbed Ni, Cu, Ag or Au, thermal desorption spectroscopy 7−27119
surface, (110), with Gd monolayer, magnetic resonance 7−59113
surface, (211), activated chemisorption of methane 7−52279
surface, adsorbed F^- ions, photo- and electron-stimulated desorption 7−12465
surface, BaO films, field emission spectroscopy 7−13334
surface, cesiated, H^- form. by H^+ bombardment 7−17390
surface, clean (001), reconstruction transition, effect of surface steps and adsorbate-induced perturbations 7−6935
surface, clean (001), surface-reconstruction phase transition and high temp. phase 7−6934
surface, desorption of Na atoms, resonance ionisation study 7−63966
surface, field adsorption of He 7−32816
surface, H^- formation, detection of low-energy H atoms from tokamak plasma 7−44248
surface, He field adsorption and diffusion, atom-probe field ion microscopy studies 7−32808
surface, He field adsorption and evaporation 7−32802
surface, Hg adsorption, field emission microscopy studies 7−32804
surface, high temp. field evaporation, desorption studies 7−64881
surface, high-field corrosion, field-ion microscopy studies 7−33830
surface, interaction of He molecules, Auger anal. 7−64858
surface, low energy positron interactions, elastic and inelastic scatt. calcs. 7−39330
surface, Lu and Ba adsorption, field emission characteristics 7−12466
surface, struct. phase transitions 7−2327
surface, work function reduction due to Cs^+ ion bombardment 7−45430
surface (001), H adsorption, commensurate-incommensurate phase transitions 7−7010
surface (001), struct., instability, and reconstruction model energetics, general-pot. LAPW calcs. 7−44969
surface (001), surface reconstruction phase transition, energetics 7−52231
surface (001), unoccupied surface states, inverse photoemission study 7−46171
surface (100), C and Si coadsorption, Auger spectra studies 7−63954
surface (100), chemisorption of N_2, O_2, CO, H_2, N_2, free carrier surface scatt., IR obs. of adsorbate induced changes 7−22268
surface (100), glancing elastic relativistic electron scatt., computer simulation 7−64835
surface (100), In monolayer and multilayer surface diffusion, growth mode and thermal stability 7−2386
surface (100), Nd thermal desorption, anomalous kinetics 7−45010
surface (100), NH_3 sat., two-photon reson. three-photon laser ionisation 7−10768
surface (100), struct. anal., use of atomic beam diffr. 7−6944
surface (100) IR surface-wave interferometry 7−44245
surface (100) with adsorbed H, long and short range fluctuations, lattice dynamical model 7−7002
surface (110), adsorbed Re_2 and Re_3 interactions, self-consistent calcs., tight binding formalism 7−2382
surface (110), adsorbed Si, struct. and composition 7−7013
surface (110), chemisorption of H, O, surface barrier structure 7−21663
surface (110), clean and O_2 covered, Li and Na adatom nuclear quadrupole interactions, NMR study 7−2937
surface (110), coadsorbed K-Ni, field emission flicker noise 7−32807

tungsten continued
  surface (110), secondary electron spectra in narrow solid angle 7–13281
  surface (110), thermal field emission and thermal photofield emission 7–7826
  surface (111), reaction with XeF_2, rel. to etching mechanism 7–17738
  surface (112), arrangement and thermal stability of O adsorption states 7–6975
  surface (112), K adatoms, density fluctuation simulation 7–32806
  surface analysis using XPS and electrochemistry 7–28370
  surface reconstruction phase transformations 7–2326
  surface resist. self-oscills. randomisation in the current-carrying state 7–45427
  surface single atom sites in He gas, field ionisation processes 7–33527
  surfaces, (100) and (110), adsorption of H, very low electron energy refl. study 7–12488
  surfaces, (211) and (110), stability of adsorbed 5d dimers 7–52285
  surfaces, chemisorbed ^{23}Na, nuclear-spin-polarized thermal atom scattering 7–53476
  surfaces (100) and (110), O_2 adsorption, low temp. adsorpt. kinetics and weakly-bound states, molecular beam technique studies *(Russian)* 7–16871
  thermionic emission cathodes, surface struct., EXAFS study 7–44970
  thermodynamic stability in a fusion reactor environment, H, O and C implantation and diffusion 7–49658
  thin films, plasma-assisted etching, ion bombardment effects, quartz cryst. microbalance studies 7–28211
  thin films on Si substrates, plastic props., meas. by submicron indentation hardness, substrate curvature techniques 7–58720
  tip, field emission noise *(French)* 7–13337
  tip used in scanning tunnelling microscopy, forces acting between tip and Ag sample 7–26599
  US flaw detection, appl. to model-defect test pieces *(Japanese)* 7–59730
  vacancy formation enthalpy, positron annihilation studies 7–37974
  valence bands, angle resolved XPS spectra 7–22441
  vibrating crystal, X-ray diffr. pattern, form of reflection *(Russian)* 7–51699
  VLSI applications, conf., Albuquerque, NM, USA (Nov. 1984 and Oct. 1985) 7–14715
  wire, K-doped, morphology and behaviour of K bubbles at varied temps. 7–2223
  wire reinforced amorphous $Ni_{75}B_{17}Si_8$ matrix composite ribbons, melt spinning prep. 7–46373
  X-ray tubes, half-value-layer increase owing to W buildup 7–14130
  Al_2O_3:Mo, W, Cr, leucosapphire, growth by horizontal directional crystallisation, mass transport of Mo, W 7–22459
  C-W multilayers, sputtered, ellipsometry monitoring, X-ray refl., XPS 7–39376
  C-W ultrathin layered stacks, sputtering techniques, in situ ellipsometry control system 7–1292
  Cu-W, layered, ion beam mixing, energy and dose depend., RBS 7–38075
  Cu-W duplex struct., brazed test pieces, durability against thermal fatigue *(Japanese)* 7–56818
  Fe-W, multilayer structures, collective spin waves 7–46060
  Fe-W (110), spin-resolved photoemission spectra of epitaxial Fe layers 7–46276
  GaAs:W, impurity electronic struct. excitation and ionisation, cluster approach, $X\alpha$ multiple scatt. calcs. 7–2535
  $In_{0.53}Ga_{0.47}As$-W-InP structures, LPE growth on structured substrates 7–46353
  Nb-W, superconductor-normal metal point contacts in field of CO_2 laser 7–38684
  Si:W, self-consistent one-electron states of 5d transition-atom impurities 7–32950
  Si-C-W hot shells for thermionic energy converters, CVD deposition 7–27914
  Si-W, buried conductor formation, low press. CVD W deposition on porous Si 7–32877
  Ta/W diffusion couples, analytical electron microscopy 7–39946
  VO_2:W for optical switching films 7–39198
  W I, absolute transition probabilities 7–57031
  W:C,O films, growth by laser photolysis of carbonyls, C and O incorporation mechanisms 7–58685
  $W:Ne^+$, ion implantation in elemental solids, range profile, gamma-ray spectra 7–2959
  W/C amorphous multilayer X-ray reflectors, layer imperfections effects 7–25936
  W/C multilayer films, thermal stability, X-ray diffr. studies 7–27169
  W/C multilayer films for X-ray reflectors, thermal stability 7–32871
  W/C multilayered structs., high resolution electron microscopy studies 7–63968
  W/C multilayers for X-ray optics, anomalous expansion 7–21782
  W/C multilayers subject to high radiation flux, X-ray optics changes 7–30135
  W/polyethylene interface struct. and defects, FIM obs. 7–27151
  W/Si multilayered structs., high resolution electron microscopy studies 7–63968
  W-Al_2O_3 cermet emitter for combustion heated thermionic energy converter 7–65509
  W-C multilayer structures, X-ray standing wave enhanced scatt. 7–58095
  W-C multilayer X-ray dispersing devices, comparison with natural crystals 7–9929
  W-C multilayer X-ray mirrors, optical constants of layers 7–20389
  W-GaAs diode system, Schottky barrier degradation after high temp. annealing 7–33089
  W-Ni, point contact, harmonic mixing props. in 30-120 THz freq. region 7–17072
  W-Ni MIM diode as difference frequency IR detector, long-term stability 7–24700
  W-Si interface, thermal behaviour rel. to silicide form. 7–16822
  W-Si interfaces, microstruct. charactn. 7–16882
  W-Si multilayer structures, Auger depth profiles using a dual ion gun system 7–22429
  W-Si multilayers, X-ray optical props. rel. to layer imperfections 7–37097
  W-Si system, selective deposition of W films on Si wafers, WSi_2 formation 7–21748
  W-Si system, silicidation reaction suppression up to 1100°C 7–16821
  W-Ti-Si interface, WSi_x form. by rapid thermal annealing, growth kinetics, Ti film effects 7–63969

tungsten continued
  W-vacuum-Au junctions, quasi-self-consistent barrier calc. 7–33065
  W–Cu bond, mechanical properties, fusion reactor divertor plate appl. 7–26848

tungsten alloys
  see also tungsten compounds
  Cr-MoVW ferritic steel, ductile-brittle transition temp., irrad. flux depend. 7–56825
  dilute binary alloys, resistivity contribution of solutes 7–32979
  Ni addition effect on void formation following irrad. 7–56822
  Rene 80, first stage aluminised coating microstruct., STEM obs. 7–17709
  Al-W/Ti(Ni) thin film reactions, W diffusion marker studies 7–2277
  AuW, heat of form. and cryst. struct., linear augmented STO calcs. 7–51705
  BW alloy fibre, torsional pendulum, shear modulus and internal friction meas. 7–48232
  Co-Cr-W, Stellite, tool materials, statistical wear model, appl. to machining 7–33804
  Co-W, ageing, polymorphism, cellular mechanism *(Russian)* 7–59514
  Co-W-P electroplated alloys, struct. and mag. props. *(Russian)* 7–2428
  Fe-B-Si-Cr-Mo-W, finely cryst. and amorphous structs. on surface by laser treatment 7–8175
  Fe-Ni-W system, phase equilib., expt. and theoretical study 7–28013
  Fe-W-B metallic glasses, imperfection struct., positron annihilation studies 7–37885
  Fe-W-C, hardening coatings on steel 45, electroerosion alloying 7–17722
  Fe-W-based alloys, amorphous and crystalline, mag. phase transitions 7–52983
  FeCrNiW amorphous alloys SCC behaviour 7–39727
  FeCrNiWMo alloys, sputtering effects on props 7–36240
  $(Fe_{1-x}W_x)_{84.5}B_{15.5}$ amorphous alloys, elec. and mag. props. *(Chinese)* 7–12969
  Mo-V-W, phase diagrams, thermodynamic formalism, computer calcs. 7–3269
  Mo-W, disordered, electron struct. and positron annihilation *(Russian)* 7–45133
  Mo-W, form. by reduction in MoO_3-WO_3-H_2 system 7–3223
  Mo-W (30 wt.%), temp. depend. of crack resist. 7–22808
  Mo-W alloys, creep failure, thermomechanical treatment effects 7–28072
  Mo-W system, reduction and alloy form. in MoO_3-WO_3-H_2 system 7–7923
  Mo-W-Zr-Ti, scale resist. of silicide coatings, influence of Fe and B additions 7–22875
  Nb-Ti-W (30, 20 wt.%), nitriding, hardness, wear and corrosion resist. 7–46713
  Nb-W and Nb-W-Mo-Zr, corrosion resist. in molten Lr, alloying influence 7–17689
  NbW based alloys, grain boundary internal friction investig. *(Russian)* 7–13490
  Ni base superalloys, pressure vessel performance, strength, ductility, comp., struct. 7–3365
  Ni-Al-Co-W-Cr,Tag polycrystalline superalloy, microstruct. rel. to Ta content 7–46446
  Ni-Al-Mo-W system, constitution of Ni_3Al-Ni_3Mo-Ni_3W section 7–13434
  Ni-base superalloy, single cryst., MAR-M200, with bimodal γ' distrib., low cycle fatigue at 750 and 870°C 7–17627
  Ni-base superalloys, γ' strengthened, creep and microstruct. rel. to refractory elements 7–3364
  Ni-Cr-W superalloy, experimental, tensile props., effect of carburisation and aging 7–59576
  Ni-Cr-W-Si-Al-C, heat resistant coatings on Ni alloys 7–3498
  Ni-W-Co-Cr superalloy single crystals, fatigue crack propag. under multiaxial cyclic loads 7–28122
  Ni-W-Co-Cr superalloys, creep rupture and tensile props. rel. to hot pressing or aluminising 7–3363
  Ni_3FeW, atom pair interaction energy and Kurnakov temp. *(Russian)* 7–1938
  Pt-W, Pt diffusion and platelet defect form. *(Russian)* 7–44895
  ReW-C multilayer mirrors as X-ray filters for slit scan radiography 7–34243
  Th-W, diffusion and electrotransport of transition metals in BCC Th 7–63888
  (Ti,W)C-Ni_3Al, composite prep. by liq. phase sintering, wettability of carbide by molten Ni_3Al, 7–64987
  Ti-W films, characterisation by SIMS, Auger spectroscopy and TEM 7–12550
  TiC-WC-TaC-Co hard metals, Ta conc. effect on comp. and physicomech. of carbide and Co phases 7–53708
  TiC-WC-TaC-Co three-phase sintered carbides, Ta content influence on struct. and props. 7–65097
  Ti_xW_{1-x}-Si, Schottky barrier heights, 175 to 295K, silicide form. 7–38679
  V-W, thinning treatment, TEM appls. 7–8190
  V-W single crystal alloys, directionally solidified, growth structs. 7–3159
  W base heavy metal alloys, mech.-props., porosity, impurity effects 7–17495
  W wire, K-doped, non-sag struct. form., model 7–7957
  W-Ag pseudoalloys, Ni and Co effect on interphase interaction 7–27975
  W-Co alloy, gamma-irradiated, anomalous effect of small doses 7–12151
  W-Cu, multilayer systems, temp. depend. of ion beam mixing, 77-book *(Chinese)* 7–51884
  W-Cu compacted pseudoalloys, elastic props., deform. diagram and pores effect 7–33722
  W-Cu pseudoalloy, Si alloying effect on solute redistrib. and ductility characts. 7–53741
  W-Cu-Ni contact materials, elec. props., particle size effect 7–2672
  W-Cu-Ti(Zr), saturation rate of porous W with Cu, effect of Ti and Zr 7–3220
  W-Fe-Co-Ni system, isotherms of solidus and phase comp. above 1200°C 7–65006
  W-Fe-Co-Ni system, phase equil., peritectic transform. 7–53701
  W-H system, H diffusion, ^{181}Ta Mossbauer effect studies *(Russian)* 7–32699
  W-H system, H-defect interactions, positron annihilation studies 7–38045
  W-Ni, sintering, liq. phase and solid-state, influence of dislocation density 7–64969
  W-Ni dilute alloy, Ni enrichment at screw dislocations, atomistic calcs. and atom probe FIM meas. 7–33638

tungsten alloys continued
- W-Ni powder compact, activated sintering process, electrical resistance meas. 7—27969
- W-Ni-Cu(Fe)(Cr), sintered heavy alloys, contiguity var. in W spheroids 7—53668
- W-Ni-Fe, sintered, ductility and precip. 7—17589
- W-Ni-Fe system, matrix and interfacial precip. 7—46478
- W-Os alloy thermionic emission cathodes, surface struct., EXAFS study 7—44970
- W-Os polycrystalline surfaces of thermionic cathodes, SEXAFS of absorbed Ba 7—64774
- W-Re, damage mechanisms, cold brittleness, dislocation motion *(Russian)* 7—59619
- W-Re alloys, annealed and sintered, elevated temp. softening, appl. for thermionic energy conversion 7—28077
- W-Re alloys, mech. props., conc. depend. in different struct. conditions *(Russian)* 7—53876
- W-Re amorphous thin film thermal stability, crystallisation behaviour studies 7—63464
- W-Ru amorphous thin film thermal stability, crystallisation behaviour studies 7—63464
- W-Si amorphous thin films, DC sputter deposited, crystn. temp., DTA 7—21720
- W-Ti-Si system, metallisation materials, amorphous phase form. and stability 7—22640
- W-Zr amorphous films as diffusion barriers between Al and Si 7—21504
- WC cemented carbides, sintering, impurities, powder quality 7—3253
- WC-Co, abrasive wear, 3D shape effect 7—17652
- WC-Co, cermet, structural materials, cyclic strength 7—59624
- WC-Co, erosion, effect of hardness 7—17648
- WC-Co, erosion rate 7—3464
- WC-Co, high press, sintering, microstruct. 7—39470
- WC-Co, phenolformaldehyde polymer friction, physicochem. processes 7—28149
- WC-Co, plasma sprayed coatings, wear, adherence, heat treatment effect 7—33555
- WC-Co, sliding and abrasive wear mechanisms, comparison 7—3463
- WC-Co, TiN-coated, residual stress and strength, X-ray diffr. study *(Japanese)* 7—8101
- WC-Co, tool materials, statistical wear model, appl. to machining 7—33804
- WC-Co, wear resist., comparative study of hard materials 7—3457
- WC-Co cemented carbides, abrasion, controlling mechanism 7—3460
- WC-Co cemented carbides, tensile creep, 800-900°C, grain boundary sliding 7—17585
- WC-Co cemented carbides, compression fatigue crack growth 7—28119
- WC-Co cermet particle reinforced low alloy steel composite, elastic consts., laser US technique 7—65268
- WC-Co compact, stereological analysis of struct. form. during consolidation of carbide powder 7—53688
- WC-Co composites, fracture toughness rel. to hardness, microstruct. model 7—17637
- WC-Co hard metals, thermal conductivity and thermal diffusivity *(German)* 7—27036
- WC-Co powder mixtures, electrolytic Co plating effect on densification and strength props. 7—53686
- WC-Co sintered carbides, X-ray diffr. obs. of microstruct. after hardening, optimum heat treatment cycle 7—65063
- WC-Co-B system, formation mechanism of composite coating, electrophoresis 7—3208
- WC-FeNi cemented carbides, abrasion, controlling mechanism 7—3460
- WC-Ni, wear resist., comparative study of hard materials 7—3457
- WC-Ni hard metal parts, sintered, local alloying 7—27997
- WC-stainless steel composites, corrosion-resistant optimum prod. conditions 7—65164
- WC-TaC-Co, N contained cemented carbides, sinterability, mech. props. rel. to prep. 7—17507
- WC-TiC-Co hard alloy T15K6, heat treatment effect on failure mechanism 7—13550
- WC-TiC-Co TK type hard metal prod. using Ti alloy swarf 7—27996
- WOs, electronic struct. calcs. 7—45200
- WSi_2 films, electrical transport props. 7—58908
- WSi_x CVD films on Si and Si_3N_4 coated Si, excess Si redistribution upon annealing 7—21723
- WTi-Si barriers, modification by low energy Ar^+ ions 7—22433
- ZrW_2 and $ZrW_2H_{1.8}$, surface composition and state of components, XPS study 7—7818

tungsten compounds
- *see also tungsten alloys*
- n-WSe_2-electrolyte interface, microwave photoelectrochemistry studies 7—27413
- Au-WO_3-LiF-Au, solid state electrochromic struct. study 7—53275
- $((CO)_5W\text{-}H\text{-}W(CO)_5)^-$, struct., H atom dynamics, spectrosc. investig. 7—15613
- Fe-W complexes, dinuclear clusters, fine and hyperfine struct. 7—36659
- $In_{2-x}Sn_xO_{3-y}$-WO_3-MgF_2-Au, electrochromic coatings for solar windows 7—53621
- K_2O-P_2O_5-WO_{3-x} mixed valence glasses, local order, EXAFS and X-ray diffusion studies 7—1903
- $LI_{0.9}(Mo_{1-x}W_x)_6O_{17}$ anomalous transport props., resist., mag. suscept., sp. ht., struct. and supercond. transition temp. meas. 7—21913
- Li/$WS_2(Se_2)(Te_2)$ electrochemical cells at low voltages, dichalcogenide decomposition 7—65436
- Li-W-O films, electrochromic props., UV radiation effects study 7—22222
- Li_2-WO_3-Nb_2O_5 sputtered amorphous films, electrochromic props. study 7—22221
- $Li_2B_4O_7$-WO_3 glasses, dielec. behaviour, space charge effects 7—45917
- Li_2O-B_2O_3-WO_3:Co(Cr) glasses, optical props. 7—46079
- Li_xWO_3, crystalline and amorphous, electrochromic solar attenuation 7—39090
- MoO_3-WO_3-H_2 system, reduction and alloy form., reaction products dispersion 7—3223
- MoO_3-WO_3-H_2 system, reduction and alloy form. 7—7923
- MoO_x-WO_x, H insertion, struct. and thermodynamics 7—16506
- $Mo_{n-x}W_xO_{3n-1}$, electrical conductivity, mag. susceptibility and IR spectra 7—38546
- $NaNbO_3$-Nb_2O_5-WO_3 system, crystal struct., twinning, fourling and antiphase boundary operations 7—63567
- Na_2O-WO_3-B_2O_3 glass ceramics, containing W bronze, prep. and elec. props. *(Japanese)* 7—3261

tungsten compounds continued
- $Na_{1.7}P_4W_{14}O_{50}$ struct. refinement, single cryst. X-ray anal. study 7—58233
- $Na_6(TeW_6O_{24})22H_2O$, crystal struct. investig. 7—12002
- $Rb_{0.023}WO_3$, crystal growth and struct., SEM and TEM anal. 7—46288
- Ta_{16}-$W_{18}O_{94}$-Super Invar composite, thermal expansion coeff. 7—12331
- $Ta_{16}W_{18}O_{94}$, thermal expansion coeff. below room temp. 7—12332
- Ti-W-N, phase equilibria between high melting nitrides and refractory binder metals 7—28018
- TiC-TaC-WC system, γ-α-solubility line, 1723K, thermochemical estimation 7—39526
- TiC-WC system, wetting with molten Ni_3Al, compact (Ti,W)C-Ni_3Al, composites prep. 7—64987
- W complex, pentacarbonylpyridino W(O), single cryst., polarised low temp. luminesc. 7—3094
- W complex, W (VI)-mannitol, IR and NMR spectrosc. 7—50136
- W complex, W (VI)-sorbitol, IR and NMR spectrosc. 7—50136
- W complexes, W (VI) isopropylimido, cryst. and mol. structs. 7—51722
- W-C coatings on stainless steel, sputter deposited, mechanical props., effect of interlayers 7—53983
- W-Si, sputter deposition on Si (100), rapid thermal annealing 7—21548
- W-Si amorphous thin films, interfacial reactions with polycryst. metal overlayers 7—21763
- WC cathodes in acid electrolytes for H_2 production 7—3729
- WC coatings on high speed steel, deposition process and mechanical props. 7—64011
- WC electronic struct. and magnetic suscept., UV and X-ray photoelectron spectra 7—53493
- WC, electrospark alloying with steel, electron nature of interaction, phase comp. 7—8182
- WC, high press. sintering, microstruct. 7—39470
- WC mirrors, soft X-ray reflection 7—41553
- WC, powder, sintering of porous bodies, rate growth and heredity phenomena 7—53652
- WC thin films, RF reactive magnetron sputtering and hardness meas. 7—7844
- WC/Ti alloy composites, implantation modified friction, surface chemistry 7—46660
- WC-Co composite, grain boundary films, mean inner pot. determ. by Fresnel technique 7—16431
- WC-Co composites, plastic deform. mechanisms, dislocation struct., TEM obs. *(French)* 7—22765
- WC_x coatings, tribological props., comp. depend. studies 7—53914
- $W(CO)_5$(piperidine), electronic spectra, excited state distortions, prereson. Raman intensities 7—10594
- $W(CO)_5$(pyridine), electronic spectra, excited state distortions, prereson. Raman intensities 7—10594
- WCl_3, struct. parameters, GPED statistical anal. 7—57174
- $(WCl_3)_n$, (n=1,2,3), electrographic investig. 7—13844
- W_2Cl_6, mol. struct., GPED 7—5770
- WF_6, in plasma centrifuges, W recovery 7—46846
- WF_6, NMR, ^{77}Se, ^{125}Te and ^{19}F shielding and isotope shifts, temp. depend. 7—25549
- WF_6, NMR chemical shift, nuclear shielding, rovibr. averaging 7—25550
- WF_6, physicochemical props. rel. to CVD for VLSI appls. 7—17462
- WF_6 reduction for selective LPCVD of W, reaction kinetics 7—16914
- WF_6+Si_n (n=2 to 6), Fourier transform ion cyclotron reson. mass spectrometry 7—31200
- $W_{1-x}Mo_xO_3$, structure parameters *(French)* 7—16507
- WO, vibr. consts. determ. 7—15586
- WO_2, resistivity anomaly 7—38567
- WO_3, adsorption of methanol, influence of photoinjected H on adsorptivity 7—63942
- WO_3, amorphous electrochromic films, plasma enhanced CVD 7—22561
- WO_3 amorphous evaporated film, complex cond., temp. and freq. depend. studies 7—2756
- WO_3 amorphous films as high-contrast inorganic ion resists 7—63672
- WO_3 based electrochromic windows, recent R&D 7—37122
- WO_3, carburized, surface composition at catalytic activity 7—21594
- WO_3 containing compounds, nonstoichiometry and struct. disorder 7—63566
- WO_3, dielec. const. meas., anomalous thermal hysteresis obs. 7—53219
- WO_3 electrochromic films on SnO_2:F, spray deposition and props. 7—3204
- WO_3 electrochromic films, obliquely deposited, elec. props. and morphology 7—7781
- a-WO_3 films, electrochromic effect kinetics 7—45992
- WO_3, supported on γ-Al_2O_3, dispersion, surface Ni spinel effects 7—59779
- WO_3 thin films, refractive indices, emissivity studies *(French)* 7—64718
- WO_3 thin films, transparent, amorphous, prep. by dip-coating method 7—53644
- WO_3-Na_2O(NaF), nucleation and flux growth 7—44430
- WO_3-Nb_2O_5 sputtered amorphous films, electrochromic props. study 7—22221
- $WO_4{}^{2-}$, in aq. soln. struct., X-ray scatt. meas. 7—39883
- WS_2, surface characterisation by neutron inelastic scatt. from adsorbed H 7—7000
- WS_{2+x} elec. cond. and permittivity, temp. and freq. depend. studies 7—7235
- WSe_2, melt grown layered crysts., optoelectronic props. 7—21946
- n-WSe_2 single crystal, growth, struct. and photoelectrochem. props. 7—27879
- WSi on W(110), atomic interactions, FIM study 7—21691
- WSi_2 amorphous films, crystallisation, stacking faults and resistivity 7—21759
- WSi_2, formation by As ion implantation, ion beam mixing *(Chinese)* 7—51797
- WSi_2, silicide formation by rapid thermal annealing, Raman scatt. study 7—59193
- WSi_2-$TiSi_2$, bilayer, on Si, rapid thermal annealing 7—21549
- WSi_2-WSi, effective elastic consts., surface acoustic wave anal. 7—58597
- WSi_x CVD films, high temp. stress meas. 7—58718
- WSi_x films, CVD, resistivity and composition changes by annealing 7—2738
- WSi_x films, sputter deposited from cold pressed, vacuum sintered composite target, annealing, comp., resist. meas. 7—21719
- WSi_x form. at W-Ti-Si interface by rapid thermal annealing, growth kinetics, Ti film effects 7—63969
- WSi_x/SiO_2Si MOS capacitors, radiation-induced interface traps 7—58897

tungsten compounds continued
- WSi_x-GaAs interface, thermal stability 7—52302
- W_xSi_y reactively sputtered films, metastable phase form. 7—52340

tuning
- *see also laser tuning; receivers; resonance*
- fibre optic US sensor, single-mode fibre config. with resonance tuning 7—6010
- insertion device performance in ESRF 7—42251
- tandem-electrode laser diode, flip-flop operation, tuning characts. 7—57315
- Us rangefinders with various types of cct., error estimation of standard channel 7—62930
- He-Ne Zeeman lasers for coherent optical fibre system 7—50786
- $LiNbO_3$, uniaxial crystal anisotropic acousto-optic interactions 7—3021

tuning forks *see vibrating bodies*

tunnel diode oscillators
- magnetic susceptometer for thin films and surfaces 7—30047
- transmission line tunnel diode oscillator, low-temp. detection system 7—35538

tunnel diode storage devices *see tunnel diodes*

tunnel diodes
- *see also tunnelling*
- quantum well resonant-tunnelling diode, transient response obtained from Wigner function 7—33080
- GaAs-GaAlAs resonant injection quantum well diodes and lasers 7—43104

tunnel effect *see tunnelling*

tunnel triodes *see thin film transistors*

tunnelling
- *see also scanning tunnelling microscopy; superconductive tunnelling; tunnelling spectra; tunnelling spectroscopy*
- 1D rectangular double-barrier struct., reson. tunnelling condition 7—58898
- 2D systems, proceedings of Winter School, Mauterndorf, Austria (Feb. 1986) 7—48131
- adsorbed molecules photodesorption by IR laser-adsorbate coupling 7—58616
- alkali halides, F-F′ conversion, polaron theory 7—21201
- alkali metal surfaces, electron spectroscopy by deexcitation of metastable He atoms 7—59364
- benzene, in liq. isopentane soln., quantum tunnelling of muonium reactions 7—50414
- benzoic acid:thioindigo(selenoindigo) impurity-induced double proton transfer, fluorescence decays 7—33420
- biased tight-binding lattice, quantum tunnelling and thermally resisted motion 7—29946
- Bloch electrons, quantum transport in homogeneous time depend. elec. fields 7—52633
- boson system coupled to tunnelling particle in double-well potential, ground state anal. 7—56146
- carbenes, intramol. H shifts, spectrosc. obs. 7—62390
- CDW, depinning by quantum tunnelling 7—64121
- chalcogenide glasses, AC conduction, theoretical models and expt. data, review 7—64252
- chemisorbed atoms, electronic struct. and tunnelling current 7—6962
- coherent oscillations in small tunnel junctions 7—33067
- coherent tunnelling, squeezing, chaotic behaviour and fractal dimension in a bistable potential 7—35410
- condensed phase, curve crossing, dissipation, tunnelling and adiabaticity criteria 7—65284
- current response, metal-like, in small rings, Zener tunnelling effect 7—21890
- diatomic mol. on substrate, reson. laser induced desorption, classical and quantum models 7—58618
- diatomic systems, mol. const. determ. from higher harmonic vibr. spectra 7—25481
- dimethyl tin dichloride, methyl group rotational tunnelling, librations and coupling, inelastic neutron scatt. study 7—12218
- dissipative interaction effects, wave functions overlap integral determ. 7—17071
- double barrier heterostructure diodes, resonant tunnelling effect *(Japanese)* 7—12828
- double barrier reson. tunnelling, perpendicular quantum transport in superlattices 7—12811
- double quantum well structs., parallel electron transport studies 7—45474
- electron gas, degenerate, tunnelling atom interactions, low temp. behaviour 7—27270
- energy dissipation processes in scanning tunnelingmicroscopy 7—1827
- ferroelectrics, relaxation, dielectric and thermal props. at low temps. 7—13102
- fluorinated ethylene-propylene copolymer, hole schubweg models 7—21936
- free electron tunnelling transitions scale time determ. at cyclotron reson., semiclassical approx. calcs. 7—48446
- gauge theories, vacuum transition as tunnelling effect in 1D winding space 7—15053
- glass, tunnel modes and kinetic props. at low and high temps. 7—21115
- glass, two-level systems, density of states and distrib. functions derivation 7—12583
- glasses, critical behaviour of double-well potentials, two-level systems model 7—32305
- glasses, silicate and quartz, radiation-induced centres, ESR studies 7—12149
- graphite intercalation cpds., staging dislocation electronic struct., electron scatt. rates, residual resist. 7—52558
- haeme proteins, ligand binding and electron transfer rates, spin-boson models 7—13952
- heavy particle in a metal, electronic polaron effects 7—52118
- heavy particle tunnelling in condensed media, fluctuation and vibration effects 7—21981
- heterostructures, time-dependent wave packet tunnelling in applied fields 7—45437
- highly oriented pyrolytic graphite, surface with deposited Ag(Au) clusters, scanning tunnelling microscopy study 7—12413
- hot electron dynamics in tunnel junctions, surface plasmon emission as probe 7—2735
- III-V heterostructures, tunnelling, relevance to electronic devices 7—58885
- indirect tunnelling current density, quantum mech. treatment 7—18618
- interface and surface struct. characterization, ion scatt. and channelling, scanning tunnelling microscopy and computer simulation *(Japanese)* 7—7803

tunnelling continued
- Jahn-Teller systems and off-centre impurities, tunnelling states, 3D harmonic oscillator function calcs. 7—2537
- Klein-Gordon nonlinear system, quantum tunneling with dissipation in external field 7—48381
- loss mechanism and reduced specular reflex in total refl. regime 7—33066
- low-capacitance tunnel-junction, small size, cond. and quasi-particle current fluctuations 7—52744
- magnetic ion ground-state tunnelling splitting in cryst. field, mag. field depend. calcs. 7—21876
- magnetic monopole induced α-particle tunnelling 7—5203
- metal surface quasi-stationary spectrum of nearby Rydberg atoms 7—49984
- metal-barrier-metal multilayer structs., resonant tunnelling in the presence of surface EM waves 7—52852
- metal-metal interface, barrier pot. calc. for tunnelling electrons 7—52746
- metal-metal tunnelling electrons, barrier height, image-force effects 7—52747
- metal-vacuum interface, tunneling from a self-energy approach 7—52745
- metals, electronic topological transitions, tunnelling studies 7—64052
- metals, light particle quantum tunnelling and diffusion 7—52113
- metals, muon arrhenius jump rates, neutrino emission 7—27643
- metals, proton tunneling, neutron scattering studies 7—6646
- metastable state decay, quantum tunnelling rate suppression, variational approx. calcs. 7—139
- methyl group motion, rotation barrier and spin-lattice relax. time meas. 7—50291
- methylamine, torsional-wagging tunnelling and torsional-wagging-rotational problem 7—62347
- MIM junction with disordered insulator, tunnelling current, CPA calc. 7—52850
- MIS struct., barrier height, I-V characts. and tunnel currents under illumination calcs. 7—64356
- MIS tunnel struct., inversion condition 7—7401
- mode conversion, Bloch oscillations and Zener tunneling with light by means of the Sagnac effect 7—36877
- molecular glasses, β-processes anal. 7—20074
- MOS capacitors, interface state generation by ionising radiation, oxide thickness depend. 7—58900
- MOS capacitors, interface trap charge effect on C-V and I-V characts. 7—27437
- MOS structure, X-ray irrad., trapped hole spatial depend., tunnelling anal. and annealing meas. 7—58902
- MOS structures, ion implanted, enhanced tunnelling 7—64358
- MOSFET, substrate hole current, oxide breakdown 7—12863
- multiorientational Ising-type dipoles in transverse tunnelling field, partition function calcs. 7—263
- muonium+aromatic cpds., reaction rate consts. 7—50415
- neutron scattering from tunneling centres in metals, structure factors 7—21155
- 2-norbornyl cation, heavy atom tunneling, MINDO/3 calcs. 7—10426
- optical bistability by squeezed vac., tunnelling inhibition 7—20321
- optical glass, ultrasonic properties and low freq. light scattering 7—21361
- optical radiation continuous spectrum emitted by at. particle secondary emission products, two-photon form. mechanism 7—42713
- optical spectra, spin-boson model involving coupled pot. energy surfaces 7—49971
- optically induced inversion in the MIS solar cell 7—8380
- p-n junctions, excess current mechanism, carrier surface tunnelling, WKB approx. calcs. 7—58876
- phonon-assisted quantum diffusion, self-consistent mode mixing. 7—45436
- phonon-assisted tunnelling between two quantum wells, calc. 7—33073
- photofield emission, current versus reciprocal field curves, semiquantitative anal. 7—33536
- point-contact imaging, atomic resolution 7—21048
- polycyclic aromatic hydrocarbon cations, doubly-charged, form. and destruction, IR and visible spectra 7—55774
- polysilicon-SiO_2 interfaces, textured, electronic props. 7—38754
- quantum dissipation, scattering and tunnelling 7—41136
- quantum transport theory for small-geometry structures 7—52640
- quantum tunnelling, adiabatic approx. in many-dimensional systems 7—48395
- quantum tunnelling at low temperatures, results for weak damping 7—148
- quantum well resonant-tunnelling diode, transient response obtained from Wigner function 7—33080
- quartz, E'_4-centres, conversion rate into E'_2-centres 7—52517
- resonant electron tunnelling through unfilled defect level in insulating film, scanning tunnelling microscopy calcs. 7—64315
- resonant tunneling system, resonant state lifetime 7—45434
- resonant tunnelling current, self-consistent anal. 7—38685
- resonant tunnelling electron spectroscopy, technique for hot electron energy distrib. determ. in semiconductors 7—45447
- resonant tunnelling props. of heterostructures 7—52741
- scanning tunneling microscope, development and operation 7—372
- scanning tunneling microscopy applied to opticalsurfaces 7—4929
- scanning tunnelling microscope data, information and image processing 7—30132
- scanning tunnelling microscopy, current saturation through image surface states 7—7320
- scanning tunnelling microscopy, single-tube three-dimensional scanner design 7—376
- semiclassical processes in a high-frequency field 7—52743
- semiconductor n-i heterojunction, time depend. tunnelling and coherent Zener oscills. 7—17087
- semiconductor superlattice, 3D anisotropic system, surface states and quantum Hall effect 7—38700
- semiconductor superlattices, graded gap, carrier transport calc. 7—12848
- semiconductor thin film, band population inversion under strong alternating elec. field 7—64371
- semiconductors, tunnel delocalisation of electrons 7—33022
- sliding CDWs, dynamics 7—64122
- squeezable junctions for electron tunnelling and surface electric field experiment 7—24344
- superlattice tunnelling-assisted impact ionisation rate calcs., analytical approx. 7—64324
- superlattices, integral quantum Hall effect 7—2691
- 1,2,4,5-tetrafluorobenzene in supersonic jet, fluoresc. and five-photon ionisation spectra, tunnelling 7—10659
- $(TMTSF)_2X$, quasi-1D, role of kinetic interchain coupling 7—45302
- $(TMTSF)_2X$ salts, phase diagram, importance of 1D correlations 7—45190

tunnelling continued
- (TMTTF)$_2$X, quasi-1D, role of kinetic interchain coupling 7—45302
- (TMTTF)$_2$X salts, phase diagram, importance of 1D correlations 7—45190
- toluene, α-crystallised, temp. and press. effects on methyl tunnelling, inelastic neutron scatt. 7—38133
- transition probability and current across pot. barriers, multistep pot. approx. calcs. 7—64314
- transverse fluctuations in multidimens. tunnelling, asymptotic behaviour 7—123
- traversal time for tunneling 7—21982
- tunnel junction conductivity, anomalous temp. depend. 7—17070
- tunnelling exchange integral calc. using a variational formalism based on supersymmetry 7—32964
- ultrasmall tunnel junctions, transition to ohmic conduction 7—2673
- variably spaced multiquantum well struct., resonant tunnelling, Airy function approach calcs. 7—58878
- vertical transport in multilayer semiconductor structures 7—38705
- vitreous silica, two-level tunnelling system-strain coupling const., double well asymm. energy contrib. 7—6538
- voltage controlled tunable IR detectors using MIM structures 7—61377
- Al (Si)-SiO$_2$-Si tunnel dielectric, breakdown mechanism 7—33098
- Al, dislocation kinks, tunneling, acoustic study 7—2023
- Al-Zn dilute alloys, stress-induced mixed dumbbell tunnelling, sound propag. meas. *(Russian)* 7—51674
- AlAs-GaAs double-barrier structures, resonant tunnelling, room temp. effects 7—21985
- Al$_{0.3}$Ga$_{0.7}$As-GaAs quantum well structure, electric-field-induced optical modulation, theory using Monte Carlo approach 7—17077
- Al$_x$Ga$_{1-x}$As heterojunction, tunnelling current modulation by optical phonons 7—27394
- AlInAs-GaInAS superlattices, electronic transport and depletion by tunnelling 7—27395
- Al$_2$O$_3$ anodic film, barrier layer, surface imaging using scanning tunneling microscope 7—17706
- Au-GaAs$_{1-x}$Sb$_x$ Schottky barriers, I-V characts., temp. depend. 7—64344
- Au-vacuum-Au tunnelling, room temp. expts. 7—45438
- CdTe:P-CdS solar cells, control of open circuit voltage by carrier density variation 7—17887
- Co$_{69}$Fe$_{4.5}$Cr$_2$Si$_{2.5}$B$_{22}$ metallic glasses, long-time tunnelling heat relaxation meas. 7—38223
- Cr/SiO$_2$/Si structs., Fowler-Nordheim tunnelling oscills., I-V characts. meas. 7—38745
- Cu, pion decay site spectroscopy, interstitial sites 7—53191
- Fe$_{80}$B$_{14}$Si$_6$ metallic glasses, long-time tunnelling heat relaxation meas. 7—38223
- Ga$_{1-x}$Al$_x$As-GaAs-Ga$_{1-x}$Al$_x$As heterostructures, tunneling through indirect-gap barriers 7—21999
- Ga$_{1-x}$Al$_x$As/Ga$_{1-y}$Al$_y$As/GaAs double barrier tunnelling struct., negative resist. calcs. 7—45451
- GaAs, epitaxial growth, $\delta(z)$ doping layer, electronic states 7—52729
- GaAs sawtooth doping superlattices, photoluminescence, transport props. 7—52825
- GaAs submicron n$^+$n$^-$n$^+$ multilayers, single impurity-assisted tunnelling 7—38710
- p-GaAs:Cr, excited and metastable states of Cr-related double centres 7—7153
- n$^-$-GaAs/Al$_x$Ga$_{1-x}$As/n$^+$-GaAs capacitors, accumulation layers magnetotunnelling obs. 7—12880
- GaAs/Al$_x$Ga$_{x-1}$As, tunnelling through III-V low-barrier heterostructures 7—52799
- GaAs/AlAs:Mg/GaAs tunnel structs., current transport mechanisms 7—7357
- GaAs/GaAlAs/GaAs heterostructure barriers, tunnel current and electron tunnelling times with mag. field 7—52810
- GaAs-(Al,Ga)As-GaAs heterojunction barrier, tunneling current, probe pressure effect 7—45441
- GaAs-Al$_{0.44}$Ga$_{0.56}$As quantum wells, MBE grown, tunnelling assisted photon emission, photoluminescence meas. 7—46120
- GaAs-Al$_x$Ga$_{1-x}$As-GaAs, perpendicular transport, tunnelling, thermionic emission studies 7—52781
- GaAs-Al$_x$Ga$_{1-x}$As-GaAs transverse magnetic field effects on tunnelling 7—58874
- GaAs-AlAs double barrier heterostructures, resonant tunnelling through quantum well states 7—58870
- GaAs-AlAs-GaAs heterostructure, tunnelling transmission probability, many-band pseudopotential model 7—38701
- GaAs-AlGaAs-GaAs heterostructure barriers, quantum tunnelling 7—52816
- GaAs-AlGaAs-InGaAs strained-layer quantum well heterostructures, negative differential resistance 7—45443
- GaAs-Ga$_{0.7}$Al$_{0.3}$As heterojunction, donor-acceptor radiative recomb. mechanism, photolum. spectra study 7—17083
- GaAs-Ga$_{1-x}$Al$_x$As quantum wells, with indirect gas semicond. barriers, electron tunnelling 7—64340
- GaAs-Ga$_{1-x}$Al$_x$As superlattices, in appl. elec. field, interband optical transitions 7—53274
- GaAs-GaAlAs-GaAs heterojunction barriers, single particle tunnelling, five level k.p theory 7—64341
- GaInAs-InP double-barrier heterostructs., room temp. resonant tunnelling, neg. resist. effects 7—58814
- (HF)$_2$, degenerate rearrangement, tunneling splitting, reaction-path anal. 7—22979
- HeRh^{2+} adsorbed compound ion, field dissociation by atomic tunneling 7—33919
- HeRh^{2+}, cpd. ion, dissoc. in high elec. field, at. tunnelling, orientational and isotope effects 7—42777
- ^{3}He, solid, quantum tunnelling in dil. instanton limit, Monte Carlo calcs. 7—21567
- HgTe-Hg$_{1-x}$Cd$_x$Te double barrier, single quantum well heterostructures, resonant tunnelling 7—33068
- InAlAs-InGaAs resonant tunnelling barrier struct., MBE grown, NDR characts. 7—52796
- InGaAs/InP superlattices, effective mass filtering obs. 7—12799
- In$_{0.53}$Ga$_{0.47}$As-InP, double-barrier structs., tunnelling 7—45446
- InP-SiO$_2$ MISFET, electron tunnelling into oxide traps 7—38764
- Ir, field evaporation rate, temp. depend. 7—33525
- (NH$_4$)$_2$PdCl$_4$, NH$_4^+$ rot. pot., inelastic neutron scatt. study 7—26676
- (NH$_4$)$_2$PtCl$_4$, NH$_4^+$ rot. pot., inelastic neutron scatt. study 7—26676
- NaOD, low temp. phase transform., heat capacity, calorimetric study 7—16785

tunnelling continued
- Nb, tunnelling of H and D trapped by O(N), anelastic relax. meas. 7—39572
- NbO$_2$, semicond., AC cond. meas., 4-196K, 5-92 kHz 7—45327
- NbO$_x$H$_y$, H tunnelling and local diffusion 7—58529
- 2H-NbSe$_2$ surface, atomic image, scanning tunneling microscopy study 7—12423
- NbSe$_3$, CDW gap, tunnel junction spectra 7—21897
- NbSe$_3$, harmonic mixing at large microwave power levels 7—64141
- NbSe$_3$, microwave harmonic mixing below threshold 7—64140
- O+H$_2$(HD)(D$_2$), trajectory isotope effects. pot. energy surfaces 7—65296
- O+HD reaction rates, variational transition state theory 7—59749
- PbHAsO$_4$, ferroelec. phase transitions, proton tunnelling effect, NQR study 7—53172
- Pd (100), surface topographies, SEM and scanning tunnelling microscopy studies 7—12436
- PdH$_x$, H diffusion by tunnelling 7—6880
- Pd$_{81}$Si$_{19}$, glassy, surface topographies, SEM and scanning tunnelling microscopy studies 7—12436
- Pt (100) surface, defect struct. rel. to catalytic behaviour, scanning tunnelling microscopy study 7—6930
- RbCl:Ag$^+$, hydrostatic press. depend. of tunnelling splitting 7—64590
- RbCu$_4$Cl$_3$I$_2$, luminesc. band profile, localised carrier tunnel recomb. effects calcs. 7—3075
- Si (001) inversion layers in parallel mag. fields, electronic g-factor 7—12783
- Si (111) surfaces, reconstruction study 7—2315
- Si MOS structures, anodically and thermally grown, breakdown field strengths 7—17113
- Si metal tunnel-thin insulator-semiconductor structures, effects of high field corners 7—64348
- Si Schottky diodes with dislocations, tunnelling transitions 7—52831
- Si:B, H, hydrogenation of B acceptor during electron injection by Fowler-Nordheim tunnelling 7—45504
- a-Si:H, photoluminescence, thermal quenching 7—53389
- a-Si:H/SiN$_x$:H (a-SiC:H) double-barrier structs., resonant tunnelling coeffs. 7—45467
- Si:H-Si$_{1-x}$C$_x$:H amorphous super struct., hot electron generation 7—52794
- a-Si:H-Si$_3$N$_4$:H double barrier structs., resonant tunnelling 7—52848
- Si/SiO$_2$ interface, oxide trap capture cross section and tunnelling emission, DLTS study 7—12875
- Si-SiO$_2$ interfaces, surface roughness and elec. cond. 7—2724
- SiO$_2$: N ultrathin films, carrier conduction, nitriding effects obs. 7—38790
- SiO$_2$ thermal oxide films on Si substrate, ramp-voltage-stressed I-V characts. 7—17112
- SnO$_2$:F-n-Si(poly) solar cells fabricated by CVD, characterisation 7—59859
- W (211), activated chemisorption of methane 7—52279
- W-vacuum-Au junctions, quasi-self-consistent barrier calc. 7—33065

tunnelling spectra
- acridine, adsorbed on Al$_2$O$_3$, tunnelling spectra study 7—52264
- fluoromethanol, rot.-vibr. anal., conformational stability, dipole moment anal. microwave spectra 7—19831
- formate ion incorporated into tunnel junction, quantitative analysis of inelastic tunnelling spectrum 7—38769
- graphite-Cs, C$_{24}$Cs(H$_s$)$_x$, domain mobility and rot. tunnelling spectrum 7—63525
- macroscopic variable, tunnelling spectroscopy 7—45435
- phenazine, adsorbed on Al$_2$O$_3$, tunnelling spectra study 7—52264
- phthalocyanines, IETS meas. *(German)* 7—42718
- polymer glow discharge films, IETS meas. *(German)* 7—42718
- Al, disordered films, density of states, electron-electron interactions tunnel conductance meas. 7—52393
- Al-AlO$_x$-Pb tunnel diode, NiCl$_2$.6H$_2$O soln. phase adsorpt., inelastic electron tunnelling spectra 7—12877
- CoCl$_2$, electronic transitions, IETS 7—50099
- CoSi$_2$-Si Schottky barriers, epitaxially grown, supercond. below 1.05K, tunnelling spectra 7—12860
- Hg$_{1-x}$Mn$_x$Te, magnetoresist. meas., effect of valence band spectrum quantisation at low temps. 7—52653
- InAs-superthin insulator-Au struct., inelastic electron tunnelling spectra 7—27436
- MgO barrier MIM structures, IETS study 7—12878
- NbSe$_3$-I-Pb, tunnel junctions under press. 7—52594
- PbTe:In, MIS struct., tunneling spectra of quasilocal impurity states 7—12869
- Re(CO)$_3$(MO)(MOH)$_2$, (M=Mg,Al), evidence of metal-O bond, Raman and inelastic electron tunnelling spectra 7—7708
- TlF, predissoc., tunneling, UV spectra 7—57141
- V$_3$Ga films, supercond. electron-phonon interaction spatial function, electron tunnelling spectra study 7—45578

tunnelling spectroscopy
- electron tunnelling spectroscopy and scanning tunnel microscopy, review 7—41545
- IETS, digital and high resolution meas. *(Chinese)* 7—61402
- IETs, lock-in-amplifier operating at 200 kHz 7—24734
- microscopy, review *(French)* 7—18930
- scanning, resolution, image and field states and thin oxide layers, theory 7—21054
- squeezable tunnelling junctions 7—7447
- tunnelling spectrometer using IEEE-48 instrument bus and IBM PC-XT controller 7—56383
- ultrasmall scanning tunnelling microscope for use in a liquid-helium storage Dewar 7—20075
- GaSe, surface phonons, inelastic electron tunnelling spectroscopy 7—63935

tunnels, wind *see wind tunnels*

turbidimeters *see turbidimetry*

turbidimetry
- glasses, turbid, for calibration and checking of nephelometers and turbidimeters 7—20141
- laser nephelometer, computer controlled for liquid conc. determ. 7—61365
- nephelometry for real-time obs. of dispersed hydrothermal plumes at oceanic ridges 7—60246
- particle sizing interferometer nephelometry 7—30070
- Silica aerogels, ethyl versus methyl sol-gel comparison, polar nephelometry studies 7—8312
- water pollution monitoring by turbidity meas. 7—28435

turbidity
see also turbidimetry
Angstrom's turbidity coeff., determ. from direct total solar irradiance meas. 7−66355
ethylene-propylene-diene elastomer, sorption and swelling in water and humid media *(Russian)* 7−27139
gelatin gels with coloured component at reduced pH values, turbidity, optical rot., viscoelastic props. 7−8320
glasses, turbid, for calibration and checking of nephelometers and turbidimeters 7−20141
Linke turbidity factor, optical thickness of clean dry atmosphere 7−47512
PMMA-phosphate plasticizer systems, phase equilibrium and struct. *(Russian)* 7−63515
polystyrene, monodisperse lattices, He-Ne laser transmission, attenuation coeff., specific turbidity meas. 7−62617
scaling formula for light propag. with multiple scattering in turbid medium 7−36882
self-accelerating turbidity currents 7−26338
water pollution monitoring by turbidity meas. 7−28435
Na_2SiO_3, sols, struct. making investigated by turbidity spectrum 7−8322
turbine generators *see turbogenerators*
turbines
see also compressors; gas turbines; hydraulic turbines; steam turbines; turbogenerators; wind turbines
axial flow turbine stages, design 7−31814
axial-turbine cascade, subsonic profile shape optimisation 7−11453
centrifugal separators for PWR power stations *(French)* 7−25102
nuclear plants, Terry turbine equipment and procedure modification for reliability improvements 7−36202
PWR, turbine trip transient, effect of pressurizer sizing 7−30604
quasi-three-dimensional flow of gas in turbomachine bladerow 7−6245
steel, Ni-Cr-Mo-V, for turbine disc, fracture mechanics anal. 7−13589
tidal power stations with bulb and Straflo type turbines 7−65401
turboalternators *see turbogenerators*
turbogenerators
cryoturbogenerator rotors, heating and convection of boiling fluid 7−31796
insulation heating monitoring by aerosol detection *(Russian)* 7−13822
superconducting turbogenerator rotors, stress-strain state investigation 7−13511
turbulence
see also atmospheric turbulence; boundary layer turbulence; cavitation; laminar to turbulent transitions; plasma turbulence; shear turbulence; turbulent diffusion; vortices
2D jet impinging on a wedge, mean flow props., skin friction coeffs. 7−16224
4-cylinder internal combustion engine, 2D intake manifold flow digital simulation 7−63170
accretion disks, model of hydromagnetic turbulence in differentially rotating disks 7−18354
active suppression of flow-excited cavity oscillations *(French, English)* 7−31774
adiabatic curvilinear surface, turbulent wall jets, integral relations 7−11488
aerodynamic noise principles *(Chinese)* 7−11208
aerofoil cascades, acoustic effects due to turbulence 7−16016
afterburning jets, temp. and conc. fluctuations, num. investig. 7−26362
air-water interface, mass transfer in eddies 7−11493
airflow, convective turbulent, light reflection, partial phase conjugation 7−43248
alcohol-water mixture, Benjamin-Feir turbulence in convective binary fluid mixtures 7−43916
annuli turbulent swirling flow, principal characteristics 7−20737
arbitrary waveform generator for turbulence experiments, computer-controlled 7−9846
arbitrary waveform generator for turbulence experiments 7−9846
atmospheric gliding entry, heating, scaling relations 7−51200
axisymmetric free jets having parabolic profiles at nozzle exit, hot-wire turbulence meas. 7−51260
axisymmetric headforms, cavitation inception, turbulence simulators effect 7−16223
axisymmetric opposed turbulent jet study 7−43995
barotropic geostrophic turbulence free evol. 7−29066
bounded jet flow, initial turbulence vel. distrib. function 7−26323
bubble columns, turbulent coalescing, gas holdup correl. 7−37516
buoyancy-driven turbulent flow in rectangular cavity 7−51068
Burgers' eqn., local small-scale chaotic solns., large-scale effects 7−51064
Carbopol-934 turbulent non-Newtonian mass transfer in circular tube 7−63187
cavitation effects 7−11206
cavity flows, 2D laminar and chaotic mixing 7−16263
channel flow, 3D coherent structures in near-wall region 7−37548
channel flow, heat and mass transfer modelling 7−26257
channel flow, rectangular turbulent promoters, computer generation 7−37549
channel flow, rotating system strong effects 7−1580
channel flow, turbulence struct., flow visualisation study 7−51071
chaos in classical dynamics, deterministic representation appl. 7−61091
chaos motions in velocity shear flow, Lorenz eqn. theory *(Chinese)* 7−18258
chaotic and turbulent behaviour of simple nonlinearsystems 7−11392
charged particles, spatial correl., turbulence influence 7−8324
chemically reacting transverse turbulent jet, flame struct. and vorticity 7−20809
circular channels, variable cross section, momentum, energy and mass transfer *(Russian)* 7−11549
circular cylinder, flow-induced vibration interference effects 7−57728
circular cylinder in fluid flow, turbulence transition, wakes 7−6191
circular jet with initially laminar boundary layers, turbulent interaction region 7−11486
circular structures, aerodynamic forces, turbulence and 3D effects 7−11450
circular tubes, average heat transfer coeff., empirical correl. 7−1565
closure, stabilization principle 7−16165
coaxial jets, turbulent mixing between H_2 and air 7−37505
coherent struct., spatial details 7−43870
complex flow measurement, two component LDV system *(Chinese)* 7−26366
compressible turbulent flows, 2D, Navier Stokes eqns. solved using finite element method 7−43960
turbulence continued
condensation, turbulent gas jets, elec. field control 7−11485
conference, Cambridge, England (March 1986) 7−40987
confined swirling coaxial jet flow multiple-scale turbulence model 7−31813
convecting fluid, temp. field, light scatt. meas. 7−51126
convection, anal. developed from 2D Boussinesq eqns. 7−16177
cosmos, relaxation time for transition from isotropic turbulence to microscopic chaos *(German)* 7−29848
Couette-Taylor flow, quasiperiodic to turbulent transition, strange attractors 7−63120
crystals, impurity distribs. due to growth-rate fluctuations 7−44589
curved square duct with different Reynolds nos., press. loss and mean velocity field meas. *(Chinese)* 7−11545
cyclone dust collectors, spherical, cone and semi-spherical forms, turbulent rot. air flows 7−16183
cylinder, circular, sectional aerodynamic calcs., free-stream turbulence scale effects *(Japanese)* 7−51206
Czochralski method simulation using tetradecane, Flow transitions visualisation 7−22463
developing flow at entrance to smooth pipe 7−51067
developing flow in U-bend of circular cross section 7−16267
droplet coalescence in turbulent liquid-liquid dispersions 7−51272
duct, rectangular, turbulence promoters, geometric shapes effect 7−37443
duct, scalene triangular, rib-roughened, turbulent friction factors study 7−57812
duct flow with nonuniform inlet conditions, 3D calcs. 7−51066
dynamic processes in turbulent flows 7−51063
dynamical systems describing turbulence, moments calc. 7−20692
eddy viscosity, subgrid-scale, anal., using numerical simulation results 7−43862
electrical arc, interaction with turbulent gas flow, semiempirical model 7−32155
electrostatic charge generation in the insulating systems of transformers *(Polish)* 7−37431
elliptical flow, 3D instability 7−20690
emulsions, coalescent stratification intensity in turbulent flow 7−6266
Ertel method modifications for turbulent exchange coeffs. calc. in oceanography 7−29072
experimental verification of numerical simulation of flows in cyclones and hydrocyclones 7−26296
field anal., non-stationary 2D estimation 7−36904
film flow in vertical pipes with and without interfacial stress, long-wave eqn. 7−11540
finite element analysis for turbulent flows—elastic shell interaction 7−43874
finite element calculations on turbulent flows in complex geometrics 7−43878
finite element methods in flow problems, conference, Antibes, France (June 1986) 7−41009
flames, struct. calc. 7−65321
flames, turbulence generation and suppression 7−8281
FLARE code for two-dimens. turbulent combustion 7−20815
flow behind disk, press.-strain correl model 7−31758
flow calcs., two eqn. model, time scale 7−31755
flow characts. in wake of circular cylinder *(Russian)* 7−1574
flow field in wall attachment device, characts. 7−26255
flow in cylindrical tube with internal perforated baffles, drag crisis 7−43867
flow meas. in ribbed-wall flow channel and comparison with model 7−57947
flow over nonrotating cylinder, press. distribs. and fluctuations meas. 7−43868
flow rate meas. by speed-area method using convergent nozzles 7−57959
flow struct. in rot. channel, large-eddy simulation 7−37442
flow visualisation, laser light sheet method for building environmental engineering 7−37570
flow with passive scalar, general tensor form 7−26262
flowfield visualisation, computer generated, for flow around cubic model 7−37447
fluid-particle motion in isotropic turbulent field, Lagrangian meas. 7−57962
fluidised beds, turbulent, mass transfer, burning rate 7−59761
forced convection of drag reducing fluids in vertical pipes, buoyancy effect on heat transfer 7−26278
forced Rayleigh scattering appl. to hydrodynamic meas. 7−11572
fractal facets of turbulence 7−51070
free convection at high Reynolds number, spectral Chebyshev solns. 7−37466
free convective heat transfer, temp. factor effect 7−63143
front motion, metastability and subcritical bifurcations 7−51056
frontiers in fluid mechanics, book 7−4640
fuel spray ignition by hot surface 7−51337
fully developed, intermittent passive scalar field scaling exponents calcs. 7−26261
fully developed 2D channel flow, visualisation and image processing 7−37574
fully developed flows, prediction using control-vol. FEM and Reynolds stress model 7−43875
gas dispersion in aerated turbine agitated vessels, flooding phenomenon 7−44011
gas flow in cylindrical channel, interactions of electric arc 7−44056
gas flow in rough tubes, turbulent energy balance 7−51312
gas transport during oscill. flow, effect of turbulent jet 7−8635
gas trunk-line transportation, math. model including turbulence and heat conduction 7−63220
gas-particle flow through Venturi tube 7−16240
gas-solid fluidised bed, freeboard region, two-phase flow behaviour 7−63209
gasdynamic system for flow meas. using microcomputer data-acquisition system 7−51349
gases, premixed turbulent combustion, second-order closure prediction 7−57942
geophysical flows, turbulent entrainment and the entrainment assumption 7−55064
Ginzburg-Landau eqn. soln. integrability and structural stability 7−37480
gravity currents, stratified fluids, turbulence effect 7−43949
grid mixing tank, turbulence meas. using laser-Doppler anemometer 7−1656
heat transfer from shrouded longitudinal fin array, tip to shroud clearance effect 7−63121

turbulence continued
helical nature, num. simulation 7−31763
high temperature gases in annular channel with cold walls, heat transfer in turbulent flow *(Russian)* 7−1557
high-temperature oxidizer heaters for a 500-MW MHD power station 7−63232
highly viscous pseudo-plastic non-Newtonian solns. in bubble columns, hydrodynamics, mixing 7−16234
homogeneous axisymmetric passive scalar in isotropic turbulence 7−57817
homogeneous turbulence, vorticity correl., rapid distortion theory 7−37445
hot-wire data corrections for high intensity turbulence 7−37448
hydraulic drag coefficient determination in Couette flow at high Re 7−43841
hydraulic turbine, draft tube, 3D turbulent flow anal. 7−51026
hyperbolic shear mixing layer, weakly amplified waves, nonlinear evol., Landau const. 7−63167
impulsively started circular cylinder, buoyancy effects on transient flow and heat transfer 7−26279
incompressible convection, scalar model 7−43912
incompressible flow around aerofoils, separation bubbles 7−31761
incompressible turbulent flows, simulation 7−63119
industrial turbulent flow, 3D, computation by FEM 7−43876
inertio-gravity waves effects on a decaying two-dimensional turbulence in rotation *(French)* 7−16197
intermittency and coherent structures in two-dimensional turbulence 7−37470
intermittent fully developed turbulence, scaling exponents 7−6188
intermittent turbulent flow 7−6193
internal combustion engine, flow field using Lagrangian-Eulerian method *(Chinese)* 7−20813
internal turbulent flow, separated flow region, Navier-Stokes solution 7−51069
interstellar giant molecular clouds, turbulence theory rel. to star form. 7−29525
inverse energy cascade, 2D turbulence, vortices meas. in a square box 7−16190
inverse energy cascade in two-dimensional turbulence, closure method 7−31766
inviscid fluid, universal short-wave instability of 2D eddies 7−20689
isotropic, homogeneous axisymmetric scalar fluxes 7−51072
isotropy approach of homogeneous turbulence, kinetic energy partition effect 7−6190
jet, agitated axisymmetric, turbulent transfer 7−26259
jet, organised struct., role in momentum and heat transport 7−44000
jet, similarity solns., local equilibr. assumption 7−11484
jet supersonic and subsonic mixing, parabolised Navier-Stokes anal. 7−11481
jets, carrier phase temp. and momentum distribs., num. and expt. investig. 7−51251
jets, turbulent, 2D, acoustic enhancement of widening rate and turbulence intensity 7−51261
jets, turbulent, influence of mode composition of acoustic perturbations 7−62945
Kolmogorov and Batchelor consts. relationship 7−43872
Kolmogorov flow, 2D turbulence, nonlinear chaotic eqn., asymptotic study *(French)* 7−37440
Lake Balkhash, USSR, macrocirculation and turbulent mixing arising from seiche action 7−9051
laminar jet, in narrow slot at large Reynolds number 7−1599
laminarisation and reversion to turbulence of low Reynolds no. flow 7−51039
laser homodyne technique meas. 7−26254
liquid boiling, heat and mass transfer 7−31627
liquid film, freely-falling, momentum and heat transfer 7−20712
liquid in vibrating cylindrical container, liquid surface response, turbulence, waves 7−16196
liquid metal turbulent jet, mixing and solidification in co-flowing stream 7−51250
longitudinal vortices in straight open channel, flow visualisation 7−37476
lubrication flow in annular channel 7−16266
magnetic fields transport 7−60512
mass transfer and turbulent flow of unstabilised stream in channel with obstacle 7−11391
mass transfer at mobile interface, computer simulation 7−43865
mean mass temp and conc. in turbulent chemically nonequilibrium pipe flow *(Russian)* 7−51342
measurement using a laser-2-focus velocimeter 7−57967
measurement with inclined hot wire probe, 3D angle calibration method *(Japanese)* 7−6338
measurements, pot.-difference method 7−57816
methane, turbulent jet discharge, planar imaging 7−20767
MHD flow, correls. containing fluctuations of electrical parameters 7−20807
microphone screens for acoustic measurement in turbulent flows 7−31593
mixing in 2D ducts with transverse jets 7−31757
MOCVD reactor cell, visualisation of flow and temp. profiles, appl. of holographic interferometry 7−22532
models, statistical refinement 7−1537
molecular gases, selective radiation transfer, turbulent pulsation 7−37446
molten metal flow pattern calc. in induction furnace *(German)* 7−31729
Monte Carlo turbulence simulation using rotational approx. to von Karman spectra 7−31759
natural convection, book 7−60909
nonequilibrium gas dynamics, chem. kinetics and turbulence 7−1647
nonisothermal wake behind axisymm. body, turbulent vel. and temp. fields 7−11423
nonpremixed series parallel reaction, mixing effect 7−31889
numerical simulation of viscous flows in hydraulic turbomachinery by the finite element method 7−26256
ocean, implications of bubble clouds meas. by automatically recording inverted echo sounder (ARIES) 7−8991
ocean, nature of structural instability of stratified bottom current 7−14310
ocean, wind mixing of stratified shear flow 7−34504
ocean current sensing, space-time analysis of acoustic scintillations 7−9258
ocean meas. under sea ice, medium-resolution turbulence cluster 7−9271
ocean near-bottom density currents, turbulent stress distrib. from numerical soln. 7−14308
ocean turbulence, energy components of synoptic eddy field 7−14303

turbulence continued
oil-water core-annular flow in pipe loop, turbulent lubricating film model 7−57922
one dimensional porous media, turbulent filtration eqn. 7−31879
one-dimens. flow system, spatial develop., use of strange attractors 7−51076
Pacific Ocean, chaotic behaviour in large and mesoscale motions of Kuroshio current 7−55073
equatorial Pacific Ocean, vertical turbulence struct. and turbulent exchange 7−14307
particle deposition from turbulent stream to rough surfaces 7−57815
particle-gas flow, turbulent pulsations study 7−6292
pipe flow, gas, permeable walls, turbulent flow, heat transfer, phys. props. temp. depend effect 7−63217
pipe flow, heat transfer 7−43860
pipe friction coefficient of turbulent flow in a circular pipe 7−43871
plane turbulent jet propagating in transverse flow, rarefaction 7−11487
plane wake, heat transport meas. 7−31760
plate with jet impingement, holographic visualisation of pressure distrib. 7−37569
polymer solutions, cascade, theory of drag reduction 7−11474
Prandtl number, turbulent passive scalar field 7−31765
pressure fluctuations in homogeneous isotropic turbulence *(German)* 7−57813
propane-air flames, explosion venting, 2D Navier-Stokes eqns. 7−51340
pulse jet structure, energy balance in transient zone, turbulence 7−20768
PWR turbulence modeling during high pressure coolant injection, COMMIX-1B code 7−10255
radial attaching jet flow control, flow before reattachment point 7−20769
radial reattachment turbulent jet flow, press. distrib. 7−26324
random force method, Lagrangian-Eulerian probability relations 7−51074
random incompressible motion on 2D and 3D lattices, appl. to turbulence 7−4772
random-walk turbulent dispersion models, generalised random forcing 7−31764
reacting flow simulation, based on spectral characts. eqns. 7−26361
reacting flows, turbulence, spectral functions 7−1646
reactive flow, num. computation *(French)* 7−57943
reattachment of flow downstream of sudden pipe expansion, turbulent heat transfer 7−51134
rectangular cavity flow, external turbulence influence 7−51315
rectangular cavity with moving wall, turbulent 3D fluid flow using FLOW3D code 7−37441
renormalization-group analysis of turbulence 7−11390
rippled interface between liqs. of different densities, shock wave effects 7−58572
rod bundles, turbulent inclined flow prediction 7−37439
rotating Benard convection, transition to turbulent flow, instability heat transfer meas. 7−26253
rotating channels, turbulence, spectral characts. 7−43869
rotating concentric cylinders, same or opposite directions, turbulence and vortices 7−16255
rotating system scalar flux, two-scale direct-interaction approach 7−26294
rough annuli, heat transfer anal. 7−1548
round jets, turbulent and heated, similarity solns. 7−1598
self-preserving, variable-density, turbulent free jets 7−1597
semi-infinite bodies, turbulent flow, Navier-Stokes eqn. soln. 7−16166
separation bubble, turbulence modelling 7−31756
simulation of turbulent flow in 2D labyrinth 7−43873
slugs in pulsatile pipe flow, behaviour 7−37551
solar convective loop air thermocirculation *(Italian)* 7−20729
solar photosphere, turbulent model for small granules 7−66550
solid-liquid two-phase flow, laser Doppler velocimeter meas. and turbulence props. 7−37533
soliton turbulence, transport by negative eddy viscosity 7−14790
spatio-temporal behaviour of flows with circular constraints 7−43863
spatio-temporal coherence and chaos, conf. Los Alamos, USA, Jan. 1986 7−48158
spherical bubbles in turbulent flow, asymptotic diffusion coeffs. 7−6297
spot dynamics, review 7−6194
statistical characteristics of intermittent liquid film flow 7−20698
statistical physics, conference, Oaxtepec, Morelos, Mexico (Aug. 1985) 7−9584
statistical theory, history 7−9643
steady-state flow in channels, heat transfer calcs., three-parameter model 7−51123
steam jet impingement on high temp. ZrO_2 surface to produce H_2 7−54362
stellar atmospheres, numerical approach to turbulent compressible convection in deep atmosphere 7−47690
stellar interiors, convective turbulence with rot. and mag. fields 7−29388
stellar turbulent flow, unsteady nonlinear Eddington-Vogt-Sweet circulation 7−18403
stirred reactor, flow characts., flow visualisation and torque meas. 7−57963
stirred tanks, turbulent flow, two-scale model 7−51065
stirrers and induction pumps, liquid metal velocity distrib. effects on electrodynamic forces *(Polish)* 7−63231
Stokes flow, Lagrangian turbulence, chaotic particle motion 7−31754
stratified fluids, stationary closed streamlines, vortex pair soln., turbulent flow theory 7−6269
superfluid homogeneous turbulence, absence of small scale structure 7−21556
supersonic turbulent flow through square duct, cross-flow vel. profiles 7−20748
surface pressure in 3D turbulent jet/boundary interaction 7−6262
surface thermophysical properties effect on heat transfer in turbulent flow 7−26271
surfactant systems, drag reduction, physico-chem. props., rheology 7−43992
swirling flow in diffusers, Navier-Stokes eqn. soln. 7−6222
Taylor-vortex flow, dynamical system 7−11434
theory, generalised Kolmogorov-Fokker-Planck equations 7−51062
thermal explosion critical conditions, turbulent natural convection effects 7−63122
thermal mixing layer evolution 7−51075
thermal mixing layer in grid turbulence 7−37444
thermal plume, turbulent struct., vel. field *(French)* 7−31762
thermal radiation in turbulent flows—temperature and concentration fluctuations 7−26258
thermally compressible fluid, finite element simulation 7−43877

turbulence continued
thin liquid films, vortex couples, von Karman wakes, turbulence 7−43935
trailing-edge mesh influence on skin friction, Navier-Stokes calcs. 7−20740
transfer processes, flow swirl effect 7−43927
transition intermittency in open flows, and intermittency routes to chaos 7−44055
transonic flow, Navier-Stokes computations with two-eqn. turbulence model 7−31829
triangular lattice gas automaton, nature of turbulence 7−41302
tubes with internal turbulence promoters, heat transfer coeffs. 7−43889
turbidity currents, self-accelerating 7−26338
turbulent flow meas., hot-wire anemometry, evaluation of analytical systems 7−16274
turbulent periodic unidirectional 3D flow, negative-viscosity phenomena 7−57810
turbulent Reynolds stresses in the swirling radial free jet flow *(French)* 7−63191
turbulent thermally buoyant flow, statistical modelling 7−31731
two-point-moment closure models 7−6192
underheated liquid, surface boiling, forced motion, Reynolds analogy appl. 7−31806
unstationary flow, particle behaviour in Basset-Boussinesq-Oseen eqn. 7−11404
unsteady jets, 3D surface shape estimation by image processing 7−37573
vapour bubble growth rate in turbulent flow, calc. 7−16239
vapour condensation burst instability 7−1539
vapour condensation rate 7−1538
velocimetry in laminar and turbulent flows using the photothermal deflection effect with a transient grating 7−31901
vibrating tubes in crossflow, local and average heat transfer coeffs. 7−51095
viscous turbulent models, general eqns., expansion in nonorthogonal curvilinear coords. 7−16164
vortex breakdown over delta wing *(French)* 7−11433
vortex pairs, distribution and influence on double-velocity correlations 7−57860
vortex structure in plane mixing layers, meas. and models 7−16191
vortices, rot. config., nonlinear evolution 7−43932
vorticity-transmission equation for viscous flow, expansion in nonorthogonal curvilinear coords. 7−16163
wake, axisymmetric body, velocity and temperature profiles study 7−63155
wake struct. behind circular cylinder in steady flow and perturbed flow, comparison 7−43920
wakes, turbulent, pseudo 2D, development 7−57846
wakes behind stationary cylinders, vortex street formation, wake instability model 7−16182
wall pressure spectrum at subconvective wavenumbers 7−51073
wall-turbulence hypothesis, refinement 7−57814
water, cold, transient and steady-state vertical natural convection flow, meas. and visualisations 7−43902
water, supercritical, heat transfer and turbulent flow in vertical tube 7−51142
water, turbulent flow at supercritical press. in smooth channel, drag coeffs. determ. 7−43866
water, turbulent pipe flows, forced convection correl. in near-critical region 7−51093
water media, refractive index, macrocorrel. bond effects, polarisation-interference method studies *(Russian)* 7−59174
weakly turbulent interfaces, order and complexity in Kuramoto-Sivashinsky model 7−43864
CO_2 interface evolution in shock tube, turbulent mixing zone 7−11460
CO_2, turbulent pipe flows, forced convection correl. in near-critical region 7−51093
CO_2-H_2O, mass transfer coeff., turbulence in open absorpt. channel 7−6189
CO_2-H_2O-N_2, laminar and turbulent mixing, vibr. relax. 7−11459
H II regions internal motions, turbulence theory for random component 7−40902
H swirling turbulent diffusion flames, turbulence intensity study 7−26287
H_2, turbulent jet diffusion flame, conserved scale probability density functions 7−26260
He, atom, with turbulent flow, two electron group model for RF ionisation 7−31921
He II, transient phenomena and nonuniform superfluid turbulence 7−27043
He, turbulent convection at supercritical press. under nonisothermal conditions 7−31805
^{3}He in superfluid ^{4}He, correcting dil. solns., superfluid turbulence 7−44946
^{3}He-^{4}He mixture, Benjamin-Feir turbulence in convective binary fluid mixtures 7−43916
^{4}He superfluid, first and second sound, stochastic wave fields, acoustic turbulence calcs. 7−44938
^{4}He, superfluid, quantised vortex lines, turbulent motion 7−52168

turbulence, atmospheric *see atmospheric turbulence*

turbulence in shear flow *see shear turbulence*

turbulent diffusion
aerosol particles, gravitational settling, turbulent flow field 7−51284
air pollution, Monte Carlo simulation of plume dispersion in turbulence 7−54396
atomised liquid fuel, turbulent diffusion flame, fine struct., using pneumatic nozzle 7−17791
chaos-induced, diffusivity 7−43885
dynamo problem and mag. fields turbulent transport 7−60511
free turbulent flow diffusion theory 7−11401
Handlos-Baron model for simple drop extraction in turbulence, limitations 7−16219
heterocoagulation by bubbles in a turbulent multiphase flow. 7−37529
homogeneous turbulence, chem. reactive species spectra 7−6204
jet diffusion flame in co-flowing air stream, turbulence struct. 7−43996
line-source near a surface, steady reversing shear flow, diffusion eqns. anal. 7−43884
methane-air turbulent diffusion flames laminar-flamelet modelling 7−57938
mixing process in heat exchanger, heat and mass transfer 7−37452
nonpremixed gases, turbulent diffusion combustion 7−1648
passive scalar diffusion, second order modelling 7−8468

turbulent diffusion continued
reacting and non-reacting turbulent liquid mixing layer, entrainment and mixing, composition meas. 7−16174
rotating cylinder in quiescent fluid, turbulent shear flow, flow visualisation, eddies 7−16168
third-order scalar transports, composite time scale model 7−51092
Toms effect, reduction of turbulent diffusivity by addition of polymers *(French)* 7−16173
two-phase suspension flow, particle transverse migration, turbulent diffusion 7−57905
two-phase suspension flow, turbulent particle transport, unified theory 7−57907
unsymmetrical 2-D diffuser characts. in steady and unsteady flows *(Japanese)* 7−6203
vertical spread of assive tracer from elevated source, nondimens. character and integral scale 7−6202
wall jet diffusion combustion, heat exchange process, num. investig. 7−26266
turbulent flow *see turbulence*
Turing machines
see also automata theory
symbolic substitution logic for digital optical computing 7−10859
turntables *see gramophones*
TV *see television*
twin boundaries
α-brass, SCC initiation after exposure to $NaNO_2$ soln. 7−65173
films, coercive force establishment, magnetoelastic interaction effects *(Russian)* 7−7558
metallic crysts., twin boundary reversible shift dynamics, dislocation pile-up model *(Russian)* 7−16573
metals, HCP, computer simulation of twin boundaries 7−38014
metals, twin-boundary energies and entropies, const. press. Monte Carlo calc. 7−2028
quartz, Brazil twin and stacking fault boundaries, X-ray dynamical diffr. contrast images 7−26768
shape memory alloy, intrinsic stresses evaluation by AE 7−39829
SOI films, twin stabilised planar growth 7−38392
α'-Ag-Mg, annealed, twin like domain boundary, high resolution electron microscopy 7−26763
Al-Cu-Mg, growth by Stepanov's method, macro- and microstructure, strength, plasticity meas. 7−33546
Al-Si eutectic, Sr-modified, fibrous Si cryst. morphology, TEM study 7−28015
Au, twin boundary struct. determ. of twinned bicrystals, convergent-beam electron diffraction study 7−51786
Cu single crysts., low temp. recrystallisation characts. *(Russian)* 7−17546
Cu_3Au ordered alloys, twin boundary structure, TEM anal. 7−2027
Fe-Si (5.8 at.%) bicrystals, plastic deform., coincident twin boundaries 7−13502
GaAs molecular beam epitaxial layers, defect density reduction by thermal annealing, TEM study 7−45041
$Hg_{1-x}Cd_xTe$ crysts., lattice defect imaging, high resolution electron microscopy obs. 7−51769
$MgO(Al_2O_3)_2$ spinel, first-order twin boundaries struct., TEM obs. and computer simulation studies 7−51782
$MgO(Al_2O_3)_2$ spinel, lateral twin boundaries struct., electron microscopy obs. and computer simulation studies 7−51783
Mn-Cu alloy, nonlinear anelasticity and temp. depend. lattice consts., nonlinear resonance curve meas. 7−63741
Nb single crystals, twinned interlayers, superconductivity at fields higher than H_{c2} *(Russian)* 7−52917
Ni, grain boundaries in very clean tips, SEM, FEM obs. 7−52148
Ni single crysts., low temp. recrystallisation characts. *(Russian)* 7−17546
Ni-Mn, microtwinning, $\beta \rightarrow \theta$ martensitic transform 7−32455
$NiAl_2O_4$, spinel growth, thin film Al_2O_3 substrate, topotactic relationships 7−58717
PbS-Bi_2S_3, chemically twinned phases, transformation to Galena struct. 7−12078
Si, $(\bar{2}11)$, twin boundary, rigid body translation 7−21223
Si dendritic web solar cells, twin plane effects on minority carrier diffusion length 7−13868
Si, low-angle silicon sheet (LASS) material, microstructure exam. 7−21231
Si, polycrystalline, H_2 passivation, grain boundaries, EBIC technique 7−26769
Si, ribbons, γ-irradiated, defect form., photoluminesc. investig. 7−46147
Si strips, grown by Stepanov's reversed method, strength, struct., electrophysical props., effects of thermal conditions during growth, photocell appl. 7−32325
Si, twin boundary struct. determ. of twinned bicrystals, convergent-beam electron diffraction study 7−51786
β-SiC monocryst. thin films, ion implantation and annealing, amorphisation and recrystn. processes study 7−16596
Ta, grain boundaries in very clean tips, SEM, FEM obs. 7−52148
W, grain boundaries in very clean tips, SEM, FEM obs. 7−52148
ZnS, epitaxial film, TEM and photoelectron study 7−53408
ZnSe epitaxial films, twin boundaries, high resolution TEM obs. and computer simulation studies 7−51784
ZnSe epitaxial layers on GaAs(100) substrates, anomalous twin boundaries, TEM obs. 7−27198
twinning
see also twin boundaries
A15 superconductors, mechanisms for martensitic transformations 7−38188
coincidence site lattice theory, appl. to cryst. struct. description 7−63535
crystals, elastic, type-2 twins 7−2026
icosahedral and decagonal quasicrystals, twins of 820-atom cubic cryst. 7−58189
laminates, elastic, twinned crystal, linear response 7−43665
metallic crysts., twin boundary reversible shift dynamics, dislocation pile-up model *(Russian)* 7−16573
palmitic acid, crystallisation, K-like twins 7−58288
plastic deformation, simple model 7−38018
polydiacetylene single crystal fibres in composites, stress-induced twinning 7−16567
polyethylene crystals, twinned, nucleation controlled growth 7−44401
quartz, douphine twinning, acoustic microscopy obs. 7−21233
semiconductors, grain boundaries, at. struct. 7−6638
steel, austenitic stainless, high press. deform., twinned struct., TEM obs. *(Russian)* 7−46578

twinning continued
steel, duplex stainless, ferrite-austenite flow localisation during plane strain punch stretching 7—17593
steel, growth under impact tension 7—28105
steel, metastable, anomalous plasticity, slip, microtwinning and martensitic transformations *(Russian)* 7—8056
steel, Mn, Hadfield, strain hardening, plastic flow 7—28055
steel, N alloyed, mech. prop.-struct. relationship 7—3316
steel, packet martensite deformation, struct. and crystal geometry *(Russian)* 7—3357
steel, stainless, duplex, austenitic-ferritic, cavitation erosion 7—65149
steel, stainless, FCC structure, multiple grain-boundary contacts *(Russian)* 7—12079
steel, stainless, ferritic, annealed hot-rolled plates, texture heterogeneous, correl. with plastic deform. struct. *(French)* 7—13483
superalloys, crystalline struct. and growth twin of Cr_7C_3, electron diffr. *(Chinese)* 7—12077
Al-Cu (2 wt.%) single crystals, rolled, shear band form. rel. to ϑ' precipitates 7—3385
Al-Fe, rapidly cooled, $Al_{13}Fe_4$ tenfold twins, TEM obs. 7—63631
Al-Ge alloys, obs. of Ge pentagonally twinned precipitate needles 7—12297
Al-Si (12.7 wt.%), eutectic microstruct., twinning and branching mechanisms 7—17521
Au crystals, small, surface twin form., high resolution electron microscopy 7—44566
Au, defects in multiply-twinned particles 7—16558
Au, structural rearrangements in small metal particles at atomic resolution 7—16576
Be, technical grade, size instability during low temp. thermal cycling *(Russian)* 7—33699
Bi_2S_3-$PbBi_2S_4$ system, chemically twinned phases, X-ray diffr., TEM obs. 7—32462
Cd, twin crossing during dynamic loading, dislocation interactions *(Russian)* 7—6629
$Cd_xHg_{1-x}Te$ layers, MOVPE, CdTe substrate orientation effect, RHEED, SEM obs. 7—59447
$Cd_{1-x}Mn_xTe$ films, hot wall vacuum growth, twinned struct. 7—53593
CdTe and CdZnTe, single-crystal substrates, struct. characterisation 7—32769
CdTe high-resistivity undoped crystals, defects, EBIC studies 7—21211
CdTe, MOVPE on {111}CdTe, twin nucleation 7—33579
Cr-base alloys, high-alloy, plasticity, effect of twinning *(Russian)* 7—46582
Cu electrocrystallisation on indifferent substrates, twinning 7—53639
Cu, FCC structure, multiple grain-boundary contacts *(Russian)* 7—12079
Cu-Al, dynamic recrystallisation, grain boundary bulging 7—39540
Cu-Ni, compositionally modulated thin films, double positioning twinning 7—38351
cu-Ni, dynamic recrystallisation, grain boundary bulging 7—39540
Cu-Ti-Al single crysts., strain hardening due to multiple twinning *(Russian)* 7—46501
Cu-Zn-Al, shape memory alloy, type II twins in self-accommodating martensite plate variants 7—22752
CuAlNi deformed single cryst., internal friction amplitude depend. *(Russian)* 7—13491
CuAu I and II, initial ordering stages, twinning, periodic antiphase boundaries, electron microscopy 7—28032
CuNiSn, high-strength heterophase cryst., deform. mechanism investig. *(Russian)* 7—13509
CuPd, disordering by 14 MeV Cu ions between 296 and 823 K 7—51877
$Cu_{1.85}S$, digenite, single crystal, structural transitions 7—12259
Fe, dislocation-mechanics-based constitutive relations for material dynamics calcs. 7—63706
α-Fe, grain boundaries of island crystals, lattice mismatch, graphical description method 7—38016
Fe, oxidation, twinning and precipitation reactions 7—17733
Fe-base ferrite alloys, deform. behaviour, influence of mech. twinning *(German)* 7—17603
Fe-Ni-C alloys, martensitic transform., effect of soln. strengthening of austenite 7—53728
Fe-Pd, thermoelastic FCC-FCT martensitic transform. mechanism, TEM obs. 7—28041
GaAs crystals, selective etching and photoetching of CrO_3-HF aq. solns. 7—32442
GaAs, dislocation rosette generation round Vickers indentations, mobility and twinning, TEM study 7—63618
GaAs:Si, ion implanted, amorphisation and epitaxial regrowth, defect depth profiles 7—12088
GaAs-$(Ca,Sr)F_2$ heterostructure interfaces, twinning, Raman spectra 7—13148
GaP films, MBE growth on Si(211), defects obs. 7—58695
Ge droplets, undercooled, microstruct. 7—65013
Ge-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7—12566
$Hg_{1-x}Cd_x(Mn_x)Te$/CdTe superlattices, twin faults, X-ray obs. 7—45036
$KPbLaF_6$ solid soln. twinned cryst. struct., lattice parameters and point group, X-ray diffr. studies *(French)* 7—58231
$KTiOPO_4$ crystals, 90° twinning struct. determ., cryst. modules technique *(Russian)* 7—16572
$Li_3Fe_2(PO_4)_3$, microtwinning, X-ray struct. investig. 7—44567
$LiKSO_4$, domain structures and phase transitions, SO_4^- EPR study 7—38937
$Li_3Sc_2(PO_4)_3$, microtwinning, X-ray struct. investig. 7—44567
Mg_2NiH_4, struct., thermal and elec. props., rel. to covalent bonding 7—21184
Mg_2NiH_4, twinning at unit cell level, low temp. phase, electron microscopy study 7—26762
$MgWO_4.2H_2O$, cryst. struct., topotactic dehydration, X-ray powder diffr. study 7—32393
Mo permalloy films, mag. domain walls stability, external mag. field, Lorentz microscopy 7—45780
$NaNbO_3$-Nb_2O_5-WO_3 system, crystal struct., twinning, fourling and antiphase boundary operations 7—63567
$Na_5YSi_4O_{12}$, twinning, crystal struct. 7—21226
Ni, deformed, microtwin formation 7—38095
Ni, electrodeposited films, occurrence of multiply twinned particles 7—38373
Ni-Mn, microtwinning, $\beta \rightarrow \theta$ martensitic transform 7—32455
Ni-Mo-Cu-Fe-Mg, coarse-grained PC permalloys, annealing-twin density *(Japanese)* 7—3330

twinning continued
Ni-P coating, electrolytic, electron microscope obs. of struct., P content depend., amorphous layer form. 7—8157
NiO-CuO solid solutions, evidence for long-range cation order, TEM investig. 7—44757
Ni_3V alloys with periodic antiphase boundary struct., dislocation motion 7—63620
Pd particles, multiply-twinned, direct atomic imaging 7—44565
Pt microcrystals, charact. using high resolution electron microscopy 7—32676
Si, polycrystalline films, low press. CVD growth and annealing, morphology obs. 7—3187
Si, polycrystalline layers, growth shape and struct. investig. 7—2405
Si tube, growth from shaped seed, struct. development 7—32326
Si, twinning partial dislocations, velocity 7—63629
Si, twinning partial dislocations, effective stresses, anal. 7—63630
Si:BF_2^+ (001), ion implanted, residual defects, cross-sectional TEM study 7—32471
Si:Ti(V)(Cr)(Fe)(Zr) polycrystalline solar cells, structural, elec., photovoltaic props., impurity effects 7—39990
Si-CaF_2-Si heteroepitaxial structures, MBE grown, twinning, topography, channelling, TEM, SEM 7—12566
Si-SiO_2 SOI structure, lateral solid phase epitaxial growth, TEM study 7—38369
SiO_2-rich ceramics, intergrowth relationships between SiO_2 polymorphs, quartz, cristobalite and tridymite 7—13445
$Sn_{1-x}Dy_{4+x}Os_6Sn_{18}$, disordered II′ phase, structural study, electron and X-ray diffr. meas. 7—63549
$Sn_{1-x}Tb_{4+x}Rh_6Sn_{18}$, disordered II′ phase, structural study, electron and X-ray diffr. meas. 7—63549
$Tb_{0.27}Dy_{0.73}Fe_2$, twinned [112] crystals, magnetostriction 7—53105
Tc_2P_3 twinned cryst., space group and lattice constant, X-ray diffr. determ. 7—1979
Ti alloys, ω-phase, special features of twinning *(Russian)* 7—44570
Ti, heat treated, softening, in situ HVEM obs. 7—17548
Ti, impact produced adiabatic shear bands, deform. twins, dislocation density, HVTEM obs. 7—22753
Ti-Cr, β-eutectoid, deform. behaviour of retained β phase 7—39589
Ti-Ni (51 at.%), aged shape memory alloy, precip. morphology, comp., cryst. struct. 7—28049
Ti-V(Mo)(Nb)(Fe), metastable β-phase alloys, mech. twinning TEM obs. 7—6633
$TlNO_3$, ferroelastic switching, mech. twinning, at. mechanism, symm. anal. 7—2186
ZN single crystals, creep, dislocation struct., high press. effect *(Russian)* 7—59578
ZnS films, MBE growth on Si (100), substrate temp. effects 7—39384
ZrO_2, Y_2O_3 partially stabilised, microstruct. after ageing at high temp. 7—65061
ZrO_2-Y_2O_3, displacive cubic to tetragonal phase transform. 7—65027
ZrO_2-Y_2O_3, rapidly quenched, microstruct. evolution by annealing 7—22737
ZrO_2-Y_2O_3, Y-TZP, toughened, microstruct., TEM and electron diffr. study *(Japanese)* 7—22634
ZrO_2-Y_2O_3 system, microstruct. resulting from diffusionless cubic to tetragonal phase transform. 7—39501

twist boundaries
alloys, ordered, $L2_0$ and $L1_2$, grain boundary structs., twist boundaries, geometrical models 7—63628
glide of twist boundary 7—2031
interfaces, internal, diffr. effects, general considerations and grain boundary effects 7—12495
rigid body expansion meas. at twist boundaries 7—16574
structural eval., electron diffr., matrix reflection fall-off, interference effects and coherence conditions depend. 7—11855
structure and interatomic pots., computer modelling studies 7—16578
Au crystallites, annealing, grain boundary untwisting and untilting, dislocation climb and glide 7—12076
Cu, vacancy diffusion along (100) twist boundaries *(Russian)* 7—2265
Fe-Au, solute segregation, grain boundary structural transform. 7—22687
MgO bicrystals, (110) tilt boundaries and (100) twist boundaries *(Japanese)* 7—21232
MgO:Fe, small angle [001] twist boundaries, Fe solute effect 7—32459
Nb_3Sn film, grain size, grain boundaries and diffusion, TEM study 7—21222

twistors *see magnetic storage*

two dimensional electron gas field effect transistors *see high electron mobility transistors*

two-dimensional spectra
basic pancreatic trypsin inhibitor, amino acid spin systems, MQF 2D correlated NMR spectro anal. 7—25543
biomacromolecules, aq. solns., 2D NOE spectra, solvent effects 7—36656
electrical contact surface, two-dimens. FTIR mapping 7—48882
globoside, oligosaccharide headgroup, soln. conform. study, ^1H NMR spectral methods anal., pot. energy calcs. 7—25361
heteronuclear relayed coherence transfer NMR spectroscopy, 2D, sensitivity enhanced 7—9857
n-hexane, partially oriented in liq. crystal, dipolar coupling consts., NMR methods study 7—25547
(−)α-hydrastine, negative effect detection in heteronuclear 2D NOE spectroscopy 7—25574
nitroxide radical, two dimensional Fourier transform ESR spectra 7—19904
NMR spectra, two-dimensional, simulation 7—35544
proteins, labelled, 2D ^1H NMR investig. using half-filters and ^{15}N labelling 7—48808
rigid molecule, quantitative 2D heteronuclear NOE spectroscopy 7—25575
spin system, multiexponential longitudinal and transverse relax. in 2D NMR 7—25539
viomycin polypeptide, H exchange rate, NOESY expt. 7—10790
$B_3H_6X_2^-$, ^{11}B-^{11}B COSY NMR, substituent effects 7—19898
$B_3H_7X^-$, ^{11}B-^{11}B COSY NMR, substituent effects 7—19898
Cu II complexes, interligand interaction, spectrosc. props. *(Japanese)* 7—57093
^1H 2D chemical shift correlation spectra, image anal., symm. rules 7—35559
Ne^{7+}+He, transfer excitation in low-energy collisions, spectroscopic meas. 7—15696

two-dimensional spectroscopy
  bilinear rotation pulses, effects of long-range and homonuclear couplings 7−48813
  COSY-2D spectra of solids, *D* quadrupole coupling consts., signs 7−48801
  decapeptide, cyclic, correlation of connected transitions, 2D NMR 7−35543
  FTIR mapping of curved surfaces 7−48882
  NMR, 2D correl. of directly and remotely connected transitions by 2-filtered COSY 7−24672
  NMR, correlation of connected transitions 7−35543
  NMR, four-quadrant pure-phase representation, fully automated 7−24670
  NMR, simulation by numerical density matrix calcs. 7−35550
  NMR, T_1 relaxation meas. 7−48800
  NMR 7−24663
  NMR spectroscopy, mixed-mode representation 7−24668
  pulse techniques for RF field strengths and ^{1}H multiplicities 7−61363
  quadrupole interaction parameters, 2D solid state nutation NMR, density-matrix calcs. 7−53153
  spin-echo correlated spectroscopy, J scaling, small coupling correls. 7−35545
  tetraglycidyl methylene dianiline, ^{1}H spectrum, FT 2D NMR obs. 7−19899
  two dimensional Fourier transform ESR spectra 7−19904
  ^{1}H NMR spectra, editing using X half-filters appl. to labelled proteins 7−48808

two-phase flow
  3D 2-phase immiscible flow displacement, finite element analysis and error analysis *(Chinese)* 7−16229
  acceleration waves in particulate suspension 7−6285
  acoustic continuity transducer for flowmeters with two-phase media 7−57960
  aerosol particle, thermophoresis at arbitrary Knudsen numbers 7−44014
  aerosol particles, gravitational settling, turbulent flow field 7−51284
  air flow, rot. and vibr. spheres heat transfer 7−43928
  air flow with fine droplets, evaporative cooling heat transfer 7−11508
  air-blown electric arc, gas dynamics 7−11817
  air-water (hexadecane), natural convection in complex enclosed space, heat transfer 7−11421
  air-water countercurrent flow in horizontal tubes, flooding study 7−57902
  air-water interface, mass transfer in eddies 7−11493
  air-water transient flow, pressure drop and void fraction 7−6288
  air-water two-phase flow in annuli, phase distrib. 7−44009
  air-water upflow in vertical annular channels, true gas content expt. 7−16265
  air-water/steam-water jets, confined two phase, analytical entrainment model *(Chinese)* 7−1596
  annular dispersed two-phase flow in vertical pipes 7−20781
  annular two-phase flow, void fraction 7−44023
  areal micellar polymer flooding calc. 7−6307
  atomiser electrostatic spray nozzle, aerodynamically shaped for insecticide selective deposition 7−51262
  balance equation in mechanics of two-phase media, G-asymptotic form 7−18570
  binary liquid mixture, late-stage phase separation and hydrodynamic flow, light scatt. meas. 7−58486
  boiling flow systems, freq. response two-fluid model 7−1603
  boundary layer, frictional stress meas. 7−44018
  breaks in horizontal pipe, two-phase and stratified flow 7−770
  bubble columns, turbulent coalescing, gas holdup correl. 7−37516
  bubble diameter meas. by fringe method, using laser Doppler anemometer 7−16278
  bubble growth and collapse, transient boiling heat transfer in narrow channel 7−26346
  bubbling flow, local volume gas fraction, time history meas. *(German)* 7−25108
  bubbly flow, simultaneous bubble and liquid vel. meas. using LDV 7−20777
  bubbly flow, void propag., interphase momentum interaction effects 7−1606
  bubbly gas-liquid mixture through nozzles, transient interphase energy transfer 7−6281
  CANDU horizontal subchannels, numerical simulation of two-phase flow 7−10207
  CANDU thermohydraulic codes, transient two-phase velocity difference model for drift calcs. 7−30608
  capillary condensation in cylindrical pore, stability 7−1623
  cavity fill-up in rotor blades by liq., anal. 7−44020
  centrifuges, cylindrical, with compartments, sedimentation, Coriolis force reduction 7−20736
  cocurrent two-phase upward flow through packed bed, liq. hydrodynamics simulation 7−57897
  compositional two-phase flow behaviour in pipelines, press. and temp. profiles prediction 7−20800
  concentration and droplet size distrib., simultaneous and instantaneous meas. 7−37535
  conf., Dresden, Germany (March 1985) 7−24266
  conference on two-phase flow dynamics, Lake Placid, NY, USA (Aug. 1984) 7−4627
  confined air-water jets flow-field measurmeents and physical processes 7−37527
  constrained gas-liquid jet in isothermal cocurrent flow, hydrodynamics 7−44015
  control valve dimensioning with two-phase flow *(German)* 7−31860
  convective heat transfer in an electric field 7−63133
  counterflow phenomena meas. in ^{4}He cycling dilution refrigerator 7−2290
  crossflow boiling heat transfer in tube bundles 7−11511
  demonstration device for nuclear thermal hydraulics education 7−29647
  density wave oscillations, stability map construction method, reactor appls. 7−5378
  disperse boundary layer, condensate pulsation characts., effects on heat transfer and friction 7−51281
  dispersion in two phase flow through porous media 7−6303
  displacement in two phase flow in porous media, finite element simulation 7−51295
  drop interactions, condensation particles, lag, growth rate, Laval nozzle flow 7−1619
  droplet field visualization and characterization via digital image analysis 7−37577

two-phase flow continued
  drops, evaporation anal. taking account of variability of gas props. 7−44029
  dust particles, deposition, interaction with shock wave 7−1610
  electromagnetic flowmeter sensitivity with two-phase flow 7−37522
  equilibrium adiabatic flow, thermodynamic existence conditions for phases 7−31891
  fibre-optic liquid film sensor for 2-phase annular and stratified flow 7−37611
  flooding in elbow between vertical and horizontal (near-horizontal) pipes 7−1632
  flooding in elbow between vertical and horizontal (near-horizontal) pipes 7−1633
  fluid-heated, dynamic instabilities, meas. and anal. 7−51276
  fluidised beds, freeboard, vel. meas. using laser Doppler anemometer 7−11527
  foam, liquid-gas system, rheological model 7−20779
  foam behaviour of liquids in downcomers, expts. *(German)* 7−54192
  freons, liquid-vapour system, shock wave compression 7−31874
  frictional flow properties of coal-oil slurries at low Reynolds number 7−20801
  fuel rod bundle, two-phase flow, volumetric vapour content 7−49576
  gas+liq. metal two-phase flow under transverse mag. field, modelling 7−51335
  gas content and speed of sound, calc. with surface tension forces 7−51279
  gas dispersion in aerated turbine agitated vessels, flooding phenomenon 7−44011
  gas phase in bubble columns in liq. circulation regime, residence time distrib. modelling 7−11500
  gas suspension, supersonic flow near wedge in presence of reflected particles 7−1621
  gas-fluidised beds, two-phase models, axial conc. profiles 7−6299
  gas-liq. descending annular flow, phase boundary turbulence and heat exchange 7−63201
  gas-liquid contact in Karr columns, press. drop, gas holdup and interfacial area 7−6284
  gas-liquid dispersions in bubble columns, flow instability 7−11498
  gas-liquid flow, transition in inclined pipes 7−20782
  gas-liquid flow in film-type evaporators, fluid dynamics study 7−11503
  gas-liquid flow in inclined pipes, flow pattern transitions, unified model 7−57900
  gas-liquid flow in inclined pipes, press. loss. liq. holdup study 7−63196
  gas-liquid flows, capillary waves, spectral behaviour 7−11521
  gas-liquid mass transfer enhancement by dispersed organic phase 7−6271
  gas-liquid mixture, bubbly flow parameters, bubble breakup effect 7−44021
  gas-liquid slug flow in horizontal pipelines, press. meas. 7−57921
  gas-liquid two-phase flow in tube, stat. eval., froth, wave flow requires 7−16230
  gas-liquid two-phase flow of drag reducing fluids, heat transfer 7−16175
  gas-particle mixture, heat transfer under direct radiant heating 7−31780
  gas-particle mixture, supersonic two-phase flow around a wedge 7−1614
  gas-solid, in circular pipe, sudden expansion, diameter ratio influence 7−31871
  gas-solid flow pattern transition in vertical pneumatic conveying, statistical anal. 7−57906
  gas-solid fluidised bed, freeboard region, two-phase flow behaviour 7−63209
  gas-solid particle mixture, acceleration wave 7−11525
  gas-solid transport, clustering under electrostatic force influence 7−20790
  gas/solid flow pressure drop in pipe entrance section *(German)* 7−16259
  granular propellants, combustion, two-phase transient flow, modelling 7−37520
  helically coiled steam-generator ducts, flow struct. and heat transfer 7−63205
  hexadecane-water, natural convection in complex enclosed space, heat transfer 7−11421
  high-enthalpy gas flow, heat and mass transfer on catalytic wall 7−11510
  homogeneous flow model, validity for instability anal., steam generators 7−5379
  horizontal annular flow measurements using pulsedphoton activation and film thickness distributionmodelling 7−5357
  horizontal annular pipes, two-phase flow regimes during heat transfer crisis 7−63200
  horizontal gas-liq. two-phase flow, flow pattern identification using differential pressure fluctuations 7−37534
  hydraulic pipeline, single capsule motion 7−26339
  incompressible fluid with gas bubbles hydrodynamics eqns. soln. 7−11501
  incompressible granular flow, instability in evolution eqns. 7−51283
  inertial settling of polydispersed particles at critical point of sphere 7−1620
  interacting drops in 2-phase flow, fluid dynamics and mass transfer 7−63203
  interfacial area concentration, local formulation and meas. 7−1605
  isothermal transient two-phase flow in pipelines, mathematical simulation 7−20799
  jet flow perpendicular to flat plate, shear stress meas. by erosion technique 7−31898
  jets, two-phase, crossed electric and magnetic fields effects *(Russian)* 7−26326
  laminar buoyancy-driven convection flow in settling vessels having inclined walls 7−51135
  laminar film, pool boiling from curved surfaces, integral method calcs. 7−1568
  laser Doppler anemometer, two-colour four-beam system, two-phase mist flow meas. 7−37581
  laser Doppler anemometry, counter based in wet steam flow 7−57969
  Laval nozzle with equilibrium crystallisation of condensed particles, two-phase flow 7−31864
  liquid droplet deformation in gas flow, anal. 7−51278
  liquid films, air-driven, interfacial instability 7−11513
  liquid metal turbulent jet, mixing and solidification in co-flowing stream 7−51250
  liquid metal two-phase mixture with and without mag. field, shock waves 7−5410
  liquid N_2 heat exchanger, two-phase flow instability, LUSH-EX code 7−6294
  liquid-gas, nonuniform stratified flow through horizontal tubes 7−31862
  liquid-gas flow through coarse particle beds, 1D model 7−57904
  liquid-liquid spray column, heat transfer model 7−1567
  liquid-vapour mixing flow, 1D calcs. 7−63199

- **two-phase flow** continued
  - liquid/liquid two-phase annular flow, flow behavior and heat transfer to flowing liquids *(German)* 7—16176
  - LMFBR, accelerated two-phase flow through perforated plates during core-disruptive accident 7—30609
  - LOCA, air-water two-phase cross flow resistance in rod bundle 7—5356
  - local instant formulation 7—20783
  - local resistance of gas-liquid two-phase flow through an orifice 7—20780
  - low-grade coal-liquid CO_2 slurry plastic viscosity and yield stress obs. 7—39952
  - magnetic fluids, Taylor instability, mag. field effects 7—31738
  - magnetic liquid, film flow stability 7—51329
  - magnetic liquid, motion in two rot. fields of different polarity 7—51328
  - magnetic liquids, hydrodynamic eqns., kinetic coeffs., internal rots. effects 7—51327
  - mass concentration waves dynamics in two-phase gas-liquid bubble mixture in pipe 7—6287
  - mass flowmeter using heat transfer for dense phase solid-gas two-phase flow 7—37579
  - mass transfer during bubbling in single andmulti-orifice absorbers 7—6275
  - mass-transfer rates from single drops and dropswarms 7—6274
  - materials during ablation in high temp. dust laden gas jet, temp. determ. 7—20590
  - measurement method, digital tomography 7—16281
  - metrology of flowing two-phase dispersed particles using optical diffusion *(French)* 7—31895
  - MHD conversion, two-phase liquid metal gas flow in vertical pipes 7—65496
  - Newtonian liq., bubbly, translational drag force reduction 7—51293
  - non-Newtonian Hele-Shaw flows in $n \geq 2$ dimens. 7—57912
  - noncatalytic gas–solid reactions in vertical transport reactor anal. 7—44060
  - nonlinear dynamics of two-phase flow 7—30617
  - nonlinear wave propagation, gas-liquid media of bubble struct. 7—20787
  - nonspherical particles in two-phase flow 7—37519
  - nuclear reactor, subchannel void fraction predictions using drift-flux anal. 7—30605
  - oil displacement by active soln., nonmonotonic effect on flow distrib. fn. 7—1615
  - oil-bearing stratum, incompressible two-phase flow simulation *(French)* 7—44032
  - particle clustering in flow, microscale motions 7—6283
  - particle deposition from gas-disperse flow in vicinity of stagnation point 7—63206
  - particle deposition from turbulent stream to rough surfaces 7—57815
  - particle diffusion in fluctuating fluid with creeping flow 7—20788
  - particle motion near immiscible fluid interface 7—20738
  - particle motion study in concentrated dispersions, tracer diffusion method 7—51351
  - particle-gas flow, turbulent pulsations study 7—6292
  - particles, drops and bubbles, velocity calcs. 7—57896
  - pipe extraction column, operating with two-phase drops, design *(German)* 7—51311
  - pipe flow, calc. of two-phase pressure drops in piping components 7—20798
  - pipe flow, flooding behaviour anal. using Navier-Stokes eqn. 7—11494
  - pneumatic transport, flow density, energy optimisation *(German)* 7—16258
  - polymer blending microrheology, deform. of Newtonian drops submerged in Newtonian fluid flowing through converging cone 7—43827
  - polymer composites containing anisometric particles, flow and flow orientation 7—37498
  - polypropylene melts, fibre filled, rheological behaviour under steady and oscillatory shear 7—37413
  - pressure and thermal flux in diffusion and two fluid models *(Chinese)* 7—51268
  - propagative phase dynamics 7—31870
  - propylene-Al_2O_3 system, mixing and flow props. *(Japanese)* 7—44832
  - pulverised coal/air two-phase flowmeter 7—37580
  - radiative and convective heat transfer during blowing into layer of two-phase prods. from ablation 7—20755
  - reactive granular materials, deflagration-to-detonation transition, two-phase mixture theory 7—37518
  - rigid particle suspensions, mass and entropy transport 7—32691
  - rod bundle, parameter distrib., expt. study 7—26337
  - rough disks, shear flow, constitutive relations 7—35267
  - settling of liquid in tanks, overloading effects 7—57908
  - slender body, motion in quiescent polymer solns. 7—11523
  - slurries, laminar pulsatile flow, numerical study 7—51035
  - snow/water mixture flow in pipe, snow fraction meas. 7—26348
  - solid particle acceleration by gaseous detonation products 7—20778
  - solid particulates and aerosol droplets at entrance of pore, hydrodynamic and mol. wall interaction effects 7—51270
  - solid-gas two-phase flowmeter for blast furnace pulverized coal injection 7—37578
  - solid-liquid contacting, pulsed packed column, solids holdup 7—11495
  - solid-liquid two-phase flow, laser Doppler velocimeter meas. and turbulence props. 7—37533
  - sphere, rolling motion in a liquid contained in tube, retarding wall effects 7—44013
  - sphere motion in air flow through horizontal pipe 7—26344
  - spheres moving in viscous fluid, transport props. and hydrodynamic interactions 7—11522
  - spherical particle surface, heat transfer investigated using mol. kinetic methods 7—63184
  - steam-water dispersed flow heat transfer in vertical round tube, post-dryout regime *(Chinese)* 7—11419
  - steam-water two-phase flow, disturbance wave study 7—44022
  - steam-water void fraction for vertical upflow in 73.9 nm pipe 7—1609
  - Stirling engine, two-phase, two-component, anal. techniques comparison 7—65552
  - stratified two-phase flows, interfacial stress, extended Charnock estimate 7—20774
  - subcooled water in narrow annuli low vel. flow, boiling crisis 7—11507
  - supersonic dust-laden gas flow round blunt body, blowing effect 7—51217
  - supersonic dusty gas flow over a wedge, oblique shock waves 7—31835
  - supersonic jet, light amplification coefficient and intensity, spasmodic increase during metastable atom and mol. condensation *(Russian)* 7—50523
  - suspension flow, particle transverse migration, turbulent diffusion 7—57905
  - suspension flow, turbulent particle transport, unified theory 7—57907

- **two-phase flow** continued
  - suspensions, reactive, flames, radiative transfer as propag. mechanism 7—17796
  - T-junction with horizontal inlet, two-phase flow, phase separation 7—1607
  - T-junction with horizontal inlet, two-phase flow, press. differences 7—1608
  - thermoconsolidating media, acceleration wave propag. and decay 7—1622
  - thermodynamic aspects *(Russian)* 7—51153
  - thermosiphon, transients, heat transfer calcs. 7—11506
  - thermosiphon, two-phase, inclination angle influence on limiting heat flux 7—51097
  - thermosiphons, heat and mass transfer 7—11409
  - thermosiphons, tests on cooling of semiconductor power devices 7—11504
  - toluene dispersed in water, transient behaviour of holdup in reciprocating plate extraction column 7—11497
  - transient flow in steam-generator pipe 7—6279
  - transient liquid/gas interfaces, US system for detection, by pulse-echo technique 7—1657
  - trichlorofluoromethane, down-flow shell-side forced convective boiling 7—63194
  - turbulent 2-phase flow, spectral analysis of wall-pressure fluctuations 7—43881
  - turbulent gas-particle flow through Venturi tube 7—16240
  - turbulent jets, carrier phase temp. and momentum distribs., num. and expt. investig. 7—51251
  - two-fluid flow in elbows and return bends, numerical modelling 7—37545
  - two-fluid models, virtual mass term formulation, momentum transfer, reactor appl. 7—5385
  - two-phase pipe flow, friction pressure drop correlation calc. 7—26336
  - upward thin-film flow in desalination unit, drag, dynamics 7—11509
  - vapour bubble dynamics in layer of underheated liquid 7—57909
  - vapour bubble growth rate in turbulent flow, calc. 7—16239
  - vapour bubbling of moving underheated liquid, condensation and heat exchange 7—37525
  - vapour condensation kinetics in metallising of particles 7—2162
  - vapour dryness degree distrib., thermal action on oil seams 7—20791
  - vapour-gas-liquid systems, adiabatic compression and sound vel. 7—31873
  - vertical annular countercurrent two-phase flow, flooding, liq. flow rate effect 7—1634
  - vertical liquid jet system with downcomers, flow characts. 7—16226
  - viscous dusty fluid flow, intrinsic props. 7—1602
  - viscous fingers and diffusion limited aggregates near percolation 7—16252
  - void fraction local distribution in pipe, impedance probe 7—37523
  - void fraction meas. using fibre optic sensor 7—43430
  - volcanic eruption, two-phase magma flow in pipe from magma chamber 7—40451
  - wavy film flow, interfacial shear factor, interfacial mobility study 7—57899
  - weak disturbance velocity measurement, bulk density in porous media 7—31826
  - Ar-H_2O, two-phase mixture, voids fraction meas. 7—44072
  - C particle laden O_2 gas, normal shock wave anal. 7—51288
  - C-O_2 suspension, parameters affecting postshock wave relax. zone 7—51289
  - He, channelled cryogenic liquids, heat transfer and hydrodynamics 7—16261
  - He, liquid, heat transfer with nucleate boiling in channels 7—11524
  - N_2, channelled cryogenic liquids, heat transfer and hydrodynamics 7—16261
  - N_2 liq., forced flow in horizontal pipe, film boiling 7—51277
  - N_2-H_2O mixture in a vertical pipe, automatic identification of two-phase flow regimes 7—6295
  - Na particles in N_2 flow, size determ. by optical method, radiation loss 7—17837

- **two-phonon processes** *see phonon-phonon interactions*

- **two-photon spectra**
  - alkali halide crystals, F-centre formation threshold by two-photon absorpt. 7—32437
  - aniline, excited vibronic states, ion dip spectroscopy 7—19990
  - anthracene, vapour, two-photon excited fluoresc. polarisation 7—31109
  - atomic resonant medium, parametric absorpt., sub-Poisson light statistics 7—57285
  - atoms, two-photon two-level interactions, ionisation and cascade decay effects 7—15574
  - p-bis(o-methylstyryl)benzene, two-photon absorpt. meas. 7—31132
  - bromotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7—25882
  - chlorophyll-a, S_1 and T_1 spectra in visible region and S_1 bypassing relax. from two-photon excited states 7—47004
  - coherent pulse sequence induced control of selectivity of reactions, exact quantum mechanical calcs. 7—28274
  - composite system, two-photon transition amplitude, relativistic invariance 7—36531
  - cyclohexane, liq., geminate electron-hole pairs, props. 7—64679
  - diatomic molecule, ground state, two-photon nonresonant excitation 7—36717
  - four-wave parametric frequency conversion under conditions of two-photon absorption of the signal and pump 7—50642
  - glyoxal, S_1-S_0 transition, two-photon spectra 7—62471
  - halogenated aromatic hydrocarbons, resonant two photon ionization in supersonic beams 7—19961
  - highly symmetric mols., two-photon transitions, molecules, magneto-optical interaction 7—10691
  - iodotrifluoromethane, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7—25882
  - lanthanide (III) complexes, two-photon circular dichroism 7—27688
  - lanthanide complexes, two-photon absorpt. 7—908
  - methyl iodide, 6s Rydberg states, two-photon spectra, rot. subband struct., spin uncoupling 7—25620
  - multiwave mixing Doppler broadening effects 7—15578
  - optical radiation continuous spectrum emitted by at. particle secondary emission products, two-photon form. mechanism 7—42713
  - perylene, vapour, two-photon excited fluoresc. polarisation 7—31109
  - phase-diffusing field two-photon absorpt., effect of random frequency fluctuations 7—10535
  - POPOP vapour, two-photon excited fluoresc. polarisation 7—31109
  - positronium, 15-25 internal, Doppler-free two-photon spectroscopy studies 7—62546
  - positronium, Doppler free two-photon spectra 7—25685
  - pyrene-$d_0(d_{10})$, vibronic coupling and two-photon spectra 7—42712

two-photon spectra continued
- radiation coherence influence on nonlinear optical phenomena *(Rumanian)* 7−15924
- rhodamine dyes, S_0-S_n two-photon absorption dynamics 7−42715
- Rydberg atom two-photon micromaser theory 7−50526
- squeezing parameters in two-photon absorpt., comparison of exact numerical results and approx. 7−10895
- 1,2,4,5-tetrafluorobenzene in supersonic jet, fluoresc. and five-photon ionisation spectra, tunnelling 7−10659
- two-level atom, two-photon resonance fluoresc. distrib. calcs. 7−50043
- two-level atoms, two-photon absorpt. process 7−57039
- two-photon laser, single-mode, off-diagonal elements calcs. 7−62661
- two-photon resonance fluorescence 7−10488
- BCl_3, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
- Ba, double Rydberg states, ionisation, two-photon and TOF mass spectra 7−19809
- Ba, doubly excited states, two-photon laser excitation spectra *(French)* 7−10474
- Ba neutral atoms, high-lying states, laser pumped, two-photon spectra 7−19811
- Ba^+, optical Lamb-Dicke confinement 7−19807
- CO in combustion flows, two-photon digital imaging using planar laser-induced fluorescence 7−46896
- CO, selection rule in two-photon absorption spectra 7−10693
- Ca+He, saturated two-photon absorpt. in perturber bath 7−888
- CaF_2:Ce^{3+}, two-photon absorpt. cross section, anal. of lowest 4f-5d transition 7−46081
- Cs, gas phase atoms, detect. by 2-photon resonant ionisation spectroscopy 7−42533
- Cs_2, photolysis, prompt and delayed, two photon technique 7−23043
- CuCl, giant two-photon excitation of excitonic molecules, nonlinear depolarisation effects 7−64594
- GaAs, photorefractive beam coupling with picosec. pulses 7−31386
- H Rydberg states, Doppler-free two-photon spectra 7−10533
- H Rydberg states, Rydberg constant determ. by two-photon spectroscopy 7−25433
- H, two-photon 1s-2s transition, high resol. laser spectroscopy 7−19806
- H, two-photon spectra of 1s-2s transition 7−10532
- H_2, double photoionisation cross sections and electron energies, ab initio calcs. 7−15654
- H_2, stepwise two-photon ion-pair production, mol. spectroscopy 7−10683
- H_2, two-photon excitation and stimulated emission in VUV 7−10690
- HF, two photon bound-bound electronic transition calcs. 7−31136
- He multielectron multiphoton ionisation 7−19795
- Hg atom, two-photon excitation cross section, Hartree-Slater self-consistent calcs. 7−50042
- Hg II trapped, two-photon optical spectra 7−10531
- $Hg+Hg(Ar)(N_2)$, excitation transfer between fine struct. states, fluoresc. spectroscopy 7−62504
- ICl-Ne, A, E and X states, binding energies, optical-optical double reson. 7−62425
- IF, $E(0^+)$ state, two-photon sequential absorpt. spectra 7−19988
- K+K(Rb), Doppler free two-photon spectra, freq. shift, line broadenings 7−57155
- KCl, two-photon absorption meas. using synchrotron radiation 7−9906
- KCl:Eu^{2+}, f to f transitions, two-photon spectra studies 7−3068
- KI, two-photon absorption meas. using synchrotron radiation 7−9906
- Li, two-photon resonant three photon ionisation, power broadening, laser bandwith and interaction time effect 7−36571
- NH_3, two photon bound-bound electronic transition calcs. 7−31136
- NH_3-saturated W (100), rot. inelastic scatt., two-photon reson. three photon laser ionisation spectra 7−10768
- $(NH_3)_n$ (n=2 to 5), clusters, electronically excited $\bar{A}$ states, two-photon ionis. mass spectroscopy 7−15761
- NO, autoionising levels, two-photon spectra 7−10688
- NO_2, Rydberg state, high resolution two-photon spectra 7−31133
- Na, excited state, collisional repop. upon laser-pumping in H_2-O_2-Ar flame 7−62325
- Na, two-photon-excited state trilevel echo 7−19808
- Na vapour, continuous wave second harmonic generation 7−37038
- Na_2, photodissoc., atomic fragment Doppler spectroscopy 7−10686
- O atom, flame diagnostics by two-photon fluoresc., UV laser appl. 7−23015
- O_3 absorption of high-power IR radiation 7−1237
- Rb transient excitation produced by nonresonant laser pulses 7−15569
- Rb+Rb(K), Doppler free two-photon spectra, freq. shift, line broadenings 7−57155
- SF_6, rot. freezing in two-photon excitation of triply degenerate vibrs. 7−31005
- SF_6, two-photon reson. spectroscopy of vibr. transitions, four-wave freq. mixing conditions 7−25882
- Sr, $(7s)^1S$-$(5s^2)^1S$ transition, two-photon absorpt., quantum interference 7−881
- Sr, two-photon resonant three photon ionisation, power broadening, laser bandwith and interaction time effect 7−36571
- Tl atoms, detection using resonance ionisation 7−15570
- Tl, hyperfine struct., quantum beat spectra anal. 7−31000
- Tl+inert gas, $6P_{1/2}$-$7P_{1/2,\ 3/2}$ two-photon line broadening and shift 7−49983
- Xe, atomic inner shells, two-photon transitions, relativistic SCF calc. 7−36573
- Xe, autoionising Rydberg series, two-photon spectra anal. 7−36570
- Xe, multiphoton ionisation, final state redistribution, electron energy spectra anal. 7−25468
- Xe, radiative collisions, curve crossing, two-photon laser excitation 7−19810
- Xe, two-photon excitation, IR decay, press. effect 7−50041
- Xe, two-photon excitation and fluorescence 7−15541
- Xe-CO_2, van der Waals, two-photon excitation intermediate states, obs. 7−15638
- YAG:Nd^{3+}, impurity two-photon absorpt. cross section meas. 7−53375
- $YLiF_4$:Nd^{3+}, impurity two-photon absorpt. cross section meas. 7−53375
- Zr, ionis. pot. determ., two laser field-ionis. spectroscopy 7−5650

two-photon spectroscopy
- absorption using synchrotron radiation, nonlinear spectroscopy 7−9906
- dense plasma, H Lα line Stark-broadened profile meas. 7−20935
- plasma-broadened Hα line, theory of two-photon polarisation spectroscopy 7−20936

two-photon spectroscopy continued
- Cs, resonance ionisation in presence of buffer gas collisions 7−10527
- Sr, Rydberg states with n/100, laser spectroscopy 7−10461

TWT *see travelling-wave-tubes*

Tyndallometry *see turbidimetry*

type I superconductors
- *see also intermediate state*
- cylindrical samples with ferromag. particles, critical current enhancement 7−2796
- rare earth $RPdSi_2$ and RRh_2Si_2 (R=Y, La, Lu) ternary compounds, superconductivity 7−12901
- Al, plastic deform. and supercond. props., 0.5 to 4.2K *(Russian)* 7−8055
- Al, superconducting, penetration-depth anisotropy, quasiparticle magnetospectroscopy 7−12910
- Al, Superconducting, positron annihilation 7−45556
- Al, superconducting transition temperature, press. depend. 7−22058
- Al thin films, spin-orbit scatt., localisation and superconductive tunnelling studies 7−45242
- Al/NbN/Al sputtered thin film system, tunnelling characts., comment 7−45575
- Al-Mg (Mn), plastic deform. and supercond. props., 0.5 to 4.2K *(Russian)* 7−8055
- Bi, superconducting phases, nonlinear I-V characts. struct., point contact obs. 7−2763
- Ce, electronic struct. and superconducting transition temp. calcs. *(Chinese)* 7−27244
- Cu, plastic deform. and supercond. props., 0.5 to 4.2K *(Russian)* 7−8055
- Ga, fine particle layers, enhanced supercond. 7−7436
- Ga ultrathin amorphous films, superconductivity threshold studies 7−22059
- In nonequilibrium superconductor, Bernoulli effect meas. *(Russian)* 7−7455
- In superconducting cylinders, mag. flux diffusion, exptl. study 7−38813
- In superconducting film, nonequilibrium phenomena under quasiparticle injection *(Chinese)* 7−27465
- In type I supercond. granule metastable state destruction by external 7−27475
- In-Pb whiskers, critical currents and Ginzburg-Landau parameters 7−17144
- La, crystal electronic struct., electron-phonon interactions and superconducting transition temp. calcs. *(Chinese)* 7−27261
- P, high-pressure superconductivity studies 7−38799
- Pb, superconducting granular film SAW attenuation, percolation model 7−2781
- Pb, superconducting transition, deform. strengthening, dislocation density *(Russian)* 7−58939
- Pb, temp. depend. of elec. resist. 7−58792
- Pb/NbN/Pb sputtered thin film system, tunnelling characts., reply to comment 7−45576
- Sn granular films, superconductivity and metal-insulator transition *(Chinese)* 7−12923
- Sn, nonequilibrium supercond. film, instability, bifurcation, nonequilibrium transition *(Chinese)* 7−64412
- Sn supercond. films, self-injecting phenomena 7−45567
- Sn superconducting cylinders, mag. flux diffusion, exptl. study 7−38813
- Sn superconducting films, resistive state visualisation using laser beam scanning 7−17142
- Sn, superconducting transition temp., effect of plastic deform. 7−52879
- Sn superconductivity and electron-phonon interactions 7−12899
- Sn wide superconducting films, voltage-depend. excessive current, resistive state obs. *(Russian)* 7−12930
- Y, electronic structure, electron-phonon matrix, supercond. transition temp. *(Chinese)* 7−12596
- $YbSb_2$, superconductivity study 7−58962

type II superconductors
- *see also magnetic superconductors; mixed state*
- A15 compounds, cryst. struct. 7−6587
- A15 compounds, martensitic and supercond. phase transitions 7−58942
- A15 cpds., supercond. rel. to martensitic transition, microscopic theoretical model 7−2767
- A15 imperfect superconductors, upper critical field and critical temp. 7−7457
- A15 superconductors, anomalous ultrasound absorption 7−17135
- actinide materials, superconductivity, simple transition metal-type and heavy fermion behaviour 7−12897
- amorphous alloys with immiscible metallic particles, superconducting props. 7−2791
- $(BEDT-TTF)_2$, superconducting and mag. instabilities 7−45697
- β-$(BEDT-TTF)_2AuI_2$, bulk supercond., sp. ht. anomaly meas. 7−27466
- β^*-$(BEDT-TTF)_2I_3$, cryst. struct. in high-T_c phase 7−44519
- β-$(BEDT-TTF)_2I_3$, normal and deuterated, upper critical field studies 7−45588
- B-$(BEDT-TTF)_2I_3$, shear-induced superconductivity 7−45583
- β-$(BEDT-TTF)_2I_3$, supercond. transitions, diamag. suscept. study 7−52886
- β-$(BEDT-TTF)_2I_3$, superconductivity, proton irrad. effects 7−45544
- β-$(BEDT-TTF)_2I_3$ high T_c state, upper critical field meas. 7−45589
- β-$(BEDT-TTF)_2I_3$ organic conductor, high resolution thermal expansion meas. 7−26986
- B-$(BEDT-TTF)_2X$ organic metal, high T_c supercond. state 7−45542
- B-$(BEDT-TTF)_2X$ organic superconds., Meissner effect under press. 7−45559
- bis(ethylenedithio)tetrathiafulvalene, low-temp. phases, X-ray diffr., resistivity and thermopower meas. 7−37962
- charge transfer complexes, synthesis, struct. and physical props. 7−44510
- Chevrel phase cpd. films, upper critical field determination from critical current data 7−38828
- critical state, surface barrier struct. 7−52916
- cylindrical samples with ferromag. particles, critical current enhancement 7−2796
- d-wave superconductors, sp. ht., thermal cond., US absorpt. 7−64400
- elastic crystals, constitutive theory 7−26826
- filamentary superconductors, hard, transport props. in vicinity of H_{c2} *(Russian)* 7−38827
- flux-line lattice, elastic and plastic props. 7−27481
- germanides, M-M′-Ge, (M=Ca,Sr,Sc,Y,La-Lu; M′=Co,Rh,Ir), structural and superconducting props. *(French)* 7−44491
- graphite-KHg intercalation cpd., supercond. props., density of states model 7−27457

type II superconductors continued
  heavy fermion metals, supercond. upper crit. field, temp. depend. 7−45587
  heavy fermion superconductors, FIR spectroscopy 7−38816
  heavy fermion superconductors, observability of order parameter collective modes 7−38807
  heavy-fermion superconducting state, temp. depend. of nucl. spin-lattice relax. 7−17136
  magnetic instability, thermodynamic anal. 7−52921
  magnetic props. 7−38814
  materials, advances and developments *(French)* 7−27476
  mixed state, free energy, interpolation method 7−52920
  muon-spin rotation, diffusion of positive muons 7−7627
  Nb_3Ir films, supercond. transition temp., effect of radiation induced disordering 7−45540
  ordered binary alloys of isovalent metals, superconducting transition temp., conc. depend. *(Russian)* 7−64386
  p-wave superconductors, ultrasound attenuation 7−27468
  physicochemical analysis in development of superconducting alloys 7−45536
  pinning strength and range, collective flux-line lattice interaction calcs. 7−2795
  plumbides, M-M′-Pt, (M=Ca,Sr,Sc,Y,La-Lu; M′=Co,Rh,Ir), structural and superconducting props. *(French)* 7−44491
  quasi-one-dimensional conductors, anisotropic SDW and triplet supercond. state properties 7−45706
  ternary material superconductivity, multifilament superconductor fabrication *(French)* 7−2777
  tetrathiofulvalene bis(bis-(4,5 dimercapto-1,3-dithiole-2-thione) Ni(II)), 3D mol. supercond. 7−45594
  $(TMTSF)_2ClO_4$, superconducting and spin-density-wave transition temperatures, effect of anion ordering 7−2761
  $(TMTSF)_2PF_6$, cryst. struct., neutron low temp. and X-ray high press. diffr. studies 7−44502
  $(TMTSF)_2ReO_4$ organic supercond., anion-ordering phase diagram studies 7−21434
  $(TMTSF)_2X$, superconducting and mag. instabilities 7−45697
  $(TMTSF)_2X$ quasi-1D conductors, SDW transition temperature, superconductivity 7−45705
  $(TMTSF)_2X$ salts, phase diagram, importance of 1D correlations 7−45190
  transition metals, resistivity and superconducting transition temp. 7−17013
  UBe_{13} and UPt_3, heavy-fermion superconductors, Landau-Khalatnikov US damping 7−12912
  upper critical field determination from critical current data 7−38828
  V-Hf-Zr-Ta C-15 phase superconducting alloys, phonon props., inelastic neutron scatt. spectra 7−51969
  ZrN films, supercond. props. *(Russian)* 7−38836
  Ag-Al alloy, superconductor film structs., fabrication and appls. *(Spanish)* 7−27483
  Al-Si-Pb-Bi, duplex alloys, melt quenching, microstruct. supercond. props. 7−45593
  $Al_{80}Si_{20}$ melt spun ribbons, microstructures and superconducting transition temperatures 7−38222
  Au, temp. depend. of elec. resist. 7−58792
  Au-Al alloy, superconductor film structs., fabrication and appls. *(Spanish)* 7−27483
  β-$(BEDT\text{-}TTF)_2I_3$, organic supercond., cryst. and mol. struct., X-ray diffr. study at 9.5 kbar 7−44504
  B-$(BEDT\text{-}TTF)_2IBr_2$ ambient press. organic supercond., critical mag. fields 7−45590
  BaLaCuO, magnetic susceptibility meas., indication of high-T_c superconductivity 7−58953
  Ba(Pb, Bi)O_3 superconducting ceramics, surface resistance 7−38829
  $BaPb_{1-x}Bi_xO_3$, $0 \leq x \leq 0.30$, hydrothermal cryst. growth 7−46290
  $BaPb_{1-x}Bi_xO_3$, electron-phonon interaction and superconductivity 7−27463
  $BaPb_{1-x}Bi_xO_3$, supercond. props., press. effects 7−45533
  $BaPb_{1-x}Bi_xO_3$, supercond. crysts., hydrothermal synthesis and props. 7−53532
  Bi-Pb, superconducting transition temp., effect of plastic deform. 7−52879
  Bi-Pb alloys, supercond. and normal state, thermal cond., effect of plastic deform., 1.5-300K 7−17132
  Bi-Tl, superconducting transition temp., effect of plastic deform. 7−52879
  Bi-Tl alloys, supercond. and normal state, thermal cond., effect of plastic deform., 1.5-300K 7−17132
  Bi_3Ni, α-irrad. and H implanted, elec. resist. and superconducting T_c 7−7202
  $CU_xMo_6Se_{7.6}$, Chevrel phase cpds., positron annihilation studies 7−46201
  $CeCu_2Si_2$, heavy fermion superconductors, Fermi surface and cooperative phenomena 7−2771
  $CeCu_2Si_2$ heavy fermion superconductor, magnetic field penetration, muon spin relax. studies 7−45886
  $CeCu_2Si_2$ Kondo lattice heavy fermion system, quasi-particle-phonon interactions 7−2521
  $CePb_3$ heavy fermion material, magnetism and superconductivity 7−52880
  $CePb_3$ heavy fermion system, theory of mag. field induced supercond. state 7−45546
  $CoSi_2$-Si Schottky barriers, epitaxially grown, supercond. below 1.05K, tunnelling spectra 7−12860
  $Cr_{1-x}Re_x$, antiferromag. superconductors, upper crit. mag. field *(Russian)* 7−58963
  Cu, thick proximity induced superconductor, mag. field effects, thickness and temp. depend. 7−52903
  Cu-Nb composite superconductors, critical parameters and surface flux pinning studies 7−38830
  Cu-Nb microcomposite superconductors, in situ, nature of connection *(Russian)* 7−45585
  $Cu_{33}Zr_{67}$, glassy metals, peak effect, flux pinning *(Chinese)* 7−12929
  $Cu_{33}Zr_{67}$ metallic glasses, flux pinning and critical current peak effect studies 7−22079
  $Er_{0.187}Ho_{0.813}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7−2782
  $Er_{0.705}Ho_{0.295}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7−2782
  $ErRh_4B_4$, body-centred tetragonal, cryst. struct., X-ray diffr. study 7−26704
  $ErRh_4B_4$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7−22077

type II superconductors continued
  $EuMo_6S_{8-y}Se_y$, mag. field induced supercond. under pressure 7−64414
  Ge-base crystalline alloys with immiscible metallic particles, superconducting props. 7−2791
  GeTe, valence and energy spectrum, supercond. state 7−45534
  $Hg_{3-\delta}AsF_6$, chain compound, paraconductivity, Sugiyama-Gutfreund-Weger model 7−52584
  $Ho(Ir_{0.7}Rh_{0.3})_4B_4$, antiferromag. superconductors, upper crit. mag. field *(Russian)* 7−58963
  $HoMo_6S_8$ ferromagnetic supercond., coexistence phase, spin-orbit scatt. effects 7−22077
  $HoMo_6S_8$ ferromagnetic films, supercond. props., temp. and mag. field depend. 7−45538
  $HoMo_6S_8$, quenched superconductivity by rapid cooling to low temps. below T_{c2} 7−45545
  In cold-deposited thin films, H_{c2} temp. and film thickness depend. study *(Russian)* 7−27477
  In-Pb whiskers, critical currents and Ginzburg-Landau parameters 7−17144
  La-Ba-Cu-O system, superconducting transition above 40 K, high press. 7−58946
  $La_{1.8}Sr_{0.2}CuO_4$, superconducting transition at 36.2 K 7−58947
  Lu-Ir, superconducting transition temp. and lattice constants 7−64387
  $Lu_5Ir_4Si_{10}$, superconducting, electronic phase transition and partially gapped Fermi surface 7−12902
  $Mn_xSn_{1-x}Mo_6S_8$, Mn dopant props., supercond. transition temp., EXAFS, XANES, photoemission studies 7−46236
  Mo/Ni heterostructures, upper critical field, anisotropy studies 7−27479
  Mo/Ni superlattices, anisotropic superconds., upper critical field anal. 7−22076
  Mo/V quasiperiodic multilayers, growth and superconductivity 7−12927
  Mo-Si amorphous alloys, cluster formation and percolation 7−27455
  $Mo_{3.25}Ir$, cryst. struct., X-ray diffr. meas. at 293K and 12.5K 7−16491
  Mo_6Se_8, superconductivity and metal-insulator transition *(Russian)* 7−58742
  Mo_5SiB_2, supercond. investig. 7−22082
  $(Na_{1-x}Li_x)_{0.9}Mo_6O_{17}$, Na substitutional effects on elec. resistivity and transport props. 7−45260
  $(Nb,Ti)_3$ Sn, supercond. mag. material, fusion reactor conditions simulation 7−52922
  Nb, Fermi surface, Fermi vel., many-body enhancement and supercond. energy gap anisotropies calcs. 7−58729
  Nb film, elec. props., temp. cycling effects 7−38804
  Nb films, epitaxial growth and superconducting props. 7−3181
  Nb films, superconducting, synthesis under Mbar dynamic pressures 7−2757
  Nb foil, He bubbles, magnetic flux pinning, temp. and field depend. studies 7−2794
  Nb, light interstitial motion, recent expts. 7−52114
  Nb, point contact Josephson junction, I-V characteristics *(Rumanian)* 7−17141
  Nb, polycrystalline, US excitation, critical current, dislocation struct., flow limit *(Russian)* 7−58966
  Nb, shock-synthesised superconductor, characterisation 7−38116
  Nb superconducting 1D filaments 7−27470
  Nb superconducting bicrystals, flux pinning by symmetrical grain boundaries 7−64419
  Nb, superconducting bicrystal, flux pinning by special grain boundary 7−64420
  Nb, thin film, microstrip line, parameter change during superconducting to normal conducting state switching 7−22075
  Nb thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7−52918
  Nb thin films, T_c suppression and critical fields 7−2762
  Nb, tunnelling of H and D trapped by O(N), anelastic relax. meas. 7−39572
  Nb, ultra-pure type II superconductor, diffusivity of positive muons, μSR study 7−45869
  $Nb/Nb_2O_3/Pb$ film struct., Josephson and tunnel junctions, scanning tunnelling microscope study 7−64410
  Nb/Si multilayered thin films, supercond. props. *(Japanese)* 7−64405
  Nb-a-Si-Nb Josephson junctions, for IR laser radiation response near plasma reson. freq. 7−58958
  Nb-Al, fig. quenched, supercond. transition temp., cooling rate depend. 7−45537
  Nb-Al alloys, struct. and supercond. props. *(Russian)* 7−1945
  Nb-Al-Ge superconductors, pinning force, mech. meas. 7−64417
  Nb-Ge films, formation of high T_c A15 phase 7−58948
  Nb-InAs-Nb proximity system, Josephson current, field effect 7−45573
  Nb-Si films, sputtered, superconducting props. 7−17126
  Nb-Si films, superconducting fluctuations weak localisation and electron interactions 7−2783
  Nb-Sn alloy film, scanning tunnelling microscopy study 7−4918
  Nb-Sn composite wires, effectiveness of V as diffusion barrier material 7−15353
  Nb-Ti, supercond. mag. material, fusion reactor conditions simulation 7−52922
  Nb-Ti composite superconductors, influence of heat transfer on current carrying capability 7−64422
  Nb-Ti multifilamentary superconductors develop. 7−7456
  Nb-Ti multilayered thin films, superconducting and struct. 7−64384
  Nb-W, superconductor-normal metal point contacts in field of CO_2 laser 7−38684
  Nb_3Al, supercond. transition and mag. fields, muon spin resonance studies 7−52878
  Nb_3Al superconducting state, zero-field muon spin relax. rate 7−53203
  Nb_3Al superconducting tape prepared by CO_2 laser beam irradiation 7−17145
  Nb_3(Al-Ge), high T_c supercond., Raman spectra studies 7−7699
  Nb_3Al(Ge)/Pb magnetron sputtered Josephson tunnel junction props., film deposition conditions dependence 7−58955
  $Nb_{73}Al_{12}Si_{14.5}B_{0.5}$, A-15 superconducting tapes for high mag. fields, fabrication 7−33133
  $Nb_{76}Au_{24}$, with Cr and Fe impurities, supercond. transition temp., impurity conc. depend. 7−2768
  NbC_xN_y, nonstoichiometric, supercond. transition temp. and band struct. *(Russian)* 7−58935
  Nb_3(Ge,Si), A15 phase, Si stabilisation, supercond. transition temp., sp. ht. meas. 7−45532
  Nb_3Ge films, obtained by joint evaporation technique, microstruct. *(Russian)* 7−59435

- **type II superconductors** continued
  - Nb_3Ge, high supercond. transition temp., struct. instabilities and electronic props. 7−58943
  - Nb_3Ge tape conductors, CVD deposited, compositional distrib. and superconducting props. 7−58936
  - NbN composites, fusion reactor magnet appls., sputter deposition, critical props. 7−49627
  - NbN microbridges, current-voltage characts., magnetic field effects *(Russian)* 7−7460
  - NbN, superconducting 2D films 7−27470
  - NbN_xC_y superconducting thin films, dual ion-beam sputter deposition 7−2758
  - $NbO_xH_y(D_y)$, H tunnelling, isotope and temp. depend. 7−27474
  - Nb_3Si, superconducting critical temp., review 7−38795
  - Nb_3Sn bronze process multifilamentary wire, cooling stress and supercond. *(Chinese)* 7−12894
  - Nb_3Sn coil, high field performance 7−15354
  - Nb_3Sn filamentary superconductor with high bending strength, fabrication *(Slovak)* 7−58965
  - Nb_3Sn films, superconducting critical temp., effect of ion beam irradiation 7−7430
  - Nb_3Sn, heat treatment for in-situ processing, Cu, Nb, Sn, distrib. *(Chinese)* 7−12924
  - Nb_3Sn multifilamentary composite superconductor, bronze processed, global pinning force, critical mag. field, grain size 7−22078
  - Nb_3Sn multifilamentary wire superconductors, development at SLE 7−64421
  - Nb_3Sn, phonon spectrum, temp. depend. *(Chinese)* 7−64413
  - Nb_3Sn strips with high current-carrying capacity, surface relief *(Russian)* 7−52198
  - Nb_3Sn superconductor, sp. ht. meas. in mag. fields up to 19 T 7−17134
  - Nb_3Sn, thermoelectric power, 4.2-273K meas. *(Chinese)* 7−12705
  - Nb_3Sn, Ti-alloyed, cryst. growth from soln. by top seeded soln. growth 7−46293
  - Nb_3Sn-NbTi hybrid superconducting magnet, Meissner magnetic image effect, magnetisation and susceptibility meas. appl. 7−4869
  - Nb_3Sn-Ti(In) multifilamentary superconducting composites, growth dynamics, struct. and props., additive and heat treatment effects 7−22056
  - Nb_5Sn_2Ga, crystal growth and superconductivity 7−27451
  - NbTi alloy, neutron and γ-ray irrad. effects near supercond. transition temp. *(Russian)* 7−33119
  - NbTi/Cu stabilised wires, wiggler design for ESRF 7−42253
  - NbTi-Cu superconducting magnet for NMR field cycling 7−41412
  - $(NbTi)_3Sn$ multifilamentary superconductors develop. 7−7456
  - $Ni_{33}Zr_{67}$, glassy metals, peak effect, flux pinning *(Chinese)* 7−12929
  - $Ni_{33}Zr_{67}$ metallic glasses, flux pinning and critical current peak effect studies 7−22079
  - organic type II quasi-1D superconductors, reversible orbital superconductivity suppression mechanism calcs. 7−52885
  - Pb In type II cylindrical superconductor, AC losses, circular magnetic field effects 7−52895
  - Pb-Bi superconducting alloys with Bi precipitates, critical current density 7−17146
  - Pb-Bi-Sn(In), alloy filaments, prod. by glass-coated melt spinning, enhancement of supercond. 7−58937
  - Pb-In films, Josephson junction, thermal stress cycles, hillock form. *(Japanese)* 7−12536
  - PbTe:Tl(Tl,Na) films, superconducting transition 7−38797
  - $Pd_{0.9}Ag_{0.1}D_{0.61}$, lattice dynamics and phonon line shapes 7−2120
  - $Pd_2Y_{1-x}Dy_xSn$, Heusler alloy system, field-induced reentrant superconductivity 7−2765
  - Si/Nb, proximity effect, superconducting transition temp. meas. 7−45566
  - $SnFe_{0.05}Mo_6S_8$, Chevrel-phase superconductor, collinear ordering, EXAFS studies 7−13258
  - SnTe:In, superconducting transition 7−38798
  - $SrTi_{0.97}Zr_{0.03}O_3$ ceramics, superconducting transitions from states with low normal conductivity 7−27452
  - $SrTi_{0.97}Zr_{0.03}O_3$, superconductivity at low carrier conc. and indications of charged Bose gas 7−27453
  - Ta-Nb multilayered films, critical field studies 7−64416
  - $TaSe_3$, transport props., uniaxial stress effect 7−38801
  - $TaSe_3$, V-I characteristic anomalies in the superconducting transition region 7−45564
  - $Ti_{75}Sb_{25}$, with Cr and Fe impurities, supercond. transition temp., impurity conc. depend. 7−2768
  - $TiSi_x$ silicides grown on SiO_2 surface, superconductive props., composition 7−2760
  - $Ti_{1-x}V_x$ quench condensed thin films, supercond. crit. field and fluctuation cond. meas. 7−64415
  - U alloys, heavy-electron ground state, chemical comp. effects, low temp. sp. ht. and superconductivity 7−63841
  - U alloys, high press. magnetic and superconducting props., review 7−12952
  - UBe_{13} coherent Kondo state, upper critical field calcs. 7−2793
  - UBe_{13}, elec. resist., Press. and mag. field effects 7−45562
  - UBe_{13}, heavy electron supercond., anomalous temp. depend. of mag. field penetration depth 7−2780
  - UBe_{13}, heavy fermion cpd., lattice dynamics, EXAFS study 7−64792
  - UBe_{13}, heavy fermion superconductors, Fermi surface and cooperative phenomena 7−2771
  - UBe_{13} single crysts., normal and supercond. states, thermal cond. temp. depend. meas. 7−52166
  - UBe_{13} superconducting thin films, mag. field studies 7−12928
  - UBe_{13}, $U_{0.97}Th_{0.03}Be_{13}$ and $UBe_{12.94}Cu_{0.06}$, low temp. high mag. field study 7−12911
  - U_6Co, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
  - U_6Fe, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
  - U_6Mn, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
  - UPt_3, anisotropic superconductivity 7−7461
  - UPt_3, heavy fermion superconductors, Fermi surface and cooperative phenomena 7−2771
  - UPt_3, heavy fermion supercond., Cooper pair states, atomic representation 7−45550
  - UPt_3 heavy fermion supercond., muon spin relax. and Knight shift meas. 7−45888
  - UPt_3, heavy fermion superconductivity and normal state props. 7−52412
- **type II superconductors** continued
  - UPt_3 heavy-fermion superconductors, induced moment mag. form factors 7−12909
  - UPt_3, superconductivity, one-component Fermi liquid theory 7−22066
  - UPt_3, upper critical field, ang. and temp. depend. 7−7459
  - URu_2SI_2, heavy electron system, competing electronic correlations, press. effect 7−45539
  - $U_{0.967}Th_{0.033}Be_{13}$, heavy-fermion superconductor, muon Knight shift study 7−7628
  - $U_{1-x}Th_xBe_{13}$, anisotropic supercond. and ultrasound attenuation study 7−22067
  - $U_{1-x}Th_xBe_{13}$ heavy fermion superconds., muon Knight shift and zero-field relax. meas. 7−45887
  - $(U_{1-x}Th_x)Be_{13}$, superconductivity under pressure 7−12903
  - $U_{1-x}Th_xPt_3$, Fermi surface instability modification by Th substitution in UPt_3 7−2766
  - $U_{1-x}Th_xRe_2$, polymorphic transform., supercond. crit. temp., low temp. sp. ht. meas. 7−17125
  - V thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7−52918
  - V-Si fine A-15 particles, supercond. transition temp. 7−7435
  - V_3Ga films, supercond. electron-phonon interaction spatial function, electron tunnelling spectra study 7−45578
  - V_3Ga superconducting tape 7−7456
  - V_3Ga superconducting tapes, grain boundaries, elementary pinning force 7−22080
  - $V_3Ga(Au)(Pt)$, superconducting A15 cpds., resistivity and magnetoresistance 7−32982
  - VSi_x silicides grown on SiO_2 surface, superconductive props., composition 7−2760
  - V_3Si films, electrical transport props. 7−33108
  - V_3Si, high T_c supercond., Raman spectra studies 7−7699
  - Y, pressure-induced superconductivity, band struct. and sp. ht. press. depend. calcs. 7−7431
  - Y_9Co_7 mag. supercond., ^{59}Co NMR and nuclear relax. studies 7−64401
  - YRh_3B, supercond. and mag. props. 7−38800
  - $Yb_{1.2-x}Eu_xMo_6S_8$, superconductivity and mag. interactions 7−38826
  - Zn, Mossbauer spectroscopy 7−59125
  - Zr-Co, electronic struct., supercond. and magnetism 7−64398
  - Zr-Co amorphous alloys, superconductivity, normal-state resistivity and mag. susceptibility 7−12900
  - Zr-Fe amorphous alloys, chemical short range order, thermal relaxation and ion irradiation effects 7−44385
  - Zr-Fe compounds, electronic, lattice and supercond. props., rel. to amorphous alloys 7−17133
  - Zr-Ni(V) amorphous superconductors, struct. and supercond. props. 7−27482
  - $Zr_{70}Cu_{30}$ melt spun ribbons, collective flux pinning dimensional crossover obs. 7−17143
  - ZrN reactively sputtered films, elec. charactn. rel. to submicron gate electrode appls. 7−38777
  - ZrN superconducting thin films, electron tunnelling, phonon coupling effects 7−45580
- **U-centres**
  - No entries
- **UART** *see computer interfaces; data communication equipment*
- **UHF tubes** *see ultra-high-frequency tubes*
- **ULA** *see cellular arrays; integrated logic circuits*
- **ultimate tensile strength** *see tensile strength*
- **ultra-high-frequency tubes**
  - *see also microwave tubes*
  - No entries
- **ultracentrifuges** *see centrifuges*
- **ultrafiltration** *see filtration*
- **ultrasonic absorption**
  - A15 compounds, martensitic and supercond. phase transitions 7−58942
  - A15 superconductors, anomalous ultrasound absorption 7−17135
  - alkaline earth fluorite crystals, US attenuation 7−51944
  - Anderson transition, relation between conductivity, ultrasonic attenuation and nonlinear σ model composite operators 7−45155
  - attenuation and speed of ultrasound in lung: dependence upon frequency and inflation 7−28596
  - attenuation coeff. meas. by multifreq. echo technique 7−43591
  - attenuation measurement uncertainties caused by specklestatistics 7−8647
  - basalt melts, US vel. and attenuation meas. to 1500°C 7−8933
  - breast tissue, freq. dependence of US attenuation and backscatt. 7−28597
  - cholesteric liq. crystals, comparison with Fixman theory 7−44693
  - cubic systems, superconducting p-ware pair states, collective excitations, spin-orbit interaction and cryst. field effect 7−7440
  - d-wave superconductors, sp. ht., thermal cond., US absorpt. 7−64400
  - dislocation dynamics, bias stress expts. using a two-wave acoustic method 7−63621
  - disordered electronic systems, nonanalytic behaviour of ultrasonic attenuation 7−6729
  - egg white, freq. dependence 7−54674
  - glass, structural relaxation, US absorption, IR divergence response *(Chinese)* 7−6520
  - glass, tunnel modes and kinetic props. at low and high temps. 7−21115
  - glycerin, temp. distribution in self-induced thermal action of acoustic waves 7−43623
  - heavy electron coupling to lattice, US attenuation meas. 7−2129
  - heavy fermion systems, Gruneisen parameter electron-phonon coupling 7−2138
  - heavy fermion systems, hydrodynamic fluctuations 7−44708
  - ice, pure and doped, US absorpt., dislocation damping 7−26756
  - optical glass, ultrasonic properties and low freq. light scattering 7−21361
  - os calcis, broadband US attenuation, and single photon absorptiometry in the distal forearm: comparative study 7−40216
  - p-wave superconductors, ultrasound attenuation 7−27468
  - polyethylene-polystyrene blends, US attenuation and velocity meas. 7−51953
  - polymer and composite quality, monitoring by US wave attenuation 7−8240
  - 1-propanol-water, conc. fluctuations, US absorpt. 7−58416
  - quartz, neutron irradiated, US attenuation, glassy behaviour 7−32580
  - semiconductors, acoustic props. under hopping conduction conditions 7−16692
  - serum albumin solutions, bovine, US absorption in freq. range 60 to 160 kHz 7−47154

ultrasonic absorption continued
soft tissues, human, US attenuation meas. device *(Chinese)* 7−28783
solid, ultrasonic absorpt. using IR detector, thermal wave vignetting and standing-wave effects 7−51949
sucrose, aq. soln., ultrasonic velocity and absorpt., mech. props. study 7−63744
suspensions in absorbing liquids, coherent scattering contribution to US attenuation meas. 7−16040
TBBA, smectic-C phase, abnormal ultrasonic damping, anharmonic effects, ang. depend. 7−44697
tissue US attenuation meas. using scanned B-mode tomogram 7−23477
transverse sound attenuation, critical behaviour at electronic mobility edge 7−45154
UBe_{13} and UPt_3, heavy-fermion superconductors, Landau-Khalatnikov US damping 7−12912
Ag_3AsS_3 proustite crysts., ultrasonic wave absorpt. temp. depend. meas. *(Russian)* 7−44707
$Ag_8HgS_2I_6$, superionic cpd., electrical and mechanical relax. 7−44900
Al, ultrasonic attenuation in a transverse mag. field, electron mean free path 7−64296
$\beta''/\beta\text{-}Al_2O_3\text{-}(Na_{0.6}K_{0.4})_2O$, mixed-alkali-mixed phase cpds., acoustic study 7−63749
$BaTiO_3$, dielectric, electrical and acoustic props. 7−53224
$BaTiO_3$, ferroelectric solid, microwave absorpt., Curie temp. and ultrasonic attenuation 7−39049
Bi, ultrasound absorption, amplitude and orientation dependences 7−26873
$Bi_4Ge_3O_{12}$, US wave absorpt., 0.5-9.4 GHz, 4.2-300K 7−44701
CdS, single crystal, US wave absorption, impurity distrib. effect., electron-probe X-ray anal. 7−53241
CdS single crysts., acoustoelectronic interaction, ultrasonic attenuation and amplification, dislocation motion effects *(Russian)* 7−21953
CdSe, single crystal, US wave absorption, impurity distrib. effect., electron-probe X-ray anal. 7−53241
CsI dislocation study using US technique 7−21362
Cu sintered powder, ultrasonic attenuation meas., phonon-fracton crossover 7−2105
$Er_{0.187}Ho_{0.813}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7−2782
$Er_{0.705}Ho_{0.295}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7−2782
$Fe_{81.5}B_{13.5}Si_{3.5}C_2$, amorphous ferromag. alloy, acoustic waves, mag. field induced changes 7−2917
$Fe_{0.20}Ni_{0.58}Si_{0.08}B_{0.14}$, amorphous viscoelastic behaviour 7−21348
$\alpha\text{-}Fe_2O_3$, hematite, magnetoelastic wave, parametric amplification in reversal of wavefront 7−7578
GaAs, defect structure charactn., US meas. 7−21363
$GaAs:V^{2+}$ (Cr^{2+}) single crysts., acoustic relax. phenomena, phonon-impurity coupling, ultrasonic attenuation meas. 7−32581
Ge electron-hole liq., ultrasonic attenuation calcs., intraband collision effects 7−12214
$(H_2O)_n$ cluster, assoc. and vibr. relax. in water vapour 7−15764
n-InSb, electron absorption of sound, hopping mechanism 7−17056
KCN, cryst., Akhieser damping 7−21360
KH_2PO_4, ultrasonic attenuation oscills. near phase transition 7−38128
$\alpha\text{-}LiIO_3$, cryst., elastic wave attenuation, freq. and temp. depend. *(Russian)* 7−21364
$LiTaO_3$, 36°YX-cut, interaction of leaky SAW with bulk waves under metallic grating 7−2330
$Mn_{0.61}Zn_{0.35}Fe_{2.04}O_4$ single cryst., low temp. acoustic props. anomalies, spin-reorientation transitions 7−51957
$MoO_3\text{-}P_2O_5$ glass system, US relax. studies in temp. range 4 to 300K 7−21366
$\beta\text{-}NH_4LiSO_4$, elastic stiffness constants, ultrasonic pulse echo overlap meas. 7−12188
Pb-Tl alloy single crysts., plasticity and internal friction changes at supercond. transition *(Russian)* 7−26832
Si electron-hole liq., ultrasonic attenuation calcs., intraband collision effects 7−12214
Si, thermoplastic deformation, nondestructive ultrasonic detection 7−12215
$U_{1-x}Th_xBe_{13}$, anisotropic supercond. and ultrasound attenuation study 7−22067
VDF/TrFE copolymer ferroelectric phase transition, observation using US spectroscopic system 7−20521
W, electromagnetic absorption of ultrasound near Doppler-shifted cyclotron resonance 7−45402
$ZnCl_2$ pure glass, elastic consts. and struct. 7−63716

ultrasonic applications
see also biomedical ultrasonics; ultrasonic materials testing; ultrasonic welding
anisotropy measured with shear and Rayleigh waves in rolled plates 7−65275
chemical analysis techniques 7−50896
2-chloro-2-methylpropane, solvolysis in aqueous alcoholic solvents, US effects 7−50898
combined shear-compression ultrasound reflection tomography 7−26112
diagnostic equipment type SDL-300 *(Japanese)* 7−16045
displacement meas. system, microcomputer controlled *(German)* 7−56222
Doppler flowmetry, perturbation meas. using power spectrum analysis 7−50852
Doppler ultrasonic flowmetry, signal analysis using PLL 7−50851
dynamically-focussed US array for cancer therapy 7−54683
elastic moduli ultrasound meas. method for high temps. 7−43813
fatigue strength improvement technique 7−11244
flow meas. of liquids in closed pipe-lines, compensation method *(German)* 7−26373
flowmeter, freq. modulated, errors in flow meas. 7−57951
fluid pressure measurement using bubbles insonified by two frequencies 7−20547
gas flow distribution meas. system using nonlinear US sounding 7−37586
heterogeneous sonochemical reactor evaluation 7−50884
identification system for coded moving objects 7−1361
imaging, digital scan converter design 7−31603
industrial application of ultrasonic vibrations *(Italian)* 7−31590
initiation of polymerization with ultrasound 7−50897
levitation simulation, boundary- and finite-element approaches 7−1360
levitators, appl. to density meas. 7−50874
lift-off edge residue removal 7−20577
multipinhole-plate US nebuliser, vibrating system influence 7−35503

ultrasonic applications continued
oil thickness gauge using ultrasound 7−43597
optical component processing 7−20478
organometallic sonochemical synthetic reactions, new trends 7−50902
phase transfer catalysed organic reactions 7−50901
polymerisation process computer control, using US sensors 7−8278
powder atomised in US field, drop particle size assessment 7−53654
pulse-echo imaging using instantaneous freq. information 7−31596
remote sensor for position meas. *(German)* 7−61327
rotary ultrasonic motor using extensional vibration of a ring 7−20579
seabed topography meas. by multibeam sonar 7−66327
semiconductor device inspection using Leitz ELSAM acoustic microscope *(German)* 7−31591
sonochemically enhanced Ullmann reactions 7−50903
sonochemistry: historical developments and modern aspects 7−50895
SONOCONTACT, easy to handle material to improve ultrasound images *(Japanese)* 7−16046
spectroscopy, fundamentals and appls. 7−20574
temperature compensated Doppler flowmeter for small diameter pipe 7−20820
transient liquid/gas interfaces, US system for detection, by pulse-echo technique 7−1657
transmission image restoration theory 7−31598
Tri-sensor ultrasonic aid for blind people 7−14157
ultrasonogram displays on liq. crystal TV and fluorescent vacuum tube 7−31602
underground water level detector using US pulse echo technique 7−20528
vorticity measuring apparatus using reciprocal ultrasonic transmission method 7−20819
wave field meas. using light beam CT system *(Japanese)* 7−57652
$SrTiO_3$, spherical fine particles prep. by US spray pyrolysis, microstruct. *(Japanese)* 7−22625
Ti-Al-Mo-Cr, VT3-1, struct. changes during US case hardening *(Russian)* 7−53991
ZnO, fine spherical particles, spray pyrolysis prep., US atomisation method 7−13419

ultrasonic attenuation *see ultrasonic absorption*

ultrasonic delay lines
continuously viable signal delays with ultrasound 7−43589
SAW accelerometers using integrated thick and thin film technologies 7−301
GaAs acoustic charge transport device using SAWs, signal processing appl., principles and performance 7−57653
$LiNbO_3$ SAW oscillator for humidity and temp. meas. 7−4232
$ZnO\text{-}SiO_2\text{-}Si$ SAW chemosensor for NO_2 gas concentration meas. 7−3621

ultrasonic devices
see also ultrasonic delay lines; ultrasonic transducers
conical axicon used as a SAW focusing device 7−57645
Fokker Bond Tester probes, vibration characts. 7−20546
levitation simulation, boundary- and finite-element approaches 7−1360
underwater US biotelemetry system to obtain EMGs from marine animals in situ 7−3955

ultrasonic diffraction
diffraction impulse response of non-planar transducers 7−31616
focusing of acoustic pulses by an elliptical reflector 7−65811
imaging, inverse scattering image reconstruction 7−20519
inverse scattering perturbation theories, reconstruction algorithms 7−43474
pulse diffraction in lossless media, Fourier domain calc. 7−1306
transient diffraction and focusing in absorbent media, modal analysis 7−1305
transit-time meters, pulsed, transient processes in acoustic section 7−62938
ultrasonic beams, propag. and conical refraction in crystals 7−63746

ultrasonic dispersion
biomedical US transducer array two-dimensional displacement analysis 7−1364
graphite fibre reinforced epoxy, fluid-coupled, anomalous US dispersion 7−1296
one-dimensional periodic composite piezoelectric materials, Floquet matrix and US propagation 7−2109
piezoceramic narrow-strip element resonance freq. dispersion diagrams, texture and ionic substitution effects 7−1363
torsional dispersion relations in a radially dual elastic medium 7−50820
ultrasonic beams, propag. and conical refraction in crystals 7−63746
weakly guiding acoustic fibre longitudinal modes 7−1299
Al-epoxy laminated composites, US dispersion studies 7−26871

ultrasonic effects
acoustoplastic effect during active deformation of crystal 7−44700
aerosol particle agglomeration under action of high intensity acoustic field 7−20573
axisymmetric cylinder-shell system, US oscills. excitation, temp. field 7−1384
biological and chem. effects of US, influence of dissolved gases 7−14044
cavitation, sonochemical reaction and local temp. determ. 7−3594
cavitation damage and noise spectra in a polymer soln. 7−62887
free radical production in aqueous solns. due to diagnostic US 7−50900
glycerin, temp. distribution in self-induced thermal action of acoustic waves 7−43623
heat production in fluid with bulk viscosity and shear viscosity 7−31561
hyperthermic cell killing, enhancement by nonthermal effect of US 7−60035
inorganic solids, high intensity effects 7−50904
light diffraction effects 7−37307
light diffraction phenomena 7−20575
liposomal membrane, US radiation induced lipid peroxidation 7−47159
liver, therapeutic US effects in vivo: action and possible mechanisms 7−47160
metal solidification, effect of high intensity US 7−62888
metals, polycrystalline, internal friction temp. spectrum and microplasticity *(Russian)* 7−16684
mononuclear phagocyte system, effects of therapeutic US on activity in vivo 7−14043
nonthermal US damage on biological targets obs. 7−3953
parametric modulation of EM wave at water-air boundary 7−37308
phonon pumping of superconductors 7−33125
powder atomised in US field, drop particle size assessment 7−53654
proton conductivity of hydrogen-bonded chain, light and ultrasonic effects 7−44891

ultrasonic effects continued
rabbit liver, histochemical effects of US *(Chinese)* 7−60034
sonochemical hot spot 7−12211
sonoluminescence, spectral interpretations and mechanisms 7−50899
steel, C, fatigue crack growth behaviour at US freq., influence of temp. 7−39622
steel, Ni, N29, crystallostruct. changes during reverse martensitic transform., effect of ultrasonic action *(Russian)* 7−53724
testes, murine, low-kH-water-borne US effects 7−28599
Al, US deform, modelling of reduced bandwidth distortion to wide-area electron channelling mapping 7−16694
Cd$_{0.2}$Hg$_{0.8}$Te, galvanomagnetic props., effect of US treatment 7−38593
Cu, polycrystalline, US and neutron irrad., struct. and mech. props. *(Russian)* 7−3402
HD-H$_2$O, sonolysis, H$_2$ and D$_2$ form., H/D isotope exchange 7−13755
In surface, electrochem. H evolution in US field 7−11231
InGaAs:Si LED, electrical and luminesc. props., ultrasonically-induced changes 7−22350
InSb single cryst., neutron acoustic effect, neutron diffr. study 7−26875
Mo, single crysts., deform. in US field, var. in angle of misorientation of substruct. *(Russian)* 7−53812
NaCl single crystals, temp. distrib. under ultrasonic deform. 7−51916
Nb, polycrystalline, US excitation, critical current, dislocation struct., flow limit *(Russian)* 7−58966
Ni, dislocation structure after US deformation, physical props. *(Russian)* 7−44699
Ni, mag. props., influence of low-temp. US deform. *(Russian)* 7−53878
O$_3$ sonolysis in aq. soln., reaction rate 7−13756
PbMoO$_4$, optical radiation modulation by coherent ultrasonic excitation 7−27692
Si, ultrasonic shaping during pulling cryst. growth 7−33541
(V$_{1-x}$Cr$_x$)$_2$O$_3$ single crysts., elastic const. temp. depend., ultrasonic strain-induced electron transfer effects 7−2082

ultrasonic equipment
diagnostic equipment type SDL-300 *(Japanese)* 7−16045
electronics industry, US methods of connecting elements *(Polish)* 7−16047
endoscopic micromanipulator for multiplanar transesophageal imaging 7−47190
flowmeter, freq. modulated, errors in flow meas. 7−57951
heterogeneous sonochemical reactor evaluation 7−50884
hyperthermia, localised: scanned, focused, multiple transducer US system 7−65819
identification system for coded moving objects 7−1361
medical Doppler flowmeter for use in theatre 7−47188
medical pulsed US air flowmeter, design and construction 7−3845
oceanographic near-surface current meas. over Norwegian continental shelf 7−9251
rangefinders with various types of cct., error estimation of standard channel 7−62930
SONOCONTACT, easy to handle material to improve ultrasound images *(Japanese)* 7−16046
tissue composition prediction from in vitro US meas., expt. apparatus 7−14173
transient liquid/gas interfaces, US system for detection, by pulse-echo technique 7−1657

ultrasonic holography *see acoustic holography*

ultrasonic imaging *see acoustic imaging*

ultrasonic materials testing
accelerated fretting wear testing using ultrasonics 7−22967
adhesive bond strength quality assurance using acousto-US technique 7−33881
adhesively bonded joints, nondestructive evaluation 7−13717
alumina surface crack characterisation by scanning acoustic microscopy 7−3567
analytical signal convertor for US flaw detection 7−31621
anisotropy measured with shear and Rayleigh waves in rolled plates 7−65275
ASME Code Section XI US testing techniques assessment 7−56761
attenuation spectral analysis of grain size and dislocation content 7−65271
austenitic V-butt weld, US beam propag. theory 7−22966
automatic ultrasonic materials testing system, US-1000 for C-fibre composite aircraft components 7−22965
autoregressive spectral analysis *(French)* 7−20509
beam displacement in total reflection in US angle beam technique 7−62933
boiler tube NDT inspection systems 7−20549
broadband ultrasonic flaw detector system 7−65276
capacitance transducer for ultrasonic displacement meas. in NDE 7−62931
ceramic powders, green state, real-time US NDE during compaction 7−22955
ceramics, brittle, non-oxide, flaw charactn., computer-aided US testing 7−54064
ceramics, US flaw detection, appl. to model-defect test pieces *(Japanese)* 7−59730
ceramics, US flaw detection, effects of coupling layer on sensitivity *(Japanese)* 7−17758
ceramics NDT by acoustic microscopy with single zoom lens 7−3570
coal conversion and heat-engine ceramic technology, US instrumentation 7−1344
composite, US NDT for transverse cracking 7−59734
composite materials, displacement sensor with two-beam interferometry 7−13716
cylindrical components, US testing, tomographical evaluation of multifrequency-holography data *(German)* 7−8238
cylindrical object, simulated corrosion wastages detection, US waveguide technique 7−59729
defect detection using ultrasonic B-scan, transducer beam divergence effects 7−31617
defect location and sizing, technique developments 7−65269
defects, US scatt., surface roughness effects 7−54062
digital signal processing 7−33892
dynamic scanning systems 7−13715
echo inspection of articles with coarse-grained struct. and rough surface, max. attainable sensitivity calc. 7−65255
fibre reinforced polymer composites, binder content in impregnated reinforcement, contactless US inspection use 7−3565

ultrasonic materials testing continued
flaw detection, liquid contacting layer, inclined incidence beam, pulsed radiation 7−54056
flaw detector, measuring errors of pulse parameters with different specimens 7−28246
flaw detectors, generator schemata comparison, electroacoustic criteria 7−54057
flaws reconstruction, using model-based elastic wave inverse scattering 7−54069
flexible scanner using industrial robot for NDT 7−22970
flow-to-grain echo ratio enhancement, signal processing techniques 7−62919
Fokker Bond Tester probes, vibration characts. 7−20546
generalized tomography as a unified approach to linear inverse scattering: theory and experiment 7−26065
glass fibre reinforced plastic cylinders, burst pressure, stress wave factor correl., US meas. 7−13709
glass fibre reinforced polyester laminate, hydrothermal ageing, degradation, US obs. 7−13708
graphite fibre reinforced epoxy laminates static or fatigue loading, fracture surface anal. *(German)* 7−22826
high-resolution holographic techniques for visualization of surface acoustic waves 7−28251
horizontally polarised transverse waves appl. 7−28247
inspection instruments, improved sensitivity 7−65256
joints, adhesive, defect detection, NDT techniques 7−28248
Lamb wave flaw inspection appls. 7−20540
Lamb wave velocity meas. in thin plates by acoustic microscopy 7−2332
laser ultrasonic generation and optical detection with a confocal Fabry-Perot interferometer 7−28250
laser-generated focused acoustic waves, NDT appl. 7−17754
laser-generated ultrasound, detect. using confocal Fabry-Perot interferometer 7−50893
lightweight US data acquisition and graphic display system 7−1335
liquid-solid interfaces, refl. acoustic field distrib., nondestructive evaluation *(Japanese)* 7−57651
LWR piping, flaw detection by US systems, digital techniques 7−46782
Material Characterisation Expert System (MCES), performance 7−22964
metal sheets, rolled, US SH wave vel., ang. depend. 7−38126
metallic superlattice elastic and acoustic props. 7−2086
metallic tubes, longit. crack detect. using EM acoustic transducers 7−22953
metals, laser and EM acoustic transducer techniques comparison 7−28252
metals, surface-breaking defect characterization using laser-generated ultrasound 7−46774
metals, texture and internal stress determ. using ultrasonic Rayleigh waves and neutron diffraction 7−46767
microcomputer appls. in thickness meters and hardness testing *(French)* 7−54068
microcrystalline struct. examination 7−46765
milk, US testing for adulteration 7−43580
mode conversion, pulsed photoacoustic investig. 7−50894
multilayered plate, acoustic material signature calc. 7−37300
NDT using SAW techniques 7−3571
nondestructive evaluation of materials by photoacoustic microscope and photothermal beam deflection 7−20585
nondestructive evaluation techniques, design and validation 7−46775
nondestructive structure analysis by means of US backscatt. 7−39834
noninvasive US techniques in process instrumentation and meas. 7−13706
nuclear NDT development at Harwell, review 7−65270
Peach Bottom 3 BWR, creviced safe ends, US inspection for cracks 7−46781
photothermal methods of optical charactn. 7−28249
pitch-catch technique, beam entry point correction 7−33884
planar defect sizing by use of double-angle US beams and tip-echo times 7−17755
plane parallel components, US inspection, shear wave beam multiple reflection 7−54055
plate, orthotropic, natural waves propag., dispersion eqns., nondestructive inspection applic. 7−8231
PMMA, Fe filled, techniques and models for elastic moduli, US evaluation 7−39833
polyethylene, medium-density, noncontact monitoring of cyclic loading and stress relax. by US backscatter 7−59724
polymer and composite quality, monitoring by US wave attenuation 7−8240
polypropylene melt, CaCO$_3$ filled, on-line US monitoring of extrusion 7−59725
porous brittle solid, strength and elastic modulus, acousto-US study 7−21321
precision double probe US goniometer for HF meas., design and construction 7−22957
pulsed photoacoustic materials characterization 7−46755
quantitative grain size evaluation using ultrasonic backscattered echoes 7−50810
Rayleigh wave theory and appls., conf., London, England (July 1985) 7−22
Rayleigh waves using laser generation and EM acoustic transducer detection 7−44979
refractory products, US flaw detection 7−22960
residual stress analysis, US techniques 7−65273
resolution upgrade using deconvolution inverse filter 7−22952
ribbon-type crack, scattered ultrasonic fields 7−59731
robotic US scanning system for NDT of composites 7−22969
robotics in NDT, conf., London, England, 1986 7−18505
rolled materials, surface wave meas. 7−20539
SAE interactions with cracks and slots, noncontacting study using lasers 7−46756
scanning acoustic microscopy 7−26098
shadow method of inspection of rolled sheets, distorted form effect 7−39815
signal processing for near surface defect detect. and thickness meas. 7−39830
sinusoidal pulse evolution in nonlinear medium with fading memory 7−16024
sizing of defects in steel constructions by ultrasound 7−33907
solid, elastic wave propag., computer simulation of US 7−33890
solid/liquid interface, pulse echo US study of location during solidification and melting 7−52006
steel, austenitic, ultrasonic measurement of internal temperature distribution 7−46776

ultrasonic materials testing continued
steel, austenitic stainless, US response from artificial defects 7−46762
steel, Cr-Ni-Cu, welded specimens, residual stress meas. mag. induced US vel. obs. 7−46761
steel, high strength, fracture toughness, US meas. 7−28238
steel, microstructural monitoring by laser-ultrasonic attenuation and forward scattering 7−33889
steel, rail, US inspection signal rel. to microstruct. and surface condition 7−3556
steel rolled sheet, distorted form effect on inspection results by shadow method 7−39815
steel weldment defects, quantification techniques by US normal beam testing 7−16044
stress state nondestructive detect. with polarised US waves 7−3552
subsurface defect acoustic imaging in composites and roughened samples 7−3568
subsurface imaging by scanning acoustic microscopy 7−3569
thermal wave imaging with thermoacoustic detection 7−43586
thermally curing resin viscosity estimation from US shear wave reflectivity 7−1523
thickness measurement, standardless, of objects having variable sound vel. with depth 7−65257
thin plate two-dimensional diffusivity tensor meas. by thermal pattern analysis 7−2285
transit-time meters, pulsed, transient processes in acoustic section 7−62938
two-dimensional ultrasonic scanning method using a circular-array transducer 7−20523
ultrasonic underwater imaging of cracks in concrete 7−33908
ultrasonics conference, San Francisco, USA (Oct. 1985) 7−11
US attenuation spectral analysis appl. to materials characterisation 7−33905
US holography with liquid crystal convertor and image processing system 7−43547
welded joint, cracks reflecting characts. and stat. parameters of irregularities 7−8232
welded joints, US inspection equipment appl. 7−28245
welds, NDE calibration, prod. and sizing of uniform 2D flows 7−17757
X-ray generated US signals, characts. and imaging appls. 7−43624
Al, mechanically deformed, thermoacoustic imaging 7−46757
Al plate US backscatter and resonance expts. 7−2108
Al_2O_3, crack imaging using scanning acoustic microscopy 7−28257
Al_2O_3, reflection scanning acoustic microscopy of partly embedded cracks 7−46769
C fibre reinforced plastic, damage states, US and acoustic emission study *(German)* 7−22828
Cr, residual macrostress distrib. after cyclic heat treatment, US and X-ray study *(Russian)* 7−53772
Fe, Armco, H charging, Rayleigh wave attenuation, mag. field effect 7−53107
$MgO-Al_2O_3-SiO_2$ glass-ceramics, nucleation crystallisation, modulus of rupture, acousto-US obs. 7−59723
Nb, supercond., nondestructive inspection by scanning laser acoustic microscope 7−3566
WC-Co cermet particle reinforced low alloy steel composite, elastic consts., laser US technique 7−65268
Y_2O_3 powders, agglomerate strength distrib., US meas. 7−46379

ultrasonic measurement
see also ultrasonic velocity measurement
Air-track kinematics and ultrasonic ranging module interface for Apple IIe 7−35148
attenuation coeff. meas. by multifreq. echo technique 7−43591
displacement meas. using laser-speckle interferometry and stimulated US stress waves 7−24624
displacement measurement using a 40 kHz US wave, expt. results 7−18742
distance detector for industrial appls. *(Spanish)* 7−16043
domestic gas meter using coherently modulated US carrier 7−1659
electronics industry, US methods of connecting elements *(Polish)* 7−16047
field meas. using laser interferometry, use of pulse-excited hydrophones 7−62942
flow cytometer, tests using small particle suspensions 7−20529
flow meas. of liquids in closed pipe-lines, compensation method *(German)* 7−26373
flowmeter, velocity profile measurement by ultrasound Doppler shift method 7−37585
fluid pressure measurement using bubbles insonified by two frequencies 7−20547
gas flow distribution meas. system using nonlinear US sounding 7−37586
high-pressure apparatus up to 8 GPa 7−14960
high-temperature thermometer 7−313
industrial application of ultrasonic vibrations *(Italian)* 7−31590
level sensor for liquids under high pressure 7−11235
light beam CT, appl. to finite amplitude US wave field meas. 7−20524
microspectroscopy using Rayleigh waves 7−1354
noninvasive US techniques in process instrumentation and meas. 7−13706
oil thickness gauge using ultrasound 7−43597
optical detection of nanosecond acoustic pulses 7−43584
optical detection of ultrasound 7−43583
paper web tension profile meas. by contactless acoustic instrument 7−1336
phase-insensitive detection for measurement of backscattered ultrasound 7−43590
Rayleigh waves, laser interferometry meas. 7−1345
semiconductor fast surface state parameter meas. using SAWs 7−11230
spectroscopy, fundamentals and appls. 7−20574
temperature compensated Doppler flowmeter for small diameter pipe 7−20820
thin rods in water, US press. distrib. prod. 7−6065
thyroid gland, vol. determ. by high resolution US scanner 7−40235
time-delay spectrometry for ultrasonic transducer characterisation 7−16041
tissue composition prediction from in vitro US meas., expt. apparatus 7−14173
transient liquid/gas interfaces, US system for detection, by pulse-echo technique 7−1657
transmission mode US microscopy for low temp. work 7−20518
trunk muscle atrophy produced by lumbar spin orthoses 7−28639
underground water level detector using US pulse echo technique 7−20528

ultrasonic measurement continued
vapor bubbles in liquid filled pipe, US imaging system 7−6333
VDF/TrFE copolymer ferroelectric phase transition, observation using US spectroscopic system 7−20521
vorticity measuring apparatus using reciprocal ultrasonic transmission method 7−20819
Al alloy US nonlinearity dependence on second phase precipitates, obs. 7−2111
CsI dislocation study using US technique 7−21362
$Er_{0.187}Ho_{0.813}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7−2782
$Er_{0.705}Ho_{0.295}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7−2782
K, direct EM ultrasound generation, polarisation dependence expt. 7−2110
VDF/TrFE copolymer ferroelectric phase transition, observation using US spectroscopic system 7−20521

ultrasonic microscopes *see acoustic microscopes*

ultrasonic microscopy *see acoustic microscopy*

ultrasonic paramagnetic resonance *see acoustic paramagnetic resonance*

ultrasonic propagation
see also ultrasonic diffraction; ultrasonic dispersion; ultrasonic reflection; ultrasonic refraction; ultrasonic relaxation; ultrasonic scattering; ultrasonic transmission
attenuating media, US field theory 7−31546
austenitic V-butt weld, US beam propag. theory 7−22966
bulk waves radiated from IDT on anisotropic substrate 7−43515
composite media, thermoelastic waves, photothermal generation 7−44685
computer-aided sound propagation anal. method *(Japanese)* 7−20483
elastic/viscoelastic boundary propag. 7−11201
focused Gaussian ultrasonic beam in nonlinear medium 7−50821
high-temperature thermometer 7−313
liquid/solid structure, effects of liq. viscosity on US propag. 7−21356
metals, EM generation of acoustic waves, theory 7−51945
one-dimensional periodic composite piezoelectric materials, Floquet matrix and US propagation 7−2109
PET fibres, sonic modulus, peculiarities *(Japanese)* 7−33715
plate, orthotropic, natural waves propag., dispersion eqns., nondestructive inspection applic. 7−8231
polystyrene, glass bead filled, sonic modulus, peculiarities *(Japanese)* 7−33715
pulse characterization using acousto-optic method 7−62948
quartz bars, nonlinear electroelastic eqns. of wave propag. and vibr. 7−57625
refractories, failure with thermal loads, anisotropy effects, US propag. obs. 7−33791
sinusoidal pulse evolution in nonlinear medium with fading memory 7−16024
stressed orthorhombic continuum, angular dependence 7−6027
two-dimensional light scanning by waveguide acoustic modes of a plate 7−25944
ultrasonic beams, propag. and conical refraction in crystals 7−63746
X-ray generated US signals, characts. and imaging appls. 7−43624
KBr, US vibration, 20-300°C block boundaries effect 7−32457
KCl, US vibration, 20-300°C block boundaries effect 7−32457
LiF, US vibration, 20-300°C block boundaries effect 7−32457
NaCl, US vibration, 20-300°C block boundaries effect 7−32457
RbD_2PO_4, ultrasonic propagation, pulse-echo method, anomalies 7−44703

ultrasonic radiation *see ultrasonic waves*

ultrasonic reflection
acoustic microscope spherical focusing transducers, ray-optical analysis 7−1371
acoustic microscopic response model for specimen structural variation 7−1339
biological tissue ultrasonic reflection simulation model 7−8648
graphite fibre reinforced epoxy, fluid-coupled, anomalous US dispersion 7−1296
planar interface, reflection and transmission of ultrasound 7−63967
quartz, rotated Y-cut, bulk acoustic wave reflection theory and expt. 7−2107
thermally curing resin viscosity estimation from US shear wave reflectivity 7−1523
Al plate US backscatter and resonance expts. 7−2108
$LiNbO_3$, 180° SAW reflectivity and vel. perturbation of thin metal dot arrays 7−2329

ultrasonic refraction
ultrasonic beams, propag. and conical refraction in crystals 7−63746

ultrasonic relaxation
2-butoxyethanol-water(-cetyltrimethylammonium bromide) solns., ultrasonic relax. studies 7−12217
glass, structural relaxation, US absorption, IR divergence response *(Chinese)* 7−6520
glasses, oxide, low temp. US relax., correl. with phys. props. 7−51961
oxide glass, low-temp. acoustic relax. analysis methods 7−12216
oxide glass, low-temp. internal friction, longit. and transverse two-well systems rel. contrib. 7−12202
supercooled liquids, effect of local molecular order on viscoelastic behavior 7−38129
$\beta''/\beta-Al_2O_3-(Na_{0.6}K_{0.4})_2O$, mixed-alkali-mixed phase cpds., acoustic study 7−63749
$Co_3O_4-P_2O_5$ glass, system, thermal analysis from room temp. to softening pt., vibr. anharmonicity, US vel. 7−12221
$Er_{0.187}Ho_{0.813}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7−2782
$Er_{0.705}Ho_{0.295}Rh_4B_4$ re-entrant superconductor US attenuation obs. 7−2782
$MoO_3-P_2O_5$ glass, low-temp. internal friction, longit. and transverse two-well systems rel. contrib. 7−12202
$MoO_3-P_2O_5$ glass, low-temp. acoustic relax. analysis methods 7−12216
$MoO_3-P_2O_5$ glass system, US relax. studies in temp. range 4 to 300K 7−21366
N_2/H_2 mixtures, vibrationally excited, sound propag. characts. 7−51379

ultrasonic scattering
backscatter meas., effect of transducer focusing 7−20545
biological tissues, method for quantitative US backscatt. estimates in the presence of phase distortion 7−60033
bovine tissue, variation of US backscatter with pathology 7−54675
breast tissue, freq. dependence of US attenuation and backscatt. 7−28597

ultrasonic scattering continued
  generalized tomography as a unified approach to linear inverse scattering: theory and experiment 7—26065
  imaging, inverse scattering image reconstruction 7—20519
  inverse scattering perturbation theories, reconstruction algorithms 7—43474
  phase-insensitive detection for measurement of backscattered ultrasound 7—43590
  polyethylene, medium-density, noncontact monitoring of cyclic loading and stress relax. by US backscatter 7—59724
  quantitative grain size evaluation using ultrasonic backscattered echoes 7—50810
  resonance theory for elastic wave scattering 7—48222
  Al cylinder in water, Franz and Stoneley SAW mode obs. 7—1303
  Mn-Zn ferrite US scatt. loss evaluation by line-focus-beam acoustic microscope 7—2331

ultrasonic transducers
  1 MHz air transducer development 7—31618
  acoustic emission piezoelectric receiving transducer, reciprocity calibration 7—62937
  air-backed transducer for deep sea work 7—50886
  analytical signal convertor for US flaw detection 7—31621
  anisotropic piezoceramics for US probes 7—1362
  annular array transducers for ultrasound imaging systems 7—31620
  backscatter meas., effect of transducer focusing 7—20545
  biomedical transducers, pressure field distrib. evaluation in attenuating media 7—3852
  biomedical US probe and array using PZT-polymer 1:3 composite 7—3848
  biomedical US transducer array performance with PZT-polymer composite piezoceramic 7—3850
  biomedical US transducer array two-dimensional displacement analysis 7—1364
  biomedical US transducer design for uniform insonation 7—3847
  biomedical US transducers, PZT rod-polymer composite piezoelec. plate tailoring 7—3849
  bodies and matching stubs construction *(Rumanian)* 7—20552
  boiler tube NDT inspection systems 7—20549
  bone materials used as US transducers, charactn. 7—60130
  broad-band electrical matching of transducers for acoustic microscopy 7—62940
  bulk waves radiated from IDT on anisotropic substrate 7—43515
  capacitance transducer for ultrasonic displacement meas. in NDE 7—62931
  composite piezoelec. transducers, limit thickness of piezoelec. plates 7—50885
  construction with screen-printed matching layers 7—1370
  continuity transducer for flowmeters with two-phase media 7—57960
  convergence type aerial ultrasonic source with a stripes mode vibration plate and formation of high intensity ultrasonic field *(Japanese)* 7—31611
  defect detection using ultrasonic B-scan, transducer beam divergence effects 7—31617
  diffraction impulse response of non-planar transducers 7—31616
  displacement meas. system, microcomputer controlled *(German)* 7—56222
  distance detector for industrial appls. *(Spanish)* 7—16043
  domestic gas meter using coherently modulated US carrier 7—1659
  electroceramic transducers, sensors, and actuators 7—20557
  excitation, detection and reflexion of Rayleigh andsurface skimming bulk waves 7—1374
  fibre optic US sensor, single-mode fibre config. with resonance tuning 7—6010
  flowmeter, temperature-independent design using modified sing-around method 7—37612
  focusing of acoustic pulses by an elliptical reflector 7—65811
  industrial application of ultrasonic vibrations *(Italian)* 7—31590
  inspection instruments, improved sensitivity 7—65256
  integrated SAW transducer using reflective periodic structures 7—1375
  intensity fields of continuous-wave axisymmetric transducers 7—62939
  lateral resolution improvement using curved surface 7—43618
  level sensor for liquids under high pressure 7—11235
  linear array probe with triple acoustic matching layers 7—20560
  medical transmitter/receiver transducer, round-trip transfer function meas. *(Slovenian)* 7—23474
  medical ultrasonic transducer design *(Turkish)* 7—28625
  microscope spherical focusing transducers, ray-optical analysis 7—1371
  multilayered, transmitting and receiving characts. time domain anal. 7—43616
  NBS conical transducer analysis 7—50887
  nearfield analysis for ultrasound transducers 7—57654
  noninvasive US techniques in process instrumentation and meas. 7—13706
  off-centric concave transducer for acoustic microscopy 7—20566
  particle velocity calcs. using numerical multiple integration 7—31610
  phased arrays, mechanical, electric and piezoelectric interaction 7—1365
  physiotherapy transducers, performance of the NPL US beam calibrator 7—60062
  piezoceramic narrow-strip element resonance freq. dispersion diagrams, texture and ionic substitution effects 7—1363
  piezoceramic transducers with modular oscillators, magnetostriction transducers replacement prospects 7—11240
  piezoelectric, admittance graph calcs. *(Chinese)* 7—57655
  piezoelectric material, low-Q, k_t and Q_m determ. methods 7—2985
  piezoelectric transducer array elements, 2D displacement anal. 7—43617
  piezoelectric transducer pressure field calc. and expt. 7—1367
  piezoelectric transducers, thickness mode, back-face only elec. connections 7—43619
  piezoelectric US transducer, internal loss effects *(Korean)* 7—57662
  planar ultrasonic transducers using $LiTaO_3$ poled with interdigital electrodes 7—20564
  polymerisation process computer control, using US sensors 7—8278
  power generator using voltage-vector controlled resonant inverter 7—20535
  probe design, effect on spatial resolution 7—31619
  proximity sensor using a single piezoceramic ultrasonictransducer 7—9827
  pulse compression filter for ultrasonotomographyutilizing *L* (0,3) mode of the elastic waves in afused quartz rod *(Japanese)* 7—14068
  pulse echo signals, processing for electro-acoustic conversion distortion removal *(Japanese)* 7—43540
  pulse propag. using laser generation and electromagnetic acoustic transducer detection 7—26114

ultrasonic transducers continued
  pyroelectric detection of radiation-induced thermal wave phenomena 7—43615
  quartz, natural single phase unidirectional low-loss SAW transducer 7—1359
  quartz plate simple thickness modes, acoustic viscosities and time constants 7—1372
  Rayleigh wave theory and appls., conf., London, England (July 1985) 7—22
  Rayleigh wave transducers 7—1373
  Rayleigh waves using laser generation and EM acoustic transducer detection 7—44979
  remote sensor for position meas. *(German)* 7—61327
  SAW interdigital transducers, equiv. cct. taking propag. loss into account 7—20565
  sensor using optical fibres *(French)* 7—62935
  spherical cap, effective geometrical parameters 7—43610
  thermally curing resin viscosity estimation from US shear wave reflectivity 7—1523
  thin disc transducers, normalised time-response family model 7—1368
  time-delay spectrometry for ultrasonic transducer characterisation 7—16041
  transit-time meters, pulsed, transient processes in acoustic section 7—62938
  transmission acoustic microscopy with focal planedetection 7—1343
  ultrasonics conference, San Francisco, USA (Oct. 1985) 7—11
  VDF-TrFE piezoelectric film US transducers 7—20562
  wideband, non-uniformly excited, design 7—62941
  wideband multiple-mode transducer design 7—57656
  $BaTiO_3$ piezoelectric ceramics, studies for appl. in electromechanical filters 7—20558
  $LiNbO_3$ bulk wave acousto-optic deflector beam steering by interdigital transducer 7—1255
  $LiNbO_3$, natural single phase unidirectional low-loss SAW transducer 7—1359
  ZnO-Cu-SiO_2-Si composite membrane, interdigital transducer generated US Lamb waves 7—11241

ultrasonic transmission
  liver, pulsed finite-amplitude US passing through, harmonic distortion development 7—34190
  planar interface, reflection and transmission of ultrasound 7—63967

ultrasonic velocity
  see also ultrasonic dispersion
  alcohols, compressibility, US sound vel., topological indices 7—21359
  alkanes, compressibility, US sound vel., topological indices 7—21359
  amides, aqueous solutions, intermolecular interaction investigations using ultrasound 7—38121
  amino acid/ZZ 7—12210
  attenuation and speed of ultrasound in lung: dependence upon frequency and inflation 7—28596
  basalt melts, US vel. and attenuation meas. to 1500°C 7—8933
  bone, tibia state alteration during antiorthostatic hypokinesis 7—34181
  borosilicate glasses, ultrasonic velocity, variation during annealing *(Russian)* 7—26099
  butoxybenzylidene phenylazoaniline, liq. cryst. transitions, density and US vel. studies 7—32266
  carboxylic acid/ZZ 7—12210
  chemical analysis techniques 7—50896
  cumene/1-butanol mixtures, US studies 7—58414
  dichloromethane-benzene(toluene) mixtures, US vels., densities and viscosities 7—6726
  dislocation dynamics, bias stress expts. using a two-wave acoustic method 7—63621
  n-dodecane-hexane isomer mixtures, ultrasonic speeds and isentropic compressibilities 7—51943
  electrolytic binary mixtures, US studies 7—26869
  ethylbenzene-methanol system, US behavior 7—38123
  femur, dose dependent lathyritic, variation of sonic plesio-vel., rabbit obs. 7—65810
  fluorocarbon liquids, temp. variation 7—12208
  glucose/mannose aqueous solns., US studies 7—12209
  heavy fermion systems, hydrodynamic fluctuations 7—44708
  N(p-n-heptyloxybenzylidene) p-n-pentylaniline, liq. cryst. phase transitions, density, US vel. meas. 7—1874
  Indian upper mantle rocks, pressure-temp. studies for Gruneisen coeff. and specific heat 7—55267
  liver, acoustic nonlinearity and sound speed, use for composition estimation 7—47157
  melittin soln., US props. det. 7—21357
  metal sheets, rolled, US SH wave vel., ang. depend. 7—38126
  metals, texture and internal stress determ. using ultrasonic Rayleigh waves and neutron diffraction 7—46767
  methanol/cumene mixtures, vs. studies at various temps. 7—58415
  milk, US testing for adulteration 7—43580
  molten semiconductors, structural changes caused by heating, acoustic investigations 7—51942
  molten semimetals, structural changes caused by heating, acoustic investigations 7—51942
  NEAA-NMAA-H_2O ternary liq. solutions, US and volumetric investigations 7—38122
  peptide/ZZ 7—12210
  plate, orthotropic, natural waves propag., dispersion eqns., nondestructive inspection applic. 7—8231
  polyethylene-polystyrene blends, US attenuation and velocity meas. 7—51953
  polymers, partially crystalline, viscoelastic and acoustic props. on hydrostatic compression 7—33719
  polyol, in soln., US vel., density and viscosity meas. 7—32693
  polypropylene melt, $CaCO_3$ filled, on-line US monitoring of extrusion 7—59725
  semiconductors, acoustic props. under hopping conduction conditions 7—16692
  smectic liq. cryst., A phase, hydrodynamics, US meas. 7—1876
  steel, austenitic, ultrasonic measurement of internal temperature distribution 7—46776
  steel, Cr-Ni-Cu, welded specimens, residual stress meas. mag. induced US vel. obs. 7—46761
  sucrose, aq. soln., ultrasonic velocity and absorpt., mech. props. study 7—63744

ultrasonic velocity continued
- sulpholane-benzene (toluene)(p-xylene)(mesitylene), ultrasonic speeds, compressibility and excess molar quantity at 303.15K 7−26870
- TBBA, smectic-C phase, abnormal ultrasonic damping, anharmonic effects, ang. depend. 7−44697
- 1,1,2,2-tetrachloroethane-alkane binary mixture, US behaviour and isentropic compressibility 7−21358
- thickness measurement, standardless, of objects having variable sound vel. with depth 7−65257
- ultrasonic beams, propag. and conical refraction in crystals 7−63746
- water-2-propanol-nitromethane, US vel. at miscibility point 7−21355
- weakly guiding acoustic fibre longitudinal modes 7−1299
- Ag chalcogenides, molten, US vel. investig. 7−38124
- $(Ag_6Sn_4P_{12})Ge_6$ cluster cpd., elastic behaviour and vibr. anharmonicity 7−12223
- $BaTiO_3$, ferroelectric solid, microwave absorpt., Curie temp. and ultrasonic attenuation 7−39049
- $Bi_{12}GeO_{12}$:Cr, doped and undoped, three-phonon interactions 7−2127
- CCl_4/cresol binary mixtures, US studies 7−12207
- CS_2 binary mixtures, free length theory and collision factor theory comparisons 7−44692
- Co_3O_4-P_2O_5 glass system, thermal analysis from room temp. to softening pt., vibr. anharmonicity, US vel. 7−12221
- CsI dislocation study using US technique 7−21362
- Cu, halides, photochromic glasses, elastic props., 20-500 °C *(Russian)* 7−21365
- $Fe_{81.5}B_{13.5}Si_{3.5}C_2$, amorphous ferromag. alloy, acoustic waves, mag. field induced changes 7−2917
- FeCSiP alloys, cast, graphite nodule shape effects, ultrasound vel. meas., comp. depend. 7−3285
- $Fe_{0.20}Ni_{0.58}Si_{0.08}B_{0.14}$, amorphous viscoelastic behaviour 7−21348
- α-Fe_2O_3, hematite, magnetoelastic wave, parametric amplification in reversal of wavefront 7−7578
- GaAs, defect structure charactn., US meas. 7−21363
- KCl_xMn_{1-x}:Ca(Mn), doped crystals, elastic constants, meas. using US pulse superposition method 7−26827
- KNO_3 solutions in aqueous and non-aqueous media, acoustic and physico-chemical props. 7−44694
- K_2SeO_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7−51956
- K_2ZnCl_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7−51956
- $La_3Ga_5SiO_{14}$, elastic and piezoelectric consts., temp. depend. 7−53242
- $LaNbO_4$, single crystal, elastic props. 7−51915
- α-$LiIO_3$ crystals, US studies *(Chinese)* 7−58417
- $LiNbO_3$, nonlinear elastic, piezoelectric, electrostrictive and dielectric consts. 7−64573
- $NaNo_3$ solutions in aqueous and non-aqueous media, acoustic and physico-chemical props. 7−44694
- NbC, elastic constants meas. 7−6703
- Ni-based superalloys, stiffness consts., dislocation line energy and tension, ultrasonic vel. meas. 7−63719
- Ni_3Al, stiffness consts., dislocation line energy and tension, ultrasonic vel. meas. 7−63719
- $Pb_{4.7}Ba_{0.3}Ge_3O_{11}$, rhombohedral, acoustic symmetry and vibr. anharmonicity 7−16695
- $Pb_5Ge_3O_{11}$, rhombohedral, acoustic symmetry and vibr. anharmonicity 7−16695
- $Pb_5Ge_3O_{11}$, sound velocity discontinuities at the phase transition 7−17274
- $PbMg_{1/3}Nb_{2/3}O_3$ ceramic, elastic moduli and diffuse ferroelec. phase transition, press. depend. 7−63717
- PbSe and other IV-VI cpds., acoustic mode vibr. anharmonicity 7−63751
- PdSiCu, amorphous, ultrasonic vel., mechanical props. *(Korean)* 7−26874
- Rb_2ZnCl_4 incommensurate ferroelectric, ultrasonic rel. and elastic moduli meas., phason obs. 7−51956
- α-S orthorhombic, elastic behaviour under pressure, lattice dynamics anal. 7−16667
- Sb alloys, polycrystalline, elastic consts. meas. 7−21319
- VDF/TrFE copolymer ferroelectric phase transition, observation using US spectroscopic system 7−20521

ultrasonic velocity measurement
- blood velocity, US Doppler signals and adaptive filtering 7−8670
- bone, ultrasonic velocity meas. system 7−47182
- brachial artery, Doppler US vel. waveforms, vector based approach to age-related changes 7−65822
- carbohydrates, aq. ethanolic solns., ultrasonic velocity determ. 7−31595
- ceramics, green and sintered, elasticity calc. from US velocity meas. 7−2085
- cyclohexane-carbon tetrachloride-ethyl acetate, ultrasonic and rheological study 7−31727
- dip point anal. from echo spectrum 7−43607
- flow velocity profile meas. by US Doppler shift method 7−51346
- frog muscle, US vel. fluctuation meas. 7−23395
- gas flow velocity distribution meas. based on nonlinear effect of ultrasonics *(Japanese)* 7−31905
- in vivo local US vel. meas. using crossed beam method 7−20525
- Lamb wave velocity meas. in thin plates by acoustic microscopy 7−2332
- left ventricular assist device, pulsed US Doppler rel. obs. 7−8667
- liquids, nonlinear response in acoustic resonance region, determ. by four-wave mixing 7−43216
- longitudinal and shear waves in solids under shock compression 7−20526
- microcomputer-controlled phase-sensitive detection appl. 7−50881
- pulse echo overlap method, delay time corrections *(Chinese)* 7−20512
- resonator, plano-concave, for velocity dispersion meas. 7−16042
- thickness-mode piezoelectric transducer constants, automatic meas. and calibration system 7−1369
- ultrasound Doppler velocimeter signals anal. using personal computers 7−54687

ultrasonic wave propagation *see ultrasonic propagation*

ultrasonic waves
- *see also surface acoustic waves; ultrasonic propagation*
- ice, sound vel. meas. 7−32576
- semiconductor superlattices, doped, electromagnetic excitation of ultrasound 7−12213
- thin rods in water, US press. distrib. prod. 7−6065
- Cu, halides, photochromic glasses, elastic props., 20-500 °C *(Russian)* 7−21365

ultrasonic welding
- automatic output parameter regulation of ultrasound technical processes 7−11232

ultrasonic welding continued
- bonders, development of non-destructive bond monitoring techniques 7−20586
- characteristics of metal weldment joined by ultrasonic butt welding 7−20580
- plastics, microwelding with welding tip pair 7−20578
- polymer, approx. formulation 7−16109
- thermoplastics, US welding technique *(Japanese)* 7−20570

ultrasonics
- *see also acousto-optical effects; ultrasonic applications; ultrasonic devices; ultrasonic equipment; ultrasonic waves*
- conference, San Francisco, USA (Oct. 1985) 7−11
- cross sectional images, Fourier domain reconstruction 7−43609
- electronics, conf., Tokyo, Japan (Dec. 1985) 7−18482

ultrasonography *see biomedical ultrasonics*

ultraviolet astronomical observations
- λ And, RS CVn star, simultaneous IUE and VLA obs. 7−47931
- δ And (K3 III), IRAS source with unusual UV spectrum, IUE obs. 7−55623
- γ Aql, hybrid chromosphere star, wind characts. and line form. region characts. 7−55630
- R Aqr, IUE obs. rel. to UV variability and mass expulsion 7−55651
- FF Aqr, RS CVn star, G-type giant star surface and atm. struct., IUE obs. 7−55730
- R Aqr jet, obs. at UV and radio wavelengths 7−55686
- θ As, chromospheric variability of semi-regular M7 giant star 7−66616
- IM Aur, Algol-type eclipsing binary, UV spectrum 7−4509
- AB Aur, Herbig Ae star, wind rot. modulation, C IV and Mg II UV obs. 7−47870
- ζ Aur type detached binary systems, IUE obs. rel. to accretion shocks 7−55732
- B2 and A2 main-sequence stars, C and N abundances from IUE obs. 7−47889
- late B-type stars, nearby, evidence for interstellar or circumstellar C IV and Si IV from IUE obs. 7−60771
- Be stars, UV superionised lines obs. in stars of different spectral types 7−55652
- blazars, spectral properties of blazars in for UV, IUE obs. 7−48074
- blue irregular galaxies, massive star content determ. from IUE obs. 7−48088
- α Boo, IUE high-dispersion echelle spectrograms of K1-giant 7−60656
- 3C 120, Seyfert galaxy, UV and optical obs. in two different states 7−55832
- OY Car, SU UMa-type dwarf nova, IUE obs. in superoutburst 7−55689
- η Car, UV spectrum obs. 7−47942
- 2 Cen M-type giant star, IUE spectral characts. 7−55674
- RS Cep, Algol type semidetached star with Be star component, system characts. 7−47972
- EZ CMa (HD 50896), UV spectrum and interstellar environment 7−18422
- α CMa (Sirius), IUE search for PN ejecta rel. to white-dwarf thermonuclear runaway 7−34977
- YZ CMi, dwarf M flare star, simultaneous IUE and VLA obs. 7−47931
- 40 Cnc, Praesepe blue straggler, UV spectrum and comparison with Vega 7−47882
- FK Com stars, outer atm. characts., UV spectral obs. 7−47936
- P/Comet Encke, spectroscopic observations during 1984 apparition 7−66508
- P/Comet Giacobini-Zinner (1984e), H_2O prod., CO_2^+ and plasma concentrations, spectrophotometric obs. 7−47793
- P/Comet Giacobini-Zinner (1984e), high dispersion spectral obs. 7−47792
- P/ Comet Halley, (1982i), in situ photopolarimetric meas. of dust and gas in coma 7−14527
- P/Comet Halley (1982i), Astron UV obs., gaseous coma model *(Russian)* 7−14540
- P/Comet Halley (1982i), far UV spectral images from sounding rockets 7−47785
- P/Comet Halley (1982i), H coma, Dynamics Explorer 1 observations 7−9431
- P/Comet Halley (1982i), H coma obs. by Suisei 7−40768
- P/Comet Halley (1982i), high dispersion spectral obs. 7−47792
- P/Comet Halley (1982i), O, C and CO prod. rates determ., UV spectra anal. 7−18379
- P/Comet Halley (1982i), polarimetry of visible and UV molecular bands 7−66503
- P/Comet Halley (1982i), rocket-borne UV spectroscopy, CO and C abundances 7−47784
- P/Comet Halley (1982i), role of CO_2 in outbursts 7−47783
- P/Comet Halley (1982i), UV spectrum evol. (1985 September to 1986 June) 7−47794
- P/Comet Halley (1982i), UV variability and H_2O production rates 7−9421
- P/ Comet Halley (1982i), Vega three-channel spectroscopy in visible and near-UV ranges 7−14519
- Comet Hartley-Good (1985 XVII), polarimetry of visible and UV molecular bands 7−66503
- contact binaries, EXOSAT and IUE obs. 7−60723
- cool CP stars, search for Be, IUE spectral obs. 7−47930
- V693 CrA (Nova CrA 1981), IUE echelle spectrum analysis 7−34985
- θ CrB, 1980-5 UV var., evidence for variability patterns and ionisation depend. 7−40827
- θ CrB, Be star, wind vel. var., UV spectral obs. 7−66597
- T CrB, recurrent nova, UV obs. by IUE (1978 to 1986) 7−47941
- RS CVn detached short-period stars, EXOSAT and IUE obs. 7−60723
- RS CVn regular-period binaries, Mg II h and k line emission 7−40866
- SS Cyg, dwarf nova, UV behaviour in quiescence and in outburst 7−55688
- V444 Cyg, eclipsing Wolf-Rayet binary star, Doppler tomography of stellar wind from IUE obs. 7−47947
- Cyg OB2 no.8A, UV and Balmer line profile vars. rel. to mass loss problems 7−47944
- DDDM-1, C-poor halo planetary nebula, element abundances from optical and UV obs. 7−60766
- diffuse background, Voyager 2 obs. of NGP in far-UV 7−60839
- dwarf irregular galaxies, CNO abundances determ. 7−40939
- early-type stars in SMC, stellar winds props. from IUE obs. 7−47885
- exciting stars of very low excitation compact nebulae in LMC, UV and optical spectra 7−47883

ultraviolet astronomical observations continued
F to M-type dwarf stars, activity-rot. relationship from Mg II h and k flux 7−55624
F-type main sequence stars, IUE obs. and B−V colours 7−47868
F-type stars, activity levels from UV and visible spectra 7−47848
faint blue stars at high galactic latits., UV and visual spectra 7−47878
Fairall 9, Seyfert 1 galaxy, simultaneous EXOSAT and IUE obs. 7−66747
TZ For, eclipsing Capella-like system observed with IEU, UV emission-line fluxes meas. 7−47996
galactic corona, IUE obs. rel. to kinematics, ionisation, and abundances 7−48054
galaxies, ANS UV photometry of M31, M33, M81, M101, NGC 2403, and Zwicky galaxies 7−29529
galaxies, C IV emission line behaviour in active nuclei, IUE spectra 7−60790
galaxies, narrow emission line active objects, UV to IR continuum 7−40912
globular cluster metal poor subdwarfs 7−47865
HBV 475, symbiotic star, IUE obs. rel. to origin of nebular emission 7−55687
HD 109995, field horizontal branch A-type star, CNO comp., UV spectral obs. 7−47862
HD 119921 (A0 V), interstellar UV absorpt. lines obs. 7−48057
Hd 144941, H-deficient star, UV spectroscopy rel. to energy distrib. and stellar wind 7−47887
HD 152408, Of star, absolute UV flux determ. 7−60685
HD 153919 (=4U 1700−37), massive X-ray binary star, orbital variability in stellar wind ionisation from IUE obs. 7−55737
HD 17081 (π Cet), spectrum synthesis of UV Ga II and Ga III lines compared with IUE obs. 7−47943
HD 25823, Si star, spectrum synthesis of UV Ga II and Ga III lines compared with IUE obs. 7−47943
HD 45166 (qWR+B8 V), obs. of gross UV spectral variability 7−47945
HD 50896, WR star, line of sight high-vel. interstellar gas detect., possible SNR 7−14627
HD 62910 (WN6-C4), high-resolution IEU obs. 7−47946
g Her, SRb star, outer atm., IUE spectral characts. 7−55674
HZ Her (=Her X-1), UV spectroscopy rel. to line emission site 7−55736
high-luminosity non-coronal stars, Fe II emission line profiles 7−47867
HR 5999, Herbig Ae star, chromospheric-transition region structure, IUE obs. 7−55631
IC 1297, double-ring planetary nebula, spectrum and chemical analysis 7−60759
In torus, O I and S I densities from UV spectra 7−55522
interacting binary stars, IUE obs. rel. to evolution and models 7−47997
interstellar 2175 Å extinction bump, IUE anal. 7−48039
interstellar 217 nm band, catalogue of equivalent widths 7−66479
interstellar C II 232.5 nm line, appl. to C abundance determ. toward ρ Oph and β^1 Sco. 7−9531
interstellar C IV and Si IV in local ISM, evidence from IUE obs. of late B-type stars 7−60771
interstellar extinction curves towards OB associations, statistical anal. of IUE obs. 7−55785
interstellar extinctions towards OB associations and star-forming regions, IUE obs. 7−55786
interstellar medium, IUE evidence for diffuse collisionally ionised C IV and Si IV below Z=1 kpc 7−55783
interstellar Mg I absorption line, IUE obs. rel. to limits on 'local fluff' 7−55782
interstellar molecules, visible and UV studies/1980-4 7−14639
interstellar nearby gas, IUE and optical spectral meas. 7−66729
interstellar UV absorption lines towards A0 V star HD 119921, C IV and Si IV lines obs. 7−48057
IUE telescope, light scatt. profile determ. 7−60551
IUE-observed objects, bibliographical index (1978-85) 7−60579
K and early M-type giants, IUE spectra of subclass with abnormally high wind expansion vels. 7−47873
AR Lac, RS CVn star, atm. active regions and lines rot. modulation, IUE obs. 7−55728
EV Lac, UV Cet star, mass expulsion episode, obs. characts. 7−55672
EV Lac, UV Cet star, UV radiation rot. modulation 7−47933
late-type giant stars, outer atmospheres struct. from IUE spectra 7−47872
late-type main sequence stars, chromospheric emission 7−47839
AD Leo, dwarf M flare star, simultaneous IUE and VLA obs. 7−47931
AD Leo, UV Cet star, giant flare UV and visible obs. 7−55676
LMC X-3, UV obs. and V, JHK photometry 7−55715
LMC X-3, X-ray binary containing black hole, for-UV obs. by IUE 7−55733
local interstellar medium processes from UV space astronomy, symposium, Toulouse, France (June-July 1986) 7−48132
LSI +65°010 (=2S 0114+650), visible and UV spectra of X-ray binary indicating mass ejection 7−29516
RU Lup, RW Aur star, multifrequency obs. 7−47866
Markarian 1018, spectrophotometric study of variability 7−55807
Markarian 231, Seyfert 1 galaxy, IUE spectra 7−48067
massive early-type stars in nearly galaxies (M31 and M33), IUE and optical obs. 7−47881
AU Mic, BY Dra star, IUE spectra of fluxes 7−47939
AT Mic, dMe star, UV and visible obs. 7−47934
AT Mic, flare star, flare far-UV spectra compared with solar flares 7−47937
Mira variable stars, Mg II emission flux meas. from shock waves 7−47938
Neptune, geometric albedo between 2100 and 3350 Å 7−24062
NGC 1068, Seyfert galaxy, detect. of broad UV Fe II lines in spectrum of nucleus 7−14663
NGC 2798, interacting galaxy, evidence from UV spectroscopy from starburst in galactic nucleus 7−55830
NGC 3256, galaxy, evidence from UV spectroscopy from starburst in galactic nucleus 7−55830
NGC 4151, broad-band study (γ-ray to IR) 7−60791
NGC 4151, Seyfert 1 galaxy, C IV 155 nm line profile obs. (1978 to 1983) 7−60814
NGC 4151, Seyfert 1 galaxy, obs. of new outflowing absorpt. component in Mg II line profile 7−55834
NGC 5430, galaxy with Wolf-Rayet knot, stellar population study 7−60778
NGC 6543, mass loss from central star of planetary nebula, UV spectra 7−40804

ultraviolet astronomical observations continued
NGP, far-UV diffuse background, Voyager 2 obs. 7−60839
novae, UV studies by IUE satellite 7−47940
OB-type stars, equivalent widths of interstellar 217 nm band 7−66479
open clusters, stellar activity, Mg II obs. *(Spanish)* 7−55742
Y Oph, classical Cepheid, IUE obs. rel. to early-type companion star 7−4470
ρ Oph, interstellar C II 232.5 nm line obs. rel. to interstellar C abundance determ. 7−9531
V566 Oph, UV light curve of A-type W UMa binary 7−40862
ρ Oph dark cloud, multi-freq. obs. 7−48024
BN Ori, Herbig Fe star, chromospheric-transition region structure, IUE obs. 7−55631
β Ori, IUE and Hα obs. rel. to models for discrete absorpt. components in spectral lines 7−47886
α Ori, long-term spectroscopic monitoring by IUE 7−47877
ι Ori, spectroscopic binary star, optical and IUE obs. rel. to tidally induced mass loss 7−55738
Orion Belt region, 140 nm spectrophotometric census rel. to Si stars identification 7−47950
Orion Nebula, element abundance determs. from IUE lines 7−55784
peculiar emission-line supergiants, IUE and optical obs. of Henize-Carlson sample 7−47948
peculiar stars, UV classification from IUE low-dispersion spectra reference atlas 7−60636
21 Peg, A-type star, UV doubly excited Fe II lines obs. 7−66585
ρ Per, SRb star, outer atm., IUE spectral characts. 7−55674
GK Per (Nova 1901), IUE spectra and visual magnitude estimates (November to December 1986) 7−47905
PG 0946+301, broad absorption line QSO, spectrum from 550 to 4250 Å 7−55852
PG 1351+64, low-luminosity quasar, UV and optical variability obs. 7−55851
β Pic, circumstellar shell characts., UV lines anal. 7−66590
PKS 0048-09, BL Lac object, visible and IUE obs. 7−60798
PKS 0537−441, multifreq. obs. of blazar in moderately active state 7−55811
PKS 2155−304, BL Lac object, IUE obs. (1979 to 1985) 7−55833
planetary nebulae, UV spectra interpretation, dissertation 7−66724
planetary nebulae and related objects, IUE Atlas 7−48056
planetary nebulae central stars, stellar winds props. from IUE obs. 7−47879
planetary nebulae central stars, terminal vels. of stellar winds from IUE obs. 7−47880
planetary nebulae in LMC and SMC, IUE survey 7−48055
planetary nebulae nuclei, observational constraints on origin and evolution from IUE data 7−47888
TX Psc, UV emission var. in cool C star, IUE obs. 7−60684
T Pyx, UV continuum and spectra 7−34992
Q1100+772, Q2201+315, intermediate-redshift quasars, line profiles from high signal-to-noise UV spectra 7−55850
QSOs in PC survey, obs. of low-z broad absorption line objects 7−24234
quasars, low-redshift, archival study of IUE obs. 7−60835
quasars, UV continuum shape from IUE obs. 7−55849
quasars UV spectra, evidence for redshift evolution of intergalactic absorpt. clouds number density 7−55829
red giants in open cluster M67, chromospheric UV emission obs. 7−47876
Saturn rings, IUE spectral obs. 7−47759
?β^1 Sco, interstellar C II 232.5 nm line obs. rel. to interstellar C abundance determ. 7−9531
Sco X-1, UV continuum vars. obs. 7−55735
CV Ser, WC8 star, wind modelling, C III UV and visible spectra anal. 7−66625
Seyfert galaxies, IUE obs. and comparison with low-redshift quasars 7−60835
Seyfert-1 galaxies, UV spectra rel. to nature of broad-line region 7−55831
V4046 Sgr, T Tau star, UV and visible obs. 7−47869
SN 1987A in LMC, IUE obs. of UV spectra and light curve 7−66638
SN 1987A in LMC, optical spectra, radiobrightness and double nature of progenitor 7−66634
SN 1987A in LMC, photometric and spectral obs. (1987 February 24-26) 7−66632
SN 1987A in LMC, Type II SN, astrometry, spectral and photometric obs. and progenitor characts. 7−66629
SN 1987A in LMC, UV light and spectrum vars. (1987 February 25 to March 2) 7−66642
solar corona, anal. of H I Lyman-alpha line profiles in polar region (April 1979) 7−47809
solar EUV spectrum, identification of forbidden lines of N I like ions Si VIII, S X and Ar XII 7−66441
solar flares, far-UV spectra compared with flare star AT Mic 7−47937
solar-type stars, IUE and Skylab spectra 7−47827
stellar chromospheric Mg II emission lines, influence of interstellar Mg II absorpt. 7−47840
Sun, Fe III forbidden emission lines, identification in UV spectrum 7−47813
Sun, filaments, oscillations in Hα and C IV lines 7−60614
Sun, outflows and ejections in transition zone 7−47807
Sun, relative emission-line strengths for Al III and Si IV 7−47799
Sun, spatially resolved regions, IUE and Skylab spectra 7−47827
sunspots, simultaneous meas. of umbral oscills. in photosphere, chromosphere and transition region 7−66542
V711 Tau, RS CVn star, 1981 October 3 flare, origin, IUE obs. 7−55729
V711 Tau, RS CVn system, UV emission-line fluxes rel. to chromospheric and starspot activity vars. 7−47995
RY Tau, T Tau star, UV and visible variability 7−55632
α Tri, hybrid chromosphere star, wind characts. and line form. region characts. 7−55630
Trumpler 37, open cluster, IUE extinction curves rel. to anomalous interstellar dust 7−48010
Uranus, geometric albedo between 2100 and 3350 Å 7−24062
Uranus, H Lyman α emission characts. 7−9414
UV standard stars for calibration of Hubble Space Telescope, IUE spectra 7−60735
FY Vel (=HD 72754), satellite line system spectra of eclipsing binary 7−47983
Venus, UV balloon obs. 7−14512
Venus, Venera 11 and 12 meas. of He I 58.4 nm emission rel. to outgassing history 7−9396

ultraviolet astronomical observations continued
22 Vul, ζ Aur star, mass loss and wind props., IUE obs. 7−14601
X-ray binary pulsars, short-period temporal studies with IUE 7−55494
YM 29, planetary nebula central star, search for stellar wind *(Russian)* 7−40812
He peculiar stars, IUE obs. of magnetically controlled stellar winds 7−47949
FU Ori, eruptive pre-main sequence star, IUE obs. 7−47875

ultraviolet astronomy
see also ultraviolet sources (astronomical)
A-type supergiants, wind characts., IUE obs. anal. 7−55636
active galactic nuclei, IUE meas. rel. to X-ray characts. 7−66770
Ap stars, search for chromospheric Mg II emission 7−47932
FF Aqr, RS CVn star, G-type giant star surface and atm. struct., IUE obs. 7−55730
balloon-borne UV telescope *(Spanish)* 7−55742
Be stars, C IV and Si IV UV lines synthesis rel. to superionisation and large mass outflows 7−55653
Be stars, C IV reson. lines and IUE obs. 7−55678
Be stars, evidence for aspect depend. winds, UV spectra anal. 7−55685
blue stragglers, UV spectral characts. 7−55634
calibration techniques, sources and detectors, conf., San Diego, CA, USA (Aug. 1986) 7−24286
comets, IUE observations and UV characts. 7−47791
comets, UV spectra, S compounds identification 7−55574
cool dwarf stars, chromosphere emission, rot. modulation, IUE spectra obs. 7−55629
cool giant and supergiant stars, atm. characts., EUV emission anal. 7−47871
cool stars, chromospheres and UV characts. 7−47838
cooling gas, column densities and UV lines of highly ionized atoms 7−23992
RS CVn stars, rot.- chromospheric activity relations 7−47993
SU Cyg, binary Cepheid, lumin. determ. from IUE spectra 7−55682
SU Cyg, classical Cepheid, possible triple system, components masses and motion, IUE spectral characts. 7−55683
DA stars, effective temps., UV spectral obs. 7−55633
diffuse UV background radiation, effects on gas props. in galactic halo 7−24171
element abundances determ. in gaseous nebulae, results from IUE lines anal. 7−55784
EUV, photon counting imaging microchannel plate detectors calibrating 7−29404
Extreme Ultraviolet Explorer Satellite, calibration of thin film filters, 68 to 912 Å 7−24015
Fuse/Lyman satellite telescope, photon-counting array detectors 7−47714
YY Gem, By Dra star, atm. activity depend. on orbital and rot. phases 7−55677
grating calibration facilities for Extreme Ultraviolet Explorer 7−24712
β Gru, late type giant star, outer atm. struct. and UV spectra 7−34974
HBV 475 (V1329 Cyg), symbiotic star, UV spectra variability 7−34983
HD 101065 (Przybylski's star), element identifications from line coincidence statistics of UV spectra 7−55684
HD 193077, WN6 star, narrow absorption components in UV spectra 7−55680
HD 93131, WN7 star, wind characts. and UV spectra 7−55679
HD 96548, WN8 star, UV line profiles 7−55679
imaging photon detector, large format 7−56342
instrumentation and techniques, conf., Tucson, AZ, USA (March 1986) 7−48162
interstellar 220 nm extinction feature, charge transfer model 7−55787
interstellar 220 nm feature, interpretation 7−48018
interstellar absorption lines, equivalent width data statistics and new oscillator strengths for Si II, Fe II and Mn II 7−55444
interstellar dust, UV-visible extinction spectra of submicron amorphous C grains 7−35023
interstellar extinction curves shapes, IUE anal. of 2175 Å bump 7−48039
interstellar matter, observations and models 7−66725
interstellar S and Zn in high density sight-lines abundances 7−66730
interstellar UV extinction peak due to graphite spheres (C_{60} structure), effect of cavities and mantles 7−4546
interstellar UV radiation field in galactic halos, implications of $z=1.79$ absorpt. line system toward QSO (B2 1225+317) 7−66782
IUE and UV astronomy, conf., London, England (July 1986) 7−41012
IUE spectra, VIRIS-VAX interactive reduction 7−40720
IUE telescope, light scatt. profile determ. 7−60551
IUE-observed objects, bibliographical index (1978-85) 7−60579
Jupiter, magnetosphere-Io torus system characts. 7−47758
LMC, average interstellar UV extinction curve 7−35042
LMC B-type supergiants, energy distrib. and model atm. 7−55635
local interstellar medium processes from UV space astronomy, symposium, Toulouse, France (June-July 1986) 7−48132
luminous accretion disk systems, IUE-Voyager observations 7−66623
Lyman UV astronomy mission, instrumentation and objectives 7−66430
Lyman UV astronomy mission and instrumentation 7−66429
β Lyr, UV spectrum, P Cyg lines anal. 7−55731
mass-losing stars, UV spectra due to ejected gas parcels from atm. region 7−47833
MS-type stars, search for white dwarf companions, UV spectral obs. 7−47935
multilayered mirrors for EUV solar imaging telescopes, space qualification 7−34864
O3-B8 type supergiants, stellar wind UV profiles and optical spectral types 7−55637
OB mass-losing stars, displaced narrow absorpt. components due to corotating interaction regions 7−4432
OB-type stars, C IV line profiles and IR excesses rel. to C IV ionisation fraction 7−47884
$4=o^1$ Ori, MS star, UV spectral characts. 7−55681
Orion region, extinction and dust characts. 7−66728
peculiar stars, UV classification from IUE low-dispersion spectra reference atlas 7−60636
photon counting detectors for space astronomy, wedge and strip image readout systems 7−47713
TX Psc, C star, UV spectral characts. 7−55675
rapidly-rotating single late-type giants, chromospheric activity 7−47864
reflection nebulae, IUE obs. review 7−66726
Saturn, EUV emission altitude var., evidence for low latitude proton precipitation 7−9412
W Sgr, binary Cepheid, lumin. determ. from IUE spectra 7−55682

ultraviolet astronomy continued
υ Sgr, H-deficient star, mass loss and mass characts., UV spectra anal. 7−14579
short-period temporal studies with IUE, pulse-phased spectroscopy technique for X-ray pulsars 7−55494
solar EUV instrumentation, calibration in space 7−24009
solar EUV telescopes, layered synthetic microstructures 7−40703
Space Telescope Imaging Spectrograph, preliminary performance goals 7−60550
speckle, interferometer, imaging, in space, image reconstruction by speckle masking 7−31258
spectral line formation in expanding atmospheres, theory for lines from excited levels 7−24123
standard stars for calibration of Hubble Space Telescope, progress report 7−60735
stellar chromospheric Mg II emission lines, influence of interstellar Mg II absorpt. 7−47840
stellar H I Lyman alpha profiles, correction for interstellar absorpt. and geocoronal emission 7−60637
Sun, coronal loops, Lyman α emission, filtergram anal. 7−24092
Sun, lower corona, emerging magnetic flux, radio and EUV data anal. 7−24118
Sun, quiet, EUV spectroheliograms and time-varying sources 7−24104
α Tau, late type giant star, outer atm. struct. and UV spectra 7−34974
telescope technology for Far Ultraviolet Spectroscopic Explorer 7−40709
telescope with normal incidence concave diffraction grating spectrometer, calibration 7−29400
UV Ga stars, spectral characts. 7−60665
Vega project, three-channel spectrophotometer for P/Comet Halley investigation 7−14472
Venus, UV aurora, 130.4 nm obs. anal. 7−47745
very local interstellar medium, IUE study 7−66727
Wolf-Rayet stars, energy distrib. and intrinsic colours 7−66624
C IV 154.9 nm in cataclysmic variables, inclination and phase-dependent line profiles calc. 7−60692
CH stars, synthetic spectra for 255 to 320 nm 7−55673
Fe II, UV doubly-excited lines obs. in laboratory and in A-type star 21 Peg 7−66585
Mg V forbidden lines, electron impact excitation rate coeffs. for Mg^{4+} 7−55455
Na-like ions, relative emission-line strengths for Al III and Si IV in Sun 7−47799

ultraviolet communication *see optical communication*

ultraviolet detectors
absolute intensity measurements in the vacuum ultraviolet 7−24684
imaging photon detector, large format for astronomical spectroscopy 7−56342
layered synthetic microstructures for solar EUV telescopes 7−40703
measurement of UV radiation *(Japanese)* 7−338
multisectional wire chamber for pulsed X-ray and VUV studies 7−30855
sodium salicylate as combined fluoresc./refl. coating for broad band detector *(German)* 7−4891
VUV spectrometer-detector system calibration using synchrotron radiation 7−24710
InP:Fe photoconductive detectors for VUV and soft X-ray regions 7−30084
Si interdigital Schottky diode structure with fast UV response 7−24701
Si photodiode, edge illumination at UV wavelengths to improve quantum efficiency 7−41464

ultraviolet lamps *see lamps*

ultraviolet laser effects *see laser beam effects*

ultraviolet lithography *see photolithography*

ultraviolet photoelectron spectra
alkali phosphates, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7−26816
azoles, UV photoelectron spectral assignment, ab initio. MRD CI calcs. 7−50239
benzene, adsorbed on Os (0001), mol. struct., angle-resolved UV photoemission spectral study 7−53492
chloromethane, UV angle resolved photoelectron spectra using synchrotron radiation 7−50246
Cu, clean surface with chemisorbed benzotriazole, UPS study 7−21656
double bonds, through space interactions, UV photoelectron spectrosc. investig. 7−57130
electronic struct., initial stages of intercalation 7−53503
fluoromethane, dissociative photoionis., translational energy disposal and mechanisms 7−10663
fluoromethane, UV angle resolved photoelectron spectra using synchrotron radiation 7−50246
graphite-K intercalation cpd., C_8K, electronic band struct., angle resolved UPS study 7−27232
8-hydroxyquinoline, intramol. H bonding, UV photoelectron spectra and MO calcs. 7−25367
8-hydroxyquinoline-N-oxide, intramol. H bonding, UV photoelectron spectra and MO calcs. 7−25367
methyl chalcogenides, UV photoelectron spectrosc. investig. 7−5721
pentacene, vacuum deposited amorphous films, X-ray diffr. and photoelectron spectra anal. 7−22434
poly(N,N′-bis(phenoxyphenyl)-pyromellatitimide), valence electronic struct., UPS spectrum 7−42806
poly(p-phenylene sulfide), UV photoelectron spectra 7−15748
polyimide films, vibr., EELS and UPS study 7−46257
pulsed gaseous free jets for UPS 7−36685
pyrazine, adsorbed on Ag (111), affinity level, EELS, inverse and direct photoemission spectra studies 7−52724
pyridine, adsorbed on Ag (111) and Ag polycrystalline substrates, struct., electron bands, LEED, UPS 7−53506
surface (100), S-covered, adsorption of NO 7−6990
surface chemical bonds, electron spectroscopy methods 7−39364
surface electron states, clean and adsorbate covered surfaces 7−52719
tetrakis(alkylthio)tetrathiafulvalenes, valence electronic struct., UPS, EHT calcs. 7−21810
XPS, UPS, work function meas. 7−12485
Ag (110), adsorption of ethylene and ethylene oxide, work function, LEED, UPS, TDS meas. 7−52270
Ag (110), Br_2 adsorpt. and reaction, UV photoemission study 7−45014
Al (111), Pd and Ag films, growth and electronic struct., UPS, LEED and AES studies 7−52350
Al-Mg alloy, charge transfer, X-ray emission and UPS studies 7−3118

ultraviolet photoelectron spectra continued
AlN thin crystalline stoichiometric film, electronic struct., electron spectra studies 7−58916
Al_2O_3-Ti interface reactions studied by AES and UPS 7−21702
Au-GaAs (001), short range potential variations at interface 7−45500
$BF_3.H_2O$, electronic struct., EEL and UV photoelectron spectra, ab initio MO STO calcs. 7−36449
CH radical, electronic struct., reson. multiphoton ionisation spectra anal. 7−50240
CO, adsorption on Ni (111), well defined gas-solid interphase, statistical rate theory approach 7−21655
CO_2, angle-resolved photoelectron spectra excited with focussed polarised reson. radiation 7−50244
CO_2, autoionisation and isotope effect in threshold UPS 7−19948
CO_2 excited with polarised reson. radiation, angle resolved photoelectron spectrum 7−50245
CaF_2-Si (111), interface form., photoemission study 7−2395
CaF_2-Si (111), MBE grown, electronic struct. 7−2725
CdTe films on InSb, interface struct. and band offsets 7−58664
Ce (001), H_2 adsorption, initial stages of hydride form., UPS, LEED and EELS studies 7−21629
Co surface, metal atom catalysed oxidation, UPS and AES studies 7−46865
CoSi (100), metal atom catalysed oxidation, UPS and AES studies 7−46865
Cr (100) surface, evidence for two O chemisorption sites, at room temp. 7−6980
Cs, 5s ionisation, PES satellite struct., CI approach 7−62296
Cs, oxidation, quantum size effect of conduction electrons 7−13643
Cu (111) with Ni overlayers, CO adsorption studies 7−21658
Cu surface, Ba covered, adsorbed O, XPS and UPS studies 7−2373
Cu surface modified by Al, electronic struct. and oxidation of surface 7−22443
Cu/Pd metallic superlattices, UPS, LEED, AES and ISS studies 7−3153
Cu-CdTe interface form., effect of different cation-anion bond strengths 7−27149
Cu-$Hg_{0.75}Cd_{0.25}Te$ interface form., effect of different cation-anion bond strengths 7−27149
n-$CuInSe_2/I^-$-I_2 acidic electrolyte contact, interphase characterisation 7−2703
Cu_2O surface with chemisorbed benzotriazole, UPS study 7−21656
Er_2Co glasses, electronic struct., photoemission and magnetism 7−64060
Fe (100) with adsorbed CO, UPS characterisation of a and b adsorption states 7−27126
Fe (110), (111) and stepped (110), adsorption of CO_2, UPS, work function meas. 7−12484
Fe (111), CO_2 adsorption and dissociation, ARUPS 7−63961
Fe, films, ethane and ethylene adsorpt. and reaction, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
Fe-B, metallic glasses, photoemission investig. *(Slovak)* 7−59369
Fe-Cu, epitaxially grown Fe films, electronic and crystallographic struct. 7−27214
Fe-Sn (100), surface structural transitions during Sn surface segregation 7−52210
$Fe_{82}B_{12}Si_6$, amorphous, initial crystallisation 7−44387
$Fe_{70}Cr_5Si_{10}B_{15}$ metallic glass, field electron emission 7−33530
$Fe_{40}Ni_{40}P_{20}$ amorphous alloy, electron struct. and surface struct., XPS and UPS studies 7−27238
α-Fe_2O_3, photoemission satellites, electronic struct. 7−39358
GaA (110), oxidation, photoemission spectra studies 7−3147
GaAs (110), adsorption of O_2, confirmation of two-step uptake model 7−2355
GaAs (110), chemisorption of O_2, photoemission evidence for surface growth 7−2356
GaAs (110) with ordered Sb overlayers, ARUPS 7−59378
GaAs (111), alkali metal covered, adsorption of O_2 7−63957
GaAs surface, H_2S adsorption, orientation and temp. depend. 7−58634
GaAs/Au contacts, growth modes, AES, UPS, XPS and RHEED studies 7−21753
GaAs-metal interfaces, Fermi level pinning 7−2714
GaAs-Mn(V), extrinsic surface states, core level UPS study 7−2713
GaAs(110)-Al, Schottky barrier form., effect of surface and interface kinetics 7−2668
GaP (110), with ordered Sb overlayers, ARUPS 7−59378
Gd_2Co glasses, electronic struct., photoemission and magnetism 7−64060
Ge (111), adsorbed Pb monolayers, photoelectron scatt., temp. depend. 7−13328
Ge surface, H_2S adsorption, orientation and temp. depend. 7−58634
$H^+ + N_2O$, collision excitation, photon emission spectra 7−15678
H_2, $B'^1\Sigma_u^+$ and $D^1\Pi_u$ states, REMPI, photoelectron spectra 7−62469
H_2 excited states, rot. and vibr. branching ratios, UPS 7−5725
H_2, resonantly enhanced multiphoton dissociative ionisation, photoelectron spectroscopy 7−15645
He, photoelectron satellite branching ratios, asymmetry parameters, UV PES anal. 7−62333
$Hg_{1-x}Cd_xTe$, sputtered and cleaved surfaces, deposition of In and Al reactive metals, UPS study 7−33513
$Hg_{1-x}Cd_xTe$ surfaces, sputtered and cleaved, deposition of unreactive Au, UPS study 7−33514
$Hg_{1-x}Cd_xTe$/Ag(Cu)(Al) interfaces, morphology, Hg bonding effects 7−7021
$Hg_{1-x}Cd_xTe$/Pt interface, overlayer-cation reaction, XPS, UPS and LEED studies 7−65349
HgO, core levels and valence band electronic struct. spin-orbit splitting, XPS and UPS studies 7−13330
I_2, solid, UPES and EHT calcs. 7−64870
In-GaAs(110), interfacial chem. reaction, UPS study 7−2276
InAs (110), oxidation, correlated changes of electronic surface props. 7−2354
InP (110), oxidation, photoemission spectra studies 7−3147
InP (110) photoexcited surface, time-resolved VUV photoemission spectroscopy 7−18919
InP-Au interface, Fermi level pinning, growth characts., photoemission spectra 7−22009
InP-metal interfaces, Fermi level pinning 7−2714
$K_{0.3}MoO_3$, electronic struct., UPS study 7−53499
$K_{0.9}Mo_6O_{17}$ electronic struct., room temp. UV photoemission spectra study 7−46272
Kr, photoionization cross sections of excited states, UPES anal. 7−50241
Kr_2, photoionization cross sections of excited states, UPES anal. 7−50241

ultraviolet photoelectron spectra continued
La, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
MoS_2, surface chemistry and props., photoemission, SIMS and SEM anal. 7−44971
MoS_2-Co catalyst-promotor interaction, UPS, XPS, LEED studies *(Chinese)* 7−39913
N_2^{2+}, Rydberg electron binding energy, UPS 7−872
NaCl, electron-phonon scatt. in XUV induced electron emission, Monte Carlo simulation 7−27861
Ni (100), K treated, rare gas physisorption, wetting, photoemission spectra 7−32822
Ni (111), N_2 adsorption, XPS, UPS, work function and TPD studies 7−52272
Ni, films, ethane and ethylene adsorpt. and reaction, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
Ni surface, clean and Ba covered, adsorbed O, XPS and UPS studies 7−2373
Ni surface modified by Al, electronic struct. and oxidation of surface 7−22443
O_2, adsorbed on Cu (110) and polycrystalline surfaces, UPS, XPS, AES, EELS, LEED studies 7−32820
O_2 adsorpt. on GaAs, UPS 7−59371
O_2, photoproduction cross sections, mass spectrometry, photoionisation and photodissociation 7−10681
PbO-SiO_2 mixtures, thermohomogenised layers, UV photoelectron spectra study 7−59370
Pd (100), adsorption of cyanogen, Penning ionisation electron spectroscopy, UPS, TPD studies 7−52268
Pd (100) with Na (NaO) overlayers, adsorption of methanol, formaldehyde and formic acid 7−21657
Pd-H system, ion implanted, XPS and UPS studies 7−7813
Pd-Si, metallic glasses, photoemission investig. *(Slovak)* 7−59369
Pd_2Si polycryst. film on Si, ion sputtering effects, XPS, UPS and scanning tunnelling microscopy studies 7−59357
Pr, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
Pt (110), hybridisation of electronic bands, spin-polarised UV photoemission spectra 7−45421
Pt_3Ti (111), chemisorption induced surface core level shifts 7−22448
p-Si (100), chemical etching with aq. $K_2Cr_2O_7$, XPS, UPS, LEED and TRMC meas. 7−46719
Si (111), metal atom catalysed oxidation, UPS and AES studies 7−46865
Si (111) cleaved 2×1 reconstruction, time-resolved VUV photoemission spectroscopy 7−18919
Si (111) with oxidised Cr overlayer, $CrSi_2$ formation and reduction of Cr_2O_3 during annealing 7−58660
Si (111)-(7×7), interface formation during W deposition 7−58710
Si, dangling-bond surface states, orientation depend. *(Chinese)* 7−58844
Si surface, (111) $\sqrt{3}\times\sqrt{3}$-Sn, angle resolved UPS, rel. to other Si-metal overlayer surfaces 7−3149
a-$Si_{1-x}C_x$:H, valence band, UPS studies *(Chinese)* 7−38443
a-Si_xC_{1-x}:H films, adsorbates influence on conductance, surface state 7−33115
SiO_2, electronic structure, direct and inverse photoemission and soft X-ray emission spectra *(French)* 7−59374
Sm, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
Sn, valence band struct., angle resolved photoelectron spectra 7−52416
Sr, autoionising series, multichannel quantum-defect theory model data fit, UV PES study 7−62334
$(TaSe_4)_2I$, electronic struct., positron annihilation and UPS study 7−53500
Tb, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
WC electronic struct. and magnetic suscept., UV and X-ray photoelectron spectra 7−53493
$Zn_n(n\leq6)$ matrix isolated cluster, optical spectra investig. 7−50433
ZrN_x (100), vacancy state, UPS obs. 7−52718
ultraviolet radiation effects *see radiation effects*
ultraviolet radiation effects, biological *see biological effects of ultraviolet radiation*
ultraviolet radiometry *see photometry*
ultraviolet sources *see light sources*
ultraviolet sources (astronomical)
active galactic nuclei, new accretion disk models rel. to optical and UV spectra 7−60813
R Aqr, UV variability and mass expulsion from IUE obs. 7−55651
R Aqr jet, obs. at UV and radio wavelengths 7−55686
OY Car, SU UMa-type dwarf nova, IUE obs. in superoutburst 7−55689
η Car, UV spectrum obs. 7−47942
cataclysmic variable stars, photoelectric photometry of six objects 7−40828
T CrB, recurrent nova, UV obs. by IUE (1978 to 1986) 7−47941
SS Cyg, dwarf nova, UV behaviour in quiescence and in outburst 7−55688
Galactic plane UV-excess objects, KPD survey for white dwarfs and subdwarfs 7−9383
galaxies, ANS UV photometry of M31, M33, M81, M101, NGC 2403, and Zwicky galaxies 7−29529
HD 152408, Of star, absolute UV flux determ. 7−60685
IUE-observed objects, bibliographical index (1978-85) 7−60579
Markarian 297, 325, clumpy irregular galaxies, U−G and G−K colours 7−24224
Markarian galaxies, catalogue 7−55496
Markarian galaxies, deficiency of normal elliptical galaxies from morphological classification 7−24201
NGC 1068, Seyfert galaxy, detect. of broad UV Fe II lines in spectrum of nucleus 7−14663
PKS 2155−304, BL Lac object, IUE obs. (1979 to 1985) 7−55833
planetary nebulae, astrophysical significance *(German)* 7−55776
planetary nebulae and related objects, IUE Atlas 7−48056
planetary nebulae central stars, stellar winds props. from IUE obs. 7−47879
planetary nebulae central stars, terminal vels. of stellar winds from IUE obs. 7−47880
planetary nebulae in LMC and SMC, IUE survey 7−48055
quasars, new accretion disk models rel. to optical and UV spectra 7−60813
quasars, UV continuum shape from IUE obs. 7−55849

ultraviolet sources (astronomical) continued
  Sco X-1, UV continuum vars. obs. 7—55735
  Seyfert-1 galaxies, UV spectra rel. to nature of broad-line region 7—55831
  standard stars for calibration of Hubble Space Telescope, progress report 7—60735
  symbiotic stars, nebular emission location from IUE obs. of HBV 475 (V1329 Cyg) 7—55687
  thin disk model for UV excess of quasars and Seyfert 1 galaxies 7—40956
  UV-excess galaxies, Kiso survey 7—4351
  white dwarfs with chemically stratified atmospheres, EUV synthetic spectra 7—4447
ultraviolet spectra of diatomic inorganic molecules *see spectra of diatomic inorganic molecules*
ultraviolet spectra of inorganic liquids and solutions *see spectra of inorganic liquids and solutions*
ultraviolet spectra of inorganic solids *see visible and ultraviolet spectra of inorganic solids*
ultraviolet spectra of organic molecules and substances *see visible and ultraviolet spectra of organic molecules and substances*
ultraviolet spectra of organic solids *see visible and ultraviolet spectra of organic molecules and substances*
ultraviolet spectra of polyatomic inorganic molecules *see spectra of polyatomic inorganic molecules*
umklapp process
  A_2BX_4-type crystals, incommensurate phase, zig-zag domain wall structure 7—33342
  semiconductors, Umklapp 1/f noise, Hooge parameter, relativistic correction, appl. to $Hg_{1-x}Cd_xTe$ resistors 7—2649
  Si-Ge_xSi_{1-x} superlattices, Raman scatt. involving umklapp processes 7—3043
  W, photofield emission spectroscopy of bulk electronic states 7—13329
  W single crysts., galvanomagnetic props., low temp. Fermi surface local features effects *(Russian)* 7—27320
uncertainty principle *see indeterminancy*
uncommitted logic arrays *see cellular arrays; integrated logic circuits*
underwater acoustics *see underwater sound*
underwater cables *see submarine cables*
underwater sound
  see also hydrophones; oceanography; sonar
  absorption coeff. meas. using reverberation method 7—20527
  acoustic Doppler current profiler, vessel-mounted, for use in rivers and estuaries 7—9262
  acoustic helical antenna *(Japanese)* 7—31560
  acoustic holography, pattern recognition appls. 7—31581
  SW Atlantic, wind field deduced from underwater noise obs. 7—23812
  Axial Seamount, Juan de Fuca Ridge, acoustic noise due to hydrothermal vents 7—23558
  backscatter from bubble clouds, meas. by automatically recording inverted echo sounder (ARIES) 7—8991
  backscattered response of sedimentary particles 7—57626
  beluga whale, target detection using surface-reflected path 7—54621
  circular cylindrical shell, influence of free modes of vibration on sound scattering 7—26057
  closed-form solutions for rigorous ray tracing 7—6031
  Coastal Ocean Dynamics Experiment, shipboard Doppler current profiling 7—9260
  complex wave fields propagation, reconstruction using Hilbert-Hankel transform 7—43514
  cross-fan beam scanning imaging *(Japanese)* 7—43593
  cylindrical shells in water, acoustic scattering *(French)* 7—50825
  decorrelation of acoustic energy propagated over disjoint paths in a turbulent ocean 7—62900
  deep-sea sound field, effect of vel. profile near surface 7—43502
  deeply corrugated periodic surface, hybrid T-matrix approach 7—6034
  Delaware Bay acoustic Doppler profiler intercomparison expt. 7—9263
  digital sonar imaging, processing techniques for images from GLORIA 7—4220
  Doppler acoustic current meas. in high currents, results from upper Cook Inlet, Alaska 7—66166
  Doppler profile current meter 7—9264
  downslope propag. loss over a continental slope 7—62896
  downslope propagation of normal modes in a shallow water wedge 7—62898
  elastic cylinder, submerged, ringing response of individual resonances 7—31559
  elastic tube immersed in water, internal acoustic excitations *(French)* 7—57627
  energy characteristics of the backscattering of sound by a rough ocean surface 7—43503
  evolutionary spectra of non-stationary underwater sound reverberation process *(Chinese)* 7—20494
  finite element analysis appl. *(French)* 7—11209
  fish swimbladder, nearfield acoustics 7—65779
  forward scattered waves in random media—the probability distribution of intensity 7—50828
  frequency spectra of a noise field in a plane-layered waveguide 7—16026
  Gaussian-Gaussian mixture, underwater noises modelling, detection 7—43512
  HF acoustic propagation, range dependent ocean channel transition 7—47465
  high-frequency bottom backscatter measurements in shallow water 7—26073
  horizontal array in a shallow sea, calcs. 7—62894
  hydrothermal plumes at seafloor spreading centres, acoustic imaging 7—6032
  lakes, underwater noise due to rain, hail, and snow 7—50830
  layer of spheres simulating ocean bottom, sound scattering 7—43504
  low-frequency noise fields 7—43508
  marine geodesy in North America 7—47312
  marine sediment transport, acoustic detection 7—6033
  mode propag. in western North Atlantic Ocean 7—31558
  normal mode filtering fọr downslope propagation in a shallow water wedge 7—62899
  ocean, acoustic Doppler profiler, surface wave kinetic energy influence 7—9274
  ocean, horizontal coherence function calcs. 7—50829
  ocean, layered bottom, resonance absorption effects 7—16027
  ocean, stepwise coupled modes, decoupling algorithm 7—43506
underwater sound continued
  ocean, underwater sound propag. 7—18203
  ocean, volume sound scattering strength daily variations 7—34544
  ocean acoustic inhomogeneities remote recording instrumentation 7—29299
  ocean acoustic noise field, long-period hydrodynamic perturbations 7—62893
  ocean acoustic tomographic mapping *(Japanese)* 7—47560
  ocean bottom loss, wide angle, estimation by normal incident acoustic pulse 7—43542
  ocean bottom-limited sound channel, propag. meas. 7—62895
  ocean current sensing, space-time analysis of acoustic scintillations 7—9258
  ocean gas bubble sensing using acoustic pulses 7—43501
  ocean gyres, large-scale phenomena, acoustic monitoring 7—47447
  ocean sound field sensing method 7—66308
  ocean transmission characts. *(Japanese)* 7—43509
  ocean waveguide explosive source energy determ. 7—50827
  ocean waveguides, inhomogeneous, layered, dispersion characts. 7—16025
  ocean waveguides, low freq. sound attenuation 7—62892
  oceanographic, vector meas. current meters comparison at 30 m and 50 m depth 7—9252
  oceanographic acoustic Doppler current profiling, form volunteer commercial ship 7—9261
  oceanographic current profiling system design and calibration, HF volumetric backscattering 7—9270
  oceanographic mid-ocean acoustic current profiling from submergedbuoys 7—9269
  oceanographic near-surface current meas. over Norwegian continental shelf 7—9251
  oceanographic shallow water tomography, acoustic reciprocal transmission expts. 7—9259
  oceans, acoustic scatt. and total internal reflection 7—6035
  parametric arrays, applications to shallow water *(Chinese)* 7—37240
  parametric sonar use for oceanographic research 7—29298
  passive underwater tracking with nonlinear feedback, convergence anal. 7—31557
  polymer composition rel. to acoustic props., Young's and longitudinal bulk modulus meas. 7—1304
  SAR image holography using acoustic lens for 3D underwater imaging 7—43513
  scattering, hybrid modelling scheme 7—20497
  scattering by elastic cylindrical shells 7—20484
  sea floor imaging long-range, low-freq., spatial resolution aspects 7—28999
  sea ice, laboratory-grown, acoustical reflection and scattering from underside 7—43507
  sea surface loss in surface ducts and shallow water, historical perspective 7—66160
  seafloor geoacoustic properties determ., appl. of three related reson. methods 7—66097
  seismic exploration, appl. of array processing for parallel linear recursive Kalman filtering 7—65986
  shallow sea, amplitude fluctuations of a sound field along a stationary acoustic test range 7—50826
  shallow water, low freq. sound reflection coeff. of bottom 7—43505
  shear wave effects on propagation to near-bottom and sub-bottom receivers 7—62897
  shells, submerged elastic, proper background choice in resonance scattering 7—37241
  ship-board echo location system accuracy and system for East-Scheldt storm barrier construction 7—47558
  signal processing, reconstruction of complex-valued propagating wave fields by Hilbert-Hankel transforms 7—42975
  smart acoustic current meters, experiences in Lake St. Clair, Canada/USA 7—9255
  source localisation, appl. of acoustic amplitude ranging techniques 7—66161
  spectral characteristics of pulse signals in multiple reflection from the layered bottom and surface of the ocean 7—62891
  submarine topographical information based on seabeam bathymetric system *(Japanese)* 7—43595
  tracking, 3D, that considers acoustic medium effects 7—43544
  ultrasonic underwater imaging of cracks in concrete 7—33908
  undersea ultrasonic imaging system with electronic scan *(Japanese)* 7—43594
  Al cylinder in water, Franz and Stoneley SAW mode obs. 7—1303

undulator radiation
  almost concentric resonators for low gain FEL, alignment and performance 7—43155
  beam system evolution in long undulators 7—42880
  BESSY low emittance beam props. 7—30789
  BESSY multipole magnet, electron opt. props. and electron trajectories 7—42254
  charged filament in media having travelling parameter, synchrotron and undulator radiation emission 7—57222
  charged particle interaction with a mixed type II superconductor 7—64402
  coherent and incoherent radiation from charged particle beams 7—31223
  dielectric mirror damage due to high K undulator radiation 7—1142
  electron radiation, effect of inclination of electron transit 7—62602
  FEL undulator technology and synchrotron radiation source requirements 7—31350
  free electron laser, ENEA expt., variable gap permanent magnet linear undulator 7—43151
  free electron laser, induced magnetobremsstrahlung of electrons in an undulator field and an axial guide field 7—50574
  free electron laser, particle dynamics and beam energy with planar undulator 7—10975
  free electron laser EUV, three-dimens. simulation 7—43131
  free electron parametric laser theory 7—43125
  grating monochromators, wave-optical props. 7—36865
  helical undulator, props. 7—31227
  insertion device beam line optics, review 7—43305
  insertion device Beam Line Wunder design at SSRL 7—42256
  insertion device performance in ESRF 7—42251
  insertion device storage rings, design potential 7—31230
  insertion devices, future developments, limitations 7—42257
  insertion devices, variational theory 7—42879

undulator radiation continued
insertion devices for synchrotron sources, conf., Stanford, CA, USA (Oct. 1985) 7—29584
magnets, systematic selection using simulated annealing 7—31229
micropole undulator device for X-ray production 7—57221
microscope, soft X-ray, undulator based, design 7—47298
microwave undulator, theory, construct, and exptl. results 7—42878
microwave undulator utilising a plane rectangular waveguide 7—62187
mirror, lacquer-coated, irrad. with undulator light, surface heating 7—43307
Orsay optical klystron, goals 7—31231
phase space distribution of brilliance of undulator sources 7—31224
point charge, photon density radiation limits 7—62608
random errors in undulators and their effects on the radiation spectrum 7—31228
self amplified spontaneous emission 7—1163
short period undulator, design and performance 7—42252
soft X-ray undulator, performance predictions 7—42876
soft X-rays from lasers, undulators and plasmas, coherence props. 7—18956
spectra, computer simulations and modeling 7—31226
spectral characterization of undulator radiation in the soft X-ray region 7—10829
spectral properties, calc. in far field approx. 7—31225
synchrotron beam line critical elements, heat transfer studies 7—42255
wiggler, NdFe-steel hybrid permanent magnet, development for insertion in SPEAR ring 7—42250
wiggler beam monochromator, distortion from synchrotron radiation thermal loading, finite element analysis 7—42269
wiggler design, 3 Tesla, with supercond. windings, for ESRF 7—42253
X-ray Fourier images, formation 7—18953
X-ray partially coherent radiation, props. and appls. 7—24738
X-rays, coherent, production 7—31222
NdFe alloys, magnetic moment irreversibility from temperature cycling 7—33194
R-Co alloys, magnetic moment irreversibility from temperature cycling 7—33194

unidirectional solidification *see directional solidification*

unified field theories
see also neutron oscillations; SU_5 theory; supergravity; Weinberg model
(2,2) SUSY σ-models, higher order counterterms, superstring effective action 7—15079
5D space-time-mass gravity in a vacuum, cosmological soln. 7—60842
't Hooft-Polyakov monopole, charge-exchange and helicity-flip scattering 7—19043
CP nonconservation at the unification scale, three-generation phase-invariant measure 7—19029
$N=1$ superconformal operator product expansions andsuperfield fusion rules 7—4998
Abelian lattice gauge theories, mean field methods for strings and monopoles 7—24772
Abrikosov lattice in the theory of electroweak interactions 7—19051
anisotropic homogeneous cosmological models, gauge-invariant perturbations 7—48494
anomalous high-energy behaviour in boson fusion 7—35761
anomaly-free superstring theory, compactification 7—56480
antiferromagnetic chains, solitons as dyon analogs 7—2798
attractor in a higher-dimensional cosmology 7—14696
attractor in superstring model, Einstein theory, Friedmann universe, inflation 7—41201
axially symmetric *pp*-waves and their interpretation as extended massless particles 7—18655
axion-EM coupling, implications for cosmic background radiation 7—439
baryon and lepton number violation in astrophysics 7—55866
baryonium, strange, standard model anal. of strange B = O states 7—41676
baryons, electroweak properties in QCD 7—56522
Bianchi type-I Einstein-Cartan cosmological model, inflationary aspects 7—56118
Bianchi-IX cosmological model, chaotic behaviour 7—24509
big-bang nucleosynthesis, standard model with interacting particle species 7—23997
black hole evaporation, closed superstring theories role, quantum coherence 7—66651
black hole mass quantisation in string theory 7—61628
book, gauge field theory introduction 7—35134
book, supersymmetry, superfields, supergravity 7—14724
bosonic nonlinear σ-models, consistent string propag. 7—4977
bosonic string, classification of subgroup truncations 7—30227
bosonic string, Hamiltonian and Lagrangian constraints and gauge fixing 7—19088
bosonic string, interacting, 26-dimensional, torus compactification for non-simply laced groups 7—30226
bosonic string theory, two- and three-loop vacuum amplitude calcs. 7—5025
BRST approach to N=2 superconformal algebra 7—24866
BRST cohomology in superstring theories 7—24814
Cabibbo angles and KM phases, standard choice for any number of generations 7—30251
chaotic inflation, effects of nonrenormalisable terms 7—29558
charge-monopole interaction, O(3,1) symm. problem 7—48943
charged lepton, mass, gauge field theory 7—61433
Chiral models, geometrical aspects, superstring theory 7—61496
closed bosonic string, modular invariance and two-loop vacuum amplitude 7—24811
closed bosonic strings, two-loop analyses and modular forms 7—5019
closed bosonic strings in a covariant phase space 7—24809
closed fermionic string models in 10D, classification 7—49035
compactified bosonic string and topological solitons 7—49036
compactified superstring, global symmetries and flat pots., D=4 supergravity 7—14851
conf., Neuchatel, Switzerland, April 1986 7—40984
conformal and current algebras on a general Riemann surface 7—56475
cosmic axion decay to photons in microwave and IR regions 7—14695
cosmic axion string decays, constraint on Peccei-Quinn symm. breaking scale 7—24517
cosmic string induced galaxy formation 7—9543
cosmic strings, damping of motion by dynamical friction 7—56101
cosmic strings, evolution and scaling soln. 7—48496
cosmic strings, gravit. effects and temp. discontinuity 7—14841

unified field theories continued
cosmic strings, gravit. radiation and microwave background 7—14838
cosmic strings, orbifold compactifications 7—35363
cosmic strings, radiation of Goldstone bosons 7—56129
cosmic strings, superheavy, superconducting, from superstring models 7—60847
cosmic strings from hidden-sector flux tubes 7—18658
cosmological baryon diffusion and inhomogeneities in big-bang plasma 7—60848
cosmological consequences of strong and gravitational unification 7—14844
cosmological Einstein-Rosen metrics, generalised soliton solns. 7—41166
cosmological evolution of monopole-string networks 7—56114
cosmology, big bang and unified theories of Universe *(French)* 7—60841
cosmology, gauge-invariant perturbations in generalised inflationary models 7—48112
cosmology, monopole abundance from first order GUT phase transition of early Universe 7—9572
covariant heterotic strings, classical gauge and BRST struct. 7—49105
covariant heterotic strings, supergauge field theory 7—35834
covariant interacting string field theory, off-shell vertex in Fock-space representation 7—49034
covariant string field theory, gauge-fixed action and BRS transformation 7—19087
dark matter candidates, scatt. and annihilation cross sections 7—15089
dimensional reduction of 10-D supergravity and superstring 7—35378
dimensional reduction of gauge theories yielding unified models spontaneously broken to $SU_3\times SU_2\times U_1$ 7—35773
dimensional reduction via dimensional shadowing 7—35752
Dirac monopole, gravitational analog 7—35358
disordered radiation, confinement by action of a Higgs vacuum 7—48483
down quark, fourth generation, consistency with standard theory 7—35757
dynamical props. of charged fermion in 6D Abelian monopole geometry 7—19045
dyon(Kaluza-Klein)-fermion interactions 7—56583
$E_6\times E_7\times U(1)$ theory with Lorentz-Chern Simons term, supersymmetrisation 7—168
$E_6\rightarrow SU(3)_C\times SU(2)_L\times U(1)\times U(1)_\eta\times U(1)_\eta'$ GUT, bounds on Z masses and couplings from electroweak corrections 7—61527
E_6 charged lepton mixing, effects on $e^+e^-\rightarrow Z^0Z^0$ 7—61645
E_6 electroweak models with two extra Z bosons, phenomenology 7—41682
E_6 gauge group, gauge bosons and neutral currents 7—451
E_6 model, d quark-D fermion mixing, $D=E_6$ fermion, KM mixing angle, SU (5) mass relation study 7—61528
E_6 model, neutrino mass matrix and N stability 7—56474
E_6 model, rank-5 Wilson-loop-broken, anal. of $e^+e^-\rightarrow W^+W^-$ 7—61646
E_6 model probe using $e^-e^-\rightarrow\bar{l}l$ forward-backward asymmetry 7—19093
E_6 supergravity GUT with SU(N,1) invariant Kahler potential, strong CP violation elimination via invisible axion 7—61524
E_6 superstring-inspired models, neutral current anal. 7—61543
E_6 superstrings, $\nu\rightarrow\nu'\gamma$ decay rate calcs. 7—30266
E_6 superstrings, L parity and ν_e masses 7—19048
E_6 superstrings, phenomenology of exotic particles 7—169
E_6 theory, limits on exotic fermions 7—15103
E_7 model based on coset space dimensional reduction scheme, fermion masses 7—61536
$E_8\times E_8$ superstring theory, extra U(1) phenomenology at low energy 7—41688
$E_8\times E'_8$ superstring theory, low-energy gauge interactions, renormalisation group anal. 7—41687
$E_8\times E'_8$ superstring theory, phenomenologically viable models 7—41686
E_8 superstrings, calabi-Yau manifolds motivations and constructions 7—56109
early Universe, N-vector model for inflationary expansion 7—24247
early universe, possible violation of thermodynamic equilibrium 7—48118
Einstein-Hilbert lagrangian, higher dimensional cosmological solns. 7—14835
Einstein-Kalb-Ramond cosmology 7—48122
Einstein-Maxwell eqns., perturbations of solns., background EM field 7—9726
Einstein-Maxwell equations, type one soln., charged analogue of Schwarzschild's interior soln. 7—35357
Einstein-Maxwell solutions, conformally Ricci flat, null EM field 7—24508
Einstein-Maxwell space-time, asymptopia of quasi-local mass and momentum 7—29841
Einstein-Maxwell system, generalization 7—35360
Einstein-Maxwell theory, nonlinear electrodynamics generated via gravitational nonminimal coupling 7—24512
Einstein-Maxwell-σ theory, 6D, spontaneous breaking of global and local symmetries 7—35369
Einstein-Maxwell-Liouville equations, charged gas, invariant solutions 7—18649
electric charge distribution around a mag. monopole, charge density 7—9934
electrodynamic, nonlinear, in curved space-time, generation via nonminimal coupling 7—56125
electromagnetic field in a dynamical-compactification scheme 7—19049
electron, anomalous magnetic moment, constraint on composite weak-interaction bosons 7—523
electroweak bags, nontopological solitous macroscopic objects 7—24818
electroweak bosons, leptons and Han-Nambu quarks in a unified spinor-isospinor preon field model 7—49102
electroweak Glashow-Weinberg-Salam theory, one-loop effects 7—61509
electroweak interaction with two quark generations, chiral bosonisation *(Russian)* 7—24825
electroweak interactions with the nucleon and tests of the standard model 7—61513
electroweak radiative corrections, renormalization scheme dependence 7—35774
electroweak signals in circuits, chiral anomaly induced spin waves as QED probes 7—460
electroweak standard model, 1-loop renormalisation, leptonic processes appl. 7—61512
electroweak SU(2)×U(1) lattice gauge theory with variable-length Higgs fields 7—24791
electroweak symmetry breaking, phenomenology of colour exotic fermions 7—10009
elementary particle stability, catastrophe theory on the space-time manifold 7—24808

unified field theories continued
EM and isospin breaking effects on ε'/ε, standard model predictions 7−24816
Euclidean lattice, unified treatment of Poincare, de Sitter and conformal gravity 7−56131
European Hadron Facility, conference, Maine, Germany (March 1986) 7−48154
exotic D quark production at hadron colliders 7−35760
experiment and theory in high energy physics 7−35845
extended technicolour model based on $SO(10)^2$, fermion mass spectrum 7−61520
extra gauge field structure uncovered in the Kaluza-Kleinframework 7−164
extreme Reissner-Nordstrom black holes, motion in low-vel. limit 7−14600
feeble intermediate-range forces from higher dimens., Kaluza-Klein theories 7−48497
Fermi decays, verification of conserved vector current and standard model predictions 7−19208
fermion, mass calcs. from abelian generation group symm. breaking 7−61636
$fermion+fermion \rightarrow fermion+fermion+W^++W^-$, charged current sector calc., effective W approx. comparison 7−24822
fermion fields in the soliton background of Kaluza-Klein theories 7−41202
fermion mass matrices in unified models 7−446
fermion masses and mixings in $SU(3)_C\times SU(2)_L\times U(1)_Y$ six-dimensional model 7−30228
fermion masses in GUTs with intermediate scales 7−10011
fermion string, multiloop contrib. 7−19052
fermionic closed orientated Polyakov strong, loop amplitudes for $d=10$ 7−19035
fermionic families, unification, quark and lepton masses 7−10010
fermionic string loop amplitudes with external bosons 7−5026
fermionic strings, gauge invariant Liouville action 7−35771
Feynman diagrams representing partial helicity amplitudes, substitution rules 7−49023
fine-structure constant in plasma model of fluctuating vacuum substratum 7−30230
finite $N=1$ supersymmetric grand unified theories 7−41674
five-dimensional projective field theory, linear problem 7−47681
fourth generation quark-lepton effects on third generation, quark-lepton mass matrices and renormalisation group eqns. 7−56482
fractional electric charge induced on GUT monopoles, chiral anomaly effects 7−19044
free bosonic string fields, resolution of indefiniteness problem 7−5021
Freidmann cosmology with a cosmological constant in scale covariant theory 7−4608
G-invariant Kaluza-Klein scheme on $M\times G/H$ leading to $N(H)/H$ gauge group 7−166
galactic halos, rotation, density and string-seeded spirals 7−29562
gauge theory of gravit. in higher dimensional space-time and dimens. reduction 7−56127
Gelmini-Roncadelli model, one-loop renormalisation group anal., ν mass generation 7−24817
generalised cosmic strings, quasi-regular singularities 7−41190
generalised field theory, EM field eqns. using gauge structs. 7−9720
generalised field theory and the Kasner universe 7−41186
geometrical unified theory of connection fields and frame fields 7−56121
globally supersymmetric preon models with gauged colour-flavour symm. 7−19079
Goldstone-Higgs particle mass, internal subgroup prediction 7−35756
grand unified model with 10^{19} GeV unification scale 7−4745
gravitational fields, time dependent, influence on superconducting oscillatory ccts., third-order differential eqn. 7−41181
GUT scale parameter, constraints 7−48488
GUT with chemical potential, electroweak mass scale 7−61532
GUTs and SUSY GUTs, proton decay status, SU(5) model, lifetimes 7−30220
Hamiltonian quantization of $SL(2,C)$ gauge theory, unified Yang-Mills and gravitational theory 7−5029
heavy neutral lepton search techniques within the standard model 7−30221
heavy quark dynamical mass, electroweak symmetric breaking, extended technicolour sector simplification 7−24837
heavy Z bosons and Majorana neutrinos 7−15088
heterotic string, (2,0) supersymmetric, internal degrees of freedom, action calc. 7−61522
heterotic string, anomaly cancellation and self-dual lattices 7−35367
heterotic string, Lorentz and gauge anomalies cancellation and world sheet SUSY 7−15094
heterotic string, vanishing vacuum amplitude, modular forms and cosmological constant 7−15091
heterotic string amplitudes, modular invariance and one-loop finiteness 7−41203
heterotic string in $d=10$ supergravity background 7−5017
heterotic string in IOD supergravity background, world-sheet supergravity anomaly cancellation 7−61209
heterotic string in superspace 7−10048
heterotic string model, confusion mechanism as global modification 7−15093
heterotic string models, removing tachyons by compactification 7−61192
heterotic string theory, (2,0) supersymmetry and space-time supersymmetry 7−19085
heterotic string theory, anomaly cancellation and modular invariance 7−5024
heterotic string theory, gauge and gravitational anomalies, role of modular invariance 7−10002
heterotic string theory, toroidal compactification 7−30223
heterotic string theory 7−9735
heterotic string theory in 4D with families of chiral fermions and standard gauge symm. 7−49033
heterotic string theory low energy effective action 7−5036
heterotic superstring geometry, super-Weyl transformations 7−61191
heterotic-string anomalies in (1,0) superspace 7−24513
heterotic-string $O(\alpha')$ corrections to $D=10$, $N=1$ supergravity 7−24515
hierarchical quark-lepton masses and intermediate massscale in GUT 7−5016
hierarchy problem in the scalar triplet model 7−49032
Higgs boson, props. 7−49039

unified field theories continued
Higgs boson mass upper bounds in electroweak interaction models 7−19054
Higgs boson production at heavy Z-resonance 7−35759
Higgs boson-quarks composite model 7−10008
Higgs doublet models, bounds on masses 7−61537
Higgs-boson doublets, model, with no increase in parameters 7−15110
higher dimensional cosmology, initial conditions and attractors 7−29561
higher dimensional Einstein-Cartan gravity, dimensional reduction 7−61188
higher order anal. of electroweak interactions 7−49019
higher order corrections to supersymmetry and heterotic string compactifications 7−4997
higher-dimensional black holes in compactified space-times 7−47970
homogeneous anisotropic cosmological models with viscous fluid and magnetic field 7−24503
homogeneous Kaluza Klein cosmologies, group theoretical classification 7−48491
hypothetical fundamental length, limits on ideal flexible string struct. of vacuum 7−30229
hypothetical long-range interaction weaker than gravity 7−24516
infinitesimal holonomy groups of Einstein-Maxwell space-times 7−56111
inflation from inhomogeneous initial data in a one-dimensional backreacting cosmology 7−48125
inflation in the heterotic $E_8\times E_8$ superstring model, reheating 7−4604
inhomogeneous cosmological models, de Sitter soln. and inflationary scenarios 7−56116
inhomogenous W-boson condensates in the standard electroweak theory at high fermionic densities 7−10001
interacting closed bosonic string, non-commutative geometry, quantum action 7−19083
interacting closed bosonic strings, covariant formulation with compactified dimensions 7−35769
interacting field theory of open superstrings 7−5071
invariant string field theory, gauge symmetry using light-cone gauge M^{-i} generator 7−5020
invisible axion detectors 7−10012
Kaluza-Klein and 11D supergravity, algebraic methods for spontaneous compactification 7−29847
Kaluza-Klein ansatz for chiral $N=2$ $D=10$ supergravity on round 5-sphere, truncations 7−183
Kaluza-Klein blade hole, stationary, rotating, anal. of solns. for zero electric charge 7−60707
Kaluza-Klein compactification scheme induced by general nonlinear sigma model 7−29845
Kaluza-Klein cosmological model, 5D, density matrix and entropy 7−55865
Kaluza-Klein cosmologies, surfaces of discontinuity in 5-D 7−41197
Kaluza-Klein gravitational theory, astrophysical data and cosmological solns. 7−9363
Kaluza-Klein model, conversation laws and integrability conditions for gravitational and Yang-Mills field equations 7−56108
Kaluza-Klein model, cosmological solns. for homogeneous, spatially isotropic metric 7−9723
Kaluza-Klein model, $d=10$, vacuum solns. *(Russian)* 7−61198
Kaluza-Klein model in 5D, quantum fluctuations and residual length 7−48507
Kaluza-Klein monopoles, motion at low energy 7−14839
Kaluza-Klein quantum R^2-gravity, effective action and spontaneous compactification 7−61194
Kaluza-Klein theories, cosmological evolution of degenerate vacua 7−41198
Kaluza-Klein theories, scalar fields and dynamical torsion 7−4746
Kaluza-Klein theories, vacuum Einstein equations in $4+K$ dimens., spherically symmetric dyonic solns. 7−35362
Kaluza-Klein theory, barrier penetration and initial values 7−29842
Kaluza-Klein theory, classical, nonexistence of neutral black hole solns. with spacetime-internal space coupling 7−4742
Kaluza-Klein theory, extra time-like dimens. leading to nonvanishing cosmological constant 7−4753
Kaluza-Klein theory, five dimensional, black holes coupled to time-dependent scalar fields 7−35370
Kaluza-Klein theory, formulation of the positive-energy theorem 7−4739
Kaluza-Klein theory, harmonics and spectra on general coset manifolds 7−24520
Kaluza-Klein theory, $M^4\times S^1$ model, gauge-dependence of self-consistent dimensional reduction 7−29844
Kaluza-Klein theory, quantum cosmological approach and 'no boundary' condition 7−41191
Kaluza-Klein theory, recent results in extra dimensions 7−24521
Kaluza-Klein theory, reparametrization dependence of the effective potential 7−48493
Kaluza-Klein theory, scale invariance, Killing vector and size of fifth dimens. 7−24524
Kaluza-Klein theory, self-consistent dimensional reduction and effective action 7−41218
Kaluza-Klein theory, torsion and chiral fermions on topologically nontrivial Yang-Mills fields 7−48994
Kaluza-Klein theory, weak angle with deformed internal space 7−9732
Kaluza-Klein theory and the Aharonov-Bohm effect 7−41199
Kaluza-Klein theory for SU(2) particle scatt. off Euclidean instanton 7−35750
Kaluza-Klein theory in 11D, compactifications with $SU(3)\times SU(2)\times U(1)$ symmetry 7−29840
Kaluza-Klein theory with elementary gauge fields, symm. breaking mechanism 7−41192
Kaluza-Klein theory with multiply connected extra space, gauge field coupling constants *(French)* 7−41672
Kaluza-Klein type theories, Christoffel formula and geodesic motion in hyperspin manifolds 7−41194
Kaluza-Klein vacuum with supersymmetric extra space, Planck mass problem 7−56123
Kepler problem with a magnetic monopole 7−41673
Kerr-Newman metric, charged boson bound states *(Chinese)* 7−9729
Killing vectors and Maxwell collineations in general relativity 7−48486
Klein-Gordon and Weyl equations in the Godeluniverse 7−167
Kobayashi-Maskawa matrix, renormalisation group eqns., quark mixing, CP nonconservation 7−5034
Kobayashi-Maskawa matrix elements, expt. determination 7−56487
Kobayashi-Maskawa-Cabibbo matrix, standard model test of $O(\alpha)$ radiative corrections 7−41785

unified field theories continued
large number hypothesis, Bekenstein-Hawking entropy and Weizsackers ur theory 7−14686
left-right symmetric model, spectroscopy of Higgs scalars and exotic mesons 7−35767
left-right symmetric model of massive neutrinos with conserved lepton number 7−30224
left-right symmetric models, light scalar indications 7−15099
left-right symmetric models, top quark mass upper bound 7−35755
lepton-lepton and lepton-jet correlations at Z resonance, new particles vs. standard model 7−56476
light Dirac neutrino in left-right-symmetric models 7−41681
light Higgs scalar boson searches, prospect for next generation e^+e^- collider 7−24807
local Euclidean gravity coupled to σ-model, harmonic maps and submersion 7−14843
locally supersymmetric string Jacobian 7−35383
longitudinally polarised W and Z bosons, relationship to Goldstone partners, gauge invariance 7−41702
loop amplitudes in the fermionic string 7−5035
Lorentz covariant string theories in D=10 and D=18 7−19038
Lorentz equations of motion and connections in a principal bundle 7−56120
Lorentzian cobordism, non-time orientable, pair creation 7−9724
macroscopic intermediate range forces, influence on stellar struct. 7−56119
magnetic monopole, CP violating electric charge 7−10004
magnetic monopole detection, from Stanford to MACRO 7−10014
magnetic monopoles, electric currents, and Dirac strings 7−15070
magnetized cosmological model for perfect fluid distribution 7−24505
massive spin 3/2 particle with EM and gravit. interactions by Kaluza-Klein reduction, theory 7−49024
Maxwell's eqns., soln. in curved space-time, Green's function adiabatic expansions 7−41183
Maxwell's equations in curved space-time 7−9725
mirror fermion production near Z^0 peak in e^+e^- collisions 7−49128
monopole dilution by inflation and entropy enhancement 7−9734
monopole searches, status 7−36429
monopole-fermion system, existence of physical charged fermions 7−35754
multidimensional space physics, Metagalaxy, review 7−4663
muon anomaly contribution for superstring inspired models 7−24821
n=1 supersymmetric truncations and the superstring low-energy effective theory, compactification appl. 7−61519
N=2, d=2 supergeometry and superconformal transformations 7−41654
neutrino deep inelastic scattering, neutral current struct., review 7−19096
neutrino masses and mixings, review 7−61531
neutrino stability tests, consequences for solar problem 7−35758
neutrinoless double β-decay without Majorana neutrinos in supersymmetric theories 7−61839
neutrinoless double beta-decay, neutrino mass, interaction properties 7−41947
neutrinoless double-beta decay in supersymmetric theories, R-parity violation 7−35765
neutrinos, polarization loss and induced electric charge in plasmas 7−41685
Neveu Schwarz model, scattering amplitude calcs. using supersheet functional integration 7−442
Neveu-Schwarz and Ramond algebras, highest weight representations 7−24506
NN interaction, P nonconserving, SU(3)×SU(2)×U(1) anal. 7−49040
nonabelian anomaly in the light-cone gauge, superstring theories 7−30187
nonabelian bosonization, triality, and superstring theory 7−14852
nonAbelian family symm., origin of fermion masses and mixing angles 7−19041
nonlinear σ-model coupled to metric tensor field, spontaneous compactification 7−165
nonperturbative method in field theory, gauge technique, infrared region solns. 7−41616
nonrenormalization Theorems in superstring theory 7−41633
nonsymmetric Jordan-Thiry theory, spontaneous symmetry breaking and Higgs' mechanism 7−15086
nonsymmetric Kaluza-Klein theory, numerical predictions 7−35371
nuclei, weak and EM interactions, conference, Heidelberg, Germany (July 1986) 7−48172
nucleon decay, mag. monopole catalytic reaction, appl. to galactic nuclei *(Chinese)* 7−66439
o(16)×o(16) heterotic string, four-point amplitude, conformal field theory appl. 7−49029
O(16)×O(16) heterotic string theory compactification 7−15092
O(2) superstring theory, BRST quantization and Regge trajectory 7−19039
O(32) open superstrings, pentagon diagram evaluation 7−441
one loop effective potential with spontaneous compactification, stability 7−61187
open bosonic strings, three-string vertex and conformal mappings 7−24810
open Kaluza-Klein universe, effective pot. of scalar fields 7−40975
open superstring theory, vector field effective action 7−5076
open superstring with O(32) massless gauge bosons, principal-part regularization 7−19046
open superstrings, effective action for vector field 7−500
open-string interactions, algebraic struct. by Yang-Mills system analogy 7−19086
optical experiments for electroweak theory, atomic mirror symmetry breaking, Z^0 exchanges 7−61534
parity invariance, strong and electromagnetic interactions 7−9995
particles in the early universe, conference, Thessaloniki, Greece (June 1985) 7−9596
perfect fluid, self-gravitating, Einstein-Maxwell and scalar field eqns. solns. 7−51344
Poincare group with BRST and Parisi-Sourlas supersymmetries, strings, unification 7−49030
preon model with three SU_3 hypercolours and three SU_5 hyperflavours 7−49026
primordial black holes as missing mass candidates in inflationary universe 7−4599
primordial thermalisation in GUT symm. phase 7−9557
proton decay, baryon number nonconservation in GUTs 7−56547
QCD effective action for π and vector mesons 7−15117

unified field theories continued
quantum gravity and cosmology, Kyoto, Japan (May 1985), conference 7−24295
quantum gravity and nonAbelian gauge field, unification 7−35376
quantum physics in multidimensional spaces, gravity effects on quantum evol. eqn. 7−61155
quantum strings with a dynamic geometry 7−501
quark mass matrices, model of flavor mixing 7−447
quark mass matrix under S_N symmetry 7−61510
quark weak-interaction flavour mixing 7−61530
quark-lepton generations, possible number 7−35792
quarks, four generation mass fixing 7−61511
quasi standard model physics, strong CP problem 7−56496
radiating blackhole in a magnetic universe 7−60706
radiating system of two coupled strings, normal modes, stars 7−18656
radiative corrections to vector boson masses for heavy Higgs bosons 7−30272
regulated string theories, critical dimensions 7−5015
relativistic particles in curved space-time and electromagnetic fields in Kaluza-Klein space 7−35356
relativistic string in curved space-time, prolongation structure anal. 7−56122
resonant-solar-neutrino-oscillation experiments 7−29459
right-handed currents produced by mixing in E_6 theories 7−15101
rotating axisymmetric expanding universe with an electromagnetic field 7−24245
rotating cosmic string surrounded by grav. radiation, Einstein eqns. solns. 7−18464
rotating Kaluza-Klein monopoles and dyons 7−9730
Rubakov-Callan effect, nonabelian interactions 7−10013
scalar Casimir energies in $M^4 \times S^N$ for even N 7−41678
scalar matter field in a fixed-point compactified five-dimensional Kaluza-Klein theory 7−48492
scalar sector of gauge theories and the quest for aunified theory 7−10007
scalar-tensor theory and baryonic interaction 7−18350
Schwarzschild black hole with cosmic string, thermodynamics and metric 7−18660
second BRST operator in superstring theories, vacua struct. 7−61518
sigma-model superstring corrections to theEinstein-Hilbert action 7−4961
signatures of new particles at high energy colliders 7−56520
SO_3 gauge field interacting with isovector Higgs field, radiative corrections, monopole model 7−15090
$SO(10)_V \times SU(3)_H$ model, quark mass hierarchy 7−15102
$SO(10) \times E_8'$ superstrings, phenomenology 7−9998
SO(10)×SO(10) theory, composite and elementary quarks and leptons 7−9997
$SO(10) \to SU(2)_L \times SU(2)_R \times SU(4)_C$, $SU(2)_L \times SU(2)_R \times SU(3)_C \times U(1)_{B-L} \times D$ unified models, Higgs potential calcs. 7−454
SO(10) and left-right symmetric models 7−56498
SO(10) GUT, neutrino see-saw and mass matrix 7−24815
SO(10) model, light ν masses and mixing angles 7−61525
SO(10) superstring theory without intermediate scales 7−35365
SO(10) superunification model, SUSY and $SU(3)_c \times U(1) \times SU(2)_L \times SU(2)_R$ breaking 7−61535
SO(12) model, quark and lepton masses in six dimensions 7−9740
SO(18), fermion families, symmetry breaking scheme, neutrino masses 7−452
SO(2) space, general relativistic stability of Q matter 7−4741
SO(p,q) Kac-Moody algebra, vertex operator construction, compactified bosonic string 7−30256
$SO(10) \to SU(3)_C \times SU(2)_L \times U(1) \times U(1)_x$ GUT, bounds on Z masses and couplings from electroweak corrections 7−61527
solar ν problem, Mikheyev-Smirnov-Wolfenstein mechanism and pseudo-Dirac ν 7−24819
Soudan 2 nucleon decay experiment, status 7−36428
Sp(2N), N fermion generation gauge group, existence of $\tilde{Z}^0$ for N=4 7−9994
space dimensionality and the number of possible neutrino types 7−35829
space-time supersymmetry in covariant superstring field theory 7−24813
special embeddings, symmetry breaking scheme anal. 7−30232
spin-5/2 gauge field, grav. interaction, gauge symmetry, nonminimal grav. coupling 7−14842
spinning cosmic strings and quantization of energy 7−170
spontaneous CP-violating models without strong CP problem, cosmological baryon prod. 7−49037
standard model, CP invariance and $\Delta I=1/2$ rule 7−49025
standard model, development to GUTs and supergravity 7−30219
standard model, double penguin-like diagrams for ε parameter 7−5028
standard model, extensions from future hadron collider data 7−41848
standard model, Fermilab Antiproton Source, physics workshop report 7−49174
standard model, mass bounds, stability 7−10000
standard model, softly broken SUSY extended, lepton number and lepton flavour violation 7−41671
standard SU(2) Higgs model, Monte Carlo study on lattices 7−9949
string action, scale invariant term, σ-model 7−15095
string action on group manifold, Kac-Moody groups and anomaly cancellation 7−24824
string effective actions, existence of R^3-terms 7−61197
string field theory, modular invariance 7−5018
string field theory, vertex function in Witten's representation 7−19037
string field theory candidates from C* algebra cohomology 7−19036
string interactions on orbifolds 7−30225
string superalgebra and light-like integrability, uniqueness 7−35772
string theories, compactifications and θ-structures 7−18659
string theory, field theory approach, effective action, dilation field interactions 7−19050
string theory, unidexterous D=2 supersymmetry in superspace 7−61195
string theory with Majorana and Dirac fermions, modular invariance 7−19040
string-induced gravity and ghost-freedom 7−4743
strong interacting two-doublet and doublet-singlet Higgs models 7−15097
$SU_L(3) \times SU_R(3) \times SU_C(3) \to zz$ 7−49038
$SU_W(4) \times SU_C(4) \to zz$ 7−49038
$SU(2)_L \times SU(2)_R \times U(1)$ gauge model, electroweak interaction anal. 7−35751
$SU(2)_L \times SU(2)_R \times U(1)$ models, beta-decay Fermi and Gamow-Teller transitions, comparison of beta-ray polarization 7−35977
SU(2)×U(1)×SU(3) standard model, form. of parity-nonconserving nuclear forces 7−19174

unified field theories continued
$SU(2)\times U(1)$ radiative corrections, nonstandard Higgs bosons 7−10005
$SU(3)\times SU(2)\times U(1)$ model, addition of vector-like quarks 7−35753
$SU(5)_{GUT}$ model with vertical and horizontal preons 7−56524
SU(5) model, coupling constant reparameterization and finite fieldtheories 7−9950
SU(5) model, monopole-fermion interactions, Abelian and nonAbelian anomalies 7−9996
SU(5) unification, low energy effects of scalar leptoquarks 7−5027
SU(N) gauge theory with independent metric and connection fields, quantisation 7−35693
superconducting cosmic strings, cosmological effects 7−24518
superconducting cosmic strings, induced ang. momentum 7−9566
superconducting strings and membranes, heterotic string behaviour 7−9739
Superconducting Supercollider, elementary particles and cosmology 7−48260
supergravity GUTs, N=1, Higgs potential minima with vanishing cosmological constant 7−9731
supermanifold cohomology and the Wess-Zumino term of the covariant superstring action 7−61186
supermassive relic particle search, flux upper limits 7−61516
supermassive relics, flux limits 7−49022
superstring, open, six-fermion amplitude calcs. using superconformal techniques 7−56479
superstring, propagation in metric tensor dilaton fields 7−61523
superstring alternative of b-quark interactions 7−61517
superstring compactifications, orbifolds with nonabelian space groups 7−35366
superstring fermion amplitudes, covariant, sum over fermionic surface 7−9999
superstring field theories, symmetry structs., rigid space-time supersymmetry 7−5075
superstring in 4D, evolution with temp. and possibility of inflation 7−9728
superstring model, baryogenesis and entropy generation 7−66801
superstring models, baryon and lepton number violation 7−48498
superstring models, baryon-number nonconservation and neutrinos masses 7−453
superstring models, candidates for inflaton field in cosmology 7−40976
superstring models, compactified, down-quark mixing 7−5022
superstring models, neutral E_6 gauge boson 7−61196
superstring models, neutrino mass and baryon number violation 7−48499
superstring models, renormalisation group anal. 7−9737
superstring models, theory of everything 7−15087
superstring modifications of Einstein's equations 7−9727
superstring neutrino mass problem without high intermediate energy scale, soln. search 7−15096
superstring one-loop nonrenormalization theorem in covariant path-integral formalism 7−24514
superstring orbifold compactification hierarchy of quark-lepton masses 7−35364
superstring phenomenology, general review 7−61199
superstring phenomenology, Kaluza-Klein compactifications 7−24522
superstring theory, classical symmetries in the low-energy limit 7−24804
superstring theory, elementary introduction *(Japanese)* 7−41205
superstring theory, time variation of Newton's gravit. constant 7−18661
superstring theory, topological sectors 7−61193
superstrings, bosonic gauge interactions, implications at lower energies 7−56126
superstrings, brief review 7−41193
superstrings, connection to $N=2$ no-scale supergravity 7−29853
superstrings, fermion emission vertex and space-time supersymmetry 7−35770
superstrings, fundamental quantum theory 7−455
superstrings, gaugino mass contributions in low-energy limits 7−24812
superstrings, massless field effective action, use in D=10 SUSY field theories 7−48513
superstrings, problems for (2,0) compactifications 7−5023
superstrings, solar neutrino energy spectra from superstring relics 7−34814
superstrings, supergravity models from truncation mechanism 7−61211
superstrings, type-I, one-loop finiteness 7−56483
superstrings, vanishing of vacuum energy 7−56478
superstrings and no-scale supergravity 7−35381
superstrings and partially broken global supersymmetry 7−15077
superstrings and preons, uniqueness, parameterlessness and good quantum gravity 7−9738
superstrings with closed twisted boundary conditions, Green-Schwarz formalism, quantization 7−30231
supersymmetric E_6 breaking patterns, low energy phenomenology 7−15105
supersymmetric GUT scale, no-scale models and gravitino mass 7−18665
supersymmetric models of particle physics and their phenomenology, review 7−56467
supersymmetric standard model, light gluinos and CP violation 7−443
SUSY grand unified theories, softly broken, tree-level fine-tuning problem, Higgs field mass parameter variation 7−408
symmetry, supersymmetry, supergravitation *(German)* 7−61207
symmetry tests in unified theory and the standard model, review 7−30205
tachyons in heterotic string models in 10D, removal by compactifications 7−171
technibaryon missing mass bounds 7−19042
technidilation from technicolour model, $\xi(2.23)$ resonance 7−15098
ten dimensional heterotic string, supersymmetric compactification on coset manifolds 7−24823
three-neutrino oscillations in matter, resonant amplification 7−61526
time-varying coupling constants and primordialnucleosynthesis 7−4607
topological geometrodynamics 7−30222
toroidal compactification of heterotic superstrings 7−41679
transformation of elementary particle physics into many-body physics 7−49042
tunnelling without barriers in curved space-time 7−41196
type-I SO(32) superstring theory, proof of one-loop finiteness, response to comment 7−41224
type-I SO (32) superstring theory, proof of one-loop finiteness, comment 7−41223
type-I superstring, one-loop gauge anomaly 7−35736
ultra-heavy quarks, prod. and decay props., quarkonia prod. in hh and e^+e^- 7−30242

unified field theories continued
unified action for higher spin gauge bosons from covariant string theory 7−49028
unitary renormalisable Yang-Mills theory without Higgs bosons, electroweak model 7−41630
universal scattering theorems for strongly interacting *W*s and *Z*s 7−24820
Universe, large-scale structure, cosmic strings 7−14688
universe creation, obstacle to false vacuum formation in the laboratory 7−56112
unstable heavy neutrinos, constraints from cosmology 7−34860
vacuum decay rate at zero temp. in gauge theories 7−30168
vacuum Einstein eqn. solns., cylindrical waves and cosmic strings of Petrov type D 7−48477
vacuum fluctuations outside cosmic strings 7−9565
vacuum Kerr-Schild space perturbations, complex relativity and real solns. 7−24510
vector bosons, renormalisation scheme depend. of electroweak parameter shifts 7−19053
Z(2) Higgs model, nonlocal fields, gauge symmetry breaking and confinement problem 7−56473
Z(2) Higgs model, nonlocal order parameters 7−10006
zero-energy boundary state of superheavy fermion and SO(10) monopole *(Chinese)* 7−24777
- 7−61651
$B\rightarrow Kl^+l^-$, rate and CP-nonconservation asymmetry, standard model calcs. 7−514
$B\rightarrow Kl^+l^-$, rates and CP violation, fourth-generation standard model anal. 7−19099
B meson exclusive decays, CP violation, phenomenology 7−41656
$b\rightarrow s\gamma$, hard γ emission, Higgs boson doublet model 7−15179
B^0 - $\bar{B}^0$ system, CP violation, left-right mixing, SUSY standard model comparisons 7−24805
$D\rightarrow dg$, exotic quark decay in E_6 theories 7−19047
D meson exclusive decays, CP violation, phenomenology 7−41656
$e^-e^+\rightarrow \bar{f}f$, asymmetries and cross section, superstring gauge boson effects 7−499
$e^+e^-\rightarrow$ hadrons, asymmetries, electroweak radiative corrections, Z_0 resonance 7−15166
$e^+e^-\rightarrow \nu\bar{\nu}\gamma$, ν counting effects from light ν's and gauge bosons in E_6 models 7−19094
e^+e^- annihilations, joint quarkonium and neutral Higgs boson production anal. 7−15168
$e^+e^-\rightarrow \bar{b}b$, forward-backward asymmetry, electroweak interference in new model 7−41824
$e^+e^-\rightarrow e^+\tilde{\gamma}\tilde{e}^-$, longitudinally polarized beams, longitudinal and P-violating asymmetries, supergravity GUT calcs. 7−5082
$e^+e^-\rightarrow \bar{f}f$, $f\neq e$, ν_e, t, forward-backward and polarization asymmetries for $SU(2)_L\times U(1)_Y\times U(1)_{Y*}$ and $SU(2)_L\times SU(2)_R\times U(1)_{B-L}$ 7−61708
$e^+e^-\rightarrow\gamma\gamma$, electroweak radiative corrections 7−35848
$e^+e^-\rightarrow\gamma\nu\bar{\nu}$, superstring effects, contrib. of ν and right handed neutrino to cross section 7−30263
$e^+e^-\rightarrow H^\pm tb$, Higgs boson prod. cross sections, standard model comparison 7−19124
$e^+e^-\rightarrow$hadrons, washing out final state interactions for longit. pol. asymmetry 7−24896
$e^+e^-\rightarrow$leptons, electroweak interference effects 7−506
$e^+e^-\rightarrow$leptons, strong interaction contributions to four-lepton processes in electroweak $SU(2)\times U(1)$ 7−61644
$e^+e^-\rightarrow\mu^+\mu^-$, radiative corrections to charge asymmetry in supersymmetric theories 7−5081
$e^+e^-\rightarrow$neutralinos, CP violation effect, SUSY electroweak model anal. 7−10065
$e^+e^-\rightarrow\tau^+\tau^-$ 7−41824
$e^+e^-\rightarrow W^+W^-$, factorization of helicity amplitudes and angular correlations for electroweak processes 7−41775
$e^+e^-\rightarrow W^+W^-$,WZ,Wγ,ZZ, tri-boson gauge coupling effects, standard model calcs. 7−24868
$e^+e^-\rightarrow X$, asymmetries from E_6 GUTs 7−448
$e^+e^-\rightarrow X$, effects of Z′-bosons from superstring or nonlinear σ models 7−444
$e^+e^-\rightarrow X$, hadronic contributions to electroweak parameter shifts 7−10068
$e^+e^-\rightarrow X$, modifications in neutrino counting due to additional gauge bosons 7−35889
$e^+e^-\rightarrow Z^0\rightarrow H(\rightarrow q\bar{q})\nu\bar{\nu}$, minimal standard model anal. 7−19120
$e^+e^-\rightarrow Z'$, $\sqrt{s}=M(Z^0)$, asymmetry meas., Z^0-Z' mixing, Z' mass constraints 7−49129
$ep\rightarrow ep$, scattering asymmetries, superstring gauge boson effects 7−499
$h\rightarrow lWH$, higgs-boson production via bremsstrahlung from heavy quarks 7−41683
$K\rightarrow 2\pi$, CP violation in six-quark standard model 7−35740
$K\rightarrow\pi\pi$ amplitudes in QCD duality approach, $|\Delta I|=1/2$ rule problems in standard model 7−10056
$\mu\rightarrow 3e(e\gamma)(e\gamma\gamma)$, rare muon decays, branching ratios 7−56550
$\mu\rightarrow e\gamma$, and heavy exotic fermions in E_6 models 7−15153
$\mu\rightarrow e\gamma$, lepto-quark effects in E_6 superstring models 7−61651
$\mu\rightarrow e\gamma(\gamma\gamma e)$ (eee), electroweak case for EHF 7−49132
$\mu^+\rightarrow e^+\nu\bar{\nu}$, left-right symmetric electroweak models 7−35872
ν mass experiments 7−35748
ν mixing and $\bar{\nu}e$ scattering, data anal. 7−61647
$\nu\rightarrow\nu\gamma$, lifetime in left-right models 7−35764
ν-oscillation experiments at reactors, review 7−35749
ν-oscillations in matter 7−49041
ν_e mass, weak forces and oscillations *(Danish)* 7−440
ν_e mass using ^{163}Ho electron capture 7−30383
$\nu_\mu\rightarrow\nu_e$ oscillations, experimental limits 7−24873
$\bar{\nu}_e e$ elastic scatt., single-loop corrections to cross section, $SU(2)\times U(1)$ theory 7−41784
$p\rightarrow\pi^0e^+$, lattice QCD Monte Carlo simulations 7−35763
$\bar{p}p$, $\sqrt{s}$ = 630 GeV, jet, $W^\pm$ and Z^0 prod. at UA2 7−10075
$\bar{p}p\rightarrow e^-\bar{\nu}X$, CP violation at the TeV scale 7−19145
$\bar{p}p\rightarrow e^+\nu X$, CP violation at the TeV scale 7−19145
$p\bar{p}\rightarrow H^+H^-$, SUSY Higgs production, SUSY standard model calcs. 7−61763
$pp\rightarrow$heavy leptons, 10-40 TeV, cross section calcs. in E_6 7−19138
$\bar{p}p$ in standard model, $m_t<m_W$ 7−49031
$\bar{p}p\rightarrow$jets, $W^\pm$, Z comparison with QCD and standard model 7−10086
$pp\rightarrow W^+WX$, invariant-mass distrib. calcs. 7−561
q-decay (q=c,b) and CP violation, electroweak theory status 7−56486
$s\rightarrow d+$gluon, h, quark scalar boson interactions and strangeness-changing weak vertex, heterotic string anal. 7−30301

unified field theories continued
- $SU(2)_L \times SU(2)_R \times U(1)$ electroweak models, constraints from nuclear beta-decay 7−56489
- $\bar{t}t \to \gamma H$, minimal and two-doublet Higgs prod., standard model 7−35762
- $\bar{t}t$ resonance, one-loop electroweak radiative corrections 7−41819
- $\bar{t}t \to ZH$, minimal and two-doublet Higgs prod., standard model 7−35762
- $u \to \bar{u}$, quark scattering on SU(5) colourless magnetic monopole 7−30300
- υ quarks, possible signatures at e^+e^- colliders 7−5032
- $W \to l\bar{\nu}$ $(\bar{u}d)(\bar{c}s)$, electroweak one-loop corrections, form factor, calc. scheme 7−5091
- Weinberg-Salam model test, μ_W meas. proposals 7−15156
- Z^0 decays, CP nonconservation effects in the standard model 7−5090
- $Z^0 \to \bar{f}f$, branching ratios in SU_8 multigenerational grand unification 7−30267
- Z^0-Z' mixing effects study in e^+e^- colliders 7−41684
- ^{76}Ge neutrinoless double β-decay, lepton number nonconservation, Milano expt. 7−56644
- μ anomalous mag. moment, supersymmetry corrections in N=1 supergravity 7−35876
- $\bar{p}p \to W+2$ jet events, standard model expectations for large transverse momentum 7−24917
- T_2, β-decay energy spectra, HeT^+ electronic reson., and neutrino mass depend. 7−61840
- Ti(μ,x), muon-electron conversion search at TRIUMF 7−56671
- $W^\pm$, Z^0 self interactions, Lagrangian containing quadrupole terms, $e^+e^- \to W^+W^-$ anal. 7−61515

unimolecular layers *see monolayers*

uninterruptible power supply *see emergency power supply*

units (measurement)
- *see also constants; dimensions; measurement; nomenclature*
- absolute determ. of farad, ohm and quantised Hall resistance at LCIE 7−14909
- ampere reproduction from proton gyromag. ratio and quantum magneto resonance phenomena 7−61309
- angles and angular quantities, base quantity vs derived quantity 7−18746
- beta radiation unit of absorbed dose rate to tissue, PTB National Primary Standard 7−28717
- candela SI base unit realisation 7−41425
- electron-based absolute system of units 7−48677
- electrons in dry air, W value re-eval. 7−62242
- EM precision meas., conf., Gaithersburg, MD, USA (June 1986) 7−14710
- energy measuring units, Worldwide adoption of metric system 7−24619
- leak rate units and flow rates 7−18735
- length, best wave interferometer with Zeeman laser for measuring short range 7−18752
- meter practical realisation, using light interferometer *(Slovak)* 7−61316
- NBS absolute ampere experiment 7−18827
- ohm, fine structure constant determ. at PTB 7−14966
- ohm, quantum Hall resistance meas., from 4K to 20mK 7−14969
- ohm, US legal unit monitoring via quantum Hall effect 7−18808
- optical spectroscopy, names, symbols, definitions and units 7−48208
- resistance laboratory unit determ., using quantum Hall effect 7−18812
- SI, metric conversion arguments 7−48678
- SI ampere and volt units, electrical metrology example 7−18807
- SI ohm determ., Australia's contribution 7−14975
- volt, Josephson standard establishment at NPL, India 7−18826
- volt absolute determ., using Kelvin type electrometer 7−14973
- volt balance realisation of volts at ETF in Zagreb 7−14974
- volt realisation using integrated Josephson ccts. 7−14971
- voltage and resistance, US legal units 7−41329
- voltage standard and size duplicating methods 7−56207
- watt, primary broadbanded coaxial thermal noise standard 7−18819

universal asynchronous receiver/transmitter *see computer interfaces; data communication equipment*

Universe *see cosmology*

untuned power amplifiers *see power amplifiers*

unwinding *see winding (process)*

upper atmosphere
- *see also airglow; atmospheric elementary particle precipitation; aurora; exosphere; ionosphere; magnetosphere; mesosphere; thermosphere*
- comet impacts responsible for UV dayglow holes, rel. to lunar seismicity 7−40727
- dynamics of atmosphere, absorbing upper boundary conditions for numerical models 7−34653
- dynamics of auroral zone influences by ion drag in winter 7−55336
- electron inelastic backscattering from gas, analytical calculation 7−50350
- F_2-layer peak electron density reduction due to N_2 vibrational excitation in summer 7−29355
- gas diffusion in exponential atmosphere 7−14400
- geocoronal H I emission, correction for effects on observed stellar Lyman alpha profiles 7−60637
- gravity waves in upper atmos., EISCAT observations 7−29317
- gyres and jets, viscous pumping and spin-down 7−9279
- internal waves, vertical propagation characts. near mesopause level 7−47601
- far IR radiative transfer, non-LTE model for far IR bands 7−23923
- meteoroids ablation, radiative heat exchange determ. using radiant heat conduction approximation 7−34948
- molecular photoionization by UV and X-ray radiation 7−24001
- negative ion chemistry in lower ionosphere, assoc. 7−29359
- neutrons of cosmic ray origin, altitude and latitude effects on intensity and energy spectra 7−9346
- noctilucent clouds, observational props. rel. to behaviour of upper atmosphere 7−23925
- numerical modelling of upper atmos., transport eqns. *(Hungarian)* 7−66374
- N polar region, temperatures of winter season mesopause and thermosphere 7−34755
- radio waves scattering from underdense meteor trains, electron volume density formulae 7−4383
- small comets, influx into Earth's upper atmosphere, comments and reply 7−60601
- Space Shuttle glow optical emissions during mission STS 41-G 7−34834
- temperature and density seasonal and tidal variations, at high-latitude 7−29315
- temperature of low thermosphere in winter 7−29316
- thermosphere, neutral mass density calc. 7−47585
- tides for solstice conditions, numerical simulations 7−9277

upper atmosphere continued
- tides in atmosphere, theory in geometric height and log-press. coords. 7−29323
- tides in atmosphere, theory of treatment of IR radiative damping 7−29208
- tides in upper atmosphere, EISCAT obs. of tidal motions 7−29317
- turbulent flow in upper atmosphere, two-dimensional second-order model 7−9111
- vertical temperature distrib., relation to solar and atmospheric radiation propag. *(French)* 7−14338
- wind measurements by EISCAT, ionosphere effects 7−29319
- wind pattern high-latitude thermosphere, general circulation model calc. 7−29320
- winds and neutral temperature from EISCAT obs. 7−29318
- zonal and meridional winds, long term observations 7−47600
- D and H concentrations in daytime thermosphere 7−60437
- $H+He(H_2)(N_2)(O_2)$, differential scatt. cross-sections for neutral particle precipitation 7−5739
- NO, dayglow UV emissions and vertical profile 7−29324
- NO in upper atmosphere, geomagnetic latitudinal conc. distrib. 7−9278
- NO in upper atmosphere, near-midnight nightglow and vertical profile 7−9283
- Na layer at nighttime, seasonal and nocturnal variations 7−55339
- Na layer formation from dust particles 7−66372
- Na layer near to 80 km altitude, Na density variations during twilight 7−29322
- O ^1S state production by O_2^+ dissociative recombination in thermosphere 7−34759
- O airglow at 630 nm and $O(^1D)$ quenching by $O(^3P)$ 7−34761
- O, atomic excitation by electron impact, the ^3P-^1S transition 7−50368
- O, atomic excitation by electron impact, the ^3P-$^3S^o$ transition 7−50369
- O isotope composition above 100 km altitude, deep-sea spherule evidence 7−9441
- O recombination rates near mesopause level, and dynamic and thermodynamic parameters 7−29321
- O_2 electron impact dissociative excitation of $OI(2p^{4}\,{}^1D$-$3s'\,{}^3D^o$, λ 1172.6 Å) multiplet transition 7−31179
- O_2 molecular photodissociation and Herzberg continuum 7−34757
- O_2 nightglow, rotationally-resolved bands obs. at 373 to 474 nm in O_2-Ar afterglow 7−29326

UPS *see ultraviolet photoelectron spectra*

Upsilon meson resonances
- mean lifetime determ. 7−56539
- $\Upsilon(1S)$, decay spectrum, α_s determ. 7−61663
- $\Upsilon(1S)$, exotic decay modes search at ARGUS 7−24890
- $\Upsilon(4S) \to B^0\bar{B}^0$, $B^0\bar{B}^0$ mixing and lifetime ratio limits determ. 7−41789
- $\Upsilon \to B^0\bar{B}^0$, local realism versus quantum non-separability, test 7−35325
- $\Upsilon \to e^+e^-$, $R_2 = \Gamma(\Upsilon \to e^+e^-)/\Gamma(\Psi \to e^+e^-)$ calcs., bound state quark model anal. 7−61582
- Υ quarkonium physics, potential models, resonances, hadronic decays and B mesons 7−19101
- $\Upsilon' \to \Upsilon\pi\pi$, 3S to 1^1P_1 transition, QCD multipole expansion 7−41797
- $\Upsilon^* \to \pi^+\pi^-\Upsilon$, decay modes and branching fraction from 3S state 7−41794

uranium
- *see also nuclei with ......*
- *see also fission of uranium*
- acute accidental inhalation by 3 men: 38 yr. follow-up 7−34289
- air pollution near to Canadian U refinery, and radiation dosage to public 7−59887
- aqueous soln., reaction rate consts. of radiation-produced transients 7−60903
- atomic beam characterisation, produced by hollow-cathode discharge 7−365
- atomic vapour laser isotope separation data acquisition and control system 7−15735
- atoms, K_β/K_α X-ray intensity ratios 7−42537
- Barberton Mt. Land, S Africa, U and Th content of Archaean granitoids 7−18153
- chemistry, laser appl. 7−19365
- coal fly ash radionuclides chemical anal. using alpha, gamma and X-ray fluorescence spectroscopy 7−23266
- concentration determ. in natural water 7−54217
- concentration meas. in soil and rocks by γ-ray spectrometry 7−54373
- concentrations in geological samples, plastic track detector study 7−40596
- contamination in Al foils, CR-39 track detector study 7−54218
- determination of isotope ratio, simultaneous anal. with Th, delayed neutron counting method 7−3615
- distribution in blood samples, fission track study 7−54771
- East Pacific Rise and Guaymas Basin, hot springs U-Th-Pb systematics 7−40462
- enrichment using atomic vapour laser isotope separation 7−19367
- fallout from nuclear powered satellites and volcanic eruptions, detect. in rain 7−3740
- Fuel Processing Facility, Idaho, design and construction status 7−30580
- global energy shortages, forecast energy consumption compared to world supplies *(German)* 7−59826
- He-like, Lamb shift from beam-foil time of flight meas. 7−36551
- hyperfine structure of 2 and 4 eV levels, laser induced fluorescence study 7−25679
- ions, energy levels, radiation effects and corrections 7−49960
- ions, laser produced spectra and QED effects 7−37747
- isotope separation using nozzle effects, fluid dynamic analysis 7−61975
- isotopes, radiochem. determ. in atmospheric samples 7−3616
- laser isotope separation in the UK, development and policy implications 7−49553
- mills, final product dust median aerodynamic diameters 7−8702
- mine tailings disposal, radiation exposure estimation 7−5445
- modulated phases, superspace symm. anal. 7−38186
- natural water U-trace meas. using laser-induced fluorescence *(Chinese)* 7−8471
- nuclear fuels, diffusion processes, review 7−19350
- nuclear waste in leached borosilicate glasses, EXAFS with grazing incidence 7−3116
- peat dating by U-Th disequilibrium, geochem. aspects 7−60392
- Process Facility Modification Project for PUREX plant 7−30582
- prospecting, soil survey using Rn α-detection 7−55311
- reaction rate with water vapour, 30–80 °C 7−42119
- semiconductors impurity concentration, microanalytical estimation 7−38040
- shielding effect on 14 MeV neutrons, meas. and calcs. 7−42104

uranium continued
  solid state and thermodynamic props., f-electron bonding and struct., review 7−12321
  solubility, influence for nuclear waste repositories 7−36271
  surface oxidation, substoichiometric oxide form., AES and XPS studies 7−46714
  texture anisotropy, as-cast and heat treated 7−46518
  vacancy formation and phase transformations, positron annihilation studies 7−39248
  vapour, heated cathode discharge prod. 7−21022
  water pollution due to U mill tailings pile, model of pollutant plume 7−59885
  X-ray photoabsorption cross sections 7−46240
  B_2O_3-SiO_2 : U, doped glasses, optical spectroscopy study 7−39145
  LiF:U, Ti(U), X-irradiated crystals, absorpt. bands of U^{4+} and U^{3+} ions 7−13183
  LiF:U^{6+}, cryst., luminesc. excitation of impurity centres 7−13225
  α-$ThBr_4$:U, Stark energy level determ. of $^3H_4$ ground state of U^{4+} 7−27696
  $ThCl_4$: U^{4+} incommensurate struct., absorption and emission spectra studies 7−33439
  $ThCl_4$:U, optical spectra of U^{4+} 7−27732
  $ThSiO_4$:U, optical spectra of U^{4+} 7−27732
  U veins in biotite from Bancroft, Canada, fission track dating 7−40599
  U^{6+}, migration behaviour in tuff 7−5480
  U/Nb diffusion couples, analytical electron microscopy 7−39946
  U^{n+}+Al(C)(Be)(Mylar), electron stripping, cross section meas. 7−64849
  U^{q+}+Sn, electron capture, K X-ray emission spectra study 7−36524
  UPt_3 heavy fermion system, muon Knight shift study 7−45886
  ^AU (A=238, 234) ratios in seawater, meas. techniques and results 7−34554
  ^{233}U-Pu hybrid cycle power system, growth, anal. calcs. 7−49681
  ^{233}U-Pu hybrid fuel cycle systems, reactor strategy *(Japanese)* 7−49682
  $^{234}U/^{238}U$ activity ratios in geological materials, determ. by α spectrometry 7−60255
  ^{235}U, 73 eV first excited state, nuclear excitation, graser possibilities 7−10120
  ^{235}U, aqueous critical assemblies, Monte Carlo anal. with ENDF/B-V data 7−30476
  ^{235}U atoms, hyperfine structure, laser fluorescence spectroscopy 7−49993
  ^{235}U, spectral line classification, isotope shifts, Lande g factors, pattern-recognition technique 7−62309
  ^{238}U, isotopic composition determ., nuclear spectrometric method 7−62198

uranium alloys
  heavy Fermion systems, final-state effects in inverse photoemission 7−53437
  heavy-electron ground state, chemical comp. effects, low temp. sp. ht. and superconductivity 7−63841
  high press. magnetic and superconducting props., review 7−12952
  magnetic alloys, UTX (T=Ru,Co,Ni; X=Al,Ga,Sn), nonferromagnetic, high-field and low-temp. mag. props. 7−45696
  optical and elec. transport props., review 7−13119
  Pd-U-Si, growth of quasicrystalline phase from glassy state 7−58144
  Pd-U-Si glassy alloys, glassy-to-icosahedral polymorphous crystn. transform., X-ray and electron diffr. studies 7−6515
  Pd-U-Si glassy state, quasicrystalline phase form., X-ray and electron diffr. studies 7−26645
  $Pd_{58.8}U_{20.6}Si_{20.6}$ alloys, glassy to icosahedral quasicrystalline phase transition, elec. and mag. props. 7−37863
  $(Tb_xFe_{1-x})_{1-y}U_y$, amorphous, magneto-optical effects 7−59187
  U based intermetallic compounds, fission gas swelling, cryst. struct. stability 7−42115
  U-based mag. alloys, mag. props. and electronic struct. *(Russian)* 7−12967
  U-Co system, mag. props., influence of hydriding 7−45750
  U-Ga dilute alloys, microstructure study 7−16780
  U-Nb-Zr (7.5, 2-5 wt.%), SCC in gaseous O_2 and H_2 *(French)* 7−17619
  U-Si compounds, oxidation, XPS studies 7−54007
  U-Si-Fe, β to α phase transform., dilatometry, metallography 7−28036
  U-Th-Sn, liq. N-nitride equilib. 7−46417
  U-Ti (0.75 wt.%), oxidation in O_2/H_2O environments, 140°C 7−59669
  U-Ti (4 at.%), quenching, decomp., TEM obs. 7−39527
  U-Ti dilute alloys, phase transformations 7−16730
  U-V (0.2 wt.%), hydriding reaction kinetics *(French)* 7−23062
  $U_{0.95}$ $Th_{0.05}$ Pt_3, ground state antiferromag. order, neutron diffr. meas. 7−38847
  UAl_2, μSR meas. 7−45874
  UAl_2, spin-fluctuation material, magnetoresistivity 7−45278
  UAl(Ga)(Sn)Ni(Co)(Ru) ternary alloys, magnetic behaviour, elec. resist. and sp. ht. meas., 5f electron effects 7−12999
  UAs muon spin rot., relax. rate, freq. shift, and magnetic transitions 7−45891
  UAu_3, band struct., theoretical XPS intensities 7−39353
  $UAuCu_4$ magnetic props., X-ray diffr., NMR and mag. suscept. meas. 7−52948
  UBe_{13}, band struct. calc. 7−32905
  UBe_{13} coherent Kondo state, upper critical field calcs. 7−2793
  UBe_{13}, elec. resist., Press. and mag. field effects 7−45562
  UBe_{13}, electron-phonon coupling calcs., unconventional superconductivity mechanism 7−38811
  UBe_{13}, heavy electron supercond., anomalous temp. depend. of mag. field penetration depth 7−2780
  UBe_{13}, heavy fermion superconductors, Fermi surface and cooperative phenomena 7−2771
  UBe_{13}, heavy fermion system, unusual low temp. Hall voltage behaviour obs. 7−38540
  UBe_{13} heavy-fermion superconductors, induced moment mag. form factors 7−12909
  UBe_{13}, heavy-fermion superconductors, Landau-Khalatnikov US damping 7−12912
  UBe_{13}, lattice gas heavy fermion-boson model anal. of specific heat, entropy and magnetic susceptibility 7−58505
  UBe_{13}, obs. of antiferromag. correlations 7−22093
  UBe_{13} single crysts., normal and supercond. states, thermal cond. temp. depend. meas. 7−52166
  UBe_{13} superconducting thin films, mag. field studies 7−12928
  UBe_{13}, superconductivity, simple transition metal-type and heavy fermion behaviour 7−12897
  UBe_{13}, superconductivity 7−45535

uranium alloys continued
  UBe_{13}, $U_{0.97}Th_{0.03}Be_{13}$ and $UBe_{12.94}Cu_{0.06}$, low temp. high mag. field study 7−12911
  UCd_{11} heavy electron system, antiferromag. phase transition, muon spin rot. and relax. meas. 7−45668
  U_6Co, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
  UCu_5, heavy-electron state 7−45535
  UCu_5 magnetic heavy electron materials, muon spin rotation studies 7−45884
  $UCu_{4.5}Al_{7.5}$, antiferromagnetic suscept. meas. 7−12954
  UFe_2, spin-polarised energy bands, density of states and eqn. of state 7−58734
  U_6Fe, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
  UFe_xAl_{12-x}, ferromagnetic suscept. meas. 7−12954
  $U_xGd_{1-x}Ga_2$ Curie temp., loss of ferromagnetism, comp. depend, competing exchange interactions 7−12970
  UIr, cryst. struct., X-ray diffr. study 7−37927
  UIr_3, band struct., theoretical XPS intensities 7−39353
  UIr_3, hybridisation, electronic struct. and props. 7−45136
  UIr_3 intermetallics, correlation effects, XPS and bremsstrahlung isochromat spectra 7−21844
  $U_xLa_{1-x}Te$ single crysts., elect. resist. temp. depend. Kondo effect and ferromagnetic ordering 7−13119
  UM_2Si_2 (M=Cu, Ru, Ir, Os, Pt), magnetochemistry and crystal chemistry 7−58976
  U_6Mn, heavy fermion superconductor, penetration depth rel. to saturation spin moment 7−52893
  $U(Mn_{1-x}Al_x)$, paramagnetic props. meas., temp. depend. study 7−27494
  UNi_2, polarised neutron diffr. study 7−12946
  UNiAl, surface segregation behaviour 7−33519
  UNi_2Si_2 single crystal, Czochralski growth, charactn. 7−53557
  UPd_3 Fermi surface meas., de Haas-van Alphen effect study 7−12589
  UPd_3, hybridisation, electronic struct. and props. 7−45136
  $UPdCu_4$ magnetic props., X-ray diffr., NMR and mag. suscept. meas. 7−52948
  UPd_2Si_2 single crystal, Czochralski growth, charactn. 7−53557
  UPd_2Sn, heavy electron behaviour, elec. resist., mag. susceptibility, sp. ht. meas. 7−32679
  $U(Pt,Pd)_{31}$ heavy-fermion alloys, resistivity 7−17012
  UPt_3, anisotropic superconductivity 7−7461
  UPt_3, band struct., theoretical XPS intensities 7−39353
  UPt_3, doped, strain-dependent mag. anomalies 7−12978
  UPt_3, heavy electron coupling to lattice, US attenuation meas. 7−2129
  UPt_3, heavy fermion superconductors, Fermi surface and cooperative phenomena 7−2771
  UPt_3, heavy fermion supercond., Cooper pair states, atomic representation 7−45550
  UPt_3 heavy fermion supercond., muon spin relax. and Knight shift meas. 7−45888
  UPt_3, heavy fermion superconductivity and normal state props. 7−52412
  UPt_3, heavy fermion systems, Gruneisen parameter electron-phonon coupling 7−2138
  UPt_3 heavy-fermion superconductors, induced moment mag. form factors 7−12909
  UPt_3, heavy-fermion superconductors, Landau-Khalatnikov US damping 7−12912
  UPt_3, heavy-fermion system, development of antiferromag. correlations 7−64435
  UPt_3, heavy-fermion system, magnetoacoustic effects in high mag. fields 7−64506
  UPt_3, hybridisation, electronic struct. and props. 7−45136
  UPt_3 Kondo lattice, low-temp. sp. ht., suscept. and resist. meas., press. depend. anal. 7−7220
  UPt_3, possible superconductivity in nearly antiferromagnetic itinerant fermion systems 7−38802
  UPt_3 single crysts., electronic structure., low energy reflectivity study 7−45137
  UPt_3, superconductivity, simple transition metal-type and heavy fermion behaviour 7−12897
  UPt_3, superconductivity, one-component Fermi liquid theory 7−22066
  UPt_3, upper critical field, ang. and temp. depend. 7−7459
  UPt_2Si_2 single crystal, Czochralski growth, charactn. 7−53557
  URh_3, 5f band narrowing, evidence from resonant photoemission 7−27855
  URh_3B, 5f band narrowing, evidence from resonant photoemission 7−27855
  URh_2Ge_2 single crystal, Czochralski growth, charactn. 7−53557
  URu_3, 5f band narrowing, evidence from resonant photoemission 7−27855
  URu_3, hybridisation, electronic struct. and props. 7−45136
  URu_3B, 5f band narrowing, evidence from resonant photoemission 7−27855
  URu_2SI_2, heavy electron system, competing electronic correlations, press. effect 7−45539
  URu_2Si_2 heavy fermion system, core levels and band struct., electron spectra studies 7−52418
  URu_2Si_2, monocrystalline, thermal expansion and sp.ht. 7−44866
  URu_2Si_2 single crystal, Czochralski growth, charactn. 7−53557
  $U_3Sb_3Cu_2$, cryst. struct., mag. props. 7−38864
  USi_3 intermetallics, correlation effects, XPS and bremsstrahlung isochromat spectra 7−21844
  U_3Si, U_3Si_2 powders dispersed in Al matrix, heat of reaction, DTA 7−719
  $USi_3(Sn_3)(Ru_3)$, electronic struct. and f hybridisation 7−12600
  $U_{0.967}Th_{0.033}Be_{13}$, heavy-fermion superconductor, muon Knight shift study 7−7628
  $U_{1-x}Th_xBe_{13}$, anisotropic supercond. and ultrasound attenuation study 7−22067
  $U_{1-x}Th_xBe_{13}$ heavy fermion superconds., muon Knight shift and zero-field relax. meas. 7−45887
  $(U_{1-x}Th_x)Be_{13}$, superconductivity under pressure 7−12903
  $U_{1-x}Th_xPt_3$, Fermi surface instability modification by Th substitution in UPt_3 7−2766
  $U_{1-x}Th_xRe_2$, polymorphic transform., supercond. crit. temp., low temp. sp. ht. meas. 7−17125
  $U_xY_{1-x}Ga_2$, Curie temp., loss of ferromagnetism, comp. depend, competing exchange interactions 7−12970
  U_2Zn_{17}, heavy fermion system, point contact spectroscopy meas. 7−52748
  U_2Zn_{17} magnetic heavy electron materials, muon spin rotation studies 7−45884
  Urh_3, hybridisation, electronic struet. and props. 7−45136

uranium compounds

- *see also uranium alloys*
- chalcogenides, ionicity and bond formation 7−32357
- chemical effects of α decay in uranium minerals 7−19544
- heavy-fermion state in the Anderson lattice 7−7476
- interaction with N_2 afterglow plasma, appl. to laser isotope separation 7−39898
- moderately delocalised, mag. behaviour, anisotropy of crit. correlations 7−7474
- nuclear fuels, diffusion processes, review 7−19350
- oxides, in vitro dissolution characts. 7−14137
- uranyl borosilicate glass, excited states, fluoresc. 7−25588
- uranyl ion in perchloric acid, luminescence decay 7−19548
- X-ray absorpt. at various thresholds, metallic and nonmetallic cpds. 7−64793
- $Am_{0.25}Np_{0.25}U_{0.5}O_{2-x}$, thermal conductivity at elevated temperatures 7−21551
- $Am_{0.5}U_{0.5}O_{2-x}$, thermal conductivity at elevated temperatures 7−21551
- $Ba_{1-x}U_xF_{2+x}$ solid solutions, thermally stimulated depolarisation currents 7−53226
- $CsUO_2(NO_3)_3$, charge transfer bands position, ionisation pot. effects, luminesc. spectra anal. 7−46146
- DySe-USe system, mag. props. of solid solns. 7−22121
- $HUO_2PO_4.4H_2O$ intercalation with piperidine, hydrazine, pyridine, pyrazine or (dimethylaminomethyl) ferrocene 7−65304
- HfU_2S_5, mag. props. 7−22120
- InF_2-PbF_2-BaF_2-SrF_2-YF_3-AlF_3-UO_2F_2, luminesc., lifetime meas. 7−27750
- $KUO_2(NO_3)_3$, charge transfer bands position, ionisation pot. effects, luminesc. spectra anal. 7−46146
- $NH_4UO_2(NO_3)_3$, charge transfer bands position, ionisation pot. effects, luminesc. spectra anal. 7−46146
- NO_2 amorphous insulator, Ar^+ sputtering, ang. distrib. and energy spectra study 7−27848
- $Na_3(U_{1-y}Pu_y)O_4$ formation on breached LMR fuel element, thermal effects 7−30558
- $Np_{0.5}U_{0.5}O_{2-x}$, thermal conductivity at elevated temperatures 7−21551
- Pu-O system, phase equilib., thermodynamics, 1400-1610 K 7−59496
- $RbUO_2(NO_3)_3$, charge transfer bands position, ionisation pot. effects, luminesc. spectra anal. 7−46146
- SiO_2-B_2O_3-$UO_{2.66}$ based glasses, local struct. around actinide, EXAFS and optical spectral studies, appl. for nuclear waste glasses 7−59290
- SrO-UO_2 system, elec. cond. of uranates, 550–1300K 7−45321
- $(Th,U)O_2$, irradiation induced dimensional changes 7−5331
- $(Th,U)O_2$ microspheres with 0-35% U, prod. using sol-gel process in CCl_4 7−30569
- ThO_2-UO_2, polycryst., lattice and grain boundary diffusion 7−58519
- ThO_2-UO_3 sol preparation for gelation into microspheres in CCl_4-NH_3 media 7−19370
- TiU_2S_5, mag. props. 7−22120
- $(U,Gd)O_2$ solid solns., O/M ratio, gravimetry meas. 7−30560
- $(U, R)O_2$, (R=Nd, Sm, Eu, Gd, Y), reactor fuels, thermal conductivity 7−19352
- $(U, Sc)O_{2\pm x}/ZrO_2$-Y_2O_3 interface charactn. 7−21677
- $(U, Y)O_{2\pm x}/ZrO_2$-Y_2O_3 interface charactn. 7−21677
- U complex, bis(acetylacetonato)dioxouranium(VI), electron ionis. mass spectra 7−10762
- U-Cu-P(As), ternary particles, cryst. struct. and mag. props. 7−12955
- U-Ni-As(P), ternary particles, cryst. struct. and mag. props. 7−12955
- $UAsO_5$, crystal struct. determ. 7−32378
- $UAs_{0.95}Se_{0.05}$, disappearance of type-I antiferromag. struct., neutron diffr. study 7−45620
- $UAs_{1-x}Se_x$ system, mag. phase diagram, neutron diffr. study 7−12971
- UB_x, synthesis and crystallographic studies *(French)* 7−17487
- UBe_{13} and UB_4, high temp. sp. ht. meas. *(French)* 7−16786
- UBe_{13}, heavy fermion cpd., lattice dynamics, EXAFS study 7−64792
- UBe_{13}-Gd, EPR in superconducting phase 7−33269
- $UBr(Cl)(I)_3$, magnetic transitions, antiferromag. order and cryst. field splitting, neutron scatt. study 7−12974
- UC, fission gas bubble destruction by radiation re-solution 7−42114
- UC, high press. struct. study, X-ray diffr., synchrotron radiation 7−16729
- UC-UN solid soln., vapour press. meas., chem. activity and heat of mixing eval. 7−12290
- UC_2, gaseous molecular forms, discrete variational $X\alpha$ molecular orbital calcs. 7−10420
- $(U_yCe_{1-y})\ O_{2-x}$, struct. determ., EXAFS studies 7−63581
- $U_{1-z}Ce_zO_{2+x}$, nonstoichiometry, chemical thermodynamics 7−52083
- UCl_4, cryst. field spectroscopy by neutron inelastic scatt. 7−27304
- UCl_4, optical spectra of U^{4+} 7−27732
- UCl_4, spin-density study, covalency effects 7−12947
- UF_4, fluorination kinetics, catalysts and impurities effect 7−42120
- UF_5+UF_6, isotope exchange and separation 7−15733
- UF_6, diode laser absorption at room temp. around 16 μm 7−25521
- UF_6, electron impact ionis. cross section calc. 7−50380
- UF_6, laser induced breakdown and appl. to flow diagnostics 7−20832
- UF_6, multiphoton dissoc. in supersonic jets 7−42706
- UF_6+UF_5, isotope exchange and separation 7−15733
- $U_{0.86}Gd_{0.14}O_{2\pm x}$ pellets, reaction with Cs fission product, annealing, diametral expansion 7−56756
- $U_{1-x}Gd_xO_2$ solid soln., microcharacterisation by ESR, XPS and mag. susceptibility meas. 7−12957
- $UIrSi_3$, mag. and elec. props. 7−45674
- $U_{1-z}Ln_zO_{2+x}$ (Ln=Y, La, Nd, Gd), nonstoichiometry, chemical thermodynamics 7−52083
- $UMGa_5$ (M=Fe,Co,Ni,Ru,Rh,Pd,Os,Ir,Pt), structural chemistry, mag. behaviour 7−16513
- $UMoO_6+CaO=CaMoO_4+{}^1/_3U_3O_8+{}^1/_6O_2$, free energy of form., thermodynamic feasibility 7−13753
- UNX (X=Se, Te), heat capacity, neutron diffr. and crystal field models 7−12976
- $U_{1-x}Np_xO_2$, x=0.25, 0.75, magnetic structure, neutron diffraction study 7−58978
- UO_2 (111) surface, oxidation investig., U_3O_8 form., X-ray studies 7−3474
- UO_2 and U glasses, unoccupied 5f states, XANES study 7−39318
- UO_2, band struct., angle resolved and reson. photoemission study 7−27856
- UO_2, crystalline and glasses, localisation of 5f states, XANES study 7−64794
- UO_2, electron emission studies using laser and conventional heating techniques 7−7810
- UO_2 emissions from Windscale 1954-7, environmental impact 7−34293

uranium compounds continued

- UO_2 extraction, ligand exchange and the synergistic effect 7−25092
- UO_2 extraction, synergistic effects in β-diketone/ligand 7−25094
- UO_2, fission gas bubble destruction by radiation re-solution 7−42114
- UO_2, Frenkel disorder, estimate of enthalpy contributions 7−6618
- UO_2 fuel, irrad., fission products chemical state 7−724
- UO_2 fuel, phase behaviour of solid fission products 7−25090
- UO_2 fuel improved burnup stability, microstruct. effects *(German)* 7−19357
- UO_2, heat capacity, enthalpy, critical review 7−16787
- UO_2, lixiviation, effect of long term contact with groundwater 7−25079
- UO_2, nonstoichiometric, n diffraction meas. of struct. factors *(Rumanian)* 7−12027
- UO_2, nonstoichiometric, effect on Mo (110) work function 7−21977
- UO_2, oxidation by high pressure steam, H_2 source in reactor accidents 7−25143
- UO_2 oxidative dissolution, thermodynamic approach, CANDU spent-fuel disposal appl. 7−49688
- UO_2, PWR power plants, load following operation, PCI failure criterion 7−25145
- UO_2, search for intermediate valence state, XANES 7−52545
- UO_2, simulated LMFBR fuel pin, FCCI and I-assisted mass transfer 7−49537
- UO_2, single cryst., surface phonon struct., high resolution EELS 7−27087
- UO_2, solid and liq., exptl. derivations of sp.ht. 7−6817
- UO_2, struct. determ., EXAFS studies 7−63581
- UO_2, surface energy determ. 7−16857
- UO_2 thin films form by oxidation, luminesc. studies 7−22351
- UO_2, U_4O_9, U_3O_8, U_3O_7, charactn. by micro-Raman spectroscopy 7−59203
- UO_2, vaporisation, transition from free mol. to collisional flow, test particle method appl. 7−58447
- UO_2^{2+} interaction with SO_4 ions, photoluminescence decay 7−27780
- UO_2^{2+} ion fluorometry in nitric acid soln. 7−61974
- UO_2-CeO_2, sintering, solid soln. form. 7−3289
- UO_2-Gd_2O_3, nuclear fuel, interdiffusion coeff. study using autoradiographic technique 7−36157
- UO_2-Gd_2O_3, solid solution, lattice parameters, O/U thermal conductivity meas. 7−21180
- UO_2-Gd_2O_3 fuel pellets, thermal expansion meas. at 293-1973K 7−49538
- UO_2-$La(OH)_3$, radionuclide coprecipitation solid solution formation 7−5475
- UO_2-PuO_2 solid soln. form. simulation 7−3289
- UO_2^{2+}-humate interactions in soft, acid,humate-rich waters 7−13939
- $UO_2^{2+}+2RH\rightleftharpoons R_2UO_2+2H^+$, ion exchange equilibria and kinetics 7−25071
- UO_{2+x} pellets, reaction with Cs fission product, annealing, diametral expansion 7−56756
- UO_{2+x}, pure and cation doped, elec. conductivity, O potentials, defect structures 7−12718
- UO_{2+x}, stoichiometry, thermodynamic analysis of point defects, 600-1400°C 7−16550
- UO_3, photoacoustic-spectroscopy 7−27731
- U_3O_8, influence on durability of borosilicate glass 7−8144
- U_3O_8, photoacoustic-spectroscopy 7−27731
- U_3O_8 powder, prep. by cation exchange resin calcination 7−762
- U_4O_9, struct. determ., EXAFS studies 7−63581
- U_4O_9, superstructure and surface images 7−16532
- UO_2Cl_2, in NaCl-KCl-$NiCl_2$, fusibility, differential thermal anal. study 7−61972
- $UO_2Cl_2.2TBP$, IR spectra, complex effect, isotope shift, extraction anal. 7−25058
- $(UO)_2ErS_3$, crystal struct. and oxidation state *(French)* 7−11999
- $UO_2(NO_3)_2$, critical soln., heating-up, nucleation and boiling 7−19368
- $UO_2(NO_3)_2$, NO_3^- group investig. by vibr. spectrosc. 7−10548
- $UO_2(NO_3)_2$ solidification facility operation 7−30579
- $UO_2(NO_3)_2$, synergistic extraction by mixture of DMHMP+HTTA in benzene 7−25086
- $UO_2(NO_3)_2$, synergistic extraction by DMHMP, HDEHP, HEHEHP, HPMBP 7−25087
- $UO_2(NO_3)_2.2TBP$, uranium mass transfer rate coefficients 7−56769
- $UO_2(NO_3)_2.6H_2O$, excited states, fluoresc. 7−25588
- $UO_2(NO_3)_2.6H_2O$, Raman spectra, totally symm. vibrs., band shapes 7−42628
- UOS, synthesis and crystallographic studies *(French)* 7−17487
- $UO_2SO_4.3.5H_2O$, excited states, fluoresc. 7−25588
- UOSe, synthesis and crystallographic studies *(French)* 7−17487
- UPO_5, crystal struct. determ. 7−32378
- UP(Sb), bulk moduli and phase transforms., high press. X-ray diffr. study 7−12206
- $(U_{0.3}Pu_{0.7})C$, hyperstoichiometric, hot hardness, 293-1573K 7−59608
- $U_{1-x}Pu_xC$, mixed carbide fuel, thermodynamic props., effect of O and N impurities 7−58507
- $(UPuR)O_2$, (R=Nd, Eu), reactor fuels, thermal conductivity 7−19352
- US, magnetic character, effects of fission damage, neutrons 7−13000
- USb, antiferromag., anisotropic exchange and spin dynamics, neutron study 7−33147
- $USb_{1-x}Te_x$, AC mag. susceptibility meas. 7−17160
- U_3Si_2 fuel, production and characterisation of MTR fuel 7−25078
- $U_{1-x}Th_xSb$, AC mag. susceptibility meas. 7−17160
- UX_3 (XLL=S,Se,Te), trichalcogenides, mag. susceptibility study 7−12958
- UX_3 (X=S, Se, Te), Raman scatt. from phonons and electronic excitations, low temp. 7−13149
- $U_xY_{1-x}B_4$ system, mag. props., XPS and bremsstrahlung-isochromat spectroscopy studies 7−17172
- ${}^{A}UO_2(NO_3)_2$, A=232, 233, inhaled by rats, deposition and early disposition 7−54769
- ${}^{235}UO_2^{2+}$, ion exchange processes 7−25081
- ZrU_2S_5, mag. props. 7−22120

Uranus

- deep atmosphere chem. models 7−66500
- geometric albedos of Uranus and Neptune, determ. between 2100 and 3350 Å 7−24062
- lightning due to electrostatic discharges and radiowave emission 7−18372
- long-term orbit evol. and mass 7−34929
- magnetic field *(Japanese)* 7−47761
- magnetic field prediction 7−40758
- methane-d_1 in atmosphere of Uranus, detect. at 1.6 μm wavelength 7−55529

Uranus continued
occultation candidate stars for Uranus' rings (1985-90) and Saturn's rings (1986-91), VI photometry 7—24124
ring system, numerical simulation of binary encounters 7—66499
satellite system, exponential distance law *(French)* 7—34911
satellite system, mass determ. and orbital characts. 7—34928
satellites, compact ephemerides (April to October 1987) 7—4295
satellites, general theory 7—14518
satellites, pre-Voyager perspective 7—40759
satellites discovery, historical anal. for Ariel and Umbriel 7—66501
sporadic narrow-band radio emissions 7—34926
submillimetre and millimetre observations, photometric results from 0.35 to 3.5 mm 7—24063
Voyager mission 7—55430
Voyager-2 at Uranus, engineering aspects 7—55424
Voyager-2 encounter overview 7—4364
H Lyman α emission characts. 7—9414
NH_3 ice layers, cryogenic high press. shock temp. meas. 7—32566
urban planning *see town and country planning*
user friendliness *see user interfaces*
user interfaces
human factors, conf., Dayton, OH, USA (Sept.-Oct, 1986) 7—35114
lens design, EASE development and user friendliness 7—57514
lens design software, human dimension 7—50675
optical system design, interactive ray-tracing program integrated with solid-modelling CAD system, Traz program 7—50679
reactor simulation for operator training, use of computer graphics 7—55940
visual perception and computer graphics 7—60015
user manuals
AEROSIM-S code for dry aerosols, FBR containment appls., user manual 7—56723
CRACUK model description, UK version CRAC2 weather model 7—29228
CRACUK user's guide (appendix to the CRAC2 user guide) 7—19348
user ports *see computer interfaces*
UTS *see tensile strength*
UV astronomy *see ultraviolet astronomy*
UV detectors *see ultraviolet detectors*
UV lithography *see photolithography*
UV spectra of diatomic inorganic molecules *see spectra of diatomic inorganic molecules*
UV spectra of inorganic liquids and solutions *see spectra of inorganic liquids and solutions*
UV spectra of inorganic solids *see visible and ultraviolet spectra of inorganic solids*
UV spectra of organic molecules and substances *see visible and ultraviolet spectra of organic molecules and substances*
UV spectra of polyatomic inorganic molecules *see spectra of polyatomic inorganic molecules*
V_K-centres *see colour centres*
V-centres
see also H-centres
p-Ge, correlation between deep-level parameters and energy resolution in γ-detectors, trapped hole re-emission effects 7—15454
KBr crystal, radiation defects destruction by electron beam generated pulsed stresses 7—63663
KCl, single crystal, γ-irradiated, growth of hole defects *(Russian)* 7—16628
KCl:Zn, elec. cond., dielec. loss meas., before and after X-irrad. 7—33324
KI/Tl^+, stability of V-type defects 7—26745
LiF:Ne^+(Ar^+), defect and colloid production by ion implantation 7—26746
MgO (001), initial stages of Cu deposition, EELS 7—63959
MgO:Fe, gamma irrad., thermoluminescence and TSC studies 7—33464
NaCl:Eu^{2+}, gamma irrad., optical absorpt. spectra, TSC meas. 7—58337
$Na_2O.3SiO_2$:Eu^{3+}, UV-irradiated glass, formation of colour centres 7—12063
SiO_2, vitreous, aluminium-oxygen hole centre, chemical annealing 7—51646
α-TeO_2:Al single crysts., electron irrad., colour centre ESR obs. 7—33271
ZnO ($10\bar{1}0$), initial stages of Cu deposition, EELS 7—63959
V_H-centres *see H-centres*
V-VI semiconductors *see semiconductor materials*
vacancies (crystal)
see also Frenkel defects; impurity-vacancy interactions; Schottky defects; vacancy condensation loops; vacancy-dislocation interactions
Ag-^{111}In, O agglomeration in presence of radiation defects 7—26791
alkali halides, Schottky defect energy, effect of three-body forces 7—21864
alkaline earth orthovanadates, solid solns., defect struct. and electrochem. changes of O 7—32787
alkaline earth orthovanadates, stoichiometry, stripping voltammetry studies 7—63836
n-alkanes, self-diffusion, vacancy energy calcs. 7—63876
alloys, binary, simultaneous external and internal oxidation, form. of two-phase regions in diffusion zone *(Russian)* 7—46704
alloys containing lattice vacancies, short-range order investig. using Monte Carlo method *(Russian)* 7—51761
alumina, polycrystalline, X-ray and proton irrad., elec. cond. studies 7—33014
atomic migration in monatomic crystals 7—2250
binary mixtures and alloys, vacancy form. energy calcs., pair pot. theory 7—32429
carbide/α-Fe matrix interface, void nucleation mechanism 7—38354
ceramics, cation-conductive, lattice imperfections, 1 MV HRTEM obs. 7—2258
close-packed crystals, imperfect, self-diffusion of impurities, thermally-activated change in mechanism *(Russian)* 7—58523
concentrated disordered alloys, positron annihilation in vacancies 7—39290
continuum theory 7—51767
cubic lattices, diffusing atoms, Mossbauer spectrum studies 7—64552
cubic lattices, long-range impurity diffusion, mono- and divacancy mechanisms 7—58526
Darken diffusion eqns., corrections generalisation 7—52158
diamond, electron beam irrad., vacancies, photoluminescence, radiative decay time meas. 7—46107
diamond, type IIa, ion implanted, volume expansion 7—58298

vacancies (crystal) continued
diamond anomalous muonium, vacancy-associated model 7—51758
disordered alloys, vacancy form. energy, comp. and temp. depend. calcs. 7—37983
disordering transitions, nucleation mechanism, review 7—44743
electron irrad.-induced trap defects, DLTS study 7—12155
FCC crystal, vacancy jumps, self-correls., MD simulation 7—2015
FCC pure metals, neutron irradiated, thermal stability of cascade defects, annealing expt. 7—51856
FCC solids, vacancy diffusion, jump dynamics and isotope effect calcs. 7—44890
ferromagnetic materials, defect and microstructural analyses using TEM 7—37817
formation energy in hot cryst. w.r.t. Liboff's approx. liq. struct. theory 7—63421
formation energy of a vacancy in metals, rapid convergence of lattice sums to pseudopotential calc. 7—51760
fusion reactor materials, neutron irrad., defect struct. 7—51844
grain boundary dislocation geometry during diffusional creep 7—38013
grain boundary-slip interaction, role in cavity nucleation 7—21219
growing crystal surface, impurity atoms and vacancies, nonlinear kinetic effects 7—44575
hot cryst. vacancy props. w.r.t. dense liq. departures from Joule's law near freezing 7—63840
incomplete crystals, surfaces, defects, interfaces and layered structures, theory 7—16926
incomplete crystals and crystalline interfaces, discrete struct. anal. 7—12508
interdiffusion in coupled mag. layers, spin wave resonance approach 7—2278
metal oxides, synthesis methods and solid state chemistry 7—33620
metals, bubble nucleation and growth under neutron and proton irrad., nonequilib. statistics 7—51848
metals, electronic structures of lattice defects, tight binding recursion method 7—27289
metals, ion implantation of inert gases, high press. precip. phases 7—38031
metals, nonthermal positrons, resonance trapping at vacancies 7—45226
metals, point defects in thermal equilibrium, laser interferometry-neutron diffr. studies 7—58274
metals, positron-vacancy interactions, calc. taking lattice relax into consideration *(Russian)* 7—53442
metals, vacancy pore spatial distrib. during continuous irrad. *(Russian)* 7—58268
metals with close-packed structure, solid-liq. phase transitions, atomic processes 7—52012
positron annihilation, diffusion-influenced trapping and detrapping reactions 7—46212
pure metals, vacancy cluster stability energy calcs., cluster size depend., elastic continuum expressions 7—51762
quartz, exoemission centre with O vacancies, cluster model 7—12651
rare earth silicide epitaxial formation by rapid annealing 7—21768
rare earth-transition metal-nonmetal ternary phase struct., crystallochem. anal. *(French)* 7—58234
rare gas crystals, diffusion of vacancy complexes *(Russian)* 7—52149
self-induced adsorption, surface vacancy generation 7—44993
semiconductors, neutral vacancy electron states, orbital removal method 7—64047
solid solution, dielectric constant calcs. 7—59136
sputtering, slow collisional, surface binding energy 7—59329
steel, austenitic stainless, electron irrad., cold working, vacancy swelling, void form., carbide precip., electron microscopy 7—21282
steel, austenitic stainless, strain ageing and load relax. behaviour at room temp. 7—28092
steel, boride layer growth kinetics, influence of non-equilib. defect conc. 7—22874
steel, Cr, ferritic, neutron irrad., isochronal annealing, elec. resist. recovery 7—58348
steel, low C, H diffusion and trapping by TiC precipitates *(Chinese)* 7—7998
steel, stainless, neutron irradiated, defect clusters, positron annihilation lifetime meas. 7—51853
steel, stainless, neutron irradiated, microstruct. and swelling, Si and N impurity effects *(Russian)* 7—2217
stress- and fatigue-induced, small angle neutron scatt. studies 7—58273
substitutional impurity atoms uprise diffusion in cryst. near-surface layers *(Russian)* 7—44920
superlattices, diffraction and channelling of photons and neutrons 7—6480
thermal nitridation in NH_3, atomic transport mechanisms 7—8201
transition metal aluminides (TAl, T=Fe, Co, Ni, V), electronic struct. of vacancies 7—16975
transition metal oxides, impurity and defect electron struct., self-consistent local density theory 7—45208
transition metal perovskite type oxides, electronic struct. of point defects 7—16979
transition metals, impurity and defect electron struct., self-consistent local density theory 7—45208
tribochemistry, chemical reaction increase by friction 7—46868
two-dimensional lattice gas on triangular net, order-disorder transitions, struct. factors, Monte Carlo simulation 7—56176
void nucleation, in ternary solid soln. of vacancies, interstitial atoms and gas, self-consistent model 7—44525
void nucleation as vacancy diffusive instability 7—21198
voids, homogeneous formation kinetics in two-component soln. of vacancies and gas atoms *(Russian)* 7—44532
Zircaloy-2, cold worked, irrad. growth, point defect trapping, computer simulation 7—16613
Ag (111), adsorbed Cl, weakly ordered and disordered, struct. studies 7—2365
Ag dimers and clusters, matrix isolated, guest-host interaction and photochem. transform. 7—15786
Ag, positron trapping by vacancies, high resolution lifetime studies 7—46211
Ag, proton and ion irrad., self-interstitial atom interactions with defect clusters, elec. resist. meas. 7—58384
Ag, thermal equilibrium vacancies, positron lifetime studies 7—44535
Ag thermal vacancy form., positron lifetime meas., BaF_2 scintillator appl. 7—42434
Ag-Zn, dynamics of β' to ζ transform., elec. resist. obs. *(Japanese)* 7—53720
AgAl concentrated alloys, vacancy activation enthalpies 7—32431

vacancies (crystal) continued
Al (110), Ar ion damage production, mol. dynamics simulation 7–58378
Al (110), Ar$^+$ sputtered, vacancy-type defect distribs., variable energy positrons study, mol. dynamics simulations 7–12429
Al (110), sputtered defect profile, variable-energy positron beam meas. 7–38077
Al alloys, positron traps, classification in age-hardenable alloys 7–38517
Al, divacancy effect, annihilation radiation Doppler broadening meas. 7–37982
Al, divacancy migration and small vacancy cluster form. 7–37977
Al, ductile fracture rel. to heat treatment, vacancy conc. effect 7–8095
Al, equilibrium vacancy ensemble, study using angular correlation of positron annihilation-radiation 7–39233
Al, high purity samples, Doppler-broadened positron annihilation spectra, fast Fourier transform/power spectra deconvolution method 7–33481
Al, quenched, secondary defect form., isochronal annealing, positron lifetime study 7–39298
Al quenched, tensile flow stress, effect of grain size and strain 7–22756
Al single crystals, helical dislocations with low dislocation density 7–51774
Al thin films, vacancy redistrib. kinetics, machine modelling study *(Russian)* 7–6860
Al-Cd single crystals, Cd-vacancy complex disassociation under ion irradiation 7–26741
Al-Ge, dilute alloys, quenched, formation and growth of vacancy type clusters, positron annihilation study 7–39294
Al-Hf dilute quenched cold-worked alloys, vacancy migration recovery processes, PAC and positron annihilation studies 7–39545
Al-Li, quenched, ageing, light ion irrad., δ'phase form. and particle growth 7–26807
Al-Mg(Ca)(Zn)(Si)(Ge) dilute alloys, divacancy effect, annihilation radiation Doppler broadening meas. 7–37982
Al-Mn-Fe alloy, aging characteristics, pre-cold working effects 7–53758
Al-Si, dilute alloys, quenched, formation and growth of vacancy type clusters, positron annihilation study 7–39294
Al-transition metal alloys, vacancy-ordered phase and 1D quasiperiodicity 7–63551
Al-Zn, ageing, effect of specimen thickness, SAXS study *(Japanese)* 7–22731
Al-Zn, fatigue particle coarsening, vacancy creation 7–53895
Au, cascade overlap effect on defect struct. after repeated neutron irradiation 7–51859
Au, defect development from displacement cascade damage in low temp. neutron irradiation 7–51851
Au, positron lifetime in vacancy clusters 7–39259
Au, quenched, vacancy clustering, positron annihilation 7–44534
Au, thermal equilibrium vacancies, positron lifetime studies 7–44535
$BaCuFe_{17}O_{27}$ W-type hexagonal ferrite, intermediate valency, oxidation annealing, magnetisation and neutron diffr. studies 7–7187
$Ba_{0.65}Ga_{10.8}O_{16.84}$, cryst. struct., single cryst. X-ray reflection studies 7–6608
$BaTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7–2539
$BaTiO_3$, elec. cond. rel. to point defects 7–6619
$BaTiO_3$, Nd_2O_3-modified, defect struct. and dielec. props 7–37968
$BiVO_4$, pure and CaO doped polycryst. samples, sheelite struct., elec. cond., anion vacancy motion investigation 7–32712
CaF_2 cryst., defect-induced hyper-Raman spectra obs. 7–53324
CaF_2-Al_2O_3, dispersed solid electrolyte systems, enhanced ionic conduction 7–16801
CaF_2-CeO_2, dispersed solid electrolyte systems, enhanced ionic conduction 7–16801
CaO-ZrO_2, defect struct., EXAFS studies 7–63608
Cd, positron lifetimes, prevacancy effect 7–37973
Cd-In alloys, vacancy-induced elec. field gradient temp. depend., PAC meas. 7–52541
$Cd_xHg_{1-x}Te$ MOVPE layers, elec. props. and Hall effect behaviour 7–27444
CdS, electron beam irradiated, red flash-like luminescent centres, annealing 7–7740
CdTe:In, photocorrosion, vacancies, photoluminescence spectra 7–27948
CeO_{2-x}, thermodynamic model for nonstoichiometric ionic phases 7–32673
Co, thermal equilibrium vacancies, muon spin resonance studies 7–51757
CoAl, electronic struct. of antistructure Co atoms and Co-vacancies 7–7165
CoGa(Al), electronic struct. of vacancies 7–16975
Cr vacancy formation enthalpy, positron annihilation studies 7–44536
CsCl:CN$^-$, F_H(CN$^-$)-centre absorption bands, pseudopotential method calcs. 7–22292
$Cs_xTi_{2-x/4}O_4$ phase struct. and stability, composition depend., X-ray studies 7–58229
Cu, cascade overlap effect on defect struct. after repeated neutron irradiation 7–51859
Cu, defect development from displacement cascade damage in low temp. neutron irradiation 7–51851
Cu, dislocation-diffusion mechanism of wear reduction in selective transfer 7–17658
Cu, nearest-neighbour host site elec. field gradient, monovacancy effects, muffin tin pot. calcs. 7–2549
Cu, positron lifetime temp. depend., two-state trapping model, vacancy form. enthalpy calcs. 7–3107
Cu, positron trapping by vacancies, high resolution lifetime studies 7–46211
Cu surface, characterisation with intense positron beams 7–13256
Cu, thermal equilibrium vacancies, positron lifetime studies 7–44535
Cu, vacancy diffusion along (100) twist boundaries *(Russian)* 7–2265
Cu, vacancy formation enthalpy, positron annihilation studies 7–7787
Cu:O(He) vacancy cluster stability calcs., void form., O and the impurity effects 7–51763
Cu-Al-Mn, thermoelastic martensite form., effect of thermal and stress cycling 7–22680
Cu-Al-Zn-Mn-Ni shape memory alloy, positron annihilation study 7–46206
Cu-Co, dynamic fracture characts., void nucleation at incoherent precipitates 7–17628
Cu-Fe, diffusion of Fe studied by Mossbauer spectroscopy 7–2252
Cu-In alloys, vacancy-induced elec. field gradient temp. depend., PAC meas. 7–52541
Cu-Si, elemental Si inclusion form. in sulphide scale 7–17720

vacancies (crystal) continued
Cu_3Au, electron irradiation, long range ordering, recovery, vacancy migration and clustering, positron lifetime study 7–39543
Cu_3Au, irradiation disordering and reordering by fusion neutrons, electrical resistivity meas. 7–51864
Cu_3Au, quenched, vacancies, ordering and annealing, positron lifetime and elec. resist. meas. 7–39544
$CuInSe_2$-CdS solar cells and $CuInSe_2$ thin films, charge transport studies 7–12890
Cu_2O films, annealing of Cu and O vacancies, cathodoluminescence study 7–59263
CuPd, disordering by 14 MeV Cu ions between 296 and 823 K 7–51877
CuSb(In), vacancy formation enthalpy, positron annihilation studies 7–7787
$Cu_{2-x}Se$, electrical resistivity, temp. and carrier density dependences 7–38556
CuZnAl alloys, β-phase, defects study by positron annihilation 7–39297
Dy_2O_3-CaO solid solutions, dipole complexes, dielectric relax. 7–53231
Fe, Armco, annealed and cold worked, neutron irrad. damage 7–2067
α-Fe, moving edge dislocation, interaction with moving defects *(Russian)* 7–12114
Fe, neutron irradiated, defect clusters, positron annihilation lifetime meas. 7–51853
Fe, thermal equilibrium vacancies, muon spin resonance studies 7–51757
Fe-Au(Sb)(Cu), dilute alloys, electron irradiated, vacancy-solute interaction, positron lifetime, muon spin rotation studies 7–39288
Fe-Co, thermal equilibrium vacancies, muon spin resonance studies 7–51757
Fe-Cr, neutron irradiated, defect clusters, positron annihilation lifetime meas. 7–51853
Fe-Cr-Ni, austenitic, electron irrad., conversion of stacking fault tetrahedra to voids 7–58342
Fe-Ni, martensitic transform., defect form., positron annihilation study *(Chinese)* 7–39213
Fe-Ni alloys, martensitic transform., positron annihilation study of defects 7–39266
$Fe_{40}Ni_{40}B_{20}$, amorphous and crystalline, elec. resistivity, temp. dependence 7–21892
FeO, wustite, defect agglomeration at high temps., elec. conduction model 7–21197
$Fe_{0.93}O$, wustite, defect arrangement at high temps. 7–21196
γ-Fe_2O_3 reactive RF sputter deposition, struct., elec. and mag. props. studies 7–17421
γ-Fe_2O_3:H, H content, DTA, mag. anal. and Mossbauer studies *(Chinese)* 7–12104
$Fe_{3-\delta}O_4$, magnetite, O activity depend., Mossbauer spectra 7–38977
FeS containing Cr and Mn, cation vacancy conc. 7–16551
GaAs and GaAs:Te, defect study by positron annihilation *(Chinese)* 7–13254
GaAs, defects, positron lifetime spectra 7–37979
GaAs, epitaxial growth, thermodynamic equilib. displacement controlled 7–53616
GaAs epitaxial layers, vacancy doping 7–6656
GaAs, ion implanted and laser irradiated, defect studies 7–32432
GaAs, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7–2536
GaAs, neutron-irradiated, vacancy annealing, positron-lifetime study 7–64727
GaAs, passivation, by a-P and alkali metal polyphosphides 7–39778
GaAs, proton bombarded, H platelets, TEM obs. 7–12164
GaAs pure and Si, Mn or Cu doped crysts., impurity and defect props., heat treatment, photolum. studies 7–39163
GaAs:Sn(Te)(Zn) surface layers, luminesc., electrophys. parameters, effect of annealing 7–64680
GaAs:Zn epilayers, metalorganic CVD, Zn incorporation 7–63996
GaP, neutron irradiated and as-grown, vacancy defects, positron studies 7–2012
GaSe, gamma irrad., photoluminescence spectra, temp. depend. 7–17336
Ga_2Se_3 films on GaAs substrates, insulating coating, stoichiometric vacancies, carrier mobility 7–52846
Ge, anomalous muonium, vacancy-associated model 7–51758
GeTe, valence and energy spectrum, supercond. state 7–45534
H_2-D_2 mixtures adsorbed on graphite, phase diagrams 7–52180
^3He-^4He mixtures adsorbed on graphite, phase diagrams 7–52180
$Hg_{0.8}Cd_{0.2}Te$, Hg vacancies, heat of form. determ. 7–37969
$Hg_{1-x}Cd_xTe$/Ag(Cu)(Al) interfaces, morphology, Hg bonding effects 7–7021
$HgCr_2Se_4$ spinel magnetic semicond., electronic struct., elec. props., defects and ferromag. anisotropy 7–38857
In, monovacancy formation enthalpy, positron annihilation Doppler broadening studies 7–37976
In, positron annihilation parameters, prevacancy effect 7–39251
In, positron lifetimes, prevacancy effect 7–37973
In, vacancy formation study by positron lifetime spectroscopy with β^+-γ- and γ-γ-coincidences 7–39261
InP, passivation, by a-P and alkali metal polyphosphides 7–39778
InP-Au(Al) Schottky barriers, defects introduced by mech. polishing 7–39768
$Ir_{2.7}Se_8$, synthesis, powder diffr. characterisation 7–64956
KCl:Zn, elec. cond., dielec. loss meas., before and after X-irrad. 7–33324
KCl(Br), radiation defects created by decay of electronic excitations 7–16626
KX:O_2^- (X=Cl, Br), tunable CW laser operation in 1.45 to 2.16 μm range 7–62707
La-Co-O system, nonstoichiometric K_2NiF_4-type phases 7–37936
$La_{1-x}Sr_xCoO_3$, local struct., EXAFS and XANES studies 7–63582
$LaTiO_3$-based perovskites, IR vibr. spectra studies 7–39102
Li ferrites, microstruct. effects on mag. props. *(German)* 7–59052
LiF crystals, influence of deformation temp. on change in density 7–44655
LiF:C^{6+}, ion implanted, impurity defects outside implantation zone 7–7773
$LiKSO_4$, domain structures and phase transitions, SO_4^- EPR study 7–38937
Li_3N:H, doped and undoped fast ionic conductor, positron annihilation 7–39276
$Li_{5-2x}Zn_xGaO_4$, solid solns., ionic cond. comp. depend. meas. 7–12366
MgO (001), initial stages of Cu deposition, EELS 7–63959
MgO, electron irrad., stored energy, differential thermal anal. studies 7–32503
MgO, positron lifetime spectra, impurity effects 7–39278

vacancies (crystal) continued
- Mo, alpha-particle-induced defects, annealing, positron annihilation studies 7−44633
- Mo, cold worked, defect annealing behaviour, positron annihilation studies 7−37975
- Mo, positron trapping by vacancies, loops and voids, positron annihilation studies 7−46216
- NH_4Cl, undoped and Ni doped, TSC, polarisation meas., 150-500K 7−52645
- NaCl, cation self-diffusion by single vacancy mechanism, reaction coordinate approach calcs. 7−32706
- NaCl:Co, doped and undoped, thermoluminescence and X-ray fluorescence spectra 7−22356
- $NaCl{:}O_2^-$, tunable CW laser operation in 1.45 to 2.16 μm range 7−62707
- Nb (110), vacancy formation, positron studies 7−44537
- Nb, positron annihilation Doppler broadening studies 7−39255
- Nb-H system, electron irrad., vacancy recovery, positron lifetime studies 7−37972
- NbC, vacancy electronic struct., muffin tin Green's function method calcs. 7−2531
- $NbC_{0.72}$, atomic displacements, X-ray determ. 7−32584
- NbC_xN_y, nonstoichiometric, supercond. transition temp. and band struct. *(Russian)* 7−58935
- Ne, solid, electron beam-induced luminescence, time-resolved studies 7−64702
- Ni, creep, T charging, He bubble migration and coalescence 7−65102
- Ni defect development from displacement cascade damage in low temp. neutron irradiation 7−51851
- Ni, defects created by low-energy ion bombardment, investig. by slow electron diffr. *(Russian)* 7−58374
- Ni, fatigue cycling, lattice defect characterisation 7−37978
- Ni, fatigued, crystal defects, positron annihilation studies 7−46213
- Ni films, vacancy migration, impurity quenching, complex bonding energy *(Russian)* 7−44531
- Ni, nucleation and growth of He platelets, computer simulation 7−58269
- Ni powder, ultradisperse, recrystallisation inhibition at high press. *(Russian)* 7−59481
- Ni, quenched and deformed, vacancy clustering, positron annihilation 7−44534
- Ni, single and multiple defect props., mol. dynamics simulations 7−12060
- Ni ultradisperse powders, recrystallisation induced dilatation effect 7−39537
- Ni:B, ion implanted, high temp. oxidation, defect diffusion 7−33846
- Ni-Cr based alloys, low impurity content, microanalytical charactn. of microscopic defects 7−58261
- Ni-rich alloys, vacancy swelling suppression mechanism 7−46511
- β-NiAl alloys, structural vacancies and T-antistruct. atoms, positron trapping study 7−39300
- Ni_3Al and NiAl, positron annihilation and DSC studies of diffusion mechanisms 7−46204
- NiCoGa, thermal vacancies 7−51764
- NiO, coincidence boundary migration, calc. of activation energy for defect movement using computer simulation techniques 7−21218
- NiO, diffusion processes down coincident tilt boundaries 7−38253
- NiO, substoichiometric, positron annihilation meas. 7−37981
- $NiSi_2$ epitaxial layer on Si (001), surface struct., ion-scatt. studies 7−27075
- PZT:Bi piezoelectric ceramics, vacancies, positron lifetimes 7−37980
- Pb overlayer of Cu (100), growth, phase transitions and struct., thermal energy He atom scatt. study 7−63943
- $PbBr_2$ layers, vacuum deposited, elec. cond. temp. depend. 7−27000
- PbO-K_2O-Nb_2O_5, polymorphism, DTA, X-ray phase anal. 7−6782
- PbSe films, photosensitivity mechanism 7−58923
- PbSe:Ag, electron irrad. stimulated impurity diffusion 7−63878
- $Pb_{1-x}Sn_xTe{:}In$, impurity levels, covalent defect theory 7−52515
- PbTe, impurity levels, covalent defect theory 7−52515
- $PbTiO_3{:}Fe^{3+}$, F^- charge compensating cluster form., EPR spectra studies 7−64518
- $PbTiO_3$:La piezoelectric ceramics, vacancies, positron lifetimes 7−37980
- Pd-In alloys, constitutional and thermal defects, positron lifetime study 7−39299
- $PdH_{0.64}$ hydride, superlattice ordering, implanted muon study 7−51689
- β-PdH_x, spin polarisation torsional spectroscopy 7−33280
- Pd_2Si formation, dopant redistrib. in Si substrate 7−21255
- Pt-W, Pt diffusion and platelet defect form. *(Russian)* 7−44895
- β-Sb_2O_4:V(Mo), struct. characterisation, X-ray, neutron, and electron microscopy studies 7−32383
- $ScH_x(D_x)$, H diffusion 7−52117
- Si (111), local density of states near ideal vacancies 7−27380
- Si, anomalous muonium, vacancy-associated model 7−51758
- Si, as-grown float-zone crysts., self-disorder vacancy associates, positron annihilation meas. 7−46232
- Si, crystal growth, impurity effect on formation of microdefects 7−32340
- Si, Czochralski growth, relax. in point defects system 7−16468
- Si, defect reactions and atomic diffusion 7−38264
- Si, diffusion modelling, point defect interactions 7−32715
- Si, divacancy electronic struct. calc. *(Chinese)* 7−38490
- Si, divacancy levels in the band gap 7−12644
- Si, dopant diffusion under thermal nitridation conditions 7−32716
- Si, Jahn-Teller vibronic state of the neutral vacancy 7−16705
- Si, monovacancy electronic struct. and positron states, self-consistent LMTO calcs. 7−2536
- Si, neutron irrad. induced IR absorpt. bands 7−46004
- Si, neutron irradiated, recovery 7−39567
- Si neutron irradiated float zone crysts., triclinic symm. defect, EPR study 7−53134
- Si, oxidation, stresses and defects 7−65230
- Si, oxidation, surface layer defect formation 7−46733
- Si, photothermostimulated exoelectron emission 7−22452
- Si, radiation defect thermal ionisation, effect of dislocations on activation energy 7−6680
- Si, self-diffusion and impurity diffusion, review 7−32713
- Si single crystals, dislocation-free, nature of microdefects 7−44528
- Si, thermal oxidation, point defect kinetics modelling 7−13673
- Si, vacancies, hyperfine interactions, ENDOR and EPR studies 7−63609
- Si:As, precipitation and cluster form., elec. resist., backscatt. and TEM studies *(Chinese)* 7−12285
- Si:As,Sb(P,Sb), Sb diffusion 7−44915
- Si:B, amorphisation by ion implantation 7−38080
- Si:B, electron-irradiated, AC hopping conductivity and DLTS 7−44624

vacancies (crystal) continued
- Si:B, O, heavily doped, O precipitation, diffuse X-ray scatt. studies 7−32669
- Si:B(Au), electron irrad. stimulated impurity diffusion 7−63878
- Si:B(P)(As)(Sb), retarded and enhanced dopant diffusion related to implantation-induced excess vacancies and interstitials 7−63881
- a-Si:H, bulk, surface state densities, Bethe lattice method, CPA calcs. 7−32898
- Si:H floating zone single crysts., neutron irrad., isochronal annealing behaviour, positron annihilation studies 7−21288
- Si:O, positron annihilation study 7−3105
- Si:O CZ gram, O precipitation enhanced with vacancies 7−32664
- $Si/NiSi_2$(111), intrinsic interface states and defect states 7−22011
- Si-Al, P, defect struct. and dynamics 7−16552
- SiC, 6H polytype, defect lumin., due to excess C vacancies 7−53391
- 6H-SiC, positron and positronium states, neutron irradiation effects 7−45232
- SiO_2, dopant diffusion under thermal nitridation conditions 7−32716
- β-Sn, positron lifetimes, prevacancy effect 7−37973
- SnO_2, nonstoichiometry and defect equilib. rel. to cond. props. 7−52069
- SnTe, Mossbauer spectra and microhardness, stoichiometry deviation effects, vacancy conc. and distrib. 7−26973
- Sr_2FeTiO_{6-x}, defect struct. 7−1992
- $Sr_2Mn_{2-x}Ti_xO_{5+x/2}$, struct. and defects 7−44490
- $SrNd_2S_4$-Nd_2S_3 solid solns., vacancy disorder charactn., Raman spectra study 7−58270
- $SrTiO_3$, acceptor state behaviour, influence of impurities and lattice defects 7−2539
- Ta, electron irrad., transverse muon-spin relax. functions 7−53197
- Ta-H system, electron irrad., vacancy recovery, positron lifetime studies 7−37972
- TaD_x, nonstoichiometric, D atom disorder and diffusion 7−58532
- β-$TbH(D)_{1.9+x}$, defect study 7−37971
- Te-Se, whisker crystals, growth and elec. props. 7−12578
- $(Th,U)O_2$ reactor fuel, irradiation induced interstitials and vacancies 7−5331
- $ThCl_4{:}Gd^{3+}$, impurity-vacancy centre EPR probe for incommensurate phase 7−17220
- B-Ti-Mo, single crysts., age and quench hardening, effects of cryst. orientation and surface condition *(Japanese)* 7−22709
- TiH_x, Ti Knight shift meas. 7−38954
- TiN_x, coatings, characterisation by X-ray emission spectroscopy *(French)* 7−46244
- Tl, positron lifetimes, temp. depend. 7−39253
- $TlFe_{2-x}Se_2$ layered cpd. single cryst., magnetic and structural props., Mossbauer and X-ray diffr. studies 7−2848
- U, vacancy formation and phase transformations, positron annihilation studies 7−39248
- UO_{2+x}, pure and cation doped, elec. conductivity, O potentials, defect structures 7−12718
- UO_{2+x}, stoichiometry, thermodynamic analysis of point defects, 600-1400°C 7−16550
- VCe formed by Ce ion implantation, lattice-location studies of Ce ions 7−2042
- W, vacancy formation enthalpy, positron annihilation studies 7−37974
- W/polyethylene interface struct. and defects, FIM obs. 7−27151
- Xe, solid, luminescence of trapped excitons, press. effects 7−64690
- Y_2O_3-Bi_2O_3, local interactions and environments, EXAFS studies 7−63575
- Y_2O_3-ZrO_2, local interactions and environments, EXAFS studies 7−63575
- $Y_2Ti_2O_7$, small-polaron conduction 7−21915
- $Y_{4x}Zr_{1-4x}O_{2-2x}$, ionic cond., defect struct., self-diffusion calcs. 7−12356
- Zn, neutron irradiated, yield-stress recovery 7−22720
- Zn single crystals, positron annihilation, tempo. depend. angular correlation study 7−7786
- Zn-In alloys, vacancy-induced elec. field gradient temp. depend., PAC meas. 7−52541
- ZnO $(10\bar{1}0)$, initial stages of Cu deposition, EELS 7−63959
- ZnSe:Cu(Ag)(Au), cationic substitutional impurities and metal vacancy, microscopic models 7−27296
- Zr, neutron irradiated, solute effects on damage production and recovery 7−51861
- Zr-Sn, diffusion, chem. activity, modified evaporation method 7−38243
- Zr-Ti, diffusion, chem. activity, modified evaporation method 7−38243
- Zr-Ti (Sn)(Dy)(Au), neutron irradiated, solute effects on damage production and recovery 7−51861
- Zr-Ti(Sn)(Au), low temp. damage prod. and recovery after fusion neutron irradiation 7−51862
- ZrN, electronic struct., metal vacancy effects, KKR-CPA method anal. 7−12606
- ZrN_x (100), vacancy state, UPS obs. 7−52718
- ZrO_2, cubic zirconia, defect-induced hyper-Raman spectra obs. 7−53324

vacancy condensation loops
- pure metals, vacancy cluster stability energy calcs., cluster size depend., elastic continuum expressions 7−51762
- Ag, proton and ion irrad., self-interstitial atom interactions with defect clusters, elec. resist. meas. 7−58384
- Au, cascade damage under heavy ion irrad. at high temp., in situ obs. 7−58368
- Mo, alpha-particle-induced defects, annealing, positron annihilation studies 7−44633
- Mo-N system, neutron irrad., isochronal annealing, positron annihilation studies 7−46531

vacancy-dislocation interactions
- alkali metal halides, hardening, effect of dislocation elec. charge 7−51816
- edge dislocation climb, vacancy diffusion and capture calcs. *(Russian)* 7−44550
- metals, irradiated, deformation rate, radiation swelling and creep *(Russian)* 7−44597
- point defect absorption by dislocations, preference parameter temp. depend. *(Russian)* 7−16607
- screw dislocations, vacancy self-diffusion in cubic lattice 7−44888
- α-Fe, edge dislocation, zones of spontaneous absorpt. of point defects 7−44599
- α-Fe, moving edge dislocation, interaction with moving defects *(Russian)* 7−12114
- Ni and Ni-Cu, gamma-irradiated, point defect migration 7−6893

vacancy-dislocation interactions continued
Ni, dynamically deform., polygonisation, recrystallisation *(Russian)* 7—46504
n-Si:P,C, electron-irradiated and injection-annealed, vacancies, dislocations and C interstitials 7—51815

vacancy-impurity interactions *see impurity-vacancy interactions*

vacuum apparatus
includes apparatus for producing, maintaining and handling vacuum per se
see also vacuum gauges; vacuum pumps; vacuum techniques
Advanced Toroidal Facility, vacuum vessel, design and fabrication 7—25202
cryostat, liq. N_2 cooled, differentially pumped rotary feedthrough 7—18795
DIII-D tokamak, vacuum heating system, design 7—25203
iris-type vacuum equipment window shutter 7—24655
platform, rotating, differentially pumped, design parameters 7—61352
remote-controlled glass-Teflon high-vacuum stopcock 7—321
sample transfer system for surface studies over pressure range 10^{-7} to 10^6 Pa 7—61323
shield-vacuum heat insulation, gas permeability 7—44038
switch quality Cu electrorefining and vacuum processing systems 7—27966
translational-rotary transfer mechanism using bakable self-lubricating bearing 7—56297
ultrahigh vacuum sample mount for insulators 7—48762
vacuum symposium, Tokyo, Japan (1985) *(Japanese)* 7—14698
Al alloy ultrahigh vacuum system for MBE 7—53595
Al alloy vacuum chamber for MBE growth *(Japanese)* 7—33569
Al alloy vacuum chamber for MBE 7—61345
In wire extrusion for vacuum seals 7—48761

vacuum control
DIII-D tokamak, vacuum control system, design 7—36253
microbalance, automated, for adsorption isotherm meas. 7—41397

vacuum deposited coatings
Al, mirror coatings, UV reflectivity loss, in space 7—25938
antireflection coating stress in Fabry-Perot etalons 7—30064
chalcogenide-metal contacts, interdiffusion, struct., comp., electron irrad. effects 7—21686
copper phthalocyanine evaporated thin films, mobility and trap concentration 7—2746
dielectric coatings for laser mirrors, fabrication 7—15965
discontinuous metallic thin films, on amorphous and crystalline substrates, electron irradiation stimulated coalescence 7—2437
Fe-Si multilayered thin films, stacking structs., magnetostatic coupling and layer boundary interdiffusion 7—7574
metal overdeposits on amorphous Sb layers, stability 7—52324
metallophthalocyanine thin films, cosublimation doping and Schottky contact formation 7—21974
modern vacuum methods of film deposition *(Polish)* 7—64901
multilayer deposition system for soft X-ray mirrors 7—39388
multilayer soft X-ray coatings, electron beam evaporated, anal. with Cu-K_α radiation 7—30145
Nb_3Ir films, supercond. transition temp., effect of radiation induced disordering 7—45540
nickel phthalocyanine films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
optical coating, cryopump conversion advantages 7—3185
pentacene, vacuum deposited amorphous films, X-ray diffr. and photoelectron spectra anal. 7—22434
pentacene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
permalloy evaporated films, induced mag. anisotropy, thickness depend. study 7—7562
polyethylene thin films, high-field elec. cond. studies 7—64378
polymeric films, prep. on solid surfaces in vacuum, use of laser radiation 7—7862
polypropylene evaporated films, SCL currents 7—21924
ω-(1-pyrenyl)alkanoic acids, vac. deposited films, fluoresc. spectra 7—50216
ω-(1-pyrenyl)alkanoic acids, vac.-deposited film, fluoresc. spectral changes 7—58316
stearic acid, evaporated thin layer, effect of laser irradiation 7—58328
structural, mechanical and tribological props. and applications 7—53935
tetracene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
thin metallic films, adhesion to substrate 7—46788
transition metal silicide layers, electron microscope exam. *(German)* 7—45081
Ag films, vapour-quenched, elec. resistivity *(Japanese)* 7—33107
Ag thin films on NaCl, preferred orientations, detection of complete set 7—39542
Ag, ultrathin, on Si, electromigration, scanning AES study 7—63891
Al evaporated films, O contaminated, recrystn., after annealing 7—38412
Al films, vapour deposited, effect of O partial press. 7—52339
Al, reactively evap., morphology and opt. props. 7—59272
Al vacuum-deposited films, topography characts. by light scattering 7—9816
Al vacuum-deposited films, topography charactn. by ellipsometry 7—9817
Al-polyethylene-Al thin film structures, anomalous Poole-Frenkel effect obs. 7—52851
Al-V films, precip. from metastable solid solns. 7—65048
Al_2O_3 films, optical props., stoichiometry depend. 7—53421
Al_2O_3 thin films, quantitative anal. by AES 7—59310
$AlPO_4$ dielectric films for Ge MIS structures, inversion layers obs. 7—45502
Au crystallites, diffusion process on (100) cleavage planes of KBr, KCl, NaCl 7—21590
$AuGa_2$-GaAs (001), chemically unreactive interfaces formation 7—7050
$AuIn_{2+\delta}$ thin films, resistivity 7—7410
C, amorphous film, modification by inert gas ion irradiation 7—64018
C coating for heat damage prevention of electron microscopy specimens 7—22864
a-C-Ag thin multilayer struct., vacuum condensation, interface development, sheet cond., thickness 7—21681
a-C-Au thin multilayer struct., vacuum condensation, interface development, sheet cond., thickness 7—21681
Cd_3As_2 amorphous films, structure and growth morphology 7—45078
$Cd_{1-x}Mn_xTe$ films, hot wall vacuum growth, twinned struct. 7—53593

vacuum deposited coatings continued
CdS polycrystalline films, temp. variation in thermoelectric power 7—22048
CdS-$CuGaSe_2$ solar cells, physical properties and photovoltaic potential of $CuGaSe_2$ thin films 7—12889
CdTe amorphous thin films, electrical and optical props. 7—22045
CdTe films, illum. with monochromatic light, anomalous photovoltaic effect 7—52684
CdTe, very high conductivity films, formation and props. 7—45522
CdTe:P-CdS solar cells, control of open circuit voltage by carrier density variation 7—17887
Co/Ag, compositionally modulated layered films, saturation magnetisation and FMR, thickness depend. 7—7565
Co/Cr compositionally modulated layered films, saturation magnetisation and FMR, thickness depend. 7—7565
Co-Mg coevaporated films, prep. and mag. props. 7—53082
CoNi thin films, oblique-deposited, mag. props., O impunity effects 7—33244
$Co_{80}Ni_{20}$ magnetic thin films, obliquely deposited, oxidation behaviour 7—65217
$CoSi_2$-Si epitaxial heterostructures, growth and characterisation 7—27212
Cr evaporated and ion assisted deposited coatings, microstruct., electron microscope obs. 7—52335
Cr thin films, intrinsic stress, elasticity modulus, thermal expansion and struct. 7—16889
Cr, vacuum condensates, microstruct., phase comp., deposition parameters 7—27907
Cr, vacuum-deposited, hardness and struct. studies 7—33761
$Cr_{75}Si_{25}$ thin films, microstruct. and resist., room temp. to 950°C 7—38410
Cu, epitaxial growth on Ni(100), angle-resolved XPS study 7—7823
Cu films, vapour-quenched, elec. resistivity *(Japanese)* 7—33107
Cu, ion plating on steel, deposition conditions effect on coating struct. 7—39748
Cu-Al_2O_3 films, dispersion strengthened, flow stress, temp. depend. *(Russian)* 7—53815
Cu-Mn-Sn, phase conc. nonuniformities rel. to annealing *(Russian)* 7—59494
Cu-Sn thin film diffusion couple, reaction kinetics at room temp. 7—21536
$CuGaTe_2$ thin films, elec. cond., 100-300K 7—22042
$CuInSe_2$ epitaxial films deposited on GaAs and CdS, RHEED studies 7—12549
$CuInTe_2$ film, amorphous, flash evap., DC cond. mechanisms, density of states 7—22041
$CuInTe_2$ thin films, flash evaporated, elec. conductivity, optical absorption 7—7428
Cu_2S films, flash-evaporated, optical props. and solar selectivity 7—64719
Cu_2S-CdS solar cells, all-evaporation processed, characts. 7—8383
Dy_xCo_{1-x} thin films, ferrimagnetic reson. in region of spin-reorientation transitions 7—45824
Fe films, particulate, vapour deposition on Al_2O_3 growth and props. 7—17427
Fe films on Ni substrates, magnetism and interface processes, in-situ conversion electron Mossbauer study 7—7571
Fe-Co-B films, phase transition, microstruct. 7—33568
Fe-Cr, ion plating on steel, deposition conditions effect on coating struct. 7—39748
Fe-Cu evaporated film, composition distrib. and mag. props., Mossbauer meas. 7—7561
Fe-Cu films, obliquely evaporated, inhomogeneous conc. distrib. 7—38367
Fe-Ni thin films, α to γ transform, redistrib. of atoms in submicrostruct. *(Russian)* 7—53722
$FeCl_3$, effect on cathodic characts. of Cl_2-H_2 cells *(Japanese)* 7—13850
Ga film, vac. condensates, struct. and opt. characts. 7—2404
Ga, thin evaporated films, nucleation and growth mechanism 7—46327
GaAs thin films, on glass substates, transport props. 7—2742
GaAs:Te films, flash evaporation, annealing, elec. props. 7—64373
GaP thin films, optical props., meas. by surface plasmon excitation 7—46166
Ge, amorphous layers on GaAs, solid phase epitaxial Growth during annealing 7—21777
Ge polycrystalline film, preferred orientation control by two-step growth method 7—21728
a-$Ge_{22}Se_{68}Bi_{10}$ thin film, photoconductivity 7—17052
$Ge_4Se_{6-x}Te_x$ amorphous chalcogenide, elec. cond., prep. technique effects 7—7237
$Ge_4Se_{6-x}Te_x$ amorphous chalcogenide, elec. cond., bulk and thin film effects 7—7238
GeSi thermally evaporated epitaxial heterolayers on GaAs substrate, Si distrib. *(Russian)* 7—63988
Hf-Si multilayers, X-ray optical props. rel. to layer imperfections 7—37097
HfO_2-MgO system massive vacuum condensates, structure *(Ukrainian)* 7—12527
a-HgSe films, elec. conductivity, thermoelectric power, optical absorpt. 7—22050
Ho_2S_3 films, optical parameters 7—33466
In, ultrathin, on Si, electromigration, scanning AES study 7—63891
In-Ge thin films, anomalous structures 7—21733
In-glass, glow discharge induced changes 7—12577
$InAs_{0.3}Sb_{0.7}$ IR detector, photoresponsivity meas. 7—7274
InP, undoped and Zn(Cd) doped thin films, prep. and characts., appl. for solar cells 7—17895
InSe and γ-In_2Se_3 films, formation by double source evaporation 7—59436
$In_{2-x}Sn_xO_{3-y}$ thin films, struct. 7—21722
$LaNi_5$:H films, resist. rel. to hydrogenation 7—58910
MgF_2-MF_2 mixtures, (M=Ca,Sr,Ba), films, prep., physicochemical and optical props. 7—3178
$(Mn_mFe_{1-m})_{100-x}Bi_x$ films, evaporated, structure and mag. props. *(Japanese)* 7—59077
Mo/Sb multilayer film, superconductivity and structural characterisation 7—17128
Mo-Bi-Si thermodiffusion coating on Nb-Mo-Zr alloy, oxidation protection, heat resist. 7—8156
MoO_3 thin films, amorphous, vacuum deposited, struct. 7—51635
Nb/Si multilayered thin films, supercond. props. *(Japanese)* 7—64405
Nb_3Ge films, obtained by joint evaporation technique, microstruct. *(Russian)* 7—59435
Ni films, adsorption of benzonitrile and alkyl cyanides, XPS 7—52288

vacuum deposited coatings continued
Ni-Ag overlayers, pulsed electron beam irradiation, heat flow model 7—38062
Ni-Co-Cr-Al-Y coatings, electron beam deposition, oxidation rel. to pretreatment 7—46702
Ni-Cr-Al films, thin film resistor appl., struct., temp. coeff. of resist. props. 7—58912
Ni-Cr-Si thin films, influence of Si on props. 7—22493
Ni-SiO_2 films, dispersion strengthened, flow stress, temp. depend. *(Russian)* 7—53815
Ni-Te, vapour deposited thin films, annealing behaviour 7—3345
Pb-In-Au fine-grained codeposited alloy films, RF plasma oxidation 7—53970
$PbBr_2$ layers, vacuum deposited, elec. cond. temp. depend. 7—27000
PbTe films and electrical contacts with Au, Al and Ag, photothermal deflection meas. 7—38784
Pd films, adsorption of benzonitrile and alkyl cyanides, XPS 7—52288
Pd films, vapour-quenched, elec. resistivity *(Japanese)* 7—33107
Sb films, amorphous, vacuum-deposited, growth of hexagonal plate cryst. 7—51634
Sb, ultrathin, on Si, electromigration, scanning AES study 7—63891
SbS_3, amorphous thin films, electrical resistivity 7—45523
Sb_2S_3 thin films, vacuum deposited, elec. and photoconductive props. *(Korean)* 7—52682
Sc thin films, vacuum-deposited, struct. and optical props. 7—58698
Se, amorphous films, crystn., kinetic study 7—21101
Se, thin films, amorphous, crystn. 7—44371
a-Si solar cells prepared by thermal evap. 7—23140
a-Si:H, evaporated samples, post-hydrogenation, characts. 7—59103
a-Si:H,B(P) films, optical props. 7—64720
Si-alkaline earth fluoride structures, heteroepitaxial growth, struct., elec. props. 7—12567
Si-M (M=In, Te, Re, Ri), metal implantation using pulsed electron beam 7—6882
SiO-SnO_2, vac. evaporated films, AC elec. props. 7—45528
SiO_2 evaporated and ion assisted deposited coatings, microstruct., electron microscope obs. 7—52335
SiO_x films, vibrational spectra and structure *(Russian)* 7—64709
SiO_x thin films, obliquely evaporated, cross sectional TEM studies 7—12571
a-$Si_{1-x}Te_x$ amorphous alloys, electronic and optical props. 7—7234
Sn, optical properties in 2.5 to 40 μm range 7—59271
Sn, ultrathin, on Si, electromigration, scanning AES study 7—63891
SnO_2, amorphous film, vacuum prep., struct., crystallisation 7—53594
SnO_2 thin films, vacuum evaporated, thermoelec. power, temp. and thickness depend. 7—58918
SnSe thin films, vacuum deposited, high temp. phase form., X-ray diffr. study 7—32873
Ta_2O_5 evaporated and ion assisted deposited coatings, microstruct., electron microscope obs. 7—52335
$Tb_{31}Fe_{69}$ amorphous films, mag. props. and domains, substrate temp. effects 7—13011
Te, thin films, prep. by partially ionised vapour deposition 7—3186
Ti/RuO_2 interface, struct. study using LEED, AES and XPS 7—63981
TiN(C) hard reactively sputtered and evaporated coatings, composition and microstruct. studies 7—52331
TiO_2 evaporated and ion assisted deposited coatings, microstruct., electron microscope obs. 7—52335
TiO_2/SiO_2 Fabry-Perot filters, index meas., influence of deposition parameters on wavelength shift 7—37115
$V_{75}Si_{25}$ amorphous films, crystallisation and elec. props. 7—21102
W films prep. by various deposition methods, effects on elec. resist. 7—52860
W-Si multilayers, X-ray optical props. rel. to layer imperfections 7—37097
WO_3 amorphous evaporated film, complex cond., temp. and freq. depend. studies 7—2756
WO_3 electrochromic films, obliquely deposited, elec. props. and morphology 7—7781
Y_2O_3, electron beam evap., struct. characteris. using TEM, opt. props. 7—21732
$Zn_xCd_{1-x}S$ thin films, struct. and electrical props. 7—64372
Zn_3P_2 thin films, amorphous-crystalline transitions, elec. cond., 100-300K 7—38560
Zn_3P_2, vacuum deposited films, struct., transmission electron microscopy and X-ray diffr. 7—52316
ZnS film, ellipsometric in situ studies of growth 7—39196
ZrN(C) hard reactively sputtered and evaporated coatings, composition and microstruct. studies 7—52331
ZrO_2 based films, composition and struct., X-ray emission and ESCA studies 7—22385
ZrO_2, vacuum condensate, phase composition, struct. features 7—13361

vacuum deposited thin films *see vacuum deposited coatings*

vacuum deposition
used for EVAPORATED layer production in vacuum
see also electron beam deposition
dielectric mirrors, low loss, high reflecting for high power laser appls. 7—5967
epitaxial metal bicrystals containing grain boundaries, UHV deposition apparatus 7—39390
II-VI semiconductor films, prep., electronic props., solar cell appl. *(Japanese)* 7—54299
ion beam mixing, metastable surface alloy form. and stability 7—16652
metal-semiconductor junctions, formation, structural and electrical props. 7—38727
metallic thin films, vacuum deposition, appl. for Co^{60} radiation control in BWR 7—49590
metals of low melting point, deposition using UHV effusion cell 7—64949
mirror, multilayer dielec. exit, half-shadow evaporation fabrication, non-Gaussian laser beam form. 7—50611
modern vacuum methods of film deposition *(Polish)* 7—64901
optical coating, cryopump conversion advantages 7—3185
optical coating, vac. pump. requirements 7—33570
polyamic acid films, vapour deposition technique 7—7855
semiconductor films, vacuum evaporation prep. employing shaking mechanism 7—13363
semiconductor industry, coevaporation system using quadrupole mass spectrometer 7—22494
thermionic method of vacuum film deposition *(Russian)* 7—46331

vacuum deposition continued
thickness monitor using four quartz crystal oscillators for evaporation system 7—61319
vacuum symposium, Tokyo, Japan (1985) *(Japanese)* 7—14698
Wheatstone bridge with two thin film arms, dynamic balancing 7—22491
York, England (Jul. 1986) 7—48142
ZrO_2 thin-film fuel cells, vacuum evaporation prep. *(Japanese)* 7—23132
Ag thin film growth, in situ study by internal stress meas. 7—16890
AgCl films deposited by evaporation and RF sputtering, compositional and morphological anal. 7—16892
Au-Cu alloys, vapour deposition on NaCl single crystals, nucleation and growth 7—39391
CaF_2, crack-free epitaxial film, on GaAs (100), surface morphology, elec. props. 7—39392
$Cd_{1-x}Mn_xTe$ films, hot wall vacuum growth, twinned struct. 7—53593
CdS-$CuGaSe_2$ solar cells, physical properties and photovoltaic potential of $CuGaSe_2$ thin films 7—12889
CdTe thin film solar cells fabricated by evaporation *(Japanese)* 7—34044
Co-Mg coevaporated films, prep. and mag. props. 7—53082
Co-Ni-Fe underlayer for double-layer perpendicular media, vacuum deposition and mag. props. 7—27577
CoCr films, vacuum evaporation, thickness depend. of mag. props. 7—27576
Cr, vacuum condensates, microstruct., phase comp., deposition parameters 7—27907
Cu thin film growth, in situ study by internal stress meas. 7—16890
$CuInSe_2$ thin film growth 7—13368
Fe-Ni evaporated films for a back layer of perpendicular mag. recording media, prep. 7—27908
Ga film, vac. condensates, struct. and opt. characts. 7—2404
Ga, thin evaporated films, nucleation and growth mechanism 7—46327
Ge ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7—17423
$Ge_{35}S_{65}$ films, evaporated, structural changes on illumination and heat treatment *(Japanese)* 7—22489
GeSAgAu films prep. by simultaneous vacuum evaporation, Au effect on metal-photosurface deposition *(Japanese)* 7—3177
HgTe films, deposition by photolysis of (t-butyl)HgTe(t-butyl) 7—3197
InP, undoped and Zn(Cd) doped thin films, prep. and characts., appl. for solar cells 7—17895
InSb films, preparation of highly sensitive magnetoresistance elements 7—7859
K deposition using UHV effusion cell 7—64949
MgF_2, wide band pass filters, multiple Fabry-Perot interference filter struct. *(Korean)* 7—25943
Ni-Cr vacuum deposition for reproducible thin film resistors, book contrib. 7—46332
PbF_2-GaF_3 glass films, vacuum deposition 7—64905
Sb layers, amorphous phase stability rel. to metal overdeposits 7—52324
Se, thin film formation by pulsed laser evaporation 7—59426
a-Si films, preparation in separated ultra-high vacuum reaction chamber 7—59434
Si ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7—17423
a-Si:H biased activated reactive layer evaporation and charactn. 7—59428
SiO thin dielec. film, deposition on Kodial glass, optical props. 7—7872
SnO_2, amorphous film, vacuum prep., struct., crystallisation 7—53594
$TiSi_2$ vacuum electron beam evaporation, annealing effects, Auger and electron diffr. anal. 7—22492
W deposition on Si (111)-(7×7), interface formation 7—58710
W, emitter tip radius, condensation-related shape changes 7—13343
W growth kinetics on thermal oxide 7—16910
Zn vacuum deposition on As_2S_3, photostimulated changes 7—45075
Zn_3P_2 amorphous films, preparation and optical props. 7—13360
Zn_3P_2 polycrystalline films, hot-wall deposited, elec. and optical props. 7—22487
ZnS, wide band pass filters, multiple Fabry-Perot interference filter struct. *(Korean)* 7—25943
ZnS:Cu,Mn films, vacuum deposition and DC electroluminescence 7—7868
ZnTe films, vacuum deposition, elec. resist. and photocond. meas. 7—3179

vacuum gauges
see also ionisation gauges; manometers; vacuum measurement
indirect manometers, calibration by static expansion of gas 7—30026
leakage characteristics of pump gauges 7—48766
Moser-Polts compression vacuum gauge for very low pressures 7—35532
multipurpose 14 MeV neutron source, vacuum system design 7—35529
oscillator gauge with field-emission cold cathode *(Chinese)* 7—48767
total and partial press. meas., vacuum metrology 7—35531
transit time of pressure propagation in acoustic delay line, modelling and obs. 7—50880
vacuum symposium, Tokyo, Japan (1985) *(Japanese)* 7—14698

vacuum measurement
see also vacuum gauges
hot filament ionization gauges for high pressures in the vacuum range 7—35530
outgassing, gas-flow rate through conducting pipe, three-point-pressure meas. technique 7—51350
physical quantities significance *(German)* 7—14958
total and partial press. meas., vacuum metrology 7—35531

vacuum polarisation *see quantum electrodynamics*

vacuum pumps
see also cryopumping; diffusion pumps; ion pumps
leakage characteristics of pump gauges 7—48766
multipurpose 14 MeV neutron source, vacuum system design 7—35529
oil-free mechanical pumping system for semicond. processing 7—61353
optical coating deposition, pump requirements 7—33570
solutions for 'pump damaging' etch and CVD processes 7—35528
turbomolecular pump, automatic ventilation system 7—18797
turbomolecular pump, model of pumping mechanism *(Chinese)* 7—48765
turbomolecular pump, vertical, with upper journal bearing 7—48764
turbomolecular pump with hysteresis motor for particle accelerators *(French)* 7—30025
turbomolecular pumped UHV system, turned-off, vacuum contamination, backstreaming effects 7—4861

vacuum sintering *see sintering*

vacuum techniques
includes techniques for producing, maintaining and handling vacuum per se
see also cryopumping; getters
cryogenic technology, impact of large space systems 7–48752
electronics and vacuum physics, conf., Bratislava, Czechoslovakia (Sept. 1985) 7–24292
emissivity measuring apparatus, vac. high-temp. system 7–56272
fatigue apparatus for testing in UHV and controlled environments 7–39811
interface to soft X-ray synchrotron beam line 7–18967
mass determination in vacuum *(German)* 7–18754
multiple specimen-exchange system for molecular beam epitaxy 7–53521
remote-controlled glass-Teflon high-vacuum stopcock 7–321
residual gas analysers, quadrupole and mag. sector mass spectrometers appl. 7–61350
residual gas analyzer calibration, gas dynamics 7–61349
residual gas analyzers, online calibration, pulsed gas injection 7–61351
scanning electron microscopy, ultra-high vacuum techniques with field emission gun, surface studies 7–24725
SEM, piezodriven spindle for specimen holder in vacuum chamber 7–48922
survey, applications and prospects *(French)* 7–322
transit time of pressure propagation in acoustic delay line, modelling and obs. 7–50880
UHV apparatus for heavy ion induced electron spectroscopy *(Japanese)* 7–56381
UHV Be windows, for use in synchrotron radiation installations 7–18796
UHV systems, wall contaminants, removal by NO 7–22886
ultrahigh vacuum ion source using Bayard-Alpert gauge 7–61400
ultrahigh vacuum sample mount for insulators 7–48762
ultrahigh vacuum sample stub for heating and cooling with integral thermocouple 7–61346
vacuum symposium, Tokyo, Japan (1985) *(Japanese)* 7–14698
with five-stage vacuum system 7–30110
In seal and appl. to proximity focussed image intensifier *(Chinese)* 7–48763
Ti-Al-Mo-Cr alloy, VT3-1, vac. annealing of blanks after isothermal deform., hydrogen plasticising effect 7–8027

vacuum tubes
see also diodes; tetrodes; triodes
ion accelerator electrodes, energy dissipation during HV vacuum breakdown 7–30777
ultrasonogram displays on liq. crystal TV and fluorescent vacuum tube 7–31602

valence bands
alkali phosphates, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7–26816
amorphous semicond. III-V and II-VI cpds., electronic struct. of bulk and defect sites, tight-binding recursion method 7–45222
band offsets at pseudo-ternary semiconductor-alloy heterojunctions 7–12835
$(BEDT-TTF)_2I_3$, alpha and beta phases, electronic struct., EELS studies 7–45118
cadmium arachidate, Langmuir-Blodgett films, angle-resolved photoemission with synchrotron radiation *(Japanese)* 7–3152
diamond, KVV Auger electron spectra calcs., band and cluster approx. methods 7–46252
electronic struct. of impurities in metals, valence-electron-only molecular orbital calcs. 7–2528
graphite, single cryst., synchrotron radiation-excited angle-resolved photoemission 7–17391
graphite-KHg intercalation cpds., $KHgC_4$ and $KHgC_8$, valence bands, XPS studies 7–16932
heterojunction band offsets, two-level model anal. 7–7363
$HfTe_2$, electronic props. 7–2610
hole subband dispersion in strained/unstrained quantum wells 7–22000
II-VI semiconductor lattice matched heterojunctions, common anion rule failure 7–7367
III-V semiconductors, hot-electron photoluminescence, polarisation 7–46118
p-doped semiconds., dielec. functions, band-gap narrowing anal. 7–52482
parabolic semiconducting quantum wells, electrical and optical props. 7–22002
poly(N,N′-bis(phenoxyphenyl)-pyromellatitimide), valence electronic struct., UPS spectrum 7–42806
polyacetylene, N-containing analogues, electronic structs, conduction props., ab initio study 7–32911
trans-polyacetylene chain, bipolaron form. and desorpt., Su-Schrieffer-Heeger model calcs. 7–52454
polystyrene thin film surfaces, electronic excitation, secondary electron emission studies 7–53460
rare earth silicides, $R_2Co_3Si_5$ X-ray spectra and valence band electronic struct. 7–33484
semiconductor heterojunction discontinuities, self-consistent density functional calcs. 7–7364
semiconductor heterojunctions, self-consistent density functional calcs. 7–17097
semiconductor heterostructures, band-edge discontinuities, heuristic approach 7–52815
semiconductor heterostructures, electronic states, valence subbands 7–7307
semiconductor heterostructures, valence band discontinuity, modified Harrison model calcs. 7–27398
semiconductors, cubic, photoionisation of deep acceptors, drag of holes by light 7–12754
semiconductors with a degenerate band, weak-coupling polarons 7–52443
semiconductors with degenerate valence band edge, bound polarons 7–38466
superlattice band structures of group IV and III-V semicond., axial strain effects 7–2697
TCNQ, valence band density-of-states 7–38434
tetrahedral solids, semicond., dispersion of linear optical props., empirical tight-binding calc. 7–45966
tetrakis(alkylthio)tetrathiafulvalenes, valence electronic struct., UPS, EHT calcs. 7–21810
$TGS:Cr^{3+}$ single crysts., valence bands and impurity levels, absorpt. edge meas. 7–33350

valence bands continued
transition metal alloys, amorphous, short-range order, approx. to coherent locator *(Russian)* 7–58731
Ag-Au, valence level splitting 7–45139
$AgGaSe(Te)_2$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7–27252
AlAs/GaAs superlattice/GaAs interface, inversion holes, long term storage 7–45442
AlGaAs/AlAs multiquantum-well structs., staggered band alignments 7–7361
$Al_yGa_{1-y}As$-AlAs heterojunctions, band discontinuities meas. 7–27407
AlN formed by N ion implantation of Al, electronic struct. 7–58926
AlN thin crystalline stoichiometric film, electronic struct., electron spectra studies 7–58916
Am valence-band photoelectron spectrum interpretation 7–64875
$As_{2-x}Te_{3-x}In_{2x}$ and $As_{20-x}Te_{80-x}In_{2x}$ systems, chalcogenides, thin films, optical and electrical props. 7–27446
$BaTiO_3$, electronic struct., special features *(Russian)* 7–45146
$BaZrO_3$, valence band struct., X-ray-electron spectra studies 7–12604
C films, plasma deposited from methane, elec. conductivity, optical absorpt. 7–38786
a-C:H films, glow discharge deposited, valence electron props., electron energy loss spectra study 7–13288
$CaZrO_3$, valence band struct., X-ray-electron spectra studies 7–12604
$CdCr_2Se_4$, band structure characteristics and props. of nonequilibrium carriers, cathodoabsorption 7–46064
$CdGa_2S(Se)_4$ defect chalcopyrite struct. crysts., linear optical response, atomic core electron contrib. calcs. 7–39061
$Cd_xHg_{1-x}Te$, band gap collapse, effects of Hg 5d electrons 7–64075
$Cd_{1-x}Mn_xTe$, interband Faraday rot. meas. 7–39093
Ce metallic systems, valence band photoemission spectra anal. 7–13332
$CoCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7–53495
Cs, oxidation, quantum size effect of conduction electrons 7–13643
Cu clusters on graphite, Auger spectra, size effect on linewidths 7–53455
Cu surface modified by Al, electronic struct. and oxidation of surface 7–22443
Cu-GaAs (110), electron struct., synchrotron radiation photoelectron spectroscopy 7–27420
Cu-Sb-S cpds., valence bands and semiconducting gaps, nonstoichiometry and phase separation 7–16941
$CuCrO_2$:Ca, semiconductor, prep., opto-electronic props. 7–2705
$CuGaSe(S)_2$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7–27252
$CuGaSnSe_4$, valence band struct., spin-orbit and cryst. field splittings, p-d hybridisation effects calcs. 7–27252
CuInSe thin films, flash evaporation prep. and characterisation 7–7893
$CuInTe_2$ thin films, flash evaporated, elec. conductivity, optical absorption 7–7428
CuO_x crystals, diamagnetic excitons, valence band corrugation 7–64546
$Cu_{75}Pd_{25}$, partial densities of states determ., valence band photoelectron spectra meas. 7–52390
$Cu_{2-x}Se$, electrical resistivity, temp. and carrier density dependences 7–38556
Fe-Co-Cr-Mo alloys, electronic struct. and mag. props., X-ray spectra studies *(Russian)* 7–32902
Fe-Ge amorphous and cryst. layers, short range order and valence bands 7–13266
Fe-Te cluster, localised props., multiple scatt. Xα SCF method 7–21848
$Fe_{80}B_{20}$ ribbons, amorphous and crystallised, surface comp., electronic props., topography, AES, XPS, ion scatt. studies 7–27065
$FeCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7–53495
$Fe_{40}Ni_{40}P_{20}$ amorphous alloy, electron struct. and surface struct., XPS and UPS studies 7–27238
α-Fe_2O_3, photoemission satellites, electronic struct. 7–39358
$FePS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7–38450
GaAs (001), chemisorption of CF_3 radicals, RHEED, photoelectron spectra, HF SCF calcs. 7–53497
GaAs heterostructures, valence subbands, excitons and luminescence 7–7321
n-GaAs impurity bands and band tailing 7–21809
GaAs LEC wafers, cathodolum. mapping, IR absorpt., X-ray topography obs. 7–33462
GaAs/$Al_xGa_{1-x}As$ quantum-well bound states, valence-band offsets 7–7313
GaAs/AlAs superlattices, electronic band structure, pseudopot. method calc. 7–17084
GaAs/AlGaAs single and coupled double wells, energy depend. light hole mass. photolum. spectra anal. 7–38691
GaAs/AlGaAs superlattices, valence band electronic struct., pseudopot. calcs. 7–64339
GaAs/GaAlAs single quantum wells, steady-state photoluminescence studies 7–7750
GaAs/Ge heterojunction interfaces, cyclic behaviour of band discontinuities 7–7365
GaAs-(AlGa)As heterostructure, modulation-doped, valence band mixing, and optical emission 7–7344
GaAs-$Al_xGa_{1-x}As$-AlAs, p-type quantum wells, resonant Raman scatt. 7–22259
GaAs-AlGaAs multiple quantum wells, temp. depend. of photoreflectance 7–7753
GaAs-AlGaAs multiple quantum well structs., photolum. under high laser excitation 7–13213
GaAs-$Ga_{1-x}Al_xAs$ superlattices, in appl. elec. field, interband optical transitions 7–53274
GaAs-$Ga_{1-x}Al_xAs$ undoped quantum wells, excitonic spectrum, valence band coupling and Fano resonance effects calcs. 7–27256
GaAs-GaAlAs heterostructure, LPE grown, interface photoluminescence spectra 7–53390
GaAs-GaAlAs-GaAs heterojunction barriers, single particle tunnelling, five level k.p theory 7–64341
GaInAsP-InP laser, anisotropic deform. influence on radiative characts., spectral characts. 7–43101
$Ga_{1-x}In_xP$/GaAs heterojunction band discontinuity determ., C-V profiling 7–58880
GaSb/AlSb strained-layer heterojunction valence band discontinuity, XPS core level meas. 7–21984
GaSb-AlSb quantum wells, optical transitions, obs. 7–46086
GaSe, gamma irrad., photoluminescence spectra, temp. depend. 7–17336

valence bands continued
- Ge, electron irrad., hole effective mass parameters, cyclotron reson. 7−58730
- Ge, holes optical effective mass, determ. by interf. method 7−17290
- Ge valence electron subsystem, local and exchange pot. approxs. calcs. 7−38477
- $Ge_{20-x}Se_{80-x}In_{2x}$ system, chalcogenides, thin films, optical and electrical props. 7−27446
- Ge_xSi_{1-x}-Si strained layer heterojunctions, selectively doped, hole mobilities, temp. depend. 7−7383
- GeTe, valence and energy spectrum, supercond. state 7−45534
- HgCdTe, electronic struct., alloying effects, ETBM calc. method 7−64080
- $HgCr_2Se_4$ spinel magnetic semicond., electronic struct., elec. props., defects and ferromag. anisotropy 7−38857
- $Hg_{1-x}Mn_xTe$, magnetoresist. meas., effect of valence band spectrum quantisation at low temps. 7−52653
- HgO, core levels and valence band electronic struct. spin-orbit splitting, XPS and UPS studies 7−13330
- HgTe based superlattice, MBE growth and props., valence bands offset 7−7345
- HgTe-CdTe superlattice, IR magnetooptics and band struct. 7−13138
- InAs-GaSb superlattice, band offset press. depend., magneto-optical studies 7−38698
- InAs-GaSb superlattices, band line-up under hydrostatic press. 7−52782
- InGaAs strained-layer superlattices, valence-band nonparabolicity and tailorable hole masses 7−12798
- InGaAs-GaAs, quantum well structs., p-type modulation doped, Hall effects, influence of built-in strain 7−7339
- InGaAs-GaAs and GaAs-GaPAs strained layer superlattices, press. depend. magneto-optic meas. at low temp. 7−27404
- InP-Au interface, Fermi level pinning, growth characts., photoemission spectra 7−22009
- InSb, conduction electrons g-factor anisotropy, spin-orbit splitting calcs., comment 7−38441
- K_2CuX_3, (X=Cl, Br), energy band struct., fundamental optical absorption 7−7093
- $K_{0.3}MoO_3$, electronic struct., UPS study 7−53499
- $K_{0.9}Mo_6O_{17}$ electronic struct., room temp. UV photoemission spectra study 7−46272
- La, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
- $MnCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7−53495
- $MnPS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7−38450
- $Mn_xSn_{1-x}Mo_6S_8$, Mn dopant props., supercond. transition temp., EXAFS, XANES, photoemission studies 7−46236
- Mo-Si(111)(2×1) interface, early formation stage 7−27150
- 2H-MoS_2, photoionisation cross-sections for whole valence band, synchrotron radiation obs. 7−7812
- NaIn B32-type Zintl phases, mag. props., exchange enhancement, APW calcs. 7−27504
- Ni (100), (111) and (110), N_2 chemisorption, molecular cluster calcs. 7−52280
- Ni (100) with adsorbed C, electronic struct. 7−7315
- Ni (110), valence band satellite, obs. in photoelectron spectra 7−59377
- Ni, quasi-particle and band-calc. spectra, w.r.t. valence band photoemission meas. 7−2474
- Ni surface modified by Al, electronic struct. and oxidation of surface 7−22443
- Ni-Ge amorphous and cryst. layers, short range order and valence bands 7−13266
- Ni-P metallic glasses, electronic struct., XPS study 7−39357
- $NiCl_2$ 3p-3d hybridisation eval., valence band photoelectron spectra meas. 7−53495
- $NiPS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7−38450
- PbEuSeTe/PbTe single quantum well diode laser with side optical cavity 7−43105
- $PbZrO_3$, valence band struct., X-ray-electron spectra studies 7−12604
- Pd monolayer on Ta (110), heat of adsorpt. estimates from core-level shifts 7−52258
- Pr, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
- Pt monolayer on Ta (110), heat of adsorpt. estimates from core-level shifts 7−52258
- RAl_2Si (R=Pr,Gd,Tb,Dy,Ho,Er,Tm,Lu), electronic struct., X-ray emission bands *(Russian)* 7−45138
- Rb_2AgI_3, energy band struct., fundamental optical absorption 7−7093
- Rb_2CuX_3, (X=Cl, Br, I), energy band struct., fundamental optical absorption 7−7093
- Si (111), Ag and Au overlayers, room temp. oxidation behaviour, XPS study 7−13676
- Si, with stacking faults, electron and phonon spectra, recursion method 7−32945
- a-Si:H, electronic struct. modelling with small clusters 7−64057
- a-Si:H solar cells, density of states asymmetry effects 7−46946
- a-Si:H/a-SiC:H heterojunction, valence-band discontinuity, photocurrent-voltage measurements 7−58868
- a-Si:H/c-Si heterojunctions, energy-band discontinuities, internal photoemission studies 7−58869
- a-Si:H(F), mobility edge, density of states and carrier activation energy calcs., random Bethe lattice approach 7−16937
- Si-Ge heterojunction, structural and electronic props. 7−21997
- a-$Si_{1-x}C_x$:H, B(P) films, valence band localised holes, light-induced ESR spectra studies 7−53110
- a-$Si_{1-x}C_x$:H, valence band, UPS studies *(Chinese)* 7−38443
- a-SiGe:H alloys for solar cells, electronic and optical props. 7−17899
- $Si_{1-x}Ge_x$:H amorphous alloys, electronic struct., soft X-ray and photoelectron spectra studies 7−27857
- SiO_x thin films, plasma enhanced CVD deposited, Si chem. states, IR spectra, XPS, AES 7−21721
- Sm, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
- Sn, valence band struct., angle resolved photoelectron spectra 7−52416
- $SrZrO_3$, valence band struct., X-ray-electron spectra studies 7−12604
- TaC_x, defect states, core level binding energy and valence band struct., XPS meas. 7−27291
- TaC_x, substoichiometric, core-level binding energies and valence-band struct., XPS 7−22450

valence bands continued
- $(TaSe_4)_2I$, electronic struct., positron annihilation and UPS study 7−53500
- Tb, resonant UPS, 5p valence band interaction, photoionisation cross section 7−15564
- Te cpds., valence electron configs., X-ray chemical shift and Mossbauer isomer shift, SCF anal. 7−32893
- TlI, excitons, band struct., polarised refl. spectra 7−27738
- $TlInSe_2$, electronic struct., synchrotron radiation photoelectron spectra 7−52422
- UAl(Ga)(Sn)Ni(Co)(Ru) ternary alloys, magnetic behaviour, elec. resist. and sp. ht. meas., 5f electron effects 7−12999
- URu_2Si_2 heavy fermion system, core levels and band struct., electron spectra studies 7−52418
- W, valence bands, angle resolved XPS spectra 7−22441
- $Zn_{1-x}Mn_xTe$, interband Faraday rot. meas. 7−39093
- ZnO-electrolyte interface, electrolum. under cathodic and anodic pulsed polarisation 7−13235
- Zn_3P_2 valence band struct., XPS and Auger lineshape studies 7−45150

valence bond calculations *see VB calculations*

valence fluctuations *see mixed valence compounds*

valency
- ferrichromites, coordination and oxidation states, XPS and XANES studies 7−63583
- glass:Ce(Eu), stable and metastable impurity valence states, spectral props. *(Russian)* 7−27747
- molecular structure, MO theory 7−30920
- oxide crystals, TO_4 units, correl. of ang. and bond length distortions 7−32359
- oxidic actinide cpds., systematic props., oxidation states, fluorite lattice and thermodynamic props., review 7−12013
- rare-earth core-electron spectroscopy, mixed valency versus covalency 7−45246
- Ag-Ge-Ga-Al FCC alloys, faulted structure, X-ray diffr. studies 7−58292
- Co-transition metal amorphous films, mag. and galvanomag. props. 7−53079
- Cu compounds, sputtered atom excitation, optical spectra studies 7−59347
- Cu-Ge-Ga-Al FCC alloys, faulted structure, X-ray diffr. studies 7−58292
- Eu^{2+} in crystals, covalency and EPR hyperfine struct. const. 7−45815
- Fe compounds, sputtered atom excitation, optical spectra studies 7−59347
- FeCo oxides, oxidation state and site symmetry, EXAFS and XANES studies 7−63584
- KSCN, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
- K_2SO_4, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
- K_2TiF_6, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
- MgO, positron lifetime spectra, impurity effects 7−39278
- Na_2O-Fe_2O_3-Al_2O_3-SiO_2 glasses, Fe^{3+} ESR spectra, valence-coord. state 7−45813
- Nd clusters isolated in solid Ar, size-dependent valence change 7−20089
- Ni cobaltite, coordination and oxidation states, XPS and XANES studies 7−63583
- $Ni_{1-x}Ge_xFe_2O_4$ spinel ferrite, AC susceptibility and Mossbauer studies 7−64441
- Np, valence state adjustment using laser photochem. in nucl. fuel reprocessing *(Japanese)* 7−61971
- Pr clusters isolated in solid Ar, size-dependent valence change 7−20089
- Sm clusters isolated in solid Ar, size-dependent valence change 7−20089
- Sm overlayers on Al (111), homogeneous intermediate valence, photoemission 7−39351
- V_2TiO_5, valency distrib. determ., XANES 7−16509

valve voltmeters *see voltmeters*

valves
- *see also diaphragms*
- balanced puff valve for imploding gas-puff experiments 7−324
- collision of multiple supersonic jets related to pip noise generation in cage valve 7−26316
- conference on the safety and reliability of reactor pressure components, Stuttgart, Germany, (Oct. 1985) 7−9583
- cooler, closed cycle, simplified cold head design 7−56277
- dimensioning of control valves with two-phase flow *(German)* 7−31860
- flow induced valve operation and pressure wave propag. in single and two-phase flows 7−10239
- heart valves, prosthetic, flexible support frame 7−3938
- magnetic valve for high-pressure gas injection, plasma fusion confinement appl. 7−11683
- motor-operated valve, operability verification, reactor appl. 7−42178
- nuclear power station valve manufacture in Czechoslovakia 7−56804
- nuclear valve stem packing improvements and gland adjustment for leakage reduction 7−10265
- safety relief valve position indication systems for reactor appl. 7−42179
- sluice valves and chokes, cavitation studies *(Japanese)* 7−6261
- ultra-fast delivery system for producing abrupt compositional switching in OMVPE 7−22525
- $NaNO_3$-KNO_3 molten salts, chemical resistance of valve packing and sealing materials 7−65586

valves (electronic) *see electron tubes*

Van Allen radiation belts *see radiation belts*

van de Graaff accelerators
- dual-ion irradiation station at Tokyo Univ. for fusion materials testing 7−51875
- electron pulses generation, using laser photoelectron emission from cold Y_2O_3 cathode 7−10314
- energy scanning system for van de Graaff or tandem accelerator 7−62172
- Harwell van de Graaff accelerator, 1950s fundamental research 7−29654
- Harwell-van de Graaff accelerator, improvements, beam brightness and energy spread 7−36339
- HHIRF tandem accelerator energy analysing magnet, calibration 7−49765
- monoenergetic neutron production problems at NPL van de Graaff accel. 7−56901
- RF ion source, focusing system, expt. and theoretical investigs. 7−10840
- voltage regulation and breakdown prevention device *(Chinese)* 7−5499

van de Graaff generators
- No entries

Van der Pol oscillators *see relaxation oscillators*

van der Waals forces
- adatom, neighbour effects on permanent electric dipole, Feynman propag. anal. 7—27110
- adsorbate resonances, fractional occupation and van der Waals interactions 7—27376
- alkali, atom-inert gas atom complexes, optical pumping, polaris. effects 7—15536
- anthracene-NH$_3$, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7—19936
- atom+ion potential curves, modified Tang-Toennies model 7—36722
- atom near planar surface, van der Waals interaction 7—38663
- atom-atom potentials via electron gas theory 7—36720
- atom-surface van der Waals interaction, quadrupolar contributions 7—12482
- atoms electron density and solvent effects study 7—62300
- ceramic materials, intergranular glass phases, equilib. film thickness 7—46433
- coherent photodissociation reactions, picosec. polaris. technique obs. 7—36715
- diacyl peroxides, low temp. photolysis, vib. anal. for CO$_2$ dimer, IR spectra 7—15597
- diatomic mol. on substrate, reson. laser induced desorption, classical and quantum models 7—58618
- dipolar fluid, effective pair pot. for orientational correls. in elec. field 7—37826
- p-fluorotoluene, torsion-vibr. coupling 7—42719
- free energy via response functions 7—57144
- liquid-gas interface, asymptotics from nonlocal van der Waals theory 7—52187
- macromolecular structure refinement programs, PROTIN and PROLSQ, addition of symmetry-related contact restraints 7—51572
- membranes, fluctuation pressure between walls 7—3604
- molecular crystals, van der Waals at. radii 7—62301
- perylene-NH$_3$, jet-cooled clusters, van der Waals complexes, exciplexes, visible fluoresc. spectra 7—19936
- potentials, clustering, mol. dynamics and Monte Carlo calcs. 7—37829
- response function approach to van der Waals interaction between atom and metal surface 7—21964
- rigid particles in external field, density functional statistical mechs. 7—44332
- rot. resolved fluoresc. excitation spectra 7—25597
- solids in contact, interfacial bonding 7—27148
- sphingomyelin bilayers, interactive forces 7—34115
- stilbene-He(Ne), coherent photodissoc., picosec. polaris. obs. 7—36715
- tetramethylsilane, ^{13}C NMR chemical shifts, solvent effects 7—50198
- s-tetrazine-Ar van der Waals complex, vibr. predissoc., RRKM approach, vibronic emission 7—19983
- transition metal phosphorous trisulphides, electronic, structural and mag. props., intercalation cpds. and chemical props. 7—44499
- triatomic complex, vibr. predissoc., adiabatic approx. model 7—36713
- Ar-HF binary complex, long-lived metastable systems 7—36515
- ArHCl, intracavity for IR laser spectroscopy, van der Waals bonds, vibr. motions 7—10589
- (CO$_2$)$_n$ complexes free jet spectroscopy by coherent Raman methods 7—15003
- F-He, van der Waals mol., interaction pot., MBPT calcs. 7—42721
- H EM energy density distrib., van der Waals forces 7—50048
- H$_2$, physisorption interaction with simple metals 7—12480
- Li-CO$_2$ complex, pot. energy surface, covalent ionic nature 7—30967
- NaXe, spin-rotation coupling, spin relaxation rate 7—25542
- Nb$_2$Pd$_{0.74}$Cu$_{0.22}$S$_5$, reactivity, intercalation structural changes, X-ray diffr. exam. 7—46839
- O+He, van der Waals interaction, mol. beam study 7—20001
- Pt (111) with adsorbed CO, He-adsorbate scatt., potentials and total scatt. cross-sections 7—59363
- To$_2$NiSe$_5$, reactivity, intercalation structural changes, X-ray diffr. exam. 7—46839
- To$_2$PdSe$_6$, reactivity, intercalation structural changes, X-ray diffr. exam. 7—46839

Van der Waals molecules *see quasimolecules*

vanadium
- *see also nuclei with ......*
- atom, electron inelastic scatt. cross-sections 7—5775
- BCC, H-dislocation interaction mechanism, embrittlement and dislocation motion 7—44600
- cathode sputtering, meas. of sticking coeffs. of O$_2$ and N$_2$ 7—12476
- clusters ionisation threshold, photoionisation TOF mass spectra 7—20085
- Compton profiles 7—59281
- corundum:V^{4+}, cryst., luminesc. 7—33454
- diffusion barrier material, effectiveness in Nb-Sn composite wires 7—15353
- diffusion of ^{48}V in Co, mag. anomalies, quasi-chemical model 7—6862
- dynamic spin susceptibility, contrib. to low temp. sp. ht. 7—33143
- elastic shear constants of single crysts., temp. depend., effect of H and D 7—63711
- epitaxial film (110), elastic strain generation and relax. *(Russian)* 7—16916
- evaporated films, photoemission spectra, correl. effects 7—39363
- film, B ion implementation, phase changes, electron microscopy study 7—12169
- films, laser-induced oxidation kinetics 7—59681
- Fourier transform of 2D angular correlation 7—38439
- geochemistry, V and V cpds. in marls and shaly limestones 7—14219
- inner-shell excitations, energy-calibrated APS, correlation effects obs. 7—46247
- ion, lifetimes and oscillator strengths meas., fluoresc. and Fourier-transform spectra anal. 7—30986
- IR laser induced oxidation obs. 7—65215
- Knight shift spin and orbital contribs., real-space formulation, Green's function method 7—2940
- metallic electron charge density to electron momentum density transformations 7—27249
- orientational effects of interactions of electrons in APS spectra 7—46243
- oxidation in moist He coolant gas 7—53963
- oxidation on heating in air, alloying elements influence 7—17687
- polycrystalline, deformation under H absorption 7—46549
- polycrystalline films, struct. defect disappearance, activation energy, elec. resist. meas. 7—26740
- positron annihilation, 2D angular correlation studies 7—39237

vanadium continued
- positron annihilation 2D angular correlations, reconstruction of momentum densities 7—39232
- positron annihilation radiation, 2D angular correlation distrib. 7—53440
- positronium formation in voids 7—39234
- properties and uses in engineering alloys, review 7—39456
- radiation hardening by 14 MeV neutrons, athermal effects 7—51858
- self-powered neutron detectors, sensitivity 7—42316
- shape-memory effect and microstrain during hydride form. 7—16670
- solid surface tension, surface-energy comparisons, semi-empirical calcs. 7—2328
- strength properties and recrystn., comparison with dispersion hardened alloys 7—17545
- surface, (100), electron capture spectroscopy 7—59368
- surface, clean and oxidised, secondary ion emission 7—64850
- surface, S segregation, effect on H permeation, AES anal. 7—32660
- surface, sputtered neutral atoms, energy distribs. 7—59336
- surface (100)p(1×1), ferromag. order, electron capture spectra studies 7—27526
- thin films, resistive transition smearing in parallel magnetic field *(Russian)* 7—52918
- thinning treatment, TEM appls. 7—8190
- Al$_2$O$_3$:Cr^{4+}, V^{3+}, electron-phonon interaction and impurity energy levels, APR and EPR studies *(Russian)* 7—45814
- Al$_2$O$_3$:V^{4+}, UV-visible absorpt. and luminesc. study 7—33447
- Bi$_{12}$MO$_{20}$:V, (M=Si,Ge,Ti), sillenite struct., local vibrs. of impurities, spectral study 7—7718
- Fe-V superlattices, NMR study *(Japanese)* 7—13046
- Fe-V superlattices and alloys, magnetism study 7—64436
- GaAs:V, electromodulation spectra, deep level energy positions 7—38496
- GaAs:V, photocond. props. and thermally stimulated currents 7—7284
- GaAs:V^{2+} single crysts., acoustic relax. phenomena, phonon-impurity coupling, ultrasonic attenuation meas. 7—32581
- Mg$_2$SiO$_4$:V, forsterite, high temp. deform., creep study 7—21332
- Mg$_2$SiO$_4$:V forsterite single crysts., creep, 1571-1923K 7—33731
- Mo/V quasiperiodic multilayers, growth and superconductivity 7—12927
- Nb-V sinusoidally modulated superlattice, growth and charact. 7—21741
- β-Sb$_2$O$_4$:V, struct. characterisation, X-ray, neutron, and electron microscopy studies 7—32383
- Si:V, impurity self-ENDOR spectrum 7—64545
- Si:V polycrystalline solar cells, structural, elec., photovoltaic props., impurity effects 7—39990
- SiO$_2$:V amorphous films, Rf-sputtered, SCL conduction 7—64380
- SrTiO$_3$:V^{5+}, impurity energy levels, tight binding model, Green's function method calcs. 7—21856
- TiO$_2$:V, absorption and photolysis spectra 7—22290
- TiO$_2$:V^{4+}, anatase and rutile phases, EPR study 7—2923
- V II, in arcs, transition probabilities, IR emission spectroscopy 7—5633
- V Redox cell, eval. of electrode materials 7—54286
- V V, plasma-induced atomic level broadening 7—63262
- V$^+$, excited state selected, one-colour UV multiphoton ionis. 7—36506
- V:Ne$^+$, ion implantation in elemental solids, range profile, gamma-ray spectra 7—2959
- V/Ni multilayered superlattice, microstruct., X-ray and neutron diffr. 7—32849
- V/Si, silicide formation, comparison of SiO$_2$ and a-Si surface protection layers 7—58662
- V-Ag proximity coupled supercond. multilayer, penetration depth of mag. field 7—52910
- V-Al system, diffusion markers in thin film Val$_3$ formation 7—58549
- V-GaAS, extrinsic surface states, core level UPS study 7—2713
- V-Ge(111) interface, temp. depend. intermixing, core level photoemission study 7—21542
- V-Ni superlattices, elastic props., effect of strain 7—52376
- V$_{15}$, fragmental cluster model and electronic struct. *(Ukrainian)* 7—12597
- VO-V mixture, vaporisation study, mass-spectrometric anal. 7—6771

vanadium alloys
- *see also vanadium compounds*
- alloying and impurity effects 7—53666
- Cr-MoVW ferritic steel, ductile-brittle transition temp., irrad. flux depend. 7—56825
- dispersion hardened, strength changes and recrystn. 7—17545
- first wall candidate ferrite alloys, Ni doped, postirrad. tensile behaviour 7—56827
- neutron irradiation effects 7—53750
- Ni addition effect on void formation following irrad. 7—56822
- properties and uses in engineering alloys, review 7—39456
- self-cooled heavy water fusion breeding blanket first wall, neutronics anal. 7—15365
- steel, Mn-Mo-V, reactor piping material, strength, deformation and fracture behaviour 7—13578
- steel-VC composites, cold sintered, mech. props., bonding integrity 7—39471
- V-Hf-Zr-Ta C-15 phase superconducting alloys, phonon props., inelastic neutron scatt. spectra 7—51969
- Al/V.PtSi/Si Schottky barrier diode metallisation system 7—2666
- Al-Fe-V rapidly solidified sheets, mech. props., hot rolling effects 7—22838
- Al-V, rapidly quenched, icosahedral phase, comp. analysis 7—26699
- Al-V alloy, amorphous and quasicrystalline state, electron diffr. study 7—63562
- Al-V alloys, phase transitions between amorphous, quasicrystalline and crystalline phases 7—63807
- Al-V films, precip. from metastable solid solns. 7—65048
- Al-V icosahedral alloys, elec. resist. and Hall coeff. studies 7—27316
- Al-V quasicrystalline alloys, isomorphism, neutron diffr. meas. 7—51638
- Al-Zr-V, rapid solidification, age hardening, solid soln. form. *(Korean)* 7—46475
- Co-Fe-Ni-V alloys, Invar props. and mag. field distribs. *(Russian)* 7—45733
- Co-Fe-V-Si-B metallic glass, Co-rich, temp. and annealing dependences of magnetostriction const. 7—33255
- Cr-V alloy, magnetovolume, thermal expansion and Gruneisen parameters 7—33260
- CrMoV ferritic steels, He containing, fatigue behaviour in fusion reactor 7—56828
- CrMoVNbNi steel, Ni addition effect on void formation following irrad. 7—56822
- Cu-V, castings, strength and elec. props. 7—27971
- Fe-Co-Mn(V) films, ion beam sputtered, soft mag. props. 7—33237

vanadium alloys continued
- Fe-Co-V, atomic and mag. moment mutual ordering *(Russian)* 7−33169
- Fe-Co-V, atomic ordering mechanism, neutron diffr. study *(Russian)* 7−46459
- Fe-Co-V, ordered alloy, plastic deform., antiphase boundaries *(Russian)* 7−39596
- Fe-Ni-V, alloying with N under high press. 7−3266
- Fe-V, amorphous and metastable cryst. alloys prod. by vap. quenching 7−46420
- Fe-V, atomic short-range order, temp. depend., neutron diffuse scatt. studies 7−51708
- Fe-V-N, nitriding, surface layer struct., Mossbauer spectra *(Russian)* 7−59672
- Fe-VC composites, cold sintered, mech. props., bonding integrity 7−39471
- $(FeM)_{80}B_{14}Si_6$, M=Mn, Mo, V, glass, magnetoresistance 7−64203
- $Fe_{1-x}V_x$, polarised neutron study 7−52940
- $(Fe_{1-x}V_x)_{84}B_{16}$, amorphous, low temp. resistivity anomaly *(Chinese)* 7−64198
- $Fe_{83-x}V_xB_{17}$, amorphous, mag. contrib. to thermopower 7−45287
- $Fe_{84-x}V_xB_{16}$, amorphous alloys, crystn., products and kinetics 7−51677
- $GaSb+V_2Ga_5$, eutectic alloys, elec. props., anisotropy 7−12717
- Mo-V, solid soln. hardening, alloying element effects, Vickers hardness meas. *(Korean)* 7−3319
- Mo-V-W, phase diagrams, thermodynamic formalism, computer calcs. 7−3269
- Nb-V:O system, solute atom trapping, O diffusivity, kinetics and thermodynamics 7−12368
- $Nb_{0.93}V_{0.07}$ alloys, H impurity trapping, precipitation and nucleation, localised vibr. mode meas. 7−2133
- $Nb_{1-y}V_yH_x$ random field system, disorder-disorder phase transition, cluster variation calcs. 7−63803
- $Nd_2Fe_{14-x}Cu_xB$, crystallographic and mag. props. 7−27522
- Ni-Fe-Cu-V, mag. props., hardness, elec. resist. *(Japanese)* 7−12998
- Ni-V-H, α/β miscibility gaps, X-ray diffr. study 7−13430
- Ni_3FeV, atomic short range order, pseudopot. calcs. *(Russian)* 7−44448
- Ni_2V-Cu alloys, discontinuous precipitation and ordering *(Russian)* 7−59523
- Ni_3V alloys with periodic antiphase boundary struct., dislocation motion 7−63620
- $Ni_{77}V_3B_{20}$, amorphous, mag. scatt. influence on transport props. 7−33001
- TbV, dilute alloys, hyperfine fields and local moment form. 7−64433
- Ti-6Al-4V, electron beam welded, neutron irrad. effects 7−56832
- Ti-Al-Mo-V-Cr, VT22, metallographic study of β-solid soln. decomp. 7−39523
- Ti-Al-V, environmentally assisted cracking at high vel. 7−65213
- Ti-Al-V, in power generation industry 7−46283
- Ti-Al-V, pseudo-alpha alloys, BCC lattice hydrides *(Russian)* 7−53751
- Ti-Al-V, spall strength and fracture mechanism 7−46627
- Ti-Al-V, struct., martensitic transform., cooling rate depend. *(Russian)* 7−46469
- Ti-Al-V, ternary phase diagram 7−28017
- Ti-Al-V, VT20 and VT6, annealing temp. effect on mech. props. of semi-finished products 7−39558
- Ti-Al-V, VT23, α and β phases, temp. relationship of chem. comp. *(Russian)* 7−39520
- Ti-Al-V (6, 4 wt.%), hardness and alpha/beta ratio, effect of O 7−3430
- Ti-Al-V (6, 4 wt.%), powder metallurgy, fatigue props. rel. to microstruct. 7−8096
- Ti-Al-V (6, 4 wt.%) plates, rolling, heat treatment, microstruct., mech. props., turbine blade appl. 7−17644
- Ti-Al-V (6, 4 wt.%) texture stability during rolling in two-phase field 7−46508
- Ti-Al-V (6,4 wt. %) superplastic deform., temp. depend. 7−39588
- Ti-Al-V (6,4 wt.%), annealed fatigue crack growth in water, SEM fractography *(Chinese)* 7−8076
- Ti-Al-V (6,4 wt.%), α morphology rel. to thermomech. treatment 7−46520
- Ti-Al-V (6,4 wt.%), fracture, deform., porosity effect 7−22750
- Ti-Al-V (6,4 wt.%), machined sheet test pieces, superplastic deform. 7−22763
- Ti-Al-V (6,4 wt.%), powder metallurgy, thermomechanically treated, deform. behaviour 7−53908
- Ti-Al-V (6,4 wt.%), strain distrib. within crack tip plastic zones 7−3396
- Ti-Al-V (6,4 wt.%) r-values after superplastic strain 7−53806
- Ti-Al-V (6,4 wt.%)/TiC(WC) composites, implantation modified, friction, surface chemistry 7−46660
- Ti-Al-V cast strip, prep. by melt overflow rapid solidification 7−22609
- Ti-Al-V PT3V pseudo-α-alloy, fatigue resist. at increased temps. 7−17611
- Ti-Al-V-Mo-Cr, VT23, gas impregnation influence in heat treatment, rapid heating effect 7−17696
- Ti-Cr-V-Mo, textured sheets, Young's modulus anisotropy, elastic consts. calc. 7−46535
- Ti-V, metastable β-phase alloys, mech. twinning TEM obs. 7−6633
- Ti-V-H alloys, struct., X-ray diffr. and ^1H and ^{51}V NMR studies 7−32364
- $Ti_{1-x}V_x$ quench condensed thin films, supercond. crit. field and fluctuation cond. meas. 7−64415
- $Ti_{1-y}V_yH_x$, FCC-FCT transition, positron annihilation obs. 7−32641
- $(Ti_{1-x}V_x)_2Ni$, orientation relationship between the icosahedral and crystalline phases 7−16477
- U-V (0.2 wt.%), hydriding reaction kinetics *(French)* 7−23062
- V-20Ti pressurized tubes, creep response to neutron irrad. 7−56831
- β-V-B, rhombohedral phase, struct. and solid solubility, X-ray single cryst. diffr. study 7−1948
- V-base alloys, structural materials, welling after neutron and ion irrad., comparison 7−58357
- V-C alloy, thermotransport of C 7−46479
- V-CR-Ti (15, 15 wt.%), mech. props., effect of heat treatment and impurity conc. 7−53857
- V-Cr-C, dispersion hardened, strength changes and recrystn. 7−17545
- V-Cr-Fe, corrosion in pressurised water, 288°C 7−53967
- V-Cr-Ti, fusion reactor blanket, surface alloying, oxidation resist. to high temp. He coolant 7−53964
- V-Cr-Ti, fusion reactor first wall, implantation-driven permeation characts. 7−49640
- V-Cr-Ti, fusion reactor first wall, oxidation and volatility 7−53965
- V-Cr-Ti, ion-irrad., swelling and microstruct. evolution, effect of He 7−58359
- V-Cr-Ti, thinning treatment, TEM appls. 7−8190
- V-Cr-Ti, V-Cr, oxidation in moist He coolant gas 7−53963
- V-Cr-Ti 7−53967

vanadium alloys continued
- V-Fe-H alloys, positron annihilation near crit. electron conc. 7−46199
- V-H(D), elastic shear consts., temp. depend., effect of H and D 7−63711
- V-Mo, thinning treatment, TEM appls. 7−8190
- V-Mo disordered alloy electron-positron pair momentum density and Fermi surface calc. 7−45129
- V-Mo-Zr-C, oxidation on heating in air, alloying elements influence 7−17687
- V-N system, metastable ordered phases, cryst. struct. *(Russian)* 7−44447
- V-N system, phase equilib., crystallography, thermodynamic props. 7−28011
- V-Nb-Mo system, mutual diffusion *(Russian)* 7−52116
- V-Nb-Zr-C, dispersion hardened, strength changes and recrystn. 7−17545
- V-Nb-Zr-C, oxidation on heating in air, alloying elements influence 7−17687
- V-Ni, thinning treatment, TEM appls. 7−8190
- V-Ru-Os, B2 alloys, correlation between superconductivity and structural transitions 7−52881
- V-Si films, electrical transport props. 7−33108
- V-Si fine A-15 particles, supercond. transition temp. 7−7435
- V-Si silicide, quantitative Auger anal., correction factors 7−27831
- V-T-H(D), substitutional alloys, intermediate temp. relax., Fermi-Dirac model 7−26858
- V-Ti, corrosion in pressurised water, 288°C 7−53967
- V-Ti-Fe-H_2 system, V-rich, dihydride form., lattice parameters, thermodynamics 7−32369
- V-W, thinning treatment, TEM appls. 7−8190
- V-W single crystal alloys, directionally solidified, growth structs. 7−3159
- V-Zr-C, oxidation on heating in air, alloying elements influence 7−17687
- VAl, electronic struct. of vacancies 7−16975
- V_3Au, superconducting A15 cpds., resistivity and magnetoresistance 7−32982
- VB, 14 MeV neutron irrad., TEM dislocation obs. 7−56819
- VC_x, KVV Auger electron spectra and band struct. *(Russian)* 7−17371
- VCe formed by Ce ion implantation, lattice-location studies of Ce ions 7−2042
- $(VCr)_3Si$, neutron irrad., supercond. investig. *(Russian)* 7−12926
- VD_x, force dipole tensor and elastic consts., diffuse X-ray scatt. obs. 7−26831
- VD_x, H distrib. and diffusion near impurities, Mossbauer and PAC obs 7−33314
- V_3Ga films, supercond. electron-phonon interaction spatial function, electron tunnelling spectra study 7−45578
- V_3Ga, superconducting A15 cpds., resistivity and magnetoresistance 7−32982
- V_3Ga superconducting tape 7−7456
- V_3Ga superconducting tapes, grain boundaries, elementary pinning force 7−22080
- V_3Ge solid solns. of Fe, Cr and Co, elec. resist. *(Russian)* 7−45273
- VH_2, Compton profiles 7−59281
- VH_x, $(0.60 < x < 0.67)$, optical reflectivity meas. 7−33398
- VH_x cleavage strength, tight-binding model calcs., interstitial solute effects 7−59538
- VH_x, H distrib. and diffusion near impurities, Mossbauer and PAC obs 7−33314
- $(VMo)_3Si$, neutron irrad., supercond. investig. *(Russian)* 7−12926
- $V_{41}Ni_{36}Si_{23}$, rapidly solidified, quasicrystalline and Frank-Kasper phases, tenfold electron diffr. pattern obs. 7−65022
- V_3Pt, superconducting A15 cpds., resistivity and magnetoresistance 7−32982
- V_3Si, A15 compounds, martensitic and supercond. phase transitions 7−58942
- V_3Si, high T_c supercond., Raman spectra studies 7−7699
- V_3Si, muon diffusion and localisation, transverse field muon spin resonance studies 7−53194
- V_3Si solid solns. of Fe, Cr and Co, elec. resist. *(Russian)* 7−45273
- V_3Si, structure factor phase determ. by multiple Bragg diffr. 7−32211
- V_3Si/V_5Si_3 interface, crystallography of matrix-precip. interface and elastic strain field *(French)* 7−65036
- $V_{75}Si_{25}$ amorphous films, crystallisation and elec. props. 7−21102
- V_2Zr:H solns., phase transitions rel. to H conc. *(Russian)* 7−59513
- Zr-V, Laves phase, liquid quenching, transformations and phase diagrams 7−65059
- Zr-V amorphous superconductors, struct. and supercond. props. 7−27482

vanadium compounds
- *see also vanadium alloys*
- geochemistry, V and V cpds. in marls and shaly limestones 7−14219
- hydride, electronic density of states from press.-composition isotherm 7−7088
- oxide bronze single cryst., Bridgman growth in air 7−3162
- BaO-TiO_2-V_2O_5, phase equilib. 7−46430
- BaO-V_2O_5-Fe_2O_3 semiconducting glasses, elec. props., Mossbauer, EPR and X-ray diffr. studies 7−7236
- $BaVS_3$, low temp. phase transitions, powder neutron diffr. 7−38181
- Bi_2O_3-V_2O_5-CaO system, vitreous oxide semiconductor, polarisation processes 7−59139
- $CrNbO_4$-VO_2-MoO_2 system, rutile phases, prep. and props. 7−6806
- $CsVCl_3$, one-dimens. Heisenberg antiferromag., mag. excitations, neutron scatt. study 7−7482
- CuO-V_2O_5-Na_20-P_2O_5 phosphate glasses EPR of Cu^{2+} and Vo^{2+} ions. 7−59107
- Fe_2O_3-BaO-B_2O_3-V_2O_5 glasses, Fe^{3+} site occupancy, Mossbauer studies 7−6541
- $(FeV)_{80}B_{14}Si_6$ glass, magnetoresistance and magnetisation 7−45354
- $GaSb+GaV_3Sb_5$, eutectic alloys, elec. props., anisotropy 7−12717
- GeO_2-TeO_2-V_2O_5 system, phase diagram and equil., quasi-binary section investig. 7−21405
- $LiRbSO_4$:VO^{2+}, optical absorpt. and EPR spectrum, crystal field parameters 7−59109
- LiV_2O_5, Li inserted, struct., neutron and X-ray powder diffr. anal. 7−32391
- $Li_xV_6O_{13+y}$ nonstoichiometric intercalation cpd., phase stability and elec. cond. studies 7−12723
- $Mn_{1-x}V_xAs$, phase transitions, effect of external press. and chemical substitutions 7−63798
- $N(CH_3)_4VOF_3.H_2O$, V^{4+}-V^{4+} pair, mag. interaction *(French)* 7−58987
- Na_2O-V_2O_5-B_2O_3 glasses, mixed ionic-electronic conduction 7−12769
- Na_2O-V_2O_5-P_2O_5, crystallised glass, containing V bronze crysts., elec. cond. 7−21922
- $Na_xV_2O_5$ bronze, struct. and valence, XANES studies 7−63579

- **vanadium compounds** continued
  - $Pb_3P_{2x}V_{2-2x}O_8$ mixed system, substitution defects, first order transition spreading 7—58458
  - $Sc_2V_3Si_4$, cryst. struct. determ. 7—58243
  - $(Ti,V)O_2$ rutile solid solns., charge transfer and ligand fields, XANES studies 7—64782
  - UO_2, oxidative sintering, microstruct. 7—3239
  - V complex, vanadium(III)bis(2,2′-bipyridyl) chloride-Fe(III) system, photogalvanic effect 7—54145
  - V-N system, phase equilib., crystallography, thermodynamic props. 7—28011
  - V-Si-N system at reduced N press., phase relations at 1273K, absence of supercond. 7—17518
  - VC, high-resolution Auger spectra, discrete variational Xα method 7—16942
  - VC precipitates in steel, radiation damage influence 7—16638
  - VC_{1-x}, thermodynamic props., 1200-2500 K 7—44849
  - VC_x energy band struct., Fermi energy and density of states, vacancy states effects, LMTO-ASA calcs. 7—64078
  - VC_x uses in cemented carbides and coating developments, review 7—39456
  - VCl_3, Fourier for IR and laser Raman spectra meas., normal coordinate anal., molecular constant calcs. 7—50137
  - VCl_4, neutron diffr. intermol. scatt. functions and RISM partial scatt. functions 7—31145
  - VCl_4, photoelectron and absorpt. spectra, MO calcs. 7—36636
  - $(V_{1-x}Cr_x)_2O_3$ single crysts., elastic const. temp. depend., ultrasonic strain-induced electron transfer effects 7—2082
  - β-V_2D, single cryst., neutron diffraction investig. 7—32415
  - V_2H, cryst. struct. of tetragonal and monoclinic forms, X-ray diffr. study 7—44456
  - β_1-V_2H, single cryst., neutron diffraction investig. 7—32415
  - $V_{3-x}Mo_xS_4$, struct. and phase relations, comp. depend., X-ray powder diffr. study 7—1978
  - VN, deformation-induced stacking faults, synthesis by vibratory milling 7—44572
  - VN, vibrational entropy 7—6745
  - VO, low-lying states, SDCI calcs. 7—25421
  - VO solid solution, vaporisation study by mass spectrometric method, fusion reactor material 7—52027
  - VO, vaporisation study, mass-spectrometric anal. 7—6771
  - VO^{2+} complexes, rhombic symmetry cryst. field and ground state wavefns. 7—38927
  - VO-V mixture, vaporisation study, mass-spectrometric anal. 7—6771
  - VO^++inert gases, collision-induced dissoc. studied by ion beam tandem mass spectrometer 7—23001
  - VO_2 film, cond., magnetoresist. and nonlinear resist. in strong elec. field, metal-insulator transition study 7—52706
  - VO_2:W(Nb) for optical switching films 7—39198
  - $VO_{2\pm x}$, thermophysical props., influence of nonstoichiometry 7—44839
  - VO_x, elec. resist., Seebeck coeff. meas., 1023-1323K 7—38531
  - V_2O_3, muon-O bonding, muon spin rot., site search calcs. 7—45897
  - V_2O_5, adsorption of methanol, influence of photoinjected H on adsorptivity 7—63942
  - V_2O_5 and $Li_xV_2O_5$, amorphous thin films, electrical conductivity 7—58921
  - V_2O_5, cryst. struct. refinement 7—26703
  - V_2O_5 gel, V site struct., polarised EXAFS and XANES studies 7—65355
  - V_2O_5-As_2O_3-B_2O_3, vitreous, elec. cond., semiconducting props. 7—2620
  - V_2O_5-P_2O amorphous cathode Li secondary batteries, ethylene carbonate/2-methyltetrahydrofuran electrolyte 7—3635
  - V_2O_5-P_2O_5-$Bi_2O_3(Sb_2O_3)$ glasses, DC conductivity 7—45316
  - V_2O_5-TeO_2 glasses, memory switching 7—27370
  - V_2O_5-TeO_2-PbO, glass, elec. and optical props. *(Korean)* 7—27330
  - (1-x)V_2O_5-xPbO, phase diagram in V_2O_5-rich region *(French)* 7—12265
  - V_6O_{13} electrodes, prep. by electrolytic reduction of molten salts 7—3211
  - V_7O_{13}, metallic, electron state, electron diffr. determ. 7—37921
  - VO(II) complexes, ENDOR spectra, struct., hyperfine tensors 7—33299
  - $(VO)_2P_2O_7$, adsorpt. of H_2O and pyridine, IR spectra 7—17818
  - $(VO)_2P_2O_7$, 1D spin 1/2 Heisenberg antiferromagnet, mag. susceptibility meas. 7—45639
  - VPO_5 glass, NMR quadrupole interactions study 7—45838
  - $V_3P_5SiO_{19}$, cryst. struct. determ. 7—32395
  - VS, low-lying states, SDCI calcs. 7—25421
  - VSe_2, charge density waves, formation and characts. 7—2515
  - VSe_2-1T, distorted struct., convergent beam diffraction study 7—16528
  - VSi_2, sputter yield, computer simulation technique 7—33505
  - VSi_x, silicides grown on SiO_2 surface, superconductive props., composition 7—2760
  - V_3Si, anharmonicity and X-ray forbidden reflections 7—1995
  - VT, disorder induced by aging 7—21199
  - V_2TiO_5, valency distrib. determ., XANES 7—16509
  - Zn complex, $Zn(antipyrine)_2(NO_3)_2$:VO^{2+}, VO^{2+} orientation, EPR spectra anal. 7—53121
  - ZnO-V_2O_5 glasses, DC conductivity 7—27327
- **vanadium phosphate semiconductor glasses** *see amorphous semiconductors*
- **vaporisation**
  - *see also boiling; evaporation; heat of vaporisation; sublimation*
  - 7—44029
  - aerosol drops, explosive vaporization under CO_2 laser beam irradiation 7—57388
  - C_n^- and C_n^+ abundance distribs., magic nos. 7—42815
  - convective, of irradiated droplets, hydrodynamic description 7—31800
  - disperse media flow with internal degree of freedom, nonequilib. gasdynamics, kinetics and catalysis 7—44019
  - dispersion from a surface to a turbulent boundary layer 7—52018
  - droplet vaporisation, internal circulation integral eqn. formulation 7—37530
  - drops, diffusion-convective vaporisation by intensive optical radiation, quasistationary soln. 7—50914
  - enhancement of boiling heat transfer performance by metal fiber sintered surfaces for OTEC *(Japanese)* 7—34059
  - evaporation and condensation heat transfer performance for R 22 and ammonia *(Japanese)* 7—34062
  - explosive flashing, effective heat of vaporisation 7—1547
  - fused quartz, surface periodic struct. formation during vaporisation by CO_2 laser radiation 7—6936
  - high pressure bubble growth in multicomponent liquid droplets in a flowing immiscible liquid stream 7—63785
  - hydrocarbon mixed working fluids for geothermal power plants, vaporisation and condensation 7—65408
- **vaporisation** continued
  - metals, vaporisation by laser radiation, vapour emission *(Russian)* 7—44782
  - multicomponent droplet vaporization in a high temperature gas 7—57898
  - nonequilibrium transitions, mass and energy flux 7—12252
  - perfluoropolyether lubricant on magnetic disc surface, ion-induced volatilisation for quantitative anal. 7—39933
  - refractory solids, laser vaporisation systems, mass spectrometric detection, collimator efficiency 7—44775
  - relation of vaporisation energy to surface tension 7—12393
  - stainless steel, electron beam heating, vaporisation and melting meas. 7—26929
  - superheated water flow, vaporisation, heterogeneous mechanism 7—6265
  - BaTe, vaporisation thermodynamics and formation enthalpies *(German)* 7—26930
  - CO_2, slow neutron interaction near vaporisation crit. point, cross section temp. depend. 7—52021
  - CO_2-Ne soln. thermodynamic props. near CO_2 vaporisation crit. point 7—12316
  - CaTe, vaporisation thermodynamics and formation enthalpies *(German)* 7—26930
  - Cu, electron beam heating, vaporisation and melting meas., first wall appl. 7—26929
  - GaAs, laser-induced melting and nonlinear optical studies 7—12432
  - H_2O droplet, vaporisation by laser beam, electrohydrodynamics self-similar study 7—1645
  - HoI_3, mass spectra, vapour press. and thermodynamic props. 7—26927
  - KCl, solute trapped from air-acetylene flame, morphological investig. 7—28362
  - Nb, electron beam heating, vaporisation and melting meas. 7—26929
  - Nb_3Sn, low-temp field vaporisation *(Russian)* 7—52028
  - SrTe, vaporisation thermodynamics and formation enthalpies *(German)* 7—26930
  - V-Cr-Ti, fusion reactor first wall, oxidation and volatility 7—53965
  - VO solid solution, vaporisation study by mass spectrometric method, fusion reactor material 7—52027
  - VO, vaporisation study, mass-spectrometric anal. 7—6771
  - VO-V mixture, vaporisation study, mass-spectrometric anal. 7—6771
  - Zr, metal beam, laser prod. and diagnostics, rel. to isotope separation 7—42783
- **vaporising** *see vaporisation*
- **vapour density** *see density of gases*
- **vapour deposited coatings**
  - *see also CVD coatings; plasma deposited coatings; sputtered coatings; vacuum deposited coatings*
  - cylindrical magnetron sputtering systems for wire coatings 7—46348
  - diamond layers, crystallisation from gas phase, growth kinetics *(Russian)* 7—22505
  - diamond layers, elec. props. *(Russian)* 7—17124
  - film adhesion processes 7—28145
  - hard coatings grown from vapor phase, review 7—22469
  - inhomogeneous films, optical props., model *(French)* 7—59278
  - phase transition temp., thickness depend., thermodynamic theory, appl. to Au 7—26922
  - photoformation of dielectric materials, review 7—53633
  - poly(ethylene oxide)-$LiCF_3SO_3$ evaporated electrolyte films, struct. and ionic cond. characts. 7—64002
  - stress measurement, during deposition, review 7—52380
  - Ag films on Al (111), growth and electronic struct., UPS, LEED and AES studies 7—52350
  - Ag-Al film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7—21705
  - $AgGa_{1-x}In_xSe_2$ thin films, evaporated, photosensitivity and optical props. study *(Korean)* 7—53423
  - Al films, chemisorption of O, Al-O bond lengths, photoemission EXAFS meas. 7—64871
  - Al-Ti-based homogeneous alloy films, elec. resist., microstruct., electromigration, comp. effects 7—21765
  - AlN reactively evaporated encapsulating films, annealing, RBS and RHEED studies 7—21744
  - As_2S_3, amorphous, bulk glass and thin films, photostructural changes, EXAFS meas. 7—39314
  - As_2S_3 films, prep. by spin coating or melt quenching, optical props. 7—39208
  - a-As_2S_3 vapour deposited films, thermostructural and photostructural changes, EXAFS study 7—64003
  - Au thin film based transparent IR reflectors, prep. and optical props. 7—39201
  - Au, X-ray photoabsorption cross sections 7—46240
  - Bi, adsorpt. and growth modes on Pt (111), spectrosc., LEED and work function investig. 7—27102
  - C films, diamond like, prep. and props. 7—22472
  - C:Au(Bi) films, ion implanted, projected ranges and range stragglings, RBS anal. 7—63690
  - CdSe thin films made by tarnishing 7—22587
  - $Co_{82}B_{18}$ amorphous alloy, reminiscent devitrification, X-ray diffr. studies 7—6547
  - CoCrAlY electron beam physical vapour deposition coating microstruct., TEM characterisation 7—52334
  - Cr coatings on gun tubes, cylindrical geometry ion plating technique 7—53638
  - Cr film on polyimide, interface chemistry 7—46871
  - Cu current collecting grid on Si solar cells, oxidation and spalling 7—22910
  - Cu-Al film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7—21705
  - FE-Cr coatings for gun bores, morphology and erosive wear 7—46697
  - Fe, X-ray photoabsorption cross sections 7—46240
  - Fe/Cu microlaminate condensates, creep and struct. investig. *(Russian)* 7—33749
  - Fe-graphite structures, ion induced mixing, sputtering yield, fluoresc., RBS depth profile meas. 7—64844
  - Fe_xN thin films, ion beam deposited, mag. props. and corrosion resistance 7—33231
  - $Fe_{67}Si_{33}$ thin amorphous films, plastic deform. *(Russian)* 7—59585
  - Ge, amorphous and partially crystallised, X-ray absorpt. investig. of struct. *(German)* 7—46241
  - Ge:H films, post-deposition hydrogenated, electrical props. 7—32296
  - In_2O_3:Sn evaporated films, optical props. and applications to energy-efficient windows 7—46157

vapour deposited coatings continued
- In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7−12535
- InSb amorphous films, metal-semicond. transitions, superconductivity 7−64085
- InSb:Te(Se)(S)(Cd)(Zn) thin films, doping, Hall effect meas. 7−21743
- LiF evaporated films, surface anal., electron stimulated desorption, XPS studies 7−27173
- MgF_2 thick vapour deposited multiple layer coating, growth structures 7−58670
- Mn/SiO, thin cermet films, electroformed characts. in dielec. range 7−12892
- Nb-Ti-O ceramic coatings, synthesis by reactive ion plating and sputter deposition, struct., electrophysical props. 7−64031
- Ni film on Cu, SIMS meas. of interdiffusion coeffs., SIMS analysing depth 7−27853
- Ni, X-ray photoabsorption cross sections 7−46240
- Ni/Cr(Nb) alternating layers, ion beam mixing 7−21303
- Pb, X-ray photoabsorption cross sections 7−46240
- Pd films on Al (111), growth and electronic struct., UPS, LEED and AES studies 7−52350
- Pt, X-ray photoabsorption cross sections 7−46240
- Ru-Ti-O ceramic coatings, synthesis by reactive ion plating, struct., electrophysical props. 7−64031
- Si:B film deposition in Si_2H_6-B_2H_6-He gas system, doping effect 7−27184
- a-Si:H films deposited in He atmosphere, characts. 7−45056
- a-Si:H thin films, elec. and optical props., thickness depend. 7−46168
- SiO_2, plasma assisted vapour deposited and laser fused coatings, corrosion protective props. 7−28208
- SiO_2-GeO_2 silica core optical fibres, VAD deposited, structural inhomogeneities 7−11153
- SiC_x films deposited by reactive evaporation, characterisation 7−64013
- Sn, X-ray photoabsorption cross sections 7−46240
- Sn/SnTe bilayers, electron diffr. pattern fine struct., influence of angular misorientation 7−16885
- Ta, X-ray photoabsorption cross sections 7−46240
- TeO_x:Ge,Sn films, optical props., thermal stability 7−39207
- Ti-coated Be substrate, bond failure, thin film fracture 7−59600
- Ti-N ion deposited film, struct., phase comp. and mechanical props., comp. depend., X-ray diffr. study 7−12573
- Ti(C,N) films on steel substrates, residual stress 7−52373
- TiC film ion plated on austenitic stainless steel, adherence rel. to ionisation *(Japanese)* 7−53636
- TiN coated carbide indexable inserts, spalling resistance 7−53933
- TiN coated WC-Co, residual stress and strength, X-ray diffr. study *(Japanese)* 7−8101
- TiN coatings, N partial pressure effects on composition, spectral reflectance and colour 7−53420
- TiN films, RF ion plating, residual stress, bias voltage effect *(Japanese)* 7−16917
- TiN protective coatings on cemented carbides, adhesion and toughness 7−65159
- TiN-coated high-speed steel cutting tools, coating quality and surface finish., tool metallurgy and design 7−53979
- U, X-ray photoabsorption cross sections 7−46240
- V polycrystalline films, struct. defect disappearance, activation energy, elec. resist. meas. 7−26740
- V_2O_5 and $Li_xV_2O_5$, amorphous thin films, electrical conductivity 7−58921
- Yb vapour deposited foils, piezoresist. response of stress gauges 7−32986
- ZrO_2 thin films, high index, optical consts. in UV region 7−7775
- ZrO_2 thin films, optical consts. in UV regions, influence of evaporation parameters 7−39193

vapour deposited thin films *see vapour deposited coatings*

vapour deposition
- *see also chemical vapour deposition; crystal growth from vapour; electron beam deposition; ion plating; plasma deposition; sputter deposition; vacuum deposition*
- crystal growth, hill formation by 2D nucleation 7−44427
- crystal growth, ion/surface interactions, photo-induced reactions, review 7−53609
- diamond layers, crystallisation from gas phase, growth kinetics *(Russian)* 7−22505
- film deposition, surface segregation and impurity concentrations 7−2409
- films grown from a partly ionised molecular beam, computer simulation of structure 7−7060
- ion assisted deposition, film homogenization, parameter optimisation 7−7898
- ion beam deposition on floating substrates in three grid microetch system 7−7896
- ion beam deposition on insulating substrate, space charge effects 7−7895
- ion-assisted thin film deposition and applications 7−39434
- ion-stimulated sorption, nonequilib. composition and struct. film growth technology 7−22585
- ionised cluster beam technique for thin film deposition 7−17478
- ionized-cluster-beam deposition apparatus *(Japanese)* 7−22583
- laser materials processing developments at GEC Hirst Research Centre (UK) 7−53581
- laser processing of materials, conf., London, England (Dec. 1986) 7−48185
- microstructures for localisation studies, vapor deposition and lithography methods 7−64175
- multilayer thin-film deposition, sequential masking system 7−64903
- optical fibre fabrication by outside vapour deposition, developments 7−11130
- optical fibres, Gaussian-profile dispersion-shifted, VAD manufactured, design and performance 7−11128
- optical fibres, vapour axial deposition, developments 7−11131
- optical single-mode, high-strength long-length synthesised by vapour axial deposition 7−11135
- photoformation of dielectric materials, review 7−53633
- surface engineering for corrosion protection 7−3478
- surface topography evolution during reactive etching and codeposition 7−58587
- thickness limits for coatings deposited by direct-current cracking of vapours 7−39433
- thin film deposition in square groove, Monte Carlo simulation 7−12572
- vapour axial deposited preform stretching, numerical model for internal distortion 7−11133
- Al film deposition from partially ionised vapour flux, fast ion interactions 7−12531

vapour deposition continued
- BN, film, optical and compositional props. 7−39206
- BN, film, optical energy gap, density, hardness 7−39204
- C films, diamond like, prep. and props. 7−22472
- CdTe:In, photocorrosion, vacancies, photoluminescence spectra 7−27948
- Cu, on Si (III) surface, Auger electron spectrosc. obs. *(Russian)* 7−27833
- Fe films, particulate, vapour deposition on Al_2O_3 growth and props. 7−17427
- In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7−12535
- InSb, pulsed laser evaporation, neutral and charged particle emission 7−3120
- Mn-Ga, amorphous film, prep. by ionised cluster beam deposition 7−3205
- a-Si:H evaporated layer production from RF discharge, growth mechanism and props. 7−64898
- TiN coatings, N partial pressure effects on composition, spectral reflectance and colour 7−53420
- TiO_x, amorphous reactive ion beam deposition, crystallisation 7−45091
- ZnSe optical films, molecular beam fabrication and laser damage props. 7−39389
- ZrO_2 thin films, optical consts. in UV regions, influence of evaporation parameters 7−39193

vapour-liquid transformations *see liquid-vapour transformations*

vapour phase epitaxial growth
- *see also molecular beam epitaxial growth*
- BH laser diodes, very low threshold high reliability 1.30 μm high yield manufacturer by MOCVD 7−31340
- bicrystals containing grain boundaries, UHV deposition apparatus 7−39390
- chlorodimethyl(triethylarsine) gallium, MOCVD adduct, chemisorption and thermal heterogeneous decomp. 7−22558
- crank TJS lasers grown by MOCVD, 10000 h operation 7−31341
- diamond:P(B), VPE, physicochem. basis of doping *(Russian)* 7−16587
- diamond epitaxial growth in methane-H_2 plasma 7−12532
- dopant redistribution during prebake land epitaxial deposition 7−38039
- epitaxial films, MOCVD growth on Si substrates, substrate offset angle effects 7−22567
- epitaxial growth on Ni (100) angle-resolved XPS study 7−7823
- II-VI semiconductors, MOCVD, prep. and props. of metal alkyls 7−22520
- III-V quaternary alloy semiconductors, thermodynamic anal. of MOVPE growth 7−16884
- III-V semiconductors, chemical beam epitaxy 7−52360
- III-V semiconductors, epitaxial growth by rapid thermal MOCVD 7−53605
- III-V semiconductors, metal organic MBE and VPE growth, kinetic and thermodynamic aspects 7−7064
- III-V semiconductors, VPE, interplay between kinetics and diffusion in hot wall reactors 7−46330
- $In_{0.53}Ga_{0.47}As$:Fe metalorganic CVD epitaxial growth and elec. props. 7−63993
- ion beam sputtering deposition technique for epitaxial thin film growth 7−64030
- ionised cluster beam technique for thin film deposition 7−17478
- laser materials processing developments at GEC Hirst Research Centre (UK) 7−53581
- methane-H_2 plasma, epitaxial growth mechanism of diamond crystal 7−12532
- MOCVD, control parameters, parametric anal. 7−22543
- MOCVD, horizontal reactors, complex flow phenomena 7−22530
- MOCVD growth processes, in situ charactn. by light scatt. techniques 7−22539
- MOCVD in inverted stagnation point flow 7−22531
- MOCVD laboratory, integrated safety system 7−22528
- MOCVD reactor, vertical vs. horizontal design, optical study of gas phase 7−22534
- MOCVD reactor cell, visualisation of flow and temp. profiles, appl. of holographic interferometry 7−22532
- MOCVD technology 7−3195
- MOVPE, conf., Universal City, CA, USA (Apr. 1986) 7−18477
- MOVPE, reaction processes, Raman spectroscopy investig. 7−22538
- MOVPE growth, flow patterns in vertical reactors 7−22535
- OMVPE, in-situ, real-time diagnostics using IR-diode laser spectroscopy 7−22537
- OMVPE reactor design optimisation, flow visualisation studies 7−22533
- optical long-wavelength components by VPE 7−46343
- optoelectronic components, high performance, long wavelength, MOVPE, atm. press. growth, operating characts. 7−27930
- organometallic VPE growth, use of tertiarybutylarsine 7−45047
- parameter variations in VPE technology, method for study 7−45072
- quantum heterostructure materials and devices 7−52786
- semiconductor epitaxial layers, OMCVD, compositionally graded growth technique for device structs. 7−22553
- semiconductor superlattices and quantum wells, evolution, heteroepitaxial growth 7−7343
- semiconductors, atomic layer epitaxy, review 7−13362
- semiconductors, MOCVD, organometallic precursors monitoring by laser mass spectroscopy 7−22547
- semiconductors, morphological stability in epitaxy, appl. to optoelectronic monolithically integrated structures 7−27172
- semiconductors, transient doping during CVD 7−52317
- SOI heterostructure technology 7−38750
- system design and performance of vapour levitation epitaxy 7−59445
- ultra-fast delivery system for producing abrupt compositional switching in OMVPE 7−22525
- Ag, initial stages of epitaxy on Si(111), UHV electron microscopy study 7−27210
- AlAs, VPE growth by chloride transport method 7−64930
- Al_xGa_{1-x}:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7−21242
- AlGaAs, chemical beam epitaxial growth investig. 7−7878
- AlGaAs epitaxial layers, large scale MOVPE growth 7−22552
- AlGaAs, epitaxial wafers, highly uniform growth by large capacity MOCVD reactor 7−22551
- AlGaAs laser diodes, MOCVD grown, struct. fabrication and characts. *(Japanese)* 7−20272
- AlGaAs, laser-assisted MOVPE growth 7−64928
- AlGaAs layers MOCVD using dimethyl aluminium hydride, C acceptors, photolum. 7−22517

vapour phase epitaxial growth continued
- AlGaAs, low press. MOCVD grown, surface morphology and defects 7−64023
- AlGaAs, MOCVD growth on Ge substrates for high efficiency tandem solar cell appl. 7−3671
- AlGaAs, MOVPE, laser assisted, selective area irrad., carrier conc. 7−22545
- AlGaAs, triethylgallium pyrolysis temp. in presence of AsH$_3$ or trimethylaluminium 7−22541
- AlGaAs:Zn, MOCVD, impurity induced disordering, quantum well laser fabrication and characts. 7−27934
- AlGaAs/GaAs, abrupt heterojunction structures, large area uniformity, MOVPE reactor design 7−22524
- AlGaAs/GaAs DFB laser diodes, MOCVD growth, CW operating characts. 7−25836
- AlGaAs-GaAs, DFB lasers, low threshold, 0.88 μm emission, MOCVD fabricated with ridge waveguide struct. 7−5906
- AlGaAs-GaAs DH injection lasers, MOCVD growth on Si substrates 7−57356
- (AlGa)As-GaAs DQW-SCH lasers grown by MOCVD, design, fabrication and characterisation 7−36990
- AlGaAs-GaAs heteroepitaxial wafer for solar cell appls., uniform growth by MOCVD 7−64929
- AlGaAs-GaAs heteroface solar cells, role of window layer 7−3695
- AlGaAs-GaAs heterostructures, organometallic VPE grown, galvanomagnetic effect 7−12800
- AlGaAs-GaAs solar cells, MOCVD on GaAs, Ge and Ge-Si substrates 7−3650
- AlGaAs-GaAs solar cells, high efficiency DH cells fabrication using MOCVD 7−3693
- Al$_x$Ga$_{1-x}$As cascade solar cells, OM-VPE growth, in-situ-grown tunnel junction 7−8387
- Al$_x$Ga$_{1-x}$As layers and quantum well struct., MOVPE growth chemistry 7−22550
- Al$_x$Ga$_{1-x}$As, low press. OMVPE, selective growth embedding in etched grooves on GaAs 7−22554
- Al$_x$Ga$_{1-x}$As, MOCVD, equilib. gas phase species 7−22542
- Al$_x$Ga$_{1-x}$As-GaAs layered structures, metal organic VPE grown, depth profiles, SIMS anal. 7−21684
- AlGaInP, MOCVD, photolum., quantum wells, double heterostruct. laser appl. 7−39405
- AlGaInP visible semicond. lasers, mesa stripe struct., MOVPE grown, 621 nm CW operation at 0°C 7−20262
- AlGaInP visible semiconductor lasers grown by metalorganic vapor phase epitaxy 7−50590
- Al$_x$Ga$_{1-x}$N epitaxial layers, MOCVD, growth mechanism, Ga incorporation rate 7−39411
- Al$_x$Ga$_{1-x}$N MOVPE growth, struct. and elec. props. 7−21729
- AlInAs-GaInAs selectively doped heterostructs., MOCVD growth, HIFET fabrication appl. 7−17429
- AlN films, OMVPE, Hall mobilities, impurity band 7−39410
- AlSb-GaSb superlattices, low-temp. growth by plasma process *(Japanese)* 7−7061
- Au, initial stages of epitaxy on Si(111), UHV electron microscopy study 7−27210
- BiIG films, selected-area sputter epitaxy 7−7845
- CaF$_2$, crack-free epitaxial film, on GaAs (100), surface morphology, elec. props. 7−39392
- CaF$_2$, on GaAs (100)(111), photoluminescence, Raman scattering Rutherford backscattering/channeling 7−59437
- CaF$_2$, on GaAs film, optical energy gap, density, hardness 7−39204
- Ca$_x$Sr$_{14-x}$F$_2$ layers, epitaxial growth on CaF$_2$ by vac. evap. 7−22498
- Cd$_x$Hg$_{1-x}$Te, abrupt interfaces using thermal and photo-MOVPE, Hall meas. 7−27917
- Cd$_x$Hg$_{1-x}$Te heterostructures, MOVPE, computer controlled reactor, charactn. 7−59446
- Cd$_x$Hg$_{1-x}$Te, LPE and MOVPE grown, elec. props. and annealing 7−53512
- Cd$_x$Hg$_{1-x}$Te layers, MOVPE, CdTe substrate orientation effect, RHEED, SEM obs. 7−59447
- Cd$_x$Hg$_{1-x}$Te MOVPE growth on CdTe/sapphire substrate 7−27918
- Cd$_x$Hg$_{1-x}$Te MOVPE layers, elec. props. and Hall effect behaviour 7−27444
- Cd$_x$Hg$_{1-x}$Te, photo-epitaxy, free radical mechanism 7−53612
- CdS/ZnS, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
- CdS-CdTe heterostructure, closed-tube CVD and charactn. 7−59444
- CdSe/ZnSe, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
- CdTe, atomic layer epitaxy on CdTe (111) substrates, growth mech. 7−12525
- CdTe films, detachable oriented, VPE 7−33567
- CdTe films, organometallic VPE growth mechanism 7−64914
- CdTe grown on Si by LPMOCVD, physical props. 7−27181
- CdTe MOVPE growth on InSb substrate, characts. 7−27920
- CdTe, MOVPE on {111}CdTe, twin nucleation 7−33579
- CdTe, OMVPE growth on InSb substrates 7−33577
- CdTe(Se) heteroepitaxial layers, deposition on InAs 7−7045
- CdZnTe, epitaxial growth via low press. CVD, IR detector appls. 7−64926
- CeF$_3$, on Si (111), photoluminescence, Raman scattering Rutherford backscattering/channeling 7−59437
- CoCr double-layered film, sputter deposition 7−27177
- Cu, initial stages of epitaxy on Si(111), UHV electron microscopy study 7−27210
- CuInSe$_2$ epitaxial films deposited on GaAs and CdS, RHEED studies 7−12549
- Er, VPE growth on W substrate, field electron emission microscopy 7−64029
- GaAS:Be, MOVPE, diethylberyllium dopant source, elec. characts. 7−22521
- GaAlAs, MOVPE growth rate, orientation depend. 7−22556
- GaAlAs single freq. heterostruct. injection lasers, LPE and VPE growth 7−62699
- GaAlAs/GaAs, junction isolated LED structures, MOCVD, characts. 7−27935
- GaAlAs/GaAs MOCVD growth for surface emitting lasers 7−53630
- GaAlAs-GaAs MOCVD solar cells on Ge and Ge/Si substrates 7−23182
- GaAlAs-GaAs multi-heterostructures, MOCVD growth for surface emitting lasers 7−59440

vapour phase epitaxial growth continued
- GaAlAsGaAs quantum well heterostructures, grown by MOCVD, props. 7−45479
- Ga$_{1-x}$Al$_x$Sb epitaxial layers, MOCVD, morphology rel. to growth conditions 7−39408
- GaAs , laser-assisted MOVPE growth 7−64928
- GaAs, AlGaAs, MOCVD, design of safe facility 7−22529
- GaAs, atomic layer epitaxy growth, photolum., Hall meas. 7−22527
- GaAs, atomic layer epitaxy in low press. MOCVD system 7−53628
- GaAs, CVD, laser selective deposition on GaAs and Si substrates 7−22546
- GaAs, chemical beam epitaxial growth investig. 7−7878
- n-GaAs compensated samples, MOVPE grown, Hall effect meas. 7−27348
- GaAs epilayers, MOCVD on Si for solar cell appls. 7−27928
- GaAs epilayers grown on Ge or Ge/Si substrates, defects 7−21778
- GaAs epitaxial films, growth by close-spaced vapour transport, unwanted doping, X-ray diffr., SEM obs. 7−27187
- GaAs epitaxial films, MOCVD growth using tertiarybutylarsine source 7−59439
- GaAs epitaxial films, switched laser MOVPE stepwise monolayer growth 7−13372
- GaAs, epitaxial growth, δ(z) doping layer, electronic states 7−52729
- GaAs, epitaxial growth, thermodynamic equilib. displacement controlled 7−53616
- GaAs epitaxial layers, OMVPE growth on Si (100) 7−3190
- GaAs epitaxial layers, vacancy doping 7−6656
- GaAs epitaxial layers, MOCVD grown, influence of growth parameters on residual impurities 7−7047
- GaAs epitaxial layers, large scale MOVPE growth 7−22552
- GaAs, epitaxial layers, selective growth in MOMBE and MOCVD systems 7−22555
- GaAs epitaxial layers, OMCVD growth, optimisation using photoluminesc. analysis 7−39396
- GaAs epitaxial layers, MOCVD growth, boundary layer effects, photoluminesc. study 7−64923
- GaAs epitaxial layers grown directly on Si (100) by low press. MOVPE 7−27924
- GaAs epitaxial nucleation and growth kinetics, substrate orientation depend., numerical anal. 7−64020
- GaAs epitaxial wafers, highly uniform growth by large capacity MOCVD reactor 7−22551
- GaAs film on NaCl, heteroepitaxial growth and composition 7−7052
- GaAs Films, vacuum chemical epitaxy 7−39406
- GaAs gas phase epitaxial growth, layer thickness uniformity, flow conditions depend. meas. and model calcs. 7−52348
- GaAs high quality layers grown on Si by MOCVD 7−27922
- GaAs, hydride VPE layers, deep level incorporation and background doping 7−17120
- GaAs inverted rib, phase modulators grown by VPE, optical and electrooptical anal. 7−31450
- GaAs, laser MOVPE growth 7−33580
- GaAs layers, MOVPE, Zn acceptor impurities, magnetophotolum. 7−22308
- GaAs layers and quantum well struct., MOVPE growth chemistry 7−22550
- GaAs, MOCVD, H$_2$ carrier gas effect 7−17432
- GaAs, MOCVD, plasma stimulation, growth kinetics, elec. props. 7−22548
- GaAs, MOCVD, uniform growth on multi-wafers 7−22536
- GaAs, MOCVD growth, thermal decomp. rates 7−22540
- GaAs, MOCVD growth on Ge substrates for high efficiency tandem solar cell appl. 7−3671
- GaAs MOCVD growth on Si with superlattice intermediate layers, material props. 7−27923
- GaAs MOCVD growth on Ge (100) and Si (100) substrates, antiphase and single domains 7−27925
- GaAs, MOCVD growth on Si, band gap energy and stress 7−38368
- GaAs MOCVD layers, lateral growth mechanisms 7−64032
- GaAs, MOVPE, laser assisted, selective area irrad., carrier conc. 7−22545
- GaAs, MOVPE growth rate, orientation depend. 7−22556
- GaAs, OMVPE, low pressure growth from trimethylgallium+AsH$_3$ 7−17439
- GaAs, selective growth by reduced press. MOCVD 7−53627
- GaAs, single domain epitaxial growth on Ge (100) 7−22578
- GaAs, solar cells fabrication on Si substrates by MOCVD 7−23183
- GaAs, stepwise monolayer growth by switched laser MO-VPE 7−53626
- GaAs surface, anisotropically etched, p-n junction formation by MOCVD 7−13374
- GaAs, VPE growth, reaction mechanisms 7−58693
- GaAs, VPE growth in hydride system, elec. props. 7−2751
- GaAs:In, VPE growth, isoelectronic In doping, etch pit densities 7−46340
- GaAs:MG, MOVPE, p-type doping using an organometallic Mg precursor 7−22522
- GaAs:S,Si epitaxial layers, close space vapour transport growth, photoluminescence and electrical props. 7−21776
- GaAs:Si, flow-rate modulation epitaxy, Si planar doping 7−17443
- GaAs:Si heteroepitaxial growth on sapphire, low press. MOCVD threestep method 7−27927
- GaAs:Sn epilayers, MOCVD using triethylgallium and tetraethyltin, characterisation 7−22515
- GaAs:Te, low press. OMVPE, Te doping, Hall effect, carrier conc., photolum. 7−21242
- GaAs:Te VPE, vacancy-impurity complex capture, photolum. study 7−58678
- GaAs:Zn epilayers, metalorganic CVD, Zn incorporation 7−63996
- GaAs:Zn(C) epilayers, low pressure MOCVD growth, impurity incorporation 7−59442
- GaAs/(GaAl)As LOC lasers, MOCVD growth and characts. 7−25835
- GaAs/AlGaAs pair-groove-substrate MQW laser with self-aligned stripe geometry 7−20260
- GaAs/AlGaAs quantum well structures, MOCVD growth, photolum., TEM obs. 7−27929
- GaAs/Au contacts, growth modes, AES, UPS, XPS and RHEED studies 7−21753
- GaAs/Ga$_{1-x}$Al$_x$As(AlAs), short period superlattices, MOCVD growth, Raman scatt., AES, X-ray diffr. 7−27386
- GaAs-Al$_x$Ga$_{1-x}$As, heterojunction form. anal. 7−39436
- GaAs-Al$_x$Ga$_{1-x}$As MOCVD quantum well structures, time-resolved photolum. 7−53410

vapour phase epitaxial growth continued
  GaAs-AlGaAs, high quality MOVPE quantum wells, optical props. 7−53406
  GaAs-AlGaAs quantum well heterostruct. devices, atm. press. MOVPE growth 7−22574
  GaAs-GaAs cascade solar cells, OM-VPE growth, in-situ-grown tunnel junction 7−8387
  GaAs-GaAs MOVPE epitaxially-grown interfaces, anomalous C-V carrier conc. profiles, model 7−52648
  GaAs-GaAs:Cr(Te), VPE grown, photoluminescence study, effect of substrate doping 7−27771
  GaAs-Ge crystal growth on Ta_2O_5-coated Si substrates, zone melting and MOCVD 7−53579
  GaAsP, CVD, laser selective deposition on GaAs and Si substrates 7−22546
  $GaAs_{0.6}P_{0.4}$ LEDs, MOCVD growth on Si substrates 7−17438
  GaInAs/InP heterostructures, VPE, homogeneity, mobilities 7−58882
  GaInAs/InP quantum wells, atmospheric organometallic vapour phase epitaxial growth 7−27912
  GaInAs-InP, quantum well structures, adduct MOVPE, photolum., magnetoresist charactn. 7−27388
  $Ga_{0.28}In_{0.72}As/Al_{0.28}In_{0.72}As$ photodiode heterostructures, atm. press. MOCVD, 2 μm, sensitivity, structural charactn. 7−27933
  $Ga_{0.47}In_{0.53}As$-InP junction lasers, chem. beam epitaxy and performance characts. 7−20254
  $Ga_{1-x}In_xAs$/InP heterostructures, MOVPE, electron mobility, exciton peak, magnetotransport 7−58883
  $Ga_xIn_{1-x}As$, low-pressure MOVPE growth 7−7873
  $Ga_xIn_{1-x}As$/GaAs heterostructures, low press. MOVPE, photolum., Auger profiling 7−27389
  GaInAsP:InP heterostructures, MOVPE, press. control, reactor design 7−39399
  GaInAsP/InP entirely VPE-grown 1.5 μm DFB lasers with low threshold currents 7−50577
  GaInAsP/InP heterojunctions, atmospheric press. MOVPE growth TEM studies 7−3196
  GaInAsP-InP BH laser fabrication, MOCVD epitaxy, validation by photoluminescence imaging 7−31360
  GaInAsP-InP double heterostructure lasers, 1.5 μm, chemical beam epitaxial growth 7−57310
  GaInAsSb, MOVPE, band gap rel. to growth temp. 7−39409
  GaInP-AlGaInP-GaAs heterostructures, MOVPE, Hall effect, photolum. 7−39401
  $Ga_xIn_{1-x}P$ epitaxial layers, OMVPE, surface morphology, photolum. 7−22557
  $Ga_xIn_{1-x}P$ layers, MOVPE, photolum., comp. and growth temp. depend. 7−39403
  $Ga_xIn_{1-x}P$, OMVPE growth and characterisation 7−3192
  $Ga_xIn_{1-x}P$/GaAs ($Al_yGa_{1-y}As$) heterostructures, OMVPE, photolum., lattice matching 7−39402
  $Ga_{1-x}In_xSb$ epitaxial layers, MOCVD, morphology rel. to growth conditions 7−39408
  GaN films, epitaxial growth by reactive ion plating, elec. props. 7−3206
  GaN films, OMVPE, Hall mobilities, impurity band 7−39410
  GaN:Zn films, MOVPE, electron cyclotron resonance plasma excitation, low temp. growth 7−22549
  GaP epitaxial layers, MOCVD growth on Si, TEM and SEM 7−38416
  GaP Films, vacuum chemical epitaxy 7−39406
  GaP on Si substrate, MOCVD growth and characterisation 7−27926
  GaP:Zn, doping superlattices, growth and props. 7−64684
  GaP/GaAsP epitaxial layers, MOCVD growth on Si, TEM and SEM 7−38416
  p-GaSb, low-temp. growth by plasma process *(Japanese)* 7−7061
  GaSb-GaAs photodiode, low-temp. growth by plasma process *(Japanese)* 7−7061
  Ge epitaxial films, CVD growth on Ge substrates, surface morphology 7−53618
  Ge, epitaxial films, remote plasma-enhanced CVD 7−39395
  Ge epitaxial growth on CaF_2/Si (111), film quality improvement by Ge predeposition 7−7070
  GeSi thermally evaporated epitaxial heterolayers on GaAs substrate, Si distrib. *(Russian)* 7−63988
  GeSi-Si strained layer superlattices, growth using limited reaction processing 7−39430
  $Hg_{1-x}Cd_xTe$, epitaxial growth by low temp. metalorganic CVD 7−27911
  $Hg_{1-x}Cd_xTe$ films, organometallic epitaxial growth on CdTe and characterisation 7−22579
  $Hg_{1-x}Cd_xTe$, photochemical organometallic vapour phase epitaxy 7−27946
  In $As_{1-x}Sb_x$ epitaxial layers, MOCVD, strained-layer superlattices 7−39407
  InAs, atomic layer epitaxy growth, photolum., Hall meas. 7−22527
  InAs/GaAs single quantum well structures grown by atomic layer epitaxy 7−22486
  InGaAlP epilayers, MOCVD, laser appl. 7−39404
  InGaAs, CVD, laser selective deposition on GaAs and Si substrates 7−22546
  InGaAs, CVD growth by VPE, review 7−39417
  InGaAs, chemical beam epitaxial growth investig. 7−7878
  InGaAs epitaxial films, MO-chloride VPE growth 7−22566
  InGaAs/InP heterostructures, chloride VPE, interface form. control 7−58656
  InGaAs/InP photodiodes, MOCVD growth and characts. 7−27932
  InGaAs-GaAs MOVPE epitaxially-grown interfaces, anomalous C-V carrier conc. profiles, model 7−52648
  InGaAs-InP, direct growth on GaAs substrates using MOVPE 7−22510
  $In_{0.2}Ga_{0.8}As$-GaAs cascade solar cells, OM-VPE growth, in-situ-grown tunnel junction 7−8387
  $In_{1-x}Ga_xAs$, MOCVD, optical and elec. props. rel. to growth temp. 7−53613
  $In_{1-x}Ga_xAs$-InP heterostructure APD for 1.55 μ optical fibre communication system *(Japanese)* 7−62843
  $In_xGa_{1-x}As$, atomic layer epitaxy growth, photolum., Hall meas. 7−22527
  $In_xGa_{1-x}As$/InP heterostructures, OMVPE growth, quality, source comp., press. effect 7−39400
  InGaAsP layers, VPE growth, X-ray characterisation 7−21780
  InGaAsP, MOVPE system, gas switching mass spectrometry 7−22526
  InGaAsP materials, OMVPE growth for long wavelength detectors and emitters 7−27931
  InGaAsP/InP:Fe buried crescent lasers with wide-bandwidth and high power 7−50560

vapour phase epitaxial growth continued
  InGaAsP-InP distributed-feedback injection laser, fabrication by LPE and VPE 7−57337
  InGaAsP-InP Fabry-Perot and DFB lasers, VPE transport fabrication 7−20277
  InGaAsP-InP planar surface BH lasers with hydride VPE-grown Fe-doped current blocking layers 7−20261
  $In_{1-x}Ga_xAs_yP_{1-y}$/InP heterojunctions, MOCVD grown, spectroscopic ellipsometry study 7−39195
  InP and InP based materials, epitaxial growth, review 7−33574
  InP, chemical beam epitaxial growth investig. 7−7878
  n-InP compensated samples, MOVPE grown, Hall effect meas. 7−27348
  InP epitaxial films, MO-chloride VPE growth 7−22566
  InP epitaxial layers, MOVPE, elec. characts., photolum. 7−22519
  InP films, hydride VPE, impurity incorporation, defect charactn. 7−53614
  InP, MOCVD on structured substrates, mass transport 7−39397
  InP, MOVPE on SiO_2 masked substrates at reduced press., vapour etching 7−39398
  InP, MOVPE; morphology, photolum., carrier conc. and mobility 7−22518
  InP, ultrapure, atmospheric pressure OMVPE growth 7−13375
  InP, VPE using flow modulation 7−7039
  InP:Fe, epitaxial layers, MOCVD, doping profiles, SIMS, resist., temp. depend. 7−21248
  InP:Fe, OMVPE grown, electronic and optical props. 7−52868
  InP:Fe semi-insulating layers, MOVPE growth and elec. characts. 7−22511
  InP/GaInAs/InP heterostructures, OMVPE, high speed p-i-n photodiodes, photolum., Hall meas. 7−27387
  InP-$Ga_{1-x}In_xAs_yP_{1-y}$ double heterostructs., device quality, growth by MOVPE 7−7877
  InP-GaInAs planar BH lasers, OMVPE growth 7−1183
  InP=Si(Sn)(Be), doping using thermal atomic beams in chemical beam epitaxy 7−44584
  n-InSB low-temp. growth by plasma process *(Japanese)* 7−7061
  LaF_3, on Si (111), photoluminescence, Raman scattering Rutherford backscattering/channeling 7−59437
  $Mn_{1-x}Zn_xFe_2O_4$ substrates, Auger microprobe temperature profiles of contamination residue 7−59822
  $MoSe_2$-MoS_2 ultrasharp interfaces grown with van der Waals epitaxy 7−13367
  Nb-Ce-Nb epitaxial film sandwiches, metastable phases 7−32857
  Nb-La-Nb epitaxial film sandwiches, metastable phases 7−32857
  NdF_3, on Si (111), photoluminescence, Raman scattering Rutherford backscattering/channeling 7−59437
  Nd_2O_3 films epitaxial growth by a reactive-evaporation method 7−59429
  Ni epitaxial growth on Fe (001), LEED and AES studies 7−64022
  Ni film, epitaxial growth on Ni (110), surface defect formation 7−63924
  Ni finite films, sputtered, struct. and compositional studies 7−64024
  (Pb,Sn)Se IR detector arrays, heteroepitaxial growth on fluoride-covered Si substrates 7−39429
  $Pb_{0.8}Sn_{0.2}$ Te epitaxial films, vacuum deposition growth in a quasiclosed vol. 7−46329
  PbSnEuTe, superlattices, prep. by hot wall epitaxy, props. *(Japanese)* 7−12546
  $Pb_{1-x}Sn_xTe$ films prepared by MOCVD, elec. props. 7−27919
  PbTe films grown by hot-wall epitaxy on KCl and BaF_2, TEM anal. 7−59432
  PbTe films prepared by MOCVD, elec. props. 7−27919
  PbTe IR detector arrays, heteroepitaxial growth on fluoride-covered Si substrates 7−39429
  Rh epitaxial films, growth and struct. rel. to substrate 7−22490
  Si crystal growth and epitaxial layer deposition for VLSI devices 7−46299
  Si epitaxial films, low temp. growth by very low press. CVD 7−27936
  Si, epitaxial growth using photochem. vapour deposition at 200°C 7−39431
  Si epitaxial layers, selectively grown, lattice strain 7−64920
  Si epitaxial layers, VPE growth, charactn. *(Japanese)* 7−63986
  Si, epitaxial low temp. growth by hot wall UHV/low press. CVD techniques, surface optimisation 7−3194
  Si, epitaxial overgrowth on SiO_2 surface 7−21737
  Si films, low-temperature growth by reactive ion beam deposition 7−59459
  Si, heteroepitaxial growth on ZrO_2-Y_2O_3 substrates 7−21735
  Si homoepitaxial thin film growth by ultrahigh vacuum ion beam sputter deposition 7−22582
  Si islands, selective epitaxial deposition on SiO_2, morphology 7−38402
  Si, low pressure epitaxial growth, appl. to dielec. isolation technology 7−53624
  Si, low pressure epitaxy using Si_2H_6 7−53623
  Si, oxidation and epitaxy, limited reaction processing 7−22577
  Si, photochemical CVD at 200°C 7−59456
  Si, reduced-pressure low temp. epitaxy, photochem. effects 7−59455
  Si, selective epitaxial growth by reduced press. CVD 7−53625
  Si VPE using $SiCl_4$-SiH_4-H_2 system *(Chinese)* 7−33578
  Si:B,P highly doped epitaxial layers, growth by low press. VPE 7−39432
  Si:P, polycrystalline films, LPCVD, charactn. 7−53615
  Si:Sb(As)(P)(B) epitaxial films, low temp. deposited by low press. CVD, autodoping 7−27182
  Si-CaF_2 SOI technology by heteroepitaxial growth 7−22022
  3C-SiC, epitaxial growth on Si by low press. CVD 7−3188
  β-SiC thin films, CVD epitaxial growth on 6H α-SiC substrates 7−22502
  SiC:P(N)(B)(Al) thin films, impurity 7−27192
  SnTe:Bi epitaxial layers, vacuum deposition, optical and electrical props. 7−59430
  TiN coatings on steel substrates, growth, struct., props. 7−33799
  ZnS, film deposition, surface morphology and preferential orientation 7−27906
  ZnS:Al, low resistivity, grown by MOVPE 7−27921
  ZnS/ZnSe, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
  ZnSe, MOCVD, chemical reactions monitoring 7−53611
  ZnSe, MOVPE growth kinetics on GaAs 7−22544
  ZnSe-ZnS electroluminescent MIS structures, MOCVD growth and charactn. 7−59443
  ZnSe-ZnS strained-layer superlattice, low pressure MOVPE growth 7−53604
  ZnTe, chemical vapour transport and homoepitaxial growth in closed-tube system, thermodynamic analysis 7−33582

vapour phase epitaxial growth continued
ZnTe epilayers, chemical transport growth, photoluminesc. props. 7—39413
ZnTe-ZnSe(S) superlattices, hot wall epitaxial growth and photoluminesc. props. 7—13220
ZnTeSeS, superlattices, prep. by hot wall epitaxy, props. *(Japanese)* 7—12546
ZrO_2-Y_2O_3 films, epitaxial growth on sapphire substrates by reactive sputtering, appl. for SOI substrates 7—27217

vapour pressure
see also humidity; vaporisation
1-alkanols, vapour press. and thermal data simultaneous correls. 7—6767
bromotrifluoromethane, liq. and gaseous phases, compression factor, vapour press. meas. 7—51905
dimethylether-Xe, vap. press. and density, excess molar enthalpy and entropy 7—12319
electrolytes, aqueous solutions, single and mixed, vap. press. prediction at 25°C. 7—38176
halide glasses, phase equilibria, thermodynamic model 7—2150
hexafluorobenzene-benzene-n-hexadecane ternary mixtures, vapour press. and excess vol. meas. at 298.15K 7—12315
hexafluorobenzene-n-hexadecane binary mixtures, vapour press. and excess vol. meas. at 298.15K 7—12315
metal halides, in double pulse lasers, vapour press. eqn. 7—50542
methane-alkane mixtures, vapour-liq. equilib. Wilson-Wegner expansion, vapour press. calcs. 7—12248
organofluorine compounds, saturated vap. press., single-parameter theories of similitude 7—2159
oxide glasses, phase equilibria, thermodynamic model 7—2150
perturbed soft-chain theory, thermodynamic props. prediction, group-contrib. correlation 7—16711
pure-compound vapour pressures, direct calc. through cubic equations of state 7—16709
$Ca(OH)_2 2Zn(OH)_2 2H_2O$, chem. comp., solubility in KOH, thermodynamic props., reaction equilib. const. 7—26962
$CdCr_2Se_4$, Cd vapour pressure determ. by atomic absorption method 7—63790
CdSe, Cd vapour pressure determ. by atomic absorption method 7—63790
Cu, vapour press. and heat of sublimation 7—58454
Cu-Te system, p-T diagram 7—21404
DCl, molar vol., vapour press. meas. 7—44779
Dy-Tb-Pd(Pt) ternary alloys, evaporation, thermodynamic props., Knudsen effusion method 7—32627
Fe thermodynamic props., data tables and reviews 7—18512
HCl, molar vol., vapour press. meas. 7—44779
Hi-H_2O-I_2 system vapour pressure determ. using static phase equilib. apparatus 7—23049
In_2Te_3, vaporisation, torsion-effusion obs., morphology 7—58455
K-Cs, saturation vapour press. meas. 7—44780
$Li_x^+(NH_4^+)_y(NH_3)_zTiS_2^{(x+y)-}$ intercalation cpd., NH_3 oxidation, charge compensation 7—32354
Mg-Cu alloys, vap. press. meas. by boiling temp. method, thermodynamic props. 7—44778
Mg(I), vap. press. meas. by boiling temp. method, thermodynamic props. 7—44778
O_3 solid and liq., vapour press. meas. 7—16716
Pa vapour press. meas., form. enthalpy and bond dissociation energy calcs. 7—10765
PaO_2 and PaO vapour press. meas., form. enthalpy and bond dissociation energy calcs. 7—10765
$PbTi_xZr_{1-x}O_3$ piezoceramic, annealing in gaseous media with controllable comp., effect on electrophysical props. 7—8012
Si, thermodynamic props., data tables and reviews 7—18512
SiO-K_2O-CaO-MgO-CdO glass melts, evaporation 7—2160
SiO-K_2O-PbO glass melts, evaporation 7—2160
Tb-Pd alloys, thermodynamic study by Knudsen effusion method 7—44855
UC-UN solid soln., vapour press. meas., chem. activity and heat of mixing eval. 7—12290
VO, vaporisation study, mass-spectrometric anal. 7—6771
VO-V mixture, vaporisation study, mass-spectrometric anal. 7—6771
Xe adsorbed on graphite, thermodynamics of first-order and continuous melting 7—2358
Zr-Sn, diffusion, chem. activity, modified evaporation method 7—38243
Zr-Ti, diffusion, chem. activity, modified evaporation method 7—38243

vapour pressure measurement
benzene saturated vapour concentration, spectrosc. determ. 7—52013
isotherms, high-precision, apparatus errors and results 7—56252
organic saturated vapour concentration, spectrosc. determ. 7—52013

vapour-solid transformations *see solid-vapour transformations*

varactors
No entries

variable speed drives *see electric drives; variable speed gear*

variable speed gear
induction motor driven by PWM invertor with 20 kHz switching freq. using Bi-MOS power transistors, acoustic noise 7—62934

variable stars
see also cataclysmic binary stars; eclipsing binary stars; flare stars; pre-main-sequence stars
A0535+26/HDE 245770, X-ray/Be transient system, X-ray, UV and optical monitoring 7—55734
A 0535+26 (HDE 245770), Astron obs. in 2-25 keV range (1986 Oct.-Nov.) 7—47979
AC 211, X-ray binary system in globular cluster M15, emission-line spectrum obs. 7—14596
AC 211 (=4U 2129+12), X-ray modulation period from HEAO A-1 obs. 7—29515
active-chromosphere stars, UBV photometry of ten southern objects 7—40830
CY Agr, SX Phe star, period changes determ. from light maxima anal. 7—29481
λ And, RS CVn star, simultaneous IUE and VLA obs. 7—47931
anomalous Cepheids in Sculptor dwarf galaxy, metal abundances and origins 7—4571
anomalous He line stars, observational data review 7—66595
TT Aql, classical Cepheid, radial vel. curve 7—4470
V1343 Aql(=SS 433), stationary lines variable struct. 7—60689
V1343 Aql (=SS 433), extended radio struct. obs. with European VLBI Network 7—29478

variable stars continued
V1302 Aql. (IRC+10420), supergiant OH-IR star, new emission features obs. 7—48101
V1343 Aql (ss 433), emission lines, absolute intensity variability 7—29488
V1343 Aql (SS 433), evidence for relativistic beaming from VLBI obs. 7—9476
V1343 Aql (SS 433), Fe K X-ray line obs. 7—14594
V1343 Aql (SS 433), model of expanding sources in jets 7—60519
V1343 Aql (SS 433), models 7—14590
V1343 Aql (SS 433), no optical variability on time scale of 10^{-6} to 10 s 7—66596
V1343 Aql (SS 433), quiescent and and active flaring periods obs. at 408 MHz 7—9478
RY Aqr, low-mass semi-detached eclipsing binary, intrinsic var. due to spotted atm. 7—60713
FF Aqr, RS CVn star, G-type giant star surface and atm. struct., IUE obs. 7—55730
V1343 Aquilae (SS 433), Doppler-shifted X-ray line emission obs. 7—9493
Archer variable stars near to Coma star cluster, existence of variability 7—18417
UX Ari, Hα line obs. of double-lined eclipsing RS CVn system 7—40873
X Ari, RR Lyr star, distance determ. via Baade-Wesselink method, photometric and spectral obs. 7—66604
UX Ari, RS CVn star, autumn 1981 photoelectric obs. of starspot activity 7—9513
UX Ari, RS CVn star, UHF and SHF obs. 7—66662
Aries flasher, 1986 August 13 Norwegian obs. of point source 7—35013
θ As, chromospheric variability of semi-regular M7 giant star 7—66616
astrometric positions of 20 cataclysmic binary stars 7—18345
BD+1°4381, extreme H-deficient star, Stromgren photometry 7—66620
BD+40°0060, one component detected as RR Lyr star, UBV obs. 7—66617
BD−9°4395, H deficient star, light var. 7—4491
Be stars, appl. of rot. mag. radiation-driven wind model 7—60676
Be stars, atm. vel. fields, conf., Trieste, Italy (August-September 1982) 7—35118
Be stars, C IV and Si IV UV lines synthesis rel. to superionisation and large mass outflows 7—55653
Be stars, C IV reson. lines and IUE obs. 7—55678
Be stars, evidence for aspect depend. winds, UV spectra anal. 7—55685
Be stars, Hα profiles atlas and shell struct. 7—14577
Be stars, photometric variability of six objects from photoelectric RI obs. (1982 to 1983) 7—34996
Be stars, rot. determ. method *(Chinese)* 7—66467
Be stars, shell characts., rot. and spectral obs. *(Chinese)* 7—4459
Be stars, spectral energy distrib. 7—60671
Be stars, temporal polarization vap., stochastic models 7—40825
Be stars, UV superionised lines obs. in stars of different spectral types 7—55652
Be stars among B0 to B9-type spectroscopic binaries, search for Hα emission 7—35005
late Be-type stars, nearby, IUE obs. rel. to interstellar or circumstellar C IV and Si IV 7—60771
Be-type stars of later types, Hα and near-IR spectra 7—9497
YZ Boo, δ Sct star., period var, UBV obs 7—55662
CK Boo, W UMa star, photoelectric obs. rel. to light curve vars. 7—40870
UU Cam, BV photometry of short-period variable 7—18408
η Car, Balmer profiles, Car II dust scattering 7—24153
η Car, dust shell internal struct. from six-channel 8 to 13 micron mapping 7—55650
η Car, grain size and geometrical effects in dust shell rel. to 8-13 μm feature 7—9494
η Car, UV spectrum obs. 7—47942
η Car, visual features and IR emission characts. 7—60769
γ Cas, Be star, interferometric meas. of circumstellar envelope in Hα line 7—4466
γ Cas, Be star, IRAS spectra comparison with models 7—4488
V641 Cas, photometry of VV Cep type star 7—18414
β Cas, probable δ Sct star, photometric obs. 7—55659
V509 Cas (HR 8752), UBV photometry of hypergiant 7—4452
YZ Cassiopeiae, eclipsing binary star showing small out-of-eclipse changes 7—18434
cataclysmic variable stars, photoelectric photometry of six objects 7—40828
catalogues and Hipparcos detectability *(French)* 7—9384
V822 Cen (Cen X-4), 1987 Jan. fade to pre-outburst brightness 7—66668
Cen X-4 (V822 Cen), optical behaviour of X-ray binary star 7—18411
RS Cep, Algol type semidetached star with Be star component, system characts. 7—47972
DH Cep, BV light curves of massive close binary 7—18436
U Cep, interacting and eclipsing binary star 7—9482
μ Cep, red supergiant star, image of circumstellar envelope in Na I 589.0 nm line 7—4442
β Cep stars in NGC 3293, pulsation modes identification from photometric obs. 7—24150
Cepheid variables, appl. of photoelectric radial vel. spectrometers to pulsation anal. 7—9500
Cepheid variables, radii and masses from surface-brightness methods 7—9492
Cepheids, classical, companion stars characts. determ. 7—55665
Cepheids, light curves, Fourier decomp. parameters 7—40826
s-Cepheids, light curves and pulsation characts. 7—34982
Cepheids in Magellanic Clouds, IR photometry rel. to Cepheids intrinsic props. and Clouds spatial struct. 7—14592
Cepheus OB 2 association, study of variable emission line stars 7—47916
δ Cet, β Cep star, appl. of new method for freq. vars. detect. 7—29477
δ Cet, β CMa star, photometric obs. 7—4468
5 Cet, ellipsoidal variable star, rot. vel. and mass ratio determ. 7—40878
o Cet, Tc abundance in Mira 7—47899
o Cet stars, circumstellar shell vel. fields, two-fluid model *(Chinese)* 7—66591
classical Cepheids, birthplaces rel. to local chemical inhomogeneities in galactic disk 7—34997
AT Cnc, cataclysmic binary star behaviour in AD 1985/6 season 7—9486
AC Cnc, UBVR obs. of eclipsing cataclysmic binary 7—29489
UZ Com, RR Lyr star, periodicity 7—9487
FK Com stars, outer atm. characts., UV spectral obs. 7—47936
CP stars, statistics of 520 nm continuum depression depth 7—60664

variable stars continued
CP stars with known rot. periods, statistics of radii, rot. vels., and rot. axes inclinations 7−60663
V693 CrA (Nova CrA 1981), IUE echelle spectrum analysis 7−34985
θ CrB, 1980-5 UV var., evidence for variability patterns and ionisation depend. 7−40827
θ CrB, Be star, wind vel. var., UV spectral obs. 7−66597
R CrB, fadings, search for periodicity 7−47895
R CrB, IRAS detect. and study of fossil circumstellar shell 7−55649
R CrB, UBV obs. 7−55661
θ CrB, UBV photometry, no eclipse in 1984-6 period 7−66610
R CrB stars, explosive phenomena rel. to dust form. and brightness decreases 7−24137
R CrB stars, IRAS obs. of cool circumstellar dust 7−9495
R CrB stars and planetary nebulae, IRAS obs. 7−66600
?20 CVn, δ Sct star, radial vel. vars. obs. 7−9496
RS CVn binaries, Ca II H and K emission line analysis 7−40865
RS CVn detached short-period stars, EXOSAT and IUE obs. 7−60723
RS CVn regular-period binaries, Mg II h and k line emission 7−40866
RS CVn stars, Hα and Li I obs. of σ Gem, α Aur, HR 6469, and 93 Leo 7−18437
RS CVn stars, Hα emission and X-ray characts. *(Chinese)* 7−29501
RS CVn stars, photometry and spot models rel. to rot. modulation and flares 7−4467
RS CVn stars, rot. characts., spectral obs. *(Chinese)* 7−66654
RS CVn stars, rot. vel., spectral obs. 7−60710
RS CVn stars, rot. vels. meas. *(Chinese)* 7−4503
RS CVn stars, rot.- chromospheric activity relations 7−47993
RS CVn stars, search for 843 MHz radio emission from active stars 7−55671
RS CVn stars, X-ray emission and coronal activities 7−66671
60 Cyg, Be star and suspected eclipsing binary stars, UBV obs. 7−4484
SU Cyg, binary Cepheid, lumin. determ. from IUE spectra 7−55682
V1057 Cyg, circumstellar dust nature and existence, photometric anal. 7−4463
SU Cyg, classical Cepheid, possible triple system, components masses and motion, IUE spectral characts. 7−55683
CG Cyg, eclipsing RS CVn star, photometry obs. 7−47896
55 Cyg, linear polarimetric obs. of Be star 7−18420
P Cyg, spectral lines, multicomponent structure 7−4465
V1016 Cyg, symbiotic star, J−K colour index of Mira component 7−47897
χ Cyg, Tc abundance in Mira variable 7−47899
Cyg OB2 no.8A, UV and Balmer line profile vars. rel. to mass loss problems 7−47944
digitally synthesised light curve lecture demonstrations 7−18520
dMe stars, photometry and spectra rel. to chromospheric activity, kinematics, and metallicities 7−9466
AB Dor (HD 36705), active chromosphere star, evolutionary status from space vel. 7−24133
V134 Dra, anomalous Cepheid in Draco dwarf galaxy 7−9483
V36 Dra, RR Lyrae star in Draco dwarf galaxy 7−9483
BY Dra stars, photometry and spot models rel. to rot. modulation and flares 7−4467
BY Dra stars among Pleiades G and K dwarfs, periods and light curves from VBLUW obs. 7−66686
Draco dwarf galaxy, magnitudes of bright variable stars 7−9483
dwarf novae, IR photometry rel. to ellipsoidal vars. in CW Mon, X Leo, IP Peg, and AF Cam 7−4471
emission-line stars in Canis Major star formation region, spectroscopic and photometric survey 7−18360
o^1 Eri, δ Sct star, nonradial oscills. props. from radial vel. study 7−47923
λ Eri, Be star, photometric variability 7−4490
eruptive and suspected variables, TA observations (1986 July) 7−24143
eruptive and unusual variables, TA observations (1986 August) 7−14588
eruptive variables, TA observations (1986 December) 7−55646
eruptive variables, TA observations (1986 June) 7−14586
eruptive variables, TA observations (1986 November) 7−55644
eruptive variables, TA observations (1986 September) 7−34987
G190−15, search for variability in metal poor stars 7−47915
gamma-ray burst source 1979 March 25b (1810+31), position and magnitudes of possible optical counterpart 7−35068
GD 66, pulsating white dwarf, phase-space reconstruction and dimension computation 7−29463
σ Gem, X-ray spectrum of RS CVn type binary 7−60728
Gliese 490A, BY Dra star, periodic var. 7−14582
HD 101158, δ Sct star, photometry obs. freq. anal. 7−34989
HD 126859, low-amplitude multiperiodic 8 Sct star, photometric obs. 7−29483
HD 152391, HD 154417, Ca II emission solar-type stars, Stromgren uvby-Hβ photometry 7−55622
HD 161796, 89 Her star, pulsation mass and lumin. 7−47921
HD 164270, variable WC9 star, model of close binary with precessing disk 7−47925
HD 1826, single-lined spectroscopic binary, photometric variability detect. 7−40871
HD 191765, Wolf-Rayet star, UBV photometry (1984 to 1986) 7−66615
HD 197192, search for variability in metal poor stars 7−47915
HD 218396, search for variability in metal poor stars 7−47915
HD 33449, search for variability in metal poor stars 7−47915
HD 34328, search for variability in metal poor stars 7−47915
HD 45166 (qWR+B8 V), obs. of gross UV spectral variability 7−47945
HD 47147, search for variability in metal poor stars 7−47915
HD 82558, chromospherically active single BY Dra star 7−34986
HD 96008, close binary or pulsating star, nature uncertainty, photometric obs. 7−60715
UU Her, mass pulsation and lumin. 7−47921
AM Her, optically variable X-ray binary star 7−4481
g Her, SRb star, outer atm., IUE spectral characts. 7−55674
BL Her stars, spectral obs. 7−66476
Herbig Ae/Be stars, envelopes characts. 7−4473
HR 3562, HR 3600, short period B-type variables, photometric obs. and identification as ellipsoidal variables 7−47854
HR 3831 (HD 83368), rapidly oscillating Ap star, anal. of l=1 dipole oscill. 7−47919
HR 5110, RS CVn star, UHF and SHF obs. 7−66662
HR 8107, new bright Be star, Hα and UBV obs. 7−24152
HR 8752 (=V509 Cas), G-type hypergiant, historical light curve (1840 to 1979) 7−24134
IC 4499, globular cluster, double-mode RR Lyr stars, pulsation characts. and masses, photometric obs. 7−14616

variable stars continued
IRAS 00193−4033, 22231−4529, O-rich unidentified IRAS sources, optical and IR obs. 7−55853
IRAS 03134+5958, possible Herbig-Haro object, light vars. obs. 7−66720
IRC+10216, brightness distrib. at various wavelengths, radiative transfer in shell 7−60520
isolated T Tau stars, form. from very small interstellar clouds with almost no residuals 7−47869
AR Lac, RS CVn star, atm. active regions and lines rot. modulation, IUE obs. 7−55728
HK Lac, RS CVn star, long-term light vars. obs. rel to starspots distrib. 7−60724
CW Leo (IRC+10216), $^{29}SiC_2$ and $^{30}SiC_2$ detect. in millimetre-wave spectrum 7−29474
EH Lib, dwarf Cepheid, physical parameters from photometry and spectra 7−4492
10 and 11 LMi, standard stars, photometric var. due to active regions rot. 7−4489
long-period and semiregular variables, AAVSO 1986 predictions 7−24144
long-period variable stars, linear pulsation survey 7−60682
LS IV−1°2, extreme H-deficient star, Stromgren photometry 7−66620
LSI +65°010 (=2S 0114+650), visible and UV spectra of X-ray binary indicating mass ejection 7−29516
RU Lup, RW Aur star, multifrequency obs. 7−47866
R Lyr, no Tc lines detected in Mira variable 7−47899
V473 Lyr (=HR 7308), unique Cepheid variable, simultaneous photometric and radial rel. survey 7−29482
RR Lyr stars, absolute magnitudes and photometry 7−40833
RR Lyr stars, double-mode, in ω Cen, photometric search 7−4469
RR Lyr stars, light curves, Fourier decomp. parameters 7−40826
RR Lyr stars, spectral obs. 7−66476
RR Lyr stars in ω Cen and Baade's Window, spectroscopy 7−34979
RR Lyr stars in Baade Window, radial vels. for 17 stars 7−55666
RR Lyr stars in Carina dwarf galaxy, light curves and periods 7−4570
RR Lyr stars in globular clusters, Fourier analysis of light curves 7−66599
RR Lyr stars in LMC, B and V magnitudes 7−47924
RR Lyr stars in South Galactic Cap, periods and light curves from photographic survey 7−14593
RR Lyr type stars, delta-S method for metal abundance determ. 7−66476
RR Lyrae star, distant, in Draco, magnitudes, finding chart, and light curve 7−9498
RR Lyrae stars in M4 and M15, stellar evolution and pulsation theory 7−60736
metal-poor variable stars, search for photometric variability 7−47915
AU Mic, BY Dra star, IUE spectra of fluxes 7−47939
Mira stars, SiO emission 7−47951
Mira variable stars, Mg II emission flux meas. from shock waves 7−47938
Mira variables of short period, search for OH and SiO maser lines 7−14580
VY Mon, light polarization 7−4528
V651 Mon in planetary nebula NGC 2346, light curve 7−4516
MWC 349, velocity-resolved IR spectroscopy 7−60683
new possible variable stars, discoveries from photometric monitoring 7−4485
NGC 6388, globular cluster, RR Lyr stars photometry obs. 7−35016
NGC 6401, globular cluster, variable stars light curves 7−14615
Nova And 1986, discovery, approximate position, magnitudes and spectrum (1986 December 4 to 8) 7−40841
Nova And 1986, precise position spectroscopic obs., and visual magnitude estimates 7−47907
Nova And 1986, visual magnitude estimates (1986 December 16 to 1987 January 12) 7−47914
Nova Cen 1986, IR photometry and visual magnitude estimates (1986 December 30 to 1987 January 13) 7−47913
Nova Cen 1986, visual magnitude estimates (1987 February 21 to 22) 7−66607
Nova Cyg 1986, discovery, magnitudes, spectrum, and finding chart 7−18418
Nova Cyg 1986, two-colour photometric study (July to October 1986) 7−66611
Nova Cyg 1986, visual magnitude estimates (1986 October 17 and 23) 7−24145
Nova Lac 1986, object at α=22h22m07s, $\delta=+48°12'41''$ which is not a nova 7−34993
Nova Vul 1984 No.2, visual magnitude estimates (1986 September 10 to November 21) 7−40842
NSV 6708, magnitude range, finder chart, and position 7−18416
NSV 6708, visual magnitude obs. 7−4478
NSV 863, 917, 919, suspected variable stars in Fornax, photometric obs. 7−24149
old long-period variable stars in LMC, vel. dispersion determ. 7−55605
open clusters, RS CVn stars and blue stragglers 7−60741
Y Oph, classical Cepheid, radial vel. curve 7−4470
optical flashers, nature and characts. 7−47929
optically variable objects in Texas radio source survey, coincidences with GCVS 7−4580
V346 Ori, antiflare star, circumstellar dust characts., light curve anal. 7−4441
α Ori, dust shell Si fractional condensation, mass loss rate and grain characts., polarisation anal. 7−34972
α Ori, dust shell UBV polarisation meas. 7−34971
α Ori, long-term spectroscopic monitoring by IUE 7−47877
α Ori, outer atm. and circumstellar material characts., far-IR spectral obs. 7−60690
α Ori, scatt. model for optical polarisation 7−47852
peculiar emission-line supergiants, IUE and optical obs. of Henize-Carlson sample 7−47948
II Peg, RS CVn binary, photometric study (1980 to 1985) 7−4513
II Peg, RS CVn star, 1986 JK photometry and light curves 7−4515
II Peg, RS CVn star, large amplitude spot var. 7−47984
II Peg, RS CVn star, UHF and SHF obs. 7−66662
57 Peg, semiregular variable, photometric and spectral characts. 7−55664
DY Peg, SX Phe star, pulsation characts., period anal. 7−14578
EZ Peg, UBV photometry of RS CVn star 7−9517
II Peg (=HD 224085), light curve of active chromosphere star 7−66612
pentynylidyne radical (C_5H), detect. of $^2\Pi_{3/2}$ state (in IRC+102.16) 7−23988
GK Per, 1986 November obs. of minor outburst 7−24147

variable stars continued
- GK Per, outburst obs. (1986 Nov.-Dec.) 7−40836
- ρ Per, SRb star, outer atm., IUE spectral characts. 7−55674
- ks Per and hot H-deficient binaries as Type Ib supernovae progenitors 7−24154
- Perseus optical flashes 7−40835
- SX Phe stars of high amplitude, light curves Fourier decomposition 7−34980
- photoelectric photometry of bright variable stars 7−9479
- Population I pulsating stars, period-age-colour relations 7−40831
- Population I pulsating stars, period-evolutionary mass(-colour) relations 7−47898
- Population II Cepheid variables, effects of freq. resons. on light and vel. curves 7−24138
- Population II Cepheids, short-period, period-doubling as limit to pulsation 7−4477
- possible cataclysmic variable in globular cluster NGC 6637, spectroscopic identification as Mira variable 7−47906
- TX Psc, UV emission var. in cool C star, IUE obs. 7−60684
- pulsating early-type stars, low-frequency oscillations of uniformly rotating stars 7−60635
- pulsating stars, effects of temp. var. on mode identification from line profile vars. 7−55613
- pulsating stars, Fourier coeffs. determ. from light curves decomposition 7−55602
- pulsating variable stars, phase-space reconstruction and dimension computation 7−29463
- radio stars, finding charts for Hipparcos mission 7−9385
- red stars near open clusters (NGC 129, 1664, 6819) B, V observations and variability 7−9484
- Reginald Purdon de Koch (1902-80), extraordinary variable star observer, biography 7−60926
- V367 Sct, Cepheid variable in galactic cluster NGC 6649, distance determ. from cluster CCD photometry 7−55747
- TT Sct, RR Lyr star, period adjustment 7−9489
- δ Sct stars of high amplitude, light curves Fourier decomposition 7−34980
- semi-regular variables of short period, search for OH and SiO maser lines 7−14580
- AA Ser, Cepheid, period anal. 7−9490
- RU Sex as probable RR Lyr star, visual obs. 7−47917
- FG Sge, photometric search for rapid oscills. 7−4476
- W Sgr, binary Cepheid, lumin. determ. from IUE spectra 7−55682
- υ-Sgr, H-deficient binary star, evidence for pulsation from UBV light curves 7−14608
- LR Sgr, Mira variable, photometric obs. rel. to identity with reported possible nova 7−4479
- V1176 Sgr, RR Lyr star, period changes 7−9488
- N4046 Sgr, T Tau star, UV and visible obs. anal. 7−47869
- VX Sgr, VLBI obs. of SiO masers rel. to physical conditions in circumstellar envelope 7−55619
- V503 Sgr (=G154−12), variability and proper motion of star 7−47831
- short-period type II Cepheid field stars, light curve and pulsation characts. 7−60675
- spotted stars, colour and lumin. modelling 7−14576
- supergiant variable stars to blue side of Cepheid instability strip, pulsation characts. 7−47928
- V711 Tan (HR 1099), radio emission from starspots on RS CVn binary 7−55725
- TASV 051228a/b on Tau-Aur border, positions and chart 7−14589
- Y Tau, C star, effective temp. from occultation and spectroscopic obs. 7−47927
- SU Tau, R CrB, visual magnitude estimates 7−47903
- SU Tau, R CrB star, visual magnitude estimates during decline (1986 October 26 to November 3) 7−29494
- V711 Tau, RS CVn star, UHF and SHF obs. 7−66662
- V711 Tau, RS CVn system, long-term vars. of chromospheric, transition-region and starspot activity 7−47995
- SU Tau, visual magnitude estimates (1986 November) 7−40840
- SU Tau, visual magnitude estimates of R CrB star (1986 Nov.) 7−24148
- 28 Tau (=Pleione), changes in circumstellar shell of Be shell star 7−18412
- V711 Tau (HR 1099), Hα line obs. of bright RS CVn system 7−40873
- T Tau stars, atm. velocity fields, conf., Trieste, Italy (August-September 1982) 7−35118
- T Tau stars, characts. of light vars. 7−47858
- T Tau stars, rot. vels. obs. and anal. 7−4443
- T Tau stars, thin jets, pinch effect mechanism and spectral characts. 7−29473
- PZ Tel (HD 174429), active chromosphere star, evolutionary status from space vel. 7−24133
- XY UMa, RS CVn star, photometric characts., contrib. of star spots 7−47976
- XY UMa, RS CVn star, X-ray light curve 7−47982
- DM UMa (BD+61°1211), Hα line obs. of single-lined RS CVn system 7−40873
- RR UMi, semiregular variable in binary system, revised spectroscopic orbit 7−4520
- SS Vir, annual proper motion of Mird variable 7−40845
- 73 Vir, Stromgren photometry of new δ Sct variable 7−40822
- α Vir (Spica), uvby photometry 7−40823
- BW Vul, β Cep star, coordinated photoelectric photometry from thirteen observatories 7−29485
- S Vul, Cepheid variable, implications of photometry of nearby star cluster 7−14620
- T Vul, classical Cepheid, radial vel. curve 7−4470
- PW Vul, visual magnitude estimates (1986 May-November) 7−40839
- LV Vul (Nova Vul 1968 No.1), post-max. spectral evolution 7−29490
- X1735−444 (V926 Sco), optical/X-ray burster, orbital period from CCE photometry 7−9515
- He peculiar stars, IUE obs. of magnetically controlled stellar winds 7−47949
- FU Ori, eruptive pre-main sequence star, IUE obs. 7−47875
- SiO maser sources, monitoring obs. at 7 mm wavelength (1977 to 1979) 7−4449

variational calculus *see variational techniques*

variational techniques
- acoustic wave scattering from rough surfaces, Kirchhoff approx. 7−26063

variational techniques continued
- adsorbate orientation, electronic excitation by electron beam, differential cross-section meas. 7−27101
- airfoil cascades, hybrid aerodynamic problems, variational principles 7−43963
- alkali halides, colour centres, Hartree-Fock cluster computations 7−16985
- alkaline earth oxides, colour centres, Hartree-Fock cluster computations 7−16985
- alloys, liquid, binary, high order perturbative effects 7−52085
- Anderson model, periodic variational ground state 7−7083
- Anderson periodic model, appl. of Gutzwiller method 7−45109
- approximate wave functions, quality, rel. to var. principle 7−29637
- atomic ground state energies, var. calcs. with trial binomial functions *(Russian)* 7−62251
- beam, cracked, of non-circular cross-section, torsional vibr. 7−6136
- beam theory, torsion, buckling and vibr. problems 7−1458
- beams, naturally twisted, rectilinear, theoretical anal. 7−96
- bivariational methods for linear integral equations with nonsymmetric kernels 7−48324
- Blasius flow, skin friction, heat transfer, variational soln. 7−20699
- Blume-Capel model, ferromag. and antiferromag. props. 7−2867
- body under stamp action, unloading process for contact interaction 7−1517
- body with plane crack, elasticity theory three-dimens. problem, variational soln. method 7−63072
- bound magnetic polarons, variational model in adiabatic approx. 7−12624
- brachistochrone, relativistic, anal. using Bernoulli's method 7−56032
- canonical density matrix, derived using principle of least information 7−55929
- classical thermodynamics, second law formulation 7−48242
- column, simply supported, under tangential follower force, self-adjoint system 7−6125
- combined electric-magnetic focusing-deflection system, relativistic fifth order geom. aberration eqn. 7−10838
- composite particles, field theoretic model, variational approach 7−19080
- compressible dissipative plasma, 3D self-organisation process, variation method and MHD simulation 7−51423
- contact problem, duel FEM for elastic bodies with enlarging contact zone 7−57763
- continuum systems, transport props. near percolation threshold 7−41290
- coupled dynamic thermoelasticity, approx. solns. 7−16062
- coupled-mode theory of multiwaveguide systems, reformulation 7−57545
- coupled-mode theory of optical waveguides 7−57547
- curved beam elements with penalty relaxation 7−37335
- curved members, consistent discrete elements technique 7−50948
- cylinder, hollow composed, axisymm. problem, approx. soln. *(Ukrainian)* 7−11277
- deformable electromagnetic solids, variational approach to Maxwell's eqns. 7−42828
- degenerate bose system, many-time Green's functions kinetic asymptotics, variational determ. *(Russian)* 7−41245
- diamond, positron planar channelling radiation energy levels. variational calcs. 7−63696
- diffraction tomography and maximum entropy Fourier synthesis 7−65884
- Dirac operators, consistency of use in basis set variational solns. with Dirac hole theory 7−19692
- direct methods of solution for problems in mechanicsfrom invariance principles 7−77
- discotic liquid crystals, phase diagram 7−2197
- dynamics and the calculus of variations 7−61085
- Einstein-Cartan theory, equation of state of spinning fluids, variational methods 7−56104
- elasticity, unilateral boundary value problems, numerical approx. solutions 7−61105
- elasticity, unilateral BVPs, num. methods 7−24427
- elasticity functional transformations of variational principles 7−35282
- elasticity theory, variational problems, with small parameter 7−24428
- electrohydrodynamics, canonical equations, variational principle appl. *(Russian)* 7−26360
- electrostatic modes beat-resonant coupling theory 7−37670
- elliptic problems on unbounded domains 7−35241
- EM wave scattering, Kirchhoff approximation, variational divergence 7−42856
- ferroelectric transitions, dynamic mechanism, electron-ion interaction 7−22199
- fibre reinforced composite, spatially reinforced, deform. props. eval., rigidity 7−6097
- finite strain rod model, 3D, computational aspects 7−6119
- fluctuating field systems of finite size, effective classical pot. 7−14866
- formic acid dimer, symm. stretching modes in gas phase 7−25475
- Gaussian wave-packet dynamics 7−48409
- graded calculus of variations, algebraic model 7−29672
- graphite, resistivity at high temp. calc., anisotropy, temp. depend. 7−52556
- heat conduction, variational techniques for nonlinear problems 7−62953
- heavy electron Fermi liquids, Hubbard model anal., similarities to ^{3}He 7−2522
- Heisenberg ferromagnet, anharmonic spin-one, order of phase transitions, effect of press. 7−53018
- Helmholtz-type eqns., weak-element method 7−24484
- Hohenberg-Kohn-Sham theory, formulation 7−38427
- Hubbard model, 1D, ground state energy, variational calc. 7−38425
- incompressible flow, viscous, variational formulation 7−37422
- inequalities, generalized penalty function method soln. *(Russian)* 7−56003
- insertion devices, variational theory 7−42879
- ions in gases and plasmas, mean excitation energies 7−63306
- isothermal desorpt., Fokker-Planck eqn. for physisorption kinetics 7−52257
- kinetic stability of 2D Vlasov equilibr. 7−1680
- Klein-Gordon nonlinear system, quantum tunneling with dissipation in external field 7−48381
- Lagrangians for certain classes of inelastic solids 7−43658
- laminated plates, non-classical approx. bending theory *(Chinese)* 7−43692
- Laplace eqn. in open geometry, approx. soln., variational calculus appl. *(Hungarian)* 7−50442
- lattice gauge theory, baryon mass calc., quark mass renormalization 7−30155
- Lippmann-Schwinger equation solution for short-range potentials 7−19034
- liquid surface tension, pendent drop profile computer calcs. 7−2298
- Love wave propag., weak variational formulation 7−8853

variational techniques continued
metallic electrons, pair correl. functions, real space variational calcs. 7—52479
metastable state decay, quantum tunnelling rate suppression, variational approx. calcs. 7—139
meteorological fronts anal. as lines of max. curve integrals *(German)* 7—4167
micromagnetism, existence of soln. of problem 7—45753
molecular ground state energies, var. calcs. with trial binomial functions *(Russian)* 7—62251
molecules and ions, vibr. energy wavefunctions, variational methods 7—36574
monotonic operator problems, regularisation using discrete approximation *(Russian)* 7—61058
monovalent systems, low-lying excited states, metal-insulator transition, modified Hubbard model, Gutzwiller variational calcs. 7—7119
Monte Carlo source biasing, choice of biasing fn. 7—36070
multigroup multiregion 1D steady state n diffusion, variational methods 7—10181
muonic mols., three-body problem, generalised exponential expansion, binding energy calcs. 7—15747
muonium+diatomic molecule, gas-phase reaction dynamics 7—54092
narrow trough, solitary waves excited by two frequency modes *(Chinese)* 7—57862
non-Newtonian flow in helical channels with constant pitch, var. calcs. 7—43988
nonlinear irreversible processes, variational principle for entropy prod. 7—41324
nonstationary interaction 3D contact problems for elastic solids with friction, variational method 7—43806
one-component classical plasma, struct. factor, self-consistent approach *(Russian)* 7—58110
optical fibre, stress-applied, with inhomogeneous core *(Japanese)* 7—50780
optical fibres side-tunnel type, polarisation-maintaining, vectorial wave anal. by variational finite elements 7—11137
optical waveguide coupled mode formulation by reciprocity and variational principle 7—57546
parabolic variational inequalities, nonlinear, existence of strong solns. 7—55997
particle coupled to fermionic environment, ground state static props. 7—45107
Pearlstein-Berk mode of drift waves in slab geometry, variational anal. 7—26422
plasma, Rosseland mean free path lower bound, variational calcs. 7—44123
plate, cracked, description using Lagrange method *(Polish)* 7—43793
plate with thin regions, stress conc., theoretical and photoelastic studies 7—57697
plates, circular incompressible, variational principle for large axisymmetric strain 7—31660
plates, elastic sandwich, use of boundary value problems solutions 7—26141
plates, sheardeformable elastic, small finite deflections 7—26144
polyacetylene, Coulomb correlations, optical gap 7—64142
trans-polyacetylene, vibronic states of bond alteration defect, ESR spectrum 7—64511
polyatomic systems. ro-vibr. energy levels, variational calcs., review 7—50057
polyenes, mol. polarisability, CNDO/2, CNDO/C, α(VPT) and α(SCPT) calc. comparisons 7—49932
polymer chain statistics excluded volume, variational method anal. 7—42801
positronium negative ion, photodetachment and electron elastic scatt., variational techniques calc. 7—50363
power law fluid, multiple drop slow motion, drag and mass transfer 7—11472
precision instrument calibration, criteria for neglect of small errors 7—290
prolate spheroidal coordinates, variational approach, soln. to Poisson's eqn. 7—5579
pure liq. metals, ab initio variational thermodynamic calcs., hard-sphere Yukawa model 7—26606
quantum dynamics, time-dependent variational approx. 7—48444
quantum fluids, variational density matrix theory. I 7—24540
quantum fluids, variational density matrix theory. II 7—24541
quantum Hall effect, fractional, spin-reversed quasi-particles, many-body approach 7—2629
quantum mechanics, variational principles 7—14818
quantum wells in electric fields, subband energies, variational Gram-Schmidt orthogonalization procedure 7—45440
quasi-2D strongly-coupled electron-phonon systems, CDW and superconductivity, polaron theory 7—58750
quasigeostrophic vortices, Lyapunov-stable solns. 7—43925
rail plasma accelerator, accelerating process, variational formulation 7—30741
rods, elastic, stationarity for non-selfadjoint problems 7—26178
rotating vortex patch stability, spectral anal. and variational methods 7—16184
s-orbitals, quality determ. by least squares and constrained var. methods 7—49866
Schrodinger equation soln. for few-body systems, variational method 7—4701
sd metals, liq., variational thermodynamic calcs. 7—12590
second order gradient systems, homotopy index continuation method and periodic solns. 7—18575
semiconductors, highly excited, nonequilibrium Green's functions and kinetic equations 7—32889
semiconductors and quantum wells, electron-electron scatt. and mobilities, determ. 7—33003
semiconductors with degenerate valence band edge, bound polarons 7—38466
shells, elastic-viscoelastic layered, multi-director formulation 7—37347
shells, mixed variational theoretical formulation 7—35278
shells, nonlinear elastic-viscoelastic layered, multi-director FEM formulation 7—43695
shells, thin elastic, variational formulation for large deflections 7—43671
shells laminated, buckling problems, nonlinear first order theory *(German)* 7—20614
single-mode graded-index fibres; trial field for non-Gaussian field distribs. 7—11120
sinusoidally time varying eddy currents in metallic structures, three-dimensional calc. 7—25702

variational techniques continued
stochastic and variational processes, in classical and quantum mechanics 7—4761
stochastic calculus of variations and Wiener space distributions 7—48306
Stokes equations, collocation method, variational problem *(French)* 7—55973
Stokes problem, stationary, boundary integral eqn. method *(Chinese)* 7—14779
strip, elastic-plastic, contact problems under complex loading 7—43808
strip, infinitesimal and large strain in rolling contact problems 7—11359
strongly coupled electron-phonon systems, 1D and 2D, BCS pairing versus bipolaron crystallisation 7—45552
surface wave excitation by disk pitching oscills., variational approx. 7—57865
T matrix, Schwinger variational functionals 7—48949
T-10 tokamak, optimum current density profile, electron-cyclotron resonance heating 7—44198
transition metal alloys, liquid and amorphous, chemical short-range order, electronic theory 7—44349
transition metal atoms, first series, atomic polarisability eval. by variational perturbation approach 7—49911
transition metals, liquid, thermodynamic props. 7—12323
transonic flow, three dimensional rotor flow with shocks, variational principles 7—43970
transonic flows with mixed finite elements, vector potential formulation 7—43966
transversely pumped system, four-wave parametric oscill., variational principle 7—25884
tunnelling exchange integral calc. using a variational formalism based on supersymmetry 7—32964
turbulence, two-point-moment closure models 7—6192
U(1) lattice gauge theory, mass gap, variational calcs. 7—30157
variational inequalities, solutions, regularity props. 7—55992
viscous fluid, heat-conducting, relax., variational principle 7—51027
water, waves, maximum growth rate 7—43956
Ag-based dilute alloys, low temp. elec. resist. 7—52565
Al, thermodynamics during high-pressure shock 7—21352
B_2H_6, mol. vibr. coupling, dynamic electron transfers, variational method calcs. 7—36585
Be, ground state, exact density-pot. relation 7—42726
Be III, transition wavelengths among doubly excited states 7—49980
Cl + methyl iodide, excitation function, microcanonical variational transition state theory 7—22995
Cu-based dilute alloys, low temp. elec. resist. 7—52565
$Cu(PH_3)_2(BH_4)$, mol. vibr. coupling, dynamic electron transfers, variational method calcs. 7—36585
D_2^+, nonadiabatic lower and upper bound calcs. 7—36469
Fe-Al disordered alloys, electronic struct., mag. props. and Mossbauer spectra 7—64073
Fe-Al disordered alloys, mag. props., site-diluted Ising model calcs. 7—2873
Fe-V superlattices and alloys, magnetism study 7—64436
$Fe_{1-x}O$, wustite, electronic struct. and X-ray absorption spectra 7—2479
GaAs/AlGaAs superlattices, hydrogenic impurity ground level wave function calcs., variational procedure 7—12664
$GaAs\text{-}Ga_{1-x}Al_xAs$ quantum well structures, energy spectra of donors and acceptors, spatially dependent screening effects 7—45459
Ge, positron planar channelling radiation energy levels. variational calcs. 7—63696
H-like systems in arbitrary mag. fields, expansion-variational calc. 7—36467
H_2, a $^3\Sigma_g{}^+\text{-}b^3\Sigma_u{}^+$ system, dipole moments and transition probabilities 7—917
H_2^+, Born-Oppenheimer electronic polarisability, perturbational-variational Rayleigh-Ritz formalism appl. 7—10387
H_2^+, muonic, ground and excited states binding energies, variational calcs. 7—25684
H_2^+, nonadiabatic lower and upper bound calcs. 7—36469
He energy levels, relativistic correction, variational calcs. 7—869
He I, transition wavelengths among doubly excited states 7—49980
He isoelectronic series, binding energies and radiative lifetimes, Dirac Hamiltonian, relativistic variational soln. 7—25456
$He+He^{2+}$, time-depend. HF wave functions, variationally improved transition amplitude 7—36739
$He_2H^+(He_2D^+)$, rot.-vibr. states calcs. 7—36576
^3He, solid, ground-state energy calculated by a lowest-order constrained-variation method 7—32743
^4He and ^3He liquid drops, ground states, variational Monte Carlo calcs. 7—12383
^4He, liquid, impurities, variational theory 7—27045
^4He, solid, ground-state energy calculated by a lowest-order constrained-variation method 7—32743
$p\text{-}Hg_{1-x}Mn_xTe$, highly doped, ground state of shallow acceptor 7—7167
K halide crystals, phase transitions and relative stability 7—26932
Li, excited states, electron correlation calc. *(Chinese)* 7—10438
Li II, transition wavelengths among doubly excited states 7—49980
Li^++dimethyl ether, assoc., rate consts. pot. energy surface, canonical variational transition states theory 7—54108
NH_3, vibr., inversion doubling, variational calcs., use of intramol. pair pots. 7—31014
Rb halide crystals, phase transitions and relative stability 7—26932
Si, positron planar channelling radiation energy levels. variational calcs. 7—63696
$Ti+He^+(Li^+)(H^+)$, inner-shell ionis. polarisation effect, variational wave fn. calc. 7—62491
ZnS, clusters, electronic struct., variational cellular method 7—45120

varicaps *see varactors*

varistors
composite electroceramics, book contrib. 7—27645
oxides, elec. props. under conditions of oxidation, reduction and catalysis 7—7250
$BaTiO_3$-graphite-rubber composites, varistors fabrication 7—58841
ZnO based varistors, sintering, multiparametric anal. 7—64978
ZnO ceramic, grain growth kinetics during synthesis, optimum elec. props. 7—46398
ZnO, glass-doped, prep., elec. props. and degradation phenomena 7—13425
ZnO varistor, grain boundary pot. barrier, effects of annealing 7—16568
ZnO varistor, grain junction barrier height, majority carrier effects *(French)* 7—17033

varistors continued
ZnO varistor, single grain junction barrier height, minority carrier effects *(French)* 7−21929
ZnO varistor props., grain boundary characts. *(Japanese)* 7−6631
ZnO varistors, bulk electron traps 7−45348
ZnO varistors, electroluminescence temp. depend. and conduction mechanisms 7−17349
ZnO varistors, grain boundaries, elec. props. in presence of deep bulk traps 7−7334

varnish
No entries

Vavilov-Cherenkov radiation *see Cherenkov radiation*

VB calculations
benzene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7−25414
benzenoid hydrocarbons, combinatorial Clar sextet theory 7−15510
o-benzyne, valence ionis. energy and mol. geometry, green fn. method, CI and GVB calcs. 7−62290
bicyclo (1.1.1) pentane, bonding and geometry, quasi ab-initio PRDDO method, GVB-type correl. 7−25404
bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- carbonyldicobalt, electronic struct., MO calcs. 7−15522
bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- carbonyldinickel, electronic struct., MO calcs. 7−15522
bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- nitrosyldicobalt, electronic struct., MO calcs. 7−15522
bis(η^5-2,4-cyclopentadiene-l-yl)di-μ- nitrosyldiiron,, electronic struct., MO calcs. 7−15522
butadiene, π-electron SCF ground states, Kekule struct., VB and BORT calcs. 7−25414
diagrammatic VB method for CI calcs. 7−19711
ethylene, C−C bond description, HF and VB LCAO calcs. 7−25415
methylene, singlet-triplet gap, basis set and electron correl. effect 7−49943
methylimine, protonation, C=N bond rehybridisation rel. to stretching force const. 7−30925
nitrone, active CAS SCF orbitals, intrinsic localisation procedure 7−25413
organic mols., bond valency related to mol. strain, Coulson-Moffitt model anal. 7−25416
polyacetylene, electron-electron interactions, optical gap, negative spin density 7−2473
[1.1.1]propellane, bonding, generalised valence-bond calcs. 7−30954
I(1.1.1) propellane, bonding and geometry, quasi ab-initio PRDDO method, GVB-type correl. 7−25404
transition metal mols., bonding, polyhedral hybrid approach 7−42490
vector processors, generalised VB method 7−10437
$Ar+H^+$ two-electron charge exchange mol. states, nonorthogonal CI calcs. 7−50339
B clusters, magnetic properties, Heisenberg Hamiltonian 7−57199
Cu II carboxylate dimers, antiferromagnetism, nonempirical valence bond calcs. 7−10436
$H+C^{3+}$, pot. energy curves, spin-coupled VB theory 7−957
H_2O_2, overtone excited states, torsion-vibr. interactions 7−50072
Li+HCl, laser catalysed reaction, pot. surfaces and transition dipoles 7−39861

VDU *see cathode-ray tube displays*

vector diagrams *see vectors*

vector meson dominance model
hybrid mesons, $J^{PC}=1^{-+}$, I=1, exptl. constraints on production, vector dominance anal. 7−564
Skyrme model, incorporation of ρ, ω mesons as dynamical gauge bosons, consistency with QCD, vector-meson dominance 7−9965
Skyrme model, recent developments in context of QCD, review 7−414
B mesons, QCD probes of charge radii and possible sum rules 7−35805
(e,X) deep inelastic scatt., vector meson dominance and EMC effect 7−30317
$e^+e^-\rightarrow\pi^+\pi^-\pi^0\pi^0$ reaction cross section up to 1.40 GeV 7−49164
F* charmed strange pseudovector meson, cascade radiative decay obs. 7−49137
$\gamma\gamma\rightarrow$jets, $4\leq W\leq 12$ GeV/c^2, W≡invariant mass, quark-parton model, and low p_T vector dominance comparisons 7−61683
$\gamma\gamma\rightarrow X$, hadronic cross-section, pointlike contribution using VDM contribution 7−35918
$\iota(146\phi)\rightarrow\gamma\gamma(0\gamma)$, radiative decays and SU(3) flavour structure 7−15161
$lN\rightarrow X$, deep inelastic scatt., two-photon collisions 7−19115
π, QCD probes of charge radii and possible sum rules 7−35805

vector mesons *see meson resonances*

vector processors *see parallel processing*

vectors
3-D vector-values data visualization method *(Japanese)* 7−51031
aberration theory and design of off-axis systems 7−50685
angular displacement vector, ang. vel. and time derivative 7−18533
Clifford bundles and the Dirac operator, connections 7−61443
consistent spinor equations, σ-symbols and Levi-Civita connection 7−61175
diffraction theory, plane wave and spread function decompositions 7−62599
EM fields analysis and synthesis based on modified approx. of vector lines *(Russian)* 7−5816
Fierz identities in Dirac gamma matrix algebra 7−9982
Helmholtz theorem, symbolic proof 7−48236
Hertz vectors, role in description of source free EM fields in vacuo 7−42847
interacting massive vector field, effective Hamiltonian and one-loop quantum effect 7−4944
linear rational expectations model, unobserved components and errors in meas. 7−48676
massive vector field, EM interaction with mag. moment, Feynman rules 7−4946
modulus of stability for vector fields on three-manifolds 7−29699
n-dimensional Kepler problem, spinor regularisation, Clifford algebraic construction 7−61089
null vectors, spinors, and strings 7−35253
Pryce's relative distance in R_∞^2, geodesics, relative error for vectors 7−48336
quantum stochastic processes as models for state vector reduction 7−24562

vectors continued
quasiconcave vector maximization, efficient point sets connectedness 7−60944
SEM type-1 magnetic contrast, rel. to mag. field vector pot. 7−56378
spinor and algebraic spinor structures, parallel spinor fields on space-time manifold 7−29834
spinor propagators in anti-de Sitter space-time 7−35797
spinors and diffeomorphisms 7−9646
viscous turbulent models, general eqns., expansion in nonorthogonal curvilinear coords. 7−16164
vorticity-transmission equation for viscous flow, expansion in nonorthogonal curvilinear coords. 7−16163

vehicles
see also electric vehicles; locomotives; road vehicles; space vehicles
bond graph analysis of automatic guided vehicle dynamics 7−61096
ocean research and underwater exploration vehicles, SAR, NAUTILE, SAGA and ELIT systems 7−9201
remotely operated vehicle for ocean bottom surveys 7−9200

velocity
see also acoustic wave velocity; ion mobility; light velocity
two-point pressure-velocity correlations, conditional average and linear estimation in a round jet flow 7−26329

velocity analyzers *see particle separators*

velocity control
circular traveling wave motor, speed control characts. and digital servosystem 7−35511
DC motors in wheelchairs and prostheses, switching converters for efficient control 7−34355
space vehicles, inertial navigation algorithms, for high life-to-drag vehicle during atmospheric entry 7−4289

velocity measurement
see also acoustic wave velocity measurement; anemometry; angular velocity measurement; flow measurement; flowmeters; laser velocimetry; light velocity measurement; stroboscopes
150 kHz sonars for Doppler acoustic velocity profiling in the Arctic 7−9265
acoustic Doppler current profiler, vessel-mounted, for use in rivers and estuaries 7−9262
blood flow velocity meas. in intraarterial digital subtraction angiography, pulsed-injection method 7−14128
CCD line-scan image sensor for meas. of red cell vel. in microvessels 7−8777
Coastal Ocean Dynamics Experiment, shipboard Doppler current profiling 7−9260
combustion diagnostics by pulsed photothermal and photoacoustic deflection spectroscopy 7−23016
coronary blood vel., phasic, clinical assessment using digital subtraction angiography 7−3873
debris flows, noncontact speed sensors 7−40615
detector using CCD imaging devices for moving object velocity meas. 7−48705
drag anemometry for measuring velocities in electromagnetically driven flows 7−44076
fibre laser Doppler velocimeter, integrated optic device 7−6022
field visualisation by single exposure holospeckle interferometry 7−50518
flow meas., hot-wire procedures and appraisal through simulation 7−44078
flow rate meas. by speed-area method using convergent nozzles 7−57959
flow visualisation using spark velocimetry 7−57968
flowing two-phase dispersed particles, metrology using optical diffusion *(French)* 7−31895
forced Rayleigh scattering appl. to hydrodynamic meas. 7−11572
gas flow velocity meas. by photothermal deflection spectroscopy 7−11563
hot-wire probes calibration, using self-contained motorised cart 7−31899
interfacing to microcomputer 7−35166
laser Doppler anemometer arrangement measurements *(Polish)* 7−57965
laser Doppler anemometer for vel. meas. in enclosed flames *(German)* 7−18765
laser Doppler anemometry, counter based in wet steam flow 7−57969
light wave time-dependent characts., fluctuating wind effect, expt. investig. 7−55263
microwave detection of nonelectrical props. in China, review 7−48682
NMR tomography, phase encoding method using a slice selection gradient for high speed flow vel. meas. 7−23426
ocean current meas. from motional electric fields and currents 7−9257
ocean current sensing, space-time analysis of acoustic scintillations 7−9258
ocean meas. under sea ice, medium-resolution turbulence cluster 7−9271
oceanographic, surface mooring in shallow water, VMCM S4 current meter intercomparison 7−9249
oceanographic, vector meas. current meters comparison at 30 m and 50 m depth 7−9252
oceanographic acoustic Doppler current profiler, intercomparison with conventional instruments and tidal flow model 7−9266
oceanographic acoustic Doppler current profiling, form volunteer commercial ship 7−9261
oceanographic acoustic Doppler profile current meter, field evaluations 7−9264
oceanographic acoustic Doppler profiler intercomparison expt., Delaware Bay (1984) 7−9263
oceanographic acoustic Doppler profiles, surface wave kinetic energy influence 7−9274
oceanographic current meas., Conf., Airlie, VA, USA (Jan. 1986) 7−4633
oceanographic current meas. by vane vector averaging meter and dual orthogonal propeller meter 7−9250
oceanographic current meas. for real-time appls. 7−9273
oceanographic current meters intercomparison, laboratory and field meas. 7−9256
oceanographic current meters standardisation problems and solutions 7−9272
oceanographic current profiler, using pulse-to-pulse coherent Doppler technique 7−9268
oceanographic current profiling system design and calibration, HF volumetric backscattering 7−9270
oceanographic mid-ocean acoustic current profiling from submergedbuoys 7−9269
oceanographic near-surface current meas. over Norwegian continental shelf 7−9251

- **velocity measurement** continued
  - oceanographic shallow water tomography, acoustic reciprocal transmission expts. 7—9259
  - oceanographic surface current meas., CODAR intercomparison, Delaware Bay (1984) 7—9254
  - optical measurement of velocity and acceleration with colour coding 7—11568
  - pulsed supersonic He free-jet expansions, time-of-flight characterisation 7—11457
  - Rayleigh-Benard convection, laser speckle velocimetry 7—31902
  - ribbed wall channel, turbulent flow study using 2-component laser Doppler anemometry 7—37547
  - shipboard Doppler current profiler data merging with LORAN-C data, absolute current estimation 7—9267
  - shock experiments, velocity-interferometer data, digital image processing 7—18868
  - smart acoustic current meters, experiences in Lake St. Clair, Canada/USA 7—9255
  - speckle photography and speckle interferometry appl. to velocity meas. 7—14999
  - stellar radio velocity meas., zero-point and accuracy of coude obs. at Calar Alto Observatory 7—29409
  - Stimpmeter, for speed meas. of golf ball on putting green 7—24343
  - tethered current meter, ENDECO Type 174 model evolution 7—9253
  - turbulent boundary layer, heated, hot-wire meas. of velocity and temp. fluctuations 7—63236
  - unsteady flow around spherical bodies 7—6227
  - US identification system for coded moving objects 7—1361
  - velocimeter, fibre optic, low cost 7—20444
  - wave theoretical approach to acoustic currentprofiling 7—4821
  - wind, anemometer with twin-propeller, low-friction design 7—34723
  - windmills driving piston pumps, computer aided wind speed meas. field tests 7—39961
- **velocity meters** *see velocity measurement*
- **velocity microphones** *see microphones*
- **velocity-modulation tubes**
  - No entries
- **velocity spectrometers** *see mass spectrometers*
- **Veneziano model**
  - string Lorentz algebras, Veneziano, Neveu-Schwarz-Ramond model anal. 7—10043
  - U(n) Veneziano model, Wick-rotated light cone gauge, nonperturbative study 7—24854
- **ventilating** *see ventilation*
- **ventilation**
  - *see also air conditioning*
  - aquifer thermal energy storage for Canada Centre 12-storey office building 7—65607
  - blood gases, effect of ventilation and blood flow in lung 7—34173
  - turbomolecular pump, automatic ventilation system 7—18797
  - wind towers, air flow rate estimation and pressure coefficients eval. 7—39956
- **ventilators** *see ventilation*
- **Venus**
  - Aphrodite Terra, gravity profiles anal. 7—34899
  - Aphrodite Terra, rock comp. at Vega 2 landing site 7—55510
  - atmosphere, H velocity distrib. influenced by charge exchange 7—55509
  - atmosphere, mass fractionation during transonic escape of gases rel. to loss of water 7—55508
  - atmosphere, research history *(Russian)* 7—24042
  - atmosphere, semiannual oscillations 7—29418
  - atmosphere, UV balloon obs. 7—14512
  - atmosphere water vapour profile, Vega 1 and 2 results 7—55511
  - bow shock location controlled by IMF, and ion pickup 7—23964
  - central nightside ionosphere, major ions median density altitude profiles 7—34900
  - Cleopatra Patera, Venera 15/16 radar images rel. to volcanic origin 7—66488
  - crater imaging method using radar, discrimination between volcanic and impact craters 7—66487
  - crust structure and tectonics similar to Proterozoic Earth 7—28980
  - interior convection responsible for surface topography features 7—40731
  - ionosphere, electrical and electrothermal conductivities 7—34781
  - ionosphere, electron and ion concs. and ionisation sources 7—34902
  - ionosphere, energetic ions on nightside seen by Pioneer spacecraft 7—60591
  - ionosphere, two-dimensional model of thermal struct. 7—24039
  - ionosphere enhancements due to solar flares 7—9395
  - ionotail, config. and evidence for ionospheric ion escape 7—60590
  - IR radiation transfer, transmission of the CO_2 15 μm band 7—40688
  - Ishtar Terra, geological and morphological description from photographic map of Venus surface, (Plate V-5) 7—66486
  - Lakshmi Planum, geological and morphological description from photographic map of Venus surface, (Plate V-4) 7—66485
  - lightning evidence 7—47746
  - Magellan mission, SAR instrumentation 7—55468
  - Magellan mission, spacecraft design 7—55429
  - Magellan mission characts. 7—60504
  - Magellan SAR, system test and calibration 7—48681
  - Magellan SAR system 7—55469
  - magnetosheath, origin of large-amplitude MHD waves 7—34901
  - Maxwell Montes, struct. and origin from Venera 15 and 16 radar images 7—9394
  - mesosphere, solar fluxes and heating rates 7—24040
  - mesosphere and thermosphere, circulation, temp. and density variations 7—40732
  - microwave spectrum laboratory meas. of constituent gas opacities 7—47744
  - polar ionosphere near terminator, Venera 15 and 16 radio occultation data 7—66490
  - radar bright rings, identification as impact craters 7—24028
  - recurrent observational phenomena, role of Venus/Earth orbital resonance 7—66489
  - rotation, effect of Jupiter and Earth resonances on stability of retrograde rot. 7—47671
  - satellites of Mercury and Venus, limiting direct and retrograde orbits 7—24035
  - spaceborne imaging radars, Earth and planetary obs. 7—55334
  - sunlight adsorption in IR CO and CO_2 bands 7—4358
- **Venus** continued
  - surface colour 7—66492
  - surface colour inhomogeneities *(Russian)* 7—24041
  - tectonic deformation mechanism responsible for surface topography 7—40731
  - Thessera Fortuna, struct. and origin from Venera 15 and 16 radar images 7—9394
  - UV aurora, 130.4 nm obs. anal. 7—47745
  - Vega landers, site characts. 7—60589
  - Venus Radar Mapper, implications of Gestalt formation in stereoradargrammetry 7—9379
  - Vesta mission to Venus, comet and asteroids for 1990s 7—40667
  - volcanic activity not proved by Pioneer Venus orbiter radioemission obs. 7—66491
  - volcanic processes and landforms 7—14513
  - He I 58.4 nm emission, Venera 11 and 12 meas. and implications for outgassing history 7—9396
- **Verdet constant** *see Faraday effect*
- **verification, program** *see program verification*
- **Verneuil process** *see crystal growth from melt*
- **vertex functions**
  - *see also elementary particle interactions; elementary particle theory; quantum field theory of interactions*
  - Baxter condition for commutativity of transfer matrices 7—60964
  - closed strings in background fields, β-functions and vertex operators 7—49118
  - confined Yang-Mills field, propag. props. and condensate form. 7—48991
  - Coulomb-gauge QED, one-loop vertex function in parametric integral form 7—19059
  - covariant interacting string field theory, off-shell vertex in Fock-space representation 7—49034
  - gap equation models for chiral symm. breaking in QCD 7—35738
  - graph theoretical particle model 7—10049
  - interacting bosonic gauge fields of any spin and parity 7—15071
  - interacting gauge-covariant bosonic string, symm. and transformations 7—35684
  - interacting string field theory, operator formulation 7—61609
  - Neveu-Schwarz strings, cyclic symmetric vertex 7—24856
  - nonabelian gauge theory, appl. of double-dimensional regularisation 7—19015
  - open superstring light cone hamiltonian, supersymmetry relation and quartic vertex 7—41762
  - open-string interactions, algebraic struct. by Yang-Mills system analogy 7—19086
  - renormalisation in curved space-time and nonminimal gravit. coupling 7—35665
  - string field theory, vertex function in Witten's representation 7—19037
  - string field theory, vertex interactions 7—24858
  - string theory, energy-momentum tensor and conserved currents 7—35833
  - SU(2)×U(1)×SU(3) standard model, form. of parity-nonconserving nuclear forces 7—19174
  - supersymmetric string theory, covariant quantization and Ramond-Neveu-Schwarz model 7—35815
  - Virasoro conditions, vertex operators, and string dynamics in curved space 7—41768
  - $ed \to epn$, final state interaction effects, vertex fns., Feynman diagram anal. 7—5100
  - e^+e^- annihilations, joint quarkonium and neutral Higgs boson production anal. 7—15168
  - $K^+ \to \pi^+\pi^-e^+\nu$, gauged nonlinear σ model with Wess-Zumino condition 7—41790
  - $NN\pi$ vertex function, influence on meson radial structure *(Chinese)* 7—10039
  - $pp \to pn\pi^+$ at 800 MeV, one-pion exchange model and Faddeev eqn. 7—41846
  - $\pi\pi$ scattering, three channel N/D model anal., π form factors and vertex fns. 7—61739
  - W boson contrib. to γ polarization propagator in external mag. field 7—61438
- **Verwey transition** *see metal-insulator transition*
- **very high speed integrated circuits** *see digital integrated circuits*
- **very long instruction word machines** *see multiprocessing systems; parallel architectures; parallel machines*
- **VHSIC** *see digital integrated circuits*
- **vibrating bodies**
  - *see also elastic waves; pendulums; piezoelectric oscillations; vibrations*
  - 3-hinged arches, free vibration 7—43746
  - acoustic resonances, reconstruction of 1-D inhomogeneities 7—26077
  - active vibration absorber design 7—1472
  - actuator disc analysis of unsteady subsoniccascade flow 7—1464
  - air flow, rot. and vibr. spheres heat transfer 7—43928
  - arches, clamped at one end and carrying concentrated mass at other 7—43747
  - axisymmetric Timoshenko beams, natural freqs. 7—20628
  - axisymmetric vibration of a piezoelectric solid cylinder guided by a thin film 7—31562
  - band/wheel mechanical systems, coupling analysis 7—1467
  - bar, bending vibrs., amplitude-dependent internal friction, influence of non-uniformly stressed condition *(Russian)* 7—58410
  - beam, cracked, of non-circular cross-section, torsional vibr. 7—6136
  - beam, elastic, harmonically excited, chaos 7—43756
  - beam, oscillation eigenfrequencies, follower load effect 7—16110
  - beam, shock-loaded, large plastic strains eval. 7—43752
  - beam, two-layer cpd., damping characts., influence of quality of adhesion 7—50972
  - beam characteristics orthogonal polynomials with fractional power increments 7—57732
  - beam theory, torsion, buckling and vibr. problems 7—1458
  - beam under stochastic loadings, nonlinear flexural vibrations *(Polish)* 7—43748
  - beam vibration, nonlinear constitutive eqn. 7—57736
  - beam with non-classical boundary conditions and concentrated masses, natural freqs. 7—50979
  - beamlike lattice trusses, anisotropic continuum models 7—6085
  - beams, effect of loading at supporting points on internal forces 7—11324
  - beams, free vibr., nonlinear elastic foundation effects 7—6147
  - beams, natural freqs. using Bernoulli elements 7—50987
  - beams, planar shear indeformable, nonlinear dynamics 7—43755
  - beams, pretwisting effects 7—20638

vibrating bodies continued
  beams, rot., pretwisted, preconed, nonlinear flap-lag extensional vibrs. 7—63036
  beams, shear deformation theory 7—16102
  beams, suppression of 1st and 2nd resonances by dynamic vibration absorbers 7—37370
  beams, vibrating, holographic and finite element studies 7—31718
  beams and frames, elastic-plastic with unilateral boundary conditions, free vibrs. 7—1442
  beams/columns subjected to non-uniform axial loads, vibration and buckling 7—6140
  beating motion of a damped mechanical oscillator 7—26075
  bells, vibrational modes 7—50865
  bounds on response of a class of coupled linear partial differential equations 7—20632
  bowed string vibration, friction-vel. characts. 7—50943
  cantilever arches of varying cross-section 7—20630
  cantilever beams on elastic foundations 7—31689
  cantilever beams resting on elastic foundation, free vibrations 7—37374
  cantilever blades with resilient roots, natural freqs. 7—20634
  cantilever column with intermediate concentrated load, dynamic stability 7—63046
  car vibration isolation, optimal characts., jerk vs. acceleration 7—50980
  chatter vibration onset detection 7—1463
  circular cylinder, flow-induced vibration interference effects 7—57728
  circular cylindrical shell, influence of free modes of vibration on sound scattering 7—26057
  circular plate, self-excited vibration and frictional forces calcs. 7—26187
  circular plate, self-excited vibration and frictional forces, internal resons. effects calcs. 7—26188
  circular plates, transverse vibration analysis 7—31688
  circular vibrating membrane, acoustic pressure analysis 7—11211
  composite materials, columnar, subjected to impulsive loading, dynamic response testing 7—59708
  composite plates, corner-supported, vibration analysis 7—37375
  compressible hyperelastic rectangular columns, small vibrations and stability 7—16100
  cone, nonhomogeneous, with spherical caps, torsional vibration 7—48364
  constrained-layer model investigation based on exact elasticity theory 7—31674
  continuous rectangular plates of non-uniform thickness, fundamental freqs. 7—57725
  conveyor belts with orthotropic props., natural freqs. of transverse vibration 7—20637
  coupled 1-D dynamic systems, response 7—37369
  critical flutter parameters of orthotropic rectangular flat panels with in-plane loads 7—37368
  critical velocity of flexible shafts with concentrated masses and intermediate supports 7—57721
  curved beam elements with penalty relaxation 7—37335
  cylinder, circular, vortex induced oscillations, Iwan-Blevins wake oscillator model dynamics 7—6137
  cylinder, hollow isotropic, free axisymm. vibr. freqs. 7—11327
  cylinders, finite and semi-infinite, vibration characteristic eqn. 7—26197
  cylinders, free hollow circular, vibrations 7—43758
  cylinders, micropolar elastic, fluxural vibrations 7—6134
  cylindrical panels in a field of turbulent pressure fluctuations 7—63029
  cylindrically curved thick plate 7—20629
  damaged structural member modelling 7—57731
  diaphragm air spring, appl. of catastrophe theory to forced vibration 7—50974
  disc in contact with liquid, natural freq, disc and liq. props. effects 7—26189
  discretized structure with elasto-plastic deformation, response to non-stationary random excitation 7—20636
  disk, clamped, dynamic plastic deform. under electrohydraulic impulsive press. 7—26157
  dynamic response of a guided circular saw 7—57730
  dynamic response of a two-dimensional elastic solid of arbitrary shape having a circular cavity subjected to a transient pressure along the cavity 7—62906
  dynamic response of linear structures to random streams of arbitrary impulses in time and space 7—16096
  eigenfrequency shifts of a baffled circular membrane in a fluid medium 7—43733
  elastic disc, response to in-plane forces 7—50984
  elastodynamic rods, higher-order theories 7—50833
  elastodynamic slab, soln. using a new orthogonality condition 7—31675
  extensional-wave and flexural-wave contributions to thesound field radiated by a fluid-loaded infiniteplate 7—6036
  fibre reinforced composites, thick plates, vibr., effect of fibre orientation 7—20620
  fibre-reinforced laminate plates, flexural waves 7—43742
  fibre-reinforced laminated plates, flexural wave propag. 7—16094
  finite element analysis of steady nonlinear harmonicoscillations of axisymmetric shells 7—6133
  flexible multi-body systems, impact response 7—57724
  flexible pipe conveying fluid with pulsating flow, lateral vibr. 7—26349
  flexural wave propagation along a plate reinforced by a periodic set of beams 7—62902
  fluid lines of hydraulic systems, oscillation transfer parameters 7—62903
  fluid-carrying curved pipes, transfer matrix analysis 7—31686
  fluid-conveying pipe, effect of elastic foundation and dissipative forces on stability 7—1471
  foundations, stationary vibration analysis *(Japanese)* 7—43518
  free hanging risers, dynamic response 7—50977
  free vibration analysis of simply supported symmetrical trapezoidal plates 7—16098
  free vibration of a thin cylindrical shell with discrete axial stiffeners 7—43744
  frequency response of cylindrical shells partially submerged or filled with liquid 7—63042
  fundamental frequencies of orthotropic plates elastically restrained against rotation along the edges and subjected to in-plane forces 7—63045
  heavy particle tunnelling in condensed media, fluctuation and vibration effects 7—21981
  helical springs, dynamic analysis. using assumed mode method 7—50983
  high-speed mechanisms fabricated with composite laminates, mechanical tests 7—37404
  hydroelastic viscous liquid system, coupled freq. 7—43674

vibrating bodies continued
  impulsive acoustic excitation of an immersed elasticplate: application to isolation of resonance *(French)* 7—11210
  in-plane vibrations of a clamped column-arch system carrying a concentrated mass at the free end 7—50986
  infinite plate, vibrational/acoustical intensity relationship 7—31563
  isotropic annular plates with edges elastically restrained against rotation 7—1473
  Jeffcott rotors, conditions for backward whirling motion 7—31681
  Kohn-Kato enclosure theorem optimization 7—31673
  lateral vibration of square plates subject to in-plane loadings 7—50982
  machine foundations, dynamic model 7—50973
  membranes, circular, nonlinear nonsymm. forced oscill. 7—26191
  membranes, rectangular, with degenerated modes, nonlinear forced oscills. 7—26190
  natural frequencies and modes of rings that deviate from perfect axisymmetry 7—31680
  natural frequencies of a linearly tapered non-homogeneous isotropic elastic circular plate resting on an elastic foundation 7—31679
  non-linear extensional vibrations of rotating bars treated by the Galerkin and finite-difference methods 7—57733
  non-linear flexural vibration of thin rectangularplate on a non-linear elastic foundation underharmonic excitation 7—11334
  nonMarkovian parametrical vibration, investig. 7—4667
  optimum Lanchester damper for a non-linear main system 7—20631
  orthotropic cylindrical shells, buried, dynamic response 7—63044
  orthotropic thin circular plates on elastic foundation, nonlinear response 7—6131
  orthotropic triangular plates, large amplitude vibrs. 7—37367
  oscillator with limiting stops, impact behaviour, parametric study 7—1469
  parallelepipeds, twisted cantilevered, 3D vibrations 7—43754
  parametric excitation of an axially moving band by periodic edge loading 7—16095
  parametric instability of elastically supportedmulti-span beams 7—1462
  parametric studies of the dynamic evolution through a fold 7—16099
  piezoelectric polymer plates, flexural vibration freqs. 7—6067
  pipe, flow-induced vibrations, anal. 7—11273
  pipes, uniformly curved, conveying fluid, nonlinear vibration, perturbation soln. 7—6138
  piston, rectangular, diffracted transient field 7—31567
  plate, elliptical, oscillation problem soln. with allowance for energy dissipation 7—20641
  plate, large-amplitude deflected, free vibration 7—43757
  plate, natural freqs. and forms of vibrs. in own plane, determ. method 7—20642
  plate, rectangular, on line supports, vibr. analysis, Lagrange multiplier-Fourier expansion 7—6145
  plate, trapezoidal, on elastic base, vibration and buckling 7—48365
  plate of variable thickness, sound radiation 7—16029
  plate with waveguide isolator, flexural modes 7—50968
  plates, circular, FEM for nonlinear forced vibrations 7—6139
  plates, elastic, flat, crit. linear buckling loads, dynamic meas. method 7—63023
  plates, elastic, shape optimisation, sufficient conditions for extremum 7—26150
  plates, flat, clamped, expt. eigenvalues and mode shapes 7—63035
  plates, flat clamped, vibration, eigenvalues and mode shapes 7—31670
  plates, multilayered shear-deformable, finite elements 7—43667
  plates, rectangular thin, bending vibr. study 7—57727
  plates, thermomechanically coupled nonlinear vibration 7—31671
  plates, thick, vibr. problems, thermoelastic reciprocal theorem *(Chinese)* 7—1461
  point inertance of an infinite plate with respect to a force acting in its plane 7—31683
  polar orthotropic annular plates on elastic foundation subjected to hydrostatic loading 7—11329
  porous vibroisolator, vibration transmission analysis 7—63040
  primary resonance of a beam fabricated from anonlinear material 7—1465
  quartz gravity meters, behaviour under high freq. vertical motion 7—40610
  quartz plates, doubly rotated, thickness vibr., frequency-temperature behaviour 7—20624
  quartz resonators, contoured, nonlinear resonance analysis 7—31564
  Rayleigh quotient, new angular expression 7—63049
  rectangular Mindlin plates with mixed boundary conditions, free vibrations 7—63048
  rectangular parallelepipeds, vibr. 7—43736
  rectangular plates with free edges, natural freqs. 7—31687
  right triangular plates, modified superposition method for free vibration analysis 7—50978
  rod, curved elastic, vibrs. in plane of curvature during heating 7—43751
  rod, nonlinear, viscoelastic, longitudinal vibrs. and heating 7—1478
  rod-type vibr.-freq. transducers, resonator shape optimisation 7—1482
  rotary ultrasonic motor using extensional vibration of a ring 7—20579
  rotating beam vibrations 7—11330
  rotating beams, high order elements 7—16103
  rotating cantilever, dynamical behaviour 7—20639
  rotating rectangular plates, free vibration 7—57726
  rotating rings, out-of-plane vibrations 7—16101
  rotating uniform cantilever beam, transverse vibration analysis 7—50985
  rotor bearing systems, analysis using modal transformation matrix 7—37372
  rotor dynamics, linear model 7—50976
  rotor/bearing, stability, whirl and whip 7—20635
  rotors, autobalancing techniques 7—37371
  sandwich plates, arbitrarily-shaped, forced vibration calcs. 7—43741
  sandwich plates, nonlinear vibrations 7—20627
  sandwich plates, transverse vibration calcs. 7—63039
  scattering of flexural waves by a resonator mounted on a plate 7—62904
  shape function optimization appls. of FEM 7—43743
  shell, doubly curved, on elastic foundation nonlinear dynamic response 7—50975
  shell, nonhomogeneous spherical, viscoelasticity, vibr. study 7—6127
  shell, spherical, thick-walled, under short pulse loading max. stresses eval. 7—20640
  shell resonators, electrostatic excitation eqns. 7—11332
  shells, curvilinear free shallow, vibrations 7—43759
  shells, elastic, spherical, vibration anal. 7—26193
  shells, flat, vibration analysis using B spline functions 7—50969
  shells, noncircular cylindrical, dynamic anal., thickness shear deformation theories 7—6141

vibrating bodies continued
shells, nonlinear aperiodic vibrs., incremental Hamilton's principle with multiple time scales 7—6144
shells, oval cylindrical, antisymm. cross-ply, vibrations, effect of axial imperfections 7—37376
shells, shallow, boundary/interior element method for quasi-static and transient response analyses 7—6090
shells, shallow spherical on Winkler foundation, static and dynamic behaviour 7—57767
shells, spherical, elastic, filled with compressible viscous liq., vibration damping 7—1477
shells, thick toroidal, free vibrs. 7—43734
shells of revolution, with general meridional curvature, axisymm. free vibrations 7—26186
slabs, frequencies and modes of bending vibrations with allowance for propagating modes; 7—11338
snapback excitation of structures using multiple force inputs 7—57777
sound radiation and vibration propagation in structures, meas. by impulsive excitation *(Japanese)* 7—16698
sphere, elastic isotropic, of compressible material, dynamics under cubic initial loading 7—1480
sphere, vibr. in spherical vol. of viscous fluid 7—50971
spinning annular disc, natural freq. analysis 7—63038
spinning paraboloids, free vibrations 7—43745
spinning structure dynamic anal., free vibr. problem, numerical algorithms 7—37366
stepped membranes, new types of vibration modes 7—20633
stretched string with clamped ends and non-zero flexural rigidity 7—16097
string, controversy of mid-1700s, classical wave eqn. 7—48262
stroboscopic laser speckle interferometry 7—30074
structural vibration parameter identification, freq. domain techniques 7—11333
submerged axially-moving band, natural freqs. 7—63047
superconducting ring, magnetoelastic stability in its own field 7—17148
superlinear forced wave eqn., infinitely many periodic solns., nonlinear vibr. strings 7—56055
synchronous vibration eliminator for an object having one degree of freedom 7—57723
thermoparametric excitation of nonlinear vibrations ofa string 7—1485
thin elastic plates, point-forces, acoustic power radiated 7—50834
torsional vibrations of circular cylinders with rigid boundaries 7—26198
towers, fundamental freq. estimation 7—1468
transient response of plates with arbitrary shape in contact with a fluid subjected to general dynamic pressures on a fluid surface 7—62907
transverse vibrations of a rectangular plate elastically restrained along the edges with a rigid mass on the inside edge 7—57734
transverse vibrations of circular plates and membranes with intermediate supports 7—63043
transverse vibrations of rectangular plates continuous in two directions 7—31676
travelling waves in flexible structures, modal control 7—31684
triangular and tetrahedral space-time finite elements in vibration analysis 7—24431
tube bundles, single- and multi-row, vibrations in crossflow 7—1630
uniform bar vibration, finite element space models 7—50981
upstream cylinder vibr. effect on stationary downstream cylinder 7—16201
vibroimpact system analysis 7—63041
viscoelastic bodies forced time-harmonic vibr. propag., acoustic scatt. inverse problem 7—62901
Z-folded beam junction, flexural mode vibration isolation calcs. 7—63028
PZT disc, elec. excitable mech. reson. modes 7—39042

vibration control
see also damping
beam structure, vibr. control using EM damper with vel. feedback, forced vibr. response 7—20618
beam structure, vibr. control using EM damper with vel. feedback, shock response 7—20619
flexural wave damping, constrained-layer technique using exact elasticity theory 7—63050
nonlinear vibration absorber, practical implementation 7—16138
solar cell arrays, vibration and attitude control, reaction wheel actuator 7—28400
solar cell arrays, vibration and attitude control using differential sensors 7—28399
ultrasound technical processes, automatic output parameter regulation 7—11232

vibration measurement
see also seismometers
Automated Remote Monitoring System for machinery health assessment 7—20674
ball bearing defect detection using non-periodic analysis 7—13707
ball bearing rolling ring, surface roughness meas. using vibration analysis 7—54060
beams, vibrating, holographic and finite element studies 7—31718
capacitive strain gauge for mechanical vibrations meas. 7—300
ceramics, parameter meas. by laser interferometry 7—9888
characterisation by force and acceleration meas. 7—9812
disk, rotating bladed, vibrating anal. using holographic interferometry and laser vibrometry 7—31719
Fabry-Perot fibre optic sensor and its appls. 7—43424
fibre optic sensors, extrinsic, for remote meas., impact on meas. techniques 7—11154
fibre optic sensors for remote measurement 7—43394
fibre optic sensors for temp., vibration and pressure meas. *(German)* 7—11158
fibre optic vibration sensor, single-mode 7—20445
fibre-optic vibration monitoring and maintaining system 7—43402
holographic interferometry, computer-based fringe interpretation 7—31264
holographic interferometry, phase-shifting time-average 7—35575
holographic interferometry phase-shifting, stroboscopic, appl. to vibration meas. 7—41449
industrial fans, vibration analysis 7—20675
infralow-frequency vibration parameters meas., seismometers checking using microcomputer 7—4208
interferometry, phase-shifting speckle-pattern, appl. to vibration meas. 7—35576
laser differentiating interferometer with hologram grating, use in mechanical vibrs. meas. 7—56330

vibration measurement continued
laser Doppler velocimeter and laser torsional vibrometer, comparison 7—31721
laser Doppler vibrometer, interferometer-based 7—31722
microbend fibre optic sensors, principle and appls. *(Slovak)* 7—11123
NDT by real-time holographic interferometry 7—28239
nuclear power stations, diagnostic subsystems in Czechoslovakia *(Czech)* 7—19386
photorefractive crysts., uses in holographic vibrometry 7—43819
reactor coolant pumps, vibr. monitoring and diagnostic techniques 7—36203
real-time shadow moire vibr. meas., simple setup, high sensitivity and exact calibration 7—20668
seismic vibrations, certification of an infralow-frequency vibrator 7—4207
speckle metrology techniques, displacement and strain meas. 7—42936
string objects, vibr. anal. using a diffr. technique, multimode optical fibre appl. 7—11364
stroboscopic laser speckle interferometry 7—30074
structural elements with fibre reinforced composite coverings, dynamic stiffness and damping props. determ. method 7—31717
US vibration detection, by holographic method, use of bacteriorhodopsin 7—57279
vibroscopes, electrostatic self-resonating, cct. design 7—56226
viscoelastic materials, dynamic parameters meas., vibr. transducer design 7—61326
wooden plates, vibration mode meas. using TV-holographic and electroacoustical methods 7—31716
Al cylindrical tank, water-filled, damping characteristic determ. 7—16200
Si vibrating sensor, optical activation 7—9826

vibrational band (nuclear) *see nuclear collective states and giant resonances*

vibrational states in disordered systems
alkali metal cyanide halide mixed crystals, orientational glass state 7—21140
alkali metal cyanide-halide mixed crysts., orientational glass state dynamic props., microscopic model calcs. 7—63756
alkali metal-alkali halide mixtures, liq., longitudinal collective modes 7—6744
alkoxyazoxybenzenes, mol. reorientation, far IR study 7—33383
amorphous, vibr. density of states, EXAFS, Debye-Waller factors 7—64820
amorphous materials, thermal cond. w.r.t. phonon-fracton anharmonic interactions 7—2283
benzene, CARS, shock-compression induced frequency shifts 7—22272
chalcogenide glasses, nonequilibrium phonons and photostruct. transforms., energy transfer characts. 7—6742
2-(chloromethyl)-2-methyl-1,3-dichloropropane, conformational equilib., Raman and IR spectra study 7—46018
disordered harmonic structs., phonon and fracton vibrational modes, self-consistent calcs. 7—38130
disordered materials, optical phonon spectra, CPA calcs. 7—38147
disordered media, electrical cond. and incoherent excitation transport, self-consistent mode-coupling theory 7—52548
disordered monatomic solid, dynamics, force constants distribution 7—12222
frequency distrib. function anal., dielec. and scatt. props., orthogonalised moments method 7—64633
glass, low temp. sp. ht. calcs. 7—44846
glass, nonlinear relaxational acoustic attenuation, perturbation theory calcs. 7—32578
glass, tunnel modes and kinetic props. at low and high temps. 7—21115
glass structure, vibrational spectra studies, localised interactions 7—63502
glass transitions, crystal melting and liquid quenching in two-dimensions 7—16748
glasses, absolute Raman intensities, determ. 7—59200
glasses, optical impurities dephasing 7—53376
glasses, phonon localisation and thermal cond. 7—21379
glasses, photostructural conversions, local phonon modes 7—58427
granular structures, phonon density of states and inverse decay length 7—6743
metallic glasses, collective excitations, dynamic struct. 7—44725
methanol. liq., cross-correl. fn., diffusional dynamics study 7—37822
nitromethane, CARS, shock-compression induced frequency shifts 7—22272
oxide glass, low-temp. internal friction, longit. and transverse two-well systems rel. contrib. 7—12202
PET films, one-way drawn, trichroic IR absorpt. spectra 7—33381
phenyl compounds, vibr. studies, IR and Raman spectra 7—63758
phonon-like excitations, Green's fn. soln. 7—44729
poly-peri-naphthalene, 1D graphite polymer, morphology and struct. 7—44400
polyacetylene, dynamical phonon conductivity, determ. 7—64111
trans-polyacetylene, electron transport accompanying molecular vibr. 7—64227
polyacetylene, electrons and phonons, semi-continuum model 7—64112
trans-polyacetylene, highly oriented, photoexcitations and photocond. response 7—64292
trans-polyacetylene, IR activity of phonons around a soliton 7—64107
polyacetylene, localised modes of soliton, IR absorpt. 7—64108
trans-polyacetylene, phonons around solitons and polarons, IR activities 7—64118
trans-polyacetylene, photoinduced IR vibrational modes, lattice dynamical calcs. 7—26891
trans-polyacetylene, soliton diffusion, memory-function formalism 7—7128
polyacetylene, solitons and IR-active localised vibrational states, Su-Schrieffer-Heeger model calcs. 7—2134
trans-polyacetylene, vibronic states of bond alteration defect, ESR spectrum 7—64511
polyaniline, ^{15}N- and ^{2}H-substituted derivatives, vibrational spectra 7—53351
polystyrene blends, secondary relax. dielec. props., memory effect 7—53221
polythiophene, IR activity of photoexcitations 7—7703
polythiophene, vibrational spectra and elec. conductivity 7—2598
polyvinylidene film, oriented phase I, trichroic IR absorpt. 7—33382
polyyne infinite chain, solitons, polarons and phonon spectrum calcs. 7—12626
quasicrystals, two-dimensional, acoustic phonon spectrum of Penrose tilings 7—26892
random systems, d-dimensional, fracton scatt. and Ioffe-Regel criterion 7—44727

vibrational states in disordered systems continued
  silica aerogels, photon-fracton crossover, Brillouin scatt. meas. 7—46878
  silica gel, fractal vibr. modes, low freq. Raman scatt. 7—26890
  small particle aggregates, phonon localisation and thermal cond. 7—21380
  spin-lattice relax. and vibr. mode localisation 7—64541
  superconductors, disordered and amorphous nontransition metals and alloys, electron-phonon coupling strength and phonon spectrum calcs. 7—52889
  two dimensional quasi-periodic Penrose lattice, electronic and vibr. modes, localised states and band struct. 7—27300
  ultrafine particles, Raman and X-ray scatt. study 7—64627
  vibrational and electronic spectral props., perturbative approach 7—45116
  Ag, small particles in amorphous materials, far-IR absorpt. spectra 7—64623
  AgI-Ag_2O-B_2O_3 glasses, superionic, crossover freq. between phonon and fracton regimes, scaling behaviour 7—44728
  Al, small particles in amorphous materials, far-IR absorpt. spectra 7—64623
  AlF_3-CaF_2-BaF_2 glasses, Raman spectroscopic study 7—7692
  $Al_{0.8}Mn_{0.2}$, icosahedral and crystalline phases, vibr. density of states, neutron scatt. study 7—44726
  Ar, fluid, collective modes 7—1833
  As, amorphous, bond strength anal., EXAFS temp. depend. study 7—64763
  As_xS_y, glassy, bond strength anal., EXAFS temp. depend. study 7—64763
  a-$As_2Te(se)_3$, surface phonon generation and picosecond light pulse detection 7—12456
  BaF_2-ZrF_4-FeF_2 glasses, Raman scatt. study 7—27713
  Co_3O_4-P_2O_5 glass system, thermal analysis from room temp. to softening pt., vibr. anharmonicity, US vel. 7—12221
  $CsBSi_2O_6$, glassy and crystalline, IR spectra 7—59199
  CsO-Nb_2O_5-Ga_2O_3 glass structure, Raman spectroscopy 7—1902
  Cu sintered powder, ultrasonic attenuation meas., phonon-fracton crossover 7—2105
  $CuTiH_x$, amorphous hydrides, quasi elastic and inelastic neutron scatt. 7—21382
  Fe-Al, disordered, phonon dispersion curves 7—2124
  GaAs:H amorphous sputtered films, AC cond. studies 7—21947
  GaAs(P)(Sb):H, vibrational excitations, impurity-host atom complexes, IR absorpt. data interpretation 7—44724
  a-Ge, surface phonon generation and picosecond light pulse detection 7—12456
  Ge_xX_{1-x} (X=S,Se), chalcogenide glasses, stochastic random network model 7—63493
  H-metal disordered systems, neutron vibr. spectroscopy, review 7—21381
  H_2O, Raman spectroscopy during the passage of strong shock waves 7—22271
  $KBSi_2O_6$, glassy and crystalline, IR spectra 7—59199
  K_2O-Nb_2O_5-Ga_2O_3 glass structure, Raman spectroscopy 7—1902
  K_2O-P_2O_5-TiO_2 glass, IR spectra 7—46025
  Kr, fluid, collective modes 7—1833
  $LI_{0.8}Pb_{0.2}$ liq. mixture, fast sound computer simulation, Mori-Zwanzig formalism 7—44696
  Li_2O-B_2O_3 glasses, vibr. spectra and struct. 7—59196
  $x Li_2O.yLi_2SO_4.B_2O_3$, IR and Raman spectra, vibr. study and struct. 7—37879
  $Mg_{70}Zn_{30}$ and $(Mg_{70}Zn_{30})_{95}Pb_5$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7—38148
  MoO_3-P_2O_5 glass, low-temp. internal friction, longit. and transverse two-well systems rel. contrib. 7—12202
  N_2 fluid, eqn. of state and vibron freq. thermodynamics, Monte Carlo, calcs. 7—12231
  N_2 fluid, high temp. and press. vibrational spectra, CARS study 7—53326
  NH_3 phase II, orientationally disordered, Raman spectra 7—22239
  Ni-B amorphous and crystalline alloys, vibr. density of states 7—38146
  Pt, small particles in amorphous materials, far-IR absorpt. spectra 7—64623
  Rb, fluid, collective modes 7—1833
  $RbBSi_2O_6$, glassy and crystalline, IR spectra 7—59199
  Si, amorphous, IR absorpt., local phonon-induced bond angle distortion model 7—26642
  a-Si, IR spectra calcs., static charge effects 7—3040
  a-Si, tetrahedrally bonded, bond angle disorder 7—32297
  a-Si:H, configurational models and adiabatic potentials of H 7—51632
  a-Si:H films, columnar morphology, evolution of vibr. spectra 7—64646
  Si:H solar cells stability, role of Si—H bonds studied by Fourier transform infrared spectroscopy 7—13896
  a-SiC:H, elec., optical and local structure props. 7—45089
  SiC:H,F amorphous films, struct., elec. and optical props. 7—22360
  a-SiC:H glow discharge films, IR vibr. spectra 7—53434
  a-SiGe:D, F, vibr. modes, Fourier transform IR spectra studies 7—46053
  Si_xGe_{1-x}:H,F amorphous films, struct., elec. and optical props. 7—22360
  SiN_x:H films, amorphous, glow discharge deposited, IR absorpt. and Raman scatt. spectra 7—46003
  SiO_2, vitreous, low-frequency vibr. modes 7—21378
  SiO_2-Al_2O_3, glassy system, thermal capacity, thermodynamic props. 7—12307
  SiO_2-Al_2O_3 vitreous systems, low temp. sp. ht. and thermodynamic props. study 7—63842
  SiO_2-TiO_2, glassy system, thermal capacity, thermodynamic props. 7—12307
  SiO_2-TiO_2 vitreous systems, low temp. sp. ht. and thermodynamic props. study 7—63842
  Si_xSe_{1-x} low dimensional inorganic polymer glasses, cross-linked chain cluster model 7—11937
  Si_xX_{1-x}(X=S,Se), chalcogenide glasses, stochastic random network model 7—63493
  $Zr_{75}Rh_{25}$ and $(Zr_{75}Rh_{25})_{93}Be_7$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7—38148

vibrations
  see also lattice dynamics; molecular vibration; vibrating bodies
  1-D linear damped oscillator system 7—50936
  1-degree-of-freedom system, chaotic motion 7—16059
  1st order nonlinear systems, approx. eigenfunction analysis 7—37321
  2-D region eigenvalue problems, Dirichlet boundary conditions 7—57678
  AGR helically wound heat exchanger, resonance tests at Heysham I 7—56789
  AGR helically wound heat exchangers, vibration props. 7—56788
  annular sandwich plates of parabolically varying thickness, axisymmetric free vibrs. 7—50970

vibrations continued
  averaged Kolmogorov-Fokker-Planck eqns. in random vibr. theory, integrability condition 7—88
  beam structure, vibr. control using EM damper with vel. feedback, forced vibr. response 7—20618
  beam structure, vibr. control using EM damper with vel. feedback, shock response 7—20619
  bone conduction microphone *(Japanese)* 7—43612
  bowed string, vibrations, flexural rigidity and internal friction effects 7—20617
  buildings, noise and vibration control 7—6040
  cantilever in dry friction, additional and differential harmonic oscillations 7—22843
  cell mapping method for nonlinear deterministic and stochastic systems 7—35271
  cell mapping method for nonlinear deterministic and stochastic systems, appl. 7—35272
  choice reaction time and paired associates learning tasks, effects of noise and vibration 7—54677
  circular plate, self-excited vibration and frictional forces calcs. 7—26187
  circular plate, self-excited vibration and frictional forces, internal resons. effects calcs. 7—26188
  cochlear vibrations, model of effect of outer hair cell motility 7—8586
  conductor, mech. deform. under EM stresses 7—42833
  convection in horizontal cylindrical layer, vibr. effect 7—20714
  coupled pendulums, curve veering calcs 7—62973
  cryogenic liquids, evaporative loss during vibration and transport 7—44776
  cylinders, finite and semi-infinite, vibration characteristic eqn. 7—26197
  cylindrical elastic shell excited by internal monopole source, sound radiation 7—1307
  displays, direct-view and collimated under display, visual perception 7—54575
  dynamic reanalysis of weakly non-proportionally damped systems 7—31682
  eigensolution perturbation for systems with perturbed boundary conditions 7—50935
  environmental noise and vibration data *(Japanese)* 7—46985
  epoxy-polyamide mixture, dynamic props. in wide temp.-freq. range 7—33721
  exponentially modulated random excitations 7—50940
  fibre reinforced composite, energy dissipation properties, anisotropy 7—6143
  film loop noise levels in cameras and projectors *(Russian)* 7—62913
  flexural wave power flow, active control 7—51009
  flow induced vibration of nuclear fuel rods *(Japanese)* 7—25034
  flowmeters, propeller type, vibration effects 7—37597
  forced nonlinear undamped oscillator, analysis using time transformation method 7—20625
  forced self-excited system, subharmonic entrained vibrs. investigated by averaging method 7—37361
  forced van der Pol oscillator, quasi-periodic oscill. destabilisation 7—29744
  frame response to a harmonic excitation, taking intoaccount the effects of shear deformation and rotaryinertia, Timoshenko beam theory 7—6132
  generalized Galerkin's method for non-linear oscillators 7—57729
  graphite, nucl. grade, polycryst. beam, finite contact area effect on impact stresses 7—28050
  ground vibration from railway trains, prediction method 7—43519
  Halley Multicolour Camera, vibration effects in flat mirror, analysis and reduction 7—18355
  hand-arm vibration syndrome in foundrymen and hard rock miners 7—28559
  heavily loaded semi-infinite cylindrical elastic shell, vibrs., boundary value problem 7—31690
  image resolution limits resulting from mechanical vibrations 7—20158
  induction motor driven by PWM invertor with 20 kHz switching freq. using Bi-MOS power transistors, acoustic noise 7—62934
  internal resonance of non-linear autonomous vibrating systems with two degrees of freedom 7—50933
  linear correlation function for random noise or vibration 7—11218
  linear struct. vibration model with nonGaussian noisy power obs., state estimation 7—37243
  materials with internal state variables, shocks and discontinuities, finite linear viscoelasticity 7—6129
  multidimensional discrete mech. system, freq. spectrum depend. on elasticity parameters 7—1395
  multidimensional mechanical systems with freq.-independ. friction, identification problems 7—87
  multipinhole-plate US nebuliser, vibrating system influence 7—35503
  non-conservative linear systems, model analysis 7—50934
  non-conservatively coupled structures, power flow and energy balance theory 7—50941
  non-conservatory coupled structures, power flow and energy balance, expt. 7—50942
  nonlinear, nonstationary systems subjected to pulse excitation 7—50937
  nonlinear, nonstationary systems with N degrees of freedom, pulse response 7—50938
  nonlinear hysteretic loss system 7—31685
  nonlinear parametric excitation system, stability, beat phenomena 7—37362
  nonlinear sound scattering by vibrating surface 7—43498
  nonlinear waves of different physicomechanical nature in finite continua 7—18604
  nonstationary random vibrs. of yielding multi-degree of freedom systems 7—6130
  oscillator with limiting stops, impact behaviour, dimensionless design parameters 7—1470
  panels, damped stiffened with viscoelastic damping, FEM free vibration analysis 7—20621
  partial crossflow, lock-in phenomenon 7—57735
  PCTRAN Plus software for vibration analysis 7—57737
  periodic solutions of wave eqn., iteration method 7—108
  piezoceramic shell, applied theory modification 7—43750
  piezoelectric ceramic shell, high frequency vibrations 7—22191
  piezoelectric transducer array elements, 2D displacement anal. 7—43617
  plate, circular, subjected to frictional forces, self-excited vibration, internal reson. effect 7—37364
  plate, porous, vibrs. under action of acoustic disturbances 7—43520
  plate, rectangular, with initial imperfections, nonlinear dynamics problems investig. method 7—16108
  plate and rod, viscoelastic, refinement of vibr. eqns. 7—16107
  plate with rough surfaces, sound wave scatt. 7—16017

vibrations continued
- plates, vibr. studied using Berger's dynamic field eqns. 7−43731
- principle of 'least' action in nonlinear and/ornon-conservative oscillations 7−1466
- random vibrations of nonlinear systems, non-Gaussian moment method *(Chinese)* 7−24542
- resonance, effects of uncertain freq. and phase 7−11331
- rotating bodies, forced torsional vibration 7−37363
- seated human, response to vibr. and impact 7−3831
- shell, cylindrical, axisymmetric dynamic problems soln. by num. methods 7−16105
- shell, sectional, with holes, wave fields 7−16106
- shell, structural, initially stressed, vibrs. and freq. characts. 7−16104
- shells, cylindrical, rotating, vibration 7−37365
- slab-heating square inductor vibration and acoustic analysis *(Russian)* 7−62905
- solid body hinge-suspended in a fluid flow, vibrations 7−1394
- spatially localised free vibrations for semilinear equations in R^2 7−9678
- stationary structural responses, convergent parts of high order spectral moments 7−20626
- steel, C, wear behaviour with US vibr. effect superimposed on static contact load 7−3452
- stick-slip friction, acoustic output 7−50905
- stratified elastic half-space with surface sources 7−43517
- string vibrating against rigid fixed obstacle, motion 7−61090
- system sensitivity for a class of mechanical systems by the method of structural numbers 7−43656
- thermal convection, vibr. induced, in weightlessness 7−63132
- thermoelastic shells, 2D nonlinear eqns. 7−57685
- thin cylindrical shell filled with fluid, excitation of axisymmetric waves 7−50831
- torsional vibrations of circular cylinders with rigid boundaries 7−26198
- transient mean square response of randomly damped linear systems 7−62971
- ultracentrifuge enrichment plants, flow induced vibrations in gas tube assembly 7−30570
- underground, noise and vibration sources 7−43524
- upper and a lower bound for natural frequencies 7−57679
- upper Hessenberg sparse matrix algorithm for modal identification on minicomputers 7−62970
- US damage on biological targets obs. 7−3953
- Van der Pol-Duffing oscillator chaos 7−11272
- variable pressure meas., errors due to vibratory acceleration reduction 7−291
- vibration-impact systems with moving limiters, nonsmooth transforms. 7−11269
- viscoelastic rectangular body excited by rectangular waveguide, vibrs. and heating 7−16109
- Al, grain refinement by horizontal circular vibration 7−22650
- BW alloy fibre, torsional pendulum, shear modulus and internal friction meas. 7−48232
- In, single-crystal plate, acoustohelicon resons. 7−52695
- PLZT, electrically excitable mechanical resonant mode shapes 7−26854

vibrations, crystal lattice *see lattice dynamics*
vibrations, molecular *see molecular vibration*
vibrometers *see vibration measurement*
vibronic states of crystals *see lattice dynamics; molecular vibration in solids*
vibronic states of molecules *see molecular vibronic states*
Vickers testing *see hardness testing*
video and audio discs
- *for data storage on optical discs see "optical disc storage"*
- aspheric lens, precision molded, for camera or compact disk systems 7−43318
- diamond stylus, abrasion by plasma deposited SiO_2 films 7−13608
- optical videodisk system for visual performance testing with stereoscopic TV displays 7−60129

video networks *see television networks*
video recording
- *see also video and audio discs*
- bacteria, tethered, computerised video analysis 7−59957
- component TV signals, photographic recording 7−24719
- edit film/conform tape, EFLM/CTAP, film-maker's video system 7−30107
- Electron Beam Recording: the transfer of HDTVsignals onto 35 mm film *(German)* 7−9912
- film and video techniques: new directions for the production of programmes for the 1990s *(German)* 7−15020
- glycerin, motion of sphere studied using videotapes, viscosity meas. 7−35149
- IR zoom lens use for IR video equipment *(Japanese)* 7−57515
- scanning electron microscopy, online digital recording system 7−4933
- Video Assisted Film Editing system using 80-bit time code *(German)* 7−9911
- videograms, field recorded, computerized analysis 7−42943
- vocal fold vibration and speech signal, simultaneous high speed digital recording 7−47129

video signals
- automation range of motion meas. in cervical spine using video images 7−28747
- component TV signals, photographic recording 7−24719
- image processing in the reconnaissance revolution 7−50507
- passive TV techniques for time transfer via Indian satellite INSAT-1B 7−18764
- scene-by-scene colour correction using phase domain signal processing 7−24685
- switching of video, $LiNbO_3$:Ti 4×4 nonblocking interconnection network for test bed 7−26039
- TV VHF signal propagation, far beyond primary service zone 7−34768
- TV viewing, apparent depths of figures and a model for sizeconstancy 7−14010
- video/computer technology role in exptl. mech. 7−63093
- weather satellite automatic picture transmission, design of grey scale test pattern generator 7−29292

vidicons *see television camera tubes*
viewing screens *see screens (display)*
virial coefficients *see equations of state*
virtual machines
- Al film deposition from partially ionised vapour flux, fast ion interactions 7−12531

virtuons (virtual phonons) *see phonons*

viscoelasticity
- *see also creep; internal friction; stress relaxation*
- ABS polymers, molten, having good dispersion of rubber particles, rheological props. 7−16214
- absorbing boundary conditions for numerical soln. of problems *(Russian)* 7−63018
- ageing medium, stability of lining of horizontal opening 7−1454
- amorphous polymers, yield stress rel. to ageing, nonequilib. glassy state 7−46562
- amorphous solid polymers, yield prediction, nonlinear viscoelastic constitutive eqn. 7−22767
- analysis of structures produced from visco−elasticmaterials by the aid of ADINA-program 7−1453
- anisotropic fluids, viscous behaviour, transport phenomena 7−32272
- Aramid fibre reinforced composite beams, viscoelastic-plastic anal. in flexure 7−33717
- arterial flow at a 90° bifurcation, effects of nonNewtonian viscoelasticity and wall elasticity 7−3812
- atactic polystyrene solns., gelation, viscous flow meas. 7−32254
- bar, response to sudden axial loading 7−37345
- basalt melts, effect of comp. and struct. on viscoelastic props. 7−8933
- beam with long memory, boundary controllability 7−31657
- beams, viscoelastic, strength evaluation under impact load 7−57712
- bisphenol-A-based epoxy resins, physical props. rel. to curing 7−46539
- bodies under finite deformations, governing relations 7−31659
- boundary layer flow past stretching plate with suction and heat transfer 7−6313
- cardiac muscle, contracting, nonlinear viscoelastic behaviour 7−8642
- chemicothermal treatment conditions of metals, form. kinetics of irreversible deform. 7−17692
- coal tars, rheological props., composition influence 7−6170
- columns, nonlinear viscoelastic, creep buckling 7−6102
- complex bodies, residual stresses, investig. by photoelastic methods *(Polish)* 7−43683
- composite, macroscopic relaxation kernels determ. 7−16073
- composite materials, method for predicting nonlinear viscoelastic props. 7−63020
- composite with periodic structure, coupled problems of thermoviscoelasticity 7−16074
- creep testing using photoviscoelastic experiments *(German)* 7−22936
- cylinder, longitudinal shock, non-stationary problem *(Russian)* 7−63037
- cylinder, viscoelastic, finite deformations under rolling contact 7−6159
- damage model, 3-D finite strain viscoelastic 7−50955
- disperse mixture, effective rheological properties, calcs. 7−26233
- dynamic parameters measurement, vibr. transducer design 7−61326
- Earth, free oscills. generation by localised source in viscoelastic inhomogeneous Earth model 7−28887
- Earth interior, absorption effects on plane waves in layered media 7−28868
- elastomer, viscoelasticity meas. by electronic speckle pattern interferometry 7−33877
- electrodiffusion diagnosis of rheological and rheodynamic characteristics of viscoelastic and nonlinear-viscoplastic fluids 7−43823
- electrorheological suspensions, viscoelastic behaviour 7−43826
- epoxy filled with Fe particles, dynamic mech. props., storage and loss moduli 7−3349
- epoxy resin, viscoelastic behaviour 7−21348
- equations of state and constitutive equations 7−21389
- extended irreversible thermodynamics description of viscoelastic materials 7−16077
- falling sphere viscometer for determ. low shear viscosity 7−31897
- fibre in viscoelastic matrix, stress state of isolated fibre 7−16079
- fibre reinforced polymeric composite, cracked orthotropic, long-time strength under constant tensile load 7−6156
- fibre reinforced viscoelastic plate, circular hole or inclusion, stress, conc. calc. 7−1446
- fibre-reinforced polymer composites, relaxation property anisotropy 7−46534
- films, surface driven leveling of surface irregularities 7−51017
- finite element calculation of viscoelastic flow 7−37499
- finite element viscoelastic analysis, integration error controls 7−20601
- fluid, viscoelastic, unsteady flow through ducts, impulsive pressure gradient 7−57885
- fluid flow between rot. plates 7−43939
- fluids, flow phenomena, statistical study 7−31845
- fluids, kernel function for constitutive eqn. 7−6172
- forced time-harmonic vibr. propag., acoustic scatt. inverse problem 7−62901
- Galerkin finite element analysis of complex viscoelastic flows 7−16143
- gelatin gels with coloured component at reduced pH values, turbidity, optical rot., viscoelastic props. 7−8320
- glass bead and glass fibre suspensions, flow through flat orifices, elastic props. influence *(German)* 7−6296
- glass fibre reinforced polypropylene, damping characts. 7−59565
- glassy polymers, time depend. nonlinear deform. 7−63733
- growing viscoelastic ageing solid, build-up with solid-liq. transition 7−43711
- hydrated viscoelastic tissues, unconfined compression, biphasic poroviscoelastic anal. 7−3813
- incompressible viscoelastic coatings, turbulent boundary layer, press. fluctuations 7−26264
- inherent viscoelasticity, simulation and soln. of dynamic problems *(Russian)* 7−29756
- inhomogeneous viscoelastic bodies, accretion under finite deforms. 7−26168
- integral constitutive models 7−16213
- Kelvin-type material, thermal effect anal. 7−57667
- linear, irreversible thermodynamics 7−6171
- linear polyester, mainchain nematic polymer, viscoelastic coeffs., meas. by NMR 7−17231
- linear viscoelastic materials, dynamic props. by wave propagation testing, PMMA appl. 7−16090
- liquid discharge influences 7−57930
- liquid filled viscoelastic tubes, wave propag., 2D initial boundary value problem, transform soln. 7−37477
- liquids, viscoelastic, tricritical codimension-2 point near convection onset 7−51055
- lubricated squeezing flow anal. 7−31728

viscoelasticity continued
- macrocrack growth kinetics in aging viscoelastic bodies under variable loads 7—63071
- materials with internal state variables, shocks and discontinuities, finite linear viscoelasticity 7—6129
- mechanical behaviour of viscoelastic medium with microfractures, effects of extension and shear 7—29003
- metal-polymer two-layer plates under bending load, strength and stiffness calc. 7—57713
- microbial suspensions, rheological meas. *(German)* 7—14035
- moving load on viscoelastic half-plane, anal. 7—57764
- nonlinear viscoelastic body, unidimensional acoustic wave propagation *(Russian)* 7—20490
- nonlinear viscoelastic problems, bounding solns. 7—31656
- nonlinear viscoelasticity with time-dependent coefficients 7—50959
- one-dimensional acoustic pulse propagation in linear layered hereditary medium *(Russian)* 7—20644
- oscillating-cup viscometer anal. for viscoelastic props. meas. 7—50961
- panels, damped stiffened with viscoelastic damping, FEM free vibration analysis 7—20621
- PEEK, cryst., mech. relax., electron beam irrad. effects 7—16686
- PET, high-temp. viscoelasticity and heat-setting, strain recovery meas. 7—63721
- PET films, viscoelastic props. 7—28066
- phase transitions in elastic and viscoelastic bodies, state of stress and strain 7—29961
- plane viscoelastic flows with dominating extensions 7—57780
- plate, epoxy, subjected to rapid cooling on both surfaces, residual stress anal. 7—63007
- plate and rod, viscoelastic, refinement of vibr. eqns. 7—16107
- poly(acrylic acid)-ceramic filler composite, filler chem. influence on T_g behaviour, dynamic mech. spectroscopy 7—59559
- poly(ethylene oxide) chains in dil. aq. soln., dynamic moduli 7—37414
- poly ether ether ketone film, zone annealing prep., dynamic modulus, tensile strength 7—8038
- polyaryl-ether-ether-ketone, semicryst., mech. relax., electron beam irrad. effects 7—12204
- polybutyl methacrylate, tensile flow, stress-strain behaviour, temp. depend., mol. wt. 7—6847
- polycarbonates, dynamic viscoplasticity, compressive strain rate effects *(French)* 7—11297
- polychloroprene, tear strength, crosslinking, viscoelastic loss mechanisms 7—39632
- polyetheretherketone, phys. ageing characts. 7—65110
- polyethylene, creep behaviour, stress relax. expts. 7—46546
- polyethylene-tetrafluoroethylene, row crystallised film, deform. mechanism 7—44663
- polymer, filled, melt, matrix mol. wt. effect on rheological props. 7—16141
- polymer, thermoviscoelastic properties prediction in complex stressed state 7—17573
- polymer melts, viscoelasticity near a critical point 7—57781
- polymer solutions, branched polymers, viscoelastic props. near gelation threshold, frequency dependence 7—58390
- polymer solutions, viscoelastic, boiling, rheological investig. 7—51015
- polymeric fluids, nonequilibrium extensions of Simha-Somcynsky equilib. theory 7—21387
- polymers, creep behaviour, nonlinear isochronous stress-strain rels. *(German)* 7—13529
- polymers, linear, relaxational interaction, theory 7—12203
- polymers, partially crystalline, viscoelastic and acoustic props. on hydrostatic compression 7—33719
- polyphosphazene, tear strength, crosslinking, viscoelastic loss mechanisms 7—39632
- polypropylene melts, fibre filled, rheological behaviour under steady and oscillatory shear 7—37413
- polypropylene-cryo-ground rubber blends melt flow, dynamic mech. props. 7—12346
- polystyrene melts, tensile stress, recoverable strain, rubberlike elasticity 7—44884
- porous media with viscoelastic props., fluid eqn. soln. and applic. *(Chinese)* 7—18222
- pressure sensitive adhesives, ball rolling motion, friction coefficient, viscoelastic props. 7—28234
- pulse propag. and stable probability distribs. 7—37353
- PVC sheets, biaxial tensile behaviour 7—17579
- PVC-chlorinated PVC, miscible blends, rheological and mech. props. 7—8040
- randomly inhomogeneous 1D medium, oscills., averaged description 7—24436
- rectangular body excited by rectangular waveguide, vibrs. and heating 7—16109
- reliability considerations in the numerical solution ofelasto-plastic, viscoplastic and flow problems 7—1452
- rheology, conf., Ann Arbor, MI, USA (Oct. 1985) 7—18481
- Rivlin-Ericksen fluid, viscoelastic, unsteady flow through rectilinear tube 7—57884
- Rivlin-Ericksen fluid MHD flow in open inclined channel 7—1639
- rod, nonlinear, viscoelastic, longitudinal vibrs. and heating 7—1478
- rod, nonuniformly ageing viscoelastic, with small deform., thermal stability 7—11317
- rodlike particles suspended in Newtonian and non-Newtonian fluids, rheological props. 7—37407
- rods of non-homogeneously ageing anisotropic viscoelastic material, stability 7—26184
- rotating viscoelastic liquid column of immiscible liquids, surface and interface oscills. 7—1583
- rubber, particle reinforced, with distributed damage, micromech. model for nonlinear viscoelastic behaviour 7—43698
- scleroglucan solns., low temp. sol-gel transition, rheological behaviour, optical rot. 7—51018
- shell, nonhomogeneous spherical, viscoelasticity, vibr. study 7—6127
- shells, cylindrical viscoelastic creep-stability anal. 7—26166
- shells, elastic-viscoelastic layered, multi-director formulation 7—37347
- shells, nonlinear elastic-viscoelastic layered, multi-director FEM formulation 7—43695
- silicone rubber and silicone oil, convergent flow into rectangular slit, rel. distribs. meas. 7—6339
- sinusoidal pulse evolution in nonlinear medium with fading memory 7—16024
- sodium salicylate, in viscoelastic micelles, PMR, spin-spin splitting and relax. effects 7—53150
- solid growth under frontal hardening conditions, stressed state form. 7—43712
- solidifying and incrementing viscoelastic media, theory 7—11301
- spinotrapezius muscle, rat, viscoelastic props. of microvessels 7—8630
- stick-slip motion during peeling of a viscoelastic solid *(French)* 7—63005
- stress assisted diffusion in elastic and viscoelastic materials 7—50953
- stress in viscoelastic medium, non-local aspects 7—37346
- styrene-butadiene rubber, tear strength, crosslinking, viscoelastic loss mechanisms 7—39632
- styrene-isoprene-styrene block copolymer system, ferrite-filled, matrix-filler interactions 7—3352
- supercooled liquids, effect of local molecular order on viscoelastic behavior 7—38129
- surfactant systems, drag reduction, physico-chem. props., rheology 7—43992
- test block dynamic rigidity form factor for complex Young's modulus meas. *(Hungarian)* 7—51010
- thermal stress generation during quenching, effect of stress relax. rate 7—17590
- thermoviscoelasticity, homogenisation and mechanical dissipation 7—43666
- thixotropic fluids, unsteady shear flow and constitutive relation 7—16140
- transient dilation of bubbles and drops, theoretical basis for dynamic interfacial meas. 7—32757
- transient wave propagation in a viscoelastic layered composite—an approximate theory 7—62872
- uniaxial nonlinear viscoelastic constitutive relationfor ice 7—4069
- US meas., digital signal processing 7—33892
- viscoelastic fluid, laminar flow in curved pipe of circular cross section with varying curvature 7—16215
- viscoelastic rarefied gas, MHD natural convection flows, buoyancy effects 7—6321
- Ba ferrite filled styrene-isoprene-styrene composite, dynamic mech., elec. and mag. props. 7—13001
- C fibre reinforced polymer cracks, lightweight construction appl. *(German)* 7—22825
- $Fe_{0.20}Ni_{0.58}Si_{0.08}B_{0.14}$, amorphous viscoelastic behaviour 7—21348
- Mo, creep behaviour, stress relax. expts. 7—46546
- SiC fibre reinforced Li_2O-Al_2O_3-SiO_2 glass ceramic composite, thermomech. mismatch 7—46538
- SiO_2 films on Si produced by surface oxidation, stresses and defects 7—65230
- Zn-neutralised ionomers, conc. solns. in nonpolar solvent, viscoelastic behaviour 7—51609

viscometers
- *see also viscosity measurement*
- capillary viscometer for evaluating low-viscositysolutions at elevated temperatures 7—11570
- checking, discharge time constant determ. 7—6336
- electronic stopwatch appl, 7—51354
- high pressure rolling-ball viscometer up to 1 GPa 7—1655
- rotational viscometers, calibration, whole-blood, appl. 7—40372
- shear rate meas. at low frequencies 7—1658
- viscoelastic fluids, falling sphere viscometer for determ. low shear viscosity 7—31897
- viscoelastic properties, meas. oscillating-cup viscometer anal. 7—50961

viscoplasticity *see plasticity*

viscosimeters *see viscometers*

viscosity
- *see also electroviscous effect; internal friction; viscosity of gases; viscosity of liquids*
- ball rolling on rotating plane, inclusion of viscosity and friction, diff. eqn. soln. 7—41097
- biological peristaltic pumping, effect of peripheral layer viscosity 7—54661
- bisphenol-A-based epoxy resins, physical props. rel. to curing 7—46539
- brinkman equation, fractal model for porous media, and viscosity renormalization 7—44042
- cellular automation fluid models, continuum eqns. for large-scale behaviour 7—35286
- colloidal dispersions, shear viscosity, interaction corrections 7—63197
- colloids, strongly interacting in suspension, viscosity and shear modulus calcs. 7—1617
- convection in viscous fluid, finite difference methods 7—14784
- creeping flow over rot. cylinder between parallel plates 7—20784
- creeping motion equations, soln. using cartesian-tensors 7—14778
- dense fluids, dynamic shear viscosity and normal stress coeffs., theory 7—37412
- dense fluids, viscosity and mutual diffusion coeff. calcs. 7—26379
- discs, inelastic frictional, shearing assemblies, viscosity, granular temp., stress calcs. 7—37398
- Earth upper mantle, viscosity of partial melts 7—8934
- eddy viscosity, subgrid-scale, anal., using numerical simulation results 7—43862
- EM flow-rate meter electrically-conducting fluid, flow rate meas. using *(Russian)* 7—11571
- erythrocyte membranes, viscosity and order, ns fluorometry obs. 7—40185
- Fermi multicomponent liq., transport props. 7—61220
- flow past right circular cylinder on β-plane 7—57847
- flow rates for compressible and immiscible viscous filtration fluids 7—98
- flow visualisation of inlet through circular orifice 7—6330
- flowmeters, turbine type, calibration curve prediction 7—37598
- fluid outside rot. horizontal cylinder, coating flows 7—51156
- fluorophosphate glass, type OK1, interrelationship of refr. index, viscosity and F content 7—57492
- free vortex dissolution with inertia, anal. using linearized Navier-Stokes equations 7—41106
- heat transfer with viscous dissipation between infinite parallel plates, functional analysis 7—37459
- heat transfer with viscous dissipation in semi-infinite tube, functional analysis 7—37458
- high viscosity fluid in heated or cooled pipe, flow with viscosity gradient and frictional resistance 7—26350
- human joint fluids, rheological characts. and lubrication props. 7—40178
- incompressible flow, variational formulation 7—37422
- incompressible flow in 2D flat torus, stability props. 7—57801
- incompressible flows, time-depend. incompressible Navier-Stokes eqn. 7—20677
- incompressible fluid flow, viscous, fractal dimension of attractors 7—9677

viscosity continued
- incompressible fluid in closed cavity, free convection, numerical simulation 7—63134
- incompressible viscous flow, finite difference methods using boundary fitted coordinate systems *(Chinese)* 7—6175
- incompressible viscous flow, Green's function method for nonlinear problems *(Chinese)* 7—26342
- internal gravity waves, stratified shear flow, wave-action model study 7—43948
- intrathermocline vortex lens struct. and evol. *(Russian)* 7—29043
- ion exchange membranes in organic salts, molar conductance, viscosity model 7—13801
- kink solitons, activated generation, quantum theory 7—41123
- melting lines of simple substances, thermodynamic similarity and thermal props. calcs. 7—6762
- mixed alkali borate glasses, transform. range viscosity, thermal expansion 7—52103
- Newtonian and nonNewtonian fluids, power and Taylor nos., Taylor vortices 7—51158
- Newtonian fluid in a pipe, Navier-Stokes eqn. soln. 7—11551
- nonlinear viscous fluid, stability of flow *(Russian)* 7—57803
- periodic motion of a nonlinearly-viscous fluid *(Russian)* 7—63102
- PET, highly branched, synthesis and characterisation 7—11960
- polyarylate, relaxation time, viscosity, above glass transition 7—12344
- polymer solutions, gelling, rheology, mol. network model 7—51016
- polypropylene-cryo-ground rubber blends melt flow, dynamic mech. props. 7—12346
- polysulfone, relaxation time, viscosity, above glass transition 7—12344
- quartz plate simple thickness modes, acoustic viscosities and time constants 7—1372
- rectangular tube, oscillatory flow of incompressible viscous fluid, exact solns. *(Chinese)* 7—51308
- rubber blends, cryo-ground, rheology rel. to natural rubber matrix viscosity 7—59566
- Saffman-Taylor experiment, dendritic growth 7—1531
- Saffman-Taylor model, random walk techniques, review 7—57811
- shock viscosity, steady shock wave profiles, calc. 7—26839
- slightly viscous flows, FEMs 7—14785
- slurries, flow curve, rheological props. 7—43833
- soliton turbulence, transport by negative eddy viscosity 7—14790
- sound propagation in bounded medium with low viscosity, asymptotic soln. of linearized problem *(Russian)* 7—61129
- stationary flow in channel, chem. reacting similarity wave propag., viscosity change effects 7—31886
- surfactant systems, drag reduction, physico-chem. props., rheology 7—43992
- suspensions, shear viscosity behavior at low and high shear-rates 7—43993
- turbulent periodic unidirectional 3D flow, negative-viscosity phenomena 7—57810
- unsteady incompressible turbulent boundary layer flow overa longitudinal cylinder 7—6195
- vapour filled bubbles, motion and development 7—6282
- viscous drops, oscillations, viscosity effect 7—37500
- viscous fingers and diffusion limited aggregates near percolation 7—16252
- viscous flow, Navier-Stokes eqns., 3D elliptic soln. 7—51318
- Al_2O_3-SiO_2-CaO glasses containing rare alkali oxides, struct. and elec. props 7—6528
- Al_2O_3 ceramic casting by doctor-blade method, effect on props. of green tape *(Japanese)* 7—22620
- AsS_3, glassy, rel. to intensity and spectral comp. of light 7—12342
- C fibre reinforced epoxy resin laminates, curing characts., fibre kinking 7—39474
- PbO-K_2O-Sb_2O_3-As_2O_3 flint type glasses, viscosity near annealing temp., depend. on PbO conc. 7—58151
- Pd-Si base metallic glasses, viscous flow, comp., thermal stability *(Chinese)* 7—12341
- Si, thermal oxidation, cryst. orientation effects 7—3534

viscosity measurement
- *see also viscometers*
- butanol, viscometer timer using low-cost electronic stopwatch 7—51354
- capillary viscometer for evaluating low-viscositysolutions at elevated temperatures 7—11570
- concentrated suspensions, particle interactions, continuum approx., falling ball rheometry 7—37409
- fluidic volumetric-flow, mass-flow density and viscosity meter 7—26367
- glycerin, motion of sphere studied using videotapes, viscosity meas. 7—35149
- glycerine, use of Atwood machine to study Stokes' law and viscosity meas. 7—35150
- polybutyl methacrylate, solns., viscosity-mol. wt. rels. and unperturbed dimensions 7—63425
- thermally curing resin viscosity estimation from US shear wave reflectivity 7—1523
- viscometer for shear rate meas. at low frequencies 7—1658
- H_2O, viscometer timer using low-cost electronic stopwatch 7—51354

viscosity of gases
- acoustic wave collapse in nonequilib. mol. gas, effect of second viscosity coeff. 7—44093
- benzene vapour, viscosity, initial density dependence 7—31918
- dense gases, transport processes, kinetic theory 7—6342
- dense gases, viscosity, chem. reaction effects 7—26375
- diatomic gases, shear viscosity and self-diffusion coeff. calc. using Mason-Monchick approx. 7—31912
- ethane dilute gas thermophysical props. correl. and extrapolation, SSR-MPA pot. model calcs. 7—16294
- fluorocarbon gaseous refrigerants and their mixtures, generalised viscosity correl. eqn. 7—16286
- membrane spargers, elastic and flow mechanics 7—31877
- metal vapours and vapour-gas mixtures, atomic interactions and transport coeffs. 7—11575
- methanol vapour, viscosity, initial density dependence 7—31918
- monatomic gases and their mixtures, dilute gas props. 3 parameter MSK pot. calcs. 7—16285
- polarised Fermi gases, flow through narrow channels 7—32739
- thermally conducting gas, isothermal phase discontinuity 7—31909
- Ar, fluid, viscosity and thermal cond. 7—60900
- H_2, viscosity, thermal cond., zero density limit data 7—60899
- H_2Om ordinary fluid, thermal cond., viscosity and density data 7—60898
- He-N_2 mixture, calc. of classical cross sections related to the Senftleben-Beenakker effect on physical parameters 7—16287

viscosity of gases continued
- Kr, transport phenomena, multiparametric potential models 7—6344
- Li monatomic vapour, transport props., depend. on two body atom-atom interaction pot. 7—6343
- N_2 dilute gas thermophysical props. correl. and extrapolation, SSR-MPA pot. model calcs. 7—16294
- Ne, transport phenomena, multiparametric potential models 7—6344
- O_2 dilute gas thermophysical props. correl. and extrapolation, SSR-MPA pot. model calcs. 7—16294

viscosity of liquid crystals *see liquid crystals; viscosity of liquids*

viscosity of liquids
- *see also lubrication*
- acetonitrile-d_3, ^2H and ^{14}N spin-lattice relaxation rates, solvent effects 7—19897
- L-α-alanine, in D(+)glucose-water mixtures, 25° and 35°C 7—38235
- n-alkanes C_6-C_{20}, nonpolar liqs., viscous flow, thermodynamic activation functions 7—6341
- alkenyl esters, nematic liq. crystals, influence of rigid cores, side-chains and polarity on props. 7—16405
- anthracene in benzene, fluorescence spectral shifts, laser-driven shock compression 7—27781
- aqueous solutions, activation energy for viscous flow, temp. depend 7—6846
- atactic polystyrene solns., gelation, viscous flow meas. 7—32254
- benzene, viscosity and structural props. 7—6501
- bicyclo(2.2.2)octane esters, mesogenic, transition temps., viscosity, birefr., electro-optical characts. 7—1863
- binary liquid mixtures, viscosity, excess volume and self-diffusion 7—58515
- binary liquid mixtures, viscosity, excess volumes and self-diffusion 7—58516
- blood, whole, calibration of rot. instruments for viscosity meas. 7—40372
- butylamine binary liq. mixtures, viscosity meas., free energy and intermol. interactions studies 7—63862
- carboxymethylcellulose, monosubstituted, cadoxene solns., diffusion, sedimentation and flow birefringence *(Russian)* 7—63859
- chloroform-d, ^3H spin-lattice relaxation rates, solvent effects 7—19897
- clay suspensions, montmorillonite and kaolinite, viscosities and densities 7—28351
- clay-kaolin aqueous suspensions, particle association, floc formation 7—8308
- comb-like polymers, with mesogenic side fragments, conform. and optical anisotropy *(Russian)* 7—63516
- concentrated dispersions, shear viscosity, clustering effects, structure-dependent packing fraction, shear-thinning, and shear-thickening 7—8309
- concentrated dispersions, shear viscosity discontinuities, structure transitions 7—8310
- cyclohexane-carbon tetrachloride-ethyl acetate, ultrasonic and rheological study 7—31727
- 1-cyclohexyl-phenyl-2-methyl ethylenes, synthesis and phys. props. 7—1870
- dense liquids, planar Couette flow, rheological props., mol. dynamics simulation 7—57791
- dense systems of spherical particles under shear dynamics 7—6258
- dextran solns., enzymatically synthesized, shear-induced struct. 7—6174
- dichloromethane-benzene(toluene) mixtures, US vels., densities and viscosities 7—6726
- 3,3,-diethylpentane, positronium yield and viscosity 7—36820
- N,N-dimethyl-N,N-diallyl ammonium chloride-acrylamide copolymer, soln., viscometric obs. 7—2245
- eddy viscosity in a turbulent boundary layer on a cylinder 7—51091
- electrical ceramics, high-alumina, sintered state range widening, temp. depend. of melt apparent viscosity 7—46396
- electrolyte, solutions, viscosity, dielec. function theory 7—44883
- ellipsoidal molecules, pure liq. phase, transport props., PMR obs. 7—38228
- ethanol, aq. solns., viscosity, high press. effect 7—52102
- fibre suspensions in Newtonian fluids and polymer solns., capillary flow 7—6318
- fluid in porous medium, stability criteria for convection, eigenvalue problems 7—44033
- fluids confined between solid surfaces, wetting dynamics 7—12406
- gas bubble rise vel. in liq.-filled tube, surface tension and viscosity effects 7—57903
- geometrical supercooling of liquids in porous glass 7—16720
- glycerin, motion of sphere studied using videotapes, viscosity meas. 7—35149
- glycerine, use of Atwood machine to study Stokes' law and viscosity meas. 7—35150
- glycerol, fluorescence spectral shifts, laser-driven shock compression 7—27781
- glycine, in D(+)glucose-water mixtures, 25° and 35°C 7—38235
- guaiacol-glycerine critical solutions, viscosity meas. 7—6850
- hard sphere fluid, extended-mode coupling theory, shear viscosity near solidification 7—11875
- high water fluid properties, determ. using capillary viscometer 7—57929
- highly viscous liquids, mol. light scatt. spectra peculiarities 7—53360
- hydroxypropyl cellulose solutions in N,N-dimethylacetamide and in dimethylsulphoxide, viscometric behaviour 7—32258
- inert gases, viscosity and structural props. 7—6501
- interfacial monolayer between surfactants, rheological anal. of the Marangoni effect. 7—38233
- kaolin suspensions, rheological behaviour at high shear rates 7—6226
- l-threonine, in methanol-water mixtures, viscosity B-coeffs. 7—12343
- laminar small Reynolds-number flow over wavy walls 7—43840
- Lennard-Jones fluid, Kirkwood theory of shear viscosity 7—37821
- Lennard-Jones fluid, transport coeffs., mol. dynamics 7—12336
- Lennard-Jones liquid wavevector-depend. shear viscosity 7—58518
- linear polyester, mainchain nematic polymer, viscoelastic coeffs., meas. by NMR 7—17231
- liquid film on a rotating disk, slip effect 7—57849
- liquid/solid structure, effects of liq. viscosity on US propag. 7—21356
- lubricated squeezing flow anal. 7—31728
- maleic acid-vinylpyrrolidone copolymers, viscometric behaviour in dil. soln. 7—32694
- many-body hydrodynamic interactions between spherical drops in an emulsion 7—16147
- mesogen nematic and isotropic phases, rotational relax. 7—44355
- methane, viscosity and structural props. 7—6501
- methanol, aq. solns., viscosity, high press. effect 7—52102

viscosity of liquids continued
2-methyl-2-propanol, aq. solns., viscosity, high press. effect 7—52102
microemulsions, viscosity peaks, percolation-like transitions, salinity variations, Krieger-type formula, modelling 7—8307
miscible binary/ternary liquid mixture, viscosity models assessment and improvement 7—2246
mixtures, pressure-volume-temperature behaviour correl. to zero-shear viscosity 7—21501
nematic liq. cryst., line defect dynamics, viscous damping effects study 7—44365
nematic liq. cryst., parallel-aligned, phase retardation depend. optical response time 7—3018
nematic liquid crystals, degenerate four-wave mixing in isotropic phase, influence of molecular structure 7—11068
nematic liquid crystals, heterocycles, NCS-polar groups and double bonds effects on material props. 7—1838
nematic liquid crystals, rotational viscosity under high press. 7—32695
nematic liquid crystals, transitions of viscous fingering patterns 7—12273
oceans, depth-dependent channel flow modelling 7—18325
4-n-octyl-4′-cyano-biphenyl nematic liq. cryst., torsional shear flow, tumbling instability obs. 7—11386
organic fusion reactor coolant, radiation stability, viscosity meas. 7—62059
oven-curing high solids white enamels, flow props. 7—11371
pendent drop, falling, surface tension, density, viscosity effects *(Russian)* 7—16838
n-pentane-dichloromethane, excess thermodynamic props. 7—52079
pentylcyanobiphenyl, ionic mobility, viscosity, Walden's rule 7—21498
petroleum derived mesophase pitches, viscosity meas., isotropic content, temp. depend. 7—21502
phenol-aniline (p-toluidine) (p-anisidine) mixtures, viscosity meas., 303.15-343.15 K 7—63861
phenyl 4′-alkylcyclohexanecarboxylates, 4-alkoxymethylene and 4-alkoxy substituted, synthesis, phys. props. 7—1861
poly(butyl methacrylate), excluded vol. effect, viscometric study 7—63705
poly(methacrylic acid), methanol soln., viscosity, alkali metal cpds. effects 7—38234
poly 2-methoxy-4,6-di(p,p′-)isopropylidine diphenyloxy-s-triazine, soln., viscosity 7—63426
poly α-methylstyrene soln., stereoirregular, unperturbed dimensions, temp. depend., viscometry 7—32259
poly-4-hydroxystyrene, dil. soln. props., light scatt. and viscosity meas. 7—39135
poly-γ-methyl L-glutamate, non-Newtonian viscosity in helix-coil transition region 7—51605
poly-m-phenylenisophthalamide, in dimethyl acetamide, hydrodynamic props., conform. characts. *(Russian)* 7—11894
polyamide 6-ethylene-co-vinylacetate blends, morphology-prop. rel. in injection moulded samples 7—63506
polyamidobenzimidazole solns., hydrodynamic and optical props. *(Russian)* 7—26619
1,4-polybutadiene soln., stereoirregular, unperturbed dimensions, temp. depend., viscometry 7—32259
polybutyl methacrylate, solns., viscosity-mol. wt. rels. and unperturbed dimensions 7—63425
polybutyl methacrylate, tensile flow, stress-strain behaviour, temp. depend., mol. wt. 7—6847
polycapramide, solns., viscosity props. and phase stability *(Russian)* 7—21074
polyelectrolytes, interpenetrating chains, structure and viscosity 7—58121
polyethylene, melt viscosity, chain entanglement 7—6848
polyhexazocyclane, solns., viscosity props. *(Russian)* 7—63864
polymer, filled, melt, matrix mol. wt. effect on rheological props. 7—16141
polymer melts, mol. wt. and mol. wt. distrib. from dynamic meas. 7—43829
polymer melts, strained, chain retraction, length fluctuations, small angle neutron scatt. 7—51606
polymer melts, temperature-composition superposition *(Russian)* 7—6851
polymer melts, viscoelasticity near a critical point 7—57781
polymer solns. viscosity semi-empirical theory 7—44885
polymer solutions, generalised viscosity equation 7—6849
polymers, dilute viscous theta solns., internal viscosity model, viscometric predictions 7—6173
polymers, ferrite-filled, highly loaded, melt rheology 7—12345
polyol, in soln., US vel., density and viscosity meas. 7—32693
polyoxypropylene diol, solns., structs. and thermodynamics near consolute temps. *(Russian)* 7—63435
polypropylene, melt viscosity, chain entanglement 7—6848
polypropylene melt viscosity in shearing flow, mathematical models 7—44882
polystyrene, blend of linear and cyclic, melt viscosity, mol. wt. depend. 7—16794
polystyrene, dil. soln., viscosity semi-empirical theory 7—44885
polystyrene, solns., structs. and thermodynamics near consolute temps. *(Russian)* 7—63435
polystyrene in ethyl acetate, cyclohexane solns. props. 7—11889
polystyrene melt viscosity in shearing flow, mathematical models 7—44882
polystyrene melts, tensile stress, recoverable strain, rubberlike elasticity 7—44884
1-propanol, aq. solns., viscosity, high press. effect 7—52102
PTMM, synthesis, soln. props., chain flexibility 7—11890
PVC-chlorinated PVC, miscible blends, rheological and mech. props. 7—8040
rare earth metals, liquid state, kinetic characts. *(Russian)* 7—58517
rheology, conf., Ann Arbor, MI, USA (Oct. 1985) 7—18481
rocks in molten state, experimental viscosities of diopside-albite melts 7—60248
scleroglucan solns., low temp. sol-gel transition, rheological behaviour, optical rot. 7—51018
L-serine, in methanol-water mixtures, viscosity B-coeffs. 7—12343
simple kinetic theory of the liquid viscosity 7—52105
smectic mixtures of A_1 and A_d phases, nematic gap obs. 7—6792
solns., viscosity props. and phase stability *(Russian)* 7—21074
sucrose, aq. soln., ultrasonic velocity and absorpt., mech. props. study 7—63744
supercooled liquids, viscous flow, transport theory anal. 7—63863
supercritical fluid, diffusion and mass transfer 7—63106
1,1,2,2-tetrachloroethane-benzene (toluene) (p-xylene) (acetone) (cyclohexane), viscosity meas. 7—63860
2,2,4,4-tetramethylpentane, positronium yield and viscosity 7—36820

viscosity of liquids continued
thermodynamic stability and viscosity behaviour or melting curve 7—12247
toluene, liq., shear viscosity, Rayleigh correl. time meas., temp depend. 7—33402
urine, soln., viscosity coeff. meas., temp. effects *(German)* 7—63865
viscoelastic fingering, time effects 7—57800
viscous flows in two dimensions 7—11388
water, liq., collective dynamics, sound dispersion 7—26613
water, viscosity determ. by pulse NMR method 7—7604
water-2-propanol-nitromethane, US vel. at miscibility point 7—21355
$AlNH_4(SO_4)_2$ multicharged electrolyte soln. in water-tert butyl alcohol, viscosity and density studies 7—52104
Ar, fluid, viscosity and thermal cond. 7—60900
CS_2, liq., reorientation, vibr. relax., Raman spectra 7—62379
Co complexes and related cpds., aq. soln., densities, viscosities and electrolytic cond. *(Japanese)* 7—12347
$ErCl_3$-$GaCl_3$-$SOCl_2$ system, solution viscosity 7—21500
Fe-Al_2O_3 melt, steam explosion suppression by coolant viscosity increase 7—8284
GaAs, molten, temp. fluctuation meas., 1125 to 937 K 7—58123
H_2O, structure, urea effect 7—12348
H_2O-D_2O liq. mixture, thermal transport props. 7—16826
H_2Om ordinary fluid, thermal cond., viscosity and density data 7—60898
^3He, liquid, spin-polarized, evidence for viscosity reduction 7—6909
^3He-^4He superfluid soln., phonon-impurity system kinetics, review *(Russian)* 7—52179
Hg-K alloys, viscosity, exptl. meas. at 320°C 7—21503
$KAl(SO_4)_2$ multicharged electrolyte soln. in water-tert butyl alcohol, viscosity and density studies 7—52104
KCl, soln., viscosity coeff. meas., temp. effects *(German)* 7—63865
KnO_3, soln., viscosity coeff. meas., temp. effects *(German)* 7—63865
LiCl aq. soln., supercooled, viscosity meas., power-law behaviour, structural relax. theories 7—2247
O_2, solubility in organic liqs., diffusion coeff. determ. *(German)* 7—52101
Sn melt, steam explosion suppression by coolant viscosity increase 7—8284
ZrF_4-BaF_2-LaF_3-AlF_3, heavy metal fluoride glass system, viscosity and crystallisation 7—37883

viscosity of polymer melts *see polymer melts; viscosity of liquids*

viscosity of polymer solutions *see polymer solutions; viscosity of liquids*

viscous flow (solids) *see plastic flow*

visibility
see also atmospheric optics; brightness; light transmission
arid land millimetre wave radio links, design considerations 7—40518
atmosphere, astronomical observatories, seeing conditions, conf., La Silla, Chile (Oct. 1983) 7—35117
atmosphere of Edmonton, Canada, urban visibility rel. to H_2O vapour from industry 7—14376
haze, air quality and meteorologic conditions anal. w.r.t. aerosol conc. in USA 7—18303

visible and ultraviolet spectra of inorganic solids
7—39072
γ-Al_2O_3:Co, spinel phase composite, study of γ-ray irrad. effects on optical absorpt. spectra 7—46071
alkali halide crystals, F-centre formation threshold by two-photon absorpt. 7—32437
amorphous, optical absorpt. and refractive index spectra 7—27735
diamond, radiation damage prod. of 5RL centres, phonons, absorpt. spectra, cathodoluminescence studies 7—33461
films, amorphous-crystalline mixtures, annealing effect on optical props. 7—59273
fluorapatite, relative defect-production efficiency for fission fragments, alpha decay and electron irradiation 7—12167
fluoride and oxide glasses, reflection spectra in extreme UV region 7—22278
glass:Ce(Eu), stable and metastable impurity valence states, spectral props. *(Russian)* 7—27747
glass, dispersion eqn. for complex dielectric constant and dispersion analysis of reflection spectra 7—2962
granular thin films, optical absorpt. continuous spectrum 7—22369
graphite intercalation compound with H_2SO_4, optical study of K-point π-band dispersion 7—17317
Inconel 600 in direct absorption received, optical props. at high temp. 7—40042
island films, optical props., Maxwell Garnett and Hampe-Shklyarevskii theories 7—3102
magnetic insulators, light absorpt. by intersublattice charge transfer 7—46065
metal particles, quantum size effects 7—7597
meteorites optical spectra, comparative anal. of spectral props. of achondrites and ordinary chondrites 7—66521
MIM structures, electroreflectance spectra, interface contribs. 7—53276
optical glass filter manufacturing, spectral characts. 7—5961
peak-separation algorithm for personal computer, appl. to visible emission and IR absorpt. spectra *(Japanese)* 7—31015
PMMA, photoetching, by UV radiation 7—65165
polar materials, band gap determ. from absorpt. spectra 7—45960
polyethylene:Si films, trapping states, TSC, optical absorpt. spectra, photocond. meas. 7—27345
rare earth molybdates, improper ferroelectrics, energy spectrum and vacuum UV spectra 7—33413
semiconductor clusters, zero-dimensional excitons, optical spectra and luminesc. 7—12615
semiconductor microcrystallites, laser-excited, absorption blue shift 7—33409
SOS films, pulsed laser beam excitation, femtosecond dynamics 7—13249
YIG:Ca films, magneto-optical props., reducing treatment effects 7—64617
Ag dimers and clusters, matrix isolated, guest-host interaction and photochem. transform. 7—15786
Ag island films, surface plasma emission, electron-photon spectra anal. 7—52491
Ag-AgCl surface system, adsorpt.-enhanced Raman scatt. and optical absorpt. 7—53301
AgCl films deposited by evaporation and RF sputtering, compositional and morphological anal. 7—16892
$AgGa_{1-x}In_xS_2$, solid solns., conc. depend. of band gap 7—52423
$AgGaS_2$, reflectivity spectra, 1.2 to 25 eV, contrib. of electronic transitions 7—46067

visible and ultraviolet spectra of inorganic solids continued
- $AgGaSe_2$, reflectivity spectra, 1.2 to 25 eV, contrib. of electronic transitions 7−46067
- $AgGaX_2$ (X=S,Se), low temp. reflectivity spectra 7−53366
- Ag_2HgI_4, thermochromic phase transition, Raman and optical absorption studies 7−7680
- Al film, reactively evap., morphology and opt. props. 7−59272
- AlGaAs/GaInAs two-terminal multijunction solar cell spectral response meas. 7−13871
- Al_2O_3 glass, gel produced, optical transmission rel. to heat treatment 7−27733
- Al_2O_3, leucosapphire single crystals, transformation of colour centres 7−37986
- $Al_2O_3:V^{4+}$, UV-visible absorpt. and luminesc. study 7−33447
- As_2S_3 films, prep. by spin coating or melt quenching, optical props. 7−39208
- Au film, optical props. 7−17296
- Au films, sputtered, optical and elec. props., influence of surface scatt. of electrons 7−52858
- Au thin film based transparent IR reflectors, prep. and optical props. 7−39201
- BN, film, optical and compositional props. 7−39206
- BaF_2 crystals, γ-irrad., optical absorpt. 7−58275
- BaO-La_2O_3-Nd_2O_3-Al_2O_3 systems, synthesis, characterisation and spectroscopic investigations of mixed hexa-aluminates 7−63827
- $Ba(PO_3)_2$-LiF gamma irradiated activated glasses, optical absorpt. and ESR spectra correls. 7−13030
- $BaPb_{1-x}Bi_xO_3$, semicond. phase, CDW gap, optical meas. 7−53328
- BaSe, pressure-induced metallisation 7−52698
- $BeAl_2O_4:Cr^{3+}$, alexandrite, excited, absorpt. spectra, 220-900 nm 7−46075
- BeO, optical props. of F^+ centres 7−7717
- Bi films, IR and visible spectra, refractive index, extinction coeff. and dielectric const. 7−46156
- BiB_3O_6 and $Bi_3B_5O_{12}$, luminesc. studies, optical absorpt. edge 7−13209
- $Bi_{25}FeO_{40}$, reflectivity spectra structure, thermoreflectance 7−59207
- $Bi_4Ge_3O_{12}$, luminescence excitation and reflection spectra 7−46090
- BiI_3, layered semicond. with hexagonal end honeycombed structs., growth and optical props. 7−22277
- Bi_2O_3 dielectric films, activated reactive evaporation using resistively heated sources 7−13383
- δ-Bi_2O_3 polycrystalline thin films, photoelectric props. 7−2638
- $Bi_{12}Si(Ge)(Ti)O_{20}$, reflectivity spectra structure, thermoreflectance 7−59207
- C layers, deposition, by RF plasma decomp., physical props. 7−22508
- a-C:H, film, optical and compositional props. 7−39206
- a-C:H polymeric layers, plasma-activated CVD produced, spectroscopic investigations 7−22572
- CO_2 ice, absorpt. coeff. and refr. index, laboratory meas. UV to microwave, review 7−3008
- CS_2, spectroscopic studies at high press. 7−27742
- CaF_2:Ce,Mn, optically active sites, optical spectra 7−22305
- CaF_2:O crystals, O-vacancy centres, optical props. 7−7722
- CaF_2-Nd single crystals, thermolum., spectra and X-ray luminesc. spectra 7−64704
- $CdCr_2Se_4$, band structure characteristics and props. of nonequilibrium carriers, cathodoabsorption 7−46064
- $CdCr_2Se_4$ thin films, ferromagnetic semicond., multielectron energy struct., absorpt. spectrum, temp. and doping depend. 7−38488
- CdI_2-Ag interface, absorpt. and luminesc. spectra studies *(Russian)* 7−59224
- $CdInGaSe_4$, optical absorption spectra, hydrostatic pressure dependence 7−59222
- $CdIn_2O_4$ RF sputtered films, transparent heat mirror characts., elec. and optical meas. 7−39199
- $CdIn_2O_4$ thin films, DC reactive sputtered, elec. and optical props. 7−38788
- $CdIn_2S_4$ optical props., annealing and γ-ray irradiation effects 7−13211
- $Cd_{1-x}Mn_xTe$, semimagnetic semiconductor, optical absorpt. edge, press. dependence *(Chinese)* 7−39139
- CdO-B_2O_3-SiO_2 glasses, photochromism, photocond. and ESR *(Japanese)* 7−22282
- CdS, excitonic polaritons, transmission and damping 7−58748
- CdS films in CdS/CdTe solar cells, film thickness effects on photovoltaic props. 7−65468
- CdS, integral exciton absorpt. coeff., temp. depend. characts. 7−45959
- CdS on synthetic clay, luminesc. lifetimes, UV spectra 7−22297
- CdS, transmission and damping of excitonic polaritons 7−58747
- $CdSO_4.8H_2O:CrO_4^{2-}$, optical absorption spectra, electronic transitions 7−27740
- CdSe(S) thin films, electrophys. props., electron irradiation effects study, solar cell appl. 7−16894
- $CdSe_xTe_{1-x}$, bound excitons, thermal dissoc., photoluminescence, reflectivity meas. 7−46122
- $CdSnO_3$, fundamental absorption edge, spectral dependence 7−45964
- CdTe, d-core transitions, reflectivity spectra 7−53364
- CdTe film in a photovoltaic cell, electrodeposition and props. 7−64938
- Ce doped fluoride elpasolites, 5d-4f spectra, impact of ion-host interactions 7−39143
- CeB_6, optical props. and band struct., spectroscopic ellipsometry meas. 7−13157
- Co complexes, tris(aminoacidato) cobalt (III), crystal field theory failure 7−12674
- $Co_{50}Ga_{50}$ film samples, interband optical conductivity *(Ukrainian)* 7−13244
- CoO_x-FeO_x selective coatings, spray pyrolysis for high temp. appls. 7−5974
- Co_3O_4 sputtered films, optical props. 7−46167
- $Co_xZn_{1-x}InS_4$ pseudoternary layers cpds., optical props., comp. depend. studies 7−39072
- $CrCl_3$, ionic crystals, optical and electron energy loss studies 7−3066
- CsBr, two-halogen self-trapped excitons, metastable optical absorpt. 7−53365
- $CsCl:CN^-$, $F_H(CN^-)$-centre absorption bands, pseudopotential method calcs. 7−22292
- $CsCoCl_3.2H_2O$, 1D antiferromagnet, exciton transfer, absorpt. spectra 7−27254
- CsH_2AsO_4 and $CsH_{2x}D_{2(1-x)}AsO_4$, ferroelectric, optical props., radiation effects 7−33406
- Cu complex, Cu(II) saccharinate, electronic struct. and cryst. struct. 7−27251

visible and ultraviolet spectra of inorganic solids continued
- Cu II complexes, charactn., electronic and ESR parameters 7−2925
- Cu-ruby glasses, optical props., transmission and attenuation spectra 7−13177
- CuCl single cryst. thin films, resonant two-photon absorption and emission 7−22310
- $CuCl_xBr_{1-x}$ colloids in glasses, x=0−1, exciton spectrum *(Chinese)* 7−38459
- $CuGa_{1-x}In_xS_2$, solid solns., conc. depend. of band gap 7−52423
- $CuGaSe_2$ thin films, flash evaporated, optical and elec. props. 7−7417
- $Cu(IO_3)_2.2H_2O$, electronic absorption spectra, energy splittings 7−64625
- $CuInTe_2$ thin films, flash evaporated, elec. conductivity, optical absorption 7−7428
- $Cu_6Si_6O_{18}.6H_2O$, Dioptase crysts., Cu^{2+} EPR and optical absorpt. spectra studies 7−53120
- DyP_5O_{14}, absorpt. spectra intensity parameters, fluoresc. radiative transition probabilities *(Chinese)* 7−39141
- $EuAsO_4$ crystal, vibr. spectra and optical absorption studies 7−13145
- $EuCrO_3$, coexistence of mag. and electric dipole ordering after optical pumping 7−17171
- Fe electrode in NaOH, pot. modulated reflectance spectra 7−28316
- $FePS_3$, absorpt. spectra of transition metal ion 7−33411
- $FePS_3$, optical absorption in near IR, visible and near UV regions 7−46070
- FeS_2 pyrite films, chemically deposited, interband transitions 7−13246
- $Fe_2(SiO_4)$, defects, Fe^{3+} conc., microscope-spectrometric method 7−17330
- Ga film, vac. condensates, struct. and opt. characts. 7−2404
- GaAs doping superlattices, optically induced absorpt. modulation 7−7713
- GaAs:In, strain effects, electrorefl. and photocapacitance study 7−22224
- GaAs-$Al_xGa_{1-x}As$ superlattices, electronic and optical props., alloying and press. effects 7−64327
- GaAs-$Ga_{1-x}Al_xAs$ superlattices, optical props. 7−3007
- $Ga_{0.47}In_{0.53}As$-InP superlattices, MOCVD grown, room temp. excitons 7−21986
- GaP:Cr, optically induced changes in impurity-related absorpt. line struct. 7−17334
- GaSe, screening of excitons by free carriers, transmission, reflection and luminescence spectra 7−38460
- GdCu, optical props. and electronic struct. investigs. *(Russian)* 7−13174
- Ge, pure and heavily doped, dielec. function, impurity conc. depend., spectroellipsometric meas. 7−2525
- Ge, surface structure, optical transitions 7−12439
- Ge-Si superlattices, structurally induced optical transitions, electroreflectance spectra 7−59184
- GeO_2:Cu thin films, optical absorpt. edge 7−53431
- GeO_2-Bi_2O_3-ZnO glass, coloration mechanism due to Bi_2O_3 and effects of ZnO addition 7−22291
- GeO_2-SiO_2:N optical fibres, N-related absorpt. bands 7−59226
- GeS single cryst., absorpt. coeff. meas., optical energy gap determ., 2D and 3D model anal. 7−17289
- $Ge_{30}S_{70}$:Ag chalcogenide films, Ag photodoping, optical transmission spectra 7−59231
- $Ge_{35}S_{65}$ films, evaporated, structural changes on illumination and heat treatment *(Japanese)* 7−22489
- p-H_2, solid, obs. of fourth vibr. overtone transition of mol. H_2 7−12392
- HgCdTe, epitaxial film, interdiffusion profiling, microreflection spectroscopy 7−53369
- $HgGa_2Se_4$, optical props. in fundamental absorption region 7−39065
- HgTe, d-core transitions, reflectivity spectra 7−53364
- Ho surface, ion sputtering, emission spectra studies 7−64853
- Ho_2S_3 films, optical parameters 7−33466
- InGaP-InGaAlP MQW structs., room temp. excitons 7−58745
- In_2O_3:Sn films, theoretical model for optical props. in 0.3 to 50 μm range 7−39200
- In_2O_3:Sn(In)(Cd) films, optical and elec. props. 7−22365
- In_2O_3Sn thin films, prep. by pyrolysis, props. 7−2749
- In_2Se_3 films, laser synthesized, optical props. 7−59276
- K atoms in Ar matrix, site modification by X-ray and light irradiation 7−51819
- $KA(WO_4)_2:Ho^{3+}$, A=Y, Gd, Lu, luminesc. kinetics, visible and UV spectra anal. 7−46144
- $KAlSi_3O_8:Fe^{3+}$, orthoclase, absorpt. and luminesc. spectra 7−53383
- KBr:Cu, visible absorpt. spectra 7−3073
- $KBr:Se^{2-}$, electronic spectroscopy 7−22319
- $KBr:Se^{2-}$, mag. circular dichroism, electric conductivity, mobility of anion vacancies 7−3024
- $KBr:Sn^{2+}$, impurity localised excitons, form. energy calcs., UV spectra anal. 7−64095
- KCl microcrystalline powders, additive coloration 7−32434
- KCl, single crystal, γ-irradiated, growth of hole defects *(Russian)* 7−16628
- KCl, two-photon absorption meas. using synchrotron radiation 7−9906
- KCl:Cu visible absorpt. spectra 7−3073
- $KCl:Eu^{2+}$, f to f transitions, two-photon spectra studies 7−3068
- $KCl:F^-:Eu^+$, optical absorpt., excitation and luminesc. spectra 7−59250
- $KCl:Sn^{2+}$, impurity localised excitons, form. energy calcs., UV spectra anal. 7−64095
- KH_2PO_4 and $KH_{2x}D_{2(1-x)}PO_4$, ferroelectric, optical props., radiation effects 7−33406
- $KH_2PO_4(D_2PO_4)$, impurities, UV spectroscopic study 7−33417
- KI, two-photon absorption meas. using synchrotron radiation 7−9906
- K_2O-Al_2O_3-B_2O_3-Fe_2O_3-Gd_2O_3 glasses, mag. props., composition dependences 7−2823
- $K_2O.2B_2O_3$ glasses, pulse irradiated, optical absorpt. spectra, temp. effects on the decay process *(Japanese)* 7−22281
- K_2SO_4-$Cr(SO_4)_3.24H_2O$, alum, optical spectra, press. shifts 7−64666
- K_2SO_4-$ZnSO_4:Pr^{3+}$, impurity ion spectroscopic parameter determ. 7−7719
- $KTiOPO_4$, crystal and optical props. 7−17403
- LaB_6, optical props. and band struct., spectroscopic ellipsometry meas. 7−13157
- Li-Al_2O_3-P_2O_5:Ag glasses, Ag^0 centre thermal and photochemical conversion, spectroscopic consequences 7−39906
- Li_2CO_3-Na_2CO_3-K_2CO_3 molten salt in direct absorption received, optical props. at high temp. 7−40042
- LiF, F_3^+-F_2 mixed centres, laser oscillations at room temp. 7−7714
- $LiF:Ne^+(Ar^+)$, defect and colloid production by ion implantation 7−26746
- LiH, ^{11}C and ^{13}N implantation, chemical effects, radiochromatography study 7−28324
- $LiIO_3$, ferroelectric, optical props., radiation effects 7−33406

visible and ultraviolet spectra of inorganic solids continued
α-LiIO$_3$:Co^{2+}, ESR and optical absorpt. studies of impurity ions 7—45803
LiNbO$_3$, absorption edge, composition dependence *(Chinese)* 7—39140
LiNbO$_3$:Co^{2+}, ESR and optical absorpt. studies of impurity ions 7—45803
LiRbSO$_4$:VO^{2+}, optical absorpt. and EPR spectrum, crystal field parameters 7—59109
MgAl$_2$O$_4$:Ni^{2+}, Czochralski growth and optical props. 7—59406
MgF$_2$ cryst., electronic colour centres, UV absorpt. and luminesc. study 7—39174
MnCl$_2$(MnBr$_2$), liq. solns. and cryst. hydrates, luminesc. quenching mechanism 7—53399
MnF$_2$, thermal behaviour of two-exciton bands 7—2497
Mn(IO$_3$)$_2$, electronic absorption spectra, energy splittings 7—64625
MnPS$_3$, absorpt. spectra of transition metal ion 7—33411
MoI$_x$, preparation, elec. and optical props. 7—64946
MoS$_2$ films, RF magnetron sputtered, elec. and optical props. 7—2747
MoS$_2$, high press. synthesis, characterisation 7—26716
MoS$_2$, surface chemistry and props., photoemission, SIMS and SEM anal. 7—44971
Mo$_{n-x}$W$_x$O$_{3n-1}$, electrical conductivity, mag. susceptibility and IR spectra 7—38546
NH$_4$MnX$_3$ (X=Cl, F), absorpt. spectra 7—33410
(NH$_4$)$_2$SO$_4$:Tl, cryst. fields calc., Madelung energies and cryst. pots., optical absorption spectra anal. 7—64180
(NH$_4$)$_2$SO$_4$:Tl, mol. orbitals, EHT calc., rel. to absorption spectra 7—64181
(NH$_4$)$_2$SO$_4$:Tl crystal, temp. depend. of optical absorption bands 7—64671
Na$_2$B$_4$O$_2$-NiO, tetraborate glass, optical absorpt. effects of NiO additions and annealing 7—22851
NaCl, two-photon absorption meas. using synchrotron radiation 7—9906
NaCl:Cu, visible absorpt. spectra 7—3073
NaCl:Eu^{2+}, gamma irrad., optical absorpt. spectra, TSC meas. 7—58337
NaCl:Eu^{2+} crystals, γ-irradiated, colourability 7—12062
NaCl:Mg, X-ray irrad., exciton interactions with impurity-vacancy dipoles, absorpt. and luminesc. spectra 7—45162
NaCl:OH$^-$, Cd^{2+} single cryst., gamma irrad., electronic and IR spectra 7—53320
NaCl:Sn^{2+}, impurity localised excitons, form. energy calcs., UV spectra anal. 7—64095
NaGdF$_4$:Ce, Eu, UV ^{5}H$_3$ and visible ^{5}D$_J$ luminesc. 7—64676
Na$_2$O-SiO$_2$ glass, relative defect-production efficiency for fission fragments, alpha decay and electron irradiation 7—12167
Na$_2$O-SiO$_2$-FeCO$_3$-Fe$_2$O$_3$ glass system, prep., props and struct. 7—1900
Na$_2$O-TeO$_2$-Cr$_2$O$_3$ glasses, IR absorpt., visible and UV spectra studies 7—27720
Na$_2$O.2B$_2$O$_3$ glasses, pulse irradiated, optical absorpt. spectra, temp. effects on the decay process *(Japanese)* 7—22281
NdCl$_3$ complexes in alcohols, absorpt. spectra study 7—33408
Nd$_x$Cr(Ce)$_{1-x}$P$_5$O$_{14}$ cryst. growth and characterisation, X-ray diffr., Raman scatt., visible and IR absorpt. meas. 7—44423
Nd$_3$Ga$_5$O$_{12}$ garnet, cryst. field studies of excited states 7—33407
Ni (IO$_3$)$_2$.2H$_2$O, electronic absorption spectra, energy splittings 7—64625
Ni-ZnO/ZnS, selective Ni black coating, struct. and optical response 7—58697
Ni$_x$ M$_{1-x}$ PS$_3$ where M = Cd, Zn, Mg, IR, visible and UV spectra, dilution and intercalation effects 7—13175
NiPS$_2$, absorpt. spectra of transition metal ion 7—33411
NiPS$_3$, near IR, visible, and near UV optical absorpt. spectra studies 7—46068
Os single cryst., energy band struct. and optical absorpt. studies 7—16938
PbI$_2$, layered semicond. with hexagonal end honeycombed structs., growth and optical props. 7—22277
PbTe, mag. susceptibility, optical absorpt. spectra, effect of intrinsic defects 7—64670
Pd Frank-Van der Merwe growth on Ag (111), AES, surface reflectance spectra studies 7—32829
PrCl$_3$ organic complexes, spectral energies and oscillator strengths 7—3067
PrP$_5$O$_{14}$ cryst. growth and characterisation, X-ray diffr., Raman scatt., visible and IR absorpt. meas. 7—44423
Pt complexes, CO ligand σ and π interactions 7—64663
RbI, piezoreflectance of excitons in fundamental absorpt. region 7—22219
Rb$_2$Mg(SO$_4$)$_2$6H$_2$O:CO^{2+} optical absorption spectrum 7—13180
RbMnF$_3$, absorption bands in paramag. state, temp. depend. 7—46069
RbMnF$_3$, thermal behaviour of two-exciton bands 7—2497
RbNO$_3$, optical absorpt. spectrum, temp. depend. near successive phase transition points 7—27736
Sb$_2$S$_3$ single crystal optical absorption and luminescence obs., 2 to 367K *(Japanese)* 7—39151
SbSI, ferroelectric semiconductor, photoacoustic spectroscopy 7—16696
Si, ion implanted, damage profiles, multilayer anal. by optical spectra *(Chinese)* 7—58294
Si polycrystalline films, optical props. 7—7782
a-Si, prep. by low press. CVD, characts. 7—7884
Si, surface structure, optical transitions 7—12439
Si surfaces, passivated by H/hydrogen mixtures, surface dielectric layers characterisation 7—17746
a-Si:H, glow discharge thin films, deposition rate, optical props., influence of substrate temp. 7—59460
a-Si:H, laser-assisted CVD growth, optical props. 7—22210
a-Si:H,B(P) films, optical props. 7—64720
a-Si:H,F films, initial carrier trapping stages observed by femtosecond spectroscopy 7—27301
a-Si:H,F-Si$_{0.4}$Ge$_{0.6}$:H,F superlattices, carrier scatt., optical absorpt. study 7—38711
a-Si:H,P(B) films, ion implanted, photoelectric and optical props. 7—38615
Si:H based alloy thin films, optical constants determ., device modelling appl. 7—7666
a-Si:H films, deep levels in the mobility gap 7—12670
a-Si:H thin films, elec. and optical props., thickness depend. 7—46168
Si-Al$_2$O$_3$, SOS struct., UV reflectance meas., ellipsometry study 7—33414
a-SiGe:H alloys for solar cells, electronic and optical props. 7—17899
a-Si$_3$N$_4$:H films deposited by plasma enhanced CVD, optical and elec. props. 7—39205
SiO$_2$:GeO$_2$ integrated optical waveguides, laser heating effect on opt. props. 7—50792
SiO$_2$-Al$_2$O$_3$-MgO-TiO$_2$-Cr$_2$O$_3$ based glass ceramics, Cr^{3+} laser emission and excitation spectra 7—22299

visible and ultraviolet spectra of inorganic solids continued
SiO$_2$-Al$_2$O$_3$-ZnO-Li$_2$O:Cr^{3+} gahnite type glass ceramics, laser excited emission spectra 7—22288
SiO$_x$N$_y$, plasma-enhanced deposited oxynitride films, IR and UV transmission 7—33474
Si$_x$O$_y$N$_z$, plasma enhanced CVD, characterisation 7—39426
Si$_{1-x}$Sn$_x$O$_{1+x}$ amorphous thin films, optical and structural studies 7—64714
Si$_{1-x}$(ZnS)$_x$:H amorphous films, synthesis and characterisation 7—17420
Sm(NO$_3$)$_3$.6H$_2$O, electrical and optical props. 7—59223
SnO$_2$, pure and F doped CVD films, UV absorpt. props. study 7—22370
SnO$_2$:F thin films, CVD deposition, elec. and optical props. 7—7425
SnS$_2$-Tl$_2$S phases, ^{119}Su Mossbauer study *(French)* 7—27639
Tb$_2$Ge$_2$O$_7$, circular dichroism, chirality, UV spectra 7—33412
TeO$_2$, paratellurite, circular dichroism and weak absorption bands 7—45977
ThCl$_4$: U^{4+} incommensurate struct., absorption and emission spectra studies 7—33439
ThCl$_4$:U, optical spectra of U^{4+} 7—27732
ThO$_2$:Np^{4+}, absorption and emission spectra of Np^{4+} 7—27763
ThSiO$_4$:Np^{4+}, absorption and emission spectra of Np^{4+} 7—27763
ThSiO$_4$:U, optical spectra of U^{4+} 7—27732
TiO$_2$:Cd thin films, extension of optical absorpt. range by doping 7—39144
TlGaS$_2$, exciton states, absorpt. and refl. spectra 7—46066
TlGaSe$_2$ crystals, exciton spectrum, phase transitions 7—7124
TlGaSe$_2$ single cryst., photolum. and edge absorpt. spectra 7—59241
TlI, excitons, band struct., polarised refl. spectra 7—27738
Tl$_2$Mo$_6$Se$_6$, 1D superconductor, polarised reflectance spectra 7—45554
TlSbS$_2$, near band gap optical props. 7—7715
TlSe, thermal expansion coeff. temp. depend. and absorpt. spectra meas. 7—58508
Tm$_2$Ge$_2$0$_7$, circular dichroism, chirality, UV spectra 7—33412
UCl$_4$, optical spectra of U^{4+} 7—27732
WO$_3$ amorphous films as high-contrast inorganic ion resists 7—63672
(Y,Sc)$_3$Ga$_5$O$_{12}$:Cr^{3+},Er^{3+}, spectral, luminesc. and lasing props., Stark sublevel lifetimes 7—25827
YAlO$_3$:Pr^{3+} single crysts., colour centres, optical absorption spectra studies 7—63610
Y$_3$Al$_5$O$_{12}$, room temp. γ-irrad., colour centre investig 7—6621
Y$_2$O$_3$ film, electron beam evap., struct. characteris. using TEM, opt. props. 7—21732
Y$_2$O$_3$, single crystals, optical spectra in VUV 7—53363
ZnAl$_2$O$_4$:Cr^{3+} laser excited emission spectra 7—22288
ZnO:Si thin films, RF magnetron sputtered, conductive and transparent props. 7—22476
ZnP$_2$, excitonic reflection and absorption spectra, optical anisotropy 7—45159
Zn$_3$P$_2$ polycrystalline films, hot-wall deposited, elec. and optical props. 7—22487
ZnSe-In$_{2-x}$Sn$_x$O$_{3-y}$ junctions, microstruct. optical props., influence of deposition method 7—21689
ZnTe, d-core transitions, reflectivity spectra 7—53364
ZnTe:Cu, impurity related neutral complex with bound exciton, photoluminescence, absorpt., Zeeman meas. 7—45165
ZnWO$_4$, Czochralski grown, quality, colour rel. to scintillation output 7—59407
ZnWO$_4$:Fe single crystals, spectroscopic props. 7—7725
ZrC$_x$, reactively sputtered films, optical props. 7—39202
ZrC$_x$N$_x$, reactively sputtered films, optical props. 7—39202
ZrF$_4$ based glasses, reduced species, EPR and optical studies 7—64665
ZrF$_4$-BaF$_2$-GdF$_3$-AlF$_3$-NaF-FeF$_3$, optical fibre glasses, trace amounts of Fe, characterisation 7—2956
ZrF$_4$-BaF$_2$-LaF$_3$-AlF$_3$-LiF glass, X-ray radiation damage, EPR studies 7—21278
ZrN$_x$, reactively sputtered films, optical props. 7—39202
ZrO$_2$ thin films, optical consts. in UV regions, influence of evaporation parameters 7—39193

visible and ultraviolet spectra of organic molecules and substances
9-acetoxy-10(4′-acetoxy) phenylanthracene derivatives, ground and excited state, uv absorpt. and fluoresc. spectra 7—19944
1- acetylcyclohexene, rot. barrier, conform. stability, MINDO/3 and MNDO calcs., UV spectra anal., CNDO calcs. 7—25405
acetylene, A-X band system, short wavelength investig. 7—5693
acetylene, Fermi perturbation study, UV absorpt. and fluoresc. excitation spectra anal. 7—36638
acetylene vibr. excited, chaos and dynamics on 0.5 to 300 ps time scale, Fourier transform spectra 7—42634
alkali metal tetrafluorotetracyanoquinodimethan(TCNFQ$_4$), charge transfer salts, comparative EPR studies 7—53114
(+)-4-n-alkoxyphenyl 4-(2″-methylbutyl)-biphenyl 4″-carboxylates, chiral smectic C phase structures, visible spectral studies 7—1855
(alkylthioalkyl)trialkoxysilanes, electronic struct., UV absorpt. spectra 7—57082
aniliniums, long range interactions, near UV spectra, MNDO and CNDO calcs. 7—19879
anthracene absorption spectra measured with transient absorption spectrophotometer 7—18853
anthracene crystal monolayer, photodimer disorder effects, UV reflection spectra anal. 7—53362
anthracenes, substituted, transient singlet spectra in soln. and in stretched polyethylene, 530-650 nm 7—42630
anthraquinone dyes, α-substituted, order parameters in nematic liq. cryst. 7—36633
aromatic thiones, thermally activated delayed fluoresc., solvent effects, visible spectra anal. 7—31106
(BEDT-TTF)$_2$I$_3$, α and β phases, CESR 7—2930
α-(BEDT-TTF)$_3$(NO$_3$)$_2$, electronic excitations, optical study 7—53367
BEDT-TTF polyhalides, reflectance spectra, temp. depend. 7—46031
benzene, Ar matrix isolated, vac. UV and MCD absorpt. spectra 7—15635
benzene derivatives, vibronic coupling in dimeric systems 7—25533
benzofurans, UV spectra, substituent influence 7—50170
1,4-bis(β-pyrazinyl-2-vinyl)-benzene, solns. and solid state, irrad. and solvent effects, visible fluoresc. anal. 7—36674
bisphenol-A-polycarbonates, outdoor lifetime depend. on terrestrial UV irradiance spectrum 7—54357
bromoiodomethane, electronic state-selective photodissoc. 7—65337
carbenes, intramol. H shifts, spectrosc. obs. 7—62390

visible and ultraviolet spectra of organic molecules and substances continued
  carbon tetrafluoride, extreme UV photoexcitation study, UV fluoresc. anal. 7—36637
  trans-β-carotene, finite solid polyene, amorphous and cryst., visible absorpt. and wavelength-selective reson. Raman spectra 7—64641
  chloranil-pyrene charge transfer complex, solvent effects, visible spectra study 7—42636
  chlorin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7—10447
  6-chloro-2,4-dimethoxypyrimidine, liq. and vapour, electronic and vibr. spectra, UV and IR obs. 7—19859
  5-chloro-2-hydroxypyridine, tautomerism, IR and UV spectra 7—31047
  chloroazidobenzene derivatives, UV spectra, SCF-CI calcs. 7—57000
  chlorophyll-a, S_1 and T_1 spectra in visible region and S_1 bypassing relax. from two-photon excited states 7—47004
  chloroplast membranes, spectral effects of interaction with H^+, absorpt. and fluoresc. spectra obs. 7—54503
  cholesteric liq. cryst. mixtures, pitch, struct., phase transition point and optical props. studies 7—1881
  cresyl violet, spectral hole burning, 10 fs optical pulse probe investig. 7—50267
  cyanine dyes, Scheibe aggregate monolayers, without long alkyl chains, spectra, dichroism 7—59221
  α-cyanoacrylate cements for biomed. equipment, opt. parameters 7—25910
  cyclopropene, low-lying excited states, UV spectrum, ab initio study 7—62393
  demethyl porphyrins, monosubstituted free-base series, MCD study, INDO and CI calcs. 7—25401
  di-2-pyridyl ketone benzoylhydrazone, electronic UV absorpt. and IR spectra 7—25504
  di-2-pyridyl ketone salicyloylhydrazone, electronic UV absorpt. and IR spectra 7—25504
  dialkyl sulphides, heptane and acetonitrile solns., electronic struct., UV absorpt. spectra 7—5695
  1,2,5,6-dibenzanthracene in boric acid glass, electronic absorption spectrum 7—10606
  dibenzotetraphene, radical cations, electronic and photoelectron spectra 7—57079
  1,8-dichloroanthraquinone, triplet, excited state dynamics, transient absorpt. spectra 7—25530
  2-N,N- diethylamino-N-oxymethyl-4,6-dichlorophenol, OHO H-bond, X-ray diffr., IR and UV spectra 7—26731
  2,6-difluoropyridine, vibronic band system study, UV spectra anal. 7—42641
  dihematoporphyrin ether, cancer therapy drug, Langmuir-Blodgett films at water-air interfaces 7—65699
  6b,8a-dihydrocyclobut(a)acenaphthylene, photoisomerisation, solvent and irradiation parameter effects, visible and UV spectra study. 7—33947
  N,N′-dihydroxyethyldithiooxamide-do(d_4), vibr. anal., X-ray diffr., NMR, Raman, IR, visible and UV spectra 7—51741
  dimethyldioctadecylammonium bromine, charge-transfer-to-solvent transition, far-UV absorpt. spectra 7—57081
  dimethyldioctadecylammonium chlorine, charge-transfer-to-solvent transition, far-UV absorpt. spectra 7—57081
  dimethyldioctadecylammonium iodide, charge-transfer-to-solvent transition, far-UV absorpt. spectra 7—57081
  2,3-dimethylpyrazine, vibronic interaction, vibr. anal., UV spectra 7—31065
  dimethylritrosoamine excited singlet states symmetry and geometry, photodissoc. 7—54152
  dimethylsilylene, UV spectrum, geometry and vibr. freqs. 7—10610
  dinucleoside monophosphates, specific interactions with cognate amino acids, UV difference absorbance photometry study 7—65678
  3,4-diphenyl-2,5-dimethyl-2,4-hexadiene, free radicals, γ-irradiation generated, visible absorpt. and EPR spectra 7—57100
  1,2-diphenyl-3,3,4,4-tetramethylcyclobutene, free radicals, γ-irradiation generated, visible absorpt. and EPR spectra 7—57100
  dye deposited on glass and Ag substrate, nonlinear Langmuir-Blodgett films, struct. and optical props. 7—53259
  dye molecules adsorbed on silicate matrix, UV electronic spectra 7—42639
  enflurane, VUV absorpt. cross section meas. 7—926
  erbium(III) porphyrins, excited state, dual fluoresc. 7—10658
  3-ethyl-5-[2-(3-ethyl-2-benzothiazolinylidene)-ethylidene]-rhodanine, polymorphism and electronic props. 7—37959
  ethynylbenzene, ground state, UV emission spectrum 7—36635
  fluorene and derivatives, low-energy electronic transitions, UV-visible spectra 7—31062
  fluorenecarboxylic acids, and esters, solvent and pH effects, absorpt. and fluoresc. spectra anal. 7—50237
  fluoroform, mol. vibr., tridiagonal Fermi reson. Hamiltonian, visible spectral anal. 7—50154
  glycine, zwitterion, electronic excitation spectrum, aq. solvation effects, CI calcs. 7—50160
  trans-glyoxal, photodissoc., photofragment excited state distrib., fluoresc. spectra anal. 7—50226
  glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, Fermi reson., visible fluoresc. spectra anal. 7—50230
  glyoxal, $S_1 \leftarrow S_0$ vibr. transitions, rot. anal., visible fluoresc., spectra study 7—50229
  hematoporphyrin diacetate, singlet-singlet and triplet-triplet absorpt. spectra 7—10607
  hemoglobin A, Cu and Ni reconstituted, metal ion coordination 7—54464
  imidazole, vibr. spectrum, solvent, protonation and metal ion coord. effects, UV Raman spectra 7—25526
  impurity liq. cryst. spectra. complex vibron struct., polarisation absorpt. band splitting studies 7—17332
  iodomethane high-n Rydberg states, absorpt. density effects 7—50167
  iso-propyl radicals, radiolysis rate const. determ., UV absorpt. spectra 7—46860
  iso-propylperoxy radicals, radiolysis rate const. determ., UV absorpt. spectra 7—46860
  isocyanic acid, heat of form., photodissoc. study, time-of-flight and laser-induced fluoresc. spectra anal. 7—31105
  isoflurane, VUV absorpt. cross section meas. 7—926
  lithium phthalocyanine radical, optical and mag. props. 7—62417
  lutetium bisphthalocyanine, doped p- and n-type thin films, cond., visible spectra anal. 7—52865
  mercaptopyrimidines, substituted, vibr. IR, Raman and UV spectra 7—31043
  merocyanine dyes, J aggregate form. in mixed monolayers, visible spectra and surface pressure-area isotherms anal. 7—31059

visible and ultraviolet spectra of organic molecules and substances continued
  merocyanine Langmuir-Blodgett layers, optical props. 7—17351
  metal phthalocyanines, elec. and photocond., props., coordination metal effects *(Japanese)* 7—12753
  methane, oscillator strength, X-ray and VUV absorpt. spectra 7—36643
  methoxy(-d_3) radicals, gas-phase detection by reson.-enhanced multiphoton ionisation spectroscopy 7—31134
  5-methoxyindole, IR and electronic absorpt. spectra 7—50103
  5-methyl indole in polymer films, UV polarised absorpt. spectrum 7—925
  methyl thiyl radical+$NO(NO_2)(O_2)$, reaction rate consts., mol. fluoresc. anal. 7—19917
  1-methyl-2,4,6-triphenylpyridinium iodide, charge transfer complex, UV absorpt. spectra 7—36640
  1-methylcytosine, (010) and (101) single cryst. faces, transition-moment directions, polarised reflection spectra 7—15619
  methyldioxy radical self-reaction, rate constant, flash photolysis and UV spectral study 7—54075
  methylene radical, $^1A_1$ state and $^1A_1$-$^3B_3$ coupling, visible absorpt. and mag.-rot. spectra 7—49903
  methylene radical, $\tilde{b}^1B_1$ state, visible absorpt. and mag.-rot. spectra 7—50155
  4-methylindole, electronic transition, methyl substitution effect, UV spectra anal. 7—42642
  methylnitrene, matrix-isolated, IR and UV absorpt. spectra 7—42637
  1- methyluracil, electronic spectrum, polarised refl. spectra 7—27737
  monohalobenzenes, electron struct., mol. reactivities, He Penning ionisation spectra and UV photoelectron spectra anal. 7—25642
  multi-S π donor and π-acceptor charge transfer complexes, struct., elec. and optical props. 7—44513
  naphthalenes, disubstituted, singlet-singlet electronic absorpt. and polarisation, UV spectra 7—62394
  nematic liquid crystal, guided modes and surface plasmon-polaritons obs. with attenuated total refl. 7—64664
  nickel (II) tetra (p-vinylphenyl) porphyrin, benzene soln., aggregation and luminesc. props., visible spectra anal. 7—42635
  nickel phthalocyanine films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
  Nile blue, spectral hole burning, 10 fs optical pulse probe investig. 7—50267
  p-nitrobenzylideneanilines, UV-visible spectra, steric effects 7—57078
  nitroimidazoles, UV spectra, CNDO/S calcs. 7—19878
  nonlinear UV-visible spectroscopy for analysing higher electron excitation states of org. mols. 7—4897
  organic molecules in conformationally inhomogeneous solvents, solvation effect on UV and fluoresc. spectra 7—50234
  organic radical cations, electronic visible-UV spectra, LNDO/s PERTCI calcs. 7—50169
  oxadiazole derivatives, absorpt. spectra, expt. and quantum-chem. study 7—42488
  oxazole derivatives, absorpt. spectra, expt. and quantum-chem. study 7—42488
  peak-separation algorithm for personal computer, appl. to visible emission and IR absorpt. spectra *(Japanese)* 7—31015
  pentacene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
  pentaphenes, radical cations, electronic and photoelectron spectra 7—57079
  phenyl alkyl ketones, ring-substituted, in soln., absorption and fluorescence spectra 7—42671
  1-phenyl-3-methyl-5-pyrazolone, conform. and charge transfer, UV spectra 7—57168
  phenylsilane vapour, VUV spectra and multiphoton ionisation study, photolysis prod. of Si 7—50172
  photopigment spectra, unifying presentation 7—17992
  phthalimides, electronic spectra, dipole moments, polarizabilities and Onsager radii, solvent effect 7—31064
  picolines, absolute vacuum UV absorpt. spectra, absolute extinction coeff. and oscillator strength values 7—25536
  picolyltricyanoquinodimethane, mol. cryst., charge transfer transitions, electronic spectra 7—22279
  plasma film polymerisation, ion bombardment effects, deposition rates, IR, UV and visible absorpt. spectra studies 7—28312
  PMMA with low mol. weight additives, polymer destruction by UV and γ radiation by vibr. cross-relaxation 7—42800
  polaroid K, reson. Raman scatt., absorpt. spectra, amplitude mode model anal. 7—64658
  poly (N-benzyldiphenylaminomethane) film, synthesis, elec. and optoelectronic props. 7—45384
  poly-p-phenylenevinylene film, opt. and elec. props., band gap 7—46161
  polyacetylene:I_2 complexes, monosubstituted, isomerism, elec. cond., UV spectra 7—45289
  polyacetylene:I, photoexcitation spectra 7—64657
  polyacetylene:I (AsF_5) films, synthesis, elec. and optical props. 7—63513
  polyacetylene, I_2-doped, quantitative optical study 7—53380
  trans-polyacetylene, photoproduction of neutral soliton pairs 7—27265
  trans-polyacetylene, with broken symm., reson. Raman scatt., photoinduced absorpt. spectra 7—64656
  trans-polyacetylene(-d), ns time resolved photoinduced absorption spectrum 7—64668
  polyacetylene copolymers and composites, physical props., electrochemistry and environmental stability 7—2587
  polyaniline, localised mol. excitons, UV absorpt. spectra 7—31192
  polycyclic aromatic hydrocarbon cations, doubly-charged, form. and destruction, IR and visible spectra 7—55774
  polycyclic aromatic hydrocarbons, interstellar, possible visible luminesc. from Red Rectangle (HD 44179) 7—48008
  polydiacetylene, conductivity enhancement by chemical doping and ion implantation 7—21957
  polydiacetylene Langmuir-Blodgett films, ion beam irradiation 7—6690
  polyethylene, low-density, near-UV emission obs. during electrical-tree initiation 7—59259
  polyethylene films with Si incorporation, localized gap states, space-charge-limited current 7—52530
  polyiodide chain complexes, thin films, optical absorpt. spectra meas. 7—22366
  polymethine dyes, isomers, hidden struct. in visible-UV absorpt. spectra 7—50166
  polysiloxane liquid crystals, colour gamut 7—1857
  polystyrene, photodegradation, spectral differences, solvent effects 7—6675
  polythiophene, polymerisation from mono-, bi- and trithiophene oligomers, electronic props. 7—2597

visible and ultraviolet spectra of organic molecules and substances continued
polythiophene films, electrochemically polymerised, optical studies 7—51670
polyvinyl alcohol films, heat treatment, light irrad., polyene mixtures, absorpt. spectra 7—53432
polyvinyl carbazole plasma CVD thin films, photoconductive props. study, IR and UV spectra meas., electrode effects 7—27367
polyvinylene, reson. Raman scatt., absorpt. spectra, amplitude mode model anal. 7—64658
porphin free base, UV absorpt. spectra intensities, ab initio SCF-CI calcs. 7—10447
porphyrins, asymmetric, electron spectra, oscillator model anal. 7—31095
proteins, temp. perturbation differential spectra, deprotonation of tyrosine residues as possible cause of longwave max. 7—54460
purple membrane, circular dichroic spectrum of L form and blue light product of M form 7—54492
pyridylaryloxazoles, spectral-luminesc. and lasing props. study 7—43089
pyrozine, triplet lifetime, temp dependence, visible and IR phosphorescence spectra 7—22328
quinoxalines, antileukemia agents, UV-visible spectra 7—57080
rhodamine 6G, aggregated, in PMMA matrix, polarisation props. in transmitted light 7—31060
rhodamine 6G, aq. solns., conc. distrib. near adsorbing surface, UV-visible spectra 7—42640
rhodamine 6G, films and soln., optical consts. determ. 7—3064
rhodamine 6G, polymer matrix effect on spectral and lasing characts. 7—31309
rhodamine 6G*, transient excited singlet state absorption 7—57125
rhodamine 6G solns., adsorpt. effect on UV absorpt. spectra 7—39142
Rhodamine B, aqueous soln., difference spectrophotometry 7—25527
sodium taurocholate-bilirubin interaction, UV-visible absorpt. and fluoresc. spectra 7—50162
trans- stilbenes, poly(vinyl alcohol) films, photophysics study, visible spectra anal. 7—36632
7,7′,8,8′TCNQ, semicond., fluorescence spectra and electronic energy levels 7—27769
p-terphenyl single crystals, singlet excitons, transient photoabsorpt. spectrum 7—27729
tetracene films, vacuum deposited, illum. at substrate and nonsubstrate surfaces, asymmetries in optical props. 7—59277
tetraethylammonium chlorofluoroosmates, charge transfer transitions, UV-visible spectra 7—22283
tetraethylmethylenediamine-I_2 charge transfer complex, electronic struct. influence, electronic absorpt. spectra 7—10611
tetrafluoromethane, oscillator strength, X-ray and VUV absorpt. spectra 7—36643
tetramethylmethylenediamine-I_2 charge transfer complex, electronic struct. influence, electronic absorpt. spectra 7—10611
tetramethyltin, vac. UV spectra, interpretation 7—50171
tetraphenyl-tetrahydropophyrins and related mols. triplet-triplet absorpt., visible spectra 7—31061
1,2,4,6-tetraphenylpyridinium perchlorate, charge transfer complex, UV absorpt. spectra 7—36640
TGS:Fe^{3+} crystals, spatially distributed defects, luminescence studies 7—26770
tribromomethane, one electron transition, VUV spectra 7—10612
trichloromethane, one electron transition, VUV spectra 7—10612
2,4,6-trichloropyrimidine, liq. and vapour, electronic and vibr. spectra, UV and IR obs. 7—19859
triiodomethane, one electron transition, VUV spectra 7—10612
trimethylammonium cobalt chloride dihydrate, electronic absorpt. spectra of Co^{2+} 7—3065
tryptamine, transition moment and geometry determ. by rot. resolved electronic spectroscopy 7—31058
TTF-chloranil, neutral-ionic transition, phenomenological theory 7—26939
xanthene dye amino derivatives, fluoresc. characts. 7—42643
zinc (II) tetra (p-vinylphenyl) porphyrin, benzene soln., aggregation and luminesc. props., visible spectra anal. 7—42635
zinc tetra-2,3-pyridino porphyrazine, photoreduction, photochemical, electrochemical and spectroscopic study 7—33949
CH^+, interstellar mol., high resol. laser photofragment spectra 7—31063
CO, $b^3\Sigma^+$-$a^3\Pi_r$ system, Kaplan bands, UV obs. 7—62395
$Cr(CO)_5$(methanol), form. by photodissoc. of $Cr(CO)_6$, time-resolved spectrosc. 7—62399
Cu complexes, single and mixed ligand, bonding parameter, ESR obs. 7—50203
H_2-octaethylporphin in polystyrene, photochemical hole, transmission spectrum, temp. broadening *(Russian)* 7—15617
Hg-Ar complex, electronic states struct., pot. energy curves, visible fluoresc. spectra anal. 7—36631
Li ion pairs in tetrahydrofuran, indicator scale rel. to C acidity 7—51602
O_2, electroreduction, cobalt porphyrin effect, cyclic voltammetry and UV-absorpt. spectroscopy 7—59778
$PrCl_3$ organic complexes, spectral energies and oscillator strengths 7—3067
Sm^{3+} complexes, UV and visible absorption spectra 7—13176

visible astronomical observations
336 Lacadiera, occultation of SAO 185428 7—66494
0754+101, BL Lac object, V-magnitude obs. during new visual outburst (1986 September 30) 7—29540
1146+111 B,C, quasar, evidence against gravit. lens nature, spectral obs. 7—29553
1701+610, QSO with tidal tail, CCD imaging and spectroscopic obs. 7—4589
1934—638, galaxy, red CCD image characts. 7—35056
1985 CQ1, astrometric obs. and orbital elements from La Silla, Chile *(French)* 7—60593
1986 RA, discovery positions, orbital elements and ephemeris of Amor object 7—4360
1986 RA, ephemeris (1986 September 7 to 1987 January 25) and orbital characts. 7—4361
1986 TN, 1986 TO, 1986 TP, new fast-moving asteroids, discoveries and precise and approx. positions 7—18366
1986 TN, time correction for astrometric obs. (1986 October 6) 7—24044
1986 TO, Aten-type asteroid, astrometric obs. correction, orbital elements, and ephemeris 7—24044
1986 UD, fast-moving asteroidal object, discovery, astrometric positions and magnitude estimate 7—29421
1986 WA, astrometric positions, orbital elements and ephemeris (1986 December to 1987 February) 7—47751

visible astronomical observations continued
1986 WA, fast-moving asteroidal object discovery 7—34905
1986 WA, positions, orbital elements, and ephemeris of Apollo object asteroid 7—40739
1987 AB, discovery positions of fast-moving object 7—55519
-0 7—47962
A7, supergiant in SMC globular cluster NGC 330, composition anal. 7—34970
A and F-type dwarf stars in C0318+484 (α Per cluster), space vels. 7—4531
A to F-type shell stars, Hα and near-IR spectra 7—9497
Abell 370, arc structure in cluster of galaxies 7—60815
AC 211, photometric and spectroscopic periods of X-ray binary in M15 core 7—29514
AC 211, X-ray binary system in globular cluster M15, emission-line spectrum obs. 7—14596
active galactic nuclei, spectroscopic obs. and red shifts 7—4566
active galaxies, visible photometric obs. 7—66784
active-chromosphere stars, UBV photometry of ten southern objects 7—40830
CY Agr, SX Phe star, period changes determ. from light maxima anal. 7—29481
259 Aletheia, occultation of SAO 160139 on 1986 May 10, Australian obs. 7—14516
Am stars, Li abundance, reson. doublet obs. 7—60669
ancient comets and meteor showers, temporal correlations and genetic associations 7—55543
ancient meteor showers and comets, temporal correlations and genetic associations 7—55543
anomalous Cepheids in Sculptor dwarf galaxy, metal abundances and origins 7—4571
Anon 0052—07, SN 1986K spectral obs. 7—4495
Ap and Bp stars in Per OB2 association, spectroscopic obs. 7—66592
Ap stars in α Per, M39 and Coma Berenices clusters, spectroscopic obs. 7—66593
TT Aql, classical Cepheid, radial vel. curve 7—4470
V1343 Aql(=SS 433), stationary lines variable struct. 7—60689
V1302 Aql. (IRC+10420), supergiant OH-IR star, new emission features obs. 7—48101
V1343 Aql (SS 433), no optical variability on time scale of 10^{-6} to 10 s 7—66596
RY Aqr, low-mass semi-detached eclipsing binary, photometric obs. 7—60713
CX Aqr, semi-detached binary system, radial vels. and light curve anal. 7—47990
Fo Aqr (H2215—086), intermediate polar, visual and IR polarimetry rel. to origin of pulsations 7—47985
R Ara (=HD 149730), eclipsing binary star, UBV observations 7—35007
Archer variable stars near to Coma star cluster, existence of variability 7—18417
UX Ari, Hα line obs. of double-lined eclipsing RS CVn system 7—40873
α Ari, K-type giant star, spectral lines identifications and heliocentric radial vel. 7—14574
X Ari, RR Lyr star, distance determ. via Baade-Wesselink method, photometric and spectral obs. 7—66604
UX Ari, RS CVn star, autumn 1981 photoelectric obs. of starspot activity 7—9513
Aries flasher, 1986 August 13 Norwegian obs. of point source 7—35013
Arp 220, peculiar galaxy (IR bright), far-IR and optical observations 7—40931
asteroids, Minor Planet Circulars, precise positions 7—24046
asteroids, Minor Planet Circulars, precise positions 7—40743
asteroids, Minor Planet Circulars 10781-10884, precise posns. 7—9399
asteroids, Minor Planet Circulars 10885-10988, precise posns. 7—9400
asteroids, Minor Planet Circulars 10989-11094, precise posns. 7—9401
asteroids, Minor Planet Circulars 11095-11198, precise posns. 7—9402
asteroids, Minor Planet Circulars 11275-11374, precise positions 7—40742
asteroids, Minor Planet Circulars 11465-11560, precise positions 7—55520
asteroids, Minor Planet Circulars 11561-11680, precise positions 7—66495
astrometric standard stars, UBV photometry 7—4433
astrometry, diurnal var. of instrumental consts. of Tokyo Photoelectric Meridian Circle 7—4332
astrometry, internal refr. errors in USNO meridian circle 7—4333
atmospheric seeing, anal. of imaging props. of large reflecting telescopes 7—66461
θ-Aur, B9p star, chem. elements surface distrib. 7—66603
SS Aur, dwarf nova, energy distrib. and var., UBVRI obs. 7—40817
SX and TT Aur, eclipsing binaries, simultaneous differential photometry with St. Andrews twin photometric telescope 7—60731
IM Aur, eclipsing binary star, new light minima rel. to light-time effect 7—34999
ε Aur, eclipsing binary system, high-resolution spectroscopy during 1982-4 eclipse 7—4519
SS Aur, U Gem star, spectroscopic orbit 7—14581
B2 1225+317, QSO, high-resolution spectroscopy of z=1.79 absorpt. line system 7—66782
B2 1225+317, quasar, Lyman-alpha forest from 3140 Å to 3940 Å 7—48097
B2 radio quasars, magnitude distribs. rel. to optically-induced orientation bias 7—60832
B5, interstellar dark cloud, stellar polarisation meas. rel. to large dust grains 7—9529
B9-A2 stars in young open clusters, spectroscopic determ. of stellar metallicity 7—66565
B 361 Bok globule region, stars spectral and lumin. characts. 7—48052
B-type stars in open clusters and associations, atmospheric He abundances from optical spectra *(Russian)* 7—55626
Barnard 335, dense mol. cloud, mag. field characts. and polarimetric anal. 7—14625
Barnard 62, Bok globule, optical and IR evidence for star form. 7—9527
BD+13°3683, cool subdwarf, spectroscopic orbit and companion mass 7—40806
BD+1°4381, extreme H-deficient star, Stromgren photometry 7—66620
BD+37°444, double-lined binary in open cluster NGC 752, orbital elements and mass characts. determ. 7—66677
BD+40°0060, one component detected as RR Lyr star, UBV obs. 7—66617
BD+8°471, stellar occultation by Ceres asteroid, 13 Nov 1984 obs. 7—55432
BD—9°4395, H deficient star, light var. 7—4491
Be stars, Hα profiles atlas and shell struct. 7—14577

visible astronomical observations continued
Be stars, photometric variability of six objects from photoelectric RI obs. (1982 to 1983) 7—34996
Be stars, shell characts., rot. and spectral obs. *(Chinese)* 7—4459
Be stars, spectral energy distrib. 7—60671
Be-type stars of later types, Hα and near-IR spectra 7—9497
close binary stars, gravity darkening of distorted main-sequence components in detached systems 7—4505
binary systems with evolved primary components, relation to props. of main-sequence binaries 7—29505
bipolar nebular and jets from young stars Calar Alto obs. 7—48027
blue compact galaxies, spectrophotometric anal. 7—40920
bolide over N Europe, grazing incidence for 23 Sept. 1986 phenomena *(French)* 7—55580
YZ Boo, δ Sct star., period var, UBV obs 7—55662
TY Boo, BV photoelectric light curves 7—18435
CK Boo, W UMa star, photoelectric obs. rel. to light curve vars. 7—40870
44=i Boo (ADS 9494B), BV photoelectric photometry of W UMa system 7—55718
Boulder 4201 active region, mag. field obs. *(Chinese)* 7—4396
bright giants, rotation and macroturbulence 7—47847
Byurakan second spectral sky survey in UMa field 7—4352
C0318+484 (α Per cluster), internal kinematics of A and F-type dwarf stars 7—4531
3C 120, Seyfert galaxy, UV and optical obs. in two different states 7—55832
3C 273, quasar, UBVRI light var. 7—35062
3C 275.1, CCD imaging of host galaxy and gas cloud surrounding quasar 7—55848
4C 29.30, extended optical line and radio emission, galaxy merger 7—55805
3C 345, optical outbursts rel. to jet ejection from nucleus 7—4585
3C 428, neglected 3C radio source, VLA obs. and possible optical identification 7—14672
3C 446, quasar, visible and IR photometric obs. 7—35059
UU Cam, BV photometry of short-period variable 7—18408
α Cam, O-type supergiant, Hα line profile obs. rel. to atmospheric expansion 7—60638
η Car, Balmer profiles, Car II dust scattering 7—24153
υ Car, close visual binary star, spectral and radial vel. study 7—24164
EM Car, radial vel. study of massive O-type eclipsing system 7—9518
Carina dwarf galaxy, photometric obs. of RR Lyr stars 7—4570
V368 Cas, Algol-type binary, UBVR photometric studies 7—35009
γ Cas, Be star, interferometric meas. of circumstellar envelope in Hα line 7—4466
V373 Cas, early-type eclipsing binary, spectroscopic orbit and physical dimensions 7—55706
μ Cas, halo binary resolved at 850 nm wavelength 7—14570
α Cas, K-type giant star, spectral lines identifications and heliocentric radial vel. 7—14574
V641 Cas, photometry of VV Cep type star 7—18414
β Cas, probable δ Sct star, photometric obs. 7—55659
V375 Cas, semi-detached eclipsing binary, components radii, photometric obs. *(Chinese)* 7—4504
HT Cas, U Gem star, mean cycle length determ. 7—66598
ρ Cas, yellow supergiant, atm. radial pulsations, spectral obs. 7—40813
V509 Cas (HR 8752), UBV photometry of hypergiant 7—4452
Cas A, search for stellar remnant, improved brightness limits 7—66705
Case emission-line galaxies in direction of Bootes void, spectroscopic survey 7—29534
YZ Cassiopeiae, eclipsing binary star showing small out-of-eclipse changes 7—18434
cataclysmic variable stars, linear and circular polarisation obs. 7—9491
cataclysmic variable stars, photoelectric photometry of six objects 7—40828
V346 Cen, eccentric orbit eclipsing binary light curves from four-colour photometry 7—29507
ω Cen, globular cluster, rot., vel. dispersion, and mass determ. 7—9520
ω Cen, globular cluster, search for double-mode RR Lyr stars 7—4469
V822 Cen (Cen X-4), 1987 Jan. fade to pre-outburst brightness 7—66668
V834 Cen (E 1405—451), phase-resolved spectroscopy of AM Her star 7—66675
α Cen binary system, non-resonance Ca I lines obs. in optical spectrum 7—4444
Cen X-4 (V822 Cen), optical behaviour of X-ray binary star 7—18411
Centaurus galaxy cluster, struct. and distrib. of different galaxy types 7—9547
central galaxies in southern clusters, optical spectra rel. to evidence for star form. 7—55821
VW Cep, 1984-5 photoelectric times of minima 7—4514
DH Cep, BV light curves of massive close binary 7—18436
U Cep, classical Algol binary system, photometry rel. to accretion structs. 7—4512
BE Cep, contact binary star with components in poor thermal contact, light curves anal. 7—4521
CW Cep, early-type eclipsing binary star, apsidal motion determ. from min. light times 7—60729
AH Cep, early-type eclipsing binary star, photometric and spectroscopic study 7—47987
XZ Cep, eclipsing binary, spectral characts. 7—4511
CQ Cep, eclipsing Wolf-Rayet star, spectrophotometric and spectroscopic studies 7—66618
U Cep, interacting and eclipsing binary star 7—9482
U Cep, photometric asymmetry of disturbed eclipses 7—47991
μ Cep, red supergiant star, image of circumstellar envelope in Na I 589.0 nm line 7—4442
β Cep stars in NGC 3293, pulsation modes identification from photometric obs. 7—24150
Cepheid variables, radii and masses from surface-brightness methods 7—9492
Ceres, visual magnitude estimates (1986 April) 7—14516
Ceres (asteroid no.1), occultation of BD+8°471 star on 13 Nov 1984, photoelectric obs. 7—55432
δ Cet, β Cep star, appl. of new method for freq. vars. detect. 7—29477
δ Cet, β CMa star, photometric obs. 7—4468
5 Cet, ellipsoidal variable star, rot. vel. and mass ratio determ. 7—40878
o Cet, Tc abundance in Mira 7—47899
in CG 1116+51, He in dwarf irregular rel. to primordial abundance 7—55804

visible astronomical observations continued
Z Cha, eclipsing dwarf nova, white dwarf luminosity from eclipse photometry 7—4458
YZ Cha, VRI photoelectric obs. of Algol-type system 7—40874
Chamaeleon dark cloud, extinction and distance from photometry and spectroscopy 7—60763
Chamaeleon T-association, extinction, distance, and membership from photometry and spectroscopy 7—60763
Charon, radius and albedo from occultation by Pluto (1986 December 29) 7—55530
chemically peculiar stars in clusters and associations, rotation velocities, characts. and depend. on evol. 7—4475
Cl 0024+1654, cluster of galaxies, members three colour CCD photometry 7—14665
clusters of galaxies, components red shifts determ. 7—60817
α CMa (Sirius), angular diameter from amplitude interferometry 7—40811
YZ CMi, flare star, photoelectric monitoring and flare characts. (1980 to 1984) 7—4493
YZ CMi, flare star, simultaneous X-ray and optical monitoring 7—24151
α CMi (Procyon), rare-earth elements abundances 7—24128
AT Cnc, cataclysmic binary star behaviour in AD 1985/6 season 7—9486
AC Cnc, UBVR obs. of eclipsing cataclysmic binary 7—29489
λ Cnc occultation by Moon, 1986 November 22 graze event obs. 7—55431
P/Comet Bus (1987f), recovery, astrometry, orbital elements and ephemeris (1987 January to May) 7—55558
P/Comet Crommelin (1984 IV), scanner spectral obs. 7—34934
P/Comet d'Arrest (1976 XI), search for periodic photometric vars. 7—55564
P/Comet Du Toit-Hartley (1986q), recovery, astrometry and total visual magnitude estimate 7—47775
P/Comet Encke, spectroscopic observations during 1984 apparition 7—66508
P/Comet Giacobini-Zinner, ground based and in-situ observations 7—9433
P/Comet Giacobini-Zinner, ion tail struct. and interaction with solar wind 7—40778
P/Comet Giacobini-Zinner (1984e), column densities, prod. rates and spectral obs. 7—47767
P/Comet Giacobini-Zinner (1984e), spectral obs. during ICE encounter 7—18380
PI Comet Giacobini-Zinner (1985 XIII), astrometric positions (June to October 1985) 7—66504
P/Comet Giacobini-Zinner (1985 XIII), periodic photometric variations in near-nucleus zone 7—55564
P/Comet Grigg-Skjellerup (1986m), January and February 1987, spectra and magnitude 7—55560
P/Comet Grigg-Skjellerup (1986m), recovery observations 7—4368
P/ Comet Halley, (1982i), in situ photopolarimetric meas. of dust and gas in coma 7—14527
P/ Comet Halley, (1982i), optimum orbit determ. via ground-based astrometry and Vega spacecraft obs. 7—14525
P/Comet Halley (1910 II), spin vector refinement and discrete dust sources map (May-June 1910) 7—4365
P/Comet Halley (1982i), 1986 March spectral characts. *(Chinese)* 7—29426
P/Comet Halley (1982i), accurate positions *(Chinese)* 7—29425
P/ Comet Halley (1982i), CN jets obs. 7—47788
P/Comet Halley (1982i), dust emission ground-based obs. 7—18384
P/Comet Halley (1982i), Fabry-Perot ground-based obs. 7—18377
P/Comet Halley (1982i), Hα and 630 nm meas. 7—18378
P/Comet Halley (1982i), H alpha and O^1D spectra observations 7—66509
P/Comet Halley (1982i), H coma, Dynamics Explorer 1 observations 7—9431
P/Comet Halley (1982i), ion tail disturbance, 31 Dec. 1985 event 7—9418
P/Comet Halley (1982i), JHK photometry and visual magnitude estimates (1987 January 28 to February 12) 7—66512
P/Comet Halley (1982i), line profiles and images 7—18356
P/Comet Halley (1982i), linear features rel to thermomechanical stresses and surface cracks on nucleus 7—40772
P/Comet Halley (1982i), linear polarisation obs. 7—47782
P/Comet Halley (1982i), MMT spectroscopic obs. (1986 Nov.) 7—47771
P/Comet Halley (1982i), nucleus and jets, Vega 1 and 2 results 7—40771
P/Comet Halley (1982i), obs. of nucleus and jets by Vega missions 7—9438
P/Comet Halley (1982i), period from pre-perihelion light curve 7—29427
P/Comet Halley (1982i), photoelectric discovery of 52-hour periodicity in nuclear activity 7—55563
P/Comet Halley (1982i), photometry and activity of nucleus at pre-perihelion heliocentric distances > 4.6 AU 7—47763
P/Comet Halley (1982i), polarimetry of visible and UV molecular bands 7—66503
P/Comet Halley (1982i), pre-perihelion photometry at Catania (Italy) Observatory 7—34930
P/Comet Halley (1982i), pre-perihelion tail characts. and solar wind effects 7—24068
P/Comet Halley (1982i), role of CO_2 in outbursts 7—47783
P/Comet Halley (1982i), rot. period determ. from photometric obs. 7—47787
P/Comet Halley (1982i), sources of visual photometry 7—34941
P/Comet Halley (1982i), spatial structures imaging from Catania Observatory 7—18375
P/Comet Halley (1982i), spectral and visible magnitude obs. 7—55554
P/Comet Halley (1982i), spectral obs. *(Russian)* 7—4377
P/Comet Halley (1982i), TA reports (1986 May-June) 7—24069
P/Comet Halley (1982i), tail discontinuity obs. rel. to tangential discontinuity in solar wind rel. field *(Russian)* 7—55570
P/Comet Halley (1982i), total visual magnitude estimates (1986 August to October) 7—29429
P/Comet Halley (1982i), total visual magnitude estimates (1986 November 3 to December 4) 7—40781
P/ Comet Halley (1982i), Vega three-channel spectroscopy in visible and near-UV ranges 7—14519
P/Comet Halley (1982i), Vega TV obs. *(Russian)* 7—4374
P/Comet Halley (1982i), visual magnitudes, Dec. 1986 and Jan. 1987 observations 7—55546
P/Comet Halley (1982i) 7—40777
Comet Hartley-Good (1985 XVII), polarimetry of visible and UV molecular bands 7—66503

visible astronomical observations continued
Comet Levy (1987a), discovery, rough positions and total visual magnitude estimates 7−47777
Comet Levy (1987a), obs., orbital elements and ephemeris (1987 January 5 to February 4) 7−47779
Comet Levy (1987a), position in January 1987 and ephemerides 7−60602
Comet Levy (1987a), positions and magnitudes (1987 January) 7−47780
P/Comet Lovas 2 (1986p), astrometric positions, orbital elements and ephemeris 7−47778
P/Comet Lovas 2 (1986p), positions, orbital elements and ephemeris 7−47774
Comet Lovas (1986p), Nov. 1986 comet discovery 7−34940
Comet Lovas (1986p), positions, elements, and ephemeris (1986 Nov.-Dec.) 7−40780
Comet Machholz (1986e), TA reports (1986 May-June) 7−24069
Comet Nishikawa-Takamihawa-Tago (1987c), total visual magnitudes (1987 Jan.-Feb.) 7−66515
Comet Nishikawa-Takamizawa-Tago (1987c), discovery, elements and ephemeris (1987 January 25 to March 1) 7−55538
Comet Nishikawa-Takamizawa-Tago (1987c), discovery positions 7−55547
Comet Nishikawa-Takamizawa-Tago (1987c), positional observations, orbit and ephemeris 7−55549
Comet Nishikawa-Takamizawa-Tago (1987c), positional observations and improved orbit and ephemeris 7−55552
Comet Nishikawa-Takamizawa-Tago (1987c), total visual magnitude estimates (1987 January) 7−55555
P/Comet Schwassmann-Wachmann 2 (1986h), visual magnitude estimates (1986 Dec.-1987 Jan.) 7−55562
P/Comet Skiff-Kosai (1976 XVI)=1977 DV3, precise positions (1977 February 13 to March 12) 7−9435
Comet Sorrells (1986n), discovery, total visual magnitude estimates and positions 7−29428
Comet Sorrells (1986n), MMT spectroscopic obs. (1986 Nov.) 7−47771
Comet Sorrells (1986n), Nov. 1986 discovery and ephemeris 7−40776
Comet Sorrells (1986n), Nov. and Dec. 1986 magnitude observations 7−47773
Comet Sorrells (1986n), precise positions, 1986 November 2 to 4, orbital elements, and ephemeris 7−29430
Comet Sorrells (1986n), total visual magnitude estimates 7−55556
Comet Sorrells (1986n), total visual magnitude estimates (1986 November) 7−34938
Comet Sorrells (1986n), total visual magnitude estimates (January-February 1987) 7−66514
P/Comet Tempel 2 (1987g), recovery positions and ephemeris 7−55561
Comet Terasako (1987d), discovery and approximate positions 7−55550
Comet Terasako (1987d), orbital elements, ephemeris and visual observations 7−60603
Comet Terasako (1987d), positions, elements, ephemeris, and magnitude (1987 Jan.-Feb.) 7−55553
P/Comet Urata-Niijima (1986o), MMT spectroscopic obs. (1986 Nov.) 7−47771
comet Urata-Niijima (1986o) (=1986 UD), precise positions (1986 October 30 to November 4) 7−29431
P/Comet Wild 3 (1987e), recovery positions (1987 January-February) 7−55557
P/Comet Wilson (1986l), Feb. 1987 visual magnitudes 7−66513
Comet Wilson (1986l), IR and visual magnitudes (1986 September) 7−9436
Comet Wilson (1986l), MMT spectroscopic obs. (1986 Nov.) 7−47771
Comet Wilson (1986l), OH production rate from 1667 MHz obs. and visual magnitudes 7−29433
Comet Wilson (1986l), Sept. and Oct. 1986 visual magnitudes 7−18388
Comet Wilson (1986l), total visual magnitude estimates, spectra and CCD imaging 7−4367
Comet Wilson (1986l), total visual magnitude estimates (1986 October 17 to 23) 7−24079
Comet Wilson (1986l), total visual magnitude estimates (1986 November) 7−34939
comet Wilson (1986l), total visual magnitude estimates (1986 November 25 to December 7) 7−47772
Comet Wilson (1986l), total visual magnitude estimates (1986 December 20 to 27) 7−47781
Comet Wilson (1986l), visual magnitude estimate (1987 February 17) 7−66511
Comet Wilson (1986l), visual obs. and positions (1986 Aug.-Sep.) 7−34932
P/Comet Wiseman-Skiff (1987b), astrometry, elements and ephemeris 7−55548
Comet Wiseman-Skiff (1987b), discovery observations 7−55545
P/Comet Wiseman-Skiff (1987b), total visual magnitude estimates (1987 January 22 and 26) 7−55551
cometary orbits, calcs. from 1982-3 obs. 7−66505
comets, flare activity rel. to velocity waves in solar wind 7−4371
comets, magnitudes, coma and tail details for 24 objects (1982 Sep.-1986 Jul.) 7−34942
comets, magnitudes, coma and tail details for eleven objects (1985 08 to 1986 06) 7−14534
comets, Minor Planet Circulars, precise positions for ten objects 7−24046
comets, Minor Planet Circulars, precise positions for ten objects 7−40743
comets, Minor Planet Circulars 10781-10884, precise posns. for eight objects 7−9399
comets, Minor Planet Circulars 10885-10988, precise posns. for 17 objects 7−9400
comets, Minor Planet Circulars 10989-11094, precise posns. for nine objects 7−9401
comets, Minor Planet Circulars 11095-11198, precise posns. for 16 objects 7−9402
comets, Minor Planet Circulars 11275-11374, precise positions for 18 objects 7−40742
comets, Minor Planet Circulars 11465-11560, precise positions for 22 objects 7−55520
comets, Minor Planet Circulars 11561-11680, precise positions for 22 objects 7−66495
comets, optical and near-IR obs. rel. to wavelength depend. of grain scatt. 7−55535
comets, TA reports (1985 November-1986 August) 7−14533
comets, TA reports (1986 Aug.-Nov.) 7−55533
comets, TA reports (1986 January-June) 7−14532
comets in 1984, observations and designations 7−47790
comets TA reports (1986 November-1987 January) 7−55534

visible astronomical observations continued
compact blue dwarf galaxies, stellar populations and evol. 7−48078
compact galactic H II regions, extinction and reddening anal. 7−60747
coronal mass ejection associated with eruptive prominence, 18 Aug. 1980 event 7−24096
coude radial velocity obs. at Calar Alto Observatory, zero-point and accuracy 7−29409
CP2 stars in open clusters, photoelectric search (in IC 2391 and NGC 2451) 7−29486
CP2 stars in open clusters NGC 1039 and NGC 7092, photoelectric search and spectroscopy 7−18407
CP stars, statistics of 520 nm continuum depression depth 7−60664
CP stars with known rot. periods, effective temps. and luminosities rel. to radii, rot. vels., and axial inclinations 7−60663
T CrB, recurrent nova, UBV photometry rel. to short-term light vars. 7−55660
R CrB, UBV obs. 7−55661
θ CrB, UBV photometry, no eclipse in 1984-6 period 7−66610
RV Crv, near-contact binary system, radial vels. and light curves anal. 7−47989
?20 CVn, δ Sct star, radial vel. vars. obs. 7−9496
RS CVn binaries, Ca II H and K emission line analysis 7−40865
RS CVn stars, Hα and Li I obs. of σ Gem, α Aur, HR 6469, and 93 Leo 7−18437
RS CVn stars, Hα emission and X-ray characts. *(Chinese)* 7−29501
RS CVn stars, photometry and spot models rel. to rot. modulation and flares 7−4467
RS CVn stars, rot. characts., spectral obs. *(Chinese)* 7−66654
RS CVn stars, rot. vel., spectral obs. 7−60710
RS CVn stars, rot. vels. meas. *(Chinese)* 7−4503
60 Cyg, Be star and suspected eclipsing binary stars, UBV obs. 7−4484
EY Cyg, dwarf nova, visual magnitude (1986 August-September) 7−4480
Y Cyg, early-type eclipsing binary star, apsidal motion determ. from min. light times 7−60729
CG Cyg, eclipsing RS CVn star, photometry obs. 7−47896
CH Cyg, eclipsing symbiotic star, brightness var. and radio outburst characts. *(Russian)* 7−40847
ξ Cyg, K-type supergiant, atmospheric props. and Fe/H ratio from spectroscopic anal. 7−14573
55 Cyg, linear polarimetric obs. of Be star 7−18420
V382 Cyg, period of eclipsing binary star 7−35008
CH Cyg, possible end of shell spectrum phase and transition to real symbiotic star (1983-4), spectral characts. 7−4487
CH Cyg, spectral and photometric characts. 7−4486
P Cyg, spectral lines, multicomponent structure 7−4465
V1016 Cyg, spectrophotometric obs. of symbiotic star (1980-5) 7−4464
CH Cyg, symbiotic star, broad-band multicolour photometry 7−47926
V1016 Cyg, symbiotic star, photometric obs. rel. to dust shell form. (summer 1983) 7−47897
CH Cyg, symbiotic star, photometry and spectroscopy (April to November 1985) 7−18419
χ Cyg, Tc abundance in Mira variable 7−47899
V1329 Cyg, UBVRJHK photometry (1980-3) 7−29492
EY Cyg, visual magnitude estimates (1986 September) 7−9480
Cyg OB2 no.8A, UV and Balmer line profile vars. rel. to mass loss problems 7−47944
V645 Cyg-Duck Nebula complex, characts. and obs. 7−60655
511 Davida, speckle interferometry and photometry rel. to dimensions, rot. pole and albedo 7−24045
DDDM-1, C-poor halo planetary nebula, element abundances from optical and UV obs. 7−60766
δ Del stars, Li abundance, reson. doublet obs. 7−60669
diffuse interstellar bands in LMC, obs. at 637.6 and 637.9 nm 7−55758
diffuse interstellar lines, astrophysical influences on line strengths 7−48021
disk galaxies, populations of subclasses of ordinary and barrel spirals in various environments 7−24215
30 Dor, area spectroscopy of northern part of core 7−66698
AB Dor, fast H_α variations on a rapidly rotating spotted star 7−55627
AB Dor (HD 36705), 8.4 GHz and photometric obs. of active radio star 7−55628
AB Dor (HD 36705), active chromosphere star, evolutionary status from space vel. 7−24133
AA Dor (LB 3459), sdOB-type eclipsing binary ephemeris from primary minima obs. 7−24167
double stars, lunar occultations, photoelectric observations, final list 7−35003
UZ Dra, photometric light curve of eclipsing binary 7−55716
BY Dra stars, photometry and spot models rel. to rot. modulation and flares 7−4467
BY Dra stars among Pleiades G and K dwarfs, periods and light curves from VBLUW obs. 7−66686
Draco dwarf galaxy, magnitudes of bright variable stars 7−9483
Draconid meteor show, extremely low activity during Oct. 1986 maximum 7−18390
Dressler 36, ring galaxy discovery 7−14652
dust clouds, activity centres, spectral study (0.3-1300 μm) 7−48029
dwarf galaxies, low surface brightness, in Virgo cluster, H I synthesis obs. and surface photometry 7−4560
dwarf galaxies, spatial struct. determ. 7−29527
dwarf galaxies, surface brightness rel. to luminosity classification extension 7−60794
dwarf irregular galaxies, CNO abundances determ. 7−40939
dwarf K and M stars, BVRI photometry program 7−14571
dwarf stars, Na abundances, implications for Galaxy chemical enrichment 7−4446
E2, intermediate-age LMC cluster, colour-magnitude diagram rel. to age and metallicity 7−40883
E2, LMC hale cluster, deep CCD photometry and colour-magnitude diagram 7−66685
E3, metal-rich globular cluster, deep CCD photometry and colour-magnitude diagram 7−66685
1E 0104.2+3153, identification with BAL QSO, visible and X-ray obs. anal. 7−66787
E 2003+225, AM Her star, mass transfer and mag. field characts., spectrophotometric obs. 7−60722
early A-type stars, meridional mixing and C abundances 7−40815
early-type elliptical galaxies in Virgo cluster, colour distribs. from surface-brightness meas. 7−48070
early-type galaxies, H I content versus star form. and ionised gas 7−29528

visible astronomical observations continued
early-type stars assoc. with Sharpless H II regions at l∼190°, eight-colour photometry 7−55604
Earth rotation parameters, determ. from lunar laser ranging data *(Chinese)* 7−3959
Earth rotation parameters, estimation of accuracy in different freq. bands 7−54843
eclipsing binaries, Cancer to Corona Borealis, photometric obs. and revised elements (1972 to 1984) 7−4517
eclipsing binary stars, min. light epochs and light elements for 27 objects 7−4522
elliptical galaxies, circumgalactic shells morphology rel. to dark matter 7−66748
elliptical galaxies, more precise L-σ distance indicator 7−9541
elliptical galaxies, radical vels. rel. to non-uniform Hubble flow 7−24225
emission-line galaxies showing WR emission features 7−35039
emission-line stars in Canis Major star formation region, spectroscopic and photometric survey 7−18360
o^1 Eri, δ Sct star, nonradial oscills. props. from radial vel. study 7−47923
λ Eri, Be star, photometric variability 7−4490
BZ Eri, eclipsing binary star, UBV photometric study 7−14605
40 Eri A, proper motion meas. rel. to gravit. lens effect on background star 7−47861
ESO 121-SC03, CCD BV photometry of remote cluster in LMC 7−55745
ESO 428-G14, new Seyfert 2 galaxy, photometric and spectroscopic study 7−9538
exciting stars of very low excitation compact nebulae in LMC, UV and optical spectra 7−47883
EXO 023432−5232.3, discovery of probable AM Her binary 7−47980
extragalatic H II regions, He abundance and dY/dZ meas. 7−40937
F-type stars, activity levels from UV and visible spectra 7−47848
F-type stars, Li and Be-deficient main sequence stars, depletion mechanism and spectral obs. 7−14564
F-type subdwarfs used as spectrophotometric standards, photometric anal. 7−47851
F-types stars, granulation velocities meas. and 'rot effect' 7−4454
faint blue stars at high galactic latits., UV and visual spectra 7−47878
faint galaxies photometry, implications for cosmology and galaxy clustering 7−60915
faint Hα emission-line galaxies, spectral obs. 7−35032
fireballs and noctilucent clouds, search for correlation 7−29437
flare stars in Taurus region, UBV photometric study 7−24136
Fornax dwarf spheroidal galaxy, globular clusters radial vel. 7−14649
Fox Lake, Alberta, fireball, 1985 March 2, trajectory and prospects of meteorite fall 7−66520
G1200−2038, dwarf galaxy with Seyfert characts., spectroscopy and imaging obs. 7−48069
G339.2−0.4, kinematical study using narrowband interferometry of planetary nebula 7−24191
G5 to M-type stars at South Galactic Pole, density distribs. from spectroscopic and photometric surveys 7−4448
G 64−12, population II dwarf, ^{7}Li abundance of metal-poor star 7−60642
G and K type dwarf stars, large and kinematically unbiased samples 7−14572
G and K-type dwarf stars in Pleiades, VBLUW photometry 7−66686
galactic bulge, star counts, colour distrib. and colour lumin. arrays 7−14651
galactic nuclei, spectroscopic obs. for complete sample of galaxies 7−40921
galaxies, globular cluster frequencies rel. to galaxy mergers 7−4572
galaxies, H II regions and star form. rel. to Hubble type 7−48084
galaxies, interacting pairs, rotation curves and mass estimates 7−29530
galaxies, multicolour photometry to 24th magnitude in two fields 7−60793
galaxies, narrow emission line active objects, UV to IR continuum 7−40912
galaxies, nearby, effect of Virgocentric flow model on observed rels. 7−40723
galaxies, optical and IR colour-luminosity relations for complete galaxy redshift sample 7−24213
galaxies automated surface photometry, calibration and validation of photometric technique 7−60575
galaxies in Corona Borealis region, redshift survey rel. to large-scale struct. 7−40922
galaxies luminosity profiles, statistical study using spheroid-disk composite models 7−55817
galaxies near groups of galaxies, radial vel. meas. 7−4550
galaxies of Local Supercluster, rot. axes orientation 7−14662
galaxies with box and peanut-shaped bulges, minor axis brightness profiles 7−29526
galaxy clusters, photometric props. of poor clusters 7−55843
galaxy clusters, RI CCD photometry of three distance clusters and BVRI photometry of comparison fields 7−29542
Galilean satellite eclipse timings, for AD 1983 to 1985 period 7−55524
Galilean satellites, anal. of occultation obs. and comparison with theories 7−47754
Galilean satellites, photometric obs. of mutual events (Project Omega 1985/86) 7−18370
gamma-ray burst source 1979 March 25b (1810+31), position and magnitudes of possible optical counterpart 7−35068
Ganymede, tectonic framework of grooved terrain 7−24050
Ganymede, terrain types and local-style stratigraphy of grooved terrain 7−55525
GC 1556+335, quasar, ejected or intervening material model for absorpt.-line spectrum 7−29552
GD 66, pulsating white dwarf, phase-space reconstruction and dimension computation 7−29463
gegenschein, blue light survey by D2B satellite 7−24065
U Gem, dwarf nova, evidence for prolonged quiescence and large-amplitude flickering from early obs. 7−66621
geosynchronous debris in Earth orbit, CCD search 7−55413
P/Giacobini-Zinner (1984e), thermal IR and visual imaging 7−24073
giant extragalactic H II regions in nearby galaxies, integrated Hα profiles 7−14624
giant stars in globular clusters NGC 6171 and NGC 6723, DDO photometry and metallicities 7−9522
giant stars in metal-rich globular clusters, Washington system photometry and metallicities 7−9523

visible astronomical observations continued
GK-type supergiants, Hα line profiles anal. rel. to expanding chromospheres models 7−9470
Gliese 268, M dwarf double-lined binary, Digicon obs. 7−40875
Gliese 490A, BY Dra star, periodic var. 7−14582
globular cluster main sequences, CCD photometry rel. to stellar mass functions 7−66586
globular clusters in M31, cluster candidates in 3°×3° field 7−66478
globular clusters in M87, spectroscopic obs. 7−48001
globular star clusters, giant star radial velocity obs. 7−40886
Gum Nebula region T Tau stars, visible and IR characts. 7−55750
GX 339−4, compact component nature, spectral obs. 7−47974
H 0534−581, DQ Her star, identification, X-ray and visible obs. 7−60837
1H 0542−407, DQ Her star, identification, X-ray and visible obs. 7−60837
P/Halley (1982i), ion tail structures and vel. flows 7−18374
halo stars, Li abundances of metal deficient halo dwarfs 7−60641
halo stars, radial velocities, magnitude and spectral types 7−40809
Haro 6-5 complex, struct., polarisation obs. 7−48049
HD 101158, δ Sct star, photometry obs. freq. anal. 7−34989
HD 126859, low-amplitude multiperiodic δ Sct star, photometric obs. 7−29483
HD 1383, massive double-lined spectroscopic binary star, spectroscopic orbits determ. 7−4523
HD 149779, B-type eclipsing binary uvby photometry and light curve anal. 7−24161
HD 152391, HD 154417, Ca II emission solar-type stars, Stromgren uvby-Hβ photometry 7−55622
HD 164270, variable WC9 star, model of close binary with precessing disk 7−47925
HD 17198A, spectroscopic binary, orbital characts. and mass ratio, radial vel. anal. 7−55723
HD 1826, single-lined spectroscopic binary, photometric variability detect. 7−40871
HD 191765, Wolf-Rayet star, UBV photometry (1984 to 1986) 7−66615
HD 199178, FK Com star, rot. and radial vel., spectral characts. 7−14583
HD 34452, 5200 feature vars. in hot Si star 7−18421
HD 46703, Population II supergiant, N and S overabundances 7−66578
HD 50896, WR star, spectrophotometry and binary nature 7−55663
HD 55510, double-lined spectroscopic binary, orbital elements from photoelectric radial vels. 7−4518
HD 82558, chromospherically active single BY Dra star 7−34986
HD 88500, H I bubble related to WC star 7−40808
HD 96008, close binary or pulsating star, nature uncertainty, photometric obs. 7−60715
HD 97950, central object of giant H II region NGC 3603, speckle masking obs. 7−29502
HDE 310376, novalike variable, differential photometry 7−66622
He 2-104, He 2-106, symbiotic stars, spectrophotometric obs. of emission lines 7−9477
AM Her, 1985 light curve and colour indices characts. 7−66670
AH Her, dwarf nova, primary and secondary spectral obs. 7−60668
AH Her, dwarf nova outburst, UBVRI photometric obs. 7−34995
u Her, eclipsing spectroscopic binary BV photometry 7−14606
AM Her, optically variable X-ray binary star 7−4481
HZ Her, WBVR photometry during X-ray active period (1982-4) 7−29509
BL Her stars, spectral obs. 7−66476
AM Her stars, spectrophotometric detect. of secondary in three systems 7−9514
DQ Her stars and other cataclysmic variables, polarisation obs. 7−9491
Herbig Ae/Be stars, envelopes characts. 7−4473
Herbig-Haro objects and related stars, optical spectrophotometry 7−14630
Herbig-Haro objects exciting stars, evolutionary characts. determ. from spectral and lumin. meas. 7−40898
Herbig-Haro objects near Cep A star-formation region 7−35026
hot horizontal-branch stars in globular cluster NGC 6397, optical spectroscopy 7−47859
hot subdwarfs, Montreal-Cambridge survey of southern subluminous blue stars 7−14568
HR 3527, new eclipsing binary star, photometric obs. 7−47854
HR 3562, HR 3600, short period B-type variables, photometric obs. and identification as ellipsoidal variables 7−47854
HR 3831 (HD 83368), rapidly oscillating Ap star, anal. of l=1 dipole oscill. 7−47919
HR 6559, A7 IV star, abundance determ. 7−60647
HR 6902, composite-spectrum star, spectral types, orbital elements and mass ratio determ. 7−66674
HR 8107, new bright Be star, Hα and UBV obs. 7−24152
HR 8752 (=V509 Cas), G-type hypergiant, historical light curve (1840 to 1979) 7−24134
HV 12714, eclipsing and possible LMC membership, spectral obs. binary star, lumin. 7−47981
Hyades stars, positions and 60 mm obs. 7−4535
Hydra I cluster of galaxies, red shifts determ. 7−60816
IC 1194, ring galaxy discovery 7−14652
IC 1297, double-ring planetary nebula, spectrum and chemical analysis 7−60759
IC 2391, young open cluster, photoelectric search for CP2 stars 7−29486
IC 2944 aggregate as apparent conc. of stars, multicolour photometry 7−14617
IC 351, high-resolution obs., fluxes and electron temp. of small planetary nebula 7−14629
IC 443, supernova remnant, obs. in coronal [Fe X] 6374 Å line 7−48051
IC 5063 (PKS 2048−57), IR and optical polarimetry of radio elliptical galaxy 7−66762
1026 Ingrid, lost minor planet, identification with 1986 ES_2, 1957 UC, 1981 WL_8, and 1963 GD 7−40740
interstellar 443-nm diffuse absorption band, equivalent width obs. 7−24187
interstellar C_2, (3,0) Phillips band detect. towards ζ Oph 7−48043
interstellar diffuse bands in reddened OB stars, molecular origins 7−66697
interstellar molecules, visible and UV studies/1980-4 7−14639
interstellar Na I line strength versus reddening relation, influence on stellar population synthesis 7−9526
interstellar polarisation, max. wavelength obs. rel to gas-phase depletions and dust parameters 7−48015

visible astronomical observations continued
- interstellar very broad-band extinction structure, obs. by combined uvby and UBV photometry 7—48019
- interstellar [Fe X] 637.5 nm absorpt, in galactic halo and LMC, implications for million degree gas 7—55758
- Io, interpretation of phase curves of surface materials in terms of Hapke's function 7—55523
- IRA 03134+5958, optical identification as possible Herbig-Haro object 7—66720
- IRAS 00193—4033, 22231—4529, O-rich unidentified IRAS sources, optical and IR obs. 7—55853
- IRAS 00275—2859, identification as quasar, spectral characts. 7—18462
- IRAS 1912+172P09, new binary planetary nebula, spectroscopy and JHKL photometry 7—48046
- Jasper, Alberta, fireball, 1985 September 28, trajectory and prospects of meteorite fall 7—66520
- jets from young stars, CCD obs. 7—55617
- Juno, surface comp. and visible spectral characts. *(Russian)* 7—24047
- Jupiter, Galilean satellite eclipse timings: 1983/5 report. I 7—18368
- Jupiter, South Tropical Dislocation in 1983-4 period 7—47755
- K-type giant stars of galactic disk, metallicity variance 7—60640
- 22 Kalliope, photoelectric photometry and pole orientation from magnitude-aspect' relations 7—47749
- EV Lac, Bulgarian flare obs. (1986 Aug.) 7—55658
- EV Lac, eclipsing UV Cet star, photometric obs. of flares 7—66614
- EV Lac, flare star, photoelectric monitoring and flare characts. (1980 to 1984) 7—4493
- SW Lac, period change in W UMa system, UBV photometry 7—55720
- HK Lac, RS CVn star, long-term light vars. obs. rel to starspots distrib. 7—60724
- SW Lac, W UMa star, photoelectric light curves and elements 7—60718
- BL Lac candidates, X-ray selected, optical spectroscopy of six objects 7—48085
- BL Lac objects, short time-scale optical var. 7—14660
- BL Lac objects, updated list and relation to galaxies and quasistellar objects 7—47732
- BL Lac objects, visible photometric obs. 7—66784
- Lanning 10 (V363 Aur), eclipsing cataclysmic binary, component masses and spectrophotometric obs. 7—66602
- late-type dwarfs, radial vel. meas. rel. to binary nature 7—9516
- late-type galaxies, star formation rates determ. from surface photometry *(German)* 7—24207
- late-type giant stars, abundance anals. rel to departures from LTE in Na and Al 7—60662
- late-type Population I dwarf stars, Li abundances and ^{7}Li/^{6}Li ratios 7—14562
- LDN 723, dense mol. cloud, mag. field characts., polarimetric anal. 7—14625
- lensing galaxy of triple QSO PG 1115+080, photometric obs. rel. to redshift 7—66781
- η Leo, F0 IV star, abundance determ. 7—60647
- AD Leo, flare star, periodic var. 7—14582
- AD Leo, flare star, photoelectric monitoring and flare characts. (1980 to 1984) 7—4493
- T Leo, new SU UMa star, superhumps characts. from photometric obs. (1987 January 24 to 27) 7—66605
- X Leo, U Gem star, spectroscopic orbit 7—14581
- AD Leo, UV Cet star, flare activity anal. 7—29487
- AD Leo, UV Cet star, giant flare UV and visible obs. 7—55676
- LH 39, OB association in LMC, spectroscopic obs. rel. to age and initial mass of Wolf-Rayet member 7—66684
- LHS 288, LHS 1070, new nearby faint red stars, parallaxes and photometry 7—4455
- EH Lib, dwarf Cepheid, physical parameters from photometry and spectra 7—4492
- Liller's nova-like object in Centaurus, patrol/atlas magnitudes 7—18415
- LMC X-3, UV obs. and V, JHK photometry 7—55715
- ST LMi, AM Her star, B-photometry and light curve anal. 7—55717
- ST LMi, polarimetry of AM Her-type system 7—18438
- 10 and 11 LMi, standard stars, photometric var. due to active regions rot. 7—4489
- local interstellar medium, multi-component vel. struct. 7—35018
- low-luminosity M-type dwarfs as possible solar neighbourhood missing mass 7—48079
- LS IV—1°2, extreme H-deficient star, Stromgren photometry 7—66620
- LSI +65°010 (=2S 0114+650), visible and UV spectra of X-ray binary indicating mass ejection 7—29516
- RU Lup, RW Aur star, multifrequency obs. 7—47866
- Lynds 810, large dark globule, photometry and star counts rel. to distance and membership of Vul OB1 complex 7—24178
- V358 Lyr, fast nova or WZ Sge star, 1965 light curve 7—66613
- R Lyr, no Tc lines detected in Mira variable 7—47899
- β Lyr, search for secondary spectrum 7—55714
- V473 Lyr (=HR 7308), unique Cepheid variable, simultaneous photometric and radial rel. survey 7—29482
- RR Lyr stars, double-mode, in ω Cen, photometric search 7—4469
- RR Lyr stars, spectral obs. 7—66476
- RR Lyr stars in ω Cen and Baade's Window, spectroscopy 7—34979
- RR Lyr stars in Baade Window, radial vels. for 17 stars 7—55666
- RR Lyr stars in Carina dwarf galaxy, light curves and periods 7—4570
- RR Lyr stars in LMC, B and V magnitudes 7—47924
- RR Lyrae star, distant, in Draco, magnitudes, finding chart, and light curve 7—9498
- M101 group, gr CCD photometry of UGC 8508 assoc. dwarf galaxy 7—9550
- M11 and M67, open clusters, late-type stars precise radial vel. 7—35017
- M16, star-forming complex, obs. of giant stellar wind shell assoc. with H II region 7—18446
- M17 (Omega Nebula), Hα vel. field 7—66704
- M22, globular cluster, stellar proper motions, membership, and photometry 7—4530
- M31, halo and disk populations from two-colour photometry 7—4569
- M31, massive stars props. from obs. of OB associations 7—40926
- M31, nucleus, near-UV obs. with ESA Photon Counting Detector 7—4562
- M31, red supergiants, lumin. characts., BV obs. 7—60785
- M51, M100, obs. of stellar ovals and nuclear rings in galactic interiors 7—4568
- M51, spiral mag. field config., visible polarimetric obs. 7—60800
- M62, globular cluster, colour-magnitude diagram characts. 7—60737
- M67, Li abundance from Li I 670.7 nm line obs. 7—55746

visible astronomical observations continued
- M81, O and N abundance gradients from spectrophotometry of H II regions 7—40941
- M87 close companions, photometric and spectral characts. 7—66735
- M92, globular cluster, main sequence colour-magnitude diagram 7—66689
- M-type dwarf stars, photometry and spectra rel. to chromospheric activity, kinematics, and metallicities 7—9466
- Magellanic Cloud planetary nebulae, angular diameters from speckle interferometry 7—60756
- Magellanic H I bridge, 160 pc shell feature characts., stellar wind or SNR origin 7—35049
- magnetic stars, spectropolarimetry rel. to diagnostic contents of Stokes I and V line profiles 7—29484
- 1179 Mally, recovery of lost object and additional images 7—40738
- Markarian 1018, spectrophotometric study of variability 7—55807
- Markarian 231, Seyfert 1 galaxy, morphology and nuclear spectroscopy 7—48067
- Markarian 231, Seyfert galaxy/QSO, CO (J=1-0) emission detect. and optical imaging 7—66757
- Markarian 297, 325, clumpy irregular galaxies, U—G and G—K colours 7—24224
- Markarian 306, double nucleus galaxy, spectroscopic investigation 7—24199
- Markarian 35 (=NGC 3353), spectrophotometric characts. 7—40910
- Markarian 380 as z=0.475 Seyfert galaxy, spectrophotometry 7—40915
- Markarian 490, high ionisation starburst galaxy, spectroscopic and imaging obs. 7—4574
- Markarian 705, Seyfert ring galaxy, B and V surface photometry 7—66732
- Markarian galaxies, deficiency of normal elliptical galaxies from morphological classification 7—24201
- Markarian galaxies in Zwicky clusters, props of galaxies and clusters 7—4567
- Mars, linear volcanic features of Alba Patera identified as probable spatter ridges 7—55516
- Mars, meteorology in AD 1964 to 1983 period 7—55514
- Mars, obs. of sedimentary deposits in northern lowland plains 7—55517
- Mars, size-velocity distribution of large ejecta fragments from primary craters 7—24029
- Martian lava flows, small surface features anal. and comparison with terrestrial analogues 7—55518
- Martian limb hazes, vertical struct. from scattered light profiles 7—55513
- Martian valleys morphology, comparison with Hawaiian valleys and evidence for groundwater sapping 7—55095
- massive early-type stars in nearly galaxies (M31 and M33), IUE and optical obs. 7—47881
- massive stars in M31, photometry and spectra in OB associations 7—40926
- MC 1331+170, QSO, limit on surface brightness of Lyman alpha disk absorber 7—4587
- McCuskey stars near galactic anticentre, BV photometry 7—66571
- Mercury, K discovery in planetary atmosphere 7—24036
- merged galaxies remnants, vel. dispersions and evol., spectral obs. 7—55797
- metal rich globular clusters, spectral characts. 7—14614
- metal-poor late-type stars, O/Fe ratio from spectra 7—40803
- metal-poor variable stars, search for photometric variability 7—47915
- metal-rich globular clusters, metal abundance, metallicity scale 7—40881
- meteorites optical spectra, comparative anal. of spectral props. of achondrites and ordinary chondrites 7—66521
- meteors, TA reports (1986 August-October) 7—34947
- meteors, TA reports (1986 July-November) 7—55575
- meteors, TA reports (1986 June-August) 7—14542
- meteors, TA reports (1986 November-1987 January) 7—55576
- MG 4 and 5, WR stars in LMC near 30 Dor, spectrophotometry 7—60691
- AU Mic, BY Dra star, optical photometry and IUE spectra of flares 7—47939
- AT Mic, dMe star, UV and visible obs. 7—47934
- northern Milky Way, surface brightness V photometry 7—4556
- Mira variables, Balmer emission and visual magnitude obs. rel. to Mg II emission from shock waves 7—47938
- VY Mon, light polarization 7—4528
- V651 Mon in planetary nebula NGC 2346, light curve 7—4516
- Mon R1, starlight polarization 7—4528
- Moon, size-velocity distribution of large ejecta fragments from primary craters 7—24029
- Moon, total eclipse, 1982 July 6, ALPO obs. 7—18361
- MR 2251—178, quasar, imaging in O II and O III forbidden lines 7—60831
- MR 2251-178, quasar, extended O III 495.9+500.7 nm forbidden lines emission 7—35060
- Mrk 421, optical variability on short time scale 7—14660
- MSH 05—22(0503—286), giant radiogalaxy characts. 7—40918
- N44C1, LMC H II region, exciting start characts. 7—40892
- nebulous objects in outer Galaxy, catalogue for vel. field in Southern Hemisphere 7—18359
- Neptune, albedo variations, modulation by solar cycle 7—66502
- new possible variable stars, discoveries from photometric monitoring 7—4485
- NGC 1023-1023A as interacting galaxies, spectral and photometric characts. 7—35037
- NGC 1068, high-excitation extranuclear gas, spectrophotometry of Seyfert galaxy 7—24211
- NGC 1097, barred spiral galaxy with ring of star formation at centre 7—60777
- NGC 1275, 2D photometry of nuclear region of Seyfert galaxy 7—4555
- NGC 1566, barred spiral galaxy, imaging spectroscopy of spiral arm 7—24214
- NGC 1960, open cluster characts. determ. 7—4532
- NGC 2403, spiral galaxy, chemical comp. gradient and stellar mass limit 7—40940
- NGC 2420 field, stellar populations distrib. and RGU three-colour photometry 7—60783
- NGC 2451, young open cluster, photoelectric search for CP2 stars 7—29486
- NGC 2539, open cluster, membership, distance and evolutionary characts., UBV obs. 7—29521
- NGC 253, photometric examination 7—55819
- NGC 3079, 3998, and 4258, kpc structure from Hα CCD images of galaxies with compact radio nuclei 7—55810

visible astronomical observations continued
NGC 3242, kinematical study using narrowband interferometry of planetary nebula 7—24191
NGC 3347, spiral galaxy, UBVRI photometry rel. to light vars. 7—35034
NGC 3448, amorphous galaxy, photometry and H I dynamics 7—35041
NGC 346, young open cluster in SMC, photometry, spectra and radial vels. 7—48002
NGC 3923 and 3051, shell galaxies, shell lumin. characts., spectrophotometric obs. 7—55796
NGC 4151, broad-band study (γ-ray to IR) 7—60791
NGC 4214, 4449, blue irregular, galaxies, kinematics of H II regions 7—40925
NGC 4486, 4472 and 4406, elliptical galaxies in Virgo Cluster, colour gradients 7—35054
NGC 4861, He in dwarf irregular rel. to primordial abundance 7—55804
NGC 4922, binary galaxy, spectrophotometric investigation 7—24200
NGC 5430, galaxy with Wolf-Rayet knot, stellar population study 7—60778
NGC 5548, Seyfert 1 galaxy, double broad-line emitting regions as evidence for supermassive binary system 7—66756
NGC 5548, Seyfert 1 galaxy, evidence for black hole accretion event, He II obs. 7—35052
NGC 5548, Seyfert 1 galaxy, optical spectrum vars. rel. to multiple-component broad-line region 7—66750
NGC 613, barred spiral galaxy with collimated outflow from nucleus 7—60779
NGC 6166, g-band photometric decomposition of multiple-nucleus galaxy 7—55803
NGC 6388, globular cluster, RR Lyr stars photometry obs. 7—35016
NGC 6401, globular cluster, variable stars light curves 7—14615
NGC 6611, very young open cluster, stellar proper motions and membership 7—40882
NGC 6649, galactic cluster containing Cepheid variable V367 Sct, CCD photometry 7—55747
NGC 6752, globular cluster, photographic photometry of giant, asymptotic, and horizontal branches 7—29520
NGC 7039, NGC 7063, northern open clusters, Stromgren and Hβ photometry of early-type stars 7—66687
NGC 7293 (Helix Nebula), outer filament high radial vel. 7—60767
NGC 7469, type 1 Seyfert galaxy, emission lines mapping rel. to circumnuclear starburst 7—29536
NGC 7492, globular cluster, CCD photometric obs. 7—60738
NGC 7635 (Bubble Nebula), monochromatic obs. of ring nebula 7—55755
Nova And 1986, astrometric position and Dec. 1986 magnitudes 7—40843
Nova And 1986, BV photometric data 7—55656
Nova And 1986, discovery, approximate position, magnitudes and spectrum (1986 December 4 to 8) 7—40841
Nova And 1986, photometric and spectral obs. 7—47912
Nova And 1986, precise position spectroscopic obs., and visual magnitude estimates 7—47907
Nova And 1986, spectral features (1986 December) 7—47909
Nova And 1986, visual magnitude estimates (1986 December 16 to 1987 January 12) 7—47914
Nova Cen 1986, BV photometry and visual magnitude estimates (1986 Nov.-Dec.) 7—40837
Nova Cen 1986, discovery, position, magnitudes, photometry, prenova identifications 7—24146
Nova Cen 1986, spectra, photometry, and magnitudes (1987 Jan.-Feb.) 7—66606
Nova Cen 1986, spectral observations 7—55654
Nova Cen 1986, visual magnitude estimates 7—34991
Nova Cen 1986, visual magnitude estimates (1986 December) 7—47904
Nova Cen 1986, visual magnitude estimates (1986 December) 7—47911
Nova Cen 1986, visual magnitude estimates (1986 December 30 to 1987 January 13) 7—47913
Nova Cen 1986, visual magnitude estimates (1987 February 21 to 22) 7—66607
Nova Cyg 1986, August and September 1986 magnitudes 7—4482
Nova Cyg 1986, discovery, magnitudes, spectrum, and finding chart 7—18418
Nova Cyg 1986, IR and visible obs. (1986 August to September) 7—9481
Nova Cyg 1986, Oct. and Nov. 1986 magnitudes 7—34994
Nova Cyg 1986, spectra and magnitude estimates 7—18409
Nova Cyg 1986, two-colour photometric study (July to October 1986) 7—66611
Nova Cyg 1986, UBV obs. (1986 October) 7—18413
Nova Cyg 1986, UBV photoelectric photometry (1986 Dec.-1987 Feb.) 7—66609
Nova Cyg 1986, UBV photometry and visual magnitude estimates (1986 November) and December 7—47902
Nova Cyg 1986, visual magnitude estimates (1986 October 17 and 23) 7—24145
Nova Her 1987, Hα emission, position, and magnitude estimates (1987 Jan.-Feb.) 7—55657
Nova Her 1987, prediscovery photo and Feb. 1987 visual magnitudes 7—60687
nova in Hercules, January 1987, possible nova discovery 7—60686
Nova Lac 1986, discovery (1986 November 22), position and visual magnitude 7—34990
Nova Lac 1986, object at α=22h22m07s, δ=+48°12′41″ which is not a nova 7—34993
Nova Oph 1938, optical candidate (in M14) 7—60678
Nova Vul 1984 No.1, photometry and spectral obs. *(Russian)* 7—40848
Nova Vul 1984 No.1 (PW Vul) slow nova, abundances, visible and IR obs. 7—40850
Nova Vul 1984 no.2, visual magnitude estimates 7—4483
Nova Vul 1984 No.2, visual magnitude estimates (1986 September 10 to November 21) 7—40842
novae, UK patrol report (1986 no.5) 7—24142
novae, UK patrol report (1986 no.6) 7—14587
novae, UK patrol report (1986 no.7) 7—34988
novae, UK patrol report (1986 no.9) 7—55643
Novae And 1986, chart, magnitude sequence, magnitudes (1986 Dec. 8-10) 7—55645
novae space density in The Galaxy 7—40832
NRAO 140, quasar, visible and IR photometric obs. 7—35059
NS3, NS12, possible bipolar nebulae, optical polarisation study 7—48047
NS 105—67, massive double-lined O-type binary in LMC, spectroscopic obs. 7—55711

visible astronomical observations continued
NSV 12040, W UMa star, first ephemeris from photoelectric and visual obs. 7—66669
NSV 6708, magnitude range, finder chart, and position 7—18416
NSV 6708, visual magnitude obs. 7—4478
NSV 863, 917, 919, suspected variable stars in Fornax, photometric obs. 7—24149
O6 to A3 supergiants, M_v-W(Hγ) calibration 7—47860
O-F8 stars at SGP, radial vels. 7—60659
O-type main sequence stars, N III line strengths rel. to non-LTE model atmospheres 7—47846
OB 110 and 112 associations in M33 galaxy, photometric characts. 7—40927
OB supergiant stars, visible and IR continuum spectropolarimetric obs. 7—47845
OB-type stars, obs. of interstellar diffuse absorpt. band at 443 nm 7—24187
occultation candidate stars for Uranus' rings (1985-90) and Saturn's rings (1986-91), VI photometry 7—24124
OJ 287, BL Lac object, optical variation and outburst obs. (1980 to 1984) *(Chinese)* 7—4548
OJ 287, BL Lac object, V-photometric obs. 7—48076
OJ 287, BL Lac object, visual magnitude estimates (January 1987) 7—66760
old long-period variable stars in LMC, vel. dispersion determ. 7—55605
ON+325, optical variability on short time scale 7—14660
open clusters, RS CVn stars and blue stragglers 7—60741
Y Oph, classical Cepheid, radial vel. curve 7—4470
V451 Oph, eclipsing binary star, absolute dimensions from uvby light curves 7—29503
ζ Oph, interstellar C_2 (3,0) Phillips band detect. 7—48043
V2051 Oph, IR and optical photometry of eclipsing dwarf nova 7—55670
RZ Oph, long-period eclipsing binary, photometric and radial vel. study 7—29504
V2051 Oph, possible low-field polar, high-speed photometric obs. 7—60694
RS Oph, recurrent nova, optical spectrum and photometry in quiescence 7—24139
V2051 Oph, structure and variability of cataclysmic binary 7—18423
RS Oph (Nova 1985), coronal lines obs. in post-maximum spectrum 7—9499
ρ Oph dark cloud, multi-freq. obs. 7—48024
V346 Ori, antiflare star, circumstellar dust characts., light curve anal. 7—4441
α Ori, dust shell UBV polarisation meas. 7—34971
VV Ori, eclipsing binary star, UBV obs. 7—35004
β Ori, IUE and Hα obs. rel. to models for discrete absorpt. components in spectral lines 7—47886
α Ori, long-term UV spectroscopy and optical photometry (1984 to 1986) 7—47877
V351 Ori, Orion population star, quasi-periodic microvariability 7—40798
YY Ori, photoelectric UBV photometry (1979-84) 7—55618
ι Ori, spectroscopic binary star, optical and IUE obs. rel. to tidally induced mass loss 7—55738
64 Ori (HR 2130), B-type triple system 7—35001
FU Ori stars, wind characts. modelling, spectral lines anal. 7—66580
Orion Association, stars distrib. 7—55477
Orion Nebula region flare stars, survey 7—14591
Orion population stars, photometric vars., 1984/5 coordinated spectroscopy 7—40950
OX 169, quasar, visible and IR photometric obs. 7—35059
Palomar-Westerbork survey of northern spiral galaxies 7—40724
Paris Observatory APP 1985 meas. and time and latitude *(French)* 7—60509
peculiar emission-line supergiants, IUE and optical obs. of Henize-Carlson sample 7—47948
AT Peg, BV photoelectric photometry and light elements 7—66673
BO Peg, eclipsing binary, BV photometric and spectral obs. 7—66678
IP Peg, eclipsing dwarf nova, system parameters from high-speed photometry 7—14595
II Peg, RS CVn binary, photometric study (1980 to 1985) 7—4513
II Peg, RS CVn star, large amplitude spot var. 7—47984
AG Peg, symbiotic star, spectrophotometric obs. *(Russian)* 7—55669
EZ Peg, UBV photometry of RS CVn star 7—9517
II Peg (=HD 224085), light curve of active chromosphere star 7—66612
GK Per, 1986 November obs. of minor outburst 7—24147
RY Per, asynchronously rotating Algol binary study 7—35002
IZ Per, eclipsing binary, new period determ. and period trend from light min. times 7—66657
AG Per, eclipsing binary star, light curves anal. rel. to apsidal motion 7—66658
ε Per, extended line wings obs. rel. to lawn-sprinkling shock model 7—47849
GK Per, outburst obs. (1986 Nov.-Dec.) 7—40836
GK Per (Nova 1901), 1986 November outburst 7—47900
GK Per (Nova 1901), IUE spectra and visual magnitude estimates (November to December 1986) 7—47905
AG Per early-type eclipsing binary star, apsidal motion determ. from min. light times 7—60729
Perseus optical flashes 7—40835
PG 0946+301, broad absorption line QSO, spectrum from 550 to 4250 Å 7—55852
PG 1115+080, triple quasar, photometry of QSO components and lensing galaxy 7—66781
PG 1351+64, low-luminosity quasar, UV and optical variability obs. 7—55851
AD Phe, W UMa star, photoelectric light minima obs. rel. to decreasing orbital period 7—4501
PHL 1070, Q50, spiral galaxy nature, four-colour obs. 7—14675
PHL 227, UX UMa star, periodic light and radial rel. vars. obs. 7—55668
PHL 346, model atmosphere analysis of faint early-type halo star 7—66574
PHL 61, quasar, spectral characts. *(Russian)* 7—40957
PHL 61, quasar, spectral obs. *(Russian)* 7—40958
PHL 938, radio-quiet quasar, light curve *(Chinese)* 7—4583
PHL 957, QSO, limit on surface brightness of Lyman alpha disk absorber 7—4587
Phoebe, rot. characts. and V-photometry 7—34918
photoelectric meridian circle, annual and diurnal vars. of graduation error 7—47702

visible astronomical observations continued

- β Pic, circumstellar gas cloud, Ca II and Na I obs. anal. 7−24130
- PKS 0048-09, BL Lac object, visible and IUE obs. 7−60798
- PKS 0521−36, radiogalaxy, optical jet and nucleus photometric characts. 7−55789
- PKS 0537−441, multifreq. obs. of blazar in moderately active state 7−55811
- PKS 1912−54 and 2135−14, QSO absorption line systems 7−40953
- PKS 2005−489, BL Lac object, spectral characts. 7−18450
- PKS 2152−69, detached nuclear-like activity, CCD obs. of radiogalaxy 7−55824
- planetary nebulae, identification of misclassified objects from red and near-IR photometry 7−4542
- planetary nebulae, internal motions in 32 genuine PNe and misclassified object 7−4541
- planetary nebulae, spectroscopic obs. of 21 genuine and misclassified objects 7−66703
- planetary nebulae central stars, visual magnitudes and Zanstra temps., visible CCD obs. 7−66589
- Pleiades cluster, VBLUW photometric survey 7−4529
- Pluto-Charon eclipse events, December 1986, photometric obs. rel. to radii and albedos 7−55530
- Pluto-Charon system, CCD imaging 7−40760
- Pluto-Charon system, eclipse obs., April 1986, rel. to radii, orbital period, and orbital inclination 7−29424
- polarization standard stars, position angle wavelength dependence 7−9473
- Population II giant stars, C isotopic ratios determ. 7−60654
- Population II giants, Washington photometry, abundance calibrations 7−9471
- Potsdam PZT catalogue, comparison of star positions with four NPZT catalogues 7−4355
- Praesepe bright stars, rot. and spectral characts. 7−4534
- pre-main-sequence stars in Bok globule Barnard 62, optical and IR obs. 7−9527
- proper-motion stars, parallaxes from photographic astrometry 7−4296
- proper-motion stars, UBV photometry and radial vels. 7−47844
- PSR 1855+09, white dwarf companion star of binary millisecond pulsar 7−29500
- pulsating stars, Fourier coeffs. determ. from light curves decomposition 7−55602
- CF Pup, new ephemeris and V light curve 7−55719
- Q0118−031B, optimal extraction of spectra from obs. with two-dimensional detectors 7−47729
- Q1146+111B,C, double QSO, colours of field objects rel. to gravit. lens/string model 7−29554
- Q 1548+114A, B, implications of possible gravit. lens effects by foreground quasar 7−9554
- QSO 0046−293, obs. of first $z>4$ object 7−48096
- QSO clustering and evolution, optically selected sample study, dissertation 7−66785
- QSO fields at $z=1$-1.5, assoc. galaxy clustering 7−14667
- QSOs, C IV absorpt. systems characts. 7−66780
- QSOs, high-redshift, from UK Schmidt Telescope objective prism plates, spectroscopic obs. 7−24236
- QSOs in fields of nearby galaxies (NGC 55, 253, 300 and 5364) 7−18461
- QSOs in PC survey, obs. of low-z broad absorption line objects 7−24234
- quasar candidates among flat-spectrum radio sources, optical spectra and redshifts *(Chinese)* 7−4582
- quasar candidates in SA 94 field, objective-prism classification of US objects 7−66779
- quasar distribution clustering, results from objective-prism survey *(Chinese)* 7−4581
- quasar fields surveys, catalogue and background galaxy counts near intermediate-redshift QSOs 7−55495
- quasar in direction of LMC (0557−672), V-magnitude and redshift 7−4592
- quasars, brightness scale length of outer regions rel. to active nuclei characts. *(Russian)* 7−55826
- quasars, visible photometric obs. 7−66784
- quasars damped Ly α absorption, implications for disk galaxies form. 7−55794
- quasars in central region of Virgo cluster, space distrib. and redshifts 7−35063
- quasars Lα absorption systems, constraints on intergalactic voids at high redshifts 7−55823
- quasars of large redshift, CCD survey and spectral obs. 7−55846
- radiogalaxies, collision/merger origin of powerful sources, spectroscopy 7−60788
- RCW 103, young supernova remnant, obs. of expanding shells in filamentary edge of remnant 7−14632
- red stars near open clusters (NGC 129, 1664, 6819) B, V observations and variability 7−9484
- reflection nebulae, CCD surface photometry of bright nebulae 7−55773
- ROB 162, sdO star in globular cluster NGC 6397, NLTE-analysis 7−40805
- 2S 0918−549, X-ray binary, optical counterpart visible photometric obs. 7−60714
- S and MS stars, chem. comp. determ. 7−60681
- Sanduleak −69°202, SN 1987A progenitor in LMC, RI photometry 7−66640
- Saturn, evidence for additional small satellites from Voyager imaging obs. 7−24055
- Saturn, evidence for tenuous outer ring material from Voyager 2 photopolarimeter expt. 7−24056
- Saturn, ribbon feature in 45°-50° North light zone, baroclinically unstable model 7−40753
- Saturn, southern globe and ring features (1966-80) 7−18371
- Saturnian satellites, evidence for outer G-ring shepherding satellite 7−55526
- RT Scl, near-contact binary system, radial vels. and light curve anal. 7−47988
- Sculptor dwarf galaxy, giant stars radial vel. anal. 7−14654
- Sculptor dwarf galaxy, metal abundances and origins of anomalous Cepheids 7−4571
- Selected Area 57 quasar candidates catalogue of multicolour photometry, variability and astrometry 7−4591
- 16 Ser, binary Ba star, heavy element abundances 7−60680
- EG Ser, eclipsing binary, spectroscopic orbits 7−66676
- CV Ser, WC8 star, wind modelling, C III UV and visible spectra anal. 7−66625

visible astronomical observations continued

- Sex A, dwarf irregular galaxy, brighter stars visible photometric obs. 7−60808
- RU Sex as probable RR Lyr star, visual obs. 7−47917
- Seyfert 1 galaxies, emission line profiles and profile ratios 7−55818
- Seyfert galaxies, absolute spectrophotometry 7−24228
- Seyfert galaxies, brightness scale length of outer regions rel. to active nuclei characts. *(Russian)* 7−55826
- Seyfert galaxies, emission-line variability 7−14648
- Seyfert galaxies, luminosity function and space density 7−24202
- Seyfert galaxies, surface brightness distrib. 7−40909
- Seyfert galaxy nuclei, near-UV spectroscopy rel. to reddening and Bowen fluoresc. 7−55801
- U Sge, asynchronously rotating Algol binary study 7−35002
- U Sge, classical Algol binary system, photometry rel. to accretion structs. 7−4512
- FG Sge, photometric search for rapid oscills. 7−4476
- RS Sgr, Algol-type system, fainter component lines 7−66679
- υ-Sgr, H-deficient binary star, evidence for pulsation from UBV light curves 7−14608
- LR Sgr, Mira variable, photometric obs. rel. to identity with reported possible nova 7−4479
- N4046 Sgr, T Tau star, UV and visible obs. anal. 7−47869
- V503 Sgr (=G154−12), variability and proper motion of star 7−47831
- Sh2-155, emission region, blue refl. nebula detect. 7−66723
- Sharpless 216, kinematical study using narrowband interferometry of planetary nebula 7−24191
- Sharpless 252, assoc. dust and gas, UBVRI polarimetry and molecular line obs. 7−48023
- SMC, Nova 1986, discovery, position and visual magnitude estimates 7−47910
- SMC, Nova 1986, discovery, spectra and visual magnitude estimates 7−47901
- SMC, Nova 1986, October 1986 magnitude estimates 7−55655
- SMC F to M-type stars, CORAVEL photoelectric radial vels. and comparison with spectrographic radial vels. 7−66738
- SMC globular clusters stars, spectral classification 7−29412
- SMC globular clusters stars, spectral classification of bright stars 7−4354
- SMC N2, planetary nebula, mass determ. by speckle interferometry 7−24183
- SMC star clusters, observed radii and structural parameters 7−4564
- SN 1985F in NGC 4618, optical light curve 7−40851
- SN 1986 M in NGC 7499, prediscovery and 1986 Dec. magnitudes 7−47952
- SN 1986E, SN 1986I, type II supernovae, spectroscopic obs. 7−47956
- SN 1986G in NGC 5128, upper limits on pre-discovery magnitudes, and visual magnitude estimates 7−9501
- SN 1986J, in NGC 891, radio supernova, upper limits on B-magnitude from Schmidt plate obs. 7−18429
- SN 1986J in NGC 891, spectrum and radio detections 7−9503
- SN 1986K, in anonymous galaxy in Cetus, discovery, precise position, and magnitude estimate 7−9502
- SN 1986L, in NGC 1559, spectroscopic obs. and visual magnitude estimates (1986 October 9 to 12) 7−18428
- SN 1986L in NGC 1559, precise position and magnitudes 7−18427
- SN 1986L in NGC 1559, UBV and visual magnitude estimates 7−40852
- SN 1986L in NGC 1559, visual magnitude estimates (1986 November 1 to December 11) 7−47953
- SN 1986M in NGC 7499, spectroscopic identification as type Ib supernova 7−47956
- SN 1986N, type Ia supernova in NGC 1667, spectroscopic obs. and precise positions 7−47956
- SN 1986N in NGC 1667, 11 Dec. 1986 supernova discovery 7−47954
- SN 1986O in NGC 2227, discovery, approximate position, and magnitude estimate 7−47958
- SN 1986O in NGC 2227, spectra of Type Ia object 7−55692
- SN 1987A, in LMC, discovery, precise position, possible progenitor, photometry, and spectrum 7−66628
- SN 1987A in LMC, astrometric obs. and visual magnitude estimates 7−66642
- SN 1987A in LMC, multiple nature of progenitor star, (Sanduleak −69°202) 7−66636
- SN 1987A in LMC, optical spectra, radiobrightness and double nature of progenitor 7−66634
- SN 1987A in LMC, photometric and spectral obs. (1987 February 24-26) 7−66632
- SN 1987A in LMC, photometric and spectral obs. and evidence for companion to progenitor 7−66630
- SN 1987A in LMC, photometry and spectral characts. (1987 February) 7−66640
- SN 1987A in LMC, progenitor position, photometry, and polarization 7−66631
- SN 1987A in LMC, spectral evolution (1987 Feb. 25-Mar. 1) 7−66641
- SN 1987A in LMC, Type II SN, astrometry, spectral and photometric obs. and progenitor characts. 7−66629
- SN 1987A in LMC, vel. systems of interstellar absorpt. lines 7−66637
- SN 1987B in NGC 5850, Feb. 1987 discovery observations 7−66633
- SN 1987B in NGC 5850, Feb. 1987 supernova observations 7−66635
- SN 1987B in NGC 5850, Type II SN, spectral characts. 7−66639
- solar chromospheric flare eruption, 1985 September 12, prominence spectrograph obs. and interpretation *(French)* 7−60617
- solar constant, exptl. meas. by Spacelab 1 radiometer 7−66549
- solar corona, density, temp. and expansion vel. meas. during eclipse (1980 February 16) 7−29449
- solar F-corona, interferometric obs. of radial vel. field between 3 and 7 solar radii 7−66535
- solar filaments, Hα and He I struct. compared with high-resolution microwave obs. 7−24091
- solar flare complex, May 1981, development rel. to global solar mag. field 7−4410
- solar flare complex, May 1981, kinematics of mag. field decrease 7−4411
- solar flare loop prominence, motion of prominence matter *(Chinese)* 7−4413
- solar global oscillation spectrum, obs. of low-l, high-n p-mode spectrum 7−47802
- solar granulation, photospheric intensity fluctuations at meso-granulation scale 7−47800
- solar granulation and dark networks, morphology and classification 7−47816
- solar granulation structure, granules size distrib. from high. resolution images 7−66550

visible astronomical observations continued
- solar magnetic field distribution, relation to geomag. activity 7−18400
- solar Mn I and C I lines, appl. as temp. diagnostics for photospheric inhomogeneities 7−66553
- solar prominence of 18 Aug. 1980 associated with coronal mass ejection 7−24097
- solar spectral lines in 430 to 670 nm wavelength range with large Stokes V-amplitudes outside sunspots, catalogue 7−66554
- solar three-ribbon long-decay flare, 1981 October 12, Hα and X-ray obs. 7−55595
- South Galactic Pole field, star counts and colour indices 7−4573
- southern spiral galaxies, BV photometry and radial vel. 7−66768
- spectroscopic binary stars, vel. amplitude vars. rel. to freq. of triple and multiple systems 7−55708
- spectroscopic binary stars of spectral types B0 to B9, search for Hα emission 7−35005
- spectroscopy of point sources and extended objects at high dispersion using echelle/CCD spectrograph 7−66474
- star clusters in SMC, catalogue of 213 new clusters 7−47735
- starburst galaxies, spectroscopic study 7−24222
- stars, Johnson U passband characts. 7−4349
- stars, photospheric granulation, line asymmetries 7−60627
- stars, trigonometric parallaxes, Yerkes Observatory 40-inch refractor meas. 7−14556
- stars in solar neighbourhood, extinction distrib. from uvbyβ study 7−18443
- stars of South Galactic Cap, astrometry, trigonometric parallaxes, proper motions and photometry 7−47734
- stars of South Galactic Cap, parallaxes and proper motions rel. to stellar populations, density functions, and luminosity distribs. 7−47832
- stellar photometry, 20 years of atmospheric extinction meas. at McDonald Observatory 7−47541
- stellar VRI photoelectric sequence towards South Galactic Pole, meas. 7−40880
- Stock 17, young open cluster, photoelectric UBV photometry 7−4533
- subdwarf stars, kinematics of 1125 high-proper-motion stars rel. to collapse of Galaxy 7−47843
- Sun, 1984 meas. of oblateness variability 7−60620
- Sun, active prominence (1978 June 13) dynamics 7−4405
- Sun, ALPO Solar Section observations for rotations 1745-7 (1984 Feb.-Apr.) 7−18396
- Sun, Ca II K-line shifts in He I 1083 nm dark points 7−66555
- Sun, chromosphere, 1982 December 2 flare, semi-empirical time-varying models *(Chinese)* 7−66528
- Sun, effects of finite spectral resolution on Stokes V profile in circular polarisation spectra 7−47803
- Sun, eruptive prominence at several solar radii, physical conditions 7−4426
- Sun, Fe I lines in facular areas, shifts and asymmetries 7−66529
- Sun, Fe I photospheric lines, 5-min oscills., in wings and bisectors 7−66530
- Sun, filaments, oscillations in Hα and C IV lines 7−60614
- Sun, global oscill. spectrum from daily power spectra of vel. meas. 7−47798
- Sun, granulation deformation near and in sunspot regions 7−4415
- Sun, identifications of weak CN-lines in solar spectrum in 413.9 to 421.5 nm region 7−4412
- Sun, inner corona, spectral obs. during 1973 June 30 total eclipse 7−24117
- Sun, intensity oscillations, ground-based photometric obs. 7−60615
- Sun, latit. migration of polar faculae during solar activity cycle (1970 to 1978) 7−34966
- Sun, luminosity changes in AD 1980 to 1985 period, satellite observations 7−66548
- Sun, magnetic fluxtubes diagnostics, use of Stokes profiles 7−60613
- Sun, meridional motions of sunspots and sunspot groups (1917 to 1983) 7−47810
- Sun, oscillations, excitation and damping, BBSO obs. 7−40792
- Sun, p-mode interaction with sunspot 7−60619
- Sun, post flare loops obs. at 1980 February 16, total eclipse 7−4424
- Sun, prominence structure and activation based on radio and optical obs. 7−29447
- Sun, quiescent filament, Hα and C IV vel., centre-limb anal. 7−14551
- Sun, small-scale energy release observed on limb, He I D3 lines characts. 7−24113
- Sun, spicules, continuous spectral obs. 7−24115
- Sun, sunspots semiempirical modelling 7−4408
- Sun, TA activity report (1986 December) 7−55588
- Sun, TA activity report (1986 November) 7−55587
- Sun, TA activity reports (1986 August) 7−14553
- Sun, TA activity reports (1986 June) 7−14552
- Sun, TA activity reports (1986 June-July) 7−24093
- Sun, TA activity reports (1986 September) 7−34963
- Sun, two-ribbon flare, spectra and chromosphere dynamics *(Chinese)* 7−29443
- Sun. chromosphere active region loops 7−4418
- Sun parameters of coronal emission line at 530.3 nm during solar eclipse (1981 July 31) 7−29448
- sunspot group, June 1963, mag. field and photospheric development 7−29451
- sunspot groups, abnormal mag. structures and rapid vars. rel. to SWF flares *(Chinese)* 7−4390
- sunspots, broad-band circular polarization 7−47818
- sunspots, observations for solar rotations 1748 to 1753, visual and photographic obs. 7−55596
- sunspots, simultaneous meas. of umbral oscills. in photosphere, chromosphere and transition region 7−66542
- sunspots and major flares, statistical relationship 7−66536
- super metal rich stars, Mg isotopic characts. determ. from MgH spectral obs. 7−60645
- supergiant elliptical galaxies, spectroscopic studies, dissertation 7−66769
- supernova in NGC 7499, discovery of SN 1986G 7−40853
- supernova remnants in giant H II regions, kinematic detection 7−55764
- supernovae, UK patrol report (1986 no.5) 7−24142
- supernovae, UK patrol report (1986 no.6) 7−14587
- supernovae, UK patrol report (1986 no.9) 7−55643
- supernovae discovery in NGC 1559, Oct. 1986 observation of SN 1986L 7−18425
- symbiotic stars, spectrophotometric obs. 7−4474
- TASV 051228a/b on Tau-Aur border, positions and chart 7−14589
- RY Tau, photometric var. of T Tau star (1984/5) 7−40950

visible astronomical observations continued
- SU Tau, R CrB, visual magnitude estimates 7−47903
- SU Tau, R CrB star, visual magnitude estimates during decline (1986 October 26 to November 3) 7−29494
- T Tau, rot. period and inclination angle from photometric obs. 7−55620
- RY Tau, T Tau star, UV and visible variability 7−55632
- SU Tau, visual magnitude estimates (1986 November) 7−40840
- SU Tau, visual magnitude estimates of R CrB star (1986 Nov.) 7−24148
- 28 Tau (=Pleione), changes in circumstellar shell of Be shell star 7−18412
- V711 Tau (HR 1099), Hα line obs. of bright RS CVn system 7−40873
- T Tau stars, characts. of light vars. 7−47858
- T Tau stars, circular polarisation due to grains 7−40810
- T Tau stars, rot. vels. obs. and anal. 7−4443
- PZ Tel (HD 174429), active chromosphere star, evolutionary status from space vel. 7−24133
- Texas radio source survey, search for optically variable objects 7−4580
- Tokyo Astronomical Obs., Time and Latitude Bulletins (April to June 1986) 7−23977
- Tokyo Astronomical Obs., Time and Latitude Bulletins (July-September 1986) 7−55433
- Trapezium cluster in Orion Nebula, photometry and spectroscopy 7−66688
- Trifid reflection nebulae, dust grain characts. 7−35024
- triple stars north of +70°, micrometric meas. *(German)* 7−60717
- AQ Tuc, contact binary system, radial vels. and light curve anal. 7−47988
- 47 Tuc, globular clusters, rot., vel. dispersion, and mass determ. 7−9520
- 4U 1907+09, X-ray binary pulsar, high-resolution spectrum of peculiar optical counterpart 7−18440
- AN UMa, AM Her star, light curve var. due to accretion flow channelling by white dwarf mag. field 7−60720
- CH UMa, dwarf nova, visual magnitude estimates rel. to rapid flickering during outburst 7−66608
- DN UMa, eclipsing binary, spectroscopic orbits 7−66676
- BZ UMa, photometry of dwarf novae indicating low state 7−47908
- XY UMa, RS CVn star, photometric characts., contrib. of star spots 7−47976
- CH UMa, visual magnitude estimates (1986 Oct.-Nov.) 7−40838
- SU UMa, visual magnitudes during supermaximum (1986 October) 7−18410
- DM UMa (BD+61°1211), Hα line obs. of single-lined RS CVn system 7−40873
- W UMa stars, light curves anal. for four objects 7−35006
- RR UMi, semiregular variable in binary system, revised spectroscopic orbit 7−4520
- Ursa Minor dwarf galaxy, star proper motions and bright-star photometry 7−14653
- UV-excess galaxies, Kiso survey 7−4351
- UV-excess objects in Galactic plane, KPD survey for white dwarfs and subdwarfs 7−9383
- uvby standard stars, four-colour obs. of primary and secondary standards 7−9462
- variable stars, TA obs. (1985 August-1986 January, 1986 June) 7−14586
- variable stars, TA observations (1986 August) 7−14588
- variable stars, TA observations (1986 December) 7−55646
- variable stars, TA observations (1986 July) 7−24143
- variable stars, TA observations (1986 November) 7−55644
- variable stars, TA observations (1986 September) 7−34987
- variable stars in globular cluster NGC 6637, spectroscopic identification as Mira variable 7−47906
- variable stars in South Galactic Cap, photographic survey 7−14593
- FY Vel (=HD 72754), satellite line system spectra of eclipsing binary 7−47983
- Vela Star Cloud, foreground reddening struct., photometry obs. 7−35015
- SS Vir, annual proper motion of Mird variable 7−40845
- *o* Vir, Ba star, heavy element abundance 7−60680
- 73 Vir, Stromgren photometry of new δ Sct variable 7−40822
- α Vir (Spica), uvby photometry 7−40823
- Virgo Cluster, dwarf irregular and elliptical galaxies, comparative photometric parameters 7−35053
- Virgo Cluster irregular galaxies, UBV characts. 7−14666
- Virgo galaxy cluster, orbits of H I deficient spiral galaxies 7−24230
- visual binary stars, mass ratios from photographic astrometry 7−4296
- visual binary stars, orbital elements for 20 systems 7−4507
- visual double stars, orbital elements for six pairs *(French)* 7−18430
- visual double stars, orbital elements for twenty-one pairs 7−18431
- VM No.1 in field of galaxy DDO 155, cool subdwarf radial vel. anal. 7−66588
- BW Vul, β Cep star, coordinated photoelectric photometry from thirteen observatories 7−29485
- T Vul, classical Cepheid, radial vel. curve 7−4470
- QQ Vul, long-period AM Her star, period determ. using new minima from old plates 7−66672
- PU Vul, peculiar symbiotic star, binary characts. and spectral obs. *(Chinese)* 7−4460
- PW Vul, visual magnitude estimates (1986 May-November) 7−40839
- LV Vul (Nova Vul 1968 No.1), post-max. spectral evolution 7−29490
- S Vul cluster (C 1947+272), UBV photometry rel. to reddening, distance and age 7−14620
- Vul OB1 association, photometry of B-type stars and relationship with S Vul 7−14620
- W3 molecular cloud complex, dust clouds distrib. from stellar colour excesses 7−48004
- WD 1225−09, spectral type and classification 7−55625
- white dwarf in wide binaries, physical props., from multichannel spectrophotometry 7−14566
- white dwarfs, Montreal-Cambridge survey of southern subluminous blue stars 7−14568
- white dwarfs, spectroscopic obs. of cool degenerate star condidates 7−4450
- white dwarfs in wide binaries, double degenerates and composite spectra 7−14567
- Wolf-Rayet stars, photometric variability of complete northern sample 7−14585
- X1735−444, low-mass X-ray burst source, X-ray and optical variability obs. 7−24165
- X1735−444 (V926 Sco), optical/X-ray burster, orbital period from CCE photometry 7−9515

visible astronomical observations continued
X-ray sources, extragalactic, relation between X-ray luminosity and redshift 7—14679
Yale Bright Star Catalogue, duplicity search, ICCD speckle obs. 7—47973
YM 29, planetary nebula central star, search for stellar wind *(Russian)* 7—40812
YM 29 (Sharpless 274) spectrograms and emission-line study of planetary nebula 7—55756
young open clusters, spectroscopic determ. of stellar metallicity 7—66565
Zwicky galaxy clusters containing Markarian galaxies, props. of galaxies and clusters 7—4567
C stars, mol. absorpt. bands spectrophotometry 7—40819
γ Dra, K-type giant, atmospheric props. and Fe/H ratio from spectroscopic anal. 7—14573
H II regions, observational data on random internal motions 7—40902
HD 96342, spectroscopic binary orbit from photoelectric radial vels. 7—24166
Li differential depletion in diffuse interstellar clouds, role of dust 7—66706
Li-rich supergiant stars HR 7008 and HD 174104, CNO abundances 7—4453

visible spectra of diatomic inorganic molecules *see spectra of diatomic inorganic molecules*

visible spectra of inorganic liquids and solutions *see spectra of inorganic liquids and solutions*

visible spectra of polyatomic inorganic molecules *see spectra of polyatomic inorganic molecules*

vision
see also colour vision; eye; vision defects; visual perception
accommodation, natural, in the growing chicken, IR photoretinoscopy obs. 7—54551
accommodation in chickens: corneal vs. lenticular accommodation and effect of age 7—23336
accommodation response, effect of stimulus contrast 7—65745
accommodation response to sinusoidal gratings, modulation dependence 7—17974
adaptation, search for site 7—17985
adaptation measurement using computer controlled device 7—34144
adaptation system, effects of prolonged forced vergence 7—23347
adaptive regulation of accommodative vergence and vergence accommodation 7—4612
adaptive techniques for signal enhancement, human EEG and visually evoked responses 7—34319
aging and vision 7—17970
analytical studies *(Japanese)* 7—65741
anti-multipath modulation technique, bit error rate improvement using variable decision threshold reception *(Japanese)* 7—47039
average evoked pots., usefulness of filtering and smoothing, statistical comparison 7—65749
binocular vision, neural mechanisms, review 7—17982
binocular vs. monocular task performance 7—40149
binoculars, passive, with ocular disparity, design 7—62813
biochemistry of vision, perspective 7—17975
biovisitrons networking for high level pattern recognition 7—62644
brain organisation in cognition, matrix and convolution models 7—47058
cable theory applied to blowfly receptor cells and large monopolar cells 7—47038
central visual system 7—17977
cerebellum, role in visual guidance of movement, review 7—40143
cerebral cortical contribs. to sensory evoked pots., hydranencephaly obs. 7—23342
complementary projector system for contrast sensitivity meas. 7—8748
computerised estimation of sensory thresholds 7—59986
cone dark adaptation, temporal modulation sensitivity 7—17989
continuous evoked pots., visual and auditory, MTF obs. 7—8556
contrast discrimination in noise 7—59988
contrast sensitivity, effects of pupil diameter and defocus 7—65747
contrast threshold measurement system 7—54563
cornea, effects of fibril orientations on light scattering 7—34134
cortical neurons in superior temporal sulcus of monkey, responses to band-pass spatial freq. filtered faces 7—59980
cortical representation of gradient-adapted multiple-stimulus perimetry 7—23343
differential spatial displacement discrimination, scale invariant features 7—59990
disparity processing by human fusional mechanism 7—54559
EEG reactions in comatose patients after mech. or visual stimuli 7—65864
ERG b-wave, rel. to outer segment disc shedding in rabbit retina 7—59982
event related potentials, component and interval detection algorithms 7—34139
evoked potential, source geometry and dynamics 7—54555
evoked potential abnormalities in multiple sclerosis 7—14001
evoked potential maps in learning disabled children 7—8558
evoked potential stimulation based on Commodore VIC 20 computer 7—3950
evoked potentials, anal. through Wiener filtering applied to a small no. of sweeps 7—40142
evoked potentials, source localisation man by principal components anal. 7—47052
evoked potentials in vision research 1961-86 7—17981
evoked potentials to dynamic random dot stimuli with varying dot density ratios of disparity to background 7—28512
evoked potentials to luminance and chromatic contrast in rhesus monkeys 7—54557
eye fatigue caused by reflected glare under intense illumination from fluorescent lamps *(Japanese)* 7—34130
eye movement tracking, target brightness feedback *(Japanese)* 7—47049
facilitation and masking of briefly presented gratings: time-course and contrast dependence 7—60012
fixation disparity in binocular stress 7—65760
fixation disparity meas., comparison of Wesson and modified Sheedy tests 7—23357
flash visual evoked response testing, effect of pupillary dilation 7—28503
flicker adaptation in the peripheral retina 7—47062
gazing point definition for picture anal., appls. *(Japanese)* 7—34140
goldfish, phototaxis, statistical analysis 7—40139
head-mounted device for meas. of pointing to visual targets without seeing the pointing arm 7—47279

vision continued
higher-harmonic adaptation and squarewave gratings detect. 7—47061
horizontal forced vergence fixation disparity curve, effect of nearpoint stress 7—34136
human visual image coding, important obs. 7—65754
human visual system models appl. to digital colour image compression 7—65744
3-hydroxyretinoids, separation and identification of geometric isomers and occurrence in eyes of insects 7—23348
increments and decrements: luminance discrimination 7—17988
infant visual parameters rel. to intrauterine growth retardation 7—13990
informeffia: a visual science concept 7—13993
invertebrate photoreceptors, involvement of cyclic GMP in excitation 7—47059
IPI semiautomated inspection devices for inspectors 7—54546
Landolt acuity testing, guessing bias elimination 7—40148
light and dark environments, effects on fixational eye movements in macaque and human 7—59984
light coherence rel. to visual acuity, influence of pupil 7—13998
light-dependent synaptic delay between photoreceptors and horizontal cells in the tiger salamander retina 7—59983
line interval discrimination, opponent model: interval and vernier performance compared 7—40147
log-complex transforms of stimuli rel. to cortical responses they evoke 7—54558
luminance contrast and colour systems in human vision 7—47068
mathematical description of the visual world *(Italian)* 7—13994
mesopic luminosity, short-wavelength-sensitive cones 7—59987
mirror projection visual evoked pot. stimulator for presenting patterns in different orientations 7—3895
molecular biology of visual pigments 7—54477
monkey visual training using a microcomputer and a bicoloured LED 7—40383
movement-sensitive neuron in blowfly visual system, transient responses adaptation 7—47045
multi-modality evoked potentials in hypoxaemia, cat obs. 7—54583
multi-modality evoked responses vs. temp. and thermal dose with whole-body hyperthermia in water bath 7—8500
multiunitary activity anal. of cortical and subcortical structs. in photosensitive baboons 7—65748
nonlinear forced vertical vergence fixation disparity curves and their clinical significance 7—34137
observer internal noise 7—23332
ocular-motor quantitative indicator of visual fatigue 7—59977
ophthalmic optics, tracing axial pencils through systems including astigmatic surfaces at random axes 7—23334
ophthalmic spherocylindrical lenses, dioptric power in an off-axis meridian: the torsional component 7—40140
optique applications to photography and television 7—3793
pattern generator, programmable, for visual evoked pot. anal. system 7—40384
peripheral vision, information processing function 7—3789
photoreceptor membrane, Fourier transform IR difference spectroscopy for elucidating biomolecular mechanisms 7—54832
photoreceptor membrane currents, inositol trisphosphate regulation, Hermissenda obs. 7—28518
physiological intensity transform function andlightness scale *(Japanese)* 7—3787
physiological optics during the first quarter-century of Vision Research 7—17973
Pieron's law analysis of simple reaction time to light stimuliby the model considering threshold intensity *(Japanese)* 7—8561
pilots and cosmonauts, visual stress model—a psycho-physiological method for operational reliability evaluation 7—60106
positioning movements, visual feedback processing 7—8628
positron emission tomography, human visual cortex mapping appl. 7—28516
primary visual cortex and hypercolumn math. model 7—23339
progressive addition lenses, peripheral power variations 7—34337
protective eyewear for fluorescent dye penetrant inspection, UV radiation safety and visual enhancement 7—40311
receptive field props. in posterior suprasylvian cortex of cat 7—59981
retina, functional architecture 7—59974
retina of pigeon, projection of visual field 7—40141
retinal adaptation to non-uniform fields: average luminance or symbol luminance? 7—54562
retinal electrical activity imbalance rel. to ocular dominance shift in kitten visual cortex 7—28517
retinal functions, simulation with Gaussian derivative model 7—3786
retinal horizontal cells, changes in response waveform during dark and light adaptation 7—47060
review of human visual suppression 7—17995
review of visual cortex 7—23331
review of visual development 7—17969
road accidents rel. to drivers' vision, 3 South African studies 7—65743
rod and cone signals in retina of goldfish, separation and light adaptation 7—17987
rod-cone interaction in monocular but not binocular pathways 7—59985
role of vision in producing motion sickness 7—54545
saccade and blink amplitudes rel. to visual suppression 7—23346
saccadic retraction and cyclotorsion, aftermath of horizontal saccades 7—23345
sensorimotor hierarchies of gaze, tensor network modelling 7—54552
sensory information processing mechanisms *(Japanese)* 7—14003
single-response evoked pots., optimum multielectrode a posteriori estimates 7—60109
spatial sine-wave pattern, exposure time effects 7—13997
spatial vision, 1961 and 1986 7—17971
spatial vision research, use of computers 7—59971
spatial-frequency discrimination in cats 7—8560
spatio-temporal model of ganglion cell receptive field in the cat retina 7—23338
spatio-temporal vision of macaques, with severe loss of P_β retinal ganglion cells 7—23344
static accommodation and the minimum angle of resolution 7—34133
stereo visual displays 7—17972
summation rel. to facilitation 7—40157
task difficulty effects on steady state visual evoked response 7—54544
temporal impulse response 7—17979
temporal integration functions, sustained and transient, dependence on spatial freq. not grating area 7—23363

vision continued
- texton gradients theory 7—47067
- tonic accommodation interocular equality and consensuality of accommodative hysteresis 7—65746
- transduction in vertebrate rods and cones, review 7—17986
- vergence adaptation, review 7—34138
- vernier acuity rel. to grating acuity in 2- and 3-month-olds 7—40154
- visual double stars, obs. by 'old generation' observers, errors statistical anal. 7—14602
- visual present, local representation of atom cloud system in state of emission *(Italian)* 7—28526
- Zeiss Gradal HS progressive addition lens, designs using splines, max. wearing comfort 7—50712

vision defects
- *see also contact lenses*
- achromatopsia, light induced oscills. of standing pot. 7—28505
- age-related maculopathy patients, contrib. of vision variables to mobility 7—13992
- amblyopia, temporal integration obs. 7—54578
- amblyopia assessment: use of computerised contrast sensitivity, Arden gratings and low contrast letter charts 7—65751
- ametropia, uncorrected, resulting in target blur, performance of dot visual acuity test 7—54561
- aphakia, unilateral, schematic eye predictions of relative spectacle magnification 7—34131
- astigmatism, influence of lid posn. 7—54547
- Best's disease, local macular ERG obs. 7—28504
- bilateral amblyopia after a short period of reverseocclusion in kittens 7—8559
- binocular fixation misalignment, objective meas. 7—8565
- cataract development rel. to water state in human crystalline lens, NMR spin echo obs. 7—8557
- children, differential effects of various causes of deafness on eyes, refr. errors, and vision 7—8555
- colour defects rel. to eye disease 7—17994
- colour deficients, colour discrimination and neural coding 7—59995
- convergence insufficiency, fixation disparity, and control systems anal. 7—8567
- cornea, effect of epithelial and stromal oedema on light scatt. props. 7—34132
- disparity vergence dynamics and fixation disparity 7—8563
- ERG and visual evoked pot. abnormalities in myotonic dystrophy 7—23341
- fixation disparity, combined effects of spatial freq. and retinal eccentricity 7—8564
- fixation disparity, computerised meas. 7—8726
- fixation disparity, conf., Atlanta, GA, USA (Dec. 1985) 7—4615
- fixation disparity clinical meas., rel. to use of central fusion stimulus on the disparometer 7—8725
- glaucoma, importance of visual field score and asymmetry in detect. 7—13991
- glaucoma patients, hazards in evaluation of visual field decay 7—34129
- lens design using spline surfaces 7—54813
- maculopathy, early, macular ERGs and contrast sensitivity as sensitive detectors 7—28511
- myopic eye of the Black Moor goldfish 7—23335
- optic pathway conduction in insulin-dependent diabetics, visual evoked pot. study 7—28502
- pigmentary retinitis in industry, review of literature and personal obs. 7—13995
- presbyopia, forced vergence fixation disparity curves 7—34135
- pseudophakia, UV effects on visual acuity 7—34142
- retinal ischaemia, rod-cone differences, rabbit obs. 7—28508
- retinitis pigmentosa, stimulus investigative range, preliminary findings 7—34143
- retrobulbar neuritis afflicted patients, chromatic visual field *(Italian)* 7—28519
- spectrally selective flash early receptor pot. in dichromats 7—28510
- strabismus, visual localisation after surgery, compatibility with outflow theory 7—23367
- survey of visual defects on Tristan da Cunha, 1984 7—65742
- vertical fixation disparity, clinical evaluation, slope and adaptation to vertical prism 7—8568
- vertical fixation disparity studies 7—8566

visual display units *see cathode-ray tube displays*

visual evoked potentials *see bioelectric potentials; vision*

visual perception
- 3D rigid structure computation from fixed-axis motion 7—23354
- adaptive changes in perceptual responses and visuomanual coordination during exposure to visual metrical distortion 7—23364
- afterimage movement during saccades in the dark 7—47070
- afterimages, positive and negative, electrophysiological correls. 7—47055
- air pollution plume, visual perception by humans 7—54390
- ambient illumination and the determ. of material changes 7—28532
- ambiguous stereoscopic matches, resolution by interpolation 7—47072
- amblyopia, temporal integration obs. 7—54578
- apparent depth of figures and size constancy model *(Japanese)* 7—47069
- apparent motion, correspondence matching, evidence for 3D spatial representation 7—28539
- apparent motion, modulation by figure-grand segregation 7—54579
- apparent motion, occurrence only between similar spatial freqs. 7—17998
- apparent motion correspondence 7—14015
- apparent movement of short-range process and pattern perception, theoretical and methodological approaches 7—60003
- attention and visual perception: the availability of features 7—47075
- background luminance effects on colour recognition and discrimination 7—8572
- bending motions, computer-controlled displays 7—59999
- beta (apparent) movement, rel. to temporal freq. and wavelength 7—65759
- bistable stroboscopic motion, role of visual pattern persistence 7—23366
- boundary image segmentation, image features 7—14012
- central mechanism of space sense, perception andmovement control *(Japanese)* 7—14009
- choosing colors and luminances for a CRT map display 7—8571
- chromaticity differential thresholds and general metamerism indexes 7—40150
- chromostereopsis and chromatic dispersion 7—34145
- cinematic space, shape and psychophysics 7—60004
- clinical images, beyond signal detection theory 7—23270

visual perception continued
- cognitive processes of spatial coordinate assignment, perceptual cues weighting, Spacelab expt. 7—8724
- color-difference prediction of legibility performancefor CRT raster imagery 7—8574
- colour, direction and speed of motion, perceived relations 7—47078
- colour constancy, mechanisms 7—28530
- colour perception, display technology implications 7—14005
- colour perception, functions and characts. between brightness channel and chromaticity channel *(Japanese)* 7—28521
- colours description in displays, w.r.t. natural colour system 7—23356
- computer graphics and surface perception 7—60001
- computer graphics and visual perception 7—60015
- computerized perception laboratory, problems encountered 7—60008
- contrast sensitivity, changes during first hour of soft lens wear 7—14006
- contrast sensitivity function, effect of Fresnel prism dispersion 7—23358
- contrast sensitivity meas., photographic-based system 7—23498
- cortical representation of texture primitives 7—14013
- CRT display, legibility and symbol-background colour difference relationship 7—14018
- DeLuxePaint package, use for creation of visual stimuli on Commodore Amiga 7—60002
- depth perception in photogrammetry stereo pair image study 7—47313
- dichromatic confusion lines and colour vision models 7—54565
- digital image-processing techniques for the display of images and modeling of visual perception 7—59997
- direction-of-motion discrimination with complex stimuli, errors 7—40153
- discrimination functions for foveal high contrast mid spatial frequencies 7—34148
- displacement discrimination with a visual reference, mechanisms 7—54564
- display colour parameters modelling and algorithmic colour selection 7—28538
- display image quality, human detection of undersampled gratings 7—14004
- displays, direct-view and collimated under display 7—54575
- dynamic stereo displays for research on the recovery of three-dimensional structure 7—60000
- edge contrast sensitivity, population norms 7—14007
- effective colour image encoding 7—8575
- effects of transient adaptation in simulated VDToperations 7—8577
- entrained path deflection in apparent motion 7—17999
- evaluation of colour sets for CRT displays 7—8573
- exposure-duration effects in localization judgements 7—34149
- farpoint stereopsis, filter-free method for assessment 7—54569
- feature extraction processing of simple line figures by the analysis of eye movement *(Japanese)* 7—23355
- features and objects in visual processing 7—54576
- figure-ground discrimination, influence of temporal dispersion 7—54577
- flicker photometry, residual minimum flicker 7—34150
- flight simulation, vestibular and visual perception cues, coordination 7—14011
- geometric illusions meas. using microcomputer *(Japanese)* 7—3788
- human colour-discrimination, Stiles's anal. on Apple II 7—8562
- human face brightness level by semi-cylindrical illuminance *(Japanese)* 7—3790
- illusory contour orientation discrimination 7—60014
- illusory occlusion perception in apparent motion 7—18000
- image understanding, coloured and partial object perception 7—47076
- image understanding, degraded object perception 7—47077
- invariant perception and statistical mechanics 7—59912
- IR imaging system performance assessment, improved minimum resolvable temp. difference system 7—34154
- legibility evaluation of a large-screen display systemunder medium ambient illumination 7—8576
- legibility factors for LCDs 7—8578
- liquid crystal shutter and shadow mask CRTs, visual performance 7—8579
- luminescent screens, image perception, fluctuation theory 7—34146
- Mach bands, phase dependency 7—34151
- medical image perception 7—60009
- model for perception of curves in dot figures, role of virtual lines 7—65758
- motion capture anisotropy 7—40156
- motion direction perception, hysteresis as evidence for neural cooperativity 7—34152
- motion perception and eye movement *(Japanese)* 7—28528
- motion perception research, use of computer graphics animation 7—59996
- motion-blind flies, visual orientation as an operant behaviour 7—3792
- Munsterberg figure and twisted cords 7—23365
- neocognitron, biocybernetic approach to visual pattern recognition 7—57258
- neural networks, computer simulation for perceptual psychology 7—60007
- non-directional edge specific cells response 7—47046
- object interpretation using boundary based perceptually valid features 7—23362
- optical videodisk system for visual performance testing with stereoscopic TV displays 7—60129
- pattern acuity, cross-correlation model 7—34147
- pattern vision, neural mechanisms *(Japanese)* 7—28527
- perceptrons in pigeons, expt. 7—34153
- peripheral information display 7—40162
- peripheral information extraction: cognitive load effects 7—40161
- peripheral vision, information processing function 7—3789
- peripheral vision advances 7—40159
- peripheral visual sensitivity, foveal load 7—40160
- phase discrimination 7—14014
- polarisation vision in bees 7—3791
- position and spatial freq. in large-scale localisation judgments 7—60013
- programmable, multifunction dual-channel waveform generator for visual psychophysics 7—60006
- psychophysical scaling of picture quality 7—28537
- psychophysically perfect image stabilisation 7—60010
- psychophysically perfect image stabilisation 7—60011
- pure orientation filtering, scale invariant image processing tool for perception research and data compression 7—60005
- quantized images with smooth appearances, vision research tricks 7—59998
- radiographs, correl. between meas. noise and its visual perception 7—23360
- radiographs, effect of digital unsharp masking on detectability of interstitial infiltrates and pneumothoraces 7—47248

visual perception continued
radiography, quantisation effect on digitised noise and detect. of low-contrast objects 7−23454
reaction time, spatial and chromatic dependences 7−8569
reaction time statistics, effects of acoustic feedback *(Japanese)* 7−8570
retinex theory of colour vision, anal. rel. to human colour constancy 7−28529
saccadic eye movement effect on threshold perception, model study 7−65757
scene-illuminant chromaticity, method for computation for specular highlights 7−28531
search, visual, empirical formula 7−40151
search performance and observer expectations 7−47074
self similar hierarchical transforms, block transform coding and human visual system model bridge 7−62641
sighting dominance and egocentric localisation 7−17997
simultaneity and temporal order perception, mechanisms and asymmetries 7−54574
simultaneous colour constancy obs. 7−28534
simultaneous colour induction, mechanisms 7−28525
sinusoidal grating, simple reaction and perceptual integration times: contribs. of perceptual and response processes 7−47071
size discrimination of features on CT images 7−23359
spatial frequency filtering and target identification 7−40155
spatial pattern perception, visual mechanism commodity 7−40158
speckle stereograms for 3D display, depth perception and perspective 7−20146
stereo vision algorithm using difference of recursive filters to obtain binary Laplacian image 7−28535
stereopsis, chromatic and luminance difference control 7−54568
stereoscopic display using LCDs 7−14017
stereoscopic matching, interpolation rel. to fine struct. detect. 7−47073
stereoscopic vision, review 7−17996
striate cortex of cat, directional and orientational tuning for contrast and textured stimuli 7−34141
texture boundaries, important cues for human texture discrimination 7−3794
texture discrimination, mathematical model based on human visual cortex functioning 7−54580
texture discrimination characteristics 7−14016
threshold perception and saccadic eye movements 7−65756
transparency perception in man and machine 7−14008
TV viewing, apparent depths of figures and a model for sizeconstancy 7−14010
twisted text reading: implications for the role of saccades 7−40152
VDT viewability enhancement 7−28536
VDU image polarity, ergonomic aspects 7−54571
VDU perceived flicker prediction method 7−54572
VDU visibility aspects, contrast and luminance 7−54570
VDUs, practical guide to flicker measurement: using the flicker-matching technique 7−54573
velocity discrimination in the cat 7−23368
visual present, local representation of atom cloud system in state of emission *(Italian)* 7−28526
von Kries colour constancy, heuristic anal. 7−28533

visualisation, particle track *see particle track visualisation*

vitreous state
see also electron energy states of amorphous solids; glass; glass transition (polymers)
alcohol glasses, linewidth study of quinizarin dye mole 7−37056
alumina, grain boundary glassy phase, ion milling of TEM specimens 7−44327
amorphous polymers, microstruct., diffusion, positron annihilation investig. *(Russian)* 7−63524
benzophenone, glassy, excitation diffusion and energy relax. 7−21792
borate minerals, unoccupied mol. orbitals of B−O bond mol. orbital calcs., XANES, NMR and electron transmission spectra 7−33281
ceramics, ion milling of TEM specimens, grain boundary glassy phase 7−44327
equations of state and constitutive equations 7−21389
genesis routes 7−1884
glass frit, SIMS 7−9919
glycol-water mixtures, positronium formation and inhibition in liq., solid and glassy phases 7−36822
icosahedral systems, glassy dynamics 7−32294
metallic glasses, surface melting, by plasma, laser or electron beams 7−63495
poly(propylene oxide), glassy and liq. states, water effect on dielectric props. 7−38987
polymers, vitreous, optical props., review 7−20375
silica, two-level tunnelling system-strain coupling const., double well asymm. energy contrib. 7−6538
thermal conductivity, temp. dependence 7−21553
vitreous ceramic materials, interaction of Si and Ti oxides, carbides, nitrides with phosphate binder 7−3260
Zerodur, lightweight large mirror blanks prod. 7−37223
Al_2O_3, vitreous bonded, crack nucleation and growth at elevated temps. 7−33770
Al_2O_3-SiO_2, mullite ceramics, sol mixture prep., drying method effect *(Japanese)* 7−7944
AsS_3, viscosity, rel. to intensity and spectral comp. of light 7−12342
As_2S_3 films, prep. by spin coating or melt quenching, optical props. 7−39208
As_2S_3, vitreous, γ-irradiated, EPR of radiation-stimulated paramag. centres *(Russian)* 7−2929
C, glassy, anodic oxidation of surfaces 7−46850
C glassy state, stopping cross section of ^{12}C projectiles 7−51899
$GeSe_2$, vitreous and crystalline states, energy difference, bond energy, calorimetry study 7−59775
H_2, solid, ortho-para mixture, local order parameters distrib., NMR line shapes, relax. times 7−27052
N_2-Ar solid mixtures, orientational ordering, collective versus noncollective behaviour 7−21103
$Na_4Nb(PO_4)_3$, struct. evolution by vitreous state formation *(French)* 7−21164
$Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7−6870
PbV_2O_6, vitreous and crystalline, mag. props. 7−7473
$Rb_{1-x}(NH_4)_xH_2AsO_4$, proton glassy state, dielec. props. 7−13075
SiO_2, cluster approx. of electron struct. 7−12591

vitreous state continued
SiO_2, glassy and thermal films, cathodoluminescence of intrinsic defects 7−7766
V-SiO_2 intrinsic defect electronic struct., optical transitions, cluster-Bethe lattice calcs. 7−2541
SiO_2, vitreous, J.C. Phillips model 7−21106
SiO_2, vitreous, low-frequency vibr. modes 7−21378
SiO_2, vitreous, Raman structural correlations 7−63501
SiO_2, vitreous, surface, adsorption and thermal accommodation of Pt single atoms 7−27133
SiO_2, vitreous, surface struct., mol. dynamics simulation studies 7−63497
SiO_2, water-free fused silica, IR-transparency, laser windows, prep. by reactive atmosphere process 7−59202
SiO_2:F, vitreous, substitutional impurity, semiempirical calcs. 7−32464
SiO_2-Al_2O_3 vitreous systems, low temp. sp. ht. and thermodynamic props. study 7−63842
SiO_2-TiO_2 vitreous systems, low temp. sp. ht. and thermodynamic props. study 7−63842
TeO_2-based halide glasses, prep., thermal, mechanical, elec. and optical props. characterisation *(French)* 7−37884
ZnP glass detectors, chemical etching characts. 7−30868
ZrO_2 gel, transparent, glass-like, thermal evolution 7−28356

vitreous structure *see glass structure; vitreous state*

vitrification
see also glass transition (glasses)
alkali metal nitrate dil. solns., IR spectra anal. 7−19857
alkali metal perchlorate dil. solns., IR spectra anal. 7−19857
ceramic like coatings, glassy phase form. 7−3257
ceramics, low thermal expansion dec. insulators 7−2237
crystal-to-amorphous phase transition under laser annealing, model 7−16424
electric melters for nuclear waste/glass conversion, prelim. limits for HLW vitrification 7−5451
fining of glass, review 7−28002
glass ceramic materials, liq. phase separation, nucleation and crystn., book 7−24327
glasses, tiling model, relax. behaviour, Monte Carlo simulation 7−44816
metallic glasses, superplastic deform. *(Russian)* 7−39599
metallic materials, crystal to glass transform., kinetics and thermodynamics 7−44399
nuclear waste and vitrification chemistry 7−5446
nuclear waste glass, devitrification, role of melt insolubles 7−6525
nuclear waste vitrification, melt foaming, foam stability and redox studies 7−5452
silica monolithic gels, autoclave prepared Raman studies 7−8314
transition metal-metalloid metallic glasses, glass formability and electronic struct. 7−21804
AgI-Ag_3AsO_4 superionic conducting glass, cond. and glass form. studies 7−32711
Al_2O_3 glass, gel produced, optical transmission rel. to heat treatment 7−27733
Au-Si, liq., thermodynamic analysis of conc. fluctuations and homogeneous nucleation, glass form. 7−44852
$Ba(PO_3)_2$-AlF_3-NaF system, glass form. and props. 7−11929
Bi-Sn, liq., thermodynamic analysis of conc. fluctuations and homogeneous nucleation, glass form. 7−44852
Cu-Dy, thermodynamic props. rel. to glass forming ability 7−38204
Cu-Er, thermodynamic props. rel. to glass forming ability 7−38204
Cu-Gd, thermodynamic props. rel. to glass forming ability 7−38204
Cu-La, thermodynamic props. rel. to glass forming ability 7−38204
Fe alloys, solidification in mag. fields *(Russian)* 7−59508
Fe-Zr, mechanically alloyed, glass forming ability 7−21110
Ge_xS_{1-x}, dielectric meas. 7−13077
Ge_xSe_{1-x}, dielectric meas. 7−13077
Hf-Os, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
Li_2O-SiO_2 glass, critical cooling rates for nucleating agents 7−6795
$Li_2O.2SiO_2$ sol-gel glass, prep. and devitrification behaviour 7−58158
Li_20-TiO_2-GeO_2, glass form., phase equilibria *(Russian)* 7−21118
Mg-Zn rapidly solidified alloys, mech. props. 7−22711
MgZnSn, glass forming ability, intermetallic cpd. effect, X-ray and Mossbauer investig. 7−52050
$Na_2B_4O_2$-NiO, tetraborate glass, optical absorpt. effects of NiO additions and annealing 7−22851
Ni-P metallic glasses, electronic struct., XPS study 7−39357
PbO-B_2O_3, glass form., crystallisation 7−37875
Pd-Rh-P-Si, surface alloy vitrification by laser treatment 7−21271
$Pd_{78.5}Cu_6Si_{15.5}$ metallic glass, structural relax., vitrification, sp. ht., DSC obs. *(Russian)* 7−37880
Rb, supercooled liquid, structural relax. 7−37840
Se, amorphous, vitrification and crystallisation, thermal prehistory effects *(Russian)* 7−63479
Se-Te, glass forming melts, nonisothermal crystn., DTA, crit. cooling rate 7−44394
SiO_2 glasses, gel-derived, defect studies 7−11944
Ti-Fe, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
Ti-Ni-Cu system metallic glasses, superplastic props. in vitrification temp. range 7−3356
Tl-Ge-Se, bulk glass formation region, elec. and struct. characts. 7−58159
U based intermetallic compounds, fission gas swelling, cryst. struct. stability 7−42115
Zr-Ru, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846

vitroceramics *see ceramics; vitreous state*

Vlasov equation
anisotropic cosmological model, Boltzmann and Vlasov kinetic eqns. 7−61189
beat waves in hot magnetised plasma, decay 7−1692
bidimensional Vlasov stationary eqn., boundary value problem *(Russian)* 7−26392
collisionless plasma model solutions, velocity space filamentation problem 7−51393
derivation in 1D dual space 7−6366
electron diffusion transport coeffs., Boltzmann-Vlasov formulation 7−31947
electrostatic instabilities in hot electron beams 7−58028
gyrokinetic current response operators for the Vlasov equation 7−51397
high-beta collisionless plasma LF waves 7−1688
kinetic stability of 2D Vlasov equilibr. 7−1680

Vlasov equation continued
- magnetic quadrupole, short wavelength drift waves, linear theory 7−44228
- nonlinear gyrokinetic theory, direct interaction and anomalous thermal transport in tokamaks 7−37638
- one dimens. soln., finite elements method 7−31946
- plasma ion cyclotron waves, non-parallel electric and magnetic fields, Vlasov eqns. anal. 7−31976
- plasma kinetic theory without Markovian approx., Vlasov eqn. integration along particle orbits 7−26390
- plasma simulation, linearly stable and unstable, nonlinear intermittent fluctuations growth 7−11700
- rotating ion beam propagation, MHD anal. 7−6375
- tokamak plasma, beam-plasma kink instability *(Chinese)* 7−37717
- Tokamak plasma, electron vel. space diffusion induced by electron cyclotron waves 7−44117
- Volterra dynamical systems, Vlasov equations 7−35213
- Z-discharge channel, ion beam pulse propagation in 2-D 7−6369

VLIW machines *see multiprocessing systems; parallel architectures; parallel machines*

VM *see virtual machines*

VMOS integrated circuits *see field effect integrated circuits*

VMOS transistors *see insulated gate field effect transistors*

V_2O_5-P_2O_5 semiconducting glasses *see amorphous semiconductors*

vocoders
- *see also speech synthesis*
- peripheral auditory transduction model using phase vocoder with modified channel signals 7−47116

voice *see speech*

voice coders *see vocoders*

voice communication
- communication technology for the disabled and its commercial appls. 7−8598
- electronic aids for hearing impaired, visible voice or speech transmission, assessment 7−40173
- optical fibres appl., 1970s and 1980s developments 7−31521

voice equipment
- physically disabled assistive devices, speech control 7−37282
- speech synthesis, introduction, making computers talk, book 7−4646
- vocal synthesis and voice recognition, developments *(Italian)* 7−60123

voice input *see speech recognition; voice equipment*

voice synthesis *see speech synthesis; voice equipment*

voids (solid)
- alloys, superplastic, necking, fracture, strain rate sensitivity, cavity growth 7−28087
- amorphous tetrahedrally bonded semiconds., dangling-bond and void-like structs., microscopic structural model 7−21803
- bar material, dilutely voided, instability in uniaxial tension 7−53787
- bars, tensile, void coalescence, plastic localisation, failure modes 7−6108
- brittle compressive failure criterion for materials with defects 7−43762
- brittle materials, containing spherical voids, tensile fracture loci 7−12200
- carbide/α-Fe matrix interface, void nucleation mechanism 7−38354
- ceramics, internal voids, detection by microfocus X-radiography 7−59736
- chalcogenide glasses, dangling-bond and void-like structs., microscopic structural model 7−21803
- compact tension specimen, crack tip interaction with void, numerical analysis using J_2 corner theory *(Japanese)* 7−31703
- composite materials, damage constitutive relations 7−43765
- creep crack growth by grain boundary cavitation 7−21340
- damage parameter, effects of interacting cavities 7−43796
- diamond, platelets, dislocation loops and voidites, TEM anal. 7−16560
- diamond, type Ia, voidites, evidence for crystalline phase containing nitrogen, cell constant determ. 7−2011
- diamond, voidites, electron microscopy study 7−32425
- ductile crack initiation and void vol. fraction, investig. based on Gurson's yield criterion *(Japanese)* 7−58402
- ductile fracture, new microvoid-damage model 7−26843
- ductile solids, dynamic fracture, internal state variable description 7−26844
- ductile-brittle fracture mode transition behaviour, kinetic model 7−21337
- electronic materials and their microstructure, thermal wave imaging studies 7−8237
- engineering materials, general yield criterion depend. on void growth 7−1444
- FACSIMILE code for void swelling calc. 7−25037
- fatigue crack growth, stochastic modelling based on damage accumulation 7−6715
- fatigue non-damaging notches 7−38103
- fracture, in-situ, TEM obs., influence of several parameters 7−6713
- fusion reactor structural alloys, irrad., creep fracture by grain boundary cavitation, modelling 7−53859
- grain boundary ledges, cavity nucleation 7−21217
- grain boundary-slip interaction, role in cavity nucleation 7−21219
- growth, displacive stability and size uniformity in void lattice, crowdion migration 7−44521
- half-space, elastic with voids, surface wave propag. 7−63027
- homogeneous formation kinetics in two-component soln. of vacancies and gas atoms *(Russian)* 7−44532
- III-V semiconductors, lattice defects detection using IR tomography 7−32234
- image formation by plasmon loss electrons in small spheres 7−16369
- incompressible solids under shear, void growth 7−17576
- insulating material, inception voltage of discharges in voids 7−53236
- insulators, high dose radiation damage, voids and dislocations 7−32502
- internal damage in struct. solid, stochastic approach 7−37965
- laminated cross-ply plates, micromech. initial failure anal. 7−62975
- mass removal in formation of internal cavities in metals by chemical etching 7−28186
- metal, cold-deformed, microcrack development *(Russian)* 7−39652
- metal tubes, ductile, no. of cracks in axial splitting 7−59597
- metals, BCC and FCC cryst. struct., H trapping, thermal anal. obs. 7−22830
- metals, ion implantation of inert gases, high press. precip. phases 7−38031
- metals, void detection, thermography appl. 7−28256
- metals, void nucleation, non-steady state theory *(Russian)* 7−63606
- Nimonic 80, coupled plastic and creep damage at finite deform. *(Japanese)* 7−33736

voids (solid) continued
- Nimonic 80A, coupled effect of plastic damage and creep damage at finite deform. 7−46599
- nucleation, in ternary solid soln. of vacancies, interstitial atoms and gas, self-consistent model 7−44525
- nucleation as vacancy diffusive instability 7−21198
- polyethylene, low density semicrystalline, elec. strength temp. depend. meas. and calcs. 7−39015
- polyethylene films, charge storage lifetime, structural effects 7−27344
- polypropylene films, charge storage lifetime, structural effects 7−27344
- polyvinylidene films, void strict., SEM obs. 7−6552
- porous ductile material, yield surface curvature and void nucleation effect on plastic flow 7−51919
- pure metals, vacancy cluster stability energy calcs., cluster size depend., elastic continuum expressions 7−51762
- sapphire, filaments, CO_2 laser heating, evaporation and chlorination 7−58331
- sheet metal forming limits under complex strain paths using void growth and coalescence model 7−13532
- SOI films, lamp zone melting recrystallisation, liquid-solid interface 7−38419
- solid solution, dielectric constant calcs. 7−59136
- steel, austenitic stainless, biaxial loading, high temp. intergranular crack growth 7−53902
- steel, austenitic stainless, creep cavitation rel. to S and P impurity segregation 7−39587
- steel, austenitic stainless, electron beam welded, void swelling under electron irrad. 7−51830
- steel, austenitic stainless, electron irrad., cold working, vacancy swelling, void form., carbide precip., electron microscopy 7−21282
- steel, austenitic stainless, He-induced creep ductility loss, prediction and anal. 7−53854
- steel, austenitic stainless, swelling by electron irrad., influence of appl. stress *(Japanese)* 7−16632
- steel, austenitic stainless, Ti modified, void swelling and precipitation, aging effects 7−33685
- steel, austenitic stainless, void stability, effect of O 7−58262
- steel, austenitic stainless heterogeneities, small angle neutron scatt. studies 7−51580
- steel, austenitic stainless radiation damage process obs. using high voltage electron microscopy 7−51831
- steel, C, interaction with H_2 investig., cavity growth *(Russian)* 7−13552
- steel, Cr-Mo, mech. stability of retained austenite, absence of H influence 7−28125
- steel, Cr-Mo-V, porosity assoc. with insoluble carbides, probable effect on rolling contact fatigue 7−17639
- steel, duplex stainless, ferrite-austenite flow localisation during plane strain punch stretching 7−17593
- steel, ferritic stainless, cavity form., effect of electron/He dual beam irrad. 7−58341
- steel, ferritic stainless, He-doped, microstruct. evolution following 14 MeV Ni ion irrad. 7−58363
- steel, linepipe, H-induced cracking 7−22881
- steel, low C, cold forgeability, notches, geometry, friction conditions, microstruct. 7−33697
- steel, low C, spheroidised, H degradation 7−8104
- steel, Mn-Cr, case carburising, mech. props., influence of inclusion characts. 7−65135
- steel, Mo-Ni-Mn, creep fracture mechanisms and rupture life 7−65137
- steel, pressure vessel, neutron irrad., defect microstruct., SANS and TEM studies 7−58351
- steel, stainless, ion irrad., positron annihilation studies 7−46219
- steel, stainless, ion trapping of D^+, mechanisms 7−64857
- steel, stainless and alloy, electron radiation damage in fusion reactor materials, voids 7−2064
- styrene-butadiene-styrene block copolymer films, crazing, voiding, fibrillation, TEM obs. 7−17672
- superplastic flow, void growth mechanism 7−28086
- surface fracture during He^+ ion bombardment 7−21294
- tensile test, creep failure by microstruct. degradation and grain boundary cavitation 7−65117
- tight-binding solids, theory of electron trapping by micropores 7−21870
- transmission electron spectrometry for void detection in solids 7−39827
- XLPE, cable insulation, water treeing, microstructural effects 7−39027
- Al, ion trapping of D^+, mechanisms 7−64857
- Al, neutron irrad., positron trapping rates, temp. depend. 7−46218
- Al-Cu, creep rupture under tri-axial tension 7−53839
- Al-Cu-Li alloys, cyclic fracture, mechanisms 7−46634
- Al-Li-Cu-Mg quaternary alloy, initiation of voiding at second-phase particles 7−39645
- Al-Li-Cu-Zr, fracture, ageing and comp. depend. 7−22784
- Al-Si-SiO_2 sand composites, prep. and mech. props. 7−17500
- Al_2O_3, particle shape of plasma sprayed oxides, SEM obs. 7−2403
- Al_2O_3, sintered, small-angle neutron scatt. from porosity 7−39825
- Au film, optical props. 7−17296
- Bi thin films (111), melt growth, in-situ obs. by TEM 7−53573
- $Bi_4Ti_3O_{12}$ ceramic fabrication, grain-oriented, by normal sintering, sintering mechanisms *(Japanese)* 7−22619
- C fibres, microvoid charactn., SAXS obs. 7−26739
- C, glass-like, heat treatment, pore growth kinetics 7−58147
- $Co_{84}Nb_{10}B_6$ fully crystallised metallic glass, fracture processes 7−22841
- CrMoVNbNi steel, Ni addition effect on void formation following irrad. 7−56822
- CrMoVWNi steel, Ni addition effect on void formation following irrad. 7−56822
- Cu alloys, candidate materials for high heat load appl. in neutron environments 7−49636
- Cu alloys, irrad. in FFTF to 16 dpa at 450°C, microstruct. eval. 7−51837
- Cu alloys, neutron damage microstructs. 7−58347
- Cu and alloys, neutron irrad. effects, elec. cond., fusion reactor appl. 7−51835
- Cu bicrystals, fatigued at high temp., microstruct. obs. in vicinity of cavitated grain boundaries 7−38019
- Cu, creep rupture under tri-axial tension 7−53839
- Cu, electroless deposits, ductility, effect of inclusions 7−58719
- Cu:O(He) vacancy cluster stability calcs., void form., O and the impurity effects 7−51763
- Cu-Co, dynamic fracture characts., void nucleation at incoherent precipitates 7−17628

voids (solid) continued
- Cu-GeO_2, dispersion hardened polycrysts., intermediate temp. embrittlement 7—53903
- Cu_3Au, quenched, vacancies, ordering and annealing, positron lifetime and elec. resist. meas. 7—39544
- CuB:He, neutron irradiated, annealing behaviour of defects, positron annihilation study 7—39291
- Fe, cathodic charging, H trapping 7—21256
- Fe, nanocrystalline, positron lifetime spectroscopy 7—46177
- Fe, zone refined, radiation hardening by 14 MeV neutrons, temp. depend. 7—51857
- Fe-Cr-Ni, austenitic, electron irrad., conversion of stacking fault tetrahedra to voids 7—58342
- Fe-Cr-Ni-Mn-N (18, 20, 5, 0.16 wt.%), weld metal, fully austenitic, tensile and fracture props. at 4K 7—53901
- Fe-Cu, neutron irrad., defect microstruct., SANS and TEM studies 7—58351
- Fe-H system, electron and neutron irrad., positron lifetime meas. 7—44603
- Fe-H system, H-defect interactions study by positron annihilation 7—38046
- Fe-Ni-Cr, high-purity, irrad., void swelling and nucl.-induced phase transforms. 7—58340
- Fe-Ni-Cr austenitic alloys, MC carbide dispersed, void swelling and precip. behaviour following proton irrad., dose depend. 7—58365
- Fe-Ni-Cr-P, ion irrad., swelling suppression, effect of P modification 7—58358
- GaAs, dislocation network density determ., thermal wave microscopy 7—51778
- a-GeSi:D,F, D NMR lineshapes and spin-lattice relax. studies 7—45836
- InP, MOCVD on structured substrates, mass transport 7—39397
- $MgAl_2O_4$, particle shape of plasma sprayed oxides, SEM obs. 7—2403
- Mo, alpha-particle-induced defects, annealing, positron annihilation studies 7—44633
- Mo, ion trapping of D^+, mechanisms 7—64857
- Mo, positron trapping by vacancies, loops and voids, positron annihilation studies 7—46216
- Mo-H proton irradiated system, defect annealing, positron lifetime studies 7—38043
- Mo-H system, neutron irrad., H-void interactions 7—44604
- Mo-H system, positron trapping by voids, temp. depend. 7—46217
- Mo-N system, neutron irrad., isochronal annealing, positron annihilation studies 7—46531
- Mo-W alloys, creep failure, thermomechanical treatment effects 7—28072
- MoO_3 thin films, amorphous, vacuum deposited, struct. 7—51635
- Nb, ion trapping of D^+, mechanisms 7—64857
- NdP_5O_{14} single crysts., growth from pyrophosphoric acid soln., cold finger technique, defect struct. 7—59389
- Ni, H trapping phenomena, meas. by desorption thermal anal. technique 7—6673
- Ni, intergranular cavitation in high temp. creep, fractographic techniques appl. 7—53804
- Ni, Ni ion irrad., 14 MeV, void form., gas effects 7—58360
- Ni, void stability, effect of O 7—58262
- Ni-base superalloy, single cyst., SRR99, creep behaviour 7—17587
- Ni-base ternary alloys and superalloys, hot corrosion in SO_2/O_2 atm. 7—65175
- Ni-based consolidated rapidly solidified alloys, strengthening mechanisms 7—22712
- Ni-H proton irradiated system, defect annealing, positron lifetime studies 7—38043
- PZT ceramics, ordered void struct., dielec. const., flexure strength 7—63607
- PZT, shock-recovery expts. 7—38119
- Pd-C solid solution, X-ray diffr. study 7—21383
- $Rb_{0.023}WO_3$, crystal growth and struct., SEM and TEM anal. 7—46288
- Si film, amorphous, small-angle scatt. of electrons in STEM obs. of defects and voids 7—21754
- a-Si pure and H doped films, defects and microvoids, positron annihilation study 7—45086
- a-Si:D,F, D NMR lineshapes and spin-lattice relax. studies 7—45836
- a-Si:H, influence of H on defects and instabilities 7—26647
- a-Si:H, plasma deposited NMR, Pake doublet 7—27617
- a-Si:H films deposited by dual ion beam sputtering, characterisation 7—32882
- a-Si:H solar cells, hydrogenated microvoids and light-induced degradation 7—54294
- a-Si:H solar cells, impurities and metastable centres 7—40010
- Si:P/Ti, enhanced grain growth by silicide form. 7—27142
- SiC whisker reinforced Si_3N_4, microstruct. and props. 7—22824
- SiC whisker reinforced Al alloy, powder metallurgy, corrosion susceptibility, influence of metallurgical variables 7—65152
- SiN film CVD coatings, Al void form. suppression in MOS struct. 7—7406
- Si_3N_4, yield at elevated temps. *(Japanese)* 7—3388
- SiO_2 films thermally grown on Si, decomposition acceleration factors 7—63999
- SiO_2, thermal films, defect formation by high temp. annealing 7—45035
- Ti, fracture, deform., porosity effect 7—22750
- Ti-Al-V (6,4 wt.%), fracture, deform., porosity effect 7—22750
- TiN coatings on steel substrates, growth, struct., props. 7—33799
- V, positronium formation in voids 7—39234
- V-20Ti pressurized tubes, creep response to neutron irrad. 7—56831
- W films, selective deposition on self-aligned $CoSi_2$ by low pressure CVD 7—53606
- W selective low press. CVD growth on Ti, $TiSi_2$ and PtNiSi, surface reactions, struct. 7—27183
- W-H system, H diffusion, ^{181}Ta Mossbauer effect studies *(Russian)* 7—32699
- Zn-Al-Cu, superplastic, cavitation damage 7—65080

Voigt effect *see magneto-optical effects*

volatilisation *see vaporisation*

volcanology
- Aegean arc, recent magmatism, geodynamics and isotope geochemistry 7—23589
- Afro-Arabian dome, structural and igneous evolution 7—29027
- Albigeois, France, relict clinopyroxenes in Paleozoic metabasites, indication of distensive transitional-to-tholeiitic volcanism *(French)* 7—66003
- alkaline igneous rocks from Hokkaido, isotopic ages rel. to Late Cretaceous time-scale points 7—47390

volcanology continued
- Altai-Sayan folded region, USSR, arch-block stage magmatism and tectonic magmatic activation, stratigraphy 7—23602
- W Arabian continental margin, S Red Sea, tectonic implications of igneous intrusions 7—14276
- S Arizona-N Mexico, Mesozoic volcanic arc rel. to Mogollon Highlands of Arizona 7—29016
- Armenia volcanic highland, USSR, Late Cainozoic volcanic geology, petrology etc. 7—8884
- atmospheric aerosol from volcano, horizontal transport and evolution 7—23819
- atmospheric plumes from Etna and Mt. St. Helens, particle geochemistry 7—34427
- basaltic volcanism, tectonic settings discrimination using trace element abundances 7—28957
- Brioverian paleovolcanism, geodynamic significance in NE Armorican Massif *(French)* 7—66047
- Cainozoic basalts of E China, Pb, Sr and Nd isotope systematics and chemical characts. 7—29011
- calc-alkaline volcanism of Namaqua mobile belt, South Africa, evidence for Middle Proterozoic volcanic arc 7—34493
- Campi Flegrei, Italy, volcanic area ground deformation and seismicity 7—23642
- Campi Flegrei volcanic area, S Italy, Q_c from volcanic microearthquakes 7—3999
- Caradocian tuff horizon, Welsh Borders, radiometric dating 7—47384
- Carboniferous pre orogenic magmatism in Central Jebilet Morocco *(French)* 7—66007
- Upper Carboniferous tonstein and tuff sanidines, $^{40}Ar/^{39}Ar$ ages rel. to time scale improvement 7—47388
- Cenozoic, activity effect on atm. temp. 7—34666
- Chopine ash layer, stratigraphic marker at 8500 y BP *(French)* 7—66051
- continental and oceanic volcanic assocs. in palaeogeodynamic reconstructions 7—34418
- cordierite-bearing diatreme at Fontmarcel, France *(French)* 7—66044
- crater imaging method using radar, discrimination between volcanic and impact craters 7—66487
- Deccan flood basalts, relation to Cretaceous-Tertiary boundary 7—34417
- Deccan trap volcanism as a cause of biologic extinctions at the Cretaceous-Tertiary boundary? *(French)* 7—18137
- Diamond Craters, Oregon, USA, alkali olivine basalt crystallization history 7—66052
- diatreme phenomena responsible for volcanoes, fountains continental motion, etc. 7—34420
- Dnieper-Donets Basin, Devonian volcanism rel. to deep crustal struct. along Kiev-Gomel' DSS profile 7—47394
- explosive earthquakes, seismic radiation pattern theory 7—8843
- Eifel volcanic field, $^{40}Ar/^{39}Ar$ age determs. rel. to age and duration of Middle Pleistocene cold period 7—47392
- Eifel volcanism, implication of trace element and isotope geochemistry of periodotite xenoliths 7—34484
- El Chichon dust cloud and sunlight absorpt. over India 7—9126
- El Chichon eruption, atm. effects 7—47527
- El Chichon eruption, U isotope fallout in rain 7—3740
- emplacement of compositionally stratified magma and basal reversed intrusions 7—18152
- episodic volcanic activity, magmon solns. for magma ascent by porous flow 7—8928
- erupted products dynamics and comp., effects of convection and mixing in magma chambers 7—4028
- eruption age determ. method using ESR 7—66316
- Etna, Christmas 1985 eruption, meteorological satellite observations 7—54975
- Etna, Sicily, seismicity before and during March 1981 eruption 7—4017
- Etna volcanic plume geochemistry and chemical relations 7—34428
- Etna volcano, Sicily, radioactive isotope study of magma chamber processes 7—60230
- fumarole gas comp. var. prior to W Nagano Prefecture earthquake 7—8870
- geochemistry, volcanism, earthquakes, prospecting etc., conf., Honolulu, USA (Dec 1984) 7—29576
- Grand Comore Island, Indian Ocean, noble gas systematics in basalt 7—29012
- Hawaii lava flow types, SIR-B radar remote sensing observations 7—60231
- Hawaiian lavas, geochemical and geophysical constraints on origin 7—8943
- hazard maps for the dispersion of tephra 7—54976
- Higashi-Izu monogenetic volcano group, Japan, petrology and geochemistry 7—8892
- Holocene tephras identification using magnetite comp., appl. of discriminant function anal. 7—8893
- Huaynaputina (Peru), AD 1600 ash deposit in Quelccaya ice cap 7—34670
- Hyllingen Series, Norway, basal reversal in layered intrusion 7—18152
- Iceland, accretionary volcanic processes rel. to crustal struct. 7—66081
- Iceland, geothermal activity and gases and volcanism, review 7—34430
- Iceland, lava flows surface features anal. and comparison with Martian analogues 7—55518
- Inuyama area, central Japan, implications for tectonic history of Pacific Northwest 7—54871
- S Italy, appl. of Cassignol K-Ar dating technique to Late Pleistocene-Recent volcanics 7—47393
- Italy, hazard implications for hydromagmatic eruptions 7—66053
- Japan Sea, U and Th contents of basalts as indicators of continental-type volcanism 7—14274
- Japan-Kuril trenches, left-lateral offset, old seamount subduction-collision *(French)* 7—66043
- Juan de Fuca ridge, NE Pacific, asymmetric distrib. of seamounts 7—8901
- Kamchatka, USSR, tectonics and volcanism 7—28963
- Karisimbi volcano, Virunga, Rwanda-Zaire, K-Ar ages of Pleistocene lava 7—34419
- Kazakhstan and Central Asia, zoning of Devonian orogenic volcanism 7—60215
- Kilauea volcano, Hawaii, Rn soil gas emissions rel. to geology activity 7—34424
- Kilauea volcano, Hawaii, volcanic gas exosolution from magma during eruptions 7—34423
- Kirishima Volcano, seismicity and stress field (1982-5) 7—8898
- Lake City caldera, event timing from palaeomagnetism 7—14189

volcanology continued
- lava flows, time-dependent profiles 7—14241
- Les Vignes basaltic complex (France), ^{40}K-^{40}Ar and palaeomag. data rel. to Bajocian-Bathonian boundary calibration 7—47389
- Long Valley, California, borehole seismograms anal. rel. to caldera struct. 7—40448
- Long Valley caldera, California, deep crustal struct. from extremal inversion of travel-time residuals 7—28862
- Long Valley caldera, California, USA, geodetic trilateration and gravity surveys 7—40449
- Ludlovian bentonites from Welsh Borders, Great Britain, K-Ar biotite data 7—47386
- magma ascent in deformable vent, vent response to magma reservoir press. 7—8929
- magma chamber beneath volcano., multicomponent crystallisation and convection 7—54972
- magma chamber convection with stagnant bottom layer, laboratory expts. 7—23616
- magma flow in pipe from magma chamber, two-phase flow calcs. 7—40451
- magma migration mechanism, of buoyancy-driven crack propagation 7—54973
- magma series identification from Brazilian island of Fernando de Noronha *(French)* 7—66045
- magma transport along fractures, effects of gas release 7—54971
- mantle plume volcanism, relation to periodicity of mag. field reversals 7—65934
- Masaya Caldera, Nicaragua, comp., distrib. and neutralisation of volcanic 'acid rain' 7—9145
- Masaya Caldera Complex, Nicaragua, Sand Halogen gas emissions 7—34426
- Maui, Hawaii, volcanic rocks at summit, isotopes due to cosmic rays 7—54959
- Mecsek Mts., SW Hungary, tectonic rotation, palaeomagnetism and volcanic history 7—14243
- Momotombo volcano, Nicaragua, fumarole gas chemistry and prediction of eruptions 7—34425
- Mongolia, tectono-magmatic devel., Late Palaeozoic and Early Mesozoic stages 7—28960
- Mono Craters, E central California, date of most recent eruption 7—40447
- Mono Craters area, E California, shallow magma chamber indicated by teleseismic obs. 7—54924
- Mount Agung (March 1963), effects on atmospheric extinction at McDonald Observatory 7—47541
- Mount St. Helens, volcanic tremor obs. (April and May 1980) 7—3981
- S Mugodzhary, USSR, Palaeozoic oceanic crust, lava flows and volcanic activity 7—23606
- Muria volcano, Java, magmatic series *(French)* 7—66050
- Nevado del Ruiz, Colombia, 1985 November 13 eruption, lahars 7—34431
- Nevado del Ruiz, Colombia, reversed magnetisation in pyroclastics from 1985 eruption 7—34482
- Nevado del Ruiz volcano, Colombia, gas flux and fluid geochemistry of 1985 November 13 eruption 7—8897
- Nevado del Ruiz volcano, Columbia, tephra fall and lahars during 1985 November 13 eruption 7—8896
- non-explosive silicic volcanism 7—18158
- Northern Hemisphere, volcanic activity and climate since 1500 AD *(German)* 7—9161
- Norwegian Sea, volcanism, continental crust rifting, climatic fluctuations *(French)* 7—66089
- Okmok volcano, central Aleutians, lavas geochemistry rel. to arc magmagenesis 7—28949
- Ontake Volcano, Japan, activity and 1984 September 14 earthquake 7—40422
- NE Pacific, spreading centre with episodic volcanicity and nonsteady state rift valley 7—54974
- Phlegrean Fields, Italy, volcanic activity rel. to uplift, thermal activity, geochemistry 7—34429
- Pisco Formation, Peru radioisotope dating age estimation *(French)* 7—54941
- Piton de la Fournaise, Reunion Island, discovery of old magmatic chamber, volcanological implications *(French)* 7—66048
- plume heights for basaltic fissure eruptions 7—8895
- Early Proterozoic bimodal volcanic rocks in central Colorado, petrography and stratigraphy 7—23644
- Early Proterozoic bimodal volcanic rocks in central Colorado, petrogenesis and tectonic setting 7—23645
- Early Proterozoic volcanism of SW United States, geochemistry and tectonic setting 7—55037
- Red Sea rift, basalts mineralogy from mineral comp. of coarse sediments 7—14261
- Reunion Island, Indian Ocean, noble gas systematics in basalts and dunite nodule 7—29012
- Reykjanes Peninsula, SW Iceland, postglacial volcanism and tectonics 7—40450
- Romiguieres volcano, hydro-magnetic to magmatic evolution *(French)* 7—34416
- Sakurajima volcano, Japan, volcanic gas geochemistry rel. to volcanic activity 7—34422
- Samoa, origin from isotopic evidence 7—60229
- sedimentary basins volcanism, heterogeneous stretching model with simple shear 7—34399
- Seychelles microcontinent, magmatism and tectonics 7—40452
- Silurian-Devonian boundary volcanic rocks from Vendee (W France), U-Pb zircon dating 7—47387
- Solomon Islands arc, Neogene displacements rel. to New Georgia islands volcanism 7—66082
- stratosphere, volcanic dust and atm. extinction 7—4177
- stratosphere volcanic aerosol, SAM II meas. over Antarctica (1980-1985) 7—55160
- stress-strain state of crust with magma inclusion 7—65967
- subduction zone volcanic fronts 7—8894
- Surtsey island, S of Iceland, thermal state of volcanic island 7—28934
- Taravao volcano, connection between Tahiti Nui and Tahiti Iti *(French)* 7—66049
- Tatayema volcano, Japan, crater lake sulphur sedimentation history 7—34421
- Tazekka, Morocco, Carboniferous volcanosedimentary complex *(French)* 7—66046
- Tengchong geothermal field region, China, tectonics, thermal springs and active structures 7—60219
- Tengchong volcanic-geothermal region, China, magma chamber form. *(Chinese)* 7—54875
- Toba tuffs, stratigraphy, palaeomagnetism and mag. fabric rel. to sources and eruptive styles 7—28958
- Vavilov seamount, composition, petrology *(French)* 7—60228
- viscosity of molten rock, expts. on diopside-albite melts 7—60248
- Vulcano, Italy, fumarole gas chemical composition observations 7—4202
- Vulcano, Italy, fumarole gas chemical composition study 7—4015
- Vulcano, Italy, volcanic fumarole gas chemistry and water origin 7—4016
- Wenlockian pyroclastic biotites of Gotland (Sweden), radiometric K-Ar ages *(French)* 7—47385
- xenoliths, kinetics of partial melting and dissolution 7—8944
- Yap-Mariana trenches intersection, petrology, geochemistry, and tectonic implications of volcanic rocks 7—34469
- Rn concentration variations in active volcanoes and seismic regions 7—54963
- Rn outgassing related to geothermal faults 7—54964
- ^{220}Rn, concs. determ. by scintillation counting method, appl. to Japanese Fumaroles and hot springs 7—9199

volt-ampere meters
- *see also power measurement; wattmeters*
- No entries

Volta effect *see contact potential*

voltage *see electric potential*

voltage comparators *see comparators (circuits)*

voltage control
- JT-60 toroidal field power supply, rectifier, voltage regulation characteristics 7—36262
- photodetection protection from strong exposure, based on photomultiplier voltage control 7—30086
- Van de Graaff accelerator, voltage regulation and breakdown prevention device *(Chinese)* 7—5499

voltage controllers *see voltage regulators*

voltage drop *see electric potential*

voltage measurement
- *see also potentiometers; voltmeters*
- 2e/h and h/e^2 determ. from volt and quantised Hall resist. meas. in SI units 7—41332
- absolute determ. of volt, using Kelvin type electrometer 7—14973
- AC-DC difference meas. system establishment at NPL, Israel, using multijunction thermal convertors 7—18837
- AC/DC transfer instruments comparison using digital bridge 7—18835
- automated DC meas. at NPL, India 7—18842
- Chinese Josephson standard, 2e/h precision determ. 7—18825
- dielectrics, radiation breakdown voltage measurement method 7—48771
- digital automated AC/DC transfer standard, using differential multijunction thermal convertors 7—18838
- electro-optic voltage measurement in a high-power excimerlaser 7—10977
- electro-optical Kerr effect voltage measurements on multi-megavolt pulsed power accelerators 7—25286
- high resistivity semiconductors, xerographic time of flight technique for drift mobility determ. 7—58807
- intelligent voltage standard using solid-state references 7—18841
- ions activity meas., using digital device 7—3614
- Josephson array voltage standard, NBS efforts 7—18824
- Josephson series arrays development, for high-precision voltage standards 7—18823
- Josephson standard establishment at NPL, India 7—18826
- Josephson voltage standard, computer controlled 7—14970
- MIS narrow gap structures, evaluation theory of C-V meas. 7—64355
- NBS primary AC-DC transfer standards, using multijunction thermal convertors 7—18836
- photovoltaic array I-V characteristic measurement error 7—3688
- plasma wave potential meas. using varying emitted electron currents 7—58062
- programmable DC-100 MHz voltage standard 7—18839
- RF plasma potential meas. using emitting probes 7—20941
- scanning electron microscope, using hemispherical retarding field energy analyser with microchannel plate detector 7—15035
- scanning tunnelling microscopy, using wide-range low-voltage piezoelec. bimorph 7—21049
- SI ampere and volt units, electrical metrology example 7—18807
- solar simulators and I-V meas. methods 7—54310
- standard and size duplicating methods 7—56207
- standard cells, SO$_x$ sensor using Ag$^+$-β-alumina solid electrolyte 7—326
- thermoelectric rapid inspection, contacts temp. effects 7—2580
- volt balance realisation of volts at ETF in Zagreb 7—14974
- volt realisation using integrated Josephson ccts. 7—14971
- voltage and resistance, US legal units 7—41329
- a-Si alloy tandem solar cells, spectral response and I-V characts. 7—54315
- Si detectors, large area, properties and radiation stability, capacitance-voltage meas. 7—42333

voltage reference diodes *see avalanche diodes; Zener diodes*

voltage regulation *see voltage control*

voltage regulator diodes *see avalanche diodes; Zener diodes*

voltage regulators
- *see also voltage control*
- HV regulator for field emission 7—30039
- Van de Graaff accelerator, voltage regulation and breakdown prevention device *(Chinese)* 7—5499

voltage stabilizers *see voltage regulators*

voltage transients *see transients*

voltammetry (chemical analysis)
- *see also polarography*
- alkaline earth orthovanadates, stoichiometry, stripping voltammetry studies 7—63836
- alkaline earth orthovanadates, surface electrochem. of O, cyclic voltammetric obs. 7—33957
- pH measurement, cyclovoltammetric technique using metal-metal oxide-based sensors 7—17838
- potentiostat, modular microcomputer controlled for electrochemical meas. 7—59819
- trace metals in seawater, interaction with humic acid 7—54383
- CN$^-$, oxidation at Pt electrode, polarisation modulation IRRAS 7—17836

voltammetry (chemical analysis) continued
CdS anodic film growth, initial stages, voltammetry and computer simulation studies 7—28216
CdSe thin films, electrodeposited from $SeSO_3^{2-}$ soln., comp. performance, polarography, RBS, cyclic voltammetry, power meas. 7—2411
CdTe, cathodic electrochemical surface modifications, Cd layer form. 7—65239
CdTe, electrodeposition from acidic aq. solns., voltammetry 7—27188
Hg film electrode, square wave voltammetry, theory 7—54204
Ir complex, $(NEt_4)_4(Ir(CO)_2$4,4′,5,5′-tetracyano-2,2′-biimidazole) mixed valence cpd., anisotropic conductor precursors identified by intermolecular charge transfer 7—7190
$Li_2S_{3.8}$, interaction with metal electrodes, cyclic voltammetry study 7—13786
Mo porous electrodes for alkali metal thermoelec. convertor, voltammetric studies 7—28405
NiO thin films, electrochromic switching props determ. 7—39089
Pb, electrodeposition kinetics, stripping voltammetric technique 7—27949
Sn, electrodeposition kinetics, stripping voltammetric technique 7—27949
Sn-Pb, electrodeposition kinetics, stripping voltammetric technique 7—27949
voltmeters
see also digital voltmeters; potentiometers
kilovoltmeter with optical feedback 7—30038
volume control
mitral valve, remote-controlled, development and use 7—14159
pipetting device, microvolume, for atomic absorpt. spectrometry 7—4900
volume diffusion *see diffusion in solids*
volume measurement
cardiac stroke volume, in vivo meas. using multiple 2D echo views from 1 echo window 7—34215
echocardiographic assessment of ventricular volume microcomputer based method 7—40237
extracellular water vols. in tissue, meas. by Gd modification of ^{1}H-NMR spin lattice relax. 7—18100
gas expansion method of volume determ. 7—41337
hydrostatic densitometer, absolute meas. of temp. dependences of density and related variables 7—35496
left ventricular vol. determ. using radionuclide ventriculography *(Russian)* 7—8682
medical measurements with an impedancimetric catheter, rel. to cond. and geometrical factors 7—3909
organ volume determ. using single photon emission CT, thresholding method 7—65838
SEM, stereological stereometry for volume meas. 7—56386
thyroid, vol. estimation using single photon emission CT and fan-beam geometry 7—3864
thyroid gland, vol. determ. by high resolution US scanner 7—40235
Hg—In liquid alloys, volume, thermal expansion coeff. 7—56227
Hg—Sn liquid alloys, volume, thermal expansion coeff. 7—56227
vortex flow *see vortices*
vortex flow (superconductivity) *see flux flow*
vortex lattice pinning *see flux pinning*
vortex state (superconductivity) *see mixed state*
vortex structure (superconductivity) *see flux-line lattice*
vortexes *see vortices*
vortices
see also cavitation; turbulence
2D bose system, vortex pair dissociation kinetics calcs. *(Russian)* 7—58560
acoustic emissions by vortex motions 7—51171
aerosol particles, gravitational settling, turbulent flow field 7—51284
annular jet, wake and wake-induced shear layer excitation 7—37508
arch-type vortex, form. behind normal plate in laminar boundary layer 7—26288
atmosphere, dynamic struct. of vortices formation over ocean surface heat anomalies 7—9134
atmosphere, vortex struct. assoc. with internal bore and cold front over southern Australia 7—55127
atmospheric turbulent flow over progressive water wave, eddy viscosity model 7—51193
atmospheric vortices, nonlinear response to heating by cumulus convection 7—9101
axisymmetric electrovortical flows for alternating current in a cylindrical container 7—51331
axisymmetric laminar plume, asymptotic soln. for large Prandtl no. 7—26275
axisymmetric vortex sound, acoustic wave field determ. 7—51182
axisymmetric vortices, momentum diffusion effects, appl. in tornado simulation 7—57850
ballistics of objects in vortex flow systems 7—11427
bending waves on inviscid columnar vortices 7—51170
bird flight, calc. of lift, thrust and drag 7—18011
bluff bodies, vortex wake interaction 7—51165
boundary-layer transition, roughness trips influence 7—37449
breakdown, num. study 7—26283
breakdown model, axisymmetric flow stability 7—26282
breakdown simulation, multigrid method 7—26284
cavity flow, buoyancy effect, vorticity transport eqn. *(Chinese)* 7—11429
chemically reacting transverse turbulent jet, flame struct. and vorticity 7—20809
circular couette system, formation of dynamical domains 7—37430
circular cylinder in fluid flow, turbulence transition, wakes 7—6191
classical space-times, vorticity-preserving motions 7—18595
coaxial supersonic jet, interaction with vortex ring 7—51259
coherent struct. in reattaching laminar and turbulent shear layers 7—51079
combined free and forced laminar convection in thermal entrance region of channel, Prandtl no. effect 7—37453
combustion, flow simulation in vortex struct., variational entropy method *(French)* 7—44064
compact, sand radiation theory 7—16020
composite channel flow, periodical large surface eddies generation 7—20803
compressible turbulent flows, 2D, Navier Stokes eqns. solved using finite element method 7—43960
concave surfaces, boundary layers, longit. vortical perturbations, stability diagram 7—63124
condensing droplet in high Reynolds no. flow, transport mechanism, stagnant surfactant cap effect 7—51271
vortices continued
conference, Cambridge, England (March 1986) 7—40987
contour dynamic, rotational flow simulation appl. 7—16194
Couette flow, spatial modes characteristics *(Korean)* 7—26295
Couette-Taylor flow, quasiperiodic to turbulent transition, strange attractors 7—63120
Couette-Taylor flow, rotating, Eckhaus boundary and wavenumber selection 7—43938
Couette-Taylor instability, hydrodynamic and phase-transition descriptions, expt. study of connection 7—20691
counter-rotating vortex pair induced flow at wall 7—31810
coupled acoustic and vortical instability interactions 7—31809
curved square duct, mean vel. and press, distrib. *(Chinese)* 7—11544
curved vortex filament, N-soliton soln. for incompressible inviscid fluid 7—51177
cylinder, circular, vortex induced oscillations, Iwan-Blevins wake oscillator model dynamics 7—6137
cylinder circular, with slat devices, meas. in wake flow 7—20731
cylinder-aerofoil configuration, Mach number effects on vortex shedding 7—16205
delay force systems, parametrically excited oscills. 7—11268
detached flow around profiles with ang. points, computer modelling 7—43924
diagonal flow impeller, secondary flow, vortex design 7—43923
dielectric liquids, stressed, transient EHD motion, computer simulation 7—1643
downstream persistence of regular vortex streets 7—6223
duct, rectangular, turbulence promoters, geometric shapes effect 7—37443
ducts, axisymmetric or plane, flow bifurcation at a wall sink, vorticities for Stokes flow 7—31884
dynamic spin response function near Kosterlitz-Thouless transition, theory 7—32604
dynamical systems and statistical physics conf., Koszeg, Hungary, Aug.-Sept. 1984 7—48194
dynamics and singularities, Biot-Savart eqn. simulation 7—51183
eddies, large-scale separated, inviscid solutions 7—16189
energy separation in fluid streams 7—31896
exact time depend. soln. for atm. 7—1578
experimental verification of numerical simulation of flows in cyclones and hydrocyclones 7—26296
far-wake structures behind bluff bodies 7—51175
filament interactions, expt. study 7—37474
filament method, convergence 7—51179
flame front propag. convective vertex form. 7—13777
flow sensor, swirling jet type, and flow field 7—37562
flow simulation, Monte Carlo techniques 7—37471
flow visualisation using spark velocimetry 7—57968
flowmeter, hydrodynamic oscillator type 7—37565
flowmeter, vortex shedding type with piezoelectric sensor 7—37602
flowmeters, pulsation effects in vortex and orifice types 7—37596
flowmeters, vortex type, bluff body design 7—37603
fluid mixing (stretching) by time periodic sequences for weak flows 7—31733
fluid movement by a profile carrying a source *(French)* 7—63100
fluidic watering device consisting of vortex chamber, self-oscills. 7—37467
force exerted by loop vortex motion, aerodynamic sound theory 7—1577
formation processes in wakes behind bluff bodies 7—51174
free convection near wall, random method with creation of vorticity 7—20728
free vortex dissolution with inertia, anal. using linearized Navier-Stokes equations 7—41106
free-vortex nozzle, supersonic jet struct. study using pulse holographic interferometry 7—51256
galactic disks, solitary vortices theory 7—14657
gas flows, high vorticity, computational limitations associated with Monte Carlo and mol. dynamics method 7—57857
gas jet impacting a cavity, temp. and velocity meas., flow anal. 7—43999
Gortler vortices spacing on concave walls 7—31812
Great Red Spot, Rossby autosoliton and stationary physical model of Jupiter's atmosphere 7—40750
growth in bounded rectangular jet, numerical anal. 7—37469
hairpin vortices, generation in laminar boundary layer, obs. 7—57796
hairpin vortices, generation in laminar boundary layers, obs. 7—57797
Hamiltonian dynamical systems in vortex theory 7—51184
head-on collision of two vortex rings, acoustic emission 7—31622
heat transfer, simulation for separated and reattached flow on flat plate 7—51107
heated plate, acoustically perturbed 2D separated flow 7—16195
higher-order accurate vortex and particle methods 7—26236
homogeneous turbulence, vorticity correl., rapid distortion theory 7—37445
horizontal axis wind turbines anal. using vortex lifting line method 7—63171
hydrodynamic nature of the fixation of a cathode spot 7—57859
ideal incompressible fluid, rot. motion, stability study 7—51164
incommensurate crystals and mag. crystals, 2D topological vortex-type defects 7—7462
incompressible Navier-Stokes eqn., finite element stream function-vorticity solns. 7—63104
instability in natural convection flow on inclined uniform-heat-flux surface *(Chinese)* 7—11430
interaction, MHD, current layer form. 7—51178
interfacial wave generation, investigation through flow visualisation and LDA 7—37438
intermittency and coherent structures in two-dimensional turbulence 7—37470
intrathermocline vortex lens struct. and evol. *(Russian)* 7—29043
inverse energy cascade, 2D turbulence, vortices meas. in a square box 7—16190
inviscid barotropic flow over topography, nonlin. stability and statistical mechanics 7—57806
inviscid counter-rotating vortices, nonlinear evolution 7—26293
inviscid fluid, universal short-wave instability of 2D eddies 7—20689
inviscid incompressible flow, wake rollup behind wing, vortex panel calc. 7—20732
inviscid incompressible fluid, localised rot. disturbances, steady Euler eqn. soln. 7—43937
jet impingement on wedge, edge-tone flowfield 7—11483
jets, wave struct., Rayleigh linear inviscid instability anal., 7—51054
Karman vortex flowmeter, fluid flow around bluff body 7—37601
Karman vortex street dynamics, fluid stratification effect 7—1600
Karman vortex street modification in the freestream 7—20734

vortices continued
  lake currents, finite difference method 7—60284
  laminar end-wall vortex and boundary layer, numerical simulation 7—51181
  laminar juncture flow, unsteady characteristics, visualisation 7—57799
  laminar natural convection above horizontal isothermal square cylinder, separation 7—31783
  laminar recirculating flow, vortex simulation 7—57851
  lifting surface theory for marine propellers, vortex system anal. *(Chinese)* 7—1576
  linear array of forced vortices, instability 7—63227
  lock-on and shedding, circular cylinder, steady and oscillatory flow meas. 7—16192
  longitudinal vortices in straight open channel, flow visualisation 7—37476
  magnetic liquids, hydrodynamic eqns., kinetic coeffs., internal rots. effects 7—51327
  marine risers and tethers, vortex-induced transverse response 7—37373
  meandering channels, flow and pollutant dispersion, 3D modelling 7—44052
  MHD laminar flow, vortex behaviour 7—63228
  mushroom-like currents (vortex dipoles), obs. in ocean and laboratory tank 7—29033
  natural convection flow on inclined flat plates with uniform surface heat flux, wave instability 7—20725
  Navier-Stokes equations, coherent vortices and subharmonic interactions in 2D 7—16146
  Navier-Stokes mean flows interacting with vortex and acoustic oscillations 7—43958
  neutron stars, vortex creep and internal temperature, effect on pulsars timing 7—60699
  noise generation in transonic flow, investig. *(German)* 7—31833
  nonlinear hyperbolic systems, resonantly interacting high freq. waves, asymptotic theory 7—56058
  nonlinear wave equations, two-dimensional, topological vortex dynamics, numerical simulations 7—48380
  nonlinear waves at the surface of a liquid layer with a constant vorticity 7—43944
  oceanic mesoscale vortex formation classification by instability type *(Russian)* 7—23667
  open-type vortex cooler for power semicond. instruments, thermal resist. study 7—11405
  orbital flow past cylinder, vorticity-transport and stream function eqns. 7—43929
  oscillating air foil-vortex interaction, flow visualisation study 7—20816
  pairing mechanism, interaction of free-stream turbulence with shear layer vortices 7—43931
  pairs, distribution and influence on double-velocity correlations 7—57860
  partial crossflow, lock-in phenomenon 7—57735
  particle image displacement velocimetry for 2D flow visualisation 7—31893
  penalty finite-element analysis of coupled fluid flow and heat transfer for in-line bundle of cylinders in cross flow 7—31792
  plane Poiseuille flow, direct reson. excitation 7—57928
  potential flow, vortex filament motion and decay 7—11424
  quasigeostrophic vortices, Lyapunov-stable solns. 7—43925
  reacting and non-reacting turbulent liquid mixing layer, entrainment and mixing, composition meas. 7—16174
  ring vortices, smoke visualisation 7—37566
  rotating concentric cylinders, same or opposite directions, turbulence and vortices 7—16255
  rotating config. of uniform vorticity, nonlinear evolution 7—43932
  rotating fluid, baroclinic vortex pairs 7—51168
  rotating vortex patch stability, spectral anal. and variational methods 7—16184
  secondary flow patterns, flow visualization and centrifugal instability in curved tubes 7—37550
  semi-infinite bodies, turbulent flow, Navier-Stokes eqn. soln. 7—16166
  separation flow around a cylinder near a plane screen, num. modeling 7—63123
  shallow water, elliptical vortices 7—26251
  sharp-fin-induced shock wave-turbulent boundary layer interactions 7—20693
  shear flow, forced, vorticity meas., ensemble averaging effect 7—11464
  shear flow, vorticity and vel. struct. function eqn. isotropic forms 7—51090
  sheared disturbances, instability solns. 7—57808
  single-stream mixing layer, phase averaged transverse vorticity meas. 7—31811
  smoke ring vortex motion, exact soln. to localized induction approx. eqn. 7—6225
  solidification, stirred, Taylor vortices influence on morphology 7—22657
  spanwise shear flow, interaction of decaying trailing vortices 7—51159
  spatio-temporal coherence and chaos, conf. Los Alamos, USA, Jan. 1986 7—48158
  stationary configurations of point vortices and other logarithmic objects in two dimensions 7—57858
  stirred reactor, flow characts., flow visualisation and torque meas. 7—57963
  stirred tanks, turbulent flow, two-scale model 7—51065
  stratified flow, entrainment, sheared density interface study 7—51266
  stratified fluids, stationary closed streamlines, laminar flow theory of vortices 7—6267
  stratified fluids, stationary closed streamlines, vortex pair expts. 7—6268
  stratified fluids, stationary closed streamlines, vortex pair soln., turbulent flow theory 7—6269
  stratosphere, area of polar vortex as diagnostic for tracer transport on isentropic surface 7—29134
  stratosphere, winter polar vortex simulated as material entity 7—47489
  streaklines in unsteady vortices, flow reversal 7—37472
  structure in plane mixing layers, meas. and models 7—16191
  subharmonic and asymmetric convection rolls 7—1570
  subsonic shear flow, ordered structure development, acoustic oscills. influence 7—20742
  superfluid homogeneous turbulence, absence of small scale structure 7—21556
  superfluids, 2D, fractional vortex statistics 7—44933
  supersonic vortex rings, differential interferometry study 7—51220
  surface-mounted obstacles, wakes, tailing vortices, channel-flow expts. and num. simulation 7—57844
  swirling flow, axisymmetric vortex breakdown in circular pipe 7—26286

vortices continued
  synchronized Schlieren method for vortex shedding in cascade during acoustic resonance 7—20572
  Taylor's vortex array, spectral stability 7—37473
  Taylor vortices, secondary bifurcations into wavy inflow or outflow boundaries 7—43936
  Taylor-Couette systems, phase instabilities and end effects 7—11432
  Taylor-vortex flow, dynamical system 7—11434
  thin liquid films, vortex couples, von Karman wakes, turbulence 7—43935
  Tollmien-Schlichting waves and flows governed by interactive boundary-layer eqns., Taylor-Gortler instabilities 7—26300
  transient heat transfer in porous media—a two-temperature model 7—16181
  transonic, vortex flow past delta wings, integral eqn., approach 7—31828
  tropical cyclones, evolution of potential vorticity 7—66259
  turbulence, coherent struct., spatial details 7—43870
  turbulence, measurements, pot.-difference method 7—57816
  turbulence measurement with inclined hot wire probe, 3D angle calibration method *(Japanese)* 7—6338
  turbulence near a wall, limiting behaviour, Navier-Stokes computational models 7—16170
  turbulent, fully developed 2D channel flow, visualisation and image processing 7—37574
  turbulent channel flow, 3D coherent structures in near-wall region 7—37548
  turbulent channel flow 7—57926
  turbulent flow in cylindrical tube with internal perforated baffles, drag crisis 7—43867
  turbulent flows, helical nature, num. simulation 7—31763
  turbulent incompressible convection, scalar model 7—43912
  turbulent open-channel flow, struct., flow visualisation study 7—51071
  turbulent vortex ring, passive impurity loss 7—11426
  turbulent wake struct. behind circular cylinder in steady flow and perturbed flow, comparison 7—43920
  turbulent wakes, press.-gradient effects and curvature 7—57843
  turbulent wall pressure spectrum at subconvective wavenumbers 7—51073
  twisted circular-sector ducts, fluid flow and heat transfer anal. 7—11374
  two layer fluid, chemically reacting mixing layer, vortical struct., flow visualisation anal. 7—44007
  two-dimensional turbulent jet, discrete vortex simulation, shear layers 7—16225
  unbounded heavy fluid with piecewise const. density, vortex rings 7—31816
  unsteady compressible cascade flows anal. using boundary element and free vortex method 7—43962
  unsteady incompressible viscous flow over circular cylinder, body-fitted coordinates 7—43851
  unsteady supersonic flow, past 2D plate cascade, vorticity inhomogeneities 7—57875
  upstream cylinder vibr. effect on stationary downstream cylinder 7—16201
  vapour-heat flow measurement using computerised vortex flow meters *(German)* 7—11564
  variable viscosity revolving fluid between rotating cylinders, flow instability 7—57854
  velocity meas. in stirred tanks, hot-film const. temp anemometer probes 7—16273
  velocity profile measurement by ultrasound Doppler shift method 7—37585
  velocity-field measurement by pixel-based temporal mutual-correlation analysis of dynamic image 7—20823
  vibrating superleak transducers, vortex nucleation, critical velocity effects 7—12385
  viscous flow, general eqn. of vorticity-transmission, expansion in nonorthogonal curvilinear coords. 7—16163
  viscous flow, Navier-Stokes eqns., 3D elliptic soln. 7—51318
  viscous flow past right circular cylinder on β-plane 7—57847
  viscous incompressible flow, steady Navier-Stokes eqn. soln. 7—11425
  viscous incompressible flow in rectangular pipe, soln. of unsteady Navier-Stokes equations, vorticity/velocity vector anal. *(French)* 7—63216
  viscous incompressible fluid in half-plane, Chorin-Marsden product formula convergence 7—11372
  viscous incompressible fluid jet, starting vortex, transient motion 7—44001
  viscous Newtonian and nonNewtonian fluids, power and Taylor nos., Taylor vortices 7—51158
  von Karman vortex trails, wave propag. in cylinder wake 7—51180
  vortex breakdown over delta wing *(French)* 7—11433
  vortex streets, circular cylinder wake, effect of cylinder vibr. 7—51173
  vorticity measuring apparatus using reciprocal ultrasonic transmission method 7—20819
  wakes, turbulent, pseudo 2D, development 7—57846
  wakes behind stationary cylinders, vortex street formation, wake instability model 7—16182
  wave loading on offshore structs. 7—51172
  wavenumber selection and Eckhaus instability in Couette-Taylor flow 7—43843
  waves in wall layers by unsteady press. gradients, receptivity mechanism 7—26292
  wind turbine flow field model 7—65398
  windspeed max. in tornado-like vortices 7—66224
  wing, potential flow, aerodynamic props., discrete vortex method anal. 7—11448
  wing, rot., inviscid incompressible flow, impulse distrib. 7—43921
  XY model, 2D, phase diagram 7—4774
  YEWFLO vortex flowmeter, small size and cryogenic versions *(Japanese)* 7—51356
  ^{3} He rotating A-phase, negative ion focusing by vortices 7—21562
  ^{3}He, rotating superfluid A-B interface, lattice of monopoles 7—63896
  ^{3}He, superfluid A and B phases, rotating;, vortices 7—32738
  ^{3}He, superfluid A phase, vortex phenomena in narrow gaps, surface spin waves probe 7—58562
  ^{3}He superfluid A-phase, friction force between vortices and normal component 7—44941
  ^{3}He-A, orbital dynamics, Wess-Zumino function 7—63899
  ^{3}He-B, texture and vortex struct. between rotating coaxial cylinders *(Russian)* 7—6907
  ^{3}He-B superfluid, nonaxisymmetric equilib. vortex struct. solns., comment and response 7—21563
  ^{4}He, superfluid, dissipative flow in absolute zero limit 7—12386
  ^{4}He, superfluid, quantised vortex lines, turbulent motion 7—52168

vortices continued
^{4}He-^{3}He mixture films, surface superfluidity, vortex pair pot. energy *(Chinese)* 7−12391
Li liquid flow through thin walled elbow in uniform magnetic field 7−37555

VPE *see vapour phase epitaxial growth*

vulcanisation
ethylene-propylene-diene rubber, H_2O sorption and diffusion in presence of vulcanisation accelerators *(Russian)* 7−8300
polydimethylsiloxane, swollen in benzene, network struct., cryoscopic obs. 7−21135
rubber vulcanizates, natural and styrene butadiene, environment effect on friction and wear 7−8131

W bosons
anomalous magnetic moment, new bound 7−41814
anomalous magnetic moment anal. in polarized e^-e^+ collisions 7−24870
composite W, magnetic moment calcs. 7−49149
E_6 gauge group, gauge bosons and neutral currents 7−451
electroweak Glashow-Weinberg-Salam theory, one-loop effects 7−61509
fermion+fermion→fermion+fermion+W^++W^-, charged current sector calc., effective W approx. comparison 7−24822
inhomogenous W-boson condensates in the standard electroweak theory at high fermionic densities 7−10001
initial state radiation effects on *W* and jetproduction 7−5064
longitudinally polarised W and Z bosons, relationship to Goldstone partners, gauge invariance 7−41702
magnetic moment meas. proposals as electroweak model test 7−15156
mass scale in GUT with chemical potential 7−61532
QCD corrections for semiphenomenological treatment ofheavy-quark decay 7−483
radiative corrections to vector boson masses for heavy Higgs bosons 7−30272
stimulated condensation at finite temps., Weinberg-Salam model 7−61533
universal scattering theorems for strongly interacting *W*s and *Z*s 7−24820
$e^+e^-\rightarrow W^+W^-$, factorization of helicity amplitudes and angular correlations for electroweak processes 7−41775
$e^+e^-\rightarrow W^+W^-$, probing the weak boson sector, anomalous couplings search, helicity amps. 7−56533
γ polarization propagator in external mag. field W boson contrib. 7−61438
$\gamma e\rightarrow W\nu_e$, W prod. and decay diff. cross sections, beam pol. and anomalous mag. moment effects *(Russian)* 7−30299
$\gamma n\rightarrow W^-p$, high-energy photoproduction of *W* bosons 7−35881
$\gamma n\rightarrow W^+p$, distribution functions, electric quadrupole coupling 7−35882
$\gamma p\rightarrow W^+n$, distribution functions, electric quadrupole coupling 7−35882
$\gamma p\rightarrow W^+n$, high-energy photoproduction of *W* bosons 7−35881
h→lWH, higgs-boson production via bremsstrahlung from heavy quarks 7−41683
$\bar{p}p$, $\sqrt{s}$ = 630 GeV, jet, $W^\pm$ and Z^0 prod. at UA2 7−10075
$\bar{p}p$, $\sqrt{s}$ = 630 GeV, search for monojet and multijet events with large missing p_T 7−10076
$\bar{p}p$ in standard model, $m_t<m_W$ 7−49031
$\bar{p}p\rightarrow$jets, $W^\pm$, Z comparison with QCD and standard model 7−10086
$pp\rightarrow W^+WX$, invariant-mass distrib. calcs. 7−561
$\bar{p}p\rightarrow W^\pm X$, transverse hadronic energy distrib. anal. 7−19144
$\Sigma^+\rightarrow p\gamma$ asymmetry, W-exchange dominance in SU(6) broken quark-diquark model 7−49153
$\tilde{W}$ decays, $\tilde{W}$, $\tilde{Z}$ mass limits, SUSY signals 7−61682
$\tilde{W}\rightarrow e\tilde{\nu}$, single electron search expt., sparticle mass limits 7−49142
$W\rightarrow e\nu(\mu\nu)(\tau\nu)$, e-$\mu$-$\tau$ universality test of weak couplings, g_τ/g_e, g_μ/g_e meas. large missing energy events 7−61679
$\tilde{W}\rightarrow l\nu\tilde{\gamma}$, supersymmetric signals in leptonic decays 7−41808
$W\rightarrow l\bar{\nu}$ $(\bar{u}d)(\bar{c}s)$, electroweak one-loop corrections, form factor, calc. scheme 7−5091
$\tilde{W}$ mass, astrophysical bound 7−5005
$\tilde{W}$ mass limits from $\tilde{W}$, $\tilde{Z}$ decays, SUSY signal 7−61682
$W\rightarrow\tau\nu$, τ-observation from missing transverse energy events 7−61679
$W\rightarrow u\bar{s}\gamma'$, rate and energy distribution for hyperphoton production 7−35875
$W\rightarrow\tilde{W}\tilde{Z}$, $\tilde{W}$ and $\tilde{Z}$ decays, $\tilde{W}$, $\tilde{Z}$ mass limits 7−61682
$W^-\rightarrow\gamma l^-\bar{\nu}_l$, μ_W meas. proposals as electroweak model test 7−15156
$W^-\rightarrow l^-\bar{\nu}_l$, μ_W meas. proposals as electroweak model test 7−15156
$W^{+(-)}\rightarrow t\bar{b}(\bar{t}b)$, branching ratio comparisons, CP nonconservation 7−10061
$W^\pm\rightarrow L^-\bar{\nu}$ (L=heavy lepton), event search at CERN collider 7−61680
$W^\pm$ mass, effects of $SU(2)_L\times U(1)_Y\times U(1)_{Y^*}$ and $SU(2)_L\times SU(2)_R\times U(1)_{B-L}$ gauge structures 7−61708
W′ decay, generalized vector-boson dominance anal. 7−61681
$\bar{p}p\rightarrow WX$, excited quark hypothesis, effective lagrangians 7−41858
$\bar{p}p\rightarrow W+2$ jet events, standard model expectations for large transverse momentum 7−24917
$W\rightarrow q\bar{q}$, reconstructing jet-jet invariant masses 7−10060
$W^\pm$, Z^0 self interactions, Lagrangian containing quadrupole terms, $e^+e^-\rightarrow W^+W^-$ anal. 7−61515

waiting line theory *see queueing theory*

wakes
airfoil with oscillating flap, unsteady wake meas. at transonic speed 7−51208
annular jet, wake and wake-induced shear layer excitation 7−37508
annular jet mixing regions, flow struct., press. fluctuations 7−20766
axisymmetric body, velocity and temperature profiles study 7−63155
bird flight, calc. of lift, thrust and drag 7−18011
bluff bodies, vortex wake interaction 7−51165
circular cylinder in fluid flow, turbulence transition, wakes 7−6191
coherent structures in the far field of a turbulent wake 7−31773
cosmic string wakes, baryon conc. at $z\gtrsim200$ rel. to galaxy form. and large-scale struct. 7−14687
cylinder, circular, vortex induced oscillations, Iwan-Blevins wake oscillator model dynamics 7−6137
cylinder circular, with slat devices, meas. in wake flow 7−20731
delay force systems, parametrically excited oscills. 7−11268
detached flow around profiles with ang. points, computer modelling 7−43924
downstream persistence of regular vortex streets 7−6223
electrically conducting body, electron dynamics in near wake 7−58052
flames, diffusion, bluff-body stabilised, near-wake region, CARS meas. 7−8282
horizontal axis wind turbines anal. using vortex lifting line method 7−63171

wakes continued
inviscid incompressible flow, wake rollup behind wing, vortex panel calc. 7−20732
Kelvin ship-wave pattern, cusp lines, unsteady and nonlinear effects 7−57845
laminar incompressible separated flows, iterative boundary-layer-type solver 7−11380
laminar juncture flow, unsteady characteristics, visualisation 7−57799
laminar momentumless wakes, self-similar solns. 7−51151
longitudinal flow past plates with blunt trailing edges, wake investig. *(German)* 7−20824
metallic body in plasma flow, wake, mag. field effect 7−37655
mixing layer developing region, skew laminar wake initial condition 7−31808
nonisothermal wake behind axisymm. body, turbulent vel. and temp. fields 7−11423
physical and schematic viscosity influence on wake anal. 7−26281
plate with spoiler, wake flow, gravity effects 7−51154
pollutant dispersion, wind tunnel expts. 7−1573
semielliptical afterbody near-wake, turbulence intensities 7−51150
shear flow, vorticity and vel. struct. function eqn. isotropic forms 7−51090
ships, flow around aft section, static pressure meas. 7−37594
Space Shuttle, plasma parameters meas. in vicinity of spacecraft 7−29360
stagnation point flow study in axisymmetric wakes 7−51152
subsonic bluff-body flows, wake periodicity 7−31807
subsonic shear flow, ordered structure development, acoustic oscills. influence 7−20742
supersonic radical flowfield created by ring-type source nozzle, time-depend. 2D viscous anal. 7−31830
supersonic wake past blunt body, heat transfer, and drag 7−51214
surface-mounted obstacles, wakes, tailing vortices, channel-flow expts. and num. simulation 7−57844
thin liquid films, vortex couples, von Karman wakes, turbulence 7−43935
turbine cascade in wind tunnels, transonic flow meas. 7−26313
turbulence, coherent struct., spatial details 7−43870
turbulent, press.-gradient effects and curvature 7−57843
turbulent, pseudo 2D, development 7−57846
turbulent flow behind disk, press.-strain correl model 7−31758
turbulent flow characts. in wake of circular cylinder *(Russian)* 7−1574
turbulent plane wake, heat transport meas. 7−31760
turbulent wake struct. behind circular cylinder in steady flow and perturbed flow, comparison 7−43920
unsteady supersonic flow, past 2D plate cascade, vorticity inhomogeneities 7−57875
von Karman vortex trails, wave propag. in cylinder wake 7−51180
vortex form. processes in wakes behind bluff bodies 7−51174
vortex street formation, models of wake instability behind stationary cylinders 7−16182
vortex streets, circular cylinder wake, effect of cylinder vibr. 7−51173
vortices, far-wake structures behind bluff bodies 7−51175
wind turbine flow field model 7−65398
wing, rot., inviscid incompressible flow, impulse distrib. 7−43921
I_2, supersonic flow study by 3D visualization and laser-induced fluorescence 7−20751

Walsh functions
see also encoding; filtering and prediction theory; signal processing
FTIR spectroscopy, quantitative, ADC errors 7−48877
optical transformations, discrete sampling methods *(Chinese)* 7−36886

Wannier functions
electron gas with uniform density, screened-exchange functional 7−64138
Ag, surface states, phase shifts, image planes 7−21962
Cu, surface states, phase shifts, image planes 7−21962
Ni, surface states, phase shifts, image planes 7−21962
UPt_3, heavy fermion supercond., Cooper pair states, atomic representation 7−45550

warm rolling *see hot rolling*

warm working *see hot working*

warning systems *see alarm systems*

waste disposal
see also radioactive waste
actinide containing waste, geological disposal 7−19547
actinide solubility in the near-field 7−5473
actinide transmutation, waste management option 7−25243
advanced containment research for the Canadian nuclear fuel waste management program 7−30711
AECL's methodology for nuclear waste disposal in plutonic rock masses 7−10296
air pollution, polynuclear aromatic cpds. from municipal incinerators 7−34083
Argentina, site preselection for radwaste repository *(Spanish)* 7−42225
Argentine radwaste repository, basic criteria, siting and design concepts 7−42207
argillaceous media, geochemical barrier capacity for radwaste disposal 7−5466
automated nucl. storage facility 7−30709
back-end of fuel cycle, reprocessing and intermediate radwaste storage *(German)* 7−25240
basalt-bentonite mixtures, waste packing material, diffusion of tritiated water and chloride 7−40057
below-regulatory-concern radwastes containing short-lived radionuclides, disposal 7−30687
borosilicate glass, durability, influence of Cs_2O(SrO) (U_3O_8) (ZnO) 7−8144
borosilicate glass ATM-2, Am-doped, Am concentration in solutions 7−32659
borosilicate glasses, solubility tests for HLW immobilisation 7−30705
breached spent-fuel rods, behaviour in flowing air atmosphere between 250 and 360°C 7−30534
calciner for drying and calcination of SYNROC slurry 7−19541
Canada, radwaste management programmes 7−42206
Canadian approach to site characterization for a nuclear fuel waste disposal vault 7−42224
Canadian Nuclear Fuel Waste Management Programme, summary and progress to Dec. 1984 7−25248
cement-based nuclear waste forms, leach-test characterisation 7−49691
chemical behavior of actinides in environmental waters 7−23251
chemical cleaning waste disposal 7−62090
CHEMSIMUL code appl. to groundwater radiolysis in HLW repository 7−49693

waste disposal continued
- civil nuclear power generation, characteristics and quantities of radioactive wastes 7—5454
- classification system for HLW, LLW, and TRU wastes 7—30688
- clay, radionuclide migration barrier, use for radwaste disposal 7—56861
- clay formation, faults, fractures, effect on pot. radwaste disposal site 7—49701
- clays, fracture permeability study for radioactive waste repositories 7—10293
- concrete, hydrostatic pressure effects on integrity, monolithic slag/cement under radwaste sea disposal conditions 7—36297
- concrete, sorption of fission products 7—5471
- conference on radwaste underground repositories, Hannover, Germany (Mar. 1986) 7—41010
- crystalline rocks, characts. from field expts., suitability for HLW disposal repository 7—5464
- cumulative releases of radionuclides from uncontained waste packages, mass transfer theory 7—30707
- Czechoslovakia, safety aspects of radioactive waste disposal 7—42215
- deep clay disposal of HLW, ILW, α-bearing wastes 7—49712
- deep geologic storage of spent nucl. fuel, radiation safety and personnel monitoring 7—36303
- deep geological radwaste disposal, basic geological studies for storage environment *(French)* 7—42226
- deep groundwater flow, governing principles, effects on geological radwaste disposal 7—5462
- deep sea radwaste disposal, radionuclide dispersion by physical, geochemical and biological processes 7—5468
- deregulated solid biomedical radwaste incineration, dose assessment 7—30682
- devitrified simulated HLW glass, leaching, crystalline phases effects 7—49690
- direct spent fuel disposal, safety and technical aspects *(German)* 7—15408
- dry storage to provide flexibility in spent fuel and vitrified waste management 7—10291
- electric melters for nuclear waste/glass conversion, prelim. limits for HLW vitrification 7—5451
- electric melters for nuclear waste/glass conversion, relax control, analytical methods and models 7—5450
- energy recovery from wastewater treatment sludge 7—8355
- environmental information software, waste management case study 7—8472
- fissured rocks, U, Th and lanthanides transport 7—5479
- fluidised bed calciner for fission product and metal nitrate radwastes 7—809
- gamma-ray skyshine calcs., effects on nuclear facility design 7—42239
- geological disposal of dissolves sludge, cladding, spent fuel 7—49715
- geological disposal of radwaste in FRG, strategy implementation 7—42210
- geological radwaste isolation in clay formations, fractures and faults 7—36295
- German radioactive waste disposal, overview 7—49694
- glass melter for nuclear waste, power supply and controls 7—19528
- Gorleben salt dome, radwaste disposal rate, geoscientific anal. 7—49704
- Gorleben salt dome, suitability for radwaste repository 7—49703
- granite disposal suitability testing 7—49710
- greater-than-class-C LLW, definition and characterisation 7—30683
- groundwater, artificially weathered fly ash, trace elements mobilisation and attenuation 7—28437
- groundwater flow in permeable geologic media for nuclear waste evaluation using 3D-SEEP code 7—60103
- hauyne synthesis for radwaste immobilisation 7—25244
- health physics aspects of nuclear issues in NewZealand over the last decade 7—8697
- high-level radioactive waste disposal in unsaturated alluvium, assoc. fluid flow and energy transport 7—23767
- HLLW solidification, review of alternative wasteforms and processes 7—36296
- HLLW vitrification using microwave power, pilot plant demonstration 7—49686
- HLW, commercial management systems, radiation doses 7—30697
- HLW, deep granitic formation, mechanical behaviour of host rock 7—5483
- HLW, geological repository studies, Japan 7—49711
- HLW, high SO_4^{2-} content, glass formulation for vitrification 7—25091
- HLW, influence of redox environments on the geochemicalbehaviour of radionuclides 7—5474
- HLW, radionuclide transport through penetrations in nuclear waste containers 7—30706
- HLW, thermal-diffusion aging in solidified radioactive wastes 7—25239
- HLW, underground storage facilities, temp. prediction 7—30704
- HLW, waste repository projects, systems engineering applications 7—30703
- HLW and ILW, geological disposal in the UK 7—15409
- HLW conditioning and glass specification at Sellafield 7—56860
- HLW disposal, environmental standards as a basis for repository siting and design 7—42212
- HLW disposal in rock salt formations, impact of heat prod. and γ-radiation 7—25246
- HLW disposal in salt formations, field expts., groundwater, corrosion 7—5465
- HLW fixation in borosilicate glass, characts. in repository conditions 7—5458
- HLW geological repository, US NRC programme for licensing 7—42213
- HLW immobilisation in ceramic waste forms. SYNROC props., leaching 7—5459
- HLW land disposal, radionuclide pathways to man, radiological impact, doses 7—5467
- HLW or spent fuel, role of canister in final disposal system 7—5457
- HLW repository, geological formation evaluation 7—49702
- HLW repository, time and space dependent temp. distrib. 7—5485
- hydrostatic testing of nuclear fuel waste disposal containers 7—15406
- ILW conditioned in cement and bitumen, actinide mobilisation 7—5472
- ILW deep disposal in UK, geological environments 7—42227
- immobilised nuclear wastes, diffusing species release by leaching in closed solid/liquid system 7—810
- incorporation of radioactive wastes into styrenated polyester 7—30680
- INTRACOIN study for radwaste repository radionuclide migration, model validation, uncertainty anal. 7—25249
- ion exchange resins, decomposition by pyrolysis, radwaste vol. reduction 7—36292

waste disposal continued
- Irish Sea, Sellafield plant waste, actinides enrichment in marine aerosols 7—3742
- Konrad facility for final storage of radwaste, safety anal. *(German)* 7—5444
- Konrad iron ore mine, radwaste repository suitability 7—49705
- Konrad repository, design, construction, safety anal. 7—49722
- Konrad repository, technical design 7—49714
- land disposal of radwaste, optimum groundwater transport model for health effects 7—808
- landfill gas recovery, natural and induced gas migration through cover materials 7—65396
- leached radwaste radionuclides, migration by groundwater, math. modelling 7—5461
- liquid LLW and MLW from nuclear power plants, chemical treatment 7—56859
- liquid radwaste, particle size reduction using indirect fired rotary kiln 7—10294
- liquid radwaste immobilisation in cement and loess deposits, barrier system *(Russian)* 7—49699
- LLW, below-threshold waste disposal, cost effectiveness 7—30694
- LLW, critical grout parameters and critical flow rate 7—30701
- LLW, economics of disposal at future disposal facilities 7—30690
- LLW, economics of production, processing, packaging and disposal 7—30553
- LLW, effect of technology on economics of disposal 7—30691
- LLW, interpretation and implementation of 1985 act 7—30702
- LLW, processing techniques, cost reductions 7—30699
- LLW, remote scanning technique to satisfy NRC criteria 7—36268
- LLW, volume reduction, modeling of economics 7—30692
- LLW, waste disposal, cost effectiveness for improved methods 7—30693
- LLW and ILW from nuclear power plants in Finland, final disposal 7—42221
- LLW and ILW repository in Switzerland, constructional concepts and site selection 7—42222
- LLW disposal on the Oak Ridge Reservation, performance objectives 7—36294
- LLW in cement, ocean transport off Taiwan 7—49685
- LLW reduction methods employed at du Pont/NEN research products 7—30681
- LLW volume reduction, economic incentives model 7—49689
- low level radioactive waste disposal, technology and public policy 7—56857
- LWR spent control and absorber rods, T content for waste disposal 7—25245
- Mitsui-Juelich radioactive waste incineration system *(Japanese)* 7—5453
- municipal waste incinerator plants, polynuclear aromatic cpd. pollution 7—34083
- natural convection from cylindrical heat source in water saturated porous medium, radwaste appl. 7—806
- near-field solubility constraints on radionuclide mobilisation, influence on radwaste package design 7—5460
- nuclear power plant decontamination *(Slovenian)* 7—15415
- nuclear waste and vitrification chemistry 7—5446
- nuclear waste glass, devitrification, role of melt insolubles 7—6525
- nuclear waste glass performance in geologic environment 7—5449
- nuclear waste glass suitability study, systems approach 7—5447
- nuclear waste glasses, conference, Alfred, NY, USA (July 1985) 7—3
- nuclear waste glasses, electric melting, melter designs 7—5448
- nuclear waste glasses, water chemistry and dissolution kinetics in geological disposal site 7—59906
- nuclear waste isolation systems, automated sensitivity anal. procedure for performance assessment 7—49692
- nuclear waste repository in basalt, probabilistic modelling of radionuclide release from waste package 7—30678
- nuclear waste vitrification, melt foaming, foam stability and redox studies 7—5452
- nuclear waste/natural glasses, aqueous corrosion, comparative hydration rates in liquid/vapour environments 7—8141
- ocean floor sediment as repository barrier, radionuclide diffusion 7—5481
- oceanic gyre model, decaying waste accumulation study 7—29077
- oceanic sediment barrier, geological and geochemical props. for HLW disposal 7—5463
- packaged LLW burial in Belgium, preliminary investigation *(French)* 7—42209
- Petten HFR, reactor vessel replacement, dismantling, segmentation, waste disposal, doses 7—5488
- radioactive crud, preliminary characterisation handling facility design 7—30696
- radioactive waste, behaviour of layered soil or rock containing decaying heat source 7—14264
- radioactive waste, chemical modelling 7—10297
- radioactive waste, colloid migration 7—5477
- radioactive waste, disposal, public concern 7—36274
- radioactive waste, engineered barrier research in Canada, review 7—49708
- radioactive waste, implications of radionuclide migration in granite pluton 7—28917
- radioactive waste, transient diffusional release in basalt repository 7—5482
- radioactive waste, underground disposal, safety evaluation methodologies 7—49718
- radioactive waste containers store, radiation minimisation 7—10290
- radioactive waste disposal and storage, available options 7—5456
- radioactive waste disposal in geological formations, water contamination, worst case situation 7—62083
- radioactive waste disposal in rocksalt, safety aspects, analytical approximation *(Dutch)* 7—56856
- radioactive waste repositories, long term risk assessment using MELODIE code 7—5486
- radioactive waste repository, heat induced fracturing of rock in an existing uniaxialstress field 7—5484
- radioactive waste-related risks below regulatory concern, criteria for USA 7—30686
- radiological criteria for the disposal of solidradioactive wastes 7—5455
- radionuclide migration in fissured crystalline rock, from nucl. waste repository 7—23246
- radionuclide sorption on natural materials 7—62087
- radionuclide transport from borehole to porous formation with fracture 7—23244
- radionuclide transport through engineered barriers, parameter-sensitivity analysis 7—49724

waste disposal continued
- radwaste disposal in shallow tunnels in glacial till or clayey soil, geotechnical considerations 7−42217
- radwaste packages with several shields, buildup factors for point-kernel calcs. *(German)* 7−36267
- radwaste repositories in the Federal Republic of Germany *(German)* 7−25241
- radwaste repository barrier efficiency and stability of host rock, geological anal. 7−49709
- radwaste sludge removal and packaging 7−19542
- radwaste storage in deep geological formation *(French)* 7−49716
- radwaste wet-rock repository, mass transfer of soluble species 7−30708
- reactor decommissioning with off-site, waste disposal, costs and radiological impacts 7−62057
- regulatory authorities role in Swedish radwaste management 7−42214
- repositories, Gorleben, Konrad, long-term safety 7−49706
- rock matrix, sorption and diffusion of radionuclides 7−5478
- rough surface autoradiography method, radwaste repository rock radionuclide distrib. appl. 7−54410
- safe disposal of radioactive waste in Italian argillaceous formations 7−49713
- safety analysis codes for shipping casks in Japan 7−15414
- safety analysis for waste disposal site investigation programme 7−49720
- salt mine radwaste disposal, blooding tests, safety anal. 7−49721
- Savannah River defence radwaste glass, waste package component interactions in low Mg salt brine 7−36291
- Savannah River Plant waste glass, interaction with canister and overpack metals 7−8142
- SCALE, criticality safety analysis appl. on mainframe and microcomputer 7−15413
- SCALE, nuclear waste cask analysis, critically safety analysis 7−15411
- SCALE, nuclear waste cask analysis software, heat transfer analysis capabilities 7−15412
- SCALE, nuclear waste cask analysis software, implementation, validation and application 7−15424
- SCALE, spent fuel cask analysis, cross-section processing techniques 7−15421
- SCALE, spent fuel cask analysis software, conf., Saclay, France, (June 1986) 7−14700
- SCALE, spent fuel cask analysis software 7−15410
- SCALE, spent fuel casks analysis software, isotopics, radiation spectra and decay heat 7−15423
- sensitivity anal. using computer calculus, nucl. waste isolation appl. 7−30477
- SFR, the Swedish Final Repository for Reactor Waste 7−42220
- shallow ground disposal facility for nuclear waste, site eval. and conditioning 7−42223
- shallow land LLW and ILW repository on a clay site in the UK 7−42219
- shielding analysis methods available in the SCALE computational system 7−15422
- short lived LLW and ILW, shallow ground disposal in Yugoslavia 7−42216
- simulated basalt geological radwaste repository, SSNTD neutron dosimetry 7−42199
- simulated borosilicate radwaste glass, granite and water, geochemical interactions, repository appl. 7−807
- site investigations for final disposal of spent nuclear fuel in Finland 7−42228
- slag cement-low level radioactive waste forms at Savannah River Plant 7−42197
- solid radwaste sea dumping, radiological assessment 7−10292
- spent AVR fuel elements, storage, expts. and data 7−5469
- spent CANDU fuel, geological disposal safety assessment 7−49717
- spent fuel disposal, safety assessment, Finland 7−49719
- spent fuel repository, Sweden, site characterization techniques 7−49707
- spent fuel rods, accelerated high-temperature tests under dry storage conditions 7−36153
- spent nuclear fuel, geological disposal, precipitation effects on long-term radionuclide release 7−42198
- spent nuclear fuel, reprocessing and direct disposal, radiological comparison *(German)* 7−49683
- sphene ceramics containing substituted radionuclides, leaching, CANDU waste disposal 7−811
- sphene glass ceramics, radioactive waste immobilisation, sintering, porosity 7−27984
- steel, mild, radiation enhanced corrosion of radwaste containers 7−30710
- stochastic cost estimating in repository life-cycle cost analysis 7−36276
- surface storage of ILW and LLW, French approach *(French)* 7−42208
- surface storage of radwastes, safety criteria for site selection in France *(French)* 7−42218
- Swedish waste management program, role, status, development 7−49723
- SYNROC: second generation immobilisation of radwaste 7−62089
- SYNROC-C waste glass, leaching experiments 7−39689
- TMI-2 sludge separation and packaging, anals. and conceptual designs 7−56863
- TMI-2 waste disposal planning, microcomputer spreadsheet 7−25250
- toxic waste destruction using thermal plasmas, fundamentals and applications 7−33621
- transportable volume reduction and solidification system TVR-III, operation 7−30700
- transuranic waste disposal in the United States 7−30684
- tritiated water, enrichment and vol. reduction using an electrolysis cell with a permeable cathode 7−49668
- underground repository for LLW and ILW, development and licensing experience 7−42211
- USA geological radwaste repository programme, overview 7−42205
- vault sealing R and D for Canadian nuclear fuel waste disposal programme 7−25247
- very low level radwaste from nuclear plants, potential for deregulated disposal 7−30685
- water leachability of cement forms for medium-level waste immobilization 7−49687
- Yucca Mountain Nuclear Waste Repository program, local government view 7−36289
- $Al(NO_3)_3$-fission product solns., treatment prior to disposal 7−15407
- Am, nuclear waste, leaching by salt solns. 7−36272
- Am pseudocolloids, formation and transport in aqueous systems 7−5476
- Am, solubility, influence for nuclear waste repositories 7−36271
- As speciation in natural waters and sediments 7−23250

waste disposal continued
- B_2O_3-SiO_2-M_2O (M = Na, K) glasses, ion implantation effects appl. for radioactive waste disposal 7−32519
- $CaCO_3$ deep ocean sediment samples, distrib. and diffusion meas. of Np and Am radioisotopes 7−36273
- $CaPuTi_2O_7$, substituted zirconolite, high level waste, self-irrad. effects, mech. props. 7−805
- ^{134}Cs removal from radioactive process waste water by coprecipitate flotation 7−36293
- ^{129}I immobilisation in clay, buffer candidates 7−56865
- Np migration in salt brine aquifers 7−40056
- Np, solubility, influence for nuclear waste repositories 7−36271
- ^{237}Np, diffusion in simulated high level waste glass 7−49684
- Pb cladding on radwaste containers, corrosion study *(Spanish)* 7−54013
- Pu, nuclear waste, leaching by salt solns. 7−36272
- Pu, solubility, influence for nuclear waste repositories 7−36271
- Se speciation in natural waters and sediments 7−23250
- SiO_2-B_2O_3-ThO_2 based glasses, local struct. around actinide, EXAFS and optical spectral studies, appl. for nuclear waste glasses 7−59290
- SiO_2-B_2O_3-$UO_{2.66}$ based glasses, local struct. around actinide, EXAFS and optical spectral studies, appl. for nuclear waste glasses 7−59290
- U mine tailings disposal, radiation exposure estimation 7−5445
- U, solubility, influence for nuclear waste repositories 7−36271
- U^{6+}, migration behaviour in tuff 7−5480
- UO_2 oxidative dissolution, thermodynamic approach, CANDU spent-fuel disposal appl. 7−49688
- UO_2, parametric studies in groundwater 7−25253
- UO_2-$La(OH)_3$, radionuclide coprecipitation solid solution formation 7−5475
- $UO_2(NO_3)_2$ solidification facility operation 7−30579
- $^{234}U/^{230}Th$ ratio as redox indicator in briney aquifers 7−5470

watches *see clocks*

water
- *see also groundwater; heavy water; hydroxonium ion; ice; moisture; seawater; steam*
- absorption of NH_3 in packed tower, mass transfer coeffs. meas 7−266
- absorption on K films, XPS, UPS, work function meas. 7−12485
- acetonitrile-water mixtures, stratosphere-related aspects of gas phase ion chemistry 7−13775
- adsorbate on a-Si_xC_{1-x}:H films, influence on conductance 7−33115
- adsorbed on $SrTiO_3$ surface, photon stimulated ion desorption 7−52276
- adsorption and dissociation on clean and B-contaminated Rh surfaces 7−27135
- adsorption and dissociation on Pt (111) contaminated with Si or oxidised Si 7−27134
- adsorption on $(VO)_2P_2O_7$, IR spectra 7−17818
- adsorption on $KMnO_4$ in an electric field, effect on thermal stability 7−8262
- adsorption on NiO (100), surface reactions 7−23055
- adsorption on Pt (110) 7−21644
- adsorption on Si (100), photon stimulated ion desorption surface EXAFS 7−58633
- adsorption on Si (100), surface struct., photon stimulated ion desorption SEXAFS determ. 7−64752
- adsorption on $SrTiO_3$ (100), surface struct., photon stimulated ion desorption SEXAFS determ. 7−64752
- aerosol, light scattering, evaporation effect study 7−62626
- air-H_2O interface, fatty alcohol monolayers, spin model 7−27104
- air-water (hexadecane), natural convection in complex enclosed space, heat transfer 7−11421
- air-water countercurrent flow in horizontal tubes, flooding study 7−57902
- air-water transient flow, pressure drop and void fraction 7−6288
- air-water two-phase flow in annuli, phase distrib. 7−44009
- air-water upflow in vertical annular channels, true gas content expt. 7−16265
- air-water/steam-water jets, confined two phase, analytical entrainment model *(Chinese)* 7−1596
- alcohol and water, liquid-gas boundary studied by photoacoustic spectroscopy 7−51950
- alcohol-water mixture, Benjamin-Feir turbulence in convective binary fluid mixtures 7−43916
- atmosphere, aerosol conc. changes in drops due to particle scavenging and redistrib. by coagulation 7−55201
- atmosphere, diurnal and annual vars. of water vapour and aerosols at Cagliari Astronomical Observatory 7−40547
- atmosphere, H_2O vapor absorption at 1.3 μm 7−60376
- atmosphere, sunlight absorpt. 7−60375
- middle atmosphere of Earth, H_2O conc., airglow holes and small comet influx 7−40622
- atmosphere water drops, microdynamic mechanisms for airborne particles scavenging 7−55200
- atmosphere water vapour, satellite remote sensing 7−4112
- biological charge transfer processes, IR and microwave spectra 7−3749
- brine-saturated fractured rock, elec. cond. for various confirming press. 7−29002
- capillary-gravity waves, fundamental singularities 7−63165
- carbonaceous chondrites, O and H isotopic relations in water and acid residues 7−9443
- cellulose nitrate track detector, water effects on sensitivity and track regression 7−30866
- chemisorbed H_2O, effect on positive plate elec. capacity in Pb-acid battery 7−54284
- chemisorption, on Cu or Ag (100) surfaces, quantum chem. CNDO calcs. *(German)* 7−859
- chemisorption on Al, interaction with surface, cluster approx., total energy calcs. 7−52265
- chemisorption on Si_3N_4, XPS, AES and direct recoiling studies 7−32790
- chemisorption on Si (100), MNDO calcs. 7−63963
- chemisorption onto Si (100) surface *(Chinese)* 7−33954
- clouds supercooled liq. water characts. at mountaintop sites in Colorado Rockies 7−29147
- cloudwater at Scandinavian clear air site, chemical composition meas. 7−55223
- cluster, dimer pop. eval. 7−42820
- clusters, Raman spectra 7−42826
- CN^-—H_2O, quantum-chem. MO SCF calcs. 7−5597
- coadsorption with Li on Ru (001) and decomposition 7−21645
- coadsorption with O on Ni (110), EELS study 7−32821
- coherent anti-Stokes Raman spectra calcs. 7−50145

water continued
- cold, natural convection near its density maximum in rectangular enclosure 7−57836
- cold, transient and steady-state vertical natural convection flow, meas. and visualisations 7−43902
- P/Comet Giacobini-Zinner (1984e), H_2O prod., CO_2^+ and plasma concentrations, spectrophotometric obs. 7−47793
- P/Comet Halley (1982i), IR heating of H_2O in cometary atmosphere 7−34933
- in P/Comet Halley (1982i), post-perihelion obs. of H_2O from KAO 7−47786
- P/ Comet Halley (1982i), water vapour prod. rate from Vega-2 near-IR obs. 7−14520
- cometary ionospheres, electron cooling by vibr. and rot. excitation 7−29435
- corrugated water-trickle collector, expt. and theoretical study of thermal performance 7−65581
- cylindrical tank, water-filled, damping characteristic determ. 7−16200
- Czochralski method, simulations with tetradecane and water, growth instability 7−44424
- deionized, for capacitor insulation, partial discharge and electric breakdown 7−32186
- deutero-isobutyric acid (COOH)-H_2O, critical mixtures, isotope effects 7−12253
- diffusion and sorption by polystyrene film, IR ATR spectrosc. obs. *(German)* 7−53302
- dimer, far IR absorpt. spectra 7−47539
- dimer, MBPT, coupled cluster study 7−49892
- dimer, transition from trapped to solvated electrons, ab initio calcs. 7−19700
- 1,2-diol solns. with water or electrolytes, dielectric props. 7−13080
- distilled, triple point, prep. of water cells *(Korean)* 7−24620
- DMSO-water mixture, spin relax. ^{17}O and ^2H NMR study 7−38961
- droplet, vaporisation by laser beam, electrohydrodynamics self-similar study 7−1645
- droplets, laser-induced explosion, spatially resolved spectra 7−42632
- electrical breakdown strength, effects of alloys and surface treatment 7−32185
- electro-optical Kerr effect voltage measurements on multi-megavolt pulsed power accelerators 7−25286
- electrolyses and the use in electrolytic H_2 and NH_3 production 7−23231
- electrolysis for H_2 production using photovoltaic power unit 7−46973
- electronic-vibr. states, non-adiabatic effects anal. 7−25485
- ethanol-water, excess enthalpies at 323.15, 333.15, 348.15 and 373.15K and from 0.4 to 15 MPa 7−26958
- ethanol-water mixture, finite-amplitude travelling wave convection 7−43913
- ethylene-propylene-diene rubber, H_2O sorption and diffusion in presence of vulcanisation accelerators *(Russian)* 7−8300
- extracellular water vols. in tissue, meas. by Gd modification of ^1H-NMR spin lattice relax. 7−18100
- formation of carbamic acid, urea and carbonic acid from CO_2, H_2O and NH_3 7−8268
- free and forced convective flow through porous medium 7−11533
- freezing, surfaces influence 7−6763
- FTIR spectra, fine struct., molar absorption of vibr. modes 7−53343
- gelatin-water system mixed crystal formation and glassy solidification 7−16717
- glycerin-water soln., capillary waves, spectral behaviour 7−11521
- glycine, diffusivity in conc. sat. and supersat. solns. 7−12335
- heater, 2-phase solar, operation and comparison with thermosiphon heater 7−65580
- n-heptane-water-alcohol, phase equilibria and phase diagrams at 298.2K 7−44760
- Herbig Ae/Be stars, envelopes dust IR excess and H_2O absorpt. 7−4473
- hexadecane-water, natural convection in complex enclosed space, heat transfer 7−11421
- Hg/H_2O, polarised interface, interfacial tension 7−27056
- HH 6, H_2O maser emission detect. 7−4539
- hydrophobic effects in soln. chem., integral eqn., Monte Carlo study 7−59751
- impurity in SF_6 insulation gas, conditioning under repetitive positive HV conditions 7−51552
- inclusion in trans-bis(isothiocyanato)-tetrakis-4-methylpyridinecadmium (II), cryst. struct. 7−12031
- interstellar H_2O masers in star form. regions 7−4539
- IRAS sources in mol. clouds, search for H_2O masers 7−35066
- isobutyric acid-H_2O, near-critical binary fluid mixture, refractive index, Lorentz-Lorenz rel. 7−7659
- jute fibre reinforced polyester resin with fillers, fibre matrix interactions, absorbed water influence 7−3263
- K_a values 7−9626
- Lake Sevan, determ. of organic matter and chlorophyll using laser fluorescence 7−23713
- laminar and turbulent mixing, vibr. relax. 7−11459
- laser photoacoustic spectroscopy of humid and polluted air 7−20569
- liquid, collective dynamics, sound dispersion 7−26613
- liquid, H-bonds, spatial correls., Raman spectra 7−13156
- liquid, intermolecular pot. simulation for interaction models 7−1835
- liquid, network defect density, determ. from Raman spectra 7−15603
- liquid, OH stretching vibr. spectrum, mol. dynamics study, IR, Raman and neutron diffr. spectra 7−44329
- liquid, Raman isosbestic points meas. 7−39107
- liquid, Raman scatt., high and low freq., temp. depend. 7−39108
- liquid, Raman spectra in translational region 7−64622
- liquid, thermal cond., standard reference data 7−18515
- liquid, three-body forces and single-molecule dynamics 7−11880
- liquid charged dielectric sphere, electron bound states 7−21960
- liquid jets, breakup and atomisation, transient behaviour 7−51249
- liquid network structure model 7−11878
- local percentage in steam, thermodynamic meas. 7−50931
- $(M-OH_2)^{n+}$ complexes, charge transfer and electric mobility, ab initio SCF calcs. 7−62253
- Mars, conference on atm. and climate, Washington, DC, USA (July 1986) 7−9598
- Mars, flowing water evidence 7−60592
- Mars, quantity and condition of underground water 7−24043
- maser emission from OH-IR stars, obs. in 23 objects 7−24140
- mass spectroscopic chemical analysis, liquid ionisation, principle and appls. *(Japanese)* 7−17839

water continued
- McMOLDYN/H2O computer simulation package for aqueous systems 7−44330
- media, refractive index, macrocorrel. bond effects, polarisation-interference method studies *(Russian)* 7−59174
- mesosphere H_2O estimation determ. from D-region ion comp. data 7−60435
- microclusters, mol. orientations at surface, surface pot. num. soln. 7−36838
- mm wave spectra of interstellar molecules 7−24196
- molecular chains, orientation defects motion, kink soliton solution mechanism *(Russian)* 7−32260
- molecular influence on positive corona discharge in air 7−32180
- molecular motion in small reversed micelles 7−59791
- molecular struct., density functional anal. 7−62272
- molecule, absorption line parameters rel. to DIAL monitoring of atmosphere 7−47535
- molecule, associated species, stretching force consts., mol. interaction effects, CNDO calcs. 7−25396
- molecule, bond lengths and force consts., LR CI calcs. 7−56990
- molecule, closed shell configs. SINDO method calcs. 7−19705
- molecule, correl. and Born-Oppenheimer energy eval. 7−62257
- molecule, Coulomb and exchange-correlation energies, local density functional calcs. 7−20087
- molecule, dielectric microwave and near-millimetre wavelength spectra 7−27646
- molecule, dissoc. and ion pair form., rate consts., computer simulation 7−28294
- molecule, electron attachment cross-sections meas. 7−25649
- molecule, electron elastic scatt., 100 to 1000 eV 7−5768
- molecule, electron impact, total ionisation cross-sections meas. 7−25672
- molecule, electron scatt., small-angle, meas. and calcs. 7−50346
- molecule, electron scatt. at intermediate energies, total absolute cross sections 7−62523
- molecule, excited state pot., photodissoc. ab initio calcs. 7−19978
- molecule, full CI extrapolation, double zeta basis set 7−36484
- molecule, H- and D-bonded dimers, relative stabilities, IR spectra 7−62364
- molecule, in biological systems, protein dynamics and NMR relax. time 7−25555
- molecule, intramol. vibr., mol. dynamics simulation 7−57047
- molecule, IR absorpt. spectra, anharmonicity effects, contact transformational and quantum chemical calcs. 7−25385
- molecule, local mode stretching vibr. decoupling through rot. excitation, quantum mechanics 7−19816
- molecule, mag. suscept. theory in atomic quantities terms 7−25366
- molecule, MBPT and coupled cluster calc., comparison with CI 7−49899
- molecule, multireference second order perturbation CI 7−62247
- molecule, nucl. mag. shielding consts. ab initio wave function calcs. 7−5594
- molecule, optimised geometries and harmonic freqs., MP2 calcs. 7−62255
- molecule, photodissoc., OH prod., $A^2\Sigma^+$-$X^2\Pi$ fluoresc. 7−42669
- molecule, photoionis. cross-sections and asymm. parameters 7−36707
- molecule, photoionisation cross section, ground state inversion pot. method/diffr. theory 7−945
- molecule, point charge models and FSGO-wave fn., mol. electrostatic pot. and fields *(German)* 7−25632
- molecule, pot. energy surfaces 7−10468
- molecule, quantum state selective detection by (2+1) REMPI 7−36706
- molecule, rot. levels, isotope effects, three-parameter model 7−31018
- molecule, spectral line halfwidth calc. in microwave region 7−50263
- molecule, spin and charge densities, HF and UHF calcs. 7−19684
- molecule, spin-spin coupling consts., ab initio diamagnetic spin-orbital contrib. 7−927
- molecule, stretching and bending vibr., adiabatic approx. 7−10541
- molecule, structure, urea effect 7−12348
- molecule, submm transitions for astronomy 7−47698
- molecule, vibr., hyperspherical coordinates, semiclassical SCF calcs. 7−5584
- molecule, vibr.-rot. eigenvalues, calc. 7−31007
- molecule, vibr.-rot. interaction const., RHF closed-shell wave function 7−19818
- molecule+$ClONO_2$, kinetics, implications for stratospheric O_3 7−54089
- molecules, Ag electrodes, interfacial water surface-enhanced Raman scatt. using halide solns. 7−17311
- molecules, long-range intermol. interaction energies using RPA/moment function methods 7−10698
- Monte Carlo simulation of water between metal walls, struct. and thermodynamic props. 7−11881
- narrow band stochastic surface, laser beam transmission 7−13111
- natural convection, partitioned enclosures, heat transfer study 7−31626
- natural convective flow along isothermal vertical surface, stability 7−31744
- negatively charged cluster ions, electron impact ionisation meas. 7−42821
- neutron scatt. by molecules, inelasticity corrections using a synthetic scatt. function 7−20069
- nucleate pool boiling during press. and power transients 7−1388
- oil-water core-annular flow in pipe loop, turbulent lubricating film model 7−57922
- olivine-pyroxene-plagioclase system, effect of water saturation on partial melt distrib. 7−8925
- one-dimensional infiltration in homogeneous soils, combined analytical-numerical approach 7−29082
- Orion 8 km s^{-1} H_2O maser source, time behaviour 7−24233
- partial molar enthalpies of solution in n-alkan-1-ols, esters 7−52056
- pentadecanoic acid/H_2O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7−16839
- permittivity meas. by node-displacement method for open circuit 7−38981
- phantoms in diagnostic radiology, photon scatt. props., Monte Carlo simulation study 7−54718
- phenylone, in H_2O, creep process, mathematical model *(Russian)* 7−8072
- phospholipid-water interaction, ab initio SCF calcs. 7−59919
- planetary atmospheres, mass fractionation during transonic escape of gases rel. to loss of water from Mars and Venus 7−55508
- in planetary bodies, occurrence and physical state 7−34895
- plant leaves, binding modes of water, dielectric study 7−54839
- polar mol. liq., Kerr consts. and anisotropic electronic polarisability calcs. 7−53273
- positron age-momentum correlation meas. 7−36440
- 1-propanol-water, conc. fluctuations, US absorpt. 7−58416
- props. in low-temp. region, struct., ^1H, ^2H and ^{13}C NMR 7−8318

water continued
proton gyromagnetic ratio determ., by low field method 7−14916
pure and saline, thermal buoyancy induced flow stability 7−1532
pyridine-water complexes, intermolecular pot. functions 7−62480
radial distribution functions, consistency check 7−37832
radiation heat transfer influence on effective thermal conductivity 7−6898
Raman spectroscopy during the passage of strong shock waves 7−22271
rapid cavitation induced by shock-wave refl., tensile strength meas. 7−31848
Rayleigh line wing, near part 7−39134
remote sensing, errors arising due to imprecise knowledge of water permittivity 7−66331
rhodamine 590/water soln, droplet whispering-gallery-mode laser characts. 7−31310
rigid molecules, new rigid motion algorithm for MD simulations 7−50284
in rocks, implications for extrapolation of laboratory rheological data to tectonic processes 7−66107
salt/water/aprotic solvent mixtures, alkali cation influence, IR spectra anal. 7−19856
shock wave propag., free surface reflection effects, computer simulation studies 7−32540
signal elimination in vivo, mistimed echo and repetitive gradient episode suppression 7−28750
snow/water mixture flow in pipe, snow fraction meas. 7−26348
sodium dodecylnaphthalene sulphonate/H_2O, mol. monolayer at gas-liquid interface, mol. orientation, SHG 7−16839
solar water heater, investig. of thermal-energy characts. by dynamic method 7−46966
solar water heaters with variable volume storage, energy balance eqns. 7−59873
solubility and diffusion in polyaryl ether ether ketone 7−44917
solubility in quartz, thermodynamic model 7−16758
solvation and phase separation in nonpolar liq. film between mica surfaces 7−44958
solvation energies of Li first row compounds with H_2O and NH_3 7−8269
sorption investigated using photoacoustic effect 7−54163
steam-water dispersed flow heat transfer in vertical round tube, post-dryout regime *(Chinese)* 7−11419
steam-water mixtures, thermodynamic equilibrium during loss from reactor 7−49577
steam-water two-phase flow, disturbance wave study 7−44022
steam-water violent condensation shock mechanism 7−57901
structure, adsorbed on clay soil, filtrational prop. form. 7−51297
structure, quantum effects, gamma-ray diffr. obs. 7−26609
subcooled in narrow annuli low vel. flow., boiling crisis 7−11507
submm rotational lines, use for cometary spectroscopy 7−47795
supercritical, heat transfer and turbulent flow in vertical tube 7−51142
supercritical, vel. of sound meas. at high temp. and press. 7−16691
superheated, solidification in horizontal cylinder study 7−58443
surface, cyanobiphenyls and fatty acids monolayers, optical SHG meas. 7−17288
surface waves, quasi-periodic, phase locking effects 7−11444
surfactant-water-nonaqueous liq. systems, elec. cond. study 7−13789
tetramethyl urea+water system, solid-liq. phase equil., freezing pts. 7−32616
thermal cond., viscosity and density data 7−60898
thermal cond. meas., transient hot-wire apparatus 7−4839
thermal dynamics of a block-filled underground hot water store 7−46972
thermophysical props. meas. by DC-AC hot-wire procedure 7−9830
thin liquid layers, thermal cond. and diffusivity 7−16828
toluene dispersed in water, transient behaviour of holdup in reciprocating plate extraction column 7−11497
transmission acoustic microscopy with focal planedetection 7−1343
turbulent flow at supercritical press. in smooth channel, drag coeffs. determ. 7−43866
turbulent pipe flows, forced convection correl. in near-critical region 7−51093
Tween 81-H_2O, props. in low-temp. region, struct., ^1H, ^2H and ^{13}C NMR 7−8318
underground pipe, freezing liquid transport, cooling effect 7−57923
vapor, differential cross sections, semiempirical model 7−42695
vapour, ν_1 band, inverse Raman spectrosc. 7−5687
vapour, absorpt. in 183 GHz line wing, temp. and press. depend. 7−36600
vapour, absorpt. of 2.3 μm radiation 7−57060
vapour, Ar sensitised, pulse radiolysis, OH radical dynamics 7−8292
vapour, chemisorbed on ZnO:Ga thin films, effect on elec. conductivity 7−7427
vapour, electron impact cross sections electron energy degradation spatial aspects 7−50381
vapour, electron stimulated adsorption on Pt 7−63955
vapour, ion mobility of $H^+(H_2O)_n$, TOF mass spectra 7−11582
vapour, kinetic cooling by CO laser radiation 7−16297
vapour, mol. Auger transition rates, appl. to Auger spectrum, Stieltjes imaging method 7−62458
vapour, nonequilibrium homogeneous condensation in rarefaction waves 7−51280
vapour, pressure-broadening, amplitude modulation servo control in FM spectroscopy 7−18888
vapour, radiation absorpt., generalised ang., coeffs. 7−11257
vapour, refr. index in IR windows, 19 to 7.8 μm 7−39066
vapour, third-order nonreson. susceptibility relative value, CARS meas. 7−50633
vapour abundance and distrib. in Jupiter atmosphere, IR obs. 7−60594
vapour condensation on glass, growth of breath figures 7−12405
velocity meas. in porous medium by fast neutron transmission 7−37584
Venus atmosphere, water vapour profile from Vega 1 and 2 expts. 7−55511
viscosity determ. by pulse NMR method 7−7604
vitamin B_{12} coenzyme crysts., water struct., neutron and X-ray solvent densities anal. 7−28454
vitamin B_{12} coenzyme crysts., water struct., struct characts. of solvent networks 7−28455
water, alkanoic acids and their mixtures, freezing temp. determ. using kinetic technique 7−44762
water in benzene and some n-alkanes, heat of soln. at 298.15, 308.07 and 313.14K 7−26959
water-1-pentanol-n-hexane, liq.-liq.-vapour equilib., isobaric and isothermal conditions *(Russian)* 7−63788
water-2-propanol-nitromethane, US vel. at miscibility point 7−21355

water continued
water-LiBr absorption cooling system thermodynamic design data 7−23208
water-methanol liquid jets, breakup and atomisation, transient behaviour 7−51249
water-methanol mixed clusters, H-bonded networks, stability, thermochemistry 7−62559
water-oil microemulsion, small-angle scatt., excess surfactant effect 7−59795
water-oil-tenside microemulsion, three-phase regime 7−13826
wavelength of light in water, classroom demonstration 7−35167
waves, maximum growth rate 7−43956
waves, reson. freqs. in baffled container, linearised theory investig. 7−57867
Ar-H_2O, two-phase mixture, voids fraction meas. 7−44072
Ar-H_2O plasmas, dissoc. processes, macroscopic kinetics 7−32173
$BF_3.H_2O$, electronic struct., EEL and UV photoelectron spectra, ab initio MO STO calcs. 7−36449
$Be^{2+}-H_2O$, geometry and vibr. freqs., ab initio HF calcs. 7−49881
CO_2-H_2O, mass transfer coeff., turbulence in open absorpt. channel 7−6189
Eu^{3+} in soln., $^5D_0$-$^7F_0$ luminesc. line shift and broadening, temp. depend. meas. *(Russian)* 7−17345
Fe/H_2O interface, pulsed-laser-induced reactive quenching, FeO metastable phase form. studies 7−45005
Fe-H_2O reaction under high pressure, implications for evolution of Earth 7−8887
$H_2\,^{18}O$, hot band, IR spectral line positions and intensities 7−36623
HD-H_2O, sonolysis, H_2 and D_2 form., H/D isotope exchange 7−13755
HDO, H- and D-bonded dimers, relative stabilities, IR spectra 7−62364
HDO, $\nu_1+\nu_2$ and $3v_2$ bands. energy level and intensity calcs. 7−5654
HF-H_2O, vap.-liq. equilib. and partial press. formulae 7−21427
$H^+(H_2O)_n$, ion mobility in water vapour, TOF mass spectra 7−11582
HNO_3-HF-H_2O, etching of GaAs, surface morphology *(Korean)* 7−28225
$(H_2O)_n$, H-bond strengths, MNDO calcs. 7−15519
H_2O + Mg ion (Mg complex), intermolecular potential functions, additivity 7−10699
H_2O, atomic multipoles, molecular potentials, interaction energies SCF MO calcs., atomic multipole expansion 7−19696
H_2O molecules, scatt. by cryst. surface, rainbow effects, calcs 7−7805
H_2O, shocked water, temp. meas. using fluorescence probe thermometer 7−24653
H_2O^-, Fourier transform ion cyclotron reson. mass spectrometry 7−13734
H_2O^+, $\tilde{B}^2B_2$ state predissoc., intramol. dynamics, photoelectron spectroscopy 7−42699
H_2O^+, mol. beam photoelectron spectrosc., femtosec. intramol. dynamics 7−36688
$H_2{}^{18}O$, energy levels, line intensities, Fourier transform IR spectra 7−5674
H_2O-$CO_2(H_2S)(NH_3)(H_2SO_4)(H_3PO_4)(ZnCl_2)$ $(CuCl_2)$, thermodynamic meas., bibliography of data sources 7−52070
H_2O-Cu(Ni), complexes, bonding, intermolecular electron correl. 7−10449
H_2O-Cu(Ni) complexes, binding, SCF CI calcs. 7−56958
H_2O-D_2O liq. mixture, thermal transport props. 7−16826
H_2O-DMSO, mol. dynamics, PMR relax. study 7−36651
H_2O-DMSO-1,4-dioxan, chem. shift, NMR spectroscopy 7−25559
H_2O-H_2O_2 mixtures, defects, network construction, Raman spectrum 7−64630
H_2O-H_3O^+ molecule, intermolecular energy anal. SCF calcs. 7−15479
H_2O-LiBr absorption heat pumps, thermodynamic design data, heating 7−23209
$H_2O+Al_n{}^+$ (N=1,2,3), absolute cross sections, meas. 7−5743
H_2O+CO, line broadening meas. 7−50330
H_2O+Cl^-, clustering reactions, van 't Hoff plots based on ab initio MO calcs. 7−28288
$H_2O+O_2(N_2)(Ar)$, rot.-vibr. lines, collisional broadening 7−42743
H_2O+OH, rot. transfer, time-resolved fluoresc. 7−42664
$(H_2O)_2$, intermolecular interaction energies, SCF calcs., variation-perturbation procedure 7−15505
$(H_2O)_n$, n=4 to 8, geometries and relative energies, Monte Carlo energy minimisation study, ab initio SCF calcs. 7−30921
H_3O^-, Fourier transform ion cyclotron reson. mass spectrometry 7−13734
$(H_2O)_n$ cluster, assoc. and vibr. relax. in water vapour 7−15764
$H_3O^+(H_2O)_2$, SCF interaction energies, nonadditivity 7−57143
HTO, accidental intake: report of 2 cases 7−40316
HTO, acute and chronic effects in mice, rel. to carcinogenicity 7−60053
HTO and H_2O, differences in behaviour in soil after condensation from atm. 7−54378
HTO and T, accidental release: models and in situ expts. on various plant species 7−60095
HTO and T-labelled compounds, induction of somatic mutations in Tradescantia 7−60048
HTO β-rays, RBE measured by effects on cultured mouse embryos at pre-implantation stage 7−60050
HTO induced cell killing, mutation and oncogenic transformation in cultured mammalian cells 7−60049
HTO induced intestinal cell death in mice, obs. using a new ^3H safety clean cabinet 7−60054
HTO, RBE on cultured mammalian cells at mol. and cellular level 7−60047
He-H_2O, gas/vapour mixtures in porous medium, natural convection 7−1554
He-water vapour laser, pulsed and CW operation at 28 μm 7−36939
Hi-H_2O-I_2 system vapour pressure determ. using static phase equilib. apparatus 7−23049
Li-SO_2 batteries, effect of water during incineration 7−39983
N_2-H_2O, gas/vapour mixtures in porous medium, natural convection 7−1554
N_2-H_2O mixture in a vertical pipe, automatic identification of two-phase flow regimes 7−6295
NH_3-H_2O system for solar refrigeration in Egypt 7−40041
OCN^--H_2O interaction, pot. surface, SCF MO calcs. 7−56967
U concentration determ. in natural water 7−54217

water boilers *see boilers*

water conditioning *see water treatment*

water cooling towers *see cooling towers*

water pollution
  see also water pollution detection and control
  Aberystwyth, Wales, metal and acid pollution of river due to metal mine 7−23235
  acid precipitation pollution events in rivers, use of chem. tracers to identify pollution episode 7−17927
  acid rain modelling, turbulent spiral boundary layer and thermal wind simulator 7−14370
  acidic precipitation, conf., Muskoka, Ontario, Canada (Sept. 1985) 7−48167
  acidification of lakes, regional direct distribution model 7−60291
  actinide isotopes in the marine environment 7−40314
  Adirondack lake, NE USA, Zn water chemistry in acidified lake 7−65656
  aquatic organism acidification effects, data evaluation and compilation 7−40054
  aquifer contaminant transport, orthogonal-upstream finite element modelling 7−23780
  Arabian Gulf, halomethane in seawater from Kuwait industries 7−18210
  atmosphere chemical deposition, stochastic modelling of space-time struct. 7−23239
  Bangladesh ship scrapping area on Chittagong coast, pollution study 7−18212
  Bermuda area oil pollution, Dec. 1984 observations 7−4054
  Bohai Sea, pollutant transport by wind-driven currents *(Chinese)* 7−55086
  bromoform, in seawater of Arabian Gulf, from Kuwait industries 7−18210
  California coast, chlorinated hydrocarbon (pesticide) pollution levels 7−4056
  chemical speciation in water, computer program for equilib. calcs. 7−66178
  Chernobyl reactor accident, UK aquatic environment, fisheries viewpoint 7−42230
  circulation patterns west of Scotland, radiocaesium distribs. 7−60270
  Clyde estuary, UK, Hg pollution and sulphide content of sediments 7−3732
  coastal water, routine discharges from CEGB nuclear power stations, crit. group radiation exposure 7−40306
  computer graphics for water-quality investigations 7−9030
  conference, Santa Clara, USA (Jan. 1986) 7−41018
  contaminants in aquifers and streams, transport 7−28427
  Cumbria, Al in River Esk and River Duddon and tributaries 7−13933
  deep groundwater flow, governing principles, effects on geological radwaste disposal 7−5462
  deep sea radwaste disposal, radionuclide dispersion by physical, geochemical and biological processes 7−5468
  dibromochloromethane, in seawater of Arabian Gulf, from Kuwait industries 7−18210
  diffusion-advection eqn. integral soln. for contaminants transport 7−28424
  SW England, Hg pollution of estuarine sediments 7−3732
  eutrophication process in coastal bay, 3D eco-hydrodynamic model 7−55082
  expert system prototype for water quality model parameter estimation 7−55111
  fertilisers and pesticides pollutions, book 7−24314
  groundwater, curvilinear finite element model for tracer tests and transport simulation in aquifers 7−23759
  groundwater, pollutant dispersion in fractal fracture networks 7−23772
  groundwater, second-order approach to solute motion in pipes and capillary tubes 7−23753
  groundwater, theoretical second-order modelling of dispersive transport in porous media 7−23752
  groundwater 3D flow and solute transport in multilayer systems, finite element algorithms for simulation 7−23742
  groundwater contaminant plume, migration using Galerkin models 7−60298
  groundwater contaminant transport, variable BEM soln. 7−55115
  groundwater contaminant transport model for aquifer 7−23751
  groundwater pollutant transport in aquifers, finite element calc. 7−28428
  groundwater pollution, numerical modelling of immiscible organic solvent transport at Hyde Park Landfill, New York State 7−23724
  groundwater pollution, solute dispersion in multidimensional periodic saturated porous media 7−23731
  groundwater pollution protection in developing countries, aquifer-oriented policy 7−3731
  groundwater quality, freq. domain anal. 7−23789
  groundwater solute transport simulation, time advancement problem 7−23249
  heavy metals pollution of Cpatzacoalos estuary and Ostion Lagoon, sediment anal. 7−46975
  HLW disposal in salt formations, field expts., groundwater, corrosion 7−5465
  Hudson River Estuary, Cs radioactive pollution 7−8699
  hydrocarbons, microbial biodegradation in groundwater, numerical simulation 7−46977
  Integrated Lake-Watershed Acidification Study database documentation 7−46976
  International Association for Great Lakes Research, 29th conference, Scarborough, Ontario (May 1986) 7−18507
  Irish Sea, Sellafield plant waste, actinides enrichment in marine aerosols 7−3742
  lake acidification, role of groundwater 7−23247
  Lake Balaton region, water quality management, methodology and appl. 7−60281
  Lake Lippajarvi, Finland, cultural eutrophication and related restoration problems 7−34559
  Lake Michigan, USA, Southern basin sediments, pollutant polycyclic aromatic hydrocarbons 7−29089
  Lake Michigan, USA, toxaphene pollutant 7−34084
  Lake Michigan, water quality modelling using Thematic Mapper data 7−34697
  Lake Michigan sediments, polychlorinated biphenyls of atm. and nonatmospheric origin 7−8459
  Lake Norman, NC (USA) application of ecosystem assessment model 7−65654
  Lake Ontario, Canada, pollutant transport in coastal zone 7−9047

water pollution continued
  lake pollution, computer assessment of eutrophication countermeasures 7−55112
  Lake Sevan, determ. of organic matter and chlorophyll using laser fluorescence 7−23713
  land disposal of radwaste, optimum groundwater transport model for health effects 7−808
  leached radwaste radionuclides, migration by groundwater, math. modelling 7−5461
  licenced radioactivity release levels from French nuclear facilities *(German)* 7−56873
  long lived radionuclides, transfer through marine food chains, data review 7−28728
  Madeira Abyssal Plain, Np and Am in sediments 7−36273
  marine pollution in coastal areas, the role of surfactants 7−18213
  McCloud Lake, soft water acidic lake in Florida, ions sources and sinks 7−23763
  meandering channels, flow and pollutant dispersion, 3D modelling 7−44052
  Mersey Estuary, England, phthalate ester pollution 7−55085
  Mersey estuary, UK, Hg pollution and sulphide content of sediments 7−3732
  MEXAMS metal transport model 7−9043
  Milwaukee harbour, Wisconsin, USA, PCBs in dated sediments 7−13935
  near-field solubility constraints on radionuclide mobilisation, influence on radwaste package design 7−5460
  Newark Bay, New Jersey, USA, heavy metals in water column of estuary 7−55084
  nuclear waste glasses, water chemistry and dissolution kinetics in geological disposal site 7−59906
  oceanic gyre model, decaying waste accumulation study 7−29077
  oil slick on sea surface, spreading model involving shear diffusion 7−4053
  Okanagan lake tributaries, BC, Canada, P content of suspended sediment and bioavailability 7−4070
  organic compounds, transport with saturated groundwater flow, theory 7−23240
  organic compounds transport with saturated groundwater flow, expt. results 7−23241
  organic solvent movement after release to groundwater system 7−17926
  Pacific coast of USA, contaminants of sediments of nearshore basin slopes 7−18209
  particulate contaminant migration through porous media 7−60301
  passive scalar diffusion, second order modelling 7−8468
  petroleum pollution released due to sediment stirring 7−34557
  Port Hope Harbour, Lake Ontario, sediment quality assessment and benthic community 7−28423
  Port Xiawan, China, Trace element distrib. in drill-core sediment 7−46974
  power station in Germany, environmental impact on river *(German)* 7−65657
  Puget Sound, Washington, USA, hydrocarbon pollution in urban estuary 7−66167
  radioactive waste disposal in geological formations, water contamination, worst case situation 7−62083
  radionuclide migration in fissured crystalline rock, from nucl. waste repository 7−23246
  radionuclide spills and discharge plumes, Lake Ontario, microcomputer-based model 7−13942
  radionuclide transport from borehole to porous formation with fracture 7−23244
  radionuclide transport in fast channels in crystalline rock 7−28425
  radionuclide transport through engineered barriers, parameter-sensitivity analysis 7−49724
  reactive contaminant transport through and infiltration bed shallow unconfined aquifers 7−23242
  river loads underestimation by rating curves, statistical anal. 7−23728
  Rock Creek, USA, alkalisation due to bridge construction 7−23787
  Seto Inland Sea hydraulic model, dye conc. pattern anal. 7−40058
  Severn Estuary, southwestern UK, microscopic particles from coal fired power stations 7−60275
  Severn Estuary, UK, sediment trace metal record for last 2000 years 7−18211
  simulated borosilicate radwaste glass, granite and water, geochemical interactions, repository appl. 7−807
  soil, solute dispersion in unsteady flow, velocity-depend. dispersion 7−60300
  soil, water movement and solute movement 7−23778
  solute transport in aquifers and field soils, stochastic convection-dispersion model 7−23729
  solute transport in infinite medium with mobile and immobile zones, 3D solns. 7−23248
  solute transport through soil, convection-dispersion eqn. for transfer function model 7−23739
  solute transport through soil, fundamental concepts of transfer function model 7−23737
  solute transport through soil, illustrative appls. of transfer function model 7−23738
  structured soils, equilib. and first order kinetic transport models, validity constraints 7−23243
  sulphate deposition from atm., adsorption by soil, implications for dynamics in hydrological systems 7−29102
  sulphate deposition from atm., conc. in streams 7−28426
  trace level water quality, distributional parameters estimation for censored data 7−23237
  trace level water quality, verification and appls. of distributional parameters estimation for censored data 7−23238
  trace metals in seawater, interaction with humic acid 7−54383
  Venice lagoon, sediment heavy metal pollution 7−60276
  watershed acidification, computer simulation 7−14322
  Al aqueous concentrations in natural waters and acid pollution problem 7−28420
  ^{14}C activity of atmosphere, response of hydrological systems 7−23253
  ^{3}H atmospheric release rel. to precipitation contamination 7−54382
  ^{3}H in drinking water, background information for development of a standard 7−60101
  ^{3}H in the aquatic environment, current literature review 7−54381
  Hg pollution of British estuaries 7−3732
  N pollution in hydrosphere and atmosphere, appls. of isotopic studies 7−28422
  ^{237}Np determination in sediments from Sellafield, UK, by neutron activation anal. 7−28731

water pollution continued
Pb in river sediments, Christchurch, New Zealand 7−13934
Pu fallout and natural radioactivity in coral around Virgin Islands 7−60274
^{228}Ra, prediction of occurrence in groundwater, rel. to public drinking water supplies 7−54380
Sn pollution in coastal California, butyltin cpds. due to yacht antifouling paints 7−4055
^{90}Sr radioactive pollution at U-plant in Rhode Island, USA 7−23245
T concentration in lake water, variations 7−55099
T from nuclear bombs, distrib. in oceans 7−66169
U mill tailings pile causing groundwater pollution, model of plume 7−59885
Zn water chemistry in acidified lake 7−65656
water pollution detection and control
see also water treatment
acid precipitation pollution events in rivers, use of chem. tracers to identify pollution episode 7−17927
actinides and isotopic ratios in the Greenland and Barents Seas 7−28429
Ain-Franin geothermal water, Algeria, instrumental neutron activation anal. 7−60289
chemical behavior of actinides in environmental waters 7−23251
China Sea sediments, U, Th, Ra, ^{40}K conc. and distrib. 7−28431
chlorinated hydrocarbon (pesticide) detection methods, in situ samples and mussel bioaccumulators 7−4056
Clyde River pollution control and cleaning 7−13941
distributional parameters estimation for censored trace level water quality data, estimation techniques 7−23237
distributional parameters estimation for censored trace level water quality data, verification and appls. 7−23238
environmental monitoring of marine bivalves and sediments using X-ray fluorescence and neutron/prompt gamma activation anal. 7−34077
environmental problems, mathematical models, book 7−60890
environmental protection, meas. technology *(German)* 7−3745
four-photon polarisation Raman spectroscopy for remote detection of hydrocarbons in water 7−46992
groundwater, artificially weathered fly ash, trace elements mobilisation and attenuation 7−28437
groundwater pollution protection in developing countries, aquifer-oriented policy 7−3731
groundwater radiocolloids in the vicinity of some Australian uranium ore bodies 7−28430
hydroxymethanesulfonate, determination in wet deposition by chromatography method 7−54406
lake acidification meas., integrated palaeoecological approach 7−65658
marine environment monitoring, conference, Texel, Netherlands (June 1984) 7−18472
marine oil slicks detection, ARCHIMEDES 1 expt. 7−3744
marine pollution (oil, sewage, PAH) quantification for coastal areas, chromatography based method 7−4215
microcomputer-based relational database system for monitoring water quality for the Niagara Falls drinking water treatment plant 7−54419
modified box corer and extruder for marine pollution studies 7−34089
monitoring equipment, components, materials and operating principles 7−23263
natural radioactivity meas. in water in granite regions 7−8461
ocean water, synthetic, AES study using solution nebulisation 7−13835
oil pollution measurement methods, IOC Manual testing 7−4054
oil slick remote sensing, X-band radar, and IR methods 7−9217
oil traces in turbid water monitoring, using online IR analyser 7−34091
oil-polluted sea meas. using 90-GHz radiometer *(German)* 7−40080
radioactive environmental monitoring around nuclear plant 7−28432
radioactive pollution, low-level gamma-ray study 7−23236
radioisotope distribution in precipitation, surface and groundwaters in NW Yugoslavia 7−23254
remote sensing data processing by group method of data handling, environmental management appl. *(Japanese)* 7−65673
shellfish cage design for moored buoy marine pollution monitoring 7−17934
spring and well water Rn content meas. by track techniques 7−54412
surface oil, ocean backscatter depression in C and Ku bands 7−8460
surfactants, anionic, in wastewater, indirect at. absorpt. determ. using liquid-liquid extraction 7−17925
survey data of radionuclei in environmental materials 7−17931
turbidity meas. for water pollution monitoring 7−28435
water migration studies in connection with radioactive waste 7−25254
WODA−a modelling support system for BOD-DOassessment in rivers 7−9041
Am, in Arctic waters, North Sea, Scottish and Irish coastal zones 7−13937
As speciation in natural waters and sediments 7−23250
Be, determ. in natural water, by electron capture detect. gas chromatography 7−13932
Hg monitoring instrument for continuous operation 7−65672
N pollution in hydrosphere and atmosphere, appls. of isotopic studies 7−28422
^{63}Ni in Columbia River sediment below the Hanford Reservation 7−13936
Pu, in Arctic waters, North Sea, Scottish and Irish coastal zones 7−13937
^{226}Ra, meas. method and results in fresh water 7−23262
^{222}Rn, meas. method and results in fresh water 7−23262
Se speciation in natural waters and sediments 7−23250
T, reactor produced, migration in Lake Huron 7−13938
Tl, determ. by atomic absorption spectrometry for river sediment, coal, coal fly ash 7−59801
U trace meas. in natural water using laser-induced fluorescence *(Chinese)* 7−8471
UO$_2^{2+}$-humate interactions in soft, acid,humate-rich waters 7−13939
water purification *see water treatment*
water supply
see also dams
Anambra Basin, Nigeria, water supply of Njikoka and Awka areas 7−18218
aquifer dewatering, boundary element and optimisation techniques 7−60303
aquifer optimal management, for large-scale aquifers 7−23746
Bhatsa reservoir, Maharashtra, India, induced seismicity anal. 7−23578
Charvak reservoir, USSR, statistical anal. and mathematical models of induced seismicity 7−23576
water supply continued
Darazo, Nigeria, elec. resist. survey of Kerri-Kerri Formation rel. to water resources 7−18219
desalination system, solar powered, selection for supply of water in remote arid zones 7−54339
Gombe subcatchment, Benue Valley, Nigeria, hydrogeology 7−18217
groundwater pollution protection in developing countries, aquifer-oriented policy 7−3731
groundwater systems management, coupling of finite element and optimisation methods 7−60278
hydroelectricity power, instream flow need determ. methods and their test procedures 7−39963
hydropower, multilevel pumpback, water diversion 7−54262
induced seismicity, IASPEI symposium, Hyderabad, India (1984) 7−18484
industrial water use, implications of structural changes 7−29109
Japan, seismicity changes assoc. with impounding of major artificial reservoirs 7−23569
Kotmale Reservoir, Sri Lanka, relation to seismic activity 7−23570
Lake Bhatsa, Maharashtra, India, reservoir-induced seismicity 7−23567
Lake Oroville, California, reservoir-induced seismicity rel. to August 1975 earthquake sequence 7−23574
Lake Sevan, determ. of organic matter and chlorophyll using laser fluorescence 7−23713
Lalitpur District, Uttar Pradesh, India, groundwater and water supply in granitic terrain 7−4065
Lower Mekong Basin, centralised basinwide river forecasting system 7−18227
meter, weighted mean error components analysis and standardisation 7−57949
microcomputer-based relational database system for monitoring water quality for the Niagara Falls drinking water treatment plant 7−54419
optimal planning, use of seasonal runoff forecasts 7−23741
Osmansagar reservoir, Hyderabad, India, microearthquakes obs. 7−23573
planning water resources, geographic information systems for encoding soil information 7−47473
Sriramsagar reservoir, Andhra Pradesh State, India, microearthquake investigations 7−23575
Takase Dam, Japan, microearthquake activity before and after water impounding 7−23572
Thien Dam, NW Himalayas, India, microearthquake obs. 7−23577
United States and Canada, 1986 July, water conditions 7−29094
United States and Canada, 1986 June, water conditions 7−9053
United States and Canada, 1986 September, water conditions 7−55100
USA Water Supply Computerised Information Directory 7−66204
valuing of water resources, existence values and normative economics 7−29108
Western Ghats, India, water supply and hydroclimatology 7−29091
Zhelin reservoir, E China, contrib. of water pore press. to induced earthquakes 7−23571
^{3}H in drinking water, background information for development of a standard 7−60101
^{228}Ra, prediction of occurrence in groundwater, rel. to public drinking water supplies 7−54380
water treatment
see also desalination
anaerobic digestion of Ca(OH)$_2$ sludge for water treatment 7−46963
BWR, neutral water-chemistry treatment with H$_2$O$_2$ dosing 7−10223
desalination by electrochemical membrane process *(German)* 7−13819
energy recovery from wastewater treatment sludge 7−8355
generation by membrane electrolysis for treating ultra-pure water 7−23024
microcomputer-based relational database system for monitoring water quality for the Niagara Falls drinking water treatment plant 7−54419
PWR, improved water chemistry controls for minimizing degradation of materials 7−30615
waste water treatment, energy-efficient membrane-based hybrid processes 7−13940
T$_2$O water decomposition using ZrO$_2$-Pt cell for H$_2$ production 7−3581
water trees *see electric breakdown*
watthour meters
see also power measurement
No entries
wattmeters
see also power measurement; volt-ampere meters
zero power-factor reference based on thermal convertors 7−18816
wave analysers
see also spectral analysers
particle beam fusion accelerator II (PBFA II) data acquisition system with waveform recorders 7−30753
programmable waveform analyser, metallurgical test appl. 7−35505
two-parameter data-acquisition system for slit-scan chromosome analysis 7−35501
wave equations
see also Schrodinger equation
ϕ^4 theory, nonexistence of small-amplitude breather solns. 7−61126
acoustic waves, inverse problems using penalised likelihood method 7−37233
asymptotic equipartition rate for wave motion in an even number of space dimensions 7−24432
Backlund transformations, periodic fixed points, KdV eqn. appl. 7−29772
Bloch walls, solitons and particles, an analogy in sine-Gordon framework 7−35289
broken symmetric wave eqns., reduction and solns. 7−56052
complex time-dependent Ginzburg-Landau eqn., asymptotic spatial patterns 7−35310
complexity of PDEs 7−48385
covariant observer-dependent Hamiltonian formalism for the relativistic particle 7−41179
cylindrical waveguides, resonance phenomena and aperiodic wave processes 7−50463
disordered chains, fractal behaviour, 2D stochastic maps 7−41268
dispersive long-wave equation, soln. using inverse spectral transform method 7−61118
driven sine-Gordon chain, wave propagation, long-time behaviour 7−27140
dyadic Green's function as an inverse operator 7−36851
Earth subsurface, wave reflectors and sources detection 7−23562
exponential energy decay in bounded region with feedback control 7−61120

wave equations continued
Gaussian wave-packet dynamics 7—48409
Gel'fand-Yaglom wave equation, subsidiary conditions based on new representation 7—35669
Ginzburg-Landau eqn., spatial struct. of time-periodic solns. 7—48576
gravitational-gyroscopic wave equations, ang. pot. appls. *(Russian)* 7—61183
Green function for relativistic Schrodinger equation *(Chinese)* 7—48437
Gunn effect, Korteweg-de Vries eqns. 7—12725
integrable multicomponent vector extensions of modified Korteweg-de Vries and modified dispersive water wave eqns. 7—48387
intermittency-type chaos, pattern competition as origin 7—61239
inverse problem method for Johnson's eqn., cylindrical Kadomtsev-Petviashvili eqn. 7—41108
Ito-type coupled nonlinear wave equation 7—48379
Josephson junctions, dynamic state stability, perturbed sine-Gordon model 7—52911
KdV and MKdV eqns., complex and singular solns. 7—48388
KdV eqns., phase space and continuum statistics 7—18606
KdV equation, general form, symmetries, Lie algebra props. 7—48375
KdV equation, general modified form, symmetries, Lie algebra props. 7—48376
KdV equation, N-soliton solution, decomposition 7—35293
KdV equation, perturbed, calc. of Lax pair 7—102
KdV equation related to Schrodinger operator in the plane, spectral transform. 7—61117
Klein-Gordon eqn., large-N solution 7—4708
Klein-Gordon equation, generalized, symmetries in $N\geq3$ dimensions 7—48957
Klein-Gordon equation, nonlinear, maximal symmetry group 7—391
Klein-Gordon equation, nonlinear, modulational instability 7—48382
Klein-Gordon equation soln. for electron motion in superposed standing wave/magnetic field 7—5865
Klein-Gordon nonlinear system, quantum tunneling with dissipation in external field 7—48381
Korteweg-de Vries eqn. soln. and Fredholm determinant 7—41156
Korteweg-de Vries-Burgers eqn., proper analytical soln. 7—56053
Korteweg-de-Vries equation, coupled, travelling wave solns. 7—18603
Lagrangian wave equations, arbitrary-helicity, systematics 7—56412
Lagrangian wave equations of arbitrary helicity, gauge invariance 7—18985
Lax pairs for higher order eqns. of soliton hierarchies 7—29765
magnetised plasma, double layers and multidimensional solitons 7—51446
mean wave solution: bounded medium—discrete scatterers 7—48371
multidimensional wave eqn., absorbing boundary conditions for difference approxs. 7—48384
nonAbelian gauge theory, scalar formalism using Klein-Gordon-type wave eqn. 7—4952
nonintegrable solitary and cnoidal waves from sine waves 7—4697
nonlinear, two-dimensional, topological vortex dynamics, numerical simulations 7—48380
nonlinear coupled problems of Schrodinger eqn. and Klein-Gordon eqn. *(Chinese)* 7—101
nonlinear heat and wave eqns., symmetries 7—14787
nonlinear ion-acoustic waves, Korteweg de Vries eqn., self-similar soln. 7—31973
nonlinear singular integral eqns. arising in physical problems 7—36859
nonlinear wave equation whose solns. decay faster than exponentially 7—61122
nonlinear wave equations, semi-discrete, asymmetric discrete envelope soliton solns. 7—61124
parabolic wave equation approx. in heterogeneous media 7—24437
paraxial wave equation approx. in heterogeneous media 7—24438
particle families as radial excitations, eigenstates of relativistic wave eqns. 7—30179
Pauli-Fierz wave equation, matrix formulation of subsidiary conditions of second kind 7—111
periodic solutions of wave eqn., iteration method 7—108
Petrov type D and type III space-times, conformally invariant scalar wave eqn., Maxwell's eqns. and Weyl's neutrino eqn. 7—24499
Plebanski metric perturbations in general relativity, fermion field perturbations 7—18645
polymer microarchitecture formation, nonlinear diffusion equations 7—4795
power flow direction in wave-wave coupling, mathematical formalism 7—14796
progressive wave solutions of finite order 7—104
quantum mechanics in curved space, wave eqn. derivation 7—49
quantum systems, cybernetic model, relativistically invariant wave eqn., late choice expts. predictions 7—24469
randomly inhomogeneous 1D medium, oscills., averaged description 7—24436
regular perturbations for 1st order partial diffs. eqns., resonant oscillations 7—56050
relativistic three-nucleon equations 7—61811
relativistic wave equations, invariance algebras and superalgebras 7—61440
scattering operator existence for a wave equation with a time-periodic potential *(French)* 7—35291
Schrodinger spectral problem hierarchies of integrable eqns. obtained as nonisospectral deformations 7—61160
seismology, wavefield extrapolation by linearly transformed wave eqn. 7—28878
semilinear wave equation in 1 space variable with weak damping, convergence to equilib. 7—48386
shallow water waves, real finite-gap regular solutions of the Kaup-Boussinesqequation 7—6233
shine-Gordon equation, 2D, soln. using inverse spectral transform method, existence of solitons 7—61118
sine-Gordon chain, driven, bispectral anal. 7—29773
sine-Gordon equation, sine-lattice, numerical soln. of kink dynamics 7—9681
sine-Gordon soliton, damped, mobility, finite temp. correction 7—48378
sine-Gordon soliton, pinned to impurity, chaotic motion 7—103
singular dispersive medium, wave propag., absorpt. theorem 7—56056
singular perturbations for nonlinear hyperbolic-parabolic problems 7—61050
singularities of the scatt. kernel and characterization of convex obstacle 7—4724
solitary waves, nonlinear eqns., formation and modulation 7—41111

wave equations continued
solitons, demonstration of behaviour using nonlinear electrical transmission line 7—55932
solitons, propagation in a randomly inhomogeneous active medium, Korteweg-de Vries eqn. 7—61128
solitons transverse modulations, long-wave limit, nonlinear theory calcs. 7—14791
solitons with time-dependent velocities 7—29768
space-time solutions 7—56051
spatially localised free vibrations for semilinear equations in R^2 7—9678
spin 3/2 20-dimensional wave equation with definite charge, propag. in external elec. field 7—110
spin-1/2 singleton dipole, canonical form. for second order wave eqn. of spin 1/2 field 7—48954
stochastic Korteweg-de Vries hierarchy, soliton eqns. 7—29766
stochastic modified Korteweg-de Vries equation 7—29767
super long waves, dispersive generalisations of wave eqns. 7—24434
superlinear forced wave eqn., infinitely many periodic solns., nonlinear vibr. strings 7—56055
supersymmetric quantum mechanics and inverse scatt., KdV eqn. solns. 7—35742
three-wave resonant interaction eqns. in (2+1) dimens., group anal., Lie algebra 7—29769
time-periodic scattering of symmetric hyperbolic systems 7—61123
Toda lattice, bijections and linear wave eqns. 7—48602
Tu commutativity for quasilinear evolution equations 7—35295
two point masses joined by an elastic bar, difference eqns. *(Spanish)* 7—61094
two-body relativistic systems, bound-state solns., invariant scalar products and conserved currents 7—48984
two-dimensional wave propagation in a thermoelastic layer, couple stress effects 7—63030
variable coefficient KdV equation, similarity anal. and exact soln. 7—29771
variable coefficient KdV equations, auto-Backlund transform; Lax pairs, Painleve prop. 7—29770
vibrating string controversy of mid-1700s, classical wave eqn. 7—48262
wave effects in gravitational lensing of electromagneticradiation 7—9371
wavetrain envelope evolution, broken rotational symmetry 7—9680
well-posedness of one-way wave equations and absorbing boundary conditions 7—48383
Weyl equation, maximal symmetry group, anal. using Lie's extended group method 7—24763
Weyl field strength symmetries for arbitrary helicity and gauge invariant Fierz-Pauli and Rarita-Schwinger wave equations 7—35676
H, kaonic, Klein-Gordon eqn. with phenomenological pots. 7—42794
^{6,7}LiD, $X^1\Sigma$ state pot. energy curves, adiabatic corrections 7—36514
^{6,7}LiH, $X^1\Sigma$ state pot. energy curves, adiabatic corrections 7—36514

wave functions
see also orbital calculation methods
3d transition metal atoms and ions, approx. atomic orbitals, basis set reduction, maximum overlap method, mol. and solid state calc. appls. 7—840
acetylene, protonated, $d_0(d_3)$, struct., vibr. freqs., IR intensities 7—5677
alkaline-earth atoms, two-electron interaction study 7—15491
Anderson localisation, upper critical dimens., wave function anomalous scaling behaviour 7—38428
Anderson model, 1D, anomalous scaling and generalised Lyapunov exponents 7—45108
anyon statistics with single-valued wave functions 7—29879
approximate, quality, rel. to var. principle 7—29637
atom+ion, continuum emission, wave fn. calcs. 7—15681
atom in molecule, effective state calcs., orbital population anal. *(Russian)* 7—62278
atomic, graphical method 7—49864
atomic point transformation and one-electron density, many-electron energy-density-functional theory 7—62250
atoms, nonrelativistic numerical MCSCF wavefunction calc. method 7—30917
atoms and ions, H to Ne, relativistic Gaussian basis sets 7—36468
benzene, mol. wave fns. drawing, MS-X_α-SCF calcs. 7—49921
Bethe-Salpeter eqn. for electromagnetic bound system, approx. soln. *(Chinese)* 7—24776
Bethe-Saltpeter wave function, single-time reduction using causality and spectral props. 7—41639
bipolaron ground state energy, adiabatic approx. calcs. *(Russian)* 7—32924
black holes, Hawking radiation and quantum mechanical description, gravit. interaction 7—56106
canonical quantization of gravit., Universe wave function boundary conditions 7—18672
collapse, general anal. of meas. process 7—4711
collision cross sections, centrifugal sudden approx. integral eqn. approach 7—10696
composite particles, field theoretic model, variational approach 7—19080
coupled cluster calculations 7—24481
covariant wave functions in the dual model 7—24862
damped harmonic oscillator, wave function, energy expectation value *(Korean)* 7—24465
density matrices, first-order, wave function representability 7—35301
diatomic molecules, photoemission processes, ab initio calcs. 7—19676
diatomic mols., mass-vel. corrections, relativistic kinetic energies 7—10452
dichloromethane, CH stretching overtone intensities, SCF calcs. 7—5586
dipolar crystals with two mag. ions per unit cell, quantum-mechanical states 7—45607
Dirac wave functions in 6D Abelian monopole geometry 7—19045
DNA electronic structure and cond. props., calcs. 7—23296
double wave description of a single relativistic free electron 7—9695
dyon-electron bounds system, energy levels, wave functions 7—24460
electron momentum density, near HF limit analytic wave fns., atoms and mols. 7—49884
electron wave functions in short-lived potentials, light absorption 7—61165
electronic struct. and dynamics, conf., Snowbird, UT, USA (April 1986) 7—55877
ethane, intramol. interactions, NOLMO calcs. 7—10411
exciton-exciton interaction, wave fn. normalised coeff., exchange effect role 7—52431
external electric field, first-order perturbed wave fn. 7—36465
fermion system, Monte Carlo simulations 7—204

wave functions continued
- formamide, point charge models and FSGO-wave fn., mol. electrostatic pot. and fields *(German)* 7−25632
- fractional quantised Hall states, microscopic wave functions at $v={}^2/_5$ and ${}^2/_7$ 7−2630
- fractional quantum Hall effect, large-scale config.-interaction calcs., Haldane's spherical model 7−2628
- fractional quantum Hall effect, quasiparticle states 7−21979
- free bosonic string, worldsheet reparametrizations and Tomonaga-Schwinger-Dirac formalism 7−35837
- gas with Coulomb interaction, ground state energy 7−61217
- gravitation, canonical quantization and quantum geometrodynamics, Faddeev-Popov path integral formalism 7−41211
- halomethanes, natural hybrid orbitals and photoelectron spectra 7−56941
- Hartle-Hawking Universe wave function, pure-state density matrix 7−18671
- heavy leptonium, radiative corrections to one-photon annihilation leptonic decays 7−35871
- high spin states, cranked cluster wave function 7−41921
- Hopf bifurcation and symmetry, travelling and standing waves on circle, reaction-diffusion eqns. 7−56192
- hypernuclei, pionic decay rate calcs. using DDHF single-particle wave functions 7−5183
- inelastic scatt., log derivative method, piecewise constant diagonal reference pot. addition 7−36726
- infinite quasi-periodic 2D Penrose lattice, self-similar ground-state wave function calcs. 7−24599
- ionisation phenomena, ab initio wave functions 7−36444
- light nuclei, antiprotonic bound states, microscopic calcs. 7−579
- Lippmann-Schwinger eqns., derivation from Faddeev wave function eqns. 7−5011
- low temp. lattice Anderson model, large-orbital-degeneracy expansion in the Kondo limit 7−64037
- M X-ray energy shifts, relativistic Dirac-Fock wave fns. calc. 7−19727
- magnetic material props., Schrodinger representation 7−4702
- many-fermion Hamiltonian, relationship among fermion pairs, pairons and natural spin geminals 7−41242
- mesons, micrononcausal Euclidean wave functions assuming Yukawa type couplings 7−41596
- metal/electrolyte interface electrodynamics, surface soliton form. 7−21958
- methane, natural hybrid orbitals and photoelectron spectra 7−56941
- molecular nucl. mag. shielding consts. ab initio wave function calcs. 7−5594
- molecular orbital wave functions; interaction parameters, GTO calcs. 7−15506
- molecules, nonunitary orbital transform., transition density matrices calcs. 7−19717
- molecules and ions, vibr. energy wavefunctions, variational methods 7−36574
- molecules electronic struct. calcs., basis sets correl. balance 7−56928
- multi-reference CI wave functions, geometrical energy derivative eval. 7−56994
- multimode vibrational wave functions, natural expansion 7−50056
- multireference second order perturbation CI 7−62247
- n-electron states, symmetry, extreme points of p_n^2 7−56923
- nitrone, active CAS SCF orbitals, intrinsic localisation procedure 7−25413
- nonrelativistic free particles, wave functions 7−24446
- nonrelativistic Schrodinger eqn. in quasiclassical theory 7−61145
- nonuniqueness given position and momentum distribs. 7−35304
- nuclear centre-of-mass free density matrix, appl. to many-body wave functions 7−19162
- nuclear shape parameter, IBM wave function estimates 7−575
- nucleon wavefunctions and QCD sum rules 7−30248
- one-dimensional quasiperiodic systems, electron spectral clustering and wave-function scaling, renormalisation-group calcs. 7−18723
- ontological basis for quantum theory 7−48441
- open-shell SCF wavefunctions, anal. energy third derivatives 7−25341
- particle-particle interactions, wavefunction collapse and the optical theorem 7−24468
- perturbative QCD, anomalous dimens. of multiquark bound states 7−41719
- pharmacologically active cpds., similarity meas. calcs. 7−49890
- polaron ground-state wave function symm. study 7−21829
- polyacetylene, exact continuum model *(Chinese)* 7−5795
- polyatomic molecules, Franck-Condon factors, calc. for undergraduate quantum chem. 7−60919
- positronium molecule, autoionisation state, complex coordinate rot. 7−994
- positronium negative ion, photodetachment and electron elastic scatt., variational techniques calc. 7−50363
- proteins, aperiodic, electronic struct., ab initio calcs. 7−23273
- proteins, electronic structure and cond. props., calcs. 7−23296
- QCD, x-space sum rules and π wave function 7−41734
- quantized discrete self-trapping equation 7−42590
- quantum cosmology, fermionic perturbations and wavefunction of the Universe 7−56128
- quantum cusp, catastrophe pot. 7−132
- quantum Hall effect, one-particle wave functions, local density of states and spatial structuring 7−2631
- quantum mechanics expansion parameter, spatial dimension 7−14829
- quantum states and potentialities of quantum systems 7−48408
- quantum symmetries from quantum phases, fermions from bosons, a Z_2 anomaly and Galilean invariance 7−48970
- quantum systems, uniform semiclassical approx. 7−24475
- quark mass and spin effects in meson wave functions 7−41744
- quartic oscillator, perturbatively approximated excited state wave functions 7−35319
- quasicrystals, 1D tight-binding model, critical wave functions and Cantor-set spectrum 7−64189
- rare earths, 4f levels, appearance pot. spectrosc. 7−39324
- relativistic symmetric eikonal approximation for electron capture 7−31161
- resonance energies, determ., equivalence use between boxing and scaling 7−15469
- resonance states, wave function localisation using optical potential 7−14811
- resonance wave functions, normalisation, reson. width calcs. 7−130
- scalar lattice QCD, hadron static props., form factors, charge radii, lepton widths 7−49080
- scattering T-matrix, symmetrical representation, development 7−18611

wave functions continued
- Schrodinger equation, continuum wave solution, expansion in resonant states 7−18626
- Schrodinger-Coulomb-Green's function, derivation from scatt. expansion, wave functions 7−61159
- spin-spin coupling const., polarisation propagator anal., RPA CI INDO calcs. 7−49942
- spin-spin coupling consts., ab initio diamagnetic spin-orbital contrib. 7−927
- strongly coupled QED, variational calc. of bound-state wavefunction 7−459
- Sugiyama phase sum rule, inapplicability to very thin films 7−17117
- superfluid films and interfaces, at T=0, local interactions 7−38283
- superlattices, band theory 7−45124
- surface electronic struct., film linearised muffin-tin orbital calcs., implementation and problems 7−27374
- TDHF approximation for soluble models with large degeneracies 7−24944
- tensor meson (2^{++}), quasi-free Bethe-Salpeter wave fn. calc. 7−48977
- tetrahedral mols., T_2 electronic state vibronic wavefunctions 7−19731
- three-body problem, effective pots. and wavefns., asymptotics 7−30931
- three-nucleon bound state, struct. function calcs. using Faddeev wave function 7−5151
- transactional interpretation of quantum mechanics 7−4719
- transition metal hydrides, dipole moments, CASSCF/MRCI calcs. 7−10443
- tunnelling, dissipative interaction effects, wave functions overlap integral determ. 7−17071
- two-centre harmonic oscillator matrix elements and recursion relations 7−36691
- two-electron atomic states with conserved angular momentum and parity, Schrodinger eqn. 7−5593
- van der Waals complex, rot. predissoc., multichannel reson. quantisation 7−50005
- vector operator factorisation, Coulomb problem 7−61162
- wave function, nonlocal condensates and QCD sum rules 7−41747
- Wood-Saxon pot. radial path integral, path integration over SU(2) manifold 7−35958
- Yang-Mills ground state, diagrammatic expansions 7−35685
- $f\bar{f}$ system with $J^{PC}=0^{-+}$, 1^{--}, 1^{+-}, 0^{++}, 1^{++}, Bethe-Salpeter wave fn. calcs. 7−48976
- (γ,K^+), relativistic bound state wave functions 7−42073
- H dibaryon, weak decays, wave function 7−41799
- ΛN and NN wave functions in nuclear matter, comparisons 7−41931
- N structure functions from hadronic wave functions *(Chinese)* 7−24888
- π structure function, Fock state expansion of hadronic wave function in QCD *(Chinese)* 7−24887
- Al, hot dense plasma, at. props. and transition probabilities 7−57032
- AlF^+, radical, matrix ESR and CI investig. 7−15629
- Ar, dipole (e,2e) cross sections, plane-wave Born calcs. 7−30935
- Ar, kinetic energy density, nonlocal correl. fn., CI wave fns. and HF calcs. 7−42496
- $Ar+H^+$ two-electron charge exchange mol. states, nonorthogonal CI calcs. 7−50339
- ^{36}Ar, isovector M1 collective excitations, strength function meas. 7−5144
- ^{10}B, electromagnetic struct., Cohen-Kurath wave functions *(Korean)* 7−24935
- ^{11}B, electromagnetic struct., Cohen-Kurath wave functions *(Korean)* 7−24935
- Be, kinetic energy density, nonlocal correl. fn., CI wave fns. and HF calcs. 7−42496
- C V, electron impact excitation of inelastic transitions 7−979
- C_2F, six-spin system, mol. diffusion of acetone, NMR 7−7598
- CO, free and adsorbed mol., valence wavefunctions, deexcitation electron spectroscopy 7−36756
- Cd, oscillator strengths and excitation energies, relativistic CI and MCRHF calcs. 7−50260
- CdS, semicond. crystallite, quantum size effects, energy spectrum calc. 7−12613
- Cl VI, forbidden and allowed transition, electron impact excitation 7−62529
- Cs, parity-violating 6S→7S amplitude evaluation 7−10457
- Cu_2 STF HF wave function 7−25365
- Ga, $4s^2nd$ ^2D series, lifetimes and oscillator strengths, MCHF wave fn. calcs. 7−62324
- GaAs/AlGaAs superlattices, hydrogenic impurity ground level wave function calcs., variational procedure 7−12664
- H, Kepler-Coulomb problem, coherent states and propagators time variables 7−62277
- H, positron impact ionis. cross section 7−36793
- H, Schrodinger eqn., many dimensional analogue, quantum mechanical many-body problem 7−42460
- H^-, $^1P^0$ symmetry, Wannier two-electron ionis. ladder, wave fn. calc. 7−62274
- H^-, two-electron doubly excited states, quantum number classification 7−49886
- H-like ions, dielectronic recomb. rate consts. calcs. 7−36759
- H-like ions, nucl. quadrupole moment, HFS 7−49914
- H-like systems in arbitrary mag. fields, ground and excited states wave functions expansion calcs. 7−2519
- $H+HO_2$, abstraction reaction, saddle point geometries and barrier heights, ab initio SDCI calcs. 7−46806
- H_2, a $^3\Sigma_g{}^+$-$b^3\Sigma_u{}^+$ system, dipole moments and transition probabilities 7−917
- H_2 and isotopes, nonadiabatic eigenvalues and adiabatic matrix elements 7−62381
- H_2, $b^3\Sigma_u{}^+$, excited states, mag. effects, ab initio calcs. 7−10413
- H_2, $E,F\,^1\Sigma_g{}^+$ state, REMPI, ab initio calcs. 7−62470
- H_2, electron impact, in laser field, one-photon free-free transitions 7−980
- H_2, low-energy positron scatt., Z_{eff} calcs. 7−50384
- H_2, Rydberg states, nonpenetrating, autoionis., energy-level struct. calcs. 7−15492
- H_2O, bond lengths and force consts., LR CI calcs. 7−56990
- H_2O, point charge models and FSGO-wave fn., mol. electrostatic pot. and fields *(German)* 7−25632
- H_2S, pot. energy surfaces, spectroscopic props., ab initio CEPA calcs. 7−19686
- H_2S^+, pot. energy surfaces, spectroscopic props., ab initio CEPA calcs. 7−19686
- ^2H wave function, large momentum components, Reid soft core and Paris pots. 7−35950

wave functions continued
- ^{2}H(e^-,e^-), tensor polarisation and spin observables as perturbative QCD test 7–35998
- ^{3}H, wave functions, asymptotic D to S state normalisation 7–61814
- He, $^1P^0$ symmetry, Wannier two-electron ionis. ladder, wave fn. calc. 7–62274
- He, correlated wavefunctions, dynamical anal. 7–49941
- He, double excited states, correl. wavefunction calcs. *(French)* 7–10454
- He, doubly excited autoionising resonance states, Hylleraas-type wave fn. calcs. 7–30940
- He doubly excited states, electron impact excitation. generalised oscillator strengths 7–873
- He, electron impact triple differential ionisation cross-section calcs. 7–36773
- He, fast electron impact ionisation, triple differential cross sections, Coulomb wave fns. calcs. 7–50365
- He, positron elastic scatt., 2-pot. calcs. 7–36766
- He to U, electron-nucl. cusp. SCF wave functions 7–49879
- He, two-electron doubly excited states, quantum number classification 7–49886
- He^-, ^{2}S resonant state, projection-operator formalism, CI calcs. 7–36498
- He-like atoms, bound states, least-squares calc. 7–49883
- He-like ions, electron excitation, distorted-wave polarised orbital approach 7–62531
- $He+He^{2+}$, time-depend. HF wave functions, variationally improved transition amplitude 7–36739
- $He+Li^{3+}(C^{6+})(O^{8+})$, electron capture, Coulomb integral eval. 7–15679
- ^{3}He, wave functions, asymptotic D to S state normalisation 7–61814
- ^{3}He(π,X), four-body wave function for the threshold energy 7–36061
- Hf, even isotopes, neutron s-wave force function calcs. 7–30314
- Hg, oscillator strengths and excitation energies, relativistic CI and MCRHF calcs. 7–50260
- InAs-GaSb superlattices, electronic props. 7–52817
- K^+N channel coupling, quark pot. model with resonating group method 7–41705
- Kr, kinetic energy density, nonlocal correl. fn., CI wave fns. and HF calcs. 7–42496
- Li, spin density, cusped gaussian wave functions 7–42504
- Li^+, $^1P^0$ symmetry, Wannier two-electron ionis. ladder, wave fn. calc. 7–62274
- Li-H_2 system, second derivative nonadiabatic coupling matrix elements determ. pot. energy surfaces 7–42501
- $Li+He^{2+}$, electron capture, Coulomb integral eval. 7–15679
- Li_2, photoionisation and Auger electron emission, HF calcs. 7–36703
- LiH, single cryst., electron momentum density and Compton profiles 7–3113
- LiH, vibr. transition freqs. obtained from SCF and correlated wave functions, effects of basis set selection 7–25420
- LiH^+, spin density, cusped gaussian wave functions 7–42504
- ^{6}Li, quantification of nucl. state clustering props. 7–49268
- Mg, ^{1}P states, two-electron interaction study 7–15491
- N_2, bond lengths and force consts., LR CI calcs. 7–56990
- N_2, momentum-space props., Compton profiles 7–42505
- NCl, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7–42492
- NF, radicals, electronic struct., radiative lifetime eval., MRD CI calcs. 7–42492
- NH_3, point charge models and FSGO-wave fn., mol. electrostatic pot. and fields *(German)* 7–25632
- ^{14}N(e,e′), 2.313 MeV state, transverse scatt. form factors and phenomenological wave fn. 7–41982
- ^{14}N(e,e), ground state, transverse scatt. form factors and phenomenological wave fn. 7–41982
- Na-like ions, Rydberg states, dynamic polarisability, HF calcs. 7–62273
- Ne, Auger process, relativistic close-coupling approach 7–62340
- Ne, dipole (e,2e) cross sections, plane-wave Born calcs. 7–30935
- Ne, kinetic energy density, nonlocal correl. fn., CI wave fns. and HF calcs. 7–42496
- ^{20}Ne, isovector M1 collective excitations, strength function meas. 7–5144
- O+CO, recomb. chemiluminesc. spectrum calc. 7–46807
- OI, dipole transition probabilities, HF wave functions calcs. 7–5634
- Pb, electron momentum spectra, multiconfiguration DF wavefunction 7–50351
- PuF_6, low lying 5f to 5f excitations, ab initio study, electron correl. effects 7–42502
- Sc to Zn, STF HF wave functions 7–25365
- Si, off-centre impurities and defects, local electronic struct. valence-bond theory calcs. 7–2532
- SiH_4+e^+, optical pot. approach 7–30933
- $Ti+He^+(Li^+)(H^+)$, inner-shell ionis. polarisation effect, variational wave fn. calc. 7–62491
- VO^{2+} complexes, rhombic symmetry cryst. field and ground state wavefns. 7–38927
- W, even isotopes, neutron s-wave force function calcs. 7–30314

wave mechanics
- *see also wave equations; wave functions*
- classical and quantum particle, stationary states and discrete energies 7–29783
- closed-form solutions for the modified potential 7–41148
- effective potentials from effective classical potentials 7–35327
- Ehrenfest theorem for the charged quantized Schrodinger field with arbitrary spin 7–29811
- electric and gravitational forces, and the ballistic theory of light 7–29836
- free particle, quantum master equation 7–48450
- low light level optical interference from double slit and pinhole, particle-wave duality 7–31245
- Maxwell-Dirac isomorphism 7–48447
- Newtonian form of wave mechanics 7–35297
- ontological basis for quantum theory 7–48441
- relativistic wave mechanics of spinless particles in a curved space-time 7–18646
- simple separable Hamiltonian having bound states in the continuum 7–35321
- very low light intensity diffraction patterns, photon particle-wave duality study 7–31246
- Whitham stationary waves and their dispersion relation 7–41110

wave power generation
- *see also wave power plants*
- ocean energy extraction technology status and economic prospects 7–65403

wave power generation continued
- ocean waves energy absorption systems 7–65402
- oscillating water column front facing capture chamber expt. 7–65404

wave power plants
- passive tapered channel for wave kinetic energy conversion 7–46917

wave propagation
- *see also acoustic wave propagation; electromagnetic wave propagation*
- 2.5D in-plane wave propag. seismic appl. 7–8845
- acceleration wave propagation and evolution in thermoelastic solids *(Italian)* 7–20616
- acceleration waves in particulate suspension 7–6285
- aerial suspension combustion, wave propag. 7–54125
- air, gaseous charge explosion, blast wave propag. 7–57881
- arbitrary Lagrangian-Eulerian finite element method for path-dependent materials 7–14766
- axisymmetric nonstationary problems of dynamic elasticity, ray series method appl. 7–41114
- bars, plastic impact, contact duration 7–37393
- composite materials, plane wave propagation, T-matrix calcs. 7–14795
- composite panel, in situ testing of mech. props., flexural wave phase changes obs. 7–63095
- cracked solid, elastic wave propag. consts., higher order approx. 7–16091
- curvilinear cylindrical cavity, harmonic elastic wave propag., geometrical optics methods 7–1479
- cylinder, hollow, fluid-filled, initial stresses effect on wave speed 7–43749
- cylindrical cavity of arbitrary cross section, elastic surface wave propag. *(French)* 7–63033
- deformed cylinder, Laplacian spectral props. 7–48372
- diffraction problem with two unbounded media, limiting absorption and amplitude principles 7–14786
- elastic solids with microstruct. having a symmetric stress tensor, wave propag. 7–63032
- elastic waves, fourth-order accurate finite-difference scheme 7–3991
- elastic waves in a periodic band *(French)* 7–11336
- equations of motion of elastic medium of different moduli, general theory of solns. 7–1475
- excitable reacting media, spiral waves, geometrical theory 7–48390
- fibre reinforced laminate plate, wave propag. 7–63051
- finite amplitude waves, gas dynamic approx. 7–51188
- Floquet waves in body with slender periodic struct. 7–14794
- flow induced valve operation and pressure wave propag. in single and two-phase flows 7–10239
- gas-liquid media of bubble struct. 7–20787
- gaseous disk spiral wave packets, stability 7–4318
- graphite fibre reinforced epoxy laminate, dynamic moire inteferometry of stress wave propag. 7–59717
- half-space, elastic with voids, surface wave propag. 7–63027
- heavy fluid, gravity-elastic wave excitation, unsteady problems 7–31747
- hyperbolic conservation laws with relaxation 7–48373
- hyperelastic solid, finite amplitude shear wave propag. 7–6146
- impact test, stress strain relationships, elastic deformation, specimen connected with long bar *(Japanese)* 7–11290
- inelastic half-space with cylindrical cavity, load problem, wave interaction 7–11305
- inextensible transversely isotropic elastic body, surface wave propag. 7–1483
- ion acoustic soliton propag. in nonideal plasmas 7–26417
- irregular saw-tooth shaped boundaries, normal mode analysis 7–6230
- Lamb's plane problem in thermoelastic solid, effect of couple stress and gravity 7–6128
- laminate, dynamic moire inteferometry of stress wave propag. 7–59717
- liquid filled distensible tube systems, dissipation and dispersion exhibition, wave propag. and refl. 7–1627
- liquid filled viscoelastic tubes, wave propag., 2D initial boundary value problem, transform soln. 7–37477
- Love waves, propag. along surface of elastic body with arbitrary shape 7–28888
- magnetosphere, generation and propag. mechanisms of low-latit. mag. pulsations 7–55370
- magnetosphere, MHD waves propag. rel. to low-latit. geomag. pulsations obs. 7–55371
- magnetosphere electrostatic waves, trapping near magnetospheric equator 7–34788
- mean wave solution: bounded medium–discrete scatterers 7–48371
- nonequal travel-time layered model, filtering inverse method, reflection coeff., impedance calcs. 7–61119
- nonlinear integrable system, wave emission and absorption 7–9679
- nonlinear interactions in closed and open systems 7–41117
- nonlinear lattice with long-range interaction, wave propag. *(Russian)* 7–109
- nonlinear oscillator coupled to FM wave, stochastic behaviour 7–61225
- nonlinear wave interactions in a complex Hamiltonian formalism 7–48374
- nonlinear waves of different physicomechanical nature in finite continua 7–18604
- nonlinear waves on a coupled density front 7–63163
- nonuniform waves propag. in space divided by thin fluid-filled fracture, theory 7–28891
- ocean waves, propagation in discrete spectral wave models 7–60269
- oscillators, random, Lyapunov exponent and rot. number, asymptotic anal. 7–4720
- plane layered media, global matrix formulation of wave phenomena 7–61125
- plane waves, elliptically polarised, propag. along acoustic or optical axes 7–56057
- porous media, wave features of nonlinear theory 7–56054
- porous multicomponent media, wave similarity problems 7–43740
- power flow direction in wave-wave coupling, mathematical formalism 7–14796
- quantum wave propagation near a black hole event horizon, QED scatt. 7–9505
- random media, multiple scatt., causal and noncausal behaviour of theories 7–14793
- Rayleigh waves from Shagan River test site, USSR, plasma anal. 7–54894
- relativistic plasma waves propag., global nonlinear aspects 7–1728
- resistance growth with density of scatterers in wave propag. in disordered arrays 7–35294
- rigid dielectrics with polarisation inertia, wave propag. 7–7634

wave propagation continued
rod, long, plastic wave propag., strain and temp. distrib. *(Japanese)* 7–31678
rods, nonlinear propagation of elasto-plastic waves 7–26200
Rossby-Haurwitz waves weak nonlinear coupling in atm. 7–60318
rotating solids, thermal-wave imaging 7–54047
scalar-wave localization in a two-component composite 7–14788
seismic S-waves, propag. effects in inhomogeneous mantle rel. to lower mantle vel. struct. 7–66015
seismic surface waves, phase speed perturbations and 3D scatt. effects due to topography 7–28866
seismic waves, body wave amplitude fluctuations modelling via 3D slowness method 7–40426
seismic waves, time-domain apparent attenuation operators for compressional and shear waves 7–54928
shallow water flow, boundary element soln. 7–40502
shallow water wave propagation, effects of permeable breakwater 7–66165
shallow water waves, real finite-gap regular solutions of the Kaup-Boussinesqequation 7–6233
shear wave bundles in nonlin. hereditary medium, quasioptical approx. 7–31654
shear-flow instability waves, wave action density analysis 7–16169
shell, sectional, with holes, wave fields 7–16106
shells, cylindrical, stability and design optimisation during stress wave propag. *(Ukrainian)* 7–11326
shock wave evolution in medium with thermal relax. 7–43981
shock waves, in form. 7–31838
singular dispersive medium, wave propag., absorpt. theorem 7–56056
star interiors, blast waves propag., analytical soln. 7–60517
strain gauge, bonded resistance type, dynamic characts. exam. method 7–18772
stress field calc. under action of 1D compressive wave after reflections *(Chinese)* 7–11335
thermal scatt. meas. by n wave propag. method 7–42105
thermoconsolidating media, acceleration wave propag. and decay 7–1622
thin elasto-viscoplastic layers, wave propag. 7–1481
time-periodic scattering of symmetric hyperbolic systems 7–61123
TM polarisation waves, diffraction on rectangular wedge struct; *(Russian)* 7–18605
transient wave propagation, new applications of boundary element methods 7–35292
transparent liquid, laser-induced absorpt. wave propag., hydrodynamic mechanism 7–43945
two-component medium model dynamics, interaction of parallel elastic rods 7–1460
two-dimensional wave propagation in a thermoelastic layer, couple stress effects 7–63030
two-layer fluid in cylinder and channel nonlinear wave reductive method 7–20776
vertically stratified thin accretion disks, baroclinic waves 7–14477
viscous shock profile, conservation laws, nonlinear asymptotic stability 7–35290
von Karman vortex trails, wave propag. in cylinder wake 7–51180
water waves in a ripple tank 7–18526
wave forces on vertical circular cylinder, num. investig. 7–57866
weak discontinuity wave, second order quasilinear eqn. 7–56049
weakly dispersive medium, 1D wave eqn. 7–31825
Webster's horn equation, solution, relation between coeff. and boundary values 7–35296
HD Tokamak plasma, fast Alfven wave propag., expt. meas. 7–58014
He, plasma, excited state lifetimes determ. 7–20947
wave scattering *see scattering*
waveform analysis
see also spectral analysis
DLTS, modulating functions waveform analysis 7–52523
ECG pattern recognition, Hilbert transforms and Wigner-Ville distributions 7–47265
EEG, filter transient response 7–54792
programmable analyser, metallurgical test appl. 7–35505
sinusoidal pulse evolution in nonlinear medium with fading memory 7–16024
wavefront-reconstruction imaging *see holography*
wavefront reversal (optical) *see optical phase conjugation*
waveguide antennas
see also microstrip antennas
cutoff waveguide antenna, exciter for fusion plasma heating, transient anal. in 3D space *(Japanese)* 7–11801
horn antenna with low sidelobe response for observations of diffuse celestial radiation 7–47701
particle beam position monitor using slot antennas *(Japanese)* 7–19618
RF absorber horn test system 7–43605
superconductor-insulator-superconductor mixers integrated with slot antennas, imaging array 7–60556
TMX-U ion cyclotron resonant heating slot antenna 7–26464
TMX-U ion cyclotron resonant heating system 7–26463
waveguide components
see also directional couplers; optical waveguide components; strip line components; waveguide couplers
mode convertors, optimised overmoded TE01 to TM11, high power appls. at 70, 140 GHz 7–37708
reflector-backed perfectly blazed strip gratings simulate corrugated reflector effects 7–42854
waveguide connectors *see waveguide couplers*
waveguide couplers
see also directional couplers; optical couplers
folded, for ICRF plasma heating 7–58035
waveguide joints *see waveguide couplers*
waveguide junctions *see waveguide couplers*
waveguide theory
see also guided electromagnetic wave propagation; optical waveguide theory
Buneman instability in waveguides, simulation of nonlinear dynamics 7–44165
cylindrical waveguides, aperiodic EM wave processes 7–50464
cylindrical waveguides, resonance phenomena and aperiodic wave processes 7–50463
dielectric rod waveguides with flat cross-section, anal. 7–43383
doubly periodic dielectric guide, wave propag. 7–11109
waveguide theory continued
EM wave transmission and propagation, book 7–24329
fibre acoustic waveguide, weakly guiding, leaky modes anal. 7–43471
modes of evanescent 3×3 couplers and three-core fibres 7–31477
plane plasma waveguide with random density inhomogeneities, parametric interaction of waves 7–58023
plasma-filled rectangular waveguides, excitation study *(Japanese)* 7–63288
slab with periodically varying surfaces, reflection and transmission characts. 7–15803
unipole multipactoring discharge in the LHRF launcher 7–26440
Nb, thin film, microstrip line, parameter change during superconducting to normal conducting state switching 7–22075
waveguides
see also acoustic waveguides; circular waveguides; dielectric-loaded waveguides; dielectric waveguides; optical waveguides; plasma filled waveguides; rectangular waveguides
cylindrical waveguide, ponderomotive confinement of particle beam 7–31235
electron beams, high-power, modulation in corrugated waveguide 7–10839
H-plane sectoral waveguide as sensor for dielectric props. determ. 7–14977
primary broadbanded coaxial thermal noise standard, watt unit realisation 7–18819
slab with periodically varying surfaces, reflection and transmission characts. 7–15803
tropospheric waveguide, modal equation, roots instability 7–60368
wavelength division multiplexing *see frequency division multiplexing*
wavemeters
laser wavemeter, compact, automatic, for tunable IR diode lasers 7–43181
laser wavemeter, Twyman-Green type, performance assessment *(Korean)* 7–24692
Pb salt diode laser calibration, wavemeter 7–5930
waves
see also charge density waves; elastic waves; electromagnetic waves; gravitational waves; gravity waves; liquid waves; magnetohydrodynamic waves; magnetostatic waves; ocean waves; oscillations; plasma waves; spin density waves; spin waves; surface waves (fluid); wave propagation
air-water countercurrent flow in horizontal tubes, flooding study 7–57902
air-water two-phase flow in annuli, phase distrib. 7–44009
asymptotic equipartition rate for wave motion in an even number of space dimensions 7–24432
baroclinic chaos and wave-wave vacillation 7–57893
bending waves on inviscid columnar vortices 7–51170
binary-fluid convection in finite geometries, travelling and standing waves 7–37463
blood oscillatory flow in viscoelastic tube, wave motions near instability limit 7–51316
boundary layer turbulence transition mechanisms interchange 7–57795
chemical wave transport expt. on Spacelab D1 mission *(German)* 7–20814
cnoidal standing waves and the transition to the traveling hydraulic jump 7–11440
composite system, one dimens., with random parameters, dynamic processes 7–107
converging detonation waves, temp. var. meas. *(German)* 7–51207
Couette-Taylor flow, quasiperiodic to turbulent transition, strange attractors 7–63120
dissipative systems, stationary soliton soln. investig. 7–51034
drops, liquid, breakup, rarefaction waves 7–20785
Euler eqn., wavy wall solns. 7–51210
finite amplitude disturbance wave ensemble-zonal mean flow nonlinear reson. interaction in rot. barotropic atm. *(Chinese)* 7–4079
flames, one-dimensional premixed, wave characts. 7–8279
fluid layer, finite difference method and spurious reflection of waves 7–51185
forces on vertical circular cylinder, num. investig. 7–57866
free mixing layer, weakly nonlinear stability theory, Landau constant 7–63118
frontiers in fluid mechanics, book 7–4640
gas-liquid two-phase flow in tube, stat. eval., froth, wave flow requires 7–16230
Ginzburg-Landau eqn. soln. integrability and structural stability 7–37480
hyperbolic shear mixing layer, weakly amplified waves, nonlinear evol., Landau const. 7–63167
ideal compressible fluid, press. waves, nonstationary interaction 7–31823
instability problems, finite-difference soln. methods 7–11437
interfacial, large-amplitude 7–11438
internal waves, nonstationary theory, existence theorems *(Russian)* 7–61130
inviscid fluids in channel under localised perturbations, steady flows 7–11546
isentropic gas dynamics, rarefaction waves, vacuum state 7–57871
isentropic gas flows, 2D, of double-wave type, classification 7–1581
jets, spreading rate, instability waves, phase difference effect 7–51247
jets, wave struct., Rayleigh linear inviscid instability anal., 7–51054
Kelvin waves, cylindrical, in compressible stratified fluid *(Russian)* 7–43957
Kelvin waves in compressible stratified fluids *(Russian)* 7–63168
laminar small Reynolds-number flow over wavy walls 7–43840
large-amplitude wave in gas disk, stationary periodic wave theory 7–23987
laser absorption wave structure in thermal dissociation presence 7–26119
longitudinal standing waves in pipe 7–41039
mass concentration waves dynamics in two-phase gas-liquid bubble mixture in pipe 7–6287
multiple fractionation of wave structures in a nonlinear medium 7–48389
N waves, evolution and decay, Burgers eqn. anal. 7–43980
Navier-Stokes mean flows interacting with vortex and acoustic oscillations 7–43958
nonequilibrium homogeneous condensation in rarefaction waves 7–51280
nonlinear hyperbolic systems, resonantly interacting high freq. waves, asymptotic theory 7–56058
nonlinear wave propagation, gas-liquid media of bubble struct. 7–20787
nonlinear waves, bifurcation, stability and symmetry 7–41116
oscillatory rectangular duct flows with turbulence transition, laminar phase vel. distribs. 7–16257
plane wave, E- and H-polarised, transient scatt. by flat strip, spectral iteration scheme 7–56048

waves continued
planetary rings, nonlinear density waves struct. 7—55506
pressure wave, stepped, plane, reflection from convex cylindrical cavity 7—61127
propagation, weakly dispersive medium, 1D wave eqn. 7—31825
ramped Rayleigh-Bernard convection, wavenumber selection 7—26273
rotating compressible fluid, flow due to oscillatory point source 7—63156
rotating cylindrical annulus, convection, asymptotic theory 7—51169
rotating cylindrical cavity, inertial waves in fluid, time-depend. complex eigenfrequencies 7—57856
Saturn ring system, bending waves anal. using Voyager radio occultation data 7—55527
Saturn ring system, nonlinear study of Mimas 5:3 density wave 7—24057
shells coaxial, orthotropic, cylindrical, with flowing fluids, axisymm. normal wave propag. 7—106
soliton stability in plasmas and hydrodynamics, review 7—105
steam-water two-phase flow, disturbance wave study 7—44022
stratified flow perturbation spectrum, internal wave problem 7—31859
stratified ideal incompressible fluid, plane steady flow 7—51265
subsonic shear flow, ordered structure development, acoustic oscills. influence 7—20742
swirling flow, axisymmetric vortex breakdown in circular pipe 7—26286
Taylor vortices, secondary bifurcations into wavy inflow or outflow boundaries 7—43936
thermoconsolidating media, acceleration wave propag. and decay 7—1622
Timoshenko beam on elastic foundation under moving spring-mass system, stability 7—43719
Tollmien-Schlichting waves and flows governed by interactive boundary-layer eqns., Taylor-Gortler instabilities 7—26300
travelling thermal wave induction of convective heat transfer and fluid flows, nonlin. study 7—1546
two-layer and three-layer flows, three-wave resonant interactions and multiple reson. 7—11439
two-layer flow in rot. channel, solitary internal waves 7—57855
two-layer model, direction of energy movement in wave number 7—57864
vorticity equation, exact time depend. solns. 7—1578
water, arbitrary depth, 3D Stokes waves, stability anal., fourth order evolution eqns. 7—16162
water, reson. freqs. in baffled container, linearised theory investig. 7—57867
water waves, impact on ice surface, heat transfer 7—51098
HF, chem. laser, modeling based on standing detonation wave 7—62681

waxes
carnauba wax, magneto-electret, surface charge density and dielec. const. 7—22126
Fischer-Tropsch waxes, cell parameters, temp. dependence 7—12043

waxing *see polishing*

WDM *see frequency division multiplexing*

weak ferromagnetism
see also canted spin arrangements; Morin temperature
anisotropic magnetoresist., weak ferromagnets with cubic anisotropy, atomic d-state model calcs. 7—2577
antiferromagnetic superconductors, anomalous behavior 7—58964
bis(methyl ammonium) iron tetrachloride, mag. susceptibility rel. to thermal and mag. history 7—22095
domain growth kinetics, Langevin eqns. study 7—59050
$(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, magnetic phase diagram studies 7—2844
itinerant electron ferromagnetism, mag. susceptibility, Curie-Weiss law 7—27501
longitudinal, disproportionate magnetic struct. and the Dzyaloshinski inhomogeneous interaction *(Russian)* 7—45627
metals, ferromagnetic, elastic moduli anomalies, thermodynamic theory *(Russian)* 7—2080
sine-Gordon solitons in external fields 7—61263
surface, ground state, influence of adsorbed gas molecules 7—45596
Winter oscillations, parametric excitation, in domain walls 7—22119
Cr-Ga intermetallic cpds., mag. suscept. meas. 7—12942
$CuK_2(SO_4)_2.6H_2O$-^{3}He, thermal resist., surface mag. coupling, effect of ^{4}He addition 7—52173
$DyLiFeO_3$, orthoferrite, mag. props. 7—2824
$(Fe_{1-x}Ni_x)_{92}C_8$ pseudobinary FCC alloys, ferromagnetism onset, magnetovolume effect study 7—2845
$Sc(CO_{1-x}Al_x)_2$, pseudobinary system, weak itinerant ferromagnetism 7—2825
UNi_2, polarised neutron diffr. study 7—12946
Y_9Co_7, electronic struct. and mag. props. 7—7104
$YLiFeO_3$, orthoferrite, mag. props. 7—2824

weak interactions, elementary particle *see elementary particle weak interactions*

weak interactions (atomic physics)
muonic atoms, electroweak effects, measurement possibilities 7—57191
P- and T-violation in atoms, macroscopic effects 7—50397
parity nonconserving potentials in atomic and nuclear physics *(Rumanian)* 7—15084
parity violation in atoms 7—50396
time reversal invariance, elec. dipole moments 7—19779
Cs, highly forbidden $6S_{1/2}$ - $7S_{1/2}$ transition atomic parity violation meas. 7—31184
Cs, parity violation, crossed beam interference technique 7—10497
Cs, parity-violating 6S→7S amplitude evaluation 7—10457
^{129}Xe, time reversal invariance, elec. dipole moments 7—19779

weak interactions (molecular physics)
chiral molecules, electron helicity, and origin of optical activity, polarised positron meas. 7—62538
parity violating energy difference between enantiomers, meas. 7—42781
tetrahydrofuran, parity violating energy differences between chiral conformations 7—10777

weak links, superconducting *see superconducting junction devices*

weapons
see also nuclear explosions
BLACKJACK 5, bremsstrahlung radiation source for nuclear weapon simulation testing 7—30816
conf., Rochester, NY, USA 7—9595
fissile materials and nuclear weapons proliferation 7—55945
nuclear weapons, Microsoft BASIC programs showing local effects 7—30676
relative proliferation risks from nuclear fuel cycles 7—5493
SDI, contributions of fusion neutral-particle beam research 7—10370

weapons continued
SDI, use of pulsed power technology 7—10286
SDI, use of RF linear accelerators 7—10317
SDI driving optics development 7—48824
Stirling engine powered torpedo 7—65564

wear
see also abrasion; hardness
7—32363
abrasive wear, 3D shape effect 7—17652
abrasive wear mechanism clarification, contact surface deform. effect on wear and friction 7—8134
AGR helically wound heat exchanger, impacting phenomena anal. for Heysham 7—56790
alloys, amorphous, friction and wear behaviour rel. to microstruct. and surface chem. 7—8127
asbopolymer material, friction and wear characts. vs. metal friction pairs 7—28153
ball bearings, ion implanted, endurance life and fretting wear 7—13603
binary carbide tool coatings, wear resistance, mechanistic model calcs. 7—53915
cavitation erosion, modelling of buoyant vapour bubbles, rigid boundary, stagnation flow 7—16220
cavitational damage impact erosion, continuum model 7—11479
cavity fill-up in rotor blades by liq., anal. 7—44020
ceramic materials, wear mechanism in dry rolling friction 7—59643
ceramics, abrasive wear, fine-scale, by plastic cutting process 7—3458
ceramics, friction and wear measured by a pin-on-disk method *(Japanese)* 7—22850
ceramics, microfracture prediction via microcontact model 7—16678
ceramics and cemented carbides, sliding and abrasive wear mechanisms, comparison 7—3463
ceramics and coated carbides for matching stainless steels, failure mechanisms 7—3432
conference, tribology and lubrication, Tokyo, Japan (July 1985) 7—4631
cotton fibre reinforced polyester composites, friction and wear 7—13610
cutting tool materials, mech. props., wear-resist. relations 7—3443
elastomers, impact wear 7—22844
electrode erosion in high-current megavolt discharge in SF_6 7—44300
erosion rate, time dependence, probabilistic approach 7—37399
erosion rate 7—3464
fretting, spherical particle form., role of contact interaction of fatigue crack sides 7—3447
fretting of spherical surface against flat, resultant wear scar contour 7—2098
fretting wear, subsurface layer, temp. profile meas. 7—17665
friction and wear, crit. transition points 7—26853
glass fibre reinforced PTFE composites, sliding and abrasive wear rel. to fibre content 7—28144
graphite particle dispersed Al-Si alloys, powder extruded, wear characts. *(Japanese)* 7—53909
hard materials, frictional behavior of diamond and cubic BN abrasives 7—3461
hard materials, fundamentals of wear 7—3456
hard materials, wear resist., comparative study 7—3457
heat exchangers, computer-aided tube fretting-wear predictions 7—10261
Inconel 625 matrix-carbide particle composite surface layers, wear resistance improvement 7—53912
inner cylindrical surface, erosion by force particle impact 7—26852
interfacial bonding and adhesion, conf., Aspen, CO, USA (Aug. 1985) 7—24269
ion implantation, effect on erosion and wear of solids 7—63683
ion implanted layers, anal. by X-ray diffraction *(Chinese)* 7—51801
junction of rough surfaces, run-in mechanism with plastic initial contact 7—16680
magnetic tapes, friction reduction by acoustic excitation 7—65148
magnetron sputtering cathode, CAD using finite-element program 7—46316
material contacts, tribo-frontiers in surface modification 7—53917
materials, wear, conf., Vancouver, BC, Canada (April 1985) 7—14701
materials with heterogeneous and anisotropic microstructures, wear description models 7—16682
metal surfaces, ion implanted, durability 7—53918
metal wear resistance, ion implantation and ion assisted coatings 7—3513
metal wire connections, contact resist., effect of fretting 7—21980
metal-carbide composites, implantation modified, friction, surface chemistry 7—46660
metal-polymer composites, wear resist., damping device appl. 7—17657
metallic sliding friction, fatigue wear mechanism 7—8135
Millstone-2 PWR, wear and neutron activation of positioning pins, ^{60}Co buildup 7—15247
nonmetallic crystals, cumulative work-hardening and wear 7—53762
nylon, friction and wear props., temp. effects 7—8132
oxidational wear and boundary lubrication 7—13606
particle bombard. induced erosional and depositional phenomena 7—63652
PET, friction and wear under water lubrication, degree of crystallinity effect 7—3454
polyamide, cavitation erosion tests *(German)* 7—33809
polycarbonate, friction and wear, molecular orientation, uniaxial prestraining effect 7—13609
polyimide thin films, friction and wear rel. to struct. 7—8130
polymer surfaces, erosive wear by steel ball blasting 7—3446
polymers, dry and lubricated wear, speed effects 7—33805
polymers, thermoreactive, polyphenylene-type, tribochem. processes and wear resist. 7—28148
projection equipment, wearout in Geneva mechanisms *(Russian)* 7—11096
PVC, friction and wear, molecular orientation, uniaxial prestraining effect 7—13609
rolling contact 7—22845
rubber modified epoxy resin, tribological props. 7—17664
rubber vulcanizates, natural and styrene butadiene, environment effect on friction and wear 7—8131
sapphire, ion implantation, mechanical surface property modifications 7—32473
silicate porous glass, wear resistance and grinding hardness, struct. effect, grinding method meas. 7—57614
sliding wear, adhesion processes 7—28145
sluice valves and chokes, cavitation studies *(Japanese)* 7—6261
steel, abrasion resistance after heat treatment 7—17697
steel, adhesive wear of boride and nitride layers 7—3465
steel, austenitic, cold deformed, mag. props. *(Russian)* 7—45734

wear continued
steel, austenitic stainless, cavitation erosion tests *(German)* 7—33809
steel, austenitic stainless, high temp. sliding wear in CO_2 atm., effect of low conc. additions of O_2 7—33806
steel, austenitic stainless, N-bearing, Nitronic 60, fretting wear at temps. up to 600°C 7—17653
steel, austenitic stainless, N-containing, thermochemically produced, wear 7—17651
steel, austenitic stainless, unlubricated reciprocating sliding wear in CO_2 at 20 to 600°C 7—17662
steel, austenitic stainless type 316, unlubricated wear at room temp., environment influence 7—8121
steel, bearing, fretting wear in seawater 7—8124
steel, C, fretting fatigue, crack propag. behaviour 7—39615
steel, C, laser treatment on fatigue and wear resistance 7—39672
steel, C, wear, effect of normal stiffness in loading system 7—17649
steel, C, wear behaviour with US vibr. effect superimposed on static contact load 7—3452
steel, C and alloy, rolling contact fatigue, asperity interacting frequency effect 7—39616
steel, C and austenitic stainless, corrosive wear in NaCl soln. 7—8191
steel, case hardened, struct. and contact endurance after plastic surface deform. tempering effect 7—46706
steel, constructional carbon type, original charge purity influence on microstruct. hardenability and mech. props. 7—46521
steel, Cr containing, elevated temp. combined erosion-corrosion, particle impacts 7—3517
steel, Cr-Mo, elevated temp. erosion-corrosion 7—3518
steel, Cr-Mo, erosion-corrosion, effect of temp. 7—3519
steel, Cr-Mo-V, ion nitriding characts. *(Korean)* 7—8162
steel, Cr-Mo-V, nitrided, wear resist rel. to preliminary thermomech. treatment 7—17659
steel, high C, grinding balls, jet slurry corrosive wear 7—39676
steel, high speed, wear, role of primary carbides 7—33807
steel, high speed, wear mechanisms and tool life rel. to microstruct. 7—8128
steel, high-speed, ion beam metallurgy processing, influence on surface props. *(Chinese)* 7—53764
steel, implanted with N ions, physicochem. characters. of surfaces, wear resist. *(French)* 7—28209
steel, line hardening by low-power CO_2 lasers 7—13653
steel, low-alloy, abrasive wear correl. with alloy additions 7—65151
steel, managing, 18 Ni, erosion, effect of microstruct. and mech. props. 7—22849
steel, martensitic stainless, bearing appls., Ti and C ion implantation, enhanced lubricated sliding wear resistance 7—53916
steel, medium C, wear, influences of materials and operating parameters 7—8133
steel, migration-effect of N^+ implantation, during wear *(Chinese)* 7—53998
steel, mild and Cr, surface saturation with B by laser radiation 7—8172
steel, Mn, austenitic, friction induced martensitic transform., wear resist., work hardened surface layer 7—17531
steel, N^+ implanted layers, in 9Cr18, GCr15 steels *(Chinese)* 7—53996
steel, sliding lubricated contact, wear and crit. failure load, effect of solid contamination 7—33803
steel, stainless, duplex, austenitic-ferritic, cavitation erosion 7—65149
steel, stainless, unlubricated 316, friction and sliding wear in air at room temp., 0.5 to 90 N load range 7—3451
steel, stainless 304, erosion by sharp alumina particles 7—3453
steel, stainless SUS304, fretting props. in vac. environment, oxidative and adhesive wear 7—8122
steel, wear resist. under wet-abrasive erosion conditions 7—22848
steel, wear resistant, for cutout dies of electric machine manufacture 7—13719
steel, wear-mechanism maps 7—22842
steel 65G, microstruct. and mech. props. after low-temp. TMT, tempering temp. influence 7—17554
steel and Ni surface modification, boronisation, pack method 7—46718
steel surfaces, lubricated flat, oil supply effect on fretting wear 7—8123
steel with chromium and eutectic coatings, wear resist. in corrosive medium 7—17694
steels, Cr-Mo-Al, plasma-nitrided, fretting fatigue strength *(German)* 7—33848
steels, surface degradation in elevated temp. gas-particle streams 7—3520
surface layer modification at solid walls in high temp. plasma expts. 7—63343
thermoplastic materials, erosion resistance, angular particle impingement at normal incidence 7—3442
tool materials, statistical wear model, appl. to machining 7—33804
Ag specimen, contact resist. meas., deform., fretting effects 7—9848
Al alloys, fretting, fatigue crack growth, spherical particle form. 7—3445
Al alloys, prepared by ingot techniques, squeeze casting and rapid solidification, comparative investig. 7—13605
Al, anodising by chromic acid, surface struct., abrasion resist., hardness, adhesion props. 7—13646
Al-base bearing alloyed, leaded, wear characts. 7—33808
Al-based sputtered hard compound films, struct. and props. 7—46318
Al-Cu, directionally crystallised, crystallographic texture transform. during wear 7—17660
Al-Mg-mica particle composites, prep. and props. 7—22613
Al-Si, graphitic, hot extruded powders, sintering, antifriction props. 7—13409
Al-Si, talc particle reinforced composites, prep., wear and mech. props. 7—13408
Al_2O_3 ceramics, friction and wear measured by a pin-on-disk method *(Japanese)* 7—22850
Al_2O_3 coatings made by sol-gel process, mechanical props. 7—22867
α-Al_2O_3, corundum, single crystals, wear rate, influence of annealing 7—53920
Al_2O_3, fretting wear in seawater 7—8124
Al_2O_3, sintered, erosion and strength degradation 7—17663
Al_2O_3-ZrO_2 toughened ceramics, dry friction and wear against steel 7—8125
BN, cubic, aggregate tools, microstruct. and wear 7—3462
Be, fusion machine wall material erosion and impurity prod. 7—62074
C, fusion machine wall material erosion and impurity prod. 7—62074
C steel, S45C, fretting fatigue damage accumulation, cycle and stress ratio effect 7—28232
C steel-cast Fe-Cr bimetal, interface bonding strength *(Korean)* 7—17618

wear continued
CaO-Al_2O_3 glass, 3-5 μm transmission, rain erosion resist., surface crystallisation treatment 7—37070
Co-Mo-Cr-Si, wear resist. alloy development 7—3440
CoCr sputtered film recording media, wear resistance, mech. strength and microstruct. 7—32859
CrC_x, coatings, tribological props., comp. depend. studies 7—53914
Cu alloy base powder materials with $MoS_2(Se_2)$, self-lubricating, tribotech. characts. 7—28146
Cu, dislocation-diffusion mechanism of wear reduction in selective transfer 7—17658
Cu, erosion by spherical non-friable steel shot, impact angle effect 7—8136
Cu powder, porosity influence on mech. and tribotech. characts. in high-speed friction 7—8119
Cu wires, thin, sputter-induced cones 7—51881
Cu-Al (6 wt.%), erosion by spherical non-friable steel shot, impact angle effect 7—8136
Cu-graphite contacts prep. using atomised Cu powder 7—27976
Cu-Ni-CoW-Cr system, Cr plating, roughness and wear *(Russian)* 7—33801
Cu-Pb, resistance to wear and cavitation erosion of bearingalloys 7—8129
Cu-Pb-Sn leaded bronze, resistance to wear and cavitation erosion of bearingalloys 7—8129
Fe, cast, cavitation resist., microstructure, SEM obs. *(German, English)* 7—59641
Fe, cast, high Cr, grinding balls, jet slurry corrosive wear 7—39676
Fe, cast, high-Cr, wear-resistance, laser and heat treatment effect on struct. and props. 7—8174
Fe, cast, high-strength, form. of wear resistant structs. corresponding to Charpy principle 7—28180
Fe, cast, surface melting, composition and impurity effects 7—21423
Fe, cast, white, Cr-Mo, unidirectionally solidified, sclerometric study 7—3455
Fe, ductile and grey cast, laser surface hardened, sliding wear 7—17650
Fe, magnetic field effect on wear 7—7582
Fe, migration-effect of N^+ implantation, during wear *(Chinese)* 7—53998
Fe/Ti multilayered struct., wear and friction, ion beam mixing effects 7—28141
Fe-Cr-C-B hard surfacing weld deposits, abrasive wear resist. and microstruct. 7—22847
Fe-Cr-Mn-C alloy, laser clad, microstruct. and wear props. 7—13652
Fe-Si-B metallic glasses, wear resist. 7—13604
Fe-Ti/AISI 304 stainless steel system, ion beam mixed, wear and friction studies 7—46657
HfN, sputtered coatings, wear and friction 7—33800
Mo, boriding by immersion process in fused salts *(Japanese)* 7—59663
Nb-Ti-W (30, 20 wt.%), nitriding, hardness, wear and corrosion resist. 7—46713
Ni, magnetic field effect on wear 7—7582
Ni-base self-fluxing alloys, wear resist. of detonation coatings 7—28152
Ni-Mo-Cr-B powders, amorphous and microcrystalline, shock consolidated, wear props. 7—46655
Ni-P, electroless coatings, wear rel. to counterface materials and heat treatment 7—33802
Ni-P electroless deposited amorphous coatings, wear resistance, crystallisation effects 7—53913
Ni-P-B electroless coatings, prep. and deposit characts. 7—59671
NiCrSiB alloy coatings, sputter deposition, microstruct. variations 7—46351
$Ni_{52.5}Mo_{38}Cr_8B_{1.5}$ metallic glass, shock consolidated, wear props. 7—28154
Pb based white metal, resistance to wear and cavitation erosion of bearingalloys 7—8129
SiC ceramics, friction and wear measured by a pin-on-disk method *(Japanese)* 7—22850
SiC whisker reinforced Al alloy, fabrication and props. 7—53680
Si_3N_4 based composites, design and wear resist. 7—3459
Si_3N_4 ceramics, friction and wear measured by a pin-on-disk method *(Japanese)* 7—22850
Si_3N_4, fretting wear in seawater 7—8124
Si_3N_4, hot-pressed, friction and wear at 150 to 800°C 7—28142
Si_3N_4, hot-pressed, friction and wear 7—59642
Si_3N_4, wear properties in rolling contact 7—8126
Si_3N_4, with MgO addition, phys. and tribological props., effect of hot-pressing time *(Japanese)* 7—65150
Si_3N_4-TiC composites, mech. props., wear resist., dispersoid-matrix interaction 7—65145
Sn based white metal, resistance to wear and cavitation erosion of bearingalloys 7—8129
TI, thermochemical surface treatment using lasers, wear and corrosion resist. 7—22908
Ti-based sputtered hard compound films, struct. and props. 7—46318
Ti-N reactively ion plated coatings on high speed steel, turning performance, wear 7—46656
Ti-Ru oxide anodes, durability in Cl cells with Hg anodes 7—32562
TiB_2-MoB base electrode materials for elec. spark alloying 7—28205
TiC-steel hard alloys, wear resist. in abrasive jet, methods of improvement 7—3448
TiC-WC-TaC-Co three-phase sintered carbides, Ta content influence on struct. and props. 7—65097
TiC_x coatings, tribological props., comp. depend. studies 7—53914
TiN, sputtered coatings, wear and friction 7—33800
TiN thin films, activated reactive evaporation deposited, vacuum annealing, struct., mech. props. 7—8010
TiNi shape memory alloys, wear resist. and hardness, influence of heat treatment *(Korean)* 7—17647
WC-Co, cemented carbides, abrasion, controlling mechanism 7—3460
WC-Co, erosion, effect of hardness 7—17648
WC-Co, erosion rate 7—3464
WC-Co, phenolformaldehyde polymer friction, physicochem. processes 7—28149
WC-FeNi cemented carbides, abrasion, controlling mechanism 7—3460
WC_x coatings, tribological props., comp. depend. studies 7—53914
Zn-based alloys, mechanical props., alloying addition effects *(Japanese)* 7—8090
ZrN, sputtered coatings, wear and friction 7—33800
ZrO_2 base ceramic thermal barrier coatings, erosion rel. to processing and microstruct. 7—3450

wear continued
- ZrO_2 ceramic, partially stabilised, friction and wear meas. by a pin-on-disk method *(Japanese)* 7−22850
- ZrO_2-Y_2O_3, ZrO_2-MgO toughened ceramics, dry friction and wear against steel 7−8125

wear, abrasive *see abrasion*

wear resistant coatings
- binary carbide tool coatings, wear resistance, mechanistic model calcs. 7−53915
- boride, on mold and Cr steel, surface saturation by laser radiation 7−8172
- boride, on steel 45, produced on laser heating 7−8173
- CVD and PVD coatings, structural, mechanical and tribological props. and applications 7−53935
- electrodeposits for high temp. oxidation and corrosion resistance, appl. for gas turbines 7−46358
- hard coatings formed by Ti implantation on 304 stainless steel, XPS study 7−3154
- hard coatings grown from vapor phase, review 7−22469
- Inconel 625 matrix-carbide particle composite surface layers, wear resistance improvement 7−53912
- laser alloyed, on high-speed steel, thermal stability improvement 7−8170
- materials selection for hard coatings, multicomponent refractory material systems 7−46668
- metal wear resistance, ion implantation and ion assisted coatings 7−3513
- metallisation of superhard material powders, X-ray method for determ. of degree of metallisation 7−54043
- nitride coatings on high-speed steel substrates, characterisation by Auger electron spectroscopy and X-ray photoelectron spectroscopy 7−53982
- nuclear power station, steel component surface treatment, detonation-deposition method *(Russian)* 7−39736
- refractory metal nitride, sputtered coatings, wear and friction 7−33800
- rolling bearings, friction, wear and corrosion control 7−46658
- steel, Cr-Mo-V, nitrided, wear resist rel. to preliminary thermomech. treatment 7−17659
- steel, ion implantation and thermal oxidation treatments for wear reduction 7−3481
- steel, line hardening by low-power CO_2 lasers 7−13653
- steel, stainless, ion implanted with N, fretting wear resist. 7−13636
- steel 45, hardening coatings, electroerosion alloying 7−17722
- surface modifications and coatings, conf., Toronto, Ont., Canada (Oct. 1985) 7−41004
- transition metal nitrides and carbides, hard wear-resistant coatings, microstructural and microchemical characterisation 7−52328
- Al_2O_3 CVD coatings, high-temperature microhardness profiles 7−28181
- Al_2O_3-TiC, coating, diffusion of Co and W, TEM/AES study 7−27942
- Al_2O_3-TiO_2 system detonation coatings, struct. and phase characts., physicomech. props. 7−65212
- B/N coatings, ion plating, amorphous struct., wear resist. 7−22580
- B-Si (18 wt.%), tribological coatings, low temp. sputter deposition 7−46322
- C coatings, ion plating, amorphous struct., wear resist. 7−22580
- C, diamond-like films for erosion protection of fused silica slides 7−46673
- C diamondlike films, deposition with C^+ and hydrocarbon ion beams, mechanical props., comparison 7−59417
- C films, diamond like, prep. and props. 7−22472
- C sputtered films, ion ehancement, struct. prop. relationships studies 7−52332
- a-C:H diamond-like coating on Ge, rain erosion resistance improvement obs. 7−31435
- C-Sn composite sputtered films, ion ehancement, struct. prop. relationships studies 7−52332
- C-Ti composite sputtered films, ion ehancement, struct. prop. relationships studies 7−52332
- Co-Cr perpendicular recording media with oxidised surface layer, wear resistance 7−28185
- Co+Cr_2O_3, wear protective dispersion coating for use at high temp. 7−46667
- Cr and eutectic coatings on steel, wear resist. in corrosive medium 7−17694
- Cr-graphite powder mixture, coatings form. in shock wave treatment 7−8183
- CrC coatings on high speed steel, deposition process and mechanical props. 7−64011
- CrC_x, coatings, tribological props., comp. depend. studies 7−53914
- Cr_3C_2-based tribological coating for use to 900°C, appl. to Stirling engine 7−46696
- FE-Cr coatings for gun bores, morphology and erosive wear 7−46697
- Fe based eutectic alloy powder, plasma coatings with interstitial phases, tribotechnical props. 7−17731
- Fe-Cr-Mn-C alloy, laser clad, microstruct. and wear props. 7−13652
- HfN(C) reactively sputtered wear resistant coatings, struct., hardness and adhesion props. study 7−52330
- MoN_x sputtered coatings, tribological props. in contact with Cu 7−53911
- MoS_2-based double layer solid lubricant, friction-reducing coatings 7−46669
- Ni-P electroless deposited amorphous coatings, wear resistance, crystallisation effects 7−53913
- Ni-P-B electroless coatings, prep. and deposit characts. 7−59671
- NiSn-SiC composite coatings, electrodeposition, wear resist., hardness, porosity 7−33613
- Pd and alloy contact finish performance and cost 7−3508
- Pd-Ag alloy electroplated coating contact and corrosion resistance and wear 7−3509
- Si_3N_4-SiC film, hybrid material prepared by plasma CVD, microhardness and internal stress 7−13616
- (Ti,Al)N layers on high speed steel, morphology and props., deposition temp. and sputtering atmosphere depend. 7−53975
- TiAlOC coatings, CVD, composition, struct. and wear resistance 7−53929
- TiB_2, tribological coatings, low temp. sputter deposition 7−46322
- TiB_2-Mo electrospark coatings on steel, form. kinetics and high-temp. oxidation 7−65210
- TiB_2-MoB base electrode materials for elec. spark alloying 7−28205
- TiC, coating, diffusion of Co and W, TEM/AES study 7−27942
- TiC coatings on high speed steel, deposition process and mechanical props. 7−64011
- TiC/Fe multicomponent films on steel, sputter deposition and characteris. *(Japanese)* 7−3167
- TiC/TiN double layer coated cemented carbide milling tools, wear mechanisms 7−53932

wear resistant coatings continued
- TiC-coated cemented carbide cutting tools, role of interface development during CVD 7−53930
- TiC_x coatings, tribological props., comp. depend. studies 7−53914
- TiC(N) coated cemented carbide milling tools, wear mechanisms 7−53932
- TiCN, TiC and TiN CVD coatings, high-temperature microhardness profiles 7−28181
- TiCN-Ni-Mo composite powders and coatings, prep. and characteris. 7−3255
- TiN coated carbide indexable inserts, spalling resistance 7−53933
- TiN coating, on steel, ion-plasma appl., laser alloying, dynamic surface strength 7−17730
- TiN coatings, ion implanted, wear resistant props. *(Japanese)* 7−46698
- TiN coatings, ion plating, metal properties modification 7−39435
- TiN coatings on steel substrates, growth, struct., props. 7−33799
- TiN compound layer prepared by ion implantation, XPS and FTIR obs., depth profile analysis of ion etched samples 7−59373
- TiN hard coatings deposition onto tool steel substrates by plasma-assisted CVD 7−53977
- TiN, ion beam enhanced deposition on tool steel, friction and wear reduction 7−53910
- TiN, plasma enhanced CVD, rel. to reactive sputtering 7−39427
- TiN protective coatings on cemented carbides, adhesion and toughness 7−65159
- TiN-coated gear cutting hobs, wear characteristics, mechanical and structural props. 7−53980
- TiN-coated high-speed steel cutting tools, coating quality and surface finish., tool metallurgy and design 7−53979
- TiN-coated hobs and shaper cutters, wear during gear-cutting operations 7−53981
- TiN-coated tool steel, Ca-treated, machinability 7−46659
- TiN_x epitaxial layers, atomic and electronic struct., growth, physical props. 7−32854
- TiN(C) 7−52330
- TiN(C) hard reactively sputtered and evaporated coatings, composition and microstruct. studies 7−52331
- Ti(O,C,N) hard coatings deposition onto tool steel substrates by plasma-assisted CVD 7−53977
- W-C coatings on stainless steel, sputter deposited, mechanical props., effect of interlayers 7−53983
- WC coatings on high speed steel, deposition process and mechanical props. 7−64011
- WC-Co, plasma sprayed coatings, wear, adherence, heat treatment effect 7−33555
- WC_x coatings, tribological props., comp. depend. studies 7−53914
- ZrN(C) hard reactively sputtered and evaporated coatings, composition and microstruct. studies 7−52331
- ZrN(C) reactively sputtered wear resistant coatings, struct., hardness and adhesion props. study 7−52330
- ZrO_2-Y_2O_3, tribological coatings, low temp. sputter deposition 7−46322

wear testing
- abrasive wear mechanism, wear process successive obs. in SEM 7−8229
- accelerated fretting wear testing using ultrasonics 7−22967
- AE technique for friction and wear obs. and seizure prediction *(Japanese)* 7−59721
- ceramic wear behaviour, cathodolum. mode appl. in SEM 7−8228
- contaminant monitor for fluid power applications 7−37613
- fretting wear assessment, metrological techniques and equipment 7−39812
- pressure-wave and microjet cavitation damage, rotating-disc expts. 7−26225
- reaction layers, AES depth profile anal., under different wear test conditions 7−28147
- steel, Ni-Cr-Mo, cylinder-on-disc lubricated sliding wear expts. *(Chinese)* 7−59639

weather *see meteorology*

weather forecasting
- E Africa, climate prediction for averting drought-caused famines 7−9158
- agricultural weather analysis, operational assessment programme of Joint Agricultural Weather Facility 7−29126
- aircraft fuel consumption reduction by use of weather forecasts 7−66249
- Alpine lee cyclogenesis, numerical simulation, effects of terrain height and blocking initialisation 7−29201
- Amazon Basin rainfall, FGGE forecast expts. 7−34629
- areal quality control of min. temp. and sunshine duration, principal component and near neighbour methods 7−4141
- E Asia, dynamic and thermodynamic influences of Tibetan Plateau on general circulation model 7−29135
- N Atlantic, explosive cyclogenesis by fine-mesh model 7−60358
- Australia, major droughts prediction from temp. anal. 7−4170
- auto-regressive moving-average model for monthly 50-100 kPa thickness anomalies 7−4159
- baroclinic limited area forecast model, appl. of nonlinear normal mode initialisation expt. 7−29190
- Berlin, Germany, precipitation forecasting, single-station stochastic model 7−4106
- China, forecasting of plum rains using fuzzy preference ratio *(Chinese)* 7−29226
- Chinese National Meteorological Center, operational numerical prediction methods *(Chinese)* 7−9056
- convective cloud forecasts from the Meteorological Office fine-mesh model 7−29188
- cyclones and anticyclones over N America, NMC prediction models 7−60355
- drought prediction by use of teleconnection and numerical models 7−9071
- El Nino, decay predictability (1982-3) 7−4174
- energy conserving FEM 7−47524
- flash flood warning systems for real-time operation 7−60388
- gauge adjustment of radar rain rates by normalized norm analysis 7−40551
- general circulation models, systematic westerly bias due to orographic gravity wave drag 7−34645
- geostationary satellite temperature retrievals, assimilation into numerical prediction model 7−34618
- Great Britain, fine-mesh forecast of 25 Aug. 1986 storm 7−55205
- Gulf of Carpentaria, Australia, southerly nocturnal wind surges and bores 7−29195
- hemispheric forecast error correlations for geopotential and temp., horizontal struct. 7−4150

- **weather forecasting** continued
  - India, monsoon rainfall medium range forecasting and the forty-day mode 7−29179
  - India, rainfall probabilities and amounts assoc. with monsoon depressions 7−9119
  - India, SW monsoon, thermodynamic parameters use of forecasts 7−9121
  - Indian region monsoon depression, prediction with regional primitive eqn. model 7−9114
  - initialisation techniques 7−66358
  - Israel Meteorological Service numerical forecasts, use of satellite sounding 7−34736
  - large-scale motion, dynamic effects of orography 7−9116
  - large-scale quasi-stationary patterns extended-range predictability 7−4163
  - Limited-Area Finemesh Model, effect of VISSR Atmospheric Sounder data 7−47501
  - Local AFOS MOS programme appl. to wind prediction 7−34679
  - long-range forecasting, inclusion of sea surface temp. anomalies in general circulation model 7−34651
  - long-range prediction, GMDH approach 7−18270
  - Lowell University, Massachusetts, forecasts for community by students 7−29128
  - medium-term weather forecasting, comparison of filters for high latits. using shallow water eqns. 7−9133
  - meteorological fields mapping, developments in use of empirical orthogonal functions 7−29142
  - Model Output Statistics forecasting, generalised system for Australian appls. 7−55126
  - Model Output Statistics forecasts in Australia, diagnostic study of first operational year 7−55125
  - SW monsoon of 1979 AD, short-range prediction of onset phase 7−29178
  - monsoon rainfall over India 7−4130
  - monthly 700 mbar heights prediction 7−29192
  - numerical models, implicit versus explicit convective heating 7−47500
  - numerical prediction, use of physico-mathematical models 7−9074
  - numerical weather prediction, different analysis methods 7−34652
  - numerical weather prediction 7−9140
  - observing system sensitivity experiments for objective analysis and weather forecasting models 7−60353
  - observing-systems simulation expts., historical summary 7−9070
  - optimal organization of specialized forecast services 7−34613
  - planetary-scale flow, objective anal. 7−47505
  - precipitation short-term forecasting, initialized numerical models 7−60352
  - predictability of monthly forecast based on averaged ocean/atmos. variables *(Chinese)* 7−9062
  - prediction models, group method of data handling method 7−29125
  - primitive equations, energy conserving Galerkin finite element schemes 7−66346
  - Profs weather prediction network 7−47476
  - Quasi-Biennial Oscillation, zonal winds, appl. of nonstationary data prediction and freq. tracking 7−34737
  - radiation calculation precision in numerical weather prediction *(Russian)* 7−40520
  - rainfall forecasting, dynamical approach to quantitative forecasting 7−29182
  - random geostrophic modes and first-guess errors, spatial statistics 7−4162
  - satellite remote sensing for global weather prediction, review 7−55324
  - satellite water vapour imagery for weather anal. and forecasting, research developments 7−55335
  - sea surface temperature imaging, appl. of Advanced Very High Resolution Radiometer (AVHRR) data 7−14297
  - seasonal temperature prediction, use of jackknife regression scheme with intraseasonal var. index 7−47567
  - semi-implicit semi-Lagrangian time integration scheme 7−47525
  - semi-implicit version of grid point model of shallow water eqns., without Helmholtz eqns. 7−60354
  - short range stochastic-dynamic prediction for small initial errors 7−34634
  - significant weather events prediction from NWP model output anal. 7−4090
  - similarity parameter application to weather forecasting *(Chinese)* 7−9061
  - smooth atmospheric motions, scaling and computation 7−4161
  - snow forecasts, performance of Meteorological Office fine-mesh model during 1985-6 winter 7−40540
  - Spanish plume, forecasting and origin 7−29186
  - tropical cyclones, future direction of motion, upper flow asymmetry effects 7−47503
  - tropical rainfall short-range forecasting, effect of enhanced initial moisture fields 7−47499
  - tropics, climate prediction 7−9156
  - turbulence of clear-air type, automated probability forecasting 7−4143
  - two expert systems used in weather forecasting 7−66284
  - typhoon track forecasting by dynamical-statistical method *(Chinese)* 7−18263
  - typhoon trade, random dynamic prediction model 7−18295
  - unit Kingdom, real-time long-range forecasting using ensemble of numerical integrations 7−29294
  - United Kingdom, exptl. monthly long-range forecasting system 7−14358
  - United Kingdom, skill of exptl. monthly long-range forecasts 7−40539
  - SW United States, severe storm simulation, impact of missing wind obs. 7−34619
  - wind forecasting on Canterbury Plains, New Zealand, interacting multiscale wind systems anal. 7−55203
  - world Climate Research Programme objectives and plans 7−66303

- **webs (membranes)** *see membranes*

- **weighers** *see balances*

- **weighing**
  - electrodynamic thermogravimetric analyzer for aerosol particle kinetics obs. 7−3620
  - melt, high temp., density meas. method *(Chinese)* 7−4817
  - nuclear fuel pin weighing system, remote maintenance design considerations 7−49548
  - remote weighing of irradiated fuel pins at FFTF 7−49546
  - Swiss Institute of Measures, weighing and calibration studies *(German)* 7−297

- **weighing machines** *see balances*

- **weight, atomic** *see atomic mass*

- **weight, molecular** *see molecular weight*

- **weight indicators** *see balances*

- **weight measurement** *see weighing*

- **weightlessness experiments** *see zero gravity experiments*

- **Weinberg model**
  - Candelas-Weinberg model for one-loop effective pot. in $M^4 \times S^{2N}$ space 7−24806
  - chiral model, saddle points and skyrmion solns. 7−15100
  - correspondence principle, gauge theories with Weyl fermions 7−56484
  - CP violation in standard model *(Chinese)* 7−49027
  - CP violation model, chiral props. of weak amplitudes 7−449
  - electroweak bosons, leptons and Han-Nambu quarks in a unified spinor-isospinor preon field model 7−49102
  - electroweak Glashow-Weinberg-Salam theory, one-loop effects 7−61509
  - electroweak loop effects, optimal tests 7−456
  - electroweak model in strong external EM fields, possible appearance of Goldstone boson 7−56477
  - electroweak plasma in a magnetic field, Weinberg-Salam model 7−35746
  - electroweak tests of the Standard model, review 7−56485
  - fermion mass determination, Weinberg model 7−49021
  - geometrical method of symmetry breaking, anal. using fibre bundles, electroweak model predictions 7−30209
  - Glashow-Weinberg-Salam model, on-shell renormalisation scheme 7−35747
  - inflation from inhomogeneous initial data in a one-dimensional back-reacting cosmology 7−48125
  - meson analysis in chiral σ model, coupling to GSW bosons 7−48995
  - neutrino masses in extended Weinberg model 7−15104
  - nonleptonic K decays in broken $SU(3) \times SU(3)$ 7−49134
  - plasma neutrino energy loss rate in stellar interiors, axial-vector contrib. 7−55608
  - quark mass matrices in standard electroweak model, maximal CP violation, anal. for many quark generations 7−30215
  - reviews of particle and nuclear physics, book 7−55907
  - scalar boson emission by electrons in a steady magnetic field in the Weinberg-Salam theory 7−10003
  - singlet form factors and local observables in theGlashow-Weinberg-Salam model 7−5014
  - $SU(2) \times U(1)$ breaking, dynamical, doubly charged pseudo-Goldstone bosons 7−41659
  - SUSY electroweak model, $N=1$ supergravity extension, cosmology of phase transition 7−445
  - symmetry properties of electroweak model, matrix representation 7−61529
  - $V+A$ search in β^+ decay, validity test of $SU(2)_L \times U(1)$ model 7−56646
  - W bosons, stimulated condensation at finite temps., Weinberg-Salam model 7−61533
  - α decay modes, standard electroweak model predictions 7−41804
  - $\vec{e}^+\vec{e}^- \rightarrow H\gamma(\mu^+\mu^-)$, helicity amplitudes, cross section calcs. 7−61641
  - $e^+e^- \rightarrow \bar{\nu}\nu$, mag. field effects, Glashow-Weinberg-Salam model study 7−41778
  - μ decay, status of standard model, experimental review 7−41803
  - ν, massive, electroweak model anal. 7−56488
  - $\bar{\nu}_\mu(\nu_\mu)e$, electroweak mixing angle determ. 7−56536
  - νN, electroweak mixing angle determ. 7−56536
  - $\nu_\mu N$ semileptonic interactions, electroweak mixing angle determ. 7−5084
  - π^+-π^0 mass difference and Weinberg sum rules, phenomenological anal. 7−41809
  - $^9Be(e,e')$, parity violation meas. in quasielastic electroweak scattering 7−49388

- **Weissenberg cameras** *see cameras; X-ray crystallography apparatus*

- **welding**
  - *see also electric welding; electron beam welding; laser beam welding; ultrasonic welding*
  - austenitic steel weldments, C redistrib., general soln. 7−21506
  - austenitic V-butt weld, US beam propag. theory 7−22966
  - Brunswick Steam Electric Plant, visual weld acceptance criteria 7−36098
  - crack detection in welded joints, stat. parameters of irregularities and refl. characts. of cracks 7−8232
  - fibrous composites, influence of thermal effects of struct. and props. during explosive welding 7−17793
  - French Metallurgy Society meeting, Paris, France (Oct. 1986) *(French)* 7−29579
  - fusion reactor materials, conf., Chicago, IL, USA (Apr. 1986) 7−48145
  - Hastelloy alloys, C-4, C-22 and C-276, welding metallurgy 7−46448
  - Inconel welds joining dissimilar metals, radiographic evaluation 7−39828
  - joints, US inspection equipment appl. 7−28245
  - metal/ceramic, diffusion welded layered composites, transition zone metallography, struct., hardness *(German, English)* 7−8226
  - metallic glass reinforced Al composite fabrication by multi-lamina explosive compaction 7−59482
  - NDT, elec. current methods, numerical modelling, appl. to weld testing 7−33882
  - nuclear plant components, welding advances 7−30638
  - plate, semiinfinite, heated by moving heat source, thermoelasticity problem, welding-anal. 7−1419
  - plates, butt-welded, residual deform. meas., white light speckle technique 7−17749
  - polymer networks, welding 7−15754
  - seams, photothermal nondestructive radiometric eval. 7−46752
  - solvent welded joints, struct. and strength rel. to bonding solvent 7−28263
  - steel, austenitic stainless, intercrystalline corrosion causes and countermeasures *(German)* 7−17729
  - steel, austenitic-ferritic stainless, weld metal deposits, final microstruct. form., role of thermal contraction stresses assoc. with inclusions 7−59738
  - steel, Cr-Mo, plate, directional solidification, rolling, strength, toughness, microstruct., weldability 7−59622
  - steel, Cr-Ni-Cu, welded specimens, residual stress meas. mag. induced US vel. obs. 7−46761
  - steel, duplex stainless, manual metal arc weld metals, microstruct. and phase transform. 7−59526
  - steel, ferritic and austenitic welded joints, thermally loaded, struct. and mech. props. 7−8102
  - steel, ferritic-pearlitic, welded joints, hot embrittlement proneness 7−39658
  - steel, HSLA, carbonitride particle response to weld thermal cycle 7−33661
  - steel, linepipe weldments, ductility rel. to cathodic protection 7−39578
  - steel, micro-alloyed, low C, B containing, heat-affected zone props. 7−17543

welding continued
- steel, Ni-Cr-Mo, weldments, dynamic fracture toughness, split Hopkinson bar technique 7−13685
- steel, pressure vessel weld metal, cleavage fracturing stages at inclusion sites 7−8092
- steel, stainless, duplex, corrosion imaged and welded conditions, microstruct. effect 7−39698
- steel, stainless, Type 316, microstruct. exam. around weldments 7−22697
- steel, stainless, type 316L, fatigue in simulated fast reactor environments 7−39759
- steel, structural, STEM-EDS X-ray microanalysis of grain boundary segregation 7−22702
- steel, structural, welds, dynamic fracture toughness by instrumented impact testing *(Korean)* 7−28235
- steel, weld metal, creep crack growth 7−17623
- steel, welded, corrosion fatigue testing, NaCl conc. and test freq. effects *(German)* 7−8230
- steel weld joint, austenitic surfacing-pearlitic transition zone, cyclic crack resist. 7−17691
- steel weldment defects, quantification techniques by US normal beam testing 7−16044
- steels, C and austenite welded joint, microhardness, effect of C redistrib. 7−13571
- thermal stresses, theoretical aspects, book 7−9607
- weld, NDT, elec. current methods modelling 7−3553
- weld pool steady fluid flow, 2D model, surface skin effects 7−20730
- X-ray real-time imaging for weld inspection, methods and equipment 7−54045
- Al/Cu friction welds, microstruct. and mech. props. *(German)* 7−46792
- Al_2O_3, profiled, plastic flow in surface layers during diffusion welding 7−33730
- Fe, cast, diffusion interaction with steel in forging, explosive treatment and thermal cycling 7−28070
- Fe-based alloys, C diffusion in compound welds having intermediate layer 7−44887
- Mo-base alloy, welded joint, strain hardening and fracture *(Russian)* 7−53877
- Ni-base alloy 718, cast, weld heat-affected zone liquation morphology 7−53715
- Ti-Al-Nb (6,2 wt.%), fusion weld, defect regions, cracking, porosity, interstitials analysis 7−28109
- Ti-Al-Sn, weld metal, cryogenic toughness *(Japanese)* 7−46620

Wentzel-Kramers-Brillouin calculations *see WKB calculations*

Wertheim effect *see Wiedemann effect*

wetting
- agar-agar gel, effect of gelation time on wetting by water 7−39927
- ANNNI model, two-dimensional, wetting phenomena 7−27064
- binary liquid mixture, wetting transition, order-parameter exponent 7−21574
- bubble and transition-boiling regimes, heat transfer coeff. 7−11416
- bubble motion in capillary tubes, wetting film thickness anal. 7−44952
- bulk correl. length, significance for wetting transitions 7−27061
- carbon tetrafluoride adsorbed on graphite, nonwetting growth and cluster formation 7−2359
- casein gel, effect of gelation time on wetting by water 7−39927
- continuous phenomena, sum rule anal. 7−44953
- critical letting, 2D, exact decimation-type functional renormalisation 7−44955
- crystal growth from solution, α-factor of Jackson 7−44425
- crystal violet in ethanol, spreading layer, capillary convection 7−6925
- dimethyl sulphoxide, dendritic solidification and surface-press.-induced wetting transition in narrow gaps 7−27223
- disordered substrate, wetting transition, 2D model 7−21573
- drops, liquid spreading on substrate, nonequilibrium thermodynamic appls. 7−6920
- epoxy-epoxyester polymers, relax. and specific orientation in surface layers *(Russian)* 7−63918
- equilibrium equation near a wetting ridge *(French)* 7−63906
- ethanol, spreading over surfaces with regular and random reliefs 7−6926
- ethylene adsorbed on graphite, layering and layer-critical-point transitions 7−12471
- ethylene-vinyl alcohol copolymers, ultrathin membranes, prep. and props. 7−54178
- Fecralloy, interaction with $Na_2O.2SiO_2$ glass 7−3501
- fluid interfaces, phase transitions, local density approx. and smoothed density approx. study 7−63912
- fluid-wall interface, wetting, computer simulation and statistical sum rules 7−32753
- fluids confined between solid surfaces, wetting dynamics 7−12406
- formocorundums abrasive, simulation of polymer binders using organic liqs., bond strength investig. 7−38301
- gelatin, effect of gelation time on wetting by water 7−39927
- graphite, multilayer melting transition of adsorbed methane 7−6992
- graphite fibre reinforced Mg matrix composites, fabrication, fibre coatings, wetting, adhesion 7−46374
- graphite surface, adsorbed O films, triple point wetting and surface melting 7−45007
- graphite surface, layering and mixing in coadsorbed Xe-ethylene films 7−58624
- graphite surface, methane adsorption, incomplete wetting at low temps. 7−32798
- heat pipes, sintered capillary structures, wetting, macroscopic boundary angles 7−12397
- Hele-Shaw fingering, num. simulation 7−51030
- Hele-Shaw flow stability, wetting-layer effect 7−12404
- hydrodynamic nature of the fixation of a cathode spot 7−57859
- incompatible polymers mixtures, surface layer of films investig. 7−37888
- interfacial transitions, bifurcation of renormalisation-group fixed pts. 7−27062
- Ising model, wetting transitions near bulk critical temps., long-range forces effects calcs. 7−58573
- layer thickness, equilibrium, dispersion forces calcs. 7−32754
- layering transitions at an interface 7−14883
- leucosapphire abrasive, simulation of polymer binders using organic liqs., bond strength investig. 7−38301
- liquid bridge between two spheres, gravity effects 7−6919
- liquid drops spreading on solid, contact lines 7−6929
- liquid layers, equilibr. struct. 7−58568
- liquid phase sintering, pore filling, critical grain size for liq. flow 7−46364

wetting continued
- liquid-gas interface, asymptotics from nonlocal van der Waals theory 7−52187
- liquids, spreading over surfaces with regular and random reliefs 7−6926
- metal matrix composites, liq. metal infiltration prep., wetting 7−46372
- microemulsions, interfacial phase transitions 7−33970
- molecular fluids and multicomponent mixtures, interfacial phase transitions 7−32755
- nematic liquid-substrate interface, orientational transitions, wetting, Landau-de Gennes theory 7−63914
- nitromethane-CS_2 liq. mixture, on glass, wetting 7−6927
- peristaltic instability of wetting films on fibres *(French)* 7−32751
- plastic surfaces, wettability control by plasma treatment, etching effects 7−53927
- polydimethylsiloxane, liq., spreading, existence and role of thin precursor film 7−44954
- polymer surface and interface dynamics study 7−63917
- polyvinyl alcohol gel, effect of gelation time on wetting by water 7−39927
- porous powdered material, contact wetting angle determ. method 7−52193
- reentrant wetting phenomena and crit. behaviour near bulk critical points 7−44956
- resin, pyrolytic, spreading over surfaces with regular and random reliefs 7−6926
- rough surfaces, complete wetting *(French)* 7−6918
- Saffman-Taylor meniscus during flow between plates, gravity effect 7−63915
- semipermeable membranes, wetting regimes and interfacial phenomena 7−12407
- short range forces wetting transition, dynamics anal. 7−32750
- simple fluids in cylindrical and slit-like pores, capillary condensation and adsorption 7−32756
- SOI, films lamp zone melting recrystallisation, effect of plasma nitrided SiO_2 encapsulent 7−38391
- SOI films, laser recrystallisation, agglomeration, surface roughness and crystal imperfection 7−38389
- SOI films, zone-melting recrystallisation, capping techniques 7−38390
- solid surfaces, chemistry and physics, book 7−60891
- statistical physics, conference, Oaxtepec, Morelos, Mexico (Aug. 1985) 7−9584
- steel, surface oxidation through laser beam treatment, oxide film struct. and wettability 7−8158
- Sullivan model generalisation for wetting transitions 7−38300
- Teflon, wetting, effect of diphilic polyelectrolytes conc. 7−38302
- two-dimensional Ising model, wetting transition calcs. with axially competing interactions 7−6928
- van der Waals theory with exponential interactions 7−6917
- Al_2O_3 refractory ceramic, wettability and contact angle with Al melt, nitride additive effects *(Russian)* 7−12402
- Al_2O_3/Au, wettability of single crysts. between metal melting point and 1673 K *(French)* 7−63902
- Al_2O_3/Sn, wettability of single crysts. between metal melting point and 1673 K *(French)* 7−63902
- Ar-CO_2 interface, wetting, model 7−2303
- Ar-CO_2 interface, wetting transitions, density functional theory and modified hypernetted chain calcs. 7−63913
- Bi-Sb, adhesion, elec. phenomena, effect of additions of Bi and Sn in solder 7−12399
- ^{4}He-^{3}He binary liquid mixtures, complete wetting 7−27049
- Hg, spreading over surfaces with regular and random reliefs 7−6926
- HgCdTe, homogenization, wetting elimination 7−38221
- LiF profiled crystals, growth by Stepanov method, shaper material effects 7−32333
- $NaNO_2$, single cryst. growth by Stepanov's method 7−32329
- Ne film on Ag, triple-point wetting 7−32760
- Ni (100), K treated, rare gas physisorption, wetting, photoemission spectra 7−32822
- O films adsorbed on graphite, triple point wetting and surface melting 7−45007
- PbSn liquid alloys, wetting and spreading, surface composition effects 7−16837
- SF_6 monolayer on graphite, X-ray diffraction studies 7−6965
- Si, wettability and adhesion with Sn-Si(Sb)(As) melts 7−21576
- Si-SiO_2 structures, prod. by recrystallisation, subgrain boundaries, barrier effects 7−52305
- SiC, wettability by Al and Al-Si 7−58569
- SiC whisker reinforced Al matrix composites, interaction, with eutectic brazing alloys 7−46689
- TiC-WC system, wetting with molten Ni_3Al, compact (Ti,W)C-Ni_3Al, composites prep. 7−64987
- ZrO_2 ceramics, wettability of metals 7−52191

whiskers (crystal)
- Al_2O_3, CVD technologies, rate controlling mechanisms, growth morphology 7−33575
- elastic limit of whisker-type monocryst., rel. to phys. characts. 7−2443
- exploding cathode whiskers, plasma form., mass spectrometric diagnostics 7−44269
- metal, galvanomagnetic effects, effect of shape of cross section 7−17015
- zinc phthalocyanine thin films, electrical, structural and gas sensing props. 7−38787
- CdO bent whiskers, three-dimens. reconstruction of electron microscope objects 7−56377
- Cu, whiskers, derivation from Matthiessen's rule, effect of surface condition 7−45276
- Fe, ferromag. domain struct. obs. 7−7536
- Fe, mag. domain obs. by colloid-SEM method *(Japanese)* 7−7533
- Fe whiskers, (011), Neel's domain struct. in weak and zero applied fields 7−2888
- GaAs MBE films, oval defects and whiskers 7−13364
- In-Pb whiskers, critical currents and Ginzburg-Landau parameters 7−17144
- In-Pb whiskers, quasi 1D supercond., weak to strong coupling transition, I-V characts. study 7−38835
- NaCl whisker crystals, strength, depend. on dislocation struct. 7−45101
- Nb thin whiskers, struct., heat treatment effects, SEM study 7−12579
- PbTe whisker crystals, Gunn-type oscills. 7−52626
- Sb_2S_3-Sb_2Se_3, hollow mixed crystals vapour growth, morphology and whisker growth 7−7831
- SiC particles and whiskers, charactn. by Raman spectroscopy 7−21790

whiskers (crystal) continued
- SiC whisker reinforced Al, flame spraying fabrication and forging, whisker distrib. and strengths 7−59483
- B-SiC whiskers, stacking faults *(Japanese)* 7−21235
- SiC whiskers, tensile fracture rel. to defects 7−58722
- α-Si$_3$N$_4$, planar defect displacement vector determ. by HREM 7−2444
- α-Si$_3$N$_4$ whiskers, microstruct. investig. by TEM *(Japanese)* 7−21789
- Te-Se, whisker crystals, growth and elec. props. 7−12578
- TiC, CVD technologies, rate controlling mechanisms, growth morphology 7−33575
- TiN, CVD technologies, rate controlling mechanisms, growth morphology 7−33575
- Zn electroplates, whisker formations 7−17482
- Zn, whisker growth on electroplates, crystallographic texture 7−64034

whistlers
- *see also ionospheric electromagnetic wave propagation; magnetospheric electromagnetic wave propagation*
- axisymmetric magnetic mirror, whistler mode electron cyclotron reson. plasma startup and heating, X-ray meas. 7−37707
- N China observations of wintertime propagation characts. *(Chinese)* 7−4265
- collisional plasma column, whistler waves, dispersion and damping meas. 7−51455
- deuteron whistlers in outer ionosphere, charact. freqs. in five-component plasma 7−18335
- dispersion, semi-annual and annual vars. 7−14410
- duct electron content, nose extension method use *(Chinese)* 7−29258
- electron whistlers in plasmas, EM modulation 7−58000
- EM filamentation instability 7−37691
- gyroresonant pitch angle scattering by coherent and incoherent whistler mode waves in the magnetosphere 7−60490
- half-gyrofrequency whistler-mode waves in magnetospheric plasma 7−60495
- ion cyclotron wave interaction 7−60482
- ionosphere, electron beam generated waves 7−34774
- ionosphere propagation, new plasma model rel. to diagnostic techniques in lower ionosphere 7−66381
- ionosphere propagation, nonlinear shift of wave parameters 7−66380
- ionospheric heating by whistlers, excitation of electrostatic fluctuations by thermal modulation of whistlers 7−29358
- low latitudes, automatic obs. of polarisation, meas. and tracking equipment *(Japanese)* 7−34749
- low-latitude whistlers, path latitude and critical low-latitude cut-off *(Chinese)* 7−4266
- magnetosphere, polarisation of half-gyrofrequency whistler-mode waves in two-component plasma 7−34803
- inner magnetosphere, whistlers rel. to pitch-angle diffusion and particle fluxes in S Atlantic mag. anomaly 7−4275
- newly-born ion effect and thermal effect 7−40572
- nonlinear propagation of whistlers in reduced-density ducts in a magnetized plasma 7−26409
- nonneutral envelope solitons, charge separation effects 7−37692
- plasma, nonlinear interaction, form. of periodic and solitary envelopes 7−11631
- steady state whistler turbulence and stability of thermal barriers in tandem mirrors 7−37681
- stimulated Brillouin scatt. off kinetic Alfven waves 7−51440
- stimulated Brillouin scattering in low-density collisionless plasmas 7−58019

white dwarfs
- accreting He white dwarfs, NCO reaction and He flashes 7−66573
- accretion from inhomogeneous medium, general case and observational consequences 7−9460
- EG And, symbiotic star, mag. field 7−18424
- FO Aqr (H2215−086), intermediate polar, origin of visual and IR pulsations from polarimetric obs. 7−47985
- γ Cas, X-ray spectrum, Tenma obs., white dwarf companion 7−24163
- cataclysmic binary stars, observational selection in magnitude-limited sample 7−29479
- in cataclysmic binary systems, mass spectrum determ. 7−29476
- Z Cha, eclipsing dwarf nova, white dwarf surface luminosity distrib. 7−4458
- classical novae, model evolution through complete cycle 7−29493
- α CMa B (Sirius B), historical colour records as evidence for white-dwarf thermonuclear runaway 7−34977
- coalescence of two white dwarfs in close binary systems *(Japanese)* 7−4508
- collapse to form neutron stars within binary systems 7−60704
- conf., Erice, Italy (April 1986) 7−41001
- cool degenerate star condidates, spectroscopic obs. 7−4450
- T CrB, recurrent nova, accreting white dwarf model from UV obs. (1978 to 1986) 7−47941
- cyclotron emission from accretion columns 7−60660
- CH Cyg, eclipsing symbiotic star, photometry, spectra and radio flux var. origin *(Russian)* 7−40846
- CH Cyg, symbiotic star, contrib. of white dwarf and dust shell to spectral energy distrib. 7−47926
- V1016 Cyg, symbiotic star, white dwarf component props. from photometric obs. 7−47897
- DA stars, effective temps., UV spectral obs. 7−55633
- DA white dwarfs, Si III Stark shift, modified semiempirical formula 7−55638
- double degenerate C-O dwarfs, evolution rel. to type I supernova rates in solar neighbourhood 7−24155
- formation and evolution of white dwarfs, review 7−9474
- GD 66, pulsating white dwarf, phase-space reconstruction and dimension computation 7−29463
- HD 50896, Wolf-Rayet star, white dwarf model for X-ray emitting companion 7−55648
- AM Her stars, asymmetric light curves model 7−55709
- history and properties 7−14575
- low-mass close binary stars, evolution with orbital ang. momentum losses 7−24121
- low-mass He dwarfs, evidence for mergers 7−60652
- magnetic line blanketing 7−34975
- mass distribution, relation to mass loss during asymptotic giant branch stage 7−24127
- minimum mass and chemical stratification 7−60634
- model atmospheres and synthetic spectra, determ. for white dwarfs with chemically stratified atmospheres 7−4447

white dwarfs continued
- Montreal-Cambridge survey of southern subluminous blue stars 7−14568
- MS-type stars, search for white dwarf companions, UV spectral obs. 7−47935
- nova outbursts on O-Ne-Mg white dwarfs, evidence from UV studies 7−47940
- number-mass distribution produced by interacting binaries 7−60652
- numerical method for models of double white dwarf binaries and central white dwarf-heavy disk systems 7−60573
- V2051 Oph, possible low-field polar, high-speed photometric obs. 7−60694
- $4=o^1$ Ori, MS star, white dwarf companion detect. and characts., UV spectra anal. 7−55681
- IP Peg, eclipsing dwarf nova, dimensions of white dwarf and accretion disk from high-speed photometry 7−14595
- AG Peg, symbiotic star, mag. field 7−18424
- PSR 1855+09, white dwarf companion star of binary millisecond pulsar 7−29500
- rapidly rotating white dwarfs, struct. determ via versatile two-dimensional method 7−9457
- Sirius B, temp., radius, and rot. vel. 7−40814
- space density, determ. from KPD survey for Galactic plane UV-excess objects 7−9383
- supernovae, observational constraints to theoretical models of Type I events 7−24157
- two-body tidal capture of main sequence stars and white dwarfs, energy dissipation anal. 7−4500
- Type I supernovae, partially incinerated white dwarf models *(Chinese)* 7−4494
- 4U 1820−30, in globular cluster NGC 6624, low-mass He white dwarf model for mass-losing star 7−66666
- ultrashort period binary stars in globular clusters, form. mechanism 7−66667
- AN UMa, AM Her star, light curve var. due to accretion flow channelling by white dwarf mag. field 7−60720
- SU UMa stars, similarities to recurrent Population II X-ray transients 7−14604
- QQ Vul, long-period AM Her star, period determ. using new minima from old plates 7−66672
- WD 1225−09, spectral type and classification 7−55625
- in wide binaries, double degenerates and composite spectra 7−14567
- in wide binaries, physical props. from multichannel spectrophotometry 7−14566
- wide binary radio pulsar systems, orbital characts. and white dwarf masses determ. 7−60733
- X-ray sources in ω Cen, soft X-ray obs. with EXOSAT 7−29506
- C-O white dwarfs, accreting, final fate, Type I supernovae versus collapse 7−47857
- He degenerate dwarf form. in close binary system 7−60633
- He-rich white dwarfs, dredge-up process calcs. rel. to C pollution in stellar atmospheres 7−47850

white noise
- monochrome still image noise reduction by a hybrid method based on an anisotropic stochastic model *(Japanese)* 7−42998
- noisy maps, probability distrib. moments 7−41257
- nuclear hyperfine interactions, appl. of digital filtering techniques 7−38523
- relative diffusion in stochastic fields, Monte Carlo simulation 7−271
- ring laser model with additive white noise, postponed bifurcations 7−62734
- Saffman-Taylor finger, sidebranching in interfacial dynamics, white noise effect 7−21627

wideband amplifiers
- Tektronix 11000 Series of digitising and analogue CROs 7−61324

wideband networks *see broadband networks*

Widmanstatten structure
- nucleation, sympathetic, morphology, crystallography and kinetics 7−65035
- steel, stainless, pulsed and continuous laser welded, solidification behaviour and microstruct. characts. 7−13444
- Co-Al, ageing kinetics, precipitation studies *(Russian)* 7−3332
- Co-Mo-Cr-Si, wear resist. alloy development 7−3440
- Fe-Ni, austenite form. during continuous heating *(Russian)* 7−17557
- Nb, pure, tensile deform., brittle fracture, H effect, SEM obs. *(Chinese)* 7−8078
- TiB$_2$-TiC composite, hot pressed, degradation in liq Al 7−28156

Wiedemann effect
- Fe$_{50}$Ni$_{50}$, Deltamax, magnetic ribbons, inverse Wiedemann effect for very low torsions 7−45786
- Fe$_{40}$Ni$_{40}$P$_{14}$B$_6$, Metglas 2826, magnetic ribbons, inverse Wiedemann effect for very low torsions 7−45786

Wiedemann-Franz law *see Lorenz number*

Wien effect
- No entries

Wigner coefficients *see Clebsch-Gordan coefficients*

Wigner crystal
- anharmonic lattice, phonon freq. shifts derived via the Wigner distribution function 7−21374
- electron plasma, pure, strong mag. field states 7−45185
- magneto-quantum crysts., lossless edge currents and inversion layers 7−7395
- superlattice magnetoroton bands 7−64335
- two-dimensional electron systems, Wigner crystal *(Japanese)* 7−2520
- n-Hg$_{0.8}$Cd$_{0.2}$Te, condensed electron system, heat capacity, comment 7−58503

Wigner effect *see radiation effects*

Wigner lattice *see Wigner crystal*

Wilson cloud chambers *see cloud chambers*

wind
- 2D dynamics of West African squall lines 7−66258
- 3D trajectories, wind and humidity characts. determ. 7−55190
- 405 MHz phased array antenna for atmospheric wind measurement 7−34752
- acid rain modelling, turbulent spiral boundary layer and thermal wind simulator 7−14370
- S Africa, summer rainfall distrib., effects of circulation and humidity 7−47492
- air-water interface wave-induced press., fluctuations, wave generation by wind 7−16198

wind continued
- airborne Doppler lidar measurements 7—40561
- airborne microwave rain scatterometer/radiometer system, microwave backscatter expt. of ocean surface *(Japanese)* 7—23910
- S Alberta, Canada, chinooks distinguishing nocturnal features 7—47493
- Alpine lee cyclogenesis, numerical simulation, effects of terrain height and blocking initialisation 7—29201
- Antarctic, jet flows *(Russian)* 7—47510
- E Antarctica, low-level katabatic winds 7—55129
- Arabian heat low, surface energy budget and struct. 7—4151
- Arecibo, Puerto Rico, middle atm. oblique vel., power spectra 7—60338
- Arenal Reservoir, Cost Rica, air flow modification due to reservoir construction 7—14346
- E Asia, dynamic and thermodynamic influences of Tibetan Plateau on general circulation model 7—29135
- Athens basin, simulation of sea and land breezes for pollution studies 7—60342
- tropical Atlantic, seasonal cycle model of temp. and dynamics 7—66147
- tropical Atlantic, SST and wind stress in AD 1964 to 1979 period 7—66146
- SW Atlantic, wind field deduced from underwater noise obs. 7—23812
- S Atlantic Bight, extreme wind, wave, surge, and current data 7—60272
- Atlantic Ocean, tropical region, synoptic scale disturbances 3D struct. 7—47504
- tropical Atlantic Ocean, wind speed vars. rel. to ocean dynamic topography and geostrophic currents 7—14304
- Atlantic Ocean tropical cyclones, cloud canopy tops temp. and future max. winds 7—29197
- atmospheric turbulent flow over progressive water wave, eddy viscosity model 7—51193
- Attica, Greece, sea breeze characts. 7—4092
- NW Australia, evening glory wave-cloud lines, formation characts. 7—29124
- S Australia, obs. of internal atmospheric bores and cold front 7—55127
- Australia, sea-level var., atm. effects 7—18192
- E Beaufort Sea, surface currents due to westerly winds 7—34523
- Beaufort wind scale—measured speed conversion, BASIC program 7—55235
- Belgium, meteorological observations, AD 1981–5 at Uccle *(French, Flemish)* 7—47484
- Bernoulli function behaviour for case of non-negative absolute vorticity 7—34656
- Bohai Sea, pollutant transport by wind-driven currents *(Chinese)* 7—55086
- Boulder, Colorado, USA, upstream wind profiler data collected during windstorms 7—29194
- boundary layer, diabatic wind and temp. profiles obtained from a 100 metre tower 7—23790
- boundary layer, wind vector profiles 7—34614
- boundary layer flow over irregular terrain, model formulation 7—4100
- boundary layer flow over nearly 2D hill 7—9137
- boundary layer wind and temp. mesoscale variations of N Atlantic off Scotland 7—23797
- breaking waves, spectral and statistical characts. 7—9025
- Brush Creek Valley, Colorado, mass transport by along-valley wind systems 7—29143
- California Current System, wind stress 7—55052
- Canterbury Plains, New Zealand, interacting multi-scale wind systems anal. 7—55203
- chilling effect of wind, wind-chill indices 7—55204
- coastal wave climate categorization, software packages 7—55254
- continental slope, low-freq wind-driven upwelling 7—47454
- Cumbria, England, characts. of airflow, aerosols, precipitation and clouds in boundary layer 7—4096
- cumulonimbus clouds, role of wind shear 7—4142
- D-region, winter-time, electron densities and wind vels. from partial refl. radar obs. 7—47612
- daytime boundary layer evolution over mountainous terrain, upslope flow 7—4153
- Denver hailstorm, 1984 June 13, wind vels. and storm dynamics 7—29127
- direction mean and standard deviation, single-pass estimators evaluation 7—66240
- direction measurement, electronic gonioanemometer *(Italian)* 7—18309
- divergent flow, derivation from rotational flow using vel. potential 7—66268
- Doppler shifts, effects on gravity wave spectra observed by MST radar 7—47490
- Doppler wind velocity measurements with radar or lidar, use of discrete spectral peak freq. estimator 7—9212
- downslope windstorms, supercritical flow in stratified fluid 7—66234
- Eagle Valley, Colorado, temp. inversion buildup and wind struct. 7—55202
- Ekman layers and surface wind/current differences 7—60327
- El Nino, decay predictability (1982-3) 7—4174
- El Nino, simple model involving atm. convergence feedback 7—34536
- English Channel, wind and temp. characts. for 1066 September, chroniclers' records anal. 7—29650
- environment assessment criteria 7—14352
- environmental conditions in passages between buildings 7—14353
- erosion by wind, satellite remote sensing of dust storms for erosion vulnerable areas 7—8949
- erosion by wind, theory of climatic factor 7—8948
- ERS-1 wind and wave calibration workshop, Schliersee, Germany (June 1986) 7—24305
- ERS-1 wind scatterometer antenna, mechanical aspects 7—23975
- Florida, USA, 28 January 1986, wind conditions on day of Shuttle Challenger failure 7—60314
- Frankfurt, Germany, surface layer wind field, characts. estimation, use of three-layer mesoscale model 7—60320
- Global Weather Experiment, global scale divergent and rot. flow components 7—4147
- Global Weather Experiment Special Observing Period I, wind field vertical struct. 7—34610
- gravity-capillary waves, wind-generated, period-doubling 7—43952
- S Great Barrier Reef, wind stress behind large continental shelf island 7—47451
- Great Britain, fine-mesh forecast of 25 Aug. 1986 storm 7—55205
- Great Britain, windiness and AD 1985 summer 7—66251
- Gulf of Carpentaria, 1984 October 25-6 cloud line and morning glory wind surges 7—4091
- Gulf of Carpentaria, Australia, southerly nocturnal wind surges and bores 7—29195

wind continued
- heat-induced tropical circulation with mean wind 7—66263
- hill, air flow under near-critical Froude number conditions *(German)* 7—9138
- hill, flow over isolated hill summit in Somerset, England 7—55132
- N Indian Ocean, 1972-3 air-sea interactions in monsoon conditions 7—9014
- Indian region monsoon depression, prediction with regional primitive eqn. model 7—9114
- Indian Summer monsoon, 30-50 day activity interannual var. 7—34611
- industrial and building aerodynamics, conf., Aachen, Germany (June 1985) 7—14699
- ionosphere D-region, dynamical regime over E Siberia during quiet and disturbed conditions 7—47614
- jet streak circulation in pre-convective environment 7—34608
- Judaean Hills, Israel, valley and mountain winds interaction with sea and land breezes 7—23811
- Kakinada sand spit, India, atm. elec. meas. 7—23806
- lake-land breeze anal. *(Chinese)* 7—55209
- laser beam, partially coherent, in turbulent atm., thermal self-interaction 7—31376
- Latrobe Valley, Australia, wind and mesoscale easterly flows, topography effects 7—29123
- lidar wind measurement method for study of boundary layer 7—14347
- light wave time-dependent characts., fluctuating wind effect, expt. investig. 7—55263
- Local AFOS MOS programme appl. to wind prediction 7—34679
- low-level, over W. Indian Ocean, obs. by Indian Ocean satellite 7—40516
- lower thermosphere variations 7—18272
- marine boundary layer, effect of wind speed on thermal structure of upper ocean 7—14302
- marine boundary layer, effects of surface wave layer on atmosphere-ocean boundary layers interaction 7—8989
- maximum speeds in tornado-like vortices 7—66224
- measurement of wind profile, Doppler radar and lidar technique *(Russian)* 7—4210
- W Mediterranean Sea, press. and wind fields obs. 7—34609
- mesopause, wind vels. rel. to characts. of noctilucent clouds 7—23925
- mesoscale circulations, modification and generation effects of cloud shading 7—34617
- mesosphere, wind and tide meas. determ. from meteors radar obs. 7—55341
- mesosphere, wind meas. by middle and upper atmosphere radar 7—47561
- mesosphere and thermosphere, zonal and meridional winds, long term observations 7—47600
- microburst winds, Doppler radar data, aircraft response 7—66241
- middle atmosphere, winds and temps. vars. rel. to regions of polar mesospheric clouds 7—47596
- middle atmosphere winds correl. to mag. field var. 7—66370
- Miyazaki Prefecture, effect of typhoons on sea salt deposition on insulators *(Japanese)* 7—66248
- monthly mean anomalies, month-to-month persistence in general circulation model and Earth's atmosphere 7—9093
- mountain valley, thermal asymmetry and cross-valley circulation 7—4099
- mountainous regions, wind obs., meas. and study *(Japanese)* 7—9143
- New England, USA, snowstorm, frontogenesis and symm. stability, radar characts. 7—47502
- New Zealand, sea salt wind-borne transport and deposition, implications for corrosion 7—14361
- nocturnal boundary layer over sloping terrain, numerical simulation *(Chinese)* 7—4080
- nocturnal drainage flow interaction with ambient winds, model 7—23799
- nocturnal wind shear 7—34578
- observing network data analysis for India, choice of optimum grid length 7—29177
- ocean, linear wind-driven near-inertial waves and assoc. vertical Reynolds stress divergence 7—8998
- ocean, quasi-steady shelf circulation driven by along-shelf wind stress and open-ocean pressure gradients 7—47456
- ocean, wind mixing of stratified shear flow 7—34504
- ocean, wind-driven frictional time-depend. stratified shelf and slope water flow 7—4041
- ocean, wind-induced currents 7—34507
- ocean, wind-wave relationships, Seasat radar altimeter meas. 7—34581
- ocean currents, separation and forecasting of wind drift mass transport component *(Chinese)* 7—55068
- ocean currents forcing, theory for steady and variable wind and wave-induced currents 7—8985
- ocean Ekman flows, contrib. to annual heat flux variations across Tropic circles 7—8992
- ocean inertial oscillations generation by propagating wind field, two-dimensional model 7—8987
- ocean surface layer, wind mixing rel. to seasonal evolution of upper layer circulation 7—9020
- ocean surface wind measurement, Seasat scatterometer studies of effect of wave height and environmental conditions 7—66159
- ocean thermocline, wind-driven and buoyancy driven 7—4046
- ocean wave spectra in N Adriatic Sea, parameterisation 7—40487
- ocean whitecap coverage modelling 7—47448
- oceanographic acoustic Doppler profiles, surface wave kinetic energy influence 7—9274
- oceans, steady wind-driven upwelling in presence of baroclinic coastally trapped jet 7—8984
- equatorial Pacific, boundary layer struct. during FGGE 7—60359
- W equatorial Pacific, evaporative cooling by anomalous winds 7—9023
- equatorial Pacific, meteorological parameters during AD 1982-3 El Nino 7—29166
- N Pacific Ocean, annual Rossby waves generation due to wind stress curl 7—8997
- Pacific Ocean, sea level wind forcing 7—4044
- Pacific Ocean, wind and wave conditions determ. 7—34731
- planetary boundary layer wind profiles 7—14340
- Point Conception, California, mesoscale wind variability (spring 1983) 7—29144
- Quasi-Biennial Oscillation, zonal winds, appl. of nonstationary data prediction and freq. tracking 7—34737
- Late Quaternary monsoon winds, Arabian Sea sediment records 7—9139
- radar, meteorological appls. 7—47548
- radar measurement of wind speed, effect of whitecaps and foam on pulse-limited radar altimeter meas. 7—29306

wind continued
  radar remote sensing of marine winds, altimeter wind speed algorithm 7—66347
  remote sensing of sea-surface winds, whitecap cover observation method 7—9216
  reservoir causing modification of air flow 7—14346
  River Amazon, plume region circulation and wind forcing characts. 7—34509
  sea and land breeze interaction with valley and mountain winds 7—23811
  sea breeze on a steep coast, mountains causing calm zone 7—4102
  sea breezes at Tarapur, India, acoustic sounder observations 7—55131
  sea surface, wind roughened, albedos and glitter patterns generation 7—9006
  sea-breeze fronts, gravity currents, stratified fluids, turbulence effect 7—43949
  sodar measurement method, for wind direction and speed *(Chinese)* 7—9180
  soil erosion by wind, measurement apparatus, book 7—35136
  SOUSY VHF radar measurements in the lower and middle atmosphere 7—23870
  Space Shuttle Challenger, wind conditions on day of launch failure 7—60314
  speed meas., anemometer with twin-propeller, low-friction design 7—34723
  squall line pressure and temp. from dual-Doppler obs. 7—66223
  static wind load, meas. using piezoelec. high-freq. balance 7—14356
  stratified ocean, action of variable wind stresses 7—14291
  stratified surface layer, similarity scales evaluation using wind speed and temp gradient 7—40514
  stratosphere, equatorial waves in wind field 7—66212
  stratosphere, quasiperiodic perturbations due to solar activity, 3D simulation 7—66371
  stratosphere and lower mesosphere, zonal winds and temperature 7—4248
  stratosphere-troposphere, wind meas. by middle and upper atmosphere radar 7—47561
  stratospheric tropical winds, observed quasi-biennial oscill. 7—34594
  streamfunction and vel. pot. computation, wind field reconstruction 7—29198
  subtropical-subpolar basin, wind-driven circulation numerical simulation 7—47450
  surface layer, wind spatial correlation function observations *(Russian)* 7—18277
  Tai Lake, China, storm deposition study 7—55097
  tall buildings, across-wind oscillations 7—14355
  thermosphere, circulation models and wind regime from meteor radar obs. 7—47589
  thermosphere, feedback between neutral winds and auroral arc electrodynamics 7—47609
  lower thermosphere, momentum flux vars. from mid-latitude meteor wind obs. 7—55343
  thermosphere, tidal winds, role in counter electrojet generation 7—66378
  thermosphere, wind var., long term periodicities in meteor radar meas. 7—47591
  thermosphere, wind vel. meas. rel. to tides in 80 to 100 km height region 7—47594
  thermosphere wind measurements by EISCAT, ionosphere effects 7—29319
  thermosphere wind pattern at high-latitude, general circulation model calc. 7—29320
  tides, 2D eqns., soln. by method of characts., adaptation to wind-induced currents and storm surges 7—18188
  trade-wind boundary-layer, parameterisation for one-dimensional photochemical model of troposphere 7—9146
  tropical easterly flow, interaction between meridional and zonal disturbances 7—40509
  tropical squall line, cloud water and water vapour content retrieval 7—4212
  tropical squall line, wind and thermodynamic data rel. to stratiform cloud region modelling 7—29136
  troposphere jet stream as source for travelling ionospheric disturbances 7—60446
  turbulence classification, computer program 7—55247
  turbulence length scales in wind engineering 7—14354
  two-layer Ekman model for wind-induced shear flow near the sea surface 7—55054
  Typhoon No. 7507, kinematical fields from upper air obs. (1975 August 17 to 23) 7—40510
  SW United States, severe storm simulation, impact of missing wind obs. 7—34619
  SW United States, summer precipitation singularity, bursts and breaks synoptic-dynamic characts. 7—47494
  unstratified water bodies, mean circulation driven by wind 7—4066
  upper atmosphere, seasonal and tidal variations of temperature and density 7—29315
  upper atmosphere neutral temperature and winds from EISCAT obs. 7—29318
  urban heat island influence on low-level winds 7—18282
  water bodies, wind-driven circulations 7—9046
  Weibull statistics of wind speed over the ocean 7—66236
  West Florida Shelf, frictional wind-forced long-wave theory 7—4042
  westerlies in equatorial region, variations and relation to low-latitude circulation *(Chinese)* 7—9060
  wind scatterometer antenna release shock loads 7—23976
  zonal wind in tropical stratosphere and troposphere, longitudinal and inter-annual vars. 7—47486
  zonal wind minimum in stratosphere, due to mesoscale mountain wave breaking 7—40522

wind energy *see wind power*

wind power
  air flow rate estimation and pressure coefficients eval. in wind towers 7—39956
  computer aided wind speed meas. field tests for windmills driving piston pumps 7—39961
  energy availability and wind speed study, Bangladesh 7—39955
  energy characts. of wind for power plants, Apsheron peninsula, Azerbaidzhan SSR 7—33993
  energy resources and their exploitation *(Spanish)* 7—13847
  energy resources eval. in Jordan 7—54261
  hybrid and small wind energy conversion, BWEA conf., Reading, England (May 1986) 7—35107

wind power continued
  performance monitoring of wind pumps in Kenya, results addendum 7—39958
  performance monitoring of wind pumps in Kenya 7—39957
  speed and energy potential of wind at sites in Jordan 7—59828
  technology breakout in energy conversion, conf., San Diego, CA, USA (Aug. 1986) 7—60875
  turbine flow field model 7—65398
  USA wind power usage expansion prospects and requirements, workshop, Dallas, TX (March 1986) 7—65399
  water pumping using wind power, power transmission between turbine and pump 7—39962
  water pumping using wind power, systems assessment 7—39960
  water pumping using wind power, wind turbine comparison 7—39959
  Weibull parameters for wind speed distribs. for 5 locations in India 7—46916

wind power plants
  DC shunt-generator for resistance heating, power output optimisation 7—65400
  energy characts. of wind for power plants, Apsheron peninsula, Azerbaidzhan SSR 7—33993
  energy resources and their exploitation *(Spanish)* 7—13847
  hybrid and small wind energy conversion, BWEA conf., Reading, England (May 1986) 7—35107
  status and future trends *(Czech)* 7—8360

wind tunnels
  bipolar space charge use for anal. of pollutant dispersion in building wakes 7—1573
  boundary layer transition detector, using differential interferometer 7—20822
  closed-loop mach number control in a blowdown transonic wind tunnel 7—26354
  compact heat exchangers, with permeable wall, friction and heat transfer 7—51143
  diffuser operating at Mach no.4.4 to 8.5, press. recover 7—43973
  holographic interferometry appl., alignment and photographic problems 7—18872
  nonperturbing boundary-layer transition detector for hypersonic wind tunnel, based on laser interferometry 7—20821
  optical measurements, tunnel test sections 7—57964
  pressure measurement in a blow-down wind tunnel, automatic system 7—16280
  prototype physicochemical processes in shock layer during flow past hypersonic wind tunnels 7—63175
  transonic speeds on an aerofoil, shock wave interference, shock/boundary-layer interactions 7—6241
  tunnels with perforated test sections equipped with subsonic nozzles 7—43965
  turbine cascade in wind tunnels, transonic flow meas. 7—26313
  vertical wind tunnel for water drop studies 7—6293

wind turbines
  energy resources and their exploitation *(Spanish)* 7—13847
  flow field model 7—65398
  horizontal axis wind turbines anal. using vortex lifting line method 7—63171
  horizontal-axis wind turbine free yaw behaviour 7—54260
  hybrid and small wind energy conversion, BWEA conf., Reading, England (May 1986) 7—35107
  multiple actuator disc theory 7—20743
  test data correl. optimisation using frequency response matching 7—8357
  water pumping using wind power, power transmission between turbine and pump 7—39962
  water pumping using wind power, systems assessment 7—39960
  water pumping using wind power, wind turbine comparison 7—39959

winding (process)
  composite, winding, stress form. in frontal hardening 7—17491
  fibre reinforced polymer composites, binder content in impregnated reinforcement, contactless US inspection use 7—3565

windowing *see user interfaces*

wires (electric)
  see also conductors (electric)
  E polarisation, thin wire loop, backscattered field anal. 7—36861
  low-temperature In compression feedthroughs, for superconducting or Cu wire 7—35527
  Cu, heating by glow-discharge electron beams *(Czech)* 7—56373

WKB calculations
  gravitational radiation detector, impedance matching element 7—61212
  inhomogeneous plasma, two-plasmon decay, unstable modes anal. 7—20889
  nonrelativistic N-particle system, semiclassical approx. 7—129
  quantisation rule, matrix formulation 7—24473
  repeat 1st entry 7—36724
  Rydberg atoms, Stark effect, electron-ion resonance scatt., WKB calcs. and multichannel quantum-defect theory 7—15546
  Schrodinger equation, local equivalent, with relativistic kinematics, WKB approximation 7—56406
  semiconductor surface, appl. of scanning tunnelling microscopy 7—11864
  viscous fluid, flow transition, Orr-Somerfeld eqn. soln. *(Russian)* 7—43850
  AsH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7—19997
  GaAs MESFET and JFET devices, elec. resist., Hall effect, influence of electronic subband mag. depopulation 7—38740
  GaAs-AlGaAs heterojunction, narrow 2D electron gas, mag. depopulation of 1D subband 7—17080
  $HeRh^{2+}$ adsorbed compound ion, field dissociation by atomic tunneling 7—33919
  Li+HBr, complex optical pots., large angle elastic scatt. calcs. using WKB theories 7—42728
  PH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7—19997
  SbH_3, isotopic species, mol. vibrs., inversion splitting calcs. 7—19997
  a-Si:H-Si_3N_4:H double barrier structs., resonant tunnelling 7—52848

wobbulators *see signal generators*

Wolf-Rayet stars
  atmosphere velocity fields, conf., Trieste, Italy (August-September 1982) 7—35118
  BR 18, Wolf-Rayet star in LMC association LH 39, age and initial mass determ. 7—66684
  CQ Cep, eclipsing Wolf-Rayet star, spectrophotometric and spectroscopic studies 7—66618

Wolf-Rayet stars continued
- EZ CMa (HD 50896), UV spectrum and interstellar environment 7−18422
- V444 Cyg, eclipsing Wolf-Rayet binary star, Doppler tomography of stellar wind from IUE obs. 7−47947
- emission-line galaxies showing WR emission features 7−35039
- in extragalactic H II regions, contrib. to He abundance and dY/dZ meas. 7−40937
- HD 164270, variable WC9 star, model of close binary with precessing disk 7−47925
- HD 191765, WN6 star, UBV photometry (1984 to 1986) 7−66615
- HD 193077, WN6 star, narrow absorption components in UV spectra 7−55680
- HD 45166 (qWR+B8 V), obs. of gross UV spectral variability 7−47945
- HD 50896, line of sight high-vel. interstellar gas detect., possible SNR 7−14627
- HD 50896, spectrophotometry and binary nature 7−55663
- HD 62910 (WN6-C4), high-resolution IEU obs. 7−47946
- HD 88500, H I bubble related to WC star 7−40808
- HD 93131, WN7 star, wind characts. and UV spectra 7−55679
- HD 96548, WN8 star, UV line profiles 7−55679
- intrinsic colours determ. 7−66624
- LSS 2063, galactic Of/WN star, spectroscopic anal. 7−60693
- in M31, W-R stars identification in OB associations 7−40926
- mass loss rates, implications of non-LTE model atmospheres 7−9475
- massive close binaries evolution with mass loss and overshooting, mass transfer in very massive system 7−29465
- massive W-R stars formation, evolution of massive high-luminosity stars 7−29461
- MG 4 and 5 in LMC near 30 Dor, spectrophotometry 7−60691
- NGC 5430, galaxy with Wolf-Rayet knot, stellar population study 7−60778
- nonthermal phenomena, new evidence at X-ray and COS-B gamma-ray freqs. 7−55640
- pair creation supernova in massive Wolf-Rayet star, implications for Cas A supernova remnant 7−29462
- photometric variability of complete northern sample 7−14585
- planetary nebulae central stars, terminal vels. of stellar winds from IUE obs. 7−47880
- review of characts. 7−40849
- CV Ser, WC8 star, wind modelling, C III UV and visible spectra anal. 7−66625
- subtypes origin 7−55639
- WC stars, influence of C and O abundances on mass-loss determ. from radio meas. 7−29480
- WN models, trapped non-radial oscillation modes in H-burning shell 7−40824
- WN stars in compact blue dwarf galaxies 7−48078
- X-ray emission from Wolf-Rayet stars, results from Einstein Observatory 7−55648
- ^{26}Al production by Wolf-Rayet stars, galactic yield and gamma-ray line emissivity 7−47830
- He I laser action in stellar envelopes, theory 7−4438
- He stars, evolution of single and binary stars of 2.5 $M_{\odot}$ up to Ne ignition 7−4430

wolfram *see tungsten*

wood
- moistened and pyrolized materials in strong RF fields, computer-aided permittivity meas. 7−48769

wood processing
- *see also paper industry*
- solar kiln dryers for timber and agricultural produce 7−39965

word processing
- *see also data preparation*
- eye word processor and peripheral controller usingeye movement *(Japanese)* 7−8764

work function
- *see also electron emission; Schottky effect*
- adsorption-desorption phenomena, macroscopic meas. and microscopic interpretation 7−27136
- alkali metal adsorbed layers on solid surfaces *(Japanese)* 7−21966
- appearance potential spectra, scanning Auger microprobe for meas. of work fn. 7−64824
- crystal lattice, internal pot. w.r.t. electron work function 7−63545
- electropositive adsorbate induced work function changes, semi-empirical mathematical relationships 7−7333
- ethylene propylene, fluorinated, ionis. pot. and work function meas. using low-energy electron beam 7−22397
- ferromagnets heated with a short intense laser pulse 7−64460
- graphite (0001), adsorption of Cs, induced work function changes, LEED obs. 7−33064
- ion implantation induced nonequilibrium surface layers, electron emission props. 7−12090
- liquid metal drops, energy characts. 7−32762
- metal films, work functions, coverage dependence 7−38676
- metal substrates, adsorption of alkali metals, influence of adsorbate coverage on work function 7−2669
- metal-p$^+$-n structures, Schottky barrier height enhancement, calcs. including free carriers 7−2709
- metal-semiconductor Schottky diodes, interface state form. and barrier height control 7−52839
- metals, electron work function in solns., photoemission law 7−22435
- metals, electron work functions in diglyme (diglyme-water), photo- and thermionic emission meas. 7−52731
- metals, temp. depend. of work fn., anal. 7−52737
- MIS struct., barrier height, I-V characts. and tunnel currents under illumination calcs. 7−64356
- PET, ionis. pot. and work function meas. using low-energy electron beam 7−22397
- polypropylene, ionis. pot. and work function meas. using low-energy electron beam 7−22397
- rare earth silicide thin films for microelectronics 7−38383
- scanning tunnelling microscopy, distance-voltage characteristics, HV behaviour 7−26600
- simple metals, physisorption interaction of H_2 7−12480
- surface electronic struct., film linearised muffin-tin orbital calcs., implementation and problems 7−27374
- surface science, modern techniques, book 7−60911
- surface science techniques, book 7−60888

work function continued
- thermionic converters, internal parameter determ. from current-voltage characts. 7−34051
- thermionic converters, work function and electron emission effects on parameters 7−34050
- transition metals and their alloys, mag. atoms, quantum statistical ab initio theory 7−58969
- XPS, UPS, work function meas. 7−12485
- Ag (110), adsorption of ethylene and ethylene oxide, work function, LEED, UPS, TDS meas. 7−52270
- Al, chemisorption, interaction of atoms and mols. with surfaces, cluster approx., total energy calcs. 7−52265
- Al film, quantum size effects and dimensionality 7−45521
- Al, positronium work function, temp. depend. 7−58859
- Al-Mg alloy, charge transfer, X-ray emission and UPS studies 7−3118
- Al_2O_3 thin films, electron emission characts., continuous dynode appl. 7−17376
- Ar solid crystalline films, electron stimulated desorption, exciton mechanism calcs. *(Russian)* 7−27096
- Au, positronium work function, temp. depend. 7−58859
- Au-Ni-Cu, diffusion of Au and Cu through Ni layer, depend. on ambient 7−38266
- Au-vacuum-Au tunnelling, room temp. expts. 7−45438
- Bi, adsorpt. and growth modes on Pt (111), spectrosc., LEED and work function investig. 7−27102
- CdS, powder, metal-loaded, photoinduced electron-hole pair separation 7−59770
- Cr (100) surface, evidence for two O chemisorption sites, at room temp. 7−6980
- Cs surface, adsorbed Xe, core-electron binding energies, photoemission studies 7−3146
- Cu (001), adsorbed K, valence-electronic struct., work function changes and EELS 7−45002
- Cu (111), adsorption of TCNQ, vibr. spectra, EELS, work function meas. 7−52228
- Cu (111) with Ni overlayers, CO adsorption studies 7−21658
- Cu, positronium work function, temp. depend. 7−58859
- CuZn, work function, influence of ordering 7−33062
- Fe (110), (111) and stepped (110), adsorption of CO_2, UPS, work function meas. 7−12484
- Fe, films, ethane and ethylene adsorpt. and reaction, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
- Fe overlayers or sandwiches with Cu (001), electronic and mag. props. 7−64499
- Fe-Ni alloy surfaces, sputter-cleaned, work function and dipole barrier 7−38673
- GaAs (110), O_2 adsorption, electronic props., contact pot. meas. 7−2353
- GaP emitters, secondary electron energy distrib. rel. to work function 7−46256
- p-GaP, powder, metal-loaded, photoinduced electron-hole pair separation 7−59770
- InAs (110), oxidation, correlated changes of electronic surface props. 7−2354
- $In_xGa_{1-x}As$ (100)-metal interfaces, Fermi level pinning and chem. interactions 7−2712
- InP (110) cleaved surface and Schottky diodes 7−58850
- InP electrodes, surface modified, time resolved photoelectrochemical meas. 7−27415
- K-Ni coadsorbed layer on W (110), field emission flicker noise 7−32807
- LaB_6 (001), adsorption of Cs, surface structure and work function 7−6977
- Mg thin films, initial oxidation stages, emission phenomena 7−13629
- Mo (110), work function, nonstoichiometric UO_2 effects 7−21977
- Mo (110) chemically modified surface, Au thin film form. study 7−12489
- MoS_2-Co catalyst-promotor interaction, UPS, XPS, LEED studies *(Chinese)* 7−39913
- MoS_2(0001), Ar^+-sputtered, adsorption props., LEED, AES, EELS, and work function studies 7−52275
- Nb:O^- polycrystal collector in thermionic converter, output characts. study 7−44271
- Nb(100) surface, H_2 chemisorption, LEED, EELS and work function meas. 7−32815
- Ne solid crystalline films, electron stimulated desorption, exciton mechanism calcs. *(Russian)* 7−27096
- Ni (100), S-covered, adsorption of NO 7−6990
- Ni (110), adsorption and reaction of Co_2 and CO_2/O co-adsorption 7−52289
- Ni (110), adsorption of D_2, LEED, TDS, RBS, nucl. reaction anal., work function meas. 7−58638
- Ni (110), adsorption of O, surface phases, absolute coverages 7−12486
- Ni (111), N_2 adsorption, XPS, UPS, work function and TPD studies 7−52272
- Ni, films, ethane and ethylene adsorpt. and reaction, mass spectra, XPS, UPS, electrical resistance and work function meas. 7−32837
- Ni, positronium work function, temp. depend. 7−58859
- Ni surface, adsorbed S, field electron emission props. 7−33529
- Pb, positronium work function, temp. depend. 7−58859
- Pd surface, adsorbed Xe, core-electron binding energies, photoemission studies 7−3146
- Pt (110), catalytic CO oxidation, kinetic oscillations 7−28346
- Pt (110), water adsorption 7−21644
- Pt (111), contaminated with Si or oxidised Si, interaction with water 7−27134
- Pt-Rh surfaces, N_2 and CO adsorption, temp. depend. and work function studies 7−33960
- Rh surfaces, adsorption and desorption of NO, effect of surface structure 7−6994
- Ru (001), alkali modified, adsorption of O, TDS, AES, EELS, work function meas. 7−58637
- Ru (001), H_2 chemisorption, effect of coadsorbed O_2, LEED spectra anal. 7−33959
- Ru (1010) with K overlayers, struct. and energetics, chemisorption and desorption studies 7−21659
- Si (100) and (111), adsorption of K, AES, work function meas. 7−32818
- Si (111)-(7×7), interface formation during W deposition 7−58710
- a-Si:H thin films, ohmic and quasi-ohmic contacts 7−38729
- Sn, white, (100) surface, electronic props. 7−12772
- TiO_2(110), stoichiometric and defective surfaces, chemisorption of H_2 and CO 7−6983
- UO_2, electron emission studies using laser and conventional heating techniques 7−7810

work function continued
W (100) and (110), adsorption of H, very low electron energy refl. study 7—12488
W (110), adsorption of Eu, Gd and Tb 7—27118
W (112) face, arrangement and thermal stability of O adsorption states 7—6975
W, electron emission studies using laser and conventional heating techniques 7—7810
W surface, desorption of No atoms, resonance ionisation study 7—63966
W surface, Hg absorption, field emission microscopy studies 7—32804
W surface, work function reduction due to Cs^+ ion bombardment 7—45430
Zr cathode, material and structural changes during arc operation in N_2 7—46866
ZrN reactively sputtered films, elec. charactn. rel. to submicron gate electrode appls. 7—38777

work hardening
see also cold working
alloys, dislocation annihilation and strain hardening *(Russian)* 7—46500
anisotropic plastic hardening, FEM 7—26156
austenitic stainless steels, fatigue props., time-depend modes, dislocation concepts appl. 7—28128
BCC metals, polycrystalline, dislocation struct., strain hardening *(Russian)* 7—59545
brass, pressed component, strain distrib. 7—13530
contour integration around crack tips in elastic plastic material, mixed mode loading 7—50994
convergent bounding principle for a class of elastoplastic strain-hardening solids 7—43704
crack tip field, work-hardening, nonlinear dislocation model 7—43772
ductile solids, dynamic fracture, internal state variable description 7—26844
elastic-plastic problem soln. with increasing strain hardening of material 7—11304
FCC crystal, constrained and unconstrained deform., multiple slip 7—44657
highly deformed materials, low energy dislocation struct. 7—63614
J-crack-opening displacement relationship depend. on work hardening exponent 7—16120
local strain hardening and nonuniformity of plastic deformation 7—22751
Luders bands, phenomenological theory 7—21328
mathematical theory of materials 7—57703
metal tubes, ductile, no. of cracks in axial splitting 7—59597
metals, FCC, quantitative assessment of forest hardening 7—65055
metals, polycrystalline BCC, work hardening scheme 7—33691
metals, sheet, history depend. forming limits, hardening models 7—59542
multicomponent materials, time-depend. theory, kinematic hardening 7—57704
necking development under uniaxial tensile deform., strain hardening, geometric defects, elongation to failure 7—33742
nonlinear hardening materials, constitutive model of cyclic plasticity 7—6113
nonmetallic crystals, cumulative work-hardening and wear 7—53762
plastic asymmetric crack growth near single shear band effect of strain hardening on plastic asymmetric crack growth near single shear band 7—20654
plastic multicomponent materials, yield conditions 7—57705
plastic potential theory in large strainelastoplasticity 7—4687
polyaminobismaleimide resin, dynamic recovery and embrittlement 7—38108
polycrystalline aggregate, continuous constraints model for large strain grain deformations 7—32550
porous materials, strain hardening, compaction eqns. 7—64953
rolling of adsorption-plasticised strip, surface layer rheology influence on stressed and strained state 7—17582
shape memory alloys, mech. props., polycrystal model *(Japanese)* 7—53789
steel, Al-killed, flow behaviour after tensile prestraining and strain ageing 7—17595
steel, austenitic stainless, long term creep, transient strain induced strengthening 7—28090
steel, austenitic stainless, N-containing, thermochemically produced, wear 7—17651
steel, austenitic stainless, strain ageing and load relax. behaviour at room temp. 7—28092
steel, austenitic stainless, strain hardening in powder metallurgy alloys 7—22721
steel, austenitic stainless, strain rate sensitivity, strain hardening and yield behaviour 7—53829
steel, case hardened, struct. and contact endurance after plastic surface deform. tempering effect 7—46706
steel, dislocation struct. rel. to cyclic bending strain 7—22760
steel, dual phase, work hardening, accommodation strains in ferrite phase, finite element analysis 7—17550
steel, dual-phase, micro alloyed, mech. props. and struct., effect of process variables 7—65108
steel, low C, mech. props., effect of cold working and annealing *(Chinese)* 7—13473
steel, low C, strain ageing, internal stress, Bauschinger effect 7—39612
steel, low C, struct. rel. to deform. method *(Russian)* 7—46580
steel, low C, work hardening, softening and dislocation multiplication 7—3324
steel, maraging, hydraulically pressed, struct., texture and hardening *(Russian)* 7—3323
steel, martensitic, tempering after surface plastic deform. effect on damageability in cyclic loading 7—46705
steel, mech. props. and failure character after repeated thermomech. strengthening of surface layer 7—53994
steel, mild, cold-form-rolled, rotary bending fatigue behaviour *(Japanese)* 7—53866
steel, mild, crit. stress intensity factor, influences of grain size and precracking load 7—59607
steel, Mn, austenitic, friction induced martensitic transform., wear resist., work hardened surface layer 7—17531
steel, Mn, Hadfield, strain hardening, plastic flow 7—28055
steel, Mn, work hardening, martensite form. *(Russian)* 7—39510
steel, Ni-Cr, deform. dislocation struct., fracture 7—33740
steel, Ni-Cr, duplex phase, plastic deform. modelling 7—28084
steel, P/M, produced by hot forming, strength characts., influence of porosity, C content and compacting method 7—53823

work hardening continued
steel, stainless, cryogenic structural material, low-temp. strength under action of elec. current pulses 7—22814
steel, stainless, duplex, austenitic-ferritic, cavitation erosion 7—65149
steel, stainless, reactor pipe integrity prediction using R6 procedures 7—49542
steel, stainless, superalloy, fracture toughness, tensile props., T and ^3He effect 7—46616
stress-strain curve analysis 7—22713
superplastic flow, void growth mechanism 7—28086
tensile loaded crack, plastic zone size ahead of crack tip 7—16116
Zircalloy, mech. eqns. of state of material irrad. at 573K in deform. in working direction 7—8064
Al alloys, medium strength, formability rel. to microstruct. 7—17592
Al, explosively launched expanding ring test, computer simulation and anal. 7—33878
Al, polycrystalline, high temp. creep, strain hardening rates during primary stage 7—65104
Al, sheet, anisotropic, work hardening and limit strain assessment in biaxial stretching 7—13534
Al-Cu, directionally crystallised, crystallographic texture transform. during wear 7—17660
Al-Mg, rapidly solidified powders, effect of extrusion parameters on props. 7—39595
Al-Zn-Mg-Cu, 7475, superplasticity, constitutive eqn., evaluation of parameters 7—65085
Cd, polycrystalline, work-hardening and recovery during steady-state creep 7—63734
Co, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7—59575
Cr alloy, low alloy, strength parameters, effect of dynamic strain ageing *(Russian)* 7—46505
Cu, dislocation-mechanics-based constitutive relations for material dynamics calcs. 7—63706
Cu, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7—59575
Cu, single crysts., with different orientations, strain localisation during high temp. deform. 7—13506
Cu-Ti-Al single crysts., strain hardening due to multiple twinning *(Russian)* 7—46501
Fe, dislocation-mechanics-based constitutive relations for material dynamics calcs. 7—63706
$Fe_{45.5}Ni_{44.5}B_{10.3}$, amorphous, internal friction, thermo-EMF struct., annealing effect *(Russian)* 7—59560
Ge ⟨111⟩, dynamical recovery 7—13475
In-Sn solid solns., strain ageing kinetics investig. *(Russian)* 7—13467
Mo, cyclic deformation, dislocation substructures and hardening 7—21330
Mo, cyclic deformation 7—22719
Mo-base alloy, welded joint, strain hardening and fracture *(Russian)* 7—53877
Ni alloy, surface plastic deformation by microballs, low-cycle damage 7—17698
Ni, polycrystalline, flow stress, work hardening coeff., temp. depend., 15 to 300K 7—59575
Ni strip, drawing after annealing at various heating rates 7—28071
Ni-base superalloy, single cryst., MAR-M200, with bimodal γ' distrib., low cycle fatigue at 750 and 870°C 7—17627
Pb, superconducting transition, deform. strengthening, dislocation density *(Russian)* 7—58939
Pb-Sn solder, deform. props. 7—46590
SbSI, crysts. grown from melt, microhardness study 7—12196
SbSeI, crysts. grown from melt, microhardness study 7—12196
TiNi shape memory alloys, wear resist. and hardness, influence of heat treatment *(Korean)* 7—17647

workers *see personnel*

workstations
see also engineering workstations; microcomputers
7—28682
biomedical image, 3D and 4D, workstation for their display and analysis 7—65885
UNIX based computer workstation for spectroscopic data manipulation 7—48859
VIDARS anal. station, photogrammetric tools for panoramic sector scan imagery 7—18901

wrapping *see packaging*

Wratten filters *see optical filters*

X^0 meson resonances *see eta meson resonances*

X-ray absorption
see also X-ray absorption spectra
anomalous absorption coeff. in slightly deformed crystals 7—63397
medical radiography, absorpt. and scatt. props. of elemental filters for X-ray beams 7—23451
polymer resists, bonds, radiation effects and crosslinking 7—37907
Roentgen's X-ray absorpt. obs. in 1895, implications 7—24346
strong-absorbing single crysts., Laue X-ray diffr. thickness depend. anal. and interpretation *(Russian)* 7—44310
Fe, circularly polarised X-ray absorpt. 7—59302
N_2, soft X-ray absorpt., at. ion yield 7—949

X-ray absorption near edge structure *see XANES*

X-ray absorption spectra
see also EXAFS; XANES
amorphous semiconductors, X-ray absorpt. studies, review 7—64756
conference, San Diego, CA, USA (Aug. 1986) 7—24287
detector for fluorescent X-ray adsorption spectroscopy 7—24751
dispersive mode stopped flow X-ray absorption spectroscopy 7—61416
EXAFS in condensed matter, appl. to studies of interstellar dust 7—24185
fine structure, spherical wave corrections 7—64737
fine structure theory refinements 7—27819
gas phase X-ray absorption spectroscopy with an electron yield detector 7—62311
geological materials, X-ray absorpt. spectroscopy 7—59283
innershell spectra, multiple scatt. theory 7—64736
laccase, quantitative Cu X-ray absorpt. edge studies 7—65705
metal, soft X-ray absorpt., numerical anal. 7—17361
metal complexes, co-ordinates stoichiometry, K-absorption edge shifts and effective nucl. charge 7—5697
metals, core level X-ray spectra, deviation from asymptotic theory 7—59376
methane, oscillator strength, X-ray and VUV absorpt. spectra 7—36643

X-ray absorption spectra continued
molecules and solids, X-ray absorption spectra, near-threshold resonances 7—10613
plastocyanin, quantitative Cu X-ray absorpt. edge studies 7—65705
polyacetylene:AsF_5, identification of dopant species, X-ray absorpt. and Mossbauer spectra 7—65377
polyacetylene:SbF_5, identification of dopant species, X-ray absorpt. and Mossbauer spectra 7—65377
rare earth alloys, X-ray absorpt. L_{III} spectra, Anderson impurity model 7—64819
rare earth light, insulating cpds., core hole screening, X-ray absorpt. studies 7—64796
rare-earth core-electron spectroscopy, mixed valency versus covalency 7—45246
spectrometer, Cauchois-type, computer-controlled 7—56395
tetrafluoromethane, oscillator strength, X-ray and VUV absorpt. spectra 7—36643
tetramethyl silane, X-ray photoabsorption spectra, inner shell resonances 7—62402
tetramethylsilane, resons. in X-ray photoabsorption spectra 7—15621
ultra-soft X-ray contact microscopy, plant and animal cytology appls. 7—40388
X-ray absorpt. spectroscopy, impact on biology, applications and development, review 7—65899
X-ray and electron spectroscopy, conf., Irkutsk, USSR (Sept. 1984) 7—9574
H_2S, normal and deuterated, K-shell X-ray absorption spectra, double excitation 7—62404
Ag-Cu (14 at.%), stepped X-ray K absorpt. spectra *(Russian)* 7—39313
Ar, K suprathreshold struct., ab initio calcs. 7—36466
AsS, realger, X-ray chemical shift, K absorpt. spectra anal. 7—46239
As_2S_3, orpiment, X-ray chemical shift, K absorpt. spectra anal. 7—46239
Au, X-ray photoabsorption cross sections 7—46240
Ce cpds., many body theory for spectroscopies 7—64790
Ce cpds., X-ray absorpt. edges, many body effects, determ. 7—64789
Ce-Si(Ni)(Co), amorphous, electronic configuration of Ce 7—7191
$CoAs_3$, smaltite, X-ray chemical shift, K absorpt. spectra anal. 7—46239
$Cr(CO)_6$, electronic struct., X-ray and photoelectron spectra 7—5699
Cr_2O_3, in mullite transparent glass-ceramics, X-ray absorpt., emission and EPR spectra 7—7728
$Cs_2Ag^IAu^{III}X_6$, (X=Cl,Br), valence study by X-ray absorption spectra at Au L_3 edge 7—7791
$Cs_2Au^IAu^{III}Cl_6$, valence study by X-ray absorption spectra at Au L_3 edge 7—7791
Cu (100) with chemisorbed ethylene, C K-edge structure of chemisorbed molecules 7—27824
Cu alloy, dil., with 3d impurities, X-ray absorpt. edges *(German)* 7—46241
$Cu_{1-x}Pt_x$ disordered system, X-ray absorpt. edges *(German)* 7—46241
Dy compounds, L_{III} X-ray absorption spectra 7—39312
$Eu_{1-x}Sr_xS$ solid soln., X-ray absorpt. spectra d-f exchange interactions effects study, comp. depend. 7—3114
Fe alloy, dil., with 3d impurities, X-ray absorpt. edges *(German)* 7—46241
Fe, X-ray photoabsorption cross sections 7—46240
FeAl, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7—64826
FeAsS, arsenopyrite, X-ray chemical shift, K absorpt. spectra anal. 7—46239
$FePS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7—38450
FeRh, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7—64826
FeSi oxidised interface system, XPS, XAES and Auger parameter studies 7—7025
GaAs crystalline and amorphous, L near-edge structure, X-ray photoabsorpt. spectra 7—64766
Ge, amorphous and partially crystallised, X-ray absorpt. investig. of struct. *(German)* 7—46241
Kr, two-electron-one-photon excitations, X-ray photoabsorpt. studies 7—36527
La cpds., X-ray absorpt. edges, many body effects, determ. 7—64789
LiF crystal, X-ray spectra rel. to electronic struct. *(Russian)* 7—39319
$(Mn(H_2O)_6)^{2+}$ complexes in aqueous solutions, X-ray absorption spectra studies 7—22381
$(MnO_4)^-$complexes in aqueous solutions, X-ray absorption spectra studies 7—22381
$MnPS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7—38450
$Mo(Co)_6$, electronic struct., X-ray and photoelectron spectra 7—5699
NaF(Cl), X-ray absorption spectra fine struct. of Na^+, localised orbital calcs. 7—22379
Nd clusters isolated in solid Ar, size-dependent valence change 7—20089
Ni alloy, dil., with 3d impurities, X-ray absorpt. edges *(German)* 7—46241
Ni cpds., ionic, ground state studies, multiplet effects, near-edge XAS 7—64803
Ni, X-ray photoabsorption cross sections 7—46240
Ni, X-ray reson. Raman cross section and yield 7—46237
Ni-Cu (10 at.%), stepped X-ray K absorpt. spectra *(Russian)* 7—39313
$Ni(CO)_4$, electronic struct., X-ray and photoelectron spectra 7—5699
$NiPS_3$, layered cpd., valence and conduction bands studied by synchrotron radiation 7—38450
Pb, X-ray photoabsorption cross sections 7—46240
Pd dilute alloys, internal oxidation of impurities, XAS study 7—63633
PdCe, Ce impurity, ground state studies, multiplet effects, near-edge XAS 7—64803
Pr clusters isolated in solid Ar, size-dependent valence change 7—20089
Pt, X-ray photoabsorption cross sections 7—46240
SF_4, inner- and valence-shell excitation, X-ray and EELS study 7—57171
SbSBr, ferroelec. semicond., band struct., X-ray spectral studies 7—58739
ScCe, Ce impurity, ground state studies, multiplet effects, near-edge XAS 7—64803
Si, amorphous, pulsed laser irrad., time-resolved X-ray absorption studies 7—3115
Si, amorphous foil, time-resolved X-ray absorption during pulsed laser irradiation 7—12128
a-Si foils, pulsed laser irrad., clusters and plasmas, time resolved X-ray absorpt. meas. 7—64755
Si, laser ablation, cluster and plasma formation, time-resolved X-ray monitoring 7—37710
$SiCl_4$, resons. in X-ray photoabsorption spectra 7—15621

X-ray absorption spectra continued
SiF_4 resons. in X-ray photoabsorption spectra 7—15621
$Si_{1-x}Ge_x$:H amorphous alloys, electronic struct., soft X-ray and photoelectron spectra studies 7—27857
$SiH_4(F_4)(Cl_4)$, X-ray photoabsorption spectra, inner shell resonances 7—62402
SiO_2:transition metals, fused quartz, impurity sites, X-ray absorption spectroscopy 7—13263
Sm clusters isolated in solid Ar, size-dependent valence change 7—20089
$Sm_{1-x}Eu_xS(Se)$ solid solns., X-ray absorpt. spectra d-f exchange interactions effects study, comp. depend. 7—3114
Sn, X-ray photoabsorption cross sections 7—46240
Ta, X-ray photoabsorption cross sections 7—46240
Tb oxides, TbO_2, Tb_4O_7, Tb_2O_3, X-ray absorpt. study of 4f electrons 7—64795
$Tb_3Fe_5O_{12}$, magnetic struct., X-ray absorpt. spectra magnetic dichroism meas. 7—39315
Tl_3MS_4 (M=P,As,Ta), electronic energy struct. and bonds, X-ray spectra studies 7—45148
U, X-ray photoabsorption cross sections 7—46240
VFe protein of V nitrogenase of Azotobacter chroococcum, V K-edge X-ray absorpt. spectrum 7—54467

X-ray analysis
see also electron probe analysis; X-ray chemical analysis; X-ray crystallography; X-ray diffraction examination of materials; X-ray spectroscopy
automation of X-ray equipment *(Russian)* 7—4939
(hexamethylene-1,6-)-bisdecylurethane, polymer chain fragment model, IR spectroscopic and X-ray studies *(Russian)* 7—19864
(hexamethylene-1,6-)bisethylurethane, polymer chain fragment model, IR spectroscopic and X-ray studies *(Russian)* 7—19864
polydodecane amide films, thermal ageing in wet atmos., anal. *(Russian)* 7—7073
skeletal muscle fibres, frog, quick-freezing following electrical stimulation 7—28798
small particles, digital X-ray imaging 7—32244
spherical measuring geometry X-ray radiometric anal. 7—35645
BN samples, quantitative phase anal., elimination of texture effects 7—63771
GaAs, impurity atom site location using channelling enhanced microanalysis 7—38023
InP, impurity atom site location using channelling enhanced microanalysis 7—38023
Ni-Al-Fe system, phase equilibria in the Ni-rich region 7—39487
SnTe, low-temp. iodide method synthesis, micro-nonhomogeneity studies 7—63835

X-ray apparatus
see also biomedical equipment; X-ray crystallography apparatus; X-ray monochromators; X-ray spectrometers; X-ray tubes
amorphous multilayer X-ray reflectors, layer imperfections effects 7—25936
automation of X-ray equipment *(Russian)* 7—4939
biplane multidirectional angiocardiography with a newX-ray system 7—14111
calibration of thin film filters, for Extreme Ultraviolet Explorer Satellite, 68 to 912 Å 7—24015
calibration techniques, sources and detectors, conf., San Diego, CA, USA (Aug. 1986) 7—24286
coating thickness meas., XFT-84 microcomputer based X-ray fluorescent instrument *(Chinese)* 7—4814
computed tomography for nondestructive industrial testing 7—59719
diagnostic calibration facilities for 100 eV to 100 keV range 7—18964
diagnostics in laser plasma production 7—1781
dispersing devices, comparison, of natural crystals and multilayers 7—9929
filtered X-ray diodes for imploding plasma experiments 7—11769
Fourier transform telescope for subarcsecond imaging of solar flare x-rays and γ-rays 7—40706
framing camera for laser fusion expts. 7—20944
green light 2ω as an X-ray streak camera fiducial 7—11771
high-current pulse X-ray apparatus for dynamic radiography 7—30134
imaging, Conf., San Diego, CA, USA (Aug 1986) 7—40995
imaging system for TFTR, MHD studies 7—1786
imaging systems for TFTR 7—1785
imploding plasma expts., optical, and UV/X-ray imaging diagnostics 7—11784
interferometer for surface roughness transducers calibration 7—35649
LAMAR protoflight X-ray mirror assembly, design, fabrication and testing 7—47705
metal multilayers subject to high radiation flux, X-ray optics changes 7—30135
microfocus X-ray-units, focal spot size, stability, defect visibility *(German)* 7—13712
microscope, axisymm.. grazing incidence, figure tolerancing 7—30136
microscope, soft X-ray, undulator based, design 7—47298
microscope using multilayer optics with laser-produced plasma source 7—30138
mirror substrates, grazing incidence, precision machining/metrology facility 7—37222
mirror surfaces, roughness meas. 7—15042
mirrors and gratings for X-ray optics, theories to optimise high refl. 7—30141
monochromatic X-ray imaging, development and appl. 7—11780
multilayer coating X-ray mirrors, design, fabrication and performance 7—25935
multilayer focusing films, computing X-ray reflectance 7—30143
multilayer mirrors as X-ray filters for slit scan radiography 7—34243
multilayer optic development for plasma diagnostic and source enhancement 7—44251
multilayer soft X-ray coatings, electron beam evaporated, anal. with $Cu\text{-}K_\alpha$ radiation 7—30145
multilayer soft X-ray reflection coatings, automatic electron beam deposition 7—33571
multilayer structures, convex surfaces for soft X-ray diffr., plasma spectra appl. 7—37100
multilayer structures, soft X-ray performance, synchrotron based meas. 7—30147
multilayer structures for X-ray laser cavities 7—37001
multilayer X-ray mirror performance, coating thickness errors and boundary roughness determ. 7—30148
multilayer X-ray mirrors, fabrication, in situ monitoring system 7—37217

X-ray apparatus continued
  multilayer X-ray mirrors, resolution and reflectivity, interplane roughness influence 7−48928
  multilayer X-ray polarizers 7−30142
  multilayer X-ray reflectivity calcs., lossy transmission line theory 7−37103
  multilayered optics, collective French effort, survey 7−30139
  multilayered structures, thin-film, appl. to figured X-ray optics, conf., San Diego, CA, USA (Aug. 1985) 7−29581
  multilayered structures for soft X-ray mirrors, physical charactn. 7−37098
  multilayered X-ray rocket-borne telescope for solar corona studies 7−40700
  multilayers analyzers for absolute X-ray spectrometry, characterisation 7−30146
  multilayers for neutrons and X-rays, disorder and diffusion 7−32872
  multilayers on flexible mica, prep. and charactn. for soft X-ray optics 7−37101
  optical concentrator, theory 7−4941
  optical fiducials for X-ray streak cameras at LLE 7−11772
  radiation diagnostics for X-ray laser experiments onProto-II 7−11775
  remote controlled X-ray television system Shimavision 900 *(Japanese)* 7−18093
  Ritchey-Chretien solar telescope for 30.4 nm, aspherisation and multilayer coating 7−39388
  scanning X-ray interferometer translation stage 7−56240
  Schwartzschild objective in X-ray optics, image form. in multilayer optics, SHADOW program 7−30144
  shaped multilayer X-ray interference mirrors focusing props. 7−61417
  soft X-ray imaging with high-gain MCP detector systems 7−41564
  soft X-ray lenses for X-ray microscopy, UV-holographic lithography fabrication 7−35652
  soft X-ray optical systems, book 7−55901
  soft X-ray streak camera, absolute calibration 7−18963
  soft X-ray streak cameras, resolution characteristics 7−9931
  spectral slicing X-ray telescope systems, design and anal. 7−40701
  superconducting tunnel junction X-ray detector, nonequilib. model 7−36410
  synchrotron radiation mirror, lacquer-coated, irrad. with undulator light, surface heating 7−43307
  synchrotron radiation mirror, thermal distortion prediction with finite element analysis 7−43306
  telescope, grazing incidence relay optics for solar astronomy, performance 7−47706
  toroidal reflectors with multilayered optical coatings, figured X-ray optics, unified geom. design 7−30140
  vacuum interface to a soft X-ray synchrotron beam line 7−18967
  Wolter I X-ray telescopes, point spread function meridional section formula 7−40702
  Wolter X-ray microscope calibration 7−24750
  Wolter X-ray microscopes, single and multilayered, mirror substrate prod. 7−30137
  X-ray framing camera for laser plasma diagnostics 7−11779
  X-ray switching and shuttering techniques in laser produced plasma 7−11767
  zone plates, high-resolution, spatial-frequency multiplication 7−56394
  Ag, soft X-ray filter for plasma diagnostics 7−63353
  Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7−31424
  C-W ultrathin layered stacks, sputtering techniques, in situ ellipsometry control system 7−1292
  CdTe/a-Si:H heterojunction, X-ray image sensor fabrication 7−41557
  Ge X-ray resonators tuned to the spectral interval wavelength $CoK_{\alpha1}$ 7−24736
  Mo-Si multilayer mirror, reflectivity and stimulated emission in XUV spectra region 7−37099
  Si substrates, curved for multilayer X-ray reflective lenses 7−41566
  Si X-ray phase plate, optimisation for circular polarisation 7−24742
  SiC mirrors, soft X-ray reflection 7−41553
  TiC mirrors, soft X-ray reflection 7−41553
  W/C multilayer films for X-ray reflectors, thermal stability 7−32871
  W/C multilayers for X-ray optics, anomalous expansion 7−21782
  WC mirrors, soft X-ray reflection 7−41553
  X-ray film calibration, imaging, spectroscopy, dynamic range modification 7−9932

X-ray applications
  see also radiation therapy; radiography; X-ray lithography
  biological specimens, X-ray imaging 7−28792
  biomedical diagnostics, image intensifier, with large input aperture and high resolution *(Czech)* 7−35650
  calibration techniques, sources and detectors, conf., San Diego, CA, USA (Aug. 1986) 7−24286
  contact microscopy, biology appls. 7−35655
  dielectric constants meas. with coherent transition radiation 7−27811
  ellipsoidal reflector for laser pumping 7−41560
  focusing of soft X-rays for longitudinally pumping short wavelength lasers 7−18955
  framing camera for laser fusion expts. 7−20944
  holographic microscopy using synchrotron radiation 7−41554
  holography using local reference beam 7−20159
  imaging, Conf., San Diego, CA, USA (Aug 1986) 7−40995
  imploding plasma expts., optical, and UV/X-ray imaging diagnostics 7−11784
  interferometry and holography, soft X-ray 7−18950
  laser applications, prospects 7−24739
  layered synthetic microstructures, X-ray diagnostic for magnetic fusion device instabilities 7−37748
  microbeam method for articulatory dynamics analysis 7−3801
  microscopy, soft X-ray at national synchrotron light source 7−18951
  microscopy using laser produced plasma X-ray source 7−20909
  microscopy with synchrotron radiation 7−18949
  mirrors surface evaluation by soft X-ray scattering 7−25934
  multilayer X-ray imaging systems, assessment of imaging props. 7−41568
  multilayers for X-ray optics, review 7−1245
  partially coherent radiation, props. and appls. 7−24738
  photogrammetric techniques using high-speed cineradiography, biomechanics research appl. 7−23500
  radiography, effect of noise on edge determination 7−33893
  radiotherapy, portal film contrast rel. to beam energy 7−40273
  scanning soft X-ray microscopy at the Brookhaven lightsource 7−35653

X-ray applications continued
  scanning X-ray microscope development at the Daresbury Laboratory 7−35654
  screen-film-combinations, line spread function *(German)* 7−15044
  short wavelength coherent radiation generation and production conf. Monterey, CA, USA (March 1986) 7−18467
  skeletal maturity, fuzzy grammars for syntactic recognition from X-rays 7−34317
  soft X-ray diode array diagnostic for JET 7−1787
  soft X-ray imaging system for measurement of noncircular Tokamak plasmas 7−44252
  soft X-ray/EUV calibration facility at the University of Colorado 7−20479
  spectral slicing X-ray telescope using layered synthetic microstructure X-ray optics 7−4335
  time-resolved X-ray photography of laser imploded fusion targets 7−18960
  ultra-soft X-ray contact microscopy, plant and animal cytology appls. 7−40388
  undulators as source of coherent X-rays 7−31222
  US signals, X-ray generated, characts. and imaging appls. 7−43624
  XUV interferential mirrors and appl. to plasma radiation studies 7−25927
  GaAs, LEC growth, solid-liq. interface, meniscus shape, X-ray image processing appl. 7−17406

X-ray astronomical observations
  see also X-ray sources (astronomical)
  A0535+26, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7−55712
  A 0535+26 (HDE 245770), Astron obs. in 2-25 keV range (1986 Oct.-Nov.) 7−47979
  λ And, two-component coronal model for EXOSAT obs. 7−40800
  V1343 Aql (SS 433), Fe K X-ray line obs. 7−14594
  Aql X-1, persistent X-ray emission and bursts obs. by Einstein 7−66661
  V1343 Aquilae (SS 433), Doppler-shifted X-ray line emission 7−9493
  3C 371, N-galaxy/BL Lac object, EXOSAT obs. 7−55802
  γ Cas, X-ray spectrum, Tenma obs., white dwarf companion 7−24163
  ω Cen, globular cluster, soft X-ray obs. with EXOSAT 7−29506
  Cen A (NGC 5128), X-ray intensity and spectrum obs. from Tenma 7−55828
  YZ CMi, flare star, simultaneous X-ray and optical monitoring 7−24151
  contact binaries, EXOSAT and IUE obs. 7−60723
  RS CVn detached short-period stars, EXOSAT and IUE obs. 7−60723
  Cyg X-2, spectral variability, circumstellar structure 7−66660
  Cygnus Loop, high-resolution X-ray spectroscopic evidence of nonequilib. conditions 7−48037
  1E 0104.2+3153, identification with BAL QSO, visible and X-ray obs. anal. 7−66787
  early-type galaxies, prevalence of cooling flows from X-ray obs. 7−14664
  EXO 023432−5232.3, discovery of probable AM Her binary 7−47980
  extragalactic X-ray sources, relation between X-ray luminosity and redshift 7−14679
  Fairall 9, Seyfert 1 galaxy, simultaneous EXOSAT and IUE obs. 7−66747
  galaxies from Einstein Observatory sample, radio and X-ray props. of elliptical and S0 galaxies 7−66753
  σ Gem, X-ray spectrum of RS CVn type binary 7−60728
  GX 17+2, time-dependent spectral anal. of X-ray bursts 7−14607
  GX 1+4, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7−55712
  GX 340+0, low mass X-ray binary, quasi-periodic oscills. detect. 7−60726
  H0253+193, hard X-ray source in nearest mol. cloud (Lynds 1457), identification as probable T Tau star 7−66789
  H 0534−581, DQ Her star, identification, X-ray and visible obs. 7−60837
  1H 0542−407, DQ Her star, identification, X-ray and visible obs. 7−60837
  AM Her, periodic X-ray minima disappearance 7−66656
  RU Lup, RW Aur star, multifrequency obs. 7−47866
  M87, obs. of X-ray emission from galactic halo 7−66752
  Markarian 335, soft X-ray excess in Seyfert 1, accretion disk 7−60804
  NGC 4051, Seyfert galaxy, EXOSAT obs. of low-freq divergent X-ray variability 7−66763
  NGC 4151, broad-band study (γ-ray to IR) 7−60791
  NGC 4151, Seyfert galaxy, detect. of intense Fe line emission at 6.4 keV 7−18452
  NGC 5506, Seyfert galaxy, EXOSAT obs. of fractal X-ray time variability and spectral invariance 7−66764
  NGC 7469, Seyfert 1 galaxy, EXOSAT obs. of rapid hard X-ray variability and soft X-ray excess 7−48077
  ρ Oph dark cloud, multi-freq. obs. 7−48024
  Orion Nebula intense 6.7-keV Fe X-ray emission line detect. from high-temp. plasma 7−55780
  PHL 5200 quasar, X-ray observations of broad absorpt.-line quasar 7−60824
  PKS 0537−441, multifreq. obs. of blazar in moderately active state 7−55811
  quasars, brightness scale length of outer regions rel. to nuclei X-ray luminosities *(Russian)* 7−55826
  quasars from PG survey, X-ray spectra, X-ray to IR continuum 7−48094
  recurrent Population II X-ray transients similarities to SU UMa cataclysmic variables 7−14604
  2S 0918−549, X-ray binary obs. 7−60714
  Seyfert galaxies, brightness scale length of outer regions rel. to nuclei X-ray luminosities *(Russian)* 7−55826
  solar coronal explosions, X-ray observations during flares 7−47823
  solar energetic X-ray flares, evidence for cyclic distribs. 7−66564
  solar flare, high spectral resolution meas. of hard X-ray burst 7−66543
  solar flare loop prominence, motion of prominence matter *(Chinese)* 7−4413
  solar flares, spatial and temporal characts. of energy release from X-ray and radio imaging obs. 7−24090
  solar limb flare, 1982 January 22, X-ray imaging 7−66559
  solar three-ribbon long-decay flare, 1981 October 12,, Hα and X-ray obs. 7−55595
  solar X-ray bursts from the flare electrons, intensity rel. to mag. field strength 7−47650
  Sun, flares, delayed acceleration process, radio and X-ray obs. anal. 7−24107

X-ray astronomical observations continued
- Sun, hard X-ray bursts and coronal oscillations *(Chinese)* 7−18393
- Sun, limb flare of 1981 April 4, hard X-ray and γ-ray emissions 7−29457
- Sun, Prognoz-10 obs. 7−55378
- 4 U 162−67 X-ray pulse profile rel. to anisotropic X-ray transfer in strongly magnetised plasma 7−55727
- 4U 1700−37, X-ray flux time var. and wind characts. 7−66655
- 4U 1700−37 (HD 153919), EXOSAT search for X-ray periodicities 7−14610
- 4U 1820−30, confirmation of 685-s period from SAS-3 obs. 7−9511
- 4U 1820−30, in globular cluster NGC 6624, 685-s orbital period discovery from X-ray light curve 7−66666
- 4U 1820−30, period from X-ray obs., mass-transfer rate 7−18433
- 4 U 1820−30, X-ray burst source with 690 second period 7−4594
- 4U 2129+12, M15 X-ray source, X-ray modulation period from HEAO A-1 obs. 7−29515
- XY UMa, RS CVn star, X-ray light curve 7−47982
- Vel X-1, neutron star orbit and rot. characts. 7−66659
- Vel X-1 (4U 0900−403), X-ray probing of circumstellar matter during eclipse phase 7−55726
- Vel X-1/HD 77581 system, circumstellar matter characts. from X-ray energy spectra 7−24168
- Wolf-Rayet stars, new evidence at X-ray and gamma-ray freqs,. for non-thermal phenomena 7−55640
- Wolf-Rayet stars, X-ray emission obs. 7−55648
- X1735−444, low-mass X-ray burst source, X-ray and optical variability obs. 7−24165
- X-ray source in M15, EXOSAT obs. 7−60732
- YM 29, planetary nebula central star, search for stellar wind *(Russian)* 7−40812

X-ray astronomy
- *see also X-ray sources (astronomical)*
- ASTRO-C X-ray astronomy satellite, microprocessor-based attitude control system, development 7−55465
- British X-ray astronomy, review 7−24019
- calibration of thin film filters, for Extreme Ultraviolet Explorer Satellite, 68 to 912 Å 7−24015
- calibration techniques, sources and detectors, conf., San Diego, CA, USA (Aug. 1986) 7−24286
- CCD sensor X-ray performance enhancement 7−30149
- continuum emission from optically thin plasmas, approximation formulae for nonrelativistic average Gaunt factors 7−18349
- cosmic X-ray background, spectral characteristics and spatial fluctuations 7−66792
- Exosat, X-ray astronomy satellite, review of mission 7−55464
- Fourier transform telescope for subarcsecond imaging of solar flare X-rays and γ-rays 7−40706
- galactic H I small-scale structure and soft X-ray background 7−55769
- galactic ridge excess X-ray emission, contrib. from supernova remnants 7−24221
- galactive ridge X-ray emission, galactic nucleus explosion and hot interstellar matter effects 7−40962
- grating calibration facilities for Extreme Ultraviolet Explorer 7−24712
- imaging, Conf., San Diego, CA, USA (Aug 1986) 7−40995
- imaging, rotational aperture synthesis 7−47728
- interstellar dust, appl. of EXAFS studies 7−24185
- Itek optical technology in manufacturing and metrology 7−37227
- LAMAR protoflight X-ray mirror assembly, design, fabrication and testing 7−47705
- Mirrabooka X-ray astronomy experiment 7−4339
- multilayer optics for solar soft X-ray/XUV obs. 7−41562
- multilayer X-ray imaging systems for solar telescopes 7−41568
- multilayered X-ray rocket-borne telescope for solar corona studies 7−40700
- Ritchey-Chretien solar telescope for 30.4 nm, aspherisation and multilayer coating 7−39388
- Robus, telescope carrying platform based on Rosat experience *(German)* 7−47667
- ROSAT position sensitive proportional counter, radiation entrance window development 7−29405
- satellite instrumentation, conf., Cannes, France (December 1985) 7−24279
- soft X-ray imaging with high-gain MCP detector systems 7−41564
- solar X-ray burst stereo observations, thick-target interpretation 7−47651
- solar X-ray bursts from the flare electrons, intensity rel. to mag. field strength 7−47650
- solar X-ray spectra multi-temp. anal. methods 7−24020
- spacelab-2 experiments 7−23973
- spectral slicing X-ray telescope systems, design and anal. 7−40701
- spectral slicing X-ray telescope using layered synthetic microstructure X-ray optics 7−4335
- Sun, flare thermal phase, microwave/X-ray diagnostic 7−4420
- Sun, flares, X-ray and γ-ray time profiles, particle propag. effects 7−24106
- supernova remnants, selection effect in statistical investigations 7−24170
- telescope, grazing incidence relay optics for solar astronomy, performance 7−47706
- telescope for use in spectrometer for astronomy 7−47704
- telescope mirrors, surface scatt. meas. by triple axis spectrometer 7−37104
- Wolter I X-ray telescopes, point spread function meridional section formula 7−40702

X-ray binary stars
- *see also cataclysmic binary stars*
- 4U 0115+634, possible radiocounterpart to Cas γ-1 transient γ-ray source 7−18459
- A0535+26, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7−55712
- A0535+26/HDE 245770, X-ray/Be transient system, X-ray, UV and optical monitoring 7−55734
- A 0535+26 (HDE 245770), Astron obs. in 2-25 keV range (1986 Oct.-Nov.) 7−47979
- A 0538−66, recurrent X-ray transient, mass transfer in eccentric orbit binary system 7−14609
- AC 211, photometric and spectroscopic periods 7−29514
- AC 211, X-ray binary system in globular cluster M15, emission-line spectrum obs. 7−14596
- accretion disks, model of hydromagnetic turbulence in differentially rotating disks 7−18354

X-ray binary stars continued
- accretion from inhomogeneous medium, general case and observational consequences 7−9460
- V1343 Aql(=SS 433), stationary lines variable struct. 7−60689
- V1343 Aql (=SS 433), extended radio struct. obs. with European VLBI Network 7−29478
- V1343 Aql (ss 433), emission lines, absolute intensity variability 7−29488
- V1343 Aql (SS 433), evidence for relativistic beaming from VLBI obs. 7−9476
- V1343 Aql (SS 433), Fe K X-ray line obs. 7−14594
- V1343 Aql (SS 433), model of expanding sources in jets 7−60519
- V1343 Aql (SS 433), models 7−14590
- V1343 Aql (SS 433), no optical variability on time scale of 10^{-6} to 10 s 7−66596
- V1343 Aql (SS 433), quiescent and and active flaring periods obs. at 408 MHz 7−9478
- Aql X-1, persistent X-ray emission and bursts obs. by Einstein 7−66661
- FO Aqr (H2215−086), intermediate polar, origin of visual and IR pulsations from polarimetric obs. 7−47985
- V1343 Aquilae (SS 433), Doppler-shifted X-ray line emission obs. 7−9493
- Be-type X-ray binaries, relation to binary He stars evolution up to Ne ignition 7−4430
- biconical stellar winds, relation to biannular radio struct. of supernova remnants 7−55752
- burst sources, influence of Comptonisation on radiation spectra *(Russian)* 7−55724
- bursters, neutron star characts. 7−60725
- bursters, radiation spectrum *(Russian)* 7−40879
- bursters, supercritical winds 7−55437
- OY Car, SU UMa-type dwarf nova, IUE obs. in superoutburst 7−55689
- γ Cas, X-ray spectrum, Tenma obs., white dwarf companion 7−24163
- in ω Cen, globular cluster, soft X-ray obs. with EXOSAT 7−29506
- V822 Cen (Cen X-4), 1987 Jan. fade to pre-outburst brightness 7−66668
- V834 Cen (E 1405−451), phase-resolved spectroscopy of AM Her star 7−66675
- Cen X-4 (V822 Cen), optical behaviour of X-ray binary star 7−18411
- Cir X-1, 843-MHz obs. of assoc. extended radio nebula 7−35012
- AC Cnc, eclipsing cataclysmic binary H 0850+13 identification 7−29489
- T CrB, recurrent nova, UV obs. by IUE (1978 to 1986) 7−47941
- cyclotron line formation in a hot plasma including Compton cooling 7−60514
- CH Cyg, symbiotic star, broad-band multicolour photometry 7−47926
- Cyg X-1, time variability rel. to mag. loops timescales in accretion disk coronae 7−4431
- Cyg X-1 and related sources, model for bimodal spectral behaviour 7−9510
- Cyg X-1 primary component, linear polarization from tidal distortions 7−29508
- Cyg X-2, spectral variability, circumstellar structure 7−66660
- Cyg X-3, μ flux, possible prod. by sneutrino interactions 7−23962
- Cyg X-3, cosmic glueballinos source, discussion 7−48105
- Cyg X-3, EAS, composition anal., distribs. functions 7−14461
- Cyg X-3, evidence for free precession of neutron star from obs. of 12.59 ms γ-ray pulse period 7−66649
- Cyg X-3, H dihyperon from high energy muon obs. 7−47992
- Cyg X-3, high energy muon detection 7−14612
- Cyg X-3, obs. of very-high-energy gamma rays 7−60916
- Cyg X-3, observational props. X-ray scattering halo effects 7−47977
- Cyg X-3, Oct. 1985 RF burst and gamma-ray event, cosmic ray shower observations 7−66790
- Cyg X-3, outbursts observed at 1.3 and 3.3 mm wavelengths 7−35011
- Cygnus X-3, cygnet particle flux predictions 7−30303
- Cygnus X-3, radiation source, role of antineutrinos and photinos 7−24242
- Cygnus X-3, underground muons, new evidence from Soudan 1 7−40863
- E 2003+225, AM Her star, mass transfer and mag. field characts., spectrophotometric obs. 7−60722
- EXO 023432−5232.3, discovery of probable AM Her binary 7−47980
- galactic bulge and globular cluster X-ray sources, radio obs. 7−29511
- Geminga, hour-mass binary model and 59 s periodicity 7−55855
- GX 17+2, time-dependent spectral anal. of X-ray bursts 7−14607
- GX 1+4, hard X-ray pulse profile and period evolution from Franco-Soviet Signe satellite expts. 7−55712
- GX 339−4, compact component nature, spectral obs. 7−47974
- GX 340+0, quasi-periodic oscills. detect. 7−60726
- GX 5−1, quasi-periodic oscills. nature 7−60734
- H 0534−581, DQ Her star, identification, X-ray and visible obs. 7−60837
- 1H 0542−407, DQ Her star, identification, X-ray and visible obs. 7−60837
- HD 153919 (=4U 1700−37), massive X-ray binary star, orbital variability in stellar wind ionisation from IUE obs. 7−55737
- HD 50896, Wolf-Rayet star, variable X-ray emission obs. 7−55648
- AM Her, 1985 light curve and colour indices characts. 7−66670
- AM Her, periodic X-ray minima disappearance 7−66656
- HZ Her, WBVR photometry during X-ray active period (1982-4) 7−29509
- HZ Her (=Her X-1), UV spectroscopy rel. to line emission site 7−55736
- AM Her stars, asymmetric light curves model 7−55709
- AM Her stars, spectrophotometric detect. of secondary in three systems 7−9514
- Her X-1, 35 day cycle, clock mechanism characts. 7−60711
- Her X-1, γ-ray emission mechanism 7−47975
- Her X-1, companion-star beam steering of high-energy particles rel. to gamma-ray emission 7−14611
- Her X-1, evolutionary history, low-mass and high-mass models 7−35000
- VW Hyi, SU UMa star, outbursts recurrent behaviour 7−60688
- LMC X-3, UV obs. and V, JHK photometry 7−55715
- LMC X-3, X-ray binary containing black hole, for-UV obs. by IUE 7−55733
- ST LMi, AM Her star, B-photometry and light curve anal. 7−55717
- ST LMi, polarimetry of AM Her-type system 7−18438
- low-mass close binary stars, evolution with orbital ang. momentum losses 7−24121
- LSI +65°010 (=2S 0114+650); visible and UV spectra of X-ray binary indicating mass ejection 7−29516
- mass transfer in eccentric orbit binary systems, numerical simulations 7−14609
- in MIS, EXOSAT obs. of X-ray flux and energy spectrum 7−60732
- MXB 1730−335, X-ray burster, accretion disc behaviour and neutron star size 7−60709

X-ray binary stars continued
- nonmagnetised low-mass X-ray binary stars, X-ray spectra from accretion disk 7−60719
- GK Per, 1986 November obs. of minor outburst 7−24147
- GK Per, outburst obs. (1986 Nov.-Dec.) 7−40836
- BV Pup, dwarf nova, X-ray, UV and optical obs. 7−47922
- quasi-periodic oscillations 7−60734
- quasi-periodic oscillations power spectra, signatures of ang. position and radial vel. of boundary layer clumps 7−47986
- quasi-periodic oscillators, free precession model 7−55713
- radiation from burst source, angular distrib. and polarization 7−4506
- recurrent Population II X-ray transients similarities to SU UMa cataclysmic variables 7−14604
- 2S 0918−549, optical identification, visible photometric obs. 7−60714
- Sco X-1, lobe characts. determ., VLA obs. 7−60721
- Sco X-1, reddening and distance 7−60708
- Sco X-1, UV continuum vars. obs. 7−55735
- short-period temporal studies with IUE, appl. of pulse-phased spectroscopy technique 7−55494
- soft X-ray transients, relaxation to evolution of low-mass X-ray binaries 7−55707
- supercritical winds, Comptonisation, dynamics and obs. diagnostics 7−55438
- transient source, model involving, neutron star accretion disk 7−29513
- twisted accretion disks, density distrib. 7−34969
- two-photon emission in X-ray pulsars 7−40867
- 4U 0115+63 (=Cas γ-1), transient X-ray source, obs. of 3.6-s pulses at TeV energies 7−60838
- 4 U 162−67 X-ray pulse profile rel. to anisotropic X-ray transfer in strongly magnetised plasma 7−55727
- 4U 1636−53, persistent X-ray flux, spectral characts. 7−60712
- 4U 1700−37, X-ray flux time var. and wind characts. 7−66655
- 4U 1700−37 (HD 153919), EXOSAT search for X-ray periodicities 7−14610
- 4U 1820−30, confirmation of 685-s period from SAS-3 obs. 7−9511
- 4U 1820−30, in globular cluster NGC 6624, 685-s orbital period discovery from X-ray light curve 7−66666
- 4U 1820−30, period from X-ray obs., mass-transfer rate 7−18433
- 4 U 1820−30, X-ray burst source with 690 second period 7−4594
- 4U 1820−30 in NGC 6624, period anal. 7−9512
- 4U 1820-30, X-ray burst source, neutron star component size 7−60703
- 4U 1907+09, X-ray binary pulsar, high-resolution spectrum of peculiar optical counterpart 7−18440
- 4U 2129+12, M15 X-ray source, X-ray modulation period from HEAO A-1 obs. 7−29515
- ultra-high-energy gamma-ray emission, role of proton-photon interactions 7−47971
- ultrashort period binary stars in globular clusters, form. mechanism 7−66667
- AN UMa, AM Her star, light curve var. due to accretion flow channelling by white dwarf mag. field 7−60720
- Vel X-1, neutron star orbit and rot. characts. 7−66659
- Vel X-1 (4U 0900−403), X-ray probing of circumstellar matter during eclipse phase 7−55726
- Vel X-1/HD 77581 system, circumstellar matter characts. from X-ray energy spectra 7−24168
- QQ Vul, long-period AM Her star, period determ. using new minima from old plates 7−66672
- white dwarf star collapse in binary star systems, to form neutron stars 7−60704
- X1735−444, low-mass X-ray burst source, X-ray and optical variability obs. 7−24165
- X1735−444 (V926 Sco), optical/X-ray burster, orbital period from CCE photometry 7−9515

X-ray characteristic temperature *see Debye temperature*

X-ray chemical analysis
- *see also electron probe analysis; X-ray diffraction examination of materials; X-ray fluorescence analysis*
- aminoplastic thin standards prep. method for X-ray microanalysis 7−60142
- analytical TEM, MV, with JEOL 4000FX 7−30129
- atomic displacements detection using channelled electron induced X-ray emission 7−21311
- cellular growth structures, rapid solidification, compositional profiling 7−46453
- chalcogenide-metal contacts, interdiffusion, struct., comp., electron irrad. effects 7−21686
- Cliff-Lorimer k_{AB} factors at zero foil thickness, extrapolation method 7−39935
- coal fly ash radionuclides chemical anal. using alpha, gamma and X-ray fluorescence spectroscopy 7−23266
- coincidence counting techniques in analytical electron microscopy 7−23104
- CR-39 track detectors, impurity content, PIXE and neutron activation studies 7−36406
- crystal orientation effects in X-ray and Auger electron microanalysis 7−23109
- didymium tartrate crystals, gel grown, charactn., thermal behaviour 7−39367
- diffusion meas. by analytical electron microscopy 7−39946
- EDX analysis in a 400 keV electron microscope 7−39945
- electron probe microanal., alloy conc. determ. in energy dispersive system, ZAF factor approx. 7−28369
- electron probe microanalysis, backscatter loss calcs. 7−8342
- emission spectra, energy dispersive analysis, rapid deconvolution method based on Bayes theorem 7−17366
- energy dispersive analysis accuracy and sensitivity for light element microanalysis 7−23101
- energy-dispersive X-ray detector, mineral standards for calibration 7−23105
- energy-dispersive X-ray detector performance, contamination influence 7−23106
- EPMA correction procedure, universal, development 7−23108
- epoxide-diene polyblock networks, phase struct. var. with composition *(Russian)* 7−63522
- graphite fibre reinforced Al matrix composites, interface charactn., TEM obs. 7−44554
- HSLA steel, precip. anal., EDX and EELS 7−46495
- image acquisition using IBM-PC, SEM based energy dispersive spectroscopy 7−4942
- IN 100 superalloy, MC carbide props. rel. to transition element doping 7−13456
- incomplete charge collection and X-ray microanalysis 7−23100
- layered synthetic microstructures for long wavelength X-ray spectrometry 7−39938
- light elements, electron impact K-shell ionisation cross-sections, anal. appls. 7−25666
- lunar soil sample analysis *(Rumanian)* 7−18363
- materials examination, elastic to Compton scattering ratio determ. 7−46892
- metal-carbide composites, implantation modified, friction, surface chemistry 7−46660
- micro-tomography, using synchrotron radiation, chem. state mapping 7−54248
- multi-job, multi-user electron probe X-ray microanalyser, JXA-8600 series 7−33978
- phase diagrams, determination by analytical electron microscopy 7−37820
- PIXE, accurate anal. using INK computer program 7−54216
- PIXE, determ. of trace elements in reproduction systems of rare animals 7−54828
- plasma collector probes, surface layer analysis 7−58053
- polyacetylene:AsF$_5$, identification of dopant species, X-ray absorpt. and Mossbauer spectra 7−65377
- polyacetylene:SbF$_5$, identification of dopant species, X-ray absorpt. and Mossbauer spectra 7−65377
- polyethylene, oriented films, oxidation effects on dynamic and struct. parameters *(Russian)* 7−17823
- proton bombardment elemental analysis, reliability using air mounted sample 7−59815
- quantitative compositional mapping on an electron microprobe 7−23107
- quantitative models, ultralight elements *(French)* 7−46887
- reprocessing input analytical meas., NDA technology demonstration 7−36166
- segregation, equilibrium and nonequilibrium, to grain boundaries and dislocations 7−46488
- semiconductor structures, MeV He$^+$ microbeam analysis 7−13315
- semiconductors, scanning electron microscope characterisation, book contrib. 7−41551
- sialon ceramics, processing, Al ion redistrib., crystallisation EDX analysis 7−3237
- silicate glass, Na desorption during X-ray microanalysis 7−23114
- spectroscopy, basic principles, X-ray generation, detection and spectral analysis 7−24754
- stainless steel, 304 sensitisation developments, STEM/EDS and electrochemical potentiokinetic reactivation methods 7−54014
- stainless steel, ion irradiated, equilibrium and nonequilibrium segregation 7−46488
- stainless steel-Sb, equilibrium and nonequilibrium segregation 7−46488
- standing X-ray wave excited photoelectron emission, energy dispersion meas. 7−366
- steel, austenitic stainless, fusion reactor blanket material, oxidation and volatisation rates in air 7−53957
- steel, austenitic stainless, precipitation and B grain boundary segregation studies 7−33673
- steel, boronised, boride-substrate interface morphology 7−53984
- steel, Ca, inclusion globularising, Ba additions effect 7−21193
- steel, characteristic radiation emission mean values, X-ray spectrometric material anal. *(Czech)* 7−8328
- steel, Cr-Mo, friction pair, surface layer structural modifications *(Russian)* 7−39678
- steel, Cr-Mo, high C, bonded carbide, secondary temper hardening, microstruct. 7−17542
- steel, ferritic, energy-dispersive X-ray analysis, contamination influence on P meas. in presence of Mo 7−23106
- steel, mild, corrosion in sea water, calcareous deposits form. 7−3485
- steel, stainless, ferritic-martensitic, high-Cr, fast reactor irrad., phosphide phases 7−22700
- steel, stainless, Type 316, microstruct. exam. around weldments 7−22697
- steel, structural, STEM-EDS X-ray microanalysis of grain boundary segregation 7−22702
- TEM, precip. growth at atomic level 7−46491
- TEM light element analysis using windowless X-ray detectors 7−23099
- ternary intermetallic compounds, single crystal, Czochralski growth, charactn. 7−53557
- thick sample PIXE anal., on-demand beam pulsing system 7−56374
- thin films composition determ., using TESLA BS 613 TEM with SiLi detector *(Czech)* 7−65371
- transition metal nitrides and carbides, hard wear-resistant coatings, microstructural and microchemical characterisation 7−52328
- uterine myoma, human, quantitative PIXE anal. 7−23497
- Waspaloy, γ-γ′ partitioning behaviour, energy dispersive spectrometry 7−17534
- XANES, elemental and chemical-state imaging using synchrotron radiation 7−46882
- Al-Mg (6.5 wt.%), grain boundary segregation, STEM-EDX analysis 7−39518
- Al-Mn, rapidly solidified, decagonal phase morphology 7−39499
- Al-Pd, rapidly solidified, decagonal phase morphology 7−39499
- Al-Ti-Gd, rapidly solidified ribbons, aged, ternary phase precipitate identification 7−3311
- Al-Zn (1.95 wt.%), X-ray microanal. in medium voltage electron microscope, radiation effects 7−46902
- Au-Ag-Cu-Pd, cast microstruct, segregation, TEM obs. 7−39495
- BN, wurtzitic compacts, sintered, particle size distrib., hardness, phase comp. 7−59603
- $Bi_{12}GeO_{20}$ Czochralski-grown crysts., comp. anal., holographic storage props., stoichiometry depend. 7−63837
- $CaPO_3$ crystal formation in tissues, SEM studies 7−28445
- $Cd_xHg_{1-x}Te$ heterostructures, MOVPE, computer controlled reactor, charactn. 7−59446
- Co-Al (10.9 at.%), cellular prep. from supersaturated solid soln. *(Russian)* 7−65045
- Cu electrodeposits, decorated grain boundary dislocations, electron microscopy obs. 7−27185
- Cu tubes, pitting pot. in hot water, oxidising agents effect 7−28207
- Cu-Su, amorphous system, high press. melt quenching, microhardness, X-ray obs. *(Russian)* 7−44396
- F, diffusion in SiO_2, consts. and profiles meas. 7−58540
- Fe-Au, solute segregation, grain boundary structural transform. 7−22687

X-ray chemical analysis continued
Fe-Cr-Al-Ce, microstruct., high temp. corrosion rel. to Ce additions 7−13648
Fe-Ni-B, amorphous, shock loading, inclusions dissolving, domain struct. *(Russian)* 7−63487
Fe-Pd-S system, phase equilib. 7−3272
GaAlAs-GaAs MQW structure, compositional fluctuations, STEM/EDX microanal. 7−45077
GaAs, LEC grown, obs. of Ga precipitates 7−32663
HoFeO$_3$ crystals, flux growth, secondary phase and microdiscs form. 7−13344
In$_x$Ga$_{1-x}$As, atomic displacements detection using channelled electron induced X-ray emission 7−21311
In$_2$O$_3$:Sn vapour deposited films, growth, struct., electronic props. 7−12535
KP$_x$ thin films, composition and thickness determ. 7−21785
Mn-Cu single crystals, Debye-Waller coeff. behaviour, energy dispersive X-ray diffr. study *(Russian)* 7−51983
MnCO$_3$, decomp. to Mn$_3$O$_4$, kinetic evol. for laser/thermal prep. 7−39870
Mo electrodes, porous, role of O in alkali metal thermoelec. convertor 7−13925
MoS$_2$ coatings, thickness meas., nondestructive methods performance 7−18751
Na$_2$O-B$_2$O$_3$-SiO$_2$ glass ceramic, prep., SiO$_2$ replacement, phase separation, struct. 7−13428
Na$_2$O-B$_2$O$_3$-SiO$_2$ glass, Na desorption during X-ray microanalysis 7−23114
Nb alloys, borosilicide coatings, X-ray obs. *(Russian)* 7−45066
Ni-Al-Cr, melt spun ribbons, microstruct., mech. props., Cr conc. effect 7−28031
Ni-B, precipitation and B grain boundary segregation studies 7−33673
Ni-base superalloys, electron-probe X-ray microanalysis, accuracy evaluation without standard materials 7−33979
Ni-Co-Cr-Al-Y coatings, electron beam deposition, oxidation rel. to pretreatment 7−46702
NiGeAuAgAu alloyed ohmic contacts to AlInAs-GaInAs heterostruct., charact. 7−22016
PbSe:Cd, crystal growth and impurity distrib., electron probe X-ray microanal. studies 7−63639
Si-Si interfaces, MBE grown, sputter cleaned, microstructure, electron microscopy obs. 7−12512
SiC fibre reinforced Al composite wires, neutron irrad., mech. props., fusion reactor appl. 7−49628
SiC particle reinforced Al-Cu-Mg composite, failure mechanism, SEM obs. 7−65132
SiO$_2$-Al$_2$O$_3$, mullite form. from xerogels, X-ray and IR obs. 7−46391
Sn-Te-I system, X-ray spectral microanalysis 7−54210
Ta/W diffusion couples, analytical electron microscopy 7−39946
Ti-Ni (51 at.%), aged shape memory alloy, precip. morphology, comp., cryst. struct. 7−28049
TiN films on tool steel, plasma-assisted CVD deposited, interfacial composition 7−52303
U/Nb diffusion couples, analytical electron microscopy 7−39946
W selective low press. CVD growth on Ti, TiSi$_2$ and PtNiSi, surface reactions, struct. 7−27183
WO$_3$, carburized, surface composition at catalytic activity 7−21594
Zn$_{0.25}$Cd$_{0.75}$Se mixed crysts., electron and hole deep level traps 7−16980
ZrO$_2$, Y$_2$O$_3$ stabilised powder, spray pyrolysis, sintering, microstruct., fracture toughness 7−27983

X-ray crystallography
For results of structure analysis see crystal atomic structure
see also X-ray crystallography apparatus; X-ray crystallography calculation methods; X-ray crystallography technique
absorption-induced nodal plane shifts of X-ray stationary waves, angular depend. 7−32196
amorphous inorganic compounds large angle X-ray scatt., cryst. struct. data anal. 7−63476
anomalous absorption coeff. in slightly deformed crystals 7−63397
asymmetrically cut crystal, diffr. pattern near the Bragg angle 7−32217
Bloch waves, scatt. in slightly-distorted crystal *(Russian)* 7−58093
Borrmann pyramid for four-beam X-ray transmission 7−11835
Borrmann-Lehmann interference patterns, synchrotron radiation obs. 7−32209
coherent X-ray diffraction, quantum model; 7−26588
conference, Kharagpur, India (Dec. 1982) 7−55876
crystal plate, diffr. of spherical X-ray waves *(Russian)* 7−37804
crystals with equidistantly-curved reflecting surfaces, scatt. of plane X-ray with three wave diffr. *(Russian)* 7−51560
curved crystallites, layer shift, diffr. intensities 7−32202
Daresbury Laboratory Synchrotron Radiation Source, selected activities 7−35651
defect location, dynamic effects in diffuse scatt. *(Russian)* 7−37803
diffraction intensities from cylindrically curved crystallites with layer disorders 7−1810
diffraction of an X-ray beam at grazing incidence *(French)* 7−11832
diffusion scattering in presence of dynamic diffr. effects *(Russian)* 7−51562
dual crystal interferometer, spherical X-ray diffraction 7−63396
dynamical diffraction, effects of apertures 7−44301
element complex X-ray atomic scatt. factors, X-ray interferometry studies 7−32208
extremely skew X-ray diffraction 7−32201
fields and intensities near three-beam diffr. point, modified three-beam description 7−32199
fluorescence accompanying X-ray diffraction in the grazing incidence Bragg-Laue Geometry 7−53403
highly asymmetric Bragg diffr., coherent Compton effect 7−46233
ion implanted layers, anal. by X-ray diffraction *(Chinese)* 7−51801
multibeam X-ray diffr., scattering perturbation theory anal. 7−32200
organic solid state chemistry and X-ray crystallography 7−58098
oscillation camera data processing, synchrotron radiation data in macromolecular crystallography 7−18098
perfect crystals, X-ray spherical wave dynamical diffraction 7−32197
quasicrystal slab, anomalous X-ray transmission calcs. 7−51564
quasilattice mistakes, effect on X-ray diffr. intensity 7−32205
Renninger interaction of strong primary reflection with weak beams, first-order asymmetry 7−11833
scattering in crystals with distortions of second class, basic eqns. of dynamic theory *(Russian)* 7−32204

X-ray crystallography continued
single crystal diffr. data evaluation from 2D PSDs workshop, Grenoble, France (Nov. 1985) 7−9581
single crystals, defective structs., appl. of thickness dependencies for integrated intensities of X-ray scatt. *(Russian)* 7−51561
single crystals containing random distrib. of dislocations, integral characts. of X-ray diffr. *(Russian)* 7−51563
six-beam X-ray spherical wave diffr., intensity distrib. 7−32198
strong-absorbing single crysts., Laue X-ray diffr. thickness depend. anal. and interpretation *(Russian)* 7−44310
surface evanescent X-ray diffraction during total external reflection, struct. studies 7−26590
Umweganregung patterns measured on automatic single-crystal diffractometer 7−11834
vibrating crystal, X-ray diffr. pattern, form of reflection *(Russian)* 7−51699

X-ray crystallography apparatus
see also goniometers; X-ray diffractometers; X-ray monochromators
adjustable goniometer mount for the spark-planing of metal single crystals 7−32220
Buerger precession camera, charactn. of thin films, epitaxial layers, superlattices 7−58099
diamond anvils, sintered, ultrahigh pressure generation, X-ray diffraction calibration 7−18799
film, analysis using a Seeman-Bohlin X-ray diffr. attachment 7−21046
goniometer head attachments for cryst. characterisation in Weissenberg or precession geometry 7−16357
Guinier high temp. camera conversion to low temp. device 7−15041
integrated reflectivity calibration, using uncollimated, point X-ray source 7−26591
lysozyme crystals, X-ray diffr. data collection and processing, high press. study 7−3944
multi-crystal X-ray spectrometer, source of spurious peaks 7−41556
multiwire coordinate detectors, uses in molecular biology and crystallography 7−47297
N-crystal spectrometer 7−51566
parallel electrode position sensitive detector system for high counting rates 7−47295
protein crystallography, static and time-resolved, real-time reduction of area detector data by hardware 7−14170
protein crystallography with synchrotron X-radiation source, electronic area detector data reduction system 7−14167
quartz crystal resonator blanks, X-ray machine 7−37806
real time digital display with adjustable persistencetime for 2-D detectors, appl. in X-ray crystallography 7−11849
Siemens texture goniometer, modified with microcomputer controlled stepping motors 7−44306
small-angle X-ray camera using a 2D multiwire proportional chamber 7−51570
spectrometer, Cauchois-type, computer-controlled 7−56395
thin film X-ray anal. using Read camera 7−58103
time resolved expts., multi-wire detector and data acquisition system, appl. to muscle 7−14169
X-ray diffraction, real time studies, Vidicon system 7−11839
X-ray guide tube, conical-type, for diffr. expts. with small crystals 7−32215

X-ray crystallography calculation methods
2H-crystal, containing defects of I$_2$-type subtraction packing, X-ray diffr. *(Russian)* 7−58094
alloys, amorphous, partial pair distribution function determ. 7−51640
atomic struct. refinement, algorithm and program for Borrmann effect 7−21045
automatic Fourier, Patterson and superposition methods 7−32219
Bragg's law, correction techniques 7−32206
calculated X-ray diffraction powder patterns 7−11837
coherent and diffusion components of diff. intensity, triple axis technique appl. *(Russian)* 7−58100
crystals with microdefects, dynamic theory of diffuse X-ray scatt. *(Russian)* 7−51567
detector misalignment correction in four-circle diffractometer 7−1813
direct methods of crystal struct. determ., anomalous dispersion 7−11836
dispersion corrections, angular depend. 7−58097
film specimens, X-ray diffr. spectra, processing methods 7−44308
forbidden reflections, sign of struct. factor determ. 7−58102
intensity statistics, non-ideal distributions 7−58185
intensity statistics, significance of residuals 7−58186
intensity statistics, symmetry and ideal distributions 7−58184
interplanar distances, meas. error due to nonuniform lattice deformation 7−16351
inverse problem of X-ray diffr. in thin single crystals, uniqueness of soln. 7−51565
Laue indexing, orientation matrix approach 7−16346
macromolecular structure refinement programs, PROTIN and PROLSQ, addition of symmetry-related contact restraints 7−51572
multilayers and superlattices, X-ray diffr., recursion formulae 7−32212
phase anal., calibration-free, Monte Carlo error simulation 7−1812
pole figures, computer plotting 7−26589
polystyrene solutions, slit-length-smeared SAXS curves evaluation using indirect Fourier transformation routines 7−51571
profile analysis, of single cryst. X-ray diffr. data 7−11838
protein structure, restrained least-squares refinement, incorporation of fast Fourier transforms 7−54451
protein structure refinements, model-fitting procedure incorporating the double-null technique 7−54450
small angle scatt. intensities, slit distorted, anal. without desmearing 7−1814
stacking faults, X-ray diffr. contrast images, computer simulation developments 7−1809
stress meas., accuracy of X-ray diffr. method 7−16353
truncation in diffr. pattern analysis, line profile concept 7−32203
whole-powder-pattern fitting without reference to a structural model 7−32214
X-ray diffr. method 7−16353
X-ray oscillation patterns processing using the Nord-100 computer 7−16359

X-ray crystallography technique
amorphous layer on crystalline substrate, thickness meas. using X-ray diffr. 7−44304
anomalous X-ray scattering, for structural characterisation of disordered materials 7−1817

X-ray crystallography technique continued
Bragg's law, correction techniques 7−32206
Bragg X-ray reflections, zero-wavelength-dispersion profile measurement 7−32207
deformation field around dislocation cluster, X-ray interferometry image *(Russian)* 7−51575
divergent X-ray beam technique in a scanning electron microscope 7−63400
double crystal X-ray diffraction, characterisation of recoiling O_2 in Si 7−51807
energy-dispersive X-ray diffractometry, primary beam energy spectrum meas. 7−16358
environmental effects in nanometer-range precision meas. *(Japanese)* 7−48689
epitaxial structures, X-ray diffr. analysis 7−21047
goniometer head attachments for cryst. characterisation in Weissenberg or precession geometry 7−16357
heteroepitaxial structures, lattice parameter difference meas. using extremely asymmetrical Bragg diffr. 7−51569
heterostructure lattice mismatch determ. by X-ray diffr. in SEM 7−6482
high speed X-ray double crystal rocking curve analysis, epitaxial layers 7−51578
III-V semiconductors, X-ray topography and diffr. imaging 7−32224
integrated reflectivity calibration, using uncollimated, point X-ray source 7−26591
Laue-Laue interferometry 7−11831
lysozyme crystals, X-ray diffr. data collection and processing, high press. study 7−3944
mineral powder mixtures, X-ray diffr. anal. by heavy ion bombardment 7−32223
multilayer films, structural depth profiling by glancing angle X-ray diffraction 7−26593
orientation determination in small vols. using synchrotron radiation 7−44309
oscillation photographs interpretation, crystal setting matrix determ. 7−32218
phase determination using multiple-beam effects 7−32210
protein crystallography with synchrotron X-radiation source, electronic area detector data reduction system 7−14167
rocking curves, rel. to strain profiles in semiconductor materials, review 7−51577
semiconductors, lattice defect struct. anal. by X-ray diffr. using synchrotron radiation *(Japanese)* 7−63399
soft X-ray calibration of diffracting materials 7−26514
standing wave along diffraction vector, method for crystal structure study 7−58104
structure factor phase determ. by multiple Bragg diffr. 7−32211
structure-amplitude phases, experimental determination 7−1816
submicrometer layer heterostructures, X-ray crystallographic techniques 7−6481
surface anal. methods *(Japanese)* 7−63921
surface layer structure amplitudes, almost intrinsic integral diffraction curves 7−44307
texture analysis by simultaneous meas. of several X-ray pole figures 7−32216
thermoelec. device construction for temp. controlled X-ray single cryst. diffractometry 7−14935
thin crystal with anisotropic distortion of cryst. lattice, X-ray beam Laue diffr. *(Russian)* 7−58101
thin films, structural, mech., and comp. props., charactn. and meas. 7−38378
X-ray topographic studies in the Peoples' Republic of China 7−26594
X-ray total external reflection, surface studies, review 7−16360
GaSe single crystal, surface bending, radius of curvature determ., Berg-Barret method *(Russian)* 7−38305

X-ray detection and measurement
see also X-ray spectrometers
adaptive multichannel systems in X-ray flaw detection 7−39817
Alcator C, high energy X-ray meas. during lower hybrid current drive 7−32082
astronomical instrumentation, conf., Cannes, France (December 1985) 7−24279
background suppression in a gas scintillation proportional counter for exotic X-rays 7−42308
Bragg rotor spectrometer for tokamak diagnostics 7−10352
calibration of soft X-ray sources and instruments, 1986 status 7−25322
calibration techniques, sources and detectors, conf., San Diego, CA, USA (Aug. 1986) 7−24286
CCD sensor X-ray performance enhancement, X-ray astronomy appl. 7−30149
coincidence counting techniques in analytical electron microscopy 7−23104
CT, X-ray flux meas., minimising photomemory effects 7−56392
detector for fluorescent X-ray adsorption spectroscopy 7−24751
diagnostic calibration facilities for 100 eV to 100 keV range 7−18964
dielectric constants meas. with coherent transition radiation 7−27811
dosimeter energy dependence 7−30713
dosimetry, clarification of the AAPM Task Group 21 protocol 7−40305
energy measurement 7−60083
energy-dispersive X-ray detector, mineral standards for calibration 7−23105
energy-dispersive X-ray detector performance, contamination influence 7−23106
filtered X-ray diodes for imploding plasma experiments 7−11769
fluorescence detection systems for EXAFS meas. 7−61415
fluorescence EXAFS meas. from 2 to 25 keV using Si photodiode array detector 7−61413
Fourier transform telescope for subarcsecond imaging of solar flare x-rays and γ-rays 7−40706
grazing incidence spectrometer with multielement spectral detector, absolute calibration from 20 to 430 Å 7−25301
image sensors based on optical time-delay-and-integration CCD imager 7−24753
ionisation chamber angular response compensation 7−42279
JET soft X-ray diode array diagnostic 7−25164
large area 200 ps gated microchannel plate detector for plasma diagnostics 7−6464
linear combination of spectral responses of n detectors determ. 7−35499
linear detector for time-resolved EXAFS in dispersive mode 7−61412

X-ray detection and measurement continued
Los Alamos X-ray characterization facilities for plasma diagnostics 7−20938
microchannel plate X-ray detectors, dark noise sources 7−62218
mirrors surface evaluation by soft X-ray scattering 7−25934
multichannel X-ray detector design 7−41555
multilayer composite material for X-, γ- and β-ray detector windows 7−5570
multilayered X-ray rocket-borne telescope for solar corona studies 7−40700
multisectional wire chamber for pulsed X-ray and VUV studies 7−30855
multiwire position sensitive proportional chamber *(Rumanian)* 7−15457
parallel electrode position sensitive detector system for high counting rates 7−47295
photoconductor X/γ-ray detectors and X-raybolometers 7−10361
photodiode arrays, position sensitive detector for synchrotron X-ray radiation 7−42337
photographic films, high-energy X-ray response, models and meas. 7−24737
proportional chambers, X-ray position detection, 6 μm position resolution 7−42288
pulsed soft X-ray source for laser-plasma diagnosticcalibrations 7−11766
radiation diagnostics for X-ray laser experiments onProto-II 7−11775
rapid collection of X-ray powder data for pattern analysis by a cylindrical position-sensitive detector 7−32213
remote detection, coupling between plastic scintillators and light fibres 7−25320
Ritchey-Chretien solar telescope for 30.4 nm, asphérisation and multilayer coating 7−39388
ROSAT position sensitive proportional counter, radiation entrance window development 7−29405
soft X-ray average recombination coeff., average charge for metallic impurities 7−11761
soft X-ray imaging with high-gain MCP detector systems 7−41564
soft X-ray/EUV calibration facility at the University of Colorado 7−20479
solid-state image sensors and their appls., conf., Cannes, France (Nov. 1985) 7−24288
spectral slicing X-ray telescope systems, design and anal. 7−40701
spectroscopy, basic principles, X-ray generation, detection and spectral analysis 7−24754
spherical measuring geometry X-ray radiometric anal. 7−35645
superconducting tunnel junction X-ray detector, nonequilib. model 7−36410
superhard photon detector using aligned single crystals 7−823
synchrotron radiation beam lines as X-ray calibration sources 7−18965
TEM light element analysis using windowless X-ray detectors 7−23099
thin film multilayered optics, point spread function meridional section formula 7−40702
time-resolved X-ray photography of laser imploded fusion targets 7−18960
tissue equivalent radiochromic waveguide dosimeters for X, γ and fast neutron meas. 7−34279
variable pressure ion chamber for relative and absolute flux measurement 7−24748
vertical high-resolution Bragg X-ray spectrometer for thetokamak fusion test reactor 7−10281
VUV-soft X-ray beamline for spectroscopy and calibration 7−18966
windowless position-sensitive X-ray detector for aRowland circle crystal spectrometer 7−11764
wire chamber advances for Mossbauer spectroscopy expts. 7−36384
Wolter I X-ray telescopes, point spread function meridional section formula 7−40702
XUV radiometric standards at NBS 7−18860
GaAs, neutron-damaged, photoconducting flat response detectors from UV to X-ray region 7−5563
α-HgI_2 crystals, recent progress in material characterization for X- and γ-ray detectors 7−44577
HgI_2 detector, electrical characteristics 7−49838
HgI_2 solution-grown crystals, X-ray and γ-ray irrad. effect on elec. props., radiation detector performance 7−58838
InP:Fe, photoconducting flat response detectors from UV to X-ray region 7−5563
InP:Fe photoconductive detectors for VUV and soft X-ray regions 7−30084
$LiTaO_3$, pyroelectric X-ray detectors and X-ray pyrometers 7−10360
a-Si based integrated type X-ray sensor *(Japanese)* 7−15456
Si PIN diode X-ray detector, pulse calibration technique *(Chinese)* 7−5534
Si photodiodes, use for dose depth distrib. meas. in oncology 7−60092
$Sn/SnO_x/Sn$ superconducting tunneling junctions as high-resolution X-ray detectors 7−56908

X-ray diffraction
see also X-ray crystallography; X-ray diffraction examination of materials; X-ray diffractometers; X-ray scattering
Bragg optics 7−21043
Fourier images, formation 7−18953
lamellar transmission gratings in soft X-ray region, behaviour 7−20402
layered synthetic microstructures for long wavelength X-ray spectrometry 7−379
multilayer mirrors for short-wavelength optics, stability 7−18952
multilayer structures, convex surfaces for soft X-ray diffr., plasma spectra appl. 7−37100
multilayers for neutrons and X-rays, disorder and diffusion 7−32872
multilayers on flexible mica, prep. and charactn. for soft X-ray optics 7−37101
parametric X-ray channelling radiation spectral and ang. distribs. with extreme asymm. diffr. 7−44637
photoelectron energy analysis in semiconductors 7−32221
spectrometer, 2D imaging, using microchannel plate collimator 7−48927
spherical wave diffr. on wedge-shaped gap of bicryst. interferometer, interference effects calcs. 7−63398
superlattices, diffraction and channelling of photons and neutrons 7−6480
synchrotron X-ray fluorescence, diffraction interference 7−17830

X-ray diffraction examination of liquids
see also liquid structure
4-4′-alkoxybenzoyloxy-4′-cyanoazobenzenes, monolayer smectic A_1-nematic transition, dielec. studies 7−21085
bis(1,3-di(p-n-alkoxyphenyl) propane-1-3-dionato) copper (II), discotic liq. cryst. props. 7−37846

X-ray diffraction examination of liquids continued
4′-butoxyphenylester 4-decyloxybenzoic acid, smectic-C phase liq. cryst., zigzag model, X-ray study 7—32646
t-butyl alcohol-H_2O mixtures, X-ray scatt., Kirkwood-Buff parameters 7—44337
caesium pentadecafluorooctanoate-water discoid micelle solns., order-disorder transitions, X-ray scatt., elec. cond., NMR meas. 7—26949
comb-like liquid crystalline polymers, highly ordered smectic mesophase, X-ray obs. 7—6507
4- cyanobiphenyl and 4-cyanophenyl benzoate derivatives, thermotropic liquid crystalline props. 7—26629
cybotactic nematics, structural features 7—16403
diacetylenic liquid crystal polymers, derivatives of 10,12-docosadiyne-1,22-dioic acid 7—1868
diblock copolymers under steady flow, nonequilib. struct., neutron and X-ray scatt. 7—20763
dilute solutions, randomly broken chains, small angle neutron, X-ray and light scatt. data 7—10788
discotic liquid crystals, freely suspended strands, synchrotron X-ray scattering studies 7—1850
enzymes, oligomeric, aqueous solutions, small-angle X-ray scattering 7—17939
ethyl bromide, liq., Br interaction, X-ray scatt. investig. 7—21069
fluids possessing yield stress, cavern sizes and mixing performance, X-ray-heavy metal tracer method 7—11565
immiscible melts, separation under reduced gravity *(German)* 7—22972
induced smectic phases, role of ratio of mol. lengths in binary mixtures 7—11897
lead (II) carboxylates, thermotropic phase transitions, DSC meas. 7—21441
lipid-water systems, X-ray diffr. meas. of phase transitions 7—26951
mercury carboxylates, thermotropic phase transition temps. and heats of phase changes 7—2155
metals, dielectric function, neutron and X-ray scatt. methods 7—52481
metals, liq., X-ray scatt. due to cond. electrons 7—63440
multilayer fluid membrane system in the lyotropic phase of quaternary microemulsion system, steric interactions 7—34116
4-nonyloxyphenyl-4′-nitrobenzoyloxybenzoate, DB_9ONO_2, multiply reentrant polar mesogen, X-ray scatt. study 7—6505
phospholipid mesophases, X-ray small angle analysis 7—16402
phthalocyanine derivatives, columnar mesophases, optical microscopy, X-ray diffr. obs. 7—1860
polyelectrolyte solns., small-angle scatt. 7—44338
polyelectrolyte solutions, small angle X-ray scatt. 7—11886
polymer liquid crystals, synthesis, characterisation and applications 7—17508
polymeric liquid crystals, side chain, X-ray diffraction 7—1846
polymethacrylic acid, salt-free solns., chain dimensions, small-angle scatt. 7—11885
polymethacrylic acid, solns., hydration and conform. obs. 7—5802
polysiloxanes, cyano substituted side chain liq. cryst. polymers, X-ray diffr. study 7—1869
polystyrene in methyl ethyl ketone, SAXS, particle scatt. factor of model branched star 7—6498
polystyrene solutions, slit-length-smeared SAXS curves evaluation using indirect Fourier transformation routines 7—51571
propane, liq., X-ray diffr. study near triple and boiling points 7—26611
n-propyl-4′-n-decyloxybiphenyl-4-carboxylate-n-butyl-4′-n-decyloxybiphenyl-4-carboxylate, smectic-A-hexatic-B-smectic-I point, existence and nature 7—2198
reactive dyes, water soluble, lyotropic liq. cryst. mesophases and solid physical form 7—32276
smectic A-smectic A transitions, density dielec. and X-ray studies 7—2196
smectic mixtures of A_1 and A_d phases, nematic gap obs. 7—6792
sodium polystyrene sulphonate, aq. solns., small-angle X-ray scatt., mol. wt. effects 7—16391
surface obs., reflectivity and scattering studies of liquid-vapour interface 7—18969
terminal nonpolar cpd. binary systems, reentrant nematic phases, phase diagrams, X-ray diffr. 7—21442
thermotropic biaxial nematic study *(French)* 7—32270
Ag-Ge liq. eutectic alloys, elec. resist. and struct., 600 to 900 K *(German)* 7—45334
AgTlTe, molten, struct. factors and radial distrib. functions, X-ray diffr. meas. 7—26617
Al, liquid, struct., X-ray., 800-1600°C *(Russian)* 7—58128
$BeCl_2$, aq. soln., mol. dynamics, X-ray diffr. study 7—21075
Fe-B liq. alloys, interference functions, X-ray diffr. study and cluster calcs. 7—26656
Fe-C hypoeutectic melt struct., temp. and holding time depend., X-ray studies *(Russian)* 7—16396
Ge-Te liq. eutectic alloys, elec. resist. and struct., 600 to 900 K *(German)* 7—45334
$GeCl_4$, liq. struct., X-ray diffr. obs. *(German)* 7—58118
$GeCl_4$, liq. struct., X-ray diffr. investig. *(German)* 7—58119
^4He, superfluid and liq., structure factor, pair correl. function, X-ray scatt. intensity meas. 7—44937
MoO_4^{2-} in aq. soln. struct., X-ray scatt. meas. 7—39883
$SiCl_4$, liq. struct., X-ray diffr. obs. *(German)* 7—58118
$SiCl_4$, liq. struct., X-ray diffr. investig. *(German)* 7—58119
Sn-Sb melts, short-range order 7—63438
$SnCl_4$, liq. struct., X-ray diffr. obs. *(German)* 7—58118
$SnCl_4$, liq. struct., X-ray diffr. investig. *(German)* 7—58119
WO_4^{2-}, in aq. soln. struct., X-ray scatt. meas. 7—39883

X-ray diffraction examination of materials
for results of crystal structural analysis see crystal atomic structure
see also X-ray chemical analysis; X-ray diffraction examination of liquids; X-ray diffraction examination of molecular structure
p-acetoxybenzoic acid, tetramer, topotactic transitions 7—12264
alkali cellulose, composition, reacting struct. fractions concept 7—11959
alkali metal layered Mo bronzes, $(A^+(H_2O)_n)_xMoO_3^{x-}$, (A=Li, Na, K, Rb, Cs), composition and struct. 7—16518
alkaline earth orthovanadates, stoichiometry, stripping voltammetry studies 7—63836
alkylbenzenesulphonates microdisperse organosols, struct., small-angle X-ray diffr. investig. 7—39925
alkylsalicylates microdisperse organosols, struct., small-angle X-ray diffr. investig. 7—39925
alloys, structurally superplastic flow, texture, neutron and X-ray obs. 7—46589

X-ray diffraction examination of materials continued
ammonium hexafluorometallates, phase transitions 7—6787
amorphous materials, features and rel. between methods of X-ray diffr. *(Japanese)* 7—21119
aniline, substituted, polymerisation and characterisation 7—33929
apatite ceramics, with microstruct. controlled by Y^{3+} substitution, elec. props. 7—21523
arachidic acid Langmuir-Blodgett multilayers, profile structs., X-ray diffr. studies 7—21630
$Au_x(TeO_2)_{1-x}$ thin films, nanosecond laser annealing, Au cluster redistrib., growth and coalescence 7—12145
β-$(BEDT\text{-}TTF)_2(I_3)_{1-x}(AuI_2)_x$, thermal expansion and stepwise superconducting transition 7—27469
beryl, high press. cryst. struct. and compressibilities 7—16505
bimetallic film couples, interfacial phase form., in situ annealing X-ray diffr. obs. 7—21705
binary alloys, crystal-amorphous transformation, thermodynamics and kinetics 7—21108
N,N′-bis(4-n-octyloxybenzal)-1,4-phenylenediamine, condis crystal props. 7—37909
bis(ethylenedithio)tetrathiafulvalene, low-temp. phases, X-ray diffr., resistivity and thermopower meas. 7—37962
bis-methylammonium zinc tetrachloride, lock-in transition, X-ray topography studies 7—32630
bronzes, structs., sliding motion of CDW 7—64129
p-butyl-p′-cyanocyclohexyl-cyclohexane, smectic liq. cryst., phase struct., X-ray diffr. 7—21087
cadmium dithiocarbamide dichloride, intermediate cpd. in formation of CdS films by spray pyrolysis, characterisation 7—39372
calcium oxalate, crystallization processes using reverse osmosis 7—53538
cellulose membranes, bacterial, preferential orientation obs. 7—59943
cermet powder, surface treatment and surface props. *(Japanese)* 7—46666
cholesteric liq. cryst. mixtures, pitch, struct., phase transition point and optical props. studies 7—1881
cholesteryl 2,2,3,3-tetrafluoropropionate cryst., interf. line pattern caused by X-ray diffuse scatt. 7—1815
cobaltites, fine-particles, low temp. prep. by solid solution precursor method 7—59486
composition modulated layered structs., elastic strain, X-ray diffr. studies 7—27086
conference, San Diego, CA, USA (Aug. 1986) 7—24287
crystal defect location, dynamic effects in diffuse scatt. *(Russian)* 7—37803
γ-crystallin IIIb, 3D model, construction from electron density maps using machine graphics 7—23301
cytochrome c′, crystal structure analysis by multiwavelength X-ray diffr. 7—34104
defect mapping by in-water photocorrosion 7—59692
defects, neutron and synchrotron radiation studies, comparisons 7—51754
diamond, type Ia, voidites, evidence for crystalline phase containing nitrogen, cell constant determ. 7—2011
2,6-dichloroacetanilide, X-ray diffr. and NQR study, struct. and bond props. 7—12041
didymium tartrate crystals, gel grown, charactn., thermal behaviour 7—39367
N,N′-dihydroxyethyldithiooxamide-do(d_4), vibr. anal., X-ray diffr., NMR, Raman, IR, visible and UV spectra 7—51741
dimethyl oxalate, solid, ^{13}C NMR, X-ray and neutron diffr., chemical shielding tensors 7—13041
dimethyl tin diacetate hydrolyzate, solid-state and soln. struct., ^2H and ^3C NMR spectra study 7—25431
4-4′-dimethyl-8,9,10-trinor-spiro-2-2′-borane (1,3-oxazolidine)-3′-oxyl racemic mol. solid soln., phase separation statics and dynamics 7—26737
EBBA melting and crystn. processes, Raman spectroscopy, X-ray and thermal anal. 7—63777
energy-dispersive X-ray diffr. meas. on weakly scattering amorphous materials, experimental set-up 7—63401
epitaxial films, multilayer, X-ray diffr. determ. of elastic stresses and misalignment *(Russian)* 7—38371
epitaxial layers, thin films superlattices, structure charactn. by Buerger precession camera 7—58099
epoxide-diene polyblock networks, phase struct. var. with composition *(Russian)* 7—63522
epoxydiane oligomers, struct., X-ray diffr. and IR spectra *(Russian)* 7—11968
epoxydiane polymers, struct., X-ray diffr. and IR spectra *(Russian)* 7—11968
p-ethyl-p′-cyanocyclohexyl-cyclohexane, smectic liq. cryst., phase struct., X-ray diffr. 7—21087
ethylene-tetrafluoroethylene copolymer, cryst.-mesophase transition, struct. obs. 7—21436
ethylenediammonium hexachlorometallates, struct., H bonds and phase transitions 7—16535
fatigue damage detection by position-sensitive detector, X-ray diffr. profile singularity change *(Japanese)* 7—8236
Fe-Ni-B metallic glasses, struct. and crystn. kinetics, DSC and X-ray diffr. meas. 7—16436
ferrites, synthesis and sintering kinetics and mechanisms 7—13423
ferromagnet, Debye-Waller factor anomaly and diffuse scatt. studies *(Russian)* 7—12973
fluorozirconate glass, chem. durability, reaction with water 7—39682
garnet LPE films, lattice relax. around cracks 7—7054
gilsonite, microstructure and mechanical props. 7—44838
glycogen debranching enzyme crysts., improvement of diffr. limit and useful X-ray lifetime 7—23308
graphite, nuclear material, corrosion and irrad. induced porosity 7—51836
graphite intercalation compound, 2D Rb liquid, modulation potential, X-ray study 7—44639
graphite surface, layering and mixing in coadsorbed Xe-ethylene films 7—58624
graphite-Br intercalation cpds., 2D stripe-domain system, melting transition 7—58449
graphite-K intercalation cpd., high-stage struct., temp. depend., X-ray diffr. study 7—63592
4-(n-heptyloxy)benzylidene-4-(n-heptyl)aniline, surface smectic-I hexatic layers, X-ray obs. 7—63461
2,2′, 4,4′, 5,5′-hexachlorobiphenyl, crystal struct., X-ray and NMR studies 7—12036
hexakis(trimethylelementyl)benzenes, synthesis and crystal mol. struct., X-ray spectra anal., EFF calcs. 7—25360

X-ray diffraction examination of materials continued
- high-pressure X-ray diffraction apparatus, energy-dispersive, with synchrotron source 7—18801
- III-V semiconductors, defect recognition and image processing, conf., Montpellier, France (July 1985) 7—29596
- imperfect crystals, strongly absorbent, surface layer defects and flaws, X-ray diffr. *(Russian)* 7—63923
- imperfect surfaces and adsorbates, short range order and correlations 7—6953
- incommensurately modulated phases, scatt. theory 7—26938
- Inconel 600, recovery kinetics, X-ray determ. 7—22722
- InGaAsP epitaxial films, X-ray diffr. charactn. *(Japanese)* 7—63399
- intercalation cpd. struct., enthalpy of reaction 7—46841
- interface, internal, interphase, diffr. effects 7—12496
- interfaces, internal, diffr. effects, general considerations and grain boundary effects 7—12495
- isotactic poly-1-butene, crystalline forms, thermodynamic stabilities 7—12038
- Langmuir-Blodgett multilayer thin films, overlayer-induced surface monolayer ordering 7—32868
- LEC wafers, cathodolum. mapping, IR absorpt., X-ray topography obs. 7—33462
- lipids, phase diagram construction, temp. gradient method using time-resolved X-ray diffr. 7—54816
- lysozyme crystals, mol. dynamics, X-ray diffuse scatt. obs. 7—59921
- magnetron sputtered ion plating on A3 steel *(Chinese)* 7—22473
- mercury carboxylates, thermotropic phase transition temps. and heats of phase changes 7—2155
- metal-metal superlattices, prep. by sputtering, struct. charact. 7—3172
- metallic superlattices, mech. props. and diffusion 7—52377
- metallic thin films, amorphisation and film anal., ion beam techniques 7—37868
- metals, ion beam-induced nitride form. and phase identification, X-ray diffr. study 7—12176
- metals and alloys, plastic deform. in conditions of quasihydrostatics *(Russian)* 7—59586
- 5- methoxymethyl-1-(2′-deoxy-β-D-lyxofuranosyl)uracil, struct. and conformation, X-ray crystallographic anal. 7—23306
- methyl 2-(2,4-dinitrophenyl)aminopropanoate single crysts., travelling-heater Bridgman growth 7—59409
- MgO films, prep. by RF sputtering, orientation and microstruct. *(Japanese)* 7—22480
- microdefects, visualisation by X-ray topography 7—1811
- mineral powder mixtures, X-ray diffr. anal. by heavy ion bombardment 7—32223
- molecular crystals, electron density distrib. calcs., X-ray diffr. 7—26587
- molecular films, small angle X-ray studies 7—58620
- multilayer semicond. structures, X-ray diffr. characterisation 7—51574
- $(Na_2O)_{25}(Li_2O)_{25}(P_2O_5)_{50}$ glass fibres, struct., birefringence, density and thermal shrinkage, drawing parameters depend. 7—6536
- Nb_3Ir films, supercond. transition temp., effect of radiation induced disordering 7—45540
- Nb-Ti compositionally modulated films, low-temp. interdiffusion 7—38269
- nondislocating crysts., damaged surface struct., X-ray scatt. *(Russian)* 7—58581
- nontronite, effects of shock and thermal alteration on physical props., and implications for Martian surfaces 7—55024
- oligocaprolactone glycol-PVC, amorphous matrix, crystallisation *(Russian)* 7—11969
- organic conducting single crysts., electron irrad., Bragg spot fading 7—12158
- oxides, $AM_3O_9(M_2O_4)_n$, derived from the rutile structure by chemical twinning, structural evolution and stability 7—16757
- paraffins, chain-folded crystn., time-resolved X-ray study 7—37902
- PEEK, fibre, struct. refinement in orthorhombic unit cell 7—16449
- PEEK film, unit cell parameters, annealing temp. depend., WAXS obs. 7—64008
- PEEK/carbonaceous fibre composite, wide-angle X-ray scatt. 7—21131
- pentacene, vacuum deposited amorphous films, X-ray diffr. and photoelectron spectra anal. 7—22434
- perfluorosulfonated ionomer membranes, interpretation of small-angle X-ray and neutron scatt. 7—32310
- PET fibres, heat treatment kinetics 7—44407
- physisorbed atoms on anisotropic rectangular lattice, struct. factor of incommensurate phases 7—52250
- poly 3-ethyl, 3-methyl oxetane, oriented fibres, WAXS 7—6555
- poly 4-methyl pentene-1, heat of fusion calc., PVT meas., X-ray diffr. 7—52007
- poly p-phenylene benzobisthiazole-poly 2,5(6)benzimidazole blends, phase separation morphology 7—7981
- poly-δ-N-carbobenzoxy L-ornithine films, packing polymorphism of α-helices 7—11955
- poly-δ-N-carbobenzoxy-L-ornithine films, packing polymorphism of α-helices 7—16447
- poly-di-n-hexylsilane, conform. kinetics and packing, spectrosc. obs. 7—37887
- polyacetylene, Durham, struct., X-ray scatt. 7—37898
- polyacetylene, p-type doped, reaction with H_2O 7—65316
- polyacetylene, undoped, elec. props., thermal isomerisation and impurity effects 7—64232
- polyacetylene films, synthesised via Durham precursor route, struct. and morphological study 7—37897
- polybutene-1, heat of fusion, X-ray diffr. obs. 7—52008
- polybutylene, crystallisation, X-ray scatt., differential scanning calorimetry and torsion pendulum investig. 7—32308
- polybutylene terephthalate fibres, heat treatment kinetics 7—44408
- polyether ether ketone, fibre, struct. refinement in orthorhombic unit cell 7—11957
- polyetheretherketone, crystalline/amorphous ratio in carbon fibre composite 7—11947
- polyethylene, linear, melt-crystallised, surface melting 7—6766
- polyethylene, monoclinic form, hydrostatic compression effect 7—44690
- polyethylene, porous, struct. investig. by contrast variation X-ray scatt. *(Russian)* 7—63521
- polyethylene blends, melting, crystallisation, DSC, X-ray diffr., Raman spectra 7—44411
- polyethylene-tetrafluoroethylene, row crystallised film, deform. mechanism 7—44663
- polyethylenes, supermol. struct., glow-discharge induced transformations *(Russian)* 7—63523

X-ray diffraction examination of materials continued
- polyimide, photoconduction, mol. orientation and chain alignment effects, X-ray diffr. meas. 7—27365
- polyimide, photoconduction and mol. orientation 7—38629
- polymers, mica filled, determ. of mica orientation 7—39477
- polyoxymethylene, ageing, residual stress, crystallinity, WAXS 7—39550
- polyoxymethylene, highly drawn, morphology, temp. depend. crystal modulus 7—37889
- polyoxymethylenes, low temp. dielec. relax., crystallite surface folds motion contrib. study *(Russian)* 7—17267
- polyphenylene sulphide coatings, internal struct., curing effect 7—22861
- polyphenyls, hydrogenated p-terphenyl and deuterated biphenyl, structural transitions *(French)* 7—12256
- polypropylene, high-oriented, struct. rel. to physico-mech. props. *(Russian)* 7—26672
- polypropylene, isotactic, crazing, energetic characts. *(Russian)* 7—12201
- polypropylene films, electron irradiated, structural study by X-ray diffr. 7—44422
- polypropylene films, glass isotactic, crystallisation, struct., dynamic mech. props. 7—16445
- polypyrrole films, elec. cond., molecular anisotropy, WAXS 7—51669
- polystyrene, tensile impact, craze vol. and microstruct., synchrotron SAXS 7—53893
- polytrifluoroethylene, ferroelec. order and phase transition 7—13105
- polytrimellitamideimide film, molecular aggregation, SAXS obs. 7—51665
- polytrimethylene, terephthalate, elastic moduli of cryst. region *(Japanese)* 7—33714
- polyurethane, interpenetrating network, microphase struct., X-ray diffr. obs. 7—44410
- polyurethane semicarbazides, segmented, microphase ply separation initiation *(Russian)* 7—6562
- propylammonium tetrachloromanganate, incommensurate γ phase, elastic neutron and X-ray scatt. 7—16538
- proteins in membranes, powder samples, label positions, determ. by neutron and anomalous X-ray diffr. 7—3755
- pyroxenes, synthetic, exsolution and phase transforms., X-ray and TEM obs. 7—16725
- quartz, Brazil twin and stacking fault boundaries, X-ray dynamical diffr. contrast images 7—26768
- quartz, intermediate phase between α ad β phase 7—1936
- quasicrystal diffraction patterns, distortion and peak broadening 7—11981
- quasicrystals, alloy quasiperiodic structures, diffraction pattern simulations 7—6585
- rare earth alloys, R-Co-Fe system between 2:17 and 2:7 phase regions, phase equilibria, metallography, X-ray diffr., thermomagnetic anal. 7—17511
- rare earth metals, high-performance phases, crystal structure models 7—16489
- reactive dyes, water soluble, lyotropic liq. cryst. mesophases and solid physical form 7—32276
- semiconductor epitaxial layers, high speed X-ray double crystal rocking curve analysis 7—51578
- semiconductor materials characterisation, electron, ion, X-ray and optical probe methods 7—27203
- silicate glass, structural inhomogeneities 7—11941
- SOS epitaxial layers, strain meas., using X-ray diffr. 7—44305
- stainless steel, exposure to high temp. OWL-1 loop water, corrosion layer characterization 7—8167
- steel, austenitic, Mn-Cr, hardening characts. and hydroextrusion parameters *(Russian)* 7—59540
- steel, austenitic stainless, rapidly solidified, microstruct. characterisation 7—22672
- steel, C, dislocation structure, rolling temp. effects *(Russian)* 7—44552
- steel, Cr-Mo, high C, bonded carbide, secondary temper hardening, microstruct. 7—17542
- steel, Cr-Mo, oxidation kinetics, breakaway oxidation and inversion phenomena 7—17714
- steel, Cr-Mo, sintered, ageing and steam oxidation, effect of P 7—7930
- steel, Cr-Mo ferritic-martensitic, fracture toughness precip. of Laves phases 7—53849
- steel, fatigue fracture surface at elevated temps., X-ray fractographic study *(Japanese)* 7—8098
- steel, ferritic, unirradiated, low activation, microstructure and mechanical props. 7—53863
- steel, ferritic stainless, 11 MeV proton irrad. behaviour 7—58369
- steel, growth under impact tension 7—28105
- steel, high C, quenched, structural changes, tempering effects *(Russian)* 7—17556
- steel, high speed, TiN, ion plasma coatings, struct. and thickness, X-ray inspection method 7—28177
- steel, HSLA, rolled sheets, residual surface stresses, corrosion pot., X-ray obs. 7—39704
- steel, implanted with N ions, physicochem. characters. of surfaces, wear resist. *(French)* 7—28209
- steel, low alloy, fatigue fracture in air and 3.5% NaCl soln., X-ray fractography *(Japanese)* 7—8099
- steel, low alloy XC06, N implanted, grazing incidence X-ray diffraction 7—16591
- steel, low C, fatigue fracture surface, plastic deform., X-ray diffr. study *(Japanese)* 7—8097
- steel, Mn, austenitic, friction induced martensitic transform., wear resist., work hardened surface layer 7—17531
- steel, Mn, work hardening, martensite form. *(Russian)* 7—39510
- steel, Ni, N29, crystallostruct. changes during reverse martensitic transform., effect of ultrasonic action *(Russian)* 7—53724
- steel, Ni maraging, austenite form. characts. *(Russian)* 7—46466
- steel, Ni-Cr-Mo, autofrettaged tubes, residual stress determ. by neutron and X-ray diffr. 7—33743
- steel, stainless, austenite ordering struct., X-ray diffr. studies *(Russian)* 7—6579
- steel, stainless, laser surface melted, residual stresses 7—3506
- steel, tool, high speed, splat quenched, microstruct. variations 7—46439
- strong-absorbing single crysts., Laue X-ray diffr. thickness depend. anal. and interpretation *(Russian)* 7—44310
- superlattices, structural characterisation 7—52805
- surface analysis using grazing incidence X-ray scatt. 7—26592
- surfaces and overlayers, struct. determ. with diffr. methods 7—2324
- susceptibility meas., PMR, X-ray and neutron diffr. 7—45244
- SYNROC slurry, X-ray diffraction and leach tests 7—19541
- synthetic quartz growth, Brazilian lascas charact. for synthetic quartz growth, props. correlation 7—59394

X-ray diffraction examination of materials continued
- terephthal-bis-(4-(3′,4′,5′-triheptyloxybenzoyloxy)-aniline), columnar liquid crystalline struct. study 7—51613
- bis(tetramethylammonium) bromochlorocuprate single cryst. solid solns., phase diagram study 7—26944
- tetraphenyldithiapyranylidene iodide, 1D conductor, order-disorder transition, X-ray scatt. intensity, elec. props. 7—44798
- thermotropic polyester, press.-induced enantiotropic transition at room temp. 7—1916
- thiamin thiazolone, cryst. struct., transition state analogue 7—51736
- $(TMTSF)_2(ClO_4)_{1-x}(ReO_4)_x$, organic conductors, competition between structural instabilities 7—51740
- $(TMTSF)_2PF_2O_2$, organic conductors, competition between structural instabilities 7—51740
- $(TMTSF)_2ReO_4$, organic conductors, competition between structural instabilities 7—51740
- $(TMTSF)_2ReO_4$ organic supercond., anion-ordering phase diagram studies 7—21434
- transition metal amorphous alloy coatings, microindentation response, microstruct. and composition effects 7—46625
- transition metal chalcogenides, ternary and quarternary, struct. and substitutional chem. 7—32384
- transition metal disilicide films, electrical transport props. 7—58908
- transition metal nitrides and carbides, hard wear-resistant coatings, microstructural and microchemical characterisation 7—52328
- triorthophosphates, superionic, synthesis and charactn. 7—53530
- urea inclusion cpds. with n-paraffins, phase transitions and ordering 7—32634
- VF_2-TrFE random copolymers, Curie point meas., thermal and processing history depend. 7—33341
- vinylidene-trifluoroethylene copolymer, ferroelec. phase transition, X-ray diffr. investig. 7—53249
- X-ray diffr. meas. of diffusivity 7—44925
- X-ray photograph darkening, eval. technique *(Czech)* 7—4936
- X-ray stress measurement by use of synchrotron rad. source *(Japanese)* 7—8213
- Zircaloy-2, exposure to high temp. OWL-1 loop water, corrosion layer characterization 7—8167
- Ag chalcogenide-type fast-ion conductors, diffuse X-ray scatt. 7—21044
- α-Ag-Al, thermal expansion, X-ray determ. 7—32685
- Ag-Au bilayers, EXAFS and X-ray reflectivity meas. 7—27821
- Ag-Ge-Ga-Al FCC alloys, faulted structure, X-ray diffr. studies 7—58292
- $AgBr_{1-x}I_x$ rock-salt solid solns., local struct., X-ray studies 7—63586
- AgCl films deposited by evaporation and RF sputtering, compositional and morphological anal. 7—16892
- β-AgI, anharmonic thermal vibrs., X-ray diffr. 7—51982
- AgI-AgCl solid solns., ice nucleation, X-ray diffr. 7—58179
- $AgSbTeO_6$, ionic conductivity and powder X-ray diffr. characterisation 7—12362
- Al alloys, corrosion of alloys in mortar, effect of Na^+ and Ca^{2+} ions *(Japanese)* 7—46693
- Al, fatigue cycling, oscillatory variation of half-width of X-ray diff. line profiles 7—46645
- Al film deposition on amorphous substrates 7—21770
- Al, implanted, FCC solid Ar bubbles, X-ray diffr. 7—2043
- Al recrystallisation, cryst. boundary stresses, synchrotron X-ray topography study 7—26684
- Al single cryst. and bicrystal, polygonisation substruct., grain boundary effects *(Russian)* 7—58287
- Al single crystals, helical dislocations with low dislocation density 7—51774
- Al/Pt/Si structures, PtSi formation 7—63972
- Al-Cu (1.87 wt.%), stability of metastable defects at elevated temps. 7—38207
- Al-Cu interface, grazing incidence X-ray study of interfacial reactions 7—21543
- Al-Cu-Mg, Al-Mg, plastic deform., AE, X-ray obs. *(Russian)* 7—46579
- Al-Fe-Mg, solidified from liq. phase, struct. *(Russian)* 7—39498
- Al-Fe-R, R=Ce, Er, Nd or Gd, rapidly solidified microstruct. 7—59502
- Al-Fe-Si, quasicrystalline phases and amorphous structure 7—51637
- Al-Fe-Si system, intermetallic phases, electron probe microanalysis, X-ray diffr. 7—59491
- Al-Li-Cu, T_2 phase, icosahedral struct. 7—16425
- Al-Mg, adhesive-adherend interface under load, stresses in adhesive bond 7—28260
- Al-Mg-Ce system, liquidus, intermetallic compound *(Chinese)* 7—7960
- Al-Mn, Al-rich alloy, rapidly solidified, crystn. of quasicryst. icosahedral phase 7—63472
- Al-Mn, rapidly quenched, icosahedral phase, comp. analysis 7—26699
- Al-Mn (15 wt.%), melt spun ribbons, icosahedral struct., decomp. rel. to annealing 7—28030
- Al-Mn-Si, quasicryst., X-ray diffr., TEM and SEM study 7—12299
- Al-Mn-Si, quasicrystalline phases and amorphous structure 7—51637
- Al-R (R=Gd, Ho, Er, Y) alloys, intermediate phase metastable extensions, DSC and X-ray diffr. studies 7—21413
- Al-Si eutectic, unmodified, Al grain struct. 7—65012
- Al-Ti-Gd, rapidly solidified ribbons, aged, ternary phase precipitate identification 7—3311
- Al-V, rapidly quenched, icosahedral phase, comp. analysis 7—26699
- Al-Zn, ageing, effect of specimen thickness, SAXS study *(Japanese)* 7—22731
- Al-Zn, disintegration kinetics, hardening temp. effects 7—52055
- Al-Zn, homogeneous nucleation of precipitates 7—53733
- Al-Zn (11 wt.%), dislocation density in high temp. creep 7—39611
- Al-Zn (12 at.%) alloy, size-shape relation of Guinier-Preston zones, SAXS study 7—13455
- Al-Zn-Ag, phase diagram tielines, anomalous SAXS studies 7—53705
- AlAs/GaAs modulated struct., high resolution double-cryst. X-ray diffr. studies 7—7029
- AlGaAs epitaxial layers and superlattices, X-ray diffr. analysis 7—21047
- AlGaAs, epitaxial layers, large scale MOVPE growth 7—22552
- $Al_{1-x}In_xAs$-GaAs strained layer superlattices, X-ray diffraction and excitation spectroscopy studies 7—12853
- AlMn quasiperiodic material, disorder systematics, X-ray scatt. studies 7—11995
- $Al_{1-x}Mn_x$ cryst. and quasicryst. alloys, struct. and mag. props. 7—1949
- Al_4Mn, diffraction approach to the structure of decagonalquasi-crystals 7—6586
- $Al_6Mn_{1-x}Fe_x$, rapidly quenched, crystn. process, high temp. X-ray studies 7—1922

X-ray diffraction examination of materials continued
- AlN amorphous film, plasma CVD from metal organic Al source 7—52368
- Al_2O_3, catalysts, small angle X-ray scatt. anal. 7—16352
- Al_2O_3, sintered, X-ray stress meas. *(Japanese)* 7—8169
- α-Al_2O_3, X-ray diffr. whole-powder-pattern fitting without reference to a structural model 7—32214
- Al_2O_3/Fe interface, ion beam mixing, conversion electron Mossbauer spectra studies 7—63679
- Al_2O_3-TiO_2, mech. props. and microstruct., influence of TiO_2 additions. *(Japanese)* 7—22706
- Al_2O_3-transition metal film interfaces, thermal reaction, backscattering spectra, X-ray diffr. studies 7—52304
- $Al(OH)_x$ aggregate fractal structs., X-ray scatt. functions 7—32381
- AlOOH, stacking fault and size effects on X-ray diffr. line profile calc. 7—2032
- $AlPO_4$, berlinite, growth defects and incommensurate phase obs. by high temp. X-ray topography 7—32423
- $AlPO_4$, berlinite, high-temp. X-ray diffr. studies 7—12015
- $AlPO_4$, berlinite, hydrothermal cryst., growth, X-ray topography, bulk acoustic wave device characts. 7—59391
- $AlPO_4$, berlinite, synthesis and charactn. of new polymorphic modification 7—53534
- AlSb-GaSb superlattices, low-temp. growth by plasma process *(Japanese)* 7—7061
- AlSb-GaSb superlattices, X-ray diffr. analysis 7—21047
- AlSi-Ti(Ta) layered films, compound formation and Si behavior 7—21762
- AlZn alloys, precipitates, small angle X-ray scatt. study 7—46473
- Ar physisorbed monolayers on graphite, melting transition, high resolution synchrotron X-ray diffr. study 7—63780
- As_2Se_3, cryst. struct., X-ray meas., MULTAN anal. 7—2000
- $As_{0.2}Se_{0.5}Te_{0.3}$ chalcogenide glass, struct. models, X-ray diffr. and Monte Carlo calcs. 7—6548
- Au (110)2×1, surface structure, X-ray diffr. studies 7—12438
- Au epitaxial ultra-thin films, X-ray diffr. studies 7—27204
- Au, static compression, basis for ruby pressure scale calibration 7—18802
- Au-Cd (47.5 at.%), stress induced martensitic transform., pseudoelasticity 7—39610
- Au-InP, solid-state reactions, Au_2P_3 formation 7—58550
- Au_4Cr, atomic ordering, X-ray struct. anal. *(Russian)* 7—1933
- $Au_{75}Cu_{25}$ and $Au_{70}Cu_{30}$, local order, X-ray diffuse scatt. meas. 7—26972
- $AuGa_2$-GaAs (001), chemically unreactive interfaces formation 7—7050
- AuNiGe-GaAs ohmic contacts, microstruct. anal. and contact resist. meas. 7—2393
- BN, cubic, polycryst., influence of sintering conditions on phys. props. 7—22618
- c-BN, high press. sintering 7—22615
- BN, polymorphism studies, temp. and press. effects 7—1934
- BN, pyrolytic, macrodefects study 7—44523
- BN, wurtzite, sintered polycryst., texture form. during hot compacting at high press., sphalerite transition 7—53685
- BN, wurtzite-like, deformation and high-press. phase transitions 7—44804
- BN, wurtzitic compacts, sintered, particle size distrib., hardness, phase comp. 7—59603
- $Ba(Bi,Pb)O_3$, semiconducting props., X-ray powder diffr. and transport meas. *(Japanese)* 7—64237
- $BaCo_2Fe_{16}O_{27}$, W-type hexagonal ferrite, cryst. struct. and Co location 7—6605
- BaF_2, phase transitions, influence of shear deformation 7—21429
- BaF_2, thermal expansion from 296 to 1173K 7—12327
- $Ba_{1.06}Fe_{10.92}Mn_{1.02}O_{19}$ and $Ba_{1.03}Fe_{11.97}O_{19}$ single crystals, white synchrotron radiation topography 7—6606
- $BaLn_2O_4$-TiO_2, (Ln=La,Nd), phase props., X-ray and elec. meas. 7—2220
- BaO-CeO_2, phase relations, thermodynamic parameters 7—6829
- BaO-La_2O_3-Nd_2O_3-Al_2O_3 systems, synthesis, characterisation and spectroscopic investigations of mixed hexa-aluminates 7—63827
- BaO-RuO_2-Fe_2O_3 system, equilibria description 7—65340
- BaO-V_2O_5-Fe_2O_3 semiconducting glasses, elec. props., Mossbauer, EPR and X-ray diffr. studies 7—7236
- $Ba(Ti, Zr)O_3$ powders, hydrothermal prep. 7—64957
- $BaTiO_3$ ceramics, grain struct. and phase anal. *(German)* 7—58496
- $BaTiO_3$:Nd, ceramics, diffuse phase transform 7—16731
- $BaZnGeO_4$, phase transitions, X-ray study 7—52036
- Be, adhesive-adherend interface under load, stresses in adhesive bond 7—28260
- Be-Ti multilayer interference system, struct. and phase composition, electron microscopy, X-ray and neutron diffr. meas. 7—63984
- $BeAlSiO_4OH$, euclase, high press. cryst. struct. and compressibilities 7—16505
- Bi-Te metastable solid soln., fine struct., X-ray diffr. studies 7—44449
- $Bi_4Ge_3O_{12}$ crystals, imperfection nature, precipitates and bubbles 7—21463
- $Bi_{2-2x}Y_{2x}O_3$ solid soln., reversible cubic-hexagonal transform. obs. 7—32639
- C, amorphous, origin of extragraphitic low angle peaks in X-ray diffr. patterns 7—37859
- C fibres, microvoid charactn., SAXS obs. 7—26739
- C fibres, pretorsional deform., annealing, acid treatment, struct., mech. props 7—22768
- C, graphitic and non-graphitic, amorphous struct., X-ray diffr. studies 7—58143
- C steel, S45C, fretting fatigue damage accumulation, cycle and stress ratio effect 7—28232
- CO-Ar system phase diagram, critical point determ., X-ray diffr. study *(Russian)* 7—6776
- $CaCO_3$, X-ray diffr. whole-powder-pattern fitting without reference to a structural model 7—32214
- $Ca_xCo_{1-x}Fe_2O_4$ substituted ferrite system, mag. props., comp. depend., Mossbauer study 7—7618
- $CaMg(B_3O_4(OH)_3)_2.3H_2O$, hydroboracite, thermal expansion 7—63850
- $Ca_{2-x}Nd_xGa_{2+x}Si_{1-x}O_7$, Ga gehlenite, cryst. struct. and optical props. 7—16525
- $(CaO)_{25}(BaO)_{25}(P_2O_5)_{50}$ glass fibres, struct., birefringence, density and thermal shrinkage, drawing parameters depend. 7—6536
- $Ca(OH)_22Zn(OH)_22H_2O$, chem. comp., solubility in KOH, thermodynamic props., reaction equilib. const. 7—26962
- Ca_3OSiO_4, crystallochemistry of phases 7—1965
- $Ca_xSr_{14-x}F_2$ layers, epitaxial growth on CaF_2 by vac. evap. 7—22498
- $CaTiSiO_5$, sphene crystals, melt growth and character. 7—7840

X-ray diffraction examination of materials continued
- $Ca_8Y_2(PO_4)_6(OH)_{2-x}O_x$, synthesis, struct., dielec. props., AC elec. cond., IR spectra 7−3235
- $CaZrTi_2O_7$, zirconolite, alpha-recoil damage 7−6692
- $Cd_{1-x}Mn_xS$, crystal growth and charact. *(Japanese)* 7−7829
- CdS crystal growth and charact. *(Japanese)* 7−7829
- CdTe (100)-oriented single crysts., lattice dynamics temp. depend., X-ray studies 7−26880
- CdTe epitaxial layers on GaAs substrates, X-ray diffr. 7−27201
- CdTe films, detachable oriented, VPE 7−33567
- CdTe films, electrochemically deposited, comp., struct., AES, electron probe anal., X-ray diffr. spectroscopy 7−58694
- CdTe, MBE growth on GaAs substrates, struct. and optical props. 7−64907
- p-CdTe RF sputtered thin films, resistivity, forbidden gap, optical and X-ray diffr. spectra studies 7−21747
- CdTe, single crystal, structural perfection, X-ray topography 7−12070
- CdZnTe, epitaxial growth via low press. CVD, IR detector appls. 7−64926
- CdZnTe, MBE growth on GaAs substrates, struct. and optical props. 7−64907
- $Cd_{1-x}Zn_xTe$ mixed cpd. semicond., lattice consts. comp. depend., X-ray diffr. study 7−58246
- $Cd_{1-x}Zn_xTe$, MBE growth 7−13358
- Ce-(Fe,Co)-(B,Si) system alloys, melt spun ribbons, mag. props. *(Japanese)* 7−53052
- $Ce(Co,Cu,Fe)_6$, magnetically hard, heat treatment effects on struct. and mag. characts. 7−27564
- $CeNi_2H_x$, stoichiometry deviation and structural disorder, H content depend., EXAFS study 7−64815
- $CeRu_2Si_2$, heavy fermion, magnetism and spin fluctuation effects induced by partial substitution 7−38850
- CeS, continuous valence transition under high press. 7−32965
- Co-Al, precipitation product dissolution *(Russian)* 7−58479
- Co-base amorphous metallic films, SAX investig. *(Russian)* 7−51576
- Co-Cr thin films, mag. props. and microstructure 7−27514
- Co-Cr-N, surgical implant alloy, mech. props., microstruct. rel. to N addition 7−60125
- Co-Ta, cryst. struct. of α-martensite, effect of Ta conc. *(Russian)* 7−44452
- Co-W, ageing, polymorphism, cellular mechanism *(Russian)* 7−59514
- Co^{2+}-carboxypeptidase A, polarised single-crystal absorpt. spectra, NMR 7−17945
- $Co_{82}B_{18}$ amorphous alloy, reminiscent devitrification, X-ray diffr. studies 7−6547
- CoCr films, texture formation, appl. for perpendicular mag. recording 7−39539
- CoCrAlY electron beam physical vapour deposition coating microstruct., TEM characterisation 7−52334
- CoCrTa sputtered films, microstruct. and mag. props. studies 7−12575
- $Co_{0.55}Cu_{0.45}Cr_2S_{4-y}Se_y$ spinels, X-ray diffr. study 7−44475
- $Co_{3.9}Er$ noncrystalline alloy, local atomic order, magnetism 7−32286
- $CoGa_2O_4$, crystal growth, chemical vapour transport, struct., mag. and electronic props. 7−53517
- Co_2Ge, chemical bond, struct., short range order 7−32350
- Co_3O_4-$Al_2Si_2O_5(OH)_4$, X-ray anomalous scatt. difference patterns in powder diffr. anal. 7−16356
- $CoS_{1.035}$ film, soln. growth, optical absorpt. coeff. 7−39446
- $CoSi_2$ epitaxial layer on Si, X-ray diffr. analysis 7−21047
- $CoSi_2$ films, structural analysis by X-ray diffr. in the grazing Bragg-Laue geometry 7−7042
- $CoSi_2$, MBE growth, struct. props. and device appls. 7−21738
- $CoSi_2$ self-aligned silicide technology using rapid thermal processing 7−52154
- Co_xSi_{1-x} polycrystalline alloys, positron lifetime, Doppler studies 7−33480
- $Co_{25}Ti_{75}$, amorphous struct., neutron and X-ray diffr. 7−58149
- Cr, residual macrostress distrib. after cyclic heat treatment, US and X-ray study *(Russian)* 7−53772
- Cr_2O_3, in transparent glass-ceramic, crystn. and spectroscopic props., melting conditions and heat treatment influence 7−7588
- Cs-Se system, phase diagram 7−6759
- $CsBi_x$-graphite intercalation cpds., stage 1, α and β phases, X-ray diffr. study 7−58226
- $CsCaCl_3$, cubic to tetragonal phase transition, space group determ., X-ray studies 7−16736
- CsCl-CsBr solid solutions, lattice parameter meas. by X-ray diffraction 7−58249
- Cs_2O-SiO_2-based glasses, Cs^+ ion distribs., energy dispersive X-ray diffr. studies 7−21113
- $CsPbBr_3$, lattice thermal expansion, 140-400°C, X-ray obs. 7−44859
- $CsSbTeO_6$, ionic conductivity and powder X-ray diffr. characterisation 7−12362
- $CsVF_4$, layer cpd., struct. phase transitions, thermal diffusivity, polarised light scatt. and X-ray diffr. studies 7−6788
- Cu (110) with chemisorbed O, synchrotron X-ray scatt. study 7−7003
- Cu complex, bis(formato)bis(isonicotinamide)diaqua copper(II), X-ray structural anal. 7−51727
- Cu complex, sulphato aquotris(benzotriazole) Cu (II) benzotriazole, cryst. and mol. struct. 7−21181
- Cu, diffusion bonding, strain-free mounting appl. 7−3572
- Cu, dislocation-diffusion mechanism of wear reduction in selective transfer 7−17658
- Cu films, sputter deposition, effect of ion bombardment of growing film 7−64009
- Cu, preparation using γ-$Cu_2(OH)_3Cl$ precursor, X-ray diffr. 7−27970
- Cu, recrystallisation texture, deformation temp. effects *(Russian)* 7−8007
- Cu, single crystal, proton induced Kossel X-ray diffraction 7−53451
- Cu, static compression, basis for ruby pressure scale calibration 7−18802
- Cu surface, interaction with Cl_2 7−21642
- Cu-Al, diffusion coefficients, composition depend. *(Russian)* 7−32701
- Cu-Al bilayers, EXAFS and X-ray reflectivity meas. 7−27821
- Cu-Al-Ni, cryst. struct. of α''_1 martensite formed during deform. *(Russian)* 7−53814
- Cu-Au, disordered, short-range ordering, X-ray split diffuse intensity maxima separation 7−2222
- Cu-Au quenched alloys, diffuse X-ray scatt., microdomain model anal. 7−6814
- Cu-Cr multilayers, laser alloying 7−45025
- Cu-Ge-Ga-Al FCC alloys, faulted structure, X-ray diffr. studies 7−58292
- Cu-Ni electrodeposition, comp. modulated alloy form. 7−59468

X-ray diffraction examination of materials continued
- Cu-Ni-Cr, spinodal decomp., X-ray diffr. and TEM study 7−22732
- Cu-Sn, diffusion coefficients, composition depend. *(Russian)* 7−32701
- Cu-Sn thin film diffusion couple, reaction kinetics at room temp. 7−21536
- Cu-Su, amorphous system, high press. melt quenching, microhardness, X-ray obs. *(Russian)* 7−44396
- Cu-Ti (5.7 at.%), diffusion of products of cellular dissoln. *(Russian)* 7−58485
- Cu-Zn, electrodeposits, comp. rel. to deposition pot. *(Japanese)* 7−27951
- Cu-Zn-Al shape memory alloys, rapidly solidified, microstruct. and props. *(Chinese)* 7−8043
- Cu-Zr, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
- Cu-Zr, compositionally modulated amorphous films, sputter deposition prep. 7−22482
- $Cu_{15}As_{34}Se_{51}$, glassy semiconductor, tetrahedral bonding 7−32304
- $Cu_{1.80}Fe_{0.05}S$, structural phase transitions, X-ray diffr. study 7−1935
- $CuGaSe_2$ thin films, physical props, and photovoltaic potential 7−22047
- $CuGaSe_{2(1-x)}Te_{2x}$ solid solns., prep. and characteris. 7−21169
- $CuGaTe_2$, lattice thermal expansion, 80 to 650K 7−12326
- CuInSe thin films, flash evaporation prep. and characterisation 7−7893
- n-$CuInSe_2/I^-$-I_2 acidic electrolyte contact, interphase characterisation 7−2703
- $CuInTe_2$, lattice thermal expansion, 80 to 650K 7−12326
- $Cu_{0.26}Mn_{0.87}PS_3$, crystalline lamellar cpds. EXAFS studies of disorder 7−59295
- CuO, preparation using γ-$Cu_2(OH)_3Cl$ precursor, X-ray diffr. 7−27970
- Cu_3Pt ordering kinetics, comp. depend., X-ray and DTA studies 7−26940
- $Cu_{2-x}Se$, struct. phase transition, X-ray diffr. studies 7−2179
- $Cu_{0.85}Sn_{0.15}$, amorphous melt-quenched alloys, crystn. *(Russian)* 7−37881
- Cu_xTi_{100-x}, x=50,66, metallic glasses, crystn., DTA, X-ray diffr., hardness meas. 7−63489
- $Cu_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7−63486
- Dy, mean square amplitude of vibr. and Debye temp. 7−21368
- Er, magnetic struct., synchrotron X-ray scatt. studies 7−45625
- Er-Cu (Ni) metallic glass form. by near-isothermal cold rolling 7−22610
- Eu complexes, $Eu(NO_3)_3$(triphenylphosphine oxide)$_3$ systems, cryst. and mol. structs. 7−51723
- $EuRh_{1.5}Sn_{4.2}$, anomalous mag. and elec. props. 7−64440
- Eu_xTiS_2 mixed valence intercalation cpd., low-temp. synthesis and mag. props. 7−17779
- (Fe,Co,Ni)-P layers, electrochemical deposition, struct. *(Chinese)* 7−7037
- Fe and alloys, alloying with N under high press. 7−3266
- Fe, metal surfaces immersed in liquid media, pulsed laser oxidation and nitridation 7−59656
- Fe/Fe-FeO/Al_2O_3 systems, diffusion bonded, interface chemistry, bonding strength 7−28079
- Fe/H_2O interface, pulsed-laser-induced reactive quenching, FeO metastable phase form. studies 7−45005
- Fe-Ag sputtered films, thermal stability, X-ray diffr. and Mossbauer studies 7−58679
- Fe-Al (40 at.%), electron irrad., Huang scatt. from interstitials 7−58272
- Fe-Al metastable alloy sputtered film, mag. props., comp. depend., X-ray diffr. and Mossbauer meas. 7−7559
- Fe-Al-C (3.8, 1.8 wt.%), martensite crystallostruct. changes, effect of temp. and heating/cooling rates *(Russian)* 7−53727
- Fe-B, amorphous alloys, crystallisation, morphology rel. to sample thickness *(Russian)* 7−37861
- Fe-B, amorphous metallic films, SAX investig. *(Russian)* 7−51576
- Fe-B amorphous alloys, interference functions, X-ray diffr. study and cluster calcs. 7−26656
- Fe-B-based amorphous alloys, struct. evolution during heating *(Russian)* 7−16418
- Fe-based thin films, saturation magnetisation and coercive force 7−59074
- Fe-Cr-Al-Ce, microstruct., high temp. corrosion rel. to Ce additions 7−13648
- Fe-Cr-Co-Mo alloy struct., 2D scatt. X-ray intensity distrib. patterns, anal. by direct variation method 7−64734
- Fe-Cr-Mo-Mn-C-P, sintered, ageing and steam oxidation, effect of P 7−7930
- Fe-Cr-Ni alloys, FCC, dilation by interstitial C and N 7−44451
- Fe-Cu films, obliquely evaporated, inhomogeneous conc. distrib. 7−38367
- Fe-Cu metastable alloy sputtered films, mag. props., X-ray diffr. and Mossbauer meas. 7−7560
- Fe-Cu sputtered films, thermal stability, X-ray diffr. and Mossbauer studies 7−58679
- Fe-Cu-P, sintered, ageing and steam oxidation, effect of P 7−7930
- Fe-Mo (14.5 wt.%), ageing, discontinuous dislocational transform., coercivity obs. 7−3305
- Fe-N alloys, phase state and precipitation, plastic deformation effects *(Russian)* 7−46551
- Fe-Ni, austenitic, Mag. ordering and mech. props. *(Russian)* 7−58280
- Fe-Ni, austenitic crystals, nitrided, phase comp. of diffusion layers *(Russian)* 7−63922
- Fe-Ni, electron irrad., low temp. phase transitions *(Russian)* 7−51832
- Fe-Ni films, γ-phase low temp. precipitation investig. *(Russian)* 7−33666
- Fe-Ni thin films, α to γ transform, redistrib. of atoms in submicrostruct. *(Russian)* 7−53722
- Fe-Ni-Au trilayer film, structural depth profiling by glancing angle X-ray diffraction 7−26593
- Fe-Ni-P-C, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
- Fe-Ni-Ti, austenitic crystals, nitrided, phase comp. of diffusion layers *(Russian)* 7−63922
- Fe-P, amorphous alloys, electrodeposition and melt spinning prep., struct. anal. 7−11934
- Fe-Sc alloys, struct. and mag. props., NMR and X-ray diffr. studies *(Russian)* 7−6578
- Fe-Si electric steel, X-ray texture analysis using TZ-6 texture attachment 7−8214
- Fe-Si-B, amorphous alloys, crystallisation, morphology rel. to sample thickness *(Russian)* 7−37861
- Fe-Sm amorphous alloys, crystn. behavior, DTA, magnetisation and X-ray diffr. meas. 7−44372
- Fe-Te amorphous thin films, RF sputtered, struct. and elec. meas. 7−12534
- Fe-Te sputtered films, CsCl-type ordering and amorphisation 7−64021
- Fe-Ti compositionally modulated amorphous films, sputter deposition prep. 7−22482

X-ray diffraction examination of materials continued
Fe-V, amorphous and metastable cryst. alloys prod. by vap. quenching 7−46420
Fe-Zn alloys, sputtered, X-ray diffr., magnetisation and Mossbauer studies 7−59075
Fe-Zr, mechanically alloyed, glass forming ability 7−21110
Fe_3Al, near surface atomic correlations depth profiling, total reflection of synchrotron radiation 7−52214
$Fe_{2-x}Al_xO_3$.1-8 H_2O substituted ferrihydride, Mossbauer, X-ray diffr. and electron microscopy studies 7−7617
$Fe_{50}B_{50}$ amorphous film, energy-dispersive X-ray diffr. meas. 7−63401
$Fe_{80}B_{20}$, amorphous, partial pair distribution function determ. 7−51640
$Fe_{80}B_{20}$, amorphous surface layer produced laser irradiation, thickness meas. using X-ray diffr. 7−44304
$Fe_{83}B_{17}$, metallic glass, struct. relax. X-ray and neutron diffr. study 7−6521
$Fe_{82}B_{12}Si_6$, amorphous, initial crystallisation 7−44387
$Fe_{77}B_{16}Si_5Cr_2$ metallic glass, crystallisation, DSC and X-ray diffr. studies 7−11932
$FeCl_2$, magnetostriction, X-ray diffr. meas. 7−33258
$Fe_{74}Co_{10-x}Cr_xB_{16}$, amorphous, prep. by melt spinning, X-ray diffr., DSC, Mossbauer studies 7−46369
FeCrAlY, Al_2O_3 adhesion mechanism 7−33843
$Fe_{82-x}Cr_{18}Ni_x$, single cryst. alloys, short range atomic ordering *(Russian)* 7−63558
$Fe_{43}Cr_{25}Ni_{20}B_{12}$ glass, devitrification, mag. meas. and X-ray diffr. studies 7−21128
Fe_2Ge, chemical bond, struct., short range order 7−32350
Fe(II) tetraphenylporphyrin bis(tetrahydrofuran), electronic ground state, electron density meas. 7−51716
$(Fe_{1-x}Mn_x)_{78}B_{22}$, amorphous alloys, lattice parameters, annealing, X-ray diffr., elec. resist. 7−37878
$(Fe_{1-x}Mn_x)_2P$ system, Mossbauer study 7−53180
$Fe_{16}N_2$, high-dose ion implantation prep., mag. props. 7−59055
$Fe_{1+x}Nb_{3-x}Se_{10-y}S_y$, struct. mag. suscept. and ESR meas. 7−58228
$Fe_{50}Ni_{50}$ alloy foils, N_2^+ implantation, oxidation behaviour, conversion electron Mossbauer spectra study 7−22877
$Fe_{40}Ni_{40}B_{20}$, amorphous metallic films, SAX investig. *(Russian)* 7−51576
$Fe_{5-x}Ni_xC_2$, prep. and characterisation 7−17490
FeNiCr:Sb,P, grain boundary segregation, Auger and energy dispersive X-ray mapping 7−16571
$Fe_{40}Ni_{38}Mo_4B_{18}$, amorphous alloys, thermal devitrification kinetics 7−51651
$Fe_{40}Ni_{40}P_{14}B_6$ amorphous alloy, relax. struct. transforms., 80 to 300K 7−1890
$Fe_{70}Ni_{10}P_{13}C_7$, amorphous powder, crystallisation *(Russian)* 7−58162
$Fe_{70}Ni_8Si_{10}B_{12}$, amorphous alloys, thermal devitrification kinetics 7−51651
$Fe_{0.93}O$, wustite, defect arrangement at high temps. 7−21196
$Fe_{1-x}O$, double electron exchange, Mossbauer spectroscopy 7−17168
Fe_2O_3, haematite, prep. from δ-FeOOH by thermal decomp. on grinding, X-ray diffr. line broadening 7−46390
γ-Fe_2O_3 particles, microstructure, X-ray diffr., magnetisation props. 7−45757
α-Fe_2O_3 powder compacts, shock-modified, Morin transition, Mossbauer and magnetisation studies 7−2852
Fe_2O_3:Co sputtered films, X-ray diffraction anal. 7−58675
Fe_2O_3-SrO system, glass ribbon prep. by melt spinning, charactn. 7−53690
Fe_3O_4-$ZnFe_2O_4$ system, thermodynamic props., EMF obs., X-ray diffr. 7−22646
$Fe_{80}P_{20}$, amorphous ribbons, structural relax., crystallisation, Mossbauer spectra *(Chinese)* 7−11918
Fe_3Si, near-stoichiometric high temp. creep and struct. investig. 7−22762
$Fe_{90-x}Si_xB_{10}$ amorphous alloys, multistep-micro-crystallisation studies 7−21129
Fe_2SiO_4-Zn_2SiO_4, limited solid soln., cation ordering 7−51709
$Fe_{90}Zr_{10}$ glasses, crystallisation characteristics 7−51647
$Fe_{90}Zr_{10}$ glasses, crystallisation characteristics 7−51648
GaAlAs laser structs., double crystal X-ray rocking curves, interference peaks 7−44303
GaAlAs-GaAs epitaxial superlattice, X-ray double crystal characterisation, rocking curves calc., computer simulation technique 7−58105
$(Ga_{0.5}Al_{0.5})As$, MBE grown, elastic consts., diffuse X-ray scatt. study 7−16918
GaAlSb/GaSb (111) heterostructures, signs of misfit dislocations, X-ray topographic determ. 7−38349
$Ga_{0.94}Al_{0.06}Sb$/GaSb epitaxial struct., misfit dislocations anomalous visibility, Bragg geometry X-ray topograms 7−2019
$Ga_{1-x}Al_xSb$ epitaxial layers, MOCVD, morphology rel. to growth conditions 7−39408
GaAs and GaAs-Ge, extrinsic photoeffect obs. 7−32221
GaAs, electron density distrib., X-ray refl. anal. 7−44497
GaAs, epitaxial film on (001) oriented Si and Ge substrates, structural props. 7−58687
GaAs epitaxial films, growth by close-spaced vapour transport, unwanted doping, X-ray diffr., SEM obs. 7−27187
GaAs films on amorphous insulating substrates, laser recrystallisation 7−38397
GaAs, homoepitaxial growth, cross hatch defect structure 7−45054
GaAs MBE heteroepitaxial layers, lattice distortions, X-ray diffr. and Raman studies *(Japanese)* 7−27219
GaAs MOCVD growth on Ge (100) and Si (100) substrates, antiphase and single domains 7−27925
GaAs, substrates, multi-technique approach to defect microstructure characterisation 7−52215
GaAs thin semi-insulating wafers, EL2 distrib., dislocation network correl., near IR absorpt. maps and X-ray topographs 7−21203
GaAs, valence charge density, X-ray diffr. study, comparison with calculated results *(French)* 7−16940
GaAs, X-ray diffr., anomalous dispersion effects, thermal vibrs. and bonding charges 7−44733
GaAs, X-ray topographic examination 7−32225
GaAs:In crystals, dislocations, in situ X-ray topographic studies 7−21207
GaAs/AlAs 1-D MBE superlattice, struct. parameters, X-ray double cryst. diffr. studies *(Chinese)* 7−12503
GaAs/$Ga_{1-x}Al_xAs$(AlAs), short period superlattices, MOCVD growth, Raman scatt., AES, X-ray diffr. 7−27386
GaAs/GaPAsSb, double heterostruct., LPE, lattice matching, X-ray diffr., luminesc. 7−58884

X-ray diffraction examination of materials continued
GaAs-$Al_xGa_{1-x}As(In_xGa_{1-x}As)$ lattice-mismatched heterojunctions, misfit strain relaxation, X-ray study 7−21718
GaAs-AlAs Fibonacci superlattice, quasiperiodic ordering, X-ray scatt. study 7−2692
GaAs-AlAs(InAs) superlattices, lattice distortions 7−12510
GaAs-Ge heteroepitaxy on Si substrates, recrystallised Ge-on-insulator intermediate layers 7−52358
$(GaAs)_{28}(AlAs)_{24}$ superlattices, lattice distortion, X-ray diffr. studies 7−63974
GaAsP-GaAs(P) strained-layer superlattices, MOCVD and device prep. 7−7876
$GaAs_{1-x}P_x:Be^+$-$GaP:Be^+$ strained-layer superlattices, ion implantation doping, structural study 7−38030
GaInAs-InP epitaxial superlattice, X-ray double crystal characterisation, rocking curves calc., computer simulation technique 7−58105
$Ga_{0.28}In_{0.72}As/Al_{0.28}In_{0.72}As$ photodiode heterostructures, atm. press. MOCVD, 2 μm, sensitivity, structural charactn. 7−27933
$Ga_{0.47}In_{0.53}As/Al_{0.48}In_{0.52}As$ modulated struct., high resolution double-cryst. X-ray diffr. studies 7−7029
$Ga_{0.47}In_{0.53}As/Al_{0.48}In_{0.52}As$ superlattices grown by MBE, structural charactn. 7−52792
$Ga_{1-x}In_xAs$/InP heterostructures, MOVPE, electron mobility, exciton peak, magnetotransport 7−58883
GaInAsP epitaxial layers, double axis X-ray diffractometry at glancing angles 7−37805
GaInAsP epitaxial layers, X-ray double crystal characterisation, rocking curves calc., computer simulation technique 7−58105
GaInP-AlGaInP-GaAs heterostructures, MOVPE, Hall effect, photolum. 7−39401
$Ga_xIn_{1-x}P$ layers, MOVPE, photolum., comp. and growth temp. depend. 7−39403
$Ga_{1-x}In_xSb$ epitaxial layers, MOCVD, morphology rel. to growth conditions 7−39408
Ga_2O_3, chem. transport in Ga_2O_3/N-H-Cl system 7−53519
GaP MBE heteroepitaxial layers, lattice distortions, X-ray diffr. and Raman studies *(Japanese)* 7−27219
$GaPO_4$ orthophosphate crysts, hydrothermal synthesis 7−53531
Ga_2S_3-MnS phase diagrams, metastable phases, thermal and structural features 7−38165
GaSb:Gd,Ho crystal grown by horizontal zone melting, precipitate identification 7−21462
GaSb/GaSb:Si (111) autoepitaxial structures, signs of misfit dislocations, X-ray topographic determ. 7−38349
GaSe single crystal, surface bending, radius of curvature determ., Berg-Barret method *(Russian)* 7−38305
$Ga_{20}Te_{80}$, double glass transition and double stage crystn., X-ray diffr. studies 7−58157
Ga_2Te_3-In_2Se_3 solid solns., cryst. struct., X-ray powder diffr. studies 7−16526
Gd, mean square amplitude of vibr. and Debye temp. 7−21368
Gd oxychlorides, phase equilib., X-ray diffr. and spectro-luminesc. anal. 7−46143
Gd-Sb, phase diagram, peritectic reactions, congruent melting, DTA, microstructural and X-ray anal. 7−39481
Gd-Y single crystal superlattices, struct. and mag. props. 7−27160
Ge (111), adsorbed Pb, atomic geometry, surface X-ray diffr. 7−52277
Ge crystals, high temp. deform., fine slip band struct. *(Russian)* 7−44561
Ge, dislocation transmission through $\Sigma=9$ symm. tilt boundaries, synchrotron X-ray topography, HVEM obs. 7−63646
Ge ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7−17423
Ge, laser heated, time-dependent X-ray reflectivity 7−26796
Ge, thermally scattered X-rays, anomalous transmission obs. 7−51573
Ge, uniaxially stressed, internal strain parameters, surface effects 7−44980
Ge:Sb single cryst., extended defects, X-ray topography meas. 7−38020
Ge-S+bi chalcogenide glasses, struct., DTA and X-ray diffr. studies 7−6543
Ge-Sb-S glasses, bulk and thin film samples, optical and photo-acoustic props. study 7−22211
Ge-Si(111) interface, geometrical struct. 7−38310
Ge_3N_4 native insulator layer on Ge single cryst., microstruct. and props. studies 7−12574
GeO_2 native insulator layer on Ge single cryst., microstruct. and props. studies 7−12574
GeO_2-TeO_2-V_2O_5 system, phase diagram and equil., quasi-binary section investig. 7−21405
$Ge_{35}S_{65}$ films, evaporated, structural changes on illumination and heat treatment *(Japanese)* 7−22489
GeSi thermally evaporated epitaxial heterolayers on GaAs substrate, Si distrib. *(Russian)* 7−63988
$Hf_{1-x}Cu_x$ metallic glass, thermal stability and phase transformations 7−21125
HfO_2-MgO system massive vacuum condensates, structure *(Ukrainian)* 7−12527
$HfTe_5$, unit cell dimensions and positional parameters, powder X-ray and neutron diffr. studies 7−16527
$Hg_{1-x}Cd_x(Mn_x)Te$/CdTe superlattices, twin faults, X-ray obs. 7−45036
HgCdTe, high quality LPE on CdZnTe, IR detector anal. 7−64941
$Hg_{1-x}Cd_xTe$/CdTe superlattices, MBE growth and props. 7−53602
HgTe-CdTe superlattices, struct. characterisation 7−27164
HgTe-CdTe superlattices grown on lattice-mismatched GaAs substrates 7−52341
HgTe-EuTe system, interactivity 7−6801
I, monatomic metallic, press. induced FCC phase 7−63805
In $As_{1-x}Sb_x$ epitaxial layers, MOCVD, strained-layer superlattices 7−39407
$In_xAl_{1-x}As$/Au Schottky barrier heights, composition dependence 7−45431
InAs/GaAs strained-layer superlattices, band struct., TEM, X-ray and photolum. spectra 7−38722
InAs-GaAs superlattices grown by beam-separation MBE, surface morphology and elastic strain 7−7031
$In_{0.5}G_{0.5}P$ layers, LPE, elec. and optical props. 7−17119
InGaAs and InGaAsP, nonuniform, dynamical X-ray rocking curve simulations 7−2408
$In_{1-x}Ga_xAs$, MOCVD, optical and elec. props. rel. to growth temp. 7−53613
$In_xGa_{1-x}As$/InP heterostructures, OMVPE growth, quality, source comp., press. effect 7−39400

X-ray diffraction examination of materials continued
$In_xGa_{1-x}As$-$In_yAl_{1-y}As$ superlattices, lattice-matched and lattice-mismatched, dislocation filtering 7−21671
InGaAsP double heterostructures for laser diodes, LPE growth, influence of P vapour ambient 7−46355
InGaAsP epitaxial films, strain mapping by an X-ray diffraction technique 7−21786
InGaAsP film, defect struct. and strain anal., X-ray topography 7−52344
InGaAsP layers, VPE growth, X-ray characterisation 7−21780
InGaAsP/InP multiquantum well layers, LPE, photolum., X-ray diffr. 7−53640
InGaAsP/InP superlattices, gas-source MBE grown, X-ray diffr. and TEM studies 7−32839
In_2O_3:Sn vapour deposited films, growth, struct., electronic props. 7−12535
In_2O_3:Sn(In)(Cd) films, optical and elec. props. 7−22365
InP films on oxidised Si substrate, laser recrystallisation 7−38398
InP:Ga,As,Sb single crysts., LEC growth, isoelectronic doping, dislocation density, X-ray topography 7−33549
InP:S, LEC grown, influence of growth conditions on defects 7−32427
InP:S substrate wafers for LPE growth of laser diode heterostructures, polarised IR and X-ray topographic evaluation 7−32453
InP_xAs_{1-x} solid solutions, temp. depend. of lattice constants and thermal expansion coeffs. 7−21165
InSb (-1-1-1) (3 × 3) reconstructed, X-ray diffr. studies 7−6951
$Ir_{2.7}Se_8$, synthesis, powder diffr. characterisation 7−64956
K, compression and polymorphism, up to 400 kbar 7−32632
KC_8/D_2O intercalation cpd., X-ray diffr., NMR, EPR and gas phase mass spectra anal. 7−46843
$K_3Cu_8S_6$, mixed valence 2D metal, CDW 7−45294
K_2O-SiO_2 glasses, struct., X-ray diffr., molecular dynamics calc. 7−6551
$K_{1-x}Rb_xAlF_4$, shear structural phase transition, temp. behavior 7−63809
$KSbO_3$, phase transforms. and thermal stability, X-ray diffr. and XPS meas. 7−44793
$KSbTeO_6$, ionic conductivity and powder X-ray diffr. characterisation 7−12362
$KTiOPO_4$ crystals, high temp. flux growth, morphology 7−58178
LI_2-SiO_2 glasses, struct., X-ray diffr., molecular dynamics calc. 7−6551
La-Co-O system, nonstoichiometric K_2NiF_4-type phases 7−37936
$(La_{1-x}Ce_x)_2Fe_{14}B$ rapidly quenched ribbons, hard mag. props. 7−27549
$LaNi_2H_x$, stoichiometry deviation and structural disorder, H content depend., EXAFS study 7−64815
Li, stacking faults, X-ray and neutron diffr. patterns 7−16580
Li-Al(Si) glasses, short-range struct., pulsed neutron and X-ray diffraction 7−1912
$Li_3Fe_2(PO_4)_3$, microtwinning, X-ray struct. investig. 7−44567
$LiMO_2$, M=Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu props., review 7−64437
$Li_{2x}Mg_{1.5-x}VO_4$ solid soln. phase, synthesis, stoichiometry and struct. 7−21168
$Li_x{}^+(NH_4{}^+)_y(NH_3)_zTiS_2{}^{(x+y)-}$ intercalation cpd., NH_3 oxidation, charge compensation 7−32354
$LiNbO_3$, anomaly study by X-ray diffraction 7−6588
$LiNbO_3$ proton-exchanged single cryst. optical waveguides, electro-optic effects, lattice const. and refractive index changes meas. 7−22220
Li_2O-Al_2O_3-SiO_2 glass., cryst. phase nucleation, DTA, X-ray diffr. 7−58156
Li_2SO_4-Li_2CO_3 system, phase diagram and elec. cond. meas. 7−32612
$Li_2SO_4H_2O$, charge density at 80 and 298 K, X-ray and neutron diffr. 7−21166
$Li_2SO_4.H_2O$, supercooled melts, cryst. and mol. struct., thermal stability 7−21170
$Li_3Sc_2(PO_4)_3$, microtwinning, X-ray struct. investig. 7−44567
Li_4TeO_4 glassy electrolyte, vibrational, thermal and elec. characts. study 7−6866
$LiVO_2$, phase transition near 200°C, elec. resist., mag. susceptibility, X-ray diffr., IR spectra, EPR, thermal anal. 7−32914
LiV_2O_5, Li inserted, struct., neutron and X-ray powder diffr. anal. 7−32391
$Li_xV_6O_{13+y}$ nonstoichiometric intercalation cpd., phase stability and elec. cond. studies 7−12723
$Li_{1-4x}Zr_x[PO_4]_3$ ionic cond. comp. depend., X-ray diffr., prep. method depend. 7−12365
Lu, mean square amplitude of vibr. and Debye temp. 7−21368
Mg-Sm-Zn system, phase equilib. 7−46413
Mg-Zn metallic glasses, room temp. stability, crystallisation and precipitation 7−11931
$MgGa_2O_4$-Mg_2GeO_4 system, spinelloid phases charact. 7−37946
MgO-SiO_2 melt, struct. study 7−58142
$Mg_{76}Zn_{24}$, amorphous, crystn., X-ray small angle scatt. 7−11935
MgZnSn, glass forming ability, intermetallic cpd. effect, X-ray and Mossbauer investig. 7−52050
Mn-Cu single crystals, Debye-Waller coeff. behaviour, energy dispersive X-ray diffr. study *(Russian)* 7−51983
Mn-Ni alloys, γ-phase decomposition, annealing and quenching, X-ray phase anal. 7−17510
Mn-P-B system, isothermal cross section at 1070K, lattice parameters of phases 7−53702
MnAs, press, induced transitions 7−26941
$MnAs_{0.9}P_{0.1}$, struct. and mag. props. 7−12948
$MnAs_{0.8}Sb_{0.2}$, press. induced transitions 7−26941
$Mn_{1-y}Fe_y$ sputtered films, mag. props. 7−38915
$Mn(H_2PO_4)_2.2H_2O$, cryst. struct., Patterson synthesis 7−2001
MnO_2, crystallite size, strain, X-ray diff. study 7−2221
MnO_2-$BaMnO_3$ system, pseudo-binary, phase relation and thermal behaviour of synthetic hollandite, $Ba_xMn_8O_{18}$ *(Japanese)* 7−28026
Mo alloys, forging, crystallographic texture, X-ray diffr. *(Russian)* 7−39538
Mo CVD coating on graphite, struct., thermal resist. props. 7−52375
Mo high purity single crystal, impurity-induced lattice distortions, diffuse X-ray scatt. studies *(Russian)* 7−6644
Mo, high purity single crystals, distortion charact., effect of point defects, diffuse X-ray scatt. meas. 7−51752
Mo, hydroextruded single crystals, nonuniformity of texture deform. *(Russian)* 7−33695
Mo/Al-Si interdiffusion kinetics and contact resistance study for VLSI appls. 7−21714
Mo/Ni superlattice, sputtered, struct. anal. 7−45030
Mo/Sb multilayer film, superconductivity and structural characterisation 7−17128
Mo/Si, amorphous multilayers, annealing, diffusion, structural relax. 7−52309

X-ray diffraction examination of materials continued
Mo/V quasiperiodic multilayers, growth and superconductivity 7−12927
Mo-BN sputtered films, anisotropic lattice strain and grain orientation 7−12516
Mo-N polycrystalline films, implanted, single defects, X-ray diffr. data anal. 7−38372
Mo-Pd-Si, thin film metallisation system, interdiffusion, cpd. formation 7−21538
Mo-ZrO_2, sintered composites, tetragonal to monoclinic transform. of ZrO_2 *(Japanese)* 7−13450
Mo_xNi_{100-x}, x=20, 28, 35, 48, 63, amorphous, struct., short range order, thermal stability 7−21107
MoS_2, high press. synthesis, characterisation 7−26716
$MoSe_3S$ cathode for secondary Li batteries, prep. and characterisation 7−64948
NH_4AlPO_4-P_2O_5-H_2O system, phase relations, $AlPO_4$ stability 7−65009
$(NH_4)_{0.32}H_{0.16}WO_3$, intercalation cpd. struct., enthalpy of reaction 7−46841
$(NH_4)_{1.84}V_3O_8$, intercalation cpd. struct., enthalpy of reaction 7−46841
Na-Y zeolite, Li-exchanged, thermal transform. to Li aluminosilicates, X-ray and NMR studies 7−44794
$Na_6(AlSiO_4)_6.nH_2O$, dehydration, struct. collapse or expansion 7−17770
$Na_8(AlSiO_4)_6.nH_2O$, dehydration, struct. collapse or expansion 7−17770
$Na_2B_4O_7$, pyroborax, model for short range order of Na_2O-B_2O_3 glass 7−44391
$NaBrO_3$-$NaClO_3$ solid soln. single crysts., X-ray Debye temps. 7−58428
NaCl:Eu single cryst., $EuCl_2$ phase precipitation, fluoresc. and X-ray diffr. studies 7−46108
$NaMn_2ZrP_3O_{12}$, $Na_2(Ce,Co)ZrP_3O_{12}$ and $Na_2(La,Co)TiP_3O_{12}$, Nasicon analogues, cryst. data 7−12014
$Na_xMo_2O_4$ intercalation cpd., struct., mag. suscept., X-ray diffr. and electrochemical anal. 7−46842
$Na_3MoO_3F_3$, ferroelastic and ferroelectric behaviour 7−44792
$NaNO_3$-$AgNO_3$ solid soln., X-ray diffr. investig. 7−6594
Na_2O-Al_2O_3-SiO_2-H_2O, zeolite ASM-5, framework site resolution and assignment by X-ray and NMR meas. correl. 7−25541
Na_2O-B_2O_3 glass struct., comparison with pyroborax 7−44391
Na_2O-B_2O_3-Nd_2O_3, SiO_2 substituted, leaching of $Na_2O-B_2O_3$, X-ray study of $NdBO_3$ 7−51657
Na_2O-B_2O_3-SiO_2 ThO_2-rich porous glass ceramic, phase separation *(Afrikaans)* 7−13439
Na_2O-V_2O_5-P_2O_5, crystallised glass, containing V bronze crysts., elec. cond. 7−21922
Na_2O-WO_3-B_2O_3 glass ceramics, containing W bronze, prep. and elec. props. *(Japanese)* 7−3261
$Na_2O.nAl_2O_3$, mullite struct., form. by solid state reaction 7−7937
$NaSbO_3$, phase transforms. and thermal stability, X-ray diffr. and XPS meas. 7−44793
$Na_8Ti_{3.5}O_2(OH)_2[SiO_4]_4$, polymorphous modification of natisite, cryst. struct., X-ray diffr. 7−26709
$Na_{1+4y+x}Zr_{2-y-x}Si_xP_{3-x}O_{12-2z}$ nonstoichiometric monoclinic NASICONs, X-ray powder Rietveld refinements 7−12304
$Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7−6870
Nb alloys, borosilicide coatings, X-ray obs. *(Russian)* 7−45066
Nb films, oriented, electron beam evaporation in ultrahigh vacuum onto GaAs 7−3175
Nb, interstitial point defects, diffuse neutron and X-ray scatt. studies 7−51765
Nb, shock-synthesised superconductor, characterisation 7−38116
Nb/Cu Fibonacci 1D quasiperiodic superlattice struct., X-ray diffr. meas. 7−52307
Nb-Al_2O_3, high temp. interactions, X-ray diffr., DTA studies 7−8259
Nb-B-C system, struct. and phase equilib. of Nb 7−22638
Nb-Cr_2O_3, high temp. interactions, X-ray diffr., DTA studies 7−8259
Nb-N polycrystalline films, implanted, single defects, X-ray diffr. data anal. 7−38372
Nb-Si films, sputtered, superconducting props. 7−17126
Nb-Ti compositionally modulated films, struct. study 7−7056
Nb-Ti multilayered thin films, superconducting and struct. 7−64384
Nb-V sinusoidally modulated superlattice, growth and charact. 7−21741
Nb-Y_2O_3, high temp. interactions, X-ray diffr., DTA studies 7−8259
NbC, amorphous films, prep. and characts. 7−7885
$NbC_{0.72}$, atomic displacements, X-ray determ. 7−32584
NbC_x, ordering behaviour, superstruct, refl. obs. 7−3267
Nb_2C lower carbide, rhombic modification, X-ray diffr. obs. of cell type and dimens. 7−51725
NbD_x, microscopic density fluctuations of deuterium, Huang diffuse X-ray and neutron scatt. anal. 7−2215
Nb_3Ge, high supercond. transition temp., struct. instabilities and electronic props. 7−58943
Nb_2O_5-Al_2O_3-B_2O_3-Na_2O-SiO_2, phase separable glass, heat treatment leaching, X-ray diffraction anal. 7−51658
$Nb_2Pd_{0.74}Cu_{0.22}S_5$, reactivity, intercalation structural changes, X-ray diffr. exam. 7−46839
NbS_3 cathode, prep. under high press., use in Li secondary battery, performance 7−13853
NbS_3, stacking disorder 7−44573
$(NbSe_4)_3I$, long-range order formation near the second-order phase transition temp. 7−44802
$NbSi_2$ sputtered films, rapid thermal annealing 7−21739
Nb_3Sn, heat treatment for in-situ processing, Cu, Nb, Sn, distrib. *(Chinese)* 7−12924
Nd-Fe-B, phase diagram, permanent mag. anal. 7−39486
Nd-Fe-B amorphous ribbons, effect of crystallisation conditions on hard mag. props. 7−27561
Nd-Fe-C(Si)(Ge)(Pb)(Sn) ternary phase studies. X-ray anal. and Curie temp. meas. 7−7508
$Nd_xCr(Ce)_{1-x}P_5O_{14}$ cryst. growth and characterisation, X-ray diffr., Raman scatt., visible and IR absorpt. meas. 7−44423
$Nd_2Fe_{23}B_3$, struct., Curie temp., X-ray diffraction anal. 7−11994
Nd_2O_3 films epitaxial growth by a reactive-evaporation method 7−59429
Nd_2O_3-P_2O_5-GeO_2, phase equilibria, X-ray diffr., thermal anal., fluoresc. spectra 7−6758
NdP_5O_{14}, ferroelastic domain walls, X-ray topography studies *(Chinese)* 7−58493
Ni alloys, thin oxide films for H barriers, growth study 7−2434
Ni, hydrogenation, getter effect of Cu substrate 7−13804
Ni/Al thin film interactions, phase formation sequence 7−21701
Ni/Ni-P compositionally modulated films, electrodeposition 7−3209

X-ray diffraction examination of materials continued
- Ni-Al_2O_3 composites, small metal particles, high resolution electron microscopy and X-ray diffr. meas. 7−46376
- Ni-Al-Mo-W system, constitution of Ni_3Al-Ni_3Mo-Ni_3W section 7−13434
- Ni-B alloy, electroless, heat induced struct. changes 7−13639
- Ni-B-Si ternary system, liq.-solid equilib. in Ni-rich region *(French)* 7−65004
- Ni-base superalloys, single cryst. and directionally solidified, oxidation in air at 1093 °C 7−65179
- Ni-Co-Cr-Al-Y coatings, electron beam deposition, oxidation rel. to pretreatment 7−46702
- Ni-Cu-Si, γ' precip. coarsening, bifurcation theory appl. *(Japanese)* 7−53734
- Ni-P, electrodeposition, pulse plating, corrosion resist. *(Japanese)* 7−53643
- Ni-P electroless deposited amorphous coatings, wear resistance, crystallisation effects 7−53913
- Ni-Si, spatial correl. to γ' precipitates 7−46484
- Ni-Si interface reactions induced by pulsed incoherent light, silicide formation 7−32725
- Ni-Sn (8.5 at.%), cellular precipitate, discontinuous coarsening kinetics 7−65037
- Ni-Ti-H, α/β miscibility gaps, X-ray diffr. study 7−13430
- Ni-V-H, α/β miscibility gaps, X-ray diffr. study 7−13430
- NiAl/Ni thin film interactions, phase formation sequence 7−21701
- Ni_3Al produced by shock compaction, TEM 7−39480
- $Ni_{64}B_{36}$, metallic glass, struct. relax. X-ray and neutron diffr. study 7−6521
- $Ni_xCd_{1-x}PS_3$, crystalline lamellar cpds. EXAFS studies of disorder 7−59295
- NiCrAlY, Al_2O_3 adhesion mechanism 7−33843
- $Ni_{70}Cr_7Fe_3Si_8B_{12}$ ribbon, rapidly quenched from melt, struct. inhomogeneity and crystallised metastable phase *(Chinese)* 7−63477
- NiFe-Co-Au trilayer film, structural depth profiling by glancing angle X-ray diffraction 7−26593
- $Ni_{1-x}Fe_xMnSb$, half-metallic ferrimag., mag. and crystallographic props. 7−45672
- Ni_2Ge, chemical bond, struct., short range order 7−32350
- $Ni_{52.5}Mo_{38}Cr_8B_{1.5}$ metallic glass, shock consolidated, wear props. 7−28154
- $Ni_{60}Nb_{40-x}Al_x$ metallic glasses, form. and stability, X-ray diffr., DSC obs. 7−58155
- $Ni_{77}P_{23}$ amorphous alloy, struct. relax. and crystn., elec. resist. and X-ray diffr. obs. 7−1894
- NiS thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7−32870
- $NiSO_4.6H_2O$ crystals, soln., grown, steps on {001} faces, screw dislocations glide 7−58181
- NiSe thin films, deposition by soln. growth techniques, X-ray diffr., optical, elec. meas. 7−32870
- $NiSi_2$, MBE growth, struct. props. and device appls. 7−21738
- $NiSi_2$-Si (111) interface struct., X-ray standing-wave analysis 7−58661
- $NiSi_2$-Si(111) interface struct. charactn. by X-ray diffr. *(Japanese)* 7−63399
- Ni_2Si growth kinetics from Ni and Ni-V films on Si surfaces, TEM, AES, X-ray diffr. and backscatt. studies 7−45032
- NiTi, martensitic transform. rel. to d-transition element alloying *(Russian)* 7−59519
- $Ni_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7−63486
- $Ni_{61}Zr_{39}$, X-ray diffraction pattern, crystallization behaviour and magnetic props. 7−3219
- $NpAl_2$, high press. studies 7−16689
- NpO_2, high press. studies 7−16689
- PLZT ferroelectric ceramics, gamma, electron and neutron irrad. effects study 7−6677
- PLZT, transparent ferroelectric ceramic, irradiation effects 7−59157
- PZT powders, oxalate method prep., particle size *(Japanese)* 7−7941
- PZT, prep. by oxalate method in ethanol soln. *(Japanese)* 7−3245
- PZT, shock-recovery expts. 7−38119
- Pb thin film, optical consts. in visible region 7−7662
- Pb thin films, surface plasmon detection, attenuated total refl. meas. 7−16961
- Pb-Ge multilayers, cumulative disorder and X-ray line broadening 7−32847
- Pb-Sn α-phase alloys, cold-worked and splat-cooled, X-ray diffraction line anal. 7−46502
- $PbBi_2S_4$-Bi_2S_3 system, chemically twinned phases, X-ray diffr., TEM obs. 7−32462
- PbI_2:Zn, single crysts., growth and semicond. behaviour 7−53577
- $PbIn_{1/2}Nb_{1/2}O_3$, antiferroelec., phase transition, B-site cation order effects 7−7651
- $Pb_2(MSb)O_{6.5}$, M=Ti, Zr, Sn, Hf, pyrochlores, cryst. data 7−21171
- PbO-Fe_2O_3, binary phase diagram, DTA, X-ray diffr. meas. 7−46434
- PbO-K_2O-Nb_2O_5, polymorphism, DTA, X-ray phase anal. 7−6782
- PbO-SiO_2 glasses, struct. anal., X-ray diffr. studies 7−6532
- $Pb_3P_{2x}V_{2-2x}O_8$ mixed system, substitution defects, first order transition spreading 7−58458
- PbS/PbTe 1D superlattice struct., X-ray diffr. patterns, coherent and heterophase scatt. 7−64733
- $Pb(Sc_{0.5}Nb_{0.5})O_3$ ferroelectric ceramics, gamma, electron and neutron irrad. effects study 7−6677
- $Pb(Sc_{0.5}Nb_{0.5})O_3$, transparent ferroelectric ceramic, irradiation effects 7−59157
- PbSe-SnSe strained layer superlattice, prep. and struct. anal. 7−52301
- PbSnEuTe, superlattices, prep. by hot wall epitaxy, props. *(Japanese)* 7−12546
- $Pb_{0.8}Sn_{0.2}Te$ thin films, structural and elec. props., pulsed laser-irrad. effects study 7−21270
- PbTe-EuTe short period superlattices, props., appl. to laser diodes 7−52785
- $PbTiO_3$, amorphous, with 10 mol.% B_2O_3, radial distrib. function determ., energy dispersive X-ray diffr. method 7−16420
- $PbTiO_3$-$PbZrO_3$-$Pb(Mg_{1/3}Nb_{2/3})O_3$ system, comp. fluctuation in solid soln. *(Japanese)* 7−28025
- Pd films, sputter deposition, effect of ion bombardment of growing film 7−64009
- Pd-C solid solution, X-ray diffr. study 7−21383
- Pd-H system, phase form., process *(Russian)* 7−33640
- Pd-Te, phase diagram, DTA, X-ray powder diffr. studies 7−39483

X-ray diffraction examination of materials continued
- Pd-Te system, phase diagram study 7−26934
- Pd-U-Si glassy alloys, glassy-to-icosahedral polymorphous crystn. transform., X-ray and electron diffr. studies 7−6515
- Pd-U-Si glassy state, quasicrystalline phase form., X-ray and electron diffr. studies 7−26645
- PdFe, drawing effects on elec. resist. and mech. props. *(Russian)* 7−17584
- PdSi, phase transform. to Pd_2Si, kinetics 7−16795
- PrP_5O_{14} cryst. growth and characterisation, X-ray diffr., Raman scatt., visible and IR absorpt. meas. 7−44423
- Pt complex, $[Pt(NH_3)_2(OH)_2(C_5H_7N_3O)_2](NO_3)_2.2H_2O$, metal stabilised cytosine iminooxo tautomer, form. and geometry 7−26710
- Pt films, sputter deposition, effect of ion bombardment of growing film 7−64009
- Pt, sputtered film, microstruct., thickness effect studied by X-ray diffr. method 7−21756
- Pt-Al_2O_3 catalysts, small angle X-ray scatt. anal. 7−16352
- Pt-Al_2O_3 composites, small metal particles, high resolution electron microscopy and X-ray diffr. meas. 7−46376
- Pt-SiO_2 catalysts, small angle X-ray scatt. anal. 7−16352
- PtSi-Si, interfacial metallurgical interactions, elec. characts., effect of H 7−52834
- RSi_{2-x}-Si (R=Sc, Y, Gd, Ho, Tb, Dy, Er, Tm, Yb, Lu), silicide thin films, phase composition, conductance, surface morphology 7−7072
- $Rb_{1-x}(ND_4)_xD_2PO_4$ structural glass phase, X-ray scatt. meas. 7−26660
- RbCl-RbBr mixed crystals, X-ray diffraction and color centres 7−58258
- $RbFeF_4$ layer cpd., structural phase transitions studies 7−26942
- Rb_2KMF_6, (M=Al, Cr, Fe, Y, Br), structural phase transitions 7−52044
- $Rb_{1-x}(NH_4)_xH_2PO_4$, lattice constants, temp. and concentration dependence, X-ray diffraction anal. 7−1976
- $RbSbTeO_6$, ionic conductivity and powder X-ray diffr. characterisation 7−12362
- $RbSn_2Br_3$, cryst. struct., X-ray determ. 7−21182
- Rb_2ZnCl_4, commensurate-incommensurate phase transition, X-ray and dielec. studies 7−63800
- Rh complex, dirhodium tetraoctanoate, discotic mesophase struct., optical microscopy, DSC and X-ray diffr. study 7−26627
- Rh/GaAs Schottky contact, correlation between solid-state reaction and electrical props. 7−58655
- Ru complex, Creutz-Taube complex with HUO_2PO_4, synthesis, struct. and oxidation, IR and X-ray spectra anal. 7−46840
- Ru-Ir bicrystal superlattices, X-ray and transport studies 7−27159
- S, thermal expansion coeffs., Gruneisen parameter, X-ray powder diffr. determ. 7−2235
- SF_6 monolayer on graphite, X-ray diffraction studies 7−6965
- Sb liquid droplets, undercooling and crystallisation 7−39496
- $SbCl_mF_{5-m}$ graphite intercalation cpds., struct., X-ray diffr. studies 7−12008
- β-Sb_2O_4:V(Mo), struct. characterisation, X-ray, neutron, and electron microscopy studies 7−32383
- Sb_2S_3, nonstoichiometric forms in $PbSb_2S_4$-Sb_2S_3 region of Pb-Sb-S phase diagram 7−6812
- Sc thin films, vacuum-deposited, struct. and optical props. 7−58698
- Si (111), surface reconstructions, X-ray standing-wave study 7−44968
- Si (111) substrates with epitaxial CaF_2-BaF_2 epitaxial bilayers, characterisation 7−12521
- Si (111) with adsorbed Ge, X-ray standing wave studies 7−58629
- Si (111)7×7, surface structure, X-ray diffr. studies 7−12438
- Si bent oxidised cryst. wafers, X-ray spherical wave diffr., interference phenomena 7−63402
- Si bicrystals, grain boundary carrier recombination, chemical origin 7−17039
- Si, charge carrier-lattice interaction, X-ray diffr. study 7−51975
- Si, crystal growth, impurity effect on formation of microdefects 7−32340
- Si dendritic web ribbon, electrical and struct. props. 7−16922
- Si, dislocation density reduction by thermal cyclic annealing 7−12072
- Si, dislocation emission from cracks, X-ray topography obs. 7−38004
- Si, dislocation loops, generated by ion implantation and furnace annealing, depth profiles, RBS, X-ray diffr., TEM anal. 7−51882
- Si, dislocation transmission through $\Sigma=9$ symm. tilt boundaries, synchrotron X-ray topography, HVEM obs. 7−63646
- Si epitaxial layers, selectively grown, lattice strain 7−64920
- Si, external photoelectric effect, Laue diffr., anomalous X-ray transmission 7−7811
- Si film growth for MOS-VLSI, Ti and Pt silicide form. 7−7870
- Si, intrinsic gettering by butterfly-type defects 7−38047
- Si ion beam deposition on (100) single cryst. substrate, interface, thin film and damage form. 7−17423
- Si, layers damaged by cutting, struct., X-ray diffr. obs. 7−2401
- Si, microdefects, X-ray absorpt. during Laue diffr. study 7−2009
- Si, overheating during pulsed laser irradiation 7−12127
- a-Si, prep. by low press. CVD, characts. 7−7884
- Si, recoil implantation of O_2, characterisation by double-crystal X-ray diffraction, TEM, Monte Carlo simulation 7−51807
- Si single cryst., laser-driven shock induced damage study 7−64829
- Si single crystals, defect struct., high DC elec. fields, X-ray diffr. 7−44530
- Si, thin crystals, grinding, surface defect struct., X-ray diffr. *(Russian)* 7−38304
- Si, uniaxially stressed, internal strain parameters, surface effects 7−44980
- Si, X-ray electron charge density distrib. 7−26695
- Si:As surface, $TiSi_2$ formation 7−12551
- Si:B, ion implanted, strain profile, double cryst. X-ray rocking curve simulation 7−2060
- Si:B, low temp. epitaxial films, nonequilib. doping effects 7−58672
- Si:B layers, preamorphised and ion implanted, structural and elec. characterisation 7−52347
- Si:B(P)(As)(Sb), retarded and enhanced dopant diffusion related to implantation-induced excess vacancies and interstitials 7−63881
- Si:C, polycrystalline, electrical and structural properties 7−12106
- Si:Cu thin single crystals, decorated dislocations, X-ray Laue diffr. and scatt. studies *(Russian)* 7−58282
- a-Si:H films, annealing, compressive stress, H evolution 7−28059
- Si:H microcrystalline films, glow discharge prep., elec. and optical props. 7−7415
- Si:H-$Si_{1-x}C_x$:H amorphous super struct., hot electron generation 7−52794
- Si:O, Czochralski-grown wafers, growth striations, X-ray topography study 7−59400
- Si:O, diffusivity and solubility of O review 7−16809
- Si:O, precipitates, X-ray diffuse scatt. study *(Japanese)* 7−63399

X-ray diffraction examination of materials continued
Si:P, pulsed laser annealing, molten phase local nucleation study 7—63655
Si/a-SiO$_2$/ZrO$_2$-Y$_2$O$_3$, SOI system fabrication, charact. 7—22025
a-Si/Si (111) interface ordering, X-ray diffr. 7—32848
Si-Co(Pt)(Au), high energy density pulsed ion beam irradiation, study of reacted layers 7—52151
a-Si-Ge multilayer interfaces, Raman scatt., X-ray diffr. characterisation 7—27167
Si-SiO$_2$, SOI struct., deep O$^+$ implantation, strain and damage in Si 7—32531
Si-SiO$_2$, Si oxidation kinetics, interface width determ. 7—39764
Si-Ti(TiSi$_2$), Schottky barrier height investig. 7—2716
SiC fibres, prep. from polycarbosilane, heat treatment, Raman study 7—65062
β- SiC films on substrates, CVD, X-ray topography 7—63998
SiC, polycryst., oxidation 7—28159
β-SiC powder, sintering, phase transform. rel. to additives *(Japanese)* 7—17527
SiC powders, prep. by CVD method using RF-plasma *(Japanese)* 7—3250
SiC short fibred filamentary crystals., phase comp. and morphology 7—65010
SiC, sintered, microstruct. and props., influence of fabrication method *(Japanese)* 7—22622
α-SiC, thermal expansion of hexagonal polytype, 20-1000°C 7—52089
β-SiC, ultrafine powder synthesis in thermal arc plasmas 7—27916
a-Si$_{1-x}$C$_x$ films, RF spattered, IR absorpt., X-ray diffr., RHEED *(Japanese)* 7—53584
a-SiGe:H,F glow discharge films, microcrystallinity studies 7—45088
Si$_3$N$_4$ ceramic, bonding to stainless steel, using Cr and Mn prediffusion *(Japanese)* 7—8147
SiO$_2$, porous catalysts, small angle X-ray scatt. anal. 7—16352
SiO$_2$, spherical particles synthesis, thermal behaviour *(Japanese)* 7—7943
SiO$_2$, thermal oxide films on Si, X-ray scattering studies 7—52326
a-SiO$_2$ with high surface area, local order 7—52201
α-SiO$_2$, X-ray diffr. whole-powder-pattern fitting without reference to a structural model 7—32214
SiO$_2$/Si (111) interface ordering, X-ray diffr. 7—32848
SiO$_2$-Al$_2$O$_3$, mullite form. from xerogels, X-ray and IR obs. 7—46391
SiO$_x$:P films, pure and doped, low press. CVD growth, structural, optical, elec. props. 7—27186
SiO$_2$—TiO$_2$ solid solutions, phase relationships and spectroscopic features 7—63826
Si$_x$Se$_{1-x}$ glasses, intermediate range order 7—11938
Si$_x$Te$_{100-x}$ glasses, crystallisation, DSC studies 7—6542
Si(111) (7×7), geometrical struct. 7—38310
Sm-Co-B rapidly quenched ribbons, hard mag. props. and struct. 7—53048
Sm-Fe-Co-B-Si melt-spun alloys, mag. props. 7—27553
SmAsO$_4$, vibrational spectra, IR and Raman obs., X-ray and thermal analysis 7—59198
SmCo$_5$ fine particles, produced by ball milling, strain and domain wall energy *(Japanese)* 7—7556
Sm$_2$O$_3$, aging in air 7—65160
Sn, high press. phase transitions and compressions, in situ X-ray diffr. study 7—6722
Sn-In-S ternary system, cryst. growth and charact. *(French)* 7—33645
Sn-Sb system, high press. phase transitions, X-ray diffr. study 7—6779
SnO$_2$-Si (100), CVD coatings, X-ray studies 7—7886
SnSe, high temp. oxidation mechanism 7—3536
SnSe thin films, vacuum deposited, high temp. phase form., X-ray diffr. study 7—32873
SnTe, low temp. iodide method synthesis, X-ray reaction product studies 7—64945
SrF$_2$, phase transitions, influence of shear deformation 7—21429
SrF$_2$, thermal expansion at elevated temps. 7—63849
SrNd$_2$S$_4$-Nd$_2$S$_3$ solid solns., vacancy disorder charactn., Raman spectra study 7—58270
SrTiO$_3$, surface D$_{4h}$ hypothesis, X-ray diffr. study 7—2182
$Ta+SiO_2 \rightarrow Ta_2O_5+Si$ redox reaction products induced by shock loading 7—59763
Ta$_x$Si electrodeposited coatings, composition, morphology and hardness meas. 7—27191
TaT$_x$, evolution of lattice spacing and damage 7—16582
Tb$_{21}$Fe$_{79}$ amorphous films, radial distribution function 7—37860
(Tb$_{1-x}$Y$_x$)$_3$Co, magnetoelastic interactions and thermal expansion *(Russian)* 7—17211
Te cpds., valence electron configs., X-ray chemical shift and Mossbauer isomer shift, SCF anal. 7—32893
Te-As-S chalcogenide system, annealing, crystalline precipitate phase form., X-ray diffr. anal. 7—16751
TeO$_2$-based halide glasses, prep., thermal, mechanical, elec. and optical props. characterisation *(French)* 7—37884
TeO$_x$ films, nanosecond pulsed laser-induced segregation 7—44610
Th-Au system, phase diagram, DTA, micrography, X-ray anal. 7—17512
Th$_3$N$_4$ and ThN, prep. and oxidation behaviour 7—22600
Ti alloys, ω-phase, special features of twinning *(Russian)* 7—44570
Ti film on Si, heat treatment in O$_2$, N$_2$ or O$_2$/N$_2$, Ti silicides, TiO and TiN formation 7—65191
Ti, heat treated, softening, in situ HVEM obs. 7—17548
Ti, metal surfaces immersed in liquid media, pulsed laser oxidation and nitridation 7—59656
Ti nonisothermal carbidising mechanism, combustion with carbonaceous material, thermal wave propag. vel. determ. 7—46381
Ti, oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
Ti thin films, dissolution and diffusion of O, resist., X-ray diffr., particle backscatt. and AES studies 7—58913
Ti-Al-Mo-Cr, VT3-1, struct. changes during US case hardening *(Russian)* 7—53991
Ti-Al-Mo-Fe, struct. changes during phase transitions *(Russian)* 7—53721
Ti-Al-V, ternary phase diagram 7—28017
Ti-Cu-Ni-Si amorphous alloys, structural relax. annealing, X-ray diffr. studies 7—6537
Ti-Mo (30 wt.%) evidence of FCC δ-hydride form. 7—3312
Ti-N ion deposited film, struct., phase comp. and mechanical props., comp. depend., X-ray diffr. study 7—12573
Ti-N-Permalloy ferromag. multilayers, prep. and props. 7—64497
Ti-Nb alloys, struct. and precipitation under high energy electron irrad. *(Russian)* 7—44620
Ti-Pd, formation by mechanical alloying methods, powder X-ray anal. 7—59479

X-ray diffraction examination of materials continued
Ti-V-H alloys, struct., X-ray diffr. and ^{1}H and ^{51}V NMR studies 7—32364
TiB$_x$ plasma-enhanced CVD films on Si, furnace annealing, metallisation appls. 7—38411
Ti(C,N) films on steel substrates, residual stress 7—52373
TiC, amorphous films, prep. and characts. 7—7885
TiC/Fe multicomponent films on steel, sputter deposition and characteris. *(Japanese)* 7—3167
TiFe, oxidised, bulk and surface phase composition 7—46700
TiH$_x$, X-ray diffr., lattice parameter change, density of states 7—44469
TiN coatings, internal stress and adherence 7—52374
TiN powders, fine, prep. by vap. phase reaction *(Korean)* 7—7938
TiN-Fe sputtered binary coatings on steel substrates *(Japanese)* 7—59419
Ti$_{1-x}$Nb$_x$Co$_{0.5}$N$_{0.5}$ solid solns., prod. factors influence on struct. parameters of variable comp. phases 7—7940
TiNi-Ge, premartensitic effects *(Russian)* 7—53692
TiNi-X, X=Fe, Ge, Re or Ni, struct. transitions in premartensitic range *(Russian)* 7—39504
TiO$_2$ powders, dispersant use, sintering, microstruct. 7—46378
TiO$_2$-GeO$_2$ glasses, crystallisation, ion coordination, X-ray diffr., IR spectra 7—6523
TiS$_2$, nearly stoichiometric, direct reaction synthesis and characterisation 7—58499
TiS$_e$, prep. in presence of Sb, struct. studies 7—33616
Ti$_{84}$S$_{16}$ metallic glass, total struct. factors, neutron and X-ray diffr. studies 7—6546
TiSi$_2$, oxidation, Rutherford backscattering spectrometry, AES, X-ray diffr., elec. resist. meas. 7—22894
TiSi$_2$ thin films, production by LPCVD, charact. *(French)* 7—7888
TlCl$_{0.7}$Br$_{0.3}$, Debye temp., Debye-Waller factor and mean vibr. amplitude, X-ray determ. 7—26893
Tl$_2$Cu(SO$_4$)$_2$, glassy γ-modification, structural and electronic props. studies 7—58161
TlFe$_{2-x}$Se$_2$ layered cpd. single cryst., magnetic and structural props., Mossbauer and X-ray diffr. studies 7—2848
Tl$_2$GeSe$_3$-Tl$_2$SnSe$_3$ systems, phase equilibria 7—6760
Tl$_4$GeSe$_4$-Tl$_4$SnSe$_4$ systems, phase equilibria 7—6760
TlSbTeO$_6$, ionic conductivity and powder X-ray diffr. characterisation 7—12362
Tm$_3$Fe$_5$O$_{12}$, double phase transition, EXAFS studies 7—63799
To$_2$NiSe$_5$, reactivity, intercalation structural changes, X-ray diffr. exam. 7—46839
To$_2$PdSe$_6$, reactivity, intercalation structural changes, X-ray diffr. exam. 7—46839
U, texture anisotropy, as-cast and heat treated 7—46518
U-Ti dilute alloys, phase transformations 7—16730
UAuCu$_4$ magnetic props., X-ray diffr., NMR and mag. suscept. meas. 7—52948
UC, high press. struct. study, X-ray diffr., synchrotron radiation 7—16729
$UMoO_6+CaO=CaMoO_4+{}^1/_3U_3O_8+{}^1/_6O_2$, free energy of form., thermodynamic feasibility 7—13753
UO$_2$ (111) surface, oxidation investig., U$_3$O$_8$ form., X-ray studies 7—3474
UPdCu$_4$ magnetic props., X-ray diffr., NMR and mag. suscept. meas. 7—52948
V/Ni multilayered superlattice, microstruct., X-ray and neutron diffr. 7—32849
V/Si, silicide formation, comparison of SiO$_2$ and a-Si surface protection layers 7—58662
V-N system, metastable ordered phases, cryst. struct. *(Russian)* 7—44447
VD$_x$, force dipole tensor and elastic consts., diffuse X-ray scatt. obs. 7—26831
V$_3$Si, anharmonicity and X-ray forbidden reflections 7—1995
V$_{75}$Si$_{25}$ amorphous films, crystallisation and elec. props. 7—21102
W complexes, W (VI) isopropylimido, cryst. and mol. structs. 7—51722
W films, magnetron sputtering prep., elec. and mech. props. 7—16913
W, n *(Russian)* 7—51699
W selective CVD films, diffusion barrier props. 7—52155
W selective LPCVD films on Si substrate, characts. 7—38409
W/C multilayer films, thermal stability, X-ray diffr. studies 7—27169
W/C multilayers for X-ray optics, anomalous expansion 7—21782
W-C multilayer structures, X-ray standing wave enhanced scatt. 7—58095
W-Ti-Si interface, WSi$_x$ form. by rapid thermal annealing, growth kinetics, Ti film effects 7—63969
W-Ti-Si system, metallisation materials, amorphous phase form. and stability 7—22640
W-Zr amorphous films as diffusion barriers between Al and Si 7—21504
WC-Co, TiN-coated, residual stress and strength, X-ray diffr. study *(Japanese)* 7—8101
WC-Co sintered carbides, X-ray diffr. obs. of microstruct. after hardening, optimum heat treatment cycle 7—65063
W$_x$Si$_y$ reactively sputtered films, metastable phase form. 7—52340
Xe, adsorbed on graphite, incommensurate-commensurate phase transition, X-ray diffr. obs. 7—32793
Xe-Kr mixtures adsorbed on graphite, X-ray diffraction studies 7—6966
Y, mean square amplitude of vibr. and Debye temp. 7—21368
Y oxychlorides, phase equilib., X-ray diffr. and spectro-luminesc. anal. 7—46143
Y$_2$O$_3$-TiO$_2$ system, fluorite type solid soln. crystallisation 7—1882
Yb-In-Te system, phase equilibria 7—44761
Yb$_x$TiS$_2$ mixed valence intercalation cpd., low-temp. synthesis and mag. props. 7—17779
Zn complex, Zn (acetylacetonate)$_2$.H$_2$O, Mn^{2+} dopant, crystal struct., EPR spectra study 7—64521
Zn ferrite, shock-synthesised or furnace-reacted, mag. props. 7—38904
Zn$_x$Cd$_{1-x}$S thin films, struct. and electrical props. 7—64372
Zn$_{0.25}$Cd$_{0.75}$Se mixed crysts., electron and hole deep level traps 7—16980
ZnCr$_2$O$_4$, crystal growth, chemical vapour transport, struct., mag. and electronic props. 7—53517
Zn$_{1-x}$Fe$_x$Fe$_2$O$_4$, shock synthesised, X-ray diffr. 7—39899
ZnIn$_2$Se$_4$, crystal struct. 7—2002
ZnO:Al films, RF reactive sputter deposition, struct., elec. and optical props. *(Japanese)* 7—27900
ZnO-Bi$_2$O$_3$ system, sintering, role of Bi$_2$O$_3$ 7—64977
α-ZnP$_2$, incommensurate phase, phase transformations and lattice modulation 7—6777
Zn$_3$P$_2$, prep., X-ray charactn. 7—7939
Zn$_3$P$_2$, vacuum deposited films, struct., transmission electron microscopy and X-ray diffr. 7—52316
β-Zn$_7$Sb$_2$O$_{12}$, structural data 7—12022

X-ray diffraction examination of materials continued
ZnSe MBE layers on GaAs, lattice mismatch effects, TEM, photolum. and X-ray diffr. studies 7—45042
ZnSe-ZnS strained-layer superlattice, low pressure MOVPE growth 7—53604
ZnSe-ZnTe strained layer superlattices, MBE growth on InP substrates 7—13366
ZnTe-ZnSe(S) superlattices, hot wall epitaxial growth and photoluminesc. props. 7—13220
ZnTeSeS, superlattices, prep. by hot wall epitaxy, props. *(Japanese)* 7—12546
Zr-Ni metallic glass, crystallisation, metastable crystalline phase form. 7—21126
Zr-Ni metallic glasses, crystn. 7—21111
Zr-Ni(V) amorphous superconductors, struct. and supercond. props. 7—27482
Zr-Ru-Ir system, solidus surface projection of Zr-ZrRu-ZrIr partial system 7—7972
ZrF_4-BaF_2-NaF-AlF_3-LaF_3 glasses, crystallisation study 7—63491
ZrO_2, Al_2O_3 stabilised thin films 7—45062
ZrO_2 single crystals, stabilised, growth by skull melting technique, charactn. 7—53560
ZrO_2, tetragonal, cryst. growth 7—17417
ZrO_2, tetragonal, ferroelastic domain switching as toughening mechanism 7—33712
ZrO_2, X-ray diffr. whole-powder-pattern fitting without reference to a structural model 7—32214
ZrO_2, Y_2O_3 stabilised powder, spray pyrolysis, sintering, microstruct., fracture toughness 7—27983
ZrO_2, Y_2O_3 stabilised, phase transform., mech. props., surface struct. rel. to polishing *(Japanese)* 7—53791
ZrO_2-CaO-P_2O_5-SiO_2 glass ceramics, prep. and mech. props. *(Japanese)* 7—7942
ZrO_2-SiO_2 optical films, struct. modification by coevaporation 7—45064
ZrO_2-Y_2O_3, arc melted, cubic to tetragonal transform. herringbone struct. 7—28042
ZrO_2-Y_2O_3, rapidly quenched, microstruct. evolution by annealing 7—22737
ZrO_2-Y_2O_3 ceramic system, phase equilib. and transform 7—22682
ZrO_2-Y_2O_3/(U, M)$O_{2\pm x}$, M=Sc or Y, interface charactn. 7—21677
$ZrS_3(Se_3)$, stacking disorder 7—44573
$ZrTe_5$, unit cell dimensions and positional parameters, powder X-ray and neutron diffr. studies 7—16527

X-ray diffraction examination of microstructure *see X-ray diffraction examination of materials*

X-ray diffraction examination of molecular structure
see also molecular configurations
N-(P′-1-adamantyl-P′-bis(trimethyl(silyl)amino)phosphino-P-iodo-P,P-di(tert-butyl)imidophosphinate, X-ray diffr. structural anal. 7—51744
amylose triesters, conformations, side group effects 7—20079
biepoxycyclopentyl selenium derivatives, partial disorder, X-ray structural anal. 7—51742
o-bromophenyldibromoarsine, X-ray structural anal. 7—51748
collagen, fibrillar struct., X-ray diffr., zero layer line calc. 7—8483
cumulen cyclodimers, form. mechanism and X-ray struct. determ. 7—62306
dicyclohexyl-18-crown-6, A and C isomers, struct., X-ray diffr. study 7—42799
1-difluoronitroacetyl-2,2-dimethylhydrazine, cryst. and mol. struct., X-ray diffr. anal. 7—26735
4-4′-dimethyl-8,9,10-trinor-spiro-2-2′-borane (1,3-oxazolidine)-3′-oxyl racemic mol. solid soln., phase separation statics and dynamics 7—26737
α-ethoxyacrolein semicarbazone, cryst. and mol. struct., X-ray diffr. 7—26734
insect flight muscle, time-resolved struct. studies after photolysis of caged-ATP 7—28456
macromolecular systems, gamma-resonance and X-ray investigations of slow motions 7—59927
2-methoxy-2-oxo-1,3,2-oxazaphosphorinane, conformer struct. and populations, IR, NMR and X-ray spectra anal. 7—25509
N-phenylsulfonylbenzimidoyl chloride, cryst. and mol. struct., X-ray and calc. investig. 7—51747
polyethylene, chain setting angle, powder X-ray analyses 7—11964
D-ribulose-1,5-bisphosphate carboxylase/oxygenase from Alcaligenes eutrophus H16, struct. obs. 7—65691
sulphanylamide-6-(4,5-dimethoxy)-pyrimidinyl, cryst. and mol. struct. 7—37957
TCNQ salt, N-n-propyl phthalazinium 7,7,8,8 $TCNQ_2$, struct., elec., mag. props., EPR meas. 7—33005
3,3′-5,5′-tetrabromo-4,4′-dioxyphenyldimethylmethane, crystal and molecular struct. 7—16537
3,3,7,7-tetraoxo-9-oxa-3,7-dithiabicyclo [3.3.1] nonane, mol. and cryst struct. 7—37956
2-thio-1,3,2-oxazaphosporinane, conformer struct. and populations, IR, NMR and X-ray spectra anal. 7—25509
tris(tetrahydroborato)titanium(II)-dimethoxyethane, cryst., X-ray structural investig. 7—51730
variant surface glycoproteins of Trypanosoma brucei, 6 Å resolution X-ray structs. 7—47000
vitamin B_{12} coenzyme crysts., water struct., neutron and X-ray solvent densities anal. 7—28454
$B(OH)_3$, electron density, X-ray diffr. determ. at 105 K, ab initio calcs. 7—44458
Cu complex, sulphato aquotris(benzotriazole) Cu (II) benzotriazole, cryst. and mol. struct. 7—21181
Ni complex, nickel(II) acyl hydrazones, X-ray structural anal. 7—51729

X-ray diffractometers
automated diffractometer for X-ray tensometry, using SAPI 1 microcomputer and FORTH language *(Czech)* 7—56390
calibration, FIRECRACKER 3 computer program 7—14931
cooling device for operation at 10K, mounting without rot. seals on four-circle diffractometer 7—14954
cryostat based on Peltier effect for X-ray diffractometry at low temp. 7—14956
four-circle diffractometer, detector misalignment correction 7—1813
four-crystal, crystallite mosaicity and perfection meas. 7—44302
grazing Bragg-Laue geometry design 7—32222
high-pressure X-ray diffraction apparatus, energy-dispersive, with synchrotron source 7—18801
in situ X-ray diffraction apparatus for metal hydridestudies 7—381

X-ray diffractometers continued
liquid surface obs., reflectivity and scattering studies of liquid-vapour interface 7—18969
rapid collection of X-ray powder data for pattern analysis by a cylindrical position-sensitive detector 7—32213
specimen-deformation machine for X-ray diffractometers, tensile testing of foils and films 7—33874
texture attachment for quantitative X-ray texture analysis 7—8214

X-ray effects
see also biological effects of X-rays
alumina, polycrystalline, X-ray and proton irrad., elec. cond. studies 7—33014
$(BEDT\text{-}TTF)_2I_3$, organic superconductor, critical temp., randomness effects 7—52882
borates and halogenoborates, cryst. and vitreous, X-ray irrad., ESR centres, review 7—7586
calcium tartrate single crysts., dielectric props. rel. to X-ray on γ-ray irrad. 7—59161
CR-39 detector, dose rate effects 7—30859
defects produced by electron and X-ray irradiation, surface effects 7—6687
dosimetry, interface phenomena, Monte Carlo prediction 7—56878
double layer dielec. films, X-ray irrad. effects 7—58332
effective depth of X-ray penetration, orientation depend. 7—38058
energy deposition by X-rays and electrons, microscopy implications 7—38064
ethane, ionisation by X-rays, effect of fluid density on energy absorpt. 7—31920
fusion reactor first walls, ion debris and X-ray energy deposition and response 7—49639
glasses, silicate and quartz, radiation-induced centres, ESR studies 7—12149
graphite, first wall thermal performance in ICF reactor 7—49634
hydrazinium hydrogen oxalate, X-irradiated, trapping site geometry of $N_2H_4^+$ radical ion, ENDOR study 7—7609
methane, ionisation by X-rays, effect of fluid density on energy absorpt. 7—31920
methyl thiocyanate, adsorption and reactions on Ni (111) 7—21640
MOS structure, X-ray irrad., interface trap annealing, two-reaction model 7—58901
MOS structure, X-ray irrad., trapped hole spatial depend., tunnelling anal. and annealing meas. 7—58902
multilayered devices, algorithm for dose profile calc. using personal computer 7—56877
nitrobenzene, radiation-induced Kerr electro-optic effect 7—53272
optical glass fibre waveguides, colour centres 7—11081
polymer film capacitors, radiation-induced space charge 7—45516
polymer films, photoetching using soft X-rays 7—22859
polymer films, X-ray photoetching 7—7792
polymer resists, bonds, radiation effects and crosslinking 7—37907
polyvinylidene fluoride, modifications under high energy heavy ion, X-ray and electron irrad., XPS study 7—38076
PTFE and PVDF, aging, irradiation by X-rays, electron and ion beams, XPS study 7—32498
quartz, as-grown or Li-, Na-, Cu- electrodiffused, radiation-induced conductivity 7—6691
quartz, fused, X-ray irradiated, ESR-modulation spectroscopy 7—51826
quartz, luminescence of pure and Ge-activated samples 7—46152
quartz crystal irradiation effects study using low-temp. dielec. relax. 7—58334
quartz crystal resonators radiation sensitivity with different Al impurity content 7—58335
synthetic silica glass, X-ray induced absorpt. and luminesc., heat treatment effects study 7—7733
tetramethylammonium tetrachlorozincate, X-ray radiation damage, satellite reflections 7—51827
$(TMTSF)_2PF_6$, organic superconductor, critical temp., randomness effects 7—52882
triglycine sulphate:Tl^+, X-ray effects, changes in physical props. 7—22198
triglycine sulphate, Cr doped, amplitude depend. of dielectric losses 7—64587
Al_2O_3, electrical props., radiation effects 7—52617
Ar high press. discharge, X-ray initiated, laser appls., anal. 7—63385
B, defects produced by electron and X-ray irradiation, surface effects 7—6687
BaFCl:Dy(Cu), thermolum., X-irradiated at room temp. 7—53419
$Ba_2NaNb_5O_{15}$, X-ray irradiated ferroelectrics, radioluminesc. and thermolum. 7—27797
BaO-B_2O_3-Al_2O_3, aluminoborate glass, X-irrad., optical and thermal bleaching 7—45820
$BaSO_4$, barite, X-irrad., thermally stimulated luminesc., trap distrib. 7—59266
CaF_2:Ce, Mn crysts., energy transfer, optical absorpt. and luminesc. studies, X-ray irrad. effects 7—27773
CdTe anomalous photovoltage films X-ray irradiation effects studies 7—58834
GaAs anomalous photovoltage films X-ray irradiation effects studies 7—58834
GaP anomalous photovoltage films X-ray irradiation effects studies 7—58834
Ge anomalous photovoltage films X-ray irradiation effects studies 7—58834
HgI_2 solution-grown crystals, X-ray and γ-ray irrad. effect on elec. props., radiation detector performance 7—58838
InAs MIS structures space charge accumulation 7—33097
K atoms in Ar matrix, site modification by X-ray and light irradiation 7—51819
$KAlSi_3O_8$, thermally stimulated luminesc. at low temps. 7—13238
KBr single crystals, X-ray irrad., F-band absorpt. and thermolum., effect of laser excitation 7—21277
KBr single crysts., F-band absorpt., X-irrad., thermolum., mag. and elec. field effects 7—59230
KBr, stable hole defect formation by ionizing radiation 7—63669
KCl single crysts., laser excited dielec. props. and cond., X-ray irrad. effects study 7—27649
KCl X-ray and γ-irrad., F-centre destruction owing to subsequent laser light excitation, luminesc. spectral characts. 7—27772
KCl:Zn, elec. cond., dielec. loss meas., before and after X-irrad. 7—33324
KCl(Br), F-centre near-surface generation by synchrotron radiation 7—26744

X-ray effects continued
KCl(Br), radiation defects created by decay of electronic excitations 7−16626
KI, exciton self-localisation, radiation defects, lumin. studies 7−64681
KNO_3, dielectric props., effect of X-ray or γ-ray irradiation 7−53215
$K[(OH)_2PO_2]$, irradiated single crystal struct. study, ESR and ENDOR anal. 7−38962
$kBr:ClO_4^-$, X irradiation, paramag. defect prod., EPR, Raman and IR spectra 7−22142
$LiCl:Fe^{3+}$, X-ray irrad., EPR spin Hamiltonian parameters 7−45808
$LiD:Mg^{2+}$, elec. props., X-irradiation effects, DC cond., dielec. loss and ionic thermocurrent meas. 7−27341
LiF, N ion implanted and X-irrad., microhardness response 7−21344
LiF, quenched, dielectric props., effect of high AC field and X-ray irradiation 7−38985
LiF:Mg(Ni)(Co) R′ colour centres, spectral holeburning props., depend. on doping and irradiation 7−26743
LiF:U, Ti(U), X-irradiated crystals, absorpt. bands of U^{4+} and U^{3+} ions 7−13183
$LiH:Ca^{2+}$, elec. props., X-irradiation effects, DC cond., dielec. loss and ionic thermocurrent meas. 7−27341
$LiXO_3$ (X=Nb,Ta,I), X-ray irradiated ferroelectrics, radioluminesc. and thermolum. 7−27797
MgO, electron irrad., stored energy, differential thermal anal. studies 7−32503
MoO_3, amorphous films, X- and γ-irradiated, color center form. 7−44541
$NH_4Al(SO_4)_2.12H_2O:Cr^{3+}$, X-ray radiation damage, EPR and optical absorption studies 7−26799
NH_4HSeO_4, X-ray irrad., existence of incommensurate phase, permitt. meas. 7−33338
N_2O, fragmentation by monochromatic soft X-rays, time-of-flight mass spectra 7−25610
NaCl positron annihilation parameters, irrad. effects determ. 7−46224
NaCl, pure and doped, irrad. defect, thermoluminesc. 7−3098
NaCl, X-ray and γ-irrad., F-centre destruction owing to subsequent laser light excitation, luminesc. spectral characts. 7−27772
NaCl:Mg, X-ray irrad., exciton interactions with impurity-vacancy dipoles, absorpt. and luminesc. spectra 7−45162
RbI, exciton self-localisation, radiation defects, lumin. studies 7−64681
Si anomalous photovoltage films X-ray irradiation effects studies 7−58834
Si, defects produced by electron and X-ray irradiation, surface effects 7−6687
$Si-SiO_2$, E′ centre in thermally grown SiO_2, bias depend. annealing 7−45503
$Si-SiO_2-Si$ layered struct., dose calcs. for X-ray and X-ray irrad. 7−58333
$SiO_2:Ge$, impurity charge trapping props., EPR spectra 7−27290
$SiO_2:OH$, X-irrad. induced defect centres, EPR obs. 7−45221
SiO_2-GeO_2 optical fibre surfaces, formation mechanism of H-associated defect centre 7−65158
$YAsO_4$, internal and external vibrs., IR and Raman spectra studies 7−64648
$ZrF_4-BaF_2-LaF_3-AlF_3-LiF$ glass, X-ray radiation damage, EPR studies 7−21278

X-ray emission spectra
see also appearance potential spectra; conversion electron spectra
3d metal oxides, X-ray $L\alpha,\beta$ emission spectra studies 7−13265
Amersham ^{137}Cs afterloading sources, associated X-ray spectra 7−60075
antiferromagnets, X-ray emission spectra, hyperfine effects 7−13264
atom-ion collisions, Z=32 to 54, L-shell ionisation, X-ray yield, threshold behaviour 7−10734
atom-ion collisions L subshell ionisation probabilities vacancy sharing 7−15697
atomic transition energies, X-ray spectra 7−10422
CLEO plasma, electron cyclotron heated, X-ray imaging by tangential projection 7−32087
diagnostic X-ray spectra reconstruction by numerical anal. of transmission data 7−40272
diamond, ultradisperse, obtained from C plasma, energy spectrum 7−22384
energy dispersive analysis, rapid deconvolution method based on Bayes theorem 7−17366
fluorescence detection systems for EXAFS meas. 7−61415
fluorescence EXAFS meas. from 2 to 25 keV using Si photodiode array detector 7−61413
graphite intercalated with alkali metals, electron struct., soft X-ray emission spectroscopy 7−45117
ion bombardment, excitation of atoms 7−13310
K_α satellites of X-ray spectra during electron bombardment *(Russian)* 7−53449
laser created X-ray source, study and appls. 7−61418
line sources, laser irrad., brightness, duration and pulse width 7−41561
medium and heavy elements, L-subshell ionisation cross sections, X-ray spectra anal. 7−30977
multivacancy effects in X-ray emission spectra 7−36522
Ni+Ni collisions, quasimol. form., X-ray spectra study 7−31157
planar targets irradiated by 0.27 μm laser, mass ablation rate and pressure meas. 7−46250
plasma, emission characteristics, soft X-ray region, plasma diagnostics, radiative-collisional model study 7−62312
plasma electron temp. determ. from X-ray continuum radiation 7−58064
polypropylene foil, coherent transition X-ray meas. under e^- bombardment 7−5698
pulsed discharges through capillary in inert gas, XUV emission spectra 7−44292
radiographic tubes, equiv. spectra as a meas. of beam quality 7−54724
rare earth atoms, 4d shell vacancies, radiational decay of states, X-ray spectra studies 7−10479
rare earth vanadates, XES charactn. 7−51693
light rare earths, $L\gamma'_{2,3}$ satellite, X-ray emission spectra anal. 7−36523
Rutherford backscattering-particle induced X-ray emission analysis, large residual defects 7−54251
silicides, d-metal, heat of form. evaluation from X-ray emission spectra *(Russian)* 7−59776
soft X-ray calibration of diffracting materials 7−26514
spectrometer, Cauchois-type, computer-controlled 7−56395
stimulated soft X-ray emission in a confined plasma column 7−11603
symmetric heavy ion collisions, K X-ray prod., target thickness fn., X-ray spectra anal. 7−30978

X-ray emission spectra continued
thin films, quantitative electron probe microanal. 7−8327
transition metal alloys, heat of formation, X-ray emission centres *(Russian)* 7−37919
X-ray and electron spectroscopy, conf., Irkutsk, USSR (Sept. 1984) 7−9574
X-ray standing wave along diffraction vector, method for crystal structure study 7−58104
XUV radiation source using laser-produced plasma 7−24746
$\bar{p}$ atoms, X-ray meas., strong interaction shift, width determ. 7−50404
Ag thin films, surface sensitivity of fluoresc. EXAFS in refl. conditions 7−64750
Al laser plasma, population inversion X-ray spectra 7−26506
Al soft X-ray spectra, using photon excitation from synchrotron light source 7−30150
Al, X-ray $L_{2,3}$ emission satellites, one electron contrib. 7−22388
Al-Mg alloy, charge transfer, X-ray emission and UPS studies 7−3118
Al-Mg surface layers, electronic and atomic structs., heat treatment effects *(Russian)* 7−58575
$Al_2O_3-TiO_3$ amorphous films, thermal expansion and coordination state of cations 7−44860
Ar, 2s and 2p shake-up energy, $X\alpha$ theory, X-ray transition energies 7−10422
Ar, multivacancy effects in X-ray emission spectra 7−36522
Ar^{q+}, heavy ion impact on gas target, long-lived states form., K X-ray spectra anal. 7−30980
Au, plasma, X-ray spectroscopic diagnostics *(French)* 7−6445
$BaTiO_3$, electronic struct., special features *(Russian)* 7−45146
Br plasma, laser produced, oscillator strengths, X-ray transitions, ab initio calcs. 7−16334
C films, $CK\alpha$ spectra and interatomic bonding *(Russian)* 7−58705
C-containing mols., X-ray emission spectra, ab initio MO HF calcs. 7−36642
C_8K and $C_{24}K$ intercalation cpds., angle-depend. X-ray emission bands 7−46248
$CaF_2:Eu$, X-ray luminesc., spectral-kinetic props. 7−39184
$CaF_2:Nd$ single cryst., thermoluminescence and X-ray fluorescence studies 7−33463
CaF_2-Nd single crystals, thermolum., spectra and X-ray luminesc. spectra 7−64704
Cd^+, autoionising states, picosecond soft-X-ray ionis. spectroscopy 7−10521
$Cd_xHg_{1-x}Te$, band gap collapse, effects of Hg 5d electrons 7−64075
CeB_6, radiative decay of $4d^94f^{n+1}$ excited states 7−39321
Cl atom, $K\alpha_{1,2}$ X-ray emission lines, many electron effects 7−887
Co, X-ray emission $K\alpha_{1,2}$ spectra 7−64825
Co_2Ge, chemical bond, struct., short range order 7−32350
Cr compounds, $K\beta/K\alpha$ X-ray intensity ratios, chem. effects 7−17365
Cr, X-ray emission $K\alpha_{1,2}$ spectra 7−64825
$Cr(CO)_6$, electronic struct., X-ray and photoelectron spectra 7−5699
Cr_2O_3, in mullite transparent glass-ceramics, X-ray absorpt., emission and EPR spectra 7−7728
Cs, quasimetastable energy levels, appl., XUV emission studies 7−10480
Cs^+, electron impact s-ionisation, ultrasoft X-ray spectroscopy study *(Russian)* 7−984
^{137}Cs decays, X- and γ-ray intensity meas. 7−61838
Cu (100), XANES fluoresc. yield meas. of submonolayer linear hydrocarbon mols. 7−64751
Cu, single crystal, proton induced Kossel X-ray diffraction 7−53451
Cu, X-ray emission $K\alpha_{1,2}$ spectra 7−64825
Cu X-ray $K\alpha$ emission spectrum 7−22383
Cu-based binary dilute alloys, electron struct., X-ray $L\alpha$ emission spectra studies 7−12598
$ErSi_x$, electronic struct., X-ray emission spectra studies 7−52419
$EuSi_x$, electronic struct., X-ray emission spectra studies 7−52419
F_2, electronic struct., X-ray emission spectra 7−50174
Fe, X-ray emission $K\alpha_{1,2}$ spectra 7−64825
Fe-Al-Si system, electronic struct. interatomic bonding, X-ray emission spectra analysis *(Russian)* 7−39320
Fe-Cr oxide film struct., in- and ex-situ fluorescence EXAFS study 7−64007
Fe-Ge amorphous and cryst. layers, short range order and valence bands 7−13266
FeAl, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7−64826
Fe_2Ge, chemical bond, struct., short range order 7−32350
$Fe_{50}Ni_{25}Pd_{25}$, surface oxidation, X-ray $L\alpha,\beta$ emission spectra studies 7−13265
FeRh, X-ray emission and absorpt., ab initio self-consistent band struct. calcs., LMTO method 7−64826
FeSi oxidised interface system, XPS, XAES and Auger parameter studies 7−7025
Fe_3Si, electronic struct. and X-ray spectra, disorder effects *(Russian)* 7−32903
GaAs, impurity atom site location using channelling enhanced microanalysis 7−38023
GaAs, laser-induced melting and nonlinear optical studies 7−12432
GaSb:Gd,Ho crystal grown by horizontal zone melting, precipitate identification 7−21462
H-like ion plasma, laser interaction, X-ray line emission self absorpt. and escape factors 7−37689
H^++Dy(Yb), L-subshell ionisation cross section, X-ray emission 7−50327
HF, gaseous and solid, electronic structure, X-ray spectra studies 7−10614
H^+L(Cr,Fe,Co,Zn), k-shell ionization cross sections and theoretical models 7−5627
He^+ + light target atoms ($28 \leq Z \leq 46$), L shell X-ray prod. cross sections meas., first Born approx. and ECPSSR theory anal. 7−36526
He-like ions, plasma, laser interaction, X-ray line emission self absorpt. and escape factors 7−37689
He^{q+}+Ag(Cd)(In)(Sn)(Sb)(Te)(I), L-subshell ionisation, X-ray prod. 7−50303
^{203}Hg decays, X- and γ-ray intensity meas. 7−61838
In, L X-ray spectra study 7−42536
InP, impurity atom site location using channelling enhanced microanalysis 7−38023
K^+, electron impact s-ionisation, ultrasoft X-ray spectroscopy study *(Russian)* 7−984
KSCN, K X-ray $K\alpha$ spectra, hidden satellites, chem. effects, DV-$X\alpha$ cluster calcs. 7−46245

X-ray emission spectra continued
K_2SO_4, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
$K(Ta_{0.91}Nb_{0.09})O_3$, ferroelec. transitions, EXAFS studies 7−64780
K_2TiF_6, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
La, X-ray $M_{4,5}$ fluorescent emission spectrum, hole-induced shakedown processes. 7−53450
LaB_6, radiative decay of $4d^94f^{n+1}$ excited states 7−39321
LiF crystal, X-ray spectra rel. to electronic struct. *(Russian)* 7−39319
LiF soft X-ray spectra, using photon excitation from synchrotron light source 7−30150
Mg atoms, ultrasoft X-ray emission spectra studies 7−10615
MgF_2 molecules, ultrasoft X-ray emission spectra studies 7−10615
Mn and its cpds., X-ray satellites, zero-point plasma oscillations 7−17367
Mn compounds, Kβ/Kα X-ray intensity ratios, chem. effects 7−17365
Mo-Re alloys, electron struct., X-ray spectra studies *(Russian)* 7−45135
$Mo(Co)_6$, electronic struct., X-ray and photoelectron spectra 7−5699
Na, pionic atom, 2p-1s transition width and energy 7−62544
Na, X-ray $L_{2,3}$ emission satellites, one electron contrib. 7−22388
Ne, 1s shake-up energy, Xα theory, X-ray transition energies 7−10422
Ne-like ion plasma, laser produced, reson. transitions, X-ray diagnostics 7−20932
Ne**, He-like, X-ray and Auger transition rates 7−36507
Ni, X-ray emission K$\alpha_{1,2}$ spectra 7−64825
Ni XXVII plasma, X-ray spectral diagnostics 7−20931
Ni-Ge amorphous and cryst. layers, short range order and valence bands 7−13266
Ni-like ion plasma, laser produced, reson. transitions, X-ray diagnostics 7−20932
$Ni(CO)_4$, electronic struct., X-ray and photoelectron spectra 7−5699
Ni_2Ge, chemical bond, struct., short range order 7−32350
^{237}Np, X-ray spectra meas., 3d→1s radiationless transition, probability calc. 7−31188
Pb^{26+}+Sn(Xe), impact parameter depend. target K X-ray emission, XES spectra anal. 7−62314
Pb^{q+}+Ag, electron capture, K X-ray emission spectra study 7−36524
RAl_2Si (R=Pr,Gd,Tb,Dy,Ho,Er,Tm,Lu), electronic struct., X-ray emission bands *(Russian)* 7−45138
Rb^+, electron impact s-ionisation, ultrasoft X-ray spectroscopy study *(Russian)* 7−984
S thin layers, sputter erosion by 1.0 MeV He^+, induced X-ray emission meas. 7−64860
SbSBr, ferroelec. semicond., band struct., X-ray spectral studies 7−58739
Si, pure and heavily doped, X-ray fluorescence, strength of K$\alpha_{3,4}$ satellites 7−22386
Si soft X-ray spectra, using photon excitation from synchrotron light source 7−30150
a-Si:H films, density of states and photoconductivity 7−45392
a-$Si_{1-x}C_x$:H, Si-Kβ spectra, soft X-ray emission spectra *(Japanese)* 7−13268
SiO_2, electronic structure, direct and inverse photoemission and soft X-ray emission spectra *(French)* 7−59374
SiO_2 X-ray fluorescence, strength of K$\alpha_{3,4}$ satellites 7−22386
Sm, X-ray emission spectra with fluorescence-excitation and near-threshold electron-excitation methods 7−46246
Sm+H^+, 4 MeV collisions, L-subshell ionisation probabilities, impact parameter depend. 7−42749
Sm^{q+}+Xe collisions, q=34 to 52, resonant electron transfer and L-shell excitation, X-ray spectra study 7−30979
SmB_6, X-ray emission spectra with fluorescence-excitation and near-threshold electron-excitation methods 7−46246
Ti-Cr alloys, cryst. and electronic struct., decomposition of β-solid soln. 7−37931
TiN_x, coatings, characterisation by X-ray emission spectroscopy *(French)* 7−46244
Tl_3MS_4 (M=P,As,Ta), electronic energy struct. and bonds, X-ray spectra studies 7−45148
U^{q+}+Sn, electron capture, K X-ray emission spectra study 7−36524
Zr-based transition metal glasses, local densities of states 7−7086
ZrO_2 based films, composition and struct., X-ray emission and ESCA studies 7−22385

X-ray fluorescence analysis
bone, elemental concentrations, determ. using X-ray fluoresc. anal. 7−40381
bromide compounds, X-ray fluorescence anal. of K X-ray intensities 7−59805
coating thickness meas. by X-ray fluoresc. testing 7−41342
energy dispersive, 2-variable cumulative distrib. functions, cubic spline representation 7−23073
energy dispersive, Monte Carlo simulation of backscattered peaks 7−23070
environmental monitoring of marine bivalves and sediments using X-ray fluorescence and neutron/prompt gamma activation anal. 7−34077
graphite fibre, benzene-derived, exfoliation and characters. 7−46663
grazing incidence, for implantation profile tracing *(French)* 7−13834
interelement correction methods 7−23072
iodide compounds, X-ray fluorescence anal. of K X-ray intensities 7−59805
Laue zone effects, nonzeroth order, atom location by channelling enhanced microanal., X-ray fluorescence anal. 7−46905
layered synthetic microstructures for long wavelength X-ray spectrometry 7−379
metal clusters, dispersed in polymeric matrices, synthesis and props. 7−17370
metal wire connections, contact resist., effect of fretting 7−21980
metallic films, multilayer, thickness and composition meas., X-ray fluorescence algorithms 7−54249
metallic multilayer films, thickness and composition anal. using X-ray fluorescence 7−46898
multicomponent materials, surface composition, X-ray photoeffect discontinuity studies 7−12416
nondestructive coating thickness meas. 7−13703
profile analysis 7−23071
PTFE antifriction coatings, thickness and uniformity, X-ray fluoresc. method 7−17661
quantitative, fundamental coeff. method appls. 7−23074
radioisotope production, anal. and appl., conf., Banff, Canada, Sept. 1985 7−24254

X-ray fluorescence analysis continued
radioisotope XFA of copper content in Zongtiaoshan copper mine *(Chinese)* 7−8337
relative intensity for annular source geometry, Monte Carlo calcs. 7−23076
reprocessing input analytical meas., NDA technology demonstration 7−36166
SEM, at. number depend., detection limits improvement 7−23103
SEM, X-ray fluorescence for material analysis 7−59821
Si detector material, X-ray fluorescence diagnostic technique 7−46895
synchrotron X-ray fluorescence, diffraction interference 7−17830
trace element anal., expt. studies *(Chinese)* 7−8339
trace element analysis, fluorescence tomography using synchrotron radiation 7−59806
trace elements in biological materials determ., new techniques in X-ray fluoresc. and atomic absorpt. spectrometries 7−18101
wedge shaped specimen, simulation of charact. fluoresc. behaviour 7−23102
Ag content in carrier materials 7−65373
Al-Ti-Cu multilayer films, thickness and composition anal. using X-ray fluorescence 7−46898
$BaO-Al_2O_3-B_2O_3$ glass, constitution 7−21120
Ca, low energy X-ray fluorescence anal. using annular ^{55}Fe source, Monte Carlo approach 7−8335
$CaO-Al_2O_3-B_2O_3$ glass, constitution 7−21120
$Cd_xHg_{1-x}Te$ heterostructures, MOVPE, computer controlled reactor, charactn. 7−59446
Cl, low energy X-ray fluorescence anal. using annular ^{55}Fe source, Monte Carlo approach 7−8335
Co, determ. in steel, by X-ray fluoresc. anal. 7−23075
Fe, cast, chem. analysis with VRA-30 sequential X-ray fluoresc. spectrometer 7−8333
Fe-Ni alloy, X-ray fluoresc. determ. using NRLXRF programme 7−59800
$Fe_xNi_{80-x}B_{20}$, XRF and PIXE surface anal. 7−12411
GeSi thermally evaporated epitaxial heterolayers on GaAs substrate, Si distrib. *(Russian)* 7−63988
H_2S, K X-ray yield, chem. environment effect 7−3618
^{123}I, high-purity, prod. and specific activity meas. 7−28696
K, low energy X-ray fluorescence anal. using annular ^{55}Fe source, Monte Carlo approach 7−8335
KP_x thin films, composition and thickness determ. 7−21785
$Mo_{3.25}Ir$, cryst. struct., X-ray diffr. meas. at 293K and 12.5K 7−16491
$Nd_{2-y}Cu_yRu_2O_{7-y}$ pyrochlore type phases, elec. and cryst. characts., X-ray fluoresc. anal. *(French)* 7−45325
SF_6, K X-ray yield, chem. environment effect 7−3618
SO_2, K X-ray yield, chem. environment effect 7−3618
SiO_2:Hg films, Hg-sensitized photo-CVD, X-ray fluorescence anal. 7−17440
Ta, L-subshell ionis., proton deuteron and alpha impact induced, low-velocity effects 7−51879
Tc conc. in spent fuel soln., determ. by X-ray fluorescence 7−5337
Ti-Cr alloys, cryst. and electronic struct., decomposition of β-solid soln. 7−37931
W, L-subshell ionis., proton deuteron and alpha impact induced, low-velocity effects 7−51879
$Y_2O_2S_2:Tb^{3+}$, phosphor, electronic struct., cathodoluminescence meas. 7−17350
$Zn_3(PO_4)_2$ coating, deposited on cold rolled steel surface, Fe dissolution, X-ray fluoresc. anal. 7−28168

X-ray fluorimetry *see X-ray fluorescence analysis*

X-ray lasers
applications, prospects 7−24739
capillary-discharge sodium plasma for pulsed-power X-ray laser experiments 7−32018
cavities and pumping optics 7−25845
conference, Aussois, France (April 1986) 7−18480
conference, laser science advances, Dallas, TX, USA (Nov. 1985) 7−9573
cylinder lens design for X-ray laser 7−43317
design, operation, application *(French)* 7−57290
ellipsoidal reflector for laser pumping 7−41560
EUV laser optical pumping scheme in two coupled media using quasi-continuum from rare earth elements 7−20211
excimer laser travelling-wave pumping of X-ray lasers 7−20268
focusing of soft X-rays for longitudinally pumping short wavelength lasers 7−18955
free electron laser, wiggler and alternating-gradient quadrupole field, electron beam envelopes and matching conditions 7−1128
free electron laser and laser electron acceleration based on megagauss mag. fields 7−20240
free electron laser EUV, three-dimens. simulation 7−43131
free electron laser oscillators, VUV/soft X-ray, options for development 7−31333
free electron laser soft X-ray overtone production 7−20234
free electron lasers, high gain, feasibility study 7−1132
free electron lasers amplifier pumped by kinetic energy of clusters 7−20239
free electron parametric laser theory, far VUV range capability 7−43125
gas puff Z-pinch implosions, Sandia X-ray laser program 7−20207
gated spectrometer for X-ray lasers, wavelength and efficiency calibration 7−24749
highly charged ions, excited-state stability and X-ray lasers 7−31305
imploding cylindrical plasmas as X-ray laser media 7−63322
imploding plasma-driven soft-X-ray lasers, use of argon 7−31296
in situ calibrations of grazing incidence vacuum monochromators 7−41570
laboratory X-ray lasers, spatially coherent output 7−57289
laser heated exploding foils, hydrodynamics, appl. to soft X-ray laser design 7−44209
lasing action in soft X-ray wavelength range 7−62678
multilayer components for soft X-ray laser cavities 7−25844
multilayer structures for X-ray laser cavities 7−37001
Nova X-ray laser expts., status 7−20245
nuclear driven X-ray laser using grazing angle method, SDI appls. 7−5866
Octal laser facility, X-ray laser research at CEL-V 7−20209
optical klystron, XXUV laser harmonic generation, effects of wiggler errors 7−1127
partially coherent radiation, props. and appls. 7−24738
photoionisation pumped X-ray lasers 7−20210

X-ray lasers continued
- plasma X-ray lasers, Z-scaling of gain 7—20203
- progress in soft X-ray laser development at Princeton 7—20251
- Sandia X-ray laser program 7—10981
- short wavelength coherent radiation generation and production conf. Monterey, CA, USA (March 1986) 7—18467
- soft X-ray laser development at Princeton 7—20204
- soft X-ray laser program at Livermore 7—20202
- soft X-ray laser research at Palaiseau 7—20205
- soft X-rays from lasers, undulators and plasmas, coherence props. 7—18956
- solid FEL, possibility of obtaining coherent short wave radiation 7—20237
- stimulated emission enhancement in confined plasma column at PPPL 7—25793
- superradiance theory and X-ray lasers, basic notions and models 7—25785
- superradiance theory and X-ray lasers, extending semi-classical model to realistic situations 7—25786
- time-resolved VUV spectrograph for X-ray laser research 7—56355
- time-resolved X-ray spectrographic instrumentation for laser fusion and X-ray laser studies 7—18961
- XUV, RF-linac-driven, gain physics 7—20235
- XUV free electron laser oscillators, options and issues 7—20231
- XUV laser expt. survey 7—20198
- XUV laser numerical modelling 7—20213
- XUV laser schemes, expt. facilities at Rutherford Appleton Lab. 7—20206
- Al^{10+} recombining laser plasma, soft X-ray amplification 7—63321
- Ar gas puff Z-pinch implosions, X-ray emission, appl. to X-ray lasers 7—26483
- B I isoelectronic sequence, short wavelength laser calcs. 7—20214
- Be I isoelectronic sequence, short wavelength laser calcs. 7—20214
- C fibre, laser produced plasma, XUV expansion coded recombination lasers 7—62679
- C fibre plasma, laser produced, population inversion and gain meas. 7—26505
- C I isoelectronic sequence, short wavelength laser calcs. 7—20214
- C III vacuum arc discharge, reson. photoexcitation, fluoresc., X-ray laser prototype 7—20987
- C VI, soft X-ray laser beam, divergence meas. 7—1210
- C VI recombination laser, X-ray laser schemes 7—20206
- Cu foil plasma, laser-vaporised, X-ray laser expt. 7—63323
- Cu plasma, Ne-like, gain expt. 7—20876
- H-like Balmer alpha lines, recomb. and photo-pumping mechanisms for gain prod. 7—20212
- In plasma, laser ablated inner-shell photoionisation-pumped, optical gain at 185 nm 7—20193
- Mo-Si multilayer mirror, reflectivity and stimulated emission in XUV spectra region 7—37099
- Ne gas puff Z-pinch implosions, X-ray emission, appl. to X-ray lasers 7—26483
- Ne, imploding Z pinch for X-ray laser research 7—20918
- Ne like soft X-ray laser driven by high power optical lasers 7—62680
- Se Ne-like laser, progress in anal., review 7—20194
- Se X-ray laser targets, hydrodynamic aspects 7—20208
- Sr ions, Ne-like laser plasma, photoexcitation, X-ray and XUV spectra 7—26507

X-ray lithography
- gas-puff Z-pinch plasma X-ray source characts. 7—20925
- high-brightness source for X-ray lithography and radiography 7—24744
- laser processing of high-tech materials at high irradiance, review 7—13342
- zone plate fabrication 7—18957

X-ray monochromators
- biological systems studied with an X-ray monochromator 7—65898
- diffraction gratings, soft X-ray, efficiency enhancement by multilayer coating 7—25946
- double crystal monochromator for soft X-ray beam line 7—61411
- double crystal monochromators, crystal props., fusion plasma spectroscopy appl. 7—15043
- double crystal X-ray monochromator for EXAFS and XANES 7—61410
- EXAFS surface structure studies at Daresbury SRS, in 60 to 11100 eV range 7—33486
- in situ calibrations of grazing incidence vacuum monochromators, for X-ray laser research 7—41570
- laboratory ReflEXAFS spectrometer 7—61408
- layered synthetic microstructures, soft X-ray monochromator appls. 7—35648
- multilayer monochromators and supermirrors, X-ray and neutron, controlled sputter deposition 7—33563
- multilayered optics on reflector and focusing ring, monochromatization 7—41565
- multilayered X-ray optics on cylindrical reflector and ellipsoidal focusing ring, monochromatisation 7—1246
- reflection gratings, grazing incidence, in high resolution scanning spectrometers 7—20401
- stigmatic high throughput monochromator for soft X-rays 7—41552
- undulators as source of coherent X-rays 7—31222
- wiggler beam monochromator, distortion from synchrotron radiation thermal loading, finite element analysis 7—42269
- X-ray photoelectron spectroscopy applications using microfocused X-rays 7—24752
- Ni-C multilayer monochromator characterization using 200-900 eV synchrotron radiation 7—41558

X-ray photoeffect *see X-ray photoelectron spectra*

X-ray photoelectron spectra
- 7—27867
- acetylene, X-ray photoelectron spectrum study, diabatic model anal. 7—36448
- alkali phosphates, ion bombardment-induced surface modifications, stoichiometry, core levels and valence struct., ESCA studies 7—26816
- alloys, preferential sputtering, segregation, mixing and diffusion 7—59337
- angle resolved X-ray photoelectron spectroscopy applied to patchy surfaces 7—27863
- aniline, substituted, polymerisation and characterisation 7—33929
- anode oxidation, effect on vacuum prebreakdown currents 7—37780
- $Au_x(TeO_2)_{1-x}$ thin films, nanosecond laser annealing, Au cluster redistrib., growth and coalescence 7—12145
- Auger electron spectroscopy and X-ray photoelectron spectroscopy in surface anal. 7—24732
- 1,2,3,5-benzenetetracarboxylic anhydride+4,4-oxydianiline, polymerisation, XPS 7—65314
- cermet powder, surface treatment and surface props. *(Japanese)* 7—46666

X-ray photoelectron spectra continued
- chalcogenide-metal contacts, interdiffusion, struct., comp., electron irrad. effects 7—21686
- conference, Oconomowoc, WI, USA (April-May 1985) 7—18468
- conference, San Diego, CA, USA (Aug. 1986) 7—24287
- conversion layers on Al, struct., TEM, LAMMA, AES, XPS, SIMS, ion scatt. spectra 7—23094
- data acquisition and processing on microcomputer, interfacing 7—48919
- data analysis, factor anal. and curve fitting 7—35639
- deep core XPS spectra, intrinsic and extrinsic plasmon excitation 7—22438
- depth profiling by lineshape anal. 7—28380
- diamond, ultradisperse, obtained from C plasma, energy spectrum 7—22384
- double-pass cylindrical-mirror analyzer, imaging props. charact. 7—24731
- electronic struct., initial stages of intercalation 7—53503
- electronics and vacuum physics, conf., Bratislava, Czechoslovakia (Sept. 1985) 7—24292
- epitaxial growth on Ni (100) angle-resolved XPS study 7—7823
- extrinsic photoeffect obs. with X-ray diffraction apparatus 7—32221
- FCC metastable phase epitaxial films on Cu local mag. moment, XPS study 7—53504
- ferrichromites, coordination and oxidation states, XPS and XANES studies 7—63583
- film characterisation and microanalysis, sputtering, AES and XPS destructive depth profiling methods 7—53454
- fluoropolymers, film, deposited in glow discharge, chem. struct. 7—27206
- glass, electromigration and charging effects during Auger and XPS analysis of insulators 7—17393
- glass, ion exchange, surface investig. by XPS and X-ray spectra studies 7—13614
- graphite-KHg intercalation cpds., $KHgC_4$ and $KHgC_8$, valence bands, XPS studies 7—16932
- hard coatings formed by Ti implantation on 304 stainless steel, XPS study 7—3154
- HMTTeF-$TCNQF_4$ solid complex, partial charge transfer, Raman and XPS studies 7—32967
- III-V semiconductor-metal interface, reaction and interdiffusion, review 7—21544
- $K\alpha_2$ satellite subtraction, Fourier transform formalism 7—27869
- materials microanalysis, techniques, review 7—54244
- metal, soft X-ray absorpt., numerical anal. 7—17361
- metal surfaces, quantitative analysis using XPS or AES, data reduction techniques 7—28371
- metal-semiconductor junctions, formation, structural and electrical props., RBS and ESCA studies 7—38727
- metals, core level X-ray spectra, deviation from asymptotic theory 7—59376
- microelectronic devices and materials, characterisation methods, book 7—41028
- microelectronic materials, XPS appls., book contrib. 7—46279
- mother-of-pearl, fracture surfaces, analytical techniques appl. 7—8781
- multicomponent materials, surface composition, X-ray photoeffect discontinuity studies 7—12416
- nitride coatings on high-speed steel substrates, characterisation by Auger electron spectroscopy and X-ray photoelectron spectroscopy 7—53982
- noble metal alloys, Al-K_α XPS intensities 7—27870
- phthalocyanine thin films, gas-surface reactions, elec. cond. meas., ESCA 7—52262
- PMDA-ODA polyimide, XPS, mol. orbital anal. 7—50255
- PMMA and Microdeposit 23M, As^+ ion bombardment, appl. for ion beam lithography and masking 7—26810
- PMMA surfaces, excimer laser irradiated, XPS studies 7—51822
- poly(α-methylstyrene) surfaces, excimer laser irradiated, XPS studies 7—51822
- poly(vinyl alcohol)-poly(dimethylsiloxane) graft copolymers, surface studies 7—32307
- polyacrylonitrile, XPS studies 7—53507
- polyacrylonitrile fibres, stabilised, chem. struct., XPS obs. 7—32541
- polyamic acid, XPS, mol. orbital anal. 7—50255
- polyethylene-metal, adhesion of metal films, effects of Ar^+ bombardment 7—28267
- polyhalomethanes, X-ray photoelectron spectra, chem. shifts 7—15648
- polyimide film, etching and surface modification in plasmas, XPS, SEM and contact angle meas. 7—28166
- polymer surface and interface dynamics study 7—63917
- polypropylene films, Cu-filled, struct. and elec. cond. 7—64301
- polyvinylidene fluoride, modifications under high energy heavy ion, X-ray and electron irrad., XPS study 7—38076
- PTFE, chem. modified, humidity sensor appls. 7—9839
- PTFE and PVDF, aging, irradiation by X-rays, electron and ion beams, XPS study 7—32498
- PTFE surface chemical struct. and adhesive props., effects of low-energy electron bombardment 7—44963
- quantitative non-destructive in-depth composition information from XPS 7—64877
- rare earth hydrides, core level shifts, adiabatic excitation, sudden core excitation 7—53502
- rare-earth core-electron spectroscopy, mixed valency versus covalency 7—45246
- reaction layers, AES depth profile anal., under different wear test conditions 7—28147
- real-time imaging of analyzed areas in surface analysis 7—12427
- S/N considerations for monochromator or deconvolution systems 7—17392
- scanning electron microscopy and microanalysis, conf., Leuven, Belgium (May, 1986) 7—40988
- selenides, binding energy, XPS investig. 7—5720
- semiconductor industry, appl. of SIMS, SAES, XPS 7—16847
- semiconductor solid solutions, electron struct., X-ray and XPS spectra studies 7—12605
- semiconductor surfaces, interaction with H_2 7—58632
- silicate minerals, XPS, Fe 2p spectra 7—59372
- SIPOS, AES and XPS studies *(Chinese)* 7—33511
- spatially resolved XPS studies for semicond. device appls. 7—23087
- steel, austenitic stainless, oxidation state in divertor of Heliotron E plasma device, XPS obs. 7—17704
- steel, austenitic stainless, SCC susceptibility in polythionic acids 7—65183
- steel, stainless, air exposure effects, mixed Fe-Cr oxide/hydroxide film form., XPS study 7—22878
- steel, stainless, passivation, role of Cr 7—46686

X-ray photoelectron spectra continued
steel, stainless, passivation in NaCl solution, ESCA study 7—65171
steel, stainless, passivity, bipolar model 7—46687
steel, surface characterization, EPMA, XPS, GDOS anal. 7—17372
surface (100), S-covered, adsorption of NO 7—6990
surface (110), O and O_2 adsorption, dispersion, bonding and precursor state 7—6991
surface (110), spin-polarised angle-resolved photoemission study 7—53505
surface (110) adsorption of Al, soft X-ray photoemission spectra study 7—53494
surface analysis, AES, XPS, ISS and SIMS, review 7—28372
surface analysis by AES and XPS, appl. of data compilations to improve meas. uncertainty 7—28377
surface analysis using XPS and electrochemistry 7—28370
surface and epitaxial overlayer structures from X-ray photoelectron diffr. 7—27862
surface behaviour diagrams, for surface and interfacial reactions 7—27077
surface characterisation using XPS, energy loss background subtraction 7—13333
surface chemical bonds, electron spectroscopy methods 7—39364
surface oxidation, diffusion of Au atoms through oxide layers 7—8200
TCNQ, valence band density-of-states 7—38434
techniques for surface and thin film analysis 7—33992
thin overlayers, struct. determ. by AES or XPS 7—33490
thiolane, gas, solid and monolayers, EELS and XPS study 7—19949
thiophene, gas, solid and monolayers, EELS and XPS study 7—19949
transition metal hydrides, core level shifts, adiabatic excitation, sudden core excitation 7—53502
transition metal nitrides and carbides, hard wear-resistant coatings, microstructural and microchemical characterisation 7—52328
transition metals, inhomogeneous, quantitative non-destructive in-depth composition information 7—64877
X-ray and electron spectroscopy, conf., Irkutsk, USSR (Sept. 1984) 7—9574
X-ray photoelectron diffraction, submonolayer interface struct. determ. appls. *(Japanese)* 7—11852
X-ray photoelectron loss spectroscopy, characterisation of Al-N, Al-O compounds 7—59382
X-ray photoelectron spectroscopy applications using microfocused X-rays 7—24752
XPS, UPS, work function meas. 7—12485
Ag (100), adsorption of Cl, Auger, LEED, XPS, thermal desorption studies 7—58635
Ag (110), adsorbed Br, normal exit XPS studies 7—2380
Ag (110), adsorption of ethylene oxide, surface interactions, XPS, TDS, AES, EELS studies 7—33963
Ag (111), molecular O_2 chemisorpt., XPS studies 7—2374
Ag supported particles on C, Al_2O_3 and SiO_2, XPS studies 7—27868
Ag, XPS, background removal 7—39355
Ag-Zn, corrosion in H_2S, surface analysis, AES, XPS *(Japanese)* 7—53955
AgCl, adsorption of 3,3′-dimethyl-9-ethylthiacarbocyanine dyes, XPS study 7—33964
AgCl films deposited by evaporation and RF sputtering, compositional and morphological anal. 7—16892
Al films, chemisorption of O, Al-O bond lengths, photoemission EXAFS meas. 7—64871
Al foils, alumina form. by O_2^+ implantation, sheet resistance and XPS meas. 7—26780
Al oxide, nitride and element, $L_{23}VV$ valence Auger transitions 7—27828
Al surface, plasma oxidised, adsorption of benzoic acid and benzaldehyde, SIMS and XPS 7—65351
Al/III-V semiconductor interfaces, laser-induced chem. reactions 7—7017
Al-GaAs Schottky barrier contacts, MBE grown, interface reactions, vacuum annealing effects 7—45022
Al-N, sputter deposited, characterisation 7—59382
Al-O, sputter deposited, characterisation 7—59382
Al-polyacrylic acid interface, reactivity, comp., XPS 7—28334
Al-polyethylene interface, reactivity, comp., XPS 7—28334
AlN thin crystalline stoichiometric film, electronic struct., electron spectra studies 7—58916
Al_2O_3 thin films, electron emission characts., continuous dynode appl. 7—17376
Ar, subvalent electron participation in X-ray and X-ray electron spectra 7—10478
$Ar^+ + Na_2MoO_4(NaNbO_3)(MoO_2)(Nb_2O_5)$, ion-induced decomp., metallisation channels, XPS anal. 7—57149
Au (111), electronic struct., angle-resolved XPS studies 7—17060
Au, XPS, background removal 7—39355
Au-GaAs (001), short range potential variations at interface 7—45500
Au-Pd, preferential sputtering and surface segregation 7—59339
AuNiGe-GaAs ohmic contacts, microstruct. anal. and contact resist. meas. 7—2393
BN pyrolytic crucibles for MBE, AES, XPS, SIMS, and bulk anal. after vac. baking 7—53596
$BaO-Al_2O_3-B_2O_3$ glass, constitution 7—21120
$BaPb_{1-x}Bi_xO_3$, electronic struct., photoemission studies 7—59375
$BaTiO_3$, electronic struct., special features *(Russian)* 7—45146
$BaZrO_3$, valence band struct., X-ray-electron spectra studies 7—12604
Be surface passivation, angular dependent X-ray photoelectron spectroscopy 7—27864
Bi chalcogenides, binding energies, chem. shifts XPS and diffuse refl. spectra *(German)* 7—1943
C containing compounds, chemisorbed on cold rolled steel sheets *(French)* 7—44965
C fibre-epoxy composite, Ba labelled, interfacial effects 7—28163
C fibres, polymer-coated, charactn. and pot. for composite appl. 7—22632
C-W multilayers, sputtered, ellipsometry monitoring, X-ray refl., XPS 7—39376
CaF_2-Si (111), MBE grown, electronic struct. 7—2725
$CaO-Al_2O_3-B_2O_3$ glass, constitution 7—21120
$CaO-SiO_2-CaF_2$, structural analysis for fluorosilicate glasses by X-ray photoelectron spectroscopy *(Japanese)* 7—33510
$CaZrO_3$, valence band struct., X-ray-electron spectra studies 7—12604
$Cd_xHg_{1-x}Te$, band gap collapse, effects of Hg 5d electrons 7—64075
CdS, oxidised, SIMS/XPS characterisation 7—39934
$CdSe_{0.65}Te_{0.35}$/aqueous polysulphide interface, photoelectrochemical props. 7—52829
$CdSnO_4$:PbO highly conducting films, characterisation 7—22049
CdTe films on InSb, interface struct. and band offsets 7—58664
CdTe, Ru surface modified for solar cells XPS obs. 7—23202

X-ray photoelectron spectra continued
p-CdTe, single crystal and thin film, chemical etching study 7—46724
Ce cpds., many body theory for spectroscopies 7—64790
$CeMRu_2Si_2$ (M=La,Y), high energy EXAFS and XPS studies 7—64801
$CePd_3$, electronic structure and intrinsically selective absorption 7—38444
Co (II) dithiocarbamates, X-ray photoelectron spectra 7—50256
Co foil surface, preadsorbed K, CO adsorption, XPS and AES studies 7—8296
$Co_{58}Fe_5Ni_{10}Si_{11}B_{16}$, metallic glasses, multiplet splitting, XPS study 7—27858
$CoGaInS_4$ layer cpds., struct. and mag. props., XPS studies 7—44498
$CoGa_2O_4$, crystal growth, chemical vapour transport, struct., mag. and electronic props. 7—53517
$Co_{80}Ni_{20}$ magnetic thin films, obliquely deposited, oxidation behaviour 7—65217
$Co_xZn_{1-x}In_2S_4$ solid soln. layer cpd., site coordination and short range magnetic order, XPS anal. 7—26724
Cr film on polyimide, interface chemistry 7—46871
Cr single crysts., surface and deeper layers, struct. changes due to laser irradiation 7—6937
$Cr-CrO_x/Zn$ multilayer electrogalvanised coating on steel, XPS analysis 7—22890
Cr-Ge thin film interface, interdiffusion, reaction and intermixing, soft X-ray photoemission study 7—27028
$Cr(CO)_6$, electronic struct., X-ray and photoelectron spectra 7—5699
Cr_2O_3-GaAs, struct. and electrophysical props. 7—17109
Cu (001), variable temperature angle-resolved photoemission, non-direct transitions 7—64874
Cu electrode-electrolyte interface, surface anal., XPS, ion scatt. spectra 7—22895
Cu films, interaction with Cl_2, bulk diffusion processes 7—21783
Cu II complexes, dibenzyldithiocarbamate copper, bonding, XPS 7—19950
Cu surface, Ba covered, adsorbed O, XPS and UPS studies 7—2373
Cu surface, interaction with Cl_2 7—21642
Cu surface modified by Al, electronic struct. and oxidation of surface 7—22443
Cu, X-ray photoelectron diffr., temp. depend., surface and bulk effects 7—39356
Cu, XPS, background removal 7—39355
Cu-Al interfacial interaction, struct., synchrotron radiation photoemission study 7—22444
$Cu-Al_2O_3$, interaction, X-ray photoelectron spectroscopy, Auger electron spectroscopy 7—58669
Cu-CdTe interface form., effect of different cation-anion bond strengths 7—27149
Cu-Fe host-impurity system, O ion bombarded, internal oxidation, Mossbauer spectra studies 7—59131
$Cu-Hg_{0.75}Cd_{0.25}Te$ interface form., effect of different cation-anion bond strengths 7—27149
Cu-Ti alloys, amorphous and crystalline, H absorption 7—2369
$CuIn(Ga)Se_2$ thin film solar cells, ESCA anal. 7—23197
Cu_xS films, field assisted chemiplating for CdS/Cu_xS heterostruct., growth mechanism 7—59470
Cu_3Si, oxidation, XPS and Auger spectra 7—22899
Er_2Co glasses, electronic struct., photoemission and magnetism 7—64060
$EuCu_2Si_2$, Eu valency, effect of Cu or Si replacement by other ions 7—58787
Fe (111), chemisorbed N_2, adsorbate geometry, angle resolved XPES anal. 7—45009
Fe, films, ethane and ethylene adsorpt. and reaction, mass spectra, XPS, UPS, electrical resistance and work function meas. 7—32837
Fe films, particulate, vapour deposition on Al_2O_3 growth and props. 7—17427
Fe garnet films containing Bi, comp. study, and chemical etching anal. 7—45083
Fe, passivated, comp., electron backscattering Mossbauer spectra, XPS studies 7—28193
Fe, passive anodic oxide form., surface anal., XPS, ion scatt. spectra 7—22895
Fe surface, oxidised, chemisorption of pyridine and pyrrole, XPS 7—27128
Fe surfaces, fluorination, XPS study 7—22887
α-Fe surfaces, segregated elements, bonding state 7—16763
$Fe/Fe-FeO/Al_2O_3$ systems, diffusion bonded, interface chemistry, bonding strength 7—28079
Fe/H_2O interface, pulsed-laser-induced reactive quenching, FeO metastable phase form. studies 7—45005
Fe-B, metallic glasses, photoemission investig. *(Slovak)* 7—59369
Fe-C-N, ion implanted, C surface contamination, AES and XPS studies 7—38312
Fe-Cr, passive anodic oxide form., surface anal., XPS, ion scatt. spectra 7—22895
Fe-Cr, thin oxide film form., XPS study 7—22898
Fe-GaAs(001)-c(8×2) interface, simultaneous epitaxy and substrate out-diffusion 7—38355
Fe-Ni, thin oxide film form., XPS study 7—22898
$Fe_{80}B_{20}$, metallic glasses, multiplet splitting, XPS study 7—27858
$Fe_{80}B_{20}$ ribbons, amorphous and crystallised, surface comp., electronic props., topography, AES, XPS, ion scatt. studies 7—27065
$(Fe_{1-x}Co_x)_{78}Si_{9.5}B_{12.5}$ amorphous alloys, density of states, XPS studies *(Chinese)* 7—13320
$Fe_{0.92}Cr_{0.08}$, near surface layer conc. profile, XPS *(Russian)* 7—58582
$FeCr_{10}P_{13}C_7$ amorphous alloy, surface layer chemical bonds, XPS studies 7—12417
$Fe_{40}Ni_{40}P_{20}$ amorphous alloy, electron struct. and surface struct., XPS and UPS studies 7—27238
$Fe_{40}Ni_{40}P_{14}B_6$, metallic glasses, multiplet splitting, XPS study 7—27858
$Fe_{40}Ni_{40}P_{16}B_4$, amorphous and crystallised alloys, surface oxidation behaviour 7—59666
$Fe_{70}Ni_8S_{10}B_{12}$, amorphous and cryst. states., oxidation *(Russian)* 7—53993
α-Fe_2O_3, photoemission satellites, electronic struct. 7—39358
FeSi oxidised interface system, XPS, XAES and Auger parameter studies 7—7025
GaA (110), oxidation, photoemission spectra studies 7—3147
$Ga_{1-x}Al_xAs$-GaAs, thickness and conc. of thin $Ga_{1-x}Al_xAs$ epitaxial films, determ. by photoemission jumps method *(French)* 7—38381
GaAs (100), chemical etching and oxidation, XPS characterisation 7—21591
GaAs (111), alkali metal covered, adsorption of O_2 7—63957
GaAs, laser-enhanced oxidation, X-ray photoelectron and Auger electron spectroscopy 7—17739

X-ray photoelectron spectra continued
- GaAs, sputtered, comp. depth profiles, AES, XPS, inverse Laplace transforms 7—22390
- GaAs, surface oxidation, effect of anodizing conditions 7—13669
- GaAs surface oxidation, AES, XPS and ellipsometry studies 7—22927
- GaAs, surface potential barrier in ion-etched (100) surface, electron-voltaic effect 7—7819
- GaAs/Al(Mn)(Ag) interfaces, interactions, XPS and elec. transport studies 7—7384
- GaAs/Au contacts, growth modes, AES, UPS, XPS and RHEED studies 7—21753
- GaAs/Ge heterojunction interfaces, cyclic behaviour of band discontinuities 7—7365
- GaAs-AuGeNi contacts, interface composition and barrier heights 7—58891
- GaSb/AlSb strained-layer heterojunction valence band discontinuity, XPS core level meas. 7—21984
- Gd_2Co glasses, electronic struct., photoemission and magnetism 7—64060
- $GdPd_3$, electronic structure and intrinsically selective absorption 7—38444
- Ge (111), adsorbed Pb monolayers, photoelectron scatt., temp. depend. 7—13328
- Ge, amorphous films, laser induced image storage 7—11078
- Ge, electron escape fns., determ. by methods of calibrated amorphous layers and total external reflection 7—39362
- Ge surface, GeO stabilisation on laser irrad., X-ray photoelectron spectra anal. 7—46723
- Ge_3N_4 native insulator layer on Ge single cryst., microstruct. and props. studies 7—12574
- GeO_2 native insulator layer on Ge single cryst., microstruct. and props. studies 7—12574
- H_2 on TiO_2 (110) stoichiometric and defective surfaces 7—6983
- Hf, valve metal, corrosion under influence of Pu, oxide layer formation 7—17699
- Hf_2Co, surface oxidation, XPS 7—8184
- $Hg_{1-x}Cd_xTe$ MBE layers, plasma oxidation, oxide growth, comp. and surface struct. 7—54018
- $Hg_{1-x}Cd_xTe$/Ag(Cu)(Al) interfaces, morphology, Hg bonding effects 7—7021
- $Hg_{1-x}Cd_xTe$/Pt interface, overlayer-cation reaction, XPS, UPS and LEED studies 7—65349
- HgO, core levels and valence band electronic struct. spin-orbit splitting, XPS and UPS studies 7—13330
- I, X-ray photoelectron and Auger electron spectrosc. 7—5647
- InAs (110), surface electron states, effect of Al submonolayer coverage, soft XPS study 7—2653
- $In_xGa_{1-x}As$ (100)-metal interfaces, Fermi level pinning and chem. interactions 7—2712
- InP (110), oxidation, photoemission spectra studies 7—3147
- InP:Si, substrate, encapsulated annealing, using SiN encapsulant 7—39779
- InP/Al(Mn)(Ag) interfaces, interactions, XPS and elec. transport studies 7—7384
- InP/Pd (110) interface, chem. reactions, overlayer morphology and Fermi level pinning 7—7020
- InP-Au interface, Fermi level pinning, growth characts., photoemission spectra 7—22009
- InSb (110), surface electron states, effect of Al submonolayer coverage, soft XPS study 7—2653
- InSb surface, oxidation at room temp. 7—46734
- $In_{2-x}Sn_xO_{3-y}$ films, transparent conducting oxides, H_2 plasma treatment 7—3528
- In_2Te_3:Fe, Fe^{2+} elec. inactivity study, mag. suscept., Mossbauer spectra and XPS anal. 7—52494
- KCl, subvalent electron participation in X-ray and X-ray electron spectra 7—10478
- $KSbO_3$, phase transforms. and thermal stability, X-ray diffr. and XPS meas. 7—44793
- La complex, $Ln(NO_3)_3$-1,1-bis(quino-8-oxo)-3,5,9-trioxaundecane, XPS 7—57133
- La_2O_3 dielectric system, Auger and photoelectron spectra, fine structures 7—13322
- $LaPd_3$, electronic structure and intrinsically selective absorption 7—38444
- LiF evaporated films, surface anal., electron stimulated desorption, XPS studies 7—27173
- LiF surfaces, preferential sputtering, XPS and direct recoil spectrometry study 7—22422
- Mg surface, air exposed, XPS after hydrogenation-dehydrogenation cycles 7—17923
- $MgAl_2O_4$, Ar^+ ion irrad., XPS and RBS characterisation 7—32514
- Mn/GaAs interface formation on clean and oxidised (110) surfaces 7—45029
- Mo (100), chemically modified by adsorption of B, C, O, CO, surface atom oxidation states, ESCA meas. 7—28333
- Mo low temperature growth on Al, electron spectra studies 7—12540
- Mo-Re alloys, electron struct., X-ray spectra studies *(Russian)* 7—45135
- $Mo(Co)_6$, electronic struct., X-ray and photoelectron spectra 7—5699
- MoS_2-Co catalyst-promotor interaction, UPS, XPS, LEED studies *(Chinese)* 7—39913
- NaCl, electron-phonon scatt. in XUV induced electron emission, Monte Carlo simulation 7—27861
- Na_2O-SiO_2-NaF, structural analysis for fluorosilicate glasses by X-ray photoelectron spectroscopy *(Japanese)* 7—33510
- $(Na_2O.2SiO_2)_{1-x}(Fe_2O_3)_x$ glasses, Fe ions, ionic state and coordination geometry 7—63492
- $NaSbO_3$, phase transforms. and thermal stability, X-ray diffr. and XPS meas. 7—44793
- Nb-Al thin film diffusion couples, Nb_3Al A15 phase form. during annealing, XPS and Auger studies 7—58548
- NbN(C) sputtered films on Nb substrates, surface props. 7—64833
- Ni (011), adsorbed S, struct., angle-resolved-photoemission extended fine struct. studies 7—63950
- Ni (100), adsorption of CO, C_2H_4, O_2 or H_2, X-ray induced secondary electron emission 7—27866
- Ni (100), Cu overlayer growth, X-ray induced secondary electron emission meas. 7—27865
- Ni (110), adsorption of O, surface phases, absolute coverages 7—12486
- Ni (111), adsorption and reactions of methyl thiocyanate 7—21640
- Ni (111), adsorption of Cl, surface struct., SEXAFS, photoelectron diffr. studies 7—64775
- Ni (111), chemisorption of acetonitrile or benzonitrile, XPS 7—21641
- Ni (111), N_2 adsorption, XPS, UPS, work function and TPD studies 7—52272

X-ray photoelectron spectra continued
- Ni cobaltite, coordination and oxidation states, XPS and XANES studies 7—63583
- Ni films, adsorption of benzonitrile and alkyl cyanides, XPS 7—52288
- Ni, films, ethane and ethylene adsorpt. and reaction, mass spectra, XPS, UPS, electrical resistance and work function meas. 7—32837
- Ni finite films, sputtered, struct. and compositional studies 7—64024
- Ni silicides, oxidation, catalytic effect of near-noble metal on Si oxidation 7—3545
- Ni surface, clean and Ba covered, adsorbed O, XPS and UPS studies 7—2373
- Ni surface modified by Al, electronic struct. and oxidation of surface 7—22443
- Ni surfaces, fluorination, XPS study 7—22887
- Ni-C multilayers, X-ray reflectivity and photoelectron yield 7—13321
- Ni-$GeCl_4$, binding energy rel. to Ni chem. state 7—17820
- Ni-Mo-B(P), metallic glasses, depth-composition profile, X-ray photoelectron study 7—63928
- Ni-P amorphous alloy electrodeposition and corrosion obs. 7—27953
- Ni-P metallic glasses, electronic struct., XPS study 7—39357
- $Ni(CO)_4$, electronic struct., X-ray and photoelectron spectra 7—5699
- NiO thin films, electrochromic switching props determ. 7—39089
- O_2, adsorbed on Cu (110) and polycrystalline surfaces, UPS, XPS, AES, EELS, LEED studies 7—32820
- Pb-In-Au fine-grained codeposited alloy films, RF plasma oxidation 7—53970
- Pb-Pt composite films oxidation, KPS 7—27867
- PbO-B_2O_3-Fe_2O_3 glass, ESCA study 7—26651
- $PbZrO_3$, valence band struct., X-ray-electron spectra studies 7—12604
- Pd (100) with Na (NaO) overlayers, adsorption of methanol, formaldehyde and formic acid 7—21657
- Pd (111), chemisorption of NO, photoemission study using synchrotron radiation 7—22446
- Pd films, adsorption of benzonitrile and alkyl cyanides, XPS 7—52288
- Pd, optical constants measured by a multiple-wavelength ellipsometer 7—27683
- Pd supported particles on C, Al_2O_3 and SiO_2, XPS studies 7—27868
- Pd-H system, ion implanted, XPS and UPS studies 7—7813
- Pd-Si, metallic glasses, photoemission investig. *(Slovak)* 7—59369
- Pd_2Si and PdSi, optical constants measured by a multiple-wavelength ellipsometer 7—27683
- Pd_2Si polycryst. film on Si, ion sputtering effects, XPS, UPS and scanning tunnelling microscopy studies 7—59357
- Pt (111), adsorption of ethylene oxide, surface interactions, XPS, TDS, AES, EELS studies 7—33963
- Pt (111), coadsorption of K and CO, structural and vibrational studies 7—52266
- Pt particle/Al_2O_3 surface, ethylene hydrogenation, intrinsic size effects 7—3607
- Pt thin films on TiO_2 (110), XPS and depth profile data 7—22437
- Pt-Pb bimetallic systems, Fermi level density of states, XPS studies 7—46278
- Pt-Sn bimetallic systems, Fermi level density of states, XPS studies 7—46278
- Pt_3Sn oxidation at low pressure, AES, ESCA, ISS study 7—17725
- Pt_3Ti (111), chemisorption induced surface core level shifts 7—22448
- Pt_3Ti (111), chemisorption of CO and O_2 7—27131
- S-containing compounds, KLL Auger and core level photoelectron shifts, binding energy 7—15647
- SF_6, S 1s core-level photoionis. spectra 7—941
- SF_6, shape reson. behaviour, inner-shell photoabsorpt. and valence-level photoelectron spectra 7—5718
- SF_5Cl, shape reson. behaviour, inner-shell photoabsorpt. and valence-level photoelectron spectra 7—5718
- Se film grown by hot wall epitaxy, XPS 7—7821
- SeF_6, shape reson. behaviour, inner-shell photoabsorpt. and valence-level photoelectron spectra 7—5718
- SeO_2, binding energy, XPS investig. 7—5720
- p-Si (100), chemical etching with aq. $K_2Cr_2O_7$, XPS, UPS, LEED and TRMC meas. 7—46719
- Si (111), Ag and Au overlayers, room temp. oxidation behaviour, XPS study 7—13676
- Si (111), single crystal, interaction with HCl, 190-720K 7—13817
- Si (111) with adsorbed Ga, X-ray photoelectron and Auger electron diffr. 7—27116
- Si (111) with oxidised Cr overlayer, $CrSi_2$ formation and reduction of Cr_2O_3 during annealing 7—58660
- Si (111)-(7×7), interface formation during W deposition 7—58710
- Si, external photoelectric effect, Laue diffr., anomalous X-ray transmission 7—7811
- Si, HF passivated, surface chemistry, XPS and ion scatt. spectra 7—33857
- Si, oxidation, catalytic effect of near-noble metal 7—3545
- Si oxide, nitride and element, $L_{23}VV$ valence Auger transitions 7—27828
- Si, photochemical etching in NF_3 gas, surface processes 7—59704
- Si, reactive ion etching, near-surface disorder, surface residues 7—16846
- Si substrate, anisotropic dry etching effects on surface props., XPS, ion channelling and Raman scatt. studies 7—28229
- Si surface, air exposed, air-resolved X-ray photoelectron spectroscopy 7—27863
- Si surface, atomic and mol. F reactions, XPS studies 7—28350
- Si surface layers characterisation after annealing in an RF H plasma 7—58630
- Si surface passivation, angular dependent X-ray photoelectron spectroscopy 7—27864
- Si surface roughening by reactive ion etching, mech. 7—65240
- Si surface study after Ar ion-assisted Cl_2etching 7—3538
- Si surfaces, (100) and (111), XeF_2 exposure, F coverage, XPS studies 7—2379
- Si surfaces, adsorbed C, annealing behaviour, XPS and AES studies 7—27108
- Si wafer substrates, oxide removal, transient mass spectrometry, XPS studies 7—13670
- Si:C,N, ion implanted, C surface contamination, AES and XPS studies 7—38312
- a-Si:H/Pd system, silicide form., struct. and electronic props. 7—38363
- Si/Al, oxidation by microwave excited O_2+N_2 mixture plasma *(Japanese)* 7—65198
- Si/Si_3N_4 interfaces, phase separated structures, Ar^+ ion bombardment effects, ZPS studies 7—22439

X-ray photoelectron spectra continued
- Si/SiO_2 interface struct., suboxide states, localisation and crystallographic depend., XPS study 7−58653
- Si-N-H glow-discharge films, elec. and optical props., comp. depend. 7−58933
- Si-Si_3N_4, nitridation of Si (100) by RF plasma, XPS study 7−33515
- Si-SiO_2 interface formation by catalytic oxidation using adsorbed alkali metals 7−54017
- a-Si-SnO_x interface, solid state reaction, XPS study 7−22449
- SiC (0001) and (000$\bar{1}$) surface segregation, electron spectroscopy 7−21459
- SiC powders, surface charactn. and treatment 7−2306
- β-SiC, ultrafine powder synthesis in thermal arc plasmas 7−27916
- a-Si_xC_{1-x}:H films, adsorbates influence on conductance, surface state 7−33115
- $Si_{1-x}Ge_x$:H amorphous alloys, electronic struct., soft X-ray and photoelectron spectra studies 7−27857
- SiH_4, 2p threshold, reson. relax. processes, XPS 7−42684
- Si_xH_y amorphous alloy films, microstructure, XPS study 7−22436
- SiN_x films, phase separated structures, Ar^+ ion bombardment effects, ZPS studies 7−22439
- Si_3N_4 films prep. by plasma anodisation, XPS depth profiling 7−58667
- Si_3N_4 powders, surface charactn. and treatment 7−2306
- Si_3N_4, surface structure and chemisorption, XPS, AES and direct recoiling studies 7−32790
- SiO_2:GeO_2 integrated optical waveguides, laser heating effect on opt. props. 7−50792
- SiO_2-Al_2O_3-$CaCO_3$-Na_2CO_3 glass system, Ar^+ ion beam effects 7−32521
- SiO_2-polyimide interface, locus of failure, XPS study 7−28261
- SiO_2-Si interface, chem. struct., XPS determ., suboxide distrib. and interface state form. 7−38358
- SiO_x evaporated thin films, struct. study 7−58699
- SiO_x films deposited by reactive evaporation, characterisation 7−64013
- SiO_x thin films, plasma enhanced CVD deposited, Si chem. states, IR spectra, XPS, AES 7−21721
- $Si_xO_yN_z$, plasma enhanced CVD, characterisation 7−39426
- SnO_2:F electrodes, surface modification by underpotential deposition of noble metals 7−44998
- SnO_2:F films, transparent conducting oxides, H_2 plasma treatment 7−3528
- SnSe, high temp. oxidation mechanism 7−3536
- $SrZrO_3$, valence band struct., X-ray-electron spectra studies 7−12604
- Ta, valve metal, corrosion under influence of Pu, oxide layer formation 7−17699
- TaC_x, defect states, core level binding energy and valence band struct., XPS meas. 7−27291
- TaC_x, substoichiometric, core-level binding energies and valence-band struct., XPS 7−22450
- $TaSi_2$ and Ta_2Si surfaces, oxidation oxide stability 7−39685
- TbFeCo amorphous film sputtered onto polycarbonate substrate, depth profile, XPS 7−65362
- TbFeCo/dielectric interface, chemical stability, interdiffusion and oxidation, AES, XPS and RBS depth profile studies 7−12513
- ^{99}Tc, organ imaging agents, X-ray photoelectron spectrosc. 7−54715
- TeO_x films, nanosecond pulsed laser-induced segregation 7−44610
- Ti, inner-shell excitations, energy-calibrated APS, correlation effects obs. 7−46247
- Ti, reactively sputtered coatings, oxidation, XPS and contact resistance meas. 7−53934
- Ti, valve metal, corrosion under influence of Pu, oxide layer formation 7−17699
- Ti/Si (111) interface, diffusion and silicide form. kinetics, XPS meas. 7−52308
- Ti-SiO_2-$TiSi_2$-Si, high temp. reaction between Ti and SiO_2, XPS, sputtering *(Japanese)* 7−7022
- TiN compound layer prepared by ion implantation, XPS and FTIR obs., depth profile analysis of ion etched samples 7−59373
- TiN, plasma enhanced CVD, rel. to reactive sputtering 7−39427
- TiN_x, reactively sputtered coatings, oxidation, XPS and contact resistance meas. 7−53934
- TiN_x sputter-deposited thin films, AES, XPS and RBS studies 7−52327
- TiN(C) sputtered films on Nb substrates, surface props. 7−64833
- TiO_2 (110), O deficient surfaces, electronic excitations, EELS 7−58853
- TiO_2-SiO_2, synthetic, surface struct., XPS, NMR and mass spectra 7−58596
- TiO_x, thin film, reactive sputtering deposition, using RF triode sputtering source 7−59424
- $TiPd_3$, electronic structure and intrinsically selective absorption 7−38444
- TlI, X-ray photoelectron and Auger electron spectrosc. 7−5647
- U surface oxidation, substoichiometric oxide form., AES and XPS studies 7−46714
- U-Si compounds, oxidation, XPS studies 7−54007
- UAu_3, band struct., theoretical XPS intensities 7−39353
- $U_{1-x}Gd_xO_2$ solid soln., microcharacterisation by ESR, XPS and mag. susceptibility meas. 7−12957
- UIr_3, band struct., theoretical XPS intensities 7−39353
- UNiAl, surface segregation behaviour 7−33519
- UO_2 (111) surface, oxidation investig., U_3O_8 form., X-ray studies 7−3474
- UPt_3, band struct., theoretical XPS intensities 7−39353
- URu_2Si_2 heavy fermion system, core levels and band struct., electron spectra studies 7−52418
- $USi_3(Ir_3)$ intermetallics, correlation effects, XPS and bremsstrahlung isochromat spectra 7−21844
- $U_xY_{1-x}B_4$ system, mag. props., XPS and bremsstrahlung-isochromat spectroscopy studies 7−17172
- V, inner-shell excitations, energy-calibrated APS, correlation effects obs. 7−46247
- W, microwave plasma etching, side wall protection technique using chopping method 7−59686
- W, valence bands, angle resolved XPS spectra 7−22441
- WC electronic struct. and magnetic suscept., UV and X-ray photoelectron spectra 7−53493
- WO_3, carburized, surface composition at catalytic activity 7−21594
- Xe, charge referencing during XPS sputter profiles 7−15566
- Xe, subvalent electron participation in X-ray and X-ray electron spectra 7−10478
- YNiAl, surface segregation behaviour 7−33519
- YPd_3, electronic structure and intrinsically selective absorption 7−38444
- Zn II complexes, dibenzyldithiocarbamate zinc, bonding, XPS 7−19950
- $ZnCr_2O_4$, crystal growth, chemical vapour transport, struct., mag. and electronic props. 7−53517

X-ray photoelectron spectra continued
- ZnO:In films, transparent conducting oxides, H_2 plasma treatment 7−3528
- Zn_3P_2 valence band struct., XPS and Auger lineshape studies 7−45150
- Zr, valve metal, corrosion under influence of Pu, oxide layer formation 7−17699
- $Zr_{76}Fe_{24}$, metallic glass, interaction of O, XPS study 7−39350
- $ZrMo_2$ and $ZrMo_2H_{1.8}$, surface composition and state of components, XPS study 7−7818
- ZrNiAl, surface segregation behaviour 7−33519
- ZrO_2-containing glass fibres, alkali corrosion process, XPS study *(Japanese)* 7−3480
- ZrW_2 and $ZrW_2H_{1.8}$, surface composition and state of components, XPS study 7−7818

X-ray photography *see radiography*

X-ray production
- *see also X-ray tubes*
- calibration of soft X-ray sources and instruments, 1986 status 7−25322
- calibration techniques, sources and detectors, conf., San Diego, CA, USA (Aug. 1986) 7−24286
- Daresbury Laboratory Synchrotron Radiation Source, selected activities 7−35651
- diagnostic calibration facilities for 100 eV to 100 keV range 7−18964
- Double-EAGLE two-molecular pulsed power machine, X-ray prod. to drive imploding plasma loads, nuclear effects simulation 7−30151
- electron-impact high-intensity line source for bent crystal spectrometer calibration 7−24745
- flash X-ray source for γ-ray laser candidate material evaluation 7−10954
- flash X-ray tubes, bremsstrahlung maximisation and K-series production efficiencies 7−24747
- fluorescence, rel. intensity for annular source geometry, Monte Carlo calcs. 7−23076
- gas-puff Z-pinch plasma X-ray source characts. 7−20925
- high-brightness source for X-ray lithography and radiography 7−24744
- in situ calibrations of grazing incidence vacuum monochromators, for X-ray laser research 7−41570
- laser created X-ray source, study and appls. 7−61418
- laser plasma, extreme UV and soft X-ray light source 7−63320
- laser produced plasma X-ray source, femtosecond 7−18954
- line sources, laser irrad., brightness, duration and pulse width 7−41561
- Los Alamos X-ray characterization facilities for plasma diagnostics 7−20938
- microfocus X-ray-units, focal spot size, stability, defect visibility *(German)* 7−13712
- micropole undulator device for X-ray production 7−57221
- noise characteristics of US synchrotron radiation sources 7−41569
- partially coherent radiation, props. and appls. 7−24738
- plasma sources of soft X-rays using low power pulsed lasers 7−20909
- polarisation technique *(Russian)* 7−56393
- short wavelength coherent radiation generation and production conf. Monterey, CA, USA (March 1986) 7−18467
- soft X-ray emissions from various targets irradiated by long wavelength lasers 7−20877
- soft X-ray source, coherent, using transition radiation 7−18948
- soft X-rays from lasers, undulators and plasmas, coherence props. 7−18956
- spectroscopy, basic principles, X-ray generation, detection and spectral analysis 7−24754
- synchrotron radiation beam lines as X-ray calibration sources 7−18965
- Tokamak as an X-ray/XUV light source 7−20926
- transition radiation in the X-ray spectral region 7−27810
- ultrasoft X-rays generation, using magnetron ring system 7−30115
- undulators as source of coherent X-rays 7−31222
- VUV-soft X-ray beamline for spectroscopy and calibration 7−18966
- X-ray source using low energy electron beams traversing superlattice 7−20114
- X-ray spectra from elemental targets 7−1714
- XUV radiation source using laser-produced plasma 7−24746
- Fe+D(He)(C)(N)(O), thick target bombardment, X-ray production cross sections 7−20025
- In plasma, laser ablated inner-shell photoionisation-pumped, optical gain at 185 nm 7−20193
- Ti+D(He)(C)(N)(O), thick target bombardment, X-ray production cross sections 7−20025

X-ray protection *see radiation protection*

X-ray reflection
- adsorbed overlayer, specularly reflected X-rays, surface EXAFS meas. 7−3117
- amorphous multilayer X-ray reflectors, layer imperfections effects 7−25936
- cholesteryl 2,2,3,3-tetrafluoropropionate cryst., interf. line pattern caused by X-ray diffuse scatt. 7−1815
- half-degree ang. interval obs. in backscatter from high-quality cryst. 7−64723
- Langmuir-Blodgett films, surface study using electron microscopy and X-ray reflectivity 7−58677
- layered synthetic microstructure spectrogoniometer for soft X-ray spectroscopy 7−35647
- metal multilayers subject to high radiation flux, X-ray optics changes 7−30135
- metal reflectors in EUV, surface contamination, AES study 7−41563
- microscope using multilayer optics with laser-produced plasma source 7−30138
- mirrors and gratings for X-ray optics, theories to optimise high refl. 7−30141
- multilayer coating X-ray mirrors, design, fabrication and performance 7−25935
- multilayer films, focusing, X-ray reflectance calc. 7−1247
- multilayer focusing films, computing X-ray reflectance 7−30143
- multilayer mirrors as X-ray filters for slit scan radiography 7−34243
- multilayer mirrors for short-wavelength optics, stability 7−18952
- multilayer optics for solar soft X-ray/XUV obs. 7−41562
- multilayer soft X-ray coatings, automatic electron-beam deposition 7−3184
- multilayer soft X-ray coatings, electron beam evaporated, anal. with Cu-K_α radiation 7−30145
- multilayer structures, soft X-ray performance, synchrotron based meas. 7−30147
- multilayer structures for X-ray laser cavities 7−37001
- multilayer X-ray analysers, charactn. 7−378

X-ray reflection continued
  multilayer X-ray mirror, influence of thickness errors and boundary imperfections on performance 7—1248
  multilayer X-ray mirror performance, coating thickness errors and boundary roughness determ. 7—30148
  multilayer X-ray mirrors, fabrication, in situ monitoring system 7—37217
  multilayer X-ray mirrors, resolution and reflectivity, interplane roughness influence 7—48928
  multilayer X-ray optics design 7—41567
  multilayer X-ray reflectivity calcs., lossy transmission line theory 7—37103
  multilayered optics on reflector and focusing ring, monochromatization 7—41565
  multilayered structures for soft X-ray mirrors, physical charactn. 7—37098
  multilayers analyzers for absolute X-ray spectrometry, characterisation 7—30146
  multilayers for neutrons and X-rays, disorder and diffusion 7—32872
  multilayers on flexible mica, prep. and charactn. for soft X-ray optics 7—37101
  quartz, curved cryst X-ray optics, inelastic scatt. expts., X-ray spectrometer design parameters 7—16354
  radiographic imaging at medium energies using multilayer mirrors 7—47225
  Schwartzschild objective in X-ray optics, image form. in multilayer optics, SHADOW program 7—30144
  shaped multilayer X-ray interference mirrors focusing props. 7—61417
  spectral flux, resolution, of X-ray spectrometer for inelastic scatt. expts. 7—16355
  surface layer struct., study using depth controlled EXAFS, near edge spectroscopy 7—59297
  surface studies, using X-ray total external reflection review 7—16360
  thin crystal with anisotropic distortion of cryst. lattice, X-ray beam Laue diffr. *(Russian)* 7—58101
  toroidal reflectors with multilayered optical coatings, figured X-ray optics, unified geom. design 7—30140
  Ag thin films, surface sensitivity of fluoresc. EXAFS in refl. conditions 7—64750
  Al/Nb sputter deposited multilayer VUV mirrors, design and fabrication 7—31424
  BaO, reflection spectra, 4d ionisation threshold 7—46234
  C-W multilayers, sputtered, ellipsometry monitoring, X-ray refl., XPS 7—39376
  Gd_2O_3, reflection spectra, 4d ionisation threshold 7—46234
  Hf-Si multilayers, X-ray optical props. rel. to layer imperfections 7—37097
  La_2O_3, reflection spectra, 4d ionisation threshold 7—46234
  Mo-Si multilayer mirror, reflectivity and stimulated emission in XUV spectra region 7—37099
  Ni-C multilayers, X-ray reflectivity and photoelectron yield 7—13321
  Ni-Fe (100), layered struct. reflectivity and EXAFS study 7—59292
  Pr_2O_3, reflection spectra, 4d ionisation threshold 7—46234
  Si substrates, curved for multilayer X-ray reflective lenses 7—41566
  Si-Cu-Au layered struct. reflectivity and EXAFS study 7—59292
  SiC mirrors, soft X-ray reflection 7—41553
  TiC mirrors, soft X-ray reflection 7—41553
  W-C multilayer X-ray mirrors, optical constants of layers 7—20389
  W-Si multilayers, X-ray optical props. rel. to layer imperfections 7—37097
  WC mirrors, soft X-ray reflection 7—41553

X-ray scattering
  see also Compton effect; X-ray diffraction
  Aerosol-OT, stabilised microemulsion, X-ray scatt. data, fractal anal. 7—54190
  amorphous inorganic compounds large angle X-ray scatt., cryst. struct. data anal. 7—63476
  Bloch waves, scatt. in slightly-distorted crystal *(Russian)* 7—58093
  calibration techniques, sources and detectors, conf., San Diego, CA, USA (Aug. 1986) 7—24286
  cell nuclei, erythrocytes and hepatocytes, small angle scatt. obs. 7—17959
  chest radiography, effect of a multiple-scanning beam device and trough filter on scatt. 7—47228
  crystals with equidistantly-curved reflecting surfaces, scatt. of plane X-ray with three wave diffr. *(Russian)* 7—51560
  crystals with microdefects, dynamic theory of diffuse X-ray scatt. *(Russian)* 7—51567
  curved cryst X-ray optics, inelastic scatt. expts., X-ray spectrometer design parameters 7—16354
  diagnostic radiography, scatt. radiation transfer prediction technique, expt. verification 7—54720
  diagnostic X-ray rooms, scattered radiation reaching doors and windows 7—60076
  diagnostic X-ray scatt., signal processing model 7—54719
  diffraction pattern distortion for plane specimens of weakly absorbent materials 7—21042
  diffusion scattering in presence of dynamic diffr. effects *(Russian)* 7—51562
  graphite, adsorbed Kr, 2-D system with competing interactions, phase transitions 7—6791
  hexadecyloctyldimethylammoniumbromide micelles, aq. solns., shape, neutron and X-ray scatt. 7—46872
  hydrides, amorphous and crystalline, comparative studies via incoherent scatt. 7—21798
  interstellar grains in Cyg X-3 halo, observational props. X-ray scattering effects 7—47977
  materials examination, elastic to Compton scattering ratio determ. 7—46892
  medical radiography, absorpt. and scatt. props. of elemental filters for X-ray beams 7—23451
  mirrors surface evaluation by soft X-ray scattering 7—25934
  multilayer mirrors, reflectivity, roughness effects 7—42908
  polyamide acids, dil. soln., structurisation *(Russian)* 7—42810
  polyimides, dil. soln., structurisation *(Russian)* 7—42810
  small angle scatt. intensities, slit distorted, anal. without desmearing 7—1814
  spectral flux, resolution, of X-ray spectrometer for inelastic scatt. expts. 7—16355
  spectrometer design, performance, inelastic scatt. expts. appl. 7—15040
  telescope mirrors, surface scatt. meas. by triple axis spectrometer 7—37104

X-ray scattering continued
  videodensitometric determination of percent stenosis, effect of beam hardening and scatt. 7—28686
  Vycor leached porous glass, fractal struct., SANS, SAXS, and energy transfer meas., comment and reply 7—44398
  water phantoms in diagnostic radiology, photon scatt. props., Monte Carlo simulation study 7—54718
  water-oil microemulsion, small-angle scatt., excess surfactant effect 7—59795
  Al-Ag, decay and short-range ordering *(Russian)* 7—44795
  Al-Zn, Guinier-Preston zones, size distrib., small angle X-ray scatt. studies 7—28043
  C, glass-like, heat treatment, pore growth kinetics 7—58147
  $C_{28}Br_2$ intercalation cpd., 2-D system with competing interactions, phase transitions 7—6791
  Cu (110), adsorbed Pb, struct. and melting, X-ray scatt. studies 7—7016
  CuTi:H, medium-range structure, ASAXS study 7—58203
  Fe-Cr-Co-Mo alloy struct., 2D scatt. X-ray intensity distrib. patterns, anal. by direct variation method 7—64734
  Ge, ultrafine particles, Raman and X-ray scatt. study 7—64627
  LiH, single cryst., electron momentum density and Compton profiles 7—3113
  Mo high purity single crystal, impurity-induced lattice distortions, diffuse X-ray scatt. studies *(Russian)* 7—6644
  Mo-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7—64779
  N_2, electron scatt., high energy, X-ray incoherent scatt. factor 7—36757
  PbS/PbTe 1D superlattice struct., X-ray diffr. patterns, coherent and heterophase scatt. 7—64733
  Ru-one-dimensional amorphous organic systems, EXAFS and X-ray scatt. studies 7—64779
  Si:B, O, heavily doped, O precipitation, diffuse X-ray scatt. studies 7—32669
  Si:Cu thin single crystals, decorated dislocations, X-ray Laue diffr. and scatt. studies *(Russian)* 7—58282
  SiO_2, silica aerogels, SAXS study 7—28355

X-ray sources (astronomical)
  see also X-ray astronomical observations
  7—9552
  1701+610, QSO with tidal tail, CCD imaging and spectroscopic obs. 7—4589
  Abell 370, arc structure in cluster of galaxies 7—60815
  active galactic nuclei, electron pair prod. rel. to bimodal spectral behaviour 7—9510
  active galactic nuclei, IUE meas. rel. to X-ray characts. 7—66770
  active galactic nuclei, X-ray flux spectrum rel. to low-ionisation emission lines 7—9535
  R Aqr, obs. of jet at radio and UV wavelengths 7—55686
  R Aqr, UV variability and mass expulsion from IUE obs. 7—55651
  blazars, beaming model 7—60799
  3C 120, Seyfert galaxy, UV and optical obs. in two different states 7—55832
  3C 273 jet, swinging relativistic plasma beam model 7—66783
  3C 371, N-galaxy/BL Lac object, EXOSAT obs. 7—55802
  η Car, UV spectrum obs. 7—47942
  Cen A (NGC 5128), X-ray intensity and spectrum obs. from Tenma 7—55828
  Cen A (NGC 5128) obs. at MeV gamma-ray energies 7—66754
  YZ CMi, flare star, simultaneous X-ray and optical monitoring 7—24151
  continuum emission from optically thin plasmas, approximation formulae for nonrelativistic average Gaunt factors 7—18349
  cool stars, radiative fluxes measuring activity, evidence for two chromospheric components 7—60626
  Crab Nebula and related SNRs, conf., Fairfax, USA (October 1984) 7—60887
  RS CVn detached short-period stars, EXOSAT and IUE obs. 7—60723
  RS CVn stars, Hα emission and X-ray characts. *(Chinese)* 7—29501
  RS CVn stars, X-ray emission and coronal activities 7—66671
  Cygnus Loop, high-resolution X-ray spectroscopic evidence of nonequilib. conditions 7—48037
  1E 0104.2+3153, identification with BAL QSO, visible and X-ray obs. anal. 7—66787
  early-type galaxies, prevalence of cooling flows from X-ray obs. 7—14664
  early-type galaxies, X-ray surface brightness distrib. and spectral props. 7—55799
  elliptical galaxies in groups and clusters, mass determ., X-ray emission anal. 7—4552
  extragalactic X-ray sources, relation between X-ray luminosity and redshift 7—14679
  Fairall 9, Seyfert 1 galaxy, simultaneous EXOSAT and IUE obs. 7—66747
  galaxies from Einstein Observatory sample, radio and X-ray props. of elliptical and S0 galaxies 7—66753
  galaxy clusters, equilib. of gas in gravit. field of cD-type galaxies 7—24204
  galaxy clusters, evolution and clustering of X-ray selected clusters 7—9546
  galaxy clusters, X-ray cooling flows rel. to star form. in central galaxies 7—55821
  galaxy clusters, X-ray luminosities of poor clusters rel. to photometric props. 7—55843
  σ Gem, X-ray spectrum of RS CVn type binary 7—60728
  H0253+193, hard X-ray source in nearest mol. cloud (Lynds 1457), identification as probable T Tau star 7—66789
  HEAO A-1 all-sky survey of fast X-ray transients 7—60836
  HEAO-1 unidentified sources, UHF obs. 7—14678
  IC 443, supernova remnant, multiwavelength investigation 7—40896
  IC 443, supernova remnant, obs. in coronal [Fe X] 6374 Å line 7—48051
  interstellar bubbles, wind driven, soft X-ray spectra 7—4545
  interstellar radiative shocks, dynamical models and line spectra of steady shocks 7—55454
  Japanese X-ray astronomy programme discoveries 7—60507
  EV Lac, eclipsing UV Cet star, photometric obs. of flares 7—66614
  EV Lac, UV Cet star, UV radiation rot. modulation 7—47933
  BL Lac candidates, X-ray selected, optical spectroscopy of six objects 7—48085
  late-type contact binaries, chromospheric-coronal activity, UV obs. of Mg II lines 7—47994
  AD Leo, flare star, periodic var. 7—14582
  M87, obs. of X-ray emission from galactic halo 7—66752

X-ray sources (astronomical) continued
Markarian 335, soft X-ray excess in Seyfert 1, accretion disk 7−60804
AU Mic, BY Dra star, IUE spectra of fluxes 7−47939
AT Mic, dMe star, UV and visible obs. 7−47934
MR 2251-178, quasar, extended O III 495.9+500.7 nm forbidden lines emission 7−35060
NGC 1275, search for γ-ray emission 7−55857
NGC 4051, Seyfert galaxy, EXOSAT obs. of low-freq divergent X-ray variability 7−66763
NGC 4151, Seyfert galaxy, detect. of intense Fe line emission at 6.4 keV 7−18452
NGC 5506, Seyfert galaxy, EXOSAT obs. of fractal X-ray time variability and spectral invariance 7−66764
NGC 7469, Seyfert 1 galaxy, EXOSAT obs. of rapid hard X-ray variability and soft X-ray excess 7−48077
NGC 7469, type 1 Seyfert galaxy, emission lines mapping rel. to circumnuclear starburst 7−29536
number-counts slope estimation in the presence of Poisson noise 7−48104
occultation techniques for ultra-high ang. resolution meas. 7−60567
Orion Nebula intense 6.7-keV Fe X-ray emission line detect. from high-temp. plasma 7−55780
II Peg, RS CVn star, 1986 JK photometry and light curves 7−4515
Per A, cool gas content, CO and H I obs. 7−60774
PHL 5200 quasar, X-ray observations of broad absorpt.-line quasar 7−60824
PKS 2155−304, BL Lac object, IUE obs. (1979 to 1985) 7−55833
quasars, brightness scale length of outer regions rel. to nuclei X-ray luminosities *(Russian)* 7−55826
quasars, flux-redshift relations in chronometric cosmology rel. to luminosity evolution 7−24237
quasars, in situ X-ray heating rel. to broad line region energetics 7−9553
quasars, UV continuum shape from IUE obs. 7−55849
RCW 103, young supernova remnant, obs. of expanding shells in filamentary edge of remnant 7−14632
Seyfert galaxies, brightness scale length of outer regions rel. to nuclei X-ray luminosities *(Russian)* 7−55826
Seyfert galaxies, narrow-line, with permitted Fe II emission (Mrk 507, 5C 3.100, I Zw 1), optical, X-ray, and IR props. 7−66751
SNRs, optical, radio and X-ray data anal. 7−14621
soft X-ray transients, relaxation to evolution of low-mass X-ray binaries 7−55707
strange stars, X-ray emissivity of exposed quarks surface 7−29495
superconducting cosmic strings, hard X-ray and γ-ray background contribs. 7−24518
supernova remnants, contrib. to excess X-ray emission from galactic ridge 7−24221
supernova remnants, selection effect in statistical investigations 7−24170
synchrotron self-Compton sources, one-generation pair production theory 7−55452
V711 Tan (HR 1099), radio emission from starspots on RS CVn binary 7−55725
4 U 1820−30, X-ray burst source with 690 second period 7−4594
4U 2316+61, identification with variable radio source (GT 2318+620) 7−4356
XY UMa, RS CVn star, X-ray light curve 7−47982
DM UMa (BD+61°1211), Hα line obs. of single-lined RS CVn system 7−40873
Vela supernova remnant, nature of radio emission from Vela X 7−24174
Vir A, cool gas content, CO and H I obs. 7−60774
Virgo cluster galaxies, relation to M87 jet 7−35047
Wolf-Rayet stars, new evidence at X-ray and gamma-ray freqs,. for non-thermal phenomena 7−55640
Wolf-Rayet stars, X-ray emission obs. 7−55648
young supernova remnants, constraints on struct. and dynamics from shock-heated dust obs 7−55754

X-ray spectra
see also X-ray absorption spectra; X-ray chemical analysis; X-ray emission spectra
$A+H^+$, (A=Sm, Tm, Ta, Ho, Au, Pb, W, Lu), $K\alpha_2$ to $K\alpha_1$ intensity ratio meas. 7−963
archiving of X-rays: digital or analogue methods? *(German)* 7−62313
bronze-steel pair, friction surface, local X-ray spectra study 7−3449
electrostatic exchange interaction and characteristics of X-ray spectra 7−25337
glass, ion exchange, surface investig. by XPS and X-ray spectra studies 7−13614
low-molecular ingredients, migration in elastomer compositions *(Russian)* 7−39942
one-electron and inner-shell energy levels in high Z atoms, X-ray spectra 7−19750
rare earth silicides, $R_2Co_3Si_5$ X-ray spectra and valence band electronic struct. 7−33484
semiconductor solid solutions, electron struct., X-ray and XPS spectra studies 7−12605
transition metals, 4d chemical effect on K X-ray intensity ratios 7−13267
transition metals, X-ray electron spectra asymmetry and Fermi level density of states *(Russian)* 7−3112
Ar, subvalent electron participation in X-ray and X-ray electron spectra 7−10478
CoSi, $CoSi_2$, thin films, study by ultrasoft X-ray spectroscopy *(Russian)* 7−52345
Cr^{23+}, dielectronic satellite spectra CI HFS calcs. 7−42506
Fe solid and molten, X-ray $K\alpha_1$ and $K\beta_1$ lines *(Russian)* 7−39211
Fe-Co-Cr-Mo alloys, electronic struct. and mag. props., X-ray spectra studies *(Russian)* 7−32902
KCl, subvalent electron participation in X-ray and X-ray electron spectra 7−10478
Na_2O-B_2O_3-CuO glasses, B ions coordination state studied by X-ray and Raman spectroscopy 7−1892
Ne-like ions, precision wavelength meas. in X-ray spectra 7−36525
^{201}Po, m and g isomers, decay scheme construction from time-sequenced spectra 7−30365
Ru complexes, X-ray transition multiplet structures, sécondary quantisation 7−10616
Si:Sb,As, cryst. aid amorphous, impurity band form., X-ray spectra studies 7−12650
Xe, subvalent electron participation in X-ray and X-ray electron spectra 7−10478

X-ray spectrometers
see also X-ray crystallography apparatus
2D imaging, using microchannel plate collimator 7−48927
absolutely calibrated time-resolving X-ray spectrometer 7−18962
astronomical instrumentation, conf., Cannes, France (December 1985) 7−24279
bent crystal spectrometer calibration, electron-impact high-intensity line source 7−24745
Bragg rotor spectrometer for tokamak diagnostics 7−10352
Cauchois-type, computer-controlled 7−56395
curved cryst X-ray optics, inelastic scatt. expts., X-ray spectrometer design parameters 7−16354
data acquisition, Apple IIe microcomputer controlled 7−41571
design, performance, inelastic scatt. expts. appl. 7−15040
diode-array coupled time-resolved transmission grating spectrometer 7−18968
double crystal high resolution EXAFS-XANES spectrometer 7−61409
elliptical X-ray analyzer spectrograph application to a laser-produced plasma 7−32088
gated spectrometer for X-ray lasers, wavelength and efficiency calibration 7−24749
grazing incidence spectrometer with multielement spectral detector, absolute calibration from 20 to 430 Å 7−25301
laboratory ReflEXAFS spectrometer 7−61408
layered synthetic microstructure spectrogoniometer for soft X-ray spectroscopy 7−35647
multi-crystal X-ray spectrometer, source of spurious peaks 7−41556
multichannel soft X-ray diode spectrometer, high density plasma diagnosis appl. 7−37743
multilayer X-ray analysers, charactn. 7−378
multilayered optics on reflector and focusing ring, monochromatization 7−41565
soft X-ray emission spectrometer used with synchrotron radiation excitation 7−30150
spectral flux, resolution, of X-ray spectrometer for inelastic scatt. expts. 7−16355
telescope for use in spectrometer for astronomy 7−47704
telescope mirrors, surface scatt. meas. by triple axis spectrometer 7−37104
time projection Compton spectrometer for medium-voltage flash X-ray sources 7−56391
vertical high-resolution Bragg X-ray spectrometer for thetokamak fusion test reactor 7−10281
windowless position-sensitive X-ray detector for aRowland circle crystal spectrometer 7−11764

X-ray spectroscopy
see also appearance potential spectroscopy; X-ray crystallography; X-ray diffraction; X-ray spectra
astronomical instrumentation, conf., Cannes, France (December 1985) 7−24279
basic principles, X-ray generation, detection and spectral analysis 7−24754
detector for fluorescent X-ray adsorption spectroscopy 7−24751
dispersive mode stopped flow X-ray absorption spectroscopy 7−61416
elliptical X-ray analyzer spectrograph application to a laser-produced plasma 7−32088
fusion plasma spectroscopy, double crystal monochromators, crystal, props. 7−15043
gas phase X-ray absorption spectroscopy with an electron yield detector 7−62311
high resolution synchrotron spectroscopy appl. 7−19742
layered synthetic microstructure spectrogoniometer, performance for X-ray spectroscopy 7−41559
layered synthetic microstructures for long wavelength X-ray spectrometry 7−379
layered synthetic microstructures for long wavelength X-ray spectrometry 7−39938
medium and heavy elements, L-subshell ionisation cross sections, X-ray spectra anal. 7−30977
multilayered X-ray optics on cylindrical reflector and ellipsoidal focusing ring, monochromatisation 7−1246
multilayers analyzers for absolute X-ray spectrometry, characterisation 7−30146
soft X-ray calibration of diffracting materials 7−26514
soft X-ray imaging with high-gain MCP detector systems 7−41564
time-resolved, laser ablation studies, planar multilayered targets preparation 7−19426
time-resolved X-ray spectrographic instrumentation for laser fusion and X-ray laser studies 7−18961
vacuum interface to a soft X-ray synchrotron beam line 7−18967
variable pressure ion chamber for relative and absolute flux measurement 7−24748
VUV-soft X-ray beamline for spectroscopy and calibration 7−18966
X-ray absorpt. spectroscopy, impact on biology, applications and development, review 7−65899
X-ray photoelectron spectroscopy applications using microfocused X-rays 7−24752
Al, laser-produced line plasmas, soft X-ray spectroscopy techniques 7−11701
Cu plasma, X-ray spectroscopic diagnostics 7−6465

X-ray transport *see photon transport theory*

X-ray tubes
digital subtraction radiography technology, equipment and techniques 7−40267
evolution of the X-ray tube anode 7−18066
flash, bremsstrahlung and K-series production efficiencies maximisation 7−380
flash, bremsstrahlung maximisation and K-series production efficiencies 7−24747
half-value-layer increase owing to W buildup 7−14130
heavy-current cathode for X-ray tubes with electrostatic focusing *(German)* 7−24740
image intensifier, with large input aperture and high resolution *(Czech)* 7−35650
medical tubes, equiv. spectra as a meas. of beam quality 7−54724
microfocus, electron beam melting of anodes 7−35646
microfocus X-ray tube, focal spot size, incident electron beam radius 7−48924
operating regime selection in radiodiagnostic investig., tissue heterogeneity effect 7−40278

X-rays
- *see also cosmic ray X-rays; photons*
- low energy soft X-ray source experiments 7−30814

X xi calculations *see Xalpha calculations*

X-Y model
- 2D, phase diagram 7−4774
- accelerated stochastic algorithms near critical temp. 7−41296
- antiferromagnetic, triangular lattice in mag. field, phase diagram, spin wave free energy calcs. 7−17178
- antiferromagnetic planar-rotator model under h_n/fields 7−2799
- antiferromagnetic quantum spin chains, random exchange effects, Monte Carlo study 7−64475
- antiferromagnetic rings, finite lattice extrapolations for ground state energies 7−38896
- axial decorated Ising model with competing interaction, phase diagram and thermodynamics 7−14875
- C* algebra approach to ground states 7−48631
- classical spin chains, dil., effects of mag. field on thermodynamics 7−38840
- classical XY-chain with an in-plane magnetic field 7−58967
- continuous symmetry ferromagnet, Monte Carlo simulations 7−2871
- cyclohexyl ammonium copper tribromide-d_{14}, $S={}^1/_2$ ferromag. chain system, short and long range correlations 7−17159
- dimerised XY chain, exact real space renormalisation group transformation 7−35445
- dynamic and ergodic props 7−48629
- dynamic spin response function near Kosterlitz-Thouless transition, theory 7−32604
- elastic Ising antiferromagnets on a triangular lattice 7−33185
- ergodic props. and hydrodynamic limit of 1D XY model 7−35455
- frustrated, Josephson- or proximity-coupled superconducting arrays, screening length calcs. 7−64391
- fully frustrated Ising model, X-Y nature on triangular lattice, Monte Carlo simulation 7−24591
- infinite range soln. and free energy calcs. 7−24593
- linear chain dynamics calcs. 7−48589
- locally perturbed XY model, return to equilibrium, one particle Hamiltonian 7−9791
- one-dimensional, transverse auto-correlation function, short time behaviour 7−64430
- phase diagram and decay of spin-spin correlations 7−24565
- phase transitions in two-dimensional uniformly frustrated*XY* spin systems 7−2875
- planar spin chains, mag. field depend. of specific heat 7−45707
- planar XY-model on a 2D random lattice, numerical simulation 7−24594
- quantum spin chains of arbitrary spin quantum number, phase diagrams and correlation exponents 7−33191
- quantum spin model on triangular lattice, zero-temp. props. 7−27486
- quantum spin system, 1D, 1D, vectorized coding for Monte Carlo simulation 7−45606
- quasi-1D mag. systems, impurity low lying states *(Russian)* 7−52975
- simple magnets and spin glasses, zero field muon spin relax. 7−53193
- spin glass, replica mean field theory of isotropic glass phase 7−2862
- spin-1/2 1D, random forces, relax. and memory functions, dynamical behaviour calcs. in high-temp. limit 7−56178
- spin-1/2 antiferromagnetic rings, ground state finite-size scaling calcs. 7−56179
- spin-${}^1/_2$ dimerised XY model, 1D, modified boundary conditions, finite-size scaling 7−35461
- superconductors, dirty quasi 2D, Kosterlitz's recursion relations and anisotropic XY model 7−64390
- three dimensional, critical surface free energy, universal finite scaling amplitude, direct Monte Carlo sampling 7−61305
- three-dimensional O(2) model, phase transition, vortex string role, Monte Carlo calcs. 7−264
- CdMn, XY-type spin glass, uniaxially anisotropic, successive transitions 7−17188
- $CoCl_2$-graphite intercalation cpds., mag. susceptibility meas. 7−45638
- $MnCl_2$-graphite intercalation cpds., mag. susceptibility meas. 7−45638
- $Rb_2Mn_{1-x}Cr_xCl_4$, reentrant spin glass state, quasi-2D XY system, Cl^{35} NMR spectra study 7−27613

Xalpha calculations
- ab initio exchange-correlation parameter study 7−56972
- acetylene, optical transition energies and ionisation pot., DVM-Xα calcs. 7−25391
- alkali metals ionic clusters, stability and struct. Xα and ab initio methods 7−10421
- atomic transition energies, X-ray spectra 7−10422
- benzene, mol. wave fns. drawing, MS-X_α-SCF calcs. 7−49921
- borate minerals, unoccupied mol. orbitals of B−O bond mol. orbital calcs., XANES, NMR and electron transmission spectra 7−33281
- trans-butadiene, optical transition energies and ionisation pot., DVM-Xα calcs. 7−25391
- dicarbolide ion, electronic struct., MS-Xalpha MO calcs. *(French)* 7−25390
- ethylene, optical transition energies and ionisation pot., DVM-Xα calcs. 7−25391
- generalised exchange local-spin-density-functional theory, 7−36499
- hydrocarbons, cyclic, k-shell excitation, EELS 7−20037
- LCGTO Xα method, appl. to photodissociation and conform. energy problems 7−25393
- methane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7−50254
- oxides, near edge struct., local geometry and cation type effects 7−63576
- trans-polyenes, electronic struct., DVM-Xα calcs. 7−25392
- tetrafluoromethane, partial photoionisation cross sections, energy depend., photoemission, ang. distribs. 7−50254
- thiolane, gas, solid and monolayers, EELS and XPS study 7−19949
- thiophene, gas, solid and monolayers, EELS and XPS study 7−19949
- transition metal carbides, discrete X_α calcs. and high resolution Auger spectra 7−16942
- tribromomethyl radical, geometry and electronic struct., SWXα calcs., ab initio UHF calcs. 7−19703
- trichloromethyl radical, struct. and electronic states, ab initio UHF SWX_α calcs. 7−30949
- Al-H(He) systems, vacancy-impurity centres, positron lifetime meas. 7−39254
- Ar, 2s and 2p shake-up energy, Xα theory, X-ray transition energies 7−10422
- AsO_4^{n-}, electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7−856

Xalpha calculations continued
- $B_{12}H_{12}^{2-}$, electronic struct., MS-Xalpha MO calcs. *(French)* 7−25390
- $BaTiO_3$:Mn(Cr), impurity electronic struct., molecular-orbital calcs. 7−45213
- C cubic crysts. electron struct., cluster approx., Xalpha calcs. 7−38445
- C_{60} cluster, spherical, DV-Xα electronic struct. 7−10806
- $Ce(OH)_9^{3+}$ cluster, 5d←4f excited states, Xα mol. orbital calcs. 7−62284
- ClOO, low-lying electronic states, SCF-X_α-MS calcs. 7−49922
- $Cr(CO)_6$, electronic struct., X-ray and photoelectron spectra 7−5699
- $Cr(CO)_6$, SCF-SW-Xalpha ab initio XANES calcs. 7−64776
- Cu-Mn dil. alloys, electronic struct. of mag. impurities 7−58771
- $(Cu_2Cl_6)^{2-}$ dimers, electronic struct., mag. props., Xα-SW calcs. 7−10419
- Fe sites in minerals, electronic struct., iterative EHT, multiple scatt. Xα calcs. and Mossbauer meas. 7−17244
- Fe-Te cluster, localised props., multiple scatt. Xα SCF method 7−21848
- Fe-V superlattices and alloys, magnetism study 7−64436
- γ′-Fe_4N, Auger spectra, electronic struct. *(Russian)* 7−64832
- GaAs, covalent cryst., electronic struct., cluster approx. 7−52403
- GaAs:C, impurity levels determ. 7−32949
- GaAs:Mo (W), impurity electronic struct. excitation and ionisation, cluster approach, Xα multiple scatt. calcs. 7−2535
- GaO, lower electronic states, SCF-X_α SW calcs. 7−30948
- Ga_2O, He I photoelectron spectra, relativistic DVM SCC Xalpha calcs. 7−50252
- Ge cubic crysts. electron struct., cluster approx., Xalpha calcs. 7−38445
- HPNH, photoionisation cross-sections, MS X α calcs. *(French)* 7−5599
- InO, lower electronic states, SCF-X_α SW calcs. 7−30948
- InP:Fe, midgap impurity levels, isomer shift and charge state calcs. 7−2538
- KSCN, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
- K_2SO_4, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
- K_2TiF_6, K X-ray Kα spectra, hidden satellites, chem. effects, DV-Xα cluster calcs. 7−46245
- LaF_3, spectral parameters, lattice defects effects, Xα discrete-variation method calcs. 7−7170
- La_2O_3 cryst., Auger spectra, electron polarisation effect 7−59313
- Li_n clusters, n=2 to 13, electronic struct. and magic numbers, LCAO-Xα calcs. 7−31206
- $Mo(Co)_6$, electronic struct., X-ray and photoelectron spectra 7−5699
- Ne, 1s shake-up energy, Xα theory, X-ray transition energies 7−10422
- Ni-He, electronic state or interstitial He atoms, MO calcs. of model clusters 7−16969
- $Ni(CO)_4$, electronic struct., X-ray and photoelectron spectra 7−5699
- OClO, low-lying electronic states, SCF-X_α-MS calcs. 7−49922
- $Os_2Cl_8^{2-}$ ion, conformation calc. by SCF-Xalpha-SW method, relativistic corrections 7−16508
- PO_4^{n-} electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7−856
- Pt complex, diaminodichloplatinum(II), isomers orbital study, coordination with DNA, relativistic multiple scatt. Xα calcs. 7−56973
- SF_6, S 1s core-level photoionis. spectra 7−941
- SO_4^{n-}, electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7−856
- SeO_4^{n-}, electronic struct., ionisation pot. MS-Xα calcs. *(French)* 7−856
- Si cubic crysts. electron struct., cluster approx., Xalpha calcs. 7−38445
- Si:H(Ne)(Ar), ground state one-electron energies, SCF MS X_α calcs. 7−44582
- Si:Hg(Au)(Pt)(Ir)(Os)(Re)(W), self-consistent one-electron states of 5d transition-atom impurities 7−32950
- Si:Pd, deep levels electronic struct., Xα-SW study *(Chinese)* 7−58761
- SiC, covalent cryst., electronic struct., cluster approx. 7−52403
- ^{119}Sn compounds, Mossbauer spectra interpretation SCC-Xα-MO calcs. 7−36474
- Th complex, bonding, Xα-SW MO calcs. 7−62283
- $TiCl_4$, electron attachment, scatt. cross section, multiple scatt. Xalpha continuum calcs. 7−62483
- UC_2, gaseous molecular forms, discrete variational Xα molecular orbital calcs. 7−10420
- YF_3, spectral parameters, lattice defects effects, Xα discrete-variation method calcs. 7−7170
- ZnS, covalent cryst., electronic struct., cluster approx. 7−52403
- ZnSe:Cu(Ag)(Au), cationic substitutional impurities and metal vacancy, microscopic models 7−27296
- Zr complex, bonding, Xα-SW MO calcs. 7−62283

XANES
- 4f mixed valence cpds. X-ray absorpt. spectroscopy 7−59301
- adsorbates, near edge X-ray adsorption fine structure spectroscopy 7−27822
- alkali halides, XANES K-spectra, cryst. pot. and size effects 7−64748
- alkali halides, XANES spectra, single site approx. via ideal crystal Green's functions 7−64747
- benzene, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7−64769
- borate minerals, unoccupied mol. orbitals of B−O bond mol. orbital calcs., XANES, NMR and electron transmission spectra 7−33281
- carbonylhemoglobin, pH dependent XANES by fast dispersive spectroscopy 7−65708
- conference, Abbaye Royale de Fontevraud, France, (July 1986) 7−60862
- cytochrome c and b_2 cores in oxidised and reduced states, EXAFS and XANES obs. 7−65683
- double crystal high resolution EXAFS-XANES spectrometer 7−61409
- double crystal monochromator for soft X-ray beam line, XANES and EXAFS spectra 7−61411
- double crystal X-ray monochromator for EXAFS and XANES 7−61410
- element complex X-ray atomic scatt. factors, X-ray interferometry studies 7−32208
- elemental and chemical-state imaging using synchrotron radiation 7−46882
- ferrichromites, coordination and oxidation states, XPS and XANES studies 7−63583
- high-energy approximation for XANES 7−17364
- horseradish peroxidase, struct. charactn. of high valent intermediates, EXAFS and XANES obs. 7−65682
- intermetallic cpds., charge redistrib., L-edge XANES study 7−64816
- Lamellar cpds., X-ray absorpt. studies 7−59286
- myoglobin, thermal spin equilib., high-resolution XANES study 7−65702
- one-electron Green's function, analytical props. 7−64746
- ovotransferrin, chicken, Fe binding-sites, EXAFS and XANES obs. 7−65688

XANES continued
- oxides, near edge struct., local geometry and cation type effects 7−63576
- photosynthetic O_2 evolving Mn complex, X-ray edge and EXAFS studies 7−65722
- trans-polyacetylene: Br, polarised K edge XANES, short range order multiple scatt. calcs. 7−53445
- polyacetylene:Br(I), polarised EXAFS and near edge spectra studies 7−64778
- trans-polyacetylene:I, polarised L_1 edge XANES anal., short range order full multiple scatt. calcs. 7−53444
- trans-polyacetylene, Br doped, polarised XANES theoretical studies 7−64823
- polymers, electronic struct. and orientation on Pt, XANES studies 7−64058
- polyselenophene, electronic and struct. modifications during doping, EXAFS and XANES studies 7−63507
- pyrazine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7−64769
- pyridine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7−64769
- silicate glasses, cation environments, EXAFS and NEXAFS studies 7−63482
- superoxide dismutase, EXAFS and XANES obs. 7−65681
- surface structures, disordered, diffuse LEED and XANES studies 7−12442
- surface XANES spectra, multiple scattering effects 7−13260
- transition metal complexes, polarised X-ray absorpt. near edge struct. 7−64818
- transition metal ion aqueous dilute solns., coordination geometry, XANES studies 7−63428
- s-triazine, adsorbed on Cu and Ag single cryst. surfaces, mol. orientation, XANES determ. 7−64769
- $AgI-Ag_2O-B_2O_3$ fast ion conducting glasses, struct., XANES studies 7−63483
- Al-Mn quasicrystals, local struct., EXAFS and XANES studies 7−6582
- Au_2Ag intermetallic cpds., charge redistrib., L-edge XANES study 7−64816
- $AuAl_2$ intermetallic cpds., charge redistrib., L-edge XANES study 7−64816
- $AuGa_2$ intermetallic cpds., charge redistrib., L-edge XANES study 7−64816
- Br_2 solid, high press. X-ray absorpt. study, energy dispersive mode 7−59299
- CaO, XANES spectra, band struct. calcs. 7−64738
- $CaZrTi_2O_7$, zirconolite, alpha-recoil damage 7−6692
- CeO_2, intermediate valence state, XANES 7−52545
- $Ce(SO_4)_2.4H_2O$, intermediate valence state, XANES 7−52545
- Co (II) azelaic acid bis(phenylhydrazide), X-ray absorpt. near-edge struct. obs. 7−19881
- Co (II) sebacic acid bis(2,4-dinitrophenylhydrazide), X-ray absorpt. near-edge struct. obs. 7−19881
- Co-Sn multilayers, amorphisation and interdiffusion, EXAFS and XANES studies 7−64812
- $Cr(CO)_6$, SCF-SW-Xalpha ab initio XANES calcs. 7−64776
- CsC_x (x=8,24), intercalation cpds., XANES studies, polarisation effects 7−59294
- Cu (100), chemisorption of linear hydrocarbons, σ-shape and π resonances, XANES 7−53448
- Cu (100), XANES fluoresc. yield meas. of submonolayer linear hydrocarbon mols. 7−64751
- Cu (110), adsorbed O induced reconstruction, XANES 7−53447
- Cu dilute alloys with 3d elements, electronic struct., K-edge XAS study 7−64066
- $Cu_{70-x}Au_{30}Fe_x$, ferromagnetic interactions, EXAFS and XANES anal. of Fe atom environment and clustering 7−64808
- CuBr, X-ray absorption study at higher press. 7−17362
- $Cu_{98}Fe_2$, antiferromagnetic interactions, EXAFS and XANES anal. of Fe atom environment and clustering 7−64808
- $Cu_2(OH)_2CO_3$, malachite, X-ray K-absorpt. study 7−7790
- $Eu(Cu_{1-x}M_x)Si_2$ (M=Au, Ag, Ru, Ni), substitution effects on mixed valence behaviour, Mossbauer and XANES studies 7−64183
- $EuCu_2(Si_{1-x}Sn_x)_2$, substitution effects on mixed valence behaviour, Mossbauer and XANES studies 7−64183
- Eu_xPd_{1-x}, amorphous mixed valent alloys, X-ray absorpt. spectra 7−64802
- Fe (100) with adsorbed CO, adsorbate tilted dissociation precursor 7−58642
- Fe dilute alloys with 3d elements, electronic struct., K-edge XAS study 7−64066
- Fe-Cr surface oxide scales, XANES 7−65193
- FeCo oxides, oxidation state and site symmetry, EXAFS and XANES studies 7−63584
- $Fe_{1-x}O$, wustite, electronic struct. and X-ray absorption spectra 7−2479
- GaAs crystalline and amorphous, L near-edge structure, X-ray photoabsorpt. spectra 7−64766
- $Gd_{1-x}Sr_xCrO_3$, coordination number and elec. cond., EXAFS and XANES studies 7−64785
- GeO_2 glass, high resolution EXAFS and XANES studies 7−27817
- InGaAsP local struct., EXAFS and near-edge struct. studies 7−64006
- KC_8 intercalation cpd., polarisation depend. XANES study 7−59298
- KC_x (x=8, 24), intercalation cpds., XANES studies, polarisation effects 7−59294
- $KH_{08}C_x$, polarisation depend. XANES study 7−59298
- Kr implanted systems, local environment, K-edge XANES and Rutherford backscatt. spectra studies 7−64809
- $La_{1-x}Sr_xCoO_3$, local struct., EXAFS and XANES studies 7−63582
- $Mg_{0.98}Na_{0.02}Fe_2O_4$, spinel struct., EXAFS and XANES studies, humidity sensor appls. 7−64784
- $Mn_xSn_{1-x}Mo_6S_8$, Mn dopant props., supercond. transition temp., EXAFS, XANES, photoemission studies 7−46236
- ND, mixed valent clusters, X-ray absorpt. studies 7−64791
- $Na_xV_2O_5$ bronze, struct. and valence, XANES studies 7−63579
- Ni (110), azimuthally depend. XANES of adsorbed S 7−64773
- Ni (110) and (111), adsorbed S, surface struct., SEXAFS, XANES studies 7−64770
- Ni cobaltite, coordination and oxidation states, XPS and XANES studies 7−63583
- Ni dilute alloys with 3d elements, electronic struct., K-edge XAS study 7−64066
- Ni, surface oxide struct., XANES study 7−64771

XANES continued
- Ni-Al intermetallic cpds., charge redistrib., L-edge XANES study 7−64816
- $Ni_{0.64}Fe_{0.36}$ intermetallic cpds., charge redistrib., L-edge XANES study 7−64816
- O (2×1) chemisorbed layer on Ni (110), SAXAFS study 7−64768
- Pd clusters in C matrix, electronic and struct. studies by EXAFS and XANES 7−17363
- Pd(II) complexes, X-ray absorpt. near-edge struct., ligands influence 7−22380
- Pr, mixed valent clusters, X-ray absorpt. studies 7−64791
- PrO_2, intermediate valence state, XANES 7−52545
- RbBr-Rb molten system, struct. studies, XANES anal. 7−63429
- RbC_x (x=8, 24), intercalation cpds., XANES studies, polarisation effects 7−59294
- Si, spherical wave EXAFS and multiple scatt. effects in XANES 7−64742
- Sm, mixed valent clusters, X-ray absorpt. studies 7−64791
- Sm small clusters, matrix isolated, mixed valence, critical cluster size 7−64186
- SmS, mixed valent system, atomic relax., determ. from XANES studies 7−64798
- $Sm_{1-x}Sc_xS$ alloys, intermediate valence, X-ray absorption study 7−7789
- $Sm_{1-x}Sc_xS$, first order valence phase transition, XANES study 7−38524
- ThO_2, crystalline and glasses, localisation of 5f states, XANES study 7−64794
- $(Ti,M)O_2$ (M=V, Nb, Ta) rutile solid solns., charge transfer and ligand fields, XANES studies 7−64782
- Ti, oxides and silicates, Ti XANES study, site geometry, spectral features 7−59288
- UO_2 and U glasses, unoccupied 5f states, XANES study 7−39318
- UO_2, crystalline and glasses, localisation of 5f states, XANES study 7−64794
- UO_2, search for intermediate valence state, XANES 7−52545
- V_2O_5 gel, V site struct., polarised EXAFS and XANES studies 7−65355
- V_2TiO_5, valency distrib. determ., XANES 7−16509
- Y_xPd_{1-x}, amorphous mixed valent alloys, X-ray absorpt. spectra 7−64802
- $Zn_{0.98}Na_{0.02}Fe_2O_4$, spinel struct., EXAFS and XANES studies, humidity sensor appls. 7−64784

xenon
- *see also nuclei with ......*
- acousto-optic interaction in FIR 7−37623
- adsorbate, excited states assignment 7−52725
- adsorbed layers on Au (110), final state screening in inverse photoemission spectra 7−3104
- adsorbed multilayers on Ru (001), inverse photoemission spectra, final-state screening effects 7−13251
- adsorbed on Au (111), He atom-surface scatt. 7−27851
- adsorbed on graphite, thermodynamics of first-order and continuous melting 7−2358
- adsorbed on InP-Au interface, Fermi level pinning, growth characts., photoemission spectra 7−22009
- adsorbed on Pd and Cs substrates, core-electron binding energies, photoemission study 7−3146
- adsorbed on Pt_3Ti (111), surface core level shifts 7−22448
- adsorption on graphite, incommensurate-commensurate phase transition, X-ray diffr. obs. 7−32793
- adsorption on Pt (111), thermodynamic meas. 7−6982
- amplified spontaneous emission studies 7−15830
- atom, 4p excitation, multiple photoionisation cross sections, TOF mass spectrometer anal. 7−19802
- atom, 5p photoionis., angle- and spin-resolved photoelectron spectroscopy, expt. charactn. 7−904
- atom, 6s state, three-photon excitation and four-wave-mixing, two-colour interference effect 7−19812
- atom, 90° scatt. angle excitation functions 7−25662
- atom, above-threshold multiphoton ionisation, circularly and linearly polarised light, PES spectra study 7−62338
- atom, adsorbed on Ag film, IR laser photodesorption spectroscopy 7−17825
- atom, Auger transitions, relative intensities for KMX and KXY groups 7−25442
- atom, autoionisation under two- and three-phonon excitation 7−15561
- atom, autoionising Rydberg series, two-photon spectra anal. 7−36570
- atom, charge referencing during XPS sputter profiles 7−15566
- atom, electron elastic scatt., electron spin polarisation, HF calcs. 7−25369
- atom, electron impact excitation cross-sections 7−25661
- atom, electron impact ionis., partial cross section meas. 7−62530
- atom, fast electron bremsstrahlung cross sections 7−36780
- atom, J=0 autoionisation, multichannel-quantum-defect theory anal. 7−36559
- atom, laser-induced third-harmonic generation in forbidden regions, Stark effect in three-photon 7−37039
- atom, long-wavelength continuum in VUV spectral region 7−49986
- atom, multiphoton ionisation, final state redistribution, electron energy spectra anal. 7−25468
- atom, multiphoton ionisation 7−62330
- atom, multiphoton ionisation spectrum, space charge elimination pulse polarisation effects 7−15567
- atom, multiple photoionisation, charge state of ions, TOF mass spectra anal. 7−50036
- atom, photoelectron angular distributions, ponderomotive effects 7−50037
- atom, photoionis. with synchrotron radiation, angle-resolved electron spectra 7−905
- atom, photoionisation, photoelectron and electron momentum spectroscopy 7−36560
- atom, Rydberg states, four-photon excitation 7−62328
- atom, small angle differential cross sections for electron elastic scatt. 7−15713
- atom, subvalent electron participation in X-ray and X-ray electron spectra 7−10478
- atom, two-photon excitation, IR decay, press. effect 7−50041
- atom, two-photon one-electron ionisation cross sections, RPA, LDA HF calcs. 7−49912
- atomic inner shells, two-photon transitions, relativistic SCF calc. 7−36573
- atoms, J=1 even-parity autoionisation 7−50029
- atoms, multiple ionisation by intense laser pulse 7−62332
- atoms, radiative collisions, curve crossing, two-photon laser excitation 7−19810
- atoms multiphoton ionisation study 7−19798

xenon continued
basalts of mid-ocean ridges, inert gas abundances 7−60198
coadsorbed with ethylene on graphite, layering and mixing transitions 7−58624
compressed-Xe ionisation chamber, for gamma-ray spectroscopy 7−10350
computed tomography, Xe enhanced 7−18076
cryogenic crysts., exciton diffusion and energy transport studies 7−52438
desorption from Cu film, surface temp. determ. using pyroelectric calorimeter 7−52233
dimer, spectroscopic consts., coherent VUV and XUV radiation sources 7−10472
double ionisation process, mass spectrometer and coincidence studies 7−19965
elastic electron scattering, differential cross section meas. 7−62525
equation of state behind strong shock waves, fluid integral eqn. approach 7−20827
excimers, two-photon fluoresc. appl. to subpicosecond pulse duration meas. 7−43187
gamma-quantum detector, position sensitive 7−36412
gas, doubly-ionised by electron impact, spectral line Stark broadening meas. 7−62320
gas, primary and secondary ionisation coeffs. meas. 7−1668
gas, supercontinuum generation with femtosecond pulses 7−25908
gas discharge triodes 7−37789
gas laser, neutron pumping from tokamaks 7−62666
ion bombardment, of Cr-C, Cr-Mo deposited on Fe, surface amorphous alloys *(Chinese)* 7−51885
ion implantation, ion beam mixing in B-Ni, B-Fe systems *(Chinese)* 7−51886
ion irradiation, of W-Cu, Ta-Cu multilayer systems *(Chinese)* 7−51884
ion laser, short-wavelength, pumped by Auger decay, obs. 7−36938
ionisation, photoelectron angular distrib. 7−19794
ions, energy levels, radiation effects and corrections 7−49960
ions, prod. by saddle-field neutral beam source, distrib. 7−35622
lasing action, output pulse lengths achieved with electron beam pumping 7−15843
liquid, thermal electron mobility calc. 7−17027
matrix isolation of NH(ND), radiative decay and radiationless relax., lifetime meas. 7−10653
missing fractions, positive muon spin polaris., μSR meas. 7−50411
molecule, excited states, photoionisation and predissoc. 7−19959
monolayer adsorbed on graphite, dislocation interactions 7−2357
monolayer on graphite, H atom scatt. resonances 7−64864
monolayer on Pt (111), thermal He scatt. data anal., comment 7−21633
monolayers on graphite, low temp. phase diagram, striped helical Potts model calcs. 7−38327
monolayers on graphite, low temp. struct. and incommensurate-commensurate transition, electron diffr. study 7−38335
monolayers on Pt (111), high order commensurate locked phase 7−2349
multielectron multiphoton ionisation 7−19795
multilayer, physisorbed on Cu, laser-induced thermal desorption 7−17817
multiphoton ionisation, suppression with circularly polarisation coherent light 7−19792
nonpolar fluid, electron mobility near crit. point 7−7243
overlayer raft orientation on Pt (111), mol. dynamics study 7−38334
physisorbed adlayer on Pt (111), He gas-surface interaction studies 7−33503
physisorption on K treated Ni (100), wetting, photoemission spectra 7−32822
plasma, Cs additive, conc. depend. anal. 7−51399
plasma, electron mobility and conductivity, numerical solns. 7−31944
plasma, equilib. comp., numerical methods study 7−31935
radiative wave generation by laser-driven supercritical shock, expt. obs. 7−1591
radioisotope cyclotron prod. in ^{127}I(p,X) reaction 7−28694
radioisotope production, anal. and appl., conf., Banff, Canada, Sept. 1985 7−24254
rare gas floating monolayers, dynamics in self-consistent phonon theory 7−2362
solid, Brillouin scatt. intensities evaluation 7−33403
solid, luminescence of trapped excitons, press. effects 7−64690
solid, phonons, close to melting 7−63757
spectral distribution of Xe lamp as standard white light source *(Japanese)* 7−1244
spin-orbit splitting, determ. from ab initio pseudopotential 7−2547
sputtering mechanism by keV ions 7−59354
stimulated Brillouin scattering, high reflectivity of HF laser radiation 7−15938
thermodynamic props., universal eqn. of state of solids 7−44736
two-dimensional lattice, defect props. 7−2018
two-photon excitation and fluorescence 7−15541
vacancy cascade following inner-shell ionisation, Monte Carlo simulation 7−30998
Xe, elastic scatt. of electrons, phaseshifts and differential cross sections, local-density approx. 7−19695
Xe-SF_6 gaseous mixture, stimulated Brillouin and thermal scatt. of Nd μs pulses 7−62777
Ap-Xe-Kr(Ar), ion implanted, bubble growth, lattice parameters, TEM obs. 7−51803
Ar-Xe laser at 1.73 μm, electron beam and electric field pumped 7−1077
Ar-Xe pulse-periodic large-volume electron beam-controlled laser, IR transitions in Xe atom 7−43059
atom, electron elastic scatt., electron spin polarisation, electron spectra study 7−25651
CO-Xe(NH_3) mixtures, photoionis. discharge, energy characts. 7−21027
CO_2-Xe(NH_3) mixtures, photoionis. discharge, energy characts. 7−21027
HCl/Xe/He gas mixture, kinetic model of discharge *(Russian)* 7−11577
HCl-Xe, mixture, vibr. relax., rate const. meas. 7−15687
HCl-Xe-He self-sustained discharge, population dynamics of electronic states of atoms and ions 7−37781
He-Xe pulsed discharge, Xe($^3P_2$) radial distrib. 7−26573
He-Xe-HCl excimer laser discharge growth dynamics 7−1086
Na+Rg optical collisions, (RG = He, Ne, Ar, Kr, Xe), fine struct. branching ratio determ. 7−10704
Ne:Xe, solid, local phase transition near impurity center 7−26945
Rb-Xe laser-enhanced spin-exchange collisions 7−10453
Xe I atoms, $5p^5nf$ configurations, lifetimes meas. 7−5636
Xe:Cl_n (n=1 or 2) 7−28297
Xe:HCl, cooperative photoabsorpt. induced charge transfer reaction dynamics 7−28297
Xe-Ar, laser-induced collisional energy transfer, multiphoton ionisation study 7−57152
Xe-Ar:H, plasma, comp. eval. 7−1733
Xe-CO_2, van der Waals, two-photon excitation intermediate states, obs. 7−15638
Xe-dimethylether, vap. press. and density, excess molar enthalpy and entropy 7−12319
Xe-ethane liq. mixture, excess props., predictions, Weeks-Chandler-Anderson type perturbation theory calc. 7−32247
Xe-halide excimers, interaction with simple cryogenic liquids 7−42776
Xe-He active medium, HF H-discharge excited, characts. investig. 7−20189
Xe-Kr mixtures adsorbed on graphite, X-ray diffraction studies 7−6966
Xe-Pb^{26+}, impact parameter depend. target K X-ray emission, XES spectra anal. 7−62314
Xe-TEA gas mixtures, emission spectra in proportional counter 7−62226
Xe-tetrachloromethane(benzene), intermol. pot., sphericalisation 7−10701
Xe+Cl_2(Br_2)(I_2), atom and excitation transfer, energy disposal, product rot. alignment 7−31158
Xe+Cs^-, low-energy collisions, absolute total cross section meas., curve-crossing model anal. 7−36749
Xe+H_2, pot. energy surfaces calcs. 7−50301
Xe+H^-, collisional excitation and decay of ^1P shape resonance 7−5616
Xe+He^+, analytic repulsive pot. calc. 7−50308
Xe+Hg collisions, Hg radiative lifetimes and deactivation rate consts., mol. fluoresc. study 7−19752
Xe+ICl, form. of XeCl and XeI, fluoresc. 7−17773
Xe+Li_2, rot. energy transfer cross sections, studied using polarisation ratio vel. depend. 7−42740
Xe+N^{2+}, energy loss spectra 7−50334
Xe+N^{7+}, transfer ionization, differential cross section meas. 7−50325
Xe+Na, fine-struct. branching ratios, meas. 7−15676
Xe+Na, Na D lines, collisional broadening, fine-struct. mixing, depolarisation 7−62503
Xe+Na, Na D lines, far wings obs. using fluoresc. excitation method 7−62317
Xe+O^{6+}(C^{4+}), one-step double electron capture 7−50344
Xe+Sm^{q+} collisions, q=34 to 52, resonant electron transfer and L-shell excitation X-ray spectra study 7−30979
Xe+Tm, excited state transition cross sections, nonreson. fluoresc. 7−42540
Xe+Xe^{q+}, L-shell ionisation, X-ray yield, threshold behaviour 7−10734
Xe^++Na, Rydberg electrons removal, cross section meas. 7−36742
Xe^{45+}+Al(C)(Be)(Mylar), electron stripping, cross section meas. 7−64849
$Xe_2{}^+$, mobility, temp. and field depend. 7−51380
Xe_2+Kr, van der Waals bond exchange, mol. beam study, ang. and vel. distribs. 7−23000
^{A}Xe,A=138,139,140, double filter method for meas. 7−40317
^{129}Xe, time reversal invariance, elec. dipole moments 7−19779
^{133}Xe adsorption on activated charcoal, effects of water vapour 7−40076
^{133}Xe, concentration meas. in atm. around nuclear power reactors 7−23257
^{133}Xe packaging contamination 7−3888

xenon compounds
KrCl-XeCl, double laser oscill., quenching effect 7−57304
Xe clathrate hydrates, sp. heat, compositions and heat of dissoc. in range 85 to 270K, calorimetric determ. 7−26974
XeCl discharge excimer laser, capacitor-transfer-type with automatic preionisation, efficiency 7−20201
XeCl discharge laser, high pressure with UV pre-ionisation 7−43144
XeCl electric-discharge laser, stimulated Raman scatt. conversion in compressed gases 7−50639
XeCl excimer laser, amplification of UV ultrashort light pulses 7−62674
XeCl excimer laser, design and optimisation for pumping of dye lasers for optogalvanic spectroscopy 7−61389
XeCl excimer laser, discharge-pumped, electron density, Hβ line Stark broadening meas. 7−5873
XeCl excimer laser, generation and amplification of sub-pS UV pulses 7−62722
XeCl excimer laser with UV preionise capacitor-transfer cct. *(Japanese)* 7−5914
XeCl, excitation fns., fluoresc. 7−17773
XeCl, intermediate states, obs. fluoresc. spectra 7−15638
XeCl laser, dye laser pumped, single picosecond UV pulse generation by mode-locking 7−1095
XeCl laser, laser snow in active medium 7−43070
XeCl laser, UV-preionised, long optical pulse duration, preionisation and discharge stability 7−1080
XeCl laser, with coaxial ceramic pulse-forming line 7−43061
XeCl laser, X-ray preionised with small discharge volume, performance improvement 7−1081
XeCl laser mixtures, electron beam, pumped, electron density meas. 7−43064
XeCl lasers, use of low-power ionisers in the excitation of active media 7−1184
XeCl low divergence laser, excitation of stimulated Raman scatt. in compressed H_2 7−57468
XeF discharge laser, spectral anal. over wide range of press. *(Russian)* 7−50543
XeF electron beam pumped laser mixtures, electron density meas. 7−57300
XeF laser, electron-beam-excited, injection-controlled tuning at 435 to 535 nm 7−20199
XeF laser, gain of ^{3}He/Xe/NF_3 mixtures pumped by ^{3}He(n,p)^{3}H reaction 7−1083
XeF laser in Ar and Ne diluent, improved performance 7−25800
XeF laser mixtures, NF_3 fueled, N_2 excited state absorpt. 7−10918
XeF lasers, electron beam pumped, N_2 production from Ne/Xe/NF_3 mixtures 7−43063
XeF lasers, use of low-power ionisers in the excitation of active media 7−1184
XeF, multiwavelength excimer lasers, electron beam pumped, studies 7−15847
XeF-SF_6 mixtures, excimer mol. excitation in steady-state plasma jet 7−58070
XeF* laser pumping by Xe_2* excimer emission, photoionisation cross section determ. 7−31306

xenon compounds continued
  XeF^* pumped by excimer radiation, near UV lasing on electronic-vibr. transitions 7—62671
  XeF^*, UV excitation and stimulated emission 7—10645
  $Xe(H_2O)_n$, NMR and thermodynamic parameter determ. 7—50195
  XeI, excitation fns., fluoresc. 7—17773
  $XeO+N_2O(OCS)(NO_2)(SO_2)(O_2)(CO)$, quenching reaction kinetics investig. 7—46814
  $XeS+N_2O(OCS)(NO_2)(SO_2)(O_2)(CO)$, quenching reaction kinetics investig. 7—46814
  XrF nuclear pumped lasers 7—25794
xerography *see electrophotography*
xeroradiography *see electrophotography*
Xi a calculations *see Xalpha calculations*
XPS *see X-ray photoelectron spectra*
Yagi antennas *see antenna arrays*
Yang-Mills theory
  Batalin-Fradkin-Vilkovisky formalism and Yang-Mills theory 7—56409
  Bianchi type-II space-time, curvature effects on asymptotic freedom and finite-temp. effects 7—35694
  broken N=2 super Yang-Mills theory with finite vacuum energy 7—24789
  BRS formalism and renormalisation for Yang-Mills theory in the light cone gauge 7—48987
  BRST symmetry and occurrence of higher cocycles 7—24782
  classical cosmologies from ten-dimensional supergravity 7—9563
  complete N=2, d=6 supergravity with matter and Yang-Mills couplings, superstrings 7—18676
  confined Yang-Mills field, propag. props. and condensate form. 7—48991
  conformal holomorphic field theory 7—48935
  conformally invariant Yang-Mills theory, QED analogy 7—35720
  constraints in Yang-Mills classical mechanics, integrability props. 7—35689
  covariant Lie variations and conformally conserved currents 7—48951
  electric charge distribution around a mag. monopole, charge density 7—9934
  extended supersymmetric Yang-Mills theories, integrability on lightlike lines 7—9976
  extended Yang-Mills models on even-dimensional spaces 7—48956
  Fierz identities, gauge symmetric approach, Yang-Mills vector fields 7—35673
  finite $N=1$ supersymmetric grand unified theories 7—41674
  finite-energy solutions in some gauge models, nonexistence 7—30164
  general three-vertex, BRS identities and renormalizability of the light-cone gauge 7—35724
  generalised Noether identities and appls. 7—48933
  generalized Yang-Mills-Higgs system, localized instantons in 4D 7—56432
  geometrical gauge approach for electromagnetism and gravitation 7—29851
  geometrical props. of the orbit space 7—18972
  gravitational theory, geometrical content 7—56130
  ground state, diagrammatic expansions 7—35685
  Hamiltonian quantization of SL(2,*C*) gauge theory, unified Yang-Mills and gravitational theory 7—5029
  Hamiltonian structure of Yang-Mills theories and instantons, constrained systems 7—30193
  Hamiltonian structure of Yang-Mills theories and instantons, phase space determ. 7—30194
  hedgehog Skyrmions, massive Yang-Mills approach 7—30203
  heterotic string in superspace 7—10048
  higher order corrections to supersymmetry and heterotic string compactifications 7—4997
  homotopy theory applications, review 7—24793
  interacting string dynamics, gauge invariance over a group as the first principle 7—5074
  Kaluza-Klein model, conversation laws and integrability conditions for gravitational and Yang-Mills field equations 7—56108
  Kaluza-Klein theory, torsion and chiral fermions on topologically nontrivial Yang-Mills fields 7—48994
  lattice QCD with Wilson fermions, fast fermionic algorithms 7—61572
  lattice SU(2) Yang-Mills theory, anal. as nuclear many-body problem 7—35802
  lattice U(1) gauge Higgs model, free charge in confining phase 7—48966
  lattice Yang-Mills theory, phase cell approach 7—24758
  linearisation and nonintegrability *(French)* 7—61428
  massive Yang-Mills field, exact solns. and Wong and Dirac eqn. solns. 7—61439
  massless light-cone gauge Feynman diagrams, cut-off and dimens. regularization methods 7—41645
  N=1 SUSY Yang-Mills theory, two-loop finite class 7—35678
  N=2 super Yang-Mills theories in harmonic superspace, analytic formulation 7—48979
  Nahm's equations, singular point analysis, and integrability 7—18975
  nonAbelian gauge theory, BRS anomaly and Slavnov-Taylor identities 7—56423
  nonAbelian Yang-Mills theory, $A_0=0$ gauge, canonical quantization 7—4984
  nonAbelian Yang-Mills theory, conformally covariant quantization 7—4950
  noncompact symm. and arbitrary local gauge group in Yang-Mills theory 7—41580
  nonperturbative approach to strong-coupling confinement 7—56433
  nonperturbative calcs. away from strong coupling 7—56434
  nonphysical variables exclusion from Yang-Mills field in operator formalism *(Russian)* 7—24794
  nonsymmetric Jordan-Thiry theory, spontaneous symmetry breaking and Higgs' mechanism 7—15086
  nucleons, axial properties, extended Skyrme model 7—24785
  null solutions of the Yang-Mills equations 7—9948
  one-loop gluon self-energy in the light-cone gauge 7—24784
  open bosonic strings in gravitational, tensor and Yang-Mills fields, renormalization props. 7—24826
  open-string interactions, algebraic struct. by Yang-Mills system analogy 7—19086
  perturbation theory, role in Yang-Mills theory 7—4964
  planar gauge pure Yang-Mills theory, Wilson loop exponentiation 7—396
  QCD nonperturbative effects modelling, 2D sigma models and 4D gauge theories 7—35664
  QCD string, origin in Yang-Mills theory 7—61552
  quantization of gauge theories with Weyl fermions 7—4965
Yang-Mills theory continued
  quarks in an external plane-wave Yang-Mills field 7—41583
  reduction and reparametrization of quantum field theories 7—35711
  renormalisation in light cone gauge 7—61475
  Riemann-Hilbert problem, gauge theories, holonomy operator, Yang-Mills fields 7—35672
  self-dual Yang-Mills fields, sites and googly twistor spaces, vacuum anal. 7—18977
  self-dual Yang-Mills fields, sites and googly twistor spaces with Yang-Mills fields present 7—18978
  SO(4) pseudoparticle solutions to the Yang-Mills equation 7—35675
  static multidyon solns. construction by Lorentz transformation, Prasad-Sommerfield limit 7—4966
  string field theory candidates from C* algebra cohomology 7—19036
  SU(2) Yang-Mills lattice theory, correlation lengths and finite size effects 7—56426
  SU(2) Yang-Mills self-dual fields, permutability property 7—30174
  SU(2) Yang-Mills theory in background plane-wave field, stability props. 7—403
  SU(N) gauge theory with independent metric and connection fields, quantisation 7—35693
  SU(N) Yang-Mills theory, d=4, lattice actions, effects of one-loop improvement on scaling behaviour 7—410
  SU(n) Yang-Mills-Higgs systems, non-self-dual monopole solns. 7—9943
  super Yang-Mills theory, constraints and field equations in 10D 7—383
  super-Yang-Mills fields in noncovariant supergauges 7—48965
  superspace with underlying Banach stratification of connectivities, effective action supersymmetries 7—56459
  supersymmetric, Yang-Mills equations, formal power series solns. 7—4949
  supersymmetric Yang-Mills theory, harmonic superspace formalism and consistent chiral anomaly 7—18999
  supersymmetric Yang-Mills theory, N=2 in 4D, superconformal transformations 7—56442
  supersymmetric Yang-Mills theory, Riemann-Hilbert problem for constraint eqns. 7—48944
  supersymmetric Yang-Mills theory, self dual condition 7—35660
  SUSY Yang-Mills theories, coupled chiral and supersymmetric anomalies 7—41600
  SUSY Yang-Mills theories and QCD, structure fn. comparisons in leading log approximation, second moments 7—5095
  SUSY Yang-Mills theory, effective Lagrangian 7—407
  symmetric-space fields reduced from axially symmetric Einstein and Yang-Mills eqns., integrability 7—4971
  thickenings and gauge fields on 4-manifold 7—30159
  time-dependent equations, spherically symmetric solutions, stochastic nature 7—61468
  unitary renormalisable Yang-Mills theory without Higgs bosons, electroweak model 7—41630
  vacuum polarisation tensor, background field quantisation in light cone planar gauge 7—41617
  vector-spinor space and field equations 7—56092
  Virasoro algebra, anomalous term derivation by topological method 7—19081
  wavelike solutions to the Einstein equations coupled to neutrino and gauge fields 7—35349
  yang-Mills cohomology in four dimensions 7—18981

yield point
  see also yield strength; yield stress
  alloys, dislocation glide during ageing, hardening phase particle interaction modelling *(Russian)* 7—38010
  alloys, two-phase, models of tensile behaviour from components 7—46570
  barrier puncture with brittle fracture by rigid cone 7—43786
  BCC metals, polycrystalline, dislocation struct., strain hardening *(Russian)* 7—59545
  cracks, unstable growth, conditions of normal separation under static loading beyond ultimate strength 7—32559
  cylinder, non-homogeneous, elastic-plastic and limit soln. under internal pressure *(Chinese)* 7—43693
  cylindrical shell, thin walled with winding, ultimate press. rel. to prestressing 7—31650
  plastic multicomponent materials, yield conditions 7—57705
  plates, circular, plastic limit load numerical evaluation using Mises yield criterion 7—20604
  polyamide 6-polyethylene blends, miscibility, mech. props. 7—59535
  polyethylene, extended under press., hydrostatic press. effect on damage accumulation, struct. reorganisation 7—8065
  polyethylene, failure prediction from initiation stage of slow crack growth 7—22801
  rate plasticity equations, numerical integration scheme 7—63004
  rough surface, boundary layer in plastic medium flow 7—26169
  steel, austenitic stainless, strain ageing and load relax. behaviour at room temp. 7—28092
  steel, C, creep, glide plane stresses, yield point, dislocation theory *(Russian)* 7—59580
  steel, high-strength low-C weldable, C content effect on struct. and mech. props. 7—46583
  steel, low-C, mech. prop. change after cold deform. and ageing 7—33696
  steel, low-pearlite, subjected to controlled rolling, complex microalloying effect 7—46523
  Cd, polycrystalline rolled sheets, flow stress, hydrostatic press. effect, 600 MPa *(Japanese)* 7—33735
  Fe, Armco and Vacofer, yielding behaviour, H influence 7—33753
  Fe, creep, glide plane stresses, yield point, dislocation theory *(Russian)* 7—59580
  $Fe_{40}Ni_{40}B_{20}$ amorphous alloy, effect of plastic deform. on mech. and mag. props. *(Russian)* 7—53810
  $Fe_{67}Si_{33}$ thin amorphous films, plastic deform. *(Russian)* 7—59585
  Nb, polycrystalline, US excitation, critical current, dislocation struct., flow limit *(Russian)* 7—58966
  Nb-Mo-O alloys, internal friction and yield point *(Russian)* 7—59563
  Si, Czochralski grown, tensile props., 900-1200°C 7—51922
  Si_3N_4, yield at elevated temps. *(Japanese)* 7—3388
  Ti, pure, plate, yield strength, H content depend. *(Chinese)* 7—8044
  Zr, yield point in range 1.5 to 500K temp. relationship *(Russian)* 7—53807

yield strength
  adhesive lap joints, yield strength in tension, compression and torsion, Poisson ratio 7—39591
  Aramid fibre reinforced composite beams, viscoelastic-plastic anal. in flexure 7—33717

yield strength continued
- fibre reinforced composite laminates, yield and ultimate strengths 7—22785
- material, homogeneous, isotropic, stiffness and strength reduction due to crack development 7—51927
- metals, sheet, press formability and anisotropic yield, Bassani-type criteria 7—28068
- Nimonic 105, Ni-base superalloys, precip. and tensile deform. behaviour 7—65078
- plates, circular, elasto-plastic deflection analysis, full system vs. layered yield criteria prediction 7—1450
- polyester, clay-filled, tensile behaviour 7—3382
- polypropylene, mica-reinforced, fracture behaviour, effect of coupling agent, flake orientation and degradation 7—13593
- porous, anisotropic and variable strength media, applied theories of plasticity 7—16072
- rolling of adsorption-plasticised strip, surface layer rheology influence on stressed and strained state 7—17582
- stage II fatigue crack growth behaviour of granular bainitic microstructures 7—28134
- steel, Al-killed, flow behaviour after tensile prestraining and strain ageing 7—17595
- steel, alloy, impact behaviour, influence of grain boundary carbide density 7—13574
- steel, austenitic, Al-Mn, mech. props., oxidation and corrosion behaviour 7—65218
- steel, austenitic, Mn-Cr, fatigue crack growth behaviour 7—59593
- steel, austenitic stainless, strength and toughness at 4K, fusion energy magnets appl. 7—53793
- steel, austenitic stainless, tensile, creep and low-cycle fatigue props., effect of prestrain *(Japanese)* 7—46621
- steel, austenitic stainless, tensile and impact props., effect of grain boundary carbides 7—33785
- steel, Cr-Mo type, ageing effect on heat resist. props. after cold deform. and tempering 7—22813
- steel, Cr-Mo type, deformed, struct. and mech. props. after long ageing 7—8106
- steel, Cr-Mo-V type, service props. in different struct. conditions 7—8107
- steel, Cr-Ni high-temp. type, N and heat treatment effect on struct. and mech. props. 7—33688
- steel, Cr-Ni type, temper hardened, strain rate effect on plastic deform. resist. and energy characts. 7—39601
- steel, Cr-Ni-Mo, maraging, mech.-props. rel. to heat treatment *(Japanese)* 7—53792
- steel, dual-phase, Bauschinger effect and coercivity, effect of ageing *(Chinese)* 7—8045
- steel, dual-phase, micro alloyed, mech. props. and struct., effect of process variables 7—65108
- steel, ferrite, low activation, correl. of hot microhardness with elevated temp. tensile props. 7—53797
- steel, ferritic, HT-9, mech. props. as function of heat treatment 7—53858
- steel, ferritic-martensitic stainless, warm forming *(Polish)* 7—13507
- steel, forged powder, prod. from water-sprayed Astalloy powders, fracture toughness 7—13572
- steel, high-C, hardened, mech. prop. changes on tempering, martensite decomp. role 7—3375
- steel, HSLA, mech. props. rel. to ferrite substruct. and grain size. 7—13531
- steel, linepipe weldments, ductility rel. to cathodic protection 7—39578
- steel, low alloy, SCC and corrosion fatigue in artificial seawater, effect of yield strength *(Chinese)* 7—8152
- steel, low alloy Ni-Cr-M0-V, with 850 N/mm^2 yield strength, hydrogen-induced crack form. 7—3437
- steel, low C, strain ageing, internal stress, Bauschinger effect 7—39612
- steel, low C, struct. rel. to deform. method *(Russian)* 7—46580
- steel, low-C, wrought, thermal strengthening methods effectiveness 7—46524
- steel, mech. props. and failure character after repeated thermomech. strengthening of surface layer 7—53994
- steel, Mn-Al-Nb, cryogenic, low temp. tensile props., effect of Al content 7—46576
- steel, Mn-Cr, case carburising, mech. props., influence of inclusion characts. 7—65135
- steel, Nb-V microalloyed, controlled rolled, yield strength rel. to microstruct. *(Chinese)* 7—13503
- steel, Ni-Cr-Mo, H embrittlement in artificial seawater, effect of H content *(Japanese)* 7—53868
- steel, P/M, produced by hot forming, strength characts., influence of porosity, C content and compacting method 7—53823
- steel, pressure vessel and stainless, low dose neutron irradiation, spectral effects on yield stress 7—51850
- steel, stainless, powder compacts, props., influence of sintering conditions *(Korean)* 7—17496
- steel, stainless, superalloy, fracture toughness, tensile props., T and ^{3}He effect 7—46616
- steel reinforcement, hot-rolled, strength characts. eval. using mag. method 7—39824
- steel sheet, low C, Al-killed, cold-rolled, batch-annealed, recrystn. model for controlling mech. props. 7—13474
- steels, dynamic yield strength determ., embedded manganin gauges, flyer plate impact technique 7—33871
- superalloys, stress rupture notch sensitivity, grain boundary precip. *(Chinese)* 7—13541
- Zircalloy, mech. eqns. of state of material irrad. at 573K in deform. in working direction 7—8064
- Al-Al_2O_3-MgO, cast particulate composites, microstruct. and mech. props. 7—65086
- Al-Li alloys, grain boundary fracture 7—39644
- Al-Li-Cu-Mg-Zr die forgings, mech. props., microstruct. 7—46636
- Al-Li-Cu-Mg-Zr powder alloy, superplastic, high modulus and hardness 7—53816
- Al-Ti, powder metallurgy alloys, mech. and thermal stability 7—64973
- Al-Zn-Mg-Cu-Ni-Zr, modified 7075, prod. by liq. dynamic compaction, struct. and props. 7—46437
- Co-Cr surgical implant alloy, mech. props., effects of N additions 7—59573
- Cu alloys, candidate materials for high heat load appl. in neutron environments 7—49636
- Cu, low dose neutron irradiation, spectral effects on yield stress 7—51850
- Cu-Al_2O_3, dispersion strengthened powder alloys struct. and mech. props. 7—53667

yield strength continued
- Cu-Nb, supercond. composites, low temp. plasticity, annealing hardening, strength *(Russian)* 7—59579
- Cu-Ti alloy, powdered, dynamic strain ageing, 375-860K 7—28058
- Cu-Zr (0.5 wt.%), high strength, high cond., prod. by rapid solidification technology 7—28029
- Fe-Cr-Ni-Mn-N (18, 20, 5, 0.16 wt.%), weld metal, fully austenitic, tensile and fracture props. at 4K 7—53901
- Fe-Ni-C alloys, martensitic transform., effect of soln. strengthening of austenite 7—53728
- Fe-Ni-Cr, reactor bolting material A-286, failure analysis 7—30536
- Fe-P-Cu(Ni)(Mo), sintered atomised powder premixes, mech. props. 7—7931
- Fe-Ti-N, mech. props. rel. to cold working 7—28089
- Mo single crystals, neutron irradiation embrittlement, yield strength 7—51854
- Mo-TiC eutectic composites, yield strength in temp. range 285 to 2270 K 7—53831
- Nb, neutron irradiated, effect of irradiation temp. and O impurity on yield strength 7—58344
- Ni-Mo (20 at.%), ageing, yield strength rel. to prior α grain size 7—39507
- Ni-W-Co-Cr superalloys, creep rupture and tensile props. rel. to hot pressing or aluminising 7—3363
- Ni_3Al, polycrystalline, grain boundary fracture model 7—53896
- Ni_3Al-B, elevated temp. ductility, effect of testing environment 7—39614
- Ni_3Al-Be, ductility, strength, grain boundary segregation, solid soln. strengthening, Be addition effect 7—39608
- SiC whisker or particle reinforced Al composites, deform. thermal expansion, strengthening mechanisms 7—3373
- Ti, pure, plate, yield strength, H content depend. *(Chinese)* 7—8044
- Ti-Mn, alpha and beta phases, yield and tensile strength, ductility, Bauschinger behaviour, fatigue life, crack propag. 7—8052
- V-CR-Ti (15, 15 wt.%), mech. props., effect of heat treatment and impurity conc. 7—53857

yield stress
- *see also yield point; yield strength*
- amorphous polymers, yield stress rel. to ageing, nonequilib. glassy state 7—46562
- brass, polycrystalline α-phase, low temp. solid-solution hardening, yield stress anal. 7—3321
- β-brass, strength anomaly, effect of prestrain 7—38094
- brass, stress assisted dezincification in NH_3 soln. 7—17675
- cancellous bone in canine proximal femur: elastic moduli, yield stress and ultimate stress 7—54657
- dimethacrylate paste with silanated silicate particles, photopolymerised, filler influence on fracture 7—3426
- limit loads, yield surface conditions 7—26170
- low-grade coal-liquid CO_2 slurry plastic viscosity and yield stress obs. 7—39952
- metal matrix composites, thermal residual stress 7—63848
- Monel 400, embrittlement by Hg, effect of prestress 7—3431
- Nimonic PE 16, Ni-base superalloy, duplex γ' particle hardening 7—28053
- phase transformations in solids, plastic deformation and thermodynamic hysteresis 7—16714
- plasticity-induced crack closure, under plane strain conditions, finite element anal. 7—37379
- PMMA, drawn, filled with ultrafine SiO_2 particles, elastic and yield props. 7—3351
- polyaminobismaleimide thermoset resin, plastic deform. behaviour 7—33738
- polycrystal, textured, yield surface, crystallographic calc. 7—33723
- PVC-chlorinated PVC, miscible blends, rheological and mech. props. 7—8040
- shape memory alloys, mech. props., polycrystal model *(Japanese)* 7—53789
- steel, austenitic stainless, low activation, development, mechanical props., fusion reactor structural material 7—53799
- steel, austenitic stainless, strain hardening in powder metallurgy alloys 7—22721
- steel, Cr-Mo, normalised, tempered, neutron irrad., 390-550°C, tensile props. 7—17621
- steel, Cr-Mo-V, Bauschinger effect in cyclic plasticity 7—3355
- steel, low C, sheets, yielding rel. to prestrain, uniaxial tension 7—46553
- steel, Ni-Co-Mo, maraging, ultrahigh strength, H embrittlement rel. to Ni or Cu coating 7—28137
- steel, p/m, heat treatment effect on strength and yield parameters 7—53775
- steel, plain C, lower yield stress, strain rate depend. at high strain rates *(Japanese)* 7—53801
- steel, pressure vessel and stainless, low dose neutron irradiation, spectral effects on yield stress 7—51850
- steel, stainless, neutron irradiation effects on mech. props., damage and yield stress 7—51865
- time depend. prop., meas. tech. 7—43834
- translated deviator stress tensor, initial and subsequent surfaces 7—16061
- two-phase solid, cyclically loaded, residual stresses 7—63010
- Al-Li-Cu-Mg-Zr, yield stress, temp. and strain rate depend. *(Japanese)* 7—33734
- Al-Mg-Li, 14 MeV neutron irrad., mech. props. microscopic struct. 7—56820
- Al-Zn-Mg (4.5, 1.75 at.%), ageing, specific surface energy of Guinier-Preston zones 7—28046
- B fibre reinforced Al matrix composites, transverse mech. props., isothermal exposure effect 7—39688
- Cu alloys, neutron irrad., 13 dpa, mech. prop. and elec. cond. changes 7—51839
- Cu commercial alloys, low neutron dose effects on tensile props., yield stress 7—51863
- Cu, low dose neutron irradiation, spectral effects on yield stress 7—51850
- Cu, low neutron dose effects on tensile props., yield stress 7—51863
- Cu-Ni-Cr, spinodal decomp., X-ray diffr. and TEM study 7—22732
- Fe, neutron irradiation effects on mech. props., damage and yield stress 7—51865
- α-Fe:H, H induced softening, yield stress reduction 7—39607
- α-Fe_2O_3 particles in silicone oil, mag. suspension, rheology 7—37408
- HgSe, plastic deformation 7—21331
- NaCl filamentary crystals, yield stress and plastic flow 7—51917

yield stress continued
  $NaCl:Eu^{2+}$ crysts., mechanical strength, dopant distrib. and γ-irrad. effects study 7−26800
  $Nb-Mo-ZrO_2$, dispersion hardening mechanism investig. *(Russian)* 7−13462
  $Nb-ZrO_2$, dispersion hardening mechanism investig. *(Russian)* 7−13462
  Ni, Ne ion irrad. samples, yield stress studies *(Russian)* 7−12162
  NiAl single crystal, surface oxide softening 7−39751
  Ni_2Cr, recrystn. kinetics and mech. props., influence of P 7−22718
  Si ribbons, dendritic web grown, high temp. mech. behaviour, strain rate and temp. depend. of yield stress 7−65099
  Si:O,C, yield stress, impurities and O precipitate morphology effects 7−16674
  V, radiation hardening by 14 MeV neutrons, athermal effects 7−51858

yielding *see plastic deformation*

yielding, serrated *see serrated yielding*

Young's modulus
  brittle solids, porous, Young's modulus 7−58396
  carboxylato-telechelic polyisoprene, mech. props. 7−38096
  CDW elasticity model 7−52472
  circular plate, symmetrically loaded, variable thickness, bending problem 7−57709
  cracked bodies, moduli calc. using Mori-Tanaka's method 7−16122
  cylindrical shell, thin walled with winding, ultimate press. rel. to prestressing 7−31650
  depressed elastic collapsible tube, expt. determ. of transversal Young's modulus, vein appl. *(French)* 7−3825
  Fe-Ni-B metallic glasses, struct. and crystn. kinetics, DSC and X-ray diffr. meas. 7−16436
  fibre reinforced composites, flexible, nonlinear elastic behaviour 7−39570
  fibre reinforced plastics, hybrid, tensile, compressive, flexural and shear props., review 7−39532
  fibre reinforced polyester resin, glass sphere filled, Young's and flexural moduli 7−3350
  glasses, oxide, low temp. US relax., correl. with phys. props. 7−51961
  graphite, nucl. grade, pitchcoke, irrad., mech. props., radiolytic oxidation effect 7−25032
  graphite, nucl. grade, polycryst., deform. under press., elastic moduli rel. to struct., neutron irrad. effect 7−28069
  graphite, nucl. grade, thermally and radiolytically corroded, microstruct. rel. to elastic modulus 7−25033
  gypsum systems, Young's modulus rel. to porosity 7−46533
  joints of dissimilar metals, adhesively bonded strength evaluation 7−46791
  Kevlar fibre reinforced epoxy resin composite strands, tensile props. rel. to fibre vol. fraction 7−65087
  laminates, cross-ply, cracked, stiffness reduction anal. 7−44644
  magnetostriction values from stress depend. of Young's modulus 7−33251
  martensitic transformations, stress-induced, anal. of inelastic bending 7−65032
  metallic and compound films, mech. props., relation between different quantities 7−8041
  mullite-alumina composites, sintering and charactn. 7−3252
  nylon 6 composites, formed by in situ polymerisation of caprolactam, mech. performance 7−39575
  plastic film covered steel plates, thermoelastic props. meas. 7−33713
  plasticity-induced crack closure, under plane strain conditions, finite element anal. 7−37379
  poly ether ether ketone film, zone annealing prep., dynamic modulus, tensile strength 7−8038
  polyester, clay-filled, tensile behaviour 7−3382
  polyethylene, semicrystalline, elastic modulus meas. method 7−13683
  polyethylene films, drawing, mech. props. rel. to polymerisation temp. 7−59488
  polymer films, stress development during thermal cycling, bending beam technique 7−28063
  polyoxymethylene, highly drawn, morphology, temp. depend. crystal modulus 7−37889
  polysulphide rubber-butadiene-acrylonitrile copolymer/PVC blend, mech. props., ageing and solvent resist. 7−39593
  polytrimellitamideimide films, dynamic mech. props., glass transition, molecular aggregation effect 7−53782
  porous, anisotropic and variable strength media, applied theories of plasticity 7−16072
  porous brittle solid, strength and elastic modulus, acousto-US study 7−21321
  shells, spherical, with delaminations, bifurcation of equilib. 7−31669
  single fibre composites, stress transfer, critical fibre length, Young's modulus ratio 7−59558
  steel, austenitic, Cr-Mn, thermal and mech. props., fusion reactor appl. 7−53795
  steel, austenitic stainless, elastic moduli at 4 K, C and N effects 7−46541
  steel, plain C, lower yield stress, strain rate depend. at high strain rates *(Japanese)* 7−53801
  stress relaxation functions, shear, uniaxial and biaxial 7−26855
  sunhemp fibre reinforced polyester composites, tensile and impact props. 7−39592
  textured sheets, Young's modulus anisotropy, elastic consts. calc. 7−46535
  thin films, mechanical properties meas., depth-sensing indentation instruments 7−8211
  two-phase and porous materials, microstructure-thermomech. prop. correls. 7−12380
  underwater polymer composition rel. to acoustic props., Young's and longitudinal bulk modulus meas. 7−1304
  viscoelastic test block dynamic rigidity form factor for complex Young's modulus meas. *(Hungarian)* 7−51010
  $Al_2O_3-TiO_2-SiO_2$ composite, thermal shock resist. 7−33771
  C, carbonisation chem. of phenol formaldehyde resin and product mech. props. 7−46802
  C fibre, continuous filament, strength and modulus, eval. methods 7−28061
  C fibre reinforced C composites, tensile props. and fracture toughness at high temps. up to 2400°C *(Japanese)* 7−53864
  C fibre reinforced plastic, Young's modulus, effect of heating and environment 7−33720
  C fibre reinforced thermoplastic laminates, compressive strength 7−39580
  C fibres, B modified, effect on mech. props. 7−17570
  C fibres, melt spun, non-circular, elastic modulus, tensile strength 7−7908
  C fibres, pretorsional deform., annealing, acid treatment, struct., mech. props 7−22768

Young's modulus continued
  C, hard type, B-doped, prep., phys. and mech. props. 7−39571
  $Ca_5Na_4K_2Si_{12}O_{30}F_4$, chain-silicate canasite glass-ceramic, thermal shock behaviour, effect of crystn. 7−46613
  Co-Fe-Ni-V alloys, Invar props. and mag. field distribs. *(Russian)* 7−45733
  CoAl, ordered B2 polycrysts., Young's modulus, temp. and comp. depend. 7−33716
  CoCr sputtered film recording media, wear resistance, mech. strength and microstruct. 7−32859
  Cu based alloys, internal friction, Young's modulus, amplitude relationship *(Russian)* 7−65075
  Cu, cubic polycrystals, elastic consts., Young's modulus rel. to axial texture *(Russian)* 7−59562
  Cu fibre, porous, physicomech. props. and model prediction 7−3353
  Cu-based binary alloys, Young's modulus, microalloying effects *(Russian)* 7−33711
  Cu-Ni-Fe-Mn, physical props. rel. to precip. and thermal treatment *(German)* 7−12698
  Fe, cast, vermicular graphite, elastic props. 7−13493
  Fe, cubic polycrystals, elastic consts., Young's modulus rel. to axial texture *(Russian)* 7−59562
  Fe, polymorphic forms stability, elastic consts. in 20 to 1470°C range, enthalpy of fusion rel. to self-diffusion activation energy 7−6781
  Fe-cementite alloy castings, Young's modulus and thermal expansion 7−65068
  Fe-Ni glassy alloys magnetostriction values from stress depend. of Young's modulus 7−33251
  FeAl, ordered B2 polycrysts., Young's modulus, temp. and comp. depend. 7−33716
  FePGa, amorphous, magnetoelastic props. 7−27591
  $K_{0.3}MoO_3$, CDW conductor, elastic anomalies 7−44652
  LiO_2, elastic and creep props., porosity and temp. depend. 7−53780
  $Mo-ZrO_2$, sintered composites, mech. props, microstruct. *(Japanese)* 7−13558
  $Na_2O-Al_2O_3-SiO_2$ glasses, elastic props., annealing and Al substitution effects 7−8035
  $Nd_2Fe_{14}B$, elastic props. between 120 to 300K 7−27529
  Ni binary alloys, solid soln. hardening, flow stress, Young's modulus 7−13465
  Ni fibre, porous, physicomech. props. and model prediction 7−3353
  Ni, Young's modulus, H_2 effects *(Chinese)* 7−39569
  Ni-Cr fibre, porous, physicomech. props. and model prediction 7−3353
  Ni-Si-B, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7−3354
  Ni_3Al, solid soln. hardening with ternary additions, Young's modulus 7−13464
  $PbO-SiO_2$ glass, elastic props. and short- and medium-range structs. *(Japanese)* 7−65077
  Pd-Si, nonferromagnetic amorphous wide ribbons, Young's modulus anisotropy 7−3354
  PdSiCu, amorphous, ultrasonic vel., mechanical props. *(Korean)* 7−26874
  SiC fibre reinforced Al composite wires, neutron irrad., mech. props., fusion reactor appl. 7−49628
  SiC whisker reinforced Al alloy, fabrication and props. 7−53680
  SiC-Al composites, heat treatment and neutron irrad. effects on mech. props. 7−65081
  SiO_2 gels. prep. using tetraethoxysilane, elastic moduli 7−46537
  Ti-Mo (15 wt.%), Young's modulus, cohesive energy, H effect *(Chinese)* 7−8033
  TiC-Ni-Mo sintered carbides, struct. and physicomech. props. 7−3256
  W, strength of defect-free crystals, temp. depend. 7−38104
  W-Cu compacted pseudoalloys, elastic props., deform. diagram and pores effect 7−33722
  WC-Co composites, fracture toughness rel. to hardness, microstruct. model 7−17637
  ZrO_2 advanced ceramics, props. and appl. 7−13416
  $ZrO_2-CaO-P_2O_5-SiO_2$ glass ceramics, prep. and mech. props. *(Japanese)* 7−7942
  $ZrO_2-Y_2O_3$ partially stabilized, Al_2O_3 effect on retaining tetragonal particles, matrix toughening 7−59485

ytterbium
  see also nuclei with .....
  amorphous films, stability, effect of mag. field *(Russian)* 7−52319
  atom, $^3P_1$-$^1S_0$ transition, oscillator strength, lifetime, coherent optical techniques and fluoresc. spectra 7−42542
  atom, L subshell ionis. by deuteron impact, cross section determ. 7−51878
  atom, photoionisation, relativistic RPA calcs. 7−42567
  ceramic emitter for thermovoltaic energy conversion 7−65481
  crystal, FCC, generalised Morse pot. and mech. stability 7−6575
  foils, piezoresistance response studies 7−32985
  $glass:Yb^{3+}$, time resolved fluorescence line narrowing 7−13230
  glass, energy transfer rate, luminesc. 7−13192
  impurity system, degenerate Anderson model, Bethe-ansatz soln. 7−2559
  phonon spectra, dynamical pseudopot. shell model calcs. 7−51965
  relativistic band struct., self-consistent calcs. under normal and high press. 7−64068
  vapour, coherent transient optical pulse-shape storage/recall using frequency-swept excitation pulses 7−37054
  vapour, stimulated photon echo theory 7−31406
  vapour deposited foils, piezoresist. response of stress gauges 7−32986
  $BaF_2-ThF_4-YbF_4$ glass, electron irradiation effects, Yb^{3+} optical transitions 7−27764
  $BaFCl:Yb^{3+}$, charge transfer excitation and emission spectra 7−64688
  InP:Yb LPE layers, luminesc. and elec. props. 7−59464
  $LiLaP_4O_{12}:Nd^{3+},Yb^{3+}$, metaphosphate glasses, Nd^{3+} to Yb^{3+} energy transfer, luminesc. study 7−22323
  $LiNdP_4O_{12}:Yb^{3+}$, metaphosphate glasses, Nd^{3+} to Yb^{3+} energy transfer, luminesc. study 7−22323
  $Na_2O-SiO_2:Yb^{3+}$ glass struct. model, Monte Carlo method 7−51644
  $Nb/Yb-YbO_x/Nb$ all-refractory Josephson junction 7−38818
  Si:Yb, neutron irrad., Hall effect, elec. cond., IR absorpt. spectra 7−51834
  $SiO_2:Yb^{3+}$ glass, energy transfer among impurity ions, time resolved fluoresc. line narrowing meas. 7−46124
  YOCl:Er, Yb, antiStokes luminesc., 1.5 μm region 7−13223
  Yb^{2+} impurity in garnets, compositional shift of spectral lines 7−53252
  Yb-Si (111) interface mixed valence behaviour, angle-integrated photoemission study 7−13327

ytterbium continued
- Yb-Si interfaces, mixed valence of Yb, synchrotron radiation photoemission spectra, metal coverage and annealing temp. depend. 7−32966
- $Yb+Ar$, collisional dephasing suppression investig. 7−15684
- $Yb+H^{+}$, L-subshell ionisation cross section, X-ray emission 7−50327
- $Yb+Ne^{3+}$, L subshell ionisation probabilities vacancy sharing 7−15697
- $^{174}Yb+He(Ar)$, collisional velocity thermalisation, echo techniques 7−36732
- ^{174}Yb, 2-level system, resonant excitation response 7−15544
- ZnS:Cu,Yb phosphor, AC electrolum. study 7−13233

ytterbium alloys
- Eu-Yb, high press. mag. and elec. props. studies 7−7541
- Y_xPd_{1-x}, amorphous mixed valent alloys, X-ray absorpt. spectra 7−64802
- Yb-In-Te system, phase equilibria 7−44761
- $YbAgCu_4$, strong electronic correlations 7−45194
- $YbAl_2$, intermediate valent intermetallic cpds., Hall effect studies 7−12703
- $YbAl_3$, intermediate valent intermetallic cpds., Hall effect studies 7−12703
- $YbAuCu_4$, strong electronic correlations 7−45194
- $YbBe_{13}$, low temp. Mossbauer study 7−33309
- $YbBe_{13}$ single cryst., sp. ht. meas. 7−2227
- $YbCo_5$, magnetocrystalline anisotropy, rare earth contribution 7−45659
- $YbCoB_4$, $YCrB_4$-type structure, formation in Yb-Co-B ternary systems 7−6581
- YbCuAl, intermediate valent intermetallic cpds., Hall effect studies 7−12703
- $YbCu_2Si_3$, intermediate valent intermetallic cpds., Hall effect studies 7−12703
- $YbFeB_4$, $YCrB_4$-type structure, formation in Yb-Fe-B ternary systems 7−6581
- $Yb_2Fe_{14}B$, exchange and cryst. field interactions 7−27512
- $YbInAu_2$, intermediate valent intermetallic cpds., Hall effect studies 7−12703
- $Yb_xIn_{1-x}Cu_2$, Yb valence transition 7−45245
- $YbNiB_4$, $YCrB_4$-type structure, formation in Yb-Ni-B ternary systems 7−6581
- $YbNi_2P_2$, 4f-magnetism study by susceptibility and NMR 7−22154
- YbPd, intermediate valent intermetallic cpds., Hall effect studies 7−12703
- YbPd, magnetic and nonmagnetic charge states 7−33144
- $YbPdCu_4$, strong electronic correlations 7−45194
- $YbPd_2Si_2$, moderate heavy fermion system, sp. ht. 7−58504
- $YbSb_2$, superconductivity study 7−58962

ytterbium compounds
- *see also ytterbium alloys*
- intermediate valence and Kondo lattice models 7−2560
- $Ca_{17}Yb_{10}F_{64}$ fluorites, superlattice structs. 7−44485
- $CrYb_4S_7$, synthesis, physiochemical props. 7−44470
- HfO_2-Yb_2O_3, solid soln. single crysts., physicochem. props. 7−2097
- HfO_2-Yb_2O_3, solid solution single crystal growth 7−7838
- $LiY_{1-x}Yb_xF_4$ single cryst. growth, lattice const. and thermal expansion coeff. temp. depend. studies 7−27891
- $LiYbP_4O_{12}$, flux cryst. growth 7−13345
- $LiYbP_4O_{12}$:Nd^{3+}, metaphosphate glasses, Nd^{3+} to Yb^{3+} energy transfer, luminesc. study 7−22323
- Nb/Yb-YbO_x/Nb all-refractory Josephson junction 7−38818
- $Pb_{0.98}Yb_{0.02}Te$, cyclotron resonance meas., k.p model calcs. 7−27605
- $Y_{3-x}Yb_xA_5O_{12}$, thermal conductivity, temp. and composition dependences 7−38274
- Yb-In-Te system, phase equilibria 7−44761
- Yb-Sb-S(Se), synthesis and props. 7−44471
- Yb-Sb-Te ternary system, phase diagram investigs. 7−2174
- $Yb_{0.06}$ $(NH_3)_{0.32}TiS_2$ intercalation compounds, structural and magnetic studies 7−63593
- YbAG, paramag., mag. lin. birefr. meas. 7−53265
- $Yb_xCo_4P_{12}$, synthesis, cryst. struct., X-ray diffr. study 7−32387
- $YbD_{2.6}$, cryst. struct., X-ray diffr. study 7−16516
- YbD_x, $2.0<x<2.5$, cryst. struct., X-ray diffr. study 7−16516
- $Yb_{1.2-x}Eu_xMo_6S_8$, superconductivity and mag. interactions 7−38826
- $YbFeO_3$, spontaneous spin reversal, magnetic reson. soft modes and energy gaps obs. 7−52964
- YbGG, paramag., mag. lin. birefr. meas. 7−53265
- Yb_3Se_4, crystal struct. and mag. props. *(French)* 7−63590
- $YbSi_{2-x}$-Si, silicide thin films, phase composition, conductance, surface morphology 7−7072
- Yb_3Si_5, mixed valence behaviour, angle-integrated photoemission study 7−13327
- Yb_xTiS_2 mixed valence intercalation cpd., low-temp. synthesis and mag. props. 7−17779

yttrium
- *see also nuclei with ......*
- Appalachians of Quebec and Nova Scotia; Ti, P, Zr, Nb, Y geochemistry 7−23587
- electronic struct., electron-phonon matrix and superconductivity, high press. effects, KKR calcs. 7−21805
- electronic structure, electron-phonon matrix, supercond. transition temp. *(Chinese)* 7−12596
- mean square amplitude of vibr. and Debye temp. 7−21368
- pressure-induced superconductivity, band struct. and sp. ht. press. depend. calcs. 7−7431
- segregation, at α-Al_2O_3 surface, atomistic lattice simulation 7−58492
- segregation to surface of α-Al_2O_3 7−21593
- Al_2O_3:Fe,Y, high temp. DC elec. cond. rel. to superalloy oxide scale adherence 7−52615
- CdF_2:Y crysts., local field-enhanced electronic conduction, activation energy and Poole-Frenkel const. calcs. 7−38570
- CeO_2:Y^{3+}, grain boundary effect, elec. meas. 7−38248
- Gd-Y single crystal superlattices, struct. and mag. props. 7−27160
- $LiNbO_3$:Y single crystal, Czochralski growth, crystal-melt interface stability *(Chinese)* 7−58168
- T release in Ar gas flow, 973-1173 K 7−56836
- $Y+He^{+}$, L shell X-ray prod. cross sections meas., first Born approx. and ECPSSR theory anal. 7−36526
- Y I, II excited levels, lifetimes meas. 7−50021
- Y XXXI X-ray lines, wavelengths and identifications 7−5626
- Y^{-}, core size role in photoelectron spectra 7−15571
- Y^{3+} diluted Gd^{3+} compounds, energy migration, luminescence study 7−33443

yttrium continued
- Y-H(D) system, H pairing and anisotropic pot. for H isotopes, neutron spectroscopy study 7−38144
- Y_2Si_xOy:Nd^{3+}, spontaneous and stimulated emission 7−39171

yttrium alloys
- *see also yttrium compounds*
- Fecralloy, interaction with $Na_2O.2SiO_2$ glass 7−3501
- steel, austenitic, bombarded with Ar ions, ageing temp. effects on structure, microhardness and sputtering 7−65120
- Co-Cr-Al-Y, high temp. oxidation rel. to alloying additions, ion implantation, Rutherford backscatt. 7−53987
- Co-Y alloys, low temp. sp. ht. study, crystalline and amorphous phases 7−52995
- Co-Y amorphous alloys, high-field susceptibility, spin wave stiffness const. 7−33150
- Co-Y amorphous alloys, mag. props. 7−58990
- CoCrAlY electron beam physical vapour deposition coating microstruct., TEM characterisation 7−52334
- CoCrAlY, hot corrosion, $ZnSO_4$-Na_2SO_4 reactions 7−28188
- CoCrAlY, sputter ion plated coatings for gas turbines 7−53971
- $Cu_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7−63486
- Cu_xY_{1-x} amorphous alloys, empty and occupied electronic states, inverse and direct photoemission spectroscopies study 7−32899
- Dy-Y highly dil. alloys, mag. props. 7−7483
- $Dy_xY_{1-x}Al_2$, intrinsic low field susceptibility studies 7−45633
- $Dy_xY_{1-x}Al_2$, intrinsic coercive field 7−45728
- FeCrAlY, Al_2O_3 adhesion mechanism 7−33843
- FeCrAlY coatings, ion-implanted, oxidation behaviour 7−53974
- $Fe_{14}Y_2B$ fine particles prep. by hydriding mag. props., recording appls. 7−53660
- $Ho_{1-x}Y_xCo_3$, orientational phase transitions and elec. resist. *(Russian)* 7−7506
- $Lu_xCu_{0.37}Y_{0.63-x}$ metallic glasses, low temp. sp. ht. 7−64462
- Mg-Y, IMV6, fatigue crack growth and fracture microrelief, 293 and 140K 7−17614
- Ni-Co-Cr-Al-Y, plasma sprayed, high temp. tensile and creep behaviour 7−28083
- Ni-Co-Cr-Al-Y coatings, electron beam deposition, oxidation rel. to pretreatment 7−46702
- NiAlCrY, high temp. oxidation, alumina scales, markers and tracer anal. 7−17724
- NiAlY alloys, alumina scale growth mechanism, ^{18}O tracer study 7−33840
- NiCoCrAlY, plasma sprayed coatings, low cycle fatigue behaviour 7−22793
- NiCrAlY, Al_2O_3 adhesion mechanism 7−33843
- $Ni_{33}Y_{67}$ metallic glasses, partial struct. factors, chem. short range order 7−63486
- Pd-Y system, obs. of order 7−58456
- Pd-Y-H ternary solid soln., H diffusivity 7−63866
- $Pd_2Y_{1-x}Dy_xSn$, Heusler alloy system, field-induced reentrant superconductivity 7−2765
- $(Tb_{1-x}Y_x)Co_2$ ferrimagnetic alloy, sp. ht., Curie temp. and density of states comp. depend. meas. 7−7514
- $(Tb_{1-x}Y_x)_3Co$, magnetoelastic interactions and thermal expansion *(Russian)* 7−17211
- Ti-Sn-Y rapidly solidified alloys, dispersoid particle coarsening 7−22704
- $U_xY_{1-x}Ga_2$, Curie temp., loss of ferromagnetism, comp. depend, competing exchange interactions 7−12970
- Y-Fe sputtered amorphous films, mag. props. 7−53083
- Y-Fe-B system alloys, mag. props. 7−27563
- Y-Nb, T release in Ar gas flow, 973-1173 K 7−56836
- Y-Pd-Fe(Co)(Ni), intermetallides, interaction characts. and props. 7−46414
- Y-Th, T release in Ar gas flow, 973-1173 K 7−56836
- Y_2 $(Co_{1-x}Mn_x)_{17}$, Co contribution to magnetocrystalline anisotropy, point charge model 7−45665
- YAg, nonmag. cpds., transport props. and electronic struct. 7−2575
- YAl nonmagnetic metallic glasses, negative TCR and electronic struct. studies 7−52562
- YCo_x, ferromag. resonance, local Co anisotropy effects 7−53143
- Y_2Co_{17}, local orbital moment, recursion method calcs. 7−45640
- Y_9Co_7, electronic struct. and mag. props. 7−7104
- Y_9Co_7 mag. supercond., ^{59}Co NMR and nuclear relax. studies 7−64401
- Y_9Co_7, resistivity and Hall effect temp. depend. meas. 7−52568
- $Y_2Co_{14}B$ intermetallic cpd., electronic struct. and mag. props., tight-binding calcs. 7−2450
- YCo_3H_x mag. props. meas. 7−33217
- YCo_5H_x, mag. props. meas. 7−33217
- $Y_2Co_7H_x$, mag. props. meas. 7−33217
- $Y(Co_xNi_{1-x})_5$, magnetocrystalline anisotropy studies *(Russian)* 7−45656
- $Y_2Co_{14}R$, NMR study 7−64544
- $Y_7Co_6Sn_{23}$ cryst. struct. and mag. suscept. studies *(Russian)* 7−21161
- $Y_{1-x}Dy_x$ dilute alloys, spin density wave antiferromagnetism 7−52947
- $Y_2(Fe,Al,Co)_{14}B$, mag. props., composition depend. 7−53030
- $Y_2(Fe_{1-x}Al_x)_{14}B$, intrinsic and permanent mag. props. *(Chinese)* 7−13003
- $Y_2Fe_{14}B$, ^{57}Fe Mossbauer spectra 7−64551
- $Y_2Fe_{14}B$, electronic struct. and mag. props. recursion method calcs. 7−2452
- $Y_2Fe_{14}B$, magnetic props., H_2 absorption effects 7−38906
- $Y_2Fe(Co)_{14}B$ alloys, magnetic anisotropy and spin reorientations 7−38855
- $Y_{100-x}Fe_xH_y$ metallic glasses, mag. props., H content effects 7−33155
- $Y_2Fe_{14-x}Mn_xB$ system, mag. characts. 7−27523
- $Y_2Fe_{14-x}Si(Cu)B$ alloys, mag. props. 7−45681
- YH_x system, mag. susceptibility and electronic struct. *(Russian)* 7−58988
- $Y(Mn_{1-x}Al_x)_2$, spin glass behaviour 7−52996
- Y_5Ni_{95}, sputtered amorphous film, Hall effect *(Chinese)* 7−64202
- YNiAl, surface segregation behaviour 7−33519
- $Y_5Ni_{95}H_x$ amorphous thin films, mag. and elec. transport props., H content effect, 1.5 to 400K *(Chinese)* 7−38909
- YPd_3, electronic structure and intrinsically selective absorption 7−38444
- $YPd_2Si_2(Rh_2Si_2)$ ternary compounds, superconductivity 7−12901
- YRh_3B, supercond. and mag. props. 7−38800
- $Y_{2-x}Th_xFe_{14}B$ alloys, mag. props., comp. depend. study 7−7492
- $(Y_xZr_{1-x})Co_{2.9}$, cryst. struct., mag. props. 7−51719

yttrium compounds
- *see also yttrium alloys*
- carrier temp. effect on photomagnetic information recording 7−33262
- formate crystals and solutions, Raman spectra studies 7−46024

yttrium compounds continued

- hydride, electronic density of states from press.-composition isotherm 7—7088
- intracentre transition probabilities and luminesc. self-quenching 7—22332
- $(LuYBiPb)_3(FeGa)_5O_{12}$, crystn. from soln. melt, component distrib. 7—21149
- oxychlorides, phase equilib., X-ray diffr. and spectro-luminesc. anal. 7—46143
- proximity image intensifier persistence improvements with Y_2O_2S:Tb phosphor 7—57598
- YAG:rare earth crystals, impurity content, absorpt., spectrophotometric obs. 7—13843
- YIG:Ca films, magneto-optical props., reducing treatment effects 7—64617
- YIG, ^{57}Fe enriched, quantum beats from synchrotron radiation pulses 7—2960
- $(YSmLuCa)_3(FeGe)_5O_{12}$, bubble lattice, magnetisation curves 7—53094
- Al_2O_3-ZrO_2-Y_2O_3 system, synthesis and props. 7—22614
- $BaTiO_3$:Y_2O_3, semiconductor props., influence of dopant oxides 7—6650
- BaY_2F_8:Pr^{3+}, stimulated emission spectra, laser action excitation 7—27745
- Bi_2O_3-ZrO_2-Y_2O_3 system, O ion conduction 7—44905
- $(BiYLu)_3(FeGa)_5O_{12}$, garnet films, pulsed magnetisation reversal, influence of temp. on integral characts. 7—45735
- $(BiYLu)_3(FeGa)_5O_{12}$ epitaxial films, microdomain nucleation near moving domain walls 7—45778
- $Bi_{2-2x}Y_{2x}O_3$ solid soln., reversible cubic-hexagonal transform. obs. 7—32639
- $(BiYSmTbGdHoCa)_3(FeSiGe)_5O_{12}$ bubble films, rare earth substitution effects 7—59095
- $CaYAlO_4$ crystals, growth by Czochralski method 7—22460
- $Ca_3Y_2Ge_{3-x}Si_xO_{12}$:Tb, cathodoluminescence, photoluminescence props. 7—53404
- $Ca_8Y_2(PO_4)_6(OH)_{2-x}O_x$, synthesis, struct., dielec. props., AC elec. cond., IR spectra 7—3235
- $(Ca_2Y)Sn_2Fe_3O_{12}$, ion distrib., Mossbauer spectra anal. 7—33306
- CeO_2-ZrO_2-Y_2O_3 thermal barrier coating, plasma-sprayed, thermal and mech. props. *(Japanese)* 7—27899
- $CeYRu_2Si_2$, high energy EXAFS and XPS studies 7—64801
- $Eu_xY_{3-x}Fe_{5-y}Ga_yO_{12}$ LPE garnet films, ferromagnetic relax. meas. 7—38911
- $Gd_3Ga_5O_{12}$-YIG-ZnO, surface magnetostatic wave scatt. by SAW 7—64507
- HfO_2-Y_2O_3, solid soln. single crysts., physicochem. props. 7—2097
- HfO_2-Y_2O_3, solid solution single crystal growth 7—7838
- InF_2-PbF_2-BaF_2-SrF_2-YF_3-AlF_3-UO_2F_2, luminesc., lifetime meas. 7—27750
- $KY(WO_4)_2$:Ho^{3+}, luminesc. kinetics, visible and UV spectra anal. 7—46144
- $Li(Dy,Y)P_4O_{12}$, $Li(Er,Y)P_4O_{12}$ and $Li(Ho,Y)P_4O_{12}$, flux cryst. growth 7—13345
- $LiMo_xLi_{1-x}F_4$, dilute dipolar-coupled magnet, ferromagnetism, glassiness, metastability 7—22098
- $LiYF_4$:Ho^{3+},Er^{3+},Tm^{3+}, excited-state absorpt., energy transfer, fluoresc. study 7—22322
- $LiY_{1-x}Yb_xF_4$ single cryst. growth, lattice const. and thermal expansion coeff. temp. depend. studies 7—27891
- Na-Y zeolite, Li-exchanged, thermal transform. to Li aluminosilicates, X-ray and NMR studies 7—44794
- Na_2O-B_2O_3-Ga_2O_3-Y_2O_3 glass, porous, leaching and sintering 7—7953
- Na_2O-Y_2O_3-MO-SiO_2 glass, (M=Mg, Sr, Ca), Na^+ conductivity 7—52134
- Na_2O-Y_2O_3-SnO_2-SiO_2 glass, Na^+ conductivity 7—52134
- NaY zeolite, Au impregnated, positron lifetime spectra 7—17358
- $Na_5YSi_4O_{12}$, twinning, crystal struct. 7—21226
- $Na_4Zr_2Si_3O_{12}$-$Y_3Fe_5O_{12}$ composite ceramics, prep., thermal expansion 7—63853
- Nb:YAG picosec. laser pulse characterisation by self diffraction 7—10965
- Nd:YAG CW mode locked laser, simultaneous amplification and compression 7—10966
- Nd:YAG laser, 1.06 μm Cs_2 reference for freq. stabilisation 7—57403
- Nd:YAG laser, multidisciplinary use 7—47199
- Nd:YAG laser and sapphire contact probe, surgical appls. 7—34228
- Nd:YAG miniature oscillator, freq. doubled, laser diode pumped 7—15876
- Nd:YAG Q-switched laser for ophthalmology, obs. on optical construction 7—47203
- Nd:YAP CW laser, 1.3414 μm high power output 7—36970
- Nd:$YAlO_3$ laser, CW, tuning characts. of 1079.5 and 1084.5 nm lines 7—15871
- $Nd_xY_{1-x}Al_3(BO_3)_4$, excited emission and self-frequency-doubling effect 7—25821
- $Nd_xY_{3-x}Fe_5O_{12}$, garnets, growth anisotropy, Mossbauer study 7—38973
- $Nd_xY_{1-x}PO_4$, excitation energy transfer and ion-ion interaction 7—33421
- $Pb_8Y_6F_{32}O$, cryst. struct. determ. *(French)* 7—12016
- PrO_x-$YO_{1.5}$ solid solutions, phase diagrams and variable valency 7—33642
- $Pr_xY_{3-x}Fe_5O_{12}$, garnets, growth anisotropy, Mossbauer study 7—38973
- $(Pu, Y)O_2$, reactor fuels, thermal conductivity 7—19352
- Rb_2KYFe_6, structural phase transitions 7—52044
- Rb_2KYFe_6, structural phase transition, Raman scatt. and group-theoretical studies 7—52045
- SiAlON-YAG ceramics, Auger electron microscopic quantification of phase comp. 7—22951
- Si_3N_4:Y_2O_3, deformed, microstructural changes, creep mechanisms 7—46591
- Si_3N_4:$Y_3Al_5O_{12}$, grain boundary phases, EM anal. 7—16569
- Si_3N_4-Al_2O_3-Y_2O_3 ceramics, sintered, IR absorpt. and Raman spectra 7—46000
- Si_3N_4-Y_2O_3, hot pressed, fracture, flexural strength, temp. degradation 7—13546
- Si_3N_4-Y_2O_3-Al_2O_3, pressureless sintering 7—17503
- Si_3N_4-ZrO_2 composites, thermal instability 7—28158
- $Sm_{0.75}Y_{0.25}S$, intermediate valence cpd., charge relax. rates, determ. by phonon spectra 7—2557
- SrF_2-$2YF_3$-$Er^{3+}(Ho^{3+})$, interionic interaction, occupation kinetics, stimulated emission 7—46072
- SrF_2-$2(Y_{1-x}Er_x)F_3$ intracentre transition probabilities and luminesc. self-quenching 7—22332
- $(U, Y)O_2$, reactor fuels, thermal conductivity 7—19352
- $(U, Y)O_{2\pm x}/ZrO_2$-Y_2O_3 interface charactn. 7—21677
- $U_xY_{1-x}B_4$ system, mag. props., XPS and bremsstrahlung-isochromat spectroscopy studies 7—17172

yttrium compounds continued

- $(Y, R)_3$ Al_5O_{12}:Er^{3+} (R=Er, Lu) single crystals, stimulated emission spectra 7—7716
- $(Y,Sc)_3Ga_5O_{12}$:Cr^{3+},Er^{3+}, spectral, luminesc. and lasing props., Stark sublevel lifetimes 7—25827
- Y-Si-Al-O-N ceramics, phase relationships 7—65011
- Y-Si-Al-O-N glasses, Si coordination, NMR studies 7—1906
- YAG laser, Q-switched, microscopic inclusions location in optical components 7—31544
- YAG laser beam profile meas., by thermographic technique 7—31377
- YAG laser materials, high strength, development 7—10961
- YAG, lasing crystals, cryst. growth by Czochralski technique *(Japanese)* 7—53572
- YAG powders, hydrothermal growth, controlled nucleation, CRT phosphor prep. 7—13412
- YAG, synthesis by sol-gel process 7—13420
- YAG:Mn^{4+}, luminesc. and fluoresc. line narrowing studies 7—46105
- YAG:Nd, Ce, energy transfer mechanisms between Ce^{3+} and Nd^{3+} at low temp. 7—64691
- YAG:Nd activated crysts. coherent propag. of small-area pulses 7—43038
- YAG:Nd crystals, high quality, growth by temp. gradient technique 7—22464
- YAG:Nd^{3+}, impurity two-photon absorpt. cross section meas. 7—53375
- YAG:Nd^{3+}, luminescence decay 7—17342
- YAG:Nd(Nd,Ce) single crysts., luminesc. and laser props. 7—10967
- YAG:Ni (Ni, Zr) (Fe), defect and optical props. 7—59258
- YAG:Pr^{3+}, up-conversion, stepwise photon absorpt. process 7—13193
- YAG:Tb, electron-phonon relax. in $^5D_4$ of Tb^{3+} 7—2130
- YAG:Tb cryst. field anal. of Tb^{3+}, site selective polarisation spectroscopy 7—2546
- $YAl_3(BO_3)_4$, pure and Nd doped crysts., acoustic wave absorpt. meas., temp. and freq. depend. 7—16697
- $YAlO_3$, synthesis by sol-gel process 7—13420
- $YAlO_3$:Ce, single cryst., birefringence spectra, 2-5 eV 7—13124
- $YAlO_3$:Eu^{3+}, Van Vleck paramagnet, low field Raman heterodyne study 7—53179
- $YAlO_3$:Eu^{3+} lattice and electronic contributions to the quadrupole interaction of trivalent Eu 7—2550
- $YAlO_3$:Nd^{3+}, sub-levels R_1 and R_2, thermal shifts 7—32940
- $YAlO_3$:Pr^{3+} single crysts., colour centres, optical absorption spectra studies 7—63610
- YAl_2O_3 laser with controlled resonator Q factor, ultrashort radiation pulse generation 7—43115
- $Y_3Al_5O_{12}$, room temp. γ-irrad., colour centre investig 7—6621
- $Y_3Al_5O_{12}$:Tm^{3+},Cr^{3+},Ho^{3+}, 2 μm stimulated emission of Ho^{3+} ions, spectral composition and kinetics 7—46073
- $Y_4Al_2O_9$, synthesis by sol-gel process 7—13420
- $YAsO_4$, internal and external vibrs., IR and Raman spectra studies 7—64648
- YB_4, enthalpy of form., high temp. calorimetric meas. 7—39909
- YBO_3, luminesc. of Sb^{3+} 7—33442
- YBO_3:$Ho^{3+}(Er^{3+})$, nonradiative energy transfer, activator ion interactions, laser-excited luminesc. study *(Russian)* 7—22345
- $Y_{1-x}Ba_xCrO_3$, electrical and thermal transport props 7—45319
- $(YBi)_3(FeGa)_5O_{12}$, epitaxial films, mag. bubble lattices, influence of external stresses 7—64503
- $(YBi)_3Fe_5O_{12}$, magnetooptic materials and their applications 7—27703
- $Y_{1-x}Ca_xCrO_3$, electrical and thermal transport props 7—45319
- $Y_2Co_7H_x$ hydrides, cryst. struct. and mag. props., H effects *(Russian)* 7—44468
- $Y_{1-x}Er_xF_3$ and $Y_{1-x-y}Er_xTm_yF_3$, 1.5 μm IR excitation of visible lumin. via resonant energy transfer 7—46100
- $(YEuLuCa)_3(GeFe)_5O_{12}$ films, mag. bubble motion in the presence of a modulated bias field 7—53098
- $(YEuTmCa)_3(FeGe)_5O_{12}$ films, planar anisotropy and magnetisation, ion irrad. effects study 7—2906
- $(YEuTmCa)_3(FeGe)_5O_{12}$, epitaxial films, O ion adsorpt. bubble diameter variation effect 7—22125
- $(YEuTmCa)_5(FeGe)_5O_{12}/(YLa)_3Fe_5O_{12}$ ferrite/garnet layered structs., domain wall and ferromag. reson. props. *(Russian)* 7—45828
- $(YEuTmCa)_3(FeGe)_5O_{12}$ films, double layer, mag. bubbles, translational velocity 7—45781
- YF_3 solns, complexing, mol. dynamics studies 7—6496
- YF_3, spectral parameters, lattice defects effects, Xα discrete-variation method calcs. 7—7170
- $Y_3Fe_{4.5}Ga_{0.5}O_{12}$, single cryst., NMR, ang. depend. 7—53148
- $Y_3Fe_{5-x}Ga_xO_{12}$ epitaxial film, high freq. threshold props. studies *(Russian)* 7—45775
- $Y_3Fe_{5-y}Ga_yO_{12}$ garnet films, magnetostatic wave props. 7—52958
- $YFeO_3$, muon bonding sites, muon spin rot. study 7—45896
- $YFeO_3$, orthoferrite, Dzyaloshinskii-Morii electron-nuclear interaction, NMR data anal. 7—53162
- $YFeO_3$-Fe_2O mixed phase system microcryst., anomalous behaviour of mag. hyperfine field 7—45760
- YFe_2O_4, elec. resist. and Seebeck coeff. studies 7—21914
- $Y_3Fe_5O_{12}$:Si, band model of photoinduced magnetic effects 7—17214
- $Y_3Fe_5O_{12}$:Si, epitaxial film, domain struct. rearrangement, unpolarised light influence 7—45784
- YGG:Nd waveguide laser amplifiers for fibre-optic communication 7—31359
- $Y_{1.5}Gd_{1.5}Fe_5O_{12}$ garnet, γ-irradiated, mag. props. *(Russian)* 7—27502
- $YH_{0.18}(D_{0.18})$, H pairing and anisotropic pot. for H isotopes, neutron spectroscopy study 7—38144
- YIG, charact. of chaotic states of parallel-pumped magnons 7—52961
- YIG, critical mag. relaxation, ESR linewidth 7—22106
- YIG cryst., domain wall dynamics, optical polarisation study 7—45732
- YIG double-layered films, thermal detection of FMR, microwave freq. appls. 7—45766
- YIG, epilayers, SIMS anal. 7—27207
- YIG epitaxial film, magnetic grating, Raman-Nath diffr. of surface magnetostatic waves 7—58999
- YIG, epitaxial layers, Faraday rot. meas., Bi and Pb ion contribs. 7—53071
- YIG, FZ growth for magnetooptic devices in fibre-optic communication systems 7—27892
- YIG, ferromagnet, domain struct., transform. in alternating mag. fields 7—53027
- YIG, ferromagnetic hysteresis loop, grain size distrib. effect 7—27556
- YIG film, nonuniformly magnetised, group delay characts. of magnetostatic forward vol. waves 7—45764

yttrium compounds continued

- YIG film tangentially magnetised dielec. layered struct., nonlinear magnetostatic wave mixing *(Russian)* 7—45649
- YIG films, ferromag. resonance absorpt., influence of exchange interaction, weak surface pinning 7—2931
- YIG films, H_2 annealed, Mossbauer study 7—45847
- YIG films, low dose ion implanted, magnetostatic backward vol. waves 7—45765
- YIG films, symmetrical single-mode magneto-optic waveguides, phase matching by stress appl. 7—45972
- YIG films, tangentially magnetised, magnetoelastic effects 7—22130
- YIG, γ-irradiated, amplification effects and nuclear relax. in domain walls 7—7603
- YIG, irradiation by high energy heavy ions, electronic stopping power effects on damage rate 7—58352
- YIG LPE films, mag. mode fine struct. *(Chinese)* 7—13007
- YIG, LPE films, microwave magnetostatic waves, magnetic induction probe studies 7—58996
- YIG mixed cryst. films, LPE, segregation 7—53641
- YIG, multicomponent systems, synthesis, microwave characts., mathematical modelling 7—33626
- YIG, optical reflectivity meas. by synchrotron radiation spectroscopy 7—59135
- YIG powder, FMR line shape, test of independent powder particle model 7—64533
- YIG single crystal films, FMR foldover, Suhl instability 7—53141
- YIG single crysts., FMR linewidth, parametrically excited spin wave effects 7—2828
- YIG single crysts., thermodepolarisation studies *(Russian)* 7—33029
- YIG, small thin-film samples, magnetic resonances anal. 7—53090
- YIG solubility in PbO-B_2O_3 flux validity of anionic model 7—52062
- YIG, superexchange interactions, inelastic neutron scatt. studies 7—33161
- YIG, toroidal ferrimagnetic polycrystals, domain-wall continuity 7—33197
- YIG:Ga, Bi, RF sputtered films for magneto-optical memory, mag. props. 7—64613
- YIG:H, ion implanted, elastic recoil analysis using 44 MeV Cl ions 7—12107
- YIG:H, sp. ht. and annealing behaviour, conversion-electron Mossbauer spectroscopy study 7—17253
- YIG:Ho^{3+}, laser mag. reson. study, quasi-Ising model 7—53147
- YIG:La,Ga-YIG:La double layered film, different magnetisation and anisotropy, magnetostatic mode spectra 7—64498
- YIG:Ne^+ ferrite films, surface magnetostatic wave damping, ion implantation effects *(Russian)* 7—33242
- YIG:Si epitaxial films, mag. anisotropy and spin reorientation under unpolarised white light irrad. *(Russian)* 7—33246
- YIG/ferroelec. struct., surface magnetostatic wave propag. charact. meas. 7—52965
- $YIrC_x$ (x=1,2) equilib. reaction, thermodynamic parameters evaluation, Knudsen effusion mass spectrometry 7—23054
- $YLiF_4$, lattice vibrs., Raman study 7—53329
- $YLiF_4$:Nd^{3+}, impurity two-photon absorpt. cross section meas. 7—53375
- $YLiFeO_3$, orthoferrite, mag. props. 7—2824
- $(YLuBi)_3(FeGa)_5O_{12}$, Ne^+ implanted, CEMS study *(Chinese)* 7—7620
- $(YLuBi)_3(FeGa)_5O_{12}$:Ne^+ films, stripe domain stabilisation by ion implantation 7—53100
- $(YLuSmCa)_3(FeGe)_5O_{12}$ epitaxial films, transition layer 7—45779
- $Y_2MSb_2Zn_3O_{12}$ (M=Sr,Ca), rare-earth activated garnets, cathodolum. 7—7763
- $Y_{1-x}Mg_xCrO_3$, electrical and thermal transport props 7—45319
- $Y_2Mo_2O_7$, spin glass like behaviour 7—7524
- $YNbO_4$, defect structure, Raman spectroscopy 7—63604
- YO, gas-phase, MODOR 7—15631
- YO, radiation, spatial emission distrib., inductively coupled plasma 7—8351
- Y_2O_3 7—30014
- Y_2O_3, Al_2O_3 coatings on Ni-based superalloy, appl. as high temp. protective coatings for gas turbines 7—46695
- Y_2O_3, DC cond. as function of water vap. press. 7—45317
- Y_2O_3, elec. cond. as function of O_2 partial press. in wet and dry atm. 7—45405
- Y_2O_3 film, electron beam evap., struct. characteris. using TEM, opt. props. 7—21732
- Y_2O_3 films, RF sputtered, high intensity electron beam irrad. effects 7—44626
- Y_2O_3 powders, agglomerate strength distrib., US meas. 7—46379
- Y_2O_3, single crystals, optical spectra in VUV 7—53363
- Y_2O_3:Eu^{3+}, impurities optical dephasing temp. and freq. depend. 7—22286
- Y_2O_3-Al_2O_3 system, prepared by sol-gel process, IR vibr. spectra study 7—33384
- Y_2O_3-Al_2O_3-B_2O_3 system, glass formation, props. and struct. 7—2205
- Y_2O_3-Bi_2O_3, local interactions and environments, EXAFS studies 7—63575
- Y_2O_3-Nb, high temp. interactions, X-ray diffr., DTA studies 7—8259
- Y_2O_3-P_2O_5 phosphors, Eu^{3+} activated, luminesc. spectra, cryst. symm. 7—3080
- Y_2O_3-SiO_2 systems, liq. immiscibility 7—6807
- Y_2O_3-TiO_2 system, fluorite type solid soln. crystallisation 7—1882
- Y_2O_3-ZnO-Al_2O_3-SiO_2, glass form. and crystn., effect of ZnO additions 7—44382
- Y_2O_3-ZrO_2, local interactions and environments, EXAFS studies 7—63575
- Y_2O_3-ZrO_2:Fe, high dose ion implanted, profile shapes and electronic cond. 7—32472
- YOCl:Er, Yb, antiStokes luminesc., 1.5 μm region 7—13223
- Y_2O_2S:Er, Nd, mag. susceptibility, dielec. const. and dielec. losses 7—2810
- Y_2O_2S:Pr^{3+}, luminescence spectra 7—7730
- $Y_2O_2S_2$:Tb^{3+}, phosphor, electronic struct., cathodoluminescence meas. 7—17350
- $Y_2Pr_{0.03}$ $Gd_{0.97}Al_5O_{12}$, sensitisation of Gd^{3+} luminesc. by the Pr^{3+} ion 7—3082
- YSi_{2-x}-Si, silicide thin films, phase composition, conductance, surface morphology 7—7072
- Y_2SiO_5:R (R=Ce, Pr, Nd, Sm, Gd, Tb, Er, Tm, Yb), Czochralski growth 7—53556
- $(YSm)_3(FeGa)_5O_{12}$ garnet film, demagnetisation, elongation of striped domain struct. 7—45737
- $(YSmLuCa)_3(FeGe)_5O_{12}$ epitaxial layer, conversion electron Mossbauer spectra 7—48926

yttrium compounds continued

- $(YSmLuCa)_3(FeGe)_5O_{12}$, epitaxial films, Faraday rot., Sm^{3+} conc. effect. 7—53070
- $(YSmLuCa)_3(FeGe)_5O_{12}$, film, stripe domain stabilisation for Bloch line memory 7—59087
- $(YSmLuGd)_3(FeGa)_5O_{12}$ garnet film struct. and mag. props., mag. bubble memory appls. *(Japanese)* 7—7575
- $Y_{1-x}Sr_xCrO_3$, electrical and thermal transport props 7—45319
- $Y_3Te_2Li_3O_{12}$:R, cathodoluminescence study *(German)* 7—22354
- $Y_2Ti_2O_7$, small-polaron conduction 7—21915
- $(YTmBi)_3(FeGa)_5O_{12}$ films, bubble wall states generation in rotating gradient expt. 7—53097
- YVO_4:Eu,Ga(Sc)(La), optical props. and electronic struct. 7—33423
- YVO_4:Gd^{3+}, mag. hyperfine interactions, ^{31}P and ^{51}V ENDOR spectra 7—27630
- $Y_{3-x}Yb_xA_5O_{12}$, thermal conductivity, temp. and composition dependences 7—38274
- $Y_{4x}Zr_{1-4x}O_{2-2x}$, ionic cond., defect struct., self-diffusion calcs. 7—12356
- $(Yb_{0.95}Eu_{0.05})_2O_3$, luminophor, granulometric composition 7—22715
- $Yb_{1-x}Tm_xSe$, anomalous Tm valence, lattice parameters, diamag. suscept. and Hall effect meas. 7—16998
- ZnO/$Y_{2.8}La_{0.2}Al_5O_{12}$ SAW resonator struct., amplitude-freq. and phase-freq. characts. 7—16051
- ZrO_2, Y_2O_3, dip process thermal barrier coatings for gas turbines 7—46314
- ZrO_2, Y_2O_3 stabilised, CeO_2 doped on surface, thermal stability improvement 7—13619
- ZrO_2, Y_2O_3 stabilised thermal barrier coatings, ionisation assisted physical vapour deposition 7—46349
- ZrO_2:Y_2O_3 solid oxide fuel cell development to 5 kW 7—28396
- ZrO_2-Y_2O_3, arc melted, cubic to tetragonal transform. herringbone struct. 7—28042
- ZrO_2-Y_2O_3, displacive cubic to tetragonal phase transform. 7—65027
- ZrO_2-Y_2O_3, rapidly quenched, microstruct. evolution by annealing 7—22737
- ZrO_2-Y_2O_3, tribological coatings, low temp. sputter deposition 7—46322
- ZrO_2-Y_2O_3, Y-TZP, toughened, microstruct., TEM and electron diffr. study *(Japanese)* 7—22634
- ZrO_2-Y_2O_3, Y-TZP, superplastic, compressive deform. props. and microstruct. *(Japanese)* 7—22774
- ZrO_2-Y_2O_3 ceramic coatings, thermo-sprayed, microstruct. studies *(Japanese)* 7—22628
- ZrO_2-Y_2O_3 ceramic system, phase equilib. and transform 7—22682
- ZrO_2-Y_2O_3 films, composition and struct., X-ray emission and ESCA studies 7—22385
- ZrO_2-Y_2O_3 films, epitaxial growth on sapphire substrates by reactive sputtering, appl. for SOI substrates 7—27217
- ZrO_2-Y_2O_3 partially stabilized, Al_2O_3 effect on retaining tetragonal particles, matrix toughening 7—59485
- ZrO_2-Y_2O_3 plasma-sprayed thermal barrier coatings, sp. ht. and thermal cond. meas. and 2D computer simulation 7—7076
- ZrO_2-Y_2O_3 solid solutions, vibrational spectra 7—6738
- ZrO_2-Y_2O_3 solid-electrolyte cell, polarization of porous Pt electrode 7—23027
- ZrO_2-Y_2O_3 substrate for Si-SiO_2 SOI system, fabrication and charact. 7—22025
- ZrO_2-Y_2O_3 substrates for heteroepitaxial growth of Si 7—21735
- ZrO_2-Y_2O_3 system, microstruct. resulting from diffusionless cubic to tetragonal phase transform. 7—39501
- ZrO_2-Y_2O_3 toughened ceramics, dry friction and wear against steel 7—8125
- ZrO_2-Y_2O_3-CeO_2, phase relations, solubilities, 1100-1600°C 7—46435
- ZrO_2-Y_2O_3-Co_3O_4 materials, Co_3O_4 effect on struct. and phase comp. 7—27990
- ZrO_2-Y_2O_3-Nd_2O_3, phase relations, solubilities, 1100-1600°C 7—46435
- ZrO_2-Y_2O_3-TiO_2 ceramics, transport, sintering behaviour 7—13421
- ZrO_2-$YO_{1.5}$, thermal behaviour of ^{56}Fe implantations 7—27006
- Zr_2O-Y_2O_3, ionic diffusion coeffs. comp. depend., quasielastic light scatt. temp. depend. meas. 7—12364
- $(ZrO_2)_{0.9}(Y_2O_3)_{0.1}$ fianite crysts., bending and compressive strength temp. depend. meas. 7—44653

Yukawa potential *see meson field theory; nuclear forces*

Z bosons

- decays, CP nonconservation effects in the standard model 7—5090
- E_6 electroweak models with two extra Z bosons, phenomenology 7—41682
- E_6 gauge group, gauge bosons and neutral currents 7—451
- $E_8 \times E_8$ superstring theory, extra U(1) phenomenology, Z boson mass constraints 7—41688
- electroweak Glashow-Weinberg-Salam theory, one-loop effects 7—61509
- heavy Z bosons and Majorana neutrinos 7—15088
- internal structure, composite nature 7—496
- longitudinally polarised W and Z bosons, relationship to Goldstone partners, gauge invariance 7—41702
- mirror fermion production near Z^0 peak in e^+e^- collisions 7—49128
- optical experiments for electroweak theory, atomic mirror symmetry breaking, Z^0 exchanges 7—61534
- radiative corrections to vector boson masses for heavy Higgs bosons 7—30272
- universal scattering theorems for strongly interacting *W*s and *Z*s 7—24820
- $e^+e^- \to X$, asymmetries from E_6 GUTs 7—448
- $e^+e^- \to X$, effects of Z′-bosons from superstring or nonlinear σ models 7—444
- $e^+e^- \to Z^0 \to \bar{b}b, \bar{t}t$, unpolarized and polarized forward-backward asymmetries, properties 7—538
- $e^+e^- \to Z'X$, phenomenology of extra neutral gauge boson 7—41776
- $hh \to W(Z) + \text{jet}$, QCD parton shower Monte Carlo model 7—41852
- masses and couplings, bounds in SO (10), E_6 GUTs from electroweak corrections 7—61527
- $\bar{p}p$, $\sqrt{s}$ = 630 GeV, jet, $W^\pm$ and Z^0 prod. at UA2 7—10075
- $\bar{p}p \to$ jets, $W^\pm$, Z comparison with QCD and standard model 7—10086
- $\bar{p}p \to Z^0X$, transverse hadronic energy distrib. anal. 7—19144
- $\tilde{Z}$, mass limits from $\tilde{W}$, $\tilde{Z}$ decays, SUSY signal 7—61682
- $Z \to \bar{b}s(b\bar{s})$, branching ratio comparisons, CP nonconservation 7—10061
- $\tilde{Z}$ decays, $\tilde{W}$, $\tilde{Z}$ mass limits, SUSY signals 7—61682
- $Z \to ggg$, $gq\bar{q}$, $l^+l^-\gamma$, preon-composed bosons 7—24885
- $Z \to \tilde{H}\gamma(HH\gamma)$, composite model study 7—24886
- $Z \to h\bar{h}h$, Higgs boson signature 7—61678
- $Z \to l^+l^-$, supersymmetric signals in leptonic decays 7—41808
- $Z \to \tilde{\nu}\nu\gamma$, composite model study 7—24886
- $\tilde{Z}^0$, existence for fourth generation fermions, Sp(2N) anal. 7—9994

Z bosons continued
  $Z^0 \to \bar{f}f$, branching ratios in SU_8 multigenerational grand unification 7−30267
  $Z^0 \to l\bar{l}$, investigation of weak neutral currents in $h_1h_2 \to V(t\bar{t})$, $V(t\bar{t}) \to \gamma$, Z^0 7−5098
  $Z^0 \to l\bar{l}\gamma$, Stokes parameter calcs. and anomalous mag. moment 7−41807
  $Z^0 \to$neutralinos in supersymmetric SU(2)×U(1) model 7−519
  $Z^0 \to \bar{\nu}\nu$ (ν=new neutrino species), event search at CERN collider 7−61680
  $Z^0 \to q\bar{q}\gamma$, Stokes parameter calcs. and anomalous mag. moment 7−41807
  $Z^0 \to q\bar{q}\nu\bar{\nu}$, minimal standard model anal. 7−19120
  $Z^0 \to \tilde{W}$+anti-$\tilde{W}$, $\tilde{W}$ and $\tilde{Z}$ decays, $\tilde{W}$, $\tilde{Z}$ mass limits 7−61682
  Z^0-Z' mixing effects study in e^+e^- colliders 7−41684
  $Z^* \to ZH$ from $gg \to Z^*$, cross section calcs., fourth generation quarks 7−10082
  $Z^* \to ZH$ from $q\bar{q} \to Z^*$, cross section calcs., fourth generation quarks 7−10082
  Z_E contributions to $e^+e^- \to \gamma$+nothing, superstring calcs. 7−30263
  $Z^0 \to W^{\pm}l^{\mp}\bar{\nu}_e$, test for γW^+W^-, $Z^0W^+W^-$ structure, W-magnetic moment anal. 7−24870
  Z' mass, effects of $SU(2)_L \times U(1)_Y \times U(1)_{Y^*}$ and $SU(2)_L \times SU(2)_R \times U(1)_{B-L}$ gauge structures 7−61708
  Z' mass constraints in $e^+e^- \to Z'$, $\sqrt{s}=M(Z^0)$ asymmetry meas. 7−49129
  $Z^0\gamma\gamma$ and $Z^0Z^0\gamma$ Green's functions, Ward identity derivation 7−41817
  $pp \to Z^0Z^0 \to$ leptons, Higgs detection by Z^0 polarisation determ. 7−24914
  $\bar{p}p \to ZX$, excited quark hypothesis, effective lagrangians 7−41858
  $Z \to \bar{\nu}\nu H$, composite model study 7−24886
Z-centres
  KCl:Ca, γ-irrad., Z_1-centre growth, effect of dislocations, thermolum. study 7−32487
  KCl:Ca, γ-irrad. Z_1 colour centres, mech. bleaching form. 7−6620
  $KCl:Ca^{2+}$, $Z_2{}^+$-centres, axial config., pseudopotential perturbation calc. 7−32952
  $RbBr:Ba^{2+}(Ca^{2+})(Eu^{2+})(Sr^{2+})$, Z_2 colour centres, picosecond relax., nonstationary spectra 7−59233
Z pinch *see pinch effect*
Z transforms
  multidimensional heat cond. in solids, thermal histories, Z-transfer method 7−57668
Zeeman effect
  see also atomic spectra; Hanle effect; molecular spectra; spectral line breadth
  σ^+-σ^- mode interactions, lower-level Zeeman coherence effects 7−10901
  anomalous Zeeman effect, moments and expansion coeffs. 7−66443
  anomalous Zeeman effect and its influence on the line absorption and dispersion coefficients 7−60513
  atomic absorption spectrometry, extended range, using 3-field AC magnet 7−30098
  atomic coherent transients meas. with ultrashort light pulses 7−31187
  atoms, Zeeman spectra struct. in strong reson. EM field 7−57029
  p-benzosemiquinone radical anion, halogenated, mol. motion, electron spin relax. 7−45796
  best wave interferometer with Zeeman laser for measuring short range 7−18752
  cascade Zeeman quantum beats, stepwise pulsed-laser excitation, four-level model 7−50014
  collision-assisted zeeman, Hanle reson., transverse optical pumping, relationship 7−10514
  diatomic molecules, Zeeman quantum beats during transient process, after ground electronic state optical depopulation 7−36545
  1,4-dibromonaphthalene:acenaphthenequinone crysts., phosphorescence spectra and decay kinetics temp. depend. *(Russian)* 7−27751
  2,6-dichloroacetanilide, X-ray diffr. and NQR study, struct. and bond props. 7−12041
  difluoroacetonitrile, rot. Zeeman effect, g-values, mag. susceptibility and electric quadrupole moments 7−62431
  diphenylmethylene, excited triplet state, mag. field effects, fluoresc. 7−10657
  excited states, two-step excitation alignment factors 7−62305
  high resolution synchrotron spectroscopy appl. 7−19742
  hydrogenic ions in mag. field, centre-of-mass energy 7−50011
  hydrogenic Zeeman effect, second-order perturbation calc. 7−50012
  imidazole, rot. Zeeman effect 7−57109
  mechanical atom model, Zeeman effect during liberating phase *(Danish)* 7−42520
  metallic superlattices, long wavelength bulk and surface spin waves 7−2835
  methylene radical, $\tilde{b}^1B_1$ state, visible absorpt. and mag.-rot. spectra 7−50155
  multidimensional equation, ground state energy, upper and lower bounds, construction 7−41124
  muon level crossing resonance, muon polarisation function for longitudinal fields 7−53187
  nodal coordinates for the first-order quadratic Zeeman effect 7−50013
  paramagnetic centre, anisotropic, pseudocrossing of levels and van Vleck susceptibility 7−7471
  plasma poloidal field meas. using Zeeman effect and charge exchange recombination 7−6459
  plasma Zeeman spectroscopy using high-intensity Li beam 7−6460
  platinum phthalocyanine, first excited states in mag. fields, Zeeman study 7−10643
  pyrazole, rot. Zeeman effect 7−57109
  quantum theory of nonlinear mixing in multimode fields 7−36929
  quasi one-dimensional inversion layers, hopping magnetoconductance fluctuations 7−12868
  semiconductors, spin waves, direct Coulomb interaction accompanied by spin-flip 7−7180
  solar spectral lines in 430 to 670 nm wavelength range with large Stokes V-amplitudes outside sunspots, catalogue 7−66554
  Tokamak plasma diagnostics by meas. poloidal magnetic field, using Zeeman splitting in Li 7−1740
  ultra-high-resolution echo spectroscopy in a strong magnetic field 7−43264
  van der Waals complexes, lin., diamag. suscept., promolecule model 7−10539
  Ba atom, quadratic Zeeman effect for nonhydrogenic systems 7−36544
  $Ca_xCo_{1-x}Fe_2O_4$ substituted ferrite system, mag. props., comp. depend., Mossbauer study 7−7618
  CaF_2, multiphoton transitions between nuclear spin Zeeman levels obs. by rotary sat. method 7−38948
Zeeman effect continued
  $CaF_2:Eu^{3+}$, hyperfine coupling in $^7F_0$ and $^5D_0$ states, ODMR meas., optical hole burning 7−45842
  $CdF_2:Eu^{3+}$, hyperfine coupling in $^7F_0$ and $^5D_0$ states, ODMR meas., optical hole burning 7−45842
  $Cd_{1-x}Mn_xTe(Se)$, mag. field-induced exchange effects, photolum. meas. 7−27705
  CsI, excitons, three-photon magnetoabsorpt. meas., g-value determ. 7−2498
  Cu complex, Cu_4OCl_6(triphenylphosphine)$_4$, EPR spectrum, Zeeman, hyperfine and mag. dipole effects 7−10642
  Fe I, cascade Zeeman quantum beats, stepwise pulsed-laser excitation, fluoresc. anal. 7−49997
  GaAs:Nb photolum., Zeeman spectra study 7−39175
  GaAs-$Al_xGa_{1-x}As$ heterostructures, voltage-controlled dissipation in the quantum Hall effect 7−27393
  Ge:Ga, impurity g-factor determ. piezo-Zeeman spectra obs. 7−16982
  H excited state, laser spectroscopy in mag. field 7−10460
  H, Zeeman resons. at zerofield ionization threshold, semiclassical model 7−15547
  HCF, mag. interactions obs. by intermodulated fluoresc. technique, hyperfine struct. 7−25593
  HSiF, mag. interactions obs. by intermodulated fluoresc. technique, hyperfine struct. 7−25593
  He, 1 s4d config. fine struct., Zeeman sublevels crossing fields 7−50015
  He, n $^1D_2$ levels, alignment and orientation in elec. field 7−865
  He-Ne laser, mode-crossing reson., intracavity distance and mode-locking quality anal. 7−31373
  He-Ne laser tuned by axial mag. field, mode competition 7−50539
  He-Ne Zeeman laser, nearly degenerate four wave mixing and high order effects 7−1078
  He-Ne Zeeman lasers for coherent optical fibre system 7−50786
  Ir, itinerant electron Zeeman splitting anisotropy meas. 7−52536
  $La_xCe_{1-x}B_6$, Zeeman splitting, thermodynamics of Coqblin-Schrieffer model 7−58783
  $LaF_3:Pr^{3+}$, spin Hamiltonian spectroscopy, spin-spin cross relax. by optical pumping 7−22228
  Li beam, mag. field meas., Zeeman and motional-Stark effect 7−19766
  $LiAl_5O_8:Fe^{3+}$, Mossbauer relaxation spectrum, electric quadrupole shifts dependency on mag. field 7−7182
  $LiNbO_3:Fe^{3+}$, Mossbauer spectroscopic evidence of angle-depend. intersystem crossing 7−33312
  Mg, config., fine struct. parameters Zeeman sublevel energies 7−36543
  NO, paramagnetic molecule,. magnetically modulated Fourier transform spectroscopy 7−48856
  Ne, $3s_2$-$2p_4$ transition, linear absorpt. coeff., mag. field effect 7−57030
  Ne, σ and π fluoresc. profiles, population trapping and Zeeman coherences study 7−25447
  Pd, X-pocket holes, anisotropy of conduction electron Zeeman splitting 7−32963
  β-PdH_x, spin polarisation torsional spectroscopy 7−33280
  $Pr^{3+}:LaF_3$, spin-spin reservoir cross-relax. via optical pumping 7−15652
  SD^+, $X^3\Sigma^-$ ground state, mol. rot.-vibr., Zeeman consts., mid-IR LMR spectra anal. 7−62368
  Se^-, resolved Zeeman thresholds in photodetachment in mag. field 7−42549
  Si (001) inversion layers in parallel mag. fields, electronic g-factor 7−12783
  Si n-type (100) inversion layers, valley splitting enhancement by lossless edge currents 7−7395
  Si:Ga, electron irradiated and annealed, photoluminescence spectra 7−13206
  Si:Ge, irradiated, photoluminescence spectra 7−13207
  Si:N,O, impurity interactions in optical defects 7−17348
  Si-SiO_2 (111) interface, dangling bonds, dipolar interactions investig. 7−17107
  Sm, RF resonances, Raman heterodyne detection 7−10499
  Sm vapour, collision-induced Ramsey resons. obs. oscillating zeeman sublevel coherence detection 7−874
  Sm vapour, vel. diffusion effects, RF-laser double reson., Raman heterodyne investig. 7−882
  Sr atom, quadratic Zeeman effect for nonhydrogenic systems 7−36544
  α-$ThBr_4$:U, Stark energy level determ. of $^3H_4$ ground state of U^{4+} 7−27696
  $TlGaS_2$ crysts., photolum., magneto-optical characts. study 7−46089
  $Zn_{0.95}Mn_{0.05}Te$, antiferromag. exchange const. determ., free exciton Zeeman splitting meas. 7−22229
  $Zn_{1-x}Mn_xTe$, x=0.25−0.71, free exciton state exchange splitting, magnetoreflectance, magnetisation meas. 7−53288
  ZnTe:Cu, impurity related neutral complex with bound exciton, photoluminescence, absorpt., Zeeman meas. 7−45165
Zener breakdown *see Zener effect*
Zener diodes
  No entries
Zener effect
  see also Zener diodes
  Bloch electrons, quantum transport in homogeneous time depend. elec. fields 7−52633
  chalcogenide glasses, field dependent negative U-model and switching 7−7252
  current response, metal-like, in small rings, Zener tunnelling effect 7−21890
  metal-H, systems, anelastic props. 7−26856
  semiconductor n-i heterojunction, time depend. tunnelling and coherent Zener oscills. 7−17087
  solid-state electronics, Zener diode, theory 7−7504
  Pd-B-H alloys, internal friction, elastic consts. 7−26857
Zener relaxation
  internal friction in solids, review 7−6720
zero-gap semiconductors *see narrow band gap semiconductors*
zero gravity experiments
  acoustic-based containerless technology appls. 7−11245
  anise, induction of somatic embryogenesis in microgravity 7−8719
  Antibio experiment on E. coli on Spacelab D1 mission, preliminary results 7−8709
  Bacillus subtilis, growth and differentiation under microgravity 7−8710
  Biorack experiments on Spacelab D-1, results 7−8704
  chemical wave transport expt. on Spacelab D1 mission *(German)* 7−20814
  Chlamydomonas reinhardii, circadian rhythm in a Zeitgeber-free environment, space flight obs. 7−8708

zero gravity experiments continued
- cognitive processes of spatial coordinate assignment, perceptual cues weighting, Spacelab expt. 7—8724
- conference on space exploitation and utilisation, Honolulu, HI, USA (1985 December) 7—24297
- convection in hemispherical shells with radial gravity, simulation expts. to study astronomical bodies 7—55450
- convection in planetary atmospheres and stars, zero-gravity expts. 7—29393
- cress roots, development and gravity sensing under microgravity 7—8718
- cryogenic technology, impact of large space systems 7—48752
- crystal growth, heat and mass transfer in microgravity and on Earth 7—53510
- density distribution near gas/liquid critical points under reduced gravity 7—21426
- drop, inviscid, in zero gravity environment, free and forced nonlinear oscills. *(German)* 7—20739
- drops, rotating in weightlessness, equilib. shapes 7—63198
- E. coli, effects of microgravity on genetic recombination 7—8711
- embryogenesis and aging of Drosophila melanogaster flown in Space Shuttle 7—8715
- embryogenesis and organogenesis of stick insects under spaceflight conditions 7—8716
- erythocytes, aggregation under zero gravity 7—3889
- EURECA platform, reusable multi-mission carrier *(German)* 7—47666
- experimental system for microgravity system, low cost, reusable *(German)* 7—46786
- flight hardware for chemical fixation of livingmaterial in the microgravity environment 7—8717
- floating liquid zones expt. on Spacelab D1 mission 7—22971
- fluid phases, separation, and bubble dynamics in temp. gradient and microgravity conditions 7—20722
- hydroelastic viscous liquid system, coupled freq. 7—43674
- immiscible melts, separation under reduced gravity *(German)* 7—22972
- intraocular pressure, monitoring under μG conditions *(German)* 7—8722
- isochoric heat capacity at the critical point under reduced gravity *(German)* 7—21478
- Japanese Experiment Module contrib. to international space station programme 7—66423
- lentil root, gravity perception, Biorack expt. 7—8720
- liquid, metals, immiscible, decomp. sedimentation and precipitation in weightlessness and quasiweightlessness 7—63823
- liquid bridge breakages aboard Spacelab-D1 7—46783
- liquid bridge stability data 7—46784
- liquid column rise into vertical tubes subject to zero gravity *(German)* 7—12396
- liquid surfaces, stabilisation by application of variable force fields 7—63907
- lymphocytes, human, sensitivity to gravity obs. *(German)* 7—8705
- lysozyme, growth kinetics of tetragonal crysts. 7—23281
- mammalian cell polarisation at the ultrastruct. level, effect of microgravity, Spacelab D1 mission obs. 7—8707
- Marangoni convection, bubble motions induced by a temperature gradient 7—20717
- Marangoni convection and mass transfer from the the liquid to the gas phase under microgravity conditions 7—20720
- Marangoni convection in an open vessel *(German)* 7—20718
- Marangoni convection in one- and two-liquids floating zones 7—20719
- mass discrimination in weightlessness, improvement with arm movements of higher acceleration 7—8723
- metals, undercooling in containerless microgravity environment 7—26917
- microgravity expts. in materials processing *(Japanese)* 7—59737
- microgravity research, present status and future prospects *(German)* 7—46785
- organic crystals growth in a microgravity environment 7—22456
- Paramecium experiment on D1 mission of Spacelab 7—8706
- Physarum polycephalum, steady compensation of gravity effects 7—8712
- polymerisation kinetics obs., space-flight dilatometer/reactor development and testing 7—13770
- protein crystal growth, preliminary investigations using the Space Shuttle 7—23286
- space development and thermal phenomena, materials processing in microgravity environment *(Japanese)* 7—39843
- sphere crystallisation, thermoelastic stresses in weightless conditions 7—1424
- thermal convection, vibr. induced, in weightlessness 7—63132
- thermocapillary movements under microgravity at a minimum of surface tension 7—20721
- two-layer systems, thermocapillary convection, numerical anal. 7—63911
- unidirectional solidification under microgravity, particles and bubbles behaviour *(German)* 7—44772
- venous pressure in microgravity 7—8721
- viscous, incompressible fluid in closed cavity, free convection, numerical simulation 7—63134
- weight and weightlessness, space research *(French)* 7—9358
- York, England (Jul. 1986) 7—48142
- AgI$_{0.75}$-KI$_{0.25}$ mixture, Soret effect meas. under microgravity 7—21499
- Cu, dispersion hardened, melting and solidification in microgravity environment 7—22659
- Cu, with dispersed Al$_2$O$_3$ and Mo particles, directional solidification in reduced gravity *(German)* 7—22658
- Fe, grey cast, skin casting under microgravity conditions 7—22661
- Ge, floating zone growth, lateral solute segregation rel. to gravity conditions 7—53576
- GeSe, cryst. growth in Xe atmosphere, expts. performed on Spacelab D1 mission 7—21145
- Li$_2$O-SiO$_2$ glasses prepared under microgravity and 1-g melting conditions, homogeneity 7—21117
- Nb-Ge alloys, processed in inert gas in 100 m drop tube 7—7986
- Ni-Al-Mo eutectic high temp. alloy, directional solidification within ZrO$_2$ supporting skin *(German)* 7—22660
- O$_2$, nucleate boiling at low gravity, microparameters 7—62962
- Si:P,B, SiO$_2$ coated cryst., floating zone growth under microgravity 7—53575

zero sound
- *see also liquid helium sound propagation*
- ^{3}He, superfluid A phase, textural transformation, A$_2$ transition, zero sound 7—2294

zeros *see poles and zeros*

zeta-potential *see electrokinetic effects*

zeugmatography *see biomedical NMR*

zinc
- *see also nuclei with ......*
- amplitude-dependent internal friction, press. depend. *(Russian)* 7—58409
- atom, STF HF wave functions 7—25365
- atoms, fluoresc., SRS eval. as excitation source 7—30981
- coatings, atmospheric corrosion products in industrial and marine environments 7—39716
- corrosion, electrochem., in NaClO$_2$ aq. soln. 7—17702
- corrosion inhibitors evaluation *(German)* 7—8197
- corrosion promotion and inhibition by organic anions 7—8188
- corrosion resistance improvement by surface modification with organic cpds. *(Japanese)* 7—8164
- cylindro-inner cones, freezing point, radiant emission characts. 7—56254
- deformation, action of series of elec. pulses 7—44659
- deformation recovery, positron annihilation spectroscopy 7—21329
- detection and study by laser-enhanced ions. spectrometry 7—54202
- diffusion in Cu, electrochemical method 7—44897
- dislocation motion across two-component forest dislocations and point obstacles *(Russian)* 7—58277
- electric quadrupole interaction of ^{67}Zn, mag. reson. meas. 7—53167
- electrical conductivity, Harrison's method appl. 7—7203
- electrodeposition, macromorphology, impurity effects, pot. sweep analysis 7—22595
- electrodeposition, struct. rel. to inhibition conditions 7—22593
- electrodeposition kinetics on Zn single crystals, pot. step method, SEM anal. 7—27189
- electrodes, electrochem. and corrosion props. in mixed aq.-ethanolic media 7—54140
- electron irradiated, positron lifetime spectra, temp. depend. 7—39249
- electroplates, whisker formations 7—17482
- electroplating in acidic bath, corrosion resists. improvement with Co and Cr additions 7—13640
- film, etching by methyl radicals in discharges 7—3507
- forbidden reflections, sign of struct. factor determ. 7—58102
- fusion reactor first wall behaviour after plasma disruption, electron beam expt. 7—62068
- grain boundary migration, diffusion-induced, effect of thermomech. treatment 7—26764
- highly ionised atoms injected into PLT and TFTR discharges, spectra 7—19748
- interstellar S and Zn in high density sight-lines abundances 7—66730
- isotopes, separation by liq. phase thermal diffusion 7—15732
- Johnson Camp, Arizona, Cu-Zn ore bodies determ. from soil and soil gas comp. anal. 7—40591
- metal, L$_{2,3}$-MM Auger electron spectrum, correl. effects influence 7—57037
- metal powders, atomised, factors affecting particle size 7—53659
- microhardness, temp. depend in coarse-plastic transition region *(Russian)* 7—46638
- molten, soln. kinetics of steel 7—16752
- monovalent ion, alignment after photoionis., fluoresc. radiation polarisation meas. 7—890
- Mossbauer spectroscopy 7—59125
- neutron irradiated, yield-stress recovery 7—22720
- Newark Bay, New Jersey, USA, heavy metals in water column of estuary 7—55084
- normal potentials in liq. NH$_3$ 7—39903
- passive electrodes, space charge effects 7—28315
- phonon spectrum fine structure 7—16702
- polycrystalline, internal friction, temp., time and amplitude depend, heat expansion anisotropy effects *(Russian)* 7—16687
- polycrystalline, internal friction temp. spectrum and microplasticity *(Russian)* 7—16684
- positron annihilation, selective enhancement of different electron populations by electron-positron attraction 7—46181
- powder, internal structure of solidified aerosol droplets, etching method 7—7920
- Severn Estuary, UK, sediment trace metal record for last 2000 years 7—18211
- single crystals, creep, dislocation struct., high press. effect *(Russian)* 7—59578
- single crystals, positron annihilation, tempo. depend. angular correlation study 7—7786
- structural elements, corrosion in contact with building materials *(German)* 7—3522
- surface, (0001), with adsorbed H, thermal desorption spectra 7—21646
- two-dimensional angular correlation of positron annihilation radiation 7—39239
- vacuum deposition on As$_2$S$_3$, photostimulated changes 7—45075
- Venice lagoon, sediment heavy metal pollution 7—60276
- whisker growth on electroplates, crystallographic texture 7—64034
- Al-GaAs:Zn interfaces, composition depth profile, pulsed laser atom probe study 7—32842
- AlGaAs:Zn, MOCVD, impurity induced disordering, quantum well laser fabrication and characts. 7—27934
- C-Zn batteries, selection guidelines 7—3633
- C-Zn dry battery with outer metallic jacket *(Japanese)* 7—65427
- Cr-CrO$_x$/Zn multilayer electrogalvanised coating on steel, XPS analysis 7—22890
- Fe/Zn diffusion couple, anomalously fast diffusion 7—16818
- α-Fe-Si, Zn vapour induced cracking phenomena *(French)* 7—3394
- GaAs:Zn, ion damage and recrystn. annealing, conversion electron EXAFS meas. 7—64821
- GaAs:Zn, ion implanted, rapidly annealed, damage removal process 7—17043
- GaAs:Zn, ion-implanted, acceptor-associated emission, selective self-optical compensation effect 7—22304
- GaAs:Zn, Zn diffusion by open-tube technique 7—38260
- GaAs:Zn,Si, selective double diffusion using sputtered Si masks 7—51805
- GaAs:Zn epilayers, low pressure MOCVD growth, impurity incorporation 7—59442
- GaAs:Zn epilayers, metalorganic CVD, Zn incorporation 7—63996
- GaAs:Zn epitaxial film shallow homojunction solar cells fabrication by Zn solid state diffusion method 7—17860
- GaAs:Zn surface layers, luminesc., electrophys. parameters, effect of annealing 7—64680

zinc continued
- GaAs-GaAlAs heterojunction bipolar transistors, ^{24}Mg and ^{64}Zn implanted profiles 7—44591
- GaN:Zn, pure and doped, electrophysical props., nonhomogeneous semicond. model 7—27292
- GaN:Zn, time-resolved photoluminesc. study 7—22347
- GaN:Zn films, MOVPE, electron cyclotron resonance plasma excitation, low temp. growth 7—22549
- GaN:Zn n-i structures, electrical conductivity 7—38565
- GaP:Zn, doping superlattices, growth and props. 7—64684
- GaP:Zn, electron irradiation induced defects, DLTS study 7—52513
- Ge:H,Zn, shallow acceptor complexes 7—45219
- Ge:Zn, electron-hole droplet transport, suppression by deep impurities 7—58746
- Ge:Zn, large electron-hole drop, Alfven wave dimensional reson., impurity scatt. effects 7—16950
- Ge:Zn, photolum. spectrum, effect of (001) uniaxial stress 7—33450
- Ge:Zn deep impurity, shallow positive acceptor, far IR photocond. meas. 7—7157
- Ge:Zn extrinsic photoconductor material, cryst. growth and characterisation 7—64893
- H$^+$+Zn, k-shell ionization cross sections and theoretical models 7—5627
- He-Zn laser with transverse HF excitation 7—1090
- He-Zn metal vapor mixture, laser excitation by electron guns 7—26534
- InP:Si,S,Zn epitaxial films, MOCVD grown, identification of acceptors and donors 7—58688
- InP:Zn, interstitial-substitutional diffusion, doping effects 7—6878
- InP:Zn, ion implantation and annealing, Raman studies 7—6652
- n-InP:Zn, Zn diffusion 7—63882
- InP:Zn thin films, prep. and characts., appl. for solar cells 7—17895
- InP/InGaAs heterojunction bipolar transistors, open-tube Zn diffusion 7—44914
- InP/InGaAs:Zn, PIN detectors, OMVPE growth 7—27931
- InSb:Te, Cd, Zn single crystals, Czochralski growth, solute distrib., mag. field effect on melt 7—3158
- InSb:Te(Se)(S)(Cd)(Zn) thin films, doping, Hall effect meas. 7—21743
- KCl:Zn, elec. cond., dielec. loss meas., before and after X-irrad. 7—33324
- LiH:Zn single crysts., secondary emission, exciton luminesc. and reson. Raman scatt. studies 7—3038
- PbI$_2$:Zn, single crysts., growth and semicond. behaviour 7—53577
- Si:Zn, amorphous-crystalline interface, backscattering and channelling study 7—6663
- Zn I, subvalence d-shell absorpt. spectrum 7—49953
- Zn XII to XX, wavelength and energy levels 7—49981
- Zn-air alkaline batteries, thermodynamic framework for efficiency estimation 7—3636
- Zn-air battery with flowing alkaline electrolyte 7—65442
- Zn-air button type battery for hearing aids *(Japanese)* 7—65890
- Zn-Br cells, selection of quaternary ammonium bromides as electrolyte 7—39986
- Zn-Ni alkaline batteries, thermodynamic framework for efficiency estimation 7—3636
- Zn-NiOOH cells, KOH conc. effects on shape change and cycle life 7—28393
- Zn-Sb, thermodynamic functions are modelled by chemical-physical theory, Gibbs energy 7—52051
- Zn+He$^+$, exothermic charge exchange with excitation cross sections 7—42755
- Zn+He$^+$(He*), Penning and charge transfer reactions, Zn^{+*} levels excitation 7—5746
- ZnI 307.6 nm line absorpt. and collision cross section 7—30975
- Zn$_n$(n$\leq$6) matrix isolated cluster, optical spectra investig. 7—50433

zinc alloys
- *see also brass; zinc compounds*
- Al-Zn-Mg-Cu, impact toughness improvement by intermediate thermomech. treatment 7—53907
- films on Al, growth and adhesion rel. to application technique 7—13396
- mechanical props., alloying addition effects *(Japanese)* 7—8090
- microalloyed Zn, superplasticity and self-diffusion parameters 7—2251
- Ag-Au-Zn ternary system, liq., thermodynamic functions *(German)* 7—44856
- Ag-Zn, corrosion in H$_2$S, surface analysis, AES, XPS *(Japanese)* 7—53955
- Ag-Zn, dynamics of β' to ζ transform., elec. resist. obs. *(Japanese)* 7—53720
- Ag-Zn (50 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7—32658
- Ag-Zn intermetallic phase, reversible electrode 7—17802
- Al Zn alloy, positron localisation, affinity to solute clusters and size limitations 7—46200
- Al-Li-Zn icosahedral quasicrysts., solid state reaction and rapid solidification prep. comparison 7—37864
- Al-Li-Zn-Mg-Cu alloys, microstruct. evolution 7—53739
- Al-Mg-Zn icosahedral quasicrysts., solid state reaction and rapid solidification prep. comparison 7—37864
- Al-Mg-Zn system, fracture viscosity rel. to surplus phase morphology 7—46610
- Al-Si-Zn-Mg-Ti(-Sr) system alloys, mech. props., Sr microalloying effect 7—3377
- Al-Zn, 7075, fatigue life, size effect in randomly loaded specimens 7—22795
- Al-Zn, ageing, effect of specimen thickness, SAXS study *(Japanese)* 7—22731
- Al-Zn, disintegration kinetics, hardening temp. effects 7—52055
- Al-Zn, fatigue particle coarsening, vacancy creation 7—53895
- Al-Zn, Guinier-Preston zones, size distrib., small angle X-ray scatt. studies 7—28043
- Al-Zn, homogeneous nucleation of precipitates 7—53733
- Al-Zn, ion induced metastable phases 7—63673
- Al-Zn (11 wt.%), dislocation density in high temp. creep 7—39611
- Al-Zn (12 at.%) alloy, size-shape relation of Guinier-Preston zones, SAXS study 7—13455
- Al-Zn (15 at.%), precip. during ageing, interaction of continuous and cellular mechanism 7—13454
- Al-Zn (1.95 wt.%), X-ray microanal. in medium voltage electron microscope, radiation effects 7—46902
- Al-Zn alloy, positron lifetime and ang. correlation study 7—45860
- Al-Zn alloys, quenching effect on growth of Guinier-Preston zones, resistivity 7—22733

zinc alloys continued
- Al-Zn dilute alloy, mixed dumbbells orientational ordering transition *(Russian)* 7—51688
- Al-Zn dilute alloys, divacancy effect, annihilation radiation Doppler broadening meas. 7—37982
- Al-Zn dilute alloys, stress-induced mixed dumbbell tunnelling, sound propag. meas. *(Russian)* 7—51674
- Al-Zn eutectic, oriented crystallisation, buoyancy-driven convection effects 7—27887
- Al-Zn eutectoid-base superplastic alloy for hot-dipping of steel sheet *(Japanese)* 7—59664
- Al-Zn-Ag, phase diagram tielines, anomalous SAXS studies 7—53705
- Al-Zn-Mg, 7020, thin welded joints, ductile crack growth of surface cracks 7—59594
- Al-Zn-Mg, 7075, grain boundary precip., crystallographic orientation depend. 7—22686
- Al-Zn-Mg, 7090, fracture, stress intensity rel. to notch root radius 7—17635
- Al-Zn-Mg, corrosion protection by Ce corrosion coatings 7—53988
- Al-Zn-Mg, environmentally assisted cracking at high vel. 7—65213
- Al-Zn-Mg, IN9021, powder metallurgy, fatigue crack growth, influence of load ratio 7—28124
- Al-Zn-Mg, plasma-coated, heat treatment effect on fine struct. and failure mechanism 7—3496
- Al-Zn-Mg, serrated flow, second phase precip., dislocation ageing 7—22755
- Al-Zn-Mg, small fatigue crack growth from a keyhole notch 7—65133
- Al-Zn-Mg, superplasticity rel. to grain refining addition elements 7—46561
- Al-Zn-Mg, TEM specimen prep. parallel and perpendicular to machined surfaces 7—39808
- Al-Zn-Mg (4.5, 1.75 at.%), ageing, specific surface energy of Guinier-Preston zones 7—28046
- Al-Zn-Mg alloy, precipitation hardening, plastic flow instability 7—22757
- Al-Zn-Mg-Cu, 7475, environment sensitive fracture using shadow optical method of caustics 7—39647
- Al-Zn-Mg-Cu, 7475, superplasticity, constitutive eqn., evaluation of parameters 7—65085
- Al-Zn-Mg-Cu, fatigue crack propag., influence of microstruct. *(German)* 7—22833
- Al-Zn-Mg-Cu, high-energy rate powder metallurgy processed, microstruct. evaluation 7—22607
- Al-Zn-Mg-Cu, high-strength alloys, long-term marine atm. stress corrosion tests 7—46679
- Al-Zn-Mg-Cu, microalloying effect on struct. and mech. props. 7—53755
- Al-Zn-Mg-Cu, notched and unnotched bars, macroscopic shear localisation and fracture 7—46633
- Al-Zn-Mg-Cu, strain distrib. within crack tip plastic zones 7—3396
- Al-Zn-Mg-Cu-Ni-Zr, modified 7075, prod. by liq. dynamic compaction, struct. and props. 7—46437
- Al-Zn-Mg-Mn-Si, rapid solidification, superplasticity 7—53826
- Al-Zn(-Cu), solidification, continuous and interrupted, development of microstruct. and homogenisation *(German)* 7—53719
- Al-Zu-Mg, liquid dynamic compaction, microstruct. and precipitation, TEM study 7—59529
- AlZn alloys, precipitates, small angle X-ray scatt. study 7—46473
- AlZn coatings, atmospheric corrosion products in industrial and marine environments 7—39716
- AlZn dilute alloys, electron irradiation induced interstitial defects, EXAFS study 7—63661
- AlZnCuMgZr, directional solidification, microstruct. *(German)* 7—46452
- AuZn layer on GaP, emission spectrochemical anal. using glow discharge, appl. to in-depth anal. *(Japanese)* 7—63886
- Au$_3$Zn, non-periodic antiphase boundaries, obs. by HREM 7—63550
- Bi-Zn liquid alloys with miscibility gaps, struct. 7—51611
- C fibre reinforced Al-Zn-Mg alloy, linear thermal expansion coeff., 25 to 400°C 7—52093
- Cd-Zn, alloys, two-phase, models of tensile behaviour from components 7—46570
- Cd-Zn electroplated steel, extrusion, deform. force rel. to comp. and struct. 7—3367
- CeZn$_2$, Kondo anomaly and metamagnetism 7—64234
- Cu-Al-Zn, β-phase stability, mech. props. rel. to quenching rate 7—33659
- Cu-Al-Zn, rel. between phase comp. and electron conc. *(Russian)* 7—53700
- Cu-Al-Zn-Mn-Ni shape memory alloy, positron annihilation study 7—46206
- Cu-Za-Al ribbons, rapidly, quenched, martensitic transform., stabilisation 7—22678
- Cu-Zn, Bauschinger effect, influence of alloying elements and grain size *(German)* 7—17605
- Cu-Zn, electrodeposits, comp. rel. to deposition pot. *(Japanese)* 7—27951
- Cu-Zn, embrittlement in solidification process 7—3435
- Cu-Zn, preferential sputtering, AES and SIMS studies 7—53467
- Cu-Zn, random alloys, residual electrical resistivity, first-principles calc. 7—2569
- Cu-Zn (52 wt.%), diffusion coeff., segregation, high temp. creep of β-phases *(French)* 7—32658
- Cu-Zn alloy, cyclic BCC-9R martensitic transform.-induced dislocations Burgess vector, electron microscopy studies 7—51775
- Cu-Zn alloys, electron irradiation, interstitial cluster form., diffusion rates, resistivity 7—2013
- Cu-Zn system, diffusion induced grain boundary migration 7—21227
- Cu-Zn system, diffusion induced grain boundary migration, misorientation depend. 7—21229
- Cu-Zn system, phase equilib., thermodynamic evaluation 7—3271
- Cu-Zn-Al, dislocation density and mobility during reversible martensitic transforms. 7—26759
- Cu-Zn-Al, quenched sheets, shape change rel. to thermal cycle *(Japanese)* 7—53790
- Cu-Zn-Al, shape memory alloy, type II twins in self-accommodating martensite plate variants 7—22752
- Cu-Zn-Al, thermoelastic, two way memory effect, dislocation form. model 7—22741
- Cu-Zn-Al, thermoelastic, two-way memory effect, dislocations origin 7—22754
- Cu-Zn-Al (26,4 wt.%), shape memory alloy, martensitic transform. crystallography *(Chinese)* 7—7994
- Cu-Zn-Al (26,4 wt.%), shape memory alloy, crystallography of martensitic transform. *(Chinese)* 7—7995
- β-Cu-Zn-Al alloys, elastic constants and lattice stability 7—13492

zinc alloys continued
- Cu-Zn-Al shape memory alloys, rapidly solidified, microstruct. and props. *(Chinese)* 7−8043
- Cu-Zn-Al shape memory alloys, grain refinement 7−53774
- Cu-Zn-Al-Zr, shape memory alloys, grain-refined, effect of grain size on transform. temp. 7−39512
- Cu-Zn-Ni, liq. alloys, activity of Zn *(Japanese)* 7−53698
- Cu-Zu-Al, liq. alloys, activity of Zn *(Japanese)* 7−53698
- CuZn brass alloys, local disorder and premartensitic phenomena, EXAFS study 7−64817
- CuZn random alloys, positron state, rel. to 2D ang. correlation 7−45230
- CuZn, short-range order-induced equilib. resist. conc. depend. meas. 7−26700
- CuZnAl alloys, β-phase, defects study by positron annihilation 7−39297
- CuZnAl, isothermal growth of thermoelastic martensite, quenching and ageing effects 7−53730
- Fe/$FeZn_{13}$/Fe-Si composite diffusion couples, effect of Si on stability and growth of Fe-Zn phases 7−54011
- Fe-Zn, intermetallic phase, reversible electrode 7−17802
- Fe-Zn alloys, sputtered, X-ray diffr., magnetisation and Mossbauer studies 7−59075
- p-GaAs/AuZnNi/Ti/Au ohmic contacts, low-resistance 7−7385
- LiZn B32-type Zintl phases, mag. props., exchange enhancement, APW calcs. 7−27504
- Mg-Sm-Zn system, phase equilib. 7−46413
- Mg-Zn, glassy, low temp. resist. anomaly, two-level systems, incipient localisation and electron correl. effects 7−2570
- Mg-Zn metallic glasses, room temp. stability, crystallisation and precipitation 7−11931
- Mg-Zn rapidly solidified alloys, mech. props. 7−22711
- $Mg_{70}Zn_{30}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
- $Mg_{70}Zn_{30}$ and $(Mg_{70}Zn_{30})_{95}Pb_5$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7−38148
- $Mg_{76}Zn_{24}$, amorphous, crystn., X-ray small angle scatt. 7−11935
- MgZnSn, glass forming ability, intermetallic cpd. effect, X-ray and Mossbauer investig. 7−52050
- NdZn, antiferromag. skew scatt. Hall effect 7−52578
- Ni-Zn, intermetallic phase, reversible electrode 7−17802
- Sb-Ge-Zn system, thermodynamic investig. *(German)* 7−53703
- Sb-Zn melts, crystallisation and structural state, phase equilib. diagrams 7−46441
- U_2Zn_{17}, heavy fermion system, point contact spectroscopy meas. 7−52748
- U_2Zn_{17} magnetic heavy electron materials, muon spin rotation studies 7−45884
- Zn-Ag dilute alloy single crysts., thermally activated and quantum creep, impurity effects *(Russian)* 7−26755
- Zn-Al, bicrysts. and polycrysts., creep grain boundary strengthening 7−22747
- Zn-Al, solidification, segregation, foundry procedure appl. 7−53712
- Zn-Al (22 wt.%), sheet, superplastic bulging, technological anal. 7−65093
- Zn-Al (5 wt.%) coating on low C sheet steel, Zn quenching technique 7−33847
- Zn-Al alloys, corrosion behaviour, effect of Al content and cooling conditions 7−54008
- Zn-Al alloys, transient creep, structural transformation effect 7−22758
- Zn-Al coated steel, corrosion behaviour, effect of matrix struct. *(Japanese)* 7−33826
- Zn-Al eutectic alloy interaction with SiC whisker reinforced Al matrix composites 7−46689
- Zn-Al-Cu, superplastic, cavitation damage 7−65080
- Zn-Al-Cu (ZZ,0.5%), superplastic behaviour 7−28093
- Zn-Al-Mg alloy, defect and grain boundary diffusion-controlled positron trapping study 7−39301
- Zn-Au dilute alloy single crysts., thermally activated and quantum creep, impurity effects *(Russian)* 7−26755
- Zn-Cd monocrystals, dislocation struct. as function of Cd content *(Russian)* 7−44556
- Zn-Fe alloys, high-current density electroplating 7−17485
- Zn-Ho, two-phase, partial thermodynamic props., 690 to 1020K 7−7963
- Zn-In alloys, vacancy-induced elec. field gradient temp. depend., PAC meas. 7−52541
- Zn-Ni alloys, high-current density electroplating 7−17485
- Zn-Ni bright coatings deposited from weak acid electrolytes *(German)* 7−39441
- Zn-Pb, monotectic alloy, section prep., micromilling, polishing *(German, English)* 7−22937
- Zn-Sb melt, ordering models 7−44351
- ZnMn, Ising-type spin glass, uniaxially anisotropic, successive transitions 7−17188
- $ZrZn_2$, magnetisation density meas., cryst. translational symm. 7−27498

zinc compounds
- *see also zinc alloys*
- 7−33352
- α-$2nP_2$ cryst., refractive index temp. hysteresis 7−39071
- ferrite, shock-synthesised, Mossbauer spectroscopy 7−38979
- ferrite, shock-synthesised or furnace-reacted, mag. props. 7−38904
- Mossbauer isomer shifts, first-principles scalar-relativistic linear muffin-tin orbital method calcs. 7−2957
- oxalate, crystallisation, precip. kinetics 7−53537
- phthalocyanine thin films, thermoelectroluminescence studies 7−7770
- tetramethyl ammonium tetrachlorozincate, internal motions and phase transitions, PMR studies 7−2993
- ZnO:Bi (Sb) (transition metal), Schottky-like barriers, ion implantation, annealing 7−58860
- Ag-AgCl-ZnS photoinduced periodic struct. for planar waveguide study 7−43371
- Al-AnS-Al MIM structures, electroreflectance, props. 7−38773
- Au/i-ZnS/n-ZnS electroluminescent device struct., electron-hole recomb. luminesc., minority carrier injection mechanism 7−59260
- B_2O_3-SiO_2-Li_2O-Na_2O-ZnO glasses, chemical durability 7−8143
- Ba-Zn ferrite carriers for electrophotography, charactn. 7−4903
- BaO-ZnO-P_2O_5 glasses, internal friction investig. 7−6721
- $(Ba_{1-x}Sr_x)_2Zn_2Fe_{12}O_{22}$ helimagnet single cryst., neutron diffr. study 7−52942
- $BaZn_{1.1}Co_{0.9}Fe_{16}O_{27}$ hexaferrite, competing anisotropies, first order magnetisation processes and spin transitions obs. 7−38856
- $BaZnGeO_4$, phase transitions, X-ray study 7−52036
- Bi-Zn-Fe-O amorphous films, struct. and mag. props. 7−51645

zinc compounds continued
- C-ZnX (X=S, Se), adherence of diamondlike C films, use of intermediate layers 7−46624
- CaO-ZnO-P_2O_5 glasses, internal friction investig. 7−6721
- CdTe/ZnTe superlattice, quasi-2-D excitons in strongly localised regime 7−12617
- $Cd_xZn_yMn_xTe(Se)$ pseudoternary semimag. semicond., mag. suscept. and exchange interaction data anal. 7−7501
- CdZnS/$CuInSe_2$ solar cells, spray pyrolysis prep. and characts. 7−8374
- CdZnS/$CuInSe_2$ solar cells, transient current studies of junction activity 7−8409
- n-CdZnS/p-$CuInSe_2$ polycrystalline solar cells, open circuit voltage 7−17889
- CdZnS-$CuInSe_2$ solar cell development for space appls. 7−13917
- CdZnS-InP heterojunction solar cell, numerical anal. 7−23155
- $Cd_{0.8}Zn_{0.2}S$ films, solution-sprayed, photocurrent decay times 7−45525
- $Cd_{1-x}Zn_xS$-$CuInSe_2$ thin-film solar cells, voltage and light bias-dependent spectral response 7−8375
- CdZnTe, epitaxial growth via low press. CVD, IR detector appls. 7−64926
- CdZnTe, MBE growth on GaAs substrates, struct. and optical props. 7−64907
- CdZnTe, single-crystal substrates, struct. characterisation 7−32769
- $Cd_{1-x}Zn_xTe$ mixed cpd. semicond., lattice consts. comp. depend., X-ray diffr. study 7−58246
- $Cd_{1-x}Zn_xTe$, MBE growth 7−13358
- $Cd_{1-x}Zn_xTe$:Mn, hyperfine coupling constant, EPR study 7−22138
- $Cd_xZn_{1-x}Te$, second-order optical process, transient behavior, luminesc., Raman scatt. 7−64689
- $Co_{0.46}Zn_{0.54}In_2S_4$ layer cpd. mag. props. and ionic distrib., 2D magnetic system models 7−38880
- $Co_xZn_{1-x}InS_4$ pseudoternary layers cpds., optical props., comp. depend. studies 7−39072
- $Co_xZn_{1-x}In_2S_4$ solid soln. layer cpd., site coordination and short range magnetic order, XPS anal. 7−26724
- $Cs_3ZnI_4NO_3$, synthesis and cryst. struct. *(French)* 7−32401
- $Cs_6Zn_5(MoO_4)_8$, cryst. struct. 7−58217
- $CsZnPO_4$, crystal struct. of three phases 7−1967
- $Cu_{2-x}Cd_xTe$-$Zn_{39.5}Cd_{60.5}Te$:I, heterojunction solar cells, fabrication and characterisation *(Korean)* 7−28402
- $CuGaSe_2$-ZnCdS wide bandgap solar cells for thin film tandem structs. 7−23172
- p-$CuInSe_2$-CdZnS-ZnO solar cells, device anal. 7−23171
- $CuInSe_2$-ZnCdS thin film polycryst. solar cell efficiency improvement using antireflection coatings 7−23186
- CuO-ZnO p-n contact, sensor appls. 7−64996
- Cu_xS-$Cd_{1-y}Zn_yS$ thin film solar cells perform., depend. on annealing temp. 7−17861
- Fe_3O_4-$ZnFe_2O_4$ system, thermodynamic props., EMF obs., X-ray diffr. 7−22646
- GaAs-ZnSe, MBE growth on GaAs epilayers, nucleation and characterisation 7−45046
- GeO_2-Bi_2O_3-ZnO glass, coloration mechanism due to Bi_2O_3 and effects of ZnO addition 7−22291
- GeO_2-ZnO-Bi_2O_3 IR transmitting glasses 7−43276
- HgCdTe-CdZnTe heterojunctions, lattice matching 7−21717
- HgTe/ZnTe, isothermal interdiffusion expts. 7−52152
- HgTe-ZnTe superlattice, MBE growth and props. 7−7345
- HgZnTe as IR sensor material characts. *(Japanese)* 7−56339
- HgZnTe bulk crystals, travelling heater method growth and charactn. 7−59387
- $Hg_{1-x}Zn_xTe$ solid solns. band gap, temp. and comp. depend. 7−58738
- In_2O_3:Sn-ZnS:Cu,Cl,Mn-Al, surface electrical conductivity in ZnS:Cu,Cl,Mn thin films 7−38672
- K_2SO_4-$ZnSO_4$:Pr^{3+}, impurity ion spectroscopic parameter determ. 7−7719
- K_2ZnCl_4, incommensurate phase, piezo-optical effects, birefr. meas. 7−45973
- $KZnF_3$, high temp. mean square ionic displacements 7−2259
- $KZnF_3$:Cr^{3+} tunable laser with nonselective pumping 7−43113
- $KZnF_3$:Mn^{2+}, thermal expansion of the $Mn^{2+}-F^-$ bond 7−6836
- K_2ZnF_4:Cu^{2+} crystal, possible ligand spin-orbit coupling in CuF_4F_2 clusters 7−38520
- $LaZnFe_{11}O_{19}$, cation distribution and random spin canting 7−37945
- $Li_xSn_{1-x}Y_2O_4$, metal-insulator transition, Seebeck coeff. and elec. resist. studies 7−21817
- $LiZnF_3$ prep. and X-ray and NMR structural study 7−37953
- $Li_{1-x}Zn_xFe_2O_4$, outside spin wave manifold effective linewidth values, effect of dimensional reson. 7−53146
- $Li_{5-2x}Zn_xGaO_4$, solid solns., ionic cond. comp. depend. meas. 7−12366
- $Mg_xZn_{1-x}Te$-In Schottky barriers, C-V and photoelec. studies 7−64307
- Mn-Zn ferrite US scatt. loss evaluation by line-focus-beam acoustic microscope 7−2331
- $Mn_{1-x}Zn_xO$, stabilised, spin-glass transition, susceptibility obs. 7−7515
- $(Mn_{0.5}Zn_{0.5})F_2$ diluted antiferromag. spin-wave-quasilocalised excitation crossover 7−22101
- $(Mn_{0.5}Zn_{0.5})F_2$, μ^+SR studies above and below Neel temp. 7−45875
- $Mn_{0.5}Zn_{0.5}F_2$, sp. ht. meas. in random fields 7−33178
- $Mn_xZn_{1-x}F_2$, 3D site-random Ising magnet, crit. behaviour 7−17186
- $MnZnFe_2O_4$, struct., Mossbauer, X-ray, and mag. meas. 7−1971
- $Mn_{0.53}Zn_{0.35}Fe_{2.12}O_4$, single cryst. surface damage depth meas. 7−52979
- $Mn_{0.61}Zn_{0.26}Fe_{2.13}O_4$, ferrite, conductivity study 7−21909
- $Mn_{0.61}Zn_{0.35}Fe_{2.04}O_4$ single cryst., low temp. acoustic props. anomalies, spin-reorientation transitions 7−51957
- $Mn_{1-x}Zn_xFe_2O_4$ ferrite cores, hysteresis losses 7−33210
- $Mn_{1-x}Zn_xFe_2O_4$ substrates, Auger microprobe temperature profiles of contamination residue 7−59822
- $Mn_xZn_{1-x}Fe_2O_4$ ferrites, magnetoacoustic props. *(Russian)* 7−22131
- $Mn_xZn_{1-x}Se$, energy gap comp. depend., photocond. and absorpt. edge meas. 7−38454
- $(NH_4)_2ZnCl_4$, internal motions and phase transitions, PMR studies 7−2993
- Ni-Zn ferrite films., prep., mag. props. 7−13378
- Ni-ZnO/ZnS, selective Ni black coating, struct. and optical response 7−58697
- Ni-ZnSe-SiO_2-Si struct., energy barriers for photocharging of trapping sights in ZnSe layer 7−52844
- $Ni_x Zn_{1-x} PS_3$, IR, visible and UV spectra, dilution and intercalation effects 7−13175
- $Ni_{0.5}Zn_{0.5}Fe_2O_4$ ferrites, mag. spectra with temp. dependent mag. permeability *(Russian)* 7−27554

zinc compounds continued
PbF_2-ZnF_2-GaF_3-AlF_3-YF_3-LaF_3:Mn II, Nd III, energy transfer 7−1889
Rb_2ZnF_4:Cr^{3+}, Li^+, Cr^{3+} centres, EPR study 7−7589
SiO_2-Al_2O_3-Li_2O-ZnO-TiO_2-ZrO_2-As_2O_3-Cr_2O_3:Cr, glass ceramic, time resolved spectra 7−63478
SiO_2-Al_2O_3-ZnO-Li_2O:Cr^{3+} gahnite type glass ceramics, laser excited emission spectra 7−22288
SiO_2-Na_2O-Al_2O_3-ZnO-Fe_3O_4-Si glass system, Fe behaviour at various compositions and reducing conditions 7−1899
$Si_{1-x}(ZnS)_x$:H amorphous films, synthesis and characterisation 7−17420
SrO-ZnO-P_2O_5 glasses, internal friction investig. 7−6721
$SrZn_2Fe_{16}O_{27}$, cryst. struct. refinement, X-ray diffr. study 7−32413
TeO_2-$ZnCl_2$ system, glass prep. and composition 7−46403
Y_2O_3-ZnO-Al_2O_3-SiO_2, glass form. and crystn., effect of ZnO additions 7−44382
(Zn,Mn)Se quantum well structures, wide-gap II-VI superlattices 7−7346
(Zn,Mn)Se/ZnSe superlattice, optical props. heterointerface effects 7−7736
Zn complex, Zn $(acetylacetonate)_2.H_2O$, Mn^{2+} dopant, crystal struct., EPR spectra study 7−64521
Zn complex, $Zn(antipyrine)_2(NO_3)_2$:VO^{2+}, VO^{2+} orientation, EPR spectra anal. 7−53121
Zn complexes, zinc(II)-bis-histidine:Cu, Jahn-Teller effect induced phase transition, ESR detect. 7−53122
Zn II complexes, dibenzyldithiocarbamate zinc, bonding, XPS 7−19950
$ZnAl_2O_4$:Cr^{3+} laser excited emission spectra 7−22288
Zn_3As_2, semiconducting, MBE growth 7−53590
$Zn(BF_4)_26H_2O$:Mn^{2+}, EPR study 7−64520
$Zn(BrO_3)_2.6H_2O$, H bonding, PMR study 7−33277
$ZnCO_3$:Fe^{2+}, mixed spin relax. processes 7−64522
ZnCdS:Ag/Cd(S,Se):Cu mixed photoconductor system for electrophotography 7−2636
$Zn_xCd_{1-x}S$ and ZnS_xSe_{1-x}, electron-pumped, high-efficiency semiconductor laser 7−5884
$Zn_xCd_{1-x}S$ thin films, struct. and electrical props. 7−64372
$Zn_{1-x}Cd_xSb$ solid soln., cryst. growth, characterisation and appls., review 7−26685
ZnCdSe, electron beam pumped, cathodolum., gain and stimulated emission 7−64701
$Zn_{0.25}Cd_{0.75}Se$ mixed crysts., electron and hole deep level traps 7−16980
$Zn_xCd_{1-x}Te$ thin film heterojunction solar cells 7−17914
$Zn_yCd_{1-y}Te$, crysts. grown from non-stoichiometric melts, Zn distrib. calc. 7−51678
ZnCl aqueous soln., shock-compressed, refractive index, laser interferometric meas. 7−30081
$ZnCl_2$, molten, pair structure and interionic forces 7−44346
$ZnCl_2$ pure glass, elastic consts. and struct. 7−63716
$Zn_{0.5}Co_{0.5}FeCrO_4$, cluster spin glass, spin freezing 7−27531
$ZnCo_2O_4$, fine-particles, low temp. prep. by solid solution precursor method 7−59486
$ZnCr_{1.6}Ga_{0.4}O_4$, antiferromagnetic frustrated spinel, noncritical behaviour near its freezing temp. 7−38875
$ZnCr_2O_4$, crystal growth, chemical vapour transport, struct., mag. and electronic props. 7−53517
ZnD, $B^2\Sigma^+$ state, spectrosc., rot. anal. 7−5665
$Zn_{1-x}Fe_xCr_2S_4$, paramag. susceptibility study 7−52934
$ZnFeF_5(H_2O)_2$, cryst. struct., mag. and Mossbauer study 7−45845
$Zn_{1-x}Fe_xFe_2O_4$, shock synthesised, X-ray diffr. 7−39899
$Zn_{1-x}Fe_{2+x}O_4$, shock synthesised, electron microscopy 7−37955
$ZnGa_2S_6$, thermal stability in air 7−22914
$Zn_{1-x}Ge_xFe_2O_4$, ferrites, atomic, mag. and electronic disorder *(French)* 7−44477
$ZnGeP_2$, Hall effect and conductivity in zinc vapours, high temp. meas. 7−27350
$Zn_xHg_{1-x}Se$, electrophysical props. and carrier scatt. mechanisms 7−17024
$Zn_xHg_{1-x}Se$, far IR spectra study 7−22262
$ZnIn_2$ $(S_xSe_{1-x})_4$ pseudoternary layers cpds., optical props., comp. depend. studies 7−39072
$ZnIn_2S_4$, recombination kinetics, photoconductivity and photoluminesc. studies 7−2637
$Zn_3In_2S_6$ and Zn_3GaInS_6, thermal stability in air 7−22914
$ZnIn_2Se_4$, crystal struct. 7−2002
$Zn_{1-x}Mn_xSe$, antiferromag. exchange constants between nearest-neighbour Mn^{2+} ions 7−64449
$Zn_{1-x}Mn_xSe$/ZnSe strained layer superlattices, electronic energy states and relax. 7−45425
$Zn_{0.95}Mn_{0.05}Te$, antiferromag. exchange const. determ., free exciton Zeeman splitting meas. 7−22229
$Zn_{1-x}Mn_xTe$, x=0.25−0.71, free exciton state exchange splitting, magnetoreflectance, magnetisation meas. 7−53288
$Zn_{1-x}Mn_xTe$, interband Faraday rot. meas. 7−39093
$Zn_{1-x}Mn_xTe$, photoluminescence position and lifetime 7−13205
$Zn_{1-x}Mn_xTe$ semimag. semicond., ESR line shape meas., comp. and temp. depend. 7−7584
$Zn(NH_4)_2(SO_4)_2.6H_2O$, EPR of Mn^{2+}, Mn^{2+}-Fe^{2+} exchange interaction 7−2924
$Zn_{0.98}Na_{0.02}Fe_2O_4$, spinel struct., EXAFS and XANES studies, humidity sensor appls. 7−64784
ZnO $(10\bar{1}0)$, initial stages of Cu deposition, EELS 7−63959
ZnO based varistors, sintering, multiparametric anal. 7−64978
ZnO ceramic, grain growth kinetics during synthesis, optimum elec. props. 7−46398
ZnO ceramics ageing under AC voltage *(French)* 7−39564
ZnO crystals, real struct. during growth process, effect of plastic deform. 7−11974
ZnO films, DC sputtered, structure changes during growth 7−7848
ZnO films, elec. props., decomp., chemisorption of O^-, photocond. meas. 7−27445
ZnO films, with high elec. resistance, conductivity-controlled preparation 7−17122
ZnO films on Si substrates, layer acoustic mode propagation, electroelastic effect 7−44978
ZnO films with high resistance, electrical conductivity, press. and temp. depend. 7−22044
ZnO, fine spherical particles, spray pyrolysis prep., US atomisation method 7−13419
ZnO, glass-doped, prep., elec. props. and degradation phenomena 7−13425
ZnO, grain boundary inhomogeneity phenomena, microcontact meas. *(German)* 7−58893

zinc compounds continued
ZnO, influence on durability of borosilicate glass 7−8144
ZnO, laser evaporation, luminescence of generated plasma 7−63354
ZnO, microstruct. development during intermediate and final-stage sintering 7−64952
ZnO multilayers for solar collector coatings 7−3717
ZnO, on $LiNbO_3(Bi_{12}SiO_{20})$, growth, acoustoelectric props. 7−38645
ZnO, ordered structures, field ion microscopy studies 7−32768
ZnO, particulate, surface states *(Japanese)* 7−12774
ZnO piezoelectric thin films, layer struct., RHEED and X-ray diffr. studies 7−16888
ZnO powder-polyvinyl butyral films, dark discharge props. 7−58919
ZnO resonant self-diffraction from dynamic laser-induced gratings 7−11036
ZnO shock compressed powders, catalytic activity for CO oxidation and methanol synthesis 7−39919
ZnO, solubility product const. determ. 7−13790
ZnO, surface, interaction with vibr. excited O_2 mols. 7−15692
ZnO thin film layered struct., SAW rapid attenuation 7−44983
ZnO thin film preparation by spray pyrolysis for photoelectrochemical solar cells 7−23166
ZnO thin-film waveguides, distributed coupling and fast switching 7−11104
ZnO varistor, grain boundary pot. barrier, effects of annealing 7−16568
ZnO varistor, grain junction barrier height, majority carrier effects *(French)* 7−17033
ZnO varistor, single grain junction barrier height, minority carrier effects *(French)* 7−21929
ZnO varistor props., grain boundary characts. *(Japanese)* 7−6631
ZnO varistors, bulk electron traps 7−45348
ZnO varistors, electroluminescence temp. depend. and conduction mechanisms 7−17349
ZnO varistors, grain boundaries, elec. props. in presence of deep bulk traps 7−7334
ZnO with tri-valent donor impurities, elec. props., heat treatment effects 7−2611
ZnO, X-ray graphic elastic constants and lattice spectrum 7−32546
ZnO:Al films, RF reactive sputter deposition, struct., elec. and optical props. *(Japanese)* 7−27900
ZnO:Co, pulsed-laser induced photopots., time evolution, electron-hole recombination 7−45379
ZnO:Co(Ni)(Cu), impurity electron states, optical spectroscopy 7−46127
ZnO:Cu(Bi), phosphor electroluminescence mechanism, spectral energy distrib. 7−7760
ZnO:Ga thin films, temp. depend. of conductivity, effect of H_2O vapour chemisorbed states 7−7427
ZnO:H, quantised accumulation layers on ZnO surfaces, photoenhancement 7−7304
ZnO:In films, microstruct., elec. and optical props., film thickness depend. study 7−16895
ZnO:In films, transparent conducting oxides, H_2 plasma treatment 7−3528
ZnO:Si thin films, RF magnetron sputtered, conductive and transparent props. 7−22476
ZnO/Ag/ZnO magnetron sputtered transparent heat-reflective films, thermal stability study 7−53426
ZnO/$Y_{2.8}La_{0.2}Al_5O_{12}$ SAW resonator struct., amplitude-freq. and phase-freq. characts. 7−16051
ZnO-AlN-glass, SAW characts. study 7−12448
ZnO-Bi_2O_3 mixtures, lattice parameters, depend. on Bi_2O_3 conc. 7−1974
ZnO-Bi_2O_3 system, sintering, role of Bi_2O_3 7−64977
ZnO-Cu-SiO_2-Si composite membrane, interdigital transducer generated US Lamb waves 7−11241
ZnO-electrolyte interface, electrolum. under cathodic and anodic pulsed polarisation 7−13235
ZnO-electrolyte interface, photoconductivity and photocurrent spectra, influence of exciton absorption 7−45486
ZnO-Fe_2O_3 powder mixtures, shock synthesis of $Zn_{1-x}Fe_{2+x}O_4$ 7−37955
ZnO-Na_2O-Al_2O_3-SiO_2, zeolite, partially exchanged, IR and neutron scatt. studies of adsorbed ethene 7−7001
ZnO-Si structures, transverse acoustoelectric effect 7−45398
ZnO-SiO_2 amorphous system, structure, mol. dynamics computer simulation studies 7−21114
ZnO-SiO_2 multilayer structures, SAW propag. characts. 7−21601
ZnO-SiO_2-M_2O (M=Li,K,Na), glasses, thermal expansion, free volume 7−58152
ZnO-SiO_2-Si SAW chemosensor for NO_2 gas concentration meas. 7−3621
ZnO-supported Cu particles, vibr. spectra of adsorbed species, operation of metal surface selection rule 7−53350
ZnO-V_2O_5 glasses, DC conductivity 7−27327
ZnO-YIG-$Gd_3Ga_5O_{12}$ surface magnetostatic wave scatt. by SAW 7−64507
ZnO_2-Fe_2O_3 powder mixtures, shock synthesis of $Zn_{1x}Fe_xFe_2O_4$ 7−39899
ZnP glass detectors, chemical etching characts. 7−30868
ZnP_2, crystal structures and microphases, devil's staircase 7−11982
ZnP_2, excitonic reflection and absorption spectra, optical anisotropy 7−45159
α-ZnP_2, incommensurate phase, phase transformations and lattice modulation 7−6777
α-ZnP_2, polytypism and incommensurability 7−6593
Zn_3P_2 amorphous films, preparation and optical props. 7−13360
Zn_3P_2, optical props. 7−39067
Zn_3P_2 pellets, elec. cond., compacting press. depend. 7−58809
Zn_3P_2, photoconductivity response, surface damage 7−21951
Zn_3P_2 polycrystalline films, hot-wall deposited, elec. and optical props. 7−22487
Zn_3P_2, prep., X-ray charactn. 7−7939
Zn_3P_2 thin films, amorphous-crystalline transitions, elec. cond., 100-300K 7−38560
Zn_3P_2, vacuum deposited films, struct., transmission electron microscopy and X-ray diffr. 7−52316
Zn_3P_2 valence band struct., XPS and Auger lineshape studies 7−45150
$Zn_3(P_xAs_{1-x})_2$ solid solutions, interatomic interaction, mag. susceptibility 7−52932
$Zn(PO_3)_2$-$CdCl_2$-KCl glasses, electrical conductivity and IR spectra 7−2253
$Zn_3(PO_4)_2$ coating, deposited on cold rolled steel surface, Fe dissolution, X-ray fluoresc. anal. 7−28168
$Zn_3(PO_3(OH))_3.3H_2O$, cryst. struct. *(French)* 7−58221
ZnS, CVD films on sapphire substrates, epitaxial nature 7−3199

zinc compounds continued

- ZnS, clusters, electronic struct., variational cellular method 7−45120
- ZnS, covalent cryst., electronic struct., cluster approx. 7−52403
- ZnS, cryst., p-type cond., luminesc. 7−13226
- ZnS, crystal growth by chem. transport using NH_4Cl transport agent 7−59385
- ZnS cubic cryst., spatially oscillating piezophotovoltaic effect meas. 7−52669
- ZnS, cubic piezoelectric crystals, influence of uniaxial mechanical stresses on linear photovoltaic effect 7−7276
- ZnS, epitaxial film, TEM and photoelectron study 7−53408
- ZnS, evaporation material, wide band pass filters, multiple Fabry-Perot interference filter struct. *(Korean)* 7−25943
- ZnS film, ellipsometric in situ studies of growth 7−39196
- ZnS, film deposition, surface morphology and preferential orientation 7−27906
- ZnS films, MBE growth on Si (100), substrate temp. effects 7−39384
- ZnS films, optical losses, substrate temp. effects 7−50738
- ZnS, fused polycryst. layers, photocond. and photolum. spectra, defect form. influence 7−46142
- ZnS, hexagonal, four-photon spectroscopy 7−5948
- ZnS, interband two-photon absorpt., freq. depend. 7−33451
- ZnS interference filters, simultaneous optical bistable switching on adjacent pixels, pattern recognition 7−57420
- ZnS, interpretation of AES of sulphide minerals 7−22391
- ZnS, ion milling, TEM 7−39344
- ZnS, MBE growth on Si (100), photoluminesc. props. 7−3174
- ZnS nonlinear planar waveguides, bistability and self-pulsing using prism couplers 7−57427
- ZnS, polycrystalline, AC driven thin film electrolum. displays 7−7762
- ZnS, rare earth impurities, electrolum. of Schottky barriers, photolum., charge compensation, and impurity electron states 7−64700
- ZnS, single cryst. growth by gas source MBE 7−17397
- ZnS, single crystal, annealed in O, intrinsic defects rel. to elec. and luminesc. props. 7−12649
- ZnS thin films, radiation enhanced adhesion to SiO_2 substrates 7−32504
- ZnS wavelength prism coupling, nonlinear coupler example 7−31385
- ZnS:Ag scintillator in detector for fluorescent X-ray adsorption spectroscopy 7−24751
- ZnS:Al, Cr, Fe crystals, recomb. luminesc., EPR and photocond. meas. 7−3076
- ZnS:Al, electron caputre processes, role of donors, transient ESR meas. 7−45347
- ZnS:Al, low resistivity, grown by MOVPE 7−27921
- ZnS:Al, temp. depend. of visible photolum., ESR studies 7−46099
- ZnS:Cr^{+}, Fe^{3+} single crysts., impurity centre charge exchange, plastic deform. effects, ESR spectra studies 7−16984
- ZnS:Cr^{2+}, Cr excitation spectrum interpretation 7−58775
- ZnS:Cu, electrophosphors, aging phenomena 7−27791
- ZnS:Cu, Mn (H), electroluminesc., simultaneous action of AC and DC fields 7−64699
- ZnS:Cu, pure and doped, defects in solids, mol. cluster calc. with modification 7−21857
- ZnS:Cu, solid solution, electroluminescent phosphor, compositional inhomogeneities 7−6800
- ZnS:Cu,Mn films, vacuum deposition and DC electroluminescence 7−7868
- ZnS:Cu,Yb phosphor, AC electrolum. study 7−13233
- ZnS:Cu^{2+}, multimode Jahn-Teller effect in the luminescence spectrum 7−12675
- ZnS:Er, impact cross section of Er^{3+} in luminesc. spectra 7−46150
- ZnS:Fe,Cu, three-centre Auger recombination, EPR study 7−45806
- ZnS:Fe electronic struct., K-edge EXAFS study 7−64079
- ZnS:Fe^{2+}, impurity vibronic coupling and near IR spectra characts. 7−26889
- ZnS:Ho^{3+}, radiative transitions and nonradiative processes *(Chinese)* 7−59235
- ZnS:In, photoluminescence, D-A pair emission 7−22312
- ZnS:In epitaxial films, photoluminescence. decay props. 7−39166
- ZnS:Mn, electrolum. study 7−13234
- ZnS:Mn, impact excitation and Auger quenching 7−27827
- ZnS:Mn, thin film electroluminesc. capacitors, trapping level spectra 7−12666
- ZnS:Mn electrolum. thin film-based structs., native memory formation, supersound effects study *(Russian)* 7−3020
- ZnS:Mn electrolum. thin film displays, growth by at. layer epitaxy 7−13362
- ZnS:Mn electroluminescent thin films, photothermal deflection spectroscopy 7−27804
- ZnS:Mn films, struct. and electroluminescence props. *(Japanese)* 7−27783
- ZnS:Mn heavily doped phosphors, mechano and electroluminesc. 7−13240
- ZnS:Mn powders, EPR anal. for different cryst. structs. 7−13025
- ZnS:Mn thin films, DC electrolum. and local destructive dielec. breakdown model calcs. 7−59147
- ZnS:Mn thin films, electrolum., review 7−27784
- ZnS:Mn thin films, local destructive breakdown and DC electrolum., film prep. and test conditions depend. 7−59146
- ZnS:O, Er(Tm)(Dy), activator centres, spectrosc. investig. 7−13184
- ZnS:TbF thin-film electroluminescent devices, excitation mechanism 7−46149
- ZnS:TbF_x, sputtered thin films, electrolum. and photolum. 7−7727
- ZnS/CdS, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
- ZnS/ZnSe, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
- ZnS-based electroluminescent phosphor, influence of surface Cu_2S 7−7759
- ZnS-CdS:Ag,Ni,Co phosphors, photolum., energy level model 7−59245
- ZnS-Ta_2O_5-Nb_2O_5 multilayered films, waveguide-type acousto-optic separators 7−62825
- ZnS-ZnSe mixed powders, site selective EXAFS via optical de-excitation 7−53443
- $ZnSO_4$-Na_2SO_4 reactions in CoCrAlY hot corrosion 7−28188
- ZnS(Se), IR transmitting windows, protective coatings 7−46731
- ZnS(Se), plastic deform., thermal activation anal. 7−2091
- $ZnS_{0.9}Se_{0.1}$ coating for passivation of Si solar cells 7−65479
- ZnS_xSe_{1-x} gradient IR optical material prepared by CVD 7−31408
- ZnS_xSe_{1-x} cryst., low press. melt growth technique 7−33548
- $Zn(S_xSe_{1-x})$, crystal growth by chem. transport using NH_4Cl transport agent 7−59385

zinc compounds continued

- ZnS_xSe_{1-x} polariton dispersion with Fermi reson., Raman scatt. cross-section *(Ukrainian)* 7−12623
- ZnS_xSe_{1-x}, scatt. of light by polaritons 7−39100
- ZnS_xSe_{1-x}, single crystals, growth, exciton luminesc. 7−22453
- ZnS_xSe_{1-x}:Mn^{2+}, Mn energy levels, photoconductivity bands 7−7156
- ZnS(Se)(Te) tetrahedral cpds, mode Gruneisen parameters 7−44732
- ZnS(Se)(Te):Mn, impurity EPR spin Hamiltonian parameter correl. calcs. 7−27597
- ZnS_xTe_{1-x}, semicond., optical bowing 7−33352
- ZnSb, cryst. growth, characterisation and appls., review 7−26685
- β-$Zn_7Sb_2O_{12}$, structural data 7−12022
- ZnSe (110) surface atomic geometry and energy states, self-consistent pseudopot. calcs. 7−21582
- ZnSe, bistable interference filters, nanosecond switching at room temp. 7−11028
- ZnSe bistable interference filters, switching processes, steady-state model 7−50617
- ZnSe cryst., low press. melt growth technique, photolum., laser appl. 7−33548
- ZnSe, cryst., spectral broadening about second harmonic generated by laser pulse 7−43236
- ZnSe, crystal growth by chem. transport using NH_4Cl transport agent 7−59385
- ZnSe, dispersive bistability and absorptive switching 7−57434
- ZnSe, donor-acceptor pairs, time-resolved recombination luminescence 7−39165
- ZnSe epitaxial films, twin boundaries, high resolution TEM obs. and computer simulation studies 7−51784
- ZnSe epitaxial layers, MOVPE grown, elec. and photolum. props. 7−7420
- ZnSe epitaxial layers on GaAs(100) substrates, anomalous twin boundaries, TEM obs. 7−27198
- ZnSe films, electrochemical co-deposition, photoelec. conversion characts. 7−46959
- ZnSe films; CVD 7−64909
- n-ZnSe, heavily doped strongly compensated crystals, electron mobility 7−7247
- ZnSe, heteroepitaxial growth on GaAs, energy band gap, elastic strain effects 7−59242
- ZnSe hydrothermal growth, cathodolum. props. 7−63531
- ZnSe IR optical fibres, development, appls. 7−37190
- ZnSe interference filters, thermally deposited and molecular-beam-grown, CW laser pumped bistability 7−25861
- ZnSe interference filter triple bistable-element loop circuit for digital parallel all-optical computer 7−57409
- ZnSe interference filters, simultaneous optical bistable switching on adjacent pixels, pattern recognition 7−57420
- ZnSe, ion milling, TEM 7−39344
- ZnSe laser-induced epitaxial growth on GaAs using organic compounds 7−52366
- ZnSe layer growth by plasma-assisted epitaxy 7−52365
- ZnSe layers on Ge (100), MBE growth and photoluminesc. 7−7858
- ZnSe MBE layers on GaAs, lattice mismatch effects, TEM, photolum. and X-ray diffr. studies 7−45042
- ZnSe, MOCVD, chemical reactions monitoring 7−53611
- ZnSe, MOVPE growth kinetics on GaAs 7−22544
- ZnSe nonlinear interf. filter white light switching, spatial light modulator design 7−57416
- ZnSe nonlinear planar waveguides, bistability and self-pulsing using prism couplers 7−57427
- ZnSe nonlinear visible interf. filter, critical slowing down 7−57419
- ZnSe, optical anisotropy due to spatial dispersion 7−53266
- ZnSe optical films, molecular beam fabrication and laser damage props. 7−39389
- ZnSe, phonons, ps laser induced transient dynamics 7−39113
- ZnSe photoelastic modulator for IR 7−43348
- ZnSe, shallow donor problem, pseudopot. approach 7−45216
- ZnSe, single crystals, growth, exciton luminesc. 7−22453
- ZnSe, thin films, surface electron states *(Russian)* 7−21971
- ZnSe:Al, MOCVD growth, deep level characterisation 7−52519
- ZnSe:Al(Ca)(In), impurity diffusion coefficients, cathodoluminesc. study 7−27017
- ZnSe:As, MOCVD growth, exciton and deep emission bands 7−52367
- ZnSe:Cl layers grown by MBE, blue photoluminesc. 7−52364
- ZnSe:Cu,Al,Fe crystals, melt-grown, absorpt. coeff., impurity effects 7−3070
- ZnSe:Cu(Ag)(Au), cationic substitutional impurities and metal vacancy, microscopic models 7−27296
- ZnSe:Er^{3+}, ion implanted, identification of cathodolum. centres 7−53417
- ZnSe:Fe, impurity ion photoionisation, EPR, photoconductivity spectra 7−52495
- ZnSe:Ga, impurity segregation model calcs., elec. props., precipitate effects 7−16762
- ZnSe:H, proton implanted, localised vibr. mode, IR transmission spectra 7−51981
- ZnSe:Mn, ^4E states, spin-orbit interactions and dynamical Jahn-Teller effect 7−21875
- ZnSe:N, MBE growth and doping, photoluminescence studies 7−27749
- ZnSe:Si, single crystal growth, chem. transport method *(Korean)* 7−27880
- ZnSe/(Zn,Mn)Se superlattice, optical props. heterointerface effects 7−7736
- ZnSe/CdS, multilayer structures, MOCVD, wide band gap, interdiffusion characts. 7−53610
- ZnSe/GaAs, electron beam pumped lasing action obs. 7−43093
- ZnSe/GaAs interface, MOCVD grown, ZnSe film stoichiometry 7−39415
- ZnSe/GaAs:Cr heterostructure, interface stress 7−38352
- ZnSe/$Zn_{1-x}Mn_xSe$ strained layer superlattices, electronic energy states and relax. 7−45425
- ZnSe-GaAs:Cr, meas. of residual stress by Cr-related luminesc. lines 7−7726
- ZnSe-$In_{2-x}Sn_xO_{3-y}$ junctions, microstruct. optical props., influence of deposition method 7−21689
- ZnSe-ZnMnSe, quantum wells, excitons and kinetics 7−12622
- ZnSe-ZnMnSe strained layer superlattices, quantum confinement effects 7−27403
- ZnSe-ZnMnSe superlattices, photoluminesc. props. 7−13218
- ZnSe-ZnS electroluminescent MIS structures, MOCVD growth and charactn. 7−59443
- ZnSe-ZnS strained-layer superlattice, low pressure MOVPE growth 7−53604

zinc compounds continued

- ZnSe-ZnTe strained layer superlattices, MBE growth on InP substrates 7−13366
- ZnSe-ZnTe strained layer superlattice on InP, TEM obs. 7−52778
- ZnSe-ZnTe strained-layer superlattices, lattice strain and lattice dynamics 7−58654
- $(ZnSe)_x(CdTe)_{1-x}$ films, CVD fabricated, phys. props. 7−7055
- β-$ZnSeO_3$, cryst. struct. determ. 7−6611
- $ZnSeO_3$ struct. determ. and refinement, X-ray diffr. study 7−32373
- ZnSeTe wide bandgap solar cells for thin film tandem structs. 7−23172
- Zn_2SiO_4-Fe_2SiO_4, limited solid soln., cation ordering 7−51709
- $ZnSiP_2$ and $ZnGeP_2$, single crysts., prep. and characterisation 7−2612
- $ZnSiP_2$ cryst., exciton absorpt. spectrum, energy gap and exciton binding energy determ. 7−2500
- p-$ZnSnP_2$ single cryst., recombination radiation, cryst. growth effects 7−53394
- ZnTe, acceptor higher excited states calcs. 7−52511
- ZnTe, cathodoluminescence, Zn-vapour and Te-vapour heat treatment effects 7−46151
- ZnTe, chemical vapour transport and homoepitaxial growth in closed-tube system, thermodynamic analysis 7−33582
- ZnTe, d-core transitions, reflectivity spectra 7−53364
- ZnTe, Debye-Waller factors of ^{129}I, Mossbauer study 7−2135
- ZnTe epilayers, chemical transport growth, photoluminesc. props. 7−39413
- ZnTe films, vacuum deposition, elec. resist. and photocond. meas. 7−3179
- ZnTe, nonequilibrium carrier recomb. processes, plasmon effects, luminesc. spectra calcs. 7−58818
- ZnTe, obs. of time evolution from reson. Raman scatt. to excitonic-polariton luminesc. 7−33390
- ZnTe:Cl(Al), crystals, vacancy-impurity complexes, ODMR studies 7−2530
- ZnTe:Cu, impurity related neutral complex with bound exciton, photoluminescence, absorpt., Zeeman meas. 7−45165
- ZnTe:O, hot luminesc., reson. Raman scatt. studies 7−64695
- ZnTe:O, light scattering 7−17333
- ZnTe:O, red cathodolum. kinetics, two-step electron capture model calcs. 7−59262
- ZnTe-ZnCdS wide bandgap solar cells for thin film tandem structs. 7−23172
- ZnTe-ZnSe heterostructures, liq. phase epitaxially grown, luminesc. preps. 7−45477
- ZnTe-ZnSe superlattices, photoluminesc. 7−17339
- ZnTe-ZnSe(S) superlattices, hot wall epitaxial growth and photoluminesc. props. 7−13220
- ZnTe-ZnSe(S) superlattices, MBE and atomic layer epitaxy growth 7−13365
- ZnTeSeS, superlattices, prep. by hot wall epitaxy, props. *(Japanese)* 7−12546
- $ZnTiF_6$:Cu^{2+}.$6H_2O$, Jahn-Teller effect and phase transitions, powder EPR study 7−13023
- $ZnTiF_6$.$6H_2O$:Mn^{2+}, ESR spectrum, axial press. effects 7−22136
- $ZnWO_4$, Czochralski grown, quality, colour rel. to scintillation output 7−59407
- $ZnWO_4$:Fe single crystals, spectroscopic props. 7−7725
- ZnX_2 (X=Cl, Br, I), aqueous halide solns., EXAFS study of Zn^{2+} coordination 7−59282

Zircaloy *see zirconium alloys*

zirconium

- *see also nuclei with ......*
- α and β phases, differential heat of H absorption, isoperibol calorimetry studies 7−6967
- alpha phase, low stress creep at intermediate temps. 7−33745
- Appalachians of Quebec and Nova Scotia; Ti, P, Zr, Nb, Y geochemistry 7−23587
- atom, ionis. pot. determ., two laser field-ionis. spectroscopy 7−5650
- cathode, material and structural changes during arc operation in N_2 7−46866
- dislocation substructures after hydrostatic extrusion *(Chinese)* 7−6626
- doped with O, mech. props. and elec. resist. at 4.2 K, influence of annealing *(French)* 7−59554
- etching by photochem. machining 7−22909
- film, sputtered in oscillatory electron discharge, structural features 7−12548
- Fourier transform EXAFS spectra, nonstructural low-R peak 7−64744
- HCP crystal structure, secondary ion emission, current density effects 7−59318
- high-temperature corrosion film characterization using Raman microscopy 7−46772
- highly ionised atoms injected into PLT and TFTR discharges, spectra 7−19748
- impurity in garnets, compositional shift of spectral lines 7−53252
- internal friction and linear expansion coeff. in phase transition region 7−44857
- internal friction due to grain boundary relax. 7−65076
- metal beam, laser prod. and diagnostics, rel. to isotope separation 7−42783
- momentum density distrib. in α and ω phases by position annihilation meas. 7−46183
- neutron irradiated, solute effects on damage production and recovery 7−51861
- nitridation by breakdown plasma in N_2 due to TEA CO_2 laser irrad. 7−2052
- overlayer, on SiC, Si_3N_4, Al_2O_3, SiO_2, mixing phenomena 7−58330
- oxidation, effect of Ar ion beam mixing *(Chinese)* 7−53997
- polycrystalline, low temp. creep, dislocation interactions *(Russian)* 7−3359
- polycrystalline bilayers, Ni single crystal amorphisation 7−63463
- radioactivation monitoring based on local activation by p,d,α 7−49726
- reversible martensite $\omega \rightleftarrows \alpha$ transformation 7−33654
- surface, Cl chemisorption, neutral and negative ion thermal desorption spectroscopy 7−6988
- surface, N_2 laser irrad., at. beam prod. 7−21276
- surface (0001) HCP to BCC phase transition He^+ capture effects, AES, TDS and SIMS studies 7−58590
- surface nitridation by powerful CW CO_2 laser irrad. in air 7−2051
- valve metal, corrosion under influence of Pu, oxide layer formation 7−17699
- yield point in range 1.5 to 500K temp. relationship *(Russian)* 7−53807
- Ni/Zr thin film diffusion couples, amorphisation, DSC studies 7−26639

zirconium continued

- Ni-Zr, amorphous phase formation by solid state reaction, evidence for nucleation barrier 7−58146
- Si:Zr polycrystalline solar cells, structural, elec., photovoltaic props., impurity effects 7−39990
- YAG:Ni, Zr, defect and optical props. 7−59258
- Zr + He^+, L shell X-ray prod. cross sections meas., first Born approx. and ECPSSR theory anal. 7−36526
- Zr XIV XUV spectra, identification of $3d^9$-$3d^84f$ transition 7−5625
- Zr:Ne^+, ion implantation in elemental solids, range profile, gamma-ray spectra 7−2959
- Zr/ZrO_2/Na_2SO_4 soln. electrolytic capacitor, charge storage props. study 7−58930
- Zr-H system, phase equilib. 7−7974
- Zr-H system, T migration in Hall field, effect of temp. 7−6890
- Zr-H_2 system, phase equilib. 7−21412
- Zr-ZrN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Ti-TiN 7−38726

zirconium alloys

- *see also zirconium compounds*
- hydride cracking, acoustic emission studies 7−59637
- PWR fuel cladding, plastic deformation behaviour for Zircaloy and Zr-Nb, EPSI-MOD2 code *(German)* 7−19339
- steel, austenitic, bombarded with Ar ions, ageing temp. effects on structure, microhardness and sputtering 7−65120
- V-Hf-Zr-Ta C-15 phase superconducting alloys, phonon props., inelastic neutron scatt. spectra 7−51969
- Zircalloy, mech. eqns. of state of material irrad. at 573K in deform. in working direction 7−8064
- Zircaloy, claddings, creep deform., bulge growth, time to failure 7−59589
- Zircaloy, corrosion resistance, precipitation of second phase particles effect 7−30564
- zircaloy, PWR power plants, load following operation, PCI failure criterion 7−25145
- Zircaloy cladding, oxidation in air, 350-500°C 7−725
- Zircaloy oxidation and embrittlement criteria for emergency core cooling system acceptance, safety margins 7−36154
- zircaloy structural material for fusion breeder blanket, neutronics anal. 7−15365
- zircaloy structural material for fusion reactor breeding blankets 7−15364
- Zircaloy-2, cold worked, irrad. growth, point defect trapping, computer simulation 7−16613
- Zircaloy-2, exposure to high temp. OWL-1 loop water, corrosion layer characterization 7−8167
- Zircaloy-2, irrad. growth under temp. cycling, solute-interstitial complex mechanism 7−44607
- Zircaloy-2, low cycle corrosion fatigue in I_2 atmosphere 7−17705
- Zircaloy-2, nodular corrosion behaviour 7−8168
- Zircaloy-2, phase transition temp., resist. obs. 7−59512
- Zircaloy-4, α-phase, burst data, CANSWEL-2 code anal. 7−36159
- Zircaloy-4, cold worked, anelastic contrib. to high temp. stress relax., model 7−65072
- Zircaloy-4, high temperature corrosion in flowing steam 7−28204
- Zircaloy-4, low cycle deform. at elevated temps. 7−22832
- Zircaloy-4, oxide layer thickness anal. post-oxidation creep strain, effect of stress *(Korean)* 7−8160
- zircaloy-4, polycryst., high temp. internal friction 7−17571
- Zircaloy-4, temp. depend. of elongation 7−65094
- Zircaloy-4 fuel sheaths, failure model, circumferential temp. effect 7−728
- Zircaloy-4 PWR fuel cladding, deformation, embrittlement and oxidation during LOCA 7−25036
- Al-Fe-Zr and Al-Li-Cu-Mg-Zr, wear, comparative investigs. and prep. method role 7−13605
- Al-Li-Cu-Mg-Zr die forgings, mech. props., microstruct. 7−46636
- Al-Li-Cu-Mg-Zr powder alloy, superplastic, high modulus and hardness 7−53816
- Al-Li-Cu-Zr, 2090, small fatigue crack growth 7−22817
- Al-Li-Cu-Zr, Al-Li-Zr, nucleation of δ' and β' precipitates 7−59527
- Al-Li-Cu-Zr, fracture, ageing and comp. depend. 7−22784
- Al-Li-Cu-Zr, nucleation of precipitates 7−46476
- Al-Li-Zr rapidly solidified alloy, plastic deform. characts. 7−22777
- Al-Mg-Cu:Zr, low activation alloy development for reacting plasma experiment 7−15384
- Al-Mn-Zr (7,1 wt.%), rapidly solidified, quasicrystalline phase precip. 7−3310
- Al-Zn-Mg-Cu-Ni-Zr, modified 7075, prod. by liq. dynamic compaction, struct. and props. 7−46437
- Al-Zn-Mg-Cu-Zr, microalloying effect on struct. and mech. props. 7−53755
- Al-Zn-Mg-Zr, Al-Cu-Zr, superplasticity rel. to grain refining addition elements 7−46561
- Al-Zr, molten, thermodynamic props. 7−21450
- Al-Zr-Mg (Cu), grain boundary struct. and superplasticity, electron microscopy studies *(Russian)* 7−6630
- Al-Zr-V, rapid solidification, age hardening, solid soln. form. *(Korean)* 7−46475
- AlZnCuMgZr, directional solidification, microstruct. *(German)* 7−46452
- Co-Zr amorphous films, induced anisotropy, relax. process 7−53080
- Co-Zr amorphous films, low energy ion beam sputtering, mag. props. 7−53081
- Co-Zr amorphous magnetic thin films, sputter deposition methods 7−22483
- CoNbZr films, deposition by DC opposing-target sputtering method 7−13352
- CoZr sputtered magnetic thin film, ion beam irrad., struct. studies 7−22588
- Cu-Ag-Zr, serrated flow, disappearance 7−17588
- Cu-Al-Ni-Ti-Zr, shape memory alloy, grain refinement, fracture mode, Ti and Zr additions effect 7−3301
- Cu-Zr, amorphisation under action of high press. and shear deform. *(Russian)* 7−58163
- Cu-Zr, compositionally modulated amorphous films, sputter deposition prep. 7−22482
- Cu-Zr, ion irradiated, mech. prop. meas. 7−51873
- Cu-Zr (0.5 wt.%), high strength, high cond., prod. by rapid solidification technology 7−28029
- Cu-Zr amorphous alloy, induced recrystallisation by electron and laser beam irradiation 7−12152
- Cu-Zr brazing alloys with active Ti additive, bonding of Syalon 7−39846
- Cu-Zr metallic glass, elec. cond., annealing effects 7−7198

zirconium alloys continued
CuZr, amorphous and cryst., bond length determ. from EXAFS data 7−63553
CuZr metallic glass, blistering under He implantation, EELS anal. 7−16593
$Cu_{10}Zr_7$, cryst. and amorphous, muon spin resonance studies 7−53196
$Cu_{33}Zr_{67}$, glassy metals, peak effect, flux pinning *(Chinese)* 7−12929
$Cu_{33}Zr_{67}$ metallic glasses, flux pinning and critical current peak effect studies 7−22079
$Cu_{39}Zr_{61}$ 3D metallic glasses, magnetoconductivity meas., quantum interference effects calcs. 7−17016
$Cu_{50}Zr_{50}$ amorphous alloys, positron annihilation peakrate temp. depend. meas. 7−39302
$Cu_{57}Zr_{43}$, glass metals, temp. depend. of positron trapping effect 7−39292
$Cu_{60}Zr_{40}$, amorphous, isothermal crystallisation, nucleation activation energy, DSC obs. 7−11926
Fe-Cr-Mo-Zr amorphous alloys, corrosion resistance *(Japanese)* 7−65194
Fe-Ni-Zr metallic glasses, Ni contrib. to magnetism 7−53183
Fe-Zr, amorphous, high-field magnetisation hysteresis, spin glass clusters 7−2898
Fe-Zr, amorphous, superparamagnetic behaviour 7−2904
Fe-Zr, amorphous and microcrystalline, exchange interaction and saturation magnetisation 7−45651
Fe-Zr, coercive field meas. 7−64491
Fe-Zr, mechanically alloyed, glass forming ability 7−21110
Fe-Zr alloy formation at Fe/Zr thin film interfaces, Mossbauer study 7−63975
Fe-Zr-B, amorphous, meas. of Curie temp. 7−2853
$Fe_{90-x}B_xZr_{10}$, amorphous, B addition effect on mag. props., elec. resistivity, crystallisation *(Chinese)* 7−7487
FeZr, amorphous and microcryst., exchange interaction and saturation magnetisation *(Russian)* 7−12963
$Fe_{0.91}Zr_{0.09}$ amorphous alloys, critical mag. phenomena, results from μSR studies 7−45872
$Fe_{90}Zr_{10}$ amorphous alloy, differential AC method of thermopower measurement 7−48776
$Fe_{90}Zr_{10}$, amorphous powder, surface struct. rearrangement by pulverisation, CEMS obs. 7−13065
$Fe_{90}Zr_{10}$ glasses, crystallisation characteristics 7−51647
$Fe_{90}Zr_{10}$ glasses, crystallisation characteristics 7−51648
$Fe_{91}Zr_9$, amorphous, long-range mag. order, neutron scatt. and AC susceptibility studies 7−58979
$Fe_{91}Zr_9$, amorphous, long-range mag. order, small-angle neutron scatt. 7−58980
$Fe_{92}Zr_8$, mag. susceptibility, elec. resist., magnetoresistance meas. 7−52954
Fe_xZr_{100-x} amorphous alloys, Kohlrausch thermal relax., sp. ht. meas. 7−59027
Mo-Nb-Zr-C, nitrided single crysts., effect of NbN ε to δ phase transition 7−28052
Mo-W-Zr-Ti, scale resist. of silicide coatings, influence of Fe and B additions 7−22875
Mo-Zr, solid soln. hardening, alloying element effects, Vickers hardness meas. *(Korean)* 7−3319
Nb-Mo-Zr, protective props. of thermodiffusion Mo-B-Si coating 7−8156
Nb-Zr, mixed dislocations, nuclei atomic configs., computer modelling *(Russian)* 7−58281
Nb-Zr, structural materials, welling after neutron and ion irrad., comparison 7−58357
Nb-Zr (1 wt.%), hydroextruded, optimum degree of deform., microstruct. 7−3325
Nb-Zr and Nb-W-Mo-Zr, corrosion resist. in molten Lr, alloying influence 7−17689
Ni-Zr amorphous alloy, Ni and Zr mobilities 7−32698
Ni-Zr amorphous powder, prep. by mechanical alloying 7−33623
Ni-Zr-(P), amorphous, corrosion behaviour in boiling conc. HNO_3 and HCl 7−3511
$(Ni_{1-x}Cu_x)_5$ Zr alloys, cryst. struct. study *(French)* 7−26698
NiZr-H_2, metallic glass, pressure-concentration isotherms 7−26665
$NiZr_2$ metallic glasses, crystallisation, influence of O and other trace impurities 7−51633
$Ni_{100-x}Zr_x$ metallic glasses, low temp. sp. ht. study, density of states and Debye temp. determ. 7−2226
$Ni_{100-x}Zr_x$ metallic glasses, H storage, press.-conc. isotherms, site occupation, binding energies 7−58153
$Ni_{33}Zr_{67}$, glassy metals, peak effect, flux pinning *(Chinese)* 7−12929
$Ni_{33}Zr_{67}$ metallic glasses, flux pinning and critical current peak effect studies 7−22079
$Ni_{61}Zr_{39}$, preparation by grinding, diffraction anal., crystallization behaviour and magnetic props. 7−3219
$Ni_{63.7}Zr_{36.3}$ amorphous alloy, short-range order and struct. relax. 7−51642
$Ni_{64}Zr_{36}$, amorphous, short range order, EXAFS 7−44388
$Ni_{64}Zr_{36}$ amorphous alloy, local struct., EXAFS and neutron diffr. studies 7−64813
$Ni_{64}Zr_{36}$, amorphous state, electrical resistance meas. in gaseous H_2 7−32978
Ni_xZr_{1-x}, liquid and amorphous, chemical short-range order, electronic theory 7−44349
Pt-Zr internally oxidised alloys, morphology, struct. and stability *(Russian)* 7−33687
$Sm_2(Co, Fe, Cu, Zr)_{17}$ sintered compact permanent magnet, mag. props., comp. and heat treatment effects *(Korean)* 7−2894
Th-Zr, diffusion and electrotransport of transition metals in BCC Th 7−63888
Ti-Al-Mo-Zr, VT9, two-phase, microstruct. and failure nature correl. 7−8110
Ti-Al-Mo-Zr(-Si) alloys, superplastic characts., H alloying effect 7−8049
Ti-Al-Nb-Zr, plastic deform., elect. resist. oscills. 7−20605
Ti-Al-Sn-Zr-Mo (6,2,4,2 wt.%) superplastic deform., temp. depend. 7−39588
Ti-Al-Zr, IMI 829, low cycle fatigue 7−22792
Ti-Al-Zr-Mo-Si, creep resistance, silicides obs., effect on mechanical props. and fracture 7−8051
Ti-Al-Zr-V-Mo, VT20, annealing temp. effect on mech. props. of semifinished products 7−39558
Ti-Zr, α-β transform. temp. study 7−38180
Ti-Zr, dry corrosion, bistability, thermal oscillations *(French)* 7−65188
Ti_3Al-Zr, rapidly solidified, microstructural studies 7−22668
U-Nb-Zr (7.5, 2-5 wt.%), SCC in gaseous O_2 and H_2 *(French)* 7−17619

zirconium alloys continued
V-Mo-Zr-C, V-Nb-Zr-C and V-Zr-C, oxidation on heating in air, alloying elements influence 7−17687
V-Nb-Zr-C, dispersion hardened, strength changes and recrystn. 7−17545
V_2Zr:H solns., phase transitions rel. to H conc. *(Russian)* 7−59513
W-Cu-Zr, saturation rate of porous W with Cu, effect of Zr 7−3220
W-Zr amorphous films as diffusion barriers between Al and Si 7−21504
$(Y_xZr_{1-x})Co_{2.9}$, cryst. struct., mag. props. 7−51719
Zr-based alloys, disordered, Coulomb pseudopotential 7−2764
Zr-based transition metal glasses, local densities of states 7−7086
Zr-Co, amorphous alloys, microhardness and struct. relax. *(Chinese)* 7−65069
Zr-Co, electronic struct., supercond. and magnetism 7−64398
Zr-Co (2 at.%), Co fast diffusion, quasielastic neutron scatt. study 7−63883
Zr-Co amorphous alloys, superconductivity, normal-state resistivity and mag. susceptibility 7−12900
β-Zr-Co system, fast Co diffusion, quasielastic neutron scatt. studies 7−52120
Zr-Cr-Fe, polytype structures, TEM, electron diffr. obs. 7−37925
Zr-Fe amorphous alloys, chemical short range order, thermal relaxation and ion irradiation effects 7−44385
Zr-Fe compounds, electronic, lattice and supercond. props., rel. to amorphous alloys 7−17133
Zr-Ir, hardening by dispersed ω-phase particles, annealing effect *(Russian)* 7−65053
Zr-Mn, Laves phase, liquid quenching, transformations and phase diagrams 7−65059
Zr-Mn-H system, equilibrium props. 7−16756
Zr-Nb, high press. $\beta \rightarrow \omega$ transformation *(Russian)* 7−16727
Zr-Nb (1 wt.%), laser irrad., hardness, struct., corrosion resist. 7−3400
Zr-Nb (20 wt.%), ageing behaviour, effect of H 7−46527
Zr-Nb (2.5 wt.%) H and D profiling at surface, effect of surface prep. 7−59668
Zr-Nb (2.5 wt.%) pressure tubes, remote field through wall EM inspection 7−46759
Zr-Ni, amorphous alloys, microhardness and struct. relax. *(Chinese)* 7−65069
Zr-Ni dil. alloy, Auger electron anal. of oxides 7−22907
Zr-Ni metallic glass, crystallisation, metastable crystalline phase form. 7−21126
Zr-Ni metallic glasses, crystn. 7−21111
Zr-Ni(V) amorphous superconductors, struct. and supercond. props. 7−27482
Zr-Os, hardening by dispersed ω-phase particles, annealing effect *(Russian)* 7−65053
Zr-Ru, electronic, mag., supercond. and glass forming ability rel. to stability 7−38846
Zr-Ru-Ir system, solidus surface projection of Zr-ZrRu-ZrIr partial system 7−7972
Zr-Sn, diffusion, chem. activity, modified evaporation method 7−38243
Zr-Ti, diffusion, chem. activity, modified evaporation method 7−38243
Zr-Ti (Sn)(Dy)(Au), neutron irradiated, solute effects on damage production and recovery 7−51861
Zr-Ti(Sn)(Au), low temp. damage prod. and recovery after fusion neutron irradiation 7−51862
Zr-V, Laves phase, liquid quenching, transformations and phase diagrams 7−65059
Zr-ZrRu-ZrIr partial system, phase diagram and crystn. 7−22642
$Zr_{70}Au_{30}$, spontaneous oxidation in air, effect of humidity, pulverisation 7−3510
ZrCo(Ni)Sn, Pauli paramagnet, mag. suscept. and cryst. struct. determ. *(Russian)* 7−1952
$Zr_{1-x}Cu_x$ amorphous sputtered alloys, low energy excitations, sp. ht. meas., structural relax. effects 7−11913
$Zr_{70}Cu_{30}$ melt spun ribbons, collective flux pinning dimensional crossover obs. 7−17143
$ZrFe_2$, electronic struct. and mag. props., tight-binding approx. calcs. 7−2475
$Zr_{75}Fe_{25}$, hydrogenised, positron lifetime and Mossbauer study 7−46198
$Zr_{76}Fe_{24}$, metallic glass, interaction of O, XPS study 7−39350
$ZrH_{0.015}$, ^3H migration in Hall field, temp. effect 7−32729
$Zr_{68}Hf_2Cu_{30}$ amorphous and cryst. alloy, elec. field gradient, TDPAC meas. 7−2958
Zr_5Ir_3, crystal struct., Mn_5Si_3 deform. superstruct. type 7−11998
$ZrMnFe_x$ system, H storage material, effect of hyperstoichiometric Fe 7−45000
$ZrMo_2$ and $ZrMo_2H_{1.8}$, surface composition and state of components, XPS study 7−7818
ZrNb1, fuel cladding, radiation induced embrittlement *(German)* 7−19359
$Zr_{1-x}Ni_x$ amorphous alloys, itinerant electron magnetism, AC susceptibility meas. *(Chinese)* 7−27490
ZrNiAl, surface segregation behaviour 7−33519
Zr_5Pb_3, fusion blanket neutron multiplier, fabrication and props. 7−49656
Zr_2Pd-H_2, thermal stability of hydrides 7−26664
$Zr_{1-x}Pd_x(Rh_x)H_y$, crystal-amorphous transformation, thermodynamics and kinetics 7−21108
$Zr_2PolD_{2\text{-}9}$, metallic glass, deuteron mag. resonance study 7−22159
Zr_3Rh-H_2, amorphous alloy formation, solid state reactions 7−27982
Zr_3Rh-H_2, thermal stability of hydrides 7−26664
$Zr_{75}Rh_{25}$ and $(Zr_{75}Rh_{25})_{93}Be_7$, metallic glasses, impurity vibr. states, influence on thermodynamic and superconducting props. 7−38148
ZrW_2 and $ZrW_2H_{1.8}$, surface composition and state of components, XPS study 7−7818
$ZrZn_2$, magnetisation density meas., cryst. translational symm. 7−27498

zirconium compounds
see also zirconium alloys
fluorozirconate glass, chem. durability, reaction with water 7−39682
gilsonite, microstructure and mechanical props. 7−44838
mullite, Al_2O_3 and ZrO_2 particle reinforced, prep. by reaction sintering, fractographic study 7−22800
zircon, radiation damage, rel. to trace water 7−32489
zirconia transparent gel-monolith from Zr alkoxide, controlled hydrolysis prep. 7−8313
ZrN films, supercond. props. *(Russian)* 7−38836
ZrO_2 thin-film fuel cells, vacuum evaporation prep. *(Japanese)* 7−23132
ZrO_2-MgO electrolyte mixed ionic and electronic conduction obs. 7−2644
Al_2O_3-Cr_2O_3-ZrO_2 system, subsolidus, high temp. phase relation 7−17519

zirconium compounds continued
β'-Al_2O_3-Na_2O, ZrO_2 toughened solid electrolyte, failure initiation, critical current density, AE obs. 7−38252
B″-Al_2O_3-Na_2O-ZrO_2 ceramics, transform toughened, fabrication, mech, props. ionic resist. 7−65143
Al_2O_3-ZrO_2, rapid solidification, alumina dendrite morphology 7−21424
Al_2O_3-ZrO_2, Zr environment, EXAFS studies 7−63465
Al_2O_3-ZrO_2 ceramics, densification kinetics 7−27992
Al_2O_3-ZrO_2 composite ceramics, microstruct., hardness, tool appls. 7−65144
Al_2O_3-ZrO_2 composites, high temp. behaviour and microstruct. study with HVEM *(Japanese)* 7−22819
Al_2O_3-ZrO_2 toughened ceramics, dry friction and wear against steel 7−8125
Al_2O_3-ZrO_2-Y_2O_3 system, synthesis and props. 7−22614
Al_2O_32-ZrO_2 ceramics, hot forging characts., grain size 7−3370
Al_2O_43-ZrO_2 composites, microstruct. charactn. by Raman spectroscopy *(Japanese)* 7−22684
$ArOCl_2$+hematoxylin, reaction, spectrophotometric obs. 7−39885
BaF_2-ZrF_4 glass, Zr local environment, EXAFS studies 7−63485
BaF_2-ZrF_4-FeF_2 glasses, Raman scatt. study 7−27713
$BaZrF_6$, ionic conductivity 7−52129
Bi_2O_3-ZrO_2-Y_2O_3 system, O ion conduction 7−44905
CaF_2-Al_2O_3 (ZrO_2) dispersions, single and polycrystalline, elec. conductivity 7−27005
CaO-ZrO_2, defect struct., EXAFS studies 7−63608
$CaZrTi_2O_7$, zirconolite, alpha-recoil damage 7−6692
$CaZrTi_2O_7$:Cm, radiation effects, appl. for nuclear waste disposal 7−32522
CeO_2-ZrO_2 solid solutions, O self-diffusion, effect of grain boundary movement 7−21522
CeO_2-ZrO_2-Y_2O_3 thermal barrier coating, plasma-sprayed, thermal and mech. props. *(Japanese)* 7−27899
β-Cs_2ZrF_6, ionic conductivity 7−52129
Fe_xZrSe_2, intercalated layered cpd., thermopower and low DC field magnetisation study 7−17199
Gd_2O_3-ZrO_3-Nb_2O_5 structure investig. 7−46427
Li_2O-ZrO_2-P_2O_5 system, phase equilib. and cpd. form. 7−28024
$Li_{2-4x}Zr_{1+x}$ $(PO_4)_2$ solid solns., ionic cond. meas. 7−44906
Li_2ZrF_6, hyperfine interactions, temp. depend. 7−12679
$LiZr_2(PO_4)_3$ superionic conductor, Li^+ motion, NMR study, phase transition obs. 7−32709
$Li_{1-4x}Zr_x[PO_4]_3$ ionic cond. comp. depend., X-ray diffr., prep. method depend. 7−12365
MgO-Al_2O_3-SiO_2-ZrO_2, low thermal expansion dec. insulators 7−2237
MgO-Cr_2O_3-ZrO_2 system, subsolidus, high temp. phase relation 7−17519
MgO-M_2O_3-ZrO_2 7−17519
MgO-ZrO_2, dispersed, phase transform., toughening 7−65034
Mo-ZrO_2, sintered composites, tetragonal to monoclinic transform. of ZrO_2 *(Japanese)* 7−13450
Mo-ZrO_2, sintered composites, mech. props, microstruct. *(Japanese)* 7−13558
$Na_2LaZrP_3O_{12}$ crystals, X-ray powder diffr. data 7−26722
$NaMn_2ZrP_3O_{12}$ and $Na_2(Ce,Co)ZrP_3O_{12}$, Nasicon analogues, cryst. data 7−12014
Na_2O-ZrO_2-Al_2O_3-SiO_2 glasses, ionic cond., glass transition temp. meas. 7−26998
$Na_{1+x}Zr_{2-x}In_x$ $(PO_4)_3$ solid soln., Na^+ ion motion, NMR study 7−44904
$Na_3Zr_{2-x}In_xSi_{2-x}P_{1+x}O_{12}$ system, chem. composition, cryst. struct. and ionic cond. *(Chinese)* 7−12006
$Na_{1+x}Zr_{2-(x/2)}Mg_{(x/2)}(PO_4)_3$ solid soln., cryst. chemistry and ionic cond. studies 7−32408
$Na_4Zr_2Si_3O_{12}$-$Y_3Fe_5O_{12}$ composite ceramics, prep., thermal expansion 7−63853
$Na_{1+4y+x}Zr_{2-y-x}Si_xP_{3-x}O_{12-2z}$ nonstoichiometric monoclinic NASICONs, X-ray powder Rietveld refinements 7−12304
$Na_{1+x}Zr_2Si_xP_{3-x}O_{12}$, NASICON, superionic cond. and glass-crystal transition 7−6870
Nb-Mo-ZrO_2, dispersion hardening mechanism investig. *(Russian)* 7−13462
Nb-ZrO_2, dispersion hardening mechanism investig. *(Russian)* 7−13462
Ni/NiO/ZrO_2, partially stabilised, bonding, stresses, shear strength 7−39845
PLZT hot pressed ceramic, polarisation reversal studies under hydrostatic press. 7−59160
$Pb(Zr_{0.58}Fe_{0.20}Nb_{0.20}Ti_{0.02})_{0.995}U_{0.005}O_3$ ferroelec. ceramic, TEM study 7−17272
α-$PgZrF_6$, ionic conductivity 7−52129
Si_3N_4-ZrO_2 composites, thermal instability 7−28158
SiO_2-Al_2O_3-Li_2O-ZnO-TiO_2-ZrO_2-As_2O_3-Cr_2O_3:Cr, glass ceramic, time resolved spectra 7−63478
α-$SrZrF_6$, ionic conductivity 7−52129
$ThZr_2D_x$, D distrib., neutron diffr. study 7−16512
Y_2O_3-ZrO_2, local interactions and environments, EXAFS studies 7−63575
Y_2O_3-ZrO_2:Fe, high dose ion implanted, profile shapes and electronic cond. 7−32472
$Y_{4x}Zr_{1-4x}O_{2-2x}$, ionic cond., defect struct., self-diffusion calcs. 7−12356
Z+I_4, dissoc. in plasmas, metal prod. 7−46845
Zr complex, bonding, Xα-SW MO calcs. 7−62283
Zr/ZrO_2/Na_2SO_4 soln. electrolytic capacitor, charge storage props. study 7−58930
Zr-D D stopping cross sections, deviations from Bragg's rule 7−51903
Zr-H system, phase equilib. 7−7974
Zr-Mo-N, phase equilibria between high melting nitrides and refractory binder metals 7−28018
Zr-ZrN bilayers, diffusion barrier props. for low resistivity contacts, comparison with Ti-TiN 7−38726
ZrB, electronic struct., chem. bonding, Green's function methods 7−58741
ZrB surface analysis using XPS and electrochemistry 7−28370
ZrC and ZrO_2, chemical vapour deposition, thermodynamic conditions *(French)* 7−27938
ZrC tool coatings, wear resistance, mechanistic model calcs. 7−53915
ZrC-TiB_2, eutectic composites, microstruct. and mech. props. 7−64991
ZrC-ZrB_2, eutectic composites, microstruct. and mech. props. 7−64991
$ZrC_{0.95}$, single cryst., mechanical stresses, thermo-EMF 7−21944
$ZrC_{0.98}$, sintered polycryst., primary recrystn. process 7−28056
ZrC_x, reactively sputtered films, optical props. 7−39202
ZrC_xN_x, reactively sputtered films, optical props. 7−39202
ZrF_4 based glasses, reduced species, EPR and optical studies 7−64665

zirconium compounds continued
ZrF_4 based IR fibres, realistic losses 7−37181
ZrF_4 fibres, optical transmission expts. using noncryogenic sources and detectors 7−37197
ZrF_4 glass, optical dispersion, reflection spectra in vacuum and extreme UV region 7−27734
ZrF_4 glass fibre, IR temperature measurements, 60 to 150 °C 7−56262
ZrF_4 high optical quality IR transmitting glasses and fibres, prep. and props. 7−37180
ZrF_4, IR transmitting fibre optics, spectral props. 7−37179
ZrF_4-BaF_2-AlF_3 glass, viscous flow vs. phase separation, DSC study 7−44383
ZrF_4-BaF_2-CsF glasses, ionic conductivity 7−52129
ZrF_4-BaF_2-GdF_3-AlF_3-NaF-FeF_3, optical fibre glasses, trace amounts of Fe, characterisation 7−2956
ZrF_4-BaF_2-LaF_3, mid-IR glass and optical fibres, dispersion characts. 7−37178
ZrF_4-BaF_2-LaF_3-AlF_3 glass, etching method for prep. of IR fibres with high tensile strength 7−1243
ZrF_4-BaF_2-LaF_3-AlF_3-NaF glass, crystal growth and microstruct. 7−1896
ZrF_4-BaF_2-LaF_3-AlF_3 fluoride glasses, lanthanide J-levels high yield luminesc. study 7−22309
ZrF_4-BaF_2-LaF_3-AlF_3 optical fibres, gamma irradiation, EPR and IR studies 7−37183
ZrF_4-BaF_2-LaF_3-AlF_3, heavy metal fluoride glass system, viscosity and crystallisation 7−37883
ZrF_4-BaF_2-NaF glasses, crystallisation study 7−11933
ZrF_4-BaF_2-NaF-AlF_3 glass, crystn. *(Japanese)* 7−26659
ZrF_4-BaF_2-NaF-AlF_3-LaF_3 glasses, crystallisation study 7−63491
ZrF_4-BaF_2-ThF_4-LiF quaternary glasses, ionic cond. and NMR studies 7−6865
ZrF_4-based fluoride glasses, Fe ions anal. 7−64672
ZrF_4-based glasses, IR fibres, prep. and props. 7−37182
ZrF_4-LaF_3-BaF_2-NaF glasses, EPR of Cu^{2+} ions 7−27593
ZrF_4-PbF_2-AlF_3-LiF-NaF glasses, mixed alkali effect, DC cond. 7−63873
ZrF_4-PbF_2-AlF_3-NaF-KF glasses, mixed alkali effect, DC cond. 7−63873
ε-ZrH_x, shape memory effect *(Russian)* 7−59577
α-$Zr(HPO_4)_2$ intercalated with 2, 9-dimethyl-1,10-phenanthroline, ion exchange with Co^{2+}, Ni^{2+} and Cu^{2+}, dimer formation 7−65305
$Zr(HPO_4)_x(HPO_3)_{2-x}.nH_2O$ mixed α-layered cpds., crystalline phases, comp. depend., X-ray powder diffr. study 7−1983
γ-ZrI_4, cryst. struct., X-ray diffr. studies 7−44483
ZrN, electronic struct., metal vacancy effects, KKR-CPA method anal. 7−12606
ZrN films, ion plated, stability anal. 7−2400
ZrN reactively sputtered films, elec. charactn. rel. to submicron gate electrode appls. 7−38777
ZrN, sputtered coatings, wear and friction 7−33800
ZrN superconducting thin films, electron tunnelling, phonon coupling effects 7−45580
ZrN, vibrational entropy 7−6745
ZrN_x (100), vacancy state, UPS obs. 7−52718
ZrN_x, reactively sputtered films, optical props. 7−39202
ZrN(C) hard reactively sputtered and evaporated coatings, composition and microstruct. studies 7−52331
ZrN(C) reactively sputtered wear resistant coatings, struct., hardness and adhesion props. study 7−52330
ZrO_2 (partially stabilised)/steel system, solid state bonding with Ti interlayer 7−28264
ZrO_2 advanced ceramics, props. and appl. 7−13416
ZrO_2, Al_2O_3 stabilised thin films 7−45062
ZrO_2 anodic films, charge storage props. study 7−58930
ZrO_2 base ceramic thermal barrier coatings, erosion rel. to processing and microstruct. 7−3450
ZrO_2 based films, composition and struct., X-ray emission and ESCA studies 7−22385
ZrO_2, CeO_2 containing tetragonal polycrystals, thermal stability, mech. props. 7−28101
ZrO_2 ceramic, grain boundaries, microanal. 7−16577
ZrO_2 ceramic, partially stabilised, friction and wear meas. by a pin-on-disk method *(Japanese)* 7−22850
ZrO_2, ceramic matrices, precip. morphology 7−65049
ZrO_2 ceramics, displacive transform. mechanism 7−65031
ZrO_2 ceramics, hot forging characts., grain size 7−3370
ZrO_2 ceramics, strength, effect of freeze-drying of $Zr(OH)_2$ 7−13415
ZrO_2 ceramics, wettability of metals 7−52191
ZrO_2 ceramics stabilised by rare earth oxides, thermal shock resistance *(Japanese)* 7−22736
ZrO_2 coatings, plasma sprayed on stainless steel, hot isostatic pressing, hardness, bond strength 7−13624
ZrO_2 commercial paints as coatings for GeSi thermoelectric materials 7−65503
ZrO_2 crystals, stabilised, vap. phase cryst. growth by hydrolysis of ZrF_4 7−46286
ZrO_2, cubic, crystal growth, stabiliser distrib. coeff. 7−53561
ZrO_2, cubic zirconia, defect-induced hyper-Raman spectra obs. 7−53324
ZrO_2 electrodes used for measuring standard Seebeck coeffs. of nonisothermal glass melts 7−3597
ZrO_2 films, pulse laser irradiated, Raman studies of phase transformations 7−12569
ZrO_2 films, RF sputtered, high intensity electron beam irrad. effects 7−44626
ZrO_2 fuel claddings, SEFDAN code for severe core damage accidents 7−49503
ZrO_2 gel, transparent, glass-like, thermal evolution 7−28356
ZrO_2, high press. phase, cryst. struct. 7−16523
ZrO_2 high temp. surface, impingement of steam jet to produce H_2 7−54362
ZrO_2, hot-pressed, friction and wear 7−59642
ZrO_2, MgO partially stabilised, cryogenically induced martensitic transform. of precipitates 7−28037
ZrO_2, MgO partially stabilised, SrO sintering aid addition, microstruct. and chem. aspects 7−64983
ZrO_2, MgO partially stabilised ceramics, thermal treatment, mech. props., microstruct. 7−65067
ZrO_2, nondestructive phase transform. of single cryst. at high press. 7−59511
ZrO_2, partially destabilised, thermal shock behaviour 7−3392
ZrO_2, partially stabilised, instrumented impact testing, absorbed energy 7−28237

zirconium compounds continued
- ZrO_2, partially stabilised, phase stability, elec. cond., fusion reactor elec. insulator appl. 7—52618
- ZrO_2 partially stabilised, engineering ceramics, tensile strength *(Japanese)* 7—53800
- ZrO_2, partially stabilised ceramics, engineering, rel. between Rockwell hardness and Vickers hardness *(Japanese)* 7—65140
- ZrO_2 pump-gauges, leakage characteristics 7—48766
- ZrO_2, SiC or Si_3N_4 whisker reinforced composites, microwave sintering, microstruct. 7—27995
- ZrO_2, single crystals, IR absorpt. and transmission spectra study 7—53305
- ZrO_2 single crystals, stabilised, growth by skull melting technique, charactn. 7—53560
- ZrO_2, solid electrolytes, effect of admixture cation radius on sintering 7—13398
- ZrO_2, stabilised, solid electrolyte/Pt,O_2(g) interfaces, electrode reactions, theory 7—65329
- ZrO_2, stabilised, solid electrolyte/Pt,O_2(g) interfaces, electrode reactions, electrochem anal. 7—65330
- ZrO_2 substrates, sputtered Pt films, agglomeration and electrical conduction props. 7—52859
- ZrO_2 supporting skin for directional solidification of Ni-Al-Mo eutectic high temp. alloys *(German)* 7—22660
- ZrO_2, tetragonal, cryst. growth 7—17417
- ZrO_2, tetragonal, ferroelastic domain switching as toughening mechanism 7—33712
- ZrO_2, tetragonal form, stability 7—6567
- ZrO_2 thin films, high index, optical consts. in UV region 7—7775
- ZrO_2 thin films, monoclinic polycryst., sol-gel process, form. and thermal change *(Japanese)* 7—22470
- ZrO_2 thin films, optical consts. in UV regions, influence of evaporation parameters 7—39193
- ZrO_2 thin-film multilayer filter designs for hybrid solar energy conversion systems 7—50723
- ZrO_2 transform. toughened ceramics, fracture toughness rel. to transform. temp. 7—46614
- ZrO_2, vacuum condensate, phase composition, struct. features 7—13361
- ZrO_2, with/without colloidal SiO_2, polishing cpd. used on GdGG 7—37212
- ZrO_2, X-ray diffr. whole-powder-pattern fitting without reference to a structural model 7—32214
- ZrO_2, Y_2O_3, dip process thermal barrier coatings for gas turbines 7—46314
- ZrO_2, Y_2O_3 partially stabilised, thermal shock behaviour *(Japanese)* 7—8115
- ZrO_2, Y_2O_3 partially stabilised, stress-induced phase transform., obs. by Raman microprobe *(Japanese)* 7—22683
- ZrO_2, Y_2O_3 partially stabilised, hot isostatic pressing, high temp. mech. props. 7—28082
- ZrO_2, Y_2O_3 partially stabilised, tetragonal phase stability in molten fluoride salts *(Japanese)* 7—28164
- ZrO_2, Y_2O_3 partially stabilised, phase diagram, microstruct. *(Japanese)* 7—53707
- ZrO_2, Y_2O_3 partially stabilized, crack propagation by double-torsion method *(Japanese)* 7—59614
- ZrO_2, Y_2O_3 partially stabilised, microstruct. after ageing at high temp. 7—65061
- ZrO_2, Y_2O_3 partially stabilised, crack config. *(Japanese)* 7—65138
- ZrO_2, Y_2O_3 stabilised, fracture toughness and transformability, grain size depend. 7—13566
- ZrO_2, Y_2O_3 stabilised, CeO_2 doped on surface, thermal stability improvement 7—13619
- ZrO_2, Y_2O_3 stabilised powder, spray pyrolysis, sintering, microstruct., fracture toughness 7—27983
- ZrO_2, Y_2O_3 stabilised thermal barrier coatings, ionisation assisted physical vapour deposition 7—46349
- ZrO_2, Y_2O_3 stabilised, amorphous second phase, sintering, grain morphology, fracture roughness, surface degradation 7—46612
- ZrO_2, Y_2O_3 stabilised, phase transform., mech. props., surface struct. rel. to polishing *(Japanese)* 7—53791
- ZrO_2, Y_2O_3-doped, powders, sinterable, chemically coprecipitated in non-aq. medium 7—64982
- ZrO_2:N_2^+, ion implantation, ion-acoustic microscopy 7—51792
- ZrO_2:Ti, ion implantation, mech. props. 7—28102
- ZrO_2:Y_2O_3 solid oxide fuel cell development to 5 kW 7—28396
- ZrO_2/Al_2O_3 ceramic incoherent interface struct. 7—16430
- ZrO_2/mullite composite ceramic, grain boundary HREM study 7—16427
- ZrO_2-Al_2O_3 composite powder, thermal decomposition prep. for porous ceramics 7—13422
- ZrO_2-Al_2O_3 composite, Y_2O_3-stabilised, compressive deform. 7—28100
- ZrO_2-Au, powders, result of oxidation of $Zr_{70}Au_{30}$ in humid air 7—3510
- ZrO_2-CaO-P_2O_5-SiO_2 glass ceramics, prep. and mech. props. *(Japanese)* 7—7942
- ZrO_2-containing glass fibres, alkali corrosion process, XPS study *(Japanese)* 7—3480
- ZrO_2-GeO_2-NaOH-H_2O system, hydrothermal crystn. investig. 7—2152
- ZrO_2-MgO toughened ceramics, dry friction and wear against steel 7—8125
- ZrO_2-MgO-P_2O_5 system, phase equilib. at 1573K 7—28023
- ZrO_2-Pt cell for H_2 production from T_2O water decomposition 7—3581
- ZrO_2-Sc_2O_3, cubic to β martensitic transform. 7—22681
- ZrO_2-SiO_2 optical films, struct. modification by coevaporation 7—45064
- ZrO_2-TiO_2, solubility of TiO_2 in ZrO_2 7—39490
- ZrO_2-TiO_2 system, low-temp. phase relationships 7—46431
- ZrO_2-Y_2O_3, arc melted, cubic to tetragonal transform. herringbone struct. 7—28042
- ZrO_2-Y_2O_3, displacive cubic to tetragonal phase transform. 7—65027
- ZrO_2-Y_2O_3, rapidly quenched, microstruct. evolution by annealing 7—22737
- ZrO_2-Y_2O_3, tribological coatings, low temp. sputter deposition 7—46322
- ZrO_2-Y_2O_3, Y-TZP, toughened, microstruct., TEM and electron diffr. study *(Japanese)* 7—22634
- ZrO_2-Y_2O_3, Y-TZP, superplastic, compressive deform. props. and microstruct. *(Japanese)* 7—22774
- ZrO_2-Y_2O_3 ceramic coatings, thermo-sprayed, microstruct. studies *(Japanese)* 7—22628
- ZrO_2-Y_2O_3 ceramic system, phase equilib. and transform 7—22682
- ZrO_2-Y_2O_3 ceramics, toughened, prep., microstruct., mech. props. 7—3409
- ZrO_2-Y_2O_3 ceramics, with straight, uniform-sized channels 7—22627
- ZrO_2-Y_2O_3 films, epitaxial growth on sapphire substrates by reactive sputtering, appl. for SOI substrates 7—27217

zirconium compounds continued
- ZrO_2-Y_2O_3 partially stabilized, Al_2O_3 effect on retaining tetragonal particles, matrix toughening 7—59485
- ZrO_2-Y_2O_3 plasma-sprayed thermal barrier coatings, sp. ht. and thermal cond. meas. and 2D computer simulation 7—7076
- ZrO_2-Y_2O_3 solid solutions, vibrational spectra 7—6738
- ZrO_2-Y_2O_3 solid-electrolyte cell, polarization of porous Pt electrode 7—23027
- ZrO_2-Y_2O_3 substrate for Si-SiO_2 SOI system, fabrication and charact. 7—22025
- ZrO_2-Y_2O_3 substrates for heteroepitaxial growth of Si 7—21735
- ZrO_2-Y_2O_3 system, microstruct. resulting from diffusionless cubic to tetragonal phase transform. 7—39501
- ZrO_2-Y_2O_3 toughened ceramics, dry friction and wear against steel 7—8125
- ZrO_2-Y_2O_3/(U, M)$O_{2\pm x}$, M=Sc or Y, interface charactn. 7—21677
- ZrO_2-Y_2O_3-CeO_2, phase relations, solubilities, 1100-1600°C 7—46435
- ZrO_2-Y_2O_3-Co_3O_4 materials, Co_3O_4 effect on struct. and phase comp. 7—27990
- ZrO_2-Y_2O_3-Nd_2O_3, phase relations, solubilities, 1100-1600°C 7—46435
- ZrO_2-Y_2O_3-TiO_2 ceramics, transport, sintering behaviour 7—13421
- ZrO_2-$YO_{1.5}$, thermal behaviour of ^{56}Fe implantations 7—27006
- Zr_2O-Y_2O_3, ionic diffusion coeffs. comp. depend., quasielastic light scatt. temp. depend. meas. 7—12364
- $(ZrO_2)_{0.9}(Y_2O_3)_{0.1}$ fianite crysts., bending and compressive strength temp. depend. meas. 7—44653
- α-ZrP-propylamine, intercalation cpd., amine loading, protonic cond., admittance meas. 7—44909
- ZrRhSi, equiatomic ternary silicides, superconductivity, rel. to cryst. struct. 7—6607
- ZrS_2, thermodynamic props., 298 to 1600K 7—28022
- ZrS_3, stacking disorder 7—44573
- $ZrSe_3$, stacking disorder 7—44573
- $ZrSiO_4$, burned, humidity sensor with H_3PO_4, sensitivity rel. to acidic groups 7—9838
- $ZrSiO_4$, burnt zircon with alkali hardeners, humidity sensitivity 7—18793
- $ZrSiO_4$ crystal symmetry elements determ. by SEM 7—58107
- $ZrSiO_4$: rare earths, luminescence-spectra props., hydrothermal synthesis methods 7—64683
- ZrT, disorder induced by aging 7—21199
- ZrT, $ZrT_{1.6}$, ageing, TEM study 7—51773
- $ZrTe_3$, anisotropic superconducting transition 7—45565
- $ZrTe_3$, optical props. 7—64667
- $ZrTe_5$, struct. polytypes 7—51718
- $ZrTe_5$, thermal and mag. meas. 7—44932
- $ZrTe_5$, unit cell dimensions and positional parameters, powder X-ray and neutron diffr. studies 7—16527
- $ZrTiO_4$ and $Zr_5Ti_7O_{24}$, cryst. struct., determ. by neutron diffr. 7—6599
- ZrU_2S_5, mag. props. 7—22120

zodiacal light
- *see also sky brightness*
- dust, IR and visible obs. anal. 7—47762
- dust cloud origin, solar flare track densities in dust particles rel. to asteroidal or cometary source 7—55531
- dust cloud structure, comparative study of 3D models 7—55532
- gegenschein, blue light survey by D2B satellite 7—24065
- interplanetary dust cloud, relation to nature of cometary nuclei 7—34936

zone melting
- films, oriented crystalline, on amorphous substrates, prep. by zone melting recrystallisation and surface-energy-driven grain growth 7—38385
- floating zone imaging furnace, molten zone temp. distrib., calc. method 7—17416
- liquid bridge stability data 7—46784
- optical fibres, single crystal pulling, laser heated pedestal growth technique 7—53578
- SOI, conf., Boston, MA, USA (Dec. 1985) 7—35101
- SOI, films lamp zone melting recrystallisation, effect of plasma nitrided SiO_2 encapsulent 7—38391
- SOI films, lamp zone melting recrystallisation, liquid-solid interface 7—38419
- SOI films, thermal stresses during zone melting recrystallisation, subboundaries, in-plane orientation 7—33554
- SOI films, twin stabilised planar growth 7—38392
- SOI films, zone melting recrystallisation, subboundary structure 7—38388
- SOI films, zone-melting recrystallisation, capping techniques 7—38390
- SOI films scan-melted at low velocities, subboundary misalignment 7—38387
- SOI heterostructure technology 7—38750
- SOI technology by zone-melting recrystn. on quartz substrates 7—21736
- $BaTi_4O_9$ single crystals, growth by floating zone method 7—17415
- $BeAl_2O_4$-$MgAl_2O_4$ pseudo-binary system, phase relations *(Japanese)* 7—16721
- Bi, refining by continuous zone melting 7—3163
- Cd chalcogenides, cryst. growth by SSSR-zone melting method 7—64897
- Cd, refining by continuous zone melting 7—3163
- CdS_xTe_{1-x} single crystals, growth form $CdCl_2$-CdS-CdTe ternary system, liquidus surface anal. 7—33644
- GaAs, epitaxial layers, grown in temp.-gradient field, effects on dislocation density 7—13393
- GaAs films on oxidised Si, zone melting recrystallisation 7—38396
- GaAs-Ge crystal growth on Ta_2O_5-coated Si substrates, zone melting and MOCVD 7—53579
- GaAs-Ge heteroepitaxy on Si substrates, recrystallised Ge-on-insulator intermediate layers 7—52358
- GaP, floating zone melting prep., elec. props. 7—64238
- GaSb:Gd,Ho crystal grown by horizontal zone melting, precipitate identification 7—21462
- Ge, floating zone growth, lateral solute segregation rel. to gravity conditions 7—53576
- InP, floating zone melting prep., elec. props. 7—64238
- LaB_6 crystals, floating zone growth using Xe arc image furnace, dislocation density 7—33552
- Mo, electron beam zone melting, temp. distrib. of floating zone 7—13351
- PbI_2:Zn, single crysts., growth and semicond. behaviour 7—53577
- Sb, refining by continuous zone melting 7—3163
- Si, cryst. growth, solid state photovoltaic research status at SERI 7—8389
- Si, crystal growth, impurity effect on formation of microdefects 7—32340
- Si films on insulator, lamp zone melting, defect entrainment 7—53642
- Si on insulating substrates, zone melting recrystallisation 7—2414

zone melting continued
  Si:P,B, SiO_2 coated cryst., floating zone growth under microgravity 7—53575
  Si-on-fused-SiO_2, cryst. quality improvement by zone melting recrystn. *(Japanese)* 7—33553
  Si-SiO_2 structures, prod. by recrystallisation, subgrain boundaries, barrier effects 7—52305
  SiC, LPE growth by temp. gradient zone melting. solubilities 7—64934
  SiC, LPE growth by temp. gradient zone melting, Tb-Si solvent 7—64935
  Te, refining by continuous zone melting 7—3163
  YIG, FZ growth for magnetooptic devices in fibre-optic communication systems 7—27892
zone plates (optical) *see optical zone plates*
zone refining
  Bi, refining by continuous zone melting 7—3163
  Cd, refining by continuous zone melting 7—3163
  PbI_2:Zn, single crysts., growth and semicond. behaviour 7—53577
  Sb, refining by continuous zone melting 7—3163
  Te, refining by continuous zone melting 7—3163
zoology
  bioluminescence from phytoplankton, diurnal variation and inhibition due to daylight 7—34558
  colour pattern of animals, morphogenesis, cell interaction 7—13977
  Drosophila melanogaster populations, developmental temp. as a selective factor in balancing polymorphisms 7—40102
  melanin content of human skin, evidence for past climates? 7—66289
zoosemiotics *see biocommunications*
Zr *see zirconium*